REQUEST FOR PROPOSAL

FOR

STORMWATER BMP INSPECTIONS AND ANNUAL REPORTS TO MSD
AT VARIOUS LOCATIONS

RFP NUMBER 27-16

PARKWAY SCHOOL DISTRICT
District Operations
363 North Woods Mill Road
Chesterfield, Missouri 63017

August 28, 2026

TABLE OF CONTENTS

SECTION 1	Request for Proposal
EXHIBIT-A	Fee Proposal
EXHIBIT-B	Barretts Elementary - BMP Original Project Information
EXHIBIT-C	Claymont Elementary - BMP Original Project Information
EXHIBIT-D	Ross Elementary - BMP Original Project Information
EXHIBIT-E	Craig Elementary - BMP Original Project Information
EXHIBIT-F	Pierremont Elementary - BMP Original Project Information
EXHIBIT-G	Henry Elementary - BMP Original Project Information
EXHIBIT-H	River Bend Elementary - BMP Original Project Information
EXHIBIT-I	Bellerieve Elementary - BMP Original Project Information
EXHIBIT-J	Hanna Woods Elementary - BMP Original Project Information
EXHIBIT-K	Sorrento Springs Elementary- BMP Original Project Information
EXHIBIT-L	Oak Brook Elementary- BMP Original Project Information
EXHIBIT-M	Central Middle - BMP Original Project Information
EXHIBIT-N	South Middle - BMP Original Project Information
EXHIBIT-O	West Middle - MSD BMP Map
EXHIBIT-P	Northeast Middle - BMP Original Project Information
EXHIBIT-Q	Southwest Middle - MSD BMP Map
EXHIBIT-R	Central High - BMP Original Project Information
EXHIBIT-S	West High - BMP Original Project Information
EXHIBIT-T	North High - BMP Original Project Information
EXHIBIT-U	South High - BMP Original Project Information
EXHIBIT-V	Early Childhood Center West - BMP Original Project Information
EXHIBIT-W	Early Childhood Center South Mason - MSD BMP Map
EXHIBIT-X	McKelvey Primary (ISC) - BMP Original Project Information
EXHIBIT-Y	District Operations - BMP Original Project Information

SECTION 1

REQUEST FOR PROPOSAL

REQUEST FOR PROPOSAL

A. INVITATION AND OWNER IDENTIFICATION

1. OWNER:

   a. Parkway School
   District 455 North
   Woods Mill Road
   Chesterfield, Missouri 63017

2. OWNER'S REPRESENTATIVE:

   a. Brandon Hogan
   Project Manager
   Parkway School
   District
   363 North Woods Mill Road
   Chesterfield, Missouri 63017
   Telephone (314) 415-8276
   Email bhogan@parkwayschools.net

3. This is a formal request for proposal from your firm to provide inspection and reporting services by the respondent to the Parkway School District (Owner) for the inspection of storm water best management practices (BMP) installations throughout Parkway School District and the preparation and submission of annual reports as required by the Metropolitan St. Louis Sewer District (MSD).

4. The Owner will award one contract from this selection process for duration of one (1) year with three (3) one-year options to renew.

5. Your response is to be based on the scope of services described in this request for proposal.

6. All responses shall be submitted on The Parkway School District Bonfire portal at https://parkwayschools.bonfirehub.com, no later than 1:00 p.m., on Wednesday, September 23. 2026.

B. FORMAT FOR RESPONSE

1. The following items must be included in your proposal in the order listed. Provide each lettered item below as a separate file titled as indicated by the underlined item name in Adobe PDF file format which must be uploaded to Bonfire. Do not provide any more information than is requested:

   a. Introduction: A brief introductory narrative or letter describing the Respondent company or companies in the case of a team or joint venture; the Respondent company's or companies' capacity for performing the work; and in the case of a team or joint venture indicate past working relationships between the companies (Should not exceed two (2) printed pages in length).

b. Resumes: Resumes of key individuals proposed to perform the BMP inspections and generate the reports of the inspections to include the following:

1) Name
2) Title
3) Company
4) Registration, if any, including states registered
5) Education including type of degree, year received, and institution name
6) Certifications (if any)
7) Years of experience inspecting stormwater BMP's

c. Expertise and Experience: Discuss briefly team expertise and experience in inspecting stormwater BMP's and preparing annual reports for submission to MSD. Include information pertaining to inspection of both engineered systems and biological systems (Should not exceed two (2) printed pages in length).

d. References: Provide three (3) references that may be contacted by the Owner for whom the Respondent and has provided similar inspection and reporting services to include the following:

1) Company Name
2) Company Address
3) Company Contact Person Name
4) Contact Telephone Number
5) Year or years that services were provided to Company (provide the actual years that service was provided, not the quantity of years)

e. Example Report Documents: Provide two (2) examples of inspection reports. One example shall be for an engineered system BMP and the other example shall be for a biological system BMP. Either example or both examples may contain both system types as long as both system types are represented in the example reports.

f. Fee Proposal: Upload to Bonfire, provide only one complete PDF of the Fee Proposal document, as provided in Exhibit A. Any additional information the Respondent desires to include to clarify their Fee Proposal shall be uploaded to Bonfire with the Fee Proposal. In addition, include the insurance coverage acknowledgement identified in paragraph D of this Section 1 of the request for proposal to be uploaded to Bonfire.

2. All questions and clarifications of this request shall be directed to the Owner's Representative by uploading them to Bonfire.

C. REQUIRED SERVICES

1. Contact MSD and obtain copies of any maintenance agreements that MSD has on file for the Owner's BMPs. Review BMP maintenance agreements to become familiar with requirements of the agreements. Provide one copy of each maintenance agreement to the Owner.

2. The Owner's BMPs are as follows:

a. Barretts Elementary - MSD Project Number P-0018204-02
   1) Bio-swale
b. Claymont Elementary - MSD Project Number 25MSD-00448
   1) Pervious pavement system
c. Ross Elementary - MSD Project Number P-0017141, P-0017141-01, & P-0017141-02
   1) Underground detention and outlet structure system
d. Craig Elementary - MSD Project Number 23MSD-00076
   1) Pervious pavement system
e. Pierremont Elementary - MSD Project Number 24MSD-00130
   1) Pervious pavement system
f. Henry Elementary - MSD Project Number P-0028603-01
   1) Pervious pavement system
   2) Bio-swale
g. River Bend Elementary - MSD Project Number 23MSD-00336
   1) Pervious pavement system
   2) Bioretention
h. Bellerive Elementary - MSD Project Number P-0017564-02
   1) Pervious pavement system
   2) Underground detention and outlet structure system
i. Hanna Woods Elementary - MSD Project Number 23MSD-00083
   1) Bioretention
j. Sorrento Springs Elementary - MSD Project Number 19MSD-00511
   1) Pervious pavement system
k. Oak Brook Elementary - MSD Project Number 24MSD-00477
   1) Pervious pavement system
   2) Bioretention
l. Central Middle - MSD Project Number P-0019772-03 & 20MSD-00057
   1) Underground detention with vortex and filter system
   2) Surface detention basin downstream of detention and filter system
m. South Middle - MSD Project Number lSMSD-00571 & 25MSD-00XXX
   1) Pervious pavement system
   2) Bioretention
n. West Middle - MSD Project Number P-0019547-00
   1) Bioretention
o. Northeast Middle - MSD Project Number 25MSD-00025
   1) Pervious pavement system
p. Southwest Middle - MSD Project Number P-0019546-00
   1) Detention ponds
q. Central High - MSD Project Number P-0017328-09, P-0017328-11 & 20MSD-00501
   1) Science addition bio-swales with forebays
   2) Football field bio-swale with forebay
   3) Surface detention basin downstream of football field bio-swale
   4) Concession stand bioretention basin
r. West High - MSD Project Number P-0019460-01 & P-0017909-03
   1) Football field and softball field bio-swales
   2) Amended soil area adjacent to sidewalk by softball field
s. North High - MSD Project Number P-0011600-09 & P-0011600-11
   1) Pervious pavement system
   2) Bio-swale adjacent to the south entrance drive
   3) Football field outlet structure (manhole #3 on plans)
   4) Bioretention adjacent to tennis courts
t. South High - MSD Project Number P-00112306-16
   1) Football field bio-swale with forebay
u. Early Childhood Center West - MSD Project Number P-20017
   1) Detention basin
v. Early Childhood Center South Mason - MSD Project Number P-0029618-00
   1) Detention basin

w. McKelvey Primary (ISC) - MSD Project Number P-0017681-03
   1) Bio-swales along Bennington Road property line
x. District Operations - MSD Project Number 23MSD-00099
   1) Bioretention

3. Inspect each BMP on a quarterly basis and prepare and deliver a report to the Owner identifying any issues with the BMPs requiring maintenance and repair.

4. Annually, inspect each BMP and prepare and deliver a report to MSD satisfying MSD requirements for reporting as provided in the BMP maintenance agreements and by MSD regulations. Provide a copy of the report to the Owner.

5. Prior to beginning the inspections, provide a schedule identifying when the quarterly inspections for each BMP will be performed and when each quarterly and annual report will be submitted to the Owner and MSD.

D. PROJECT INSURANCE REQUIREMENTS

1. All Respondents to the Request shall provide acknowledgement that they currently have insurance coverage or can obtain insurance coverage as follows:

   a. Worker Compensation Insurance (statutory limits as required by the State of Missouri)
   b. Automobile Liability Insurance ($1,000,000 per accident and statutory limits as required by the State of Missouri)
   c. Comprehensive General Liability Insurance ($1,000,000 per occurrence)
   d. Employer's Liability Insurance ($1,000,000 per each accident and per each employee)
   e. Liability Umbrella Insurance ($1,000,000)

2. The Respondent shall include a copy of the insurance certificate showing the required coverage or a letter signed by an officer of the company stating that they have required coverage or can obtain the required coverage in the proposal contents.

3. Failure to provide this acknowledgement will cause rejection of the Respondent.

E. SELECTION

1. Owner officials will evaluate and rate the proposals of the Respondents. In evaluating the proposals of each Respondent, the Owner will use the following criteria:

   a. The specialized experience and technical competence of the Respondent's assigned personnel with respect to the type of services required as identified in the Resumes response with a maximum of 20 points awarded;

   b. The specialized experience of the Respondent's team with respect to the type of services required as identified in the Expertise and Experience response with a maximum of 20 points awarded;

   c. The capacity and capability of the Respondent to perform the services in question as identified in the Introduction response with a maximum of 10 points awarded;

d. The past record of performance of the Respondent with regard to quality of work and ability to meet schedules as identified by information provided by the references identified in the References response and in providing services to the Owner (if any) with a maximum of 10 points;

e. Owner officials will evaluate the Example Report Documents with a maximum of 20 points awarded. The Example Report Documents will not be evaluated with regard to actual content. The Example Report Documents will be evaluated based upon the following:

1) Logical organization of the report documents.
2) Issues requiring maintenance or repair are communicated clearly.

f. The evaluation scores will be totaled prior to Owner requesting Exhibit A - Fee Proposal the total scores shall be recorded by the Owner.

g. Exhibit A - Fee Proposals will be requested and opened for the top two Respondents based on the evaluation scores. The fee proposals will be opened on The Parkway School District Bonfire portal. The fee proposal will be scored by taking the ratio of the lowest total fee proposal from **all** the Respondent's divided by each Respondent's total fee proposal for the services times 20 points. The Respondent with the lowest total fee proposal will receive 20 points and **all** other Respondent's will receive points in proportion as described.

h. The points received from the fee proposal described in paragraph D.1.g will be added to the evaluation points described in paragraphs D.1.f to arrive at the total points for the request for proposal response from each Respondent.

i. The Respondent with the most points will be considered the successful Respondent. The maximum possible points that can be awarded is 100.

2. The successful Respondent will be recommended to the Board of Education for award of the contract at the November 10, 2026 Board of Education meeting.

3. A Purchase Order referencing and incorporating the requirements of this request for proposal will be presented to the successful Respondent giving notice to proceed.

4. A kick-off meeting will be scheduled with the successful Respondent within 2 weeks of the Board of Education meeting.

EXHIBIT-A - FEE PROPOSAL

STORMWATER BMP INSPECTIONS AND ANNUAL REPORTS TO MSD AT VARIOUS LOCATIONS RFP NUMBER 27-16

Location	1st Year Fee	2nd Year Fee	3rd Year Fee	4th Year Fee
Barretts Elementary	$	$	$	$
Claymont Elementary	$	$	$	$
Ross Elementary	$	$	$	$
Craig Elementary	$	$	$	$
Pierremont Elementary	$	$	$	$
Henry Elementary	$	$	$	$
River Bend Elementary	$	$	$	$
Bellerieve Elementary	$	$	$	$
Hanna Woods Elementary	$	$	$	$
Sorrento Springs Elementary	$	$	$	$
Oak Brook Elementary	$	$	$	$
Central Middle	$	$	$	$
South Middle	$	$	$	$
West Middle	$	$	$	$
Northeast Middle	$	$	$	$
Southwest Middle	$	$	$	$
Central High	$	$	$	$
West High	$	$	$	$
North High	$	$	$	$
South High	$	$	$	$
Early Childhood Center West	$	$	$	$
Early Childhood Center South Mason	$	$	$	$
McKelvey Primary (ISC)	$	$	$	$
District Operations	$	$	$	$
Subtotal by Year	$	$	$	$
Total Fee Proposal	$			

The undersigned proposes the above fees for providing the services identified in the request for proposal. Furthermore, the undersigned has read and understands all of the terms and conditions stated in the request for proposal, and acknowledges receipt of Addenda number _____ through _____ inclusive.

AUTHORIZED SIGNATURE_____

PRINTED NAME & TITLE _____ TELEPHONE NUMBER _____

STREET ADDRESS_____

CITY, STATE & ZIP _____ E-MAIL ADDRESS _____

EXHIBIT-B

BARRETTS ELEMENTARY

BMP ORIGINAL PROJECT INFORMATION

BARRETTS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT

1780 Carman Road
Manchester, Missouri 63021
Parkway School District Project No. 011601B
Project No: 14-006.14
Issue Date: 11.29.2016

PARKWAY SCHOOLS

GENERAL NOTES

1. CONTRACTOR SHALL VERIFY EXISTING FIELD CONDITIONS PRIOR TO THE START OF CONSTRUCTION AND SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT IMMEDIATELY.

2. CONTRACTOR SHALL CROSS-REFERENCE THE VARIOUS DISCIPLINES' PLANS HEREIN AND REVIEWED SHOP DRAWINGS PRIOR TO STARTING CONSTRUCTION PHASE OF CONSTRUCTION AND SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT IMMEDIATELY.

3. ONLY CONTRACT DOCUMENTS APPROVED FOR CONSTRUCTION AND REVIEWED SHOP DRAWINGS SHALL BE USED FOR CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR DISTRIBUTION OF SAID DOCUMENTS AND UPDATES TO THE FIELD FOR CONSTRUCTION.

4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL WORK WITH THESE PROJECT DOCUMENTS.

5. DIMENSIONS TO THE EXTERIOR OF THE BUILDING ARE TO THE EXTERIOR OF FOUNDATION/MASONRY UNLESS NOTED OTHERWISE.

6. DO NOT SCALE DRAWINGS.

7. THE WORD 'ALIGN' AS USED IN THESE DOCUMENTS SHALL SUPERSEDE DIMENSIONAL INFORMATION.

8. NO PRODUCTS CONTAINING ASBESTOS SHALL BE INSTALLED IN OR USED DURING THE CONSTRUCTION OF THIS PROJECT.

9. CODE COMPLIANCE – THE WORK SHALL BE GOVERNED BY ALL CURRENT APPLICABLE LOCAL, CITY, STATE AND NATIONAL CODES AND LAWS. THESE AUTHORITIES INCLUDE, BUT ARE NOT LIMITED TO THE IBC BUILDING CODE, NATIONAL ELECTRIC CODE, NATIONAL FIRE PROTECTION ASSOCIATION OR ANY OTHER AUTHORITY OR BODY HAVING JURISDICTION OVER WORK. THE SITE, PARKING LOT, AND BUILDING NEW WORK SHALL COMPLY WITH THE ADA (AMERICANS WITH DISABILITIES ACT) REGULATIONS. NOTIFY ARCHITECT OF ANY REQUIRED CHANGES TO COMPLY WITH ADA.

10. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS BEFORE BEGINNING WORK. CONTRACTOR SHALL PROTECT EXISTING UTILITIES, EXISTING EQUIPMENT AND MATERIALS FROM DAMAGE DURING CONSTRUCTION. ANY EXISTING UTILITIES, EQUIPMENT, MATERIALS AND SERVICES DAMAGED SHALL BE REPAIRED AT NO EXPENSE TO OWNER. CONTRACTOR SHALL TEMPORARILY MOVE OR TAKE EQUIPMENT OUT SERVICES AS NECESSARY TO COMPLETE WORK. SUCH SERVICES SHALL BE REPAIRED IN ACCORDANCE WITH THE SPECIFICATION.

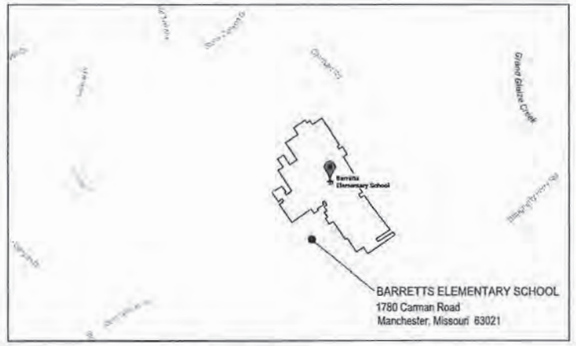
ARCHITECTURAL SYMBOLS

9 FLOOR PLAN SCALE:	DRAWING TITLE	10 / A301 EXTERIOR ELEVATION	COLUMN & GRID
10 / A301	SECTION DETAIL (PLAN OR SECTION)	12 / A506 DETAIL (PLAN OR SECTION)	RCP SOFFIT HEIGHT
10 / A301 — 10 / A301	BUILDING SECTION (PLAN OR ELEVATION)	RMNAME 201 ROOM NAME & NUMBER	INTERIOR ELEVATIONS
		9 KEYED NOTE	A GLAZING TYPE
			P1 PARTITION TYPE
			1 REVISION
			ELEVATION MARK

ARCHITECTURAL ABBREVIATIONS

ABOVE	ABV	EDGE OF SLAB	EOS	MASONRY OPENING	MO	SCHEDULE	SCHED
ABOVE FINISH FLOOR	AFF	ELECTRICAL	ELEC	MASONRY	MSRY	SECTION	SECT
ACOUSTICAL	ACT	WATER COOLER	EWC	MEDIUM DENSITY	MDF	SHEET	SHT
ALUMINUM	ALUM	ELEVATION	ELEV	FIBERBOARD		SIMILAR	SIM
AND	&	EQUAL	EQ	MECHANICAL	MECH	SOLID CORE	SC
ANGLE	∠	EQUIPMENT	EQUIP	METAL	MTL		
AT	@	EXISTING	EXIST			SPECIFICATION	SPEC
		EXPANSION JOINT	EJ	NOT IN CONTRACT	NIC	SQUARE	SQ
BLOCK	BLK			NOT TO SCALE	NTS	SQUARE FOOT	SF
BOARD	BD	FEET	FT			STAINLESS STEEL	SS
BOTTOM OF	BO	FIELD VERIFY	FV	OWNER FURNISHED	OFCI	STANDARD	STD
		FINISH GRADE	FG	CONTRACTOR INSTALLED		STEEL	STL
CEILING	CLG	FINISH FLOOR	FF	OWNER FURNISHED	OFOI	STRUCTURAL	STRUCT
CENTER LINE	℄	FIRE RETARDANT	FR	OWNER INSTALLED		SUSPENDED	SUSP
CERAMIC TILE	CT	FLOOR	FL	ON CENTER	OC		
CLEAR	CLR			OPENING	OPNG	TELEPHONE	TEL
CONCRETE	CONC	GENERAL CONTR.	GC			THICK	THK
CONC. MASONRY UNIT	CMU	GYPSUM BOARD	GYP BD	PAINTED	PTD	TOP OF	TO
CONTINUOUS	CONT			PLASTIC LAMINATE	PLAM	TONGUE & GROOVE	T&G
CONTRACTOR	CONTR	HARDWOOD	HDWD	PLYWOOD	PLYWD	TYPICAL	TYP
CONTRACTOR FURNISHED	CFCI	HIGH DENSITY	HDPB	PRESSURE TREATED	PT		
CONTRACTOR INSTALLED		PARTICLE BOARD				UNFINISHED	UNF
CONTROL JOINT	CJ	HEIGHT	HT	RADIUS	RAD	UNLESS NOTED OTHERWISE	UNO
CORNER GUARD	CG	HOUR	HR	REFERENCE	REF		
				REINFORCING	REINF	VERTICAL	VERT
DETAIL	DTL	INSULATION	INSUL	REFLECTED CEILING PLAN	RCP	VESTIBULE	VEST
DIAMETER	DIA			REQUIRED	REQ'D		
DOOR	DR	JOINT	JT	ROOF DRAIN	RD	WATERPROOF	WP
DOWNSPOUT	DS			ROOM	RM	WEIGHT	WT
DRAWING	DWG	LAVATORY	LAV	ROUGH OPENING	RO	WITH	W/
						WITH OUT	W/O
						WOOD	WD

VICINITY MAP





PROJECT DIRECTORY

CIVIL ENGINEER
EDSI Engineering Design Source, Inc.
16141 Swingley Ridge Road, Suite 300
Chesterfield, Missouri 63017
Phone : (636) 537-5585
Fax : (636) 537-0275

STRUCTURAL ENGINEER
KPFF Consulting Engineers
1630 Des Peres Road, Suite 100
St. Louis, MO 63131
Phone : (314) 835-0524
Fax : (314) 835-0749

LANDSCAPE ARCHITECT
PLANNING DESIGN STUDIO
727 North First Street, Suite 360
St. Louis, MO 63102
Phone : (314) 241-3600

OWNER
Parkway School District
Facilities Department
363 North Woods Mill Road
Chesterfield, Missouri 63107
Phone: (314) 415-8231

ARCHITECT
TRi ARCHITECTS
9812 Manchester Rd.
St. Louis, Missouri 63119
Phone: (314) 395-9750
Fax: (314) 395-9751

MECH, ELEC, PLUMB & FIRE PROTECTION
William Tao & Associates
7955 Manchester Road, Suite 125
St. Louis, MO 63143
Phone: (314) 884-7600
Fax: (314) 884-7601

DRAWING INDEX

A001 COVER SHEET

CIVIL
C0 LEGEND AND GENERAL NOTES
C0.1 SURVEY
C1 DEMOLITION PLAN
C2 SITE PLAN
C2.1 SITE PLAN COORDINATES
C2.2 SIGNAGE & STRIPING PLAN
C2.3 SIGN DETAILS
C3 GRADING PLAN
C3.1 GRADING & BIO RETENTION PLAN
C4 UTILITY PLAN
C4.1 STORM PROFILES
C5 DETAILS
C6 DETAILS
C7 DETAILS

LANDSCAPE
L1 LANDSCAPE PLAN
L2 LANDSCAPE PLAN
L3 LANDSCAPE DETAILS
L4 LANDSCAPE SCHEDULES
L5 BIORETENTION PLANTING
L6 INTERPRETIVE SIGN DETAILS

ARCHITECTURAL
A002 CODE ANALYSIS
A003 OVERALL FLOOR PLAN
A004 ASSET PROTECTION PLAN
A100 DEMOLITION FLOOR PLAN
A110 FLOOR PLANS
A111 FLOOR PLANS
A130 ROOF PLAN & DETAILS
A201 DEMOLITION RCP
A301 SECTIONS & DETAILS
A302 SECTIONS & DETAILS
A400 ELEVATIONS

STRUCTURAL
S101 GENERAL NOTES
S102 TYPICAL DETAILS
S201 PARTIAL FOUNDATION PLAN
S202 PARTIAL ROOF FRAMING PLAN
S203 PARTIAL ROOF FRAMING PLAN

MECHANICAL/ELECTRICAL
ME001 STANDARD ENGINEERING SYMBOL SHEET
ME002 ST. LOUIS COUNTY SEISMIC RESTRAINT CODE BLOCKS
ME003 EQUIPMENT DATA SCHEDULE & LOW VOLTAGE SYSTEMS – DIVISION OF RESPONSIBILITY SCHEDULE

PLUMBING
P200 ENLARGED FLOOR PLANS PLUMBING

MECHANICAL
M100 '500' WING DEMOLITION PLAN MECHANICAL
M200 '500' WING FLOOR PLAN – MECHANICAL
M210 ENLARGED DEMOLITION AND FLOOR PLANS – RMS 200.205.414 – MECHANICAL
M220 '500' WING DEMO AND NEW ROOF PLANS – MECHANICAL
M221 ROOM 414 DEMO AND NEW ROOF PLANS – MECHANICAL
M300 DETAILS – MECHANICAL
M400 SCHEDULES – MECHANICAL

ELECTRICAL
E001 ENLARGED DEMOLITION SITE PLAN ELECTRICAL
E002 ENLARGED SITE PLAN ELECTRICAL
E100 ENLARGED DEMOLITION FLOOR PLANS ELECTRICAL
E110 ENLARGED FLOOR PLAN ELECTRICAL
E120 ENLARGED FLOOR PLANS ELECTRICAL
E410 ENLARGED FLOOR PLAN AUXILIARY
E500 ENLARGED FLOOR PLANS ELECTRICAL
E600 SCHEDULES ELECTRICAL
E700 DETAILS ELECTRICAL

SEISMIC
SB001 SEISMIC-BRACING CODE-INFORMATION
SB100 SEISMIC-BRACING '500' WING FLOOR PLAN
SB110 SEISMIC-BRACING ROOMS 200,205 & 414 FLOOR PLANS
SB120 SEISMIC-BRACING '500' WING ROOF PLAN
SB121 SEISMIC-BRACING ROOM 414 ROOF PLAN
SB200 SEISMIC-BRACING DETAILS/SCHEDULES
SB201 SEISMIC-BRACING DETAILS/SCHEDULES

TRI, ARCHITECTS — ARCHITECT
WILLIAM TAO & ASSOCIATES, INC. — MECHANICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — PLUMBING / FP ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — ELECTRICAL ENGINEER
KPFF CONSULTING ENGINEERS — STRUCTURAL ENGINEER
EDSI - ENGINEERING DESIGN SOURCE — CIVIL ENGINEER
PDS - PLANNING DESIGN STUDIO — LANDSCAPE ARCHITECT

I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411 THAT THE DRAWINGS IN THIS SET IS AUTHENTICATED BY MY SEAL.

PARKWAY SCHOOLS

BARRETTS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 011601B
1780 Carman Road — Manchester, Missouri 63021

TRI Architects of the Possible

9812 Manchester Blvd
St. Louis, Missouri 63119
T: 314-395-9750
F: 314-395-9751
www.trirobbetts.com

© Copyright 2016

DATE: 11.29.16
REVISIONS
DWG. BY TAH
PSD PROJECT NO. 011601B
PROJECT NO. 14-006.14
SHEET NO.
A001
COVER SHEET

NOTE:

WHEN THE WORD "COUNTY" IS USED ON THESE PLANS IT SHALL MEAN ST. LOUIS COUNTY, MISSOURI

WHEN THE INITIALS "MSD" ARE USED ON THESE PLANS IT SHALL MEAN THE METROPOLITAN ST. LOUIS SEWER DISTRICT.

WHEN THE WORK "CITY" IS USED ON THESE PLANS IT SHALL MEAN THE CITY OF MANCHESTER, MISSOURI.

GENERAL NOTES:

1. UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF IMPROVEMENTS.

2. TOPOGRAPHIC SURVEY PREPARED AND FIELD DATA COLLECTED BY EDSI, INC. IN JULY AND AUGUST, 2016.

3. STORMWATER SHALL BE DISCHARGED AT AN ADEQUATE NATURAL DISCHARGE POINT. SINKHOLES ARE NOT ADEQUATE NATURAL DISCHARGE POINTS.

4. FILLED PLACES INCLUDING TRENCH BACKFILLS, UNDER BUILDINGS, SANITARY SEWER LINES, AND/OR PAVED AREAS SHALL BE COMPACTED IN ACCORDANCE WITH THE SOILS REPORT FOR THIS PROJECT, UNLESS OTHERWISE SPECIFIED.

5. TRENCH BACKFILLS UNDER PAVED AREA SHALL BE GRANULAR BACKFILL, UNLESS OTHERWISE SPECIFIED.

6. CONSTRUCTION AND MATERIALS USED SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE METROPOLITAN ST. LOUIS SEWER DISTRICT, THE SAINT LOUIS COUNTY DEPARTMENT OF HIGHWAYS, AND THE PROJECT SPECIFICATIONS. THE MOST STRINGENT REQUIREMENTS SHALL APPLY.

7. LOCATION AND ELEVATION OF EXISTING INLETS, MANHOLES AND PIPES TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. MANHOLES AND INLET TOPS BUILT WITHOUT ELEVATIONS FURNISHED BY THE ENGINEER WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

8. EXISTING ABOVE & BELOW GROUND UTILITIES TO BE PROTECTED AND USED IN PLACE, UNLESS OTHERWISE SPECIFIED.

9. A *DWG FILE WILL BE MADE AVAILABLE TO THE CONTRACTOR TO WHOM THE WORK IS AWARDED FOR HIS USE IN SITE LAYOUT.

10. PARKING ON NON-SURFACED AREAS IS PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVING CONDITIONS. CONTRACTOR SHALL KEEP ROAD CLEAR OF MUD AND DEBRIS.

11. THE STREETS SURROUNDING THIS DEVELOPMENT AND ANY STREET USED FOR CONSTRUCTION ACCESS SHALL BE CLEANED THROUGHOUT THE DAY.

12. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND LEGALLY DISPOSED OF OFF-SITE.

13. NOTIFY THE COUNTY DEPARTMENT OF PUBLIC WORKS 48 HOURS PRIOR TO THE COMMENCEMENT OF GRADING AND/OR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

14. EROSION AND SILTATION CONTROL DEVICES SHALL BE INSTALLED BY THE CONTRACTOR PRIOR TO ANY GRADING AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY THE OWNER AND/OR CONTROLLING REGULATORY AGENCY (AHJ) AND ADEQUATE VEGETATIVE GROWTH INSURES NO FURTHER EROSION OF THE SOIL. ADDITIONAL SILTATION CONTROL DEVICES MAY BE REQUIRED AS DIRECTED BY THE COUNTY.

15. WHEN CLEARING AND/OR GRADING OPERATIONS ARE COMPLETED OR SUSPENDED FOR MORE THAN 30 DAYS, ALL NECESSARY PRECAUTIONS SHALL BE TAKEN TO RETAIN SOIL MATERIALS ON SITE. PROTECTIVE MEASURES MAY BE REQUIRED BY THE DIRECTOR OF PUBLIC WORKS SUCH AS PERMANENT SEEDING, PERIODIC NETTING, MULCHING, OR OTHER SUITABLE MEANS.

16. SILTATION DEVICES SHALL BE INSPECTED PERIODICALLY FOR DAMAGE AND FOR THE AMOUNT OF SEDIMENT WHICH HAS ACCUMULATED. REMOVAL OF SEDIMENT WILL BE REQUIRED WHEN IT REACHES 1/2 THE HEIGHT OF THE SILTATION DEVICE.

17. SAWCUT EXISTING PAVEMENT FULL DEPTH TO ASSURE A SMOOTH MATCH BETWEEN THE EXISTING AND NEW PAVEMENT. REMOVE ENOUGH PAVEMENT TO ACCOMMODATE NEW WORK.

18. PROPOSED GRADES SHALL BE WITHIN 0.1 FEET, MORE OR LESS, OF THOSE SHOWN ON THE GRADING PLAN.

19. NO GRADING OR EXCAVATION SHALL OCCUR ON THE SITE UNTIL A PERMIT IS SECURED FROM THE AHJ AND THE SILTATION CONTROL DEVICES INDICATED ARE INSTALLED AND FUNCTIONING.

20. ALL AREAS DISTURBED BY CONSTRUCTION, EXCLUDING PAVED AREAS, SHALL RECEIVE FESCUE SOD WITHIN 30 DAYS FROM THE COMPLETION OF GRADING OPERATIONS AND SHALL BE MAINTAINED FOR A PERIOD OF TWO (2) WEEKS THEREAFTER. SOD PLACEMENT AND MAINTENANCE SHALL CONFORM IN ALL RESPECTS WITH THE PROJECT SPECIFICATIONS.

21. NOTIFY THE OWNER 48 HOURS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

22. NO EXCAVATION SHALL BE MADE SO CLOSE TO THE PROPERTY LINE AS TO ENDANGER ANY ADJOINING PROPERTY OF ANY PUBLIC OR PRIVATE STREET WITHOUT SUPPORTING AND PROTECTING SUCH PUBLIC OR PRIVATE STREET OR PROPERTY FROM SETTLING, CRACKING, OR OTHER DAMAGE.

23. ALL EXCAVATIONS, GRADING, OR FILLING SHALL HAVE A FINISHED GRADE NOT TO EXCEED A FOUR HORIZONTAL TO ONE VERTICAL (4:1) SLOPE UNLESS SPECIFICALLY APPROVED BY THE OWNER.

24. DIMENSIONS ARE TO FACE OF CURB, FACE OF WALL, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

25. ALL FILLS PLACED UNDER PAVED AREAS, INCLUDING TRENCH BACKFILLS WITHIN AND OFF ROAD RIGHT-OF-WAY, SHALL BE COMPACTED TO 95% PER ASTM D698 FOR THE ENTIRE DEPTH OF THE FILL. COMPACTED GRANULAR BACKFILL IS REQUIRED IN ALL TRENCH EXCAVATION WITHIN THE STREET RIGHT-OF-WAY AND UNDER ALL PAVED AREAS. ALL TESTS SHALL BE PERFORMED UNDER THE DIRECTION OF AND VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACKFILLING OPERATIONS.

26. AT LEAST ONCE EVERY WEEK AND AFTER EVERY RAINFALL EVENT OF 0.25 INCHES OR MORE, EROSION AND SILTATION CONTROL DEVICES SHALL BE INSPECTED FOR DAMAGE AND AMOUNT OF SEDIMENTATION ACCUMULATED AND CORRECTIVE ACTIONS TAKEN. REPORTS OF THE INSPECTIONS AND CORRECTIVE ACTIONS SHALL BE PREPARED AND SUBMITTED TO THE CITY WITHIN 5 DAYS OF THE DATE OF THE INSPECTION.

27. TEMPORARY SILTATION CONTROL MEASURES (STRUCTURAL) SHALL BE MAINTAINED UNTIL VEGETATIVE COVER IS ESTABLISHED AT A SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL ON THE SITE.

28. ALL FINISHED GRADES (AREAS NOT TO BE DISTURBED BY FUTURE IMPROVEMENT) IN EXCESS OF 20% SLOPES (5:1) SHALL BE MULCHED AND TACKED AT THE RATE OF 100 POUNDS PER 1,000 SQUARE FEET WHEN SEEDED AS SOON AS POSSIBLE AFTER FINAL PLACEMENT. THIS IS SEEDING AND MULCHING REFERS TO A TEMPORARY CONDITION ONLY. THE CONTRACTOR SHALL SOD ALL DISTURBED AREAS THAT ARE TO REMAIN UNPAVED AS A FINAL CONDITION OF HIS WORK.

29. DEBRIS AND FOUNDATION MATERIAL FROM ANY EXISTING IMPROVEMENT WHICH IS SCHEDULED TO BE DEMOLISHED FOR THIS DEVELOPMENT MUST BE PROPERLY DISPOSED OF OFF-SITE.

30. SHOULD SEDIMENT CONTAINMENT DEVICES FAIL AND SEDIMENT IS TRANSPORTED FROM THE SITE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING THE TRANSPORTED DEBRIS FROM THE AFFECTED PUBLIC AND/OR PRIVATE AREAS. THE DEBRIS MAY BE EITHER SPREAD OUT ON THE SCHOOL DISTRICT PROPERTY OR TRANSPORTED AND DISPOSED OF OFFSITE IN A LEGAL MANNER. THE AFFECTED AREA DAMAGED SHALL BE RESTORED TO THE CONDITIONS THAT EXISTED PRIOR TO THE CONTAINMENT DEVICE FAILURE.

GRADING PERMIT APPLICATION NOTES:

1. CONTRACTOR SHALL STORE ONSITE AN EXTRA 10% OF REQUIRED EROSION AND SILTATION CONTROL DEVICE QUANTITIES FOR EMERGENCIES.

2. SWPPP COMPLIANCE REPORTS TO BE SUBMITTED WEEKLY AND AFTER HEAVY RAINFALL TO BOTH THE COUNTY AND TO THE OWNER BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE THE NAME AND TELEPHONE NUMBER OF THE PERSON DESIGNATED TO PERFORM THE INSPECTIONS AND PROVIDE THE REPORTS.

POLLUTION PREVENTION PROCEDURES:

1. HANDLING AND DISPOSAL OF HAZARDOUS MATERIALS

DO: PREVENT SPILLS
USE PRODUCTS UP
FOLLOW LABEL DIRECTIONS FOR DISPOSAL
REMOVE LIDS FROM EMPTY BOTTLES AND CANS WHEN DISPOSING IN TRASH
RECYCLE WASTES WHENEVER POSSIBLE

DON'T: POUR WASTE INTO SEWERS OR WATERWAYS ON THE GROUND
POUR WASTE DOWN THE SINK, FLOOR DRAIN OR SEPTIC TANKS
BURY CHEMICALS OR CONTAINERS, OR DISPOSE OF THEM WITH CONSTRUCTION DEBRIS
BURN CHEMICALS OR CONTAINERS
MIX CHEMICALS TOGETHER

2. CONTAINERS SHALL BE PROVIDED FOR COLLECTION OF ALL WASTE MATERIAL INCLUDING CONSTRUCTION DEBRIS, TRASH, PETROLEUM PRODUCTS AND ANY HAZARDOUS MATERIALS TO BE USED ONSITE. ALL WASTE MATERIAL SHALL BE DISPOSED OF AT FACILITIES APPROVED FOR THAT MATERIAL.

3. NO WASTE MATERIALS SHALL BE BURIED ON-SITE.

4. MIXING, PUMPING, TRANSFERRING OR OTHERWISE HANDLING CONSTRUCTION CHEMICALS SUCH AS FERTILIZER, LIME, ASPHALT, CONCRETE DRYING COMPOUNDS, AND ALL OTHER POTENTIALLY HAZARDOUS MATERIALS SHALL BE PERFORMED IN AN AREA AWAY FROM ANY WATERCOURSE, DITCH OR STORM DRAIN.

5. EQUIPMENT FUELING AND MAINTENANCE, OIL CHANGING, ETC. SHALL BE PERFORMED ONLY IN AN AREA DESIGNATED FOR THAT PURPOSE. THE DESIGNATED AREA IS EQUIPPED FOR RECYCLING OIL AND CATCHING SPILLS.

6. CONCRETE WASH WATER SHALL NOT BE ALLOWED TO FLOW DIRECTLY TO STORM SEWERS, STREAMS, DITCHES, LAKES, ETC. WITHOUT BEING TREATED. A SUMP OR PIT SHALL BE CONSTRUCTED TO CONTAIN CONCRETE WASH WATER.

7. IF SUBSTANCES SUCH AS OIL, DIESEL FUEL, HYDRAULIC FLUID, ANTIFREEZE, ETC. ARE SPILLED, LEAKED, OR RELEASED ONTO SOIL, THE SOIL SHALL BE DUG UP AND DISPOSED OF AT A LICENSED SANITARY LANDFILL (NOT A CONSTRUCTION/DEMOLITION DEBRIS LANDFILL). SPILLS ON PAVEMENT SHALL BE ABSORBED WITH SAWDUST, KITTY LITTER OR PRODUCT DESIGNED FOR THAT PURPOSE AND DISPOSED OF AT A LICENSED SANITARY LANDFILL. HAZARDOUS OR INDUSTRIAL WASTES SUCH AS MOST SOLVENTS, GASOLINE, OIL-BASED PAINTS, AND CEMENT CURING COMPOUNDS REQUIRE SPECIAL HANDLING. THESE MATERIALS WILL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH MODNR REQUIREMENTS.

8. STATE LAW REQUIRES THE PARTY RESPONSIBLE FOR A PETROLEUM PRODUCT SPILL IN EXCESS OF 50 GALLONS TO REPORT THE SPILL TO MODNR (537-884-2436) AS SOON AS PRACTICAL AFTER DISCOVERY. FEDERAL LAW REQUIRES THE RESPONSIBLE PARTY TO REPORT ANY RELEASE OF OIL IF IT REACHES OR THREATENS A SEWER, LAKE, CREEK, STREAM, RIVER, GROUNDWATER, WETLAND, OR AREA, LIKE A ROAD DITCH, THE DRAINS INTO ONE OF THE ABOVE.

9. SUFFICIENT TEMPORARY TOILET FACILITIES TO SERVE THE NUMBER OF WORKERS ON THE SITE SHALL BE PROVIDED. THE FACILITIES SHALL BE SERVICED FREQUENTLY TO MAINTAIN A SANITARY CONDITION.

MSD STANDARD CONSTRUCTION:

ALL STORM AND SANITARY SEWER STRUCTURES AND APPURTENANCES TO BE DEDICATED TO MSD, OR TO BE PRIVATE UNDER MSD INSPECTION, SHALL CONFORM TO THE METROPOLITAN ST. LOUIS SEWER DISTRICT, STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES, 2009. THAT WILL INCLUDE STANDARD DETAILS SHOWN THEREIN, AND SHALL INCLUDE ALL SUBSEQUENT CHANGES MADE THERETO.

SOME RECENT CHANGES CONCERN PIPE FIELD TESTING AND PERFORMANCE, AND INCLUDE THE FOLLOWING:

PART 4 - PIPE SEWER CONSTRUCTION

SECTION B, PIPE FIELD TESTS, PARAGRAPH 2, REACH INTEGRITY TESTING - DELETE THE FIRST SENTENCE AND THE FOLLOWING REPLACEMENT APPLIES:

ALL SANITARY AND COMBINED SEWERS SHALL SUSTAIN A MAXIMUM LEAKAGE LIMIT OF 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY, AS REQUIRED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES SPECIFICATIONS.

SECTION B, PIPE FIELD TESTS, PARAGRAPH 2, REACH INTEGRITY TESTING, SUBPARAGRAPH C, INFILTRATION/EXFILTRATION TESTING - DELETE THE SIXTH SENTENCE, CONCERNING LEAKAGE LIMITS, AND THE FOLLOWING REPLACEMENT APPLIES:

THE MEASUREMENT OF LEAKAGE SHALL NOT EXCEED 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY, AS REQUIRED BY THE MISSOURI DEPARTMENT OF NATURAL RESOUCES SPECIFICATIONS.

SECTION B, PIPE FIELD TESTS, PARAGRAPH 4, MANHOLE TESTING, SUBPARAGRAPH A, VACUUM TESTING - AFTER THE FIRST SENTENCE, THE FOLLOWING ADDITION APPLIES:

THE VACUUM TEST MUST BE PERFORMED PRIOR TO BACKFILLING AROUND THE MANHOLE UNLESS THE CONTRACTOR PROVIDES DOCUMENTATION FROM THE PRECAST MANHOLE MANUFACTURER STATING THAT THE MANHOLE MAY BE VACUUM TESTED AFTER BACKFILLING HAS TAKEN PLACE. THE CONTRACTOR MUST SUBMIT THIS DOCUMENTATION PRIOR TO BACKFILLING AROUND ANY MANHOLE.

SECTION B, PIPE FIELD TESTS, PARAGRAPH 4, MANHOLE TESTING, SUBPARAGRAPH B, EXFILTRATION TESTING - DELETE THE SECOND SENTENCE, CONCERNING LEAKAGE LIMITS, AND THE FOLLOWING ADDITION APPLIES:

FOR EXFILTRATION TESTING, THE ALLOWABLE LEAKAGE LIMIT IS 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY WHEN THE AVERAGE HEAD ON THE TEST SECTION IS THREE FEET (3') OF LESS.

LEGEND EXISTING

SANITARY SEWER	
STORM SEWER	
WATER MAIN	W
ELECTRIC	E
COMMUNICATION	T
FIBER OPTIC	FO
GAS	G
OVERHEAD ELECTRIC	OHE
STORM MANHOLE	
STORM INLET	
SANITARY MANHOLE	
CLEANOUT	VENT
ELECTRIC MANHOLE	EMH
ELECTRIC BREAKER OUTLET BOX	ELEC OUTLET BOX
ELEC METER	EM
GAS VALVE	GV
PHONE CABLE BOX	TELE J.B.
ELECTRIC TRANSFORMER BOX	ELEC TRANSFORMER BOX
POWER POLE	PP
LIGHT STANDARD	LS
GAS METER	GM
GAS VALVE	GV
SMALL DRAIN	
WATER MANHOLE	WMH
WATER METER	WM
WATER VALVE	WV
FIRE HYDRANT	FH
SPRINKLER	SPRINKLER
TELEPHONE MANHOLE	TMH
PULL BOX	PB
TRAFFIC SIGNAL CONTROL BOX	TFC CONTROLLER
BUSH	
STUMP	STUMP
TREE	
BOLLARD	
SIGN	
EDGE OF ASPH PAVEMENT	
EDGE OF CONC PAVEMENT	
FLOW DIRECTION OF SEWER LINE	

LEGEND NEW WORK

CONTOUR	ELEV
SPOT ELEVATION	ELEV
STORM SEWER	
SANITARY SEWER	
MANHOLE	
CURB INLET	
GRATE INLET	
WATER LINE	W
FIRE HYDRANT	
GAS SERVICE	G
ELECTRIC SERVICE	E
TELEPHONE SERVICE	T
CONCRETE PAVEMENT	
ASPHALT PAVEMENT	
TO BE REMOVED	T.B.R.
USE IN PLACE	U.I.P.
ADJUST TO GRADE	A.T.G.
TO BE REMOVED & REPLACED	T.B.R.&R.
TO BE PROTECTED	T.B.P.
TO BE ABANDONED	T.B.A.
TOP OF PAVEMENT	TP
TOP OF SIDEWALK	TS
TOP OF WALL	TW
BOTTOM OF WALL	BW
REVOVE ALL SURFACE IMPROVEMENTS	
SILTATION CONTROL	
SAWCUT	

NOTE: Underground facilities, structures, and utilities have been plotted from best available records, therefore the relationship between proposed work and existing facilities, structures, and utilities must be considered approximate, and it is the contractors responsibility to determine their exact location and the existence of any not shown.

Stanley F. Visnovske
E-18138
Professional Engineer

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

MSD P-XXXXXXXX MSD BASE MAP XXX

TRU, ARCHITECTS — ARCHITECT
WILLIAM TAO & ASSOCIATES, INC. — MECHANICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — PLUMBING / FP ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — ELECTRICAL ENGINEER
KPFF CONSULTING ENGINEERS — STRUCTURAL ENGINEER
EDSI - ENGINEERING DESIGN SOURCE — CIVIL ENGINEER
PDS - PLANNING DESIGN STUDIO — LANDSCAPE ARCHITECT

Stanley F. Visnovske
E-18138
Professional Engineer
I HEREBY SPECIFY THAT THIS DRAWING SHEET IS AUTHENTICATED BY MY SEAL

PARKWAY SCHOOLS

BARRETTS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 011601B
1780 Carman Road Manchester, Missouri 63021

Architects of the Possible

DATE: 11.28.16

REVISIONS

DWG. BY

PSD PROJECT NO. 011601B

PROJECT NO. 14-006.14

SHEET NO.

C0

LEGEND AND GENERAL NOTES

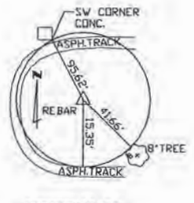
EDSI PROJECT #E-14-020.23

11/20/2016 5:00:5 PM Veronica Page
Z:\Parkway School District\E-14-020.23 - Barretts Elementary\ISSUE FOR BID\CIVIL - 2016.11.18.dwg



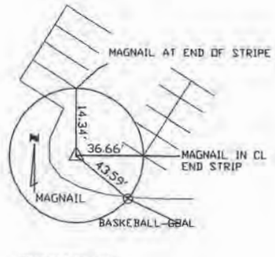
REFERENCE TIE
CONTROL POINT #1
N 998380.429
E 828059.774
ELEV 462.54

REBAR WITH ESDI CAP IN GRASS NEAR EASTERLY END OF TRACK 18' SOUTH OF TRACK 30' NORTHWEST OF WEST END OF NORTH SOCCER GOAL 20' EAST OF BACKSTOP IN LINE WITH HOMEPLATE.



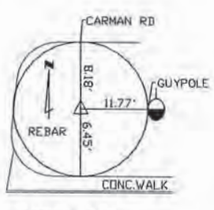
REFERENCE TIE
CONTROL POINT #2
N 998613.720
E 827913.451
ELEV 470.14

REBAR WITH EDSI CAP IN GRASS NEAR WESTERLY END OF TRACK 15' NORTH EAST OF TRACK 95' SOUTH OF SOUTH EAST CORNER CONC. WALK FROM NORTH WEST PARKING LOT TO TRACK.



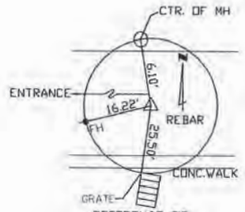
REFERENCE TIE
CONTROL POINT #3
N 998778.930
E 827924.528
ELEV 471.76

MAGNAIL IN NORTH WEST CORNER OF NORTH WEST PARKING LOT 3.5' EAST OF WEST END OF ASPH. 45' NORTH OF BASKETBALL GOAL 35' NORTH WEST OF CENTER PARKING STRIPE OF DOUBLE SPACES IN MIDDLE OF PARKING LOT.



REFERENCE TIE
CONTROL POINT #4
N 998937.453
E 828148.897
ELEV 465.77

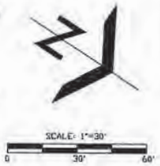
REBAR EDSI CAP IN GRASS BETWEEN CONC. WALK + WESTERLY E.O.P. CARMAN RD 45' SOUTH EAST OF CL CONC. ENTRANCE TO NORTH WEST PARKING LOT 6.5' NORTH EAST CONC. WALK 9' SOUTH WEST OF E.O.P. 11' NORTH WEST P.POLE.

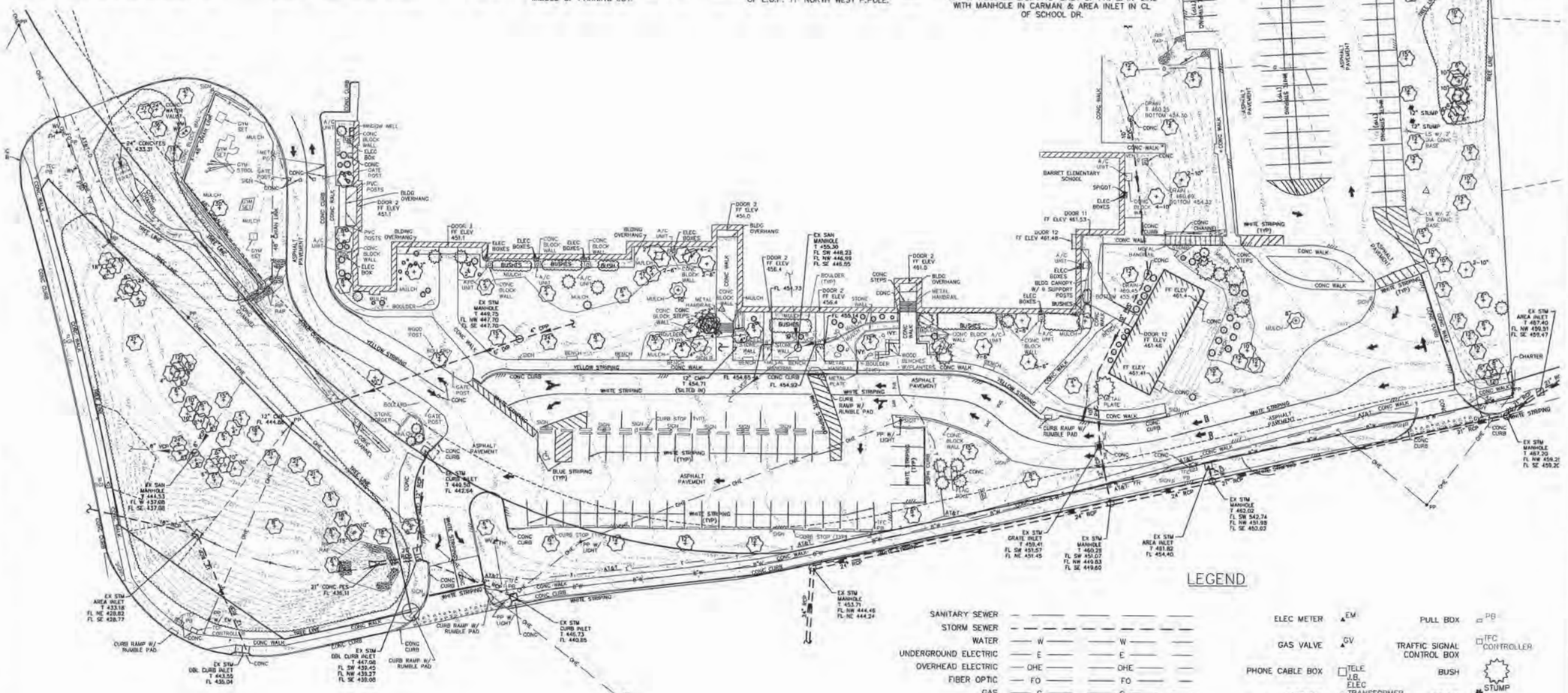


REFERENCE TIE
CONTROL POINT #5
N 998834.014
E 828262.778
ELEV 460.14

REBAR WITH EDSI CAP IN GRASS BETWEEN CONC. WALK & WESTERLY E.O.P. CARMAN RD 195' SOUTH EAST OF CL CONC. DRIVE TO NORTH WEST PARKING LOT 5.5' NORTH EAST OF CONC. WALK 4' SOUTH WEST OF E.O.P. 15' EAST OF FH. & IN-LINE WITH MANHOLE IN CARMAN & AREA INLET IN CL OF SCHOOL DR.

THE UNDERGROUND UTILITIES SHOWN HEREON HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND RECORD DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, WHETHER IN SERVICE OR ABANDONED. THE UTILITIES SHOWN WITHIN THE SCHOOL PROPERTY ARE CONSIDERED PRIVATE AND ARE SHOWN FROM AVAILABLE RECORD DOCUMENTS PROVIDED BY THE PARKWAY SCHOOL DISTRICT. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING MISSOURI ONE CALL AND PARKWAY SCHOOL DISTRICT TO VERIFY THE LOCATION OF UNDERGROUND FACILITIES PRIOR TO CONSTRUCTION.





LEGEND

SANITARY SEWER		ELEC METER	EM
STORM SEWER		GAS VALVE	GV
WATER	W	PHONE CABLE BOX	TELE
UNDERGROUND ELECTRIC	E	ELECTRIC TRANSFORMER BOX	ELEC
OVERHEAD ELECTRIC	OHE	POWER POLE	PP
FIBER OPTIC	FO	LIGHT STANDARD	LS
GAS	G	GAS METER	GM
COMMUNICATION	T	GAS VALVE	GV
STORM MANHOLE		SMALL DRAIN	
STORM INLET		FLOW DIRECTION OF SEWER LINE	
SANITARY MANHOLE			
CLEANOUT	VENT		
ELECTRIC MANHOLE	EMH		
ELECTRIC BREAKER OUTLET BOX	ELEC OUTLET BOX		

WATER MANHOLE	WMH	PULL BOX	PB
WATER METER	WM	TRAFFIC SIGNAL CONTROL BOX	TFC CONTROLLER
WATER VALVE	WV	BUSH	
FIRE HYDRANT	FH	STUMP	STUMP
SPRINKLER	SPRINKLER	TREE	
TELEPHONE MANHOLE	TMH	BOLLARD	BOLLARD
		SIGN	
		EDGE OF ASPH PAVEMENT	
		EDGE OF CONC PAVEMENT	

MSD P-XXXXXXXX MSD BASE MAP XXX

ARCHITECT: TRI ARCHITECTS
MECHANICAL ENGINEER: WILLIAM TAO & ASSOCIATES, INC.
PLUMBING / FP ENGINEER: WILLIAM TAO & ASSOCIATES, INC.
ELECTRICAL ENGINEER: WILLIAM TAO & ASSOCIATES, INC.
STRUCTURAL ENGINEER: KPFF CONSULTING ENGINEERS
CIVIL ENGINEER: EDSI - ENGINEERING DESIGN SOURCE
LANDSCAPE ARCHITECT: PDS - PLANNING DESIGN STUDIO

Barney F. Vinovich
E-18126
Professional Engineer
I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411 THAT THIS DRAWING SHEET IS AUTHENTICATED BY MY SEAL.

PARKWAY SCHOOLS

BARRETTS ELEMENTARY SCHOOL

BUILDING RENOVATIONS AND SITE IMPROVEMENTS

PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 011601B

1780 Carman Road Manchester, Missouri 63021

TRI Architects of the Possible

DATE: 11.28.16

REVISIONS

DWG. BY

PSD PROJECT NO. 011601B

PROJECT NO. 14-006.14

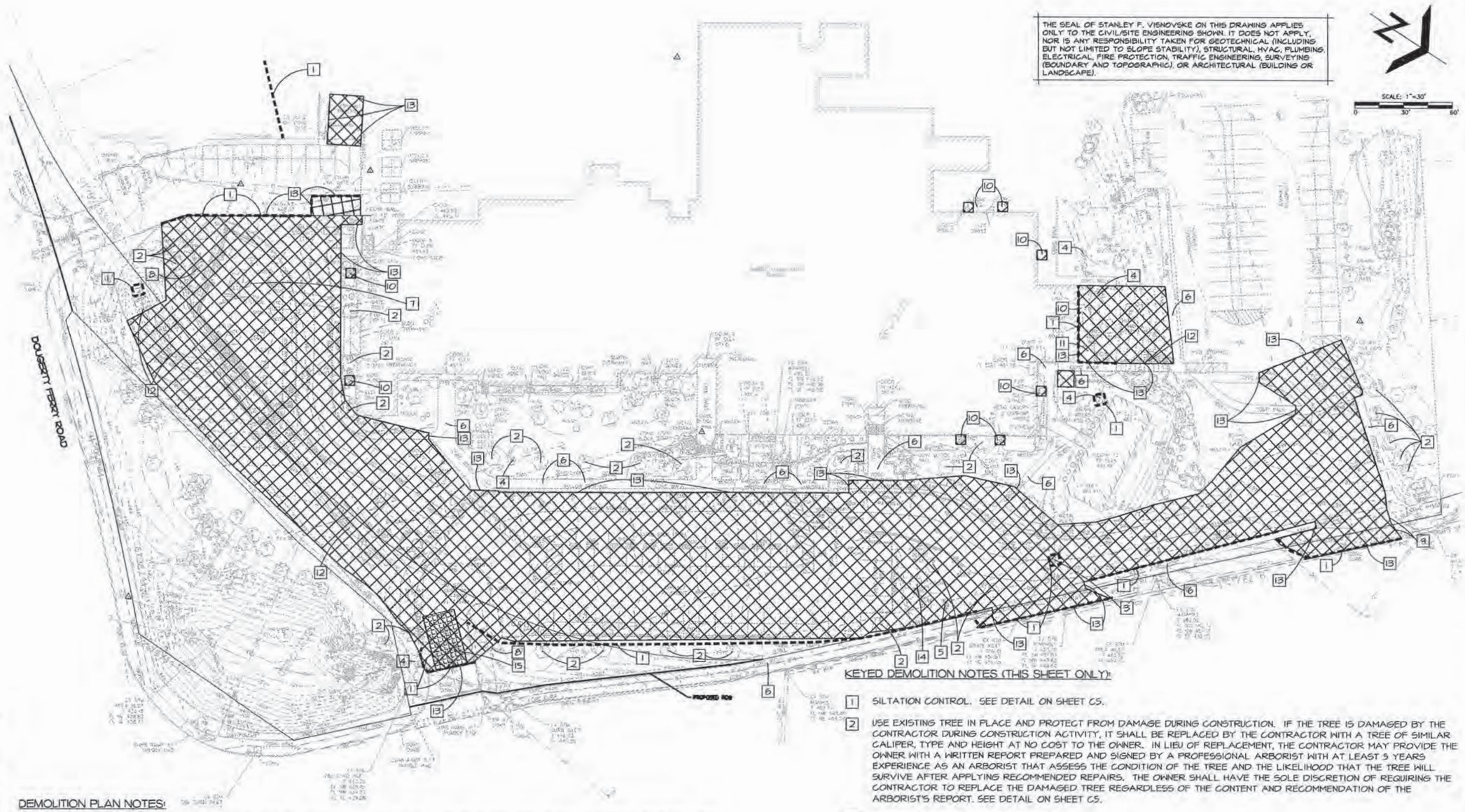
SHEET NO.

C0.1

SURVEY

EDSI PROJECT #E-14-020.23

11/20/2016 4:55:5 PM Veronica Page
Z:\Parkway School District\E-14-020.23 - Barretts Elementary\ISSUE FOR BIDs r ey - 2016.11.18.dwg



THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

DEMOLITION PLAN NOTES:

1. WHERE NATURAL VEGETATION IS REMOVED DURING GRADING, VEGETATION SHALL BE RE-ESTABLISHED IN SUCH A DENSITY AS TO PREVENT EROSION.
2. WHEN CLEARING AND/OR GRADING OPERATIONS ARE COMPLETED OR SUSPENDED FOR MORE THAN 5 DAYS IN ANY AREA, THE DISTURBED AREA SHALL BE SEEDED OR OTHERWISE STABILIZED TO SIGNIFICATNLY REDUCE THE ERODIBILITY OF THE SOIL. PROTECTIVE MEASURES MAY INCLUDE A COMBINATION OF SEEDING, SODDING, MULCHING OR OTHER SUITABLE MEANS TO PROTECT THE GROUND SURFACE FROM EROSION.
3. IF CUT AND FILL OPERATIONS OCCUR DURING A SEASON NOT FAVORABLE FOR IMMEDIATE ESTABLISHMENT OF PERMANENT GROUND COVER, A FAST GERMINATING ANNUAL SUCH AS RYE GRASSES OR SUDAN GRASSES SHALL BE UTILIZED TO RETARD EROSION.
4. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
5. EROSION AND SILTATION CONTROL SHALL BE INSTALLED PRIOR TO ANY GRADING AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY THE OWNER AND /OR CONTROLLING REGULATORY AGENCY AND ADEQUATE VEGETATIVE GROWTH INSURES NO FURTHER EROSION OF THE SOIL.
6. STORM WATER PIPES, OUTLETS AND CHANNELS SHALL BE PROTECTED BY SILT BARRIERS AND KEPT FREE OF WASTE AND SILT AT ALL TIMES PRIOR TO FINAL SURFACE STABILIZATION AND/OR PAVING.
7. SILTATION CONTROL DEVICES SHALL BE INSPECTED PERIODICALLY FOR DAMAGE AND FOR THE AMOUNT OF SEDIMENT WHICH HAS ACCUMULATED. REMOVAL OF SEDIMENT WILL BE REQUIRED WHEN IT REACHES 1/2 THE HEIGHT OF THE SILTATION CONTROL DEVICE.
8. ADDITIONAL SILTATION CONTROL MAY BE REQUIRED AS DEEMED NECESSARY BY THE CITY.
9. THE CONTRACTOR SHALL REMOVE ALL SURFACE IMPROVEMENTS INCLUDING BUT NOT LIMITED TO PAVEMENT, CURBS, TREES, SIGNS, AND SHRUBS WITHIN THE AREA NOTED BY THE LEGEND SYMBOL XXXXXX ON THIS SHEET. THERE ARE EXCEPTIONS. EXCEPTIONS ARE NOTED BY OTHER NOTES OR BY ABBRREVIATIONS NOTED ON THIS SHEET. CURBS ARE A PROMINENT EXCEPTION AS DESCRIBED IN THE KEYED NOTES.

KEYED DEMOLITION NOTES (THIS SHEET ONLY):

1. SILTATION CONTROL. SEE DETAIL ON SHEET C5.
2. USE EXISTING TREE IN PLACE AND PROTECT FROM DAMAGE DURING CONSTRUCTION. IF THE TREE IS DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION ACTIVITY, IT SHALL BE REPLACED BY THE CONTRACTOR WITH A TREE OF SIMILAR CALIPER, TYPE AND HEIGHT AT NO COST TO THE OWNER. IN LIEU OF REPLACEMENT, THE CONTRACTOR MAY PROVIDE THE OWNER WITH A WRITTEN REPORT PREPARED AND SIGNED BY A PROFESSIONAL ARBORIST WITH AT LEAST 5 YEARS EXPERIENCE AS AN ARBORIST THAT ASSESS THE CONDITION OF THE TREE AND THE LIKELIHOOD THAT THE TREE WILL SURVIVE AFTER APPLYING RECOMMENDED REPAIRS. THE OWNER SHALL HAVE THE SOLE DISCRETION OF REQUIRING THE CONTRACTOR TO REPLACE THE DAMAGED TREE REGARDLESS OF THE CONTENT AND RECOMMENDATION OF THE ARBORIST'S REPORT. SEE DETAIL ON SHEET C5.
3. CONVERT EXISTING INLET TO MANHOLE
4. USE EXISTING STORM STRUCTURE IN PLACE. ADJUST TO GRADE AS NECESSARY.
5. USE SIGN IN PLACE.
6. USE EXITING SIDEWALK IN PLACE. IF SIDEWALK IS DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION ACTIVITY, IT SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.
7. CONTRACTOR TO DEMOLISH EXISTING PLAYGROUND POSTS. SEE SITE PLAN, SHEET C2 FOR NEW PLAYGROUND LOCATION. EXISTING PLAYGROUND EQUIPMENT, INCLUDING NEW POSTS, WILL BE REMOVED AND REINSTALLED BY OWNER.
8. USE EXISTING WATER METER OR FIRE HYDRANT IN PLACE AND PROTECT FROM DAMAGE DURING CONSTRUCTION.
9. SAWCUT PAVEMENT AT EXISTING JOINT. USE EXISTING RAMP IN PLACE.
10. REMOVE CONCRETE UTILITY PAD, SEE MEP PLANS FOR CONDENSER REMOVAL.
11. REMOVE BIKE RACK PAD. OWNER TO REMOVE & REPLACE BIKE RACK. CONTRACTOR TO INSTALL NEW PAD, SEE SHEET C2.
12. DEMOLISH CONCRETE CHANNEL.
13. SAWCUT ASPHALT AND CONCRETE PAVEMENTS. SAWCUT CONCRETE PAVEMENT AND SIDEWALK AT NEAREST JOINT.
14. USE FLAGPOLE IN PLACE.
15. WASH DOWN AREA. SEE DETAIL ON SHEET C7.

MSD P-XXXXXXXX MSD BASE MAP XXX

TRJ ARCHITECTS — ARCHITECT
WILLIAM TAO & ASSOCIATES, INC. — MECHANICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — PLUMBING / FP ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — ELECTRICAL ENGINEER
KPFF CONSULTING ENGINEERS — STRUCTURAL ENGINEER
EDSI - ENGINEERING DESIGN SOURCE — CIVIL ENGINEER
PDS - PLANNING DESIGN STUDIO — LANDSCAPE ARCHITECT

Stanley F. Visnovske
E-14126
Professional Engineer
I HEREBY SPECIFY, PURSUANT TO RSMo 327.411 THAT THIS DRAWING SHEET IS AUTHENTICATED BY MY SEAL.

PARKWAY SCHOOLS

BARRETTS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 011601B
1780 Carman Road Manchester, Missouri 63021

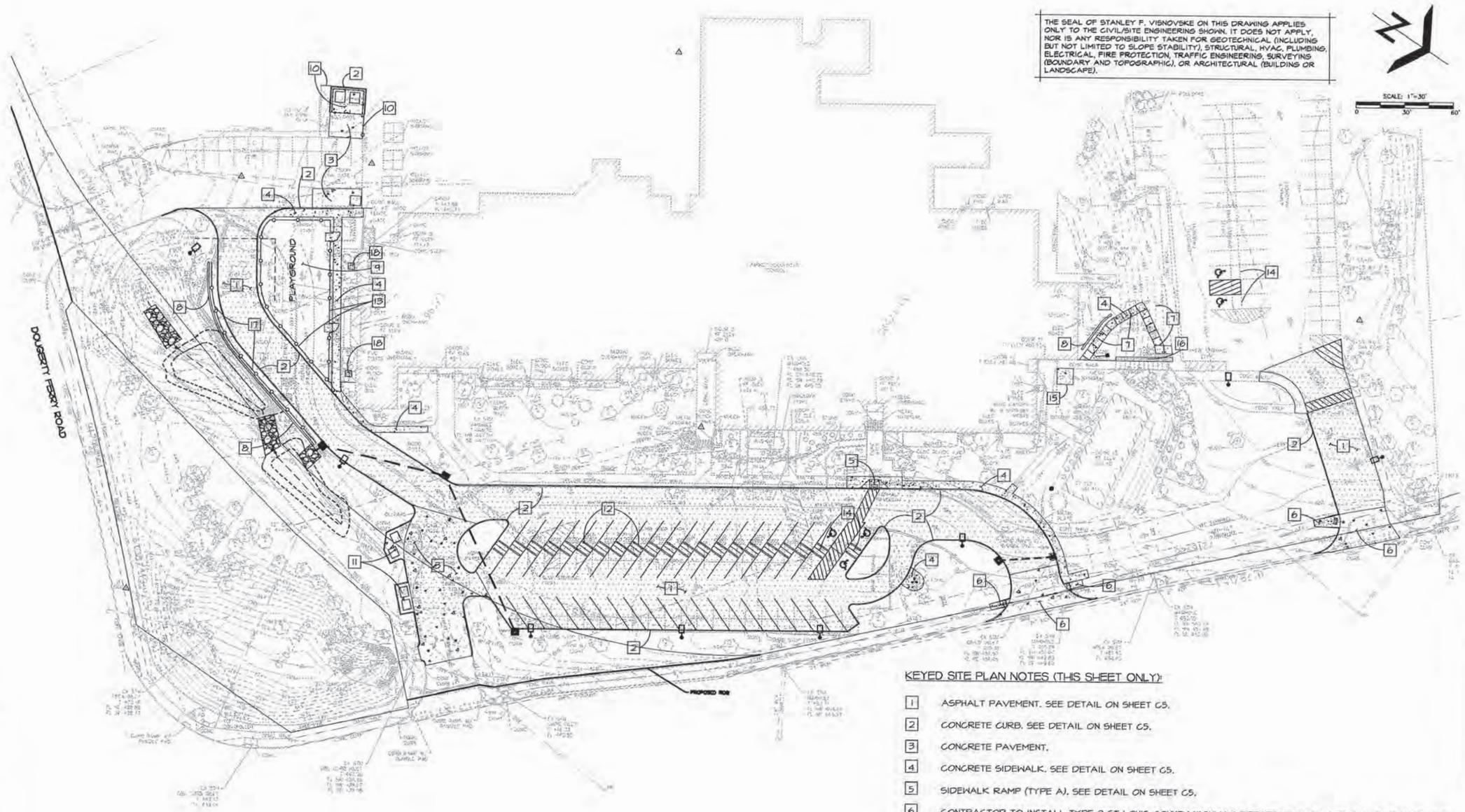
TRJ Architects of the Possible

DATE: 11.28.16
REVISIONS

DWG. BY
PSD PROJECT NO. 011601B
PROJECT NO. 14-006.14
SHEET NO. C1
DEMOLITION PLAN

EDSI PROJECT #E-14-020.23

11/21/2016 6:35:56 PM Veronica Page
Z:\Parkway School District\E-14-020.23 - Barretts Elementary\ISSUE FOR BID\CIVIL - 2016.11.18.dwg



THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

SCALE: 1"=30'
0 30' 60'

PARKING CALCULATIONS

EXISTING STANDARD SPACES	111
49 NORTH LOT, 48 FRONT LOT, 14 SOUTH LOT (EXCLUDES 3 SPACES UNUSABLE DUE TO DUMPSTER LOCATIONS)	
EXISTING ACCESSIBLE SPACES	4
TOTAL PROPOSED STANDARD SPACES	120
46 NORTH LOT, 60 FRONT LOT, 14 SOUTH LOT	
TOTAL ACCESSIBLE SPACES	5

KEYED SITE PLAN NOTES (THIS SHEET ONLY):

1. ASPHALT PAVEMENT. SEE DETAIL ON SHEET C5.
2. CONCRETE CURB. SEE DETAIL ON SHEET C5.
3. CONCRETE PAVEMENT.
4. CONCRETE SIDEWALK. SEE DETAIL ON SHEET C5.
5. SIDEWALK RAMP (TYPE A). SEE DETAIL ON SHEET C5.
6. CONTRACTOR TO INSTALL TYPE 2 ST LOUIS COUNTY HIGHWAY DEPARTMENT COMMERCIAL ENTRANCE WITH VERTICAL CONCRETE CURB, INCLUDING TYPE I ADA COMPLAINT CURB RAMP.
7. RAMP WITH RAILING. SEE DETAIL ON SHEET C5.
8. RETAINING WALL. SEE DETAIL ON SHEET C6.
9. PLAYGROUND AREA AND POSTS TO BE INSTALLED BY OWNER.
10. DUMPSTER ENCLOSURE. SEE DETAIL ON SHEET C6. CONTRACTOR TO INSTALL CHAIN LINK FENCE TO CONNECT TO EXISTING FENCES. SEE FENCE ENCLOSURE DETAIL ON SHEET C7.
11. PUBLIC RECYCLING AND DUMPSTER AREA.
12. WHEEL STOPS, SEE DETAIL ON SHEET C6 FOR LOCATION.
13. ORNAMENTAL FENCE AROUND PLAY AREA PERIMETER.
14. HANDICAP SIGN, SEE DETAIL ON SHEET C2.3.
15. NEW BIKE RACK PAD BY CONTRACTOR. OWNER TO RELOCATE BIKE RACK.
16. NEW FLUME. SEE DETAIL ON SHEET C6.
17. GUARD RAIL. SEE DETAIL ON SHEET C7.
18. 4'X4' UTILITY PAD. SEE DETAIL ON SHEET C6.

MSD P-XXXXXXXX MSD BASE MAP XXX

Stanley F. Visnovske
E-18136
Professional Engineer
I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411 THAT THIS DRAWING SHEET IS AUTHENTICATED BY MY SEAL.

TRJ, ARCHITECTS — ARCHITECT
WILLIAM TAO & ASSOCIATES, INC. — MECHANICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — PLUMBING / FP ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — ELECTRICAL ENGINEER
KPFF CONSULTING ENGINEERS — STRUCTURAL ENGINEER
EDSI - ENGINEERING DESIGN SOURCE — CIVIL ENGINEER
PDS - PLANNING DESIGN STUDIO — LANDSCAPE ARCHITECT

PARKWAY SCHOOLS

BARRETTS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 011601B
1780 Carman Road Manchester, Missouri 63021

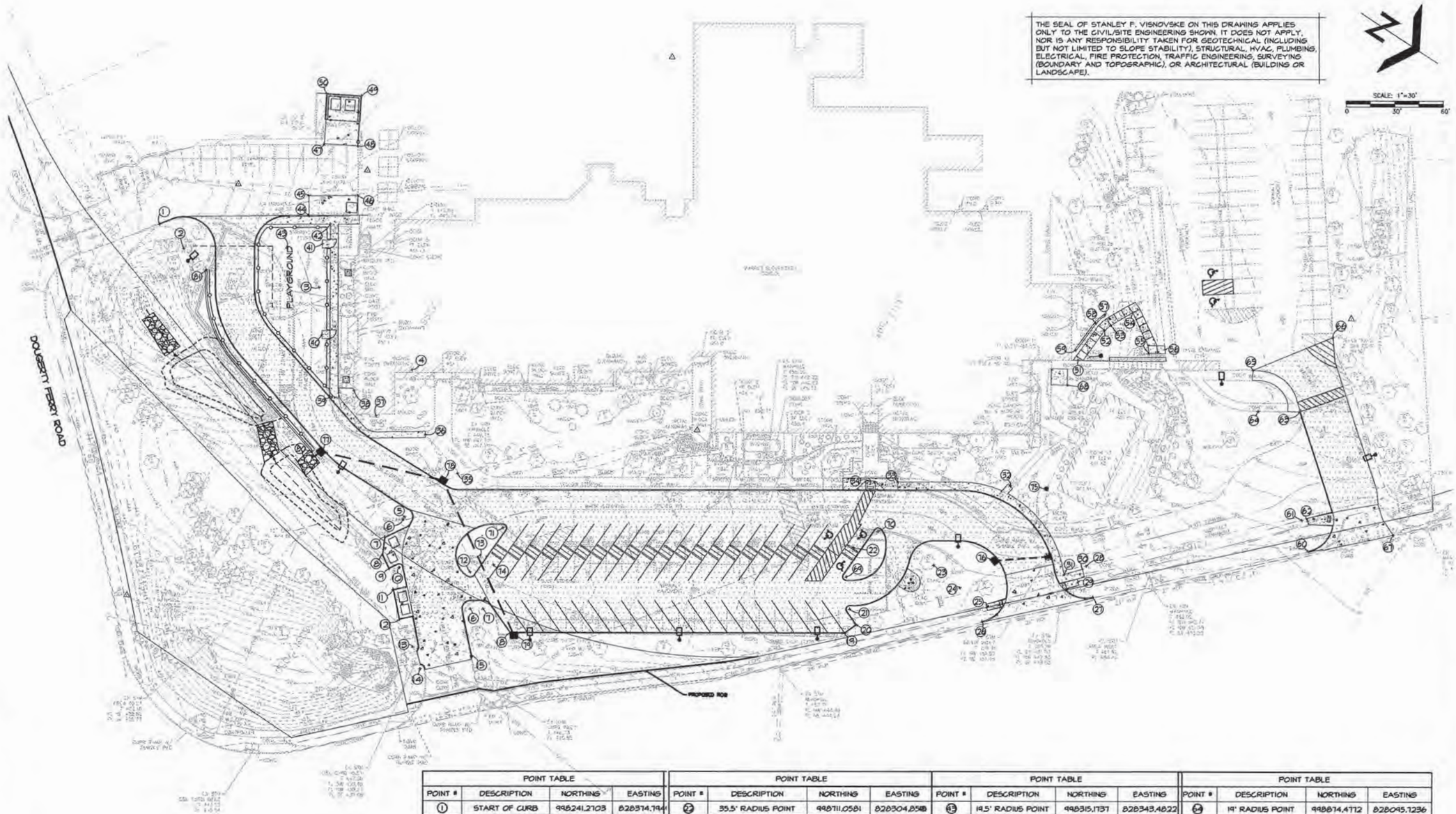
TRJ Architects of the Possible

DATE: 11.28.16
REVISIONS:

DWG. BY
PSD PROJECT NO. 011601B
PROJECT NO. 14-006.14
SHEET NO. C2
SITE PLAN

EDSI PROJECT #E-14-020.23

11/21/2016 6:32:41 PM Veronica Page
Z:\Parkway School District\E-14-020.23 - Barretts Elementary\ISSUE FOR BID\CIVIL - 2016.11.18.dwg



THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

SCALE: 1"=30'
0 30' 60'

POINT TABLE			
POINT #	DESCRIPTION	NORTHING	EASTING
1	START OF CURB	998241.2103	828374.794
2	19.5' RADIUS POINT	998262.0973	828379.246
3	64.5' RADIUS POINT	998345.4010	828353.117
4	74.5' RADIUS POINT	998421.9084	828363.752
5	5' RADIUS POINT	998468.0284	828442.135
6	5' RADIUS POINT	998468.0975	828443.875
7	BOC CORNER POINT	998464.4402	828459.544
8	BOC CORNER POINT	998464.3999	828469.643
9	BOC CORNER POINT	998471.5232	828474.618
10	2' RADIUS POINT	998482.5009	828470.266
11	BOC CORNER POINT	998486.7288	828483.743
12	BOC CORNER POINT	998500.1432	828497.199
13	3.25' RADIUS POINT	998516.5407	828506.643
14	2.5' RADIUS POINT	998521.7615	828515.540
15	BOC CORNER POINT	998550.1110	828491.298
16	5' RADIUS POINT	998533.2826	828467.353
17	5' RADIUS POINT	998539.8655	828463.020
18	BOC CORNER POINT	998561.9841	828466.420
19	BOC CORNER POINT	998735.6884	828352.097
20	BOC CORNER POINT	998734.0613	828343.586
21	2' RADIUS POINT	998729.9859	828337.826

POINT TABLE			
POINT #	DESCRIPTION	NORTHING	EASTING
22	35.5' RADIUS POINT	998711.0581	828304.858
23	15' RADIUS POINT	998758.8307	828288.478
24	29' RADIUS POINT	998780.0826	828289.128
25	END OF SIDEWALK	998800.5010	828290.013
26	END OF CURB	998802.9298	828298.157
27	END OF CURB	998851.9908	828248.348
28	19.5' RADIUS POINT	998838.0235	828234.744
29	END OF SIDEWALK	998834.2101	828245.728
30	CORNER OF WALK	998837.0644	828237.608
31	CORNER OF WALK	998829.4217	828246.418
32	END OF WALK	998711.4881	828219.245
33	CORNER OF WALK	998711.7618	828255.618
34	END OF RAMP	998647.2025	828264.548
35	10' RADIUS POINT	998480.5381	828401.813
36	END OF SIDEWALK	998450.8354	828342.567
37	10' RADIUS POINT	998418.8873	828349.684
38	10' RADIUS POINT	998348.7800	828344.218
39	CORNER OF SIDEWALK	998388.2035	828405.838
40	END OF SIDEWALK	998362.9746	828376.368
41	END OF SIDEWALK	998332.3342	828329.482
42	CORNER OF SIDEWALK	998329.7615	828316.408

POINT TABLE			
POINT #	DESCRIPTION	NORTHING	EASTING
43	19.5' RADIUS POINT	998315.7137	828343.482
44	CORNER OF CONC.	998315.6294	828319.179
45	CORNER OF CONC.	998308.9968	828309.179
46	CORNER OF CONC.	998334.5002	828242.263
47	CORNER OF CONC.	998299.4457	828276.924
48	CORNER OF CONC.	998317.6664	828266.483
49	CORNER OF CONC.	998302.6361	828239.241
50	CORNER OF CONC.	998283.5478	828250.185
51	END OF RAMP	998763.6269	828131.168
52	CORNER OF RAMP	998767.2615	828106.554
53	CORNER OF RAMP	998768.7140	828101.853
54	CORNER OF RAMP	998775.7604	828087.644
55	CORNER OF RAMP	998798.2806	828103.263
56	START OF RAMP	998805.2587	828095.810
57	START OF WALL	998767.9846	828098.538
58	CORNER OF WALL	998760.2913	828105.822
59	END OF WALL	998758.8281	828126.691
60	START OF CURB	998948.0243	828151.016
61	19.5' RADIUS POINT	998934.3154	828137.147
62	END OF SIDEWALK	998937.6870	828135.613
63	END OF CURB	998846.2164	828081.718

POINT TABLE			
POINT #	DESCRIPTION	NORTHING	EASTING
64	19' RADIUS POINT	998874.4772	828045.723
65	END OF SIDEWALK	998851.8324	828076.244
66	CORNER OF PVMT	998888.2355	828031.981
67	CORNER OF PVMT	998886.1453	828113.427
68	CORNER OF CONC.	998766.5139	828147.600
69	2' RADIUS POINT	998717.2969	828322.302
70	2' RADIUS POINT	998718.2863	828287.941
71	2' RADIUS POINT	998522.5681	828414.308
72	3' RADIUS POINT	998520.5867	828448.378
73	15' RADIUS POINT	998520.3161	828436.381
74	25' RADIUS POINT	998530.3094	828436.741
75	CENTER OF INLET 4	998741.1719	828208.312
76	CENTER OF INLET 7	998788.7625	828263.117
77	CENTER OF INLET 9	998402.3664	828431.155
78	CENTER OF INLET 10	998475.6658	828410.436
79	CENTER OF INLET 11	998564.9029	828466.291
80	END OF WALL	998347.3837	828434.979
81	END OF WALL	998280.9367	828382.458

MSD P-XXXXXXXX MSD BASE MAP XXX

11/21/2016 6:30:01 PM Veronica Page
Z:\Parkway School District\E-14-020.23 - Barretts Elementary\ISSUE FOR BID\CIVIL - 2016.11.16.dwg

TRI. ARCHITECTS — ARCHITECT
WILLIAM TAO & ASSOCIATES, INC. — MECHANICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — PLUMBING / FP ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — ELECTRICAL ENGINEER
KPFF CONSULTING ENGINEERS — STRUCTURAL ENGINEER
EDSI - ENGINEERING DESIGN SOURCE — CIVIL ENGINEER
PDS - PLANNING DESIGN STUDIO — LANDSCAPE ARCHITECT

Stanley F. Visnovske
E-21139
Professional Engineer
HEREBY SPECIFY
PURSUANT TO 20 CSR 2030-2.060
THAT THIS DRAWING SHEET
IS AUTHENTICATED BY MY
SEAL.

PARKWAY SCHOOLS

BARRETTS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 011601B
1780 Carman Road Manchester, Missouri 63021

TRI Architects of the Possible

DATE: 11.28.16
REVISIONS
DWG. BY
PSD PROJECT NO. 011601B
PROJECT NO. 14-006.14
SHEET NO.

C2.1
SITE PLAN COORDINATES

EDSI PROJECT #E-14-020.23

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

SCALE: 1"=30'
0 30' 60'

DOUGERTY FERRY ROAD

PLAYGROUND

STOP SIGN

STOP SIGN

ONE-WAY SIGN

"BUSES ONLY" "CARS ONLY" SIGN

RE-ESTABLISH YELLOW STRIPING AT CURB

DO NOT ENTER SIGN

DO NOT ENTER SIGN

YIELD TO PEDESTRIAN SIGN

YELLOW STRIPE

STOP SIGN

STOP SIGN

PROPOSED ROW

EX. DO NOT ENTER SIGN (TO REMAIN)

EX. STOP/ ONE-WAY SIGN (TO REMAIN)

SIGN DETAILS: SEE SHEET C2.3

MSD P-XXXXXXXX MSD BASE MAP XXX

11/21/2016 6:26:0 PM Veronica Page
Z:\Parkway School District\E-14-020.23 - Barretts Elementary\ISSUE FOR BID\CIVIL - 2016.11.18.dwg

Stanley F. Visnovske
11/28/2016
Professional Engineer
I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411 THAT THIS DRAWING SHEET IS AUTHENTICATED BY MY SEAL.

TRJ - ARCHITECTS — ARCHITECT
WILLIAM TAO & ASSOCIATES, INC. — MECHANICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — PLUMBING / FP ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — ELECTRICAL ENGINEER
KPFF CONSULTING ENGINEERS — STRUCTURAL ENGINEER
EDSI - ENGINEERING DESIGN SOURCE — CIVIL ENGINEER
PDS - PLANNING DESIGN STUDIO — LANDSCAPE ARCHITECT

PARKWAY SCHOOLS

BARRETTS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS

PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 011601B

1780 Carman Road Manchester, Missouri 63021

TRJ Architects of the Possible

9812 Manchester Road, St. Louis, Missouri 63119 — T. 314-385-8750, F. 314-385-8751, www.trjarchitects.com
© Copyright 2016

DATE: 11.28.16

REVISIONS

DWG. BY

PSD PROJECT NO. 011601B

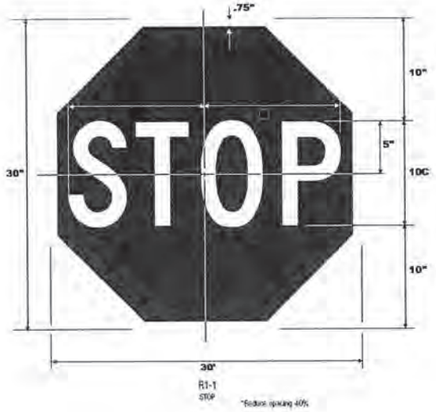
PROJECT NO. 14-006.14

SHEET NO.

C2.2

SIGNAGE & STRIPING PLAN

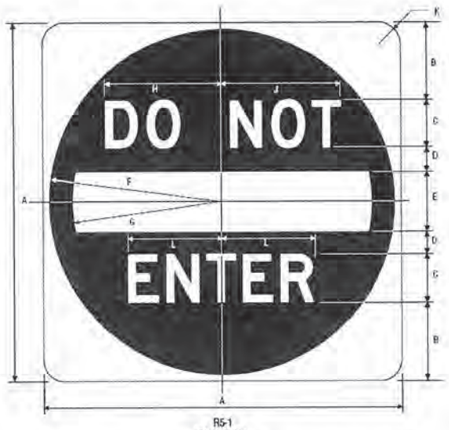
EDSI PROJECT #E-14-020.23



R1-1
STOP

*Reduce spacing 40%

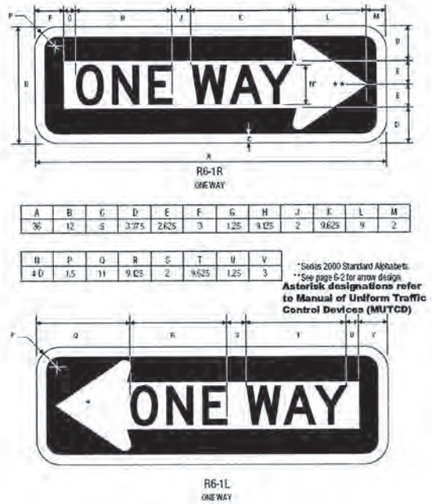
COLORS: LEGEND – WHITE (RETROREFLECTIVE)
BACKGROUND – RED (RETROREFLECTIVE)



R5-1
DO NOT ENTER

A	B	C	D	E	F	G	H	J	K	L
30	6.5	4.0	2	5	14.5	12.5	9.75	10	1.875	7.875

COLORS: SYMBOL – RED (RETROREFLECTIVE)
LEGEND & BACKGROUND – WHITE (RETROREFLECTIVE)



R6-1R
ONE WAY

A	B	C	D	E	F	G	H	J	K	L	M
36	12	6	3.375	2.625	3	1.25	9.125	2	9.625	9	2

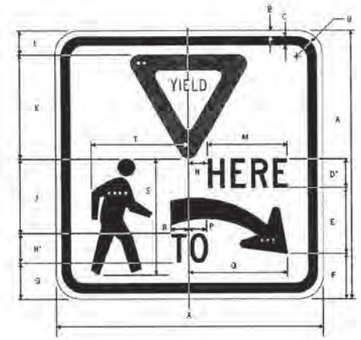
N	P	Q	R	S	T	U	V
4.0	1.5	11	9.125	2	9.625	1.25	3

*Series 2000 Standard Alphabets
**See page 6-2 for arrow design

Asterisk designations refer to Manual of Uniform Traffic Control Devices (MUTCD)

R6-1L
ONE WAY

COLORS: LEGEND – BLACK
BACKGROUND – BLACK
ARROW – WHITE (RETROREFLECTIVE)



R1-5R
YIELD HERE TO PEDESTRIANS

A	B	C	D	E	F	G	H	J	K	L
18	3.75	6.25	2.0	4.375	3	2.375	2.0	5	7	1.625

M	N	P	Q	R	S	T	U
5.364	1.249	1.220	6.805	1.220	7.305	6.805	15

*Series 2000 Standard Alphabets
**Insert R1-2 and size to fit.
***Insert R10-6a Arrow and size to fit.
****See 6-10 for design detail.

Asterisk designations refer to Manual of Uniform Traffic Control Devices (MUTCD)

COLORS: LEGEND & ARROW – BLACK
RED SYMBOL – BLACK
BACKGROUND – WHITE (RETROREFLECTIVE)
YIELD SYMBOL – RED (RETROREFLECTIVE)



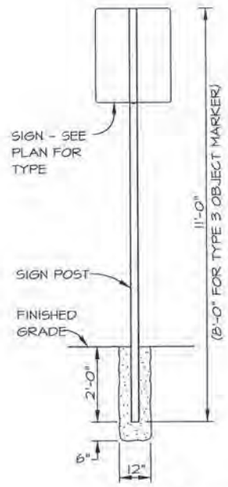
R7-8 NO PARKING

LEGEND – GREEN (RETROREFL), WHITE SYMBOL ON BLUE (RETROREFL)
BACKGROUND – WHITE (RETROREFL)

Asterisk designations refer to Manual of Uniform Traffic Control Devices

*Reduce spacing 50%.
**See page 6-31.
***See page 6-2 for arrow design.

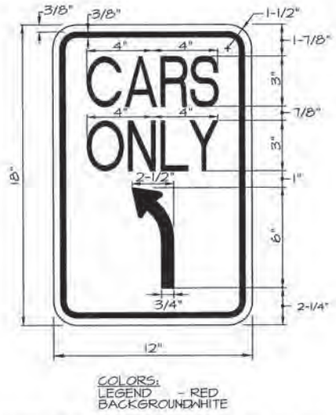
Note: Arrow may also point left or right as warranted or may be deleted entirely if a sign is to be placed for each individual accessible parking stall.



SIGN POST PLACEMENT
N.T.S.

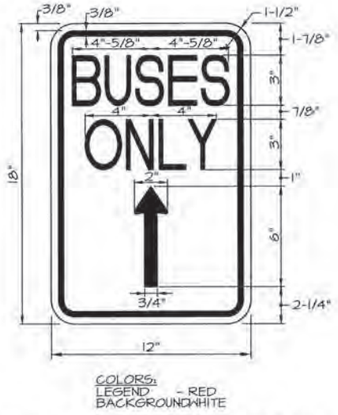
NOTES: (SIGN POST)

1. SIGN POST SHALL HAVE A 2-3/8 INCH OUTSIDE DIAMETER AND BE 11 FEET IN LENGTH. THEY SHALL BE EITHER SCH. 40 ALUMINUM PIPE OR GALVANIZED STEEL W/ A WALL THICKNESS OF 0.065 INCHES. THE INSIDE WALL SHALL BE GALVANIZED OR HAVE A FULL ZINC BASED ORGANIC COATING IN ACCORDANCE WITH ASTM-A513 TO OBTAIN A WEIGHT OF 0.90 OZ. PER SQ. FT. COMMERCIAL ZINC WEIGHT (G90).
2. SIGNS ARE TO BE MOUNTED A MINIMUM OF 3.5 FEET FROM THE BACK OF CURB WITH A MINIMUM CLEARANCE FROM THE SIDEWALK OF 1.5 FEET.
3. SIGN POST SHALL BE MOUTED 24 INCHES IN THE GROUND AND BE SET IN A CONCRETE BASE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF UNDERGROUND UTILITIES AND STRUCTURES SHOWN OR NOT SHOWN PRIOR TO THE PLACEMENT OF SIGN POSTS.



COLORS:
LEGEND – RED
BACKGROUND – WHITE

SIGN DETAIL - "CARS ONLY"
N.T.S.



COLORS:
LEGEND – RED
BACKGROUND – WHITE

SIGN DETAIL - "BUSES ONLY"
N.T.S.

SIGN	PSD EXTERIOR STANDARD DETAIL #
STOP	RI-1
DO NOT ENTER	R5-1
ONE-WAY	R6-1R
YIELD TO PED.	RI-5R

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

MSD P-XXXXXXXX MSD BASE MAP XXX

11/20/2016 6:25:36 PM Veronica Page
Z:\Parkway School District\E-14-020.23 - Barretts Elementary\ISSUE FOR BID\CIVIL - 2016.11.18.dwg

TRJ: ARCHITECTS
WILLIAM TAO & ASSOCIATES, INC.: ARCHITECT
WILLIAM TAO & ASSOCIATES, INC.: MECHANICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC.: PLUMBING / FP ENGINEER
KPFF CONSULTING ENGINEERS: ELECTRICAL ENGINEER
EDSI - ENGINEERING DESIGN SOURCE: STRUCTURAL ENGINEER
PDS - PLANNING DESIGN STUDIO: CIVIL ENGINEER
LANDSCAPE ARCHITECT

Stanley F. Visnovske
E-24576
Professional Engineer
I HEREBY SPECIFY, PURSUANT TO RSMO. 327.411 THAT THIS DRAWING SHEET IS AUTHENTICATED BY MY SEAL.

PARKWAY SCHOOLS

BARRETTS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 011601B
1780 Carman Road Manchester, Missouri 63021

TRJ Architects of the Possible

8112 Manchester Road, St. Louis, Missouri 63119 | T: 314-365-9750 | F: 314-365-9751 | www.trjarchitects.com
© Copyright 2016

DATE: 11.28.16
REVISIONS

DWG. BY
PSD PROJECT NO. 011601B
PROJECT NO. 14-006.14
SHEET NO. C2.3
SIGN DETAILS

EDSI PROJECT #E-14-020.23

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDINGS OR LANDSCAPE).

SCALE: 1"=30'
0 30' 60'

TC 447.90
BC 447.25 (S CORNER - MATCH EXISTING GRADE)
BC 447.40 (N CORNER)

TC 447.78
BC 447.00 (SE - MATCH EXISTING GRADE)
BC 447.28 (NW)

TC 448.10
BC 447.60 (MATCH EXISTING GRADE)

TC 448.40
BC 447.90 (MATCH EXISTING GRADE)

TC 447.7
BC 447.2 (MATCH EXISTING GRADE)

447.7 (MATCH EXISTING GRADE)

448.55 (MATCH EXISTING GRADE)

TC 448.90
BC 448.40

448.15

449.75

TC 443.20
BC 442.70

TC 445.90
BC 445.40

TC 443.27
BC 442.77

TC 446.85
BC 445.85

EXISTING GROUND

TC 447.22
BC 446.72

DOUGHERTY FERRY ROAD

TW 444.83
BW 444.5

450.08

450.20

TC 450.24
BC 449.74

TC 450.10
BC 449.60

TW 446.00
BW 439.5

TC 450.45
BC 449.95

450.17

TC 449.95
BC 449.45

449.77

449.97

TC 449.70
BC 449.20

TC 450.55
BC 449.85

TW 447.00
BW 438.5

TC 449.94
BC 449.44

TC 451.26
BC 450.76

TW 448.00
BW 439.0

TC 450.19
BC 449.69

TW 446.50
BW 446.0

TC 452.03
BC 451.53

TC 451.32
BC 450.82

BASIN CROSS SECTIONS, SEE SHEET C3.1

TC 449.70
BC 449.20

TC 448.45
BC 448.45

TC 449.18
BC 448.68

TC 448.41
BC 447.91

TC 448.16
BC 447.66

TC 447.17
BC 446.67

TC 446.69
BC 446.19

TC 450.50
BC 450.00

TC 450.61
BC 450.11

TC 451.03
BC 450.53

TC 450.82
BC 450.32

TC 447.61
BC 447.11

TC 447.23
BC 446.73

TC 446.67
BC 446.17

PROPOSED ROW

TC 458.10
BC 457.60

458.13

457.07

TC 457.16
BC 456.66

TC 456.16
BC 455.66

TC 456.69
BC 456.19

TC 456.68
BC 456.18

TC 458.52
BC 458.02

TC 456.74
BC 456.24

TC 456.45
BC 455.95

TC 458.8
BC 458.3

TC 459.64
BC 459.14

459.69

TC 457.69
BC 457.19

TC 459.47
BC 458.97

TC 458.35
BC 457.85

TC 459.79
BC 459.29

459.59

TC 459.67
BC 459.17

459.38

TC 460.70
BC 460.20

TC 459.80
BC 459.30

460.78

460.77

TC 459.55
BC 459.05

461.27

461.41

TC 461.73
BC 461.23

TC 461.29
BC 460.79

460.92

TC 461.5
BC 461.0

TC 465.0
BC 464.5

TC 472.16
BC 471.66

TC 470.28
BC 469.78

470.91

TC 471.07
BC 470.57

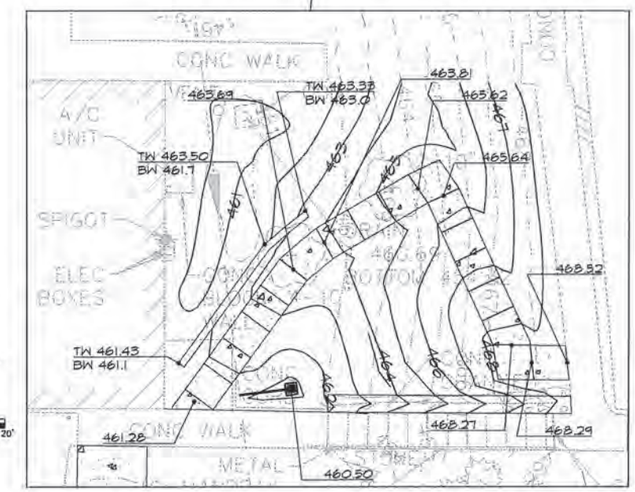
TC 466.74
BC 466.24

466.36

TC 466.96
BC 466.46

TC 466.94
BC 466.44

TC 466.63
BC 466.13



SCALE: 1"=10'
0 10' 20'

MSD P-XXXXXXXX MSD BASE MAP XXX

11/21/2016 6:1 :16 PM Veronica Page
Z:\Parkway School District\E-14-020.23 - Barretts Elementary\ISSUE FOR BID\CIVIL - 2016.11.18.dwg

ARCHITECT
TRJ ARCHITECTS

MECHANICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC.

PLUMBING / FP ENGINEER
WILLIAM TAO & ASSOCIATES, INC.

ELECTRICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC.

STRUCTURAL ENGINEER
KPFF CONSULTING ENGINEERS

CIVIL ENGINEER
EDSI - ENGINEERING DESIGN SOURCE

LANDSCAPE ARCHITECT
PDS - PLANNING DESIGN STUDIO

Stanley F. Visnovske
E-2011-0062
Professional Engineer
I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411 THAT THIS DRAWING SHEET IS AUTHENTICATED BY MY SEAL.

PARKWAY SCHOOL DISTRICT

BARRETTS
ELEMENTARY SCHOOL

BUILDING RENOVATIONS AND
SITE IMPROVEMENTS

PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 011601B

1780 Carman Road Manchester, Missouri 63021

Architects of the Possible

DATE: 11.28.16

REVISIONS

DWG. BY

PSD PROJECT NO. 011601B

PROJECT NO. 14-006.14

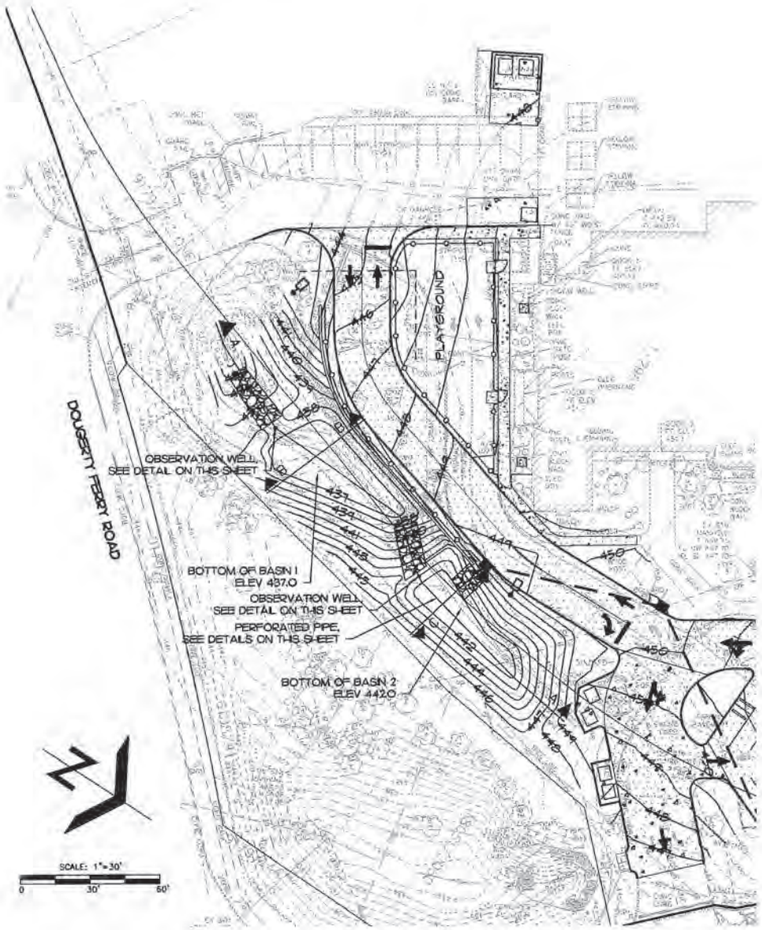
SHEET NO.

C3

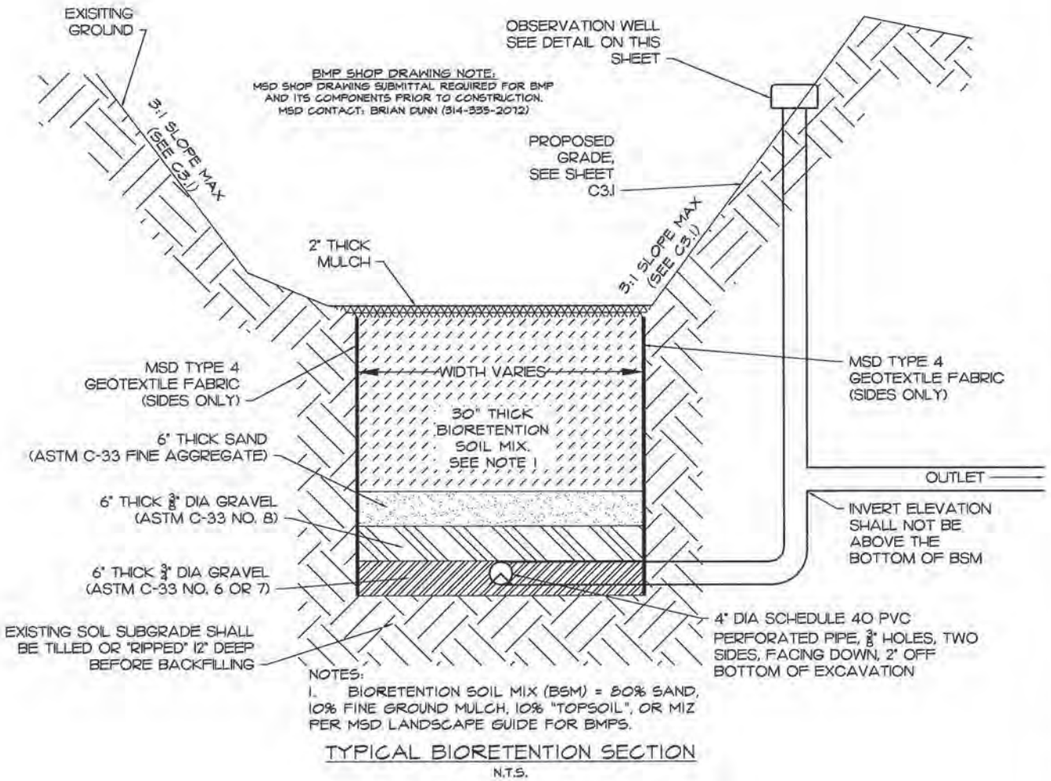
GRADING PLAN

EDSI PROJECT #E-14-020.23

SEE SHEET C3 FOR SPOT ELEVTION

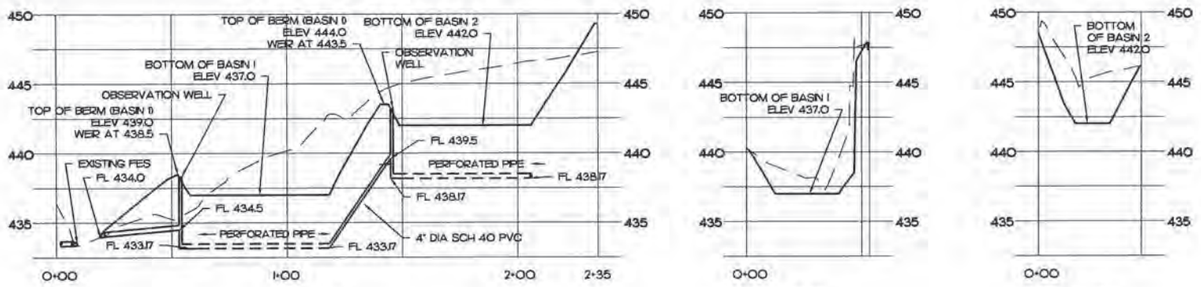


THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).



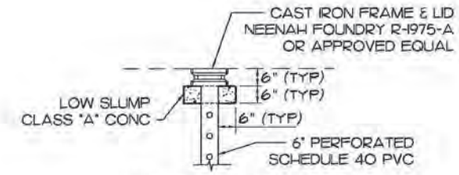
NOTES:
1. BIORETENTION SOIL MIX (BSM) = 80% SAND, 10% FINE GROUND MULCH, 10% "TOPSOIL", OR MIX PER MSD LANDSCAPE GUIDE FOR BMPS.

TYPICAL BIORETENTION SECTION
N.T.S.



A-A B-B C-C

CROSS SECTIONS



OBSERVATION WELL DETAIL

MSD P-XXXXXXXX MSD BASE MAP XXX

11/21/2016 6:16:0 PM Veronica Page
Z:\Parkway School District\E-14-020.23 - Barretts Elementary\ISSUE FOR BID\CIVIL - 2016.11.18.dwg

TRI. ARCHITECTS:
WILLIAM TAO & ASSOCIATES, INC.
WILLIAM TAO & ASSOCIATES, INC.
WILLIAM TAO & ASSOCIATES, INC.
KPFF CONSULTING ENGINEERS
EDSI - ENGINEERING DESIGN SOURCE
PDS - PLANNING DESIGN STUDIO

ARCHITECT
MECHANICAL ENGINEER
PLUMBING / FP ENGINEER
ELECTRICAL ENGINEER
STRUCTURAL ENGINEER
CIVIL ENGINEER
LANDSCAPE ARCHITECT

Stanley F. Visnovske
E-24176
Professional Engineer
I HEREBY CERTIFY THAT PURSUANT TO RSMO 327.411 THAT THE DRAWING SHEET IS AUTHENTICATED BY MY SEAL.

PARKWAY SCHOOLS

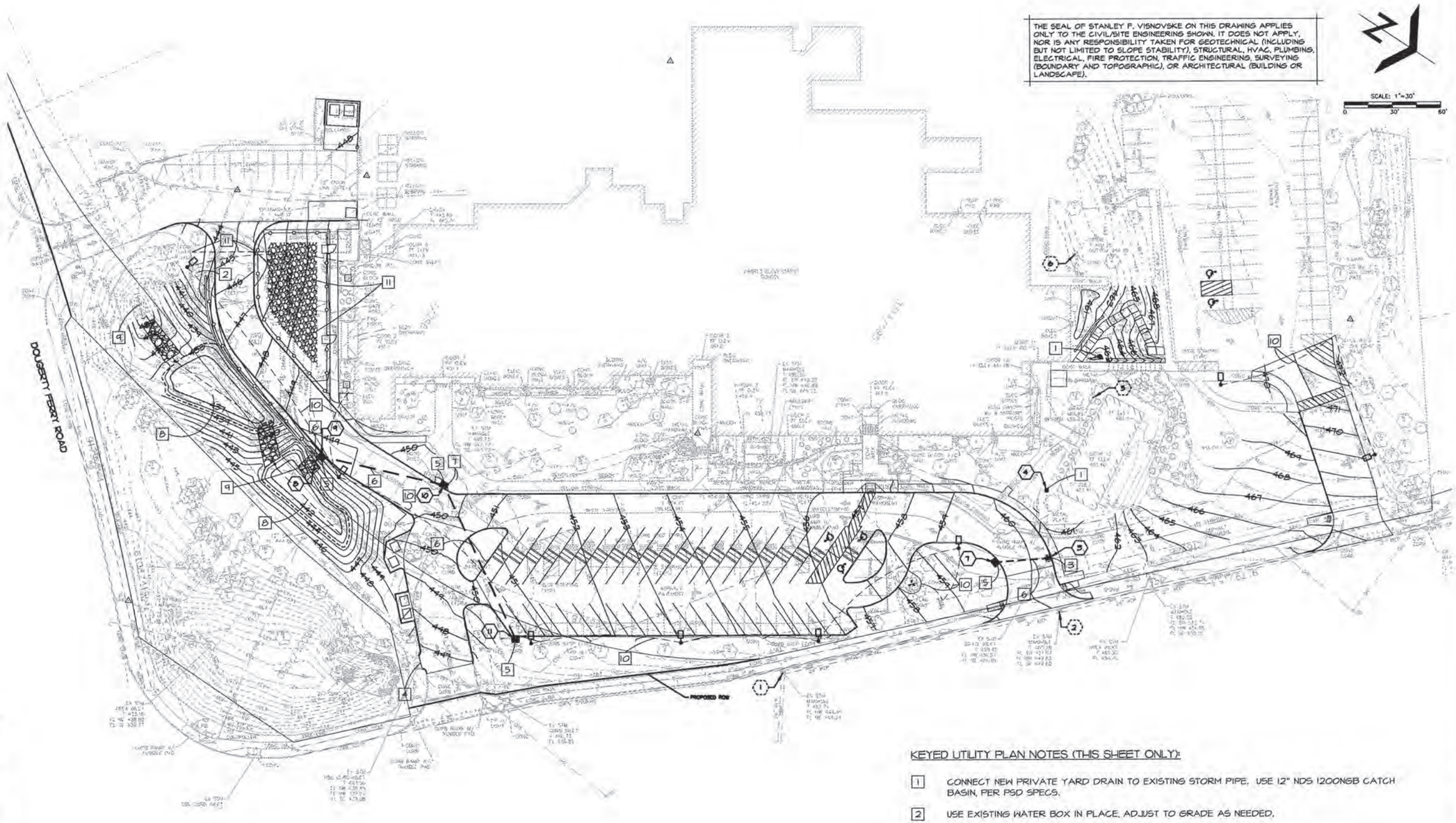
BARRETTS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 011601B
1780 Carman Road Manchester, Missouri 63021

TRI Architects of the Possible

DATE: 11.28.16
REVISIONS

DWG. BY
PSD PROJECT NO. 011601B
PROJECT NO. 14-006.14
SHEET NO.
C3.1
GRADING & BIO RETENTION PLAN

EDSI PROJECT #E-14-020.23



THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

KEYED UTILITY PLAN NOTES (THIS SHEET ONLY):

1. CONNECT NEW PRIVATE YARD DRAIN TO EXISTING STORM PIPE. USE 12" NDS 1200NSB CATCH BASIN, PER PSD SPECS.
2. USE EXISTING WATER BOX IN PLACE. ADJUST TO GRADE AS NEEDED.
3. CONVERT EXISTING INLET TO MANHOLE.
4. USE EXISTING STORM STRUCTURE IN PLACE, ADJUST TO GRADE AS NEEDED.
5. NEW CURB INLET.
6. NEW STORM SEWER, SEE PROFILE ON SHEET C4.1.
7. CONNECT EXISTING STORM PIPE TO NEW CURB INLET
8. NEW BIORETETNION BASIN, SEE DETENTION SHEET C3.1.
9. PIPE OUTLET PROTECTION. SEE DETAIL ON SHEET C6.
10. ELECTRICAL CONDUIT. SEE ELECTRIC SITE PLAN.
11. CONTRACTOR TO REMOVE 18 INCHES BELOW FINAL GRADE WITHIN 6 FEET OF THE FENCE LIMITS OF THE PLAYGROUND AREA, DENOTED BY [redacted] ON THIS SHEET. CONTRACTOR TO INSTALL 6 INCHES OF DRAINAGE AGGREGATE AND A 4 INCH SUBDRAIN, WHICH SHALL OUTFALL ONTO THE OTHER SIDE OF THE SERVICE ROAD AS SHOWN ON THIS SHEET. OWNER TO INSTALL PLAYGROUND EQUIPMENT AND FILL WITH MULCH. IN THE 6 FT WIDE AREA INSIDE THE FENCE AREA CONTRACTOR TO INSTALL PLANTING SOIL, SEE LANDSCAPE PLAN FOR DETAILS.

MSD P-XXXXXXXX MSD BASE MAP XXX

BARRETTS
ELEMENTARY SCHOOL

BUILDING RENOVATIONS AND
SITE IMPROVEMENTS

PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 011601B

1780 Carman Road Manchester, Missouri 63021

PARKWAY SCHOOLS

TRI. ARCHITECTS — ARCHITECT
WILLIAM TAO & ASSOCIATES, INC. — MECHANICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — PLUMBING / FP ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — ELECTRICAL ENGINEER
KPFF CONSULTING ENGINEERS — STRUCTURAL ENGINEER
EDSI - ENGINEERING DESIGN SOURCE — CIVIL ENGINEER
PDS - PLANNING DESIGN STUDIO — LANDSCAPE ARCHITECT

Stanley F. Visnovske
Missouri PE-2003018687
Professional Engineer
I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411 1 & 2, THAT THIS DRAWING IS AUTHENTICATED BY MY SEAL.

TRI Architects of the Possible

8912 Manchester Road St. Louis, Missouri	63119	T: 314-965-9100 F: 314-965-9291 www.triarchitects.com
© Copyright	2016	

DATE: 11.28.16

REVISIONS

DWG. BY

PSD PROJECT NO. 011601B

PROJECT NO. 14-006.14

SHEET NO.

C4

UTILITY PLAN

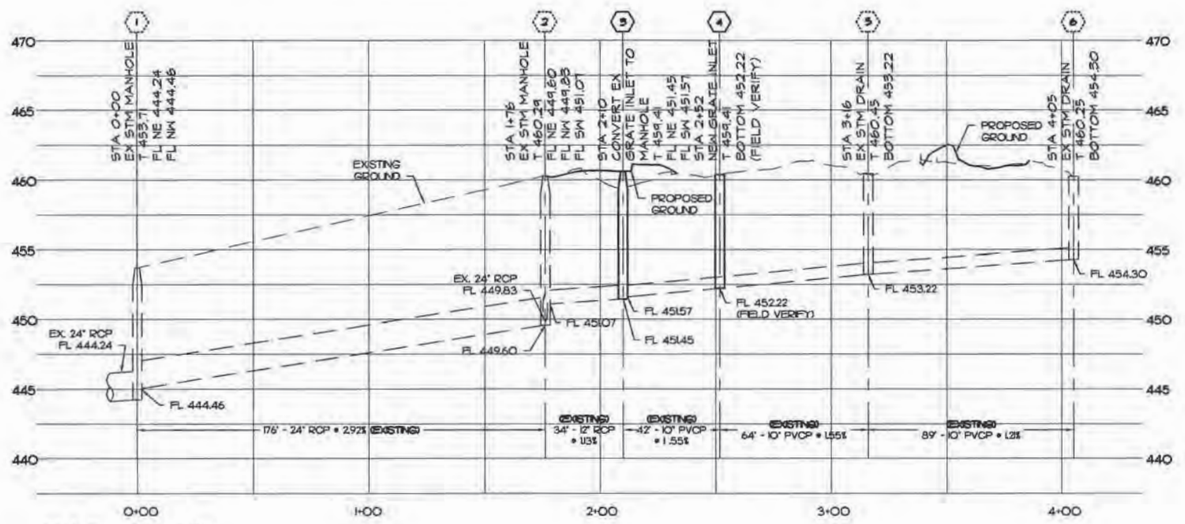
EDSI PROJECT #E-14-020.23

11/21/2016 6:13:14 PM Veronica Page
Z:\Parkway School District\E-14-020.23 - Barretts Elementary\ISSUE FOR BID\CIVIL - 2016.11.18.dwg

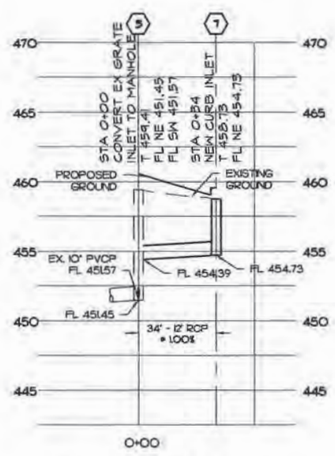
THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

SCALE: 1"=30'
0 30' 60'

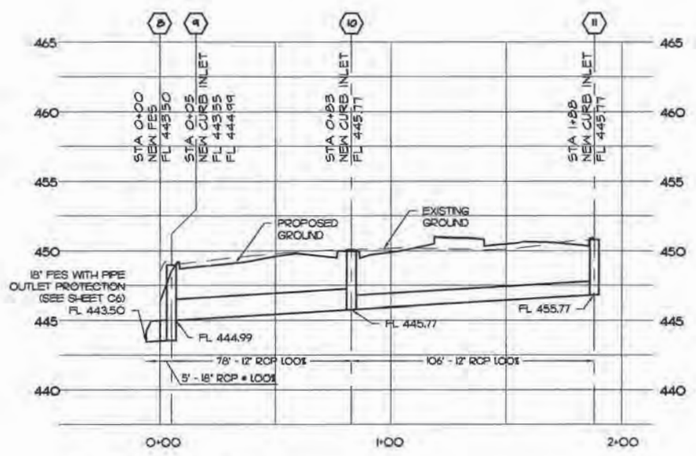
NOTE: DASHED LINES INDICATE AN EXISTING PIPE OR STRUCTURE



SCALE: 1"= 30' HORZ.
1"= 5" VERT.



SCALE: 1"= 30' HORZ.
1"= 5" VERT.



SCALE: 1"= 30' HORZ.
1"= 5" VERT.

MSD P-XXXXXXXX MSD BASE MAP XXX

11/21/2016 6:0 :40 PM Veronica Page
Z:\Parkway School District\E-14-020.23 - Barretts Elementary\ISSUE FOR BID\CIVIL - 2016.11.18.dwg

Stanley F. Visnovske
E-18135
Professional Engineer
I HEREBY SPECIFY, PURSUANT TO RSMo 327.411 THAT THIS DRAWING SHEET IS AUTHORIZED TO BEAR MY SEAL.

TRI, ARCHITECTS — ARCHITECT
WILLIAM TAO & ASSOCIATES, INC. — MECHANICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — PLUMBING / FP ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — ELECTRICAL ENGINEER
KFFF CONSULTING ENGINEERS — STRUCTURAL ENGINEER
EDSI - ENGINEERING DESIGN SOURCE — CIVIL ENGINEER
FDS - PLANNING DESIGN STUDIO — LANDSCAPE ARCHITECT

PARKWAY SCHOOLS

BARRETTS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 011601B
1780 Carman Road Manchester, Missouri 63021

TRI Architects of the Possible

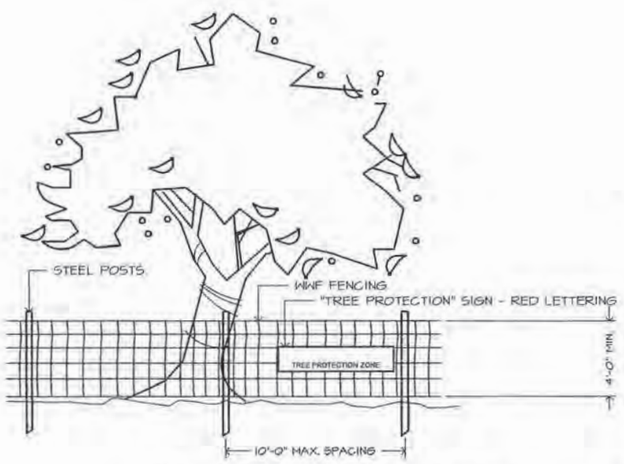
DATE: 11.28.16
REVISIONS

DWG. BY
PSD PROJECT NO. 011601B
PROJECT NO. 14-006.14
SHEET NO.

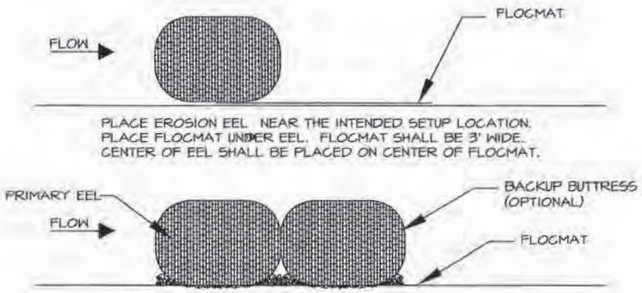
C4.1

STORM PROFILES

EDSI PROJECT #E-14-020.23



TREE PROTECTION DETAIL
N.T.S.



PLACE EROSION EEL NEAR THE INTENDED SETUP LOCATION. PLACE FLOCMAT UNDER EEL. FLOCMAT SHALL BE 3' WIDE. CENTER OF EEL SHALL BE PLACED ON CENTER OF FLOCMAT.

MOVE THE EEL OVER THE FLOCMAT AREA.

PLACE A SECOND EEL ADJACENT TO THE INITIAL EEL LOCATION (DOWNSLOPE) TO PROVIDE ADDITIONAL WEIGHT AS A BUTTRESS (OPTIONAL).

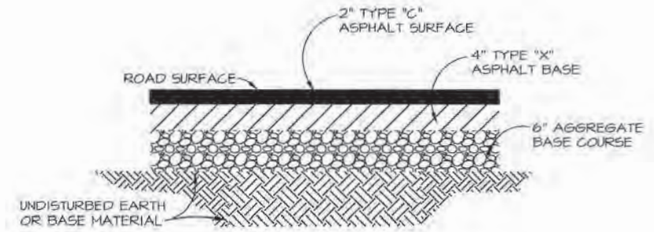
MAINTENANCE:

1. KEEP BAGS FREE OF ACCUMULATED SILT, DEBRIS, ETC., UNTIL THE DISTURBED AREA HAS BEEN ADEQUATELY STABILIZED.

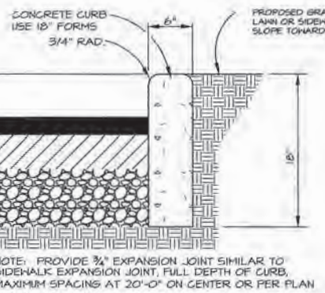
2. REMOVE SEDIMENT AND DEBRIS WHEN ACCUMULATION AFFECTS THE PERFORMANCE OF THE DEVICE, AFTER A RAIN, AND WHEN DIRECTED.

3. REPAIR OR REPLACE DAMAGED DEVICES THAT ARE TORN OR PUNCTURED AS REQUIRED TO MAINTAIN THE INTEGRITY OF THE DEVICE.

SILTATION CONTROL DETAIL
N.T.S.

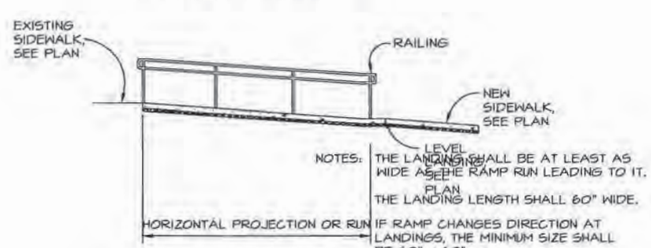


PAVEMENT REPLACEMENT SECTION
N.T.S.



NEW VERTICAL CURB
N.T.S.

NOTE: SEE SITE PLAN AND THE GRADING PLAN FOR LANDING LOCATIONS AND ELEVATIONS.



NOTES: THE LANDING SHALL BE AT LEAST AS WIDE AS THE RAMP RUN LEADING TO IT. THE LANDING LENGTH SHALL 60" WIDE. IF RAMP CHANGES DIRECTION AT LANDINGS, THE MINIMUM SIZE SHALL BE 60" x 60".

SLOPE	MAXIMUM RISE (INCHES)	MAXIMUM HORIZONTAL PROJECTION (FEET)
1:12	30	30

RAMP ELEVATION SCHEMATIC
N.T.S.

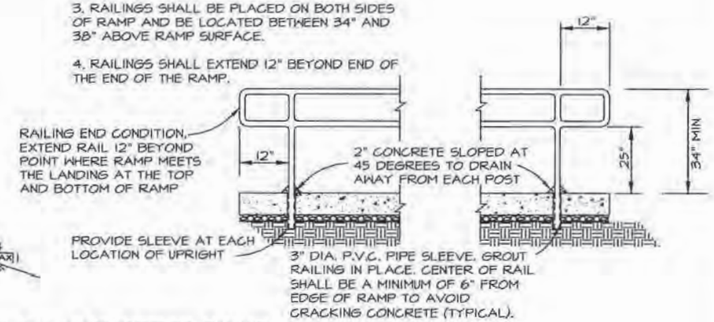
NOTES:

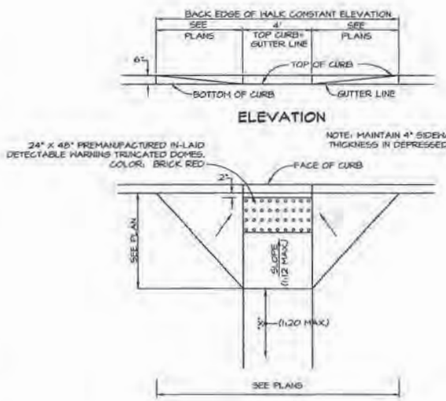
1. RAMP AND HANDRAILS SHALL CONFORM TO THE CURRENT ISSUE OF "THE AMERICANS WITH DISABILITIES ACT – ACCESSIBILITY GUIDELINES."

2. DIAMETER OF ALL RAILINGS SHALL BE 1 1/2".

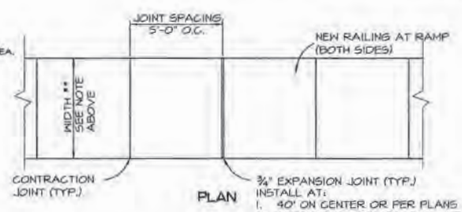
3. RAILINGS SHALL BE PLACED ON BOTH SIDES OF RAMP AND BE LOCATED BETWEEN 34" AND 38" ABOVE RAMP SURFACE.

4. RAILINGS SHALL EXTEND 12" BEYOND END OF THE END OF THE RAMP.

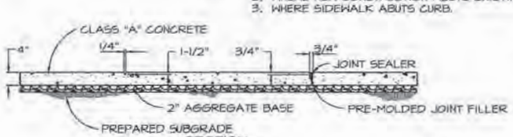




HANDICAP RAMP (TYPE A)
N.T.S.

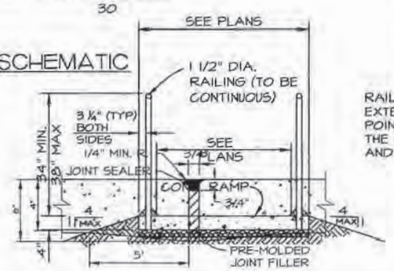


PLAN



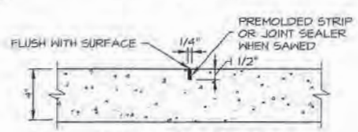
SECTION

CONCRETE SIDEWALK
N.T.S.



EXPANSION JOINT
N.T.S.

A.D.A. CONCRETE RAMP
N.T.S.



CONTRACTION JOINT
N.T.S.

NOTE: SEAL ALL JOINTS WITH APPROVED JOINT SEALER

MSD P-XXXXXXXX MSD BASE MAP XXX

11/21/2016 6:01:00 PM Veronica Page
Z:\Parkway School District\E-14-020.23 - Barretts Elementary\ISSUE FOR BID\CIVIL - 2016.11.18.dwg

Stanley F. Visnioski
E-19135
Professional Engineer
I HEREBY SPECIFY, PURSUANT TO RSMo 327.411 THAT THIS DRAWING SHEET IS AUTHENTICATED BY MY SEAL.

ARCHITECT
MECHANICAL ENGINEER
PLUMBING / FP ENGINEER
ELECTRICAL ENGINEER
STRUCTURAL ENGINEER
CIVIL ENGINEER
LANDSCAPE ARCHITECT

TRJ. ARCHITECTS
WILLIAM TAO & ASSOCIATES, INC.
WILLIAM TAO & ASSOCIATES, INC.
WILLIAM TAO & ASSOCIATES, INC.
KPFF CONSULTING ENGINEERS
EDSI - ENGINEERING DESIGN SOURCE
PDS - PLANNING DESIGN STUDIO

PARKWAY SCHOOLS

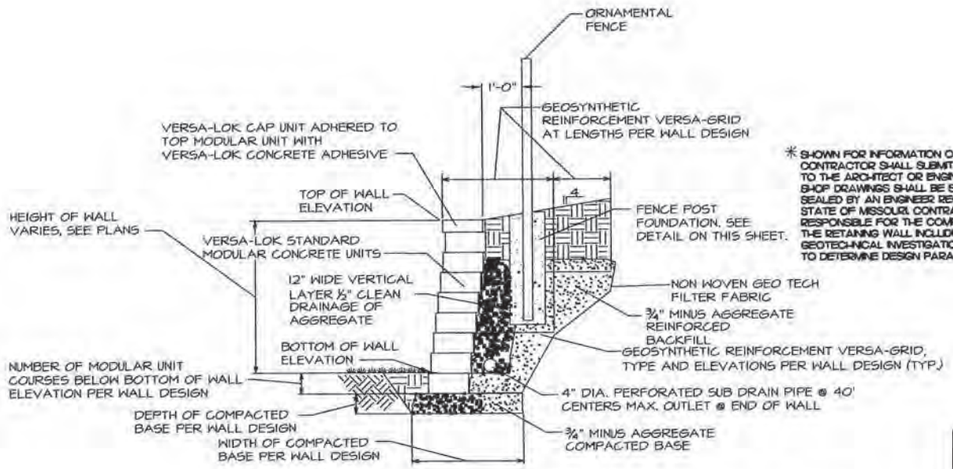
BARRETTS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 011601B
1780 Carman Road Manchester, Missouri 63021

TRJ Architects of the Possible

DATE: 11.28.16
REVISIONS

DWG. BY
PSD PROJECT NO. 011601B
PROJECT NO. 14-006.14
SHEET NO.
C5
DETAILS

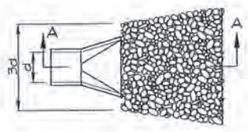
EDSI PROJECT #E-14-020.23



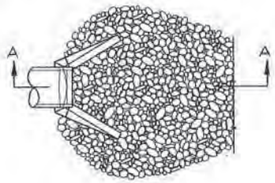
* SHOWN FOR INFORMATION ONLY. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ARCHITECT OR ENGINEER. SUBMITTED SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF MISSOURI. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE DESIGN OF THE RETAINING WALL INCLUDING ANY AND ALL GEOTECHNICAL INVESTIGATIONS NECCESARY TO DETERMINE DESIGN PARAMETERS.

TYPICAL SECTION-SEGMENTAL RETAINING WALL

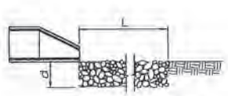
SCALE: NONE (FOR INFORMATION ONLY)



PLAN

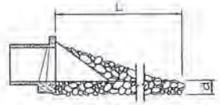


PLAN



SECTION A-A

PIPE OUTLET TO FLAT AREA WITH NO DEFINED CHANNEL



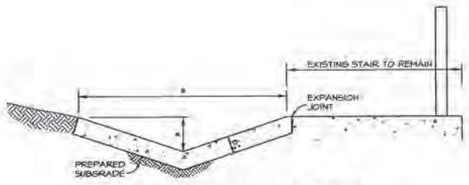
SECTION A-A

PIPE OUTLET TO WELL-DEFINED CHANNEL

1. Apron lining may be rip-rap or concrete.
2. L is the length of the rip-rap. (L=10' x Dia. of pipe in feet)
3. d=1.5' times the maximum stone diameter but not less than 6 inches
4. Apron lining must extend into a stable channel.

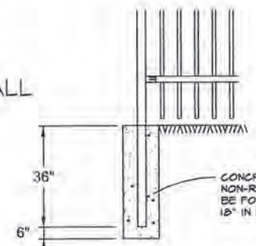
PIPE OUTLET PROTECTION

N.T.S.



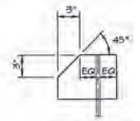
CONCRETE SWALE

N.T.S.

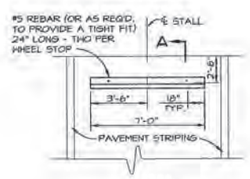


ORNAMENTAL FENCE POST FOUNDATION

N.T.S.



SECTION A



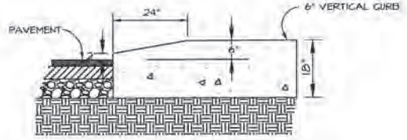
PLAN

PRECAST CONCRETE WHEEL STOP

N.T.S.

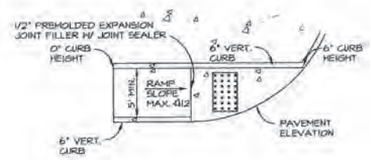
CONTRACTOR NOTE:

ONLY THE CONCRETE PAD AT THE DUMPSTER LOCATION IS TO RECEIVE THE FORTA FIBER REINFORCEMENT. CURBS, SIDEWALKS, STAIRS, AND OTHER SITE WORK ITEMS DO NOT.



CURB TURNDOWN DETAIL

N.T.S.

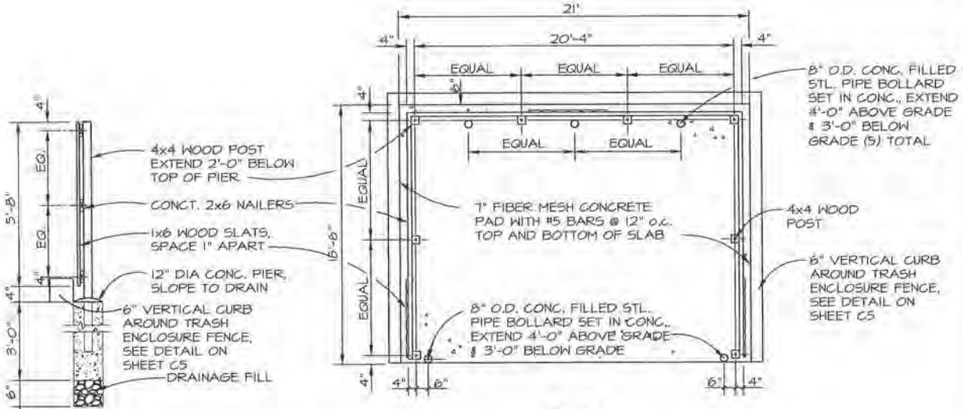


GENERAL NOTES:

1. MINIMUM SIDEWALK WIDTH ALONG 6" VERTICAL CURB SHALL BE 5 FEET. MINIMUM SIDEWALK WIDTH ALONG 3" ROLLED CURB SHALL BE 4 FEET.
2. MAXIMUM SIDEWALK CROSS SLOPE 0.02' / FT.
3. ALL SIDEWALK SECTIONS SHALL BE 4" THICK.
4. WHERE CURB RAMP MEETS PAVEMENT, BULLNOSE WILL NOT BE PERMITTED.

STRAIGHT CURB RAMP - 6" VERTICAL CURB (TYPE I)

N.T.S.



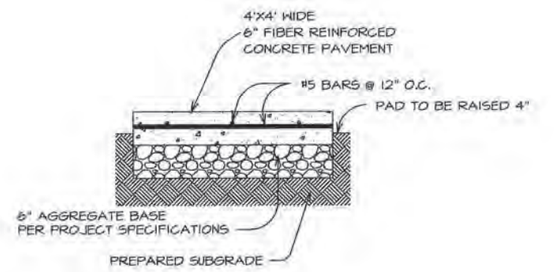
PLAN

SECTION

NOTE:
PROVIDE GATE (SWING OUT) MADE OF SAME WOOD MATERIAL AS REMAINDER OF ENCLOSURE.

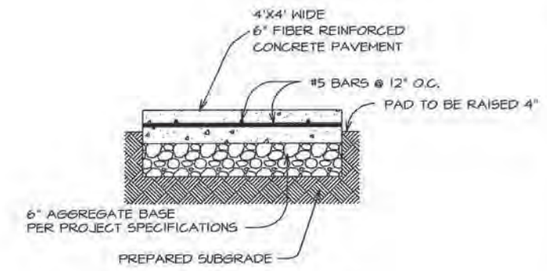
TRASH ENCLOSURE DETAIL

N.T.S.



CONCRETE UTILITY PAD DETAIL

N.T.S.



CONCRETE UTILITY PAD DETAIL

N.T.S.

MSD P-XXXXXXXX MSD BASE MAP XXX

11/21/2016 5:5 :5 PM Veronica Page
Z:\Parkway School District\E-14-020.23 - Barretts Elementary\ISSUE FOR BID\CIVIL - 2016.11.18.dwg

Barry F. Krzewske
Missouri No. 2011
Professional Engineer
I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411 THAT THIS DRAWING, SHEET OR SPECIFICATION IS AUTHENTICATED BY MY SEAL

ARCHITECT
MECHANICAL ENGINEER
PLUMBING / FP ENGINEER
ELECTRICAL ENGINEER
STRUCTURAL ENGINEER
CIVIL ENGINEER
LANDSCAPE ARCHITECT

TRI,. ARCHITECTS
WILLIAM TAO & ASSOCIATES, INC.
WILLIAM TAO & ASSOCIATES, INC.
WILLIAM TAO & ASSOCIATES, INC.
KPFF CONSULTING ENGINEERS
EDSI - ENGINEERING DESIGN SOURCE
PDS - PLANNING DESIGN STUDIO

PARKWAY SCHOOLS

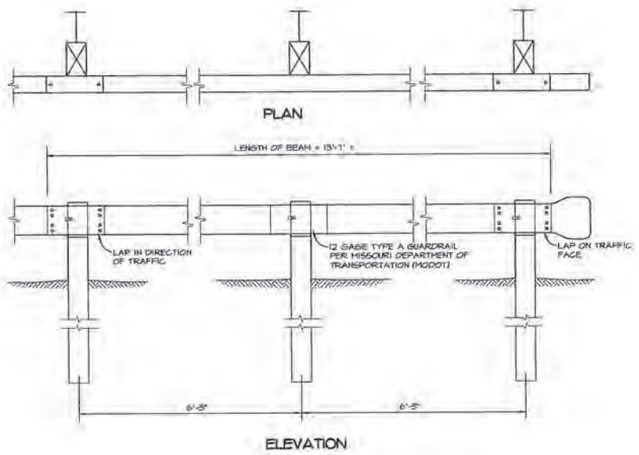
BARRETTS
ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND
SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 011601B
1780 Carman Road Manchester, Missouri 63021

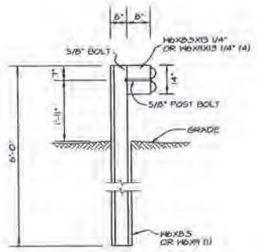
TRI Architects of the Possible

DATE: 11.28.16
REVISIONS

DWG. BY
PSD PROJECT NO. 011601B
PROJECT NO. 14-006.14
SHEET NO. C6
DETAILS

EDSI PROJECT #E-14-020.23

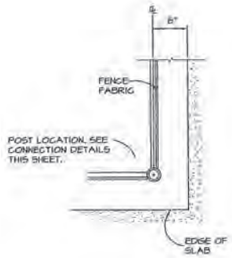




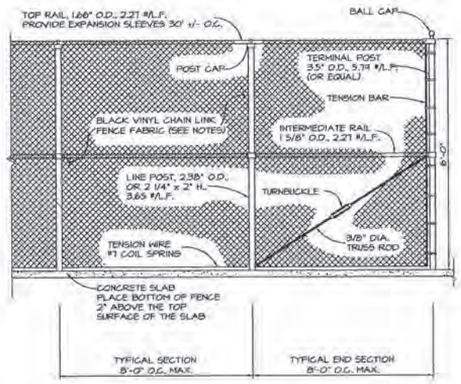
GUARD RAIL
N.T.S.

NOTES:

1. WIRE MESH TO BE FASTENED TO LINE POST, TOP RAIL, AND TENSION WIRE WITH # 9 GAUGE ALUMINUM TIE WIRE. SPACING FOR TIE OR CLIP WIRES SHALL BE AS FOLLOWS: TOP RAIL - 15" LINE POST - 15" TENSION WIRE - 15"
2. POST SPACING SHALL NOT EXCEED EIGHT (8') FEET. PULL POST SHALL BE PROVIDED SO THAT NO RUN EXCEEDS 100' IN LENGTH.
3. THE TOP RAIL SHALL PASS THROUGH OPENINGS PROVIDED FOR THAT PURPOSE IN THE POST TOPS AND EACH LENGTH SHALL BE COUPLED WITH INSERT-SLEEVE COUPLINGS.
4. POSTS SHALL BE GROUTED INTO THE 4" OPENINGS PROVIDED IN THE CHANNEL WALLS WITH A UNIFORM MIXTURE OF "POR-ROK" TYPE GROUT OR EQUAL.
5. WIRE MESH TO BE PLACED ON THE STREET SIDE OF THE LINE POSTS.
6. HEIGHT OF FENCE 72".

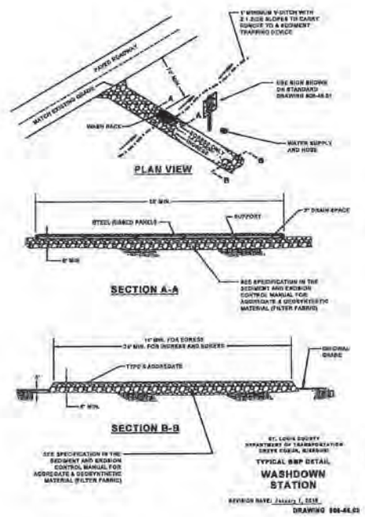


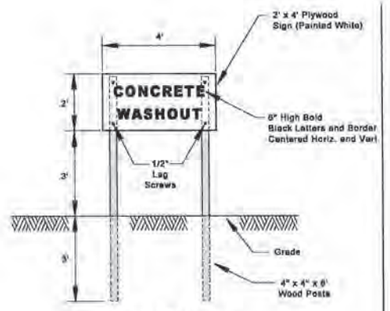
POST PLACEMENT



FENCE ELEVATION

FENCE ENCLOSURE DETAILS
N.T.S.





CONCRETE WASHOUT SIGN DETAIL (OR EQUIVALENT AS APPROVED BY COUNTY)

GENERAL NOTES

1) Do not scale drawing, follow dimensions.
2) Actual layout determined in the field.
3) The "Concrete Washout" sign shall be installed within 30 feet of each temporary concrete washout facility.

MSD P-XXXXXXXX MSD BASE MAP XXX

TRI, ARCHITECTS
WILLIAM TAO & ASSOCIATES, INC.
WILLIAM TAO & ASSOCIATES, INC.
WILLIAM TAO & ASSOCIATES, INC.
KPFF CONSULTING ENGINEERS
EDSI - ENGINEERING DESIGN SOURCE
PDS - PLANNING DESIGN STUDIO

ARCHITECT
MECHANICAL ENGINEER
PLUMBING / FP ENGINEER
ELECTRICAL ENGINEER
STRUCTURAL ENGINEER
CIVIL ENGINEER
LANDSCAPE ARCHITECT

Stanley F. Vlasowsky
E-27,915
Professional Engineer
I HEREBY SPECIFY, PURSUANT TO RSMo 327.411 THAT THIS DOCUMENT IS AUTHENTICATED BY MY SEAL.

PARKWAY SCHOOLS

BARRETTS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 011601B
1780 Carman Road Manchester, Missouri 63021

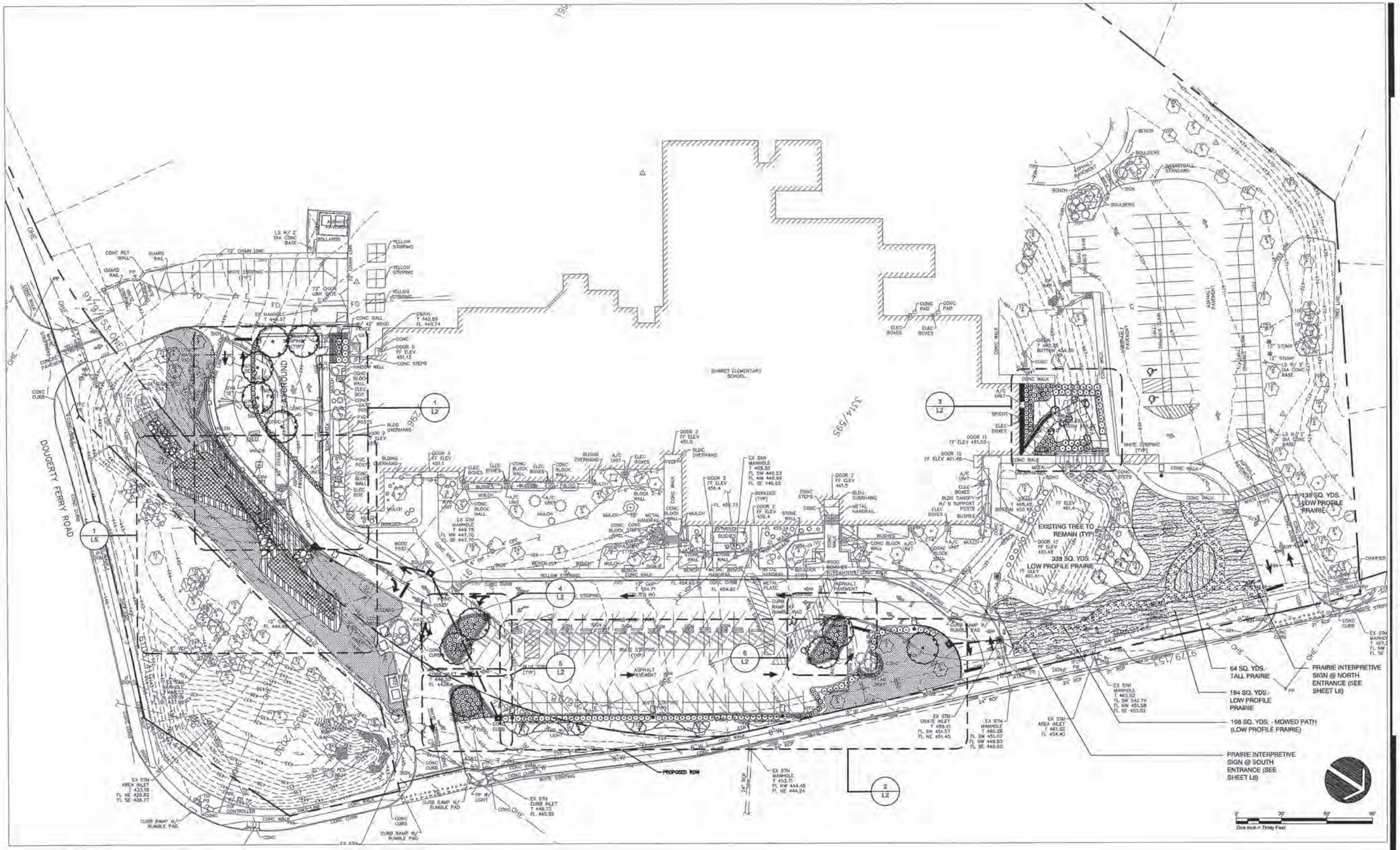
TRI Architects of the Possible

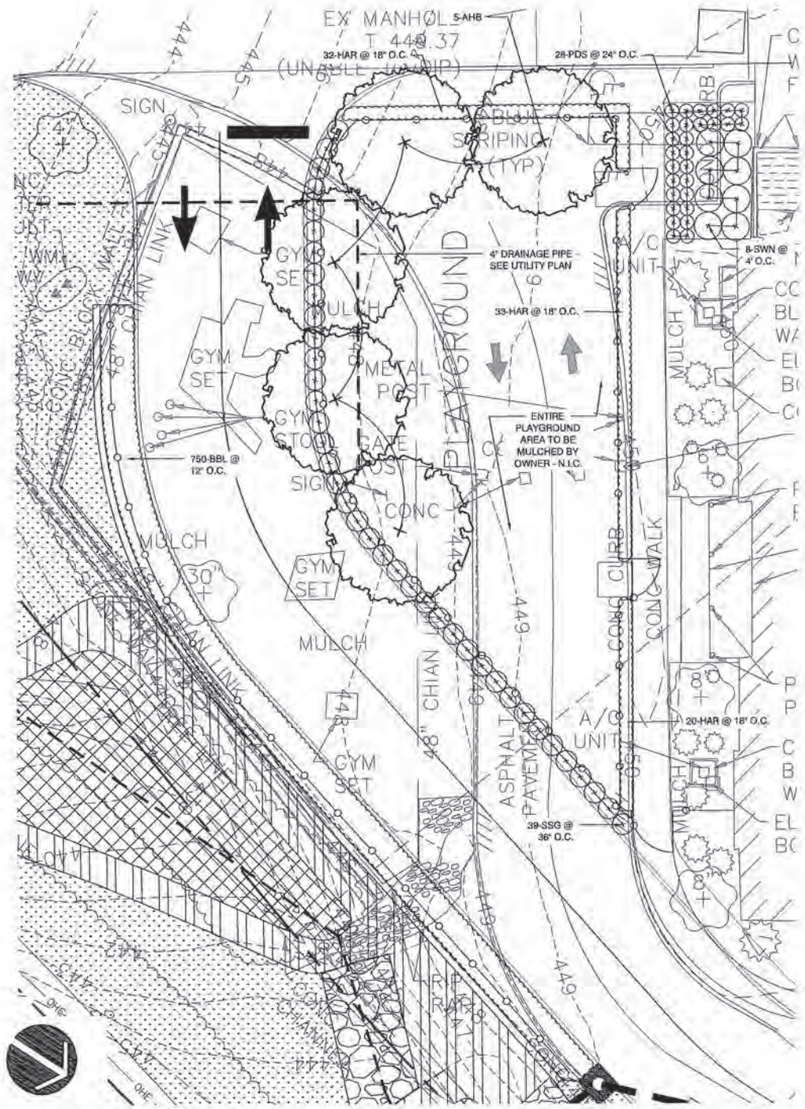
DATE: 11.28.16
REVISIONS

DWG. BY
PSD PROJECT NO. 011601B
PROJECT NO. 14-006.14
SHEET NO. C7
DETAILS

EDSI PROJECT #E-14-020.23

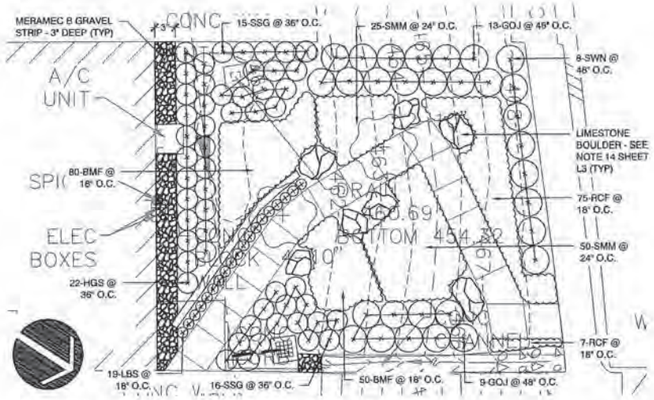
11/21/2016 5:53:46 PM Veronica Pago
Z:\Parkway School District\E-14-020.23 - Barretts Elementary\ISSUE FOR BID\CIVIL - 2016.11.18.dwg


DOUGERTY FERRY ROAD
BARRETT ELEMENTARY SCHOOL
PROPOSED ROW
PROPOSED ROW
PROPOSED ROW



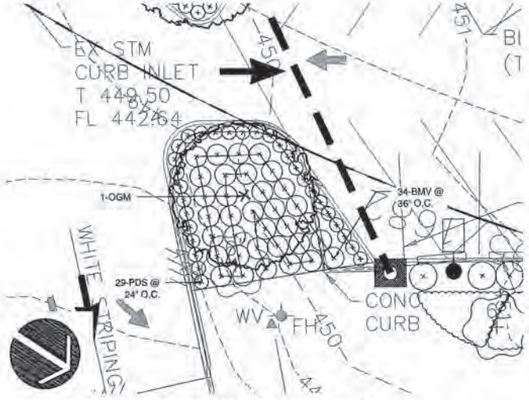
1 L2 PLAYGROUND AREA

1" = 10'-0"



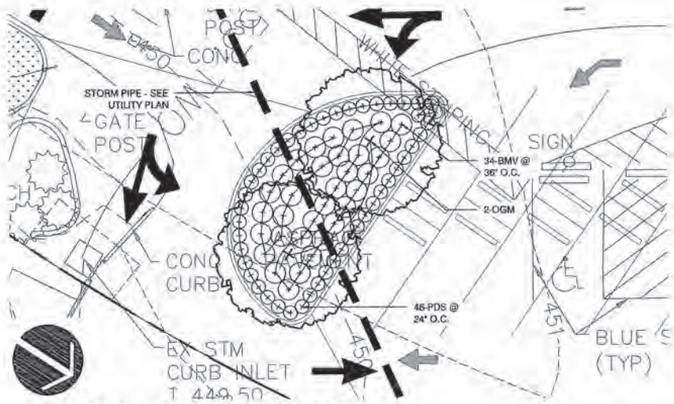
3 L2 RAMP AT NORTH PARKING LOT

1" = 10'-0"



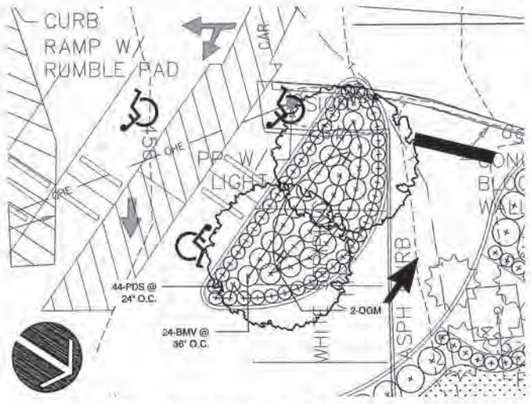
5 L2 SOUTH PARKING EXIT ISLAND

1" = 10'-0"



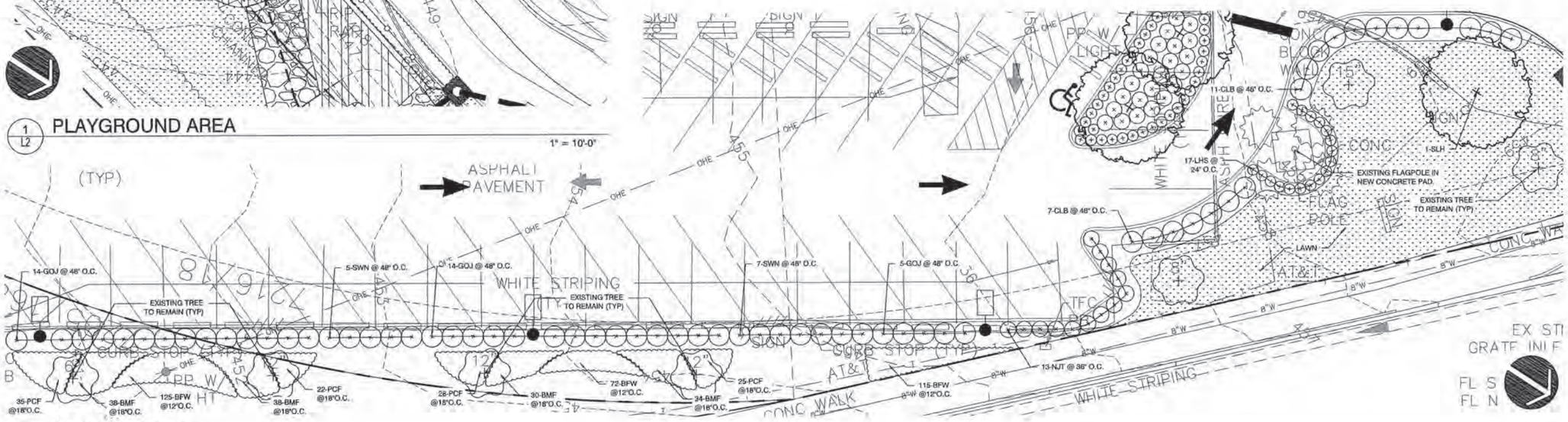
4 L2 SOUTH PARKING ISLAND

1" = 10'-0"



6 L2 NORTH PARKING ISLAND

1" = 10'-0"



2 L2 CARMEN ROAD

1" = 10'-0"

TRI: ARCHITECTS
WILLIAM TAO & ASSOCIATES, INC.
WILLIAM TAO & ASSOCIATES, INC.
WILLIAM TAO & ASSOCIATES, INC.
KPFF CONSULTING ENGINEERS
EDSI - ENGINEERING DESIGN SOURCE
PDS - PLANNING DESIGN STUDIO

ARCHITECT
MECHANICAL ENGINEER
PLUMBING / FP ENGINEER
ELECTRICAL ENGINEER
STRUCTURAL ENGINEER
CIVIL ENGINEER
LANDSCAPE ARCHITECT

I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411, THAT THIS DRAWING SET IS AUTHENTICATED BY MY SEAL.

PARKWAY SCHOOLS

BARRETTS ELEMENTARY SCHOOL

BUILDING RENOVATIONS AND SITE IMPROVEMENTS

PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 0116018

1780 Carman Road
Manchester, Missouri 63021

TRI Architects of the Possible

8112 Manchester Road, St. Louis, Missouri 63143 | T: 314-385-8700 | F: 314-385-8701 | www.triarchitects.com

© Copyright 2016

DATE: 11.29.16

REVISIONS

DWG. BY SBT

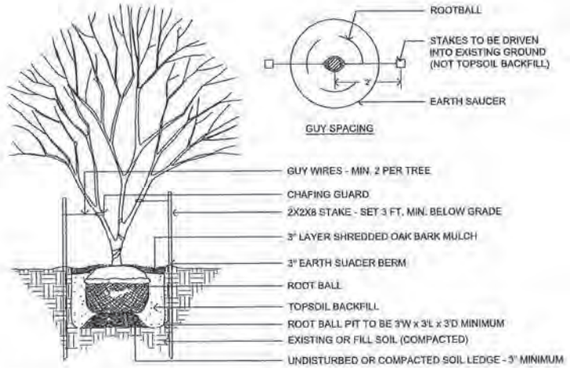
PSD PROJECT NO. 0116018

PROJECT NO. 14-006.14

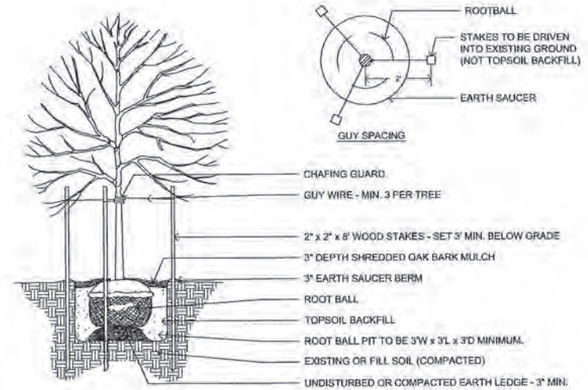
SHEET NO. L2

LANDSCAPE PLAN

PDS project #1617 | Last saved 11/21/2016 11:49:57 AM by Stallard | Last plotted 11/21/2016 11:52:51 AM



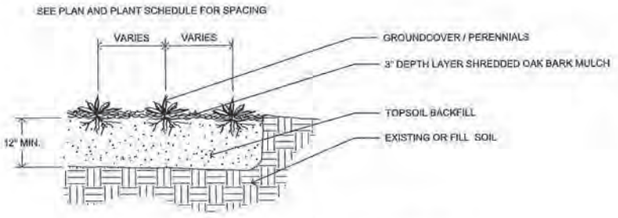
1 L3 **ORNAMENTAL TREE PLANTING**
PLAN & SECTION NTS



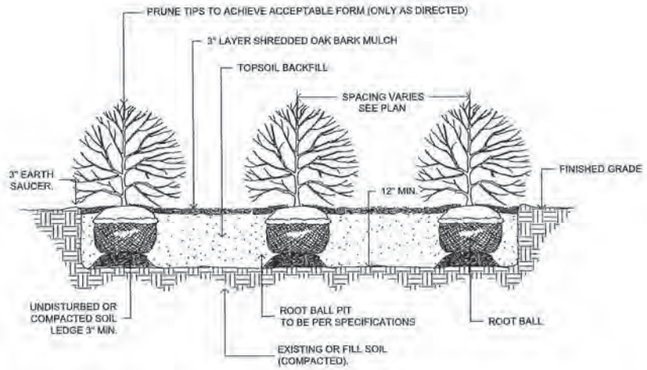
2 L3 **CANOPY TREE PLANTING**
PLAN & SECTION NTS

E ER L OTES:

1. REFER TO DEMOLITION PLAN FOR REMOVAL OF EXISTING VEGETATION.
2. UNLESS OTHERWISE NOTED, ALL NATURAL VEGETATION SHALL BE MAINTAINED WHERE IT DOES NOT INTERFERE WITH CONSTRUCTION. PROTECT EXISTING UTILITIES, STRUCTURES OR VEGETATION FROM DAMAGE. CONTRACTOR SHALL MAINTAIN AND SECURE THE PROJECT SITE TO PROTECT THE PUBLIC FROM INJURY DUE TO WORK AND RELATED MATERIAL.
3. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH OTHER SITE RELATED WORK BEING PERFORMED BY OTHERS. REFER TO CIVIL, STRUCTURAL, BUILDING, AND UTILITY DRAWINGS FOR FURTHER COORDINATION OF WORK TO BE COMPLETED.
4. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS NOT PRESENTLY KNOWN OR SHOWN. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE TO DETERMINE AND VERIFY THE EXISTENCE OF AND EXACT LOCATION OF ALL UTILITIES.
5. LANDSCAPE CONTRACTOR IS ADVISED TO STUDY THE PLANS AND VISIT THE SITE TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS. REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER'S REPRESENTATIVE.
6. LANDSCAPE CONTRACTOR SHALL STAKE THE LOCATIONS OF ALL PROPOSED PLANT MATERIAL AND PLANTING BED EDGES FOR APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
7. ALL PLANT MATERIAL SHALL BE WARRANTED FOR A PERIOD OF 12 MONTHS AFTER ACCEPTANCE BY OWNER.
8. CONTRACTOR SHALL STAKE AND BRACE TREES IMMEDIATELY FOLLOWING INSTALLATION ACCORDING TO PLANS, DETAILS, AND SPECIFICATIONS.
9. ALL PLANTING BED EDGES SHALL BE SPADE CUT UNLESS OTHERWISE INDICATED.
10. CONTRACTOR TO SOD ALL AREAS DISTURBED DUE TO CONSTRUCTION ACTIVITIES.
11. ALL PLANT MATERIAL SHALL BE TAGGED OR OTHERWISE APPROVED BY THE OWNER'S REPRESENTATIVE. APPROVAL IN THE NURSERY DOES NOT INDICATE FINAL ACCEPTANCE.
12. ITEMS SHOWN ON THESE DRAWINGS TAKE PRECEDENCE OVER THE MATERIAL LIST. LANDSCAPE CONTRACTOR SHALL VERIFY ALL QUANTITIES AND CONDITIONS PRIOR TO BIDDING AND IMPLEMENTATION OF THE PLAN. NO SUBSTITUTIONS OF TYPES OR SIZE OF PLANT MATERIAL WILL BE ACCEPTED WITHOUT WRITTEN APPROVAL BY OWNER'S REPRESENTATIVE, INCLUDING VARIETIES OF PLANT MATERIAL (SUCH AS VARIEGATED VS. NOT VARIEGATED).
13. ALL PLANT MATERIAL SHALL CONFORM TO UPPER RANGE LIMITS FOR CALIPER, HEIGHT AND ROOT BALL DIMENSIONS LISTED IN ANSI Z60.1-2014.
14. IN THE PLANTING BEDS BY THE RAMP AT THE NORTH PARKING LOT, PROVIDE 5-8 WEATHERED LIMESTONE BOULDERS, APPROXIMATELY 3' WIDE BY 5' LONG AND 18" TALL. SUPPLIED BY EARTHWORKS INC. 16900 BAXTER ROAD, CHESTERFIELD, MO 63005, PHONE (636) 532-0713, OR EQUAL. LANDSCAPE ARCHITECT TO REVIEW AND APPROVE FINAL LOCATION AND PLACEMENT.



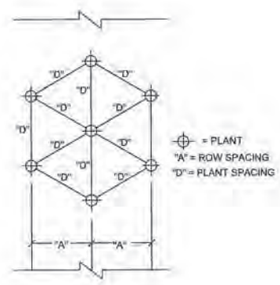
3 L3 **GROUNDCOVER AND PERENNIAL PLANTING**
SECTION NTS



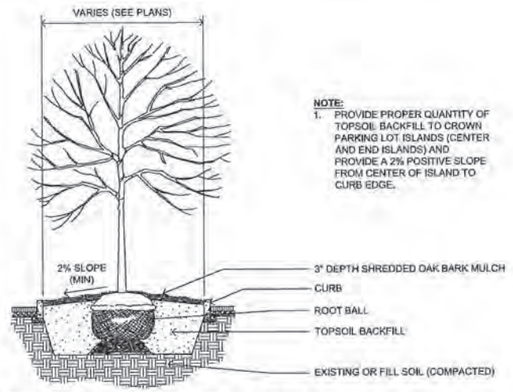
4 L3 **DECIDUOUS SHRUB PLANTING**
SECTION NTS

FOR USE WITH ALL PLANT TYPES SPACED EQUIDISTANTLY

SPACING "D"	ROW "A"	NO. OF PLANTS	AREA UNIT
10" O.C.	8.66"	1.66	1 sq. ft.
12" O.C.	10.4"	1.15	
15" O.C.	13.0"	7.38	10 sq. ft.
18" O.C.	15.6"	5.12	
24" O.C.	20.8"	2.9	
30" O.C.	26.0"	1.85	
36" O.C.	30.0"	1.28	
4' O.C.	4.33'	4.61	100 sq. ft.
6' O.C.	5.2'	3.2	
8' O.C.	6.93'	1.8	
10' O.C.	8.66'	1.16	



5 L3 **PLANT SPACING**
DIAGRAM NTS



6 L3 **PARKING LOT ISLAND PLANTING**
SECTION NTS

I HEREBY SPECIFY, PURSUANT TO RSMo 327.411 THAT THIS DRAWING SHEET IS AUTHENTICATED BY MY SEAL.

TRJ, ARCHITECTS — ARCHITECT
WILLIAM TAO & ASSOCIATES, INC. — MECHANICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — PLUMBING / FP ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — ELECTRICAL ENGINEER
KPFF CONSULTING ENGINEERS — STRUCTURAL ENGINEER
EDSI - ENGINEERING DESIGN SOURCE — CIVIL ENGINEER
PDS - PLANNING DESIGN STUDIO — LANDSCAPE ARCHITECT

PARKWAY SCHOOLS

BARRETTS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 011601B
1780 Carman Road Manchester, Missouri 63021

TRJ Architects of the Possible
[illegible] Manchester Road, St. Louis, Missouri 63119 — t: 314-961-9700 f: 314-961-9701 — © Copyright 2016
DATE: 11.29.16
REVISIONS
DWG. BY SBT
PSD PROJECT NO. 011601B
PROJECT NO. 14-006.14
SHEET NO. L3
LANDSCAPE DETAILS

PDS project #1617 | Last saved 11/21/2016 11:49:57 AM by Stabbert | Last plotted 11/22/2016 11:57:53 AM

LO PROFILE PR IRIE SEED MI :

Common Name	Botanical Name	Seeds/oz.	oz./acre	Seeds/SF
Side Oats Grama	Bouteloua curtipendula	9,375	41.67	8.968233471
Blue Grama	Bouteloua gracilis	40,000	12.00	11.01928375
Little Bluestem	Andropogon scoparius	8,800	42.67	8.62020202
Blue Wild Indigo	Baptisia australis	1,600	10.67	0.391919192
Butterfly Milkweed	Asclepias tuberosa	3,500	7.33	0.588957759
Partridge Pea	Cassia fasciculata	3,800	28.00	2.442607897
Lanceleaf Coreopsis	Coreopsis lanceolata	12,500	20.00	5.739210285
Plains Coreopsis	Coreopsis tinctoria	87,500	13.33	26.77628558
Prairie Blazing Star	Liatris pycnostachya	10,750	6.67	1.646062902
Illinois Bundleflower	Desmanthus illinoensis	4,888	20.00	2.24426079
Showy Tick Trefoil	Desmodium canadense	4,500	10.67	1.102272727
Wild Senna	Cassia marilandica	1,280	22.67	0.666152433
Pale Purple Coneflower	Echinacea pallida	5,000	12.00	1.377410468
Grayheaded Coneflower	Ratibida pinnata	25,250	8.00	4.63728191
Wild Bergamot	Monarda fistulosa	78,000	2.65	4.745179063
Wild Quinine	Parthenium integrifolium	6,800	12.00	1.873278237
Foxglove Beard tongue	Penstemon digitalis	115,000	2.67	7.048898072
White Prairie Clover	Dalea candida	26,250	8.00	4.820936639
Purple Prairie Clover	Dalea purpurea	20,000	12.00	5.509641873
Slender Mountain Mint	Pycnanthemum tenuifolium	375,000	1.00	8.608815427
Black-eyed Susan	Rudbeckia hirta	110,000	10.67	26.94444444
Sweet Black-eyed Susan	Rudbeckia subtomentosa	46,000	2.00	2.112029385
Columbine	Aquilegia canadensis	25,000	2.00	1.147842057
Hoary Vervain	Verbena stricta	32,000	4.00	2.938475666
Common Spiderwort	Tradescantia ohiensis	8,000	2.00	0.367309458
Roundhead Lespedeza	Lespedeza capitata	10,000	5.33	1.223599633
	TOTALS		320.00	143.56

T LL R SS PR IRIE SEED MI :

Common Name	Botanical Name	Seeds/Oz	oz./acre	Seeds/SF
Big Bluestem	Andropogon gerardii	8,188	32	6.015059688
Indian Grass	Sorghastrum nutans	8,516	32	6.256014692
Side Oats Grama	Bouteloua curtipendula	9,375	32	6.887052342
Canada Wild Rye	Elymus canadensis	4,258	32	3.128007346
Virginia Wild Rye	Elymus virginicus	4,375	32	3.213957759
Switch Grass	Panicum virgatum	28,356	10	6.509641873
Little Bluestem	Andropogon scoparius	8,800	64	12.92929293
Total				
Sky Blue Aster	Aster azureus	82,000	1.6	3.011937557
Blue Wild Indigo	Baptisia australis	1,600	1.6	0.058769513
White Wild Indigo	Baptisia alba	1,700	1.6	0.062442608
Tickseed Sunflower	Bidens aristosa	8,600	3.2	0.631772268
Partridge Pea	Cassia fasciculata	3,800	12.8	1.116620753
Lanceleaf Coreopsis	Coreopsis lanceolata	12,500	12.8	3.673094582
Plains Coreopsis	Coreopsis tinctoria	201,375	6.4	29.58677686
Brown-eyed Susan	Rudbeckia triloba	33,000	1.6	1.212121212
Illinois Bundleflower	Desmanthus illinoensis	4,888	16	1.795408632
Showy Tick Trefoil	Desmodium canadense	4,500	1.6	0.165289256
Pale Purple Coneflower	Echinacea pallida	5,000	3.2	0.367309458
Purple Coneflower	Echinacea purpurea	6,600	19.2	2.909090909
Rattlesnake Master	Eryngium yuccifolium	8,000	9.6	1.763085399
False Sunflower	Heliopsis helianthoides	6,500	9.6	1.432506887
Prairie Blazing Star	Liatris pycnostachya	10,750	3.2	0.789715335
Wild Bergamot	Monarda fistulosa	78,000	4	7.162534435
Wild Quinine	Parthenium integrifolium	6,800	1.6	0.249770432
Foxglove Beard Tongue	Penstemon digitalis	115,000	3.2	8.448117539
White Prairie Clover	Dalea candida	26,250	3.2	1.928374656
Purple Prairie Clover	Dalea purpurea	20,000	9.6	4.407713499
Slender Mountain Mint	Pycnanthemum tenuifolium	375,000	1.6	13.77410468
Grayheaded Coneflower	Ratibida pinnata	25,250	15.2	8.810835629
Black-Eyed Susan	Rudbeckia hirta	110,000	3.2	8.080808081
Sweet Black-Eyed Susan	Rudbeckia subtomentosa	46,000	4.8	5.068870523
Lead Plant	Amorpha canescens	17,000	1.6	0.624426079
Compass Plant	Silphium laciniatum	650	3.2	0.04775023
Common Spiderwort	Tradescantia ohiensis	8,000	3.2	0.587695133
Common Ironweed	Vernonia fasciculata	21,875	1.6	0.80348944
Maximilian's Sunflower	Helianthus maximiliani	13,000	1.6	0.477502296
Prairie Dock	Silphium terebinthinaceum	1,100	4.4	0.111111111
			400	154.0980716

E ER L OTES PPLIES TO LL S EETS :

1. REFER TO DEMOLITION PLAN FOR REMOVAL OF EXISTING VEGETATION.
2. UNLESS OTHERWISE NOTED, ALL NATURAL VEGETATION SHALL BE MAINTAINED WHERE IT DOES NOT INTERFERE WITH CONSTRUCTION. PROTECT EXISTING UTILITIES, STRUCTURES OR VEGETATION FROM DAMAGE. CONTRACTOR SHALL MAINTAIN AND SECURE THE PROJECT SITE TO PROTECT THE PUBLIC FROM INJURY DUE TO WORK AND RELATED MATERIAL.
3. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH OTHER SITE RELATED WORK BEING PERFORMED BY OTHERS. REFER TO CIVIL, STRUCTURAL, BUILDING, AND UTILITY DRAWINGS FOR FURTHER COORDINATION OF WORK TO BE COMPLETED.
4. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS NOT PRESENTLY KNOWN OR SHOWN. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE TO DETERMINE AND VERIFY THE EXISTENCE OF AND EXACT LOCATION OF ALL UTILITIES.
5. LANDSCAPE CONTRACTOR IS ADVISED TO STUDY THE PLANS AND VISIT THE SITE TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS. REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER'S REPRESENTATIVE.
6. LANDSCAPE CONTRACTOR SHALL STAKE THE LOCATIONS OF ALL PROPOSED PLANT MATERIAL AND PLANTING BED EDGES FOR APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
7. ALL PLANT MATERIAL SHALL BE WARRANTED FOR A PERIOD OF 12 MONTHS AFTER ACCEPTANCE BY OWNER.
8. CONTRACTOR SHALL STAKE AND BRACE TREES IMMEDIATELY FOLLOWING INSTALLATION ACCORDING TO PLANS, DETAILS, AND SPECIFICATIONS.
9. ALL PLANTING BED EDGES SHALL BE SPADE CUT UNLESS OTHERWISE INDICATED.
10. CONTRACTOR TO SOD ALL AREAS DISTURBED DUE TO CONSTRUCTION ACTIVITIES.
11. ALL PLANT MATERIAL SHALL BE TAGGED OR OTHERWISE APPROVED BY THE OWNER'S REPRESENTATIVE. APPROVAL IN THE NURSERY DOES NOT INDICATE FINAL ACCEPTANCE.
12. ITEMS SHOWN ON THESE DRAWINGS TAKE PRECEDENCE OVER THE MATERIAL LIST. LANDSCAPE CONTRACTOR SHALL VERIFY ALL QUANTITIES AND CONDITIONS PRIOR TO BIDDING AND IMPLEMENTATION OF THE PLAN. NO SUBSTITUTIONS OF TYPES OR SIZE OF PLANT MATERIAL WILL BE ACCEPTED WITHOUT WRITTEN APPROVAL BY OWNER'S REPRESENTATIVE, INCLUDING VARIETIES OF PLANT MATERIAL (SUCH AS VARIEGATED VS. NOT VARIEGATED).
13. ALL PLANT MATERIAL SHALL CONFORM TO UPPER RANGE LIMITS FOR CALIPER, HEIGHT AND ROOT BALL DIMENSIONS LISTED IN ANSI Z60.1-2014.
14. IN THE PLANTING BEDS BY THE RAMP AT THE NORTH PARKING LOT, PROVIDE 5-8 WEATHERED LIMESTONE BOULDERS, APPROXIMATELY 3' WIDE BY 5' LONG AND 18" TALL. SUPPLIED BY EARTHWORKS INC. 16900 BAXTER ROAD, CHESTERFIELD, MO 63005, PHONE (636) 532-0713, OR EQUAL. LANDSCAPE ARCHITECT TO REVIEW AND APPROVE FINAL LOCATION AND PLACEMENT.

PL T SC EDULE:

KEY	BOTANICAL NAME	COMMON NAME	MISSOURI NATIVE*	SIZE	CONDITION	TOTAL**
SHADE TREES						
AHB	*Carpinus caroliniana*	American Hornbeam	Y	3" CAL.	B&B	5
OGM	*Acer rubrum* 'October Glory'	October Glory Red Maple	Y	3" CAL.	B&B	5
SHL	*Gleditsia triacanthos f. inermis* 'Skycole' SKYLINE	Skyline Honey Locust	Y	3" CAL.	B&B	1
EVERGREEN SHRUBS						
GOJ	*Juniperus virginiana* 'Grey Owl'	Grey Owl Juniper	Y	#3	CONT.	55
SHRUBS						
BMV	*Viburnum dentatum* 'Christom' BLUE MUFFIN	Blue Muffin Viburnum	Y	#3	CONT.	92
CLB	*Symphoricarpos orbiculatus*	Coralberry	Y	#3	CONT.	18
HGS	*Itea virginica* 'Henry's Garnet'	Henry's Garnet Virginia Sweetspire	Y	#3	CONT.	22
LHS	*Itea virginica* 'Sprich' LITTLE HENRY	Little Henry Virginia Sweetspire	Y	#1	CONT.	17
NJT	*Ceanothus americanus*	New Jersey Tea	Y	#3	CONT.	13
SWN	*Physocarpus opulifolius* 'Seward' SUMMER WINE	Summer Wine Ninebark	Y	#3	CONT.	28
PERENNIALS						
BBL	*Liriope muscari* 'Big Blue'	Big Blue Lily Turf	N	1 QT	CONT.	750
BFW	*Asclepias tuberosa*	Butterfly Weed	Y	1 QT	CONT.	312
BMF	*Conoclunium coelestinum*	Blue Mistflower	Y	1 QT	CONT.	270
HAR	*Heuchera villosa* 'Purpurea'	Hairy Alum Root	Y	1 QT	CONT.	85
LBS	*Schizachyrium scoparium*	Little Bluestem	Y	#1	CONT.	19
PCF	*Echinacea purpurea*	Purple Coneflower	Y	1 QT	CONT.	110
PDS	*Sporobolus heterolepis*	Prairie Dropseed	Y	#1	CONT.	147
RCF	*Echinacea* 'Tomato Soup' or other red variety	Red Coneflower	Y	1 QT	CONT.	82
SMM	*Pycnanthemum tenuifolium*	Slender Mountain Mint	Y	1 QT	CONT.	75
SSG	*Panicum virgatum* 'Shenandoah'	Shenandoah Switch Grass	Y	#1	CONT.	70

* INCLUDES CULTIVARS OF MISSOURI NATIVES.
** SEE SHEET L5 FOR TOTALS OF ALL PLANT MATERIAL IN THE BIORETENTION BASINS.

TRI, ARCHITECTS
WILLIAM TAO & ASSOCIATES, INC.
WILLIAM TAO & ASSOCIATES, INC.
WILLIAM TAO & ASSOCIATES, INC.
KPFF CONSULTING ENGINEERS
EDSI - ENGINEERING DESIGN SOURCE
PDS - PLANNING DESIGN STUDIO

ARCHITECT
MECHANICAL ENGINEER
PLUMBING / FP ENGINEER
ELECTRICAL ENGINEER
STRUCTURAL ENGINEER
CIVIL ENGINEER
LANDSCAPE ARCHITECT

I HEREBY CERTIFY, PURSUANT TO RSMo 327.411 THAT THE DRAWING SHEET IS AUTHENTICATED BY MY SEAL.

PARKWAY SCHOOLS

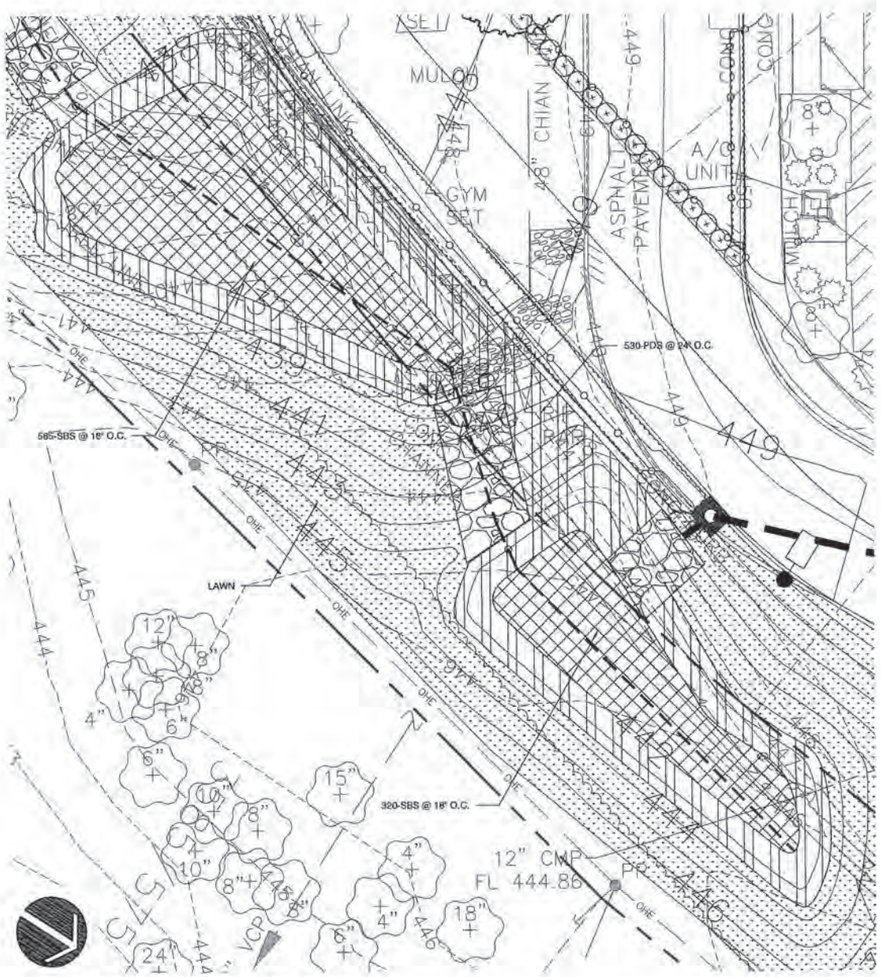
BARRETTS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 011601B
1780 Carman Road Manchester, Missouri 63021

TRI Architects of the Possible

© Copyright 2016

DATE: 11.29.16
REVISIONS
DWG. BY SBT
PSD PROJECT NO. 011601B
PROJECT NO. 14-006.14
SHEET NO.
L4
LANDSCAPE SCHEDULES

PDS project #1617 | Last saved 11/21/2016 11:49:57 AM by Stillbert | Last plotted 11/29/2016 11:58:38 AM



1 L5 **BIORETENTION BASINS**
PLAN

1" = 10'-0"

PLANTING PLAN

SYMBOL	COMMON NAME	LATIN NAME	QUANTITY*	SPACING	PLUG SIZE
	PRAIRIE DROPSEED (PDS)	SPOROBOLUS HETEROLEPIS	530 EA	24" O.C.	#1 CONTAINER
	SHINING BLUESTAR (SBS)	AMSONIA ILLUSTRIS	885 EA	18" O.C.	QUART CONTAINER

* QUANTITIES ARE FOR BIORETENTION BASIN PLANTING ONLY. SEE LANDSCAPE SCHEDULE ON SHEET L4 FOR TOTALS OF OTHER PLANT MATERIAL.

PLANTING, WATER AND MULCH REQUIREMENTS

WATER AVAILABILITY	REQUIRED PLANTING PERIOD	MINIMUM CONTAINER SIZE	WATER REQUIREMENT FIRST 3 WEEKS*	WATER REQUIREMENTS AFTER 3 WEEKS*	MAXIMUM MULCH DEPTH****
NO AVAILABILITY TO WATER AFTER	LATE FEB.-APRIL ONLY	2.25" X 3.75" OR LARGER	WATER EACH PLUG IMMEDIATELY		1.5" FOR PLUGS
MANUAL WATERING WITH STANDARD SPRINKLER	LATE FEB. - EARLY JUNE SEPT. - OCTOBER	4.5" X 5" (QUART) OR LARGER IN SUMMER & FALL	1" (60 MIN) EVERY 4 DAYS	1" (60 MIN) EVERY 7 DAYS UNTIL PLANTS ESTABLISHED***	1.5" FOR PLUGS 2.5" FOR QUARTS
AUTOMATIC IRRIGATION (SET TO WATER MORE FREQUENTLY THAN NORMAL DURING FIRST TWO MONTHS AFTER PLANTING)	LATE FEB. - EARLY OCT.	2.25" X 3.75" (PLUG) OR LARGER IN SPRING. 4.5" X 5" (QUART) OR LARGER IN SUMMER & FALL	1" (60 MIN) EVERY 4 DAYS IN SPRING AND FALL. 1" (60 MIN) EVERY 3 DAYS IN SUMMER	1" (60 MIN) EVERY 7 DAYS UNTIL PLANTS ESTABLISHED***	1.5" FOR PLUGS 2.5" FOR QUARTS

* THIS WATER AMOUNT INCLUDES NATURAL RAINFALL. IF YOU GET A ½ INCH OF NATURAL RAIN THEN YOU WILL NEED TO ADD A ½ INCH OF WATER TO MEET THE 1 INCH REQUIREMENT.

** REQUIRES TRANSPORT OF WATER TO THE PLANTING SITE IN LARGE CONTAINERS AND POURING ENOUGH WATER ONTO EACH PLANT (AFTER PLANTING) TO MOISTEN THE ENTIRE PLANTING PIT.

*** PLANTS ARE ESTABLISHED WHEN ROOTS HAVE GROWN OUT OF THE CONTAINER SOIL AND INTO THE NATIVE SOIL BY 3-5 INCHES. THIS NORMALLY TAKES 3-4 MONTHS FOR MOST PERENNIALS AND GRASSES AND UP TO 6-7 MONTHS FOR TREES AND SHRUBS.

**** SHREDDED LEAF COMPOST IS RECOMMENDED FOR USE WITH PERENNIALS AND GRASSES. SHREDDED BARK MULCH IS RECOMMENDED FOR TREE AND SHRUB PLANTINGS AT A DEPTH OF 2 INCHES. SEE TYPICAL SECTION ON SHEET C3.1.

WATERING SCHEDULE

WATER AVAILABILITY	WATER REQUIREMENT FIRST 3 WEEKS*	WATER REQUIREMENTS AFTER 3 WEEKS*
MANUAL WATERING WITH STANDARD SPRINKLER	1" (60 MIN) EVERY 4 DAYS	1" (60 MIN) EVERY 7 DAYS UNTIL PLANTS ESTABLISHED**

* THIS WATER AMOUNT INCLUDES NATURAL RAINFALL. IF YOU GET A ½ INCH OF NATURAL RAIN THEN YOU WILL NEED TO ADD A ½ INCH OF WATER TO MEET THE 1 INCH REQUIREMENT.

** PLANTS ARE ESTABLISHED WHEN ROOTS HAVE GROWN OUT OF THE CONTAINER SOIL AND INTO THE NATIVE SOIL BY 3-5 INCHES. THIS NORMALLY TAKES 3-4 MONTHS FOR MOST PERENNIALS AND GRASSES AND UP TO 6-7 MONTHS FOR TREES AND SHRUBS.

I HEREBY CERTIFY, PURSUANT TO 20 CSR 2030-2.011 THAT THIS DRAWING SHEET IS AUTHENTICATED BY MY SEAL.

ARCHITECT — TRI ARCHITECTS
MECHANICAL ENGINEER — WILLIAM TAO & ASSOCIATES, INC.
PLUMBING / FP ENGINEER — WILLIAM TAO & ASSOCIATES, INC.
ELECTRICAL ENGINEER — WILLIAM TAO & ASSOCIATES, INC.
STRUCTURAL ENGINEER — KPFF CONSULTING ENGINEERS
CIVIL ENGINEER — EDSI - ENGINEERING DESIGN SOURCE
LANDSCAPE ARCHITECT — PDS - PLANNING DESIGN STUDIO

PARKWAY SCHOOLS

BARRETTS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS

PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 011601B

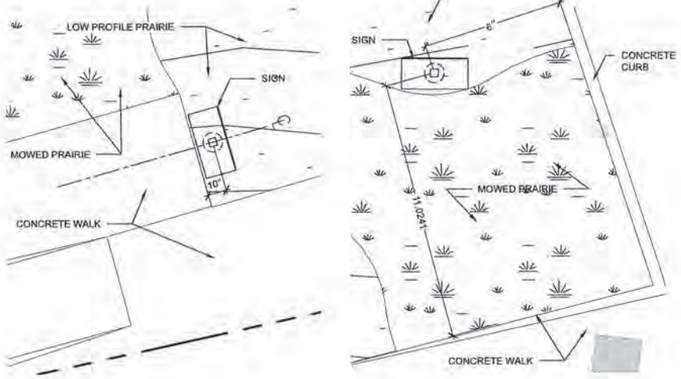
1780 Carman Road — Manchester, Missouri 63021

TRI Architects of the Possible
DATE: 11.29.16
REVISIONS

DWG. BY: SBT
PSD PROJECT NO.: 011601B
PROJECT NO.: 14-006.14
SHEET NO.: L5

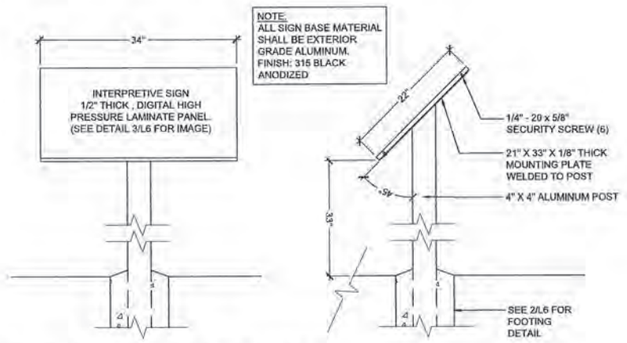
BIORETENTION BASIN PLANTING

PDS project #1617 | Last saved 11/21/2016 11:48:57 AM by Stallbert | Last plotted 11/21/2016 11:59:16 AM

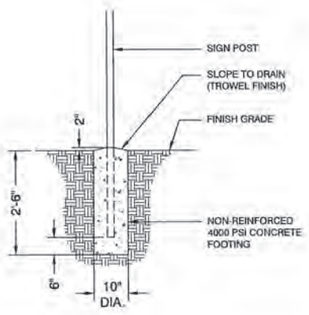


PLAN VIEW @ SOUTH ENTRANCE

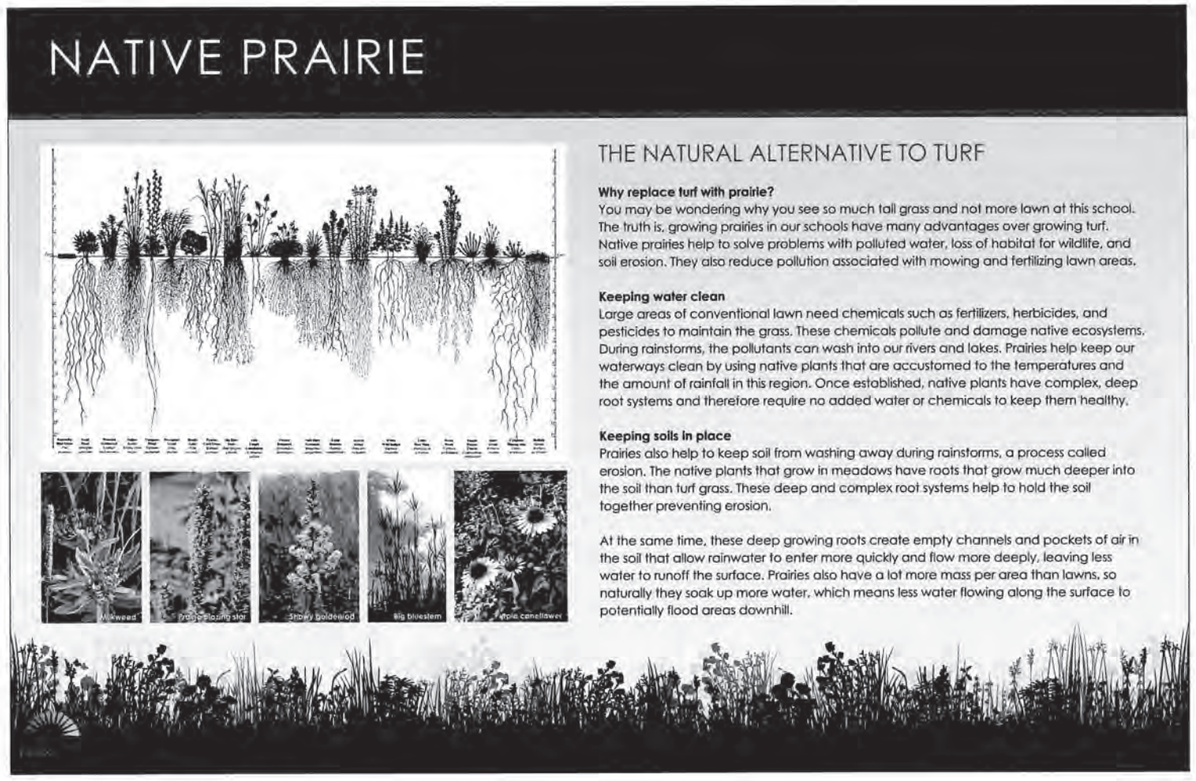
PLAN VIEW @ NORTH ENTRANCE



1 L6 INTERPRETIVE SIGN BASE
SECTION NTS



2 L6 SIGN FOOTING DETAIL
SECTION NTS



NOTE:
1. SEE SPECIFICATION SECTION 101400 FOR ADDITIONAL SIGNAGE INFORMATION.
2. AN ADOBE ILLUSTRATOR FILE WILL BE PROVIDED TO THE CONTRACTOR FOR USE IN FABRICATING THE SIGNS.

3 L6 INTERPRETIVE SIGN GRAPHIC - BOTH SIGNS
NTS

I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411, THAT THIS DRAWING SET IS AUTHENTICATED BY MY SEAL.

ARCHITECT — TRI. ARCHITECTS
MECHANICAL ENGINEER — WILLIAM TAO & ASSOCIATES, INC.
PLUMBING / FP ENGINEER — WILLIAM TAO & ASSOCIATES, INC.
ELECTRICAL ENGINEER — WILLIAM TAO & ASSOCIATES, INC.
STRUCTURAL ENGINEER — KPFF CONSULTING ENGINEERS
CIVIL ENGINEER — EDSI - ENGINEERING DESIGN SOURCE
LANDSCAPE ARCHITECT — PDS - PLANNING DESIGN STUDIO

PARKWAY SCHOOLS

BARRETTS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 011601B
1780 Carman Road Manchester, Missouri 63021

TRI Architects of the Possible
DATE: 11.29.16
REVISIONS
DWG. BY SBT
PSD PROJECT NO. 011601B
PROJECT NO. 14-006.14
SHEET NO.
L6
INTERPRETIVE SIGN DETAILS

PDS project #1617 | Last saved 11/21/2016 11:49:57 AM by Slatbert | Last plotted 11/21/2016 12:00:25 PM

EXHIBIT-C

CLAYMONT ELEMENTARY

BMP ORIGINAL PROJECT INFORMATION

PARKWAY SCHOOL DISTRICT

CLAYMONT ELEMENTARY

SITE IMPROVEMENTS AND INTERIOR RENOVATION

405 COUNTRY CLUB DRIVE
BALLWIN, MO 63011
LOCATOR: 21S310362
ZONED R3 - RESIDENTIAL

WSP PROJECT NUMBER: 30902493.7754
CLIENT PROJECT NUMBER: 022401B

ISSUE FOR BID

VOLUME 1
30 DECEMBER 2025

DRAWING INDEX - VOLUME 1	
NUMBER	**NAME**
G0.01	PROJECT COVER SHEET - VOLUME 1
C1.01	GENERAL NOTES
C2.01	DEMOLITION PLAN
C2.02	DEMOLITION PLAN
C3.01	SITE PLAN
C3.02	SITE PLAN
C4.01	GRADING AND UTILITY PLAN
C4.02	GRADING AND UTILITY PLAN
C4.03	BMP PLAN AND PROFILE
C5.01	SITE DETAILS
C5.02	SITE DETAILS
C5.03	BMP DETAILS
C6.01	SWPP PLAN
C7.01	DRAINAGE AREA MAP

REGIONAL MAP



LOCAL MAP



STORMWATER MANAGEMENT NOTES:
DIFFERENTIAL RUNOFF = 0.000 cfs

PROJECT DISTURBANCE = 0.000 Ac.

THIS SITE IS SUBJECT TO DETENTION AND CHANNEL PROTECTION.
ANY FUTURE LAND DISTURBANCE AND/OR INCREASE IN IMPERVIOUS AREA ON THIS SITE MAY REQUIRE ADDITIONAL STORM WATER MANAGEMENT PER MSD REGULATIONS IN PLACE AT THAT TIME (INCLUDING TOTAL LAND DISTURBANCE AND/OR IMPERVIOUSNESS ADDED ON THIS PLAN)

SANITARY SEWER NOTE:
SANITARY LOADING WILL NOT INCREASE WITH THIS PROJECT. EXISTING WATER AND SEWER CONNECTIONS ARE NOT PROPOSED TO BE MODIFIED WITH THIS PROJECT.

25MSD-00448 BASEMAP 21S3

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com
WSP USA Design, Inc.,
Missouri State Certificate of Authority: #2008011869

SUBCONSULTANT:

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT
CLAYMONT ELEMENTARY
405 COUNTRY CLUB DRIVE
BALLWIN, MO 63011
SITE IMPROVEMENTS AND INTERIOR RENOVATION

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER
30 DECEMBER 2025

Civil Engineer of Record: Michael Sestak
Professional No.: PE-2021009101

DESIGNED BY: MS
DRAWN BY: MS
CHECKED BY: DH
DATE: 30 DECEMBER 2025
SCALE:
FULL SCALE SHEET SIZE= ARCH- D (24"x 36")

ISSUE FOR BID

SHEET NAME:
PROJECT COVER SHEET - VOLUME 1

CLIENT PROJECT NUMBER: 022401B
WSP PROJECT NUMBER: 30902493.7754

SHEET NO: **G0.01**

11/20/2025 1:09 PM
C:\Users\MSMS7190\ODCA\CCDocs\WSP USA projects (AMER)\STL\30-30902493 - Parkway 2022 Bond - R23\Project Files\U - CLM - 2025\Civil\022401B_CLM_CIVIL_IFB.dwg

LAST EDITED:
FILE PATH:

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTS' ENGINEERS' WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

GENERAL NOTES

1. ALL DISTURBED AREAS MUST BE RESTORED WITH TOPSOIL AND SOD, COMPLETELY WATERED IN.
2. THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY FOR CONTROLLING ALL SILTATION AND EROSION OF THE PROJECT AREA. THE CONTRACTOR SHALL USE THE MEANS NECESSARY TO CONTROL SILTATION AND EROSION. CONTROL MEANS AND METHODS SHALL FOLLOW ST. LOUIS COUNTY'S "SEDIMENT & EROSION CONTROL MANUAL" AND REQUIREMENTS OF THE CITY OF BALLWIN. THE OWNER OR THE CITY OF BALLWIN MAY AT THEIR OPTION DIRECT THE CONTRACTOR AS DEEMED FIT TO CONTROL EROSION. CONTROL SHALL COMMENCE WITH LAND DISTURBANCE AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY BOTH THE CITY OF BALLWIN AND THE OWNER. ALL COST ASSOCIATED WITH EROSION CONTROL SHALL BE INCLUDED IN THE CONTRACTOR'S BID.
3. PROPOSED ELEVATIONS ARE SHOWN TO FINISH PAVEMENT OR GRADE.
4. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
5. CONTRACTOR TO PLACE VEHICLE WASHDOWN STATION AT CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE CITY OF BALLWIN REQUIREMENTS.
6. NO EXCAVATION SHALL BE MADE SO CLOSE TO THE PROPERTY LINE AS TO ENDANGER ANY ADJOINING PROPERTY OF ANY PUBLIC OR PRIVATE STREET WITHOUT SUPPORTING AND PROTECTING SUCH PUBLIC OR PRIVATE STREET OR PROPERTY FROM SETTLING, CRACKING OR OTHER DAMAGE.
7. ANY EXISTING FACILITIES DAMAGED BY CONSTRUCTION ON THE PROJECT PROPERTY MUST BE REPLACED IN KIND AT THE CONTRACTORS EXPENSE.
8. EXISTING ASPHALT PAVEMENT SHALL BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
9. DURING CONSTRUCTION THERE SHALL BE NO TRUCK TRAFFIC BETWEEN 7:30 A.M AND 8:40 A.M. AND BETWEEN 2:30 P.M. AND 3:30 P.M.
10. ALL EXISTING IMPROVEMENTS ARE TO REMAIN UNLESS NOTED OTHERWISE.
11. THE UNDERGROUND UTILITIES SHOWN HEREON ARE TAKEN FROM UTILITY LOCATIONS AS MARKED IN THE FIELD BY DIGRITE AND MAPS OBTAINED FROM SPIRE, METROPOLITAN ST. LOUIS SEWER DISTRICT AND MISSOURI-AMERICAN WATER COMPANY AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMO.
12. SITE IS SUBJECT TO PRIVATE UTILITY INSTALLATIONS. PRIVATE UTILITY INSTALLATIONS DO NOT APPEAR ON UTILITY BASE MAPS, NOR DOES DIGRITE LOCATE PRIVATE UTILITIES.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING TOPS AND FLOWLINES OF ALL EXISTING SEWERS PRIOR TO COMMENCING WORK AND NOTIFY THE ENGINEER OF DISCREPANCIES.
14. ALL SEWERS AND STRUCTURES SHALL BE IN ACCORDANCE WITH THE METROPOLITAN ST. LOUIS SEWER DISTRICT STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWER AND DRAINAGE FACILITIES, 2009.
15. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE GAS SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF SPIRE.
16. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE WATER SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF MISSOURI AMERICAN WATER COMPANY.
17. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE PHONE SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF AT&T DISTRIBUTION.
18. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH ELECTRIC SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF AMEREN MISSOURI.
19. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH CABLE SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF SPECTRUM.
20. INTERIM STORM WATER DRAINAGE CONTROL IN THE FORM OF SILTATION CONTROL MEASURES ARE REQUIRED.
21. THE DEVELOPER IS REQUIRED TO PROVIDE ADEQUATE STORM WATER SYSTEMS IN ACCORDANCE WITH THE CITY OF BALLWIN AND MSD STANDARDS.
22. ADDITIONAL SILTATION CONTROL SHALL BE INSTALLED AS REQUIRED BY THE CITY OF BALLWIN.
23. PROVIDE ADEQUATE OFF-STREET PARKING FOR CONSTRUCTION EMPLOYEES. PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVEWAY CONDITIONS.
24. ALL EXCAVATIONS, GRADING OR FILLING SHALL HAVE A FINISHED GRADE NOT TO EXCEED A 4:1 SLOPE (25%), UNLESS SPECIFICALLY APPROVED OTHERWISE. NO SLOPE SHALL EXCEED 3:1 MAXIMUM.
25. ALL GRADING AND DRAINAGE SHALL CONFORM TO THE LATEST STANDARDS AND SPECIFICATIONS OF ST. LOUIS COUNTY, THE METROPOLITAN ST. LOUIS SEWER DISTRICT AND THE CITY OF BALLWIN.
26. SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASHDOWN STATION PRIOR TO LEAVING SITE. MUD TRACKED ONTO COUNTY ROADS SHALL BE REMOVED AND KEPT CLEAN AT ALL TIMES.
27. UTILITIES MUST REMAIN IN CONTINUOUS SERVICE UNLESS WRITTEN PERMISSION IS RECEIVED FROM THE OWNER TO ALLOW INTERRUPTION OF SERVICE.
28. THE CONTRACTOR SHALL PROTECT THE LIMBS OF TREES. ANY LIMBS IN THE AREA REQUIRED FOR OPERATION OF CONSTRUCTION EQUIPMENT SHALL BE PRUNED IN ADVANCE OF THE WORK. PRIOR TO PRUNING ANY BRANCHES, THE CONTRACTOR SHALL COORDINATE SUCH PRUNING WITH THE LANDSCAPE ARCHITECT. ANY IDENTIFIED DYING OR BROKEN BRANCHES SHOULD BE REMOVED TO REDUCE SAFETY HAZARDS. BRANCHES THAT REQUIRE PRUNING SHALL BE PRUNED TO AN ADJACENT LIVE LATERAL BRANCH. NO STUBS MAY BE LEFT ON THE TREE.
29. IF BORING OR TRENCHING NEEDS TO OCCUR NEAR TREE ROOTS, AS A MINIMUM, UNLESS PREFERRED METHODS ARE RECOMMENDED BY THE LANDSCAPE ARCHITECT, PRIOR TO EXCAVATION THE CONTRACTOR SHALL ROOT PRUNE, BY HAND, ALONG THE PAY LINE OF TRENCHES WITHIN THE CRITICAL ROOT ZONE (CRZ) OF TREES TO BE PROTECTED IN ORDER TO MINIMIZE DAMAGE TO TREE ROOTS IN THAT AREA. ROOT PRUNING SHALL BE PERFORMED BY MEANS AND METHODS ACCEPTABLE TO THE LANDSCAPE ARCHITECT. ROOTS SHALL BE CLEAN CUT; UNDER NO CIRCUMSTANCES, SHALL THE CONTRACTOR RIP OR TEAR TREE ROOTS. FOR PURPOSES OF THIS PROJECT, THE CRITICAL ROOT ZONE (CRZ) OF A TREE WILL BE CONSIDERED TO BE 1.5 TIMES THE DIAMETER OF THE TREE AT BREAST HEIGHT, WITH THE DIAMETER OF THE TREE IN INCHES AND THE CRZ IN FEET.
30. EXISTING WATER AND SANITARY CONNECTIONS WILL NOT BE MODIFIED WITH THIS WORK.
31. THE CONTRACTOR SHALL STAY WITHIN THE LIMITS OF DISTURBANCE AS SHOWN ON THE PLANS AND MINIMIZE DISTURBANCE WITHIN THE WORK AREA WHEREVER POSSIBLE.
32. MAINTENANCE OF THE SEWERS DESIGNATED "PUBLIC" SHALL BE THE RESPONSIBILITY OF THE METROPOLITAN ST. LOUIS SEWER DISTRICT UPON DEDICATION OF THE SEWERS TO THE DISTRICT.
33. MSD SHOP DRAWING SUBMITTAL REQUIRED FOR BMP AND ITS COMPONENTS PRIOR TO CONSTRUCTION. MSD CONTACT: PLEASE CONTACT THE DISTRICT'S CONSTRUCTION MANAGEMENT DIVISION AT (314) 335-2072 FOR QUESTIONS.
34. DETAIL DRAWINGS: THE DETAIL DRAWINGS SHOWN HERE ARE ONLY FOR PRIVATE CONSTRUCTION THAT IS NOT UNDER MSD PERMITS. REFER TO MSD STANDARD CONSTRUCTION SPECIFICATIONS AND STANDARD DETAILS FOR PUBLIC SEWER CONSTRUCTION OR PRIVATE CONSTRUCTION UNDER MSD PERMITS.
35. EXISTING CONNECTIONS: EXISTING WATER AND SANITARY CONNECTIONS WILL NOT BE MODIFIED WITH THIS WORK.
36. LIMITS OF DISTURBANCE: THE CONTRACTOR SHALL STAY WITHIN THE LIMITS OF DISTURBANCE AS SHOWN ON THE PLANS AND MINIMIZE DISTURBANCE WITHIN THE WORK AREA WHEREVER POSSIBLE.
37. THE CONTRACTOR SHALL PERFORM THE WORK WITH PROFICIENCY IN ACCORDANCE WITH THE PROVIDED PLANS AND SPECIFICATIONS. IF ANY ASPECT OF THE CONSTRUCTION PROCESS OR THE DESIRED FINAL PRODUCT IS UNCLEAR, THE CONTRACTOR SHALL PROMPTLY CONSULT WITH THE ENGINEER FOR CLARIFICATION.

MSD GENERAL NOTES

ALL STORM AND SANITARY SEWER STRUCTURES AND APPURTENANCES TO BE DEDICATED TO MSD, OR TO BE PRIVATE UNDER MSD INSPECTION, SHALL CONFORM TO THE METROPOLITAN ST. LOUIS SEWER DISTRICT, STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES, 2023. THAT WILL INCLUDE STANDARD DETAILS SHOWN THEREIN, ALL SUBSEQUENT CHANGES MADE THERETO, AND SHALL ALSO INCLUDE THE FOLLOWING:

PART 2 – MATERIALS OF CONSTRUCTION
SECTION G PIPE.
12. CORRUGATED POLYPROPYLENE PIPE.
d. PIPE FOR GRAVITY SEWER INSTALLATIONS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321. CONSOLIDATION BY WATER (JETTING OR PUDDLING) SHALL NOT BE USED. CONSOLIDATION SHALL BE IN ACCORDANCE WITH MSD STANDARD CONSTRUCTION SPECIFICATIONS FOR TRENCH BACKFILL. PRICE FOR COMPACTED BACKFILL SHALL BE INCLUDED IN PIPE UNIT COST.

1. FOR USE IN SANITARY AND COMBINED SEWER INSTALLATIONS, A REPRESENTATIVE FROM THE PIPE MANUFACTURER SHALL VISIT THE SITE WITHIN THE FIRST 100 FEET OF PIPE INSTALLATION. COORDINATION OF THIS SITE VISIT SHALL BE ARRANGED BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE THE MSD INSPECTOR AT LEAST 24 HOURS' NOTICE OF THE PLANNED DATE AND TIME OF THE MANUFACTURER'S SITE VISIT.
2. FOLLOWING THE SITE VISIT, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE A LETTER FROM THE PIPING MANUFACTURER SUMMARIZING THEIR OBSERVATIONS. AT A MINIMUM, THE LETTER SHALL:
a) INDICATE THE DATE THE INITIAL SECTION OF PIPE WAS INSTALLED; AND
b) VERIFY THAT THE INSTALLATION OCCURRED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED PROCEDURES.
e. E. TRENCH WIDTH SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION RECOMMENDATIONS. DISTRICT STANDARD PAYLINE WIDTHS BASED ON THE NOMINAL INSIDE PIPE DIAMETER SHALL APPLY.

LEGEND

- CONTROL POINT
- TBM TEMPORARY BENCHMARK
- DRAINAGE ARROW
- EXISTING TREE
- EXISTING BUSH
- EXISTING SIGN
- NEW SIGN
- EDGE OF EXISTING PAVEMENT
- EDGE OF NEW PAVEMENT
- EXISTING CURB
- NEW CURB
- x EXISTING FENCE
- x x NEW FENCE
- NEW EROSION CONTROL
- LIMITS OF CONSTRUCTION
- OU EXISTING OVERHEAD ELECTRIC LINE
- T EXISTING UNDERGROUND TELEPHONE LINE
- E EXISTING UNDERGROUND ELECTRIC LINE
- G EXISTING GAS LINE
- W EXISTING WATER LINE
- SD EXISTING STORM SEWER
- SS EXISTING SANITARY LINE
- SD PROPOSED STORM LINE
- PROPOSED STORM / SANITARY MANHOLE
- EXISTING STORM / SANITARY MANHOLE
- EXISTING GRATE INLET
- PROPOSED GRATE INLET
- PROPOSED CURB INLET
- EXISTING DOUBLE CURB INLET
- EXISTING AREA INLET
- DS PROPOSED DOWNSPOUT
- PP EXISTING UTILITY POLE
- FH EXISTING FIRE HYDRANT
- WV EXISTING WATER VALVE
- GV EXISTING GAS VALVE
- GM EXISTING GAS METER
- 624 EXISTING 1' CONTOUR
- 625 EXISTING 5' CONTOUR
- 624 PROPOSED 1' CONTOUR
- 625 PROPOSED 5' CONTOUR
- ×601.92 EXISTING SPOT ELEVATION
- KEYED NOTE IDENTIFIER
- A COORDINATE IDENTIFIER
- TP 601.62 PROPOSED SPOT ELEVATION

UTILITY CONTACTS

AMEREN MISSOURI
1132 LOCUST STREET
ST. LOUIS, MISSOURI 63101
314-878-5787

AT&T DISTRIBUTION
12930 OLIVE STREET ROAD
BALLWIN, MO 63011
314-878-5787

MISSOURI AMERICAN WATER COMPANY
727 CRAIG RD
ST. LOUIS, MO 63131
314-996-2432

SPECTRUM
941 CHARTER COMMONS DR
TOWN AND COUNTRY, MO 63017
314-878-5787

PARKWAY SCHOOL DISTRICT
455 N. WOODS MILL RD
CHESTERFIELD, MO 63017
314-415-8100

SPIRE
3950 FOREST PARK BLVD
ST. LOUIS, MO 63108
314-658-5417

METROPOLITAN ST. LOUIS SEWER DISTRICT
2350 MARKET ST
ST. LOUIS, MO 63103-2555
314-768-6200

REGULATORY JURISDICTIONS

METRO WEST FIRE PROTECTION DISTRICT
17065 MANCHESTER ROAD
WILDWOOD, MO 63040
636-548-2100

CITY OF BALLWIN
14811 MANCHESTER ROAD
BALLWIN, MO 63011
636-227-8580

METROPOLITAN ST. LOUIS SEWER DISTRICT
2350 MARKET STREET
ST. LOUIS, MO 63103-2555
314-768-6200

ABBREVIATIONS

AI	AREA INLET	FL	FLOWLINE	PCC	POINT OF COMPOUND CURVATURE
ASPH	ASPHALT	FOC	FACE OF CURB	PGS.	PAGES
ATG	ADJUST TO GRADE	G	GUTTER	PT	POINT OF TANGENCY
BLDG	BUILDING	GI	GRATE INLET	PVMT	PAVEMENT
BM	BENCHMARK	GM	GAS METER	R	RADIUS
BMP	BEST MANAGEMENT PRACTICE	GV	GAS VALVE	RCP	REINFORCED CONCRETE PIPE
BOC	BACK OF CURB	HC	HANDICAPPED	T	TOP
CI	CURB INLET	HDPE	HIGH DENSITY POLYETHYLENE	TBM	TEMPORARY BENCHMARK
CL	CENTER LINE	IP	IRON PIPE	TBR	TO BE REMOVED
CLR	CLEARANCE	IR	IRON ROD	TBREL	TO BE RELOCATED
CO	CLEAN OUT	LS	LIGHT STANDARD	TBR&R	TO BE REMOVED AND REPLACED
CONC	CONCRETE	MAX	MAXIMUM	TC	TOP OF CURB
DCI	DOUBLE CURB INLET	ME	MATCH EXISTING	TP	TOP OF PAVEMENT
ELEV	ELEVATION	MH	MANHOLE	TR	TO REMAIN
EOA	EDGE OF ASPHALT	MIN	MINIMUM	TYP	TYPICAL
EOC	EDGE OF CONCRETE	NTS	NOT TO SCALE	UIP	USE IN PLACE
EX	EXISTING	PB	ELECTRIC PULLBOX	UP	UTILITY POLE
FG	FINISH GRADE	P.B.	PLAT BOOK	VCP	VITRIFIED CLAY PIPE
FH	FIRE HYDRANT	PC	POINT OF CURVATURE	WM	WATER METER
				WV	WATER VALVE

25MSD-00448 BASEMAP 21S3

LAST EDITED: 11/20/2025 1:09 PM
FILE PATH: C:\Users\MS1901\DOCACCDocs\WSP USA projects (AMER)\ST. LOUIS\302493 - Parkway 2022 Bond - P23\Project Files\4 - CLM - 2025\Civil\022401B_CLM_CIVIL_IFB.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

CLAYMONT ELEMENTARY

405 COUNTRY CLUB DRIVE
BALLWIN, MO 63011

SITE IMPROVEMENTS AND INTERIOR RENOVATION

STATE OF MISSOURI
MICHAEL SESLAR
NUMBER PE-2021009101
PROFESSIONAL ENGINEER

30 DECEMBER 2025

PROFESSIONAL SEAL

SHEET NAME
CIVIL GENERAL NOTES

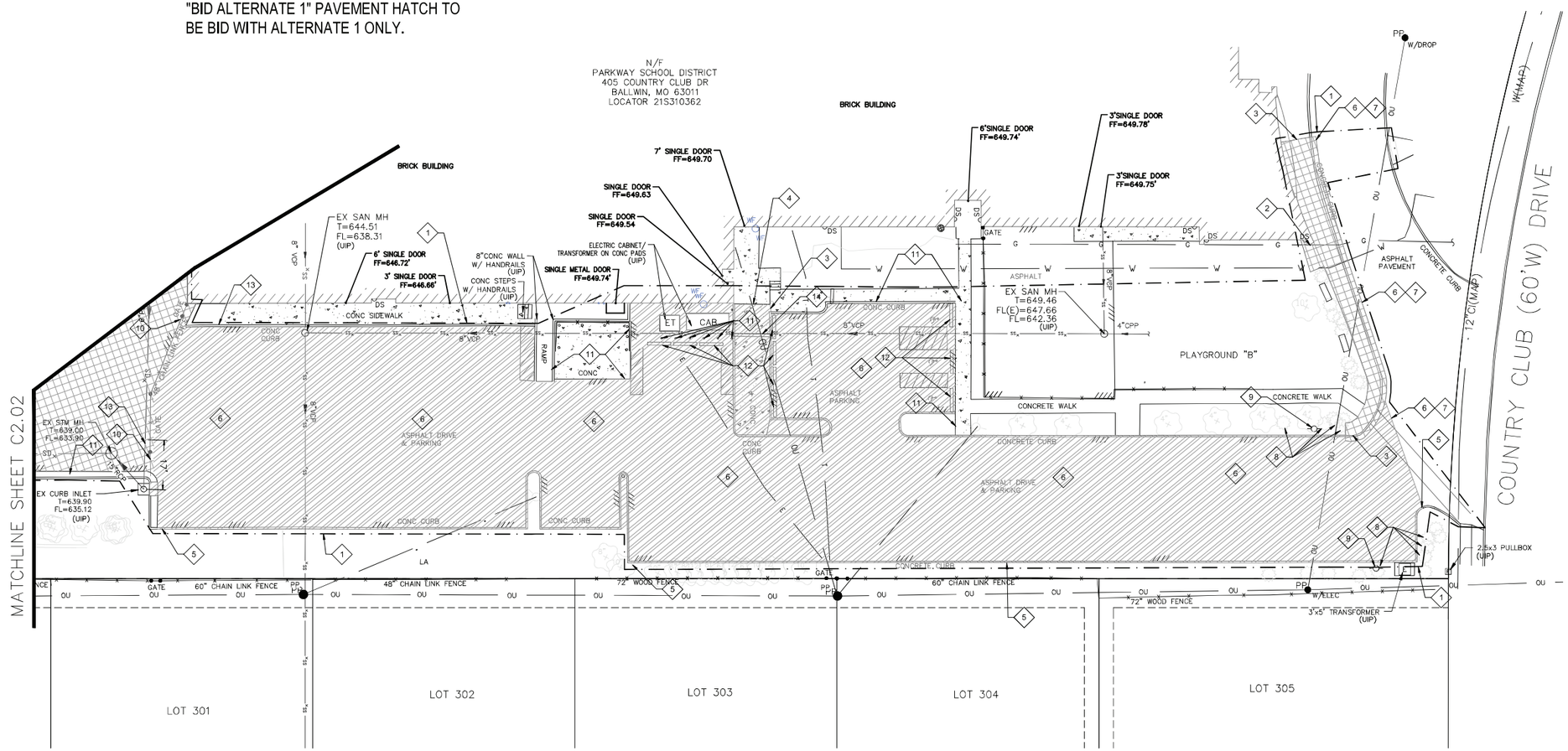
DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	ST
DATE:	30 DECEMBER 2025
SCALE:	

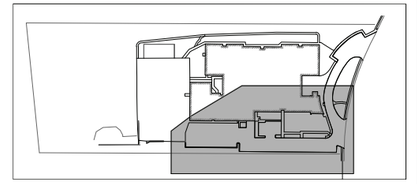
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 022401B
WSP PROJECT NUMBER: 30902493.7754

SHEET NUMBER: C1.01

NOTE:
ALL KEYNOTES AND GRADING WITHIN THE "BID ALTERNATE 1" PAVEMENT HATCH TO BE BID WITH ALTERNATE 1 ONLY.





SITE MAP

GENERAL NOTES:

1. ALL EXISTING FACILITIES MUST BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
2. ANY DAMAGED VEGETATION OR IMPROVEMENTS OUTSIDE OF CONSTRUCTION LIMITS MUST BE REPLACED IN LIKE KIND AT THE CONTRACTOR'S EXPENSE.
3. LOCATIONS OF ALL EXISTING UTILITIES ARE SHOWN PER THE MOST RECENT SURVEYS AND AVAILABLE RECORD DRAWINGS. ALL SIZES, LOCATIONS, AND DEPTHS SHALL BE FIELD VERIFIED AND SHALL BE CONSIDERED APPROXIMATE.

KEYED NOTES

1. LIMITS OF CONSTRUCTION.
2. REMOVE EXISTING CONCRETE WALK TO NEAREST JOINT.
3. REMOVE EXISTING CONCRETE WALK WITH INTEGRAL CURB TO NEAREST JOINT.
4. REMOVE EXISTING WALL MOUNTED "NO PARKING SIGN".
5. REMOVE EXISTING CURB TO EXTENTS OF PAVEMENT REMOVAL.
6. REMOVE EXISTING ASPHALT PAVEMENT.
7. PAVEMENT SAWCUT LINE.
8. REMOVE EXISTING TREES AND SHRUBS ONLY AS NECESSARY FOR ADJACENT CONSTRUCTION.
9. REMOVE EXISTING SIGNS AND STORE FOR REUSE.
10. REMOVE EXISTING FENCE AND GATES.
11. PROTECT EXISTING IMPROVEMENTS DURING CONSTRUCTION.
12. REMOVE EXISTING PRECAST WHEEL STOPS AND SALVAGE FOR REUSE. CONTRACTOR TO CONFIRM WITH OWNER IF CURRENT CONDITION IS ACCEPTABLE FOR REUSE.
13. REMOVE EXISTING 6" PLASTIC DRAIN PIPE.
14. REMOVE EXISTING CAST IRON TRENCH DRAIN AND SOLID COVERS. SALVAGE FOR REUSE.

LEGEND

- DENOTES PAVEMENT REMOVAL
- DENOTES BID ALTERNATE 1 - PAVEMENT AND CURB REMOVAL

0 20' 40'
1"=20'

25MSD-00448 BASEMAP 21S3

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-7741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT
CLAYMONT ELEMENTARY
405 COUNTRY CLUB DRIVE
BALLWIN, MO 63011
SITE IMPROVEMENTS AND INTERIOR RENOVATION

STATE OF MISSOURI
MICHAEL SISSAS
NUMBER PE-2021009101
PROFESSIONAL ENGINEER
30 DECEMBER 2025

PROFESSIONAL SEAL

SHEET NAME
DEMOLITION PLAN

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	ST
DATE:	30 DECEMBER 2025
SCALE:	

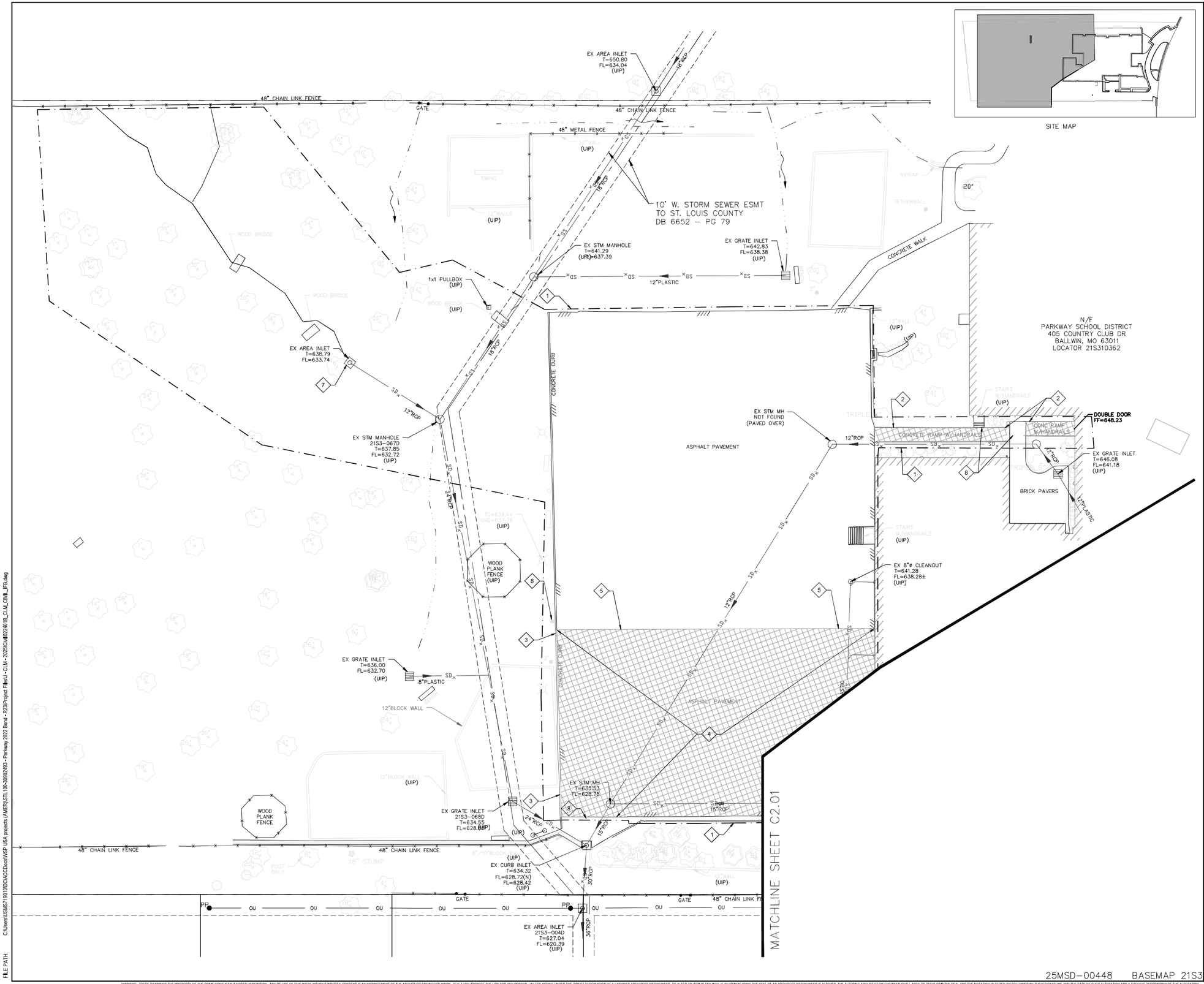
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 022401B
WSP PROJECT NUMBER: 30902493.7754

SHEET NUMBER: **C2.01**

LAST EDITED: 11/20/2025 1:09 PM
FILE PATH: C:\Users\MSISSAS\19010DOCACCDocs\WSP USA projects (AMER)\STL\00-50902493 - Parkway 2022 Bond - P23\Project Files\J - CLM - 2025\Cad\30224018_CLM_CIVIL_JFR.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER IN/ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



GENERAL NOTES:

1. ALL EXISTING FACILITIES MUST BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
2. ANY DAMAGED VEGETATION OR IMPROVEMENTS OUTSIDE OF CONSTRUCTION LIMITS MUST BE REPLACED IN LIKE KIND AT THE CONTRACTOR'S EXPENSE.
3. LOCATIONS OF ALL EXISTING UTILITIES ARE SHOWN PER THE MOST RECENT SURVEYS AND AVAILABLE RECORD DRAWINGS. ALL SIZES, LOCATIONS, AND DEPTHS SHALL BE FIELD VERIFIED AND SHALL BE CONSIDERED APPROXIMATE.

KEYED NOTES

1. LIMITS OF CONSTRUCTION.
2. REMOVE EXISTING CONCRETE RAMP WITH HANDRAIL.
3. REMOVE EXISTING CURB.
4. REMOVE EXISTING ASPHALT PAVEMENT.
5. PAVEMENT SAWCUT LINE.
6. REMOVE EXISTING TREES AND SHRUBS AS NECESSARY FOR ADJACENT CONSTRUCTION.
7. REMOVE DEBRIS FROM EXISTING AREA INLET TOP.
8. PROTECT EXISTING IMPROVEMENTS DURING CONSTRUCTION.

LEGEND

DENOTES PAVEMENT TO BE REMOVED

0 20' 40'
1"=20'

25MSD-00448 BASEMAP 21S3

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com

WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

CLAYMONT ELEMENTARY

405 COUNTRY CLUB DRIVE
BALLWIN, MO 63011

SITE IMPROVEMENTS AND INTERIOR RENOVATION

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER

30 DECEMBER 2025

PROFESSIONAL SEAL

SHEET NAME
DEMOLITION PLAN

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	ST
DATE:	30 DECEMBER 2025
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

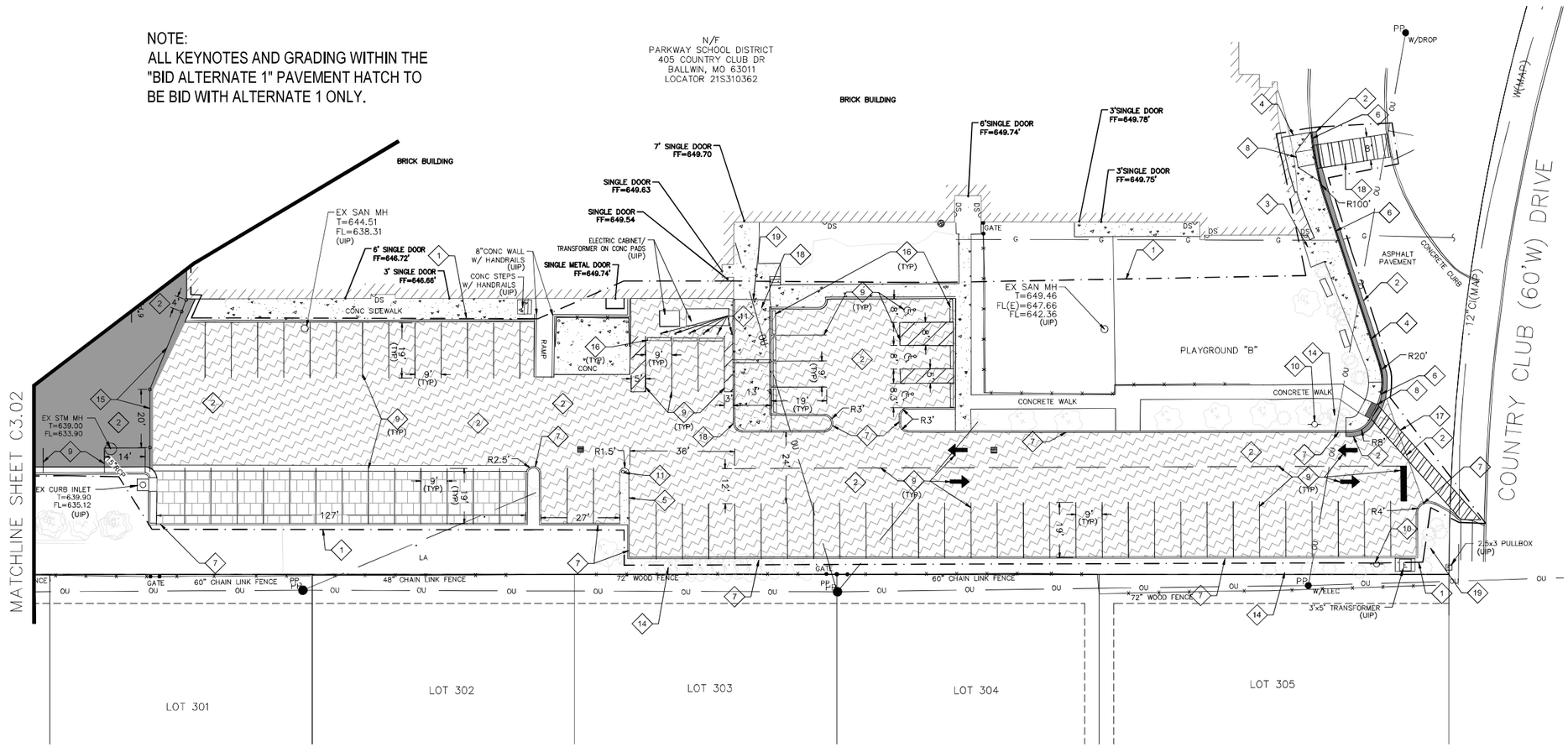
CLIENT PROJECT NUMBER: 022401B
WSP PROJECT NUMBER: 30902493.7754

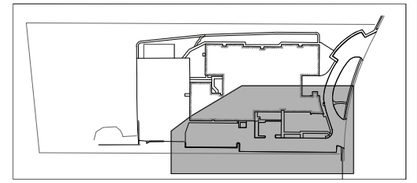
SHEET NUMBER: **C2.02**

LAST EDITED: 11/20/2025 1:09 PM
FILE PATH: C:\Users\MS\MS7191\0\DC\ACDocs\WSP USA projects (AMER)\ST1\105-30902493 - Parkway 2022 Bond - P23\Project Files\1 - CLM - 20250ConM022401B_CLM_CIVIL_IFB.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

NOTE:
ALL KEYNOTES AND GRADING WITHIN THE "BID ALTERNATE 1" PAVEMENT HATCH TO BE BID WITH ALTERNATE 1 ONLY.





SITE MAP

GENERAL NOTES:

1. ALL EXISTING FACILITIES MUST BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
2. ANY DAMAGED VEGETATION OR IMPROVEMENTS OUTSIDE OF CONSTRUCTION LIMITS MUST BE REPLACED IN LIKE KIND AT THE CONTRACTOR'S EXPENSE.
3. LOCATIONS OF ALL EXISTING UTILITIES ARE SHOWN PER THE MOST RECENT SURVEYS AND AVAILABLE RECORD DRAWINGS. ALL SIZES, LOCATIONS, AND DEPTHS SHALL BE FIELD VERIFIED AND SHALL BE CONSIDERED APPROXIMATE.

KEYED NOTES

1. LIMITS OF CONSTRUCTION.
2. NEW ASPHALT PAVEMENT. REFER TO DETAIL ON SHT. C5.01.
3. NEW CONCRETE WALK. REFER TO DETAIL ON SHT. C5.01.
4. NEW CONCRETE WALK WITH INTEGRAL CURB. REFER TO DETAIL ON SHT. C5.01.
5. NEW 6" RAISED CURB ISLAND.
6. PAINT CURB YELLOW.
7. NEW 6" VERTICAL CURB. REFER TO DETAIL ON SHT. C5.01.
8. NEW ADA CURB RAMP. REFER TO DETAIL ON SHT. C5.01.
9. PAINTED PAVEMENT MARKINGS. REFER TO DETAILS ON SHT. C5.01.
10. REINSTALL EXISTING SIGN AT EXISTING LOCATION. REFER TO SIGN MOUNTING DETAIL ON SHT. C5.01.
11. REMOVE RUST AND PAINT BOLLARD TO MATCH EXISTING.
14. RESTORE VEGETATION IN LIKE KIND TO MATCH EXISTING CONDITIONS.
15. NEW 48" CHAIN LINK FENCE WITH GATES TO MATCH EXISTING. REFER TO DETAIL ON SHT. C5.01.
16. NEW PRECAST WHEEL STOPS. REFER TO DETAIL ON SHT. C5.01.
17. REPAINT EXISTING CROSSWALK, MATCH EXISTING DETAILS.
18. NEW HEAVY DUTY CONCRETE PAVEMENT. REFER TO DETAIL ON SHT. C5.01
19. NEW "NO PARKING" SIGN MOUNTED TO CONCRETE WALL TO MATCH EXISTING.

LEGEND

- DENOTES NEW ASPHALT PAVEMENT
- DENOTES BID ALTERNATE 1 - NEW ASPHALT PAVEMENT AND CURBS
- DENOTES BID ALTERNATE 1 - NEW PERMEABLE PAVERS

0 20' 40'
1"=20'

25MSD-00448 BASEMAP 21S3

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTI ENGINEERS WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 11/20/2025 1:09 PM
FILE PATH: C:\Users\USMS7190100\OneDrive - WSP\Documents\WSP USA projects (AMER)\ST L 10\30902493 - Parkway 2022 Bond + R23\Project Files\1 - CLM - 2025\Civil\022401B_CLM_CIVIL_LFR.dwg

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

CLAYMONT ELEMENTARY

405 COUNTRY CLUB DRIVE
BALLWIN, MO 63011
SITE IMPROVEMENTS AND INTERIOR RENOVATION

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER
30 DECEMBER 2025

PROFESSIONAL SEAL

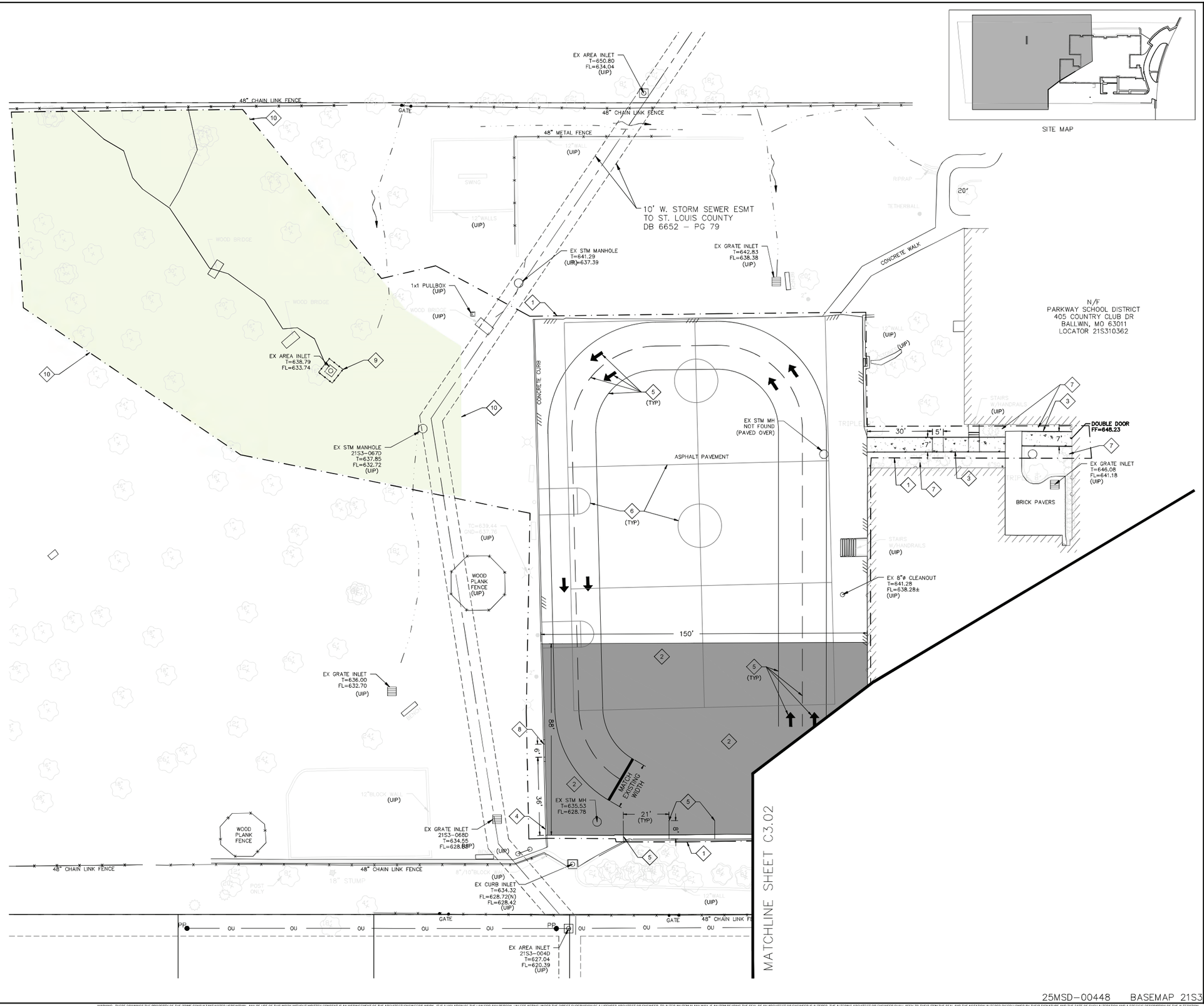
SHEET NAME
SITE PLAN

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	ST
DATE:	30 DECEMBER 2025
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 022401B
WSP PROJECT NUMBER: 30902493.7754

SHEET NUMBER: **C3.01**



GENERAL NOTES:

1. ALL EXISTING FACILITIES MUST BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
2. ANY DAMAGED VEGETATION OR IMPROVEMENTS OUTSIDE OF CONSTRUCTION LIMITS MUST BE REPLACED IN LIKE KIND AT THE CONTRACTOR'S EXPENSE.
3. LOCATIONS OF ALL EXISTING UTILITIES ARE SHOWN PER THE MOST RECENT SURVEYS AND AVAILABLE RECORD DRAWINGS. ALL SIZES, LOCATIONS, AND DEPTHS SHALL BE FIELD VERIFIED AND SHALL BE CONSIDERED APPROXIMATE.

KEYED NOTES

1. LIMITS OF CONSTRUCTION.
2. NEW ASPHALT PAVEMENT. REFER TO DETAIL ON SHT. C5.01.
3. NEW CONCRETE RAMP AND HANDRAIL. REFER TO DETAIL ON SHT. C5.01.
4. NEW 6" VERTICAL CURB. REFER TO DETAIL ON SHT. C5.01.
5. PAINTED PAVEMENT MARKINGS. REFER TO DETAILS ON SHT. C5.01.
6. REPAINT PAVEMENT MARKINGS IN PAVED PLAY AREA TO MATCH EXISTING PER OWNER'S DIRECTION.
7. RESTORE VEGETATION IN LIKE KIND TO MATCH EXISTING CONDITIONS.
8. NEW CURB OPENING. REFER TO DETAIL ON SHT. C5.02.
9. NEW DECORATIVE FENCE WITH GATE CENTERED ON NORTH SIDE. REFER TO DETAILS ON SHT. C5.02.
10. APPLY HYDROSEED WITH MULCH TO THE HATCHURED AREA. SOIL TESTING TO BE PERFORMED AT THE TIME OF CONSTRUCTION. CONTRACTOR'S SOIL SCIENTIST TO DETERMINE THE APPROPRIATE SEEDING/MULCHING RATES AND TYPES.

LEGEND

DENOTES NEW ASPHALT PAVEMENT

0 20' 40'
1"=20'

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com

WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

CLAYMONT ELEMENTARY

405 COUNTRY CLUB DRIVE
BALLWIN, MO 63011

SITE IMPROVEMENTS AND INTERIOR RENOVATION

MICHAEL SESTAK
NUMBER PE-2021009101
STATE OF MISSOURI
PROFESSIONAL ENGINEER

30 DECEMBER 2025

PROFESSIONAL SEAL

SHEET NAME
SITE PLAN

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	ST
DATE:	30 DECEMBER 2025
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 022401B
WSP PROJECT NUMBER: 30902493.7754

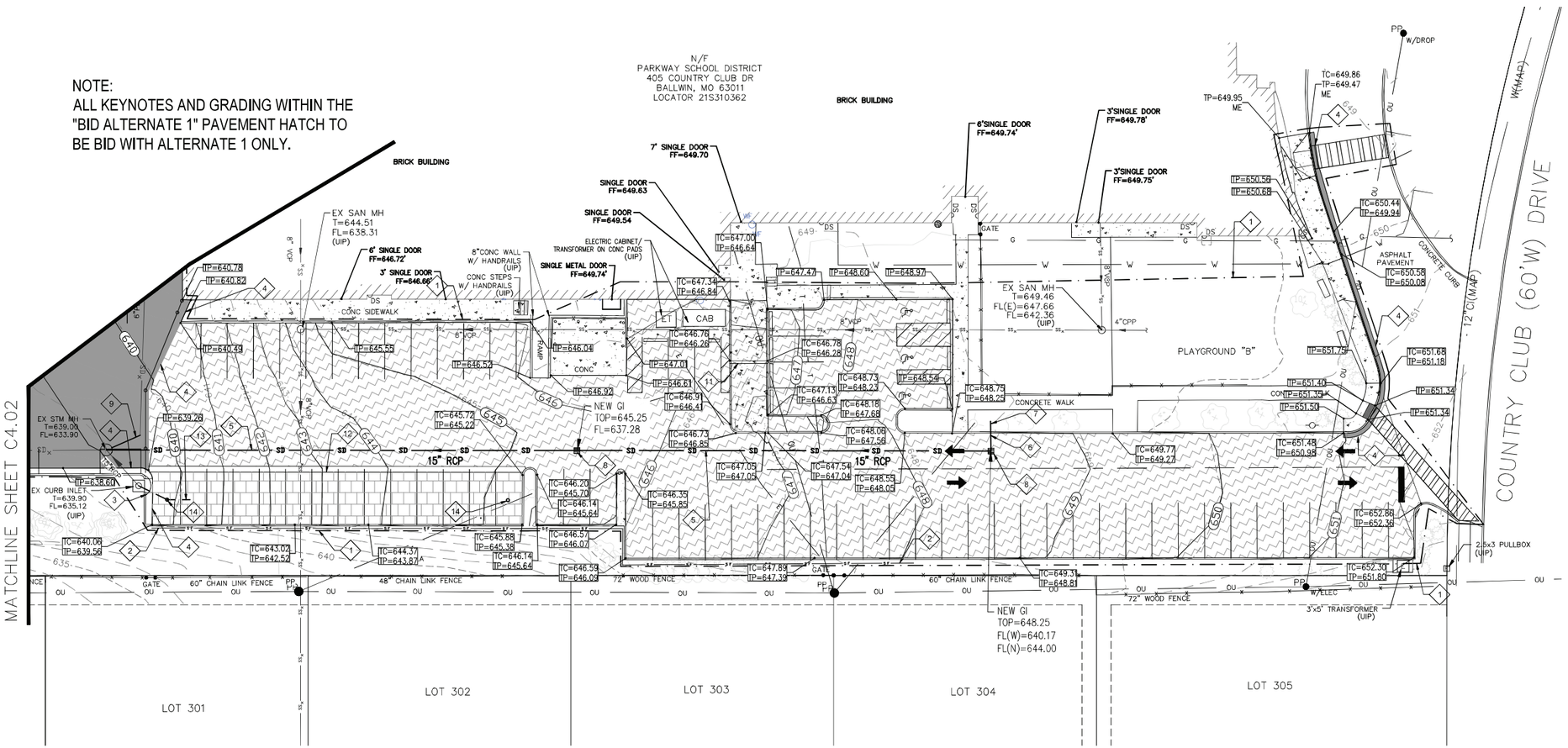
SHEET NUMBER: **C3.02**

25MSD-00448 BASEMAP 21S3

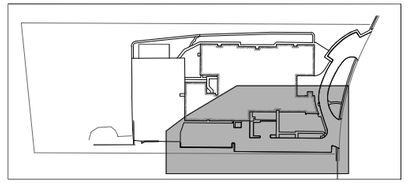
LAST EDITED: 11/20/2025 1:09 PM
FILE PATH: C:\Users\MS7191\DC2ACDocs\WSP USA projects (AMER)\ST1L\105-30902493 - Parkway 2022 Bond - P23\Project Files\1 - CLM - 20250ca\022401B_CLM_CIVIL_IFB.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

NOTE:
ALL KEYNOTES AND GRADING WITHIN THE "BID ALTERNATE 1" PAVEMENT HATCH TO BE BID WITH ALTERNATE 1 ONLY.



MATCHLINE SHEET C4.02



SITE MAP

GENERAL NOTES:

1. ALL EXISTING FACILITIES MUST BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
2. ANY DAMAGED VEGETATION OR IMPROVEMENTS OUTSIDE OF CONSTRUCTION LIMITS MUST BE REPLACED IN LIKE KIND AT THE CONTRACTOR'S EXPENSE.
3. LOCATIONS OF ALL EXISTING UTILITIES ARE SHOWN PER THE MOST RECENT SURVEYS AND AVAILABLE RECORD DRAWINGS. ALL SIZES, LOCATIONS, AND DEPTHS SHALL BE FIELD VERIFIED AND SHALL BE CONSIDERED APPROXIMATE.

KEYED NOTES

1. LIMITS OF CONSTRUCTION.
2. EROSION CONTROL - FIBER ROLL. REFER TO DETAIL ON SHT C5.01
3. EROSION CONTROL - INLET PROTECTION, REFER TO DETAIL ON SHT. C5.01.
4. MATCH EXISTING GRADE.
5. NEW 15" RCP STORM PIPE
6. NEW 12" RCP STORM PIPE.
7. CAP NEW 12" RCP FOR FUTURE CONNECTION.
8. NEW 2-GRATE PRECAST CONCRETE INLET PER METROPOLITAN ST. LOUIS SEWER DISTRICT STANDARD DETAILS OF SEWER CONSTRUCTION SHEET 35.
9. CONNECT EXISTING 6" DRAIN PIPE TO EXISTING MANHOLE AS SHOWN USING 6" PVC PIPE.
10. REMOVE DEBRIS IN AND AROUND EXISTING AREA INLET, FINISH GRADE AREA TO DRAIN TOWARD INLET SILLS.
11. REINSTALL CAST IRON DRAIN AND SOLID COVERS AT ELEVATIONS SHOWN.
12. NEW PERMABLE INTERLOCKING CONCRETE PAVERS, SEE BMP PLAN AND PROFILE SHT. C4.03. REFER TO DETAILS ON SHT. C5.03.
13. NEW 6" PVC UNDERDRAIN TO CONNECT TO EXISTING CURB INLET AS SHOWN. REFER TO DETAILS ON SHT. C5.03.
14. NEW 6" PVC CLEANOUT. REFER TO DETAILS ON SHT. C5.03.

LEGEND

- DENOTES NEW ASPHALT PAVEMENT
- DENOTES BID ALTERNATE 1 - NEW ASPHALT PAVEMENT AND CURBS
- DENOTES BID ALTERNATE 1 - NEW PERMEABLE PAVERS

0 20' 40'
1"=20'

25MSD-00448 BASEMAP 21S3

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-7741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

CLAYMONT ELEMENTARY

405 COUNTRY CLUB DRIVE
BALLWIN, MO 63011
SITE IMPROVEMENTS AND INTERIOR RENOVATION

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER
30 DECEMBER 2025

PROFESSIONAL SEAL

SHEET NAME
GRADING AND UTILITY PLAN

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	ST
DATE:	30 DECEMBER 2025
SCALE:	

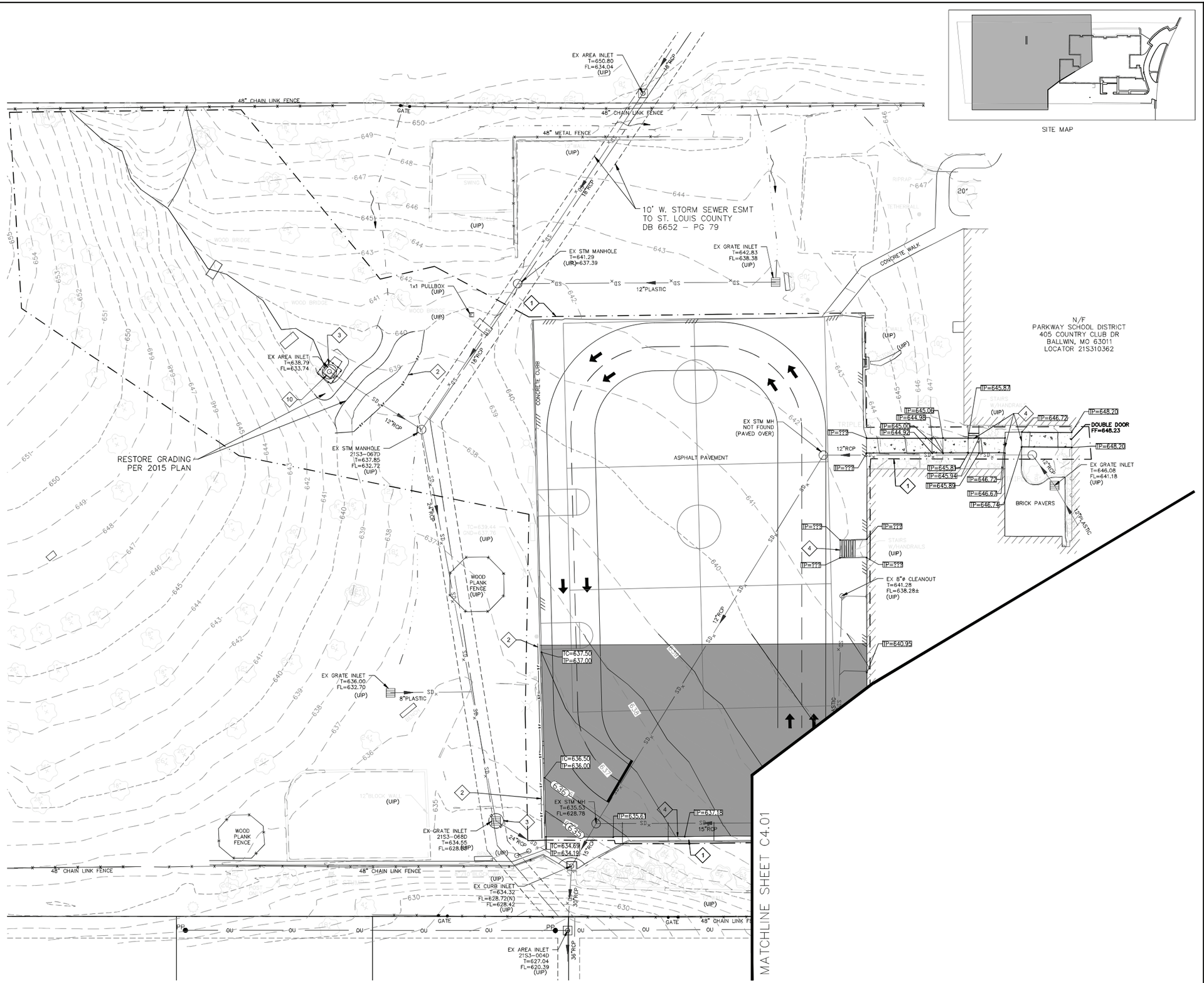
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 022401B
WSP PROJECT NUMBER: 30902493,7754

SHEET NUMBER: **C4.01**

LAST EDITED: 11/20/2025 1:09 PM
FILE PATH: C:\Users\USMS719010\OneDrive - WSP USA\Documents\WSP USA projects (AMER)\ST L\10430902493 - Parkway 2022 Bond + P23\Project Files\1 - CLM - 2025\Cad\022401B_CLM_CIVIL_FP6.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTI ENGINEERS WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



GENERAL NOTES:

1. ALL EXISTING FACILITIES MUST BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
2. ANY DAMAGED VEGETATION OR IMPROVEMENTS OUTSIDE OF CONSTRUCTION LIMITS MUST BE REPLACED IN LIKE KIND AT THE CONTRACTOR'S EXPENSE.
3. LOCATIONS OF ALL EXISTING UTILITIES ARE SHOWN PER THE MOST RECENT SURVEYS AND AVAILABLE RECORD DRAWINGS. ALL SIZES, LOCATIONS, AND DEPTHS SHALL BE FIELD VERIFIED AND SHALL BE CONSIDERED APPROXIMATE.

KEYED NOTES

1. LIMITS OF CONSTRUCTION.
2. EROSION CONTROL - FIBER ROLL. REFER TO DETAIL ON SHT C5.01
3. EROSION CONTROL - INLET PROTECTION, REFER TO DETAIL ON SHT. C5.01.
4. MATCH EXISTING GRADE.
5. NEW 15" RCP STORM PIPE
6. NEW 12" RCP STORM PIPE.
7. CAP NEW 12" RCP FOR FUTURE CONNECTION.
8. NEW 2-GRATE PRECAST CONCRETE INLET PER METROPOLITAN ST. LOUIS SEWER DISTRICT STANDARD DETAILS OF SEWER CONSTRUCTION SHEET 35.
9. CONNECT EXISTING 6" DRAIN PIPE TO EXISTING MANHOLE AS SHOWN USING 6" PVC PIPE.
10. REMOVE DEBRIS IN AND AROUND EXISTING AREA INLET, FINISH GRADE AREA TO DRAIN TOWARD INLET SILLS.

LEGEND

DENOTES NEW ASPHALT PAVEMENT

0 20' 40'
1"=20'

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-7741
wsp.com

WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

CLAYMONT ELEMENTARY

405 COUNTRY CLUB DRIVE
BALLWIN, MO 63011

SITE IMPROVEMENTS AND INTERIOR RENOVATION

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER

30 DECEMBER 2025

PROFESSIONAL SEAL

SHEET NAME
GRADING & UTILITY PLAN

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	ST
DATE:	30 DECEMBER 2025
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

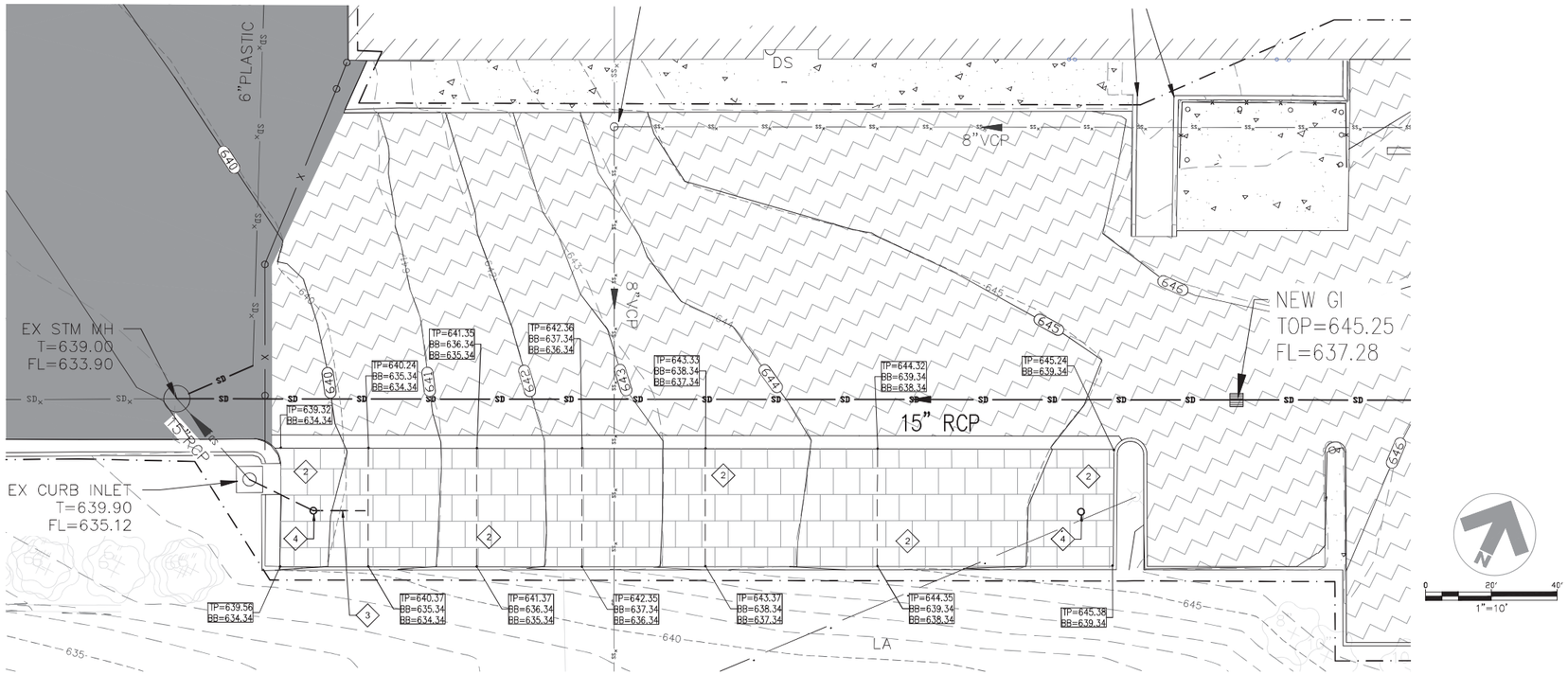
CLIENT PROJECT NUMBER: 022401B
WSP PROJECT NUMBER: 30902493.7754

SHEET NUMBER: **C4.02**

25MSD-00448 BASEMAP 21S3

LAST EDITED: 11/20/2025 1:09 PM
FILE PATH: C:\Users\USMS7191\DC2ACDocs\WSP USA projects (AMER)\ST1L\105-30902493 - Parkway 2022 Bond - P23\Project Files\1 - CLM - 20250ClaymontElem_CLM_CIVIL_IFB.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK, IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



BMP Storage Volume Required vs BMP Storage Volume Provided

BMP Drainage Area	Total Drainage Area (FT^2)	2-Year 24 Hour Total Runoff / DA: Q - Runoff (Inches & Feet)	Volume of Runoff / DA (FT^3)	Volume of Storage Required at 40% Void Ratio (FT^3)	Total Area of BMP (FT^2)	Level Storage Depth (Inches & Feet)	Total Effective Storage Bedding Volume / BMP (FT^3) at Level Storage Depth *	Volume of Effective Storage Available at 40% Void Ratio (FT^3)	Ratio of Required Storage to Actual Effective Storage Volume	Depth of Stored Q (Feet & Inches)
DA-BMP-1	6825	2.25 0.188	1281.4	3203.6	127x18 2286	48 4	9144	3657.6	0.876	3.503 42.04

* - Computed with only the minimum level portion of the storage bedding and not the entire sloped portion.

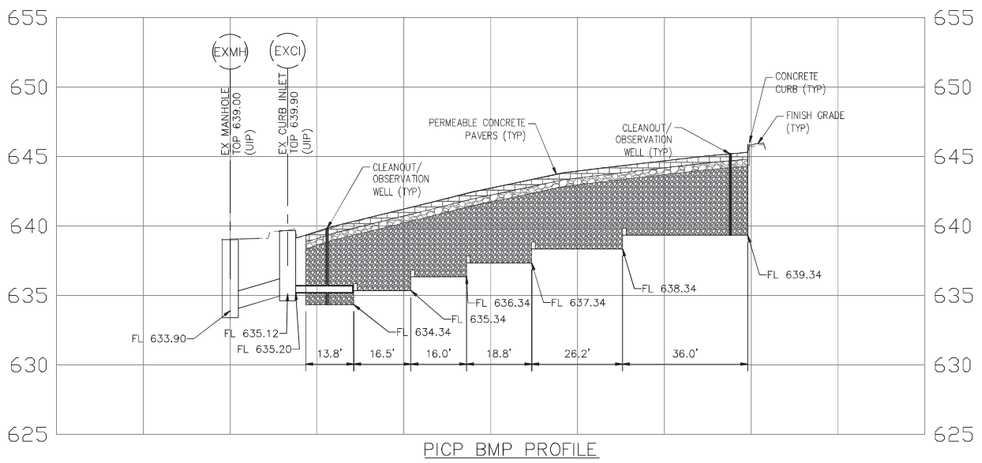
BMP Runoff Calculation

Soil Group	Surface Type	Area SF	Area AC	CN	CN x Area
D	Grass	0	0.000	80	0.00
D	Pvmt	4539	0.104	98	10.21
D	Pavers	2286	0.052	80	4.20
	Total Area	6825		Weighted CN =	92

$$Q = \frac{[3.1-.2((1000/CN)-10)]^2}{[3.1+.8((1000/CN)-10)]}$$

$$Q = \frac{[3.1-.2((1000/91)-10)]^2}{[3.1+.8((1000/91)-10)]}$$

Q = 2.25



PICP BMP PROFILE

GENERAL NOTES:

1. ALL EXISTING FACILITIES MUST BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
2. ANY DAMAGED VEGETATION OR IMPROVEMENTS OUTSIDE OF CONSTRUCTION LIMITS MUST BE REPLACED IN LIKE KIND AT THE CONTRACTOR'S EXPENSE.
3. LOCATIONS OF ALL EXISTING UTILITIES ARE SHOWN PER THE MOST RECENT SURVEYS AND AVAILABLE RECORD DRAWINGS. ALL SIZES, LOCATIONS, AND DEPTHS SHALL BE FIELD VERIFIED AND SHALL BE CONSIDERED APPROXIMATE.

KEYED NOTES

1. LIMITS OF CONSTRUCTION.
2. NEW PERMABLE INTERLOCKING CONCRETE PAVERS. REFER TO DETAILS ON SHT. C5.03.
3. NEW 6" PVC UNDERDRAIN TO CONNECT TO EXISTING CURB INLET AS SHOWN. REFER TO DETAILS ON SHT. C5.03.
4. NEW 6" PVC CLEANOUT. REFER TO DETAILS ON SHT. C5.03.

TP=TOP OF PAVEMENT
BB=BOTTOM OF BEDDING

LEGEND

- DENOTES NEW ASPHALT PAVEMENT
- DENOTES BID ALTERNATE 1 - NEW ASPHALT PAVEMENT AND CURBS
- DENOTES BID ALTERNATE 1 - NEW PERMEABLE PAVERS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-7741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

CLAYMONT ELEMENTARY

405 COUNTRY CLUB DRIVE
BALLWIN, MO 63011

SITE IMPROVEMENTS AND INTERIOR RENOVATION

STATE OF MISSOURI
MICHAEL SISLAK
NUMBER
PE-2021009101
PROFESSIONAL ENGINEER

30 DECEMBER 2025

PROFESSIONAL SEAL

SHEET NAME
BMP PLAN AND PROFILE

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	ST
DATE:	30 DECEMBER 2025
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 022401B
WSP PROJECT NUMBER: 30902493.7754

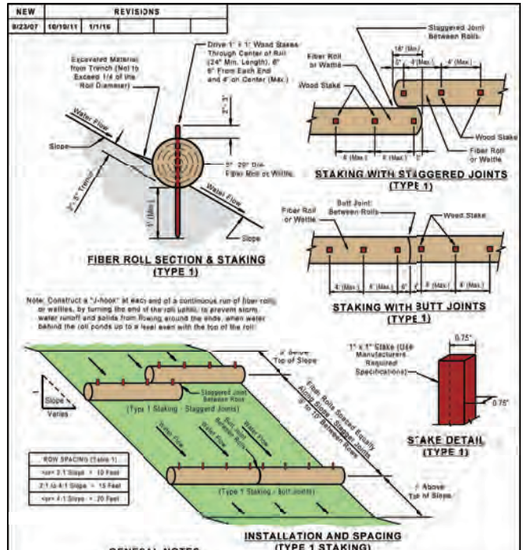
SHEET NUMBER: **C4.03**

25MSD-00448 BASEMAP 21S3

LAST EDITED: 11/20/2025 1:09 PM
FILE PATH: C:\Users\MS\MS1901\0D\CADDocs\WSP USA projects (AMER)\STL\00\30902493 - Parkway 2022 Bond - P23\Project Files\4 - CLM - 2025\C4\022401B_CLM_CIVIL_JF5.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTS ENGINEERS WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

NEW	REVISIONS				
8/23/07	10/19/11	1/1/16			



FIBER ROLL SECTION & STAKING (TYPE 1)

STAKING WITH STAGGERED JOINTS (TYPE 1)

STAKING WITH BUTT JOINTS (TYPE 1)

STAKE DETAIL (TYPE 1)

INSTALLATION AND SPACING (TYPE 1 STAKING)

Note: Construct a "J-hook" at each end of a continuous run of fiber rolls or wattles, by turning the end of the roll uphill, to prevent storm water runoff and solids from flowing around the ends, when water behind the roll ponds up to at least even with the top of the roll.

GENERAL NOTES

1) Do not scale drawing, follow dimensions.
2) Row spacing for slope installations should be determined by site condition, such as slope gradient and soil type (see Table 1 for row spacing).
3) Installations as shown above are designed for slopes at 1:10 and steeper.
4) Netting, filter sock or outer cover of rolls must be constructed of photodegradable or biodegradable material.
5) Fiber Rolls and Wattles shall contain straw, flax, coconut fiber (coir), rice straw or aspen excelsior, in a tight tubular roll, specifically designed for removal of solids from storm water runoff. Fill material must be biodegradable and contain no chemical additives.
6) Fiber Rolls or Wattles may be weighted for use around inlets (internal roll weight or by placing a weight, such as a concrete block, on the down stream side of the roll) Weight must not be placed on top of the roll, smashing or flattening the roll.
7) Follow the roll manufacturers instructions and recommendations for the safe, installation and maintenance of all Fiber Rolls or Wattles.

ST. LOUIS COUNTY DEPARTMENT OF TRANSPORTATION CREVE COEUR, MISSOURI

TYPICAL BMP DETAIL
FIBER ROLLS AND WATTLES (TYPE 1 STAKING)

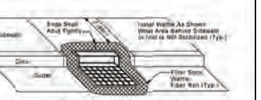
REVISION DATE: January 1, 2016

DRAWING 806-65.08

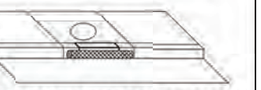
NEW	REVISIONS				
1/1/16	1/1/18				

GENERAL NOTES

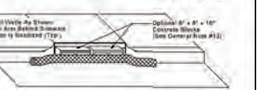
1) LOCATION, DIAMETER AND LENGTH OF SOCK IS DEPENDENT ON THE INLET/GUTTER BEING PROTECTED (I.E. DOUBLE, TRIP 2, INLET, ETC.)
2) GRAVEL FILTER BAGS MAY BE SUBSTITUTED FOR FILTER SOCKS
3) SOME LOCATIONS WILL NOT HAVE SIDEWALK (AS SHOWN IN THIS DETAIL)
4) IF THE AREA BEHIND THE INLET/AND SIDEWALK) IS NOT STABILIZED A BMP SHALL BE USED TO PREVENT POLLUTANTS FROM ENTERING THE INLET FROM BEHIND.
5) WHEN A WATTLE IS USED TO PREVENT POLLUTANTS FROM ENTERING AN INLET FROM BEHIND, IT MUST BE PLACED ON A SIDEWALK TO MAINTAIN A MINIMUM 3 FOOT WALKING PATH. THE BMP SHALL BE MAINTAINED TO PREVENT SEDIMENT ACCUMULATION ON THE SIDEWALK.
6) SOCKS / BAGS (BMP) SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBANCE ACTIVITY ON EXISTING INLETS AND IMMEDIATELY AFTER INSTALLATION OF PROPOSED INLETS.
7) ACCUMULATED SEDIMENT SHALL BE REMOVED BEFORE IT REACHES ONE HALF THE DIAMETER OF THE SOCK OR BAG HEIGHT AT A MINIMUM OR ENCROACHES ONTO A TRAVEL LANE.
8) SEE GRAVEL BAG, FILTER SOCK (WATTLE FIBER ROLL) AND INLET PROTECTION SPECIFICATIONS IN THE SEDIMENT AND EROSION CONTROL MANUAL FOR ADDITIONAL INFORMATION. GRAVEL BAGS MUST BE LAYERED AND PACKED TIGHTLY SUCH THAT NO GAPS ARE EVIDENT.
9) LEAVE ONE BRAIDED BAG GAP AT THE TOP LAYER TO PROVIDE A SPILLWAY FOR OVERFLOW.
10) STRAW BALES MAY NOT BE USED AS A BMP. INSTALL A PAIR OF FILTER SOCKS, NEXT TO EACH OTHER, PARALLEL TO THE CURB INLET IF DIRECTED BY THE COUNTY.
11) BMPs MUST BE INSTALLED TO ALLOW THE INLET / GUTTER TO FUNCTION WITHOUT COMPLETELY BLOCKING FLOW TO ELIMINATE LOCALIZED FLOODING. CHOOSE THE DIAMETER OF SOCK AND LAYER(S) OF BAGS SUITABLE TO THE INDIVIDUAL APPLICATION.
12) INLET PROTECTION IS NOT A STAND ALONE BMP AND SHOULD BE USED IN CONJUNCTION WITH OTHER UP GRADIENT BMPs.
13) SOCKS NEED TO BE WEIGHTED FOR USE AROUND INLETS (INTERNAL ROLL WEIGHT OR BY PLACING A WEIGHT, SUCH AS A CONCRETE BLOCK, ON THE DOWN STREAMSIDE OF THE SOCK) USE ALTERNATE BMP IF LOCALIZED FLOODING IS POSSIBLE.
14) AT LOCATIONS WITHOUT CURB, THE GUTTER PROTECTION MAY BE SHAPED INTO A HORSESHOE WITH THE OPENING FACING OPPOSITE THE DIRECTION OF FLOW. GUTTER PROTECTION CAN HELP PRE-TREAT STORM WATER IF NEEDED.
15) AT LOCATIONS WITHOUT CURB, PLACE BMPs OF CHOICE COMPLETELY AROUND THE INLET OVERLAP ENDS IF NEEDED



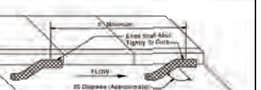
CURB AND GRATE INLET FILTER SOCK PROTECTION DETAIL



CURB INLET FILTER SOCK PROTECTION DETAIL



CURB INLET FILTER SOCK PROTECTION DETAIL



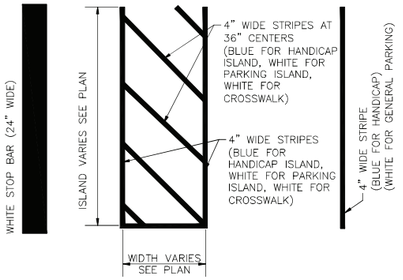
GUTTER FILTER SOCK PROTECTION DETAIL

ST. LOUIS COUNTY DEPARTMENT OF TRANSPORTATION CREVE COEUR, MISSOURI

TYPICAL BMP DETAIL
GRATED UNIT, INLET AND GUTTER PROTECTION FILTER SOCK AND GRAVEL FILTER BAG

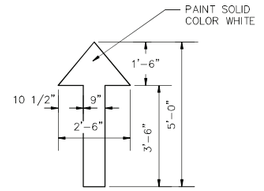
REVISION DATE: January 1, 2016

DRAWING 806-65.08

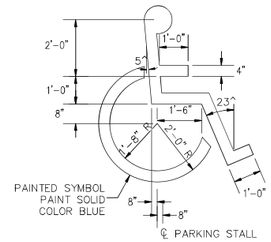


PAVEMENT MARKING DETAILS

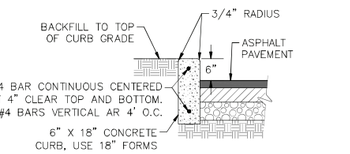
NTS



PAINTED DIRECTIONAL ARROWS



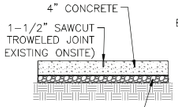
PAINTED ADA PARKING SYMBOL



NOTE:
1. PROVIDE 1/2" EXPANSION JOINT, FULL DEPTH OF CURB, MAXIMUM SPACING AT 20'-0" ON CENTER. FOLLOW TYPICAL CONCRETE WALK DETAILS.
2. PROVIDE CONTRACTION JOINTS AT 10'-0" ON CENTER. FOLLOW TYPICAL CONCRETE WALK DETAILS.

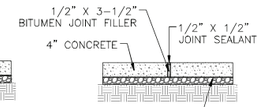
VERTICAL CONCRETE CURB DETAIL

NTS



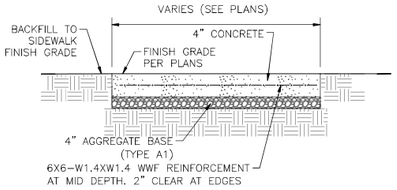
NOTE: MAXIMUM SPACING EQUALS WIDTH OF SIDEWALK OR 10'-0", WHICHEVER IS LESS.

CONTRACTION JOINT



NOTE: MAXIMUM SPACING EQUALS 20'-0" ON CENTER.

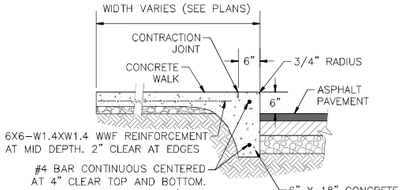
EXPANSION JOINT



CONCRETE WALK SECTION

TYPICAL CONCRETE WALK DETAILS

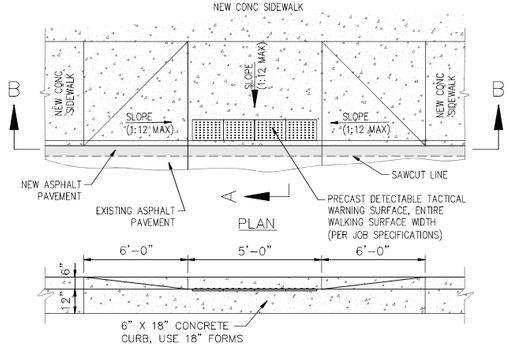
NTS



NOTE:
1. PROVIDE CONTRACTION JOINTS, FULL DEPTH EXPANSION JOINTS, AND WWF REINFORCEMENT PER TYPICAL CONCRETE WALK DETAIL.

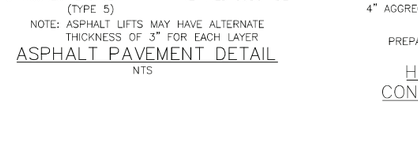
CONCRETE WALK WITH INTEGRAL CURB DETAIL

NTS



ACCESSIBLE RAMP DETAIL (STRAIGHT)

NTS



NOTE: ASPHALT LIFTS MAY HAVE ALTERNATE THICKNESS OF 3" FOR EACH LAYER

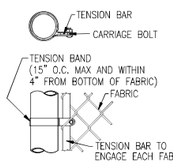
ASPHALT PAVEMENT DETAIL

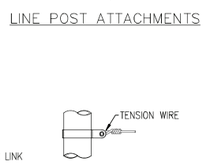
NTS



HEAVY DUTY CONCRETE DETAIL

NTS

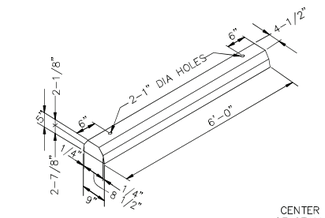




LINE POST ATTACHMENTS

CHAIN LINK FENCE FASTENING DETAILS

NTS



NOTES:

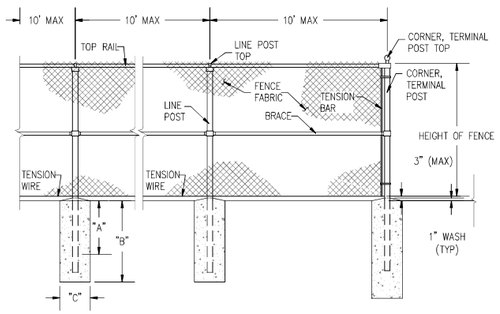
1. WHEEL STOPS TO BE PLACED 2' BACK, AS SHOWN ABOVE. CENTERED IN THE PARKING STALL.
2. WHEEL STOPS CAN BE PAINTED IN A CONTRASTING COLOR SUCH AS GRAY, YELLOW OR BLACK. BLUE SHALL BE USED FOR HANDICAP PARKING STALLS.
3. CONCRETE TO BE 4,000 PSI, WITH FIBER MESH REINFORCING

PRECAST CONCRETE WHEEL STOP DETAIL

NTS

Description		Height of Fence
Line Post	Size	48" 2.38"ø
	"A"	24"
	"B" x "C"	30" x 10"
Corner & Terminal Post	Size	3.5"ø
	"A"	30"
	"B" x "C"	36" x 10"
Gate Post * (single gate or leaf gate of double width)	Pedestrian	3.5"ø
	Vehicular	6.63"ø
Top Rail and Brace		1.66"ø
Gate Frame	Pedestrian	1.66"ø
	Vehicular	1.9"ø
Fabric	2" diamond mesh interwoven wire, 9 gage thick, top selvage knuckle and end closed, bottom selvage twisted tight	
Tension Wire	6 gage thick steel, single strand	
Tension Band	0.1" thick steel	
Tension Bar	0.1" thick steel	
Tie Wire	Aluminum alloy steel wire	

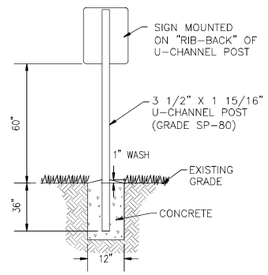
* "A", "B", and "C" are the same as Corner & Terminal Post



TYPICAL FENCE ELEVATION

CHAIN LINK FENCE DETAIL

NTS



STREET SIGN

SIGN MOUNTING DETAIL

NTS

PARKWAY SCHOOLS

WSP
WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-7741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

CLAYMONT ELEMENTARY

405 COUNTRY CLUB DRIVE
BALLWIN, MO 63011

SITE IMPROVEMENTS AND INTERIOR RENOVATION

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER
30 DECEMBER 2025

PROFESSIONAL SEAL

SHEET NAME
SITE DETAILS

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	ST
DATE:	30 DECEMBER 2025
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

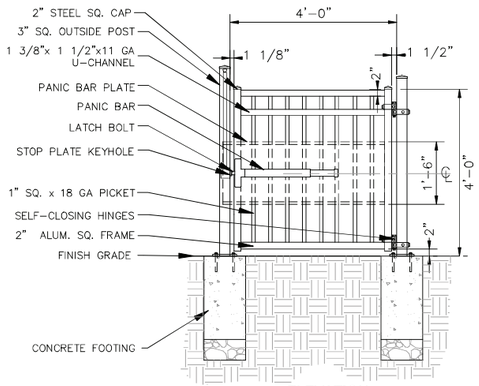
CLIENT PROJECT NUMBER: 022401B
WSP PROJECT NUMBER: 30902493.7754

SHEET NUMBER: **C5.01**

LAST EDITED: 11/20/2025 1:09 PM
FILE PATH: C:\Users\USMS719010\DOCACCD\ocs\WSP USA projects (AMER)\STL\160-30902493 - Parkway 2022 Bond - P23\Project Files\3 - CLM - 2025\Civil\022401B_CLM_CIVIL_P3.dwg

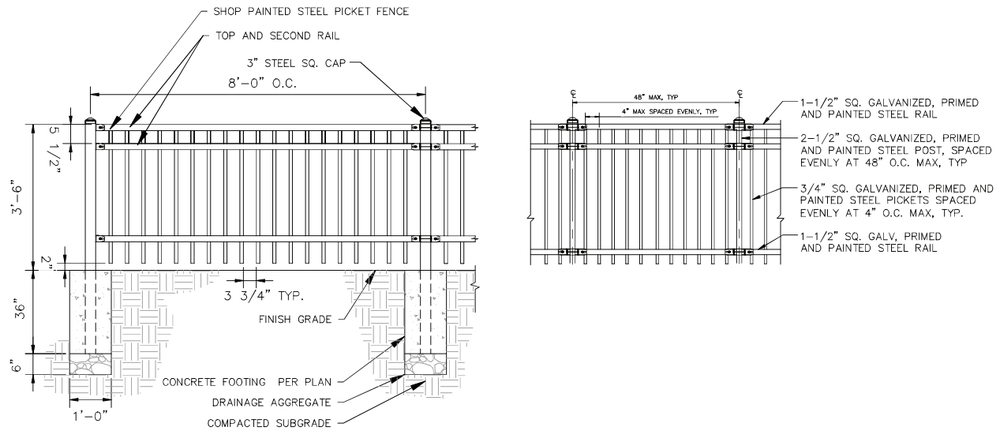
25MSD-00448 BASEMAP 21S3

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK, IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



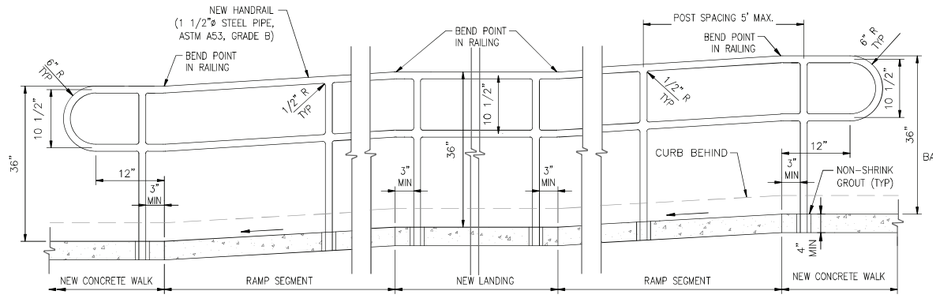
ELEVATION

DECORATIVE GATE DETAIL
NTS

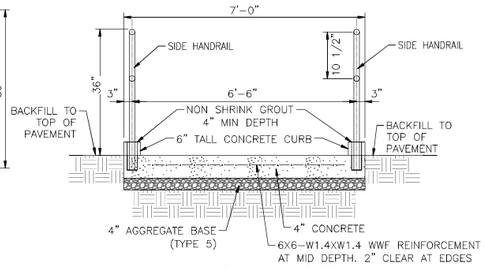


ELEVATION

DECORATIVE FENCE DETAIL
NTS

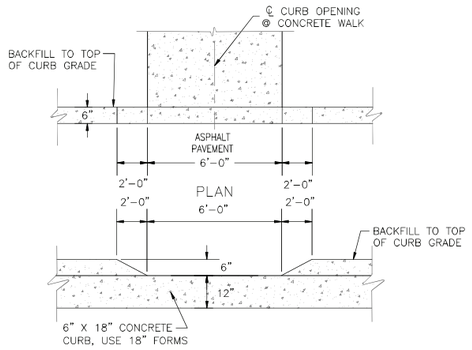


CONCRETE RAMP PROFILE



CONCRETE WALK SECTION

TYPICAL CONCRETE RAMP WITH HANDRAIL DETAILS
NTS



ELEVATION

CURB OPENING DETAIL
NTS

PARKWAY
SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-7741
wsp.com

WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

CLAYMONT ELEMENTARY

405 COUNTRY CLUB DRIVE
BALLWIN, MO 63011

SITE IMPROVEMENTS AND INTERIOR RENOVATION

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER

30 DECEMBER 2025

PROFESSIONAL SEAL

SHEET NAME
SITE DETAILS

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	ST
DATE:	30 DECEMBER 2025
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

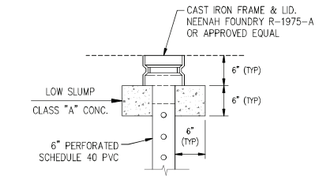
CLIENT PROJECT NUMBER: 022401B
WSP PROJECT NUMBER: 30902493.7754

SHEET NUMBER: **C5.02**

LAST EDITED: 11/20/2025 1:09 PM
FILE PATH: C:\Users\MSM5190100\DCACDocs\WSP USA projects (AMER)\STL-100-30902493 - Parkway 2022 Bond - P23\Project Files\3 - CLM - 2025\ca#022401B_CLM_CIVIL_IFR.dwg

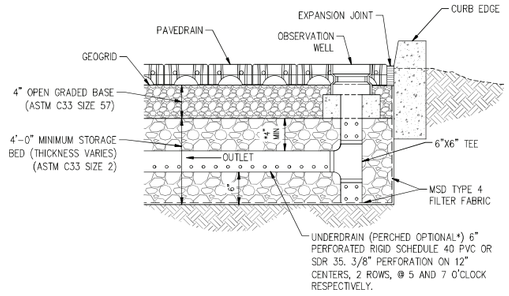
25MSD-00448 BASEMAP 21S3

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTI ENGINEER'S WORK, IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



PICP OBSERVATION WELL DETAIL

NTS



* ADDITIONAL UNDERDRAINS MAY BE PERCHED ABOVE THE REQUIRED STORAGE ELEVATION AND WITHIN THE STORAGE BED IN ORDER TO PROTECT THE PAVER BLOCKS.

PERMEABLE INTERLOCKING CONCRETE PAVEMENT

NTS

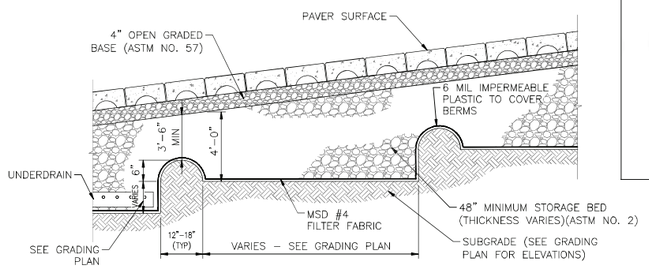
PERMEABLE INTERLOCKING CONCRETE PAVEMENT NOTES

1. THE CONTRACTOR SHALL OBTAIN THE CONCRETE PAVER MANUFACTURER'S CERTIFICATION THAT THE PAVING UNITS SUPPLIED TO CONSTRUCT THE PICP HAVE BEEN APPROVED BY MSD AND MEET THE REQUIREMENTS IN ASTM C936. THIS CERTIFICATION SHALL BE PROVIDED TO THE MSD DIVISION INSPECTOR. THE CERTIFICATION SHALL INCLUDE THE MANUFACTURER'S NAME, AND STATE THAT THE PICP SUPPLIED MEETS THE ASTM C936 SPECIFICATIONS, (TESTING SHOULD BE CURRENT WITHIN PREVIOUS 12 MONTHS) AND THAT THE PAVING MATERIALS MEET ALL REQUIREMENTS AS EVALUATED UNDER THE MANUFACTURER'S QUALITY CONTROL PROGRAM.
2. PRIOR TO OBTAINING A CONSTRUCTION PERMIT FROM MSD TO CONSTRUCT THE PERMEABLE INTERLOCKING CONCRETE PAVEMENT (PICP) FOR A GIVEN PROJECT, THE ENGINEER PROVIDING THE AS-BUILT CERTIFICATION SHALL VERIFY THAT THE INSTALLING CONTRACTOR HAS:

a. PAST HISTORY DEMONSTRATING APPLICABLE EXPERIENCE.

b. THE PICP INSTALLATION CONTRACTOR MUST HAVE A CURRENT LEVEL 1 CERTIFICATE FROM THE INTERLOCKING CONCRETE PAVEMENT INSTITUTE'S CONCRETE PAVER INSTALLER PROGRAM.

3. THE CONTRACTOR SHALL PREVENT AND DIVERT SEDIMENT FROM ENTERING THE SUBBASE AND PAVEMENT SURFACE UNTIL THE TRIBUTARY AREAS ARE DEEMED STABLE BY THE ASSIGNED MSD INSPECTOR.
4. VEHICULAR TRAFFIC SHALL BE PROHIBITED ON THE PICP UNTIL THE SITE IS STABLE TO PREVENT MUD FROM BEING DEPOSITED BY VEHICLES.
5. NO PRODUCT OR MATERIAL SUBSTITUTIONS ARE PERMITTED UNLESS PREVIOUSLY APPROVED BY THE MSD PLAN REVIEW ENGINEER OR BY THE MSD FIELD INSPECTOR ASSIGNED TO THE PROJECT. ALL SUBSTITUTIONS SHALL BE PRESENTED TO MSD THROUGH THE ENGINEER RESPONSIBLE FOR THE DESIGN OF THE PICP SYSTEM.
6. STONE SHOULD BE CLEAN, WASHED, 90 PERCENT FRACTURED FACES WITH A LOS ANGELES ABRASION INDEX OF LESS THAN 40 AND CONFORM TO THE GRADING REQUIREMENTS IN ASTM D448.
7. DO NOT CLEAN THE PAVER SURFACE WITH HIGH-PRESSURE HOSES OR ABRASIVES. WHEN CLEANING IS NECESSARY, COMBINATION CLEANING MACHINES THAT COMBINE A WET SPRAY AND VACUUM PROCESS HAVE BEEN FOUND TO BE EFFECTIVE.
8. A PERMANENT SIGN SHALL BE POSTED WARNING THAT CARE SHOULD BE TAKEN DURING SNOW PLOWING; AND PROHIBIT THE FOLLOWING: RESURFACING, THE USE OF SAND ABRASIVES FOR WINTER TIRE TRACTION, AND THE USE OF POWER WASHERS.
9. INFILTRATION BED: TO PREVENT CONSTRUCTION SEDIMENT FROM CLOGGING INFILTRATION BED, AT NO TIME MAY CONSTRUCTION SEDIMENT ENTER THESE FACILITIES. ADDITIONALLY, THESE FACILITIES SHALL NOT BE CONSTRUCTED UNTIL ALL SURRDUNDING AREA THAT DRAINS TO THEM IS FULLY STABLE/ESTABLISHED.
10. AT COMPLETION OF THE PROJECT, PRIOR TO FINAL DEDICATION, AN AS-BUILT CERTIFICATION, SIGNED AND SEALED BY A MISSOURI PROFESSIONAL ENGINEER, SHALL BE PROVIDED.



TYPICAL STEP SUBGRADE GRADING

NTS

SHOP DRAWING REVIEW NOTE

ENGINEER APPROVED SHOP DRAWINGS MUST BE SUBMITTED TO MSD PRIOR TO CONSTRUCTION OF THIS STRUCTURE. MSD CONTACT: BRIAN DUNN (314) 335-2072.

PERVIOUS PAVEMENT AS-BUILT CERTIFICATION

DATE:_____

To: Metropolitan St. Louis Sewer District
Department of Engineering
Attn: Brian Dunn

From: _____ (Consultant Engineer's Name)
Title: _____

Consulting Engineer Company Name & Address

_____
_____
_____

Re: Engineering/Construction Certification for the following project:

MSD Project Name: _____
MSD P#: _____
Project Address: _____
_____
_____

For the project's pervious pavement practice, this correspondence shall serve as a certification of the following:

1. The Pervious Pavement was built in accordance with the details, dimensions, and materials as approved by MSD for this project.
2. The Pervious Pavement was installed by a qualified contractor, and has satisfied all applicable quality control and performance tests.
3. The Pervious Pavement installation was witnessed periodically by the certifying engineer or a representative under their direct supervison.

(P.E. seal with signature and date)

Printed Name: _____
Discipline: _____
License No: _____

PERVIOUS INTERLOCKING CONCRETE PAVEMENT

POWER WASHING, RESURFACING, AND THE USE OF SAND ABRASIVES FOR WINTER TIRE TRACKING ARE PROHIBITED.

CARE SHALL BE TAKEN DURING SNOW PLOWING.

PICP INFORMATION SIGN
(NOT TO SCALE)

NOTES

1. STANDARD 18"x12"x0.080" ALUMINUM SIGN FACE WITH BLACK TEXT ON WHITE BACKGROUND GALVANIZED STEEL POST 9'-6" LONG.
2. SET BOTTOM OF SIGN 5'-0" ABOVE GRADE.
3. SET BOTTOM OF POST 3'-0" BELOW GRADE.

METROPOLITAN ST. LOUIS SEWER DISTRICT DETAIL LIBRARY	CATAGORY: PAVEMENT
DESCRIPTION: PERVIOUS INTERLOCKING CONCRETE PAVEMENT INFORMATION SIGN	TITLE: PICP INFORMATION SIGN
	DRAWN BY: JTF

LAST EDITED: 11/20/2025 1:09 PM
FILE PATH: C:\Users\MS871901\DOCS\DocsWSP USA projects (AMER)\ST. LOUIS\30902493 - Parkway 2022 Bond - P23\Project Files\J - CLM - 2025\Civil\022401B_CLM_CIVIL_IFR.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK, IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com

WSP USA Design, Inc.,
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

CLAYMONT ELEMENTARY

405 COUNTRY CLUB DRIVE
BALLWIN, MO 63011

SITE IMPROVEMENTS AND INTERIOR RENOVATION

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER

30 DECEMBER 2025

PROFESSIONAL SEAL

SHEET NAME
BMP DETAILS

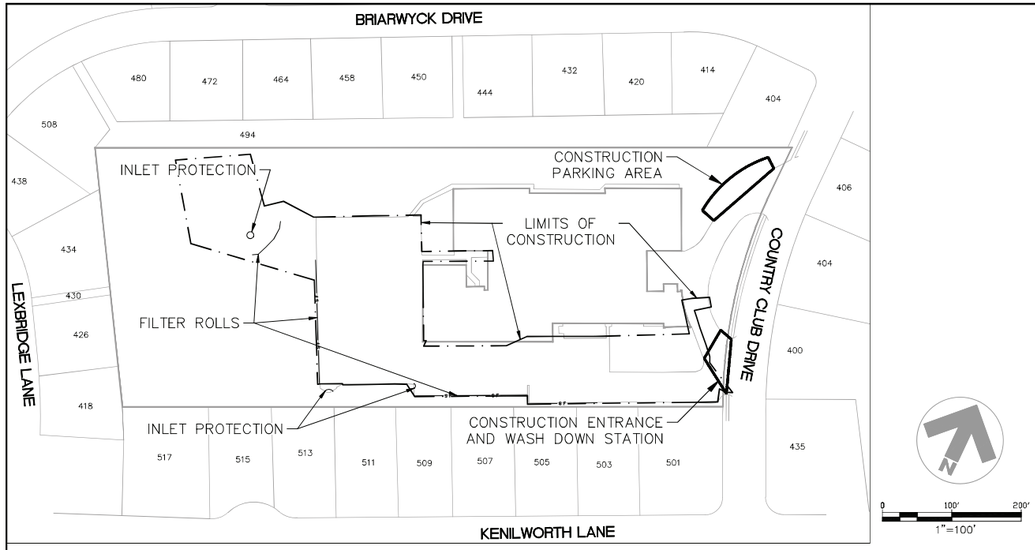
DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	ST
DATE:	30 DECEMBER 2025
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 022401B
WSP PROJECT NUMBER: 30902493.7754

SHEET NUMBER: **C5.03**

25MSD-00448 BASEMAP 21S3



SITE OWNER INFORMATION

PARKWAY SCHOOL DISTRICT
RALPH KNESE
363 N WOODS MILL RD.
CHESTERFIELD, MO 63017
(314) 415-8268

BMP QUANTITY TABLE

TEMPORARY CONSTRUCTION ENTRANCE	1	EACH
TEMPORARY WASHDOWN STATION	1	EACH
TEMPORARY INLET PROTECTION	4	EACH
TEMPORARY FILTER ROLLS	600	LF
PERMANENT SOD	200	SY

OVERALL WORK SCHEDULE

START DATE: 05/20/2026
EXPECTED COMPLETION: 09/20/2026

CONSTRUCTION PARKING

CONSTRUCTION PARKING TO BE LOCATED ON EXISTING ASPHALT PARKING AREA WITHIN THE SITE..

BMP SEQUENCE

1. INSTALL WASHDOWN STATION.
2. INSTALL SILT FENCE/FILTER ROLL.
3. REMOVE SILT FENCE/FILTER ROLL.
4. REMOVE WASHDOWN STATION.

GENERAL NOTES

1. EROSION AND SILTATION CONTROL SHALL BE INSTALLED PRIOR TO ANY GRADING AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ADEQUATE VEGETATIVE GROWTH INSURES NO FURTHER EROSION OF THE SOIL AND WORK IS ACCEPTABLE TO THE OWNER AND CONTROLLING REGULATORY AGENCY.
2. AT LEAST ONCE EVERY WEEK AND AFTER EVERY RAINFALL EVENT OF 0.25 INCHES OR MORE, EROSION AND SILTATION CONTROL DEVICES SHALL BE INSPECTED FOR DAMAGE AND AMOUNT OF SEDIMENTATION ACCUMULATED AND CORRECTIVE ACTION TAKEN. REPORTS OF THESE INSPECTIONS AND CORRECTIVE ACTIONS SHALL BE PREPARED ON THE FORMS PROVIDED BY THE CITY AND SUBMITTED TO THE DEPARTMENT OF PUBLIC WORKS WITHIN 5 DAYS OF THE DATE OF THE INSPECTION.
3. TEMPORARY SILTATION CONTROL MEASURES (STRUCTURAL) SHALL BE MAINTAINED UNTIL VEGETATIVE COVER IS ESTABLISHED AT A SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL ON THE SITE.
4. WHERE NATURAL VEGETATION IS REMOVED DURING GRADING, VEGETATION SHALL BE REESTABLISHED AS SOON AS POSSIBLE IN SUCH A DENSITY AS TO PREVENT EROSION.
5. WHEN GRADING OPERATIONS ARE COMPLETED OR WILL BE SUSPENDED FOR MORE THAN 5 DAYS IN ANY AREA, THE DISTURBED AREA SHALL BE SEEDED OR OTHERWISE STABILIZED TO SIGNIFICANTLY REDUCE THE ERODIBILITY OF THE SOIL. PROTECTIVE MEASURES MAY INCLUDE A COMBINATION OF SEEDING, SODDING, MULCHING OR OTHER SUITABLE MEANS TO PROTECT THE GROUND SURFACE FROM EROSION.
6. IF CUT AND FILL OPERATIONS OCCUR DURING A SEASON NOT FAVORABLE FOR IMMEDIATE ESTABLISHMENT OF PERMANENT GROUND COVER, A FAST GERMINATING ANNUAL SUCH AS RYE GRASSES OR SUDAN GRASSES SHALL BE UTILIZED TO RETARD EROSION, IF ADEQUATE STORM WATER DETENTION AND EROSION CONTROL DEVICES HAVE NOT BEEN ESTABLISHED.
7. ALL FINISHED GRADES (AREAS NOT TO BE DISTURBED BY FUTURE IMPROVEMENT) IN EXCESS OF 20% SLOPES (5:1) SHALL BE MULCHED AND TACKED AT A RATE OF 100 POUNDS PER 1,000 SQUARE FEET WHEN SEEDED AS SOON AS POSSIBLE AFTER FINAL PLACEMENT.
8. STORM WATER PIPES, OUTLETS AND CHANNELS SHALL BE PROTECTED BY SILT BARRIERS AND KEPT FREE OF WASTE AND SILT AT ALL TIMES PRIOR TO FINAL SURFACE STABILIZATION AND / OR PAVING.
9. REFER TO SHEET C5.01 FOR ADDITIONAL SWPPP PLAN DETAILS.

NON-SEDIMENT POLLUTION CONTROL

PHYSICAL DESCRIPTION:
CONTROL MEASURES DESIGNED TO PROHIBIT CHEMICALS, HAZARDOUS MATERIALS, SOLID WASTE AND CONSTRUCTION DEBRIS FROM POLLUTING STORMWATER. POLLUTANTS CARRIED IN SOLUTION OR AS SURFACE FILMS ON RUNOFF WILL BE CARRIED THROUGH MOST EROSION CONTROL AND SEDIMENT CAPTURE BMP'S. KEEPING SUBSTANCES LIKE FUEL, OIL, ASPHALT, PAINT, FERTILIZER, SOIL ADDITIVES, CONCRETE WASH WATER, SOLID WASTE AND CONSTRUCTION DEBRIS FROM POLLUTING RUNOFF CAN BE ACCOMPLISHED TO A LARGE EXTENT THROUGH GOOD HOUSEKEEPING ON THE SITE AND FOLLOWING THE MANUFACTURE'S RECOMMENDATIONS FOR DISPOSAL.

WHERE BMP IS TO BE INSTALLED:
COLLECTION, STORAGE AND FUELING AREAS SHOULD BE LOCATED ONSITE IN AN AREA THAT DOES NOT RECEIVE A SUBSTANTIAL AMOUNT OF RUNOFF FROM UPLAND AREAS AND DOES NOT DRAIN DIRECTLY TO LAKES, CREEKS, STREAMS, RIVERS, SEWERS, GROUNDWATER, WETLANDS, OR ROAD DITCHES. TEMPORARY SANITARY FACILITIES WILL BE PROVIDED WITHIN 500' OF EACH WORK SITE.

WHEN BMP IS TO BE INSTALLED:
IMMEDIATELY FOLLOWING INSTALLATION OF CONSTRUCTION ENTRANCES AND WASH STATIONS.

INSTALLATION / CONSTRUCTION PROCEDURES:
PLACE WASTE RECEPTACLES NEAR AREA OF WORK.
CONSTRUCT PROTECTIVE BERM OR OTHER DEVICES AROUND FUELING AND HAZARDOUS MATERIALS STORAGE AREAS.
INSTALL APPROPRIATE SIGNAGE.
POST GUIDELINES FOR PROPER HANDLING, STORAGE AND DISPOSAL OF MATERIALS, AND EMERGENCY SPILL CLEANUP ON SITE.

O&M PROCEDURES:
INSPECT ACTIVITIES ON A WEEKLY BASIS.
INSPECT STORAGE AREAS AND CONTROL DEVICES AT LEAST EVERY TWO WEEKS AND AFTER EVERY STORM.
MAKE NECESSARY CORRECTIONS AND REPAIRS.

SITE CONDITIONS FOR REMOVAL:
MAINTAIN PRACTICES UNTIL ALL CONSTRUCTION ON THE SITE HAS BEEN COMPLETED.

TYPICAL DETAILS:
GENERAL POLLUTION PREVENTION NOTES ATTACHED.

POLLUTION PREVENTION PROCEDURES

1. HANDLING AND DISPOSAL OF HAZARDOUS MATERIALS

   DO: PREVENT SPILLS.
   USE PRODUCTS UP.
   FOLLOW LABEL DIRECTIONS FOR DISPOSAL.
   REMOVE LIDS FROM EMPTY BOTTLES AND CANS WHEN DISPOSING IN TRASH.
   RECYCLE WASTES WHENEVER POSSIBLE.

   DON'T: DON'T POUR WASTE INTO SEWERS, WATERWAYS OR ON THE GROUND.
   DON'T POUR WASTE DOWN SINK, FLOOR DRAIN OR SEPTIC TANKS.
   DON'T BURY CHEMICALS OR CONTAINERS, OR DISPOSE OF THEM WITH CONSTRUCTION DEBRIS.
   DON'T MIX CHEMICALS TOGETHER.

2. CONTAINERS SHALL BE PROVIDED FOR COLLECTION OF ALL WASTE MATERIAL INCLUDING CONSTRUCTION DEBRIS, TRASH, PETROLEUM PRODUCTS AND ANY HAZARDOUS MATERIALS TO BE USED ONSITE. ALL WASTE MATERIAL SHALL BE DISPOSED OF AT FACILITIES APPROVED FOR THAT MATERIAL.
3. NO WASTE MATERIAL SHALL BE BURIED ON-SITE.
4. MIXING, PUMPING, TRANSFERRING OR OTHERWISE HANDLING CONSTRUCTION CHEMICALS SUCH AS FERTILIZER, LIME, ASPHALT, CONCRETE DRYING COMPOUNDS, AND ALL OTHER POTENTIALLY HAZARDOUS MATERIALS SHALL BE PERFORMED IN AN AREA AWAY FROM ANY WATERCOURSE, DITCH OR STORM DRAIN.
5. EQUIPMENT FUELING AND MAINTENANCE, OIL CHANGING, ETC., SHALL BE PREFORMED ONLY IN AN AREA DESIGNATED FOR THAT PURPOSE. THE DESIGNATED AREA IS EQUIPPED FOR RECYCLING OIL AND CATCHING SPILLS.
6. CONCRETE WASH WATER SHALL NOT BE ALLOWED TO FLOW DIRECTLY TO STORM SEWERS, STREAMS, DITCHES, LAKES, ETC. WITHOUT BEING TREATED. A SUMP OR PIT SHALL BE CONSTRUCTED TO CONTAIN CONCRETE WASH WATER.
7. IF SUBSTANCES SUCH AS OIL, DIESEL FUEL, HYDRAULIC FLUID, ANTIFREEZE, ETC. ARE SPILLED, LEAKED, OR RELEASED ONTO SOIL, THE SOIL SHALL BE DUG UP AND DISPOSED AT A LICENSED SANITARY LANDFILL (NOT A CONSTRUCTION / DEMOLITION DEBRIS LANDFILL). SPILLS ON PAVEMENT SHALL BE ABSORBED WITH SAWDUST, KITTY LITTER OR PRODUCT DESIGNED FOR THAT PURPOSE AND DISPOSED OF AT A LICENSED SANITARY LANDFILL. HAZARDOUS OR INDUSTRIAL WASTES SUCH AS MOST SOLVENTS, GASOLINE, OIL-BASED PAINTS, AND CEMENT CURING COMPOUNDS REQUIRE SPECIAL HANDLING. THESES MATERIALS WILL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH MODNR REQUIREMENTS.
8. STATE LAW REQUIRES THE PARTY RESPONSIBLE FOR PETROLEUM PRODUCT SPILL IN EXCESS OF 50 GALLONS TO REPORT THE SPILL TO MODNR (537-634-2436) AS SOON AS PRACTICAL AFTER DISCOVERY. FEDERAL LAW REQUIRES THE RESPONSIBLE PARTY TO REPORT ANY RELEASE OF OIL IF IT REACHES OR THREATENS A SEWER, LAKE, CREEK, STREAM, RIVER, GROUNDWATER, WETLAND, OR AREA, LIKE A ROAD DITCH, THAT DRAINS INTO ONE OF THE ABOVE.

BMP SEQUENCE

1. INSTALL WASHDOWN STATION.
2. INSTALL FILTER ROLL.
3. REMOVE FILTER ROLL.
4. REMOVE WASHDOWN STATION.

OVERALL WORK SEQUENCING

SITE CLEARING	DURATION: 5 DAYS
ROUGH GRADING	DURATION: 3 DAYS
CONSTRUCTION OF IMPROVEMENTS	DURATION: 60 DAYS
FINAL GRADING	DURATION: 3 DAYS
LANDSCAPING	DURATION: 3 DAYS

FILTER ROLLS / FILTER SOCKS

WHERE BMP IS TO BE INSTALLED:
AS INDICATED ON DESIGN PLANS.

WHEN BMP IS TO BE INSTALLED:
PRIOR TO EXPOSING ANY SOIL ON SITE.

INSTALLATION / CONSTRUCTION PROCEDURES:
FOLLOW THE MANUFACTURES INSTRUCTIONS AND RECOMMENDATIONS FOR THE SIZING, INSTALLATION AND MAINTENANCE OF ALL FILTER ROLLS OR FILTER SOCKS.

O&M PROCEDURES:
FOLLOW THE MANUFACTURES INSTRUCTIONS AND RECOMMENDATIONS FOR THE SIZING, INSTALLATION AND MAINTENANCE OF ALL FILTER ROLLS OR FILTER SOCKS.

SITE CONDITIONS FOR REMOVAL:
REMOVE WHEN GENERAL NOTE 1 (ABOVE) IS MET.

CONSTRUCTION PARKING

CONSTRUCTION PARKING TO BE LOCATED ON EXISTING ASPHALT PARKING LOT.

HAUL ROUTE INFORMATION

1. MATERIAL IS BEING HAULED FROM, (FORTHCOMING) .
2. THE HAUL ROUTE IS (FORTHCOMING) .
3. HAULING WILL BE DURING THE HOURS OF 8:40 A.M. AND 2:30 P.M.

SEDIMENT HANDLING

SEDIMENT REMOVED DURING THE MAINTENANCE OF BMP'S SHOULD BE HANDLED AND DISPOSED OF IN ACCORDANCE WITH THE APPROVED SWPPP PROCEDURES FOR EXCAVATION.

LOSS OF SEDIMENT OFFSITE

SEDIMENT LOST OFFSITE SHALL BE IMMEDIATELY RECLAIMED AND REPLACED. THE BMP SHALL BE INSPECTED BY ENGINEER AND A REPAIR PLAN MADE TO PREVENT FUTURE FAILURE.

WASHDOWN STATION

PHYSICAL DESCRIPTION:
AN AREA LOCATED AT CONSTRUCTION ENTRANCES DESIGNED TO WASH SEDIMENT FROM THE TIRES AND UNDERCARRIAGE OF EXITING VEHICLES AND PREVENT SEDIMENT FROM BEING TRACKED ONTO EXISTING ROADWAYS.

WHERE BMP IS TO BE INSTALLED:
ACROSS OR IMMEDIATELY ADJACENT TO EXIT PATHS FROM UNPAVED CONSTRUCTION SITES.

CONDITIONS FOR EFFECTIVE USE OF BMP:
DRAINAGE: DOWNSTREAM BMP SIZED TO TREAT DIRTY RUNOFF FROM WASHDOWN STATION.

WHEN BMP IS TO BE INSTALLED:
FIRST ORDER OF WORK, ALONG WITH CONSTRUCTION ENTRANCE, PRIOR TO VEHICLES OR EQUIPMENT ACCESSING UNPAVED AREAS.

INSTALLATION / CONSTRUCTION PROCEDURES:
GRADE AND COMPACT AREA FOR DRAINAGE UNDER WASHDOWN PAD.
INSTALL STEEL-RIBBED PLATE ON FRAME OR OTHER SUPPORT TO ALLOW A 2" DRAIN SPACE.
GRADE AND VEGETATE DOWNSTREAM BMP.
INSTALL WATER SUPPLY AND HOSE.
POST SIGN IN ADVANCE OF STATION INDICATING THAT ALL EXITING VEHICLES AND EQUIPMENT MUST USE STATION PRIOR TO EXITING SITE.

O&M PROCEDURES:
REMOVE SEDIMENT DAILY.
REPAIR SETTLED AREAS.
REPLACE ROCK IF NECESSARY TO MAINTAIN CLEAN SURFACE.

SITE CONDITIONS FOR REMOVAL:
REMOVE WHEN VEHICLES AND EQUIPMENT WILL NO LONGER ACCESS UNPAVED AREAS.

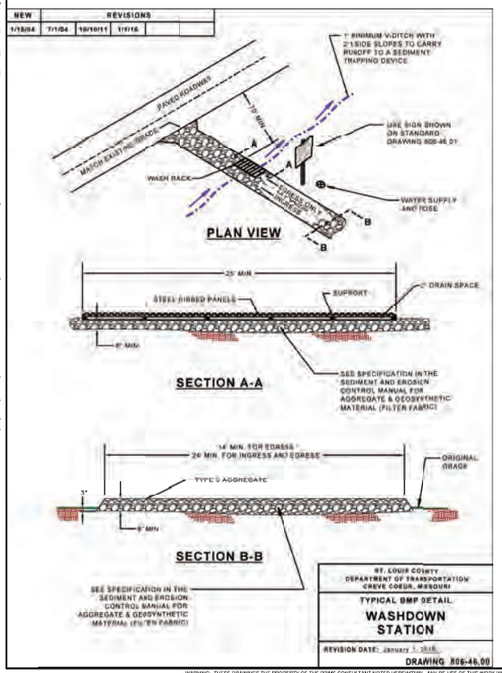
SOIL PREPARATION AND REVEGATATION

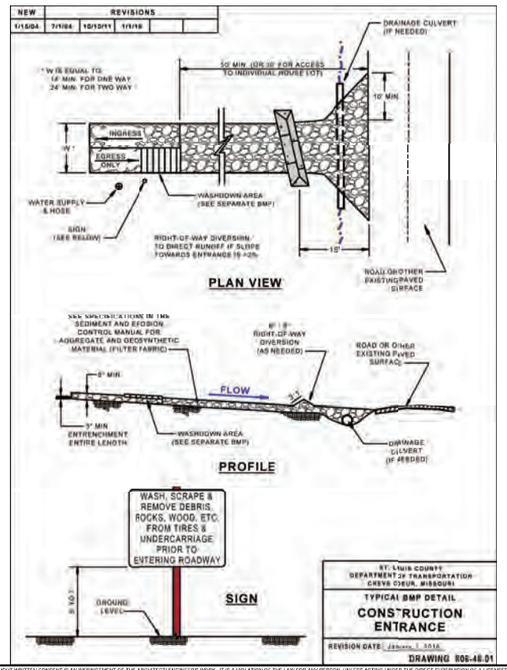
1. REMOVE DEBRIS, ROOTS, BRANCHES, STONE, IN EXCESS OF 1 INCH IN SIZE. REMOVE SOIL CONTAMINATED WITH PETROLEUM PRODUCTS.
2. WHERE TOPSOIL IS TO BE PLACED, SCARIFY SURFACE TO DEPTH OF 3 INCHES.
3. IN AREAS WHERE VEHICLES OR EQUIPMENT HAVE COMPACTED SOIL, SCARIFY SURFACE TO DEPTH OF 6 INCHES.
4. PLACE TOPSOIL IN AREAS WHERE SODDING AND PLANTING ARE INDICATED.
5. PLACE TOPSOIL WHERE REQUIRED TO LEVEL FINISH GRADE.
6. PLACE TOPSOIL DURING DRY WEATHER.
7. REMOVE ROOTS, WEEDS, ROCKS, AND FOREIGN MATERIAL WHILE SPREADING.
8. FINE GRADE TOPSOIL TO ELIMINATE UNEVEN AREAS AND LOW SPOTS. MAINTAIN PROFILES AND CONTOUR OF SUBGRADE.
9. ROLL PLACED TOPSOIL.
10. MOISTEN PREPARED SURFACE IMMEDIATELY PRIOR TO LAYING SOD.
11. LAY SOD WITHIN 24 HOURS AFTER HARVESTING TO PREVENT DETERIORATION.
12. LAY SOD SMOOTH AND TIGHT WITH NO OPEN JOINTS VISIBLE, AND NO OVERLAPPING; STAGGER END JOINTS 12 INCHES MINIMUM.
13. WHERE NEW SOD ADJOINS EXISTING GRASS AREAS, ALIGN TOP SURFACES.
14. WHERE SOD IS PLACED ADJACENT TO HARD SURFACES, SUCH AS CURBS, PAVEMENTS, ETC., PLACE TOP ELEVATION OF SOD 1/2 INCH BELOW TOP OF HARD SURFACE.
15. WATER SODDED AREAS IMMEDIATELY AFTER INSTALLATION. SATURATE SOD TO 4 INCHES OF SOIL.
16. AFTER SOD AND SOIL HAVE DRIED, ROLL SODDED AREAS TO ENSURE GOOD BOND BETWEEN SOD AND SOIL AND TO REMOVE MINOR DEPRESSIONS AND IRREGULARITIES.

THE PROPERTY OWNER / DEVELOPER HEREBY CERTIFIES THAT HE IS FAMILIAR WITH THE SWPPP AND ASSUMES FULL RESPONSIBILITY FOR THE PERFORMANCE AND MAINTENANCE OF THE SWPPP AS STATED ON THE APPROVED PLANS. HE WILL ENSURE THAT ALL CONTRACTORS UNDERSTAND AND ARE FAMILIAR WITH THE SWPPP FOR THE SITE AND THAT EACH CONTRACTOR AGREES TO IMPLEMENT AND PROTECT ELEMENTS OF THE SWPPP AS THEY RELATE TO HIS WORK. THE PROPERTY OWNER'S / DEVELOPER'S ONSITE REPRESENTATIVE SHALL BE RESPONSIBLE FOR THE PERFORMANCE AND MAINTENANCE OF THE SWPPP. IN ADDITION, THE UNDERSIGNED OWNER / DEVELOPER ASSURES THAT ALL CITY PROPERTY OR ROADS WILL BE ADEQUATELY PROTECTED.

OWNER'S / DEVELOPER'S CONTACT PERSON AND PHONE # : James Swingle (314) 415-8231

EMERGENCY CONTACT AND PHONE # : Matt Jenne (314) 393-6603





WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314-206-4444
Fax: +1 314-421-1741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

CLAYMONT ELEMENTARY

405 COUNTRY CLUB DRIVE
BALLWIN, MO 63011

SITE IMPROVEMENTS AND INTERIOR RENOVATION

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2012009101
PROFESSIONAL ENGINEER
30 DECEMBER 2025

PROFESSIONAL SEAL

SHEET NAME
SWPP PLAN

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	ST
DATE:	30 DECEMBER 2025
SCALE:	

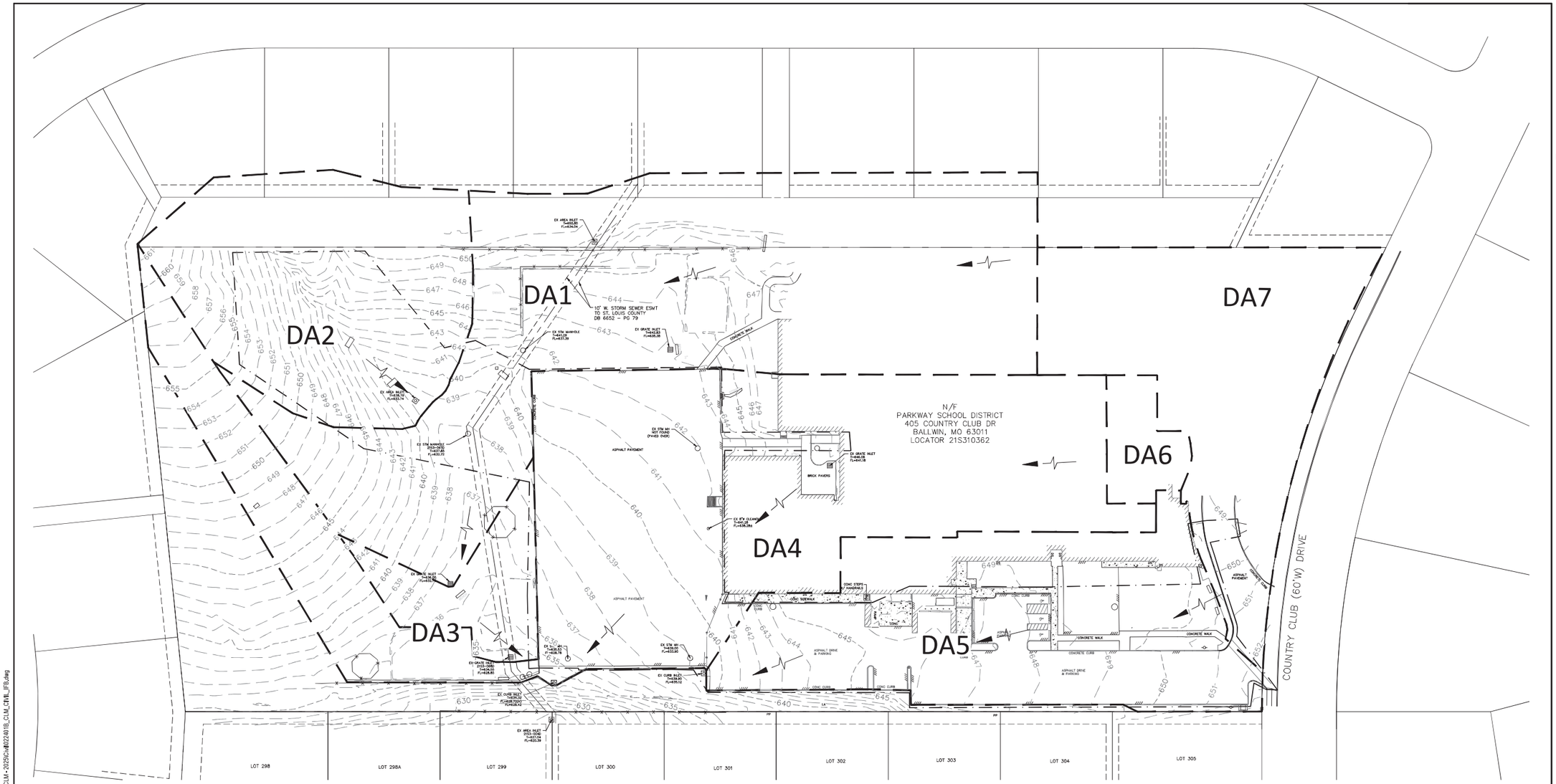
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 022401B
WSP PROJECT NUMBER: 30902493.7754

SHEET NUMBER: **C6.01**

LAST EDITED: 11/20/2025 1:09 PM
FILE PATH: C:\Users\MS7191\DOCAC\Docs\WSP USA projects (AMER)\STL\00-30902493 - Parkway 2022 Bond - P23\Project Files\3 - CIM - 2025\CIM022401B_CIM_CIVIL_LFB.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITH. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER ANY ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



Drainage Area Table / Runoff Calculations

Drainage Area	Discharge Point	Land Use	15-yr/20-min PI Factor	Pre-Development DA (acres)	Pre-Dev. Runoff (cfs)	Post-Development DA (acres)	Post-Dev. Runoff (cfs)	Differential Runoff (cfs)
DA1		Pavement	3.54	0.132	0.467	0.132	0.467	0.000
		Building	3.77	0.188	0.709	0.188	0.709	0.000
		Playground	2.39	0.068	0.163	0.068	0.163	0.000
		Grass	1.70	1.568	2.666	1.568	2.666	0.000
		Subtotal	**1.956**	**4.004**	**1.956**	**4.004**	**0.000**	
DA2		Grass	1.70	0.967	1.644	0.967	1.644	0.000
		Subtotal	**0.967**	**1.644**	**0.967**	**1.644**	**0.000**	
DA3		Playground	2.39	0.055	0.131	0.055	0.131	0.000
		Grass	1.70	0.177	0.301	0.177	0.301	0.000
		Subtotal	**0.232**	**0.432**	**0.232**	**0.432**	**0.000**	
DA4		Pavement	3.54	0.867	3.069	0.867	3.069	0.000
		Building	3.77	0.913	3.442	0.913	3.442	0.000
		Playground	2.39	0.060	0.142	0.060	0.142	0.000
		Grass	1.70	0.520	0.884	0.520	0.884	0.000
		Subtotal	**2.360**	**7.539**	**2.360**	**7.539**	**0.000**	
DA5		Pavement	3.54	1.040	3.682	1.040	3.682	0.000
		Building	3.77	0.234	0.882	0.234	0.882	0.000
		Playground	2.39	0.081	0.194	0.081	0.194	0.000
		Grass	1.70	0.095	0.162	0.095	0.162	0.000
		Subtotal	**1.450**	**4.919**	**1.450**	**4.919**	**0.000**	
DA6		Pavement	3.54	0.057	0.202	0.057	0.202	0.000
		Building	3.77	0.066	0.249	0.066	0.249	0.000
		Subtotal	**0.123**	**0.451**	**0.123**	**0.451**	**0.000**	
DA7		Pavement	3.54	0.419	1.483	0.419	1.483	0.000
		Building	3.77	0.141	0.532	0.141	0.532	0.000
		Grass	1.70	0.460	0.782	0.460	0.782	0.000
		Subtotal	**1.020**	**2.797**	**1.020**	**2.797**	**0.000**	
		Total	**5.515**	**13.619**	**5.515**	**13.619**	**0.000**	

25MSD–00448 BASEMAP 21S3

0 40' 80'
1"=40'

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-7741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

CLAYMONT ELEMENTARY

405 COUNTRY CLUB DRIVE
BALLWIN, MO 63011
SITE IMPROVEMENTS AND INTERIOR RENOVATION

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER
PE-2021009101
PROFESSIONAL ENGINEER
30 DECEMBER 2025

PROFESSIONAL SEAL

SHEET NAME
DRAINAGE AREA MAP

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	ST
DATE:	30 DECEMBER 2025
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 022401B
WSP PROJECT NUMBER: 30902493.7754

SHEET NUMBER: **C7.01**

LAST EDITED: 11/20/2025 1:09 PM
FILE PATH: C:\Users\USMS7190\WDC\ACCDocs\WSP USA projects (AMER)\ST L\30-30902493 - Parkway 2022 Bond - R23\Project Files\1 - CLM - 20250ct\022401B_CLM_CIVIL_LPS.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK, IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

EXHIBIT-D

ROSS ELEMENTARY

BMP ORIGINAL PROJECT INFORMATION

ROSS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT

1150 Ross Avenue
St. Louis, Missouri 63146
Parkway School District Project No. 061601B
Project No: 14-006.17
Issue Date: 12.01.2016

PARKWAY SCHOOLS

GENERAL NOTES

1. CONTRACTOR SHALL VERIFY EXISTING FIELD CONDITIONS PRIOR TO THE START OF CONSTRUCTION AND SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT IMMEDIATELY.

2. CONTRACTOR SHALL CROSS-REFERENCE THE VARIOUS DISCIPLINES' PLANS HEREIN AND REVIEWED SHOP DRAWINGS PRIOR TO STARTING CONSTRUCTION PHASE OF CONSTRUCTION AND SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT IMMEDIATELY.

3. ONLY CONTRACT DOCUMENTS APPROVED FOR CONSTRUCTION AND REVIEWED SHOP DRAWINGS SHALL BE USED FOR CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR DISTRIBUTION OF SAID DOCUMENTS AND UPDATES TO THE FIELD FOR CONSTRUCTION.

4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL WORK WITH THESE PROJECT DOCUMENTS.

5. DIMENSIONS TO THE EXTERIOR OF THE BUILDING ARE TO THE EXTERIOR OF FOUNDATION/MASONRY UNLESS NOTED OTHERWISE.

6. DO NOT SCALE DRAWINGS.

7. THE WORD 'ALIGN' AS USED IN THESE DOCUMENTS SHALL SUPERSEDE DIMENSIONAL INFORMATION.

8. NO PRODUCTS CONTAINING ASBESTOS SHALL BE INSTALLED IN OR USED DURING THE CONSTRUCTION OF THIS PROJECT.

9. CODE COMPLIANCE – THE WORK SHALL BE GOVERNED BY ALL CURRENT APPLICABLE LOCAL, CITY, STATE AND NATIONAL CODES AND LAWS. THESE AUTHORITIES INCLUDE, BUT ARE NOT LIMITED TO THE IBC BUILDING CODE, NATIONAL ELECTRIC CODE, NATIONAL FIRE PROTECTION ASSOCIATION OR ANY OTHER AUTHORITY OR BODY HAVING JURISDICTION OVER WORK. THE SITE, PARKING LOT, AND BUILDING NEW WORK SHALL COMPLY WITH THE ADA (AMERICANS WITH DISABILITIES ACT) REGULATIONS. NOTIFY ARCHITECT OF ANY REQUIRED CHANGES TO COMPLY WITH ADA.

10. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS BEFORE BEGINNING WORK. CONTRACTOR SHALL PROTECT EXISTING UTILITIES, EXISTING EQUIPMENT AND MATERIALS FROM DAMAGE DURING CONSTRUCTION. ANY EXISTING UTILITIES, EQUIPMENT, MATERIALS AND SERVICES DAMAGED SHALL BE REPAIRED AT NO EXPENSE TO OWNER. CONTRACTOR SHALL TEMPORARILY MOVE OR TAKE EQUIPMENT OUT SERVICES AS NECESSARY TO COMPLETE WORK. SUCH SERVICES SHALL BE REPAIRED IN ACCORDANCE WITH THE SPECIFICATION.

ARCHITECTURAL SYMBOLS

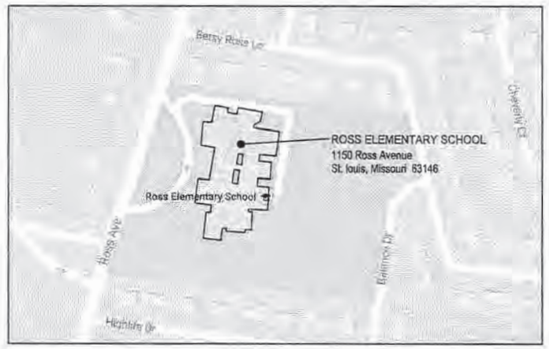
- 9 / SCALE: — FLOOR PLAN — DRAWING TITLE
- 10 / A301 — SECTION DETAIL (PLAN OR SECTION)
- 10 / A301 — BUILDING SECTION (PLAN OR ELEVATION)
- 10 / A301 — EXTERIOR ELEVATION
- 12 / A506 — DETAIL (PLAN OR SECTION)
- RNAME / RM # — ROOM NAME & NUMBER
- COL — COLUMN & GRID
- 10'-6" — RCP SOFFIT HEIGHT
- 3 / A401 / 1 — INTERIOR ELEVATIONS
- 9 — KEYED NOTE
- A — GLAZING TYPE
- P12 — PARTITION TYPE
- 1 — REVISION
- ELEVATION MARK

ARCHITECTURAL ABBREVIATIONS

ABOVE	ABV	EDGE OF SLAB	EOS	MASONRY OPENING	MO	SCHEDULE	SCHED
ABOVE FINISH FLOOR	AFF	ELECTRICAL	ELEC	MASONRY	MSRY	SECTION	SECT
ACOUSTICAL	ACT	WATER COOLER	EWC	MEDIUM DENSITY	MDF	SHEET	SHT
ALUMINUM	ALUM	ELEVATION	ELEV	FIBERBOARD		SIMILAR	SIM
AND	&	EQUAL	EQ	MECHANICAL	MECH	SOLID CORE	SC
ANGLE	∠	EQUIPMENT	EQUIP	METAL	MTL		
AT	@	EXISTING	EXIST			SPECIFICATION	SPEC
		EXPANSION JOINT	EJ	NOT IN CONTRACT	NIC	SQUARE	SQ
BLOCK	BLK			NOT TO SCALE	NTS	SQUARE FOOT	SF
BOARD	BD	FEET	FT			STAINLESS STEEL	SS
BOTTOM OF	BO	FIELD VERIFY	FV	OWNER FURNISHED	OFCI	STANDARD	STD
		FINISH GRADE	FG	CONTRACTOR INSTALLED		STEEL	STL
CEILING	CLG	FINISH FLOOR	FF	OWNER FURNISHED	OFOI	STRUCTURAL	STRUCT
CENTER LINE	℄	FIRE RETARDANT	FR	OWNER INSTALLED		SUSPENDED	SUSP
CERAMIC TILE	CT	FLOOR	FL	ON CENTER	OC		
CLEAR	CLR			OPENING	OPNG	TELEPHONE	TEL
CONCRETE	CONC	GENERAL CONTR.	GC			THICK	THK
CONC. MASONRY UNIT	CMU	GYPSUM BOARD	GYP BD	PAINTED	PTD	TOP OF	TO
CONTINOUS	CONT			PLASTIC LAMINATE	PLAM	TONGUE & GROOVE	T&G
CONTRACTOR	CONTR	HARDWOOD	HDWD	PLYWOOD	PLYWD	TYPICAL	TYP
CONTRACTOR FURNISHED	CFCI	HIGH DENSITY	HDPB	PRESSURE TREATED	PT		
CONTRACTOR INSTALLED		PARTICLE BOARD				UNFINISHED	UNF
CONTROL JOINT	CJ	HEIGHT	HT	RADIUS	RAD	UNLESS NOTED OTHERWISE	UNO
CORNER GUARD	CG	HOUR	HR	REFERENCE	REF		
				REINFORCING	REINF	VERTICAL	VERT
DETAIL	DTL	INSULATION	INSUL	REFLECTED CEILING PLAN	RCP	VESTIBULE	VEST
DIAMETER	DIA			REQUIRED	REQ'D		
DOOR	DR	JOINT	JT	ROOF DRAIN	RD	WATERPROOF	WP
DOWNSPOUT	DS			ROOM	RM	WEIGHT	WT
DRAWING	DWG	LAVATORY	LAV	ROUGH OPENING	RO	WITH	W/
						WITH OUT	W/O
						WOOD	WD

VICINITY MAP







DRAWING INDEX

A001	COVER SHEET
CIVIL	
C0	LEGEND AND GENERAL NOTES
C0.1	SURVEY
C1	DEMOLITION PLAN
C2	SITE PLAN
C2.1	SITE PLAN COORDINATES
C2.2	SIGNAGE STRIPING
C2.3	SIGN DETAILS
C3	GRADING PLAN
C4	UTILITY PLAN
C4.1	PROFILES
C5	DETAILS
C6	DETAILS
C7	DETAILS
C8	DETAILS
C9	DETAILS
LANDSCAPE	
L1	LANDSCAPE PLAN
L2	LANDSCAPE PLAN
L3	LANDSCAPE DETAILS
L4	LANDSCAPE SCHEDULE
ARCHITECTURAL	
A004	ASSET PROTECTION PLAN
A120	DEMOLITION ROOF PLAN
A130	ROOF PLAN
A131	ROOF DETAILS
ELECTRICAL	
E001	STANDARD ENGINEERING SYMBOL SHEET
E002	ST. LOUIS COUNTY SEISMIC RESTRAINT CODE BLOCKS
E010	DEMOLITION SITE PLAN ELECTRICAL
E020	SITE PLAN ELECTRICAL
E100	DEMOLITION PLANS & OVERALL FLOOR PLAN ELECTRICAL
E600	SCHEDULES ELECTRICAL
E700	DETAILS ELECTRICAL

PROJECT DIRECTORY

CIVIL ENGINEER
EDSI Engineering Design Source, Inc.
16141 Swingley Ridge Road, Suite 300
Chesterfield, Missouri 63017
Phone : (636) 537-5585
Fax : (636) 537-0275

STRUCTURAL ENGINEER
KPFF Consulting Engineers
1630 Des Peres Road, Suite 100
St. Louis, MO 63131
Phone : (314) 835-0524
Fax : (314) 835-0749

OWNER
Parkway School District
Facilities Department
363 North Woods Mill Road
Chesterfield, Missouri 63107
Phone: (314) 415-8231

ARCHITECT
TRJ ARCHITECTS
9812 Manchester Rd.
St. Louis, Missouri 63119
Phone: (314) 395-9750
Fax: (314) 395-9751

MECH, ELEC, PLUMB & FIRE PROTECTION
William Tao & Associates
7955 Manchester Road, Suite 125
St. Louis, MO 63143
Phone: (314) 884-7600
Fax: (314) 884-7601

I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411 THAT THIS DRAWING SHEET IS AUTHENTICATED BY MY SEAL.

TRJ ARCHITECTS	ARCHITECT
WILLIAM TAO & ASSOCIATES, INC.	MECHANICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC.	PLUMBING / FP ENGINEER
WILLIAM TAO & ASSOCIATES, INC.	ELECTRICAL ENGINEER
KPFF CONSULTING ENGINEERS	STRUCTURAL ENGINEER
EDSI - ENGINEERING DESIGN SOURCE	CIVIL ENGINEER
PDS - PLANNING DESIGN STUDIO	LANDSCAPE ARCHITECT

PARKWAY SCHOOLS

ROSS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 061601B
1150 Ross Avenue St. Louis, Missouri 63146

TRJ Architects of the Possible

DATE:	12.01.16
REVISIONS	
DWG. BY	TAH
PSD PROJECT NO.	061601B
PROJECT NO.	14-006.17
SHEET NO.	A001

COVER SHEET

NOTE:

WHEN THE WORD "COUNTY" IS USED ON THESE PLANS IT SHALL MEAN ST. LOUIS COUNTY, MISSOURI

WHEN THE INITIALS "MSD" ARE USED ON THESE PLAND THEY SHALL MEAN THE METROPOLITAN ST. LOUIS SEWER DIDTRICT

GENERAL NOTES:

1. UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF IMPROVEMENTS.

2. TOPOGRAPHIC SURVEY PREPARED AND FIELD DATA COLLECTED BY EDSI, INC. IN JULY AND AUGUST, 2016.

3. STORMWATER SHALL BE DISCHARGED AT AN ADEQUATE NATURAL DISCHARGE POINT. SINKHOLES ARE NOT ADEQUATE NATURAL DISCHARGE POINTS.

4. FILLED PLACES INCLUDING TRENCH BACKFILLS, UNDER BUILDINGS, SANITARY SEWER LINES, AND/OR PAVED AREAS SHALL BE COMPACTED IN ACCORDANCE WITH THE SOILS REPORT FOR THIS PROJECT, UNLESS OTHERWISE SPECIFIED.

5. TRENCH BACKFILLS UNDER PAVED AREA SHALL BE GRANULAR BACKFILL, UNLESS OTHERWISE SPECIFIED.

6. CONSTRUCTION AND MATERIALS USED SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE MSD, THE SAINT LOUIS COUNTY DEPARTMENT OF HIGHWAYS, AND THE PROJECT SPECIFICATIONS. THE MOST STRINGENT REQUIREMENTS SHALL APPLY.

7. LOCATION AND ELEVATION OF EXISTING INLETS, MANHOLES AND PIPES TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. MANHOLES AND INLET TOPS BUILT WITHOUT ELEVATIONS FURNISHED BY THE ENGINEER WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

8. EXISTING ABOVE & BELOW GROUND UTILITIES TO BE PROTECTED AND USED IN PLACE, UNLESS OTHERWISE SPECIFIED.

9. A *.DWG FILE WILL BE MADE AVAILABLE TO THE CONTRACTOR TO WHOM THE WORK IS AWARDED FOR HIS USE IN SITE LAYOUT.

10. PARKING ON NON-SURFACED AREAS IS PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVING CONDITIONS. CONTRACTOR SHALL KEEP ROAD CLEAR OF MUD AND DEBRIS.

11. THE STREETS SURROUNDING THIS DEVELOPMENT AND ANY STREET USED FOR CONSTRUCTION ACCESS SHALL BE CLEANED THROUGHOUT THE DAY.

12. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND LEGALLY DISPOSED OF OFF-SITE.

13. NOTIFY THE COUNTY DEPARTMENT OF PUBLIC WORKS 48 HOURS PRIOR TO THE COMMENCEMENT OF GRADING AND/OR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

14. EROSION AND SILTATION CONTROL DEVICES SHALL BE INSTALLED BY THE CONTRACTOR PRIOR TO ANY GRADING AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY THE OWNER AND/OR CONTROLLING REGULATORY AGENCY (AHJ) AND ADEQUATE VEGETATIVE GROWTH INSURES NO FURTHER EROSION OF THE SOIL. ADDITIONAL SILTATION CONTROL DEVICES MAY BE REQUIRED AS DIRECTED BY THE COUNTY.

15. WHEN CLEARING AND/OR GRADING OPERATIONS ARE COMPLETED OR SUSPENDED FOR MORE THAN 30 DAYS, ALL NECESSARY PRECAUTIONS SHALL BE TAKEN TO RETAIN SOIL MATERIALS ON SITE. PROTECTIVE MEASURES MAY BE REQUIRED BY THE DIRECTOR OF PUBLIC WORKS SUCH AS SODDING, TEMPORARY SEEDING, PERIODIC WETTING, MULCHING, OR OTHER SUITABLE MEANS.

16. SILTATION DEVICES SHALL BE INSPECTED PERIODICALLY FOR DAMAGE AND FOR THE AMOUNT OF SEDIMENT WHICH HAS ACCUMULATED. REMOVAL OF SEDIMENT WILL BE REQUIRED WHEN IT REACHES 1/2 THE HEIGHT OF THE SILTATION DEVICE.

17. SAWCUT EXISTING PAVEMENT FULL DEPTH TO ASSURE A SMOOTH MATCH BETWEEN THE EXISTING AND NEW PAVEMENT. REMOVE ENOUGH PAVEMENT TO ACCOMMODATE NEW WORK.

18. PROPOSED GRADES SHALL BE WITHIN 0.1 FEET, MORE OR LESS, OF THOSE SHOWN ON THE GRADING PLAN.

19. NO GRADING OR EXCAVATION SHALL OCCUR ON THE SITE UNTIL A PERMIT IS SECURED FROM THE AHJ AND THE SILTATION CONTROL DEVICES INDICATED ARE INSTALLED AND FUNCTIONING.

20. ALL AREAS DISTURBED BY CONSTRUCTION, EXCLUDING PAVED AREAS, SHALL RECEIVE FESCUE SOD WITHIN 30 DAYS FROM THE COMPLETION OF GRADING OPERATIONS AND SHALL BE MAINTAINED FOR A PERIOD OF TWO (2) WEEKS THEREAFTER. SOD PLACEMENT AND MAINTENANCE SHALL CONFORM IN ALL RESPECTS WITH THE PROJECT SPECIFICATIONS.

21. NOTIFY THE OWNER 48 HOURS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

22. NO EXCAVATION SHALL BE MADE SO CLOSE TO THE PROPERTY LINE AS TO ENDANGER ANY ADJOINING PROPERTY OF ANY PUBLIC OR PRIVATE STREET WITHOUT SUPPORTING AND PROTECTING SUCH PUBLIC OR PRIVATE STREET OR PROPERTY FROM SETTLING, CRACKING, OR OTHER DAMAGE.

23. ALL EXCAVATIONS, GRADING, OR FILLING SHALL HAVE A FINISHED GRADE NOT TO EXCEED A FOUR HORIZONTAL TO ONE VERTICAL (4:1) SLOPE UNLESS SPECIFICALLY APPROVED BY THE OWNER.

24. DIMENSIONS ARE TO BACK OF CURB, FACE OF WALL, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

25. ALL FILLS PLACED UNDER PAVED AREAS, INCLUDING TRENCH BACKFILLS WITHIN AND OFF ROAD RIGHT-OF-WAY, SHALL BE COMPACTED TO 95% PER ASTM D698 FOR THE ENTIRE DEPTH OF THE FILL. COMPACTED GRANULAR BACKFILL IS REQUIRED IN ALL TRENCH EXCAVATION WITHIN THE STREET RIGHT-OF-WAY AND UNDER ALL PAVED AREAS. ALL TESTS SHALL BE PERFORMED UNDER THE DIRECTION OF AND VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACKFILLING OPERATIONS.

26. AT LEAST ONCE EVERY WEEK AND AFTER EVERY RAINFALL EVENT OF 0.25 INCHES OR MORE, EROSION AND SILTATION CONTROL DEVICES SHALL BE INSPECTED FOR DAMAGE AND AMOUNT OF SEDIMENTATION ACCUMULATED AND CORRECTIVE ACTIONS TAKEN. REPORTS OF THE INSPECTIONS AND CORRECTIVE ACTIONS SHALL BE PREPARED ON THE FORMS PROVIDED BY THE COUNTY AND SUBMITTED WITHIN 5 DAYS OF THE DATE OF THE INSPECTION.

27. TEMPORARY SILTATION CONTROL MEASURES (STRUCTURAL) SHALL BE MAINTAINED UNTIL VEGETATIVE COVER IS ESTABLISHED AT A SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL ON THE SITE.

28. ALL FINISHED GRADES (AREAS NOT TO BE DISTURBED BY FUTURE IMPROVEMENT) IN EXCESS OF 20% SLOPES (5:1) SHALL BE SODDED AS SOON AS POSSIBLE AFTER FINAL PLACEMENT.

29. DEBRIS AND FOUNDATION MATERIAL FROM ANY EXISTING IMPROVEMENT WHICH IS SCHEDULED TO BE DEMOLISHED FOR THIS DEVELOPMENT MUST BE PROPERLY DISPOSED OF OFF-SITE.

30. SHOULD SEDIMENT CONTAINMENT DEVICES FAIL AND SEDIMENT IS TRANSPORTED FROM THE SITE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING THE TRANSPORTED DEBRIS FROM THE AFFECTED PUBLIC AND/OR PRIVATE AREAS. THE DEBRIS MAY BE EITHER SPREAD OUT ON THE SCHOOL DISTRICT PROPERTY OR TRANSPORTED AND DISPOSED OF OFFSITE IN A LEGAL MANNER. THE AFFECTED AREA DAMAGED SHALL BE RESTORED TO THE CONDITIONS THAT EXISTED PRIOR TO THE CONTAINMENT DEVICE FAILURE.

GRADING PERMIT APPLICATION NOTES:

1. CONTRACTOR SHALL STORE ONSITE AN EXTRA 10% OF REQUIRED EROSION AND SILTATION CONTROL DEVICE QUANTITIES FOR EMERGENCIES.

2. SWPPP COMPLIANCE REPORTS TO BE SUBMITTED WEEKLY AND AFTER HEAVY RAINFALL TO BOTH THE CITY AND TO THE OWNER BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE THE NAME AND TELEPHONE NUMBER OF THE PERSON DESIGNATED TO PERFORM THE INSPECTIONS AND PROVIDE THE REPORTS.

POLLUTION PREVENTION PROCEDURES:

1. HANDLING AND DISPOSAL OF HAZARDOUS MATERIALS

DO: PREVENT SPILLS
USE PRODUCTS UP
FOLLOW LABEL DIRECTIONS FOR DISPOSAL
REMOVE LIDS FROM EMPTY BOTTLES AND CANS WHEN DISPOSING IN TRASH
RECYCLE WASTES WHENEVER POSSIBLE

DON'T: POUR WASTE INTO SEWERS OR WATERWAYS ON THE GROUND
POUR WASTE DOWN THE SINK, FLOOR DRAIN OR SEPTIC TANKS
BURY CHEMICALS OR CONTAINERS, OR DISPOSE OF THEM WITH CONSTRUCTION DEBRIS
BURN CHEMICALS OR CONTAINERS
MIX CHEMICALS TOGETHER

2. CONTAINERS SHALL BE PROVIDED FOR COLLECTION OF ALL WASTE MATERIAL INCLUDING CONSTRUCTION DEBRIS, TRASH, PETROLEUM PRODUCTS AND ANY HAZARDOUS MATERIALS TO BE USED ONSITE. ALL WASTE MATERIAL SHALL BE DISPOSED OF AT FACILITIES APPROVED FOR THAT MATERIAL.

3. NO WASTE MATERIALS SHALL BE BURIED ON-SITE.

4. MIXING, PUMPING, TRANSFERRING OR OTHERWISE HANDLING CONSTRUCTION CHEMICALS SUCH AS FERTILIZER, LIME, ASPHALT, CONCRETE DRYING COMPOUNDS, AND ALL OTHER POTENTIALLY HAZARDOUS MATERIALS SHALL BE PERFORMED IN AN AREA AWAY FROM ANY WATERCOURSE, DITCH OR STORM DRAIN.

5. EQUIPMENT FUELING AND MAINTENANCE, OIL CHANGING, ETC. SHALL BE PERFORMED ONLY IN AN AREA DESIGNATED FOR THAT PURPOSE. THE DESIGNATED AREA IS EQUIPPED FOR RECYCLING OIL AND CATCHING SPILLS.

6. CONCRETE WASH WATER SHALL NOT BE ALLOWED TO FLOW DIRECTLY TO STORM SEWERS, STREAMS, DITCHES, LAKES, ETC. WITHOUT BEING TREATED. A SUMP OR PIT SHALL BE CONSTRUCTED TO CONTAIN CONCRETE WASH WATER.

7. IF SUBSTANCES SUCH AS OIL, DIESEL FUEL, HYDRAULIC FLUID, ANTIFREEZE, ETC. ARE SPILLED, LEAKED, OR RELEASED ONTO SOIL, THE SOIL SHALL BE DUG UP AND DISPOSED OF AT A LICENSED SANITARY LANDFILL (NOT A CONSTRUCTION/DEMOLITION DEBRIS LANDFILL). SPILLS ON PAVEMENT SHALL BE ABSORBED WITH SAWDUST, KITTY LITTER OR PRODUCT DESIGNED FOR THAT PURPOSE AND DISPOSED OF AT A LICENSED SANITARY LANDFILL. HAZARDOUS OR INDUSTRIAL WASTES SUCH AS MOST SOLVENTS, GASOLINE, OIL-BASED PAINTS, AND CEMENT CURING COMPOUNDS REQUIRE SPECIAL HANDLING. THESE MATERIALS WILL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH MoDNR REQUIREMENTS.

8. STATE LAW REQUIRES THE PARTY RESPONSIBLE FOR A PETROLEUM PRODUCT SPILL IN EXCESS OF 50 GALLONS TO REPORT THE SPILL TO MoDNR (537-634-2436) AS SOON AS PRACTICAL AFTER DISCOVERY. FEDERAL LAW REQUIRES THE RESPONSIBLE PARTY TO REPORT ANY RELEASE OF OIL IF IT REACHES OR THREATENS A SEWER, LAKE, CREEK, STREAM, RIVER, GROUNDWATER, WETLAND, OR AREA, LIKE A ROAD DITCH, THE DRAINS INTO ONE OF THE ABOVE.

9. SUFFICIENT TEMPORARY TOILET FACILITIES TO SERVE THE NUMBER OF WORKERS ON THE SITE SHALL BE PROVIDED. THE FACILITIES SHALL BE SERVICED FREQUENTLY TO MAINTAIN A SANITARY CONDITION.

ST. LOUIS COUNTY HIGHWAYS AND TRAFFIC GENERAL NOTES:

1. ALL SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASH DOWN STATION PRIOR TO LEAVING THE SITE. NO TRACKING OF MUD ONTO COUNTY ROADS SHALL BE ALLOWED.

2. INTERIM STORM WATER DRAINAGE CONTROL IN THE FORM OF SILTATION CONTROL MEASURES SHALL BE PROVIDED.

3. ADDITIONAL SILTATION CONTROL SHALL BE INSTALLED AS REQUIRED BY ST. LOUIS COUNTY DEPARTMENT OF TRANSPORTATION.

4. A PERMIT SHALL BE OBTAINED FORM THE ST. LOUIS COUNTY DEPARTMENT OF PUBLIC WORKS FOR CONSTRUCTION OF RETAINING WALLS.

5. ALL AFFECTED OFFSITE PROPERTY OWNERS SHALL BE GIVEN NOTICE 48 HOURS IN ADVANCE OF ANY WORK.

6. ANY DISTURBED OFF SITE PROPERTY (I.E. BUSHES, FENCES, MAILBOX, ETC.) SHALL BE REPLACED IN KIND AT THE DEVELOPER'S EXPENSE.

7. ALL CONSTRUCTION SHALL BE PER MOST CURRENT DETAILS LOCATED IN THE ST. LOUIS COUNTY DESIGN CRITERIA MANUAL AND/OR THE SEDIMENT AND EROSION CONTROL MANUAL.

LEGEND EXISTING

SANITARY SEWER	
STORM SEWER	
WATER MAIN	W
ELECTRIC	E
COMMUNICATION	T
FIBER OPTIC	FO
GAS	G
OVERHEAD ELECTRIC	OHE
STORM MANHOLE	
STORM INLET	
SANITARY MANHOLE	
CLEANOUT	VENT
ELECTRIC MANHOLE	EMH
ELECTRIC BREAKER OUTLET BOX	ELEC OUTLET BOX
ELEC METER	EM
GAS VALVE	GV
PHONE CABLE BOX	TELE U.B.
ELECTRIC TRANSFORMER BOX	ELEC TRANSFORMER BOX
POWER POLE	PP
LIGHT STANDARD	LS
GAS METER	GM
GAS VALVE	GV
SMALL DRAIN	
WATER MANHOLE	WMH
WATER METER	WM
WATER VALVE	WV
FIRE HYDRANT	FH
SPRINKLER	SPRINKLER
TELEPHONE MANHOLE	TMH
PULL BOX	PB
TRAFFIC SIGNAL CONTROL BOX	TFC CONTROLLER
BUSH	
STUMP	STUMP
TREE	
BOLLARD	
SIGN	
EDGE OF ASPH PAVEMENT	
EDGE OF CONC PAVEMENT	
FLOW DIRECTION OF SEWER LINE	

LEGEND NEW WORK

CONTOUR	ELEV
SPOT ELEVATION	ELEV
STORM SEWER	
SANITARY SEWER	
MANHOLE	
CURB INLET	
GRATE INLET	
WATER LINE	W
FIRE HYDRANT	
GAS SERVICE	G
ELECTRIC SERVICE	E
TELEPHONE SERVICE	T
CONCRETE PAVEMENT	
ASPHALT PAVEMENT	
TO BE REMOVED	T.B.R.
USE IN PLACE	U.I.P.
ADJUST TO GRADE	A.T.G.
TO BE REMOVED & REPLACED	T.B.R.&R.
TO BE PROTECTED	T.B.P.
TO BE ABANDONED	T.B.A.
TOP OF PAVEMENT	TP
TOP OF SIDEWALK	TS
TOP OF WALL	TW
BOTTOM OF WALL	BW
REMOVE ALL SURFACE IMPROVEMENTS	
SILTATION CONTROL	
SAWCUT	

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

MSD P-XXXXXXXX MSD BASE MAP XXX

Stanley F. Visnovske
E-14139
Professional Engineer
I HEREBY SPECIFY, PURSUANT TO RSMo 327.411 THAT THIS DRAWING SHEET IS ALIMENDED AND IS SEALED BY MY SEAL.

ARCHITECT — TRU, ARCHITECTS
MECHANICAL ENGINEER — WILLIAM TAO & ASSOCIATES, INC.
PLUMBING / FPE ENGINEER — WILLIAM TAO & ASSOCIATES, INC.
ELECTRICAL ENGINEER — WILLIAM TAO & ASSOCIATES, INC.
STRUCTURAL ENGINEER — KPFF CONSULTING ENGINEERS
CIVIL ENGINEER — EDSI - ENGINEERING DESIGN SOURCE
LANDSCAPE ARCHITECT — PDS - PLANNING DESIGN STUDIO

PARKWAY SCHOOLS

ROSS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 061601B
1150 Ross Avenue
St. Louis, Missouri 63146

TRU Architects of the Possible

DATE: 12.01.16

REVISIONS

DWG. BY

PSD PROJECT NO. 061601B

PROJECT NO. 14-006.15

SHEET NO.

C0

LEGEND AND GENERAL NOTES

EDSI PROJECT #E-14-020.25

11/28/2016 3:33:15 PM Veronica Page
Z:\Parkway School District\E-14-020.25 - Ross Elementary\ISSUE FOR BID\Revised Entry A -2016.11.28_TRANSLATED.dwg

SCALE: 1"=20'
0 20 40

EX SAN MANHOLE T 539.62 FL NW 535.92 FL NE 535.84 FL SW 535.75

ROSS ELEMENTARY SCHOOL

DOOR 1 FF ELEV 540.43

DOOR 2 FF ELEV 540.49

DOOR 6 FF ELEV 540.51

A/C PAD

EX SAN MANHOLE T 539.55 FL NE 530.45 FL E 529.93 FL W 529.93

EX SAN MANHOLE T 538.27 FL NE 527.42 FL E 527.36 FL SW 527.31

EX SAN MANHOLE T 526.23 FL E 519.49 (OUTSIDE DROP) FL NE 516.43 FL SW 516.43

EX STM MANHOLE T 524.91 FL SE 517.21 FL NE 515.01 FL SW 514.37 FL NW 514.37

EX SAN MANHOLE T 524.42 FL NE 510.71 FL SW 510.67 FL NW 510.60

EX STM AREA INLET T 525.07 FL SE 517.83 FL NW 517.68

EX STM MANHOLE T 523.82 FL SW 519.52 FL SE 515.73 FL NE 515.73

ELEC OUTLET BOX

STONE BORDER

BENCH W/ PLANTER

WINDOW WELL

CONC W/ DECO STONE

BRICK

FLAGPOLE

BRICK SIGN

BUSH ROW

HANDRAIL

BOLLARD

BLUE STRIPING

WHITE STRIPING

YELLOW STRIPING

ASPHALT PAVEMENT

CONC WALK

CONC CURB

ASPH CURB

CONC BASE

LANDSCAPE AREA

8-2" BIRD HOUSE

ELEC OUTLET BOX

WV W/ METAL LID

CONC ASPH ISLAND

MAIL BOX

CONCRETE PAVEMENT

BUSH ROW

ASPH CURB

CONC

VENT

SIGN

PP

WV

8" VCP

10" VCP

30" RCP

24" RCP

18" RCP

15" RCP

12" RCP

8" PVC

6" VCP

BENCH W/ PLANTER

CONC W/ DECO STONE

DECO STONE

MULCH

BUSH ROW

CONC PAD W/ BIKE RACK

MEMORIAL PLAQUE

CONC PAD W/ PICNIC TABLE

WOOD POST

CONC PAD W/ BENCH

WOOD POST W/ BIRD HOUSE

WOOD FLOWER BOX

TRASH CAN

CLOTHING DONATION DROP BOX

GYM SET

SWING SET

BENCH

CONC BLOCK RET. WALL

REC CONTROLLER

TMH

MAST ARM

1FC PB W/ METAL LID

CONC ASPH RIP RAP

48" CHAIN LINK FENCE

48" CHAIN LINK GATE

42" CHAIN LINK GATE

42" CHAIN LINK FENCE

72" PVC FENCE

72" PVC GATE

REFERENCE TIE
CONTROL POINT #1
N 1036290.369
E 831814.108
ELEV 524.59
CUT CROSS IN CONC

REFERENCE TIE
CONTROL POINT #2
N 1036747.977
E 831955.903
CUT CROSS IN CONC

REFERENCE TIE
CONTROL POINT #3
N 1036663.067
E 832611.018
ELEV 558.41
REBAR WITH ESDI CAP IN GROUND

REFERENCE TIE
CONTROL POINT #4
N 1036197.850
E 832513.704
ELEV 553.00
REBAR WITH ESDI CAP IN GROUND

THE UNDERGROUND UTILITIES SHOWN HEREON HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND RECORD DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, WHETHER IN SERVICE OR ABANDONED. THE UTILITIES SHOWN WITHIN THE SCHOOL PROPERTY ARE CONSIDERED PRIVATE AND ARE SHOWN FROM AVAILABLE RECORD DOCUMENTS PROVIDED BY THE PARKWAY SCHOOL DISTRICT. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING MISSOURI ONE CALL AND PARKWAY SCHOOL DISTRICT TO VERIFY THE LOCATION OF UNDERGROUND FACILITIES PRIOR TO CONSTRUCTION.

MSD P-XXXXXXXX MSD BASE MAP XXX

11/28/2016 2:18:14 PM Veronica Page
Z:\Parkway School District\E-14-020.25 - Ross Elementary\ISSSUE FOR BID\2016-11-28 Survey.dwg

TRJ ARCHITECTS — ARCHITECT
WILLIAM TAO & ASSOCIATES, INC. — MECHANICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — PLUMBING / FP ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — ELECTRICAL ENGINEER
KPFF CONSULTING ENGINEERS — STRUCTURAL ENGINEER
EDSI - ENGINEERING DESIGN SOURCE — CIVIL ENGINEER
PDS - PLANNING DESIGN STUDIO — LANDSCAPE ARCHITECT

Sandy F. Vizovsky
E-14134
Printed Name
I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411 THAT THIS DRAWING SHEET IS AUTHENTICATED BY MY SEAL.

PARKWAY SCHOOLS

ROSS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 061601B
1150 Ross Avenue St. Louis, Missouri 63146

TRJ Architects of the Possible

DATE: 12.01.16

REVISIONS

DWG. BY

PSD PROJECT NO. 091601B

PROJECT NO. 14-006.15

SHEET NO.
C0.1

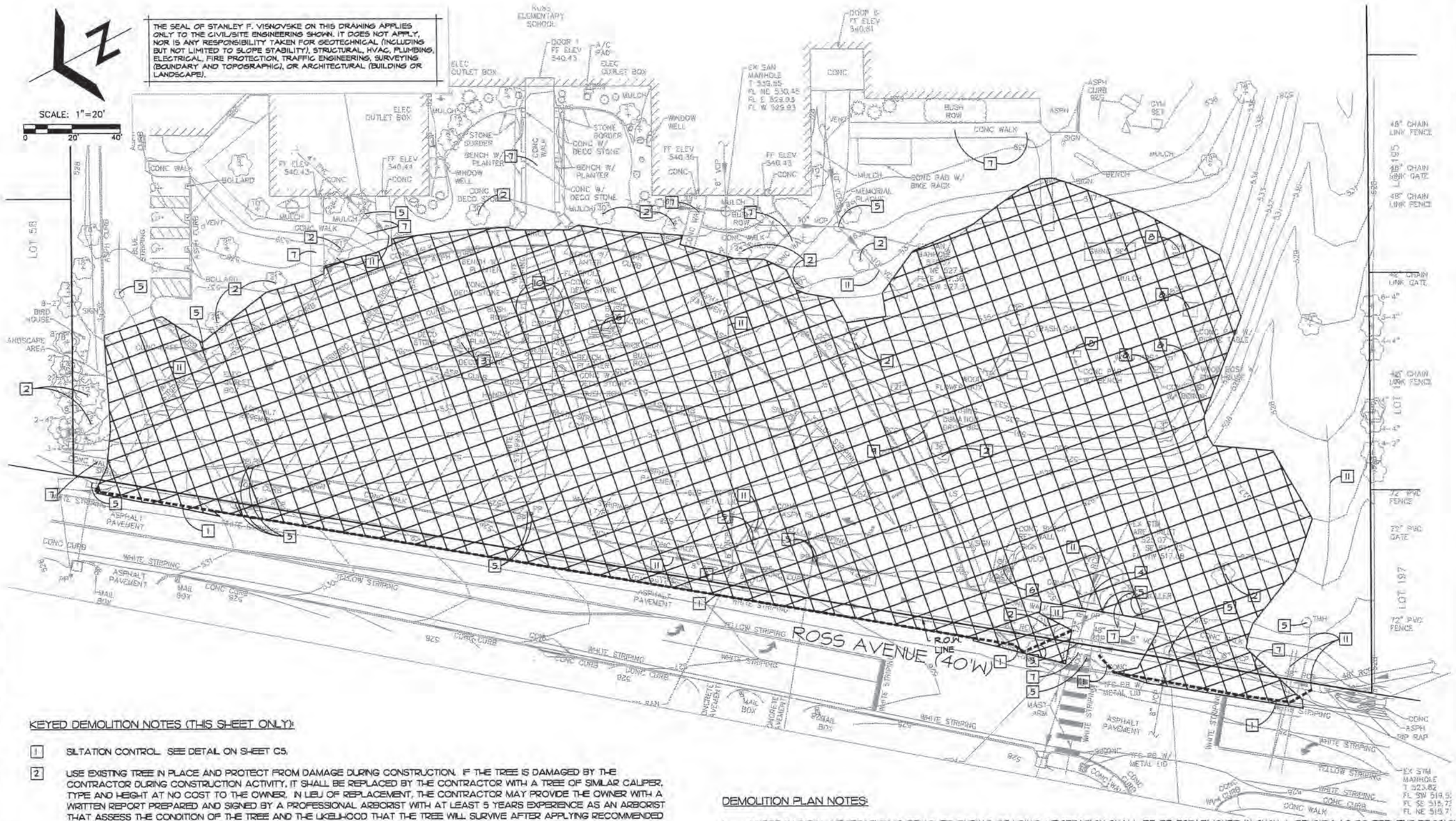
SURVEY

EDSI PROJECT #E-14-020.25

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

SCALE: 1"=20'

0 20' 40'



KEYED DEMOLITION NOTES (THIS SHEET ONLY):

1. SILTATION CONTROL. SEE DETAIL ON SHEET C5.
2. USE EXISTING TREE IN PLACE AND PROTECT FROM DAMAGE DURING CONSTRUCTION. IF THE TREE IS DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION ACTIVITY, IT SHALL BE REPLACED BY THE CONTRACTOR WITH A TREE OF SIMILAR CALIPER, TYPE AND HEIGHT AT NO COST TO THE OWNER. IN LIEU OF REPLACEMENT, THE CONTRACTOR MAY PROVIDE THE OWNER WITH A WRITTEN REPORT PREPARED AND SIGNED BY A PROFESSIONAL ARBORIST WITH AT LEAST 5 YEARS EXPERIENCE AS AN ARBORIST THAT ASSESS THE CONDITION OF THE TREE AND THE LIKELIHOOD THAT THE TREE WILL SURVIVE AFTER APPLYING RECOMMENDED REPAIRS. THE OWNER SHALL HAVE THE SOLE DISCRETION OF REQUIRING THE CONTRACTOR TO REPLACE THE DAMAGED TREE REGARDLESS OF THE CONTENT AND RECOMMENDATION OF THE ARBORIST'S REPORT. SEE DETAIL ON SHEET C5.
3. EXISTING MEMORIAL TREE TO BE RELOCATED BY OWNER. SEE LANDSCAPE PLAN FOR RELOCATION SITE.
4. CONVERT EXISTING INLET TO MANHOLE. SEE UTILITY PLAN (SHEET C4).
5. USE EXISTING MANHOLE, POWER POLE, PULL BOX, TRAFFIC CONTROL BOX, TRAFFIC SIGNAL, AND WATER MANHOLE IN PLACE. ADJUST TO GRADE AS NECESSARY.
6. REMOVE AND RELOCATE EXISTING SCHOOL SIGNS. SEE SHEET C2 FOR RELOCATION AND COORDINATE WITH LANDSCAPE PLAN.
7. USE EXITING SIDEWALK IN PLACE. IF SIDEWALK IS DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION ACTIVITY, IT SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.
8. SWING SET, GYM SET, PICNIC TABLE, BENCHES, BIRD HOUSE WITH POST WILL BE REMOVED BY THE OWNER PRIOR TO CONSTRUCTION.
9. RELOCATE CLOTHING DONATION DROP BOX AND PUBLIC RECYCLING CONTAINER.
10. SALVAGE AND RELOCATE BENCHES AND FLAGPOLES. SEE SHEET L2 FOR RELOCATION.
11. USE EXISTING UTILITY IN PLACE AND PROTECT FROM DAMAGE DURING CONSTRUCTION.

DEMOLITION PLAN NOTES:

1. WHERE NATURAL VEGETATION IS REMOVED DURING GRADING, VEGETATION SHALL BE RE-ESTABLISHED IN SUCH A DENSITY AS TO PREVENT EROSION.
2. WHEN CLEARING AND/OR GRADING OPERATIONS ARE COMPLETED OR SUSPENDED FOR MORE THAN 5 DAYS IN ANY AREA, THE DISTURBED AREA SHALL BE SEEDED OR OTHERWISE STABILIZED TO SIGNIFICANTLY REDUCE THE ERODIBILITY OF THE SOIL. PROTECTIVE MEASURES MAY INCLUDE A COMBINATION OF SEEDING, SODDING, MULCHING OR OTHER SUITABLE MEANS TO PROTECT THE GROUND SURFACE FROM EROSION.
3. IF CUT AND FILL OPERATIONS OCCUR DURING A SEASON NOT FAVORABLE FOR IMMEDIATE ESTABLISHMENT OF PERMANENT GROUND COVER, A FAST GERMINATING ANNUAL SUCH AS RYE GRASSES OR SUDAN GRASSES SHALL BE UTILIZED TO RETARD EROSION.
4. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
5. EROSION AND SILTATION CONTROL SHALL BE INSTALLED PRIOR TO ANY GRADING AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY THE OWNER AND /OR CONTROLLING REGULATORY AGENCY AND ADEQUATE VEGETATIVE GROWTH INSURES NO FURTHER EROSION OF THE SOIL.
6. STORM WATER PIPES, OUTLETS AND CHANNELS SHALL BE PROTECTED BY SILT BARRIERS AND KEPT FREE OF WASTE AND SILT AT ALL TIMES PRIOR TO FINAL SURFACE STABILIZATION AND/OR PAVING.
7. SILTATION CONTROL DEVICES SHALL BE INSPECTED PERIODICALLY FOR DAMAGE AND FOR THE AMOUNT OF SEDIMENT WHICH HAS ACCUMULATED. REMOVAL OF SEDIMENT WILL BE REQUIRED WHEN IT REACHES 1/2 THE HEIGHT OF THE SILTATION CONTROL DEVICE.
8. ADDITIONAL SILTATION CONTROL MAY BE REQUIRED AS DEEMED NECESSARY BY THE CITY.
9. THE CONTRACTOR SHALL REMOVE ALL SURFACE IMPROVEMENTS INCLUDING BUT NOT LIMITED TO PAVEMENT, CURBS, TREES, SIGNS, AND SHRUBS WITHIN THE AREA NOTED BY THE LEGEND SYMBOL XXXXXX ON THIS SHEET. THERE ARE EXCEPTIONS. EXCEPTIONS ARE NOTED BY OTHER NOTES OR BY ABBREVIATIONS NOTED ON THIS SHEET. CURBS ARE A PROMINENT EXCEPTION AS DESCRIBED IN THE KEYED NOTES.

MSD P-XXXXXXXX MSD BASE MAP XXX

11/28/2016 3:34:27 PM Veronica Page
Z:\Parkway School District\E-14-020.25 - Ross Elementary\ISSSUE FOR BID\Revised Entry A -2016.11.28_TRANSLATED.dwg

TRU ARCHITECTS — ARCHITECT
WILLIAM TAO & ASSOCIATES, INC. — MECHANICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — PLUMBING / FP ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — ELECTRICAL ENGINEER
KPFF CONSULTING ENGINEERS — STRUCTURAL ENGINEER
EDSI - ENGINEERING DESIGN SOURCE — CIVIL ENGINEER
PDS - PLANNING DESIGN STUDIO — LANDSCAPE ARCHITECT

Stanley F. Visnovske
E-19120
Professional Engineer
I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411 THAT THIS DRAWING SHEET IS AUTHENTICATED BY MY SEAL.

PARKWAY SCHOOLS

ROSS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS

PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 061601B

1150 Ross Avenue
St. Louis, Missouri 63146

TRU Architects of the Possible

DATE: 12.01.16

REVISIONS

DWG. BY

PSD PROJECT NO. 0916018

PROJECT NO. 14-006.15

SHEET NO.

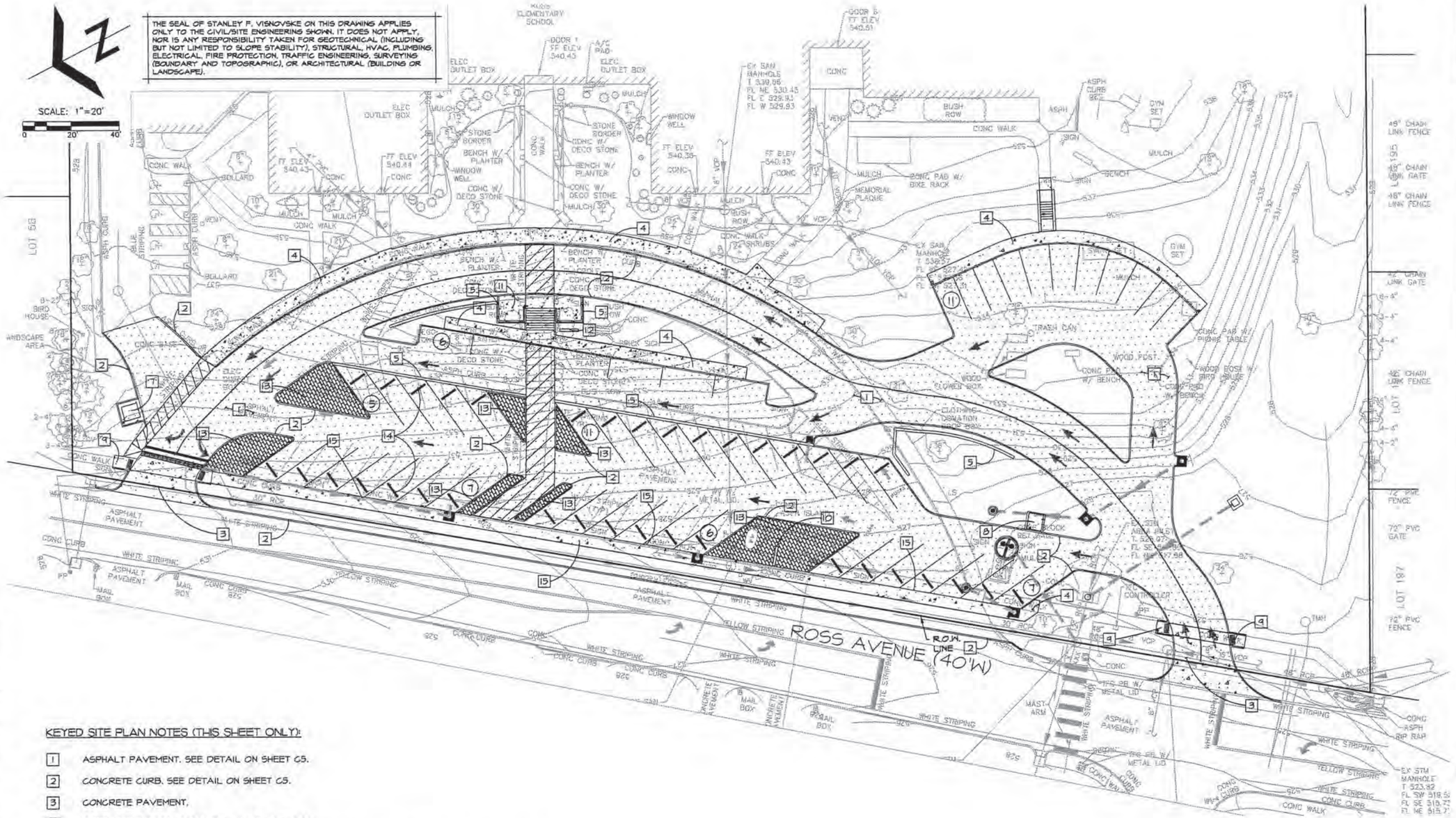
C1

DEMOLITION PLAN

EDSI PROJECT #E-14-020.25

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

SCALE: 1"=20'



KEYED SITE PLAN NOTES (THIS SHEET ONLY):

1. ASPHALT PAVEMENT. SEE DETAIL ON SHEET C5.
2. CONCRETE CURB. SEE DETAIL ON SHEET C5.
3. CONCRETE PAVEMENT.
4. CONCRETE SIDEWALK. SEE DETAIL ON SHEET C5.
5. MODULAR BLOCK RETAINING WALL. WALL DESIGN BY CONTRACTOR. WALL SHALL BE DESIGNED FOR VEHICLE SURCHARGE WHERE APPLICABLE. SEE DETAIL ON SHEET C5.
6. PLAYGROUND AREA TO BE INSTALLED BY OWNER. CONTRACTOR TO REPLACE POSTS. INSTALL ORNAMENTAL FENCE AROUND PLAY PERIMETER.
7. RELOCATE PUBLIC CLOTHING DONATION DROP BOX. SEE PAVEMENT DETAIL ON SHEET C5.
8. RELOCATE PUBLIC RECYCLING CONTAINER. SEE PAVEMENT DETAIL ON SHEET C5.
9. ADA ACCESSIBLE RAMP, SEE DETAIL ON SHEET C5.
10. NEW LOCATION FOR EXISTING SCHOOL MARQUEE SIGN
11. FOR LOCATION OF PLACEMENT OF EXISTING FLAGPOLE, SEE LANDSCAPE PLAN.
12. NEW LOCATION FOR EXISTING SCHOOL SIGN. SEE LANDSCAPE PLANS FOR DETAILS.
13. NEW PRE-CAST PAVER. SEE DETAIL ON SHEET C5.
14. WHEEL STOPS, DEE DETAIL ON SHEET C6.
15. INTEGRAL SIDEWALK/CURB. SEE DETAIL ON SHEET C6.

MSD P-XXXXXXXX MSD BASE MAP XXX

11/28/2016 3:49:55 PM Veronica Page
Z:\Parkway School District\E-14-020.25 - Ross Elementary\ISSUE FOR BID\Revised Entry A -2016.11.28_TRANSLATED.dwg

TRI- ARCHITECTS — ARCHITECT
WILLIAM TAO & ASSOCIATES, INC. — MECHANICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — PLUMBING / FP ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — ELECTRICAL ENGINEER
KPFF CONSULTING ENGINEERS — STRUCTURAL ENGINEER
EDSI - ENGINEERING DESIGN SOURCE — CIVIL ENGINEER
PDS - PLANNING DESIGN STUDIO — LANDSCAPE ARCHITECT

Stanley F. Visnovske
E-13119
Professional Engineer
I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411 THAT THIS DRAWING SHEET IS AUTHENTICATED BY MY SEAL.

PARKWAY SCHOOLS

ROSS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 0816018
1150 Ross Avenue
St. Louis, Missouri 63146

TRI Architects of the Possible

DATE: 12.01.16

REVISIONS

DWG. BY

PSD PROJECT NO. 0916018

PROJECT NO. 14-008.15

SHEET NO.

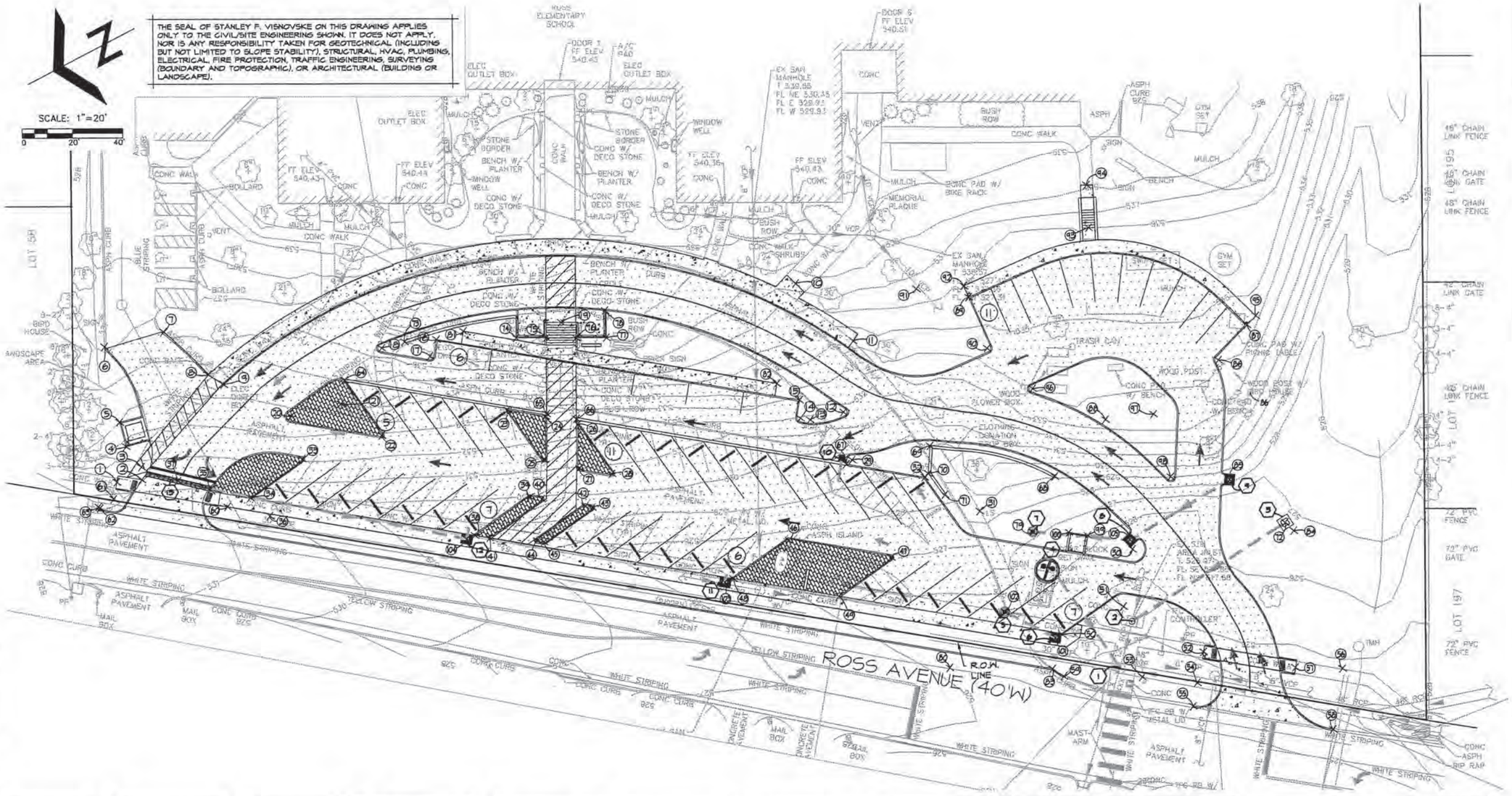
C2

SITE PLAN

EDSI PROJECT #E-14-020.25

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWINGS APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

SCALE: 1"=20'
0 20' 40'



POINT TABLE			
POINT #	DESCRIPTION	NORTHING	EASTING
1	END OF SIDEWALK	1036758.29	831953.48
2	CORNER OF CURB	1036748.30	831953.01
3	END OF SIDEWALK	1036747.82	831958.03
4	CORNER OF CURB	1036752.66	831966.92
5	CORNER OF CURB	1036753.94	831976.84
6	END OF CURB	1036755.76	832007.38
7	END OF CURB	1036731.67	832010.09
8	END OF CURB	1036716.32	831990.81
9	END OF CURB	1036710.73	831986.16
10	END OF SIDEWALK	1036479.72	831995.65
11	END OF SIDEWALK	1036460.21	831970.06
12	1.5' RADIUS POINT	1036467.81	831942.44
13	1.5' RADIUS POINT	1036481.43	831941.23
14	1.5' RADIUS POINT	1036485.12	831942.36
15	CORNER OF CURB	1036484.49	831949.49
16	CORNER OF CURB	1036624.42	831992.66
17	1.5' RADIUS POINT	1036627.92	831986.41
18	1.5' RADIUS POINT	1036646.39	831992.11
19	END OF STAIRS	1036574.26	831992.74

POINT TABLE			
POINT #	DESCRIPTION	NORTHING	EASTING
20	2' RADIUS POINT	1036685.90	831970.08
21	9.5' RADIUS POINT	1036665.47	831972.36
22	0.5' RADIUS POINT	1036651.07	831957.76
23	CORNER OF CURB	1036600.26	831961.14
24	CORNER OF CURB	1036585.54	831956.60
25	0.5' RADIUS POINT	1036588.30	831939.59
26	CORNER OF CURB	1036573.22	831951.79
27	0.5' RADIUS POINT	1036575.03	831934.38
28	0.5' RADIUS POINT	1036562.51	831930.46
29	2' RADIUS POINT'	1036467.04	831923.18
30	5' RADIUS POINT'	1036361.43	831873.13
31	10' RADIUS POINT	1036419.46	831896.26
32	CORNER OF CURB	1036439.38	831912.56
33	0.5' RADIUS POINT	1036683.81	831952.69
34	END OF CURB	1036706.51	831940.12
35	CORNER OF CURB	1036721.85	831945.37
36	25' RADIUS POINT	1036699.70	831931.95
37	CENTER OF DRAIN	1036734.14	831950.59
38	END OF CURB	1036620.03	831913.44

POINT TABLE			
POINT #	DESCRIPTION	NORTHING	EASTING
39	0.5' RADIUS POINT	1036595.90	831925.60
40	0.5' RADIUS POINT'	1036591.56	831924.23
41	END OF CURB	1036614.25	831911.67
42	0.5' RADIUS POINT'	1036574.77	831919.06
43	0.5' RADIUS POINT'	1036572.06	831918.22
44	0.5' RADIUS POINT'	1036595.65	831908.02
45	0.5' RADIUS POINT'	1036592.94	831907.18
46	0.5' RADIUS POINT'	1036496.39	831894.88
47	0.5' RADIUS POINT'	1036456.94	831882.71
48	END OF CURB	1036520.44	831882.73
49	END OF CURB	1036479.65	831870.14
50	CORNER OF CURB	1036393.60	831843.23
51	5' RADIUS POINT'	1036368.02	831851.09
52	END OF SIDEWALK	1036338.79	831828.91
53	31.5' RADIUS POINT'	1036364.35	831822.23
54	9.5' RADIUS POINT'	1036342.97	831817.06
55	END OF CURB	1036345.80	831807.99
56	24.5' RADIUS POINT	1036284.77	831815.05
57	END OF SIDEWALK	1036303.22	831817.95

POINT TABLE			
POINT #	DESCRIPTION	NORTHING	EASTING
58	END OF CURB	1036291.65	831791.54
59	END OF CURB	1036395.21	831826.65
60	9.5' RADIUS POINT'	1036715.96	831937.80
61	5' RADIUS POINT'	1036760.50	831946.88
62	0.5' RADIUS POINT'	1036766.36	831943.98
63	END OF CURB	1036766.84	831944.64
64	END OF WALL	1036662.67	831981.43
65	END OF WALL	1036584.92	831957.45
66	END OF WALL	1036573.45	831953.91
67	END OF WALL	1036469.54	831921.86
68	END OF WALL	1036388.01	831905.95
69	CORNER OF WALL	1036435.56	831924.65
70	CORNER OF WALL	1036437.78	831913.81
71	END OF WALL	1036432.30	831904.51
72	CENTER OF STRUCTURE	1036299.52	831875.63
73	END OF WALL	1036637.15	831993.38
74	CORNER OF WALL	1036592.83	831989.03
75	CORNER OF WALL	1036580.93	831987.45
76	CORNER OF WALL	1036569.18	831985.90

POINT TABLE			
POINT #	DESCRIPTION	NORTHING	EASTING
77	CORNER OF WALL	1036557.29	831984.34
78	END OF WALL	1036556.37	831995.13
79	CENTER OF STRUCTURE	1036399.61	831885.30
80	89.5' RADIUS POINT	1036439.78	831836.03
81	CORNER OF WALK	1036613.39	831994.49
82	CORNER OF WALK	1036492.57	831957.22
83	CORNER OF CURB	1036399.21	831830.25
84	29.5' RADIUS POINT'	1036296.53	831871.97
85	CENTER OF STRUCTURE	1036319.16	831895.47
86	1.5' RADIUS POINT'	1036317.10	831943.14
87	CORNER OF CURB	1036303.86	831955.49
88	24.5' RADIUS POINT	1036364.99	831925.61
89	CORNER OF CURB	1036412.26	831981.08
90	1.5' RADIUS POINT'	1036407.66	831960.02
91	34.5' RADIUS POINT'	1036432.46	831987.15
92	CORNER OF WALK	1036413.66	831985.87
93	START OF STAIRS	1036361.16	832002.08
94	END OF WALK	1036359.69	832019.01
95	CORNER OF WALK	1036299.93	831958.58

POINT TABLE			
POINT #	DESCRIPTION	NORTHING	EASTING
96	1.5' RADIUS POINT'	1036391.93	831941.70
97	9.5' RADIUS POINT'	1036345.72	831925.28
98	1.5' RADIUS POINT	1036342.28	831899.71
99	CORNER OF CONC.	1036378.22	831880.93
100	CORNER OF CONC.	1036385.39	831883.14
101	CENTER OF STRUCTURE	1036396.58	831842.43
102	CENTER OF STRUCTURE	1036414.89	831855.18
103	CENTER OF STRUCTURE	1036523.86	831881.69
104	CENTER OF STRUCTURE	1036623.44	831912.42
105	CENTER OF STRUCTURE	1036361.87	831876.94

MSD P-XXXXXXXX MSD BASE MAP XXX

11/28/2016 3:59:04 PM Veronica Page
Z:\Parkway School District\E-14-020.25 - Ross Elementary\ISSSUE FOR BID\Revised Entry A -2016.11.28_TRANSLATED.dwg

TRJ ARCHITECTS — ARCHITECT
WILLIAM TAO & ASSOCIATES, INC. — MECHANICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — PLUMBING / FP ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — ELECTRICAL ENGINEER
KPFF CONSULTING ENGINEERS — STRUCTURAL ENGINEER
EDSI - ENGINEERING DESIGN SOURCE — CIVIL ENGINEER
PDS - PLANNING DESIGN STUDIO — LANDSCAPE ARCHITECT

Stanley F. Visnovske
E-18136
Professional Engineer
I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411 THAT THIS DRAWING SHEET IS AUTHENTICATED BY MY SEAL.

PARKWAY SCHOOLS

ROSS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 091601B
1150 Ross Avenue
St. Louis, Missouri 63146

TRJ Architects of the Possible
3912 Hancock Ave. St. Louis, Missouri 63110 — t: 314-361-4750 f: 314-361-4751 www.trjarchitects.com
© Copyright 2016

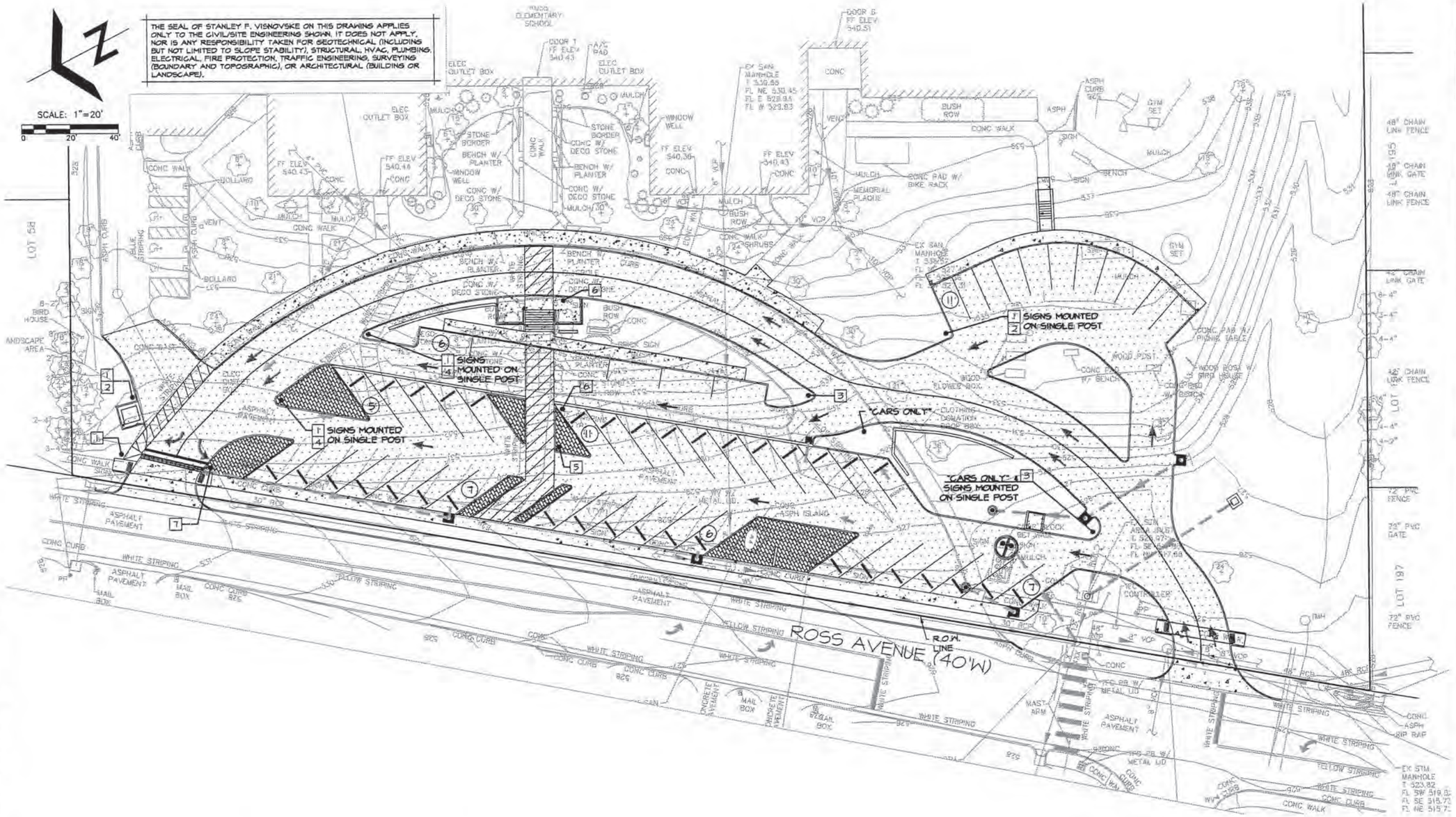
DATE: 12.01.16
REVISIONS
DWG. BY
PSD PROJECT NO. 091601B
PROJECT NO. 14-006.15
SHEET NO.
C2.1
SITE PLAN COORDINATES

EDSI PROJECT #E-14-020.25

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

SCALE: 1"=20'

0 20 40



SIGN NOTES (THIS SHEET ONLY - SEE DETAIL ON SHEET C2.3)

1. STOP SIGN
2. NO LEFT TURN SIGN
3. ONE-WAY SIGN (R6-1L)
4. NO RIGHT TURN SIGN
5. YIELD TO PEDESTRIAN (LEFT - R1-5L)
6. YIELD TO PEDESTRIANS (RIGHT - R1-5R)
7. DO NOT ENTER SIGN (SIGN TO FACE ROSS AVENUE)

MSD P-XXXXXXXX MSD BASE MAP XXX

11/28/2016 3:50:18 PM Veronica Page
Z:\Parkway School District\E-14-020.25 - Ross Elementary\ISSSUE FOR BID\Revised Entry A -2016.11.28_TRANSLATED.dwg

TRJ. ARCHITECTS — ARCHITECT
WILLIAM TAO & ASSOCIATES, INC. — MECHANICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — PLUMBING / FP ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — ELECTRICAL ENGINEER
KPFF CONSULTING ENGINEERS — STRUCTURAL ENGINEER
EDSI - ENGINEERING DESIGN SOURCE — CIVIL ENGINEER
PDS - PLANNING DESIGN STUDIO — LANDSCAPE ARCHITECT

Stanley F. Visnovske
E-19134
Professional Engineer
I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411 THAT THIS DRAWING SHEET IS AUTHENTICATED BY MY SEAL.

PARKWAY SCHOOLS

ROSS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 0616018
1150 Ross Avenue
St. Louis, Missouri 63146

TRJ Architects of the Possible

DATE: 12.01.16

REVISIONS

DWG. BY

PSD PROJECT NO. 091601B

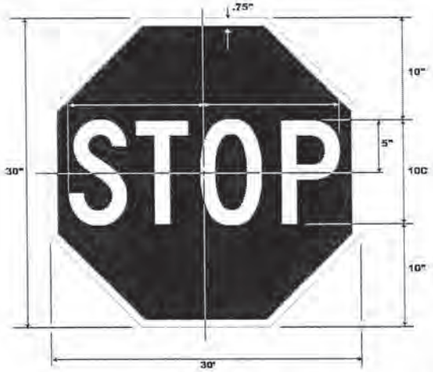
PROJECT NO. 14-006.15

SHEET NO.

C2.2

SIGNAGE STRIPING

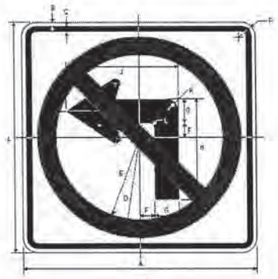
EDSI PROJECT #E-14-020.25



R1-1
STOP

*Reduce spacing 40%

COLORS: LEGEND – WHITE (RETROREFLECTIVE)
BACKGROUND – RED (RETROREFLECTIVE)

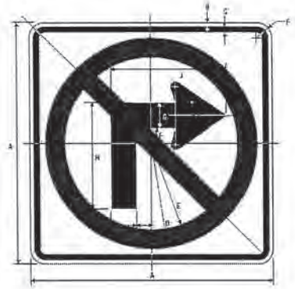


R3-2
LEFT TURN PROHIBITION

A	B	C	D	E	F	G	H	J	K	L
24	.375	.625	10.5	8.5	1.5	2.5	10.5	11.5	2	6

Asterisk designations refer to Manual of Uniform Traffic Control Devices (MUTCD)

COLORS: CIRCLE & DIAGONAL – RED (RETROREFLECTIVE)
SYMBOL & BORDER – BLACK
BACKGROUND – WHITE (RETROREFLECTIVE)

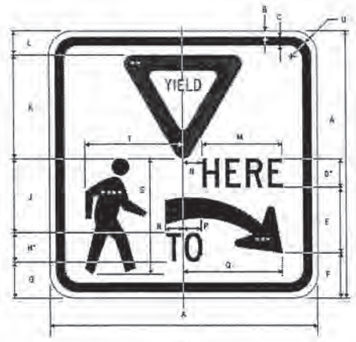


R3-1
RIGHT TURN PROHIBITION

*See page 6-2 for design

A	B	C	D	E	F	G	H	J	K
24	.375	.625	10.5	8.5	1.5	2.5	10.5	11.5	2

COLORS: CIRCLE & DIAGONAL – RED (RETROREFLECTIVE)
SYMBOL & BORDER – BLACK
BACKGROUND – WHITE (RETROREFLECTIVE)



R1-5R
YIELD HERE TO PEDESTRIANS

A	B	C	D	E	F	G	H	J	K	L
18	.375	.625	2 C	4.375	3	2.375	2 C	5	7	1.625

M	N	P	Q	R	S	T	U
6.364	1.249	1.223	5.605	1.226	7.605	5.605	1.5

*Series 2000 Standard Alphabets.
**Insert R1-2 and size to fit.
***Insert R10-6a Arrow and size to fit.
****See 6-10 for design detail.

Asterisk designations refer to Manual of Uniform Traffic Control Devices (MUTCD)

COLORS: LEGEND & ARROW – BLACK
RED SYMBOL – BLACK
BACKGROUND – WHITE (RETROREFLECTIVE)
YIELD SYMBOL – RED (RETROREFLECTIVE)



R1-5L
YIELD HERE TO PEDESTRIANS

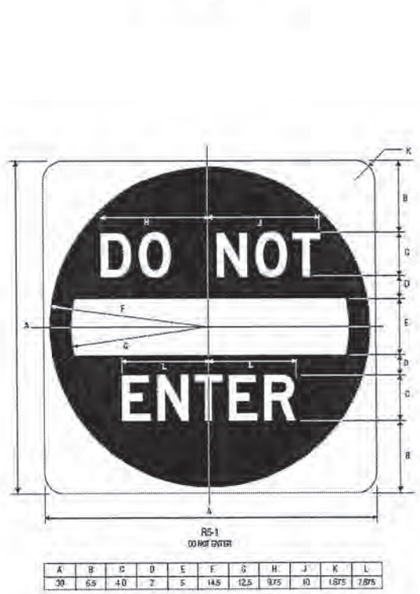
A	B	C	D	E	F	G	H	J	K	L
18	.375	.625	1.674	7	5	7.C	2.375	5	4.375	7.C

M	N	P	Q	R	S	T	U
6.364	6.605	1.240	7.605	1.220	1.229	6.605	1.5

*Series 2000 Standard Alphabets.
**Insert R1-2 and size to fit.
***Insert R10-6a Arrow and size to fit.
****See 6-10 for design detail.

Asterisk designations refer to Manuals of Uniform Traffic Control Devices (MUTCD)

COLORS: LEGEND & ARROW – BLACK
RED SYMBOL – BLACK
BACKGROUND – WHITE (RETROREFLECTIVE)
YIELD SYMBOL – RED (RETROREFLECTIVE)



R5-1
DO NOT ENTER

A	B	C	D	E	F	G	H	J	K	L
30	6.5	4.0	2	5	14.5	12.5	9.75	10	1.875	7.875

COLORS: SYMBOL – RED (RETROREFLECTIVE)
LEGEND & BACKGROUND – WHITE (RETROREFLECTIVE)



R7-8 NO PARKING

LEGEND – GREEN (RETROREFL), WHITE SYMBOL ON BLUE (RETROREFL)
BACKGROUND – WHITE (RETROREFL.)

Asterisk designations refer to Manual of Uniform Traffic Control Devices

*Reduce spacing 50%.
**See page 6-31.
***See page 6-2 for arrow design.

Note: Arrow may also point left or right as warranted or may be deleted entirely if a sign is to be placed for each individual accessible parking stall.



R6-1R
ONEWAY

A	B	C	D	E	F	G	H	J	K	L	M
36	12	.5	3.375	2.625	3	1.25	3.125	2	9.625	9	2

N	P	Q	R	S	T	U	V
a.D.	1.5	11	9.125	2	9.625	1.25	3

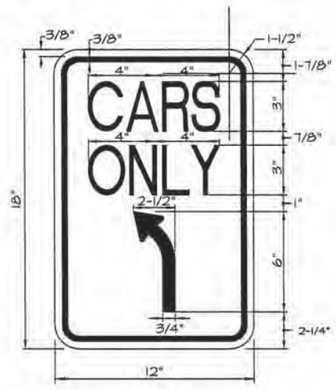
*Series 2000 Standard Alphabets.
**See page 6-2 for arrow design.

Asterisk designations refer to Manual of Uniform Traffic Control Devices (MUTCD)



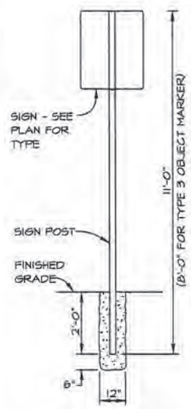
R6-1L
ONEWAY

COLORS: LEGEND – BLACK
BACKGROUND – BLACK
ARROW – WHITE (RETROREFLECTIVE)



COLORS:
LEGEND – RED
BACKGROUND WHITE

SIGN DETAIL - "CARS ONLY"
N.T.S.



NOTES: (SIGN POST)

1. SIGN POST SHALL HAVE A 2-3/8 INCH OUTSIDE DIAMETER AND BE 11 FEET IN LENGTH. THEY SHALL BE EITHER SCH. 40 ALUMINUM PIPE OR GALVANIZED STEEL W/ A WALL THICKNESS OF 0.065 INCHES. THE INSIDE WALL SHALL BE GALVANIZED OR HAVE A FULL ZINC BASED ORGANIC COATING IN ACCORDANCE WITH ASTM-A513 TO OBTAIN A WEIGHT OF 0.90 OZ. PER SQ. FT. COMMERCIAL ZINC WEIGHT (G90).
2. SIGNS ARE TO BE MOUNTED A MINIMUM OF 3.5 FEET FROM THE BACK OF CURB WITH A MINIMUM CLEARANCE FROM THE SIDEWALK OF 1.5 FEET.
3. SIGN POST SHALL BE MOUTED 24 INCHES IN THE GROUND AND BE SET IN A CONCRETE BASE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF UNDERGROUND UTILITIES AND STRUCTURES SHOWN OR NOT SHOWN PRIOR TO THE PLACEMENT OF SIGN POSTS.

SIGN POST PLACEMENT
N.T.S.

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

MSD P-XXXXXXXX MSD BASE MAP XXX

Stanley F. Visnovske
E-19136
Professional Engineer
I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411 THAT THIS DRAWING SHEET IS AUTHENTICATED BY MY SEAL.

TRJ. ARCHITECTS — ARCHITECT
WILLIAM TAO & ASSOCIATES, INC. — MECHANICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — PLUMBING / FP ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — ELECTRICAL ENGINEER
KPFF CONSULTING ENGINEERS — STRUCTURAL ENGINEER
EDSI - ENGINEERING DESIGN SOURCE — CIVIL ENGINEER
PDS - PLANNING DESIGN STUDIO — LANDSCAPE ARCHITECT

PARKWAY SCHOOLS

ROSS
ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 061601B
1150 Ross Avenue St. Louis, Missouri 63146

TRJ Architects of the Possible

DATE: 12.01.16
REVISIONS
DWG. BY
PSD PROJECT NO. 091601B
PROJECT NO. 14-006.15
SHEET NO.
C2.3
SIGN DETAILS

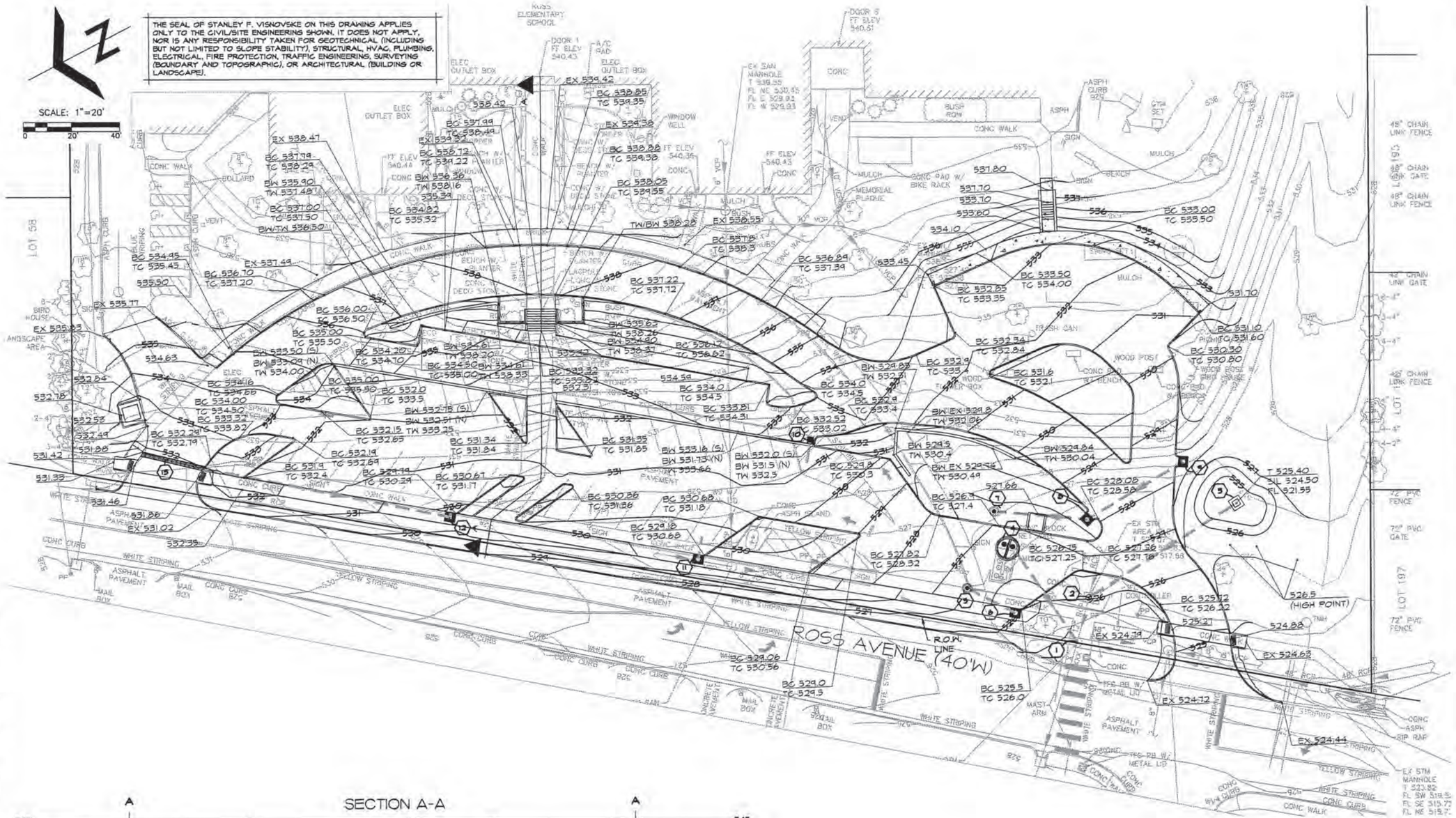
EDSI PROJECT #E-14-020.25

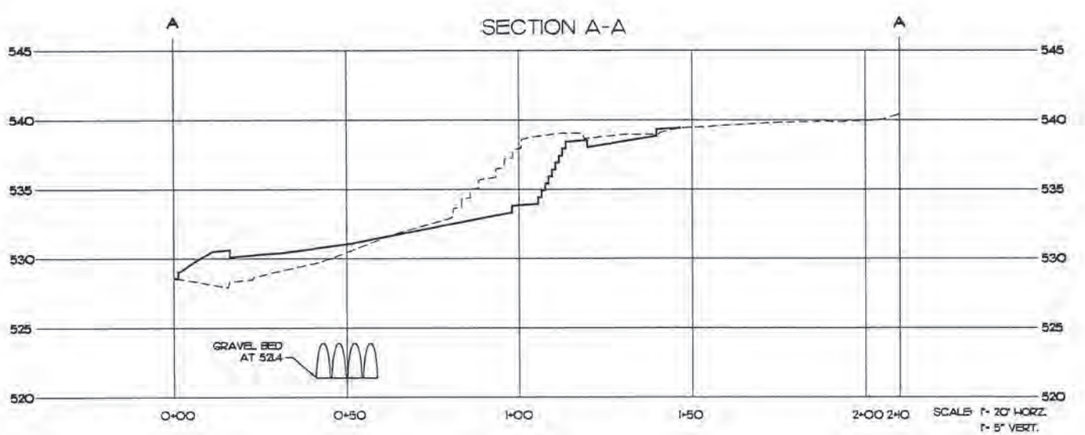
11/28/2016 3:36:39 PM Veronica Page
Z:\Parkway School District\E-14-020.25 - Ross Elementary\ISSSUE FOR BID\Revised Entry A -2016.11.28_TRANSLATED.dwg

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

SCALE: 1"=20'

0 20' 40'





11/28/2016 3:50:58 PM Veronica Page
Z:\Parkway School District\E-14-020.25 - Ross Elementary\ISSSUE FOR BID\Revised Entry A -2016.11.28_TRANSLATED.dwg

TRJ. ARCHITECTS — ARCHITECT
WILLIAM TAO & ASSOCIATES, INC. — MECHANICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — PLUMBING / FP ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — ELECTRICAL ENGINEER
KPFF CONSULTING ENGINEERS — STRUCTURAL ENGINEER
EDSI - ENGINEERING DESIGN SOURCE — CIVIL ENGINEER
PDS - PLANNING DESIGN STUDIO — LANDSCAPE ARCHITECT

Stanley F. Visnovske E-13134 Professional Engineer I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411 THAT THIS DRAWING SHEET IS AUTHENTICATED BY MY SEAL.

PARKWAY SCHOOLS

ROSS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 061601B

1150 Ross Avenue St. Louis, Missouri 63146

TRJ Architects of the Possible

DATE: 12.01.16

REVISIONS

DWG. BY

PSD PROJECT NO. 091601B

PROJECT NO. 14-006.15

SHEET NO.

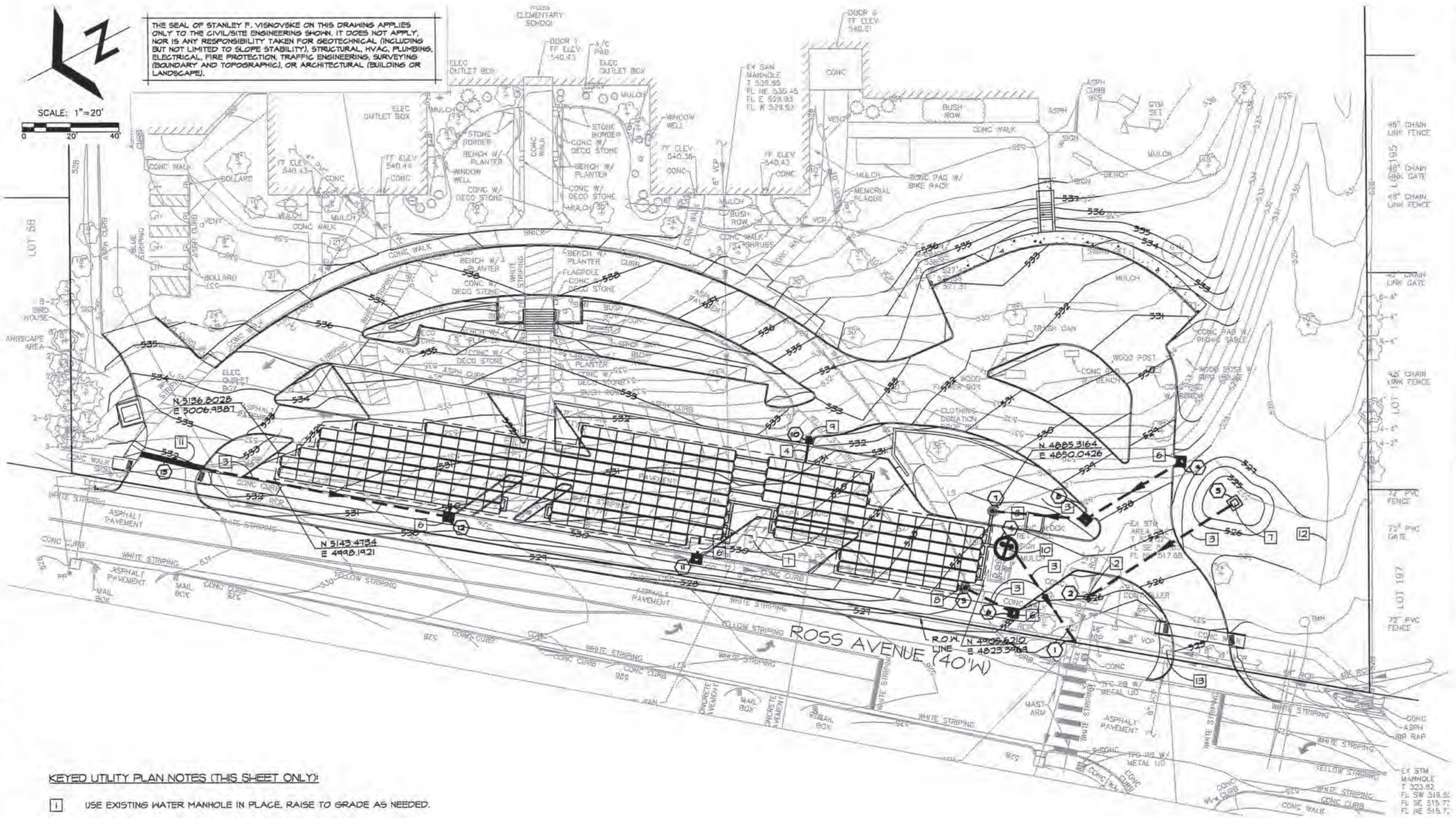
C3

GRADING PLAN

EDSI PROJECT #E-14-020.25

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDINGS OR LANDSCAPE).

SCALE: 1"=20'



KEYED UTILITY PLAN NOTES (THIS SHEET ONLY):

1. USE EXISTING WATER MANHOLE IN PLACE. RAISE TO GRADE AS NEEDED.
2. CONVERT EXISTING INLET TO MANHOLE. RAISE TO GRADE AS NEEDED.
3. NEW STORM SEWER, SEE PROFILES ON SHEET C4.1.
4. 10" PVC STORM PIPE X 8 LF, SEE INSERT-A-TEE CONNECTION DETAIL ON SHEET C9.
5. 10" PVC STORM PIPE X 9 LF, SEE INSERT-A-TEE CONNECTION DETAIL ON SHEET C9.
6. NEW MSD STANDARD CURB INLET.
7. NEW MSD STANDARD 4 WAY INLET.
8. NEW MANHOLE, SEE DETAIL ON SHEET C9.
9. NEW MSD STANDARD STEEL GRATE INLET.
10. NEW OUTLET STRUCTURE, SEE DETAIL ON SHEET C7.
11. TRENCH GRATE X 28 LF, SEE DETAIL ON SHEET C6.
12. POSSIBLE LOCATION OF EXISTING FIBER OPTIC LINE.
13. USE EXISTING SANITARY MANHOLE IN PLACE. RAISE TO GRADE AS NEEDED.

SEE SHEET C7 FOR STORMTECH DIMENSIONS

MSD P-XXXXXXXX MSD BASE MAP XXX

11/28/2016 3:51:14 PM Veronica Page
Z:\Parkway School District\E-14-020.25 - Ross Elementary\ISSSUE FOR BID\Revised Entry A -2016.11.28_TRANSLATED.dwg

TRU ARCHITECTS
WILLIAM TAO & ASSOCIATES, INC. — ARCHITECT
WILLIAM TAO & ASSOCIATES, INC. — MECHANICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — PLUMBING / FP ENGINEER
KPFF CONSULTING ENGINEERS — ELECTRICAL ENGINEER
EDSI - ENGINEERING DESIGN SOURCE — STRUCTURAL ENGINEER
PDS - PLANNING DESIGN STUDIO — CIVIL ENGINEER
LANDSCAPE ARCHITECT

Stanley F. Visnovske
E-18126
Professional Engineer
I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411 THAT THIS DRAWING SHEET IS AUTHENTICATED BY MY SEAL.

PARKWAY SCHOOLS

ROSS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 061601B
1150 Ross Avenue
St. Louis, Missouri 63146

TRU Architects of the Possible

DATE: 12.01.16

REVISIONS

DWG. BY

PSD PROJECT NO. 091601B

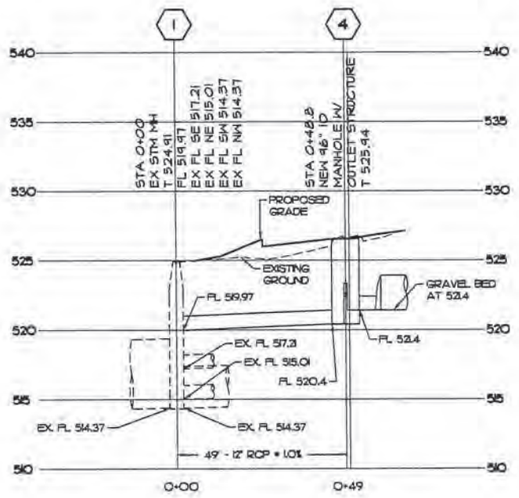
PROJECT NO. 14-006.15

SHEET NO.

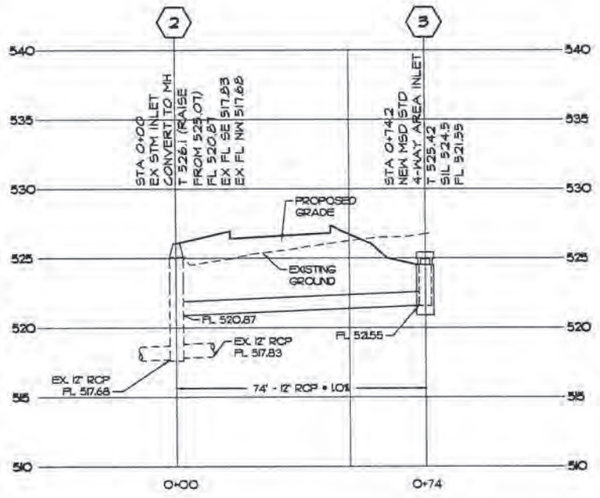
C4

UTILITY PLAN

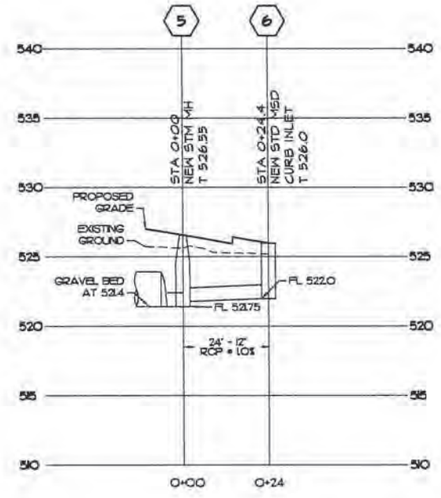
EDSI PROJECT #E-14-020.25



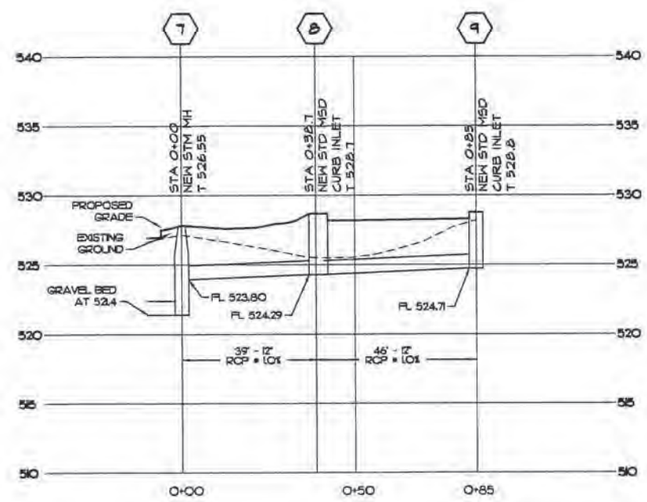
SCALE: 1" = 20' HORZ.
1" = 5' VERT.



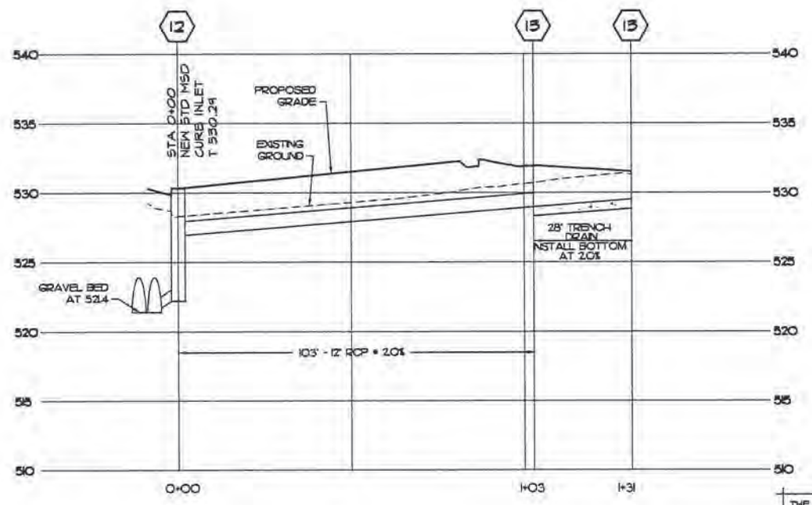
SCALE: 1" = 20' HORZ.
1" = 5' VERT.



SCALE: 1" = 20' HORZ.
1" = 5' VERT.



SCALE: 1" = 20' HORZ.
1" = 5' VERT.



SCALE: 1" = 20' HORZ.
1" = 5' VERT.

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

MSD P-XXXXXXXX MSD BASE MAP XXX

11/28/2016 3:38:53 PM Veronica Page
Z:\Parkway School District\E-14-020.25 - Ross Elementary\ISSSUE FOR BID\Revised Entry A -2016.11.28_TRANSLATED.dwg

TRJ ARCHITECTS — ARCHITECT
WILLIAM TAO & ASSOCIATES, INC. — MECHANICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — PLUMBING / FP ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — ELECTRICAL ENGINEER
RPFF CONSULTING ENGINEERS — STRUCTURAL ENGINEER
EDSI - ENGINEERING DESIGN SOURCE — CIVIL ENGINEER
PDS - PLANNING DESIGN STUDIO — LANDSCAPE ARCHITECT

Stanley F. Visnovske
E-18136
Professional Engineer
I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411 THAT THIS DRAWING SHEET IS AUTHENTICATED BY MY SEAL.

PARKWAY SCHOOLS

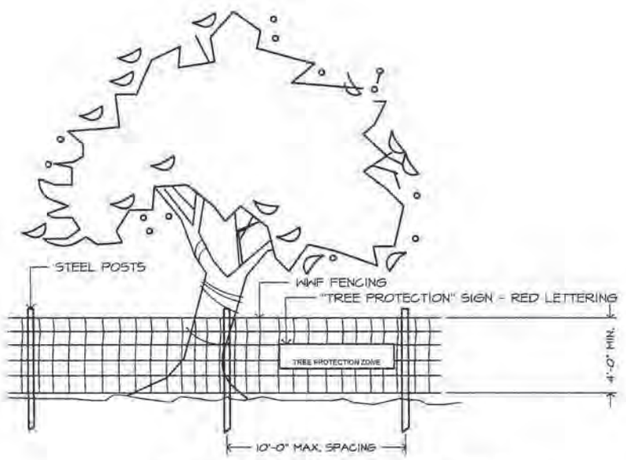
ROSS
ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND
SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 061601B
1150 Ross Avenue St. Louis, Missouri 63146

TRJ Architects of the Possible

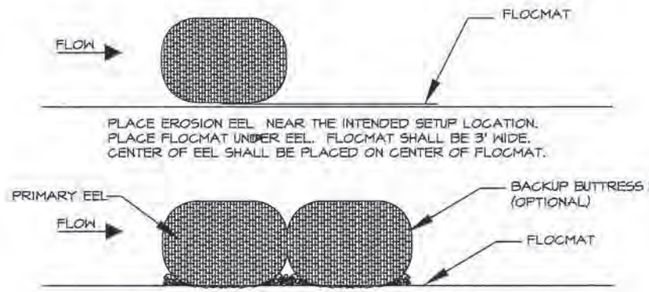
DATE: 12.01.16
REVISIONS

DWG. BY
PSD PROJECT NO. 091601B
PROJECT NO. 14-006.15
SHEET NO. C4.1
PROFILES

EDSI PROJECT #E-14-020.25



TREE PROTECTION DETAIL
N.T.S.



PLACE EROSION EEL NEAR THE INTENDED SETUP LOCATION. PLACE FLOCMAT UNDER EEL. FLOCMAT SHALL BE 3' WIDE. CENTER OF EEL SHALL BE PLACED ON CENTER OF FLOCMAT.

MOVE THE EEL OVER THE FLOCMAT AREA.

PLACE A SECOND EEL ADJACENT TO THE INITIAL EEL LOCATION (DOWNSLOPE) TO PROVIDE ADDITIONAL WEIGHT AS A BUTTRESS (OPTIONAL).

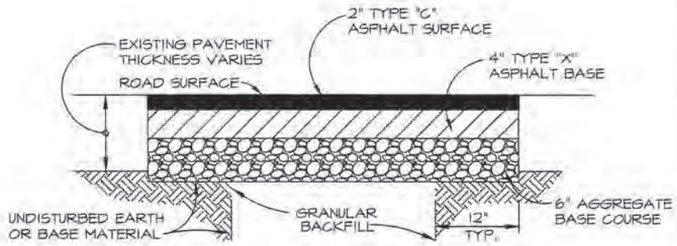
MAINTENANCE:

1. KEEP BAGS FREE OF ACCUMULATED SILT, DEBRIS, ETC., UNTIL THE DISTURBED AREA HAS BEEN ADEQUATELY STABILIZED.

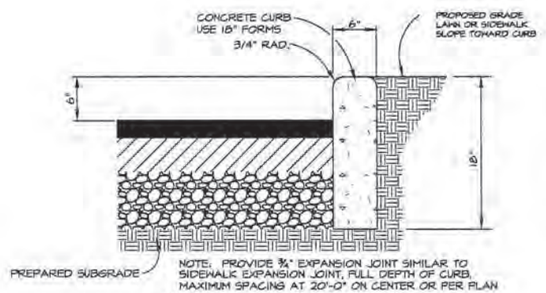
2. REMOVE SEDIMENT AND DEBRIS WHEN ACCUMULATION AFFECTS THE PERFORMANCE OF THE DEVICE, AFTER A RAIN, AND WHEN DIRECTED.

3. REPAIR OR REPLACE DAMAGED DEVICES THAT ARE TORN OR PUNCTURED AS REQUIRED TO MAINTAIN THE INTEGRITY OF THE DEVICE.

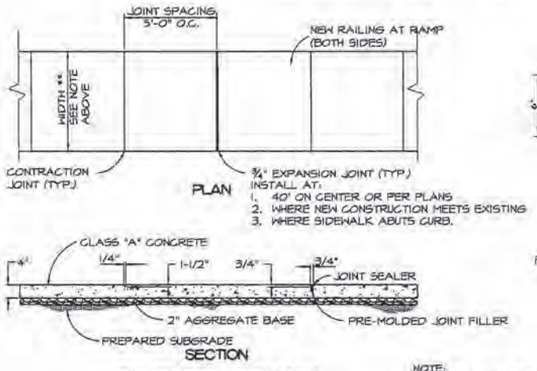
SILTATION CONTROL DETAIL
N.T.S.



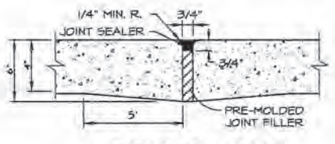
ASPHALT PAVEMENT SECTION
N.T.S.



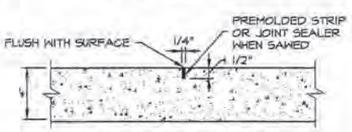
NEW VERTICAL CURB
N.T.S.



CONCRETE SIDEWALK
N.T.S.

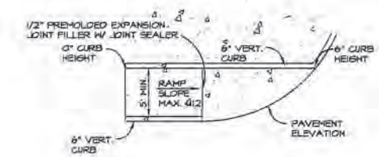


EXPANSION JOINT
N.T.S.



NOTE: SEAL ALL JOINTS WITH APPROVED JOINT SEALER

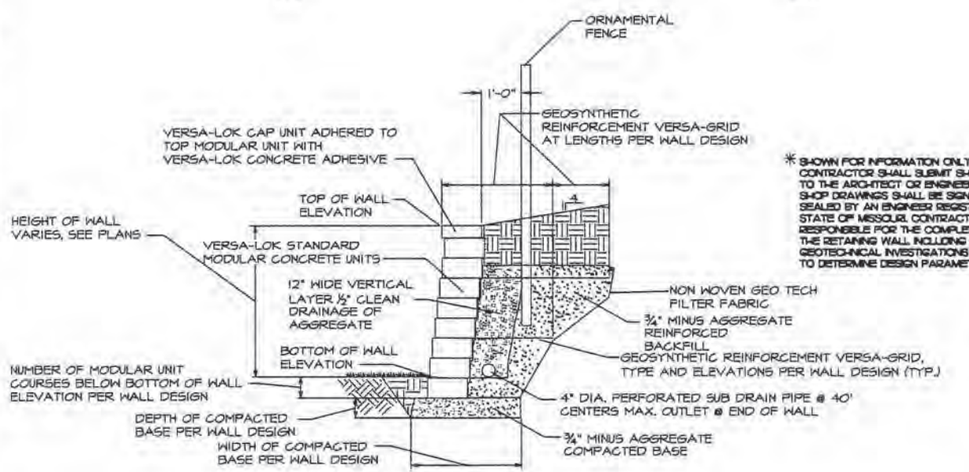
CONTRACTION JOINT
N.T.S.



GENERAL NOTES:

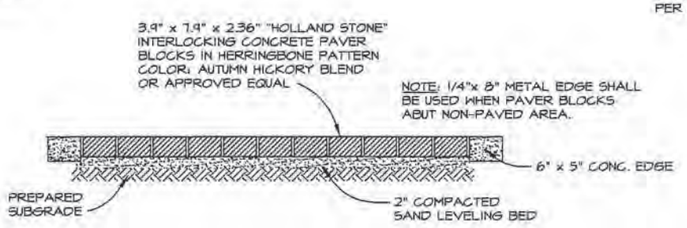
1. MINIMUM SIDEWALK WIDTH ALONG 6" VERTICAL CURB SHALL BE 5 FEET. MINIMUM SIDEWALK WIDTH ALONG 3" ROLLED CURB SHALL BE 4 FEET.
2. MAXIMUM SIDEWALK CROSS SLOPE 0.02' / FT.
3. ALL SIDEWALK SECTIONS SHALL BE 4" THICK.
4. WHERE CURB RAMP MEETS PAVEMENT, BULLNOSE WILL NOT BE PERMITTED.

STRAIGHT CURB RAMP - 6" VERTICAL CURB (TYPE I)
N.T.S.

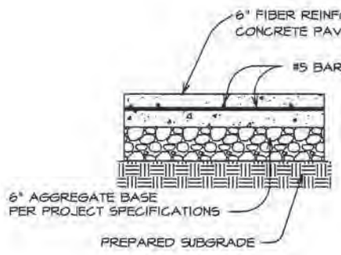


* SHOWN FOR INFORMATION ONLY. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ARCHITECT OR ENGINEER. SUBMITTED SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF MISSOURI. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE DESIGN OF THE RETAINING WALL INCLUDING ANY AND ALL GEOTECHNICAL INVESTIGATIONS NECCESSARY TO DETERMINE DESIGN PARAMETERS.

TYPICAL SECTION-SEGMENTAL RETAINING WALL
SCALE: NONE (FOR INFORMATION ONLY)



PAVER BLOCK DETAIL
N.T.S.



CONCRETE PAD DETAIL
N.T.S.

MSD P-XXXXXXXX MSD BASE MAP XXX

TRU ARCHITECTS — ARCHITECT
WILLIAM TAO & ASSOCIATES, INC. — MECHANICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — PLUMBING / FP ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — ELECTRICAL ENGINEER
KPFF CONSULTING ENGINEERS — STRUCTURAL ENGINEER
EDSI - ENGINEERING DESIGN SOURCE — CIVIL ENGINEER
PDS - PLANNING DESIGN STUDIO — LANDSCAPE ARCHITECT

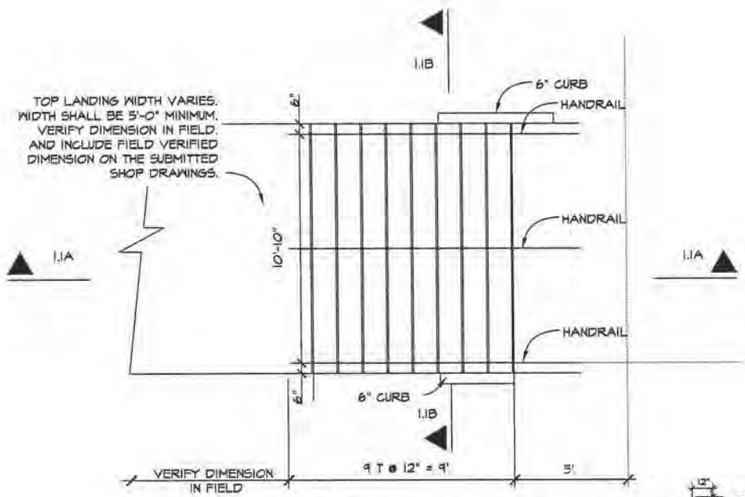
Sheldon F. Viswanka E-18134 Professional Engineer
I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411 THAT THE DRAWING SHEET IS NOT INTENDED TO BE MY SEAL.

PARKWAY SCHOOLS

ROSS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 061601B
1150 Ross Avenue St. Louis, Missouri 63146

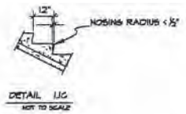
TRU Architects of the Frontier
DATE: 12.01.16
REVISIONS
DWG. BY
PSD PROJECT NO. 061601B
PROJECT NO. 14-006.15
SHEET NO. C5
DETAILS
EDSI PROJECT #E-14-020.25

11/28/2016 3:39:31 PM Veronica Page
Z:\Parkway School District\E-14-020.25 - Ross Elementary\SSSUE FOR BID\Revised Entry A -2016.11.28_TRANSLATED.dwg

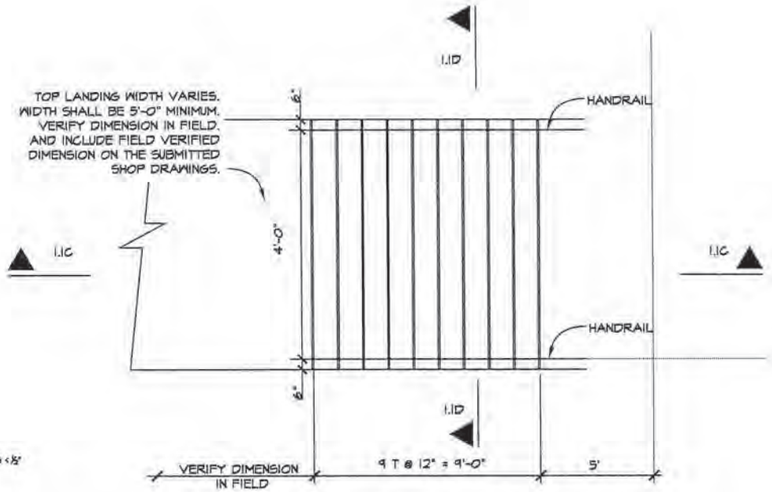


STAIR PLAN (AT ENTRANCE)

NOT TO SCALE

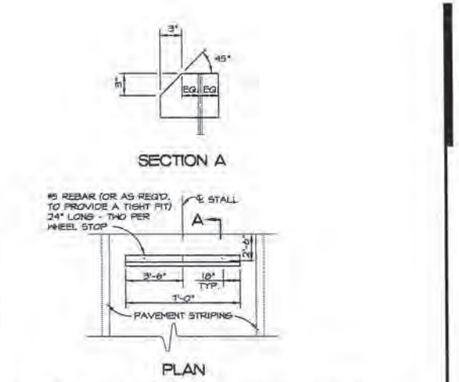


DETAIL 1.1C
NOT TO SCALE



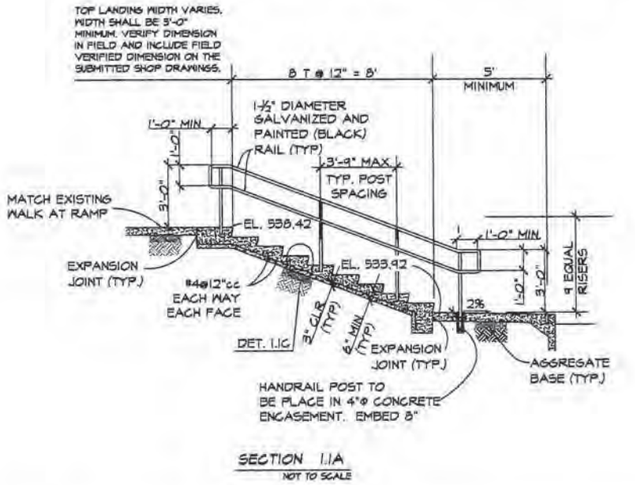
STAIR PLAN (AT PARKING LOT)

NOT TO SCALE



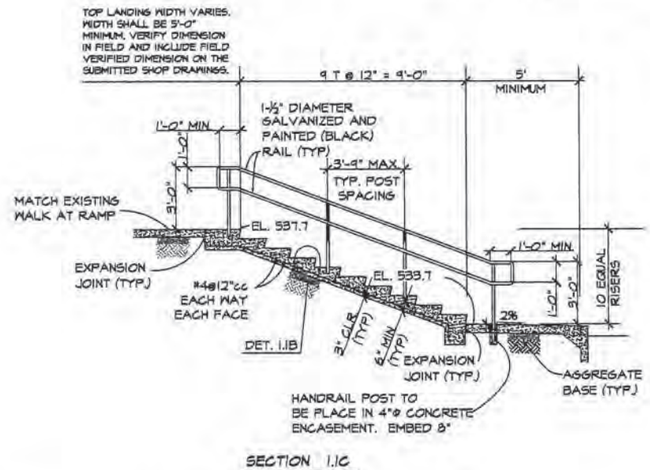
PRECAST CONCRETE WHEEL STOP

N.T.S.



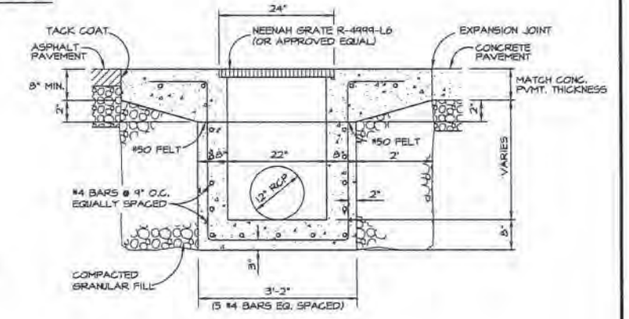
SECTION 1.1A

NOT TO SCALE



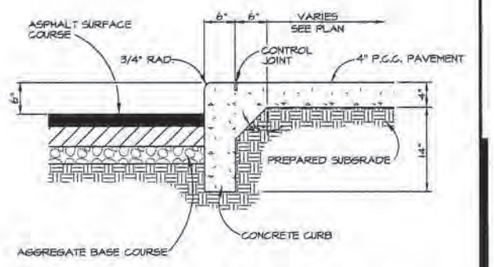
SECTION 1.1C

NOT TO SCALE



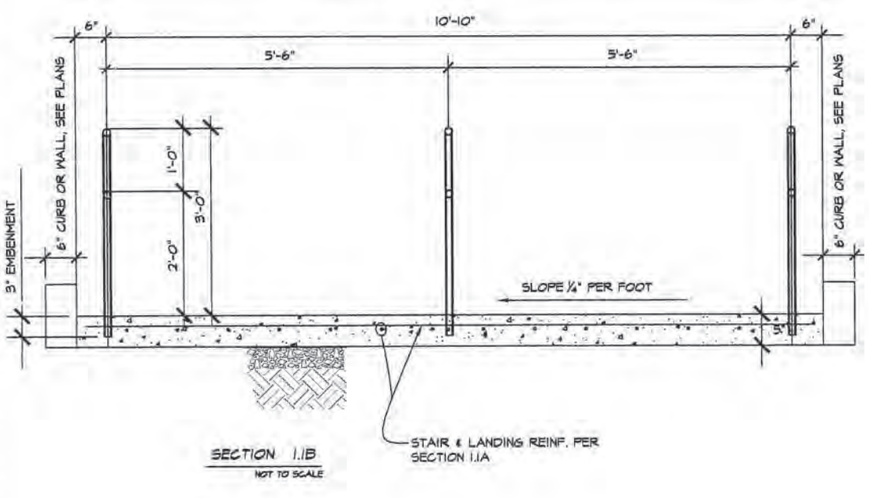
TRENCH DRAIN

N.T.S.



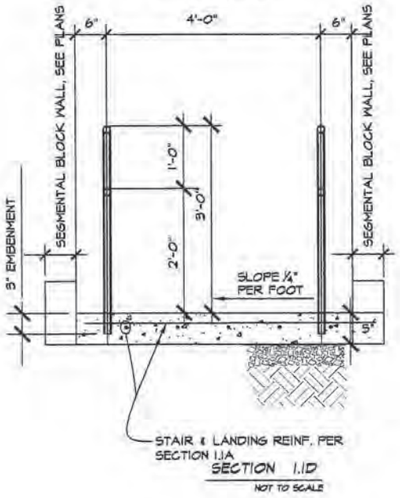
6" INTEGRAL CONCRETE CURB W/ SIDEWALK

N.T.S.



SECTION 1.1B

NOT TO SCALE



SECTION 1.1D

NOT TO SCALE

MSD P-XXXXXXXX MSD BASE MAP XXX

11/28/2016 3:39:39 PM Veronica Page
Z:\Parkway School District\E-14-020.25 - Ross Elementary\ISSSUE FOR BID\Revised Entry A -2016.11.28_TRANSLATED.dwg

Stanley F. Wisemiller
E-14174
Professional Engineer
I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411 THAT THIS DRAWING SHEET IS AUTHENTICATED BY MY SEAL.

ARCHITECT — TRJ. ARCHITECTS
MECHANICAL ENGINEER — WILLIAM TAO & ASSOCIATES, INC.
PLUMBING / FP ENGINEER — WILLIAM TAO & ASSOCIATES, INC.
ELECTRICAL ENGINEER — WILLIAM TAO & ASSOCIATES, INC.
STRUCTURAL ENGINEER — KPFF CONSULTING ENGINEERS
CIVIL ENGINEER — EDSI - ENGINEERING DESIGN SOURCE
LANDSCAPE ARCHITECT — PDS - PLANNING DESIGN STUDIO

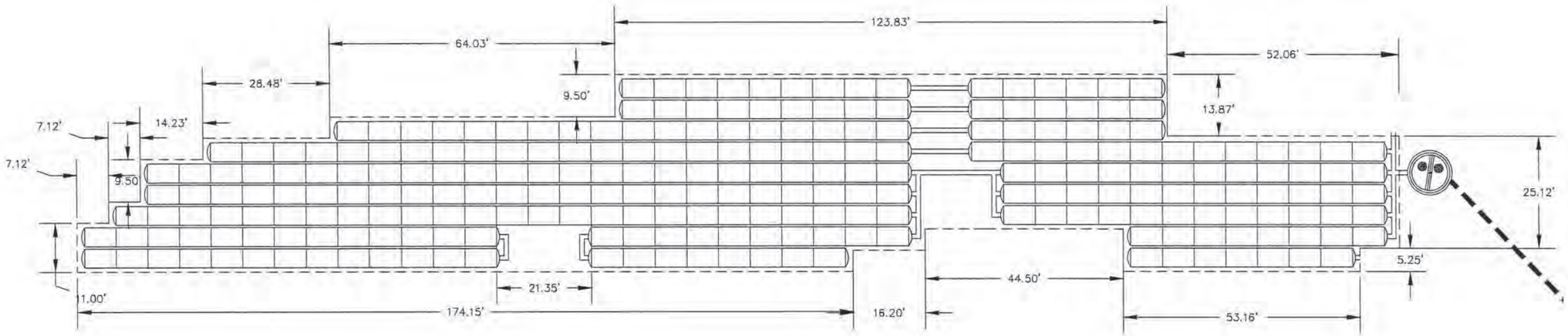
PARKWAY SCHOOLS

ROSS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 0916018
1150 Ross Avenue St. Louis, Missouri 63146

TRJ Architects of the Possible

DATE: 12.01.16
REVISIONS
DWG. BY
PSD PROJECT NO. 0916018
PROJECT NO. 14-006.15
SHEET NO. C6
DETAILS

EDSI PROJECT #E-14-020.25



NOTES

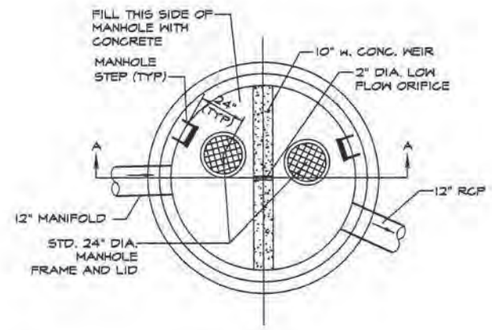
- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH SHEET #7 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.

PROPOSED LAYOUT

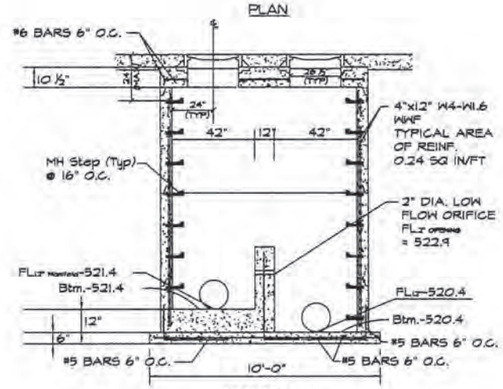
(258) STORMTECH SC-740 CHAMBERS
(40) STORMTECH SC-740 END CAPS
INSTALLED WITH 6" COVER STONE, 6" BASE STONE, 40% STONE VOID
VOLUME AT ELEVATION 522.90: 11,542 CF (BASE STONE EXCLUDED)
TOTAL INSTALLED SYSTEM VOLUME: 21,315 CF (PERIMETER STONE INCLUDED)
AREA OF SYSTEM: 10,144 FT²
PERIMETER OF SYSTEM: 701 FT

STORMWATER CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740 OR APPROVED EQUAL.
2. CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE RESINS TESTED USING ASTM STANDARDS.
3. CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12 ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCE.
6. ONLY CHAMBERS THAT ARE APPROVED BY THE ENGINEER WILL BE ALLOWED. THE CONTRACTOR SHALL SUBMIT (3 SETS) OF THE FOLLOWING TO THE ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
   a. A STRUCTURAL EVALUATION BY A REGISTERED STRUCTURAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12 ARE MET. THE 50-YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2922 MUST BE USED AS A PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
7. CHAMBERS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
8. ALL DESIGN SPECIFICATIONS FOR CHAMBERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S LATEST DESIGN MANUAL.
9. THE INSTALLATION OF CHAMBERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S LATEST INSTALLATION INSTRUCTIONS.



PLAN



SECTION A-A

96" DIAMETER OUTLET STRUCTURE
SCALE: NTS

PROPOSED ELEVATIONS

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	500.95
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	495.45
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	494.95
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	494.95
TOP OF STONE:	524.40
TOP OF CHAMBER:	523.90
12" TOP MANIFOLD INVERT:	522.78
12" BOTTOM MANIFOLD INVERT:	521.45
24" ISOLATOR ROW INVERT:	521.45
BOTTOM OF CHAMBER:	521.40
BOTTOM OF STONE:	520.90

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER:	MARK JOERSZ 636-346-6139 MARK.JOERSZ@ADS-PIPE.COM
ADS SALES REP:	BRIAN SNELSON 618-593-6135 BRIAN.SNELSON@ADS-PIPE.COM
PROJECT NO:	121028

ADVANCED DRAINAGE SYSTEMS, INC.

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

MSD P-XXXXXXXX MSD BASE MAP XXX

TRJ - ARCHITECTS — ARCHITECT
WILLIAM TAO & ASSOCIATES, INC. — MECHANICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — PLUMBING / FP ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — ELECTRICAL ENGINEER
KPFF CONSULTING ENGINEERS — STRUCTURAL ENGINEER
EDSI - ENGINEERING DESIGN SOURCE — CIVIL ENGINEER
PDS - PLANNING DESIGN STUDIO — LANDSCAPE ARCHITECT

Stanley F. Visnovske
E-13761
Professional Engineer
I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411 THAT THE DRAWING SHEET TO WHICH THIS IS AFFIXED IS IN ACCORDANCE WITH MY SEAL

PARKWAY SCHOOLS

ROSS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 061601B
1150 Ross Avenue St. Louis, Missouri 63146

TRJ Architects of the Possible
DATE: 12.01.16
REVISIONS
DWG. BY
PSD PROJECT NO. 091601B
PROJECT NO. 14-006.15
SHEET NO. C7
DETAILS
EDSI PROJECT #E-14-020.25

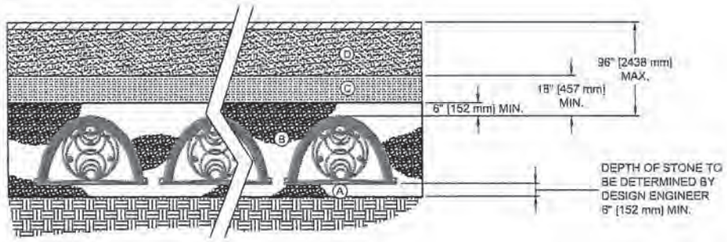
11/28/2016 3:39:48 PM Veronica Page
Z:\Parkway School District\E-14-020.25 - Ross Elementary\ISSSUE FOR BID\Revised Entry A -2016.11.28_TRANSLATED.dwg

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 AND SC-310 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO M43 DESIGNATION(1)	COMPACTION/DENSITY REQUIREMENT
D	FILL MATERIAL FOR LAYER D STARTS FROM THE TOP OF THE C LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISH GRADE ABOVE. NOTE THAT PAVEMENT SUB-BASE MAY BE PART OF THIS LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	FILL MATERIAL FOR LAYER C STARTS FROM THE TOP OF THE EMBEDMENT STONE (B LAYER) TO 18" [457 mm] ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUB-BASE MAY BE A PART OF THIS LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, < 35% FINES. MOST PAVEMENT SUB-BASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTION AFTER 12" [305 mm] OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" [152 mm] LIFTS TO A MIN. 95% STANDARD PROCTOR DENSITY (2). ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs [53 kN]. DYNAMIC FORCE NOT TO EXCEED 20,000 lbs [89 kN].
B	EMBEDMENT STONE SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE (A LAYER) TO THE C LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE. NOMINAL SIZE DISTRIBUTION BETWEEN 3/4 - 2 INCH [19 - 51 mm]	3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE. NOMINAL SIZE DISTRIBUTION BETWEEN 3/4 - 2 INCH [19 - 51 mm]	3, 35, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A 95% STANDARD PROCTOR DENSITY(2).

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".

2. AS AN ALTERNATE TO PROCTOR TESTING AND FIELD DENSITY MEASUREMENTS ON OPEN GRADED STONE, STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" [229 mm] (MAX) LIFTS USING TWO FULL COVERAGES WITH AN APPROPRIATE COMPACTOR.



IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF SC-740 CHAMBER SYSTEM

1. STORMTECH SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm) MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
9. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
10. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
11. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

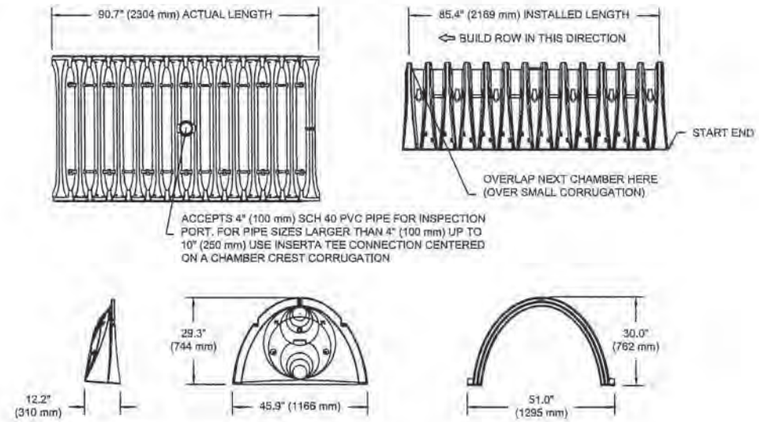
1. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF EQUIPMENT OVER SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

SC-740 TECHNICAL SPECIFICATION

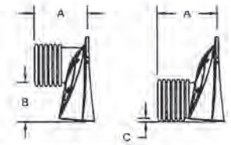
NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 m³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 m³)
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	—
SC740EPE06B / SC740EPE06BPC			—	0.5" (13 mm)
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	—
SC740EPE08B / SC740EPE08BPC			—	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	—
SC740EPE10B / SC740EPE10BPC			—	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	—
SC740EPE12B / SC740EPE12BPC			—	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	—
SC740EPE15B / SC740EPE15BPC			—	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	—
SC740EPE18B / SC740EPE18BPC			—	1.6" (41 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)	—	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

MSD P-XXXXXXXX MSD BASE MAP XXX

TRL ARCHITECTS — ARCHITECT
WILLIAM TAO & ASSOCIATES, INC. — MECHANICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — PLUMBING / FP ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — ELECTRICAL ENGINEER
KPFF CONSULTING ENGINEERS — STRUCTURAL ENGINEER
EDSI - ENGINEERING DESIGN SOURCE — CIVIL ENGINEER
PDS - PLANNING DESIGN STUDIO — LANDSCAPE ARCHITECT

Stanley E. Vossmeier
E-13135
Professional Engineer
I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411 THAT THIS DRAWING SHEET IS AUTHENTICATED BY MY SEAL.

PARKWAY SCHOOLS

ROSS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 061601B
1150 Ross Avenue St. Louis, Missouri 63146

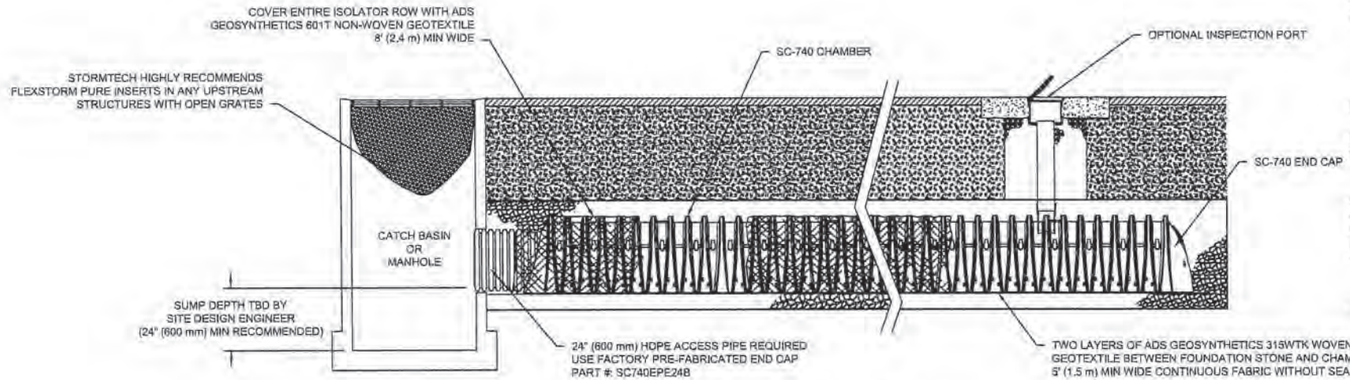
TRL Architects of the Possible

DATE: 12.01.16
REVISIONS

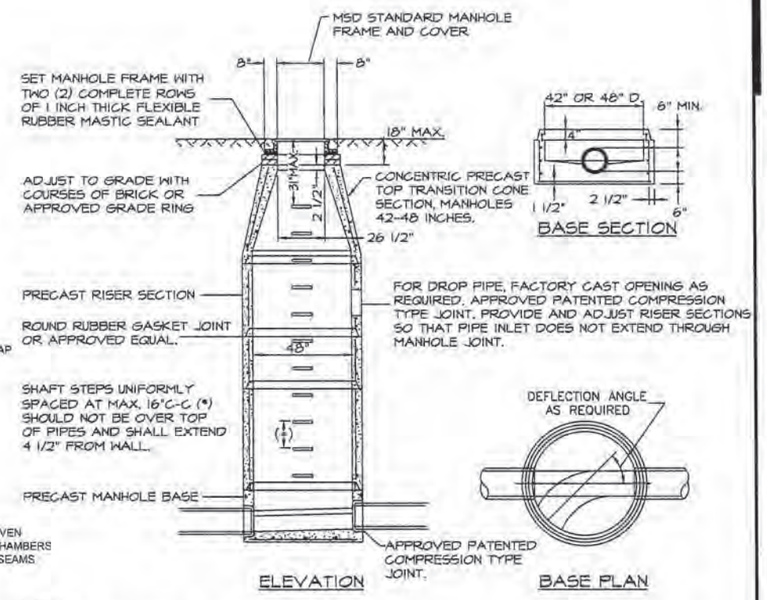
DWG. BY
PSD PROJECT NO. 061601B
PROJECT NO. 14-006.15
SHEET NO. C8
DETAILS

EDSI PROJECT #E-14-020.25

11/28/2016 3:39:57 PM Veronica Page
Z:\Parkway School District\E-14-020.25 - Ross Elementary\ISSSUE FOR BID\Revised Entry A -2016.11.28_TRANSLATED.dwg



SC-740 ISOLATOR ROW DETAIL
NTS



NOTES:
1) MANHOLE SHALL MEET ASTM C-478 REQUIREMENTS.
2) FLOWLINE ELEVATION OF INCOMING PIPES SHALL BE 1 INCH HIGHER THAN THAT OF OUTGOING PIPE.
3) PRIOR TO FABRICATION, SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL.

PRE-CAST CONCRETE MANHOLE
N.T.S.

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

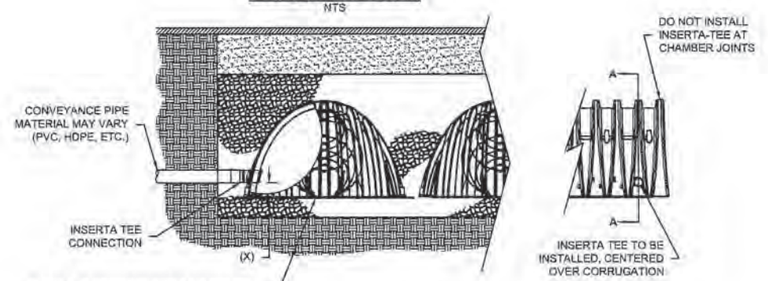
STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

INSERTA TEE DETAIL
NTS



CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-740	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON		

NOTE:
PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.

MSD P-XXXXXXXX MSD BASE MAP XXX

Stanley F. Voorhees
E-19134
Professional Engineer
I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411 THAT THE DRAWING SHEET IS ACCURATELY LISTED BY MY SEAL.

ARCHITECT
MECHANICAL ENGINEER
PLUMBING / FP ENGINEER
ELECTRICAL ENGINEER
STRUCTURAL ENGINEER
CIVIL ENGINEER
LANDSCAPE ARCHITECT

TRU, ARCHITECTS
WILLIAM TAO & ASSOCIATES, INC.
WILLIAM TAO & ASSOCIATES, INC.
WILLIAM TAO & ASSOCIATES, INC.
KPFF CONSULTING ENGINEERS
EDSI - ENGINEERING DESIGN SOURCE
PDS - PLANNING DESIGN STUDIO

PARKWAY SCHOOLS

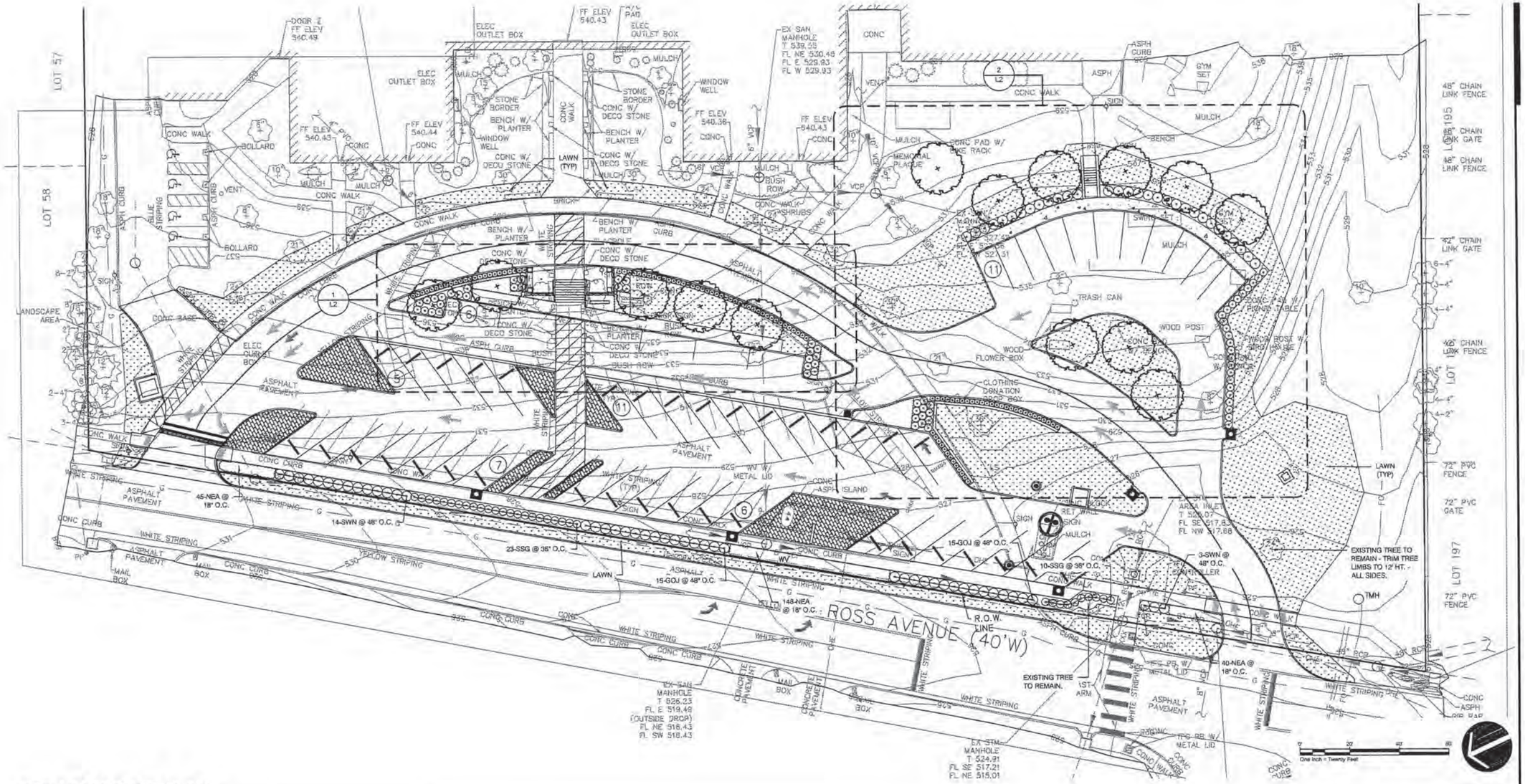
ROSS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 0916018
1150 Ross Avenue St. Louis, Missouri 63146

TRU Architects of the Possible

DATE: 11.04.16
REVISIONS
DWG. BY
PSD PROJECT NO. 0916018
PROJECT NO. 14-006.15
SHEET NO. C9
DETAILS

EDSI PROJECT #E-14-020.25

11/28/2016 2:32:06 PM Veronica Page
Z:\Parkway School District\E-14-020.25 - Ross Elementary\ISSSUE FOR BID\Revised Entry A -2016.11.28_TRANSLATED.dwg



1 L1 LANDSCAPE PLAN

PLAN

1" = 20' - 0"

GENERAL NOTES:

1. REFER TO DEMOLITION PLAN FOR REMOVAL OF EXISTING VEGETATION.
2. UNLESS OTHERWISE NOTED, ALL NATURAL VEGETATION SHALL BE MAINTAINED WHERE IT DOES NOT INTERFERE WITH CONSTRUCTION. PROTECT EXISTING UTILITIES, STRUCTURES OR VEGETATION FROM DAMAGE. CONTRACTOR SHALL MAINTAIN AND SECURE THE PROJECT SITE TO PROTECT THE PUBLIC FROM INJURY DUE TO WORK AND RELATED MATERIAL.
3. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH OTHER SITE RELATED WORK BEING PERFORMED BY OTHERS. REFER TO CIVIL, STRUCTURAL, BUILDING, AND UTILITY DRAWINGS FOR FURTHER COORDINATION OF WORK TO BE COMPLETED.
4. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS NOT PRESENTLY KNOWN OR SHOWN. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE TO DETERMINE AND VERIFY THE EXISTENCE OF AND EXACT LOCATION OF ALL UTILITIES.
5. LANDSCAPE CONTRACTOR IS ADVISED TO STUDY THE PLANS AND VISIT THE SITE TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS. REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER'S REPRESENTATIVE.
6. LANDSCAPE CONTRACTOR SHALL STAKE THE LOCATIONS OF ALL PROPOSED PLANT MATERIAL AND PLANTING BED EDGES FOR APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
7. ALL PLANT MATERIAL SHALL BE WARRANTED FOR A PERIOD OF 12 MONTHS AFTER ACCEPTANCE BY OWNER.
8. CONTRACTOR SHALL STAKE AND BRACE TREES IMMEDIATELY FOLLOWING INSTALLATION ACCORDING TO PLANS, DETAILS, AND SPECIFICATIONS.
9. ALL PLANTING BED EDGES SHALL BE SPADE CUT UNLESS OTHERWISE INDICATED.
10. CONTRACTOR TO SOD ALL AREAS DISTURBED DUE TO CONSTRUCTION ACTIVITIES.
11. ALL PLANT MATERIAL SHALL BE TAGGED OR OTHERWISE APPROVED BY THE OWNER'S REPRESENTATIVE. APPROVAL IN THE NURSERY DOES NOT INDICATE FINAL ACCEPTANCE.
12. ITEMS SHOWN ON THESE DRAWINGS TAKE PRECEDENCE OVER THE MATERIAL LIST. LANDSCAPE CONTRACTOR SHALL VERIFY ALL QUANTITIES AND CONDITIONS PRIOR TO BIDDING AND IMPLEMENTATION OF THE PLAN. NO SUBSTITUTIONS OF TYPES OR SIZE OF PLANT MATERIAL WILL BE ACCEPTED WITHOUT WRITTEN APPROVAL BY OWNER'S REPRESENTATIVE, INCLUDING BOTANICAL VARIETIES OF PLANT MATERIAL (SUCH AS VARIEGATED VS. NOT VARIEGATED).
13. ALL PLANT MATERIAL SHALL CONFORM TO UPPER RANGE LIMITS FOR CALIPER, HEIGHT AND ROOT BALL DIMENSIONS LISTED IN ANSI Z80.1-2014.

TRU ARCHITECTS — ARCHITECT
WILLIAM TAO & ASSOCIATES, INC. — MECHANICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — PLUMBING / FP ENGINEER
WILLIAM TAO & ASSOCIATES, INC. — ELECTRICAL ENGINEER
KPFF CONSULTING ENGINEERS — STRUCTURAL ENGINEER
EDSI - ENGINEERING DESIGN SOURCE — CIVIL ENGINEER
PDS - PLANNING DESIGN STUDIO — LANDSCAPE ARCHITECT

I HEREBY SPECIFY, PURSUANT TO RSMo 327.411 THAT THIS DRAWING SHEET IS AUTHENTICATED BY MY SEAL.

PARKWAY SCHOOLS

ROSS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 061601B
1150 Ross Avenue
St. Louis, Missouri 63146

TRU Architects of the Possible

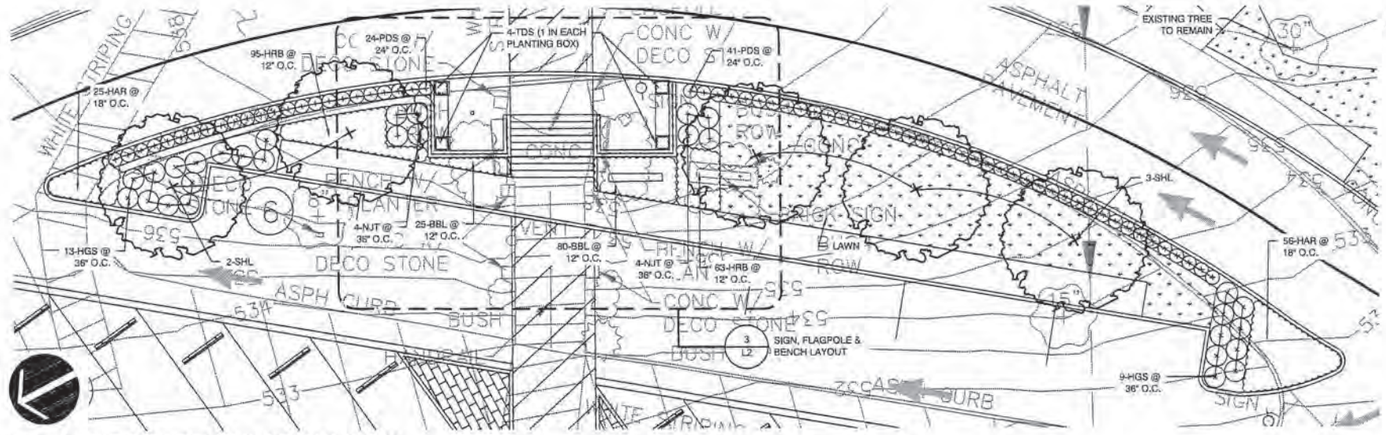
DATE: 12.01.16

REVISIONS

DWG. BY: SBT
PSD PROJECT NO.: 061601B
PROJECT NO.: 14-006.17
SHEET NO.: L1

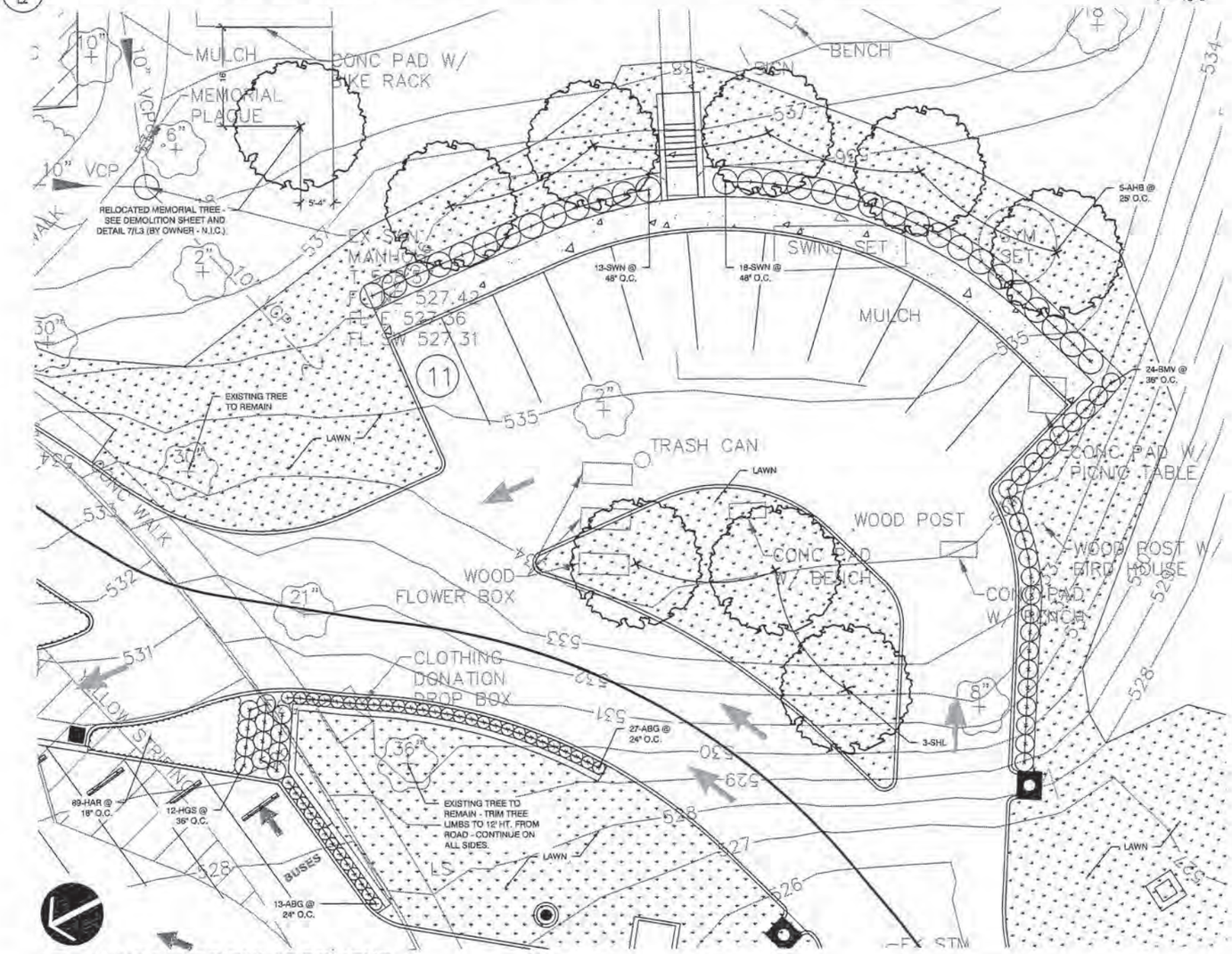
LANDSCAPE PLAN

PDS project #1616 | Last saved 11/28/2016 5:07:38 PM by Stallcert | Last plotted 11/28/2016 5:08:59 PM



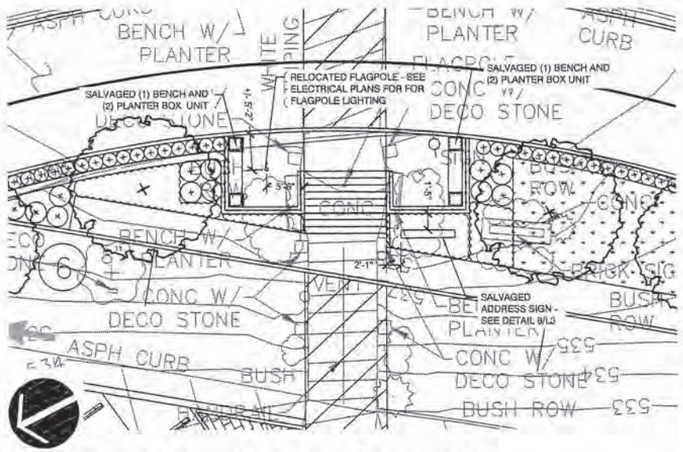
1 L2 LANDSCAPE ENLARGEMENT

1" = 10'-0"



2 L2 LANDSCAPE ENLARGEMENT

1" = 10'-0"



3 L2 SIGN, FLAGPOLE & BENCH LAYOUT

1" = 10'-0"

GENERAL NOTES:

1. REFER TO DEMOLITION PLAN FOR REMOVAL OF EXISTING VEGETATION.
2. UNLESS OTHERWISE NOTED, ALL NATURAL VEGETATION SHALL BE MAINTAINED WHERE IT DOES NOT INTERFERE WITH CONSTRUCTION. PROTECT EXISTING UTILITIES, STRUCTURES OR VEGETATION FROM DAMAGE. CONTRACTOR SHALL MAINTAIN AND SECURE THE PROJECT SITE TO PROTECT THE PUBLIC FROM INJURY DUE TO WORK AND RELATED MATERIAL.
3. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH OTHER SITE RELATED WORK BEING PERFORMED BY OTHERS. REFER TO CIVIL, STRUCTURAL, BUILDING, AND UTILITY DRAWINGS FOR FURTHER COORDINATION OF WORK TO BE COMPLETED.
4. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS NOT PRESENTLY KNOWN OR SHOWN. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE TO DETERMINE AND VERIFY THE EXISTENCE OF AND EXACT LOCATION OF ALL UTILITIES.
5. LANDSCAPE CONTRACTOR IS ADVISED TO STUDY THE PLANS AND VISIT THE SITE TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS. REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER'S REPRESENTATIVE.
6. LANDSCAPE CONTRACTOR SHALL STAKE THE LOCATIONS OF ALL PROPOSED PLANT MATERIAL AND PLANTING BED EDGES FOR APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
7. ALL PLANT MATERIAL SHALL BE WARRANTED FOR A PERIOD OF 12 MONTHS AFTER ACCEPTANCE BY OWNER.
8. CONTRACTOR SHALL STAKE AND BRACE TREES IMMEDIATELY FOLLOWING INSTALLATION ACCORDING TO PLANS, DETAILS, AND SPECIFICATIONS.
9. ALL PLANTING BED EDGES SHALL BE SPADE CUT UNLESS OTHERWISE INDICATED.
10. CONTRACTOR TO SOD ALL AREAS DISTURBED DUE TO CONSTRUCTION ACTIVITIES.
11. ALL PLANT MATERIAL SHALL BE TAGGED OR OTHERWISE APPROVED BY THE OWNER'S REPRESENTATIVE. APPROVAL IN THE NURSERY DOES NOT INDICATE FINAL ACCEPTANCE.
12. ITEMS SHOWN ON THESE DRAWINGS TAKE PRECEDENCE OVER THE MATERIAL LIST. LANDSCAPE CONTRACTOR SHALL VERIFY ALL QUANTITIES AND CONDITIONS PRIOR TO BIDDING AND IMPLEMENTATION OF THE PLAN. NO SUBSTITUTIONS OF TYPES OR SIZE OF PLANT MATERIAL WILL BE ACCEPTED WITHOUT WRITTEN APPROVAL BY OWNER'S REPRESENTATIVE; INCLUDING BOTANICAL VARIETIES OF PLANT MATERIAL (SUCH AS VARIEGATED VS. NOT VARIEGATED).
13. ALL PLANT MATERIAL SHALL CONFORM TO UPPER RANGE LIMITS FOR CALIPER, HEIGHT AND ROOT BALL DIMENSIONS LISTED IN ANSI Z60.1-2014.

I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411 THAT THIS DRAWING SHEET IS AUTHENTICATED BY MY SEAL.

TRJ ARCHITECTS	ARCHITECT
WILLIAM TAO & ASSOCIATES, INC.	MECHANICAL ENGINEER
WILLIAM TAO & ASSOCIATES, INC.	PLUMBING / FP ENGINEER
WILLIAM TAO & ASSOCIATES, INC.	ELECTRICAL ENGINEER
KPFF CONSULTING ENGINEERS	STRUCTURAL ENGINEER
EDSI - ENGINEERING DESIGN SOURCE	CIVIL ENGINEER
PDS - PLANNING DESIGN STUDIO	LANDSCAPE ARCHITECT

PARKWAY SCHOOLS

ROSS ELEMENTARY SCHOOL

BUILDING RENOVATIONS AND SITE IMPROVEMENTS

PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 061601B

1150 Ross Avenue St. Louis, Missouri 63146

TRJ Architects of the Possible

DATE: 12.01.16

REVISIONS

DWG. BY SBT

PSD PROJECT NO. 061601B

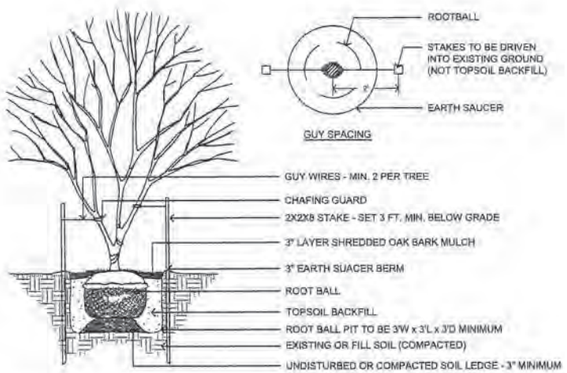
PROJECT NO. 14-006.17

SHEET NO.

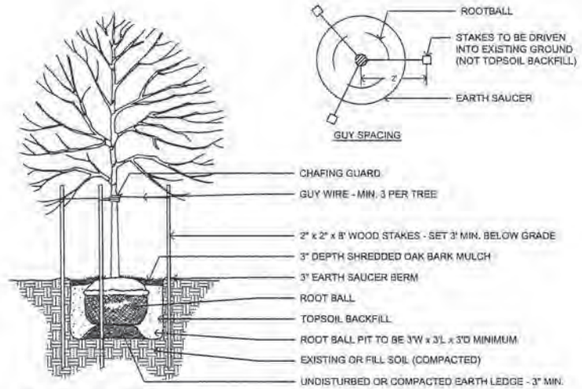
L2

LANDSCAPE PLAN

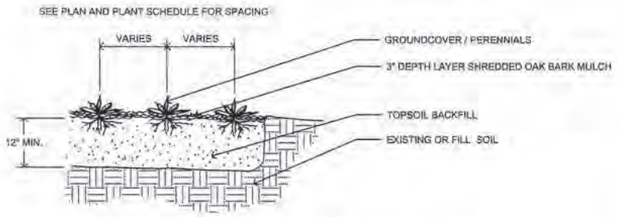
PDS project #1618 | Last saved 11/28/2016 5:07:39 PM by Sabbert | Last plotted 11/28/2016 5:08:40 PM



1 L3 ORNAMENTAL TREE PLANTING
PLAN & SECTION NTS

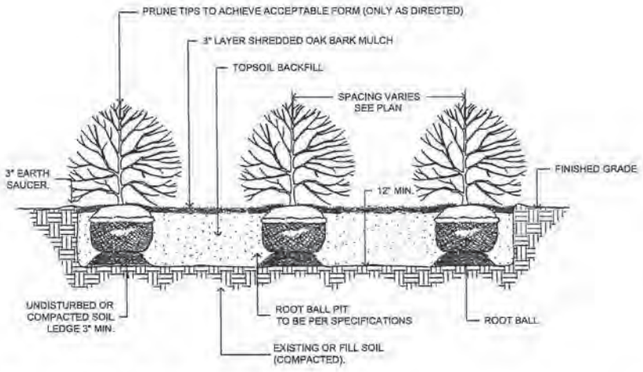


2 L3 CANOPY TREE PLANTING
PLAN & SECTION NTS



NOTE:
ENTIRE BED AREA SHALL BE PREPARED IN ACCORDANCE WITH SPECIFICATIONS.

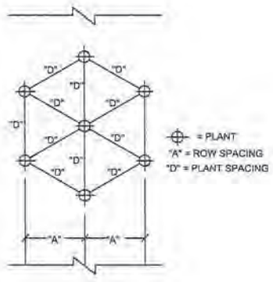
3 L3 GROUNDCOVER AND PERENNIAL PLANTING
SECTION NTS



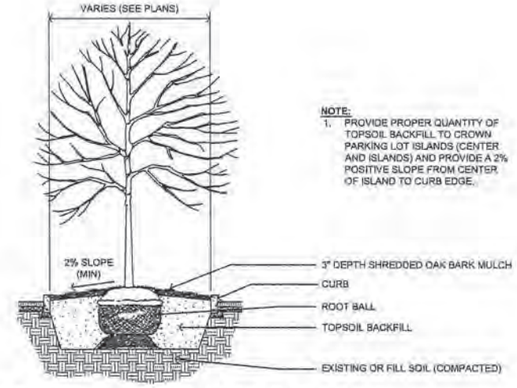
4 L3 DECIDUOUS SHRUB PLANTING
SECTION NTS

FOR USE WITH ALL PLANT TYPES SPACED EQUIDISTANTLY

SPACING "D"	ROW "A"	NO. OF PLANTS	AREA UNIT
10" O.C.	8.66"	1.66	1 sq. ft.
12" O.C.	10.4"	1.15	
15" O.C.	13.0"	7.38	10 sq. ft.
18" O.C.	15.6"	5.12	
24" O.C.	20.8"	2.9	
30" O.C.	26.0"	1.85	
36" O.C.	30.0"	1.28	
4' O.C.	4.33'	4.61	100 sq. ft.
6' O.C.	5.2'	3.2	
8' O.C.	8.93'	1.8	
10' O.C.	8.66'	1.15	

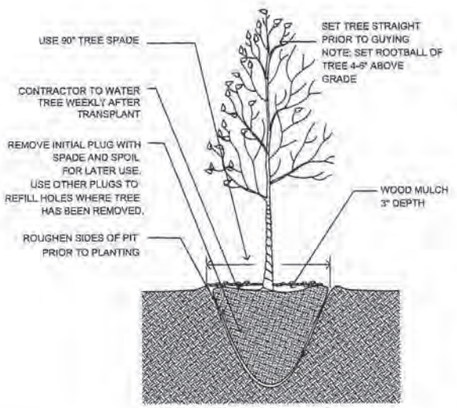


5 L3 PLANT SPACING
DIAGRAM NTS



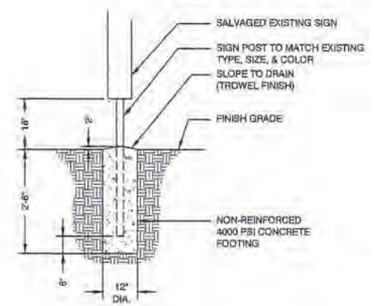
NOTE:
1. PROVIDE PROPER QUANTITY OF TOPSOIL BACKFILL TO CROWN PARKING LOT ISLANDS (CENTER AND ISLANDS) AND PROVIDE A 2% POSITIVE SLOPE FROM CENTER OF ISLAND TO CURB EDGE.

6 L3 PARKING LOT ISLAND PLANTING
SECTION NTS



1. THE LOCATION OF UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES SHOWN ON THE PLANS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS NOT PRESENTLY SHOWN OR KNOWN. THE TREE RELOCATION CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AND VERIFYING THE EXISTENCE OF AND EXACT LOCATION OF ALL UTILITIES.
2. TREE SHALL BE RELOCATED PRIOR TO LEAFING OUT (BUD BREAK) IN THE SPRING. LATEST DATE FOR RELOCATION TO BE ACCOMPLISHED IS FEBRUARY 28, 2017.
3. TREE RELOCATION SHOULD OCCUR WHEN SCHOOL IS NOT IN SESSION OR SCHOOL ACTIVITIES ARE NOT PLANNED ON EITHER A SATURDAY OR SUNDAY. A RELOCATION PLAN, SHOWING EQUIPMENT STAGING AREAS, ACCESS ROUTES AND PATHS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE OWNERS REPRESENTATIVE FOR REVIEW AND APPROVAL PRIOR TO BEGINNING THE RELOCATION WORK. THE OWNERS REPRESENTATIVE SHALL BE NOTIFIED OF THE PLANNED RELOCATION DATE AND TIME 48 HOURS IN ADVANCE OF THE RELOCATION WORK BEING ACCOMPLISHED.
4. TREE SHALL BE RELOCATED AND PLANTED WITHIN 48 HOURS OF THE INITIAL MOVE AND SHALL REMAIN IN THE SPADE MACHINE UNTIL PLANTED.
5. AFTER RELOCATING THE TREE, LOOSEN THE SOIL ALONG THE SEAM BETWEEN THE ROOT BALL AND THE SURROUNDING SOIL OUT TO A RADIUS FROM THE ROOT BALL EDGE EQUAL TO THE DIAMETER OF THE ROOT BALL TO A DEPTH OF 8 - 10 INCHES BY HAND DIGGING TO DISTURB THE SOIL INTERFACE. FILL ANY GAPS BELOW THIS LEVEL WITH LOOSE SOIL.
6. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE TO ENSURE THAT ADEQUATE WATER IS PROVIDED TO THE RELOCATED TREE UNTIL THE DATE OF SUBSTANTIAL COMPLETION ACCEPTANCE. THE CONTRACTOR SHALL ADJUST THE AUTOMATIC IRRIGATION SYSTEM, IF AVAILABLE, AND APPLY ADDITIONAL WATER OR ADJUST FOR LESS WATER USING HOSES AS REQUIRED.
7. HAND WATER ROOT BALL OF THE RELOCATED TREE TO ASSURE THAT THE ROOT BALL HAS MOISTURE ABOVE WILT POINT AND BELOW FIELD CAPACITY. THE RELOCATED TREE SHALL BE INSPECTED WEEKLY BY THE CONTRACTOR FOR SIGNS OF STRESS OR PROBLEMS WITHIN THE FIRST YEAR OF TRANSPLANTING. PERFORM NECESSARY MEASURES FOR SURVIVAL ACCORDING TO CURRENT STANDARDS OF THE INTERNATIONAL SOCIETY OF ARBORICULTURE.
8. THE CONTRACTOR SHALL PROTECT THE RELOCATED TREE FROM DAMAGE DUE TO OPERATIONS BY OTHER CONTRACTORS OR TRESPASSERS. MAINTAIN PROTECTION DURING INSTALLATION UNTIL SUBSTANTIAL COMPLETION ACCEPTANCE. TREAT, REPAIR OR REPLACE DAMAGED WORK IMMEDIATELY.
9. DAMAGE DONE BY THE CONTRACTOR, OR ANY OF THEIR SUB-CONTRACTORS TO THE RELOCATED TREE, INCLUDING ROOTS, TRUNK OR BRANCHES SHALL BE CLEANED, REPAIRED OR PROPERLY PRUNED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER. THE OWNER'S REPRESENTATIVE SHALL DETERMINE WHEN SUCH CLEANING OR REPAIR IS SATISFACTORY.
10. ALL TREE RELOCATION WORK SHALL BE UNDERTAKEN BY A TRAINED TREE RELOCATION CREW UNDER THE SUPERVISION OF A FOREMAN WITH A MINIMUM OF 5 YEARS EXPERIENCE SUPERVISING TREE RELOCATION CREWS.
11. ALL CHEMICAL AND FERTILIZER APPLICATIONS, IF REQUIRED, SHALL BE MADE BY LICENSED APPLICATORS FOR THE TYPE OF CHEMICALS TO BE USED. ALL WORK AND CHEMICAL USE SHALL COMPLY WITH ALL APPLICABLE LOCAL, PROVINCIAL AND FEDERAL REQUIREMENTS.
12. ASSURE THAT HOSES AND WATERING EQUIPMENT AND OTHER MAINTENANCE EQUIPMENT DOES NOT BLOCK PATHS OR BE PLACED IN A MANNER THAT MAY CREATE TRIPPING HAZARDS. USE STANDARD SAFETY WARNING BARRIERS AND OTHER PROCEDURES TO MAINTAIN THE SITE IN A SAFE MANNER FOR VISITORS AT ALL TIMES.
13. ALL WORKERS SHALL WEAR REQUIRED SAFETY EQUIPMENT AND APPAREL APPROPRIATE FOR THE TASKS BEING UNDERTAKEN.
14. THE CONTRACTOR SHALL NOT STORE MAINTENANCE EQUIPMENT AT THE SITE AT TIMES WHEN THEY ARE NOT IN USE UNLESS AUTHORIZED IN WRITING BY THE OWNER'S REPRESENTATIVE.
15. VEHICLES SHALL NOT PARK ON THE SITE INCLUDING WALKS AND LAWN AREAS AT ANY TIME WITHOUT THE OWNER'S REPRESENTATIVE'S WRITTEN PERMISSION.
16. UPDATE THE OWNER'S REPRESENTATIVE MONTHLY TO REVIEW THE STATUS OF THE HEALTH OF THE RELOCATED TREE AND DISCUSS ANY CHANGES THAT ARE NEEDED IN THE MAINTENANCE PROGRAM. AT THE DATE OF SUBSTANTIAL COMPLETION ATTEND A HAND OVER MEETING TO FORMALLY TRANSFER THE RESPONSIBILITIES OF MAINTENANCE TO THE OWNER'S REPRESENTATIVE. PROVIDE ALL INFORMATION ON PAST MAINTENANCE ACTIVITIES AND PROVIDE A LIST OF CRITICAL TASKS THAT WILL BE NEEDED OVER THE NEXT 12 MONTHS.

7 L3 TREE RELOCATION DETAIL (BY OWNER - N.I.C.)
NTS



8 L3 SALVAGED EXISTING ADDRESS SIGN FOOTING
SECTION NTS

I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411 THAT THIS DRAWING SHEET IS AUTHENTICATED BY MY SEAL.

ARCHITECT
MECHANICAL ENGINEER
PLUMBING / FP ENGINEER
ELECTRICAL ENGINEER
STRUCTURAL ENGINEER
CIVIL ENGINEER
LANDSCAPE ARCHITECT

TRU, ARCHITECTS
WILLIAM TAO & ASSOCIATES, INC.
WILLIAM TAO & ASSOCIATES, INC.
WILLIAM TAO & ASSOCIATES, INC.
KPFF CONSULTING ENGINEERS
EDSI - ENGINEERING DESIGN SOURCE
FDS - PLANNING DESIGN STUDIO

PARKWAY SCHOOLS

ROSS
ELEMENTARY SCHOOL

BUILDING RENOVATIONS AND
SITE IMPROVEMENTS

PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 061601B

1150 Ross Avenue
St. Louis, Missouri 63146

TRU Architects of the Possible

DATE: 12.01.16

REVISIONS

DWG. BY: SBT

PSD PROJECT NO.: 0616018

PROJECT NO.: 14-006.17

SHEET NO.: L3

LANDSCAPE DETAILS

PDS project #1618 | Last saved 11/28/2016 4:13:08 PM by Stallbert | Last plotted 11/28/2016 4:14:39 PM

GENERAL NOTES:

1. REFER TO DEMOLITION PLAN FOR REMOVAL OF EXISTING VEGETATION.
2. UNLESS OTHERWISE NOTED, ALL NATURAL VEGETATION SHALL BE MAINTAINED WHERE IT DOES NOT INTERFERE WITH CONSTRUCTION. PROTECT EXISTING UTILITIES, STRUCTURES OR VEGETATION FROM DAMAGE. CONTRACTOR SHALL MAINTAIN AND SECURE THE PROJECT SITE TO PROTECT THE PUBLIC FROM INJURY DUE TO WORK AND RELATED MATERIAL.
3. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH OTHER SITE RELATED WORK BEING PERFORMED BY OTHERS. REFER TO CIVIL, STRUCTURAL, BUILDING, AND UTILITY DRAWINGS FOR FURTHER COORDINATION OF WORK TO BE COMPLETED.
4. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS NOT PRESENTLY KNOWN OR SHOWN. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE TO DETERMINE AND VERIFY THE EXISTENCE OF AND EXACT LOCATION OF ALL UTILITIES.
5. LANDSCAPE CONTRACTOR IS ADVISED TO STUDY THE PLANS AND VISIT THE SITE TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS. REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER'S REPRESENTATIVE.
6. LANDSCAPE CONTRACTOR SHALL STAKE THE LOCATIONS OF ALL PROPOSED PLANT MATERIAL AND PLANTING BED EDGES FOR APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
7. ALL PLANT MATERIAL SHALL BE WARRANTED FOR A PERIOD OF 12 MONTHS AFTER ACCEPTANCE BY OWNER.
8. CONTRACTOR SHALL STAKE AND BRACE TREES IMMEDIATELY FOLLOWING INSTALLATION ACCORDING TO PLANS, DETAILS, AND SPECIFICATIONS.
9. ALL PLANTING BED EDGES SHALL BE SPADE CUT UNLESS OTHERWISE INDICATED.
10. CONTRACTOR TO SOD ALL AREAS DISTURBED DUE TO CONSTRUCTION ACTIVITIES.
11. ALL PLANT MATERIAL SHALL BE TAGGED OR OTHERWISE APPROVED BY THE OWNER'S REPRESENTATIVE. APPROVAL IN THE NURSERY DOES NOT INDICATE FINAL ACCEPTANCE.
12. ITEMS SHOWN ON THESE DRAWINGS TAKE PRECEDENCE OVER THE MATERIAL LIST. LANDSCAPE CONTRACTOR SHALL VERIFY ALL QUANTITIES AND CONDITIONS PRIOR TO BIDDING AND IMPLEMENTATION OF THE PLAN. NO SUBSTITUTIONS OF TYPES OR SIZE OF PLANT MATERIAL WILL BE ACCEPTED WITHOUT WRITTEN APPROVAL BY OWNER'S REPRESENTATIVE; INCLUDING BOTANICAL VARIETIES OF PLANT MATERIAL (SUCH AS VARIEGATED VS. NOT VARIEGATED).
13. ALL PLANT MATERIAL SHALL CONFORM TO UPPER RANGE LIMITS FOR CALIPER, HEIGHT AND ROOT BALL DIMENSIONS LISTED IN ANSI Z60.1-2014.

PLANT SCHEDULE:

KEY	BOTANICAL NAME	COMMON NAME	MISSOURI NATIVE*	SIZE	CONDITION	TOTAL	REMARKS
SHADE TREES							
AHB	*Carpinus caroliniana*	American Hornbeam	Y	3" CAL.	B&B	5	
SHL	*Gleditsia triacanthos f. inermis* 'Skycole' SKYLINE	Skyline Honey Locust	Y	3" CAL.	B&B	8	
EVERGREEN SHRUBS							
GOJ	*Juniperus virginiana* 'Grey Owl'	Grey Owl Juniper	Y	#3	CONT.	30	
SHRUBS							
BMV	*Viburnum dentatum* 'Christom' BLUE MUFFIN	Blue Muffin Viburnum	Y	#3	CONT.	24	
HGS	*Itea virginica* 'Henry's Garnet'	Henry's Garnet Virginia Sweetspire	Y	#3	CONT.	34	
NJT	*Ceanothus americanus*	New Jersey Tea	Y	#3	CONT.	8	
SWN	*Physocarpus opulifolius* 'Seward' SUMMER WINE	Summer Wine Ninebark	Y	#3	CONT.	48	
PERENNIALS							
ABG	Diarrhena americana	American Beakgrain	Y	#1	CONT.	40	
BBL	Liriope muscari 'Big Blue'	Big Blue Lily Turf	N	1 QT	CONT.	105	
HAR	*Heuchera villosa* 'Autumn Bride'	Autumn Bride Hairy Alum Root	Y	1 QT	CONT.	170	
HRB	Penstemon digitalis 'Husker Red'	Husker Red Beardtongue	Y	1 QT	CONT.	158	
NEA	*Symphyotrichum novae-angliae* 'Purple Dome'	Purple Dome New England Aster	Y	1 QT	CONT.	233	
PDS	*Sporobolus heterolepis*	Prairie Dropseed	Y	#1	CONT.	55	
TDS	*Sporobolus heterolepis* 'Tara'	Tara Prairie Dropseed	Y	#1	CONT.	4	
SSG	*Panicum virgatum* 'Shenandoah'	Shenandoah Switch Grass	Y	#1	CONT.	33	

* INCLUDES CULTIVARS OF MISSOURI NATIVES.

TRJ ARCHITECTS
WILLIAM TAO & ASSOCIATES, INC.
WILLIAM TAO & ASSOCIATES, INC.
WILLIAM TAO & ASSOCIATES, INC.
APPF CONSULTING ENGINEERS
EDSI - ENGINEERING DESIGN SOURCE
PDS - PLANNING DESIGN STUDIO

ARCHITECT
MECHANICAL ENGINEER
PLUMBING / FP ENGINEER
ELECTRICAL ENGINEER
STRUCTURAL ENGINEER
CIVIL ENGINEER
LANDSCAPE ARCHITECT

I HEREBY SPECIFY, PURSUANT TO RSMo. 327.411 THAT THIS DRAWING SHEET IS AUTHENTICATED BY MY SEAL

PARKWAY SCHOOLS

ROSS ELEMENTARY SCHOOL
BUILDING RENOVATIONS AND SITE IMPROVEMENTS
PARKWAY SCHOOL DISTRICT
Parkway School District Project No. 061601B
1150 Ross Avenue St. Louis, Missouri 63146

TRJ Architects of the Possible

DATE: 12.01.16

REVISIONS

DWG. BY SBT
PSD PROJECT NO. 061601B
PROJECT NO. 14-006.17
SHEET NO.

L4

LANDSCAPE SCHEDULE

PDS project #1618 | Last saved 11/28/2016 5:07:39 PM by Stallbert | Last plotted 11/28/2016 5:11:24 PM

EXHIBIT-E

CRAIG ELEMENTARY

BMP ORIGINAL PROJECT INFORMATION

PARKWAY SCHOOL DISTRICT

CRAIG ELEMENTARY

RENOVATIONS & SITE IMPROVEMENTS

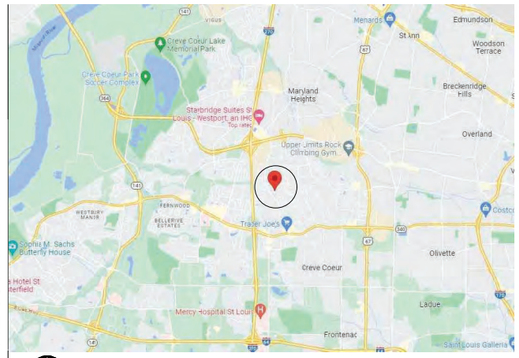
1492 Craig Road
St. Louis, MO 63146

WSP PROJECT NUMBER: 309024934.004
CLIENT PROJECT NUMBER: 092301B

ISSUE FOR PERMIT
VOLUME 1
09-20-2024

DRAWING INDEX - VOLUME 1	
Sheet No:	**Sheet Name**
G0.01	PROJECT COVER SHEET
C1.01	CIVIL GENERAL NOTES
C1.02	PLAYGROUND GENERAL NOTES
C1.03	MSD STANDARD NOTES
C2.01	DEMOLITION PLAN
C2.02	PLAYGROUND DEMOLITION PLAN
C3.01	SITE PLAN
C3.02	PLAYGROUND SITE PLAN
C3.03	PLAYGROUND EQUIPMENT PLAN
C4.01	GRADING & UTILITY PLAN
C4.02	GRADING & UTILITY PLAN
C4.03	PLAYGROUND GRADING PLAN
C5.01	DETAILS
C5.02	DETAILS
C5.03	DETAILS
C5.04	DETAILS
C5.05	PLAYGROUND DETAILS
C5.06	PLAYGROUND DETAILS
C5.07	PLAYGROUND PLANTING DETAILS, SCHEDULES & NOTES
C6.01	SWPP PLAN
C6.02	SWPP PLAN
C7.01	EXISTING DRAINAGE AREA MAP
C8.01	PROPOSED DRAINAGE AREA MAP

REGIONAL MAP



PLAN NORTH

LOCAL MAP



PLAN NORTH

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102

Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com

WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

SUBCONSULTANT:

REV	DESCRIPTION	DATE
A	PERMIT/ADD. 1	09.20.2024

PARKWAY SCHOOL DISTRICT
CRAIG ELEMENTARY
1492 Craig Road
St. Louis, MO 63146
RENOVATIONS & SITE IMPROVEMENTS

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006002866
PROFESSIONAL ENGINEER
09 SEPTEMBER 2024
PROFESSIONAL SEAL:

DESIGNED BY: MS
DRAWN BY: MS
CHECKED BY: ST
DATE: 19 AUGUST 2024
SCALE:
FULL SCALE SHEET SIZE= ARCH- D (24"x 36")

ISSUE FOR PERMIT

SHEET NAME:
PROJECT COVER SHEET

CLIENT PROJECT NUMBER: 092301B
WSP PROJECT NUMBER: 309024934.004

SHEET NO: ***G0.01***

HT 7092 24MSD-00076 BASEMAP 160

LAST EDITED: 9/11/2024 3:42 PM
FILE PATH: J:\309024934.000 Parkway 2022 Bond\110.0 Personal Folders\1 - Civil\804 Craig Elementary\Site Design\03-PLANS\FP092301BSx000000000C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PLAYGROUND SCOPE SUMMARY

- REMOVE ALL EXISTING PLAYGROUND EQUIPMENT, SITE BENCHES, AND OTHER STRUCTURES AND MATERIALS INDICATED FROM PLAYGROUNDS A AND B.
- SALVAGE AND REINSTALL PLAYGROUND EQUIPMENT INDICATED FOR REMOVAL AND REINSTALLATION TO LOCATIONS INDICATED ON PLANS.
- REMOVE AND DISPOSE OF FIBAR WOOD MULCH AT A LEGAL DISPOSAL FACILITY OFFISITE.
- KEEP 3-5 CUBIC YARDS OF MULCH ON-SITE FOR SUPPLEMENTAL NEEDS. KEEP ALL EXCAVATED SOIL ON SITE FOR RAISING GRADE AND BACKFILLING AROUND PERIMETER CURBS.
- INSTALL NEW PLAYGROUND PERIMETERS AND UNDERDRAIN SYSTEMS.
- INSTALL DRAINAGE BACKFILL AND BASE FOR RUBBER SURFACING.
- INSTALL NEW PLAYGROUND EQUIPMENT.
- PREPARE BASE AND INSTALL RUBBER SURFACING BELOW 2% MAX. SLOPE.

PLAYGROUND PHASING GENERAL NOTES

1. THE DRAWING AND NOTES ON THIS SHEET DESCRIBE A RECOMMENDED PHASING PLAN FOR CONTRACTOR CONSIDERATION. SUBMIT AN INDEPENDENT PHASING PLAN FOR REVIEW AND ACCEPTANCE WHICH MAY OR MAY NOT ALIGN WITH THE RECOMMENDATIONS ON THIS SHEET.

2. SUBMIT A PROPOSED DEMOLITION DUMPSTER PLACEMENT LOCATION PLAN TO THE OWNER FOR REVIEW APPROVAL PRIOR TO INITIATING WORK. EMPTY THE CONSTRUCTION DUMPSTER DAILY.

3. THE CONTRACTOR'S PRIMARY RESPONSIBILITY IN ALL PHASES OF THE PROJECT IS SAFETY. THE RESPONSIBILITY OF SAFETY INCLUDES THE STUDENTS, TEACHERS AND EMPLOYEES OF THE SCHOOL DISTRICT, CONTRACTOR'S EMPLOYEES AND ANY PERSON(S) WHO MAY ENTER UPON OR BE PROXIMATE TO THE WORK AREA, WHETHER OR NOT WORK IS IN PROGRESS.

4. SUBMIT A SITE SPECIFIC WORK PLAN AND MAINTENANCE OF TRAFFIC PLAN TO THE OWNER FOR REVIEW AND APPROVAL PRIOR TO INITIATING WORK. DO NOT TEMPORARILY CLOSE OFF-SITE ROADWAY TRAFFIC LANES FOR CONSTRUCTION ACTIVITIES.

5. MATERIALS SHALL BE STORED SECURELY AT ALL TIMES. COORDINATE SECURED STORAGE OF MATERIALS ON SITE WITH PERMISSION FROM THE OWNER. SUBMIT A REVISED CONSTRUCTION MATERIAL AND EQUIPMENT STAGING AND PHASING PLAN TO THE OWNER FOR REVIEW AND APPROVAL PRIOR TO INITIATING THE WORK. IF ADEQUATE SPACE IS NOT AVAILABLE AND APPROVED ON SITE, OBTAIN SECURE STAGING AND MATERIAL STORAGE AREA OFF-SITE.

6. IT IS NOT THE INTENT OF THIS PHASING PLAN TO DESCRIBE EVERY DETAIL OF THE WORK OR TO DEFINE THE METHODS AND MATERIALS INVOLVED IN THE PHASING EXCEPT AS MAY BE REQUIRED BY THE OWNER AND AGENCIES HAVING JURISDICTION.

7. THE WORK SHALL NOT INTERFERE WITH ANY SCHOOL OPERATIONS.

8. DEMOLITION WORK SHALL BE PHASED TO ALLOW FOR CONTINUOUS ACCESS AND USE OF THE SCHOOL THROUGHOUT THE COMPLETE SCOPE OF WORK.

9. STORE MATERIALS AND EQUIPMENT ONLY IN AREAS APPROVED BY THE OWNER AND IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. DO NOT STORE OR DUMP MATERIALS ON DIRT OR GRASS AREAS WITHIN THE DRIP LINE OF EXISTING TREES.

10. EACH PHASE OF SITE WORK IS TO BE PERFORMED BEHIND TEMPORARY CONSTRUCTION FENCING OR BARRICADES THAT ARE 4 FEET IN HEIGHT OR GREATER.

11. LIMITS OF CONSTRUCTION ARE INDICATED BY THE TEMPORARY FENCE LINE AND PHASE LINES. REQUEST APPROVAL TO WORK OR STORE MATERIALS OUTSIDE THOSE AREAS FROM OWNER AS APPLICABLE.

12. AREAS OF DEMOLITION AND INSTALLATION WORK SHALL BE FULLY IDENTIFIED AND ENCLOSED BY TEMPORARY CHAIN-LINK FENCING THAT IS LOCKABLE. MAINTAIN FENCING AND SIGNAGE DURING CONSTRUCTION.

13. PROVIDE AND MAINTAIN TEMPORARY SIGNAGE AND LIGHTING. EXISTING SYSTEMS CANNOT BE REMOVED UNTIL TEMPORARY SIGNAGE AND LIGHTING ARE APPROVED AND FUNCTIONING.

14. PROVIDE GRAPHIC SIGNS WARNING THE PUBLIC OF HAZARDOUS AREAS AND SIGN THE SAFE ROUTE TO SCHOOL ENTRY AND EXIT PATHS THROUGH ALL PHASES OF CONSTRUCTION.

15. CONSTRUCTION AND TEMPORARY SIGNS SHALL BE COMMERCIALLY AND PROFESSIONALLY FABRICATED. SUBMIT SIGN SHOP DRAWINGS FOR REVIEW AND APPROVAL.

PHASE COMMON INITIAL SCOPE OF WORK ITEMS

- ERECT TEMPORARY CONSTRUCTION FENCING AND ACCESS GATE AT LIMITS OF EACH CONSTRUCTION PHASE.
- INSTALL EROSION CONTROL AND TREE PROTECTION MEASURES, ADJUST EXISTING MEASURES, REPLACING AND MAINTAINING MEASURES AS NEEDED.
- PROTECT UTILITY STRUCTURES TO REMAIN.
- PROTECT ADJACENT WORK FROM DAMAGE AND STAINING DURING CURRENT PHASE WORK.
- PREPARE, FINISH AND CLEAN COMPLETED WORK PRIOR TO OPENING AREAS FOR PUBLIC USE.

PLAYGROUND PHASING GEN. NOTES (CONTD.)

PHASE 1 SCOPE OF WORK

- PROVIDE A PORTABLE TOILET ON SITE FOR CONTRACTOR USE.
- PROVIDE PRIMARY STAGING/STORAGE AREA WITH SECURE TEMPORARY PERIMETER FENCE AND LOCKABLE GATE.
- SUBMIT PROPOSED WASTE, STAGING/ STORAGE AREA PLAN TO OWNER FOR APPROVAL PRIOR TO INITIATING CONSTRUCTION.
- PREPARE AND SUBMIT A PROPOSED MAINTENANCE OF TRAFFIC PLAN COVERING EACH PHASE OF CONSTRUCTION WORK TO OWNER FOR REVIEW AND APPROVAL PRIOR TO INITIATING WORK.
- PERFORM DEMOLITION OF PHASE 1 AREAS, REMOVING PLAYGROUND EQUIPMENT AND SITE FURNISHINGS AS INDICATED, REMOVING WOOD MULCH FROM AREAS INDICATED.
- INSTALL PHASE 1 UNDERDRAIN, PERIMETER CURB, DRAINAGE STONE, FENCING, PLAYGROUND EQUIPMENT.
- INSTALL RUBBERIZED PLAY SURFACE TO DESIGN GRADES AND SPOT ELEVATIONS.
- MATCH EXISTING EXTERIOR PAVEMENT GRADES AND MEET ADJACENT PAVEMENTS FLUSH.
- PREPARE AND FINISH AREAS ADJACENT AREAS WITH EXCAVATED SOIL, SUPPLEMENTAL TOPSOIL, SUPPLEMENTAL USED MULCH FILL AND SOD OVER DISTURBED SOIL AREAS AS INDICATED. FINISH AND CLEAN PHASE 1 WORK TO SATISFACTION OF ENGINEER AND OPEN FOR PUBLIC USE.
- FINISH, PRESSURE WASH WITH WATER, AND CLEAN PLAYGROUND, SITE STAGING/ STORAGE AREAS AND DISTURBED AREAS TO SATISFACTION OF ENGINEER AND OPEN FOR PUBLIC USE.

PHASE 2 SCOPE OF WORK (PLAYGROUND 'B')

- PROVIDE A PORTABLE TOILET ON SITE FOR CONTRACTOR USE.
- PROVIDE PRIMARY STAGING/STORAGE AREA WITH SECURE TEMPORARY PERIMETER FENCE AND LOCKABLE GATE.
- SUBMIT PROPOSED WASTE, STAGING/ STORAGE AREA PLAN TO OWNER FOR APPROVAL PRIOR TO INITIATING CONSTRUCTION.
- PREPARE AND SUBMIT A PROPOSED MAINTENANCE OF TRAFFIC PLAN COVERING EACH PHASE OF CONSTRUCTION WORK TO OWNER FOR REVIEW AND APPROVAL PRIOR TO INITIATING WORK.
- DEMOLISH PHASE 2 AREA AS INDICATED.
- INSTALLATION OF PHASE 2 UNDERDRAIN, PERIMETER CURB, WALL, FENCING AND DRAINAGE STONE IS BY OTHERS.
- INSTALL RUBBERIZED PLAY SURFACE TO DESIGN GRADES AND SPOT ELEVATIONS.
- MATCH EXISTING EXTERIOR PAVEMENT GRADES AND MEET ADJACENT PAVEMENTS FLUSH.
- PREPARE AND FINISH AREAS DISTURBED BY PLAYGROUND INSTALLATION AND BUILDING CONSTRUCTION WITH MULCH OR TOPSOIL AND SOD AS INDICATED. FINISH AND CLEAN PHASE 2 WORK TO SATISFACTION OF ENGINEER AND OPEN FOR PUBLIC USE.
- FINISH, PRESSURE WASH WITH WATER, AND CLEAN PLAYGROUND, SITE STAGING/ STORAGE AREAS AND DISTURBED AREAS TO SATISFACTION OF ENGINEER AND OPEN FOR PUBLIC USE.
- REMOVE OFFSITE CONSTRUCTION STORAGE MATERIALS AND RESTORE THAT SITE TO ORIGINAL CONDITION TO SATISFACTION OF PROPERTY OWNER.

TOLERANCE NOTES

1. IT IS EXPECTED THAT THE PLAYGROUND SITES, RUBBERIZED SURFACING AND EQUIPMENT WILL APPEAR CLEAN AND IN NEW CONDITION WITHOUT CUTS, SCRAPES, SCRATCHES, RUST, STAINS OR VISIBLE DAMAGE OR PATCHED REPAIRS. EQUIPMENT OR MATERIALS THAT DO NOT MEET THESE EXPECTATIONS MUST BE REMOVED AND REPLACED AT NO ADDITIONAL COST TO OWNER.

2. IT IS EXPECTED THAT THE RUBBERIZED SURFACE TOP FINISH LAYER GRANULES WILL BE INSTALLED TO BE SMOOTH, CONSISTENT AND EVENLY DISTRIBUTED WITHOUT SEAMS AND DISCOLORATION, BOTH VISUALLY AND TACTILE.

3. IT IS THE EXPRESS PURPOSE OF ALL WORK UNDER THIS CONTRACT TO BRING THE WORK INTO COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN (ADA). RUBBERIZED SURFACE MUST BE BELOW 2% MAX. SLOPE.

4. IT SHALL BE THE DUTY OF THE CONTRACTOR TO PROMPTLY NOTIFY THE ENGINEER OF ANY CONDITION WHERE IT IS NOT POSSIBLE TO COMPLY WITH THE DESIGN INTENT DUE TO THE FIELD CONDITIONS.

5. ALL WORK THAT FAILS TO COMPLY WITH THE DESIGN INTENT GIVEN IN THE CONTRACT DOCUMENTS SHALL BE REPLACED AT NO ADDITIONAL COST BY THE CONTRACTOR.

DIMENSIONING NOTES

1. DIMENSIONS INDICATED AS "HOLD" ARE CRITICAL FOR ADA COMPLIANCE AND MAY NOT BE REDUCED OR ENLARGED.

2. DIMENSIONS INDICATED AS "MIN" ARE CRITICAL FOR ADA COMPLIANCE AND MAY NOT BE REDUCED.

3. DIMENSIONS INDICATED AS "MAX" ARE CRITICAL FOR ADA COMPLIANCE MAY NOT BE ENLARGED.

4. ANY DEVIATION FROM ITEMS 1 THROUGH 3 ABOVE MUST BE APPROVED PRIOR TO CONSTRUCTION.

PLAYGROUND GENERAL NOTES

1. LEGENDS PROVIDE STANDARD SYMBOLS AND ARE PERTINENT TO THE CONDITIONS ON THIS SET OF DRAWINGS TO THE EXTENT POSSIBLE. ADDITIONAL LEGENDS FOR SPECIFIC DISCIPLINES INDICATE SPECIFIC CONDITIONS IN ADDITION TO THE SYMBOLS SHOWN ON THIS SHEET.

2. INFORMATION REGARDING EXISTING ELEMENTS IS BASED UPON DRAWINGS FURNISHED TO THE DESIGNER OF RECORD BY THE PARKWAY SCHOOL DISTRICT (OWNER) AND PERCEIVED CONDITIONS DISCOVERED BY FIELD SURVEYS. THIS INFORMATION IS BELIEVED TO BE AN ACCURATE REFLECTION OF EXISTING CONDITIONS BUT DOES NOT GUARANTEE EXACT CONDITIONS. FIELD VERIFY ALL EXISTING CONDITIONS.

3. DEMOLITION SHALL NOT BE LIMITED SOLELY TO THOSE ITEMS INDICATED WITHIN THE DEMOLITION DRAWINGS BUT SHALL ALSO INCLUDE THE REMOVAL OF EXISTING CONSTRUCTION NECESSARY TO EXECUTE THE NEW CONSTRUCTION.

4. SOIL IS TO REMAIN ON SITE TO RAISE GRADE AND BACKFILL AROUND PLAYGROUND CONCRETE PERIMETER CURBS AND BE SPREAD ON-SITE AS DIRECTED. IF SPREADING AROUND PLAYGROUND IS NOT POSSIBLE, IT IS TO BE SPREAD ELSEWHERE ON SCHOOL GROUNDS AS DIRECTED BY OWNER. REMOVE CONSTRUCTION DEBRIS FROM THE SITE AND LEGALLY DISPOSE OF ALL REFUSE, DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM CONSTRUCTION OPERATIONS. DEBRIS SHALL BE REMOVED ON A REGULAR BASIS SO IT DOES NOT INTERFERE WITH THE WORK OR THE NORMAL OPERATIONS OF THE SCHOOL, BECOME A SAFETY HAZARD, OR EXCEED THE STRUCTURAL LOAD CAPABILITIES OF THE SITE. COORDINATE REMOVAL WITH APPLICABLE RESTRICTIONS ON ADJACENT RIGHTS OF WAY.

5. PROTECT THE SCHOOL BUILDING AND SITE PAVEMENTS DURING ALL DEMOLITION AND CONSTRUCTION WORK IN ORDER TO NOT DAMAGE ANY BUILDING OR SITE FACILITIES. REPLACE DAMAGED ITEMS, CURBS AND PAVEMENTS TO MATCH ADJACENT ITEMS IN-KIND.

6. WHERE WORK AFFECTS EXISTING-TO-REMAIN ITEMS, PATCH, REPAIR, AND FINISH TO LIKE-NEW CONDITION AS ACCEPTABLE TO THE OWNER. DETERIORATED HISTORIC FEATURES SHALL BE REPAIRED RATHER THAN REPLACED IN ACCORDANCE WITH THE SECRETARY OF THE INTERIOR'S (SOI) STANDARDS FOR REHABILITATION AND COORDINATED WITH THE OWNER.

7. TAKE PRECAUTIONS TO MAINTAIN AND PROTECT EXISTING SYSTEMS, FINISHES, FACILITIES AND UTILITIES. ANY DAMAGES TO THESE ITEMS SHALL BE IMMEDIATELY REPAIRED IN A MANNER ACCEPTABLE TO THE OWNER. IF SATISFACTORY REPAIRS CANNOT BE MADE, REPLACE ITEMS WITH LIKE NEW QUALITY CONSTRUCTION ACCEPTABLE TO THE OWNER. COST FOR REPAIRS AND REPLACEMENT ARE THE CONTRACTOR'S RESPONSIBILITY.

8. ALL WORK SHALL BE INSTALLED IN A NEAT AND WORKMAN LIKE MANNER AND IN ACCORDANCE WITH CURRENT ACCEPTABLE INDUSTRY STANDARDS AND ALL APPLICABLE CODES, ORDINANCES AND REGULATIONS.

9. CONFORM TO APPLICABLE CODES FOR SAFETY OF STRUCTURE, DUST CONTROL AND ENVIRONMENTAL COMPLIANCE.

10. DO NOT SCALE DRAWINGS, REFER TO DIMENSIONS ONLY. ALL DIMENSIONS AND CONDITIONS MUST BE FIELD VERIFIED. DISCREPANCIES IN THE DRAWINGS AND SPECIFICATIONS SHALL BE REPORTED TO THE DESIGNER OF RECORD. NO CHANGE IN DRAWINGS OR SPECIFICATIONS IS PERMISSIBLE WITHOUT THE WRITTEN CONSENT OF THE DESIGNER OF RECORD. NO WORK SHALL PROCEED UNTIL ANY DISCREPANCIES HAVE BEEN RESOLVED.

11. ALL WORK MUST BE COORDINATED WITH OWNER PERSONNEL TO NOT INTERFERE WITH NORMAL SCHOOL OPERATIONS.

12. COORDINATE THE WORK OF ALL TRADES.

13. DISCONNECT AND/OR REMOVE EXISTING GATES, CURBS, SIGNS, CONDUITS OR OTHER WORK WHICH MIGHT INTERFERE WITH THE WORK. AFTER NEW WORK IS COMPLETED, THE DISCONNECTED OR REMOVED ITEMS SHALL BE REINSTALLED BY THE CONTRACTOR AT THE SAME LOCATION UNLESS DIRECTED OTHERWISE. FURNISH NEW MATERIALS AND HARDWARE AS REQUIRED FOR COMPLETION OF WORK.

14. PROVIDE ADEQUATE BRACING AND PROTECTION OF EXISTING STRUCTURES AGAINST DAMAGE, BREAKAGE, COLLAPSE, DISTORTIONS AND OFF ALIGNMENTS ACCORDING TO CODES AND STANDARDS OF GOOD PRACTICE.

15. INCLUDE ALL PREPARATORY AND ASSOCIATED SUPPLEMENTARY WORK TO PROVIDE A COMPLETE , CLEAN AND FINISHED INSTALLATION.

16. WHERE MANUFACTURER'S NAMES AND PRODUCT NUMBERS ARE INDICATED IN THE DOCUMENTS, IT SHALL BE CONSTRUED TO MEAN THE ESTABLISHMENT OF QUALITY AND PERFORMANCE STANDARDS OF SUCH ITEMS. ALL OTHER PRODUCTS MUST BE SUBMITTED TO THE DESIGNER OF RECORD FOR ACCEPTANCE.

17. KEEP WORK SITE FREE FROM DEBRIS AND ACCUMULATED REFUSE. CONTRACTOR SHALL HAVE SOLE RESPONSIBILITY FOR PROTECTING ALL DANGEROUS AREAS FROM ENTRY BY UNAUTHORIZED PARTIES. SITE SHALL BE LEFT BROOM CLEAN AT THE END OF EACH WORKING DAY.

18. UNLESS OTHERWISE PROVIDED IN THE CONTRACT DOCUMENTS, SECURE AND PAY FOR REQUIRED INSPECTIONS, PERMIT(S), FEES, LICENSE AND INSPECTIONS NECESSARY FOR THE PROPER EXECUTION OF THE WORK.

UTILITY CONTACTS

UTILITY	OWNER	CONTACT NO.
FIBER	CHARTER	(314) 878-5787
FIBER	AT&T	(314) 878-5787
ELECTRIC	AMEREN MISSOURI	(314) 878-5787
WATER	MO-AMERICAN WATER COMPANY	(314) 996-2432
WASTE WATER	METRO ST. LOUIS SEWER DISTRICT	(314) 768-6200
NATURAL GAS	SPIRE	(314) 658-5417
OWNER	PARKWAY SCHOOL DISTRICT	(314) 415-8100

PLAYGROUND GENERAL NOTES (CONTINUED)

19. VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES WITHIN THE SCOPE OF WORK BEFORE COMMENCING WORK.
    - 19.1. CALL MISSOURI 811 A MINIMUM OF 48 HOURS PRIOR TO COMMENCING ANY WORK.
    - 19.2. ENSURE CONFORMANCE WITH UTILITY COMPANIES' STANDARDS AND SPECIFICATIONS ON ANY WORK TO UTILITY COMPONENTS.
    - 19.3. MAKE NECESSARY ADJUSTMENTS TO ENSURE THE PROPER CONNECTIONS OF NEW SERVICES.
    - 19.4. RESET ALL UTILITY VALVE COVERS AND CASTINGS.
    - 19.5. VERIFY SAG ELEVATIONS FOR OVERHEAD LINES AND CONFIRM MINIMUM CLEARANCE REQUIREMENTS ARE MAINTAINED. CLEARANCE SHALL BE BASED ON THE REQUIREMENTS OF OSHA 1926.550. VERIFY EQUIPMENT AND USAGE CLEARANCE REQUIREMENTS PRIOR TO START OF WORK.

20. PUBLIC ACCESS TO THE SCHOOL, THE PARKING LOT, AND BETWEEN THE ACCESSIBLE PARKING SHALL REMAIN OPEN AT ALL TIMES, BUT MAY BE LIMITED AS NOTED IN THE PHASING PLAN.

21. AREAS OUTSIDE OF CONSTRUCTION LIMITS THAT ARE DISTURBED BY CONSTRUCTION ACTIVITIES MUST BE RESTORED TO ORIGINAL OR BETTER CONDITION, AT NO ADDITIONAL COST TO THE OWNER. MINIMUM RESTORATION OF DISTURBED AREAS SHALL CONSIST OF REPLACEMENT OF CURB AND GUTTER, TURF AND TOPSOIL, PLANTS AND MULCH IN PLANTING BEDS.

22. REMOVE EXISTING CONCRETE PAVEMENT TO NEAREST JOINT WHERE PARTIAL REPLACEMENT IS INDICATED. SAW CUTS OF PAVEMENT SHALL BE FULL DEPTH WITH A STRAIGHT UNIFORM EDGE, ESPECIALLY ADJACENT TO EXISTING CONSTRUCTION WHICH IS TO REMAIN. ALIGN ALL PAVEMENT EDGES TO MEET FLUSH.

23. ALL UTILITY VALVE COVERS AND CASTINGS TO REMAIN ARE TO BE RESET TO FINAL PAVEMENT GRADE. VALVE COVERS OR CASTINGS TO REMAIN THAT ARE DAMAGED BY CONSTRUCTION SHALL BE REPLACED AT NO ADDITIONAL COST.

24. EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMP'S) ARE INDICATED ON PLANS TO BE USED TO REDUCE THE AMOUNT OF SEDIMENT AND OTHER POLLUTANTS IN STORM WATER DISCHARGES ASSOCIATED WITH LAND DISTURBANCE ACTIVITIES. AT A MINIMUM INSTALL INLET PROTECTION ON ALL DOWNSTREAM INLETS WITHIN WORK AREA AND INSTALL SEDIMENT CONTROL BARRIERS SUCH AS HAY BALES, ROCK BACK HAY BALES AND SILT FENCE AS NECESSARY TO MINIMIZE OFF-SITE TRANSPORT OF SEDIMENT. PREVENT SEDIMENT, DIRT, DEBRIS ETC, FROM BEING TRACKED OR ALLOWED TO LEAVE THE SITE. SWEEP OR VACUUM UP DIRT THAT IS TRACKED OFF SITE DAILY. ON-SITE STOCKPILES SHALL BE SECURED WITH PERIMETER SILT FENCE AND COVERED WITH PLASTIC SHEETING, ANCHORED IN PLACE DURING PERIODS OF WIND AND PRECIPITATION.

25. ALL EXCAVATED SOIL SHALL REMAIN ON SITE. EXCESS EXCAVATED SOIL SHALL BE DISTRIBUTED EVENLY ON DISTURBED AREAS TO THE EXTENT POSSIBLE, AND SHALL NOT IMPEDE POSITIVE FLOW OF SITE DRAINAGE.

26. REVISE, RELOCATE AND REINSTALL BMP'S WHENEVER THE FOLLOWING OCCURS: DESIGN OR OPERATIONS OF BMP'S ARE CHANGED; THE DESIGN OF THE PROJECT IS CHANGED; BMP'S ARE INEFFECTIVE; VISUAL EVIDENCE OF EROSION OR SEDIMENTATION IS OCCURRING; THE OWNER DETERMINES THAT VIOLATIONS OF WATER QUALITY STANDARDS MAY OCCUR OR HAVE OCCURRED. THE CONTRACTOR SHALL AT ALL TIMES MAINTAIN ALL POLLUTION CONTROL MEASURES AND SYSTEMS IN GOOD ORDER. THE CONTRACTOR SHALL INSPECT ALL DISTURBED AREAS, ONCE PER WEEK MINIMUM, AND WITHIN 24 HOURS FOLLOWING HEAVY RAINFALL TO CONFIRM ALL BMP'S AND EROSION CONTROL MEASURES ARE PROPERLY INSTALLED AND OPERATING.

27. INSTALL TEMPORARY CONSTRUCTION SIGNAGE, FENCES AND FACILITIES AS REQUIRED BY THE SPECIFICATIONS AND LOCAL JURISDICTIONAL REQUIREMENTS.

28. ALL WORK, CONSTRUCTION LAY DOWN AND STORAGE AREAS, AND CONSTRUCTION ACCESS/EGRESS LOCATIONS ARE CONFINED TO THE AREA(S) DEFINED BY THE OWNER. PRIOR TO ANY CONSTRUCTION ACTIVITIES, OBTAIN PERMISSION AND AUTHORIZATION TO ENTER, CONSTRUCT, AND/OR OCCUPY PORTIONS OF THE SCHOOL PROPERTY WITHIN OR OUTSIDE THE DEFINED WORK AREAS AS SHOWN ON THE PLANS.

LAST EDITED: 8/20/2024 2:18 PM
FILE PATH: T:\30902493.001 Parkway P\Playgrounds\SHEETS\Craig Elementary\C1.02 - P\Playground General Notes.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION ALTERED BY FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869
Missouri Landscape Architecture Corporation: #001444

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

CRAIG ELEMENTARY

1492 Craig Road
St. Louis, MO 63146

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI



PROFESSIONAL SEAL

DESIGNED BY:	PMJ
DRAWN BY:	PMJ
CHECKED BY:	TMT
DATE:	18 AUGUST 2024
SCALE:	NO SCALE

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

SHEET NAME
PLAYGROUND GENERAL NOTES

CLIENT PROJECT NUMBER: 002306B
WSP PROJECT NUMBER: 30902493.004
SHEET NUMBER **C1.02**

MSD STANDARD NOTES

CC-900 SANITARY PIPE

- PVC GRAVITY SANITARY SEWER PIPE SIZES 4" THROUGH 15" SHALL BE AWWA C-900, CLASS 15 WITH DR18. PIPE TO BE LAID IN 20' LENGTHS WITH JOINTS WRAPPED 3 TIMES WITH FILTER FABRIC. EXTEND FILTER FABRIC 3' EACH SIDE OF THE JOINT. ALL FITTINGS FOR PVC PIPE SHALL BE OF THE SAME MATERIAL AND STRENGTH REQUIREMENTS AS THE SEWER PIPE.

COMPACTED FILL REQUIREMENTS

- A REGISTERED PROFESSIONAL GEOTECHNICAL ENGINEER WILL VERIFY THAT ALL COMPRESSIBLE MATERIAL HAS BEEN REMOVED PRIOR TO FILL PLACEMENT AND THAT ALL FILL, AND FILLED AREAS, INCLUDING TRENCH BACKFILLS, UNDER BUILDINGS AND UNDER SANITARY AND STORM SEWER LINES CONSTRUCTED ABOVE THE ORIGINAL GROUND SURFACE, HAS BEEN COMPACTED TO 90% MODIFIED PROCTOR. FILL IS TO BE PLACED IN A MAXIMUM OF NINE-INCH (9") LIFTS. TESTS SHALL BE TAKEN AT A MAXIMUM OF FIFTY-FEET (50') WIDE INTERVALS ALONG THE ROUTE OF THE PIPE, AT A MAXIMUM INTERVAL, OF TWO FEET (2'), VERTICALLY AND LATERALLY ON EACH SIDE OF THE PIPE, AT A DISTANCE EQUAL TO THE DEPTH OF FILL OVER THE PIPE. A COPY OF THESE RESULTS WILL BE SUBMITTED TO MSD PRIOR TO PLACEMENT OF THE SEWER PIPE.

DETAIL DRAWINGS

- THE DETAIL DRAWINGS SHOWN HERE ARE ONLY FOR PRIVATE CONSTRUCTION THAT IS NOT UNDER MSD PERMITS. REFER TO MSD SPECIFICATIONS AND STANDARD DETAILS FOR PUBLIC SEWER CONSTRUCTION OR PRIVATE CONSTRUCTION UNDER MSD PERMITS.

EXISTING CONNECTIONS

- EXISTING WATER AND SANITARY CONNECTIONS WILL NOT BE MODIFIED WITH THIS WORK.

LIMITS OF DISTURBANCE

- THE CONTRACTOR SHALL STAY WITHIN THE LIMITS OF DISTURBANCE AS SHOWN ON THE PLANS AND MINIMIZE DISTURBANCE WITHIN THE WORK AREA WHEREVER POSSIBLE.

PIPE JOINTS WITH ADAPTERS AND COUPLINGS NOTE

- PIPE JOINTS WITH ADAPTERS AND COUPLINGS SHALL BE SUPPLIED AND INSTALLED WITH 316 STAINLESS STEEL NUT AND BOLT CLAMPS (T-BOLT) CONFIGURATION; AND WITH STAINLESS STEEL SHEAR BANDS, BEING A MINIMUM OF TWELVE (12) MILS (MSD STD. CONST. SPECS. PT. 2, SUBSECTION H_11). WORM DRIVE HOSE CLAMPS AND CONCRETE BACKFILLING (CAUSTICITY) WILL NO LONGER BE ALLOWED AT THOSE JOINTS. GRANULAR BACKFILL SHOULD BE USED. IF FLOWABLE FILL IS REQUIRED, THE CONTRACTOR SHALL WRAP AND TAPE THE ADAPTERS AND COUPLINGS WITH A SIX (6) MIL POLYETHYLENE SHEET.

PUBLIC SEWER MAINTENANCE

- MAINTENANCE OF THE SEWERS DESIGNATED "PUBLIC" SHALL BE THE RESPONSIBILITY OF THE METROPOLITAN ST. LOUIS SEWER DISTRICT UPON DEDICATION OF THE SEWERS TO THE DISTRICT.
- THE REMOVAL AND REPLACEMENT, OR REHABILITATION OF THE EXISTING STRUCTURE WILL BE DETERMINED BY THE MSD FIELD INSPECTOR. IF THE STRUCTURE IS DETERMINED TO REMAIN IN PLACE, THEN THE TOP SHALL BE ADJUSTED TO GRADE, IF NEEDED.

SHOP DRAWINGS

- THE PROJECT ENGINEER SHALL PROVIDE SHOP DRAWINGS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN MISSOURI FOR APPROVAL TO MSD PRIOR TO CONSTRUCTION OF THESE STRUCTURES. STRUCTURES SHALL BE DESIGNED TO SUSTAIN HS-20 LOADS. PLEASE CONTACT THE DISTRICT'S CONSTRUCTION MANAGEMENT DIVISION AT (314) 335-2072 FOR QUESTIONS.

STANDARD CONSTRUCTION

- ALL STORM AND SANITARY SEWER STRUCTURES AND APPURTENANCES TO BE DEDICATED TO MSD, OR TO BE PRIVATE UNDER MSD INSPECTION, SHALL CONFORM TO THE METROPOLITAN ST. LOUIS SEWER DISTRICT, STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES, 2009. THAT WILL INCLUDE STANDARD DETAILS SHOWN THEREIN, AND SHALL INCLUDE ALL SUBSEQUENT CHANGES MADE THERETO.
- HIGH DENSITY POLYETHYLENE (HDPE) PIPE IS NOT ALLOWED FOR GRAVITY SEWERS FOR STORM, COMBINED, OR SANITARY SEWERS THAT ARE "PUBLIC" OR "PRIVATE UNDER MSD INSPECTION".
- CORRUGATED POLYPROPYLENE (PP) PIPE IS ALLOWED AS FOLLOWS FOR GRAVITY SEWERS THAT ARE "PUBLIC" OR "PRIVATE UNDER MSD INSPECTION:

  - FOR USE IN SANITARY AND COMBINED SEWERS 12 TO 60 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2764 "STANDARD SPECIFICATION FOR 6 TO 60 IN. POLYPROPYLENE (PP) CORRUGATED DOUBLE AND TRIPLE WALL PIPE AND FITTINGS FOR NON- PRESSURE SANITARY SEWER APPLICATIONS." PIPE SHALL HAVE A MINIMUM STIFFNESS OF 46 PSI WHEN TESTED IN ACCORDANCE WITH ASTM D2412.
  - FOR USE IN STORM SEWERS 12 TO 30 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2881 "STANDARD SPECIFICATION FOR 12 TO 60 IN. POLYPROPYLENE (PP) DUAL WALL PIPE AND FITTINGS FOR NON-PRESSURE STORM SEWER APPLICATIONS;" OR ASTM F2764 "STANDARD SPECIFICATION FOR 6 TO 60 IN. POLYPROPYLENE (PP) CORRUGATED DOUBLE AND TRIPLE WALL PIPE AND FITTINGS FOR NON-PRESSURE SANITARY SEWER APPLICATIONS;" OR FOR USE IN STORM SEWERS 36 TO 60 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2764 "STANDARD SPECIFICATION FOR 6 TO 60 IN. POLYPROPYLENE (PP) CORRUGATED DOUBLE AND TRIPLE WALL PIPE AND FITTINGS FOR NON-PRESSURE SANITARY SEWER APPLICATIONS." PIPE SHALL HAVE A MINIMUM STIFFNESS OF 46 PSI WHEN TESTED IN ACCORDANCE WITH ASTM D2412.

- PIPE FOR GRAVITY SEWER INSTALLATIONS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321 WITH THE EXCEPTION THAT INITIAL BACKFILL SHALL BE A MINIMUM OF 6 INCHES ABOVE THE TOP OF PIPE AS SHOWN IN THE STANDARD DETAILS OF SEWER CONSTRUCTION. CONSOLIDATION BY WATER (JETTING OR PUDDLING) SHALL NOT BE USED. CONSOLIDATION SHALL BE IN ACCORDANCE WITH MSD STANDARD CONSTRUCTION SPECIFICATIONS FOR TRENCH BACKFILL. PRICE FOR COMPACTED BACKFILL SHALL BE INCLUDED IN PIPE UNIT COST.
- A REPRESENTATIVE FROM THE PIPE MANUFACTURER SHALL VISIT THE SITE WITHIN THE FIRST 100 FEET OF PIPE INSTALLATION. COORDINATION OF THIS SITE VISIT SHALL BE ARRANGED BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE THE MSD INSPECTOR AT LEAST 24 HOURS' NOTICE OF THE PLANNED DATE AND TIME OF THE MANUFACTURER'S SITE VISIT.
- FOLLOWING THE SITE VISIT, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE A LETTER FROM THE PIPING MANUFACTURER SUMMARIZING THEIR OBSERVATIONS. AT A MINIMUM, THE LETTER SHALL:
  - INDICATE THE DATE THE INITIAL SECTION OF PIPE WAS INSTALLED; AND
  - VERIFY THAT THE INSTALLATION OCCURRED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED PROCEDURES,
  - TRENCH WIDTH SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION RECOMMENDATIONS. DISTRICT STANDARD PAYLINE WIDTHS BASED ON THE NOMINAL INSIDE PIPE DIAMETER SHALL APPLY

LAST EDITED: 8/20/2024 1:58 PM
FILE PATH: T:\30902493.001 Parkway Playgrounds\SHEETS\Craig Elementary\C1.03 - MSD Standard Notes.dwg

23MSD-00076 BASEMAP 160

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTS ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869
Missouri Landscape Architecture Corporation: #001444

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

CRAIG ELEMENTARY

1492 Craig Road
St. Louis, MO 63146

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI



PROFESSIONAL SEAL

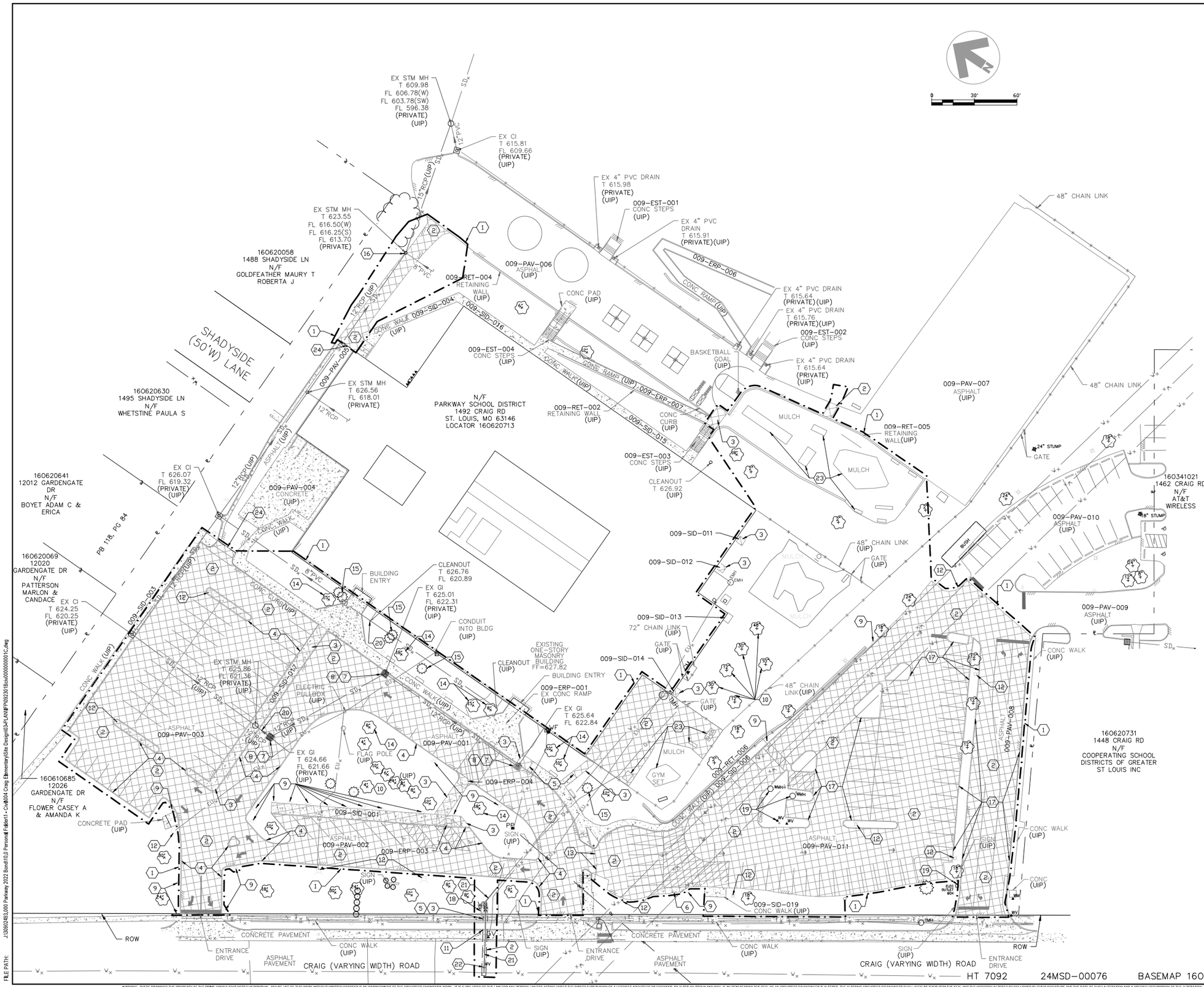
DESIGNED BY:	PMJ
DRAWN BY:	PMJ
CHECKED BY:	TMT
DATE:	18 AUGUST 2024
SCALE:	NO SCALE

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

SHEET NAME
MSD STANDARD NOTES

CLIENT PROJECT NUMBER: 002306B
WSP PROJECT NUMBER: 30902493.004

SHEET NUMBER **C1.03**



GENERAL NOTES:

REMARKS:

KEYED NOTES (#)

1. LIMITS OF CONSTRUCTION.
2. EXISTING ASPHALT PAVEMENT TO BE REMOVED.
3. EXISTING CONCRETE WALK TO BE REMOVED.
4. EXISTING CONCRETE CURB TO BE REMOVED.
5. REMOVE CONCRETE TO NEAREST JOINT.
6. EXISTING CONCRETE PAVEMENT TO BE REMOVED.
7. EXISTING CONCRETE COLLAR TO BE REMOVED.
8. EXISTING INLET TO BE PROTECTED DURING CONSTRUCTION AND REUSED.
9. EXISTING SIGN TO BE REMOVED.
10. CONTRACTOR TO PROTECT EXISTING LANDSCAPING AND VEGETATION DURING CONSTRUCTION. ANY TREES, SHRUBS OR OTHER VEGETATION THAT IS DAMAGED DURING CONSTRUCTION SHALL BE REPLACED IN LIKE KIND AT THE CONTRACTOR'S EXPENSE. REPLACE LANDSCAPE EDGING AS NEEDED IN AREAS THAT ABUT CONCRETE OR ASPHALT TO BE REMOVED.
11. EXISTING CURB AND GUTTER TO BE REMOVED.
12. EXISTING LIGHT POLE TO BE PROTECTED DURING CONSTRUCTION.
13. REMOVE EXISTING GATES AS NECESSARY AND STORE FOR REUSE. GATE POSTS TO REMAIN AND BE PROTECTED DURING CONSTRUCTION
14. EXISTING TREES TO BE REMOVED.
15. EXISTING SHRUBS TO BE REMOVED.
16. MANHOLE LID TO BE REMOVED AND ADJUSTED TO GRADE.
17. EXISTING ASPHALT CURB TO BE REMOVED.
18. EXISTING WATER METER BOX TO BE REMOVED.
19. EXISTING UTILITIES TO BE PROTECTED DURING CONSTRUCTION.
20. EXISTING CLEANOUT TO BE PROTECTED DURING CONSTRUCTION.
21. EXISTING 4" DOMESTIC WATER LINE TO BE REMOVED.
22. EXISTING WATER VALVE TO BE REMOVED.
23. EXISTING PLAYGROUND FURNISHINGS TO BE REMOVED. REFER TO LANDSCAPE PLAN FOR DETAILS.
24. SAWCUT EXISTING PAVEMENT.

DENOTES PAVEMENT TO BE REMOVED / MILLED

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 8/19/2024 9:21 PM
FILE PATH: J:\309024934.000 Parkway 2022 Bond\10.0 Personal Folders\1 - Civil\004 Craig Elementary\Site Design\03-PLANS\PW092301Rev000000000IC.dwg

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

CRAIG ELEMENTARY

1492 Craig Road
St. Louis, MO 63146

RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006012866
PROFESSIONAL ENGINEER
19 AUGUST 2024

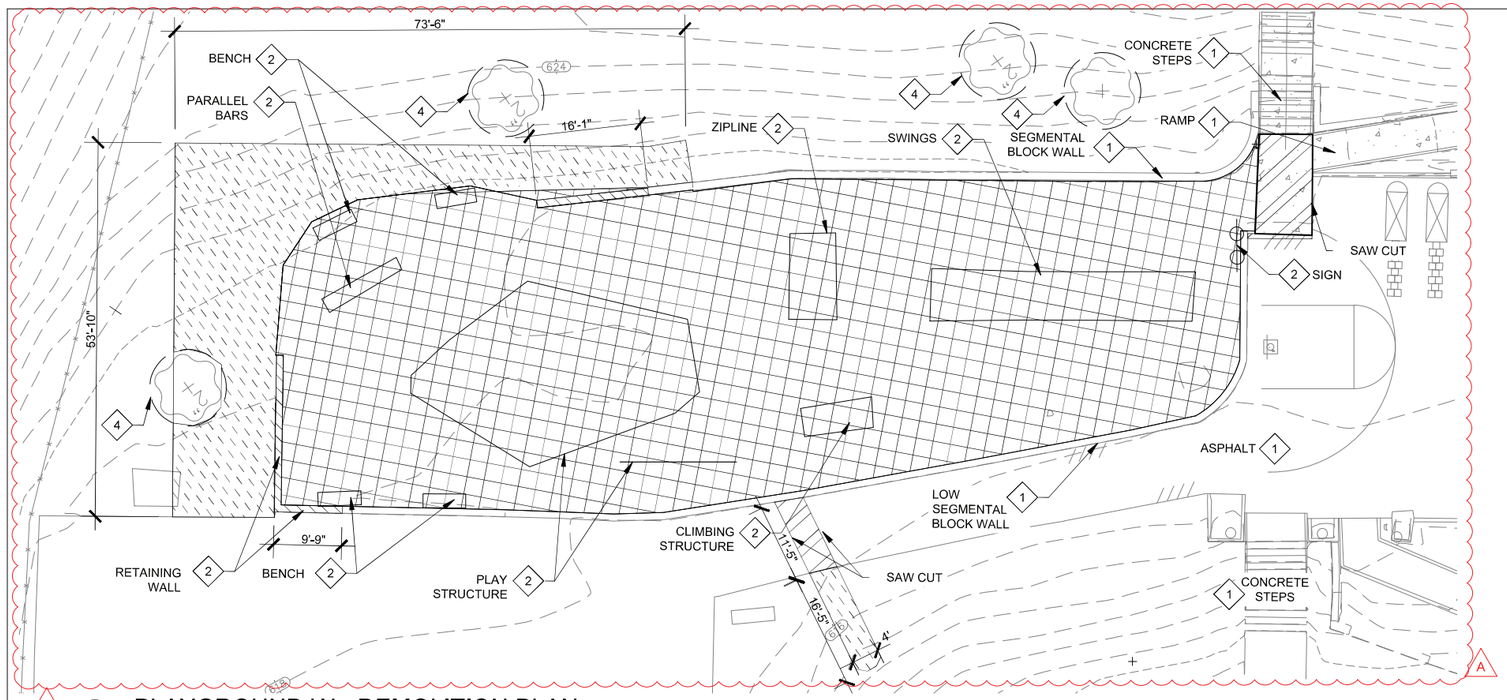
PROFESSIONAL SEAL

SHEET NAME
DEMOLITION PLAN

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	ST
DATE:	19 AUGUST 2024
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

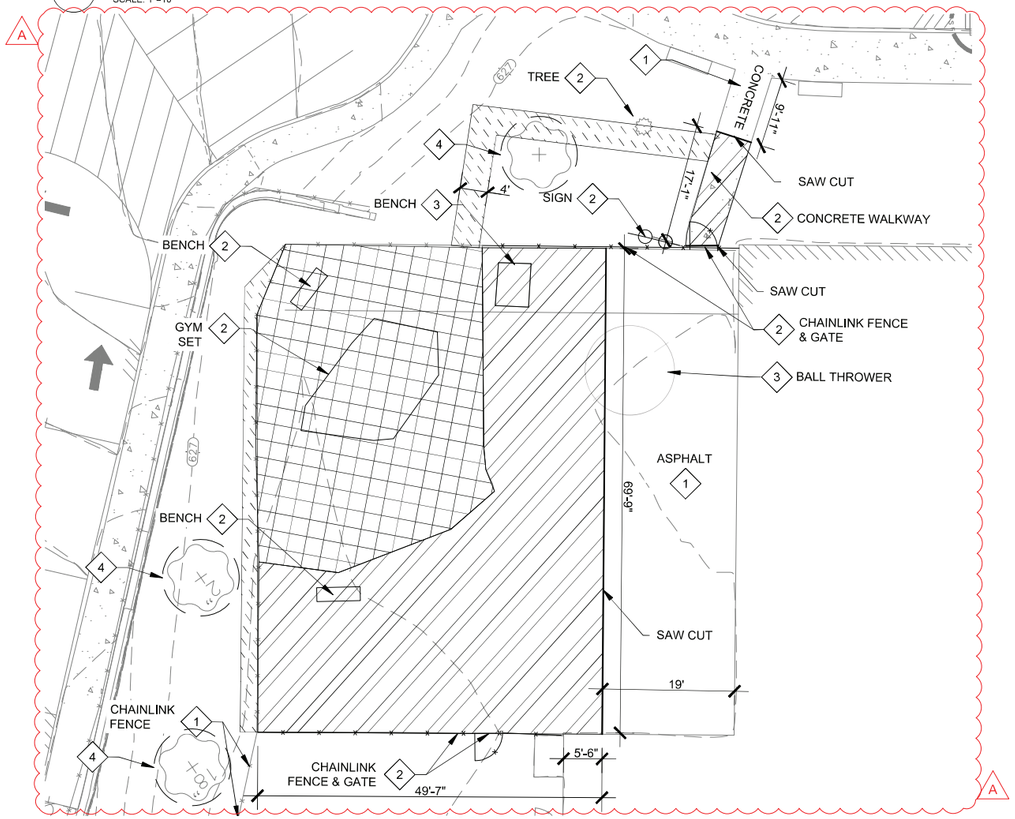
CLIENT PROJECT NUMBER: 092301B
WSP PROJECT NUMBER: 309024934.004
SHEET NUMBER **C2.01**



1 PLAYGROUND 'A' - DEMOLITION PLAN

SCALE: 1"=10'

NOTE: PLAN IS ROTATED FROM BASE PLAN



2 PLAYGROUND 'B' - DEMOLITION PLAN

SCALE: 1"=10'

NOTE: PLAN IS ROTATED FROM BASE PLAN

KEYED NOTES

1. EXISTING TO REMAIN. PROTECT IN PLACE.
2. REMOVE AND BACKFILL EXCAVATION WITH COMPACTED ENGINEERED FILL TO FINISH GRADE.
3. SALVAGE AND REINSTALL.
4. TREE PROTECTION FENCING, DETAIL 5/C5.06

SHEET NOTES

A. PROTECT OWNER UTILITIES AND FACILITIES DURING THE WORK.
B. COORDINATE WORK ASSOCIATED WITH EXISTING UTILITIES WITH THE OWNER PRIOR TO BEGINNING WORK.
C. COORDINATE WORK WITH PHASING PLAN AND CIVIL SITE DEMOLITION PLANS.
D. THE BUILDING AND ALL SITE FEATURES TO REMAIN MUST BE PROTECTED FROM ANY DEMOLITION WORK WITH THE POTENTIAL FOR DAMAGE.
E. ANY DAMAGE TO THE BUILDING OR SITE CAUSED BY SITE DEMOLITION MUST BE REPAIRED AND REPLACED IN-KIND WITH NO ADDITIONAL COST TO THE OWNER. ANY REPAIRS MUST BE DONE TO THE SATISFACTION OF THE OWNER.
F. PROTECT EXISTING MATURE TREES DURING THE WORK. HAND-DIG WHEN WORKING WITHIN CRITICAL ROOT ZONES TO PREVENT DAMAGE TO MAJOR ROOTS. SAWCUT ROOTS THAT CONFLICT WITH CONSTRUCTION PERPENDICULAR TO THE ROOT. KEEP END OF ROOT MOIST BY WRAPPING IN WET BURLAP AND REGULAR WATERING WHILE EXPOSED. REMOVE BURLAP WHEN BACKFILLING.

LEGEND

- REMOVE FIBER MULCH SURFACE. STOCKPILE 3-5 CUBIC YARDS ON SITE FOR SUPPLEMENTAL USE
- SAW CUT AND REMOVE ASPHALT PAVEMENT AND BASE
- REMOVE EXISTING VEGETATION AND DEBRIS OVER AREA TO BE EXCAVATED
- REMOVE SEGMENTAL BLOCK WALL
- TREE PROTECTION FENCE - 4' ORANGE MESH ON STEEL POSTS. PLACE AT OUTER DRIPLINE OF TREE OR ALONG NEAREST ADJACENT CURB OR PAVEMENT EDGE

N

10' 0' 10' 20'

SCALE: 1" = 10'

23MSD-00076 BASEMAP 160

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869
Missouri Landscape Architecture Corporation: #001444

REV	DESCRIPTION	DATE
A	PERMIT / ADD. 1	09.20.24

PARKWAY SCHOOL DISTRICT

CRAIG ELEMENTARY

1492 Craig Road
St. Louis, MO 63146

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI

TODD M. TEUSCHER NUMBER LA-2005015126 LANDSCAPE ARCHITECT
9/20/24

PROFESSIONAL SEAL

DESIGNED BY:	PMJ
DRAWN BY:	PMJ
CHECKED BY:	TMT
DATE:	18 AUGUST 2024
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

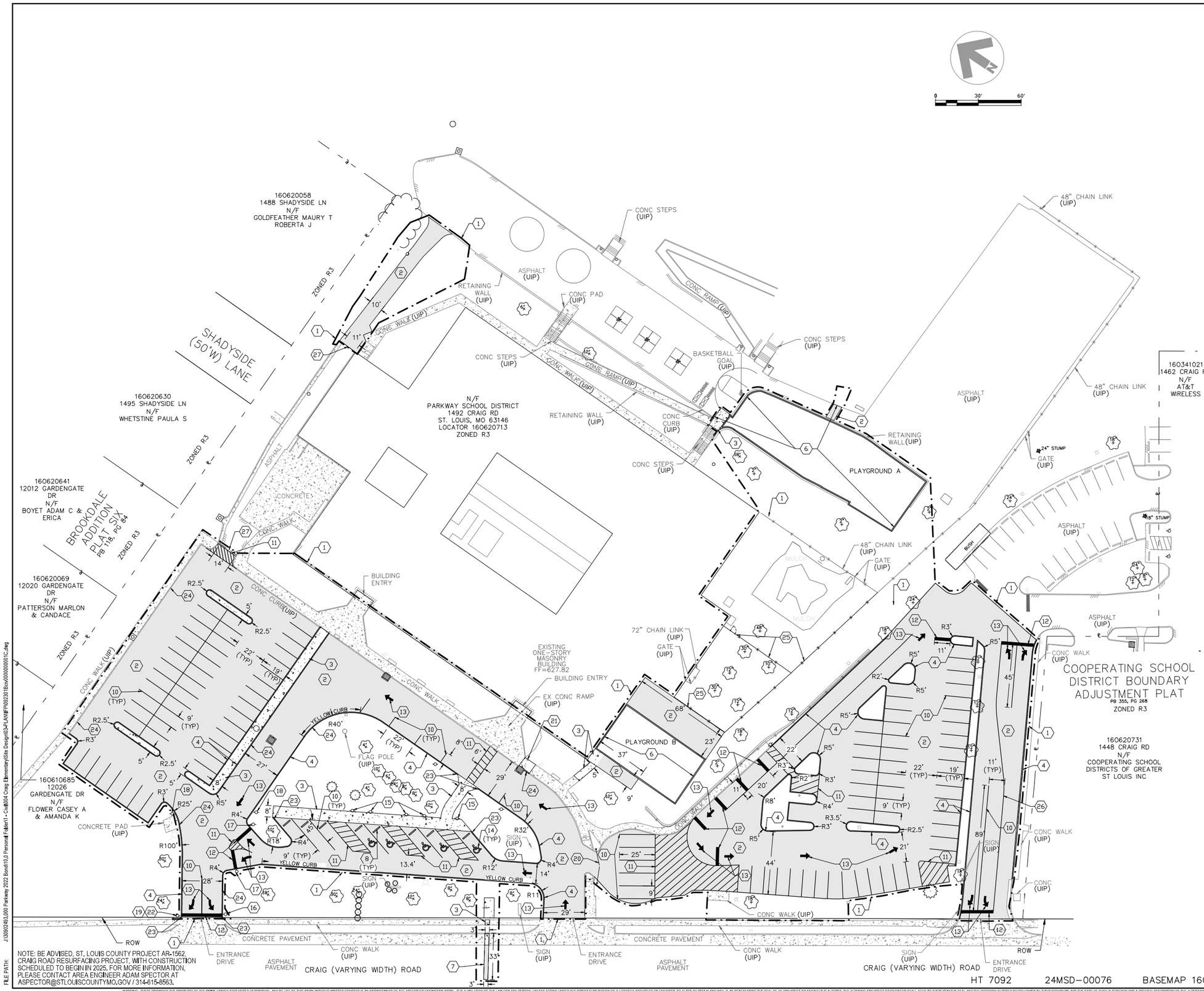
SHEET NAME
PLAYGROUND DEMOLITION PLAN

CLIENT PROJECT NUMBER: 002308
WSP PROJECT NUMBER: 30902493.004

SHEET NUMBER **C2.02**

LAST EDITED: 9/16/2024 8:10 PM
FILE PATH: T:\30902493\301 Parkway Playgrounds\SHEETS\Craig Elementary\C2.02 - PLAYGROUND DEMOLITION - CE.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTS/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



HT 7092 24MSD-00076 BASEMAP 160

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 8/19/2024 9:21 PM
FILE PATH: J:\309\02483.000 Parkway 2022 Bond\10.0 Personal Folders\1 - Civil\004 Craig Elementary\Site Design\03-PLANS\PR09230\Rev0\000000001C.dwg

GENERAL NOTES:

REMARKS:

KEYED NOTES (#)

1. LIMITS OF CONSTRUCTION.
2. NEW ASPHALT PAVEMENT. REFER TO DETAIL ON SHT. C5.01.
3. NEW CONCRETE WALK. REFER TO DETAIL ON SHT. C5.01.
4. NEW VERTICAL CONCRETE CURB. REFER TO DETAIL ON SHT. C5.01.
5. NEW CONCRETE CURB AND GUTTER. REFER TO DETAIL ON SHT. C5.01.
6. PLAYGROUND AREA TO BE IMPROVED. REFER TO LANDSCAPE PLANS FOR DETAILS.
7. NEW STREET PAVEMENT PER ST. LOUIS COUNTY STANDARD DETAILS.
8. NEW PRECAST CONCRETE PARKING STOP. REFER TO DETAIL ON SHT C5.01.
9. NEW HANDRAIL. REFER TO DETAIL ON SHT. C5.01.
10. NEW PAINTED PARKING LOT STRIPING. REFER TO DETAIL ON SHT. C5.01.
11. NEW PAINTED CROSSWALK/ISLAND. REFER TO DETAIL ON SHT. C5.01.
12. NEW PAINTED STOP BAR. REFER TO DETAIL ON SHT. C5.01.
13. NEW PAINTED DIRECTIONAL ARROW. REFER TO DETAIL ON SHT. C5.01.
14. NEW PAINTED ADA PARKING SYMBOL. REFER TO DETAIL ON SHT. C5.01.
15. NEW ADA PARKING SIGN. REFER TO DETAIL ON SHT. C5.01.
16. NEW "DO NOT ENTER" SIGN WITH ONE-WAY SIGN ABOVE. REFER TO DETAIL ON SHT. C5.01.
17. NEW "NO RIGHT TURN" SIGN. REFER TO DETAIL ON SHT. C5.01.
18. NEW "NO LEFT TURN" SIGN. REFER TO DETAIL ON SHT. C5.01.
19. NEW "EXIT ONLY" SIGN FACING CRAIG ROAD. REFER TO DETAIL ON SHT. C5.01.
20. EXISTING GATES TO BE REINSTALLED.
21. NEW CONCRETE WALK WITH INTEGRAL CURB. REFER TO DETAIL ON SHT. C5.01.
22. NEW STOP SIGN. REFER TO DETAIL ON SHT. C5.01.
23. CURB TRANSITION. REFER TO DETAIL ON SHT. C5.01.
24. CONTRACTOR TO PAINT CURB YELLOW.
25. NEW 48" CHAINLINK FENCE WITH GATE. REFER TO DETAIL ON SHT. C5.01.
26. NEW PAINTED DOUBLE YELLOW CENTER STRIPE. REFER TO DETAIL ON SHT. C5.01.
27. SAWCUT EXISTING PAVEMENT.

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

CRAIG ELEMENTARY

1492 Craig Road
St. Louis, MO 63146

RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006012866
PROFESSIONAL ENGINEER
19 AUGUST 2024

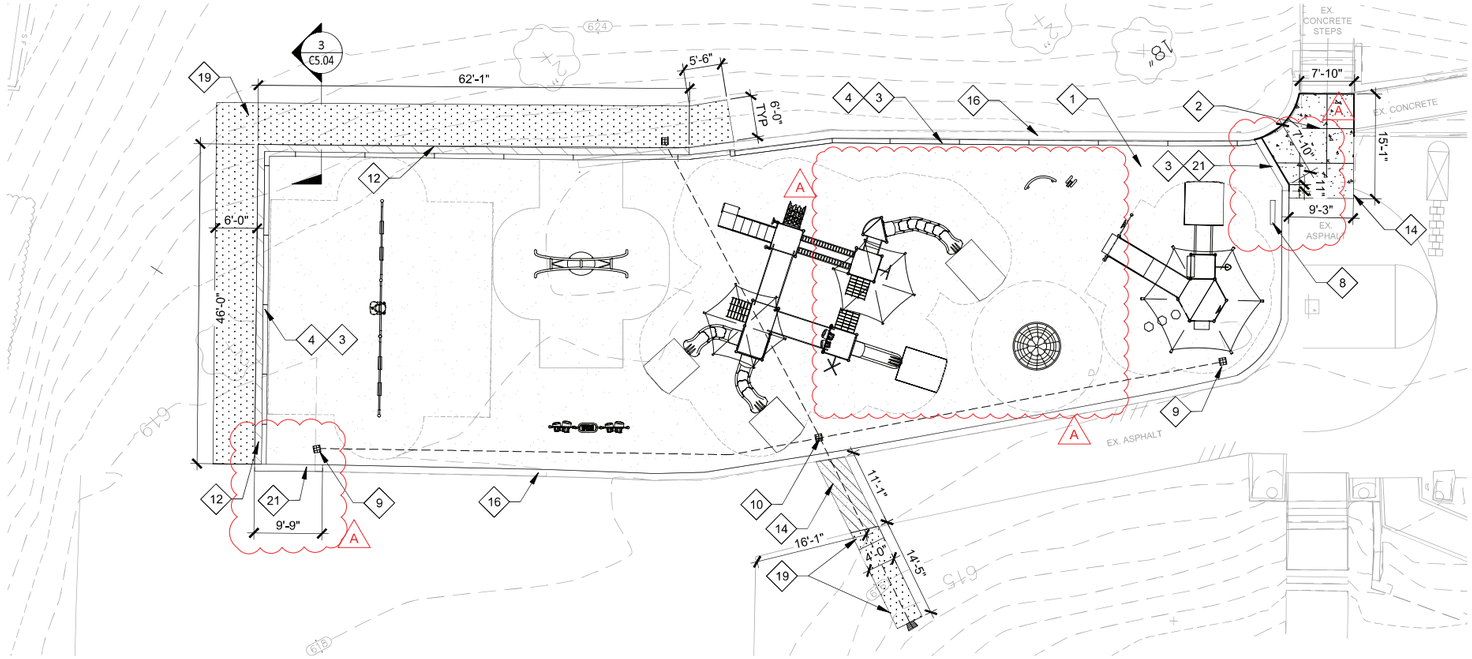
PROFESSIONAL SEAL

SHEET NAME
SITE PLAN

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	ST
DATE:	19 AUGUST 2024
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

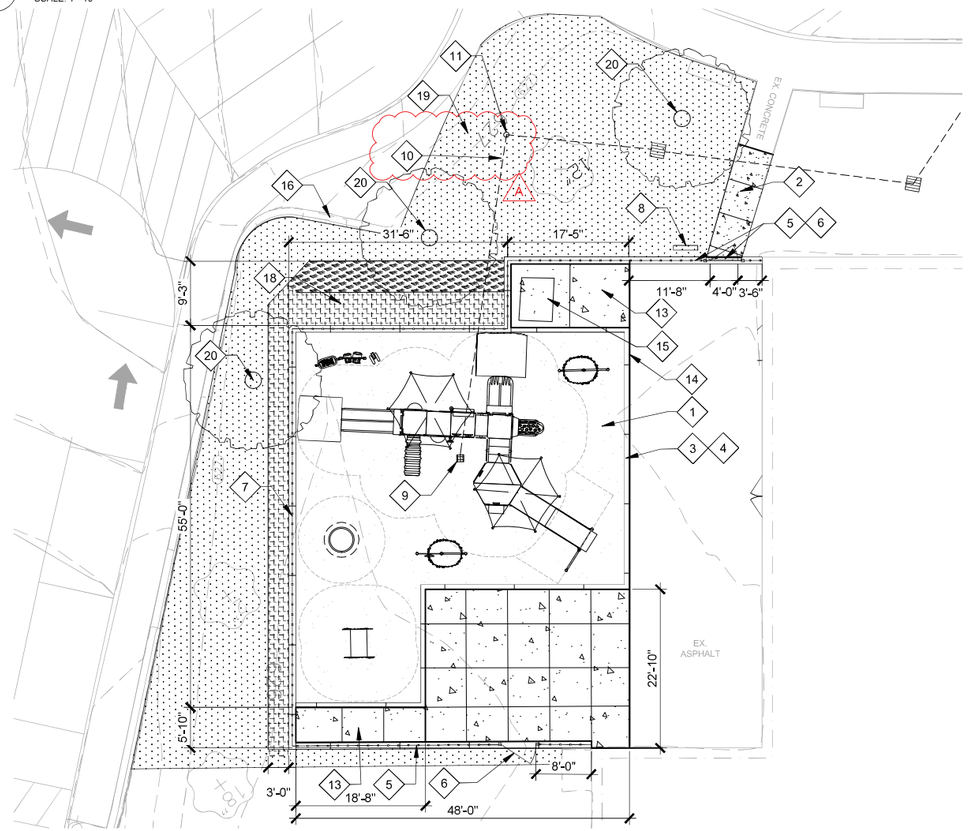
CLIENT PROJECT NUMBER: 092301B
WSP PROJECT NUMBER: 309024934.004
SHEET NUMBER C3.01



1 PLAYGROUND 'A' - LAYOUT PLAN

SCALE: 1"=10'

NOTE: PLAN IS ROTATED FROM BASE PLAN



2 PLAYGROUND 'B' - LAYOUT PLAN

SCALE: 1"=10'

NOTE: PLAN IS ROTATED FROM BASE PLAN

SHEET NOTES

A. SEE C1.01 AND C1.02 FOR EXISTING AND PROPOSED DRAWING SYMBOLS.
B. DIGITAL EXISTING CONDITIONS SURVEY WITH BENCHMARK INFORMATION AND CONCEPTUAL BASE PLAN WILL BE PROVIDED FOR CONSTRUCTION LAYOUT.
C. PROTECT THE SCHOOL BUILDING, EXISTING CURBS, PAVEMENTS, FENCING AND OTHER EXISTING SITE ELEMENTS FROM ANY POTENTIAL DAMAGE.
D. DAMAGED ITEMS MUST BE REPAIRED AND REPLACED IN-KIND WITH NO ADDITIONAL COST TO THE OWNER. ANY REPAIRS MUST BE COMPLETED TO THE SATISFACTION OF THE OWNER.
E. CONTRACTOR MUST SUBMIT SHOP DRAWINGS OF THEIR PROPOSED PLAY EQUIPMENT AND RUBBERIZED SURFACE AREAS FOR EACH SCHOOL PLAYGROUND TO SCHOOL DISTRICT FOR REVIEW AND APPROVAL PRIOR TO INITIATING PURCHASE OF EQUIPMENT. PLAY EQUIPMENT AND LAYOUT SHOWN IS CONCEPTUAL TO IDENTIFY THE DESIRED TYPES AND QUANTITIES OF EQUIPMENT AND HOW THAT EQUIPMENT MAY FIT ON THE TARGETED 2000 SF AGE 2-5 PLAYGROUNDS AND 6000 SF AGE 5-12 PLAYGROUNDS. ALL PLAYGROUND EQUIPMENT MUST BE APPROVED BY THE SCHOOL DISTRICT.
F. ALL SHOP DRAWINGS MUST BE REVIEWED AND STAMPED BY A CERTIFIED PLAYGROUND SAFETY INSPECTOR (CPSI) AND ALL EQUIPMENT MUST BE CERTIFIED BY THE INTERNATIONAL PLAYGROUND EQUIPMENT MANUFACTURERS ASSOCIATION (IPEMA).
G. SELECTED PLAYGROUND EQUIPMENT MUST BE AGE APPROPRIATE FOR EACH AGE 2-5 PLAYGROUND AND AGE 5-12 PLAYGROUND. MAXIMUM ALLOWABLE FALL HEIGHT FOR PLAYGROUND EQUIPMENT IS 6 FEET.
H. PLAYGROUND EQUIPMENT SHOWN IS GENERIC BUT INDICATES THE TYPE OF PLAY EQUIPMENT DESIRED. YOUR PROPOSED EQUIPMENT AND LAYOUT MAY DIFFER IN ORDER TO FIT WITHIN THE SPACE OR YOUR SPACE MAY EXPAND TO FIT YOUR EQUIPMENT.
I. PLATFORMS/DECKS THAT RECEIVE ACCESSIBLE RAMPS MUST BE ADA ACCESSIBLE WITH A 60-INCH TURNAROUND SPACE.
J. FOR INCLINED CLIMBER, PROVIDE A MINIMUM OF TWO (2) DIFFERENT STYLES.
K. FOR ACTIVITY PANELS, PROVIDE A DIFFERENT STYLE AT FOR ALL INDICATED LOCATIONS.
L. PRIMARY COLOR COMBINATION IS NAVY BLUE AND YELLOW. SUBMIT SHOP DRAWINGS FOR PLAY EQUIPMENT THAT INCLUDES SITE PLAN WITH EQUIPMENT PROPOSED AND 3D PERSPECTIVE RENDERINGS FROM 2 OR MORE VIEWS SHOWING EXACT EQUIPMENT AND COLOR COMBINATION FOR REVIEW AND APPROVAL PRIOR TO INITIATING PURCHASE OR FABRICATION OF THE PLAY EQUIPMENT.
M. RUBBERIZED PLAY SURFACING MUST APPEAR AS SMOOTH, CONSISTENT AND NEW. THE SURFACING MUST BE CONSISTENT IN APPEARANCE, SMOOTHNESS, SURFACE MATERIAL DISTRIBUTION, BASE AND SURFAC CONSOLIDATION AND FIRMNESS. THE SURFACE MUST CONTAIN MINIMAL VISIBLE TROWEL MARKS, JOINTS OR SEAMS. THE SURFACE MUST BE FINISHED AT A 2% SLOPE RO LESS. SURFACE CUTTIGN AND PATCHING IS NOT ACCEPTABLE. THE SURFACE MUST BE ACCEPTABLE TO THE PARKWAY SCHOOL DISTRICT, UNACCEPTABLE SURFACING MUST BE REMOVED AND REPLACED AT NO ADDITIONAL COST TO THE PARKWAY SCHOOL DISTRICT.

KEYED NOTES

1. RUBBERIZED PLAY SURFACE, DETAIL 1/C5.04
   PLAYGROUND A: 5,977 SF
   PLAYGROUND B: 2,460 SF
2. CONCRETE SIDEWALK, DETAIL 4/C5.04
3. PERIMETER CURB, DETAIL 2/C5.04
4. PERIMETER CURB JOINTS, DETAIL 3/C5.04
5. DECORATIVE METAL FENCE, DETAIL 1/C5.05
6. DECORATIVE METAL GATE, DETAIL 2/C5.05
7. DECORATIVE METAL FENCE ON PERIMETER CURB, DETAIL 3, 4 AND 5/ C5.05
8. INFORMATIONAL SIGN, SEE SPECIFICATIONS
9. CATCH BASIN- PLAYGROUND UNDERDRAIN, DETAIL 7/C5.04
10. (A) 4" CORRUGATED HDPE STORM PIPE TO TIE INTO 24" CATCH BASIN, SEE GRADING & UTILITY PLAN.
11. CLEAN OUT, DETAIL 6/C5.04
12. SEGMENTAL RETAINING WALL, DETAIL 4/C5.05
13. ASPHALT SURFACE, DETAIL 5/C5.04
    SURFACE AREA: 937.66 SF
14. SAW CUT EXISTING ASPHALT, ASPHALT SEAL JOINT, FULL DEPTH ASPHALT PATCH AND SEAL AS REQUIRED DETAIL 6/C5.04
15. PROTECT IN PLACE EXISTING SITE FURNISHING
16. PROTECT IN PLACE EXISTING RETAINING WALL
17. PROTECT IN PLACE EXISTING CHAIN LINK FENCE
18. PLANT BED, DETAIL 1/C5.06
19. SOD INSTALLATION INCLUDING 4-INCH IMPORTED TOPSOIL, TILL AND PREPARE SOIL FOR SODDING. EXPAND SOD AREA TO COVER BARE SOIL OUTSIDE LIMITS SHOWN, WHERE EXISTS. DETAIL 2/C5.06
20. NYSSA SYLVATICA 2"CAL.
21. 1'-0" CURB FLUSH WITH PAVEMENT TO ALLOW ACCESS TO / FROM PLAYGROUND

N

10' 0' 10' 20'
SCALE: 1" = 10'

23MSD-00076 BASEMAP 160

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869
Missouri Landscape Architecture Corporation: #001444

REV	DESCRIPTION	DATE
A	PERMIT / ADD. 1	09.20.24

PARKWAY SCHOOL DISTRICT

CRAIG ELEMENTARY

1492 Craig Road
St. Louis, MO 63146

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI



PROFESSIONAL SEAL

DESIGNED BY:	PMJ
DRAWN BY:	PMJ
CHECKED BY:	TMT
DATE:	18 AUGUST 2024
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

SHEET NAME

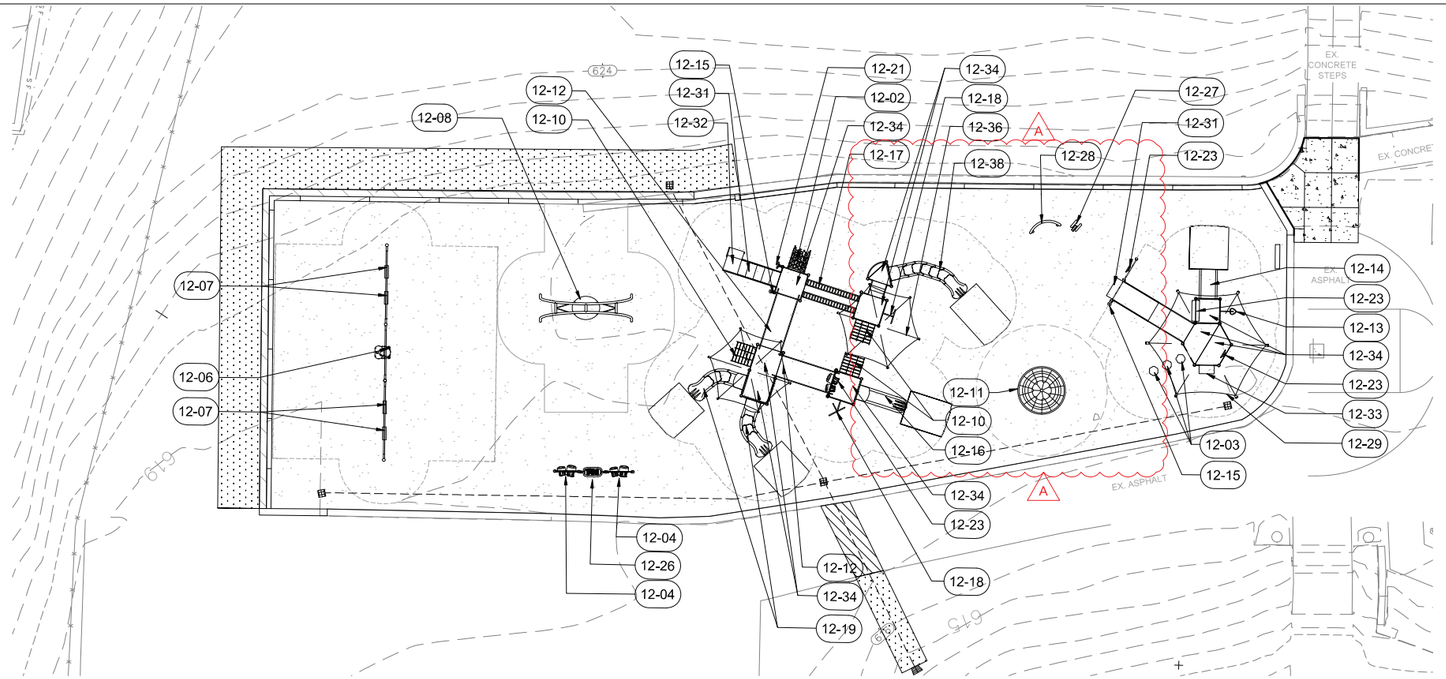
PLAYGROUND SITE PLAN

CLIENT PROJECT NUMBER: 002306B
WSP PROJECT NUMBER: 30902493.004

SHEET NUMBER **C3.02**

LAST EDITED: 9/14/2024 6:55 PM
FILE PATH: T:\30902493.001 Parkway\Playground\SHEETS\Craig Elementary\C3.02 - PLAYGROUND SITE PLAN - CE.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

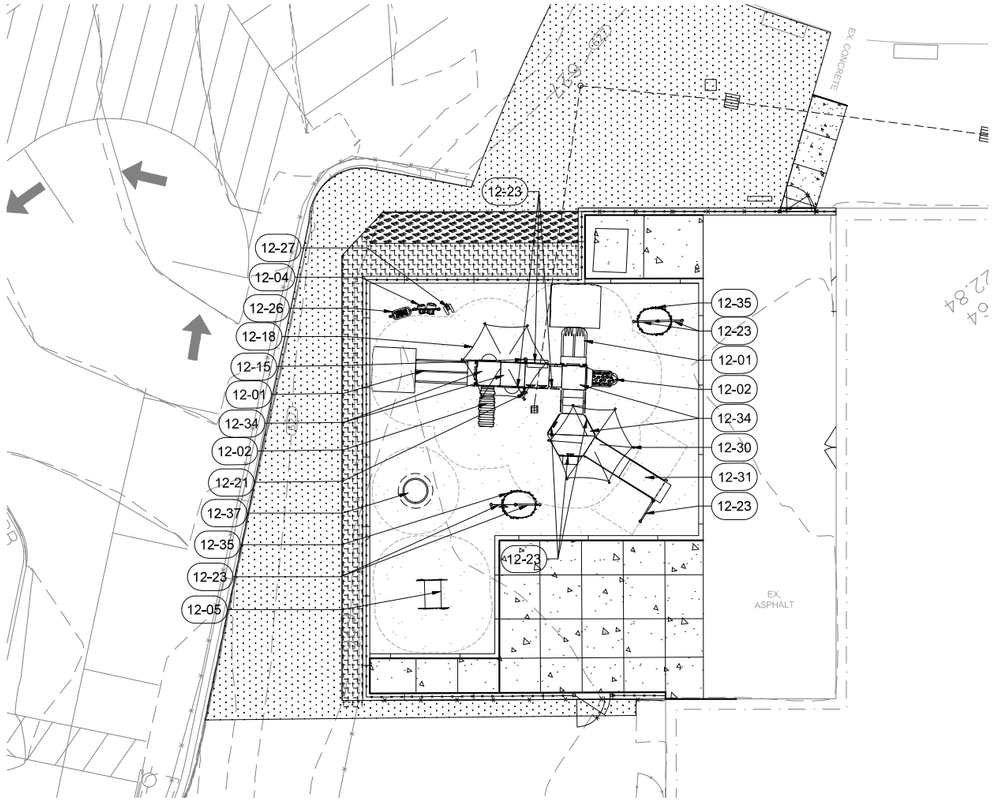


1 PLAYGROUND 'A' - EQUIPMENT PLAN

SCALE: 1"=10'

NOTE: PLAN IS ROTATED FROM BASE PLAN

PLAYGROUND 'A' EQUIPMENT SCHEDULE	
CODE	DESCRIPTION
12 Furnishings	
12-02	INCLINED CLIMBING WALL
12-03	POD STEP
12-04	DOUBLE DRUMS
12-06	INCLUSIVE SEAT SWING
12-07	STANDARD SWING
12-08	SAUCER SWING
12-10	INCLINED NET CLIMBER
12-12	ACCESSIBLE BRIDGE
12-13	ROUND TIERED CLIMBER
12-14	WIDE SLIDE
12-15	BELL
12-16	SLIDE
12-17	ROPE CLIMBER
12-18	VERTICAL CLIMBER
12-19	TWISTED SLIDE
12-21	WHEEL
12-23	ACTIVITY PANEL
12-26	XYLOPHONE
12-27	RAIN WHEEL
12-28	LARGE CHIMES
12-29	17' SHADE SAIL
12-31	ACCESSIBLE RAMP
12-32	ACCESSIBLE TRANSFER PLATFORM
12-33	DECK STEP
12-34	PLATFORM
12-36	12' SHADE SAIL
12-38	8' TALL SLIDE



2 PLAYGROUND 'B' - EQUIPMENT PLAN

SCALE: 1"=10'

NOTE: PLAN IS ROTATED FROM BASE PLAN

PLAYGROUND 'B' EQUIPMENT SCHEDULE	
CODE	DESCRIPTION
12 Furnishings	
12-01	PARALLEL DOUBLE SLIDE
12-02	INCLINED CLIMBING WALL
12-04	DOUBLE DRUMS
12-05	CRAWL TUNNEL
12-15	BELL
12-18	VERTICAL CLIMBER
12-21	WHEEL
12-23	ACTIVITY PANEL
12-26	XYLOPHONE
12-27	RAIN WHEEL
12-30	10' SHADE SAIL
12-31	ACCESSIBLE RAMP
12-34	PLATFORM
12-35	POST TOPPER
12-37	EXISTING EQUIPMENT

N

10' 0' 10' 20'

SCALE: 1" = 10'

23MSD-00076 BASEMAP 160

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869
Missouri Landscape Architecture Corporation: #001444

REV	DESCRIPTION	DATE
A	PERMIT / ADD. 1	09.20.24

PARKWAY SCHOOL DISTRICT

CRAIG ELEMENTARY

1492 Craig Road
St. Louis, MO 63146

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

STATE OF MISSOURI

TODD M. TEUSCHER
NUMBER LA-2005018525
LANDSCAPE ARCHITECT
STATE OF MISSOURI
9/20/24

PROFESSIONAL SEAL

DESIGNED BY:	PMJ
DRAWN BY:	PMJ
CHECKED BY:	TMT
DATE:	18 AUGUST 2024
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

SHEET NAME

PLAYGROUND EQUIPMENT PLAN

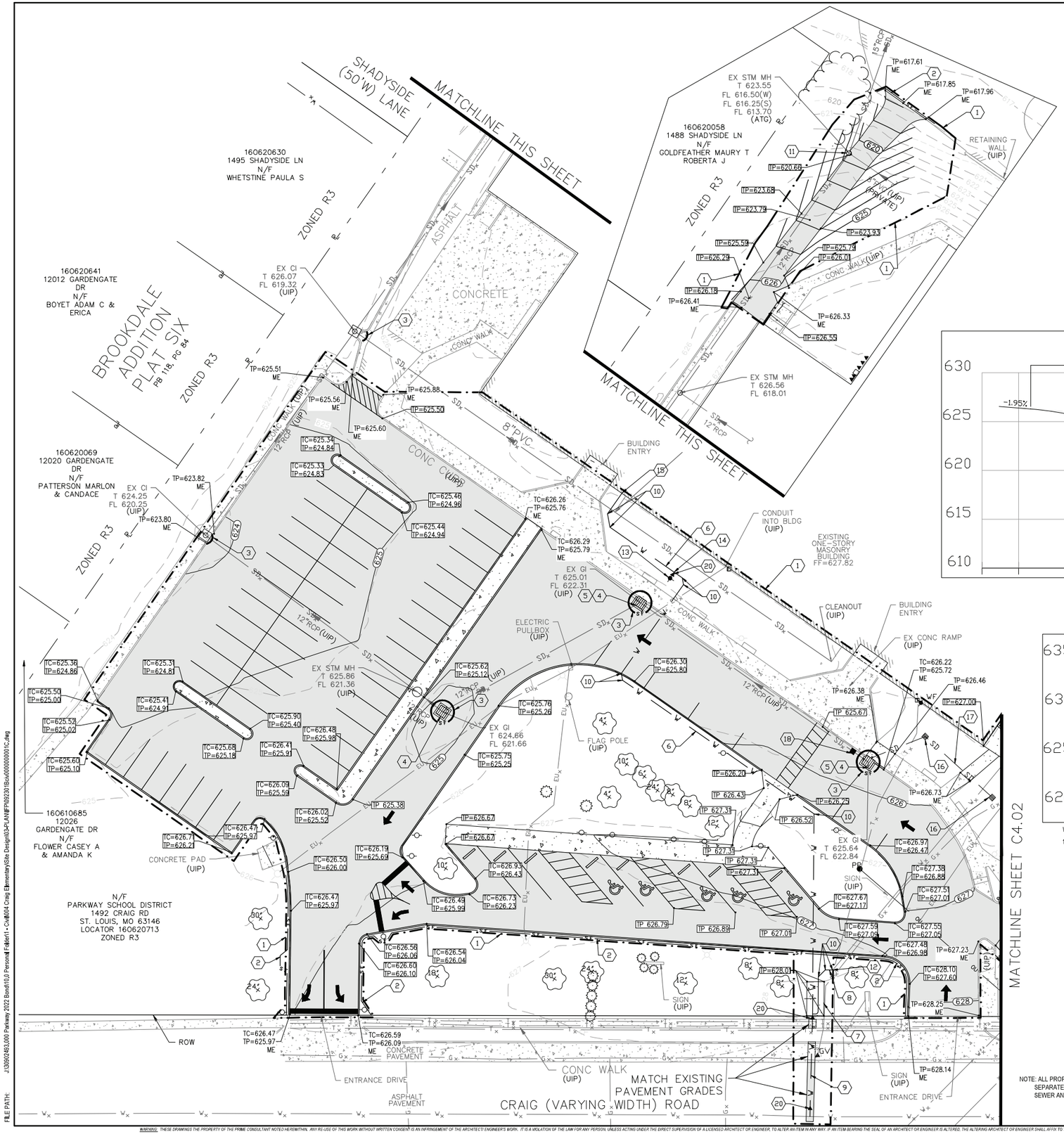
CLIENT PROJECT NUMBER: 002306B
WSP PROJECT NUMBER: 30902493.004

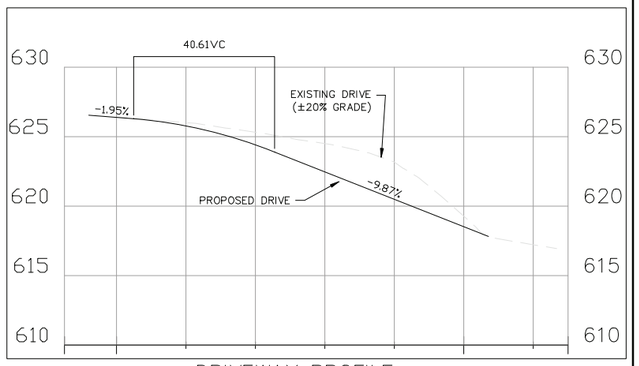
SHEET NUMBER **C3.03**

ISSUE FOR PERMIT

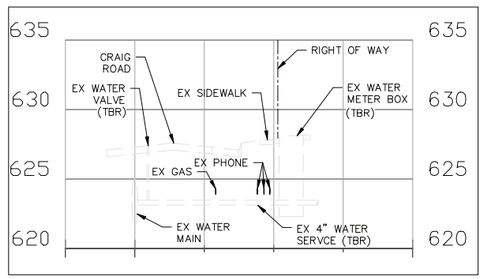
LAST EDITED: 9/14/2024 3:05 PM
FILE PATH: T:\30902493.001 Parkway Playgrounds\SHEETS\Craig Elementary\C3.03 - PLAYGROUND EQUIPMENT PLAN - CE.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.





DRIVEWAY PROFILE
SCALE: 1:5 VERTICAL
1:20 HORIZONTAL



WATER SERVICE NOTE:

1. THE EXISTING LOCATION AND DEPTH OF THE EXISTING WATER MAIN, GAS, PHONE, ETC., IS SHOWN BASED ON AVAILABLE TOPOGRAPHIC SURVEY AND UTILITY MAPS. ALL LOCATIONS AND DEPTHS SHOULD BE CONSIDERED APPROXIMATE AND SHALL BE FIELD VERIFIED. ALL EXISTING UTILITIES SHALL BE PROTECTED DURING CONSTRUCTION UNLESS OTHERWISE NOTED.

WATER SERVICE PROFILE
SCALE: 1:5 VERTICAL
1:20 HORIZONTAL

NOTE: ALL PROPOSED UTILITY RELATED WORK WITHIN COUNTY RIGHT-OF-WAY SHALL REQUIRE A SEPARATE SPECIAL USE PERMIT. CONTACT JAMES HAYES AT 314-615-5485 FOR FIBER, SANITARY SEWER AND WATER SERVICE LINES OR TONY BARNETT AT 314-615-8515 FOR ELECTRIC AND GAS

HT 7092 24MSD-00076 BASEMAP 160

GENERAL NOTES:

1. THERE ARE NO PROPOSED CHANGES TO THE SANITARY LOADING WITH THIS PROJECT.

REMARKS:

KEYED NOTES (#)

1. LIMITS OF CONSTRUCTION.
2. EROSION CONTROL - SILT FENCE/FIBER ROLLS. REFER TO DETAILS ON SHT. C5.03.
3. EROSION CONTROL - INLET PROTECTION. REFER TO DETAIL ON SHT. C5.03.
4. NEW CONCRETE COLLAR FOR INLET. REFER TO DETAIL ON SHT C5.01.
5. NEW CAST IRON SIDE INTAKE FOR GRATE INLET PER MSD STANDARD DETAILS FOR SEWER CONSTRUCTION SHT. 5.01.
6. NEW 6" FIRE SERVICE LINE.
7. NEW SPLIT SERVICE WATER METER BOX WITH BACKFLOW PREVENTER. REFER TO DETAILS ON SHT. C5.02.
8. NEW 4" DOMESTIC WATER SERVICE.
9. NEW 6" PIPING FROM EXISTING TAP TO NEW METER BOX.
10. NEW 45° BEND WITH THRUST BLOCK. REFER TO DETAILS ON SHT. C5.02.
11. ADJUST MANHOLE TOP TO GRADE. NEW RIM ELEVATION = 620.66.
12. CONNECT NEW 4" DOMESTIC WATER LINE TO EXISTING.
13. NEW FIRE HYDRANT. REFER TO DETAIL ON SHT. C5.02.
14. NEW 6X6 TEE WITH THRUST BLOCK. REFER TO DETAIL ON SHT. C5.02.
15. NEW FDC SHALL BE A SINGLE 5-IN STORZ CONNECTION WITH 30° DOWN ANGLE AND KNOX LOCKING CAP.
16. NEW 24" NDS CATCH BASIN WITH GREEN GRATE TOP.
17. NEW 10" CORRUGATED PVC PIPE TO EXISTING INLET.
18. SPOT REPAIR ON EXISTING 12" RCP. REFER TO DETAIL ON SHT. C5.01.
19. NEW PERMANENT TURF REINFORCEMENT MAT INSTALLED PER MANUFACTURER GUIDELINES AND ST. LOUIS COUNTY GUIDELINES. REFER TO SHEET C5.04.
20. NEW WATER VALVE PER MISSOURI AMERICAN WATER COMPANY SPECIFICATIONS.

GRADING QUANTITIES:

CUT	257 CY
FILL	241 CY
NET	56 CY (CUT)

0 20' 40'

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

CRAIG ELEMENTARY

1492 Craig Road
St. Louis, MO 63146

RENOVATIONS & SITE IMPROVEMENTS

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006902866
PROFESSIONAL ENGINEER
19 AUGUST 2024

PROFESSIONAL SEAL

SHEET NAME
GRADING & UTILITY PLAN

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	ST
DATE:	19 AUGUST 2024
SCALE:	

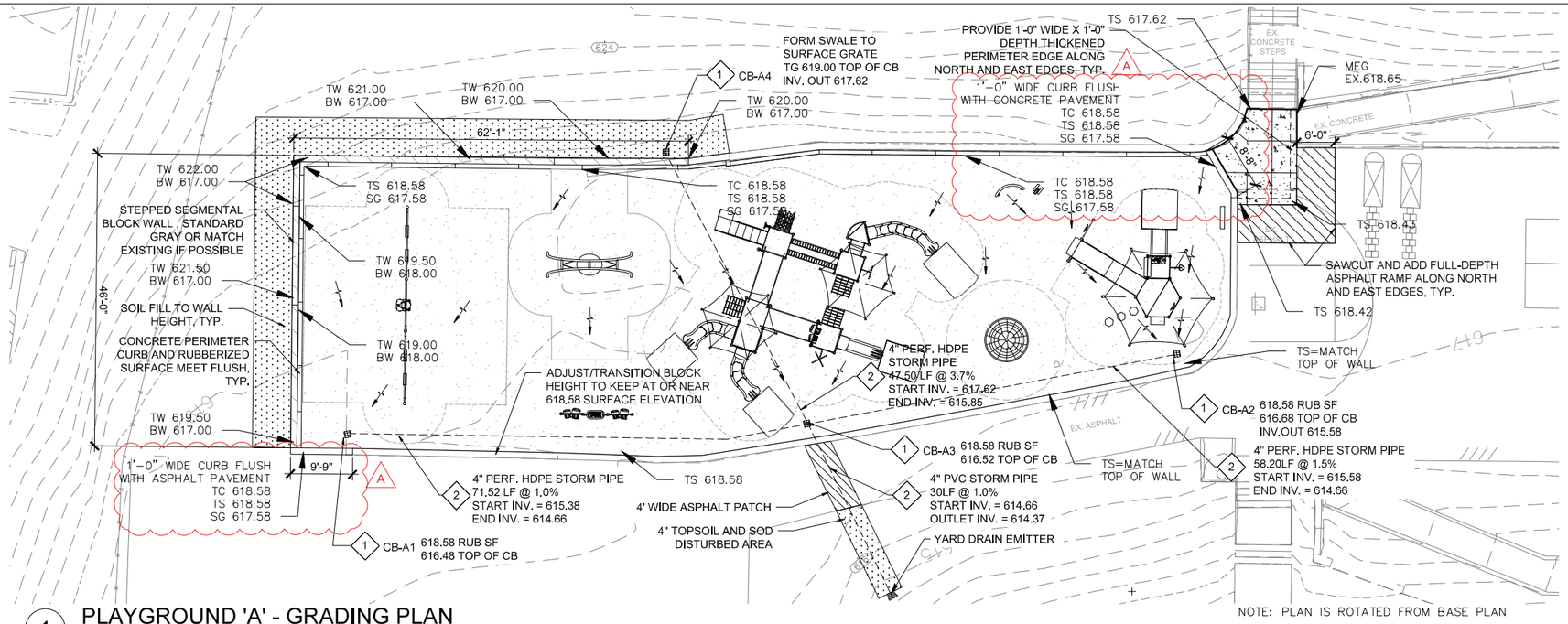
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 092301B
WSP PROJECT NUMBER: 309024934.004
SHEET NUMBER **C4.01**

ISSUE FOR PERMIT

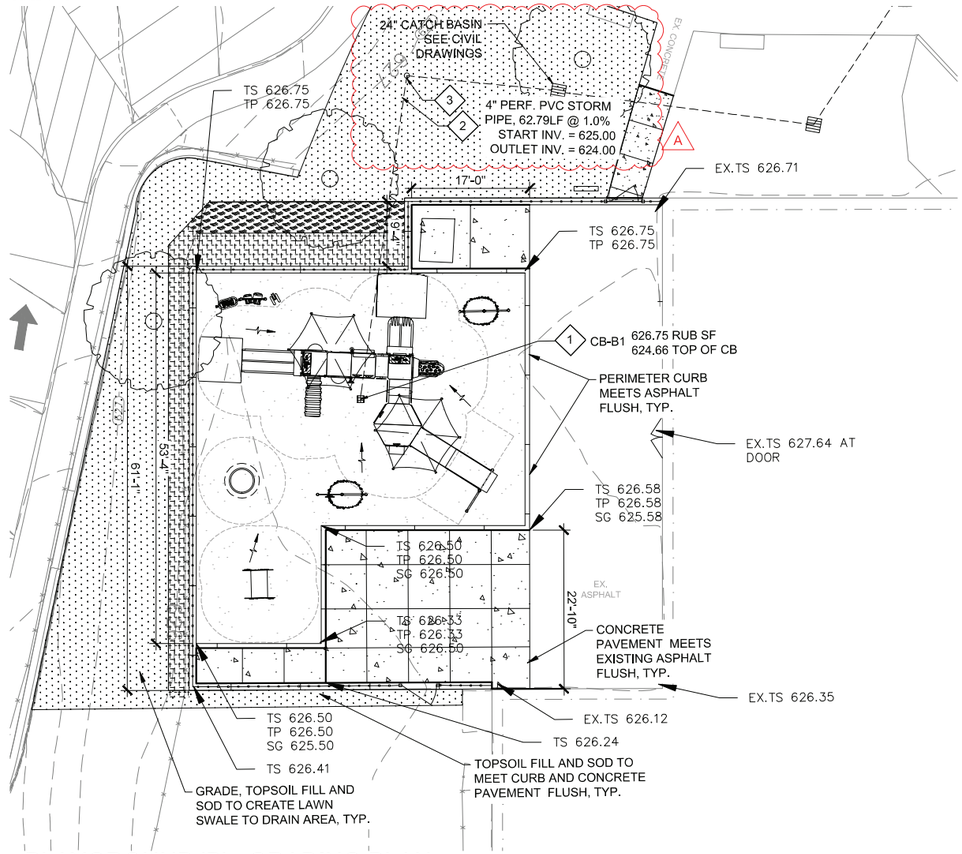
LAST EDITED: 8/19/2024 9:21 PM
FILE PATH: J:\309024\63.000 Parkway 2022 Bond\10.0 Personal Folder\1 - Civil\04 Craig Elementary\Site Design\03-PLAN\PR09230.1Box\000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



1 PLAYGROUND 'A' - GRADING PLAN

SCALE: 1"=10'



2 PLAYGROUND 'B' - GRADING PLAN

SCALE: 1"=10'

NOTE: PLAN IS ROTATED FROM BASE PLAN

KEY NOTES

1. CATCH BASIN, BELOW RUBBERIZED SURFACE SECTION, DETAIL 1/C5.04 & 4/C5.05, EXCEPT AS NOTED FOR SURFACE INSTALL.
2. 4" PERFORATED CORRUGATED HDPE STORM PIPE IN FILTER SOCK AND 12"X12" MIN. STONE TRENCH, EXCEPT AS NOTED.
3. CLEAN-OUT, DETAIL 6/C5.04

LEGEND

BC	BOTTOM OF CURB
C.O.	CLEANOUT
EG	EXISTING GRADE
TC	TOP OF CURB
TG	TOP OF GRATE
TS	TOP OF SURFACE
TS	TOP OF SLAB
MEG	MATCH EXISTING GRADE
TW	TOP OF WALL
BW	BOTTOM OF WALL
0.8% →	SLOPE ARROW
	SUBGRADE SLOPE DIRECTION ARROW UNDER RUBBERIZED SURFACE

SHEET NOTES

A. MAXIMUM SLOPE ON NEW PAVEMENTS, CURB AND RUBBERIZED SURFACES IN ANY DIRECTION SHALL NOT EXCEED 2.00%.

B. SIDEWALKS SHALL NOT EXCEED 1:25 (4%) LONGITUDINAL SLOPE AND 1:60 (1.67%) CROSS SLOPE.

C. PROTECT THE OWNER FACILITIES DURING THE WORK INCLUDING BUT NOT LIMITED TO SIGNALS, UTILITIES AND STRUCTURES.

D. SLOPES IN LANDING AREAS SHALL NOT EXCEED 1.67% IN ANY DIRECTION.

E. BACKFILL AROUND ALL PERIMETER CURBS AND SIDEWALKS AND FILL ALL DEPRESSIONS WITH EXCAVATED SOIL. SUPPLEMENT WITH TOPSOIL TO FILL DEPRESSIONS TO CREATE POSITIVE DRAINAGE FLOW, TO CREATE SMOOTH FLOWING SURFACES THAT DO NOT CREATE LOW AREAS THAT COULD POND WATER.

F. SOD OVER ALL EXPOSED SOIL AREAS THAT WERE DISTURBED BY CONSTRUCTION UNLESS NOTED OTHERWISE. RAISE GRADE AROUND PLAYGROUNDS, OVER UNDERDRAIN TRENCHES IN LAWN AREAS AND AROUND OUTLETS WITH TOPSOIL AND SOD OVER EXPOSED SOIL AREAS.

G. CONNECT PLAYGROUND B UNDERDRAIN PIPE INTO 24" NDS CATCH BASIN, SEE CIVIL DRAWING C4.01 ITEM 16 AND CIVIL DETAILS.

N

10' 0' 10' 20'
SCALE: 1" = 10'

23MSD-00076 BASEMAP 160

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869
Missouri Landscape Architecture Corporation: #001444

REV	DESCRIPTION	DATE
A	PERMIT / ADD. 1	09.20.24

PARKWAY SCHOOL DISTRICT

CRAIG ELEMENTARY

1492 Craig Road
St. Louis, MO 63146

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI



PROFESSIONAL SEAL

DESIGNED BY:	PMJ
DRAWN BY:	PMJ
CHECKED BY:	TMT
DATE:	18 AUGUST 2024
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

SHEET NAME
PLAYGROUND GRADING PLAN

CLIENT PROJECT NUMBER: 002306B
WSP PROJECT NUMBER: 30902493.004
SHEET NUMBER **C4.03**

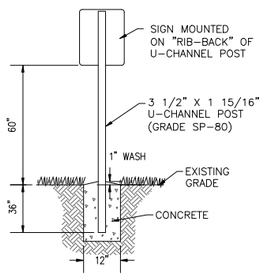
LAST EDITED: 9/14/2024 1:11 PM
FILE PATH: T:\30902493.001 Parkway Playgrounds\SHEETS\Craig Elementary\C4.03_PLAYGROUND GRADING G4.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

NOTE: THIS SHEET IS NOT INCLUDED IN ST. LOUIS COUNTY APPROVAL



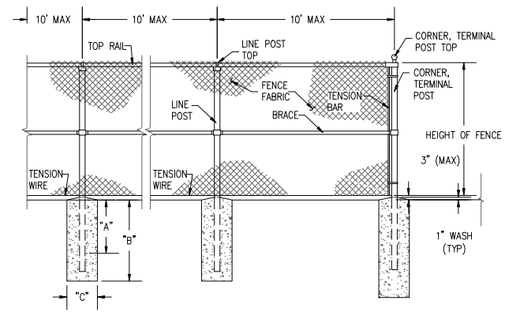
SIGN DETAILS
NTS



SIGN MOUNTING DETAIL
NTS

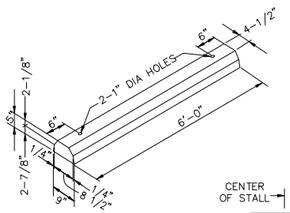
Description		Height of Fence
		48"
Line Post	Size	2.38"ø
	"A"	24"
	"B" x "C"	30" x 10"
Corner & Terminal Post	Size	3.5"ø
	"A"	30"
	"B" x "C"	36" x 10"
Gate Post * (single gate or leaf gate of double width)	Pedestrian	3.5"ø
	Vehicular	6.63"ø
Top Rail and Brace		1.66"ø
Gate Frame	Pedestrian	1.66"ø
	Vehicular	1.9"ø
Fabric		2" diamond mesh interwoven wire, 9 gage thick, top selvage knuckle and end closed, bottom selvage twisted tight
Tension Wire		6 gage thick steel, single strand
Tension Band		0.1" thick steel
Tension Bar		0.1" thick steel
Tie Wire		Aluminum alloy steel wire

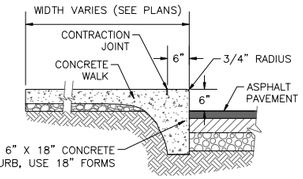
* "A", "B", and "C" are the same as Corner & Terminal Post



TYPICAL FENCE ELEVATION

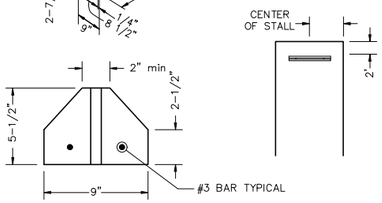
CHAIN LINK FENCE DETAIL
NTS





NOTE: PROVIDE CONTRACTION JOINTS AND FULL DEPTH EXPANSION JOINT PER CONCRETE SIDEWALK DETAIL

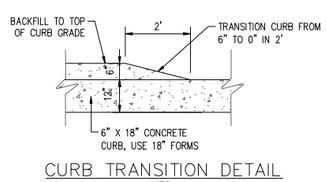
CONCRETE WALK WITH INTEGRAL CURB DETAIL
NTS



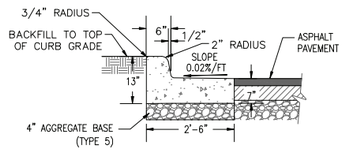
NOTES:

1. WHEEL STOPS TO BE PLACED 2' BACK, AS SHOWN ABOVE. CENTERED IN THE PARKING STALL.
2. WHEEL STOPS CAN BE PAINTED IN A CONTRASTING COLOR SUCH AS GRAY, YELLOW OR BLACK. BLUE SHALL BE USED FOR HANDICAP PARKING STALLS.
3. CONCRETE TO BE 4,000 PSI, WITH FIBER MESH REINFORCING

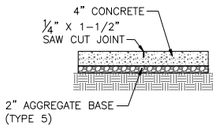
PRECAST CONCRETE WHEEL STOP DETAIL
NTS



CURB TRANSITION DETAIL
NTS

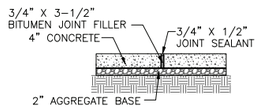


VERTICAL CONCRETE CURB AND GUTTER
NTS



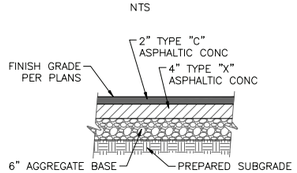
NOTE: MAXIMUM SPACING EQUALS WIDTH OF SIDEWALK OR 10'-0", WHICHEVER IS LESS.

CONTRACTION JOINT

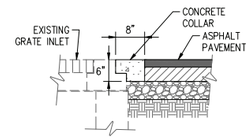


NOTE: MAXIMUM SPACING EQUALS 20'-0" ON CENTER.

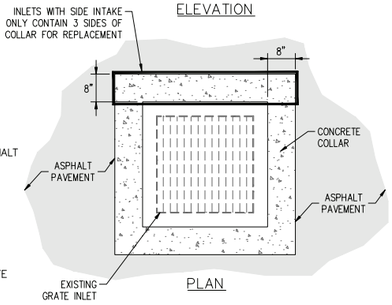
EXPANSION JOINT



ASPHALT PAVEMENT DETAIL
NTS

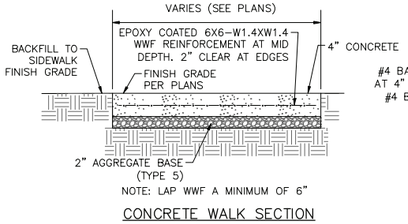


ELEVATION



PLAN

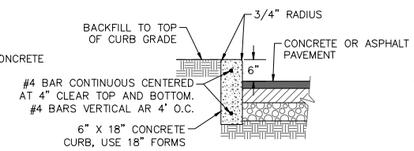
CONCRETE COLLAR DETAIL
NTS



NOTE: LAP WWF A MINIMUM OF 6"

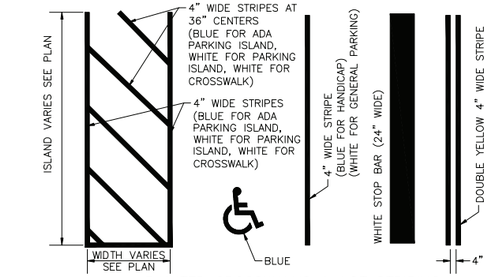
CONCRETE WALK SECTION

TYPICAL CONCRETE WALK DETAILS
NTS

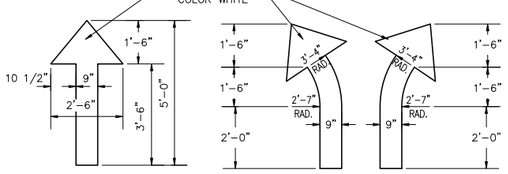


NOTE: PROVIDE ¾" EXPANSION JOINT SIMILAR TO CONCRETE EXPANSION JOINT, FULL DEPTH OF CURB, MAXIMUM SPACING AT 20'-0" ON CENTER.

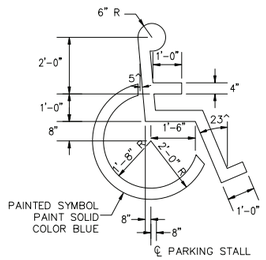
VERTICAL CONCRETE CURB DETAIL
NTS



PAINTED CROSSWALKS & LOT STRIPING

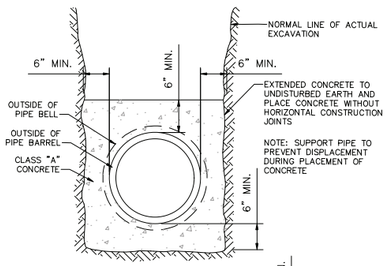


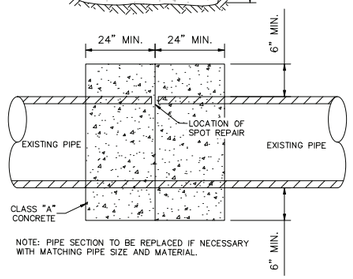
PAINTED DIRECTIONAL ARROWS



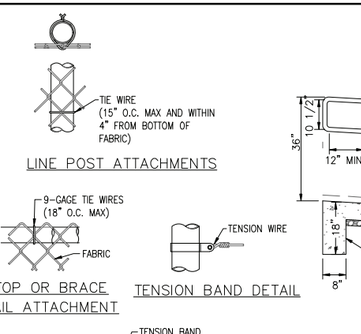
PAINTED ADA PARKING SYMBOL

PAVEMENT MARKING DETAILS
NTS





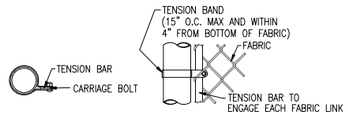
SPOT REPAIR DETAIL
NTS



LINE POST ATTACHMENTS

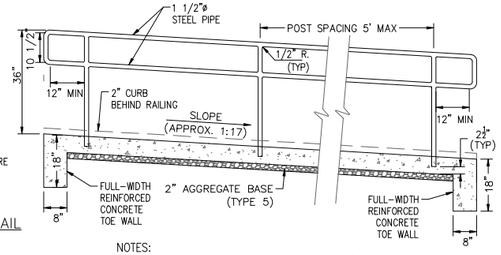
TOP OR BRACE RAIL ATTACHMENT

TENSION BAND DETAIL



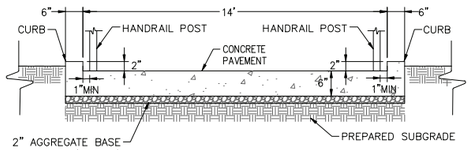
CORNER, TERMINAL OR GATE POST DETAIL

FASTENING DETAILS
NTS



NOTES:
1) HANDRAIL ENDS SHALL EXTEND AT LEAST 12" AND SHALL BE PARALLEL WITH THE FINISHED SURFACE.
2) ALL PIPE SHALL BE SCH40 STEEL PIPE.
3) ALL JOINT WELDS TO BE CONTINUOUS.
4) GRIND WELD JOINTS SMOOTH.
5) HANDRAILS TO BE PAINTED.
   a. ONE (1) PRIME COAT WITH ALKYD PRIMER.
   b. TWO (2) TOP COATS WITH BLACK ALKYD PAINT.

RAMP AND HANDRAIL DETAIL



RAMP SECTION A-A

LAST EDITED:
FILE PATH:

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

HT 7092 24MSD-00076 BASEMAP 160

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

CRAIG ELEMENTARY

1492 Craig Road
St. Louis, MO 63146

RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT



PROFESSIONAL SEAL

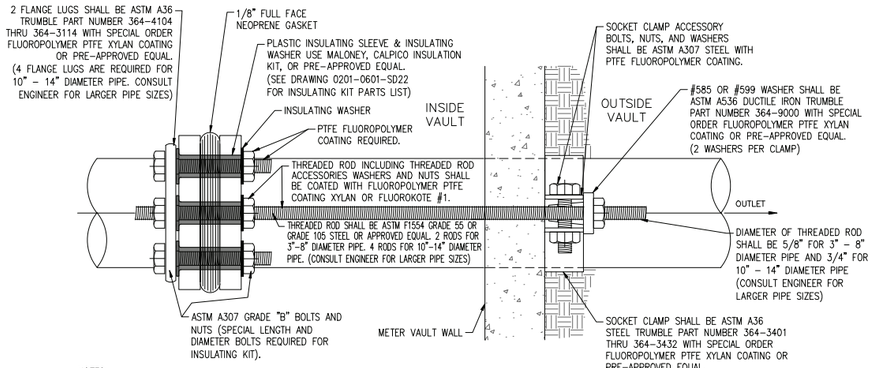
SHEET NAME
DETAILS

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	ST
DATE:	19 AUGUST 2024
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

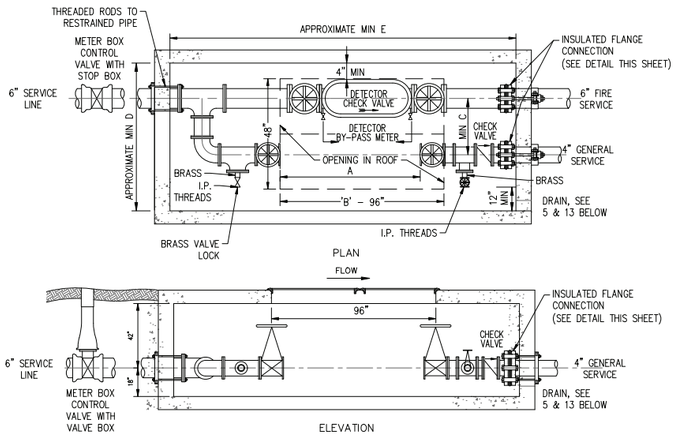
CLIENT PROJECT NUMBER: 092301B
WSP PROJECT NUMBER: 309024934.004

SHEET NUMBER **C5.01**



NOTES:
1. ALL EXTERIOR BOLTS, COLLARDS & RODS ARE TO BE COMPLETELY COVERED USING FIELD APPLICATIONS OF SPRAY ON BITUMASTIC MATERIAL EQUAL TO 3M AUTOMOTIVE UNDERCOATING.
2. ALL PARTS AND PIPELINE ON THE OUTSIDE OF THE VAULT SHALL BE ENCASED WITH 12 MIL POLYETHYLENE TUBE MEETING REQUIREMENTS OF AWWA C105.
3. ALL FLUOROPOLYMER PTFE COATINGS SHALL BE BAKED ON OR THERMALLY SET BY THE COATING MANUFACTURE.

INSULATED FLANGE CONNECTION DETAIL
NTS

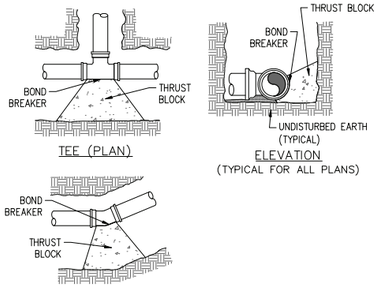


GENERAL SERVICE				FIRE SERVICE											
SIZE	BYPASS MIN. SIZE	A	B	10"			8"			6"			4"		
				C	D	E	C	D	E	C	D	E	C	D	E
IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1 1/2	1 1/2	30	96	35	72	102	35	72	90	30	66	84	27	60	84
2	2	30	96	35	72	102	35	72	90	30	66	84	27	60	84
3	2	54	96	35	84	156	35	78	156	30	72	150	27	72	150
4	2	54	96	35	84	162	35	84	162	30	78	156	27	72	156
6	2	60	96	36	84	174	36	84	174	31	78	174			
8	2	66	96	37	84	186	37	84	186						

NOTES:
1. VAULT WALLS AND ROOF TO BE OF CONCRETE.
2. LIDS AND FRAMES OF OPENING TO BE SET IN PLACE, NOT IN CONCRETE.
3. VALVES ON EACH SIDE OF GENERAL METER FOR 1 1/2" OR 2" SERVICE TO HAVE SCREW ENDS. I.P. THREADS FOR 3" AND ABOVE. VALVES MUST HAVE FLANGED ENDS AND BE IN ALIGNMENT. ALL VALVES MUST BE ADEQUATELY SECURED TO WITHSTAND WATER THRUST WITH METER REMOVED.
4. MINIMUM CLEARANCE OF 6" TO BE PROVIDED BETWEEN THE EDGE AND GENERAL METER AND THE EDGE AND DETECTOR CHECK BY-PASS METER.
5. DRAINAGE FACILITIES MUST BE PROVIDED OR BOX OTHERWISE KEPT FREE OF WATER. NO FRENCH DRAINS ALLOWED UNLESS APPROVED BY AUTHORIZED COMPANY REPRESENTATIVE.
6. CLASS 52 D.I. PIPE EXTENDED MIN. 6' FROM OUTLET SIDE OF METER PIT. (ZINC COATED D.I. PIPE WITH V-BIO POLYWRAP OPTIONAL IN HIGHLY CORROSIVE SOIL AREAS.
7. TYPE "K" OR "L" COPPER ON DOMESTIC - EXTENDED MIN. 6' FROM OUTLET SIDE OF METER PIT.
8. ANY DEVIATION FROM PIPE DEPTH SHOWN MUST BE APPROVED BY AUTHORIZED COMPANY REPRESENTATIVE PRIOR TO CONSTRUCTION.
9. METER BOX CONTROL VALVE TO BE LOCATED AS NEAR TO METER BOX AS PRACTICAL.
10. BOX TO BE SET WITH TOP OF BOX AT FINISHED GRADE WITH NO EXTENSION ALLOWED.
11. CONNECTIONS TO PUBLIC WATER MAIN WILL NOT BE MADE BEFORE METER PIT AND PIPING ARE COMPLETE AND PROPERTY LINE VALVE INSTALLED, UNLESS APPROVED BY AUTHORIZED COMPANY REPRESENTATIVE.
12. LIDS SHALL BE MADE OF ALUMINUM AND SPRING LOADED. OPENING SHALL BE 48"x96" TO ALLOW UNRESTRICTED ACCESS. OPENING TO BE FLUSH WITH OUTLET SIDE OF DOMESTIC WATER SERVICE VALVE FLANGE.
13. DRAIN OR SUMP PUMP NEEDS TO BE GRADED TO ALLOW WATER DRAINAGE AWAY AND OUT FROM VAULT.
14. CHECK VALVES REQUIRED FOR EACH METER BOX INSTALLATION AND SHALL BE RATED AT 250 PSI AND SHALL HAVE A RESILIENT SEAT.
15. ALL STEEL BOLTS INCLUDING THE NUTS, WASHERS, LUGS, CLAMPS, AND BRACKETS USED FOR BOLT ACCESSORIES SHALL CONFORM TO AWWA C111 STANDARDS AND SHALL BE FACTORY COATED WITH AN APPROVED PTFE FLUOROPOLYMER COATING. THREADED RODS INCLUDING THE NUTS AND STANDARD WASHERS USED FOR THREADED ROD ACCESSORIES SHALL MEET ASTM F1554 GRADE 55 OR GRADE 105 WITH HEAVY HEX DH NUTS AND SHALL COATED WITH PTFE FLUOROPOLYMER COATING. APPROVED PTFE FLUOROPOLYMER COATING PRODUCTS INCLUDE FLUOROKOTE #1 , OR XYLAN , SERIES 1420, 1421, 1424, OR APPROVED EQUAL. PTFE FLUOROPOLYMER COATINGS SHALL BE BAKED ON OR THERMALLY SET BY THE COATING MANUFACTERER.

A TEMPORARY FLANGED DUCTILE IRON SPOOL PIECE MUST BE INSTALLED IN THE PLACE OF THE METER LOCATION(S), 3" AND LARGER, TO ENSURE PIPE ALIGNMENT. MAWC PERSONNEL WILL REMOVE SPOOL PIECE AT TIME OF METER INSTALLATION AND WILL LEAVE IN METER VAULT FOR CONTRACTOR TO ACQUIRE FOR FUTURE USE.

METER BOX FOR SPLIT SERVICE DETAIL
NTS

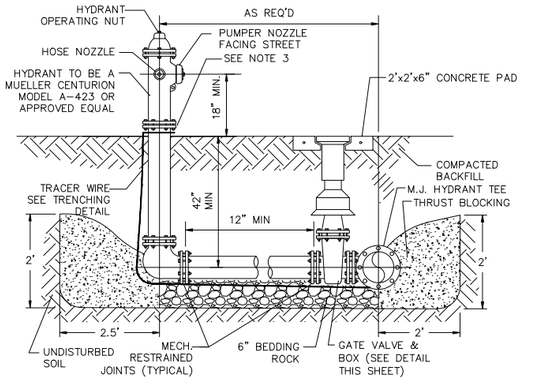


MINIMUM BEARING SURFACE IN SQUARE FEET						
PIPE SIZE	BENDS (ANGLE IN DEGREES)				TEE	DEADE END
	11.25°	22.5°	45°	90°		
2"	1.0	1.0	2.0	4.0	3.0	3.0
4"	1.0	1.0	2.0	4.0	3.0	3.0
6"	1.0	2.0	4.0	8.0	6.0	6.0
8"	2.0	4.0	7.0	14.0	10.0	10.0
10"	3.0	6.0	11.0	21.0	15.0	15.0
12"	4.0	8.0	16.0	29.0	21.0	21.0
14"	5.0	11.0	21.0	39.0	28.0	28.0
16"	7.0	14.0	27.0	50.0	36.0	36.0
18"	9.0	17.0	34.0	63.0	45.0	45.0
20"	11.0	21.0	42.0	78.0	55.0	55.0
24"	15.0	31.0	60.0	111.0	78.0	78.0
30"	24.0	47.0	92.0	171.0	121.0	121.0
36"	34.0	67.0	132.0	244.0	173.0	173.0

NOTE: AREA BASED UPON WATER PRESSURE OF 150 PSI AND ALLOWABLE SOIL PRESSURE OF 1000 PSF. ENGINEER MAY MODIFY REQUIRED SIZE BASED UPON SITE CONDITIONS.

GENERAL NOTES FOR THRUST BLOCKS
1. MINIMUM THRUST BLOCK THICKNESS 1'-6".
2. MINIMUM THRUST BLOCK HEIGHT 1.5 TIMES PIPE DIAMETER.
3. EXTEND THRUST BLOCKS TO UNDISTURBED SOIL.
4. FORM VERTICAL SURFACES OF POURED CONCRETE THRUST BLOCKS EXCEPT ON THRUST FACE.
5. DO NOT ALLOW CONCRETE TO DIRECTLY CONTACT JOINTS OR FITTING BOLTS, PROTECT JOINTS AND BOLTS WITH POLYETHYLENE ENCASEMENT.

WATER MAIN THRUST BLOCK DETAILS
NTS



NOTES:
1. CLEARANCE BETWEEN BOTTOM OF BOLTS AND TOP OF SHEAR PAD SHALL BE 6" MINIMUM.
2. THRUST BLOCKING DIMENSIONS SHOWN ARE MINIMUM CONCRETE REQUIRED.
3. THRUST BLOCKING SHALL NOT COVER ANY JOINTS.
4. PUBLIC HYDRANTS SHALL BE PAINTED CONSISTENT WITH LOCAL MUNICIPALITY REQUIREMENTS.
5. FIRE HYDRANT SHALL BE INSTALLED 2' MIN. AND 4' MAX. FROM BACK OF CURB OR 6' MIN. AND 12' MAX. WHEN CURB IS NOT PRESENT. FIRE HYDRANT TO BE INSTALLED WITHIN RIGHT-OF-WAY OR EASEMENT LINE.
6. AREA AROUND HYDRANT AT A RADIUS OF 4' TO BE LEVEL AND UNOBSTRUCTED.
7. WATERPROOF BAGS SHALL BE PLACED OVER ALL NEWLY INSTALLED FIRE HYDRANTS.
8. HIGH PRESSURE (OVER 120 PSI) REQUIRES THE USE ALL 3 RESTRAINTS.

FIRE HYDRANT ASSEMBLY
NTS

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

CRAIG ELEMENTARY

1492 Craig Road
St. Louis, MO 63146

RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006012866
PROFESSIONAL ENGINEER
19 AUGUST 2024

PROFESSIONAL SEAL

SHEET NAME
DETAILS

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	ST
DATE:	19 AUGUST 2024
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

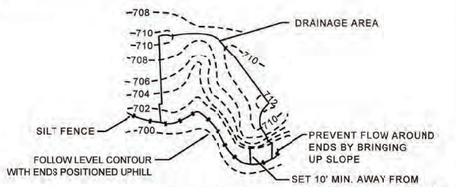
CLIENT PROJECT NUMBER: 092301B
WSP PROJECT NUMBER: 309024934.004
SHEET NUMBER: **C5.02**

LAST EDITED:
FILE PATH:

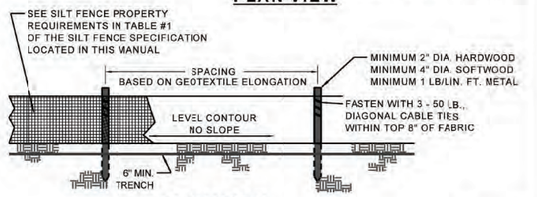
HT 7092 24MSD-00076 BASEMAP 160

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

NEW	REVISIONS				
1/15/04	8/2/07	10/10/11	1/1/16		

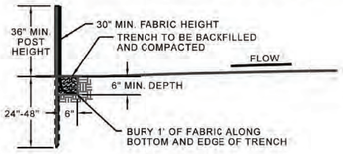


PLAN VIEW



ELEVATION

FOR ADDITIONAL INFORMATION ON SILT FENCE GEOTEXTILE REQUIREMENTS, POST SPACING, HEIGHT AND SIZE, SEE THE SILT FENCE SPECIFICATION AND TABLE #1 LOCATED IN THIS MANUAL.



SECTION



JOINING SECTIONS OF SILT FENCE

NOTE: IF FABRIC IS INSTALLED BY EQUIPMENT DESIGNED TO SLICE INTO THE GROUND, THE TRENCH IS NOT NEEDED.

ST. LOUIS COUNTY
DEPARTMENT OF TRANSPORTATION
CREVE COEUR MISSOURI

TYPICAL BMP DETAIL

SILT FENCE

REVISION DATE: January 1, 2016

DRAWING 806-70.00

SILT FENCE

PHYSICAL DESCRIPTION - Silt fences are used as temporary perimeter controls appropriate to the BMP, or sites where construction activities will disturb the soil. They can also be used on the interior of the site. A silt fence consists of a length of filter fabric stretched between anchoring posts spaced at regular intervals along the site at low and down slope areas. The filter fabric should be entrenched in the ground. When installed correctly and inspected frequently, silt fence can be an effective barrier to silt leaving the site in storm water runoff.

WHERE BMP IS TO BE INSTALLED - Silt fences apply to construction sites with relatively small drainage areas. They are appropriate in areas where runoff will occur as low-level flow, not exceeding 0.5 c.f.s. The drainage area for silt fences should not exceed 0.25 acre per 100-foot fence length (100 square feet per foot of fence). The slope length above the fence should not exceed 100 feet (NAHB, 1995). The fence should be designed to withstand the runoff from a 10-year peak storm event.

CONDITIONS FOR EFFECTIVE USE OF BMPs - Spacing of parallel lengths of silt fence along slopes is related to slope steepness as follows:

Type of Flow:	Sheet flow only.
Contributing Slope Length:	30 foot maximum for 3:1 slopes. 50 foot maximum for slopes between 3:1 and 10:1. 100 foot maximum for slopes under 10%.

For additional information see Section 806.70 of St. Louis County's Standard Specification for Road and Bridge Construction.

WHEN BMP IS TO BE INSTALLED - Prior to disturbance of natural vegetation and at intervals during construction of fill slopes. Install on the perimeter of the site (where storm water exits the site) prior to disturbance of natural vegetation, around materials stockpiles and interior to the site along slopes, at the base of slopes and at intervals during construction of slopes.

INSTALLATION / CONSTRUCTION PROCEDURES

- Drive post for fence line.
- Dig trench to required dimensions in front of posts for fabric burial.
- Attach wire mesh to posts.
- Attach fabric to posts, allowing required length below ground level to run fabric along bottom of trench.
- Backfill and compact soil in trench to protect and anchor fabric.

If a standard-strength fabric is used, it can be reinforced with wire mesh behind the filter fabric. This increases the effective life of the fence. The maximum life expectancy for synthetic fabric silt fences is about 6 months, depending on the amount of rainfall and runoff.

The stakes used to anchor the filter fabric should be wood or metal. Wooden stakes should have minimum dimensions of 2 by 2 inches if a hardwood like oak is used. Stakes from soft woods like No. 2 Southern Pine, should have minimum dimensions of 4 by 4 inches. When using steel (standard U, T, L or C shape sections) posts in place of wooden stakes, they should weigh no less than 1.0 lb/linear foot. If metal posts are used, attachment points are needed for fastening the filter fabric with wire ties. Posts should be least 5 feet long and driven or placed at a slight upstream angle into the ground to a minimum depth of 18 inches. Depth shall be increased to a minimum of 22 inches if fence is placed on a slope of 3:1 or greater. When the post embedment depth is impossible to obtain, the posts shall be adequately secured to prevent overturning of the fence due to sediment loading.

Erect silt fence in a continuous fashion from a single roll of fabric to eliminate gaps in the fence. If a continuous roll of fabric is not available, overlap the fabric from both directions only at stakes or posts. Overlap at least 6 inches.

The Geosynthetic filter fabric and wire mesh (when applicable) shall be no less than 30 inches above ground and are stapled or wired to the upslope side of the post. Staples should be a 17-gauge wire and ½ inch long. Excavate a trench to bury the bottom of the fabric fence in a "J" configuration at least 8 inches below the ground surface. The trench shall be backfilled with native soil and the soil compacted over the geotextile. This helps to prevent gaps from forming near the ground surface. Gaps would make the fencing useless as a sediment barrier.

The height of the fence posts should be 38 inches (22-inch embedment) to 42 inches (18-inch embedment) above the original ground surface. If standard-strength fabric is used with 14-gauge steel wire with a mesh spacing of 6 inches by 6 inches (or a prefabricated polymeric mesh of equivalent strength), space the posts no more than 4 feet apart. If extra-strength fabric is used without wire mesh reinforcement, space the posts no more than 4 feet apart with woven or 6 feet apart with non-woven geosynthetic.

Alternate Construction: Install fence by slicing it into ground with specialized equipment. Install posts at reduced spacing indicated on detail.

LIMITATIONS - Do not install silt fences along areas where rocks or other hard surfaces will prevent you from uniformly anchoring the fence posts and entrenching the filter fabric. Installing fences in such an area greatly reduces their effectiveness and can create runoff channels leading offsite. Silt fences are not suitable for areas where large amounts of concentrated runoff are likely. Fence shall not be used when slope is 1:1 or greater and water flow rates exceed 2 cubic feet per minute. Open, windy areas present a maintenance challenge, too, because high winds can make the filter fabric deteriorate faster. Do not install silt fences across streams, ditches, or waterways (Smolen et al., 1988).

When the pores of the fence fabric become clogged with sediment, pools of water are likely to form on the uphill side of the fence. Setting and design of the silt fence should account for this. Take care to avoid unnecessarily diverting stormwater from these pools, causing further erosion damage.

MAINTENANCE CONSIDERATIONS - Inspect silt fences regularly and frequently, as well as after each rainfall event, to make sure that they are intact and that there are no gaps where the fence meets the ground or tears along the length of the fence. If you find gaps or tears, repair or replace the fabric immediately. Remove accumulated sediments from the fence base when the sediment reaches one-third to one-half the fence height. Remove sediment more frequently if accumulated sediment is creating noticeable strain on the fabric and the fence might fail from a sudden storm event. When you remove the silt fence, remove the accumulated sediment, dress the area disturbed to give it a pleasing appearance and vegetate all bare areas as well.

O&M PROCEDURES

- ✓ Inspect every week and after every storm.
- ✓ Remove sediment buildup deeper than ½ the fence height or 12", whichever is less
- ✓ Replace torn of clogged fabric; repair loose fabric
- ✓ Repair unstable or broken posts.
- ✓ Stabilize any areas susceptible to undermining.
- ✓ Extend fence or add additional row(s) of fence if necessary to provide adequate protection

SILTING AND DESIGN CONSIDERATIONS - The material for silt fences should be a pervious sheet of synthetic fabric such as polypropylene, nylon, and polyester or polyethylene yarn. Choose the material based on the minimum synthetic fabric requirements shown in **Table 1** below.

Table 1- Temporary Silt Fence Property Requirements

			MARV Geotextile Requirements		
				Unsupported Silt Fence	
Physical Property	Test Method	Units	Supported Silt Fence [2]	Woven Elongation ≥ 50% [1]	Non-Woven Elongation ≤ 50% [1]
Post Spacing (Maximum)		feet	4	4	6
Height of Wire / Polymer Fence (Minimum)		inches	30	----	---
Grab Strength (Minimum): Machine Direction Cross Machine Direction	ASTM D 4632	pounds	90 90	125 100	125 100
Permittivity (Minimum)	ASTM D 4491	sec^{-1}	0.05	0.05	0.05
Apparent Opening Size (AOS) [1]	ASTM D 4751	Sieve Number	30	30	30
Ultraviolet Stability (Minimum) (retained strength)	ASTM D 4355	70% after 500 h of exposure			

Notes:

MARV Minimum Average Roll Value

[1] Elongation measured in accordance with ASTM D 4632

[2] **Silt Fence Support** - 14-gauge steel wire with a mesh spacing of 6 inches by 6 inches (or a prefabricated polymeric mesh of equivalent strength)

[1] Maximum Average Roll Value

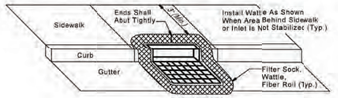
SITE CONDITIONS FOR REMOVAL - After permanent vegetation of slope is established. Remove fence and post, re-grade trench area and vegetate.

TYPICAL DETAIL - 806-70.0

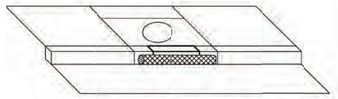
NEW	REVISIONS				
1/1/14	1/1/16				

GENERAL NOTES

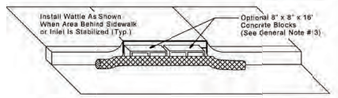
1) LOCATION, DIAMETER AND LENGTH OF SOCK IS DEPENDENT ON THE INLET/GUTTER BEING PROTECTED (I.E. DOUBLE, TRIPLE INLET, ETC.).
2) GRAVEL FILTER BAGS MAY BE SUBSTITUTED FOR FILTER SOCKS.
3) SOME LOCATIONS WILL NOT HAVE SIDEWALK (AS SHOWN IN THIS DETAIL).
4) IF THE AREA BEHIND THE INLET (AND SIDEWALK) IS NOT STABILIZED, A BMP SHALL BE USED TO PREVENT POLLUTANTS FROM ENTERING THE INLET FROM BEHIND.
5) WHEN A WATTLE IS USED TO PREVENT POLLUTANTS FROM ENTERING AN INLET FROM BEHIND, IT MUST BE PLACED ON A SIDEWALK TO MAINTAIN A MINIMUM 1 FOOT WALKING PATH. THE BMP SHALL BE MAINTAINED TO PREVENT SEDIMENT ACCUMULATION ON THE SIDEWALK.
6) SOCKS / BAGS (BMP) SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBANCE ACTIVITY ON EXISTING INLETS AND IMMEDIATELY AFTER INSTALLATION OF PROPOSED INLETS.
7) ACCUMULATED SEDIMENT SHALL BE REMOVED BEFORE IT REACHES ONE HALF THE DIAMETER OF THE SOCK OR BAG HEIGHT AT A MINIMUM OR ENCROACHES ONTO A TRAVEL LANE.
8) SEE GRAVEL BAG, FILTER SOCK (WATTLE, FIBER ROLL) AND INLET PROTECTION SPECIFICATIONS IN THE SEDIMENT AND EROSION CONTROL MANUAL FOR ADDITIONAL INFORMATION. GRAVEL BAGS MUST BE LAYERED AND PACKED TIGHTLY SUCH THAT NO GAPS ARE EVIDENT.
9) LEAVE ONE GRAVEL BAG GAP IN THE TOP LAYER TO PROVIDE A SPILLWAY FOR OVERFLOW.
10) STRAW BALES MAY NOT BE USED AS A BMP. INSTALL A PAIR OF FILTER SOCKS, NEXT TO EACH OTHER, PARALLEL TO THE CURB INLET IF DIRECTED BY THE COUNTY.
11) BMP's MUST BE INSTALLED TO ALLOW THE INLET / GUTTER TO FUNCTION WITHOUT COMPLETELY BLOCKING FLOWS TO ELIMINATE LOCALIZED FLOODING. CHOOSE THE DIAMETER OF SOCK AND LAYER(S) OF BAGS SUITABLE TO THE INDIVIDUAL APPLICATION.
12) INLET PROTECTION IS NOT A STAND ALONE BMP AND SHOULD BE USED IN CONJUNCTION WITH OTHER UP GRADIENT BMP's.
13) SOCKS NEED TO BE WEIGHTED FOR USE AROUND INLETS (INTERNAL ROLL WEIGHT OR BY PLACING A WEIGHT, SUCH AS A CONCRETE BLOCK, ON THE DOWN STREAM SIDE OF THE SOCK). USE ALTERNATE BMP IF LOCALIZED FLOODING IS POSSIBLE.
14) AT LOCATIONS WITHOUT CURBS, THE GUTTER PROTECTION MAY BE SHAPED INTO A HORSESHOE, WITH THE OPENING FACING OPPOSITE THE DIRECTION OF FLOW. GUTTER PROTECTION CAN HELP PRE-TREAT STORM WATER IF NEEDED.
15) AT LOCATIONS WITHOUT CURBS, PLACE BMP's OF CHOICE COMPLETELY AROUND THE INLET, OVERLAP ENDS IF NEEDED.



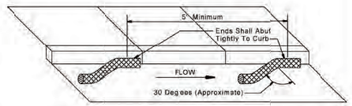
CURB AND GRATE INLET FILTER SOCK PROTECTION DETAIL



CURB INLET FILTER SOCK PROTECTION DETAIL



CURB INLET FILTER SOCK PROTECTION DETAIL



GUTTER FILTER SOCK PROTECTION DETAIL

ST. LOUIS COUNTY
DEPARTMENT OF TRANSPORTATION
CREVE COEUR, MISSOURI

TYPICAL BMP DETAIL

GRATED UNIT, INLET AND GUTTER PROTECTION FILTER SOCK AND GRAVEL FILTER BAG

REVISION DATE: January 1, 2016

DRAWING 806-45.08

INLET PROTECTION - BLOCK & GRAVEL, GRAVEL BAGS, AND FIBER ROLLS

PHYSICAL DESCRIPTION - A temporary sediment control barrier consisting of a short concrete block wall supporting gravel filter media; gravel bags, or fiber rolls around a storm water inlet designed to prevent sediment from entering the storm sewer. Shallow temporary ponding during and after rainfall should be expected. Use an alternate method if flooding of driving lanes, adjacent property, etc. is possible. Block and Gravel (Double Area Inlet), Fiber Roll (Single Curb Inlet), Fiber Roll (Double Curb Inlet), Fiber Roll (Triple Curb Inlet), Fiber Roll (Grated Inlet), or Fiber Roll (Gutter Protection).

WHERE BMP IS TO BE INSTALLED - At inlets where heavy flows are expected and an overflow capacity is necessary to prevent excessive ponding around the structure.

CONDITIONS FOR EFFECTIVE USE OF BMPs

Type of Flow:	Sheet flow and concentrated flow
Contributing Area:	Maximum of 1 acre

WHEN BMP IS TO BE INSTALLED - Immediately after placement of inlet and before construction starts on existing inlets.

INSTALLATION / CONSTRUCTION PROCEDURES

- ✓ Backfill, compact and uniformly grade area around inlet.
- ✓ Install first row of concrete blocks adjacent to the inlet sill, placing one block on its side on each side of inlet. The blocks are placed against the sill for lateral support and to avoid washouts when overflows occur.
- ✓ If needed for lateral support, install 2 x 4 lumber through vertical block openings.
- ✓ Fill vertical block openings with gravel for stability.
- ✓ Place second row of block offsetting one-half block from the first row, in a brick-like pattern.
- ✓ Fill vertical block openings with gravel.
- ✓ Anchor wire screen over horizontal block openings to support gravel.
- ✓ Place gravel around the blocks.

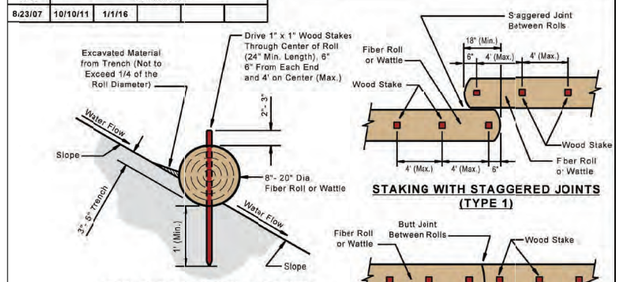
O&M PROCEDURES

- ✓ Inspect every week and after every storm.
- ✓ Remove sediment accumulation to keep it at least 8 inches from the top of the blocks.
- ✓ Remove trash accumulation at inlet.
- ✓ Repair elements to original configuration as needed.

SITE CONDITIONS FOR REMOVAL - Remove after contributing drainage areas have been adequately stabilized. Restore area to grade and vegetate.

TYPICAL DETAIL - 806-45.02 (Block and Gravel, Single Area Inlet)
806-45.06 (Fiber Roll, Single Curb Inlet)

NEW	REVISIONS				
8/23/07	10/10/11	1/1/16			

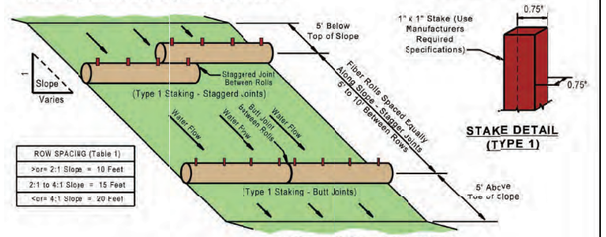


FIBER ROLL SECTION & STAKING (TYPE 1)

STAKING WITH STAGGERED JOINTS (TYPE 1)

STAKING WITH BUTT JOINTS (TYPE 1)

Note: Construct a "J-hook" at each end of a continuous run of fiber rolls or wattles, by turning the end of the roll uphill, to prevent storm water runoff and solids from flowing around the ends, when water behind the roll ponds up to a level even with the top of the roll.



INSTALLATION AND SPACING (TYPE 1 STAKING)

STAKE DETAIL (TYPE 1)

GENERAL NOTES

1) Do not scale drawing, follow dimensions.
2) Row spacing for slope installations should be determined by site conditions such as slope gradient and soil type (see Table 1 for row spacing).
3) Installations as shown above are designed for slopes of 1:10 and steeper.
4) Netting, filter sock or outer cover of rolls must be constructed of photodegradable or biodegradable material.
5) Fiber Rolls and Wattles shall contain straw, flax, coconut fiber (coir), rice straw or aspen excelsior, in a tight tubular roll, specifically designed for removal of solids from storm water runoff. Fill material must be biodegradable and contain no chemical additives.
6) Fiber Rolls or Wattles may be weighted for use around sreet inlets (internal roll weight or by placing a weight, such as a concrete block, on the down stream side of the roll). Weight must not be placed on top of the roll, smashing or flattening the roll.
7) Follow the roll manufacturers instructions and recommendations for the sizing, installation and maintenance of all Fiber Rolls or Wattles.

ST. LOUIS COUNTY
DEPARTMENT OF TRANSPORTATION
CREVE COEUR MISSOURI

TYPICAL BMP DETAIL

FIBER ROLLS AND WATTLES
(TYPE 1 STAKING)

REVISION DATE: January 1, 2016

DRAWING 806-65.00

FIBER ROLLS AND FILTER ROLLS

PHYSICAL DESCRIPTION - A fiber roll, also known as a wattle, consists of straw, flax, coconut fiber (coir), rice straw or other similar materials bound in a tight photodegradable or biodegradable tubular roll or filter sock. A fiber roll consists of a biodegradable, coarse composted or fiber material bound in a tight photodegradable or biodegradable tubular roll or filter sock. They intercept runoff, reduce flow velocity, remove sediment from the runoff, and reduce soil erosion. Fiber rolls and filter rolls must be preformulated.

WHERE BMP IS TO BE INSTALLED - Installed on erodible slopes, at top of and toe of slopes, around the perimeter of the site, and around temporary stockpiles, as final barrier to sediment being carried off site. Spacing of rolls along slopes is relative to slope. Filter rolls and fiber rolls may also be used at drain inlets, swales and other concentrated flow areas to prevent sediment, silt, and other solids in storm water runoff from entering the storm sewer system. Rolls may also be used as mini check dams in unlined ditches and swales.

CONDITIONS FOR EFFECTIVE USE OF BMPs

Type of Flow:	Sheet flow and concentrated flow
Contributing Slope:	For slopes, use the following row spacing:
	2:1 (H:V) or steeper: 10 feet
	Between 2:1 and 4:1 (H:V): 15 feet
	4:1 (H:V) or flatter: 20 feet

WHEN BMP IS TO BE INSTALLED - Prior to disturbance of natural vegetation and at intervals during construction of fill slopes. Fiber rolls and filter oils should not be used on slopes subject to creep, slumping or landslide. Rolls are difficult to move once saturated.

INSTALLATION / CONSTRUCTION PROCEDURES

- ✓ Calculate required roll diameter, length and row spacing based on slope and the manufacturers recommendations.
- ✓ Dig trench to required depth for fiber rolls (filter rolls do not require trench).
- ✓ Place fiber rolls in trench or filter rolls directly on slope.
- ✓ Stake the fiber rolls or filter rolls as shown on detail drawings.
- ✓ Place excavated soil (fiber roll) or filter rol material along the upside of rolls as shown on detail drawings, not to exceed ½ of the roll diameter.

O&M PROCEDURES

- ✓ Inspect every week and after every storm.
- ✓ Remove sediment buildup deeper than ½ the exposed roll height.
- ✓ Replace or repair split, torn, unraveling, slumping or damaged rolls.
- ✓ Repair or replace unstable or broken wood stakes.
- ✓ Stabilize any areas susceptible to undermining.
- ✓ Extend rows or add additional rolls if necessary to provide adequate protection

SITE CONDITIONS FOR REMOVAL - After permanent vegetation of slope is established, remove rolls, collect and dispose of sediment accumulation, re-grade trench area to blend with adjacent ground, and vegetate. Rolls do not have to be removed if approved construction or grading plans call for rolls to permanently be left in place (must be fully biodegradable).

TYPICAL DETAILS - 806-65.00
806-55.01
806-55.02

LAST EDITED:
FILE PATH:

HT 7092 24MSD-00076 BASEMAP 160

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

CRAIG ELEMENTARY

1492 Craig Road
St. Louis, MO 63146

RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006002866
PROFESSIONAL ENGINEER
19 AUGUST 2024

PROFESSIONAL SEAL

SHEET NAME
DETAILS

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	ST
DATE:	19 AUGUST 2024
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 092301B
WSP PROJECT NUMBER: 309024934.004

SHEET NUMBER **C5.03**

INSPECTIONS - GENERAL

The St. Louis County Land Disturbance Code requires that major land disturbance permit holder's provide a qualified professional (referred to herein as the "Special Inspector"), to conduct regular inspections of land disturbance sites, including all erosion and sediment BMPs and other pollutant control measures, outfalls, and off-site receiving waters 50 feet downstream of the outfall(s) when practicable, in accordance with the inspection schedule outlined in the approved SWPPP. The Special Inspector shall be selected from the County's approved list of Special Inspectors. Regular inspections must be conducted and reported at least once per week.

301.1 Department(s) of Transportation and Public Works - General. The County Department(s) having enforcement authority and responsibilities described in Section 103.0 of the Code shall make inspections as herein required and shall either approve that portion of the work completed or shall notify the permit holder wherein the work fails to comply with the Storm Water Pollution Prevention Plan (SWPPP) and / or the Site Construction, Land Disturbance, Erosion and Sediment Control Plan as approved. Plans and the permit inspection card for land disturbance, stripping, excavating, and filling work bearing the stamp of approval of the County Department conducting the review for compliance under this code and/or issuing the permit shall be maintained at the site by the permit holder during the progress of the work. Construction work shall be done in accordance with the approved plans. To obtain inspections, a permit-holder shall notify the Department(s) of Transportation and / or Public Works (as applicable), at least two working days before the following:

1) Start of construction.
2) Installation of sediment and erosion measures.
3) Completion of site clearing.
4) Completion of rough grading.
5) Completion of final grading.
6) Close of the construction season.
7) Completion of final landscaping.

Exceptions:

1) Inspections conducted by the Department of Transportation related to construction and maintenance of St. Louis County streets and roadways.
2) When conditions are not favorable to maintain copies of the approved plans on-site, a sign shall be installed at the entrance to the site listing information pertinent to the location of the Storm Water Pollution Prevention Plan (SWPPP), approved site construction plans and the 24 hours / 7 day a week phone number of the person in charge of them. The SWPPP and approved site construction plans shall be brought to the site and made available for the inspector's use during the above required inspections and any additional or extra inspections.

301.1.1 Additional Inspections. In addition to the required inspections specified above the Departments of Transportation and Public Works are authorized to perform and charge fees for additional inspections which are reasonably necessary to enforce this Code and the zoning and building construction codes. These inspections may include, but not be limited to, interim status inspections due to length or complexity of project, BMP and subdivision escrow releases, compliance with approved site development plans, excavations for building foundations and underground utilities and sewers, and final finish grading and landscaping related to completion of the building construction project.

301.1.2 Extra Inspections. In addition to the inspections otherwise required, the Departments of Transportation and Public Works are authorized to perform and charge fees for extra inspections or re-inspections which in their judgment are reasonably necessary due to non-compliance with the requirements of the Code, or work not ready or accessible for inspection when requested.

301.2 Permit Holder Special Inspection and Report Responsibilities - Major Land Disturbances. The holder of a Major Land Disturbance Permit, or his / her agent, shall cause regular and after-rain inspections of land disturbance sites by a qualified special inspector approved by the County.

The inspector should have a copy of the current SWPPP with drawings and specifications for all practices while on site and during all inspections. Inspections shall include examining all erosion and sediment and other pollutant control measures, outfalls, and off-site receiving waters in accordance with the inspection schedule outlined in the approved Storm Water Pollution Prevention Plan (SWPPP). Remember to inspect all aspects of compliance with the County and State land disturbance permit to which the site might be subject to. This will include all paperwork, updates and maintenance of the SWPPP or erosion and sediment control documents, public posting signage and BMPs. Do not forget the good housekeeping practices required for trash dumpsters, designated concrete washout areas, portable toilets, petroleum and other chemical storage areas, etc. Whenever an inspection notes a deficiency, verify during the next inspection that corrections were made, and note when each previously noted deficiency was repaired. Inspections must be scheduled at least once per week. When rainfall causes storm water runoff to leave the site, the BMP must be inspected within 48 hours after the rain event has ceased during a normal workday and within 72 hours on the next business day if the rain event ceases during a non-workday such as on weekends and holidays. The total rainfall measured for that day must be recorded on the inspection report. A properly maintained rain gauge must be kept on site or the storm event information must be obtained from a weather station that is representative of the site location. The purpose of such inspections will be to ensure proper installation, operation and maintenance of Best Management Practices (BMPs) and to determine the overall effectiveness of the Storm Water Pollution Prevention Plan (SWPPP) and the need for additional control measures. All inspections shall be documented in written form on weekly and after-rain reports with copies submitted weekly to the Departments of Transportation and Public Works. All inspection reports shall be submitted on the forms prescribed by the County. The inspection reports must include the following minimum information:

1) Inspector's name and signature;
2) Date of inspection;
3) Observations relative to the effectiveness of the Best Management Practices (BMPs);
4) Actions taken or necessary to correct deficiencies; and
5) A listing of areas where land disturbance operations have permanently or temporarily stopped.

The Major Land Disturbance Permit Holder and his Special Inspector shall also be responsible to:

1) Immediately notify the site contractor(s) responsible for any deficiencies identified so that deficiencies can be corrected within seven calendar days of the weekly or after-rain inspection report. Such inspection reports shall identify deficiencies as well as progress in correcting deficiencies. If weather conditions make it impossible to correct the problem within seven calendar days, a detailed report of the problem (including pictures) shall be filed with the regular inspection reports. The permit holder shall be responsible for ensuring that the deficiencies are corrected.
2) Notify all contractors and other entities (including utility crews, County employees, or their agents) that will perform work at the site of the existence of the SWPPP and what actions or precautions shall be taken while on site to minimize the potential for erosion and the potential for damaging any BMPs.
3) Determine the need for and establish training programs to ensure that all site workers have been trained, at a minimum, in erosion control, material handling and storage, and housekeeping.
4) Provide copies of the SWPPP to all parties who are responsible for installation, operation or maintenance of any BMPs.
5) The permit holder shall notify the County by the next working day whenever a Special Inspector is terminated, resigns, or is unable to conduct inspections for whatever reason. The permit holder shall retain a new Special Inspector from the County's list of approved Special Inspectors within five (5) calendar days to insure that the regular weekly and after rain inspections required by this section are conducted and reported upon. The permit holder shall notify the County by the next working day whenever a new Special Inspector is retained. Only a County approved Special Inspector can be responsible for the inspection of BMPs required under this Code.

301.2.1 Verification of Permit Holder's Reports. The Department(s) of Transportation or Public Works may make and charge fees for extra inspections as deemed necessary to ensure the validity of the reports filed under Section 301.2 of this Code or to otherwise ensure proper installation, operation and maintenance of storm water Best Management Practices (BMPs) and to determine the overall effectiveness of the Storm Water Pollution Prevention Plan (SWPPP) and the need for additional control measures. The County or regulatory inspector may provide helpful information and education to assist the Special Inspector and/or permitee to perform in a compliant manner. They should inform the site personnel on what guides and manuals are available to assist them. The County or regulatory inspector should advise the permitee to follow the erosion control techniques as outlined in the SWPPP designed for the site. If the SWPPP is inadequate or practices prove to be ineffective, the permitee shall amend or shall cause the Special Inspector or preparer of the SWPPP to amend, the SWPPP to incorporate other best management practices such as those found in the County's Sediment and Erosion Control Manual or other approved publications. The County inspector should avoid prescribing specific practices.

TURF REINFORCEMENT MAT (TRM)

This section is intended to provide general guidelines for the installation of TRMs and does not supersede manufacturer's guidelines. The following sections summarize this general, accepted procedures for installation of TRMs and provide basic guidance for slope and channel installations. Detailed design / installation information should be obtained from the manufacturer.

The following are required for installation:

- The contractor or consultant shall submit appropriate hydraulic calculations for assessing the appropriate product and installation method for the site.
- The manufacturer's installation instructions shall be submitted for permit approval.
- The manufacturer's installation instructions shall be part of the SWPPP.
- The manufacturer's installation instructions shall be on site at all times.

GENERAL PROCEDURE - Prepare a stable and firm soil surface free of rocks and other obstructions. Apply soil amendments as necessary to prepare seedbed. Place fertilizer, water, and seed in accordance with manufacturer, local / state regulations, or engineer / specifier requirements. Typically, TRMs are unrolled parallel to the primary direction of flow. Ensure the product maintains intimate contact with the soil surface over the entirety of the installation. Do not stretch or allow material to bridge over surface inconsistencies. Staple / stake TRMs to soil such that each staple / stake is flush with underlying soil. Install anchor trenches, seams and terminal ends as specified.

Install TRMs after application of seed, fertilizer, mulches (if necessary) and other necessary soil amendments, unless soil in-filling of the TRM is required. For TRMs if soil in-filling, install TRM, apply seed, and other soil amendments lightly brush or rake 0.3 to 0.7 inches of topsoil into TRM matrix to fill the product thickness. If in filling with a hydraulically applied matrix or medium is required; install TRM, then install hydraulically applied matrix or medium at the manufacturer's suggested application rate.

ANCHOR TRENCHES, SEAMS AND TERMINAL ENDS

1) **UPSLOPE ANCHOR** - Utilize one of the methods detailed below for initial anchoring of TRMs:

   a) **Staples** - Install the TRM 3 feet beyond the shoulder of the slope onto flat final grade. Secure roll end with a single row of stakes/staples on 1-foot centers.

   b) **Anchor Trench** - Excavate a 6 inch by 6 inch anchor trench. Extend the upslope terminal end of the TRM 3 feet past the anchor trench. Use stakes or staples to fasten the product into the bottom of the anchor trench on 1-foot centers. Backfill the trench and compact the soil into the anchor trench. Apply seed and any necessary soil amendments to the compacted soil and cover with remaining 1-foot terminal end of the TRM. Fold product over compacted soil in anchor trench to overlap downslope material. Secure terminal end of TRM with a single row of stakes or staples on 1-foot centers.

   c) **Staple Check** - Construct a stake / staple check slot along the top edge of the TRM by installing two rows of staggered stakes / staples 4 inches apart on 4-inch centers.

   d) **Single Net Product Anchor Trench** - Excavate a 6 inch by 6 inch anchor trench. Position roll such that the leading end of the roll is downslope and upside down. Apply seed and necessary soil amendments. Extend product 1-foot downslope of anchor trench and place material in anchor trench (upside down). Secure terminal end and material in anchor trench with staples at 1-foot intervals. Fold product over upslope material and fill and compact the trench on the downslope side of check slot and seed fill. Continue rolling material downslope over trench.

2) **SEAMS** - Utilize one of the methods detailed below for seaming of TRMs:

   a) **Adjacent Seam** - Overlap edges of adjacent TRMs by 2 to 4 inches or by abutting products as defined by manufacturer. Use a sufficient number of stakes or staples to prevent seam or abutted rolls from separating.

   b) **Consecutive rolls** - Shingle and overlap consecutive rolls 2 to 6 inches in the direction of flow. Secure staples through seam at 1-foot intervals.

   c) **Check Seam** - Construct a stake / staple check seam along the top edge of TRM for slope applications and at specified intervals in a channel by installing two staggered rows of stakes / staples 4 inches apart on 4-inch centers.

   d) **Slope Interruption Check Slot** - Excavate a trench measuring 6 inches wide by 6 inches deep. Secure product to the bottom of the trench. Fold product over upslope material and fill and compact the trench on the downslope side of check slot and seed fill. Continue rolling material downslope over trench.

3) **TERMINAL ENDS** - Utilize one of the methods detailed below for all terminal ends of TRMs:

   a) **Staples** - Install the TRM 3 feet beyond the end of the channel and secure end with a single row of stakes / staples on 1-foot centers. Stakes / staples for securing TRMs to the soil are typically 6 inches long.

   b) **Anchor Trench** - Excavate a 6 inch by 6 inch anchor trench. Extend the terminal end of the TRM 3 feet past the anchor trench. Use stakes or staples to fasten the product into the bottom of the anchor trench on 1-foot centers. Backfill the trench and compact the soil into the anchor trench. Apply seed and any necessary soil amendments to the compacted soil and cover with remaining 1-foot terminal end of the TRM. Secure terminal end of TRMs with a single row of stakes or staples on 1-foot centers.

   c) **Check Slot** - Construct a stake / staple check slot along the terminal end of the TRM by installing two rows of staggered stakes/staples 4 inches apart on 4-inch centers.

SLOPE INSTALLATIONS - At the top of slope anchor the TRMs according to one of the method detailed in Section 1. Securely fasten all TRMs to the soil by installing stake / staple pattern and length in accordance with the manufacturer's requirements for the site specific flow rates and soil conditions. For adjacent and consecutive rolls of TRMs follow seaming instructions detailed in Section 2. The terminal end of the TRM installation must be anchored using one of the methods detailed in Section 3.

Gradient												
4:1 Slope												
3:1 Slope												
2:1 Slope												
1:1 Slope												
Slope Length (feet)	25	50	75	100	125	150	175	200	225	250	275	300

Typical Staple Quantities: 0.7 - 1.2 yd³ | 1.2 - 1.7 yd³ | 1.7 - 3.0 yd³

Table 1 - Standard Specifications for Turf Reinforcement Mat (TRM) Products

For applications where vegetation alone will not sustain expected flow and/or provide sufficient long-term erosion protection.

Conditions[1]: All properties of TRMs shall have a minimum thickness of 0.25inches per ASTM D 6525 and UV stability of 80% per ASTM D 4355 (500 hours exposure).

Type	Product Description	Material Composition	Sope Applications Maximum Gradient	Channel Applications Maximum Shear Stress[4,5]	Minimum Tensile Strength[2,3]
1.A	Turf Reinforcement Mat	Turf Reinforcement Mat (TRM) - a rolled erosion control product composed of non-degradable synthetic fibers, filaments, nets, wire mesh and/or other elements, processed into a permanent, three-dimensional matrix of sufficient thickness. TRM's, which may be supplemented with degradable components, are designed to impart immediate erosion protection, enhance vegetation establishment and provide long-term functionality by permanently reinforcing vegetation during and after maturation. (Note: TRMs are typically used in hydraulic applications, such as high flow ditches and channels, steep slopes, stream banks, and shorelines where erosive forces may exceed the limits of natural, unreinforced vegetation or in areas where limited vegetation establishment is anticipated.)	0.5: (H:V)	6.0 lbs./ft²	125 lbs./ft.
1.B	Turf Reinforcement Mat		0.5: (H:V)	8.0 lbs./ft²	150 lbs./ft.
1.C	Turf Reinforcement Mat		0.5: (H:V)	10.0 lbs./ft²	175 lbs./ft.

[1] For TRMs containing degradable components, all property values must be obtained on the non-degradable portion of the matting alone.
[2] Minimum Average Roll Values, machine direction only for tensile strength determination using ASTM D 6818 (Supersedes MSM ASTM D 5035 for RECP's).
[3] Field conditions with high loading and/or high survivability requirements may warrant the use of a TRM with a tensile strength of 2,000 lbs./ft. or greater.
[4] Required maximum shear stress TRM (fully vegetated) can sustain without physical damage or excessive erosion (> 0.1 inch soil loss) during a 30 minute flow event in large scale testing.
[5] Acceptable large-scale testing protocol may include ASTM D 6460, or other independent testing deemed acceptable by the engineer

SEEDING

PHYSICAL DESCRIPTION - Establishment of vegetation by spreading grass seed designed to protect exposed soil from erosion by eliminating direct impact of precipitation and slowing overland flow rates. Once established, the vegetative cover will also filter pollutants from the runoff. Use only perennial vegetation for final stabilization.

WHERE BMP IS TO BE INSTALLED - To exposed soil after a phase of rough or finish grading has been completed, or areas where no activity will occur for 30 days.

CONDITIONS FOR EFFECTIVE USE OF BMPs

Type of Flow:	Sheet flow
Contributing Slope Length:	30 foot maximum for 3:1 slopes 50 foot maximum for slope between 3:1 and 10:1 100 foot maximum for slopes under 10%
Minimum Planting Acceptable Dates	See attached chart(s) See attached chart

WHEN BMP IS TO BE INSTALLED - Immediately after rough or finished grading is completed.

INSTALLATION / CONSTRUCTION PROCEDURES

- ✓ Install upstream BMP's to protect area to be seeded.
- ✓ Rough grade area and remove all debris larger than 1-inch in diameter and concentrated areas of smaller debris.
- ✓ Install stabilization grain if needed.
- ✓ Mix soil amendments (lime, fertilizer, etc.) into top 3 to 6 inches of soil as needed.
- ✓ Plant seed ½ to ¾ inch deep.
- ✓ Roll lightly to firm surface.
- ✓ Cover seeded area with mulch unless seeding completed during optimum spring and summer dates.
- ✓ Install additional stabilization (netting, bonded fiber matrix, etc.) as required.
- ✓ Water immediately - enough to soak 4 inches into soil without causing runoff.
- ✓ If contract / permit allows seeding to be used for final stabilization, only perennial vegetation seeds shall be used.
- ✓ For additional information see Sections 805 and 806.50 of St. Louis County's Standard Specification for Road and Bridge Construction.

O&M PROCEDURES:

- ✓ Inspect every week and after every storm
- ✓ Protect area from vehicular and foot traffic
- ✓ Repair damaged or eroded areas and reseed and stabilize as needed
- ✓ Do not mow until 4 inches of growth occurs
- ✓ During the first 4 months, mow no more than ⅓ the grass height
- ✓ Re-fertilize during 2nd growing season

SITE CONDITIONS FOR REMOVAL - Does not require removal, but temporary seeding can be removed immediately prior to work returning to an area.

SEEDING REQUIREMENTS

Dates for Seeding

Permanent Seeding	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Tall Fescue			O	O	O				O	O		
Smooth Brome			O	O	O				O	O		
Tall Fescue & Brome			O	O	O	O	O		O	O		
Fescue, Rye & Bluegrass	A	A	O	O	O	P	P	P	O	O	P	A

Temporary Seeding	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Rye or Sudan	A	A	O	O	O	O	O	O	O	O	A	A
Oats		A	O	O	O	O	O	O	O			

O = Optimum seeding dates
A = Acceptable seeding dates
P = Permitted seeding dates with mowing 2 months later - Initiate use 50% of seed and 75% of fertilizer. Reseed with additional 75% seed and remaining fertilizer

Minimum Fertilizer and Seeding Rates

Permanent Seeding*	Pounds per acre	Pounds Per 1000sq. ft.
Tall Fescue	300	7.0
Smooth Brome	200	4.6
Mixture # 1	250	5.7
Mixture # 2	210	4.8

Mixture # 1 = Tall Fescue @ 150 pounds per acre and Brome @ 100 pounds per acre.
Mixture # 2 = Tall Fescue @ 150 pounds per acre, Perennial Rye grass @ 100 pounds per acre, and Kentucky Blue grass @ 10 pounds per acre.
* = Seeding rate for slopes in excess of 20% (5 ft. rise for 10 points on 100) ex. 5

Temporary Seeding	Pounds per acre	Pounds Per 1000sq. ft.
Rye or Sudan	150	3.5
Oats	100	2.5

Fertilizer	Permanent Seeding (pounds per acre)	Temporary Seeding (pounds / acre)
Nitrogen	45	30
Phosphate	60	30
Potassium	60	30
Lime - ENM	600	100

ENM = Effective neutralizing material per State evaluation of quarried rock.

TYPICAL DETAILS - Minimum seeding rates and acceptable dates for work attached.

INSTALLATION / CONSTRUCTION PROCEDURES

- ✓ Excavate diversion area except for area of upstream connection.
- ✓ Compact as required to place diversion properly.
- ✓ Install pipe bedding or channel lining as required.

MULCH

PHYSICAL DESCRIPTION - A layer of organic material designed to protect exposed soil or freshly seeded areas from erosion by eliminating direct impact of precipitation and slowing overland flow rates. Mulch materials may include, but are not limited to, such things as grass, hay, straw, wood chips, wood fibers, hydro mulch and shredded bark. Type 1 mulch is prohibited in the flood plain.

- Type I Mulch-Vegetative (includes grass, hay, and straw).
- Type II Mulch-Vegetative with asphalt emulsion (includes grass, hay, and straw).
- Type III Mulch-Vegetative with overspray (includes grass, hay, and straw).
- Type V Mulch-Hydro mulch (includes wood fiber, wood cellulose).
- Shredded Hardwood Bark Mulch.
- Wood Chips, (not recycled lumber).

WHERE BMP IS TO BE INSTALLED - Typically installed on seeded areas for temporary use, and in landscaped areas for permanent use.

CONDITIONS FOR EFFECTIVE USE OF BMPs

Type of Flow:	Sheet flow only
Slopes:	See attached chart for types of mulch acceptable as a function of slope length and steepness
Mulching Rates:	See attached table

WHEN BMP IS TO BE INSTALLED - Immediately after grading landscaped areas or seeding other areas.

INSTALLATION / CONSTRUCTION PROCEDURES

- ✓ Install upstream BMPs to protect area to be mulched.
- ✓ Rough grade area and remove all debris larger than 1 inch if area is to be vegetated and mowed in the future, larger than 2 inches if area is to be permanently mulched.
- ✓ If area is to be seeded, follow requirements of Seeding BMP.
- ✓ Spread mulch and anchor by punching it into the ground, using netting, peg and twine, or tacking with liquid binder.
- ✓ For additional information see Section 802 of St. Louis County's Standard Specifications for Road and Bridge Construction.

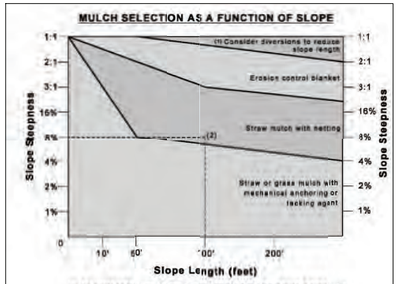
O&M PROCEDURES

- ✓ Inspect every week and after every storm until adequate vegetation is established; annually for permanent mulch.
- ✓ Protect from vehicular and foot traffic.
- ✓ Repair damaged, degraded or eroded areas - reseed as needed and replace mulch.

SITE CONDITIONS FOR REMOVAL - Temporary mulch should be removed when adequate vegetation is established.

TYPICAL DETAILS - Type of mulch required for various slopes and application rates attached.

MULCH SELECTION AS A FUNCTION OF SLOPE



(1) For slopes steeper than 1:1, consider building a diversion above slope to divert water.
(2) Example: An 8% slope, 100 feet long, would use straw mulch with netting

GENERAL MULCH RECOMMENDATIONS TO PROTECT FROM SPLASH AND SHEET FLOW

Material	Rate Per Acre	Requirements	Notes
Straw	2 to 2.5 tons	Dry, unchopped	Spread by hand or machine, must be tacked or tied down
Wood Fiber or Wood Cellulose	0.5 to 1 ton	Air dry, unchopped, avoid weeds	Use with hydro seeder; may be used in less slope. Do not use in hot, dry weather.
Wood Chips	5 to 6 tons	Air dry. Add nitrogen fertilizer at 12 lb per ton	Apply with blower, dry handler, or by hand. Not for thin turf areas.
Bark	35 cu. yds.	Air dry, shredded, or uniform/mod. or chips	Apply with mixer, chip handler or by hand. Do not use asphalt tack.

SODDING

PHYSICAL DESCRIPTION - A ½ inch to 1-inch thick mat of vigorous turf, free of disease, insects and weeds. Sod prevents raindrops from disrupting the soil structure and causing erosion. Sod slows water runoff and acts as a filter when sediment-laden runoff crosses over the sodded area.

WHERE BMP IS TO BE INSTALLED - Typically installed in areas requiring immediate erosion protection, such as swales or detention ponds and as filter strips, around inlets, and adjacent to curbs. Also installed in areas requiring immediate aesthetic appearance or function such as entrances to new subdivision and off site construction areas.

CONDITIONS FOR EFFECTIVE USE OF BMPs - Type of Flow: Sheet flow and low concentrated flows with velocities less than 5 fps.

WHEN BMP IS TO BE INSTALLED - Immediately after finish grading, installation of area inlets, and installation of sediment control devices and fountains of new homes.

INSTALLATION / CONSTRUCTION PROCEDURES

- ✓ Finish grade area and remove all debris larger than ½ inch in diameter and concentrated areas of smaller debris.
- ✓ Soil preparation of area to be sodded shall be determined by tests to determine lime and fertilizer requirements. Soil amendments shall be mixed into top 3 to 6 inches of soil by disking or other means.
- ✓ Level and roll soil lightly to provide an even grade and firm the surface. Soil should not be excessively wet or dry.
- ✓ Lay first row of sod perpendicular to the slope or direction of flow. Butt subsequent rows tight against previous rows with strips staggered in brick-like pattern. Fill minor gaps with good soil and roll entire surface to ensure contact.
- ✓ Stake, staple and / or pin corners and centers of sod strips as required.
- ✓ Water immediately after installation enough to soak 4 inches into soil without causing runoff.
- ✓ For additional information see Section 807 of St. Louis County's Standard Specification for Road and Bridge Construction.
- ✓ Type of sod shall be as specified in the contract or on the approved plans.

O&M PROCEDURES:

- ✓ Water sod daily for 2 weeks - enough to soak 4-inches into soil without causing runoff.
- ✓ Reposition areas of sod that has moved along the slope.
- ✓ Remove sediment accumulations - replace sod if necessary.
- ✓ Repair any eroded areas, replace sod, and stabilize as needed.
- ✓ Do not mow until 3-inches of new growth occur. During the first 4 months, mow no more than ⅓ the grass height.

SITE CONDITIONS FOR REMOVAL - Not applicable.

TYPICAL DETAIL - 803-10.00

APPENDIX "A"

COUNTY INSPECTIONS

General. The County Department(s) having enforcement authority and responsibilities described in the Code shall make inspections as herein required and shall either approve that portion of the work completed or shall notify the permit holder wherein the work fails to comply with the Land Disturbance, Sediment and Erosion Control Plan as approved. Plans for land disturbance, stripping, excavating, and filling work bearing the stamp of approval of the County Department issuing the permit shall be maintained at the site during the progress of the work.

Exception. Inspections conducted by the St. Louis County Department of Transportation related to construction and maintenance of St. Louis County streets and roadways.

Extra Inspections. In addition to the inspections otherwise required, the Department(s) of Transportation and Public Works are authorized to perform and charge fees for extra inspections or re-inspections which in their judgment are reasonably necessary due to non-compliance with the requirements of the Code, or work not ready or accessible for inspection when requested.

Verification of Permit Holder's Reports. The Department(s) of Transportation or Public Works may make extra inspections as deemed necessary to ensure the validity of the reports filed under the Code or to otherwise ensure proper installation, operation and maintenance of storm water Best Management Practices (BMPs) and to determine the overall effectiveness of the Storm Water Pollution Prevention Plan (SWPPP) and the need for additional control measures.

SODDING

PHYSICAL DESCRIPTION - A ½ inch to 1-inch thick mat of vigorous turf, free of disease, insects and weeds. Sod prevents raindrops from disrupting the soil structure and causing erosion. Sod slows water runoff and acts as a filter when sediment-laden runoff crosses over the sodded area.

WHERE BMP IS TO BE INSTALLED - Typically installed in areas requiring immediate erosion protection, such as swales or detention ponds and as filter strips, around inlets, and adjacent to curbs. Also installed in areas requiring immediate aesthetic appearance or function such as entrances to new subdivision and off site construction areas.

CONDITIONS FOR EFFECTIVE USE OF BMPs - Type of Flow: Sheet flow and low concentrated flows with velocities less than 5 fps.

WHEN BMP IS TO BE INSTALLED - Immediately after finish grading, installation of area inlets, and installation of sediment control devices and fountains of new homes.

INSTALLATION / CONSTRUCTION PROCEDURES

- ✓ Finish grade area and remove all debris larger than ½ inch in diameter and concentrated areas of smaller debris.
- ✓ Soil preparation of area to be sodded shall be determined by tests to determine lime and fertilizer requirements. Soil amendments shall be mixed into top 3 to 6 inches of soil by disking or other means.
- ✓ Level and roll soil lightly to provide an even grade and firm the surface. Soil should not be excessively wet or dry.
- ✓ Lay first row of sod perpendicular to the slope or direction of flow. Butt subsequent rows tight against previous rows with strips staggered in brick-like pattern. Fill minor gaps with good soil and roll entire surface to ensure contact.
- ✓ Stake, staple and / or pin corners and centers of sod strips as required.
- ✓ Water immediately after installation enough to soak 4 inches into soil without causing runoff.
- ✓ For additional information see Section 807 of St. Louis County's Standard Specification for Road and Bridge Construction.
- ✓ Type of sod shall be as specified in the contract or on the approved plans.

O&M PROCEDURES:

- ✓ Water sod daily for 2 weeks - enough to soak 4-inches into soil without causing runoff.
- ✓ Reposition areas of sod that has moved along the slope.
- ✓ Remove sediment accumulations - replace sod if necessary.
- ✓ Repair any eroded areas, replace sod, and stabilize as needed.
- ✓ Do not mow until 3-inches of new growth occur. During the first 4 months, mow no more than ⅓ the grass height.

SITE CONDITIONS FOR REMOVAL - Not applicable.

TYPICAL DETAIL - 803-10.00

HT 7092 24MSD-00076 BASEMAP 160

LAST EDITED:
FILE PATH:

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITH. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION ALTERED BY FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

CRAIG ELEMENTARY

1492 Craig Road
St. Louis, MO 63146

RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2009003866
PROFESSIONAL ENGINEER
19 AUGUST 2024

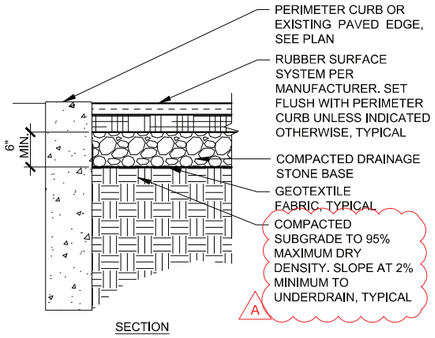
PROFESSIONAL SEAL

SHEET NAME
DETAILS

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	ST
DATE:	19 AUGUST 2024
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

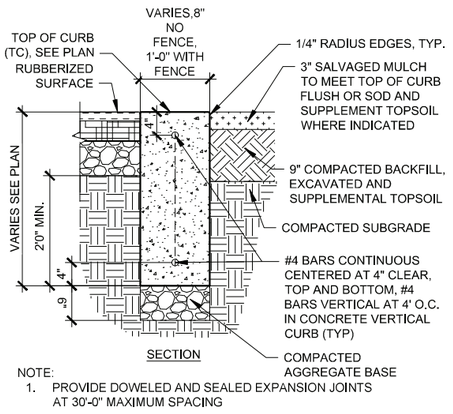
CLIENT PROJECT NUMBER: 092301B
WSP PROJECT NUMBER: 309024934.004
SHEET NUMBER **C5.04**



1 RUBBERIZED PLAY SURFACE

SCALE: 1" = 1'-0"

0 1/2' 1' 2'

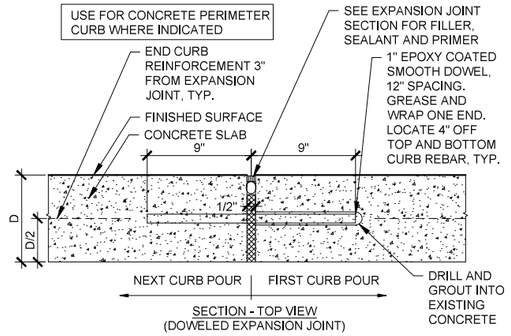


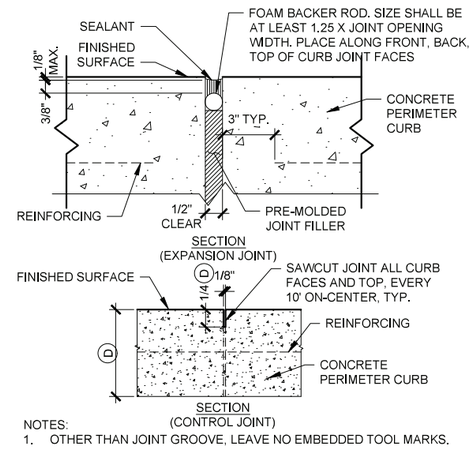
NOTE:
1. PROVIDE DOWELED AND SEALED EXPANSION JOINTS AT 30'-0" MAXIMUM SPACING

2 PERIMETER CURB

SCALE: 1" = 1'-0"

0 1/2' 1' 2'



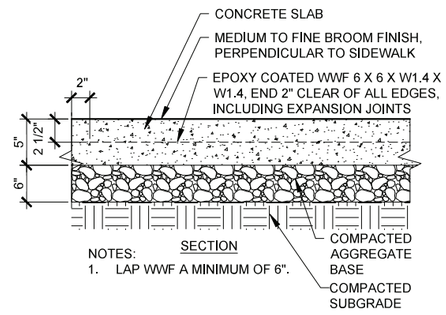


NOTES:
1. OTHER THAN JOINT GROOVE, LEAVE NO EMBEDDED TOOL MARKS.

3 PERIMETER CURB JOINTS

SCALE: 3" = 1'-0"

0 1" 3" 6"

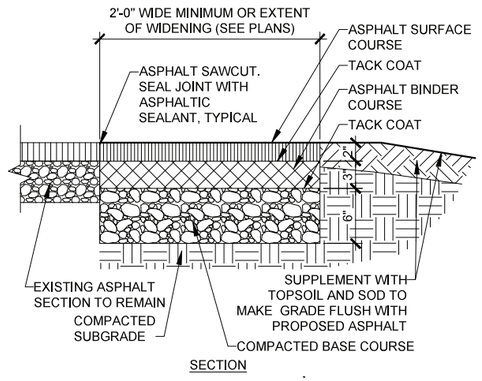


NOTES:
1. LAP WWF A MINIMUM OF 6".

4 CONCRETE PAVEMENT

SCALE: 1" = 1'-0"

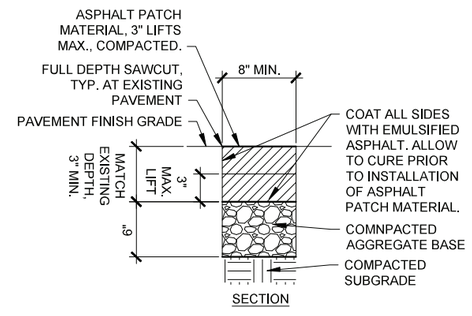
0 1' 2' 4'



5 ASPHALT PAVEMENT

SCALE: 1" = 1'-0"

0 1' 2' 4'



6 ASPHALT PATCH

SCALE: 1" = 1'-0"

0 1' 2' 4'

24MSD-00076 BASEMAP 160

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTS ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 9/13/2024 1:08 AM
FILE PATH: T:\30902493,001 Parkway Playgrounds\SHEETS\Craig Elementary\C5.0-A-C5.06 PLAYGROUND DETAILS-C4E.dwg

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869
Missouri Landscape Architecture Corporation: #001444

REV	DESCRIPTION	DATE
A	PERMIT / ADD. 1	09.20.24

PARKWAY SCHOOL DISTRICT

CRAIG ELEMENTARY

1492 Craig Road
St. Louis, MO 63146

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI



PROFESSIONAL SEAL

DESIGNED BY:	PMJ
DRAWN BY:	PMJ
CHECKED BY:	TMT
DATE:	18 AUGUST 2024
SCALE:	AS SHOWN

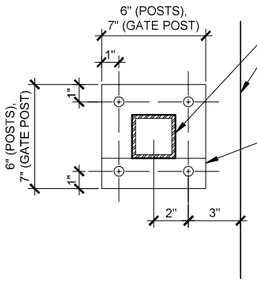
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

SHEET NAME

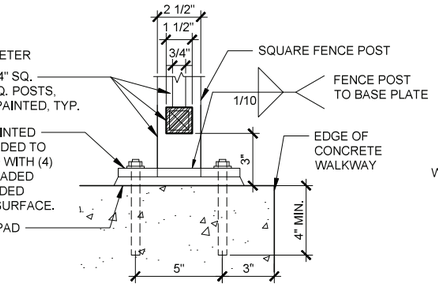
PLAYGROUND DETAILS

CLIENT PROJECT NUMBER: 00230GB
WSP PROJECT NUMBER: 30902493.004

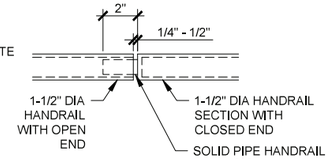
SHEET NUMBER **C5.05**



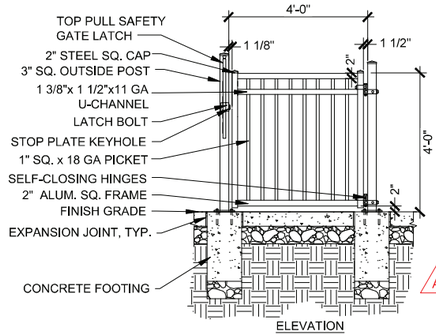
POST ANCHOR PLATE PLAN



POST ANCHOR SECTION



RAIL EXPANSION SLEEVE SECTION



ELEVATION

HARDWARE SCHEDULE

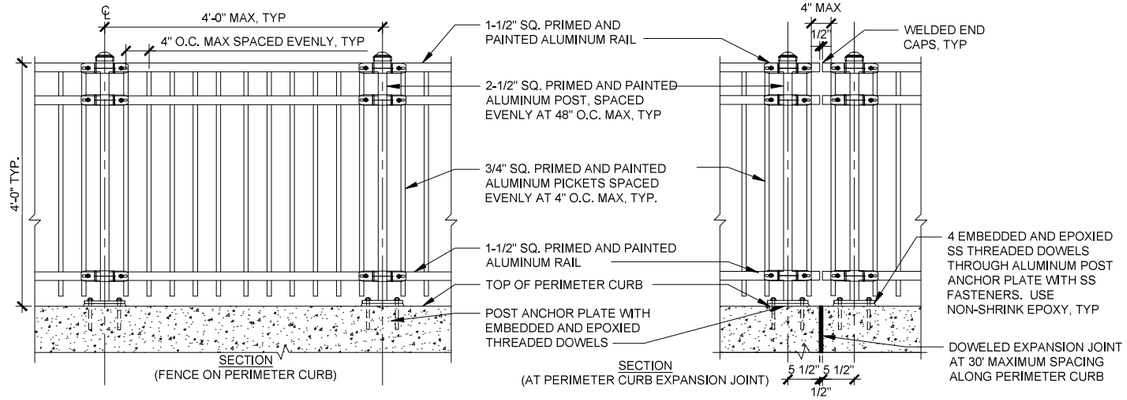
HARDWARE	PRODUCT
SELF-CLOSE HINGE	TRUCLOSE HEAVY DUTY FOR METAL GATES, D&D TECHNOLOGIES. ADJUSTABLE TENSION.
LOCKABLE PULL GATE LATCH	LOCKABLE MAGNA-LATCH S3 TOP PULL SAFETY GATE LATCH, KEYED ALIKE, COLOR: BLACK

NOTES:
1. PROVIDE THE BASIS OF DESIGN PRODUCTS LISTED ABOVE OR ARCHITECT ACCEPTED EQUAL PRODUCTS THAT MEET THE SALIENT CHARACTERISTICS IDENTIFIED IN THE CONSTRUCTION DOCUMENTS.
2. PROVIDE SHOP DRAWINGS FOR ALL FENCE, GATE AND GATE LATCHING COMPONENTS FOR REVIEW AND APPROVAL BY ARCHITECT PRIOR TO INITIATING FENCE PURCHASE.
3. FENCE, GATE, HARDWARE AND ACCESSORIES COLOR: BLACK.
4. FENCE GATE POSTS AND CORNER POSTS MAY BE EMBEDDED INTO GROUT-FILLED PAINTED GALVANIZED STEEL SLEEVES CORE-DRILLED INTO CONCRETE PERIMETER CURBS. SEE DETAIL.

2 DECORATIVE FENCE GATE

SCALE: 1/2" = 1'-0"

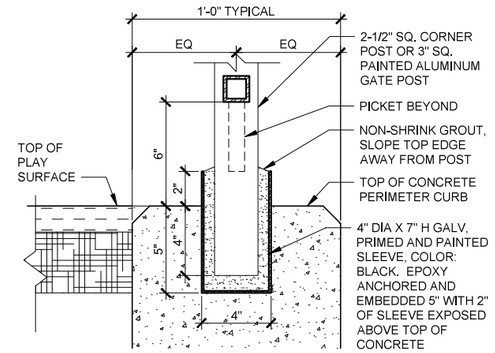
0 1' 2' 4'



1 DECORATIVE METAL FENCE

SCALE: 1" = 1'-0"

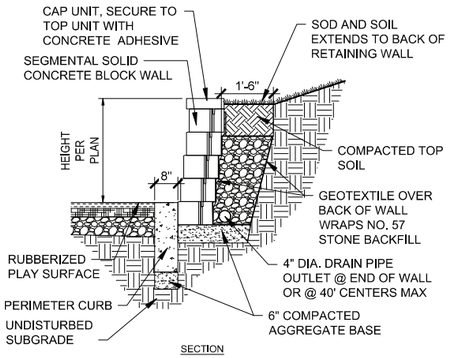
0 1/2' 1' 2'



3 EMBEDDED DECORATIVE FENCE POST

SCALE: 3" = 1'-0"

0 1.5' 3' 6'



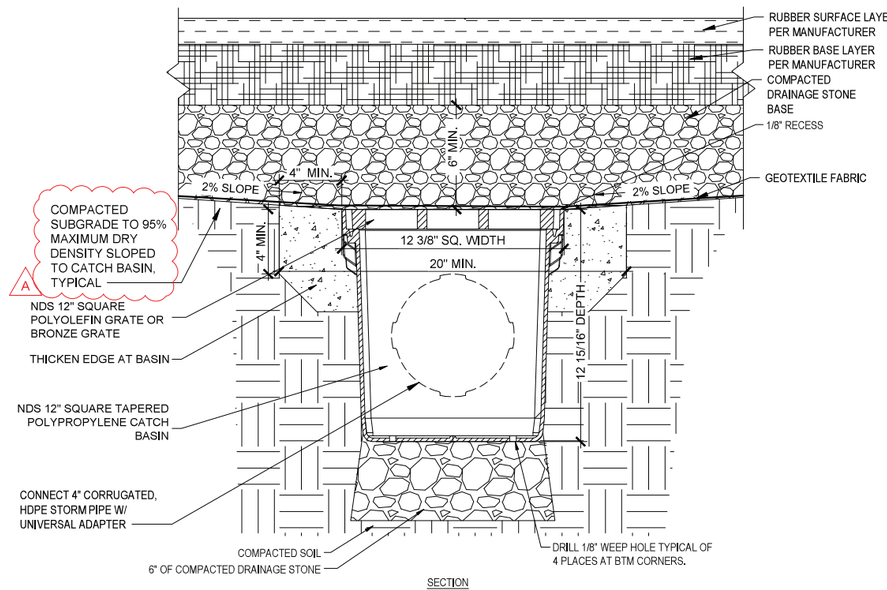
SECTION

NOTES
1. PROVIDE SEALED SEGMENTAL RETAINING WALL SHOP DRAWINGS AND DETAILS SEALED BY A STRUCTURAL ENGINEER LICENSED TO PRACTICE IN MISSOURI FOR ENGINEER REVIEW AND APPROVAL PRIOR TO INITIATING PURCHASE OF SEGMENTAL WALL SYSTEM COMPONENTS.
2. BASIS OF DESIGN PRODUCT: VERSA-LOK SQUARE FOOT UNIT (18"w X 8"h X 12"d) SEGMENTAL RETAINING WALL (SRW) UNITS AND SYSTEM OR ACCEPTED EQUAL PRODUCT TO THE SALIENT CHARACTERISTICS NOTED AND PROVIDED IN THE DOCUMENTS.
3. INSTALL SRW UNITS AND GEOGRID PER MANUFACTURER RECOMMENDATIONS. BLOCK GAPS SHOWN ARE FOR GRAPHIC CLARITY ONLY.
4. ALL SRW UNITS SHALL BE INSTALLED TO PROPER ELEVATION AND ORIENTATION AS SHOWN ON THE PLANS.

4 SEGMENTAL RETAINING WALL

SCALE: 1/2" = 1'-0"

0 1' 2' 4'



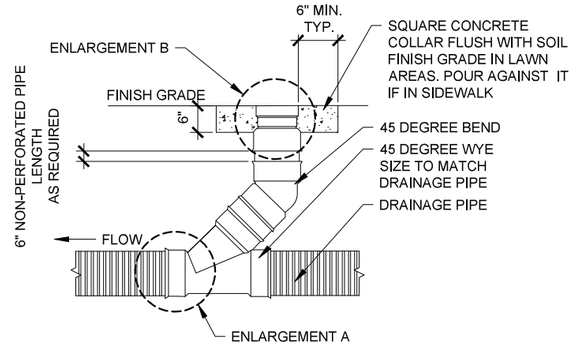
SECTION

NOTES:
1. GRATE TO BE ATTACHED TO CATCH BASIN WITH SCREW PROVIDED AT TIME OF INSTALLATION.
2. BRONZE GRATE TO BE USED IN PEDESTRIAN TRAFFIC APPLICATION ONLY.
3. DO NOT USE OVER 5 RISERS WITH CATCH BASIN.
4. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

5 CATCH BASIN - PLAYGROUND UNDERDRAIN

SCALE: 3" = 1'-0"

0 1.5' 3' 6'



ELEVATION

6 CLEAN OUT

SCALE: 1" = 1'-0"

0 1/2' 1' 2'

24MSD-00076 BASEMAP 160

PARKWAY SCHOOLS

wsp
WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869
Missouri Landscape Architecture Corporation: #001444

REV	DESCRIPTION	DATE
A	PERMIT / ADD. 1	09.20.24

PARKWAY SCHOOL DISTRICT

CRAIG ELEMENTARY

1492 Craig Road
St. Louis, MO 63146

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI

TODD M. TEUSCHER NUMBER LA-2005018529 LANDSCAPE ARCHITECT 9/20/24

PROFESSIONAL SEAL

DESIGNED BY:	PMJ
DRAWN BY:	PMJ
CHECKED BY:	TMT
DATE:	18 AUGUST 2024
SCALE:	NO SCALE

FULL SCALE SHEET SIZE= ARCH-D (24"x 36")

SHEET NAME

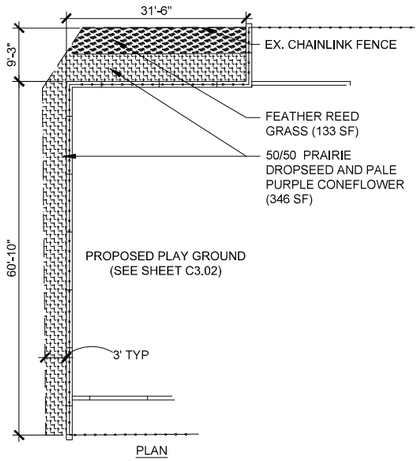
PLAYGROUND DETAILS

CLIENT PROJECT NUMBER: 002306B
WSP PROJECT NUMBER: 30902493.004

SHEET NUMBER **C5.06**

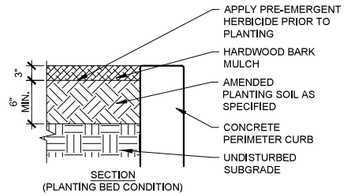
LAST EDITED: 9/13/2024 1:08 AM
FILE PATH: T:\30902493.001 Parkway Playgrounds\SHEETS\Craig Elementary\C5.04-C5.06 PLAYGROUND DETAILS_C5.dwg

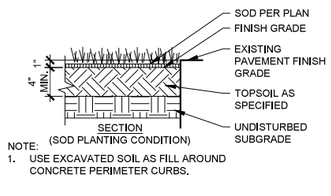
WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



PLANTING KEY

SYMBOL	KEY	QTY	BOTANICAL NAME/ COMMON NAME	CALIPER/ CONTAINER SIZE	SPACING	COMMENTS
	CA	38	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	1 GAL.	24"	CONTAINER GROWN, FULL & WELL ROOTED.
	SH	30	SPOROBOLUS HETEROLEPIS PRAIRIE DROPSEED	1 GAL.	24"	CONTAINER GROWN, FULL & WELL ROOTED.
	EP	30	ECHINACEA PALLIDA PALE PURPLE CONEFLOWER	1 GAL.	24"	CONTAINER GROWN, FULL & WELL ROOTED.
			SOD - TURF TYPE TALL FESCUE			

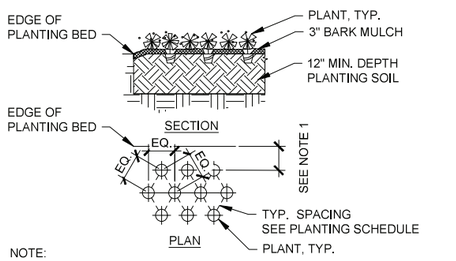




NOTE:
1. USE EXCAVATED SOIL AS FILL AROUND CONCRETE PERIMETER CURBS.

1 PLANTING BED

SCALE: 1/2" = 1'-0"

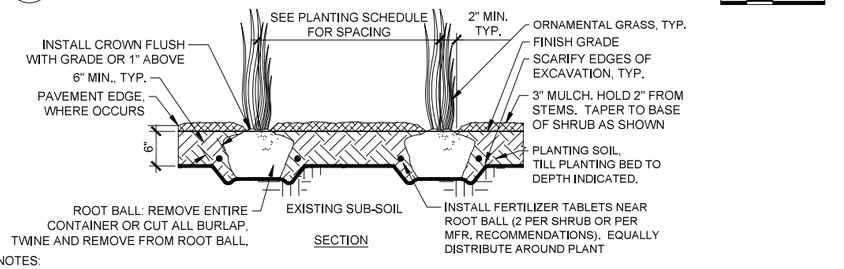


NOTE:

1. PLANT OFFSET FROM EDGES OF PLANTING AREA SHALL BE EQUAL TO ONE HALF OF THE PLANT SPACING REQUIREMENT FOR EACH PLANT SPECIES AS INDICATED IN THE PLANTING SCHEDULE, UNLESS OTHERWISE SHOWN.
2. DO NOT ALLOW AIR POCKETS TO FORM WHEN BACKFILLING.
3. WATER THOROUGHLY FOLLOWING PLANTING.
4. SET PLANT MATERIAL AT ORIGINAL GROWING DEPTH.
5. REMOVE PLANT CONTAINER PRIOR TO PLANTING.
6. MULCH ENTIRE AREA OF PLANTING BEDS TO DEPTH INDICATED.
7. DIG PLANTING PITS TWICE THE WIDTH OF ROOTBALL.

2 SOIL PREPARATION

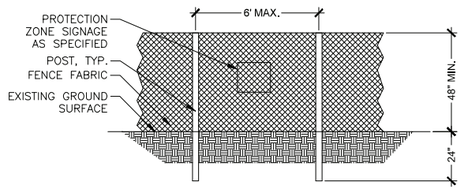
SCALE: 1-1/2" = 1'-0"



NOTES:
1. EXCAVATE PLANTING PIT WITH SIDES SLOPING AT 45 DEGREES MIN. FROM VERTICAL. VERTICAL SIDES ARE NOT ACCEPTABLE.
2. SCARIFY EDGES OF EXCAVATION WHERE SMOOTHED DURING EXCAVATION.
3. SET PLANT PLUMB AND IN CENTER OF PLANTING PIT.
4. REMOVE DEBRIS FROM AROUND ROOT COLLAR/FLARE PRIOR TO INSTALLATION.
5. PLANT GRASSES SO ROOT COLLAR/FLARE IS LEVEL WITH OR SLIGHTLY ABOVE (2" MAX) ADJACENT GRADE.
6. DO NOT DISTURB ROOT BALL WHEN PLANTING OR STAKING. CRACKED OR OTHERWISE DAMAGED ROOT BALLS SHALL BE REJECTED AND REPLACED.
7. DO NOT ALLOW AIR POCKETS TO FORM WHEN BACKFILLING. WHEN HOLE IS 1/2 FULL, LIGHTLY TAMP SOIL AND WATER THOROUGHLY. ADD REMAINING SOIL AND THEN WATER UNTIL NO MORE WATER IS ABSORBED BY THE SOIL.
8. MULCH ENTIRE AREA OF PLANTING BEDS TO DEPTH INDICATED.

3 GROUND COVER PLANTING

SCALE: 1/2" = 1'-0"

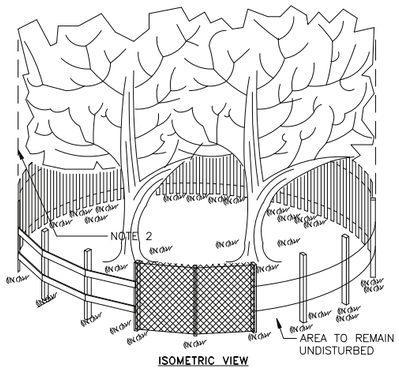


NOTES:

1. TREE CRITICAL ROOT ZONES (CRZ) IS THE AREA 2 FEET FROM THE FARTHEST OUTREACHING BRANCH, THE DRIP LINE OF THE TREE.
2. THE FENCE SHALL BE LOCATED 1 FOOT MAXIMUM INSIDE THE CRZ. WHERE PAVEMENT OR UNDERGROUND UTILITIES TO BE MODIFIED EXIST WITHIN THE CRZ INSTALL THE FENCE 12" CLEAR OF THE FACILITY. UNLESS OTHERWISE AUTHORIZED THE FENCE SHALL NOT BE CLOSER THAN 5 FEET TO THE TRUNK OF ANY TREE. REVIEW LOCATIONS OF TREE PROTECTION FENCING WITH THE ARCHITECT PRIOR TO BEGINNING WORK NEAR THE DRIP LINE OF EXISTING VEGETATION TO REMAIN.
3. FENCE POSTS SHALL BE 6 FOOT T-SHAPED STEEL POSTS OR 2"X2" WOOD POSTS.
4. FENCE FABRIC SHALL BE PLASTIC CONSTRUCTION FENCING MADE OF HIGH-DENSITY EXTRUDED AND STRETCHED POLYETHYLENE, 2-INCH MAXIMUM MESH OPENINGS, OR APPROVED EQUAL.
5. EARTHWORK SHALL BE LIMITED TO THE AREA OUTSIDE OF THE CRZ OF THE TREE UNLESS OTHERWISE AUTHORIZED. DO NOT STORE EQUIPMENT OR SUPPLIES OR DRIVE HEAVY MACHINERY WITHIN CRZ OF EXISTING TREES.

4 ORNAMENTAL GRASS PLANTING

SCALE: 1/2" = 1'-0"



5 TREE PROTECTION DETAIL

SCALE: 1/2" = 1'-0"

0 1/2' 1' 2'

MAINTENANCE SCHEDULE

MAINTENANCE ACTIVITY	FREQUENCY	MONTHS OF THE YEAR J	F	M	A	M	J	J	A	S	O	N	D	DESCRIPTION OF WORK
WEEDING AND CULTIVATING	1X PER MONTH				X	X	X	X	X	X	X			PULL WEEDS IN PLANTING BEDS AND CULTIVATE AS NEEDED TO DESTROY WEEDS AND IMPROVE LANDSCAPE PLANT GROWTH.
SUPPLEMENTAL WATERING	1X WEEK. SEE WATERING SCHEDULE FOR EXCEPTIONS				X	X	X	X	X	X	X			WATER ALL NEW LANDSCAPE PLANTINGS AND TURF IN CONFORMANCE WITH THE WATERING SCHEDULE.
PRUNING (MAINTENANCE)	INSPECT AND PERFORM SERVICES REQUIRED 1X PER MONTH				X	X	X	X	X	X	X			PRUNE WITH THE OBJECTIVE OF MANAGING PLANT HEALTH IN ACCORDANCE WITH ANSI A300. REMOVE DEAD, DYING, DISEASED, INFESTED, WEAKENED, RUBBING OR BROKEN BRANCHES. TREES WITH DAMAGE TO THE CENTRAL LEADER SHALL BE REPLACED, DO NOT PRUNE TO MODIFY OVERALL PLANT SHAPE.
SEASONAL CLEAN-UP	1X PER YEAR			X	X	X								OCCURS THE SPRING FOLLOWING ACCEPTANCE OF THE INSTALLED PLANTS. DEADHEAD PERENNIAL GROUND COVER PLANTINGS TO WITHIN 3-INCHES OF FINISH GRADE. REMOVE LEAF LITTER AND DEBRIS FROM PLANTING BEDS. TOP DRESS ALL MULCHED AREAS WITH 1-INCH OF SPECIFIED HARDWOOD BARK MULCH. PRUNE AND ADJUST PLANTINGS AS INDICATED IN THIS SCHEDULE.
ADJUSTING PLANTS	AS NEEDED. INSPECT PLANTINGS 1X PER MONTH				X	X	X	X	X	X	X			REPOSITION PLANTINGS THAT BECOME DISLODGED OR SHIFTED. SECURE TREE STAKES AND GUYS. REMOVE STAKES AND GUYS AT THE END OF THE ESTABLISHMENT PERIOD.
GRADE RESTORATION	INSPECT AND PERFORM SERVICES REQUIRED 1X PER MONTH				X	X	X	X	X	X	X			INFILL, RESTORE AND ADJUST GRADES THAT HAVE ERODED OR OTHERWISE SHIFTED. RESTORE MULCH OR TURF THAT HAS BECOME DISLODGED AS A RESULT OF CHANGES TO GRADE.
TURF MAINTENANCE	INSPECT AND PERFORM SERVICES 1X PER WEEK FOR PERIOD SPECIFIED.				X	X	X	X	X	X	X			REFER TO THE SPECIFICATIONS FOR MAINTENANCE REQUIREMENTS.
PLANT REPLACEMENTS	AS NEEDED. INSPECT PLANTINGS 1X PER MONTH				X	X	X				X	X		REPLACE PLANTINGS AND TURF THAT ARE DYING OR IN UNSATISFACTORY CONDITION. REFER TO THE SPECIFICATIONS REQUIREMENTS.

WATERING SCHEDULE

PHASE	FREQUENCY	MINIMUM RATE	COMMENTS
CONSTRUCTION	1X DURING INSTALLATION	TREES: 25 GALLONS EACH (2) SHRUBS: 3 GALLONS EACH (2) GROUNDCOVER: 1 GALLON EACH (2) TURF: (0,62 GALLONS / SF) OR 1 INCH (1)	APPLY ROOT STIMULATOR PER MANUFACTURER'S INSTRUCTIONS.
MAINTENANCE / ESTABLISHMENT	1X PER WEEK	TREES: 25 GALLONS EACH SHRUBS: 3 GALLONS EACH GROUNDCOVER: 1 GALLON EACH TURF: (0,62 GALLONS / SF) OR 1 INCH (1) IRRIGATED AREAS: TURF: 1 INCH; PLANTINGS: 1 INCH	FILL SLOW RELEASE WATERING BAGS INSTALLED AT TREES TO FULL CAPACITY. MINIMUM REQUIRED CAPACITY PER THIS SCHEDULE.

NOTES:
1. INCREASE AS REQUIRED TO SATURATE SOIL TO AT LEAST 4" OF SOIL DEPTH.
2. FLOOD PLANTING PIT DURING BACKFILLING. INCREASE VOLUME AS NEEDED TO CONSOLIDATE SOIL BACKFILL AND ELIMINATE AIR POCKETS.

PLANTING NOTES

1. MARK THE LOCATIONS OF ALL UNDERGROUND UTILITIES BEFORE BEGINNING WORK. REPORT ANY CONFLICTS TO THE ARCHITECT PRIOR TO BEGINNING WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITY LINES.
2. UNLESS INDICATED FOR REMOVAL, PROTECT EXISTING VEGETATION, UTILITIES, AND FACILITIES FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGE CAUSED TO EXISTING FACILITIES AND UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
3. PRIOR TO LANDSCAPE INSTALLATION, VERIFY PLANTING AREAS ARE GRADED TO WITHIN +/- 0.1 FOOT OF FINISH GRADE WITH POSITIVE SLOPES AWAY FROM BUILDING.
4. THE PLANTING PLANS ARE DIAGRAMMATIC. THE CONTRACTOR MAY BE REQUIRED TO ADJUST THE LOCATION OF PLANT MATERIAL TO AVOID CONFLICTS FOUND IN THE FIELD. MAINTAIN SPECIFIED ON-CENTER PLANT SPACING DISTANCE BETWEEN PLANTS.
5. MARK PLANT LOCATIONS AND BED OUTLINES IN THE FIELD AND CHECK AGAINST PLANTING PLANS PRIOR TO PLANTING. CONTACT THE ARCHITECT FOR DIRECTION IF FIELD CONFLICTS REQUIRE CHANGES TO PLANT LOCATIONS PRIOR TO INSTALLATION.
6. THE ARCHITECT RESERVES THE RIGHT TO INSPECT ALL PLANT MATERIALS BEFORE OR AFTER PLANTING. PLANT MATERIAL MAY BE REJECTED AT ANY TIME DUE TO CONDITION, FORM, OR DAMAGE.
7. ALL PLANT SUBSTITUTION REQUESTS SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT FOR APPROVAL 10 WORKING DAYS PRIOR TO ORDERING PLANTS. SUBSTITUTIONS ARE NOT PERMITTED UNLESS AUTHORIZED.
8. PROVIDE IDENTIFICATION TAG FROM THE SUPPLYING NURSERY SHOWING COMMON AND BOTANICAL PLANT NAMES FOR ONE OR MORE PLANTS OF EACH SPECIES DELIVERED TO THE SITE. DO NOT REMOVE TAG UNTIL FINAL ACCEPTANCE OF THE PLANT INSTALLATION.
9. PROTECT ALL PLANTS AGAINST HEAT, SUN, WIND AND FROST DURING TRANSPORTATION TO THE SITE AND WHILE BEING HELD AT THE SITE. DO NOT STORE PLANTS IN TOTAL DARKNESS MORE THAN ONE DAY.
10. PLANT MATERIALS: ALL PLANT MATERIALS SHALL COMPLY WITH APPLICABLE REQUIREMENTS OF ANSI Z60.1 OF THE AMERICAN STANDARD FOR NURSERY STOCK, LATEST EDITION. PLANTS SHALL BE HEALTHY, VIGOROUS, FREE OF DISEASES, INSECT PESTS AND THEIR EGGS. PLANT MATERIALS SHALL BE WELL FORMED WITH FULL FOLIAGE MASS. PLANT ROOT BALLS, BRANCH STRUCTURE AND TRUNKS SHALL NOT BE DAMAGED. ROOT GROWTH SHALL BE TO THE EDGE OF CONTAINERS, BUT THERE SHALL BE LITTLE OR NO CIRCLING ROOTS OUTSIDE THE ROOT BALL OF PLANTINGS. ROOT BOUND PLANTS AND PLANT CONDITIONS THAT DO NOT CONFORM TO THESE STANDARDS SHALL BE REJECTED.
11. THIN CIRCLING ROOTS SHALL BE CUT 3-4 TIMES AT A DEPTH OF APPROXIMATELY 1/2 INCH AT VARIOUS LOCATIONS AROUND THE ROOT BALL AT TIME OF INSTALLATION.
12. CONFIRM ALL PLANT QUANTITIES. PROVIDE SUFFICIENT PLANT MATERIALS TO COVER AREAS SHOWN ON PLANS AT THE PLANT SPACING INDICATED IN THE PLANT SCHEDULE.
13. SOIL PREPARATION: MOW ALL AREAS TO RECEIVE NEW PLANTINGS AND TURF TO WITHIN 1-INCH OF EXISTING GRADE. SPRAY AREA WITH NON-SELECTIVE HERBICIDE 1-2 WEEKS PRIOR TO PLANTING BED PREPARATION AND PLANTING. AMEND SOIL TO PRODUCE PLANTING SOILS AS SPECIFIED AND DETAILS. REMOVE ALL DEBRIS IN PLANTING BEDS OVER 1-INCH IN DIAMETER. GRADE PLANTING SOIL TO A SMOOTH UNIFORM SURFACE AND VERIFY PROPER ELEVATIONS ARE ESTABLISHED AS SPECIFIED PRIOR TO PLANTING.
14. LEGALLY DISPOSE OF ALL EXCESS MATERIALS RESULTING FROM THE WORK OFF SITE BY THE END OF EACH WORKING DAY UNLESS OTHERWISE APPROVED BY THE LANDSCAPE ARCHITECT.
15. INSTALL ALL PLANT MATERIAL IN ACCORDANCE WITH DETAILS AND SPECIFICATIONS.
16. REMOVE ALL PLANT BINDING MATERIALS AND MARKING TAPES AT THE TIME OF PLANTING. CONTAINERS SHALL BE COMPLETELY REMOVED FROM THE PLANT ROOT BALL AT TIME OF PLANTING. ALL WIRE BASKETS, BURLAP, AND OTHER BINDINGS SHALL BE CUT AND REMOVED FROM THE UPPER 1/2 OF ROOT BALL. BINDINGS AROUND THE TRUNKS OF TREES SHALL BE REMOVED WITHOUT EXCEPTION. RETAIN PLANT TAGS UNTIL INSPECTION AND APPROVAL OF PLANT MATERIAL AT THE SITE BY THE LANDSCAPE ARCHITECT.
17. PRUNING: REMOVE ONLY DEAD, DYING OR BROKEN BRANCHES. DO NOT PRUNE FOR SHAPE UNLESS DIRECTED BY THE LANDSCAPE ARCHITECT AND THEN ONLY ACCORDING TO HORTICULTURAL BEST PRACTICES. DO NOT CUT TREE LEADERS. DO NOT APPLY PRUNING PAINT TO WOUNDS.
18. INSTALL A 2" MINIMUM THICK LAYER OF SHREDDED HARDWOOD MULCH OVER ALL PLANTING BED AREAS TO LIMITS OF ALL PLANTING BEDS AND TREE SAUCERS TO DEPTHS SPECIFIED AND DETAILED. CREATE A NATURAL SHOVEL-CUT / SPADED EDGE WHERE PLANTING BEDS MEET TURF AREAS UNLESS A DIFFERENT KIND OF PLANTING EDGE IS INDICATED ON THE DRAWINGS.
19. ALL PLANT MATERIAL HEIGHTS SPECIFIED ARE SHOWN BEFORE PRUNING. ALL DEPTHS DETAILED ARE SHOWN AFTER SETTLING.
20. ALL PLANTS SHALL BE SET PLUMB AND HAVE THE BEST SIDE OF PLANT FACING THE MAIN VIEWING DIRECTION.
21. SOD ALL UNPAVED AREAS DISTURBED BY CONSTRUCTION THAT ARE NOT IN PLANTED BEDS WITH SPECIFIED SOD.
22. RESTORE ALL GRADES THAT HAVE SETTLED OR HAVE BE RUTTED OR ERODED AND RESEED OR REPLANT AS REQUIRED.

LANDSCAPE MAINTENANCE REQUIREMENTS

1. PERFORM MAINTENANCE IN CONFORMANCE WITH THE LANDSCAPE MAINTENANCE SCHEDULE ON THIS SHEET AND THE SPECIFICATIONS. TURF AND LANDSCAPE PLANTINGS INSTALLED UNDER THIS CONTRACT BEGINS THE SAME DAY AS INSTALLATION AND CONTINUES FOR THE FOLLOWING PERIODS:
   1.1. TURF: 60 CALENDAR DAYS
   1.2. LANDSCAPE PLANTINGS: 12 CALENDAR MONTHS
2. THE PLANT WARRANTY BEGINS UPON ISSUANCE OF SUBSTANTIAL COMPLETION FOR THE LANDSCAPING AND AS SUCH WILL EXTEND BEYOND THE MAINTENANCE PERIOD FOR LANDSCAPE PLANTINGS. THE WARRANTY PERIOD SHALL BE 12 MONTHS UNLESS OTHERWISE SPECIFIED.
3. NOTIFY THE OWNER IN WRITING AT THE CONCLUSION OF THE MAINTENANCE PERIOD AND INQUIRE IF A SEPARATE EXTENDED MAINTENANCE CONTRACT IS DESIRED.

24MSD-00076 BASEMAP 160

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869
Missouri Landscape Architecture Corporation: #001444

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

CRAIG ELEMENTARY

1492 Craig Road
St. Louis, MO 63146

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI



PROFESSIONAL SEAL

DESIGNED BY:	PMJ
DRAWN BY:	PMJ
CHECKED BY:	TMT
DATE:	18 AUGUST 2024
SCALE:	NO SCALE

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

SHEET NAME

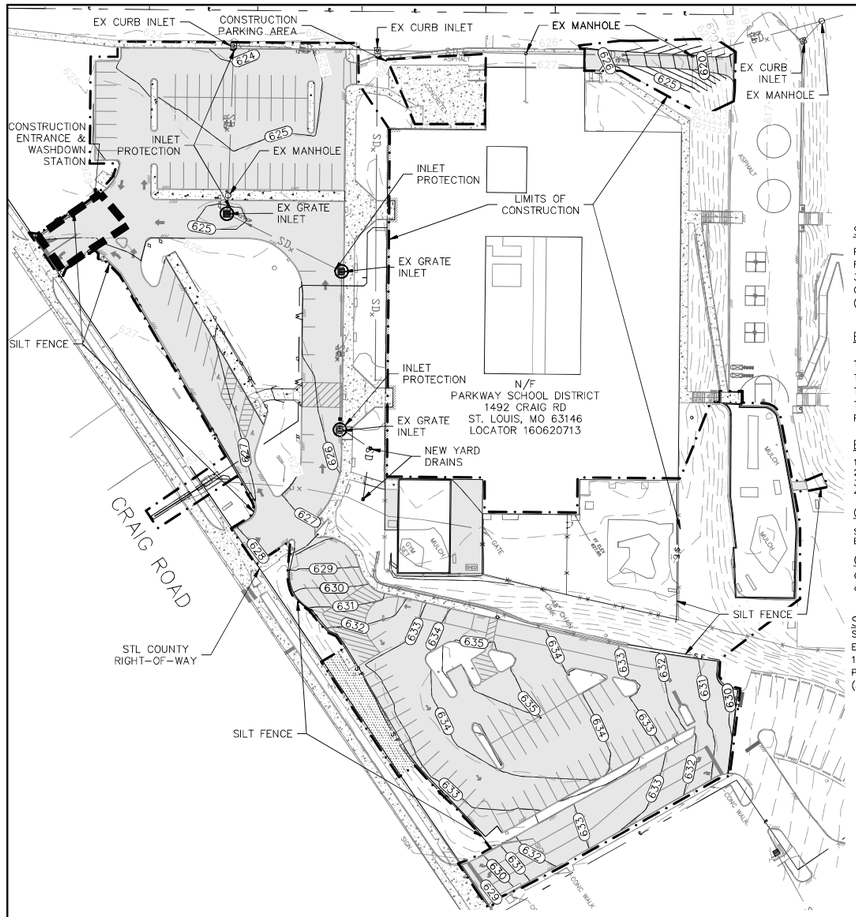
PLAYGROUND PLANTING DETAILS, SCHEDULES AND NOTES

CLIENT PROJECT NUMBER: 00230BB
WSP PROJECT NUMBER: 30902493.004

SHEET NUMBER **C5.07**

LAST EDITED: 8/21/2024 9:34 AM
FILE PATH: T:\30902493.001 Parkway Playgrounds\SHEETS\Craig Elementary\C5.0-C5.06 PLAYGROUND DETAILS-SCE.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



SITE OWNER INFORMATION

PARKWAY SCHOOL DISTRICT
RALPH KNESE
363 N WOODS MILL RD.
CHESTERFIELD, MO 63017
(314) 415-8268

BMP QUANTITY TABLE

TEMP CONSTRUCTION ENTRANCE	1	EACH
TEMP WASHDOWN STATION	1	EACH
TEMP INLET PROTECTION	5	EACH
TEMP SILT FENCE/FILTER ROLLS	615	LF
PERMANENT SOD	1,500	SQ. YD.

BMP SEQUENCE

1. Install washdown station.
2. Install silt fence/filter roll.
3. Remove silt fence/filter roll.
4. Remove washdown station.

OVERALL WORK SEQUENCING

Start Date: 07/15/2024
Expected completion: 09/20/2024

CONSTRUCTION PARKING

Construction parking to be located on existing asphalt drop off lane adjacent to Novara Drive.

SWPPP SPECIAL INSPECTOR

SHAWN GARLAND
ECO-CONSTRUCTORS
18615 HISTORIC ROUTE 66
PACIFIC, MO 63069
(314) 638-3550

GENERAL NOTES

1. EROSION AND SILTATION CONTROL SHALL BE INSTALLED PRIOR TO ANY GRADING AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ADEQUATE VEGETATIVE GROWTH INSURES NO FURTHER EROSION OF THE SOIL AND WORK IS ACCEPTABLE TO THE OWNER AND CONTROLLING REGULATORY AGENCY.
2. AT LEAST ONCE EVERY WEEK AND AFTER EVERY RAINFALL EVENT OF 0.25 INCHES OR MORE, EROSION AND SILTATION CONTROL DEVICES SHALL BE INSPECTED FOR DAMAGE AND AMOUNT OF SEDIMENTATION ACCUMULATED AND CORRECTIVE ACTION TAKEN. REPORTS OF THESE INSPECTIONS AND CORRECTIVE ACTIONS SHALL BE PREPARED ON THE FORMS PROVIDED BY ST. LOUIS COUNTY AND SUBMITTED TO THE DEPARTMENT OF PUBLIC WORKS WITHIN 5 DAYS OF THE DATE OF THE INSPECTION.
3. TEMPORARY SILTATION CONTROL MEASURES (STRUCTURAL) SHALL BE MAINTAINED UNTIL VEGETATIVE COVER IS ESTABLISHED AT A SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL ON THE SITE.
4. WHERE NATURAL VEGETATION IS REMOVED DURING GRADING, VEGETATION SHALL BE REESTABLISHED AS SOON AS POSSIBLE IN SUCH A DENSITY AS TO PREVENT EROSION.
5. WHEN GRADING OPERATIONS ARE COMPLETED OR WILL BE SUSPENDED FOR MORE THAN 5 DAYS IN ANY AREA, THE DISTURBED AREA SHALL BE SEEDED OR OTHERWISE STABILIZED TO SIGNIFICANTLY REDUCE THE ERODIBILITY OF THE SOIL. PROTECTIVE MEASURES MAY INCLUDE A COMBINATION OF SEEDING, SODDING, MULCHING OR OTHER SUITABLE MEANS TO PROTECT THE GROUND SURFACE FROM EROSION.
6. IF CUT AND FILL OPERATIONS OCCUR DURING A SEASON NOT FAVORABLE FOR IMMEDIATE ESTABLISHMENT OF PERMANENT GROUND COVER, A FAST GERMINATING ANNUAL SUCH AS RYE GRASSES OR SUDAN GRASSES SHALL BE UTILIZED TO RETARD EROSION, IF ADEQUATE STORM WATER DETENTION AND EROSION CONTROL DEVICES HAVE NOT BEEN ESTABLISHED.
7. ALL FINISHED GRADES (AREAS NOT TO BE DISTURBED BY FUTURE IMPROVEMENT) IN EXCESS OF 20% SLOPES (5:1) SHALL BE MULCHED AND TACKED AT A RATE OF 100 POUNDS PER 1,000 SQUARE FEET WHEN SEEDED AS SOON AS POSSIBLE AFTER FINAL PLACEMENT.
8. STORM WATER PIPES, OUTLETS AND CHANNELS SHALL BE PROTECTED BY SILT BARRIERS AND KEPT FREE OF WASTE AND SILT AT ALL TIMES PRIOR TO FINAL SURFACE STABILIZATION AND / OR PAVING.
9. A MINIMUM OF 10% SURPLUS EROSION CONTROL MATERIALS SHALL BE KEPT ON-SITE FOR EMERGENCY REPAIRS.
10. NOTIFY THE COUNTY OF ST. LOUIS 48 HOURS PRIOR TO COMMENCEMENT OF GRADING AND/OR PRIOR TO COMMENCEMENT OF CONSTRUCTION.
11. PARKING ON NON-SURFACED AREAS IS PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVING CONDITIONS.
12. THE STREETS SURROUNDING THIS DEVELOPMENT AND ANY STREET USED FOR CONSTRUCTION ACCESS THERETO SHALL BE KEPT FREE FROM MUD AND CONSTRUCTION DEBRIS AND SHALL BE CLEANED THROUGHOUT THE DAY.
13. ALL FILLS PLACED UNDER PROPOSED STORM AND SANITARY SEWER LINES AND/OR PAVED AREAS, INCLUDING TRENCH BACKFILLS WITHIN AND OFF THE ROAD RIGHT-OF-WAY, SHALL BE COMPACTED TO 90% OF MINIMUM DENSITY AS DETERMINED BY THE "MODIFIED AASHTO T-180 COMPACTION TEST" (ASTM D-1557) FOR THE ENTIRE DEPTH OF THE FILL. COMPACTED GRANULAR BACKFILL IS REQUIRED IN ALL TRENCH EXCAVATION WITHIN THE STREET RIGHT-OF-WAY AND UNDER ALL PAVED AREAS. ALL TESTS SHALL BE PERFORMED UNDER THE DIRECTION OF AND VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACKFILLING OPERATIONS.
14. SOFT SOILS FROM THE BOTTOM AND BANKS OF ANY EXISTING OR FORMER POND SITES OR TRIBUTARIES OR ANY SEDIMENT BASINS OR TRAPS SHALL NOT BE PLACED IN PROPOSED PUBLIC RIGHT-OF-WAY LOCATIONS OR IN ANY STORM SEWER LOCATION.
15. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
16. DEBRIS AND FOUNDATION MATERIAL FROM ANY EXISTING ON-SITE BUILDING OR STRUCTURE WHICH IS SCHEDULED TO BE RAZED FOR THIS DEVELOPMENT MUST BE PROPERLY DISPOSED OF OFF-SITE.
17. ANY WELLS, CISTERNS AND/OR SPRINGS, WHICH MAY EXIST ON THIS PROPERTY, SHOULD BE LOCATED AND SEALED IN A MANNER ACCEPTABLE TO ST. LOUIS COUNTY AND THE MSDNR.
18. ALL EXCAVATIONS, GRADING OR FILLING SHALL HAVE A FINISHED GRADE NOT TO EXCEED A 4:1 SLOPE (25%), UNLESS SPECIFICALLY APPROVED OTHERWISE. NO SLOPE SHALL EXCEED 3:1 MAXIMUM.
19. NO EXCAVATION SHALL BE MADE SO CLOSE TO THE PROPERTY LINE AS TO ENDANGER ANY ADJOINING PROPERTY OF ANY PUBLIC OR PRIVATE STREET WITHOUT SUPPORTING AND PROTECTING SUCH PUBLIC OR PRIVATE STREET OR PROPERTY FROM SETTLING, CRACKING OR OTHER DAMAGE.
20. ALL LOTS SHALL BE SEEDED AND MULCHED OR SODDED BEFORE AN OCCUPANCY PERMIT SHALL BE ISSUED EXCEPT THAT A TEMPORARY OCCUPANCY PERMIT MAY BE ISSUED BY THE COUNTY OF ST. LOUIS DEPARTMENT OF PUBLIC WORKS IN CASES OF UNDUE HARDSHIP BECAUSE OF UNFAVORABLE GROUND CONDITIONS. IF THE LOT IS TO BE SEEDED AND MULCHED, IT SHALL BE DONE IN A MANNER THAT MEETS OR EXCEEDS THE REQUIREMENTS OF THE ST. LOUIS COUNTY "SEDIMENT AND EROSION CONTROL GUIDELINES".
21. REFER TO SHEET C5.02 FOR ADDITIONAL SWPPP PLAN DETAILS [EROSION CONTROL FILTER ROLL (FILTER SOCK) DETAIL, EROSION CONTROL INLET PROTECTION (FABRIC DROP) DETAIL AND SILT FENCE DETAIL].
22. GRADING MUST NOT BEGIN UNTIL ALL PERIMETER SILTATION CONTROL HAS BEEN INSTALLED AND INSPECTED BY THE COUNTY.
23. A REDLINE SWPPP INDICATING ANY AND ALL CHANGES TO THE ORIGINAL SWPPP MUST BE KEPT ONSITE AND AVAILABLE TO THE COUNTY INSPECTOR DURING SITE VISITS AND COMPLIANCE INSPECTIONS.
24. ADDITIONAL SILTATION CONTROL SHALL BE INSTALLED AS REQUIRED BY ST. LOUIS COUNTY DEPARTMENT OF PUBLIC WORKS.
25. ANY LAND CLEARING, CONSTRUCTION, OR DEVELOPMENT INVOLVING THE MOVEMENT OF EARTH SHALL BE IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN, AND THE PERSON ISSUED A LAND DISTURBANCE PERMIT ASSUMES AND ACKNOWLEDGES RESPONSIBILITY FOR COMPLIANCE WITH THE ST. LOUIS COUNTY LAND DISTURBANCE CODE AND THE APPROVED STORM WATER POLLUTION PLAN AT THE SITE OF THE PERMITTED ACTIVITY.
26. PRIOR TO THE ISSUANCE OF A MAJOR LAND DISTURBANCE PERMIT, A LAND DISTURBANCE ESCROW SHALL BE APPROVED BY ST. LOUIS COUNTY DEPARTMENT OF PLANNING.
27. PRIOR TO ANY MAJOR LAND DISTURBANCE ACTIVITY, A LAND DISTURBANCE PERMIT FROM THE STATE OF MISSOURI DEPARTMENT OF NATURAL RESOURCES IS REQUIRED.
28. SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASH DOWN STATION PRIOR TO LEAVING THE SITE. NO TRACKING OF MUD ONTO ST. LOUIS COUNTY ROADS SHALL BE ALLOWED.
29. THE CONTRACTOR SHALL PROVIDE, INSTALL, MAINTAIN, AND REMOVE A PUBLIC NOTIFICATION SIGN, PER PAGES 42-43 OF THE ST. LOUIS COUNTY SEDIMENT AND EROSION CONTROL MANUAL.
30. LOCATE STATE AND COUNTY LAND DISTURBANCE PERMITS, BMP INSPECTION REPORTS, ETC. WITH THE SWPPP.
31. THERE ARE NO KNOWN SINKHOLES, SPRINGS, SEEPS, OR KARST FEATURES ON THE CONSTRUCTION SITE.
32. THERE ARE NO PROPOSED INDUSTRIAL ACTIVITIES, SUCH AS CONCRETE OR ASPHALT BATCH PLANTS, PLANNED FOR THIS PROJECT.
33. THERE ARE NO ENDANGERED SPECIES OR HISTORIC PROPERTIES IMPACTED BY THIS PROJECT.
34. 404/401 PERMITS ARE NOT REQUIRED FOR THIS PROJECT AS CONSTRUCTION ACTIVITIES WILL NOT IMPACT ANY JURISDICTIONAL WATERS.
35. THERE ARE NO NON-STORMWATER DISCHARGES OR USE OF DEWATERING MEHODS PLANNED FOR THIS PROJECT.
36. IN THE EVENT STORM WATER RUNOFF LEAVES THE CONSTRUCTION SITE, THE APPROVED SITE SPECIAL INSPECTOR SHALL BE NOTIFIED BY PHONE IMMEDIATELY.

HAUL ROUTE INFORMATION

- Net cut volume for the site is 56 CY.
- Waste material is being hauled to 824 Hog Hollow Road (Chesterfield).
- The haul route is Craig Road East to HWY 340, then West to Hog Hollow Road site.
- Concrete and asphalt material is being hauled to Simpson Materials for recycling (Valley Park).
- The haul route is Craig Road East to HWY 340, then West to HWY 141 South, then to I-44 North Outer Road West to the site.
- Hauling activities should last approximately 3 weeks.
- Hauling will be during the hours of 8:40 a.m. and 2:30 p.m.

HAUL SCHEDULE

Haul Dates: July 15, 2024 – August 5, 2024

SEDIMENT HANDLING

Sediment removed during the maintenance of BMP's should be handled and disposed of in accordance with the approved SWPPP procedures for excavation.

LOSS OF SEDIMENT OFFSITE

Sediment lost offsite shall be immediately reclaimed and replaced. The BMP shall be inspected by engineer and a repair plan made to prevent future failure.

THE PROPERTY OWNER / DEVELOPER HEREBY CERTIFIES THAT HE IS FAMILIAR WITH THE SWPPP AND ASSUMES FULL RESPONSIBILITY FOR THE PERFORMANCE AND MAINTENANCE OF THE SWPPP AS STATED ON THE APPROVED PLANS. HE WILL ENSURE THAT ALL CONTRACTORS UNDERSTAND AND ARE FAMILIAR WITH THE SWPPP FOR THE SITE AND THAT EACH CONTRACTOR AGREES TO IMPLEMENT AND PROTECT ELEMENTS OF THE SWPPP AS THEY RELATE TO HIS WORK. THE PROPERTY OWNER'S / DEVELOPER'S ONSITE REPRESENTATIVE SHALL BE RESPONSIBLE FOR THE PERFORMANCE AND MAINTENANCE OF THE SWPPP. IN ADDITION, THE UNDERSIGNED OWNER / DEVELOPER ASSURES THAT ALL CITY PROPERTY OR ROADS WILL BE ADEQUATELY PROTECTED.

OWNER'S / DEVELOPER'S CONTACT PERSON AND PHONE # : Ralph Knese (314) 415-8268

OWNER'S / DEVELOPER'S Signature _____

Date _____

EMERGENCY CONTACT AND PHONE # : Bill Freymuth (314) 415-4915

FILTER ROLLS / FILTER SOCKS

WHERE BMP IS TO BE INSTALLED:
As indicated on design plans.

WHEN BMP IS TO BE INSTALLED:
Prior to exposing any soil on site.

INSTALLATION / CONSTRUCTION PROCEDURES:
Follow the manufactures instructions and recommendations for the sizing, installation and maintenance of all filter rolls or filter socks.

O&M PROCEDURES:
Follow the manufactures instructions and recommendations for the sizing, installation and maintenance of all filter rolls or filter socks.

SITE CONDITIONS FOR REMOVAL:
Remove when general note 1 (above) is met.

NON-SEDIMENT POLLUTION CONTROL

PHYSICAL DESCRIPTION:
Control measures designed to prohibit chemicals, hazardous materials, solid waste and construction debris from polluting stormwater. Pollutants carried in solution or as surface films on runoff will be carried through most erosion control and sediment capture BMP's. Keeping substances like fuel, oil, asphalt, paint, fertilizer, soil additives, concrete wash water, solid waste and construction debris from polluting runoff can be accomplished to a large extent through good housekeeping on the site and following the manufacture's recommendations for disposal.

WHERE BMP IS TO BE INSTALLED:
Collection, storage and fueling areas should be located onsite in an area that does not receive a substantial amount of runoff from upland areas and does not drain directly to lakes, creeks, streams, rivers, sewers, groundwater, wetlands, or road ditches. Temporary sanitary facilities will be provided within 500' of each work site.

WHEN BMP IS TO BE INSTALLED:
Immediately following installation of construction entrances and wash stations.

INSTALLATION / CONSTRUCTION PROCEDURES:
Place waste receptacles near area of work.
Construct protective berm or other devices around fueling and hazardous materials storage areas.
Install appropriate signage.
Post guidelines for proper handling, storage and disposal of materials, and emergency spill cleanup on site.

O&M PROCEDURES:
Inspect activities on a weekly basis.
Inspect storage areas and control devices at least every two weeks and after every storm.
Make necessary corrections and repairs.

SITE CONDITIONS FOR REMOVAL:
Maintain practices until all construction on the site has been completed.

TYPICAL DETAILS:
General pollution prevention notes attached.

POLLUTION PREVENTION PROCEDURES

1. HANDLING AND DISPOSAL OF HAZARDOUS MATERIALS

   DO:
   Prevent spills.
   Use products up.
   Follow label directions for disposal.
   Remove lids from empty bottles and cans when disposing in trash.
   Recycle wastes whenever possible.

   DON'T:
   Don't pour waste into sewers, waterways or on the ground.
   Don't pour waste down sink, floor drain or septic tanks.
   Don't bury chemicals or containers, or dispose of them with construction debris.
   Don't mix chemicals together.

2. Containers shall be provided for collection of all waste material including construction debris, trash, petroleum products and any hazardous materials to be used onsite. All waste material shall be disposed of at facilities approved for that material.
3. No waste material shall be buried on-site.
4. Mixing, pumping, transferring or otherwise handling construction chemicals such as fertilizer, lime, asphalt, concrete drying compounds, and all other potentially hazardous materials shall be performed in an area away from any watercourse, ditch or storm drain.
5. Equipment fueling and maintenance, oil changing, etc., shall be preformed only in an area designated for that purpose. The designated area is equipped for recycling oil and catching spills.
6. Concrete wash water shall not be allowed to flow directly to storm sewers, streams, ditches, lakes, etc. without being treated. A sump or pit shall be constructed to contain concrete wash water.
7. If substances such as oil, diesel fuel, hydraulic fluid, antifreeze, etc. are spilled, leaked, or released onto soil, the soil shall be dug up and disposed at a licensed sanitary landfill (not a construction / demolition debris landfill). Spills on pavement shall be absorbed with sawdust, kitty litter or product designed for that purpose and disposed of at a licensed sanitary landfill. Hazardous or industrial wastes such as most solvents, gasoline, oil-based paints, and cement curing compounds require special handling. Theses materials will be removed from the site and recycled or disposed of in accordance with MoDNR requirements.
8. State law requires the party responsible for petroleum product spill in excess of 50 gallons to report the spill to MoDNR (537-634-2436) as soon as practical after discovery. Federal law requires the responsible party to report any release of oil if it reaches or threatens a sewer, lake, creek, stream, river, groundwater, wetland, or area, like a road ditch, that drains into one of the above.

SOIL PREPARATION AND REVEGATATION

1. Remove debris, roots, branches, stone, in excess of 1 inch in size. Remove soil contaminated with petroleum products.
2. Where topsoil is to be placed, scarify surface to depth of 3 inches.
3. In areas where vehicles or equipment have compacted soil, scarify surface to depth of 6 inches.
4. Place topsoil in areas where sodding and planting are indicated.
5. Place topsoil where required to level finish grade.
6. Place topsoil during dry weather.
7. Remove roots, weeds, rocks, and foreign material while spreading.
8. Fine grade topsoil to eliminate uneven areas and low spots. Maintain profiles and contour of subgrade.
9. Roll placed topsoil.
10. Moisten prepared surface immediately prior to laying sod.
11. Lay sod within 24 hours after harvesting to prevent deterioration.
12. Lay sod smooth and tight with no open joints visible, and no overlapping; stagger end joints 12 inches minimum.
13. Where new sod adjoins existing grass areas, align top surfaces.
14. Where sod is placed adjacent to hard surfaces, such as curbs, pavements, etc., place top elevation of sod 1/2 inch below top of hard surface.
15. Water sodded areas immediately after installation. Saturate sod to 4 inches of soil.
16. After sod and soil have dried, roll sodded areas to ensure good bond between sod and soil and to remove minor depressions and irregularities.

WASHDOWN STATION

PHYSICAL DESCRIPTION:
An area located at construction entrances designed to wash sediment from the tires and undercarriage of exiting vehicles and prevent sediment from being tracked onto existing roadways.

WHERE BMP IS TO BE INSTALLED:
Across or immediately adjacent to exit paths from unpaved construction sites.

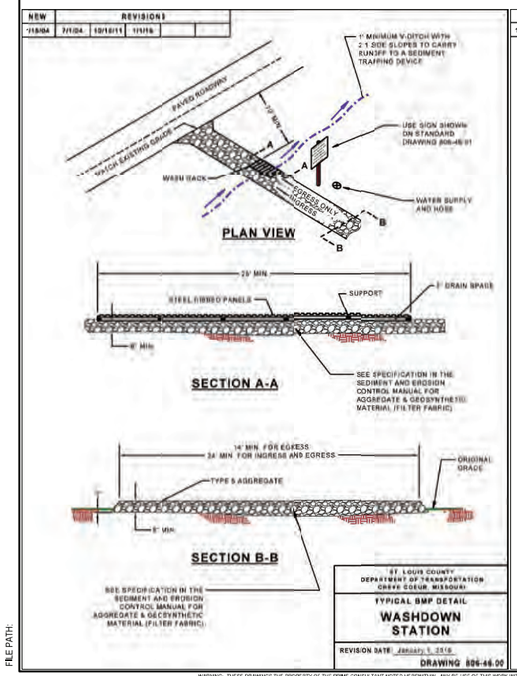
CONDITIONS FOR EFFECTIVE USE OF BMP:
Drainage: Downstream BMP sized to treat dirty runoff from washdown station.

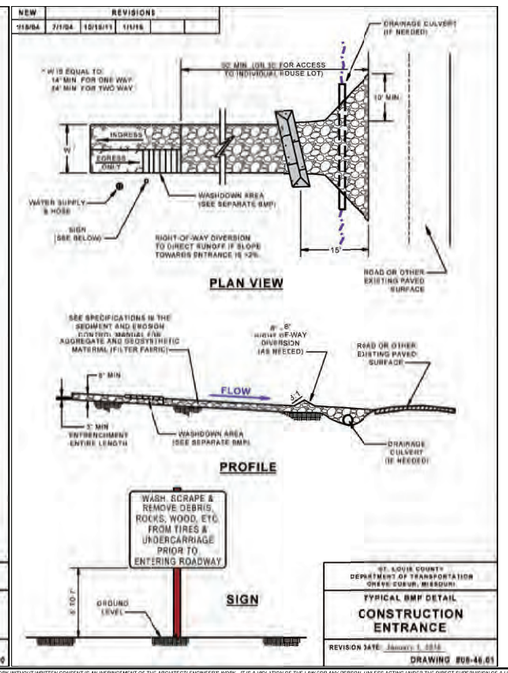
WHEN BMP IS TO BE INSTALLED:
First order of work, along with construction entrance, prior to vehicles or equipment accessing unpaved areas.

INSTALLATION / CONSTRUCTION PROCEDURES:
Grade and compact area for drainage under washdown pad.
Install steel-ribbed plate on frame or other support to allow a 2" drain space.
Grade and vegetate downstream BMP.
Install water supply and hose.
Post sign in advance of station indicating that all exiting vehicles and equipment must use station prior to exiting site.

O&M PROCEDURES:
Remove sediment daily.
Repair settled areas.
Replace rock if necessary to maintain clean surface.

SITE CONDITIONS FOR REMOVAL:
Remove when vehicles and equipment will no longer access unpaved areas.





LAST EDITED:
FILE PATH:

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITH. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

HT 7092 24MSD-00076 BASEMAP 160

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

ISSUE FOR PERMIT

PARKWAY SCHOOL DISTRICT

CRAIG ELEMENTARY

1492 Craig Road
St. Louis, MO 63146

RENOVATIONS & SITE IMPROVEMENTS

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006002866
PROFESSIONAL ENGINEER
19 AUGUST 2024

PROFESSIONAL SEAL

SHEET NAME
SWPP PLAN

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	ST
DATE:	19 AUGUST 2024
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 092301B
WSP PROJECT NUMBER: 309024934.004
SHEET NUMBER **C6.01**

MAP LEGEND

Area of Interest (AOI)

Soils

Soil Rating Polygons

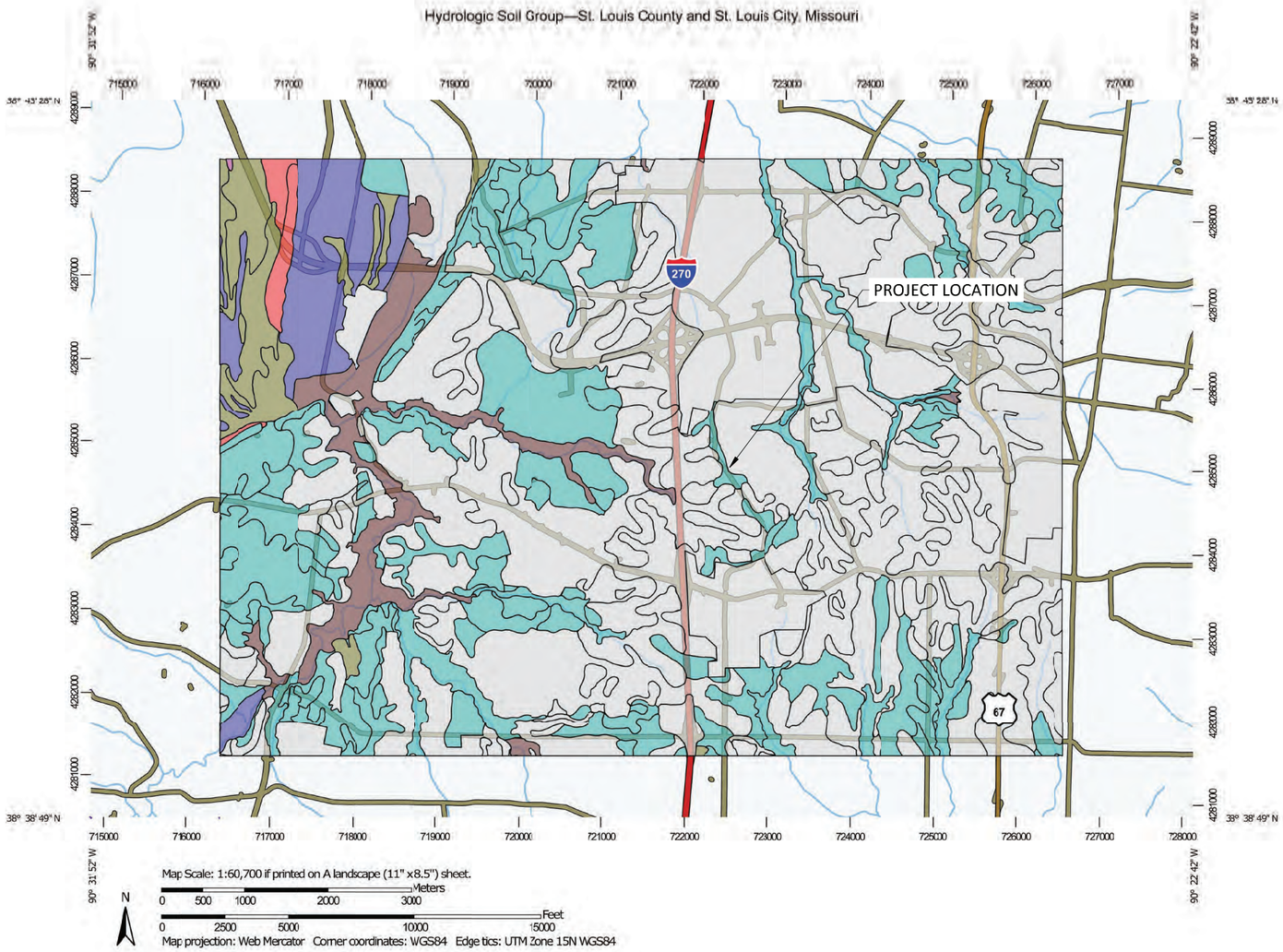
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Interstate Highways
- US Routes
- Major Roads
- Local Roads



SWPPP CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT THIS STORM WATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS AND REGULATIONS OF ST. LOUIS COUNTY AND THE MISSOURI DEPARTMENT OF NATURAL RESOURCES. TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE INFORMATION CONTAINED IN THIS PLAN IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWN VIOLATIONS.

PRINTED NAME: MICHAEL SESTAK

SIGNATURE: _____ DATE: 06/12/2024

LAST EDITED:
FILE PATH:

HT 7092 24MSD-00076 BASEMAP 160

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTI ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

CRAIG ELEMENTARY

1492 Craig Road
St. Louis, MO 63146

RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006002866
PROFESSIONAL ENGINEER
19 AUGUST 2024

PROFESSIONAL SEAL

SHEET NAME
SWPP PLAN

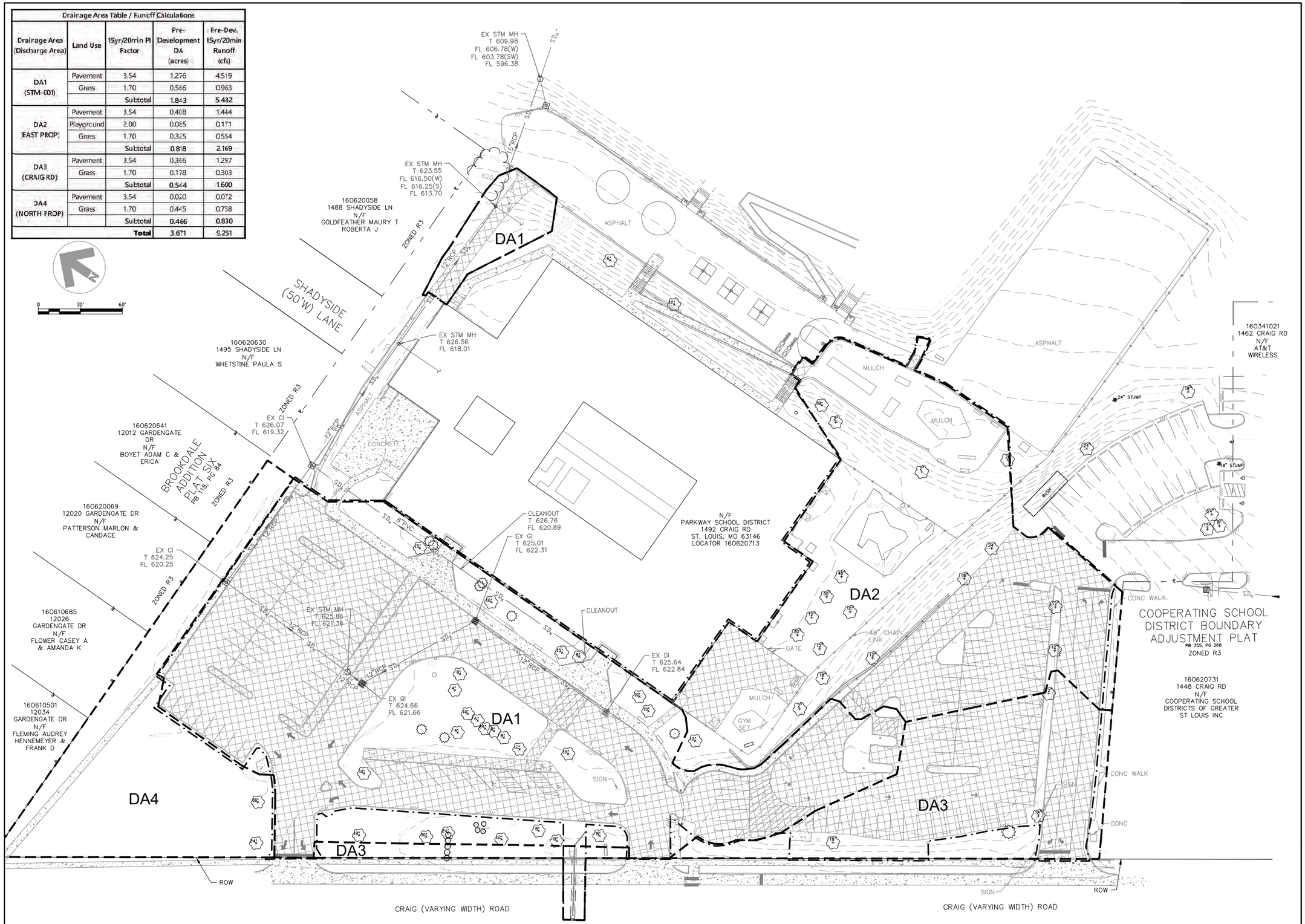
DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	ST
DATE:	19 AUGUST 2024
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 092301B
WSP PROJECT NUMBER: 309024934.004

SHEET NUMBER **C6.02**

Drainage Area Table / Runoff Calculations				
Drainage Area (Discharge Area)	Land Use	15yr/20min PI Factor	Pre-Development DA (acres)	Pre-Dev. 15yr/20min Runoff (cfs)
DA1 (STM-001)	Pavement	3.54	1.276	4.519
	Grass	1.70	0.566	0.963
	Subtotal		**1.843**	**5.482**
DA2 (EAST PROP)	Pavement	3.54	0.408	1.444
	Playground	2.00	0.085	0.171
	Grass	1.70	0.325	0.554
	Subtotal		**0.818**	**2.169**
DA3 (CRAIG RD)	Pavement	3.54	0.366	1.297
	Grass	1.70	0.178	0.303
	Subtotal		**0.544**	**1.600**
DA4 (NORTH PROP)	Pavement	3.54	0.020	0.072
	Grass	1.70	0.445	0.758
	Subtotal		**0.466**	**0.830**
	Total		**3.671**	**9.251**



HT 7092 24MSD-00076 BASEMAP 160

LAST EDITED:
FILE PATH:

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

CRAIG ELEMENTARY

1492 Craig Road
St. Louis, MO 63146

RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

SUNIL THAKKAR
NUMBER PE-2006902866
PROFESSIONAL ENGINEER
STATE OF MISSOURI
19 AUGUST 2024

PROFESSIONAL SEAL

SHEET NAME
EXISTING DRAINAGE AREA MAP

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	ST
DATE:	19 AUGUST 2024
SCALE:	

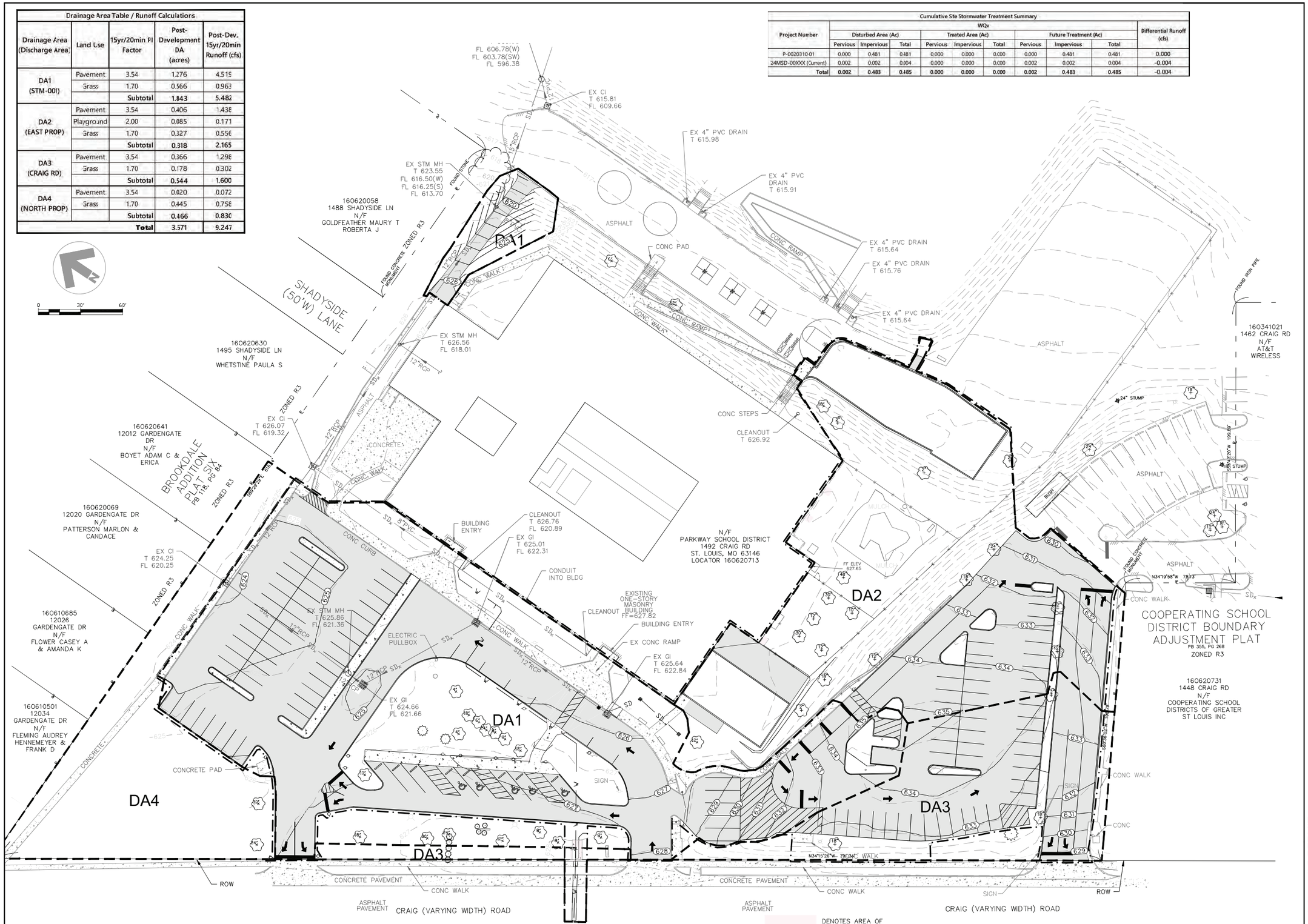
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 092301B
WSP PROJECT NUMBER: 309024934.004

SHEET NUMBER **C7.01**

Drainage Area Table / Runoff Calculations				
Drainage Area (Discharge Area)	Land Use	15yr/20min PI Factor	Post-Development DA (acres)	Post-Dev. 15yr/20min Runoff (cfs)
DA1 (STM-001)	Pavement	3.54	1.276	4.519
	Grass	1.70	0.566	0.963
	Subtotal		**1.843**	**5.482**
DA2 (EAST PROP)	Pavement	3.54	0.406	1.438
	Playground	2.00	0.085	0.171
	Grass	1.70	0.327	0.556
	Subtotal		**0.318**	**2.165**
DA3 (CRAIG RD)	Pavement	3.54	0.366	1.298
	Grass	1.70	0.178	0.302
	Subtotal		**0.544**	**1.600**
DA4 (NORTH PROP)	Pavement	3.54	0.020	0.072
	Grass	1.70	0.445	0.758
	Subtotal		**0.466**	**0.830**
		Total	**3.571**	**9.247**

Cumulative Ste Stormwater Treatment Summary										
Project Nurrber	WQv									Differential Runoff (cfs)
	Disturbed Area (Ac)			Treated Area (Ac)			Future Treatment (Ac)			
	Pervious	Impervious	Total	Pervious	Impervious	Total	Pervious	Impervious	Total	
P-0020310-01	0.000	0.481	0.481	0.000	0.000	0.000	0.000	0.481	0.481	0.000
24MSD-00XXX (Current)	0.002	0.002	0.004	0.000	0.000	0.000	0.002	0.002	0.004	-0.004
Total	**0.002**	**0.483**	**0.485**	**0.000**	**0.000**	**0.000**	**0.002**	**0.483**	**0.485**	-0.004



HT 7092 24MSD-00076 BASEMAP 160

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION ALTERED BY FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED:
FILE PATH:

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

CRAIG ELEMENTARY

1492 Craig Road
St. Louis, MO 63146

RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2009002866
PROFESSIONAL ENGINEER
19 AUGUST 2024

PROFESSIONAL SEAL

SHEET NAME
PROPOSED DRAINAGE AREA MAP

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	ST
DATE:	19 AUGUST 2024
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 092301B
WSP PROJECT NUMBER: 309024934.004
SHEET NUMBER **C8.01**

EXHIBIT-F

PIERREMONT ELEMENTARY

BMP ORIGINAL PROJECT INFORMATION

PARKWAY SCHOOL DISTRICT

PIERREMONT ELEMENTARY

1215 DALPHINE LANE
St. Louis, MO 63011

WSP PROJECT NUMBER: 30902493.006

CLIENT PROJECT NUMBER: 102301B

ISSUE FOR REBID

VOLUME 1

DECEMBER-2024

DRAWING INDEX - VOLUME 1	
Sheet No:	**Sheet Name**
G0.01	PROJECT COVER SHEET
C1.01	PLAYGROUND GENERAL NOTES
C1.02	MSD STANDARD NOTES
C2.01	PLAYGROUND DEMOLITION PLAN
C3.01	PLAYGROUND SITE PLAN
C3.02	PLAYGROUND EQUIPMENT PLAN
C4.01	PLAYGROUND GRADING PLAN
C5.01	PLAYGROUND DETAILS
C5.02	PLAYGROUND DETAILS
C5.03	PLAYGROUND DETAILS

REGIONAL MAP



PLAN NORTH

LOCAL MAP



PLAN NORTH

23MSD-00130 BASEMAP 22Q

REMINDER: THESE DRAWINGS ARE THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTS ENGINEERS WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION ALTERED BY FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 10/2/2024 4:09 PM
FILE PATH: T:\30902493.001 Parkway Playgrounds\SHEETS\Pierremont Elementary\G0.01 - Cover Sheet-PMJ.dwg

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206 4444 Fax: +1 314 421 1741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011669
Missouri Landscape Architecture Corporation: #001444

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT
PIERREMONT ELEMENTARY
PLAYGROUND IMPROVEMENTS
1215 DAUPHINE LANE
MANCHESTER, MO 63011

STATE OF MISSOURI



PROFESSIONAL SEAL

DESIGNED BY:	PMJ
DRAWN BY:	PMJ
CHECKED BY:	TMT
DATE:	OCTOBER, 2024
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

SHEET NAME
PROJECT COVER SHEET

CLIENT PROJECT NUMBER: 102301B
WSP PROJECT NUMBER: 30902493.006
SHEET NUMBER **G0.01**

ISSUE FOR BID

PLAYGROUND SCOPE SUMMARY

- SAWCUT AND REMOVE ASPHALT PAVEMENT AND BASE AND CONCRETE CURB AS INDICATED. REMOVE ALL EXISTING PLAYGROUND EQUIPMENT, SITE BENCHES, AND OTHER STRUCTURES AND MATERIALS INDICATED FROM PLAYGROUNDS A AND B. LEGALLY DISPOSE AT OFF-SITE WASTE FACILITY.
- REMOVE WOOD FIBER MULCH FROM PLAYGROUND DEMOLITION AREAS AND LEGALLY DISPOSE AT OFF-SITE WASTE FACILITY.
- KEEP ALL EXCAVATED SOIL ON SITE FOR RAISING GRADE AND BACKFILLING AROUND PERIMETER CURBS PRIOR TO ADDING SOD.
- INSTALL NEW CONCRETE PLAYGROUND PERIMETER CURBS AND UNDERDRAIN SYSTEMS.
- INSTALL DRAINAGE BACKFILL AND BASE FOR RUBBER SURFACING.
- INSTALL NEW PLAYGROUND EQUIPMENT.
- PREPARE BASE AND INSTALL RUBBER SURFACING BELOW 2% MAX. SLOPE.
- PROVIDE SUPPLEMENTAL TOPSOIL AROUND PLAYGROUNDS TO RAISE GRADE TO PAVEMENT AND TOP OF CURB LEVEL.
- SOD EXPOSED SOIL AREAS AND AREAS DISTURBED BY CONSTRUCTION.

PLAYGROUND PHASING GENERAL NOTES

1. THE DRAWING AND NOTES ON THIS SHEET DESCRIBE A RECOMMENDED PHASING PLAN FOR CONTRACTOR CONSIDERATION. SUBMIT AN INDEPENDENT PHASING PLAN FOR REVIEW AND ACCEPTANCE WHICH MAY OR MAY NOT ALIGN WITH THE RECOMMENDATIONS ON THIS SHEET.
2. SUBMIT A PROPOSED DEMOLITION DUMPSTER PLACEMENT LOCATION PLAN TO THE OWNER FOR REVIEW APPROVAL PRIOR TO INITIATING WORK. EMPTY THE CONSTRUCTION DUMPSTER DAILY.
3. THE CONTRACTOR'S PRIMARY RESPONSIBILITY IN ALL PHASES OF THE PROJECT IS SAFETY. THE RESPONSIBILITY OF SAFETY INCLUDES THE STUDENTS, TEACHERS AND EMPLOYEES OF THE SCHOOL DISTRICT, CONTRACTOR'S EMPLOYEES AND ANY PERSON(S) WHO MAY ENTER UPON OR BE PROXIMATE TO THE WORK AREA, WHETHER OR NOT WORK IS IN PROGRESS. ENCLOSE WORK AREAS WITH A TEMPORARY FENCE.
4. SUBMIT A SITE SPECIFIC WORK PLAN AND MAINTENANCE OF TRAFFIC PLAN TO THE OWNER FOR REVIEW AND APPROVAL PRIOR TO INITIATING WORK. DO NOT TEMPORARILY CLOSE OFF-SITE ROADWAY TRAFFIC LANES FOR CONSTRUCTION ACTIVITIES.
5. MATERIALS SHALL BE STORED SECURELY AT ALL TIMES. COORDINATE SECURED STORAGE OF MATERIALS ON SITE WITH PERMISSION FROM THE OWNER. SUBMIT A REVISED CONSTRUCTION MATERIAL AND EQUIPMENT STAGING AND PHASING PLAN TO THE OWNER FOR REVIEW AND APPROVAL PRIOR TO INITIATING THE WORK. IF ADEQUATE SPACE IS NOT AVAILABLE AND APPROVED ON SITE, OBTAIN SECURE STAGING AND MATERIAL STORAGE AREA OFF-SITE.
6. IT IS NOT THE INTENT OF THIS PHASING PLAN TO DESCRIBE EVERY DETAIL OF THE WORK OR TO DEFINE THE METHODS AND MATERIALS INVOLVED IN THE PHASING EXCEPT AS MAY BE REQUIRED BY THE OWNER AND AGENCIES HAVING JURISDICTION.
7. THE WORK SHALL NOT INTERFERE WITH ANY SCHOOL OPERATIONS.
8. DEMOLITION WORK SHALL BE PHASED TO ALLOW FOR CONTINUOUS ACCESS AND USE OF THE SCHOOL THROUGHOUT THE COMPLETE SCOPE OF WORK.
9. STORE MATERIALS AND EQUIPMENT ONLY IN AREAS APPROVED BY THE OWNER AND IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. DO NOT STORE OR DUMP MATERIALS ON DIRT OR GRASS AREAS WITHIN THE DRIP LINE OF EXISTING TREES.
10. EACH PHASE OF SITE WORK IS TO BE PERFORMED BEHIND TEMPORARY CONSTRUCTION FENCING OR BARRICADES THAT ARE 4 FEET IN HEIGHT OR GREATER.
11. LIMITS OF CONSTRUCTION ARE INDICATED BY THE TEMPORARY FENCE LINE AND PHASE LINES. REQUEST APPROVAL TO WORK OR STORE MATERIALS OUTSIDE THOSE AREAS FROM OWNER AS APPLICABLE.
12. AREAS OF DEMOLITION AND INSTALLATION WORK SHALL BE FULLY IDENTIFIED AND ENCLOSED BY TEMPORARY CHAIN-LINK FENCING THAT IS LOCKABLE. MAINTAIN FENCING AND SIGNAGE DURING CONSTRUCTION.
13. PROVIDE AND MAINTAIN TEMPORARY SIGNAGE AND LIGHTING. EXISTING SYSTEMS CANNOT BE REMOVED UNTIL TEMPORARY SIGNAGE AND LIGHTING ARE APPROVED AND FUNCTIONING.
14. PROVIDE GRAPHIC SIGNS WARNING THE PUBLIC OF HAZARDOUS AREAS AND SIGN THE SAFE ROUTE TO SCHOOL ENTRY AND EXIT PATHS THROUGH ALL PHASES OF CONSTRUCTION.
15. CONSTRUCTION AND TEMPORARY SIGNS SHALL BE COMMERCIALLY AND PROFESSIONALLY FABRICATED. SUBMIT SIGN SHOP DRAWINGS FOR REVIEW AND APPROVAL.

PHASE COMMON INITIAL SCOPE OF WORK ITEMS

- ERECT TEMPORARY CONSTRUCTION FENCING AND ACCESS GATE AT LIMITS OF EACH CONSTRUCTION PHASE.
- INSTALL EROSION CONTROL AND TREE PROTECTION MEASURES, ADJUST EXISTING MEASURES, REPLACING AND MAINTAINING MEASURES AS NEEDED.
- PROTECT EXISTING PAVEMENTS, FACILITIES, UTILITIES AND STRUCTURES TO REMAIN WITHIN OR ADJACENT TO WORK AREAS.
- PROTECT ADJACENT WORK FROM DAMAGE AND STAINING DURING CURRENT PHASE WORK.
- PREPARE, FINISH AND CLEAN COMPLETED WORK PRIOR TO OPENING AREAS FOR PUBLIC USE.

PLAYGROUND PHASING GEN. NOTES (CONTD.)

PHASE 1 SCOPE OF WORK (PLAYGROUND 'A')

- PROVIDE A PORTABLE TOILET ON SITE FOR CONTRACTOR USE.
- PROVIDE PRIMARY STAGING/STORAGE AREA WITH SECURE TEMPORARY PERIMETER FENCE AND LOCKABLE GATE.
- SUBMIT PROPOSED WASTE, STAGING/ STORAGE AREA PLAN TO OWNER FOR APPROVAL PRIOR TO INITIATING CONSTRUCTION.
- PREPARE AND SUBMIT A PROPOSED MAINTENANCE OF TRAFFIC PLAN COVERING EACH PHASE OF CONSTRUCTION WORK TO OWNER FOR REVIEW AND APPROVAL PRIOR TO INITIATING WORK.
- PERFORM DEMOLITION OF PHASE 1 AREAS, REMOVING PLAYGROUND EQUIPMENT AND SITE FURNISHINGS AS INDICATED.
- REMOVE AND RETAIN CLEAN, DRY, VIABLE MULCH FROM WITHIN THE DEMOLITION AREA. STOCKPILE OUTSIDE OF WORK AREA FOR SUPPLEMENTAL USE.
- INSTALL PHASE 1 UNDERDRAIN, PERIMETER CURB, DRAINAGE STONE, FENCING, PLAYGROUND EQUIPMENT.
- INSTALL RUBBERIZED PLAY SURFACE TO DESIGN GRADES AND SPOT ELEVATIONS.
- MATCH EXISTING EXTERIOR PAVEMENT GRADES AND MEET ADJACENT PAVEMENTS FLUSH.
- PREPARE AND FINISH AREAS ADJACENT AREAS WITH EXCAVATED SOIL, SUPPLEMENTAL TOPSOIL, AND SUPPLEMENTAL USED AND NEW MULCH FILL. SOD OVER ALL NON-PAVED AREAS DISTURBED BY CONSTRUCTION. FINISH AND CLEAN PHASE 1 WORK TO SATISFACTION OF ENGINEER AND OPEN FOR PUBLIC USE.
- FINISH, PRESSURE WASH WITH WATER, AND CLEAN PLAYGROUND, SITE STAGING/ STORAGE AREAS AND DISTURBED AREAS TO SATISFACTION OF ENGINEER AND OPEN FOR PUBLIC USE.

PHASE 2 SCOPE OF WORK (PLAYGROUND 'B')

- PROVIDE A PORTABLE TOILET ON SITE FOR CONTRACTOR USE.
- PROVIDE PRIMARY STAGING/STORAGE AREA WITH SECURE TEMPORARY PERIMETER FENCE AND LOCKABLE GATE.
- SUBMIT PROPOSED WASTE, STAGING/ STORAGE AREA PLAN TO OWNER FOR APPROVAL PRIOR TO INITIATING CONSTRUCTION.
- PREPARE AND SUBMIT A PROPOSED MAINTENANCE OF TRAFFIC PLAN COVERING EACH PHASE OF CONSTRUCTION WORK TO OWNER FOR REVIEW AND APPROVAL PRIOR TO INITIATING WORK.
- DEMOLISH PHASE 2 AREA
- INSTALL PHASE 2 UNDERDRAIN, PERIMETER CURB, WALL, FENCING AND DRAINAGE STONE. 3
- INSTALL RUBBERIZED PLAY SURFACE TO DESIGN GRADES AND SPOT ELEVATIONS.
- MATCH EXISTING EXTERIOR PAVEMENT GRADES AND MEET ADJACENT PAVEMENTS FLUSH.
- PREPARE AND FINISH AREAS DISTURBED BY PLAYGROUND INSTALLATION AND BUILDING CONSTRUCTION WITH MULCH OR TOPSOIL AND SOD AS INDICATED. FINISH AND CLEAN PHASE 2 WORK TO SATISFACTION OF ENGINEER AND OPEN FOR PUBLIC USE.
- FINISH, PRESSURE WASH WITH WATER, AND CLEAN PLAYGROUND, SITE STAGING/ STORAGE AREAS AND DISTURBED AREAS TO SATISFACTION OF ENGINEER AND OPEN FOR PUBLIC USE.
- REMOVE OFFSITE CONSTRUCTION STORAGE MATERIALS AND RESTORE THAT SITE TO ORIGINAL CONDITION TO SATISFACTION OF PROPERTY OWNER.

TOLERANCE NOTES

1. IT IS EXPECTED THAT THE PLAYGROUND SITES, RUBBERIZED SURFACING AND EQUIPMENT WILL APPEAR CLEAN AND IN NEW CONDITION WITHOUT CUTS, SCRAPES, SCRATCHES, RUST, STAINS OR VISIBLE DAMAGE OR PATCHED REPAIRS. EQUIPMENT OR MATERIALS THAT DO NOT MEET THESE EXPECTATIONS MUST BE REMOVED AND REPLACED AT NO ADDITIONAL COST TO OWNER.
2. IT IS EXPECTED THAT THE RUBBERIZED SURFACE TOP FINISH LAYER GRANULES WILL BE INSTALLED TO BE SMOOTH, CONSISTENT AND EVENLY DISTRIBUTED WITHOUT SEAMS AND DISCOLORATION, BOTH VISUALLY AND TACTILE.
3. IT IS THE EXPRESS PURPOSE OF ALL WORK UNDER THIS CONTRACT TO BRING THE WORK INTO COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN (ADA). RUBBERIZED SURFACE MUST BE BELOW 2% MAX. SLOPE.
4. IT SHALL BE THE DUTY OF THE CONTRACTOR TO PROMPTLY NOTIFY THE ENGINEER OF ANY CONDITION WHERE IT IS NOT POSSIBLE TO COMPLY WITH THE DESIGN INTENT DUE TO THE FIELD CONDITIONS.
5. ALL WORK THAT FAILS TO COMPLY WITH THE DESIGN INTENT GIVEN IN THE CONTRACT DOCUMENTS SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.

DIMENSIONING NOTES

1. DIMENSIONS INDICATED AS "HOLD" ARE CRITICAL FOR ADA COMPLIANCE AND MAY NOT BE REDUCED OR ENLARGED.
2. DIMENSIONS INDICATED AS "MIN" ARE CRITICAL FOR ADA COMPLIANCE AND MAY NOT BE REDUCED.
3. DIMENSIONS INDICATED AS "MAX" ARE CRITICAL FOR ADA COMPLIANCE MAY NOT BE ENLARGED.
4. ANY DEVIATION FROM ITEMS 1 THROUGH 3 ABOVE MUST BE APPROVED PRIOR TO CONSTRUCTION.

PLAYGROUND GENERAL NOTES

1. LEGENDS PROVIDE STANDARD SYMBOLS AND ARE PERTINENT TO THE CONDITIONS ON THIS SET OF DRAWINGS TO THE EXTENT POSSIBLE. ADDITIONAL LEGENDS FOR SPECIFIC DISCIPLINES INDICATE SPECIFIC CONDITIONS IN ADDITION TO THE SYMBOLS SHOWN ON THIS SHEET.
2. INFORMATION REGARDING EXISTING ELEMENTS IS BASED UPON DRAWINGS FURNISHED TO THE DESIGNER OF RECORD BY THE PARKWAY SCHOOL DISTRICT (OWNER) AND PERCEIVED CONDITIONS DISCOVERED BY FIELD SURVEYS. THIS INFORMATION IS BELIEVED TO BE AN ACCURATE REFLECTION OF EXISTING CONDITIONS BUT DOES NOT GUARANTEE EXACT CONDITIONS. FIELD VERIFY ALL EXISTING CONDITIONS.
3. DEMOLITION SHALL NOT BE LIMITED SOLELY TO THOSE ITEMS INDICATED WITHIN THE DEMOLITION DRAWINGS BUT SHALL ALSO INCLUDE THE REMOVAL OF EXISTING CONSTRUCTION NECESSARY TO EXECUTE THE NEW CONSTRUCTION.
4. SOIL IS TO REMAIN ON SITE TO RAISE GRADE AND BACKFILL AROUND PLAYGROUND CONCRETE PERIMETER CURBS AND BE SPREAD ON-SITE AS DIRECTED. IF SPREADING AROUND PLAYGROUND IS NOT POSSIBLE, IT IS TO BE SPREAD ELSEWHERE ON SCHOOL GROUNDS AS DIRECTED BY OWNER. REMOVE CONSTRUCTION DEBRIS FROM THE SITE AND LEGALLY DISPOSE OF ALL REFUSE, DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM CONSTRUCTION OPERATIONS. DEBRIS SHALL BE REMOVED ON A REGULAR BASIS SO IT DOES NOT INTERFERE WITH THE WORK OR THE NORMAL OPERATIONS OF THE SCHOOL, BECOME A SAFETY HAZARD, OR EXCEED THE STRUCTURAL LOAD CAPABILITIES OF THE SITE. COORDINATE REMOVAL WITH APPLICABLE RESTRICTIONS ON ADJACENT RIGHTS OF WAY.
5. PROTECT THE SCHOOL BUILDING AND SITE PAVEMENTS DURING ALL DEMOLITION AND CONSTRUCTION WORK IN ORDER TO NOT DAMAGE ANY BUILDING OR SITE FACILITIES. REPLACE DAMAGED ITEMS, CURBS AND PAVEMENTS TO MATCH ADJACENT ITEMS QUALITY, MATERIALS, FINISH, COLOR AND PROFILE IN-KIND.
6. WHERE WORK AFFECTS EXISTING-TO-REMAIN ITEMS, PATCH, REPAIR, AND FINISH TO LIKE-NEW CONDITION AS ACCEPTABLE TO THE OWNER. DETERIORATED HISTORIC FEATURES SHALL BE REPAIRED RATHER THAN REPLACED IN ACCORDANCE WITH THE SECRETARY OF THE INTERIOR'S (SOI) STANDARDS FOR REHABILITATION AND COORDINATED WITH THE OWNER.
7. TAKE PRECAUTIONS TO MAINTAIN AND PROTECT CONDITION AND FINISHES OF EXISTING PAVEMENTS, FACILITIES, UTILITIES AND NEW PLAY EQUIPMENT COMPONENTS AND FINISHES. ANY DAMAGES TO THESE ITEMS MUST BE IMMEDIATELY REPAIRED IN A MANNER ACCEPTABLE TO THE OWNER. IF SATISFACTORY REPAIRS CANNOT BE MADE, REPLACE ITEMS WITH LIKE NEW QUALITY CONSTRUCTION ACCEPTABLE TO THE OWNER. COST FOR REPAIRS AND REPLACEMENT ARE THE CONTRACTOR'S RESPONSIBILITY.
8. ALL WORK SHALL BE INSTALLED IN A NEAT AND WORKMAN LIKE MANNER AND IN ACCORDANCE WITH CURRENT ACCEPTABLE INDUSTRY STANDARDS AND ALL APPLICABLE CODES, ORDINANCES AND REGULATIONS.
9. CONFORM TO APPLICABLE CODES FOR SAFETY OF STRUCTURE, DUST CONTROL AND ENVIRONMENTAL COMPLIANCE.
10. DO NOT SCALE DRAWINGS, REFER TO DIMENSIONS ONLY. ALL DIMENSIONS AND CONDITIONS MUST BE FIELD VERIFIED. DISCREPANCIES IN THE DRAWINGS AND SPECIFICATIONS SHALL BE REPORTED TO THE DESIGNER OF RECORD. NO CHANGE IN DRAWINGS OR SPECIFICATIONS IS PERMISSIBLE WITHOUT THE WRITTEN CONSENT OF THE DESIGNER OF RECORD. NO WORK SHALL PROCEED UNTIL ANY DISCREPANCIES HAVE BEEN RESOLVED.
11. ALL WORK MUST BE COORDINATED WITH OWNER PERSONNEL TO NOT INTERFERE WITH NORMAL SCHOOL OPERATIONS.
12. COORDINATE THE WORK OF ALL TRADES.
13. DISCONNECT AND/OR REMOVE EXISTING GATES, CURBS, SIGNS, CONDUITS OR OTHER WORK WHICH MIGHT INTERFERE WITH THE WORK. AFTER NEW WORK IS COMPLETED, THE DISCONNECTED OR REMOVED ITEMS SHALL BE REINSTALLED BY THE CONTRACTOR AT THE SAME LOCATION UNLESS DIRECTED OTHERWISE. FURNISH NEW MATERIALS AND HARDWARE AS REQUIRED FOR COMPLETION OF WORK.
14. PROVIDE ADEQUATE BRACING AND PROTECTION OF EXISTING STRUCTURES AGAINST DAMAGE, BREAKAGE, COLLAPSE, DISTORTIONS AND OFF ALIGNMENTS ACCORDING TO CODES AND STANDARDS OF GOOD PRACTICE.
15. INCLUDE ALL PREPARATORY AND ASSOCIATED SUPPLEMENTARY WORK TO PROVIDE A COMPLETE , CLEAN, AND LIKE-NEW APPEARANCE, FINISHED INSTALLATION.
16. WHERE MANUFACTURER'S NAMES AND PRODUCT NUMBERS ARE INDICATED IN THE DOCUMENTS, IT SHALL BE CONSTRUED TO MEAN THE ESTABLISHMENT OF QUALITY AND PERFORMANCE STANDARDS OF SUCH ITEMS. ALL OTHER PRODUCTS MUST BE SUBMITTED TO THE DESIGNER OF RECORD FOR ACCEPTANCE.
17. KEEP WORK SITE FREE FROM DEBRIS AND ACCUMULATED REFUSE. CONTRACTOR SHALL HAVE SOLE RESPONSIBILITY FOR PROTECTING ALL DANGEROUS AREAS FROM ENTRY BY UNAUTHORIZED PARTIES. SITE SHALL BE LEFT BROOM CLEAN AT THE END OF EACH WORKING DAY.
18. UNLESS OTHERWISE PROVIDED IN THE CONTRACT DOCUMENTS, SECURE AND PAY FOR REQUIRED INSPECTIONS, PERMIT(S), FEES, LICENSE AND INSPECTIONS NECESSARY FOR THE PROPER EXECUTION OF THE WORK.

UTILITY CONTACTS

UTILITY	OWNER	CONTACT NO.
FIBER	CHARTER	(314) 878-5787
FIBER	AT&T	(314) 878-5787
ELECTRIC	AMEREN MISSOURI	(314) 878-5787
WATER	MO-AMERICAN WATER COMPANY	(314) 996-2432
WASTE WATER	METRO ST. LOUIS SEWER DISTRICT	(314) 768-6200
NATURAL GAS	SPIRE	(314) 658-5417
OWNER	PARKWAY SCHOOL DISTRICT	(314) 415-8100

PLAYGROUND GENERAL NOTES (CONTINUED)

19. VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES WITHIN THE SCOPE OF WORK BEFORE COMMENCING WORK.
    - 19.1. CALL MISSOURI 811 A MINIMUM OF 48 HOURS PRIOR TO COMMENCING ANY WORK.
    - 19.2. ENSURE CONFORMANCE WITH UTILITY COMPANIES' STANDARDS AND SPECIFICATIONS ON ANY WORK TO UTILITY COMPONENTS.
    - 19.3. MAKE NECESSARY ADJUSTMENTS TO ENSURE THE PROPER CONNECTIONS OF NEW SERVICES.
    - 19.4. RESET ALL UTILITY VALVE COVERS AND CASTINGS TO MATCH SURROUNDING FINISH GRADE.
    - 19.5. VERIFY SAG ELEVATIONS FOR OVERHEAD LINES AND CONFIRM MINIMUM CLEARANCE REQUIREMENTS ARE MAINTAINED. CLEARANCE SHALL BE BASED ON THE REQUIREMENTS OF OSHA 1926.550. VERIFY EQUIPMENT AND USAGE CLEARANCE REQUIREMENTS PRIOR TO START OF WORK.
20. PUBLIC ACCESS TO THE SCHOOL, THE PARKING LOT, AND BETWEEN THE ACCESSIBLE PARKING SHALL REMAIN OPEN AT ALL TIMES, BUT MAY BE TEMPORARILY LIMITED AS NOTED IN THE PHASING PLAN.
21. AREAS OUTSIDE OF CONSTRUCTION LIMITS THAT ARE DISTURBED BY CONSTRUCTION ACTIVITIES MUST BE RESTORED TO ORIGINAL OR BETTER CONDITION, AT NO ADDITIONAL COST TO THE OWNER. MINIMUM RESTORATION OF DISTURBED AREAS SHALL CONSIST OF REPLACEMENT OF CURB AND GUTTER, FULL-DEPTH PATCHING OF ASPHALT EDGES, AND INCORPORATE 4-INCHES OF NEW TOPSOIL AND SOD NON-PAVED AREAS.
22. REMOVE EXISTING CONCRETE PAVEMENT TO NEAREST JOINT WHERE PARTIAL REPLACEMENT IS INDICATED. SAW CUTS OF PAVEMENT SHALL BE FULL DEPTH WITH A STRAIGHT UNIFORM EDGE, ESPECIALLY ADJACENT TO EXISTING CONSTRUCTION WHICH IS TO REMAIN. ALIGN ALL PAVEMENT EDGES TO MEET FLUSH.
23. ALL UTILITY VALVE COVERS AND CASTINGS TO REMAIN ARE TO BE RESET TO FINAL PAVEMENT GRADE. VALVE COVERS OR CASTINGS TO REMAIN THAT ARE DAMAGED BY CONSTRUCTION SHALL BE REPLACED AT NO ADDITIONAL COST.
24. EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMP'S) ARE INDICATED ON PLANS TO BE USED TO REDUCE THE AMOUNT OF SEDIMENT AND OTHER POLLUTANTS IN STORM WATER DISCHARGES ASSOCIATED WITH LAND DISTURBANCE ACTIVITIES. AT A MINIMUM INSTALL INLET PROTECTION ON ALL DOWNSTREAM INLETS WITHIN WORK AREA AND INSTALL SEDIMENT CONTROL BARRIERS SUCH AS HAY BALES, ROCK BACK HAY BALES AND SILT FENCE AS NECESSARY TO MINIMIZE OFF-SITE TRANSPORT OF SEDIMENT. PREVENT SEDIMENT, DIRT, DEBRIS ETC, FROM BEING TRACKED OR ALLOWED TO LEAVE THE SITE. SWEEP OR VACUUM UP DIRT THAT IS TRACKED OFF SITE DAILY. ON-SITE STOCKPILES SHALL BE SECURED WITH PERIMETER SILT FENCE AND COVERED WITH PLASTIC SHEETING, ANCHORED IN PLACE DURING PERIODS OF WIND AND PRECIPITATION.
25. ALL EXCAVATED SOIL SHALL REMAIN ON SITE. EXCESS EXCAVATED SOIL SHALL BE DISTRIBUTED EVENLY ON DISTURBED AREAS TO THE EXTENT POSSIBLE, AND SHALL NOT IMPEDE POSITIVE FLOW OF SITE DRAINAGE.
26. REVISE, RELOCATE AND REINSTALL BMP'S WHENEVER THE FOLLOWING OCCURS: DESIGN OR OPERATIONS OF BMP'S ARE CHANGED; THE DESIGN OF THE PROJECT IS CHANGED; BMP'S ARE INEFFECTIVE; VISUAL EVIDENCE OF EROSION OR SEDIMENTATION IS OCCURRING; THE OWNER DETERMINES THAT VIOLATIONS OF WATER QUALITY STANDARDS MAY OCCUR OR HAVE OCCURRED. THE CONTRACTOR SHALL AT ALL TIMES MAINTAIN ALL POLLUTION CONTROL MEASURES AND SYSTEMS IN GOOD ORDER. THE CONTRACTOR SHALL INSPECT ALL DISTURBED AREAS, ONCE PER WEEK MINIMUM, AND WITHIN 24 HOURS FOLLOWING HEAVY RAINFALL TO CONFIRM ALL BMP'S AND EROSION CONTROL MEASURES ARE PROPERLY INSTALLED AND OPERATING.
27. INSTALL TEMPORARY CONSTRUCTION SIGNAGE, FENCES AND FACILITIES AS REQUIRED BY THE SPECIFICATIONS AND LOCAL JURISDICTIONAL REQUIREMENTS.
28. ALL WORK, CONSTRUCTION LAY DOWN AND STORAGE AREAS, AND CONSTRUCTION ACCESS/EGRESS LOCATIONS ARE CONFINED TO THE AREA(S) DEFINED BY THE OWNER. PRIOR TO ANY CONSTRUCTION ACTIVITIES, OBTAIN PERMISSION AND AUTHORIZATION TO ENTER, CONSTRUCT, AND/OR OCCUPY PORTIONS OF THE SCHOOL PROPERTY WITHIN OR OUTSIDE THE DEFINED WORK AREAS AS SHOWN ON THE PLANS.

CODE SUMMARY

CITY OF MANCHESTER:

NO CHANGE TO SCHOOL BUILDING USE, OCCUPANCY OR EGRESS

24MSD-00130 BASEMAP 220

ISSUE FOR BID

LAST EDITED: 9/16/2024 11:05 AM
FILE PATH: T:\0902493.001 Parkway Playgrounds\SHEETS\Piermont Elementary\C1.01 - PLAYGROUND GENERAL NOTES - PM.dwg

WARNING: THESE DRAWINGS ARE THE PROPERTY OF THE PRIME CONSULTANT NOTED BELOW. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTS COPYRIGHT. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTS/ENGINEERS WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PARKWAY

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206 4444 Fax: +1 314 421 7741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869
Missouri Landscape Architecture Corporation: #001444

REV	DESCRIPTION	DATE
1	ADDENDUM #1	11/15/2024
2	ADDENDUM #3	11/18/2024
3	ADDENDUM #4	11/18/2024
4	ADDENDUM #5	12/10/2024

PARKWAY SCHOOL DISTRICT

PIERREMONT ELEMENTARY PLAYGROUND IMPROVEMENTS

1215 DAUPHINE LANE
MANCHESTER, MO 63011

STATE OF MISSOURI



PROFESSIONAL SEAL

DESIGNED BY:	PMJ
DRAWN BY:	PMJ
CHECKED BY:	TMT
DATE:	OCTOBER, 2024
SCALE:	

FULL SCALE SHEET SIZED ARCH-D (24"x 36")

SHEET NAME
PLAYGROUND GENERAL NOTES

CLIENT PROJECT NUMBER: 1023018
WSP PROJECT NUMBER: 30902493.006

SHEET NUMBER **C1.01**

MSD STANDARD NOTES

CC-900 SANITARY PIPE

- PVC GRAVITY SANITARY SEWER PIPE SIZES 4" THROUGH 15" SHALL BE AWWA C-900, CLASS 15 WITH DR18. PIPE TO BE LAID IN 20' LENGTHS WITH JOINTS WRAPPED 3 TIMES WITH FILTER FABRIC. EXTEND FILTER FABRIC 3' EACH SIDE OF THE JOINT. ALL FITTINGS FOR PVC PIPE SHALL BE OF THE SAME MATERIAL AND STRENGTH REQUIREMENTS AS THE SEWER PIPE.

COMPACTED FILL REQUIREMENTS

- A REGISTERED PROFESSIONAL GEOTECHNICAL ENGINEER WILL VERIFY THAT ALL COMPRESSIBLE MATERIAL HAS BEEN REMOVED PRIOR TO FILL PLACEMENT AND THAT ALL FILL, AND FILLED AREAS, INCLUDING TRENCH BACKFILLS, UNDER BUILDINGS AND UNDER SANITARY AND STORM SEWER LINES CONSTRUCTED ABOVE THE ORIGINAL GROUND SURFACE, HAS BEEN COMPACTED TO 90% MODIFIED PROCTOR. FILL IS TO BE PLACED IN A MAXIMUM OF NINE-INCH (9") LIFTS. TESTS SHALL BE TAKEN AT A MAXIMUM OF FIFTY-FEET (50') WIDE INTERVALS ALONG THE ROUTE OF THE PIPE, AT A MAXIMUM INTERVAL, OF TWO FEET (2'), VERTICALLY AND LATERALLY ON EACH SIDE OF THE PIPE, AT A DISTANCE EQUAL TO THE DEPTH OF FILL OVER THE PIPE. A COPY OF THESE RESULTS WILL BE SUBMITTED TO MSD PRIOR TO PLACEMENT OF THE SEWER PIPE.

DETAIL DRAWINGS

- THE DETAIL DRAWINGS SHOWN HERE ARE ONLY FOR PRIVATE CONSTRUCTION THAT IS NOT UNDER MSD PERMITS. REFER TO MSD SPECIFICATIONS AND STANDARD DETAILS FOR PUBLIC SEWER CONSTRUCTION OR PRIVATE CONSTRUCTION UNDER MSD PERMITS.

EXISTING CONNECTIONS

- EXISTING WATER AND SANITARY CONNECTIONS WILL NOT BE MODIFIED WITH THIS WORK.

LIMITS OF DISTURBANCE

- THE CONTRACTOR SHALL STAY WITHIN THE LIMITS OF DISTURBANCE AS SHOWN ON THE PLANS AND MINIMIZE DISTURBANCE WITHIN THE WORK AREA WHEREVER POSSIBLE.

PIPE JOINTS WITH ADAPTERS AND COUPLINGS NOTE

- PIPE JOINTS WITH ADAPTERS AND COUPLINGS SHALL BE SUPPLIED AND INSTALLED WITH 316 STAINLESS STEEL NUT AND BOLT CLAMPS (T-BOLT) CONFIGURATION; AND WITH STAINLESS STEEL SHEAR BANDS, BEING A MINIMUM OF TWELVE (12) MILS (MSD STD. CONST. SPECS. PT. 2, SUBSECTION H_11). WORM DRIVE HOSE CLAMPS AND CONCRETE BACKFILLING (CAUSTICITY) WILL NO LONGER BE ALLOWED AT THOSE JOINTS. GRANULAR BACKFILL SHOULD BE USED. IF FLOWABLE FILL IS REQUIRED, THE CONTRACTOR SHALL WRAP AND TAPE THE ADAPTERS AND COUPLINGS WITH A SIX (6) MIL POLYETHYLENE SHEET.

PUBLIC SEWER MAINTENANCE

- MAINTENANCE OF THE SEWERS DESIGNATED "PUBLIC" SHALL BE THE RESPONSIBILITY OF THE METROPOLITAN ST. LOUIS SEWER DISTRICT UPON DEDICATION OF THE SEWERS TO THE DISTRICT.
- THE REMOVAL AND REPLACEMENT, OR REHABILITATION OF THE EXISTING STRUCTURE WILL BE DETERMINED BY THE MSD FIELD INSPECTOR. IF THE STRUCTURE IS DETERMINED TO REMAIN IN PLACE, THEN THE TOP SHALL BE ADJUSTED TO GRADE, IF NEEDED.

SHOP DRAWINGS

- THE PROJECT ENGINEER SHALL PROVIDE SHOP DRAWINGS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN MISSOURI FOR APPROVAL TO MSD PRIOR TO CONSTRUCTION OF THESE STRUCTURES. STRUCTURES SHALL BE DESIGNED TO SUSTAIN HS-20 LOADS. PLEASE CONTACT THE DISTRICT'S CONSTRUCTION MANAGEMENT DIVISION AT (314) 335-2072 FOR QUESTIONS.

STANDARD CONSTRUCTION

- ALL STORM AND SANITARY SEWER STRUCTURES AND APPURTENANCES TO BE DEDICATED TO MSD, OR TO BE PRIVATE UNDER MSD INSPECTION, SHALL CONFORM TO THE METROPOLITAN ST. LOUIS SEWER DISTRICT, STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES, 2009. THAT WILL INCLUDE STANDARD DETAILS SHOWN THEREIN, AND SHALL INCLUDE ALL SUBSEQUENT CHANGES MADE THERETO.
- HIGH DENSITY POLYETHYLENE (HDPE) PIPE IS NOT ALLOWED FOR GRAVITY SEWERS FOR STORM, COMBINED, OR SANITARY SEWERS THAT ARE "PUBLIC" OR "PRIVATE UNDER MSD INSPECTION".
- CORRUGATED POLYPROPYLENE (PP) PIPE IS ALLOWED AS FOLLOWS FOR GRAVITY SEWERS THAT ARE "PUBLIC" OR "PRIVATE UNDER MSD INSPECTION:

  - FOR USE IN SANITARY AND COMBINED SEWERS 12 TO 60 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2764 "STANDARD SPECIFICATION FOR 6 TO 60 IN. POLYPROPYLENE (PP) CORRUGATED DOUBLE AND TRIPLE WALL PIPE AND FITTINGS FOR NON- PRESSURE SANITARY SEWER APPLICATIONS." PIPE SHALL HAVE A MINIMUM STIFFNESS OF 46 PSI WHEN TESTED IN ACCORDANCE WITH ASTM D2412.
  - FOR USE IN STORM SEWERS 12 TO 30 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2881 "STANDARD SPECIFICATION FOR 12 TO 60 IN. POLYPROPYLENE (PP) DUAL WALL PIPE AND FITTINGS FOR NON-PRESSURE STORM SEWER APPLICATIONS;" OR ASTM F2764 "STANDARD SPECIFICATION FOR 6 TO 60 IN. POLYPROPYLENE (PP) CORRUGATED DOUBLE AND TRIPLE WALL PIPE AND FITTINGS FOR NON-PRESSURE SANITARY SEWER APPLICATIONS," OR FOR USE IN STORM SEWERS 36 TO 60 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2764 "STANDARD SPECIFICATION FOR 6 TO 60 IN. POLYPROPYLENE (PP) CORRUGATED DOUBLE AND TRIPLE WALL PIPE AND FITTINGS FOR NON-PRESSURE SANITARY SEWER APPLICATIONS." PIPE SHALL HAVE A MINIMUM STIFFNESS OF 46 PSI WHEN TESTED IN ACCORDANCE WITH ASTM D2412.

- PIPE FOR GRAVITY SEWER INSTALLATIONS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321 WITH THE EXCEPTION THAT INITIAL BACKFILL SHALL BE A MINIMUM OF 6 INCHES ABOVE THE TOP OF PIPE AS SHOWN IN THE STANDARD DETAILS OF SEWER CONSTRUCTION. CONSOLIDATION BY WATER (JETTING OR PUDDLING) SHALL NOT BE USED. CONSOLIDATION SHALL BE IN ACCORDANCE WITH MSD STANDARD CONSTRUCTION SPECIFICATIONS FOR TRENCH BACKFILL. PRICE FOR COMPACTED BACKFILL SHALL BE INCLUDED IN PIPE UNIT COST.
- A REPRESENTATIVE FROM THE PIPE MANUFACTURER SHALL VISIT THE SITE WITHIN THE FIRST 100 FEET OF PIPE INSTALLATION. COORDINATION OF THIS SITE VISIT SHALL BE ARRANGED BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE THE MSD INSPECTOR AT LEAST 24 HOURS' NOTICE OF THE PLANNED DATE AND TIME OF THE MANUFACTURER'S SITE VISIT.

- FOLLOWING THE SITE VISIT, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE A LETTER FROM THE PIPING MANUFACTURER SUMMARIZING THEIR OBSERVATIONS. AT A MINIMUM, THE LETTER SHALL:
  - INDICATE THE DATE THE INITIAL SECTION OF PIPE WAS INSTALLED; AND
  - VERIFY THAT THE INSTALLATION OCCURRED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED PROCEDURES.
  - TRENCH WIDTH SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION RECOMMENDATIONS. DISTRICT STANDARD PAYLINE WIDTHS BASED ON THE NOMINAL INSIDE PIPE DIAMETER SHALL APPLY

STORMWATER MANAGEMENT FUTURE DISTURBANCE NOTE:

PROJECT DISTURBANCE = 0.22 ACRES
PREVIOUS DISTURBANCE = 0.83 ACRES
TOTAL DISTURBANCE = 1.05 ACRES

PROJECT RUNOFF DIFFERENTIAL = 0.26 CFS

ANY FUTURE LAND DISTURBANCE AND/OR INCREASE IN IMPERVIOUS AREA ON THIS SITE MAY REQUIRE ADDITIONAL STORMWATER MANEGEMENT PER MSD REGULATIONS IN PLACE AT THAT TIME (INCLUDING TOTAL LAND DISTURBANCE AND/OR IMPERVIOUSNESS ADDED ON THIS PLAN).

LAST EDITED: M/2/2024 2:49 PM
FILE PATH: T:\30902493.001 Parkway Playgrounds\SHEETS\Pierremont Elementary\C1.02 - MSD STANDARD NOTES - PM.dwg

24MSD-00130 BASEMAP 220

WARNING: THESE DRAWINGS THE PROPERTY OF THE WSP CONSULTANT NOTED HEREWITH. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTS ENGINEERS WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF ANY ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THE SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011689
Missouri Landscape Architecture Corporation: #001444

REV	DESCRIPTION	DATE
1	ADDENDUM #1	11/15/2024
2	ADDENDUM #3	11/18/2024
3	ADDENDUM #4	11/18/2024
4	ADDENDUM #5	12/10/2024

PARKWAY SCHOOL DISTRICT

PIERREMONT ELEMENTARY PLAYGROUND IMPROVEMENTS

1215 DAUPHINE LANE
MANCHESTER, MO 63011

STATE OF MISSOURI



PROFESSIONAL SEAL

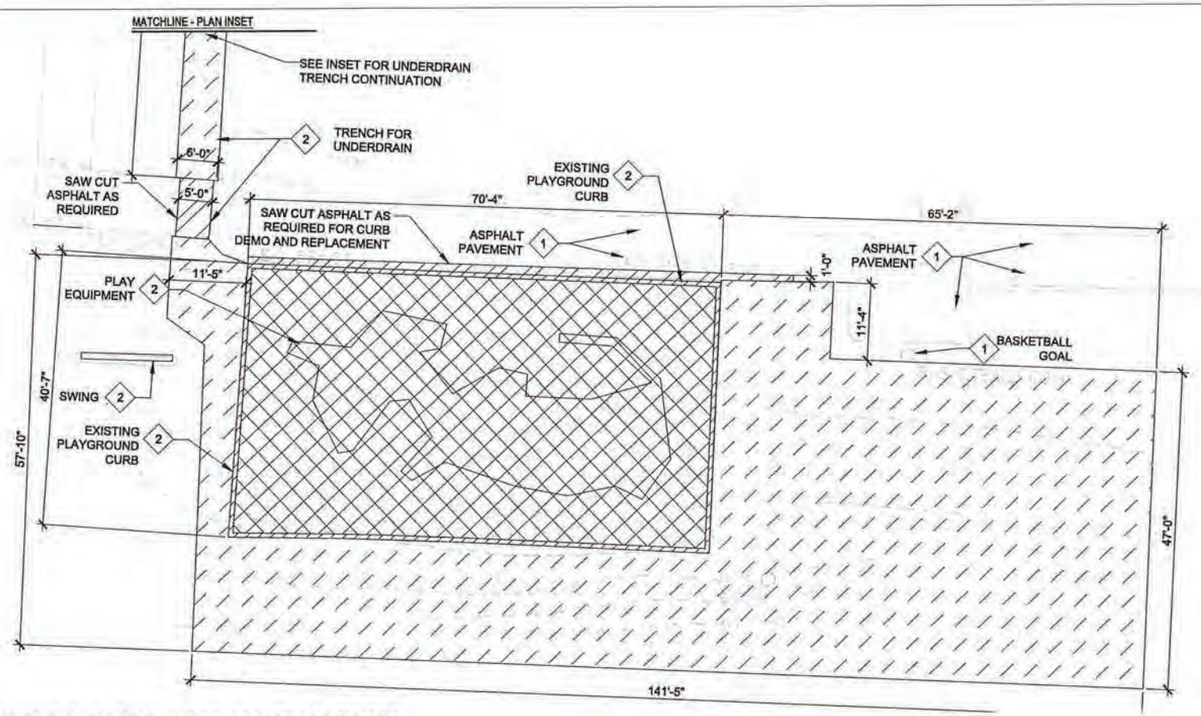
DESIGNED BY:	PMJ
DRAWN BY:	PMJ
CHECKED BY:	TMT
DATE:	OCTOBER, 2024
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

ISSUE FOR BID

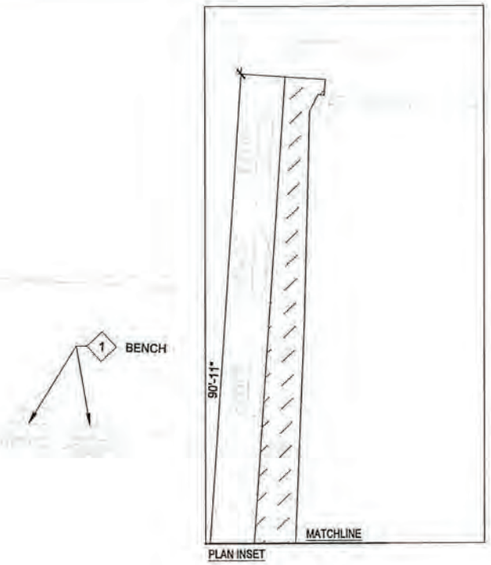
SHEET NAME
MSD STANDARD NOTES

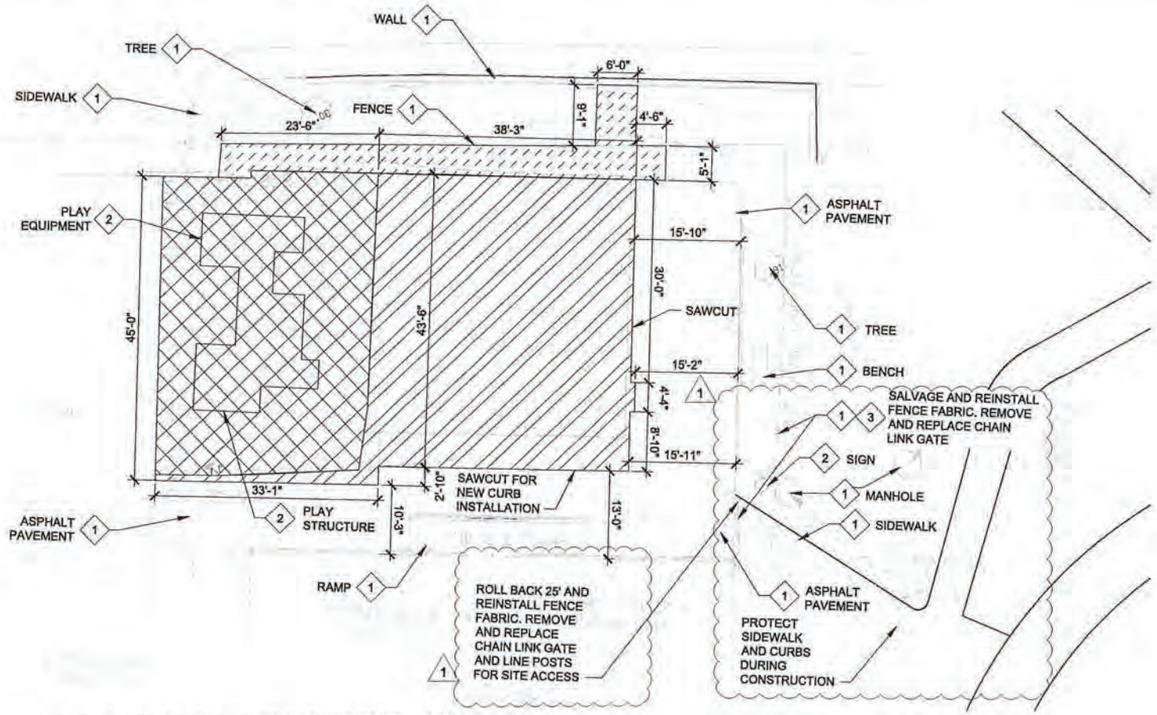
CLIENT PROJECT NUMBER: 1023018
WSP PROJECT NUMBER: 30902493.006
SHEET NUMBER **C1.02**



1 PLAYGROUND 'A' - DEMOLITION PLAN

SCALE: 1"=10'





2 PLAYGROUND 'B' - DEMOLITION PLAN

SCALE: 1"=10'

KEYED NOTES

1. EXISTING TO REMAIN. PROTECT IN PLACE.
2. REMOVE AND BACKFILL EXCAVATION WITH COMPACTED ENGINEERED FILL TO FINISH GRADE.
3. SALVAGE AND REINSTALL.

SHEET NOTES

A. PROTECT OWNER UTILITIES AND FACILITIES DURING THE WORK.
B. COORDINATE WORK ASSOCIATED WITH EXISTING UTILITIES WITH THE OWNER PRIOR TO BEGINNING WORK.
C. COORDINATE WORK WITH PHASING PLAN AND CIVIL SITE DEMOLITION PLANS.
D. THE BUILDING AND ALL SITE FEATURES TO REMAIN MUST BE PROTECTED FROM ANY DEMOLITION WORK WITH THE POTENTIAL FOR DAMAGE.
E. ANY DAMAGE TO THE BUILDING OR SITE CAUSED BY SITE DEMOLITION MUST BE REPAIRED AND REPLACED IN-KIND WITH NO ADDITIONAL COST TO THE OWNER. ANY REPAIRS MUST BE DONE TO THE SATISFACTION OF THE OWNER.

LEGEND

- REMOVE WOOD FIBER MULCH DOWN TO SOIL SUBGRADE.
- SAWCUT AND REMOVE ASPHALT PAVEMENT AND BASE AS REQUIRED FOR INSTALLATION OF NEW WORK
- REMOVE EXISTING VEGETATION AND DEBRIS OVER AREA TO BE EXCAVATED AND IMPACTED BY CONSTRUCTION
- REMOVE CONCRETE CURB

N

10' 0' 10' 20'
SCALE: 1" = 10'

23MSD-00130 BASEMAP 22Q

LAST EDITED: 12/12/2024 9:24 AM
FILE PATH: T:\30902493.001 Parkway Playgrounds\SHEETS\Piermont Elementary\C2.01 - PLAYGROUND DEMOLITION PLAN - PM.dwg

WARNING: THESE DRAWINGS ARE THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITH. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTS/ENGINEERS WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER ANY ITEM IN ANY WAYS. IF ANY ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PARKWAY SCHOOLS

WSP USA
Suite 2600
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206 4444 Fax: +1 314 421-7741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869
Missouri Landscape Architecture Corporation: #001444

REV	DESCRIPTION	DATE
1	ADDENDUM #1	11/15/2024
2	ADDENDUM #3	11/18/2024
3	ADDENDUM #4	11/18/2024
4	ADDENDUM #5	12/10/2024

PARKWAY SCHOOL DISTRICT

PIERREMONT ELEMENTARY PLAYGROUND IMPROVEMENTS

1215 DAUPHINE LANE
MANCHESTER, MO 63011

ISSUE FOR BID

STATE OF MISSOURI

TODD M. TEUSCHER
NUMBER LA-2003039928
LANDSCAPE ARCHITECT
12/12/24

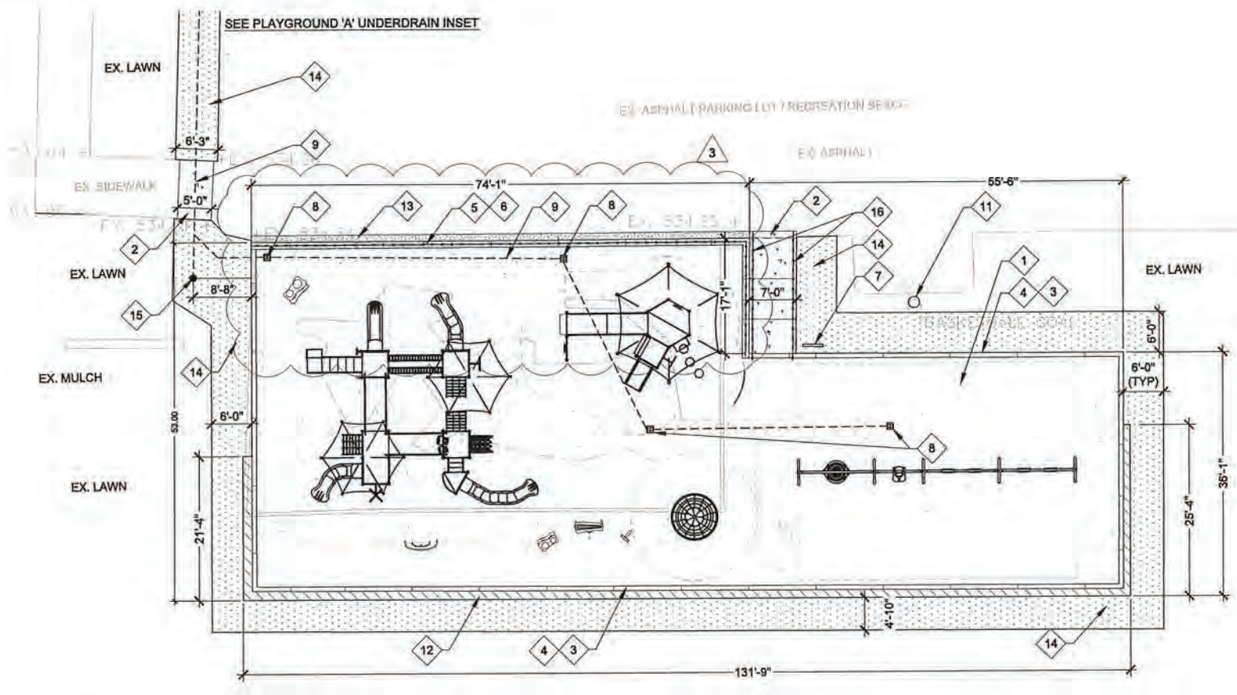
PROFESSIONAL SEAL

DESIGNED BY:	PMJ
DRAWN BY:	PMJ
CHECKED BY:	TMT
DATE:	OCTOBER, 2024
SCALE:	

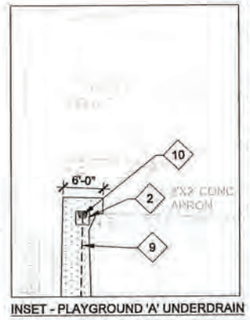
FULL SCALE SHEET SIZE= ANSI D (24"x 36")

SHEET NAME
DEMOLITION PLAN

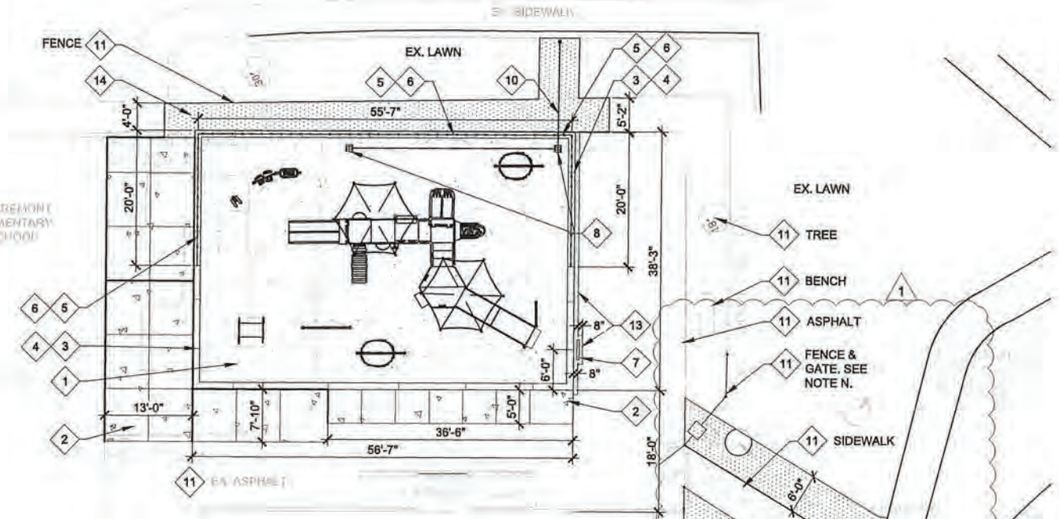
CLIENT PROJECT NUMBER: 102301B
WSP PROJECT NUMBER: 30902493.006
SHEET NUMBER **C2.01**

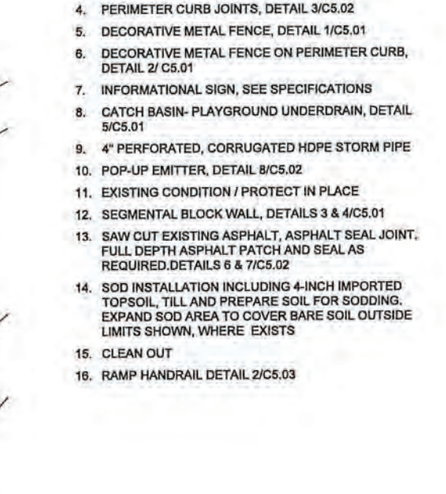


1 PLAYGROUND 'A' - LAYOUT PLAN
SCALE: 1"=10'



INSET - PLAYGROUND 'A' UNDERDRAIN





2 PLAYGROUND 'B' - LAYOUT PLAN
SCALE: 1"=10'

KEYED NOTES

1. RUBBERIZED PLAY SURFACE, DETAIL 1/C5.02
   PLAYGROUND A: 5,934 SF
   PLAYGROUND B: 2,112 SF
2. CONCRETE SIDEWALK, DETAIL 4 & 5/C5.02
3. PERIMETER CURB, DETAIL 2/C5.02
4. PERIMETER CURB JOINTS, DETAIL 3/C5.02
5. DECORATIVE METAL FENCE, DETAIL 1/C5.01
6. DECORATIVE METAL FENCE ON PERIMETER CURB, DETAIL 2/ C5.01
7. INFORMATIONAL SIGN, SEE SPECIFICATIONS
8. CATCH BASIN- PLAYGROUND UNDERDRAIN, DETAIL 5/C5.01
9. 4" PERFORATED, CORRUGATED HDPE STORM PIPE
10. POP-UP EMITTER, DETAIL 8/C5.02
11. EXISTING CONDITION / PROTECT IN PLACE
12. SEGMENTAL BLOCK WALL, DETAILS 3 & 4/C5.01
13. SAW CUT EXISTING ASPHALT, ASPHALT SEAL JOINT. FULL DEPTH ASPHALT PATCH AND SEAL AS REQUIRED.DETAILS 6 & 7/C5.02
14. SOD INSTALLATION INCLUDING 4-INCH IMPORTED TOPSOIL, TILL AND PREPARE SOIL FOR SODDING. EXPAND SOD AREA TO COVER BARE SOIL OUTSIDE LIMITS SHOWN, WHERE EXISTS
15. CLEAN OUT
16. RAMP HANDRAIL DETAIL 2/C5.03

SHEET NOTES

A. SEE C1.01 AND C1.02 FOR EXISTING AND PROPOSED DRAWING SYMBOLS.
B. DIGITAL EXISTING CONDITIONS SURVEY WITH BENCHMARK INFORMATION AND CONCEPTUAL BASE PLAN WILL BE PROVIDED FOR CONSTRUCTION LAYOUT.
C. PROTECT THE SCHOOL BUILDING, EXISTING CURBS, PAVEMENTS, FENCING AND OTHER EXISTING SITE ELEMENTS FROM ANY POTENTIAL DAMAGE.
D. DAMAGED ITEMS MUST BE REPAIRED AND REPLACED IN-KIND WITH NO ADDITIONAL COST TO THE OWNER. ANY REPAIRS MUST BE COMPLETED TO THE SATISFACTION OF THE OWNER.
E. CONTRACTOR MUST SUBMIT SHOP DRAWINGS OF THEIR PROPOSED PLAY EQUIPMENT AND RUBBERIZED SURFACE AREAS FOR EACH SCHOOL PLAYGROUND TO SCHOOL DISTRICT FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. PLAY EQUIPMENT AND LAYOUT SHOWN IS CONCEPTUAL TO IDENTIFY THE DESIRED TYPES AND QUANTITIES OF EQUIPMENT AND HOW THAT EQUIPMENT MAY FIT ON THE TARGETED 2000 SF AGE 2-5 PLAYGROUNDS AND 6000 SF AGE 5-12 PLAYGROUNDS. ALL PLAYGROUND EQUIPMENT MUST BE APPROVED BY THE SCHOOL DISTRICT.
F. ALL SHOP DRAWINGS MUST BE REVIEWED AND STAMPED BY A CERTIFIED PLAYGROUND SAFETY INSPECTOR (CPSI) AND ALL EQUIPMENT MUST BE CERTIFIED BY THE INTERNATIONAL PLAYGROUND EQUIPMENT MANUFACTURERS ASSOCIATION (IPEMA).
G. SELECTED PLAYGROUND EQUIPMENT MUST BE AGE APPROPRIATE FOR EACH AGE 2-5 PLAYGROUND AND AGE 5-12 PLAYGROUND. MAXIMUM ALLOWABLE FALL HEIGHT FOR PLAYGROUND EQUIPMENT IS 6 FEET.
H. PLAYGROUND EQUIPMENT SHOWN IS GENERIC BUT INDICATES THE TYPE OF PLAY EQUIPMENT DESIRED. YOUR PROPOSED EQUIPMENT AND LAYOUT MAY DIFFER IN ORDER TO FIT WITHIN THE SPACE OR YOUR SPACE MAY EXPAND TO FIT YOUR EQUIPMENT.
I. PLATFORMS/DECKS THAT RECEIVE ACCESSIBLE RAMPS MUST BE ADA ACCESSIBLE WITH A 60-INCH TURNAROUND SPACE.
J. FOR INCLINED CLIMBER, PROVIDE A MINIMUM OF TWO (2) DIFFERENT STYLES.
K. FOR ACTIVITY PANELS, PROVIDE A DIFFERENT STYLE AT FOR ALL INDICATED LOCATIONS.
I. PRIMARY COLOR COMBINATION IS BLUE AND YELLOW. SUBMIT SHOP DRAWINGS FOR PLAY EQUIPMENT THAT INCLUDES SITE PLAN WITH EQUIPMENT PROPOSED AND 3D PERSPECTIVE RENDERINGS FROM 2 OR MORE VIEWS SHOWING EXACT EQUIPMENT AND COLOR COMBINATION FOR REVIEW AND APPROVAL PRIOR TO INITIATING PURCHASE OR FABRICATION OF THE PLAY EQUIPMENT.
M. RUBBERIZED PLAY SURFACING MUST APPEAR AS SMOOTH, CONSISTENT AND NEW. THE SURFACING MUST BE CONSISTENT IN APPEARANCE, SMOOTHNESS, SURFACE MATERIAL DISTRIBUTION, BASE AND SURFACE CONSOLIDATION AND FIRMNESS. THE SURFACE MUST CONTAIN MINIMAL VISIBLE TROWEL MARKS, JOINTS OR SEAMS. THE SURFACE MUST BE FINISHED AT A 2% SLOPE OR LESS. SURFACE CUTTING AND PATCHING IS NOT ACCEPTABLE. THE SURFACE MUST BE ACCEPTABLE TO THE PARKWAY SCHOOL DISTRICT. UNACCEPTABLE SURFACING MUST BE REMOVED AND REPLACED AT NO ADDITIONAL COST TO THE PARKWAY SCHOOL DISTRICT.

1 N. REMOVE FENCE POSTS AND RAIL SECTIONS AND ROLL BACK EXISTING FENCE FABRIC TO ACCOMMODATE CONSTRUCTION ACCESS TO PLAYGROUND 'B'. PROTECT EXISTING SIDEWALK, CURBS AND ASPHALT TO REMAIN. REPLACE CHAIN LINK GATE AND FENCE POSTS REMOVED. ROLL BACK AND FASTEN FENCE FABRIC TO NEW POSTS AND RAIL. REMOVE ALL SHARP METAL BURRS AND CLOSE ALL SELVAGES ALONG ROLLED BACK FENCE AND NEW POSTS AND GATE.



24MSD-00130 BASEMAP 22Q

PARKWAY SCHOOLS

WSP USA
Suite 2600
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011885
Missouri Landscape Architecture Corporation: #001444

REV	DESCRIPTION	DATE
1	ADDENDUM #1	11/15/2024
2	ADDENDUM #3	11/18/2024
3	ADDENDUM #4	11/18/2024
4	ADDENDUM #5	12/10/2024

PARKWAY SCHOOL DISTRICT
PIERREMONT ELEMENTARY PLAYGROUND IMPROVEMENTS
1215 DAUPHINE LANE
MANCHESTER, MO 63011

STATE OF MISSOURI
TODD M. TEUSCHER NUMBER LA-2003338428 LANDSCAPE ARCHITECT
12/12/24

PROFESSIONAL SEAL

DESIGNED BY:	PMJ
DRAWN BY:	PMJ
CHECKED BY:	TMT
DATE:	OCTOBER, 2024
SCALE:	

FULL SCALE SHEET SIZE= ANSI D (24"x 36")

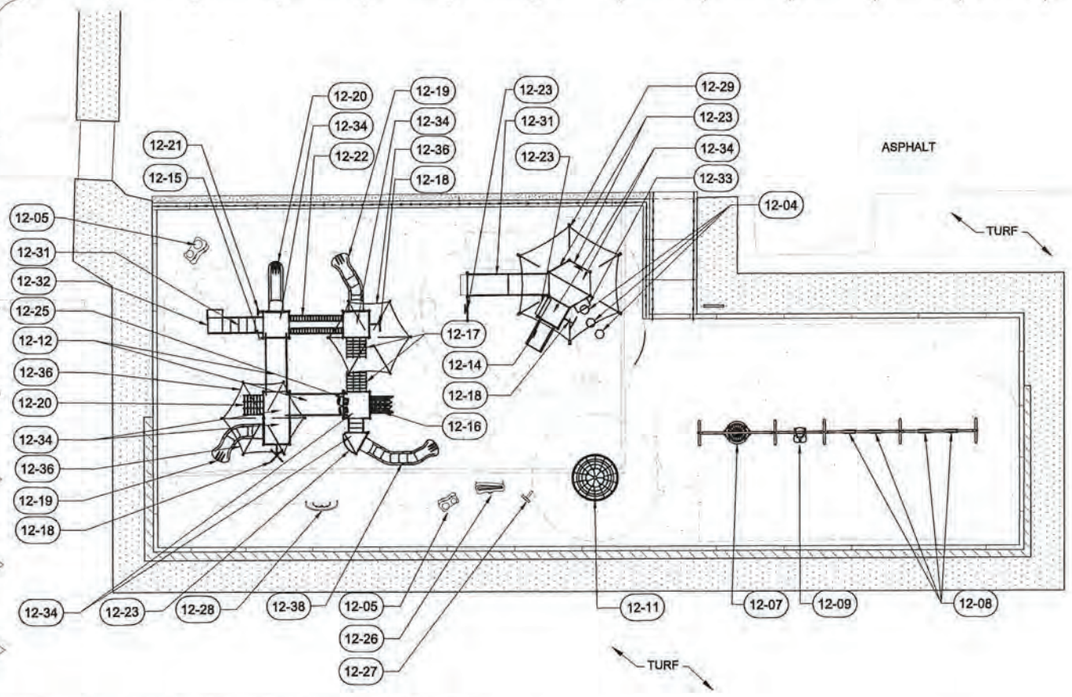
ISSUE FOR BID

SHEET NAME
PLAYGROUND SITE PLAN

CLIENT PROJECT NUMBER: 102361B
WSP PROJECT NUMBER: 30002493.005
SHEET NUMBER **C3.01**

LAST EDITED: 12/12/2024 2:10 PM
FILE PATH: T:\30002493.001 Parkway Playgrounds\SHEETS\Pierremont Elementary\C3.01 - PLAYGROUND SITE PLAN - PMJ.dwg

WARNING: THESE DRAWINGS ARE THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITH. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THE FINISH ITEM THE SEAL AND THE NOTATION ALTERED BY FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

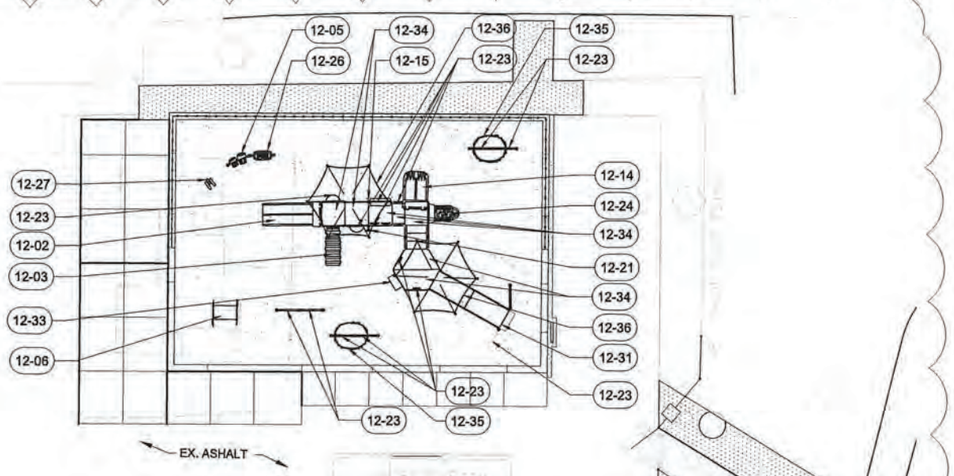


1 PLAYGROUND 'A' - EQUIPMENT PLAN

SCALE: 1"=10'

PLAYGROUND 'A' EQUIPMENT SCHEDULE	
CODE	DESCRIPTION
12 Furnishings	
12-04	POD STEP
12-05	DOUBLE DRUMS
12-07	INCLUSIVE SEAT SWING
12-08	STANDARD SWING
12-09	SAUCER SWING
12-11	CENTER POST PYRAMIDAL ROPE CLIMBER
12-12	ACCESSIBLE BRIDGE
12-14	WIDE SLIDE
12-15	BELL
12-16	SLIDE
12-17	COATED CHAIN NET CLIMBER
12-18	VERTICAL CLIMBER
12-19	TWISTED SLIDE
12-20	FLEXIBLE SUSPENDED CLIMBER
12-21	WHEEL ON POST
12-22	ARCH BRIDGE
12-23	ACTIVITY PANEL
12-25	BELOW DECK ACTIVITY PANEL
12-26	XYLOPHONE
12-27	RAIN WHEEL
12-28	LARGE CHIMES
12-29	17' SHADE UMBRELLA
12-31	ACCESSIBLE RAMP
12-32	ACCESSIBLE TRANSFER PLATFORM
12-33	DECK STEP
12-34	PLATFORM
12-36	12' SHADE UMBRELLA
12-38	TALL SLIDE

4



2 PLAYGROUND 'B' - EQUIPMENT PLAN

SCALE: 1"=10'

PLAYGROUND B EQUIPMENT SCHEDULE	
CODE	DESCRIPTION
12 Furnishings	
12-02	PARALLEL DOUBLE SLIDE
12-03	INCLINED CLIMBER
12-05	DOUBLE DRUMS
12-06	CRAWL TUNNEL
12-14	WIDE SLIDE
12-15	BELL
12-21	WHEEL ON POST
12-23	ACTIVITY PANEL
12-24	CLIMBING WALL
12-26	XYLOPHONE
12-27	RAIN WHEEL
12-31	ACCESSIBLE RAMP
12-33	DECK STEP
12-34	PLATFORM
12-35	POST TOPPER
12-36	12' SHADE UMBRELLA

4

N

10' 0' 10' 20'

SCALE: 1" = 10'

23MSD-00130 BASEMAP 22Q

REMARKS: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITH. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION ALTERED BY FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 12/12/2024 2:24 PM
FILE PATH: T:\30902493.001 Parkway Playgrounds\SHEETS\Pierremont Elementary\C3.02 - PLAY EQUIPMENT PLAN - PM.dwg

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 423-7741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2006011869
Missouri Landscape Architecture Corporation: #001444

REV	DESCRIPTION	DATE
1	ADDENDUM #1	11/15/2024
2	ADDENDUM #3	11/18/2024
3	ADDENDUM #4	11/18/2024
4	ADDENDUM #5	12/10/2024

PARKWAY SCHOOL DISTRICT

PIERREMONT ELEMENTARY PLAYGROUND IMPROVEMENTS

1215 DAUPHINE LANE
MANCHESTER, MO 63011

ISSUE FOR BID

STATE OF MISSOURI

TODD M. TEUSCHER
NUMBER LA-2003039828
LANDSCAPE ARCHITECT
12/12/24

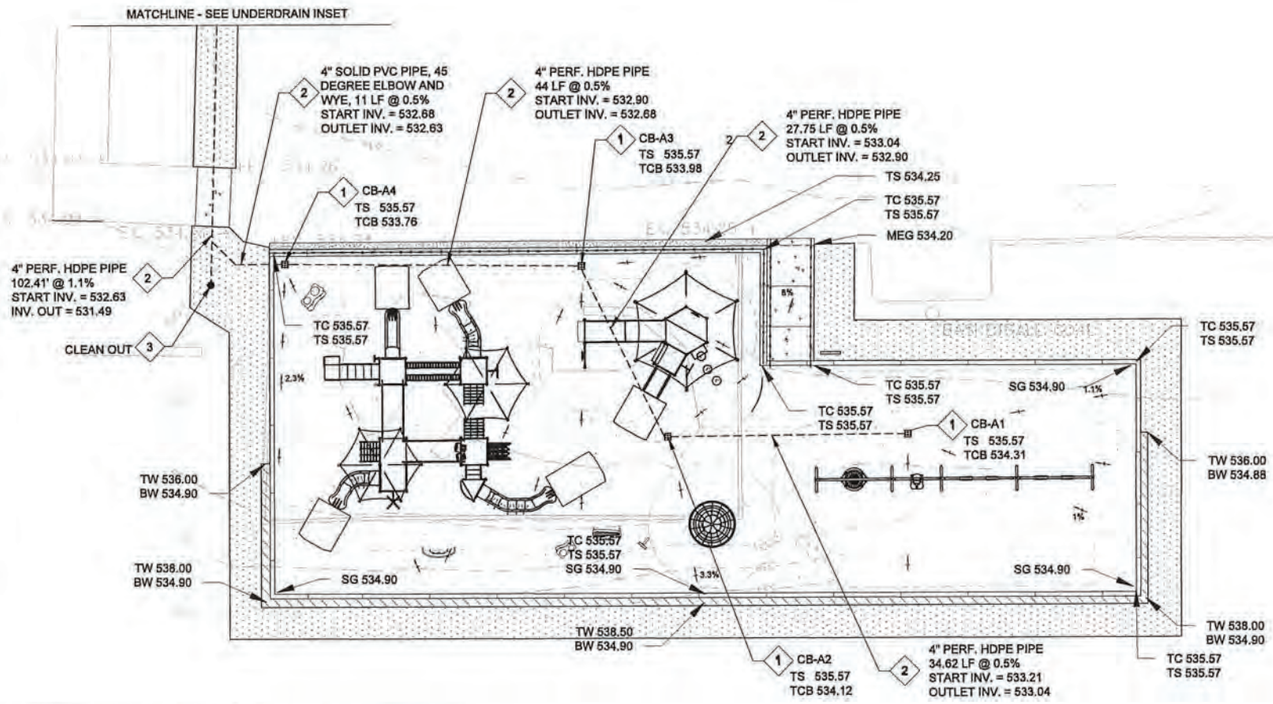
PROFESSIONAL SEAL

DESIGNED BY:	PMJ
DRAWN BY:	PMJ
CHECKED BY:	TMT
DATE:	OCTOBER, 2024
SCALE:	

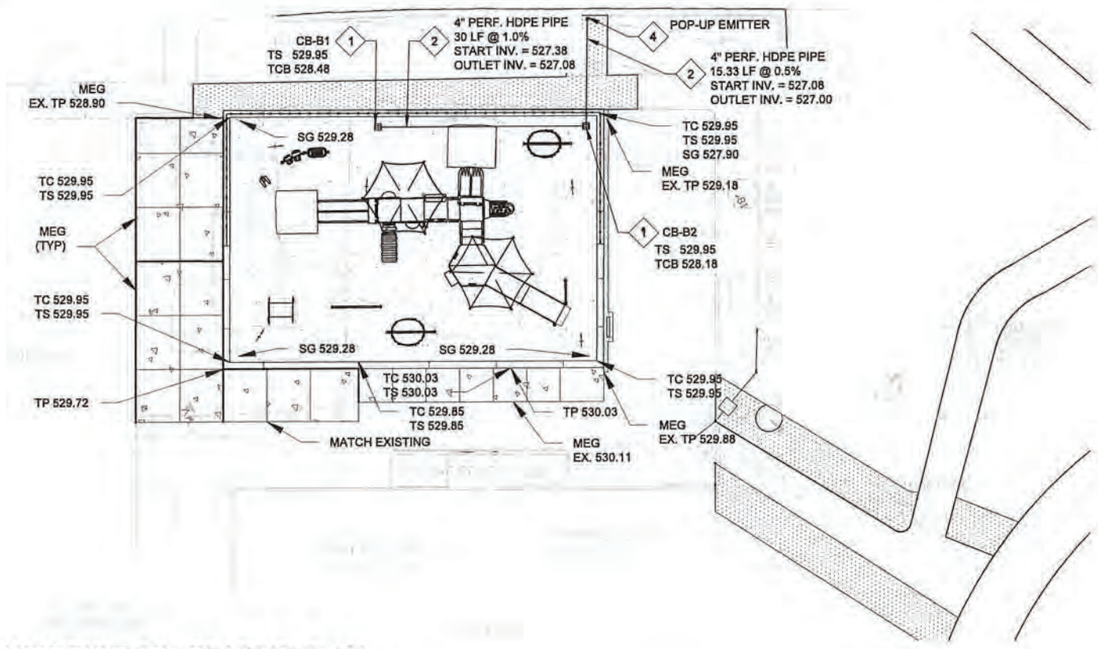
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

SHEET NAME
PLAYGROUND EQUIPMENT PLAN

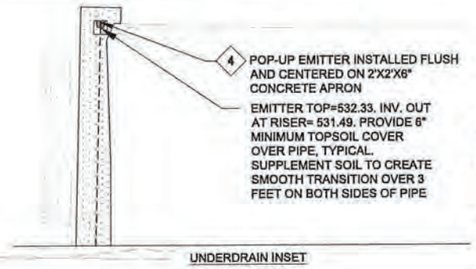
CLIENT PROJECT NUMBER: 1023018
WSP PROJECT NUMBER: 30902493.006
SHEET NUMBER **C3.02**



1 PLAYGROUND 'A' - GRADING PLAN
SCALE: 1"=10'



2 PLAYGROUND 'B' - GRADING PLAN
SCALE: 1"=10'



UNDERDRAIN INSET

KEY NOTES

1. CATCH BASIN, BELOW RUBBERIZED SURFACE SECTION, DETAIL 5/C5.01
2. 4" PERFORATED, CORRUGATED HDPE STORM PIPE IN FILTER SOCK AND 12"X12" MIN. STONE TRENCH
3. CLEAN-OUT, DETAIL 9/C5.02
4. POP-UP EMITTER, DETAIL 8/C5.02

LEGEND

BC	BOTTOM OF CURB
C.O.	CLEANOUT
EG	EXISTING GRADE
TC	TOP OF CURB
TG	TOP OF GRATE
TP	TOP OF PAVEMENT
TS	TOP OF SURFACE
MEG	MATCH EXISTING GRADE
TW	TOP OF WALL
BW	BOTTOM OF WALL
0.8% →	SLOPE ARROW
	SUBGRADE SLOPE DIRECTION ARROW UNDER RUBBERIZED SURFACE

SHEET NOTES

A. MAXIMUM SLOPE IN ANY DIRECTION SHALL NOT EXCEED 2.00%.

B. SIDEWALKS SHALL NOT EXCEED 1:25 (4%) LONGITUDINAL SLOPE AND 1:60 (1.67%) CROSS SLOPE.

C. PROTECT THE OWNER FACILITIES DURING THE WORK INCLUDING BUT NOT LIMITED TO PAVEMENTS, UTILITIES AND STRUCTURES.

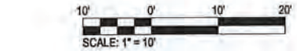
D. SLOPES IN LANDING AREAS SHALL NOT EXCEED 1.67% IN ANY DIRECTION.

E. BACKFILL AND COMPACT EXCAVATIONS WITH EXCAVATED SOIL AND IMPORTED TOPSOIL TO MEET DESIGN FINISH GRADES.

F. BACKFILL AROUND ALL PERIMETER CURBS AND SIDEWALKS AND FILL ALL DEPRESSIONS WITH EXCAVATED SOIL. SUPPLEMENT WITH IMPORTED TOPSOIL TO FILL DEPRESSIONS TO CREATE POSITIVE DRAINAGE FLOW, TO CREATE SMOOTH FLOWING SURFACES THAT DO NOT CREATE LOW AREAS THAT COULD POND WATER.

G. SOD OVER ALL EXPOSED SOIL AREAS THAT WERE DISTURBED BY CONSTRUCTION UNLESS NOTED OTHERWISE. RAISE GRADE AROUND PLAYGROUNDS, OVER UNDERDRAIN TRENCHES AND AROUND OUTLETS WITH IMPORTED SUPPLEMENTAL TOPSOIL AND SOD OVER EXPOSED SOIL AREAS.





24MSD-00130 BASEMAP 22Q

PARKWAY SCHOOLS

WSP USA
Suite 2600
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-7741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008001868
Missouri Landscape Architecture Corporation: #001444

REV	DESCRIPTION	DATE
1	ADDENDUM #1	11/15/2024
2	ADDENDUM #3	11/18/2024
3	ADDENDUM #4	11/18/2024
4	ADDENDUM #5	12/10/2024

PARKWAY SCHOOL DISTRICT
PIERREMONT ELEMENTARY PLAYGROUND IMPROVEMENTS
1215 DAUPHINE LANE
MANCHESTER, MO 63011

STATE OF MISSOURI
TODD M. TEUSCHER
NUMBER LA-2003039828
LANDSCAPE ARCHITECT
12/12/24

PROFESSIONAL SEAL

DESIGNED BY:	PMJ
DRAWN BY:	PMJ
CHECKED BY:	TMT
DATE:	OCTOBER, 2024
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

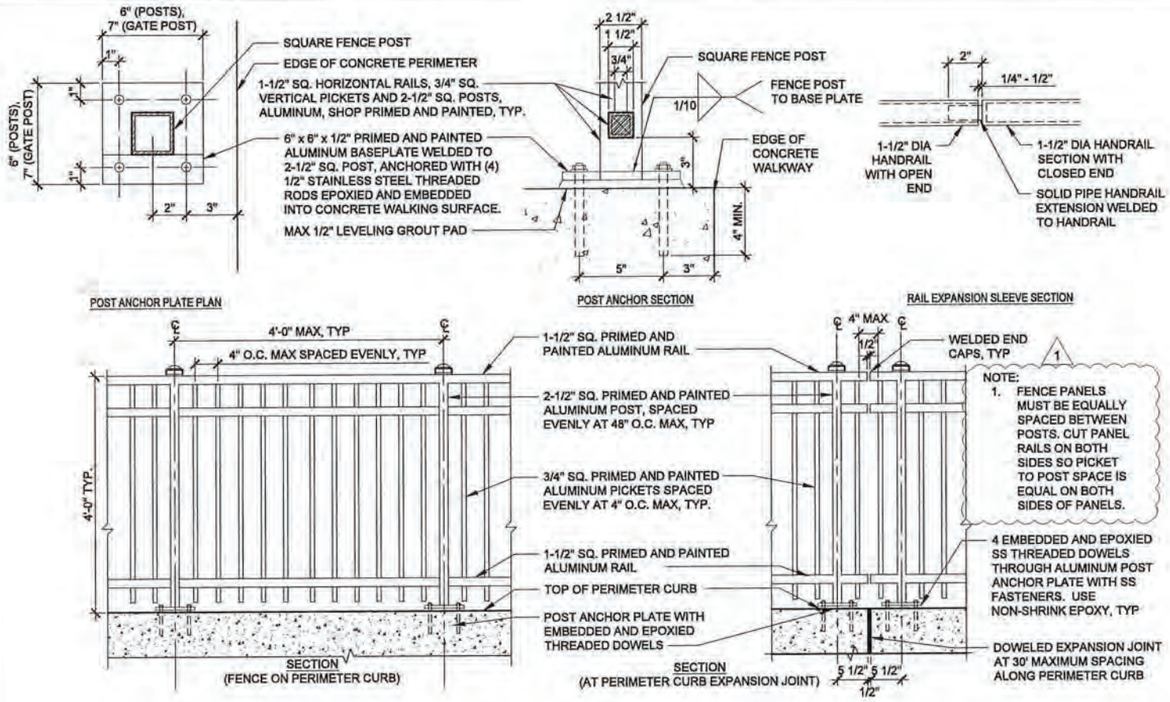
SHEET NAME
PLAYGROUND GRADING PLAN

CLIENT PROJECT NUMBER: 102301B
WSP PROJECT NUMBER: 30902493.000
SHEET NUMBER **C4.01**

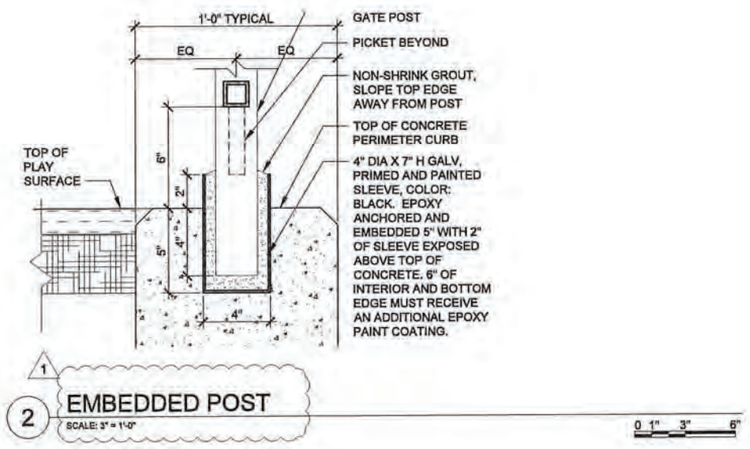
ISSUE FOR BID

LAST EDITED: 12/12/2024 10:44 AM
FILE PATH: T:\30902493.001 Parkway Playgrounds\SHEETS\Pierremont Elementary\C4.01 - PLAYGROUND GRADING PLAN - PM.dwg

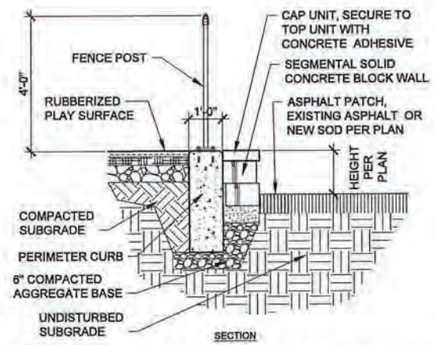
WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITH. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTS ENGINEERS WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



1 DECORATIVE METAL FENCE
SCALE: 1" = 1'-0"

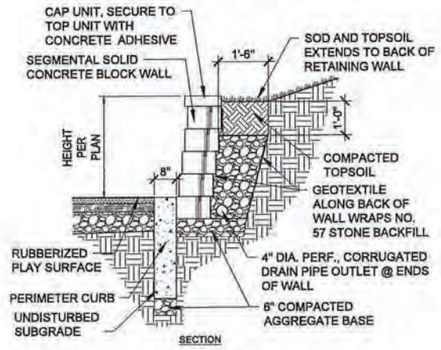


2 EMBEDDED POST
SCALE: 3" = 1'-0"



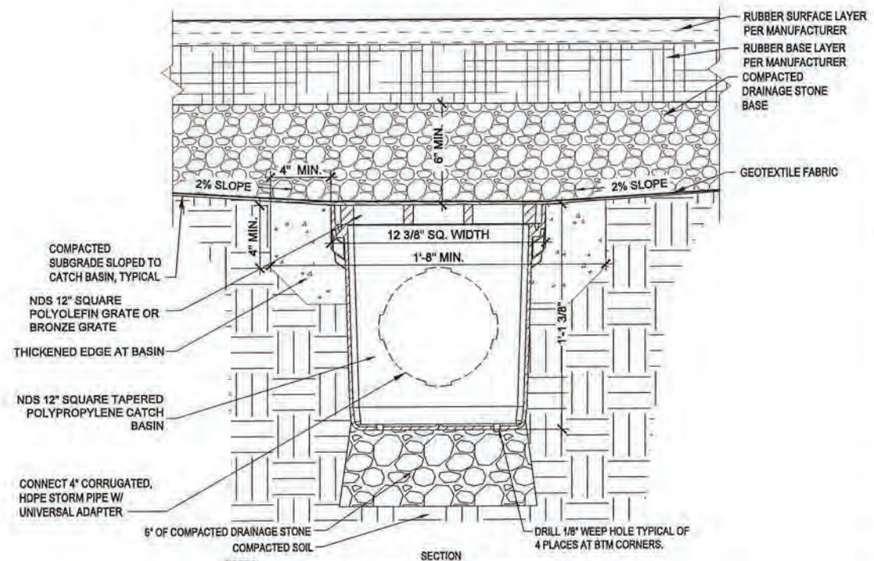
NOTES
1. INSTALL SEGMENTAL RETAINING WALL LEVEL ON COMPACTED LEVELING BASE. GLUE WALL CAPS TO TOP BLOCK ROW, TYPICAL.
2. BASIS OF DESIGN PRODUCT: SOLID VERSA-LOK SQUARE FOOT UNIT (18"w X 8"h X 12"d) SEGMENTAL RETAINING WALL (SRW) UNITS AND SYSTEM OR ACCEPTED EQUAL PRODUCT WITH THE SALIENT CHARACTERISTICS NOTED AND PROVIDED IN THE DOCUMENTS.
3. INSTALL SRW UNITS AND GEOGRID PER MANUFACTURER RECOMMENDATIONS. BLOCK GAPS SHOWN ARE FOR GRAPHIC CLARITY ONLY.
4. ALL SRW UNITS SHALL BE INSTALLED TO PROPER ELEVATION AND ORIENTATION AS SHOWN ON THE PLANS.

3 SEGMENTAL RETAINING WALL (FILL)
SCALE: 1/2" = 1'-0"



NOTES
1. PROVIDE SEALED SEGMENTAL RETAINING WALL SHOP DRAWINGS AND DETAILS SEALED BY A STRUCTURAL ENGINEER LICENSED TO PRACTICE IN MISSOURI FOR ENGINEER REVIEW AND APPROVAL PRIOR TO INITIATING PURCHASE OF SEGMENTAL WALL SYSTEM COMPONENTS.
2. BASIS OF DESIGN PRODUCT: VERSA-LOK SQUARE FOOT UNIT (18"w X 8"h X 12"d) SEGMENTAL RETAINING WALL (SRW) UNITS AND SYSTEM OR ACCEPTED EQUAL PRODUCT TO THE SALIENT CHARACTERISTICS NOTED AND PROVIDED IN THE DOCUMENTS.
3. INSTALL SRW UNITS AND GEOGRID PER MANUFACTURER RECOMMENDATIONS. BLOCK GAPS SHOWN ARE FOR GRAPHIC CLARITY ONLY.
4. ALL SRW UNITS SHALL BE INSTALLED TO PROPER ELEVATION AND ORIENTATION AS SHOWN ON THE PLANS.

4 SEGMENTAL RETAINING WALL (CUT)
SCALE: 1/2" = 1'-0"



NOTES:
1. GRATE TO BE ATTACHED TO CATCH BASIN WITH SCREW PROVIDED AT TIME OF INSTALLATION.
2. BRONZE GRATE TO BE USED IN PEDESTRIAN TRAFFIC APPLICATION ONLY.
3. DO NOT USE OVER 5 RISERS WITH CATCH BASIN.
4. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

5 CATCH BASIN - PLAYGROUND UNDERDRAIN
SCALE: 3" = 1'-0"

PARKWAY SCHOOLS
WSP USA Design, Inc.
WSP USA Suite 2800 211 North Broadway St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-7741 wsp.com
Missouri State Certificate of Authority: #2008011869
Missouri Landscape Architecture Corporation: #001444

REV	DESCRIPTION	DATE
1	ADDENDUM #1	11/15/2024
2	ADDENDUM #3	11/18/2024
3	ADDENDUM #4	11/18/2024
4	ADDENDUM #5	12/10/2024

PARKWAY SCHOOL DISTRICT
PIERREMONT ELEMENTARY PLAYGROUND IMPROVEMENTS
1215 DAUPHINE LANE
MANCHESTER, MO 63011

STATE OF MISSOURI
TODD M. TEUSCHER NUMBER LA-2003030828 LANDSCAPE ARCHITECT
12/12/24

PROFESSIONAL SEAL

DESIGNED BY:	PMJ
DRAWN BY:	PMJ
CHECKED BY:	TMT
DATE:	OCTOBER, 2024
SCALE:	AS SHOWN

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

SHEET NAME
PLAYGROUND DETAILS

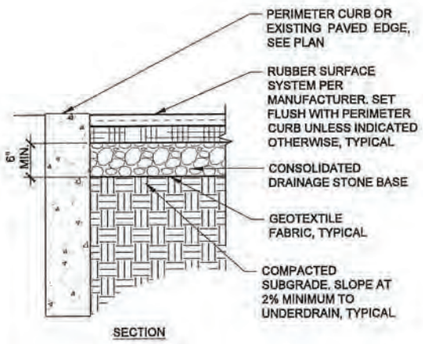
ISSUE FOR BID

CLIENT PROJECT NUMBER: 102301B
WSP PROJECT NUMBER: 30902493.006
SHEET NUMBER **C5.01**

LAST EDITED: 12/12/2024 10:40 AM
FILE PATH: 1:\30902493.001 Parkway Playgrounds\SHEETS\Pierremont Elementary\C5.01-C5.02 PLAYGROUND DETAILS-PMJ.dwg

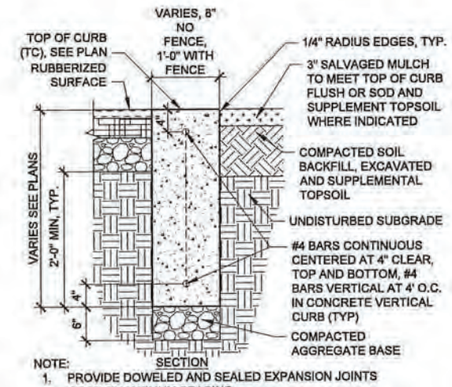
24MSD-00130 BASEMAP 22Q

WARNING: THESE DRAWINGS ARE THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITH. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT'S/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSING ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



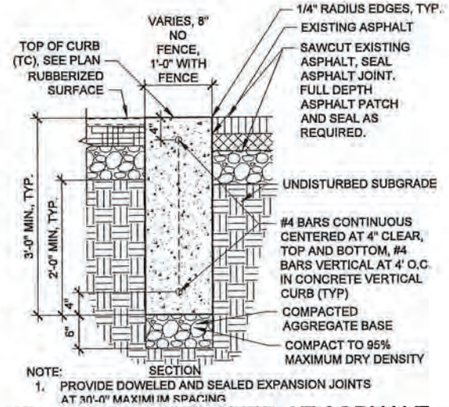
1 RUBBERIZED PLAY SURFACE

SCALE: 1" = 1'-0"



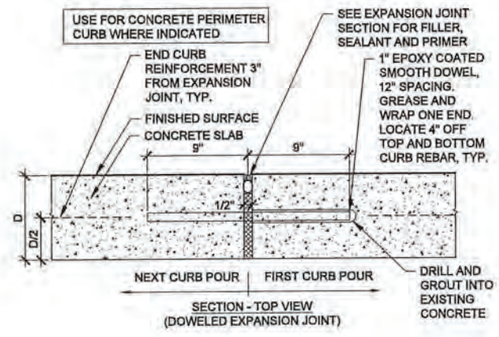
2A PERIMETER CURB

SCALE: 1" = 1'-0"



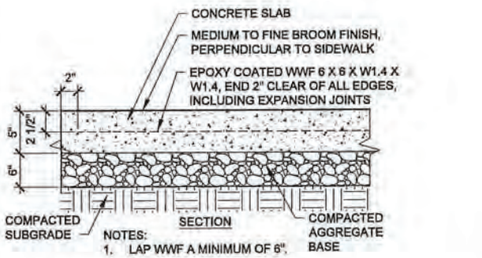
2B PERIMETER CURB AT ASPHALT

SCALE: 1" = 1'-0"



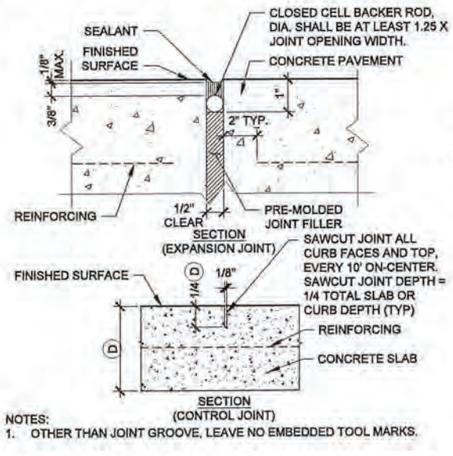
3 PERIMETER CURB JOINTS

SCALE: 3" = 1'-0"



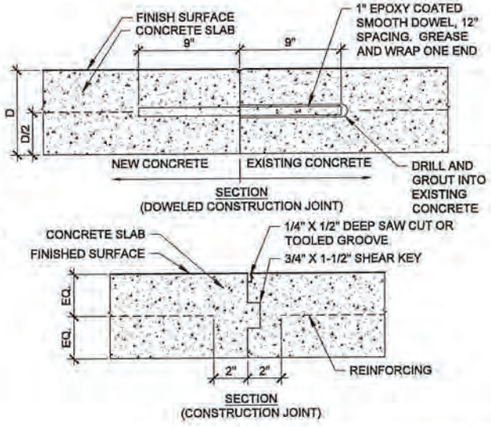
4 CONCRETE PAVEMENT

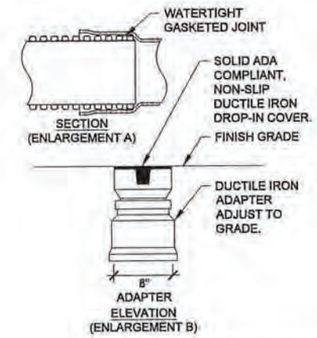
SCALE: 1-1/2" = 1'-0"

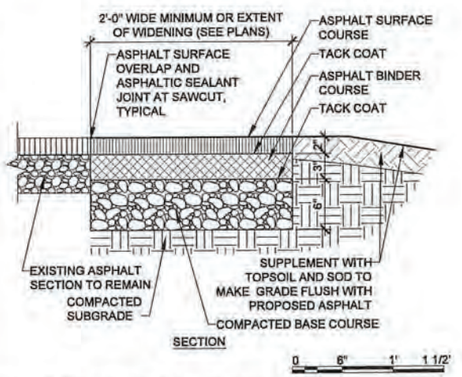


5 CONCRETE JOINTS

SCALE: 3" = 1'-0"

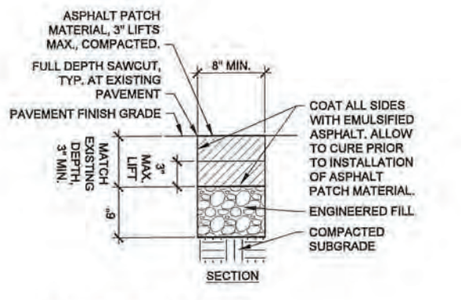






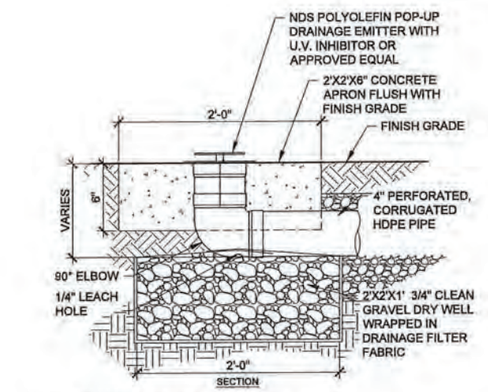
6 ASPHALT PAVEMENT

SCALE: 1-1/2" = 1'-0"



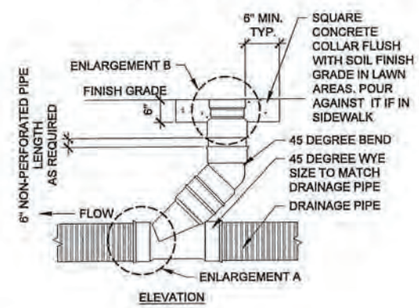
7 ASPHALT PATCH

SCALE: 1-1/2" = 1'-0"



8 POP-UP EMITTER

SCALE: 1/2" = 1'-0"



9 CLEAN-OUT

SCALE: 1/2" = 1'-0"

WARNING: THESE DRAWINGS ARE THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITH. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT'S/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER ANYTHING IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO SUCH ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 11/15/2024 2:11 AM
FILE PATH: T:\0060\2693.001 Parkway Playgrounds\SHEETS\Pierremont Elementary\C5.01-C5.02 PLAYGROUND DETAILS-PM.dwg

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-7741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011659
Missouri Landscape Architecture Corporation: #001444

REV	DESCRIPTION	DATE
1	ADDENDUM #1	11/15/2024
2	ADDENDUM #3	11/18/2024
3	ADDENDUM #4	11/18/2024
4	ADDENDUM #5	12/10/2024

PARKWAY SCHOOL DISTRICT

PIERREMONT ELEMENTARY PLAYGROUND IMPROVEMENTS

1215 DAUPHINE LANE
MANCHESTER, MO 63011

ISSUE FOR BID

STATE OF MISSOURI



PROFESSIONAL SEAL

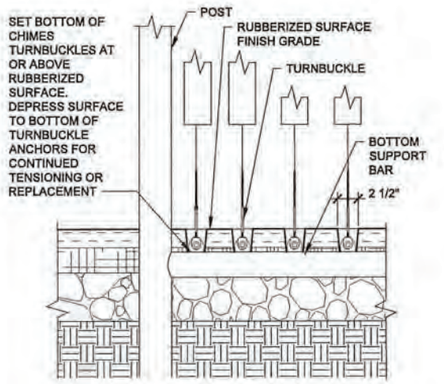
DESIGNED BY:	PMJ
DRAWN BY:	PMJ
CHECKED BY:	TMT
DATE:	OCTOBER, 2024
SCALE:	AS SHOWN

FULL SCALE SHEET SIZED: ARCH D (24"x 36")

SHEET NAME:
PLAYGROUND DETAILS

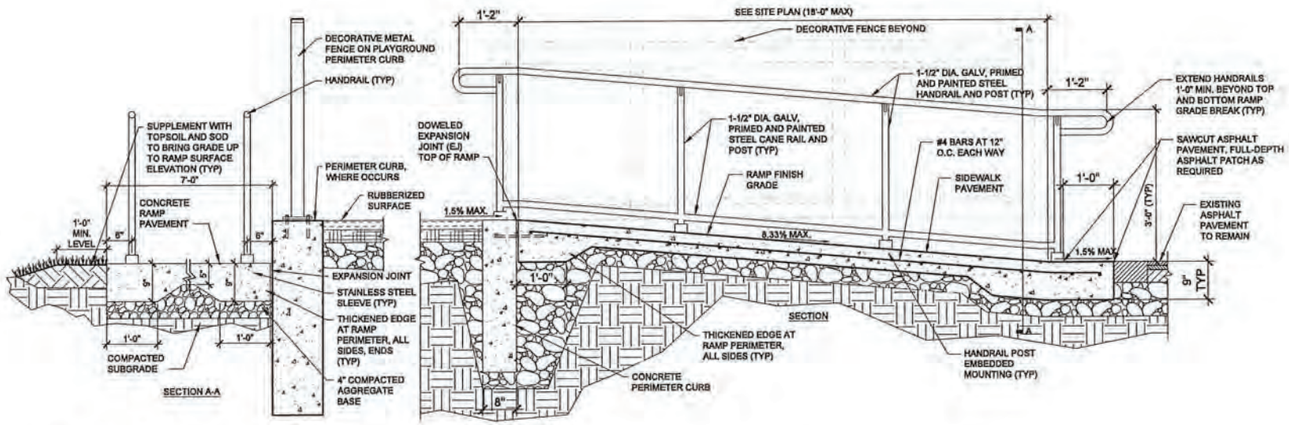
CLIENT PROJECT NUMBER: 102301B
WSP PROJECT NUMBER: 35902493.006
SHEET NUMBER: **C5.02**

24MSD-00130 BASEMAP '22Q



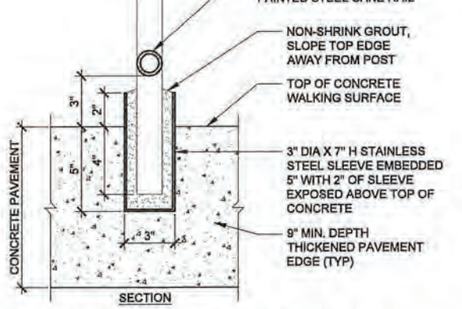
1 CHIMES ANCHOR DETAIL

SCALE: 1 1/2" = 1'-0"



2 RAMP HANDRAIL DETAIL

SCALE: 3/4" = 1'-0"



3 HANDRAIL POST MOUNTING

SCALE: 3" = 1'-0"

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel.: +1 314 206-4444 Fax: +1 314-421-7741 wsp.com

WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011659
Missouri Landscape Architecture Corporation: #001444

REV	DESCRIPTION	DATE
1	ADDENDUM #1	11/15/2024
2	ADDENDUM #3	11/18/2024
3	ADDENDUM #4	11/18/2024
4	ADDENDUM #5	12/10/2024

PARKWAY SCHOOL DISTRICT

PIERREMONT ELEMENTARY PLAYGROUND IMPROVEMENTS

1215 DAUPHINE LANE
MANCHESTER, MO 63011

STATE OF MISSOURI



PROFESSIONAL SEAL

DESIGNED BY:	PMJ
DRAWN BY:	PMJ
CHECKED BY:	TMT
DATE:	OCTOBER, 2024
SCALE:	AS SHOWN

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

SHEET NAME

PLAYGROUND DETAILS

CLIENT PROJECT NUMBER:	102301B
WSP PROJECT NUMBER:	30902493.006
SHEET NUMBER	C5.03

ISSUE FOR BID

24MSD-00130 BASEMAP 22Q

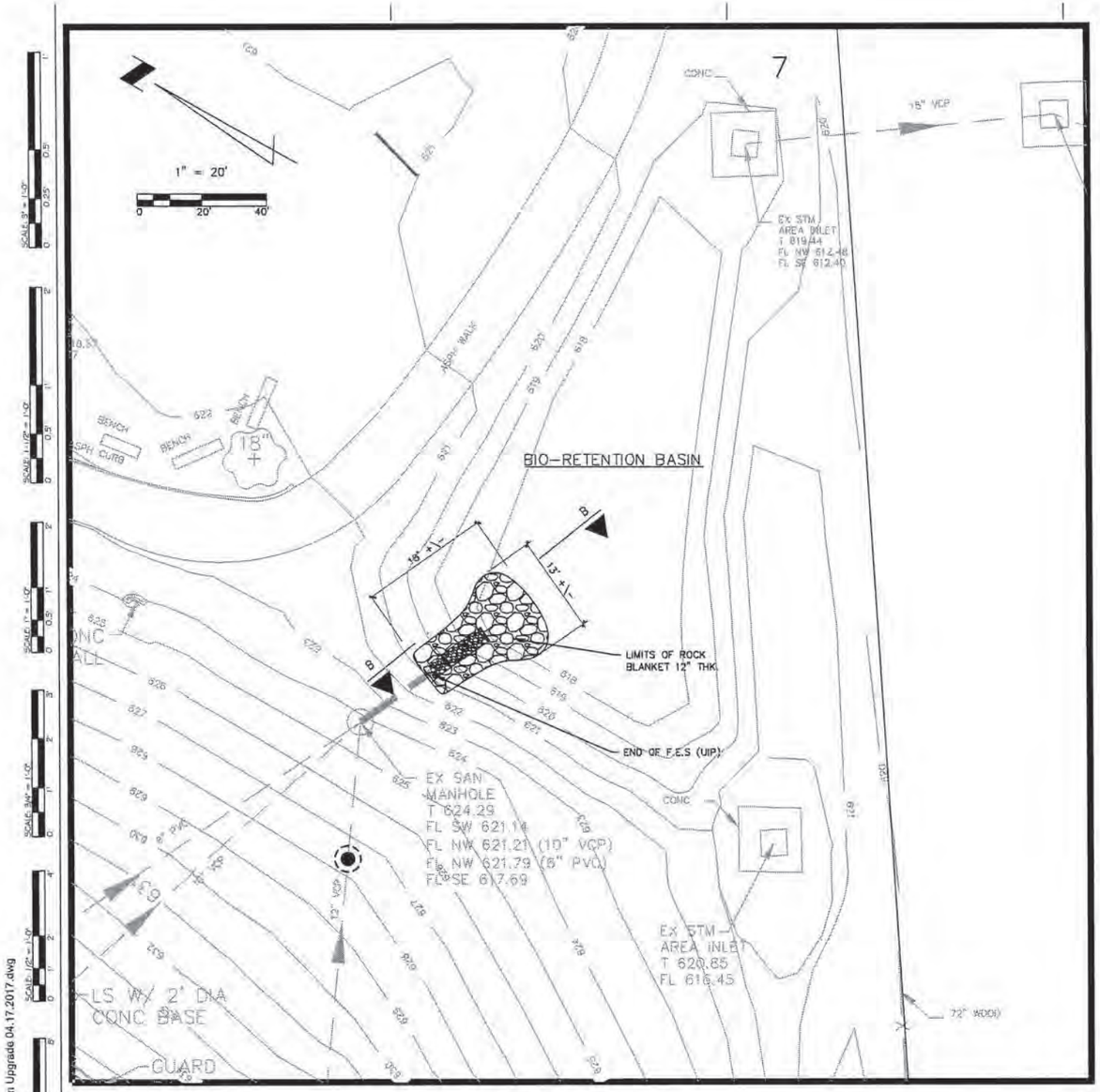
LAST EDITED: 11/12/2024 8:11 AM
FILE PATH: T:\30902493.001 Parkway Playgrounds\SHEETS\Pierremont Elementary\C5.01-C5.02 PLAYGROUND DETAILS-PMJ.dwg

WARNING: THESE DRAWINGS ARE THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITH. ANY RE-USE OF THESE WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

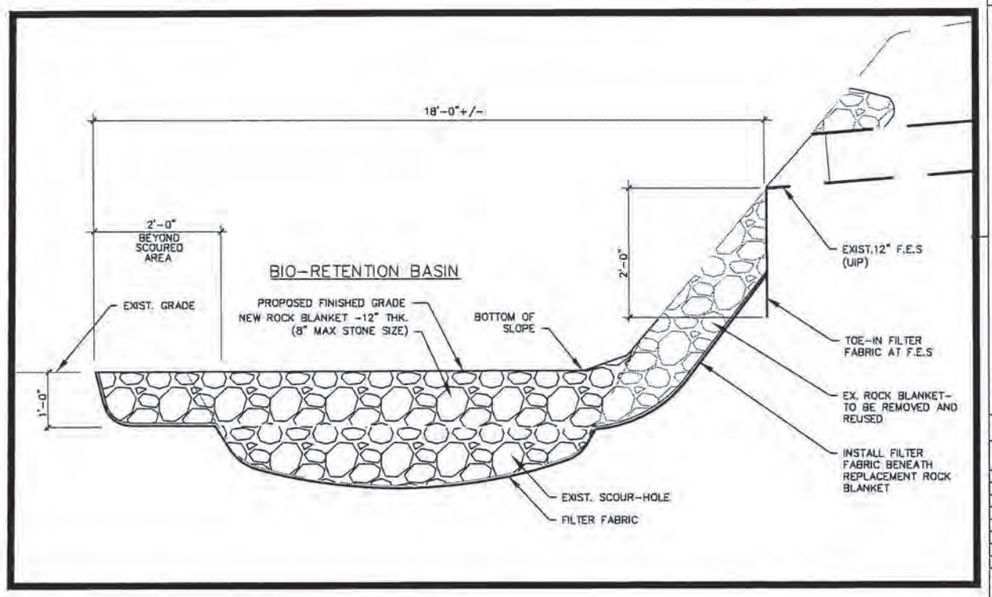
EXHIBIT-G

HENRY ELEMENTARY

BMP ORIGINAL PROJECT INFORMATION



PLAN VIEW
SCALE: 1"= 20



SECTION "BB"

ROCK BLANKET REPAIR CONSTRUCTION NOTES:

1. REMOVE EXIST ROCK BLANKET DOWNHILL OF DISCHARGE END OF 12" F.E.S.
2. EXCAVATE SIDE AND BOTTOM OF BASIN TO ALLOW PLACEMENT OF A 12" THICK ROCK BLANKET AS SHOWN ON DETAIL.
3. PLACE FILTER FABRIC ALONG BOTTOM AND SIDES OF EXCAVATION PRIOR TO PLACING ROCK BLANKET. (PER MANUFACTURES RECOMMENDATIONS.)
4. PLACE ROCK BLANKET TO LIMITS AS SHOWN ON DETAIL.

222 SOUTH CENTRAL AVE
SUITE# 100
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority #2009037409

Larson Engineering
Structural Engineer
Consultant Project Number:
Certificate of Authority #2007006032
13729 Riverport Drive, Suite A
Maryland Heights, MO 63043-4811
314.731.4710 tel
314.731.4712 fax

BRIC Partnership, LLC
MEP & Fire Protection Engineer
Project Number: 2020-201
Certificate of Authority #2002028890
138 W. Adams
Kirkwood, MO 63122
314.725.5889 tel
618.277.5200 fax

EDSI, Inc.
Civil Engineer
Consultant Project Number:
Certificate of Authority #001523
16141 Swingley Ridge Road, Suite 300
St. Louis, MO 63017
636.534.7037 tel
636.537.0275 fax

Planning Design Studio
Landscape Architect
Project Number: J1534
Certificate of Authority: 2008001845
727 North First Street, suite 360
St. Louis, MO 63102
314.241.3600 tel
314.241.3601 fax

Henry Elementary School
700 Henry Avenue, Ballwin, MO 63011
Parkway Project PN 121501B
Building Additions, Renovations and Site Improvements
Parkway School District
363 N. Woods Mill Rd
Chesterfield, MO 63017

Project No: 15037

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2016 by Bond Architects, Inc.

The Professional Architects seal affixed to this sheet applies only to the contents and items shown on that sheet. All drawings, specifications or other documents not exhibiting this seal shall not be considered prepared by the architect, and the architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

DATE: 04/17/2017

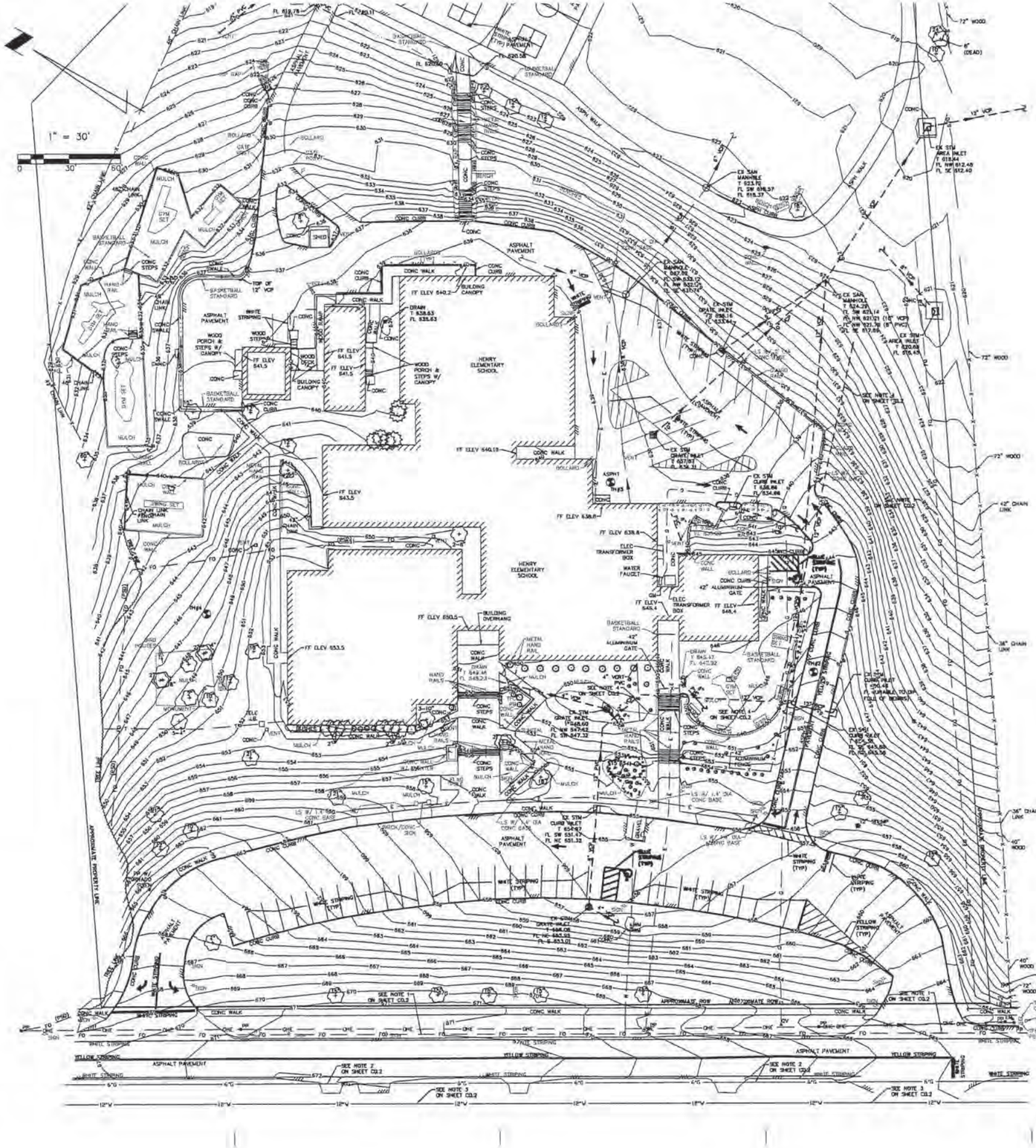
Bio-Retention Basin Repair

C1

EDSI PROJECT #E-14-020.17

4/18/2017 11:33:17 AM Andre C. Burgess
Y:\Parkway School District\E-14-020.17-Henry\BASIN REPAIR\CIVIL -Bio-Retention Upgrade 04.17.2017.dwg

MSD|P-0028603-01 MSD BASE MAP 21R


1" = 30'
0
30
60
HENRY ELEMENTARY SCHOOL
BUILDING CANOPY
ASPHALT PAVEMENT
CONC WALK
CONC CURB
WHITE STRIPING
YELLOW STRIPING
BASKETBALL STANDARD
BOLLARD
CHAIN LINK
WOOD PORCH & STEPS W/ CANOPY
CONC STEPS
HAND RAILS
MULCH
GRASS
TREE LINE
APPROXIMATE PROPERTY LINE
APPROXIMATE ROW
SEE NOTE 1 ON SHEET C0.2
SEE NOTE 2 ON SHEET C0.2
SEE NOTE 3 ON SHEET C0.2
SEE NOTE 4 ON SHEET C0.2
SEE NOTE 5 ON SHEET C0.2
SEE NOTE 6 ON SHEET C0.2
SEE NOTE 7 ON SHEET C0.2
SEE NOTE 8 ON SHEET C0.2
SEE NOTE 9 ON SHEET C0.2
SEE NOTE 10 ON SHEET C0.2
SEE NOTE 11 ON SHEET C0.2
SEE NOTE 12 ON SHEET C0.2
SEE NOTE 13 ON SHEET C0.2
SEE NOTE 14 ON SHEET C0.2
SEE NOTE 15 ON SHEET C0.2
SEE NOTE 16 ON SHEET C0.2
SEE NOTE 17 ON SHEET C0.2
SEE NOTE 18 ON SHEET C0.2
SEE NOTE 19 ON SHEET C0.2
SEE NOTE 20 ON SHEET C0.2
SEE NOTE 21 ON SHEET C0.2
SEE NOTE 22 ON SHEET C0.2
SEE NOTE 23 ON SHEET C0.2
SEE NOTE 24 ON SHEET C0.2
SEE NOTE 25 ON SHEET C0.2
SEE NOTE 26 ON SHEET C0.2
SEE NOTE 27 ON SHEET C0.2
SEE NOTE 28 ON SHEET C0.2
SEE NOTE 29 ON SHEET C0.2
SEE NOTE 30 ON SHEET C0.2
SEE NOTE 31 ON SHEET C0.2
SEE NOTE 32 ON SHEET C0.2
SEE NOTE 33 ON SHEET C0.2
SEE NOTE 34 ON SHEET C0.2
SEE NOTE 35 ON SHEET C0.2
SEE NOTE 36 ON SHEET C0.2
SEE NOTE 37 ON SHEET C0.2
SEE NOTE 38 ON SHEET C0.2
SEE NOTE 39 ON SHEET C0.2
SEE NOTE 40 ON SHEET C0.2
SEE NOTE 41 ON SHEET C0.2
SEE NOTE 42 ON SHEET C0.2
SEE NOTE 43 ON SHEET C0.2
SEE NOTE 44 ON SHEET C0.2
SEE NOTE 45 ON SHEET C0.2
SEE NOTE 46 ON SHEET C0.2
SEE NOTE 47 ON SHEET C0.2
SEE NOTE 48 ON SHEET C0.2
SEE NOTE 49 ON SHEET C0.2
SEE NOTE 50 ON SHEET C0.2
SEE NOTE 51 ON SHEET C0.2
SEE NOTE 52 ON SHEET C0.2
SEE NOTE 53 ON SHEET C0.2
SEE NOTE 54 ON SHEET C0.2
SEE NOTE 55 ON SHEET C0.2
SEE NOTE 56 ON SHEET C0.2
SEE NOTE 57 ON SHEET C0.2
SEE NOTE 58 ON SHEET C0.2
SEE NOTE 59 ON SHEET C0.2
SEE NOTE 60 ON SHEET C0.2
SEE NOTE 61 ON SHEET C0.2
SEE NOTE 62 ON SHEET C0.2
SEE NOTE 63 ON SHEET C0.2
SEE NOTE 64 ON SHEET C0.2
SEE NOTE 65 ON SHEET C0.2
SEE NOTE 66 ON SHEET C0.2
SEE NOTE 67 ON SHEET C0.2
SEE NOTE 68 ON SHEET C0.2
SEE NOTE 69 ON SHEET C0.2
SEE NOTE 70 ON SHEET C0.2
SEE NOTE 71 ON SHEET C0.2
SEE NOTE 72 ON SHEET C0.2
SEE NOTE 73 ON SHEET C0.2
SEE NOTE 74 ON SHEET C0.2
SEE NOTE 75 ON SHEET C0.2
SEE NOTE 76 ON SHEET C0.2
SEE NOTE 77 ON SHEET C0.2
SEE NOTE 78 ON SHEET C0.2
SEE NOTE 79 ON SHEET C0.2
SEE NOTE 80 ON SHEET C0.2
SEE NOTE 81 ON SHEET C0.2
SEE NOTE 82 ON SHEET C0.2
SEE NOTE 83 ON SHEET C0.2
SEE NOTE 84 ON SHEET C0.2
SEE NOTE 85 ON SHEET C0.2
SEE NOTE 86 ON SHEET C0.2
SEE NOTE 87 ON SHEET C0.2
SEE NOTE 88 ON SHEET C0.2
SEE NOTE 89 ON SHEET C0.2
SEE NOTE 90 ON SHEET C0.2
SEE NOTE 91 ON SHEET C0.2
SEE NOTE 92 ON SHEET C0.2
SEE NOTE 93 ON SHEET C0.2
SEE NOTE 94 ON SHEET C0.2
SEE NOTE 95 ON SHEET C0.2
SEE NOTE 96 ON SHEET C0.2
SEE NOTE 97 ON SHEET C0.2
SEE NOTE 98 ON SHEET C0.2
SEE NOTE 99 ON SHEET C0.2
SEE NOTE 100 ON SHEET C0.2
SEE NOTE 101 ON SHEET C0.2
SEE NOTE 102 ON SHEET C0.2
SEE NOTE 103 ON SHEET C0.2
SEE NOTE 104 ON SHEET C0.2
SEE NOTE 105 ON SHEET C0.2
SEE NOTE 106 ON SHEET C0.2
SEE NOTE 107 ON SHEET C0.2
SEE NOTE 108 ON SHEET C0.2
SEE NOTE 109 ON SHEET C0.2
SEE NOTE 110 ON SHEET C0.2
SEE NOTE 111 ON SHEET C0.2
SEE NOTE 112 ON SHEET C0.2
SEE NOTE 113 ON SHEET C0.2
SEE NOTE 114 ON SHEET C0.2
SEE NOTE 115 ON SHEET C0.2
SEE NOTE 116 ON SHEET C0.2
SEE NOTE 117 ON SHEET C0.2
SEE NOTE 118 ON SHEET C0.2
SEE NOTE 119 ON SHEET C0.2
SEE NOTE 120 ON SHEET C0.2
SEE NOTE 121 ON SHEET C0.2
SEE NOTE 122 ON SHEET C0.2
SEE NOTE 123 ON SHEET C0.2
SEE NOTE 124 ON SHEET C0.2
SEE NOTE 125 ON SHEET C0.2
SEE NOTE 126 ON SHEET C0.2
SEE NOTE 127 ON SHEET C0.2
SEE NOTE 128 ON SHEET C0.2
SEE NOTE 129 ON SHEET C0.2
SEE NOTE 130 ON SHEET C0.2
SEE NOTE 131 ON SHEET C0.2
SEE NOTE 132 ON SHEET C0.2
SEE NOTE 133 ON SHEET C0.2
SEE NOTE 134 ON SHEET C0.2
SEE NOTE 135 ON SHEET C0.2
SEE NOTE 136 ON SHEET C0.2
SEE NOTE 137 ON SHEET C0.2
SEE NOTE 138 ON SHEET C0.2
SEE NOTE 139 ON SHEET C0.2
SEE NOTE 140 ON SHEET C0.2
SEE NOTE 141 ON SHEET C0.2
SEE NOTE 142 ON SHEET C0.2
SEE NOTE 143 ON SHEET C0.2
SEE NOTE 144 ON SHEET C0.2
SEE NOTE 145 ON SHEET C0.2
SEE NOTE 146 ON SHEET C0.2
SEE NOTE 147 ON SHEET C0.2
SEE NOTE 148 ON SHEET C0.2
SEE NOTE 149 ON SHEET C0.2
SEE NOTE 150 ON SHEET C0.2
SEE NOTE 151 ON SHEET C0.2
SEE NOTE 152 ON SHEET C0.2
SEE NOTE 153 ON SHEET C0.2
SEE NOTE 154 ON SHEET C0.2
SEE NOTE 155 ON SHEET C0.2
SEE NOTE 156 ON SHEET C0.2
SEE NOTE 157 ON SHEET C0.2
SEE NOTE 158 ON SHEET C0.2
SEE NOTE 159 ON SHEET C0.2
SEE NOTE 160 ON SHEET C0.2
SEE NOTE 161 ON SHEET C0.2
SEE NOTE 162 ON SHEET C0.2
SEE NOTE 163 ON SHEET C0.2
SEE NOTE 164 ON SHEET C0.2
SEE NOTE 165 ON SHEET C0.2
SEE NOTE 166 ON SHEET C0.2
SEE NOTE 167 ON SHEET C0.2
SEE NOTE 168 ON SHEET C0.2
SEE NOTE 169 ON SHEET C0.2
SEE NOTE 170 ON SHEET C0.2
SEE NOTE 171 ON SHEET C0.2
SEE NOTE 172 ON SHEET C0.2
SEE NOTE 173 ON SHEET C0.2
SEE NOTE 174 ON SHEET C0.2
SEE NOTE 175 ON SHEET C0.2
SEE NOTE 176 ON SHEET C0.2
SEE NOTE 177 ON SHEET C0.2
SEE NOTE 178 ON SHEET C0.2
SEE NOTE 179 ON SHEET C0.2
SEE NOTE 180 ON SHEET C0.2
SEE NOTE 181 ON SHEET C0.2
SEE NOTE 182 ON SHEET C0.2
SEE NOTE 183 ON SHEET C0.2
SEE NOTE 184 ON SHEET C0.2
SEE NOTE 185 ON SHEET C0.2
SEE NOTE 186 ON SHEET C0.2
SEE NOTE 187 ON SHEET C0.2
SEE NOTE 188 ON SHEET C0.2
SEE NOTE 189 ON SHEET C0.2
SEE NOTE 190 ON SHEET C0.2
SEE NOTE 191 ON SHEET C0.2
SEE NOTE 192 ON SHEET C0.2
SEE NOTE 193 ON SHEET C0.2
SEE NOTE 194 ON SHEET C0.2
SEE NOTE 195 ON SHEET C0.2
SEE NOTE 196 ON SHEET C0.2
SEE NOTE 197 ON SHEET C0.2
SEE NOTE 198 ON SHEET C0.2
SEE NOTE 199 ON SHEET C0.2
SEE NOTE 200 ON SHEET C0.2
SEE NOTE 201 ON SHEET C0.2
SEE NOTE 202 ON SHEET C0.2
SEE NOTE 203 ON SHEET C0.2
SEE NOTE 204 ON SHEET C0.2
SEE NOTE 205 ON SHEET C0.2
SEE NOTE 206 ON SHEET C0.2
SEE NOTE 207 ON SHEET C0.2
SEE NOTE 208 ON SHEET C0.2
SEE NOTE 209 ON SHEET C0.2
SEE NOTE 210 ON SHEET C0.2
SEE NOTE 211 ON SHEET C0.2
SEE NOTE 212 ON SHEET C0.2
SEE NOTE 213 ON SHEET C0.2
SEE NOTE 214 ON SHEET C0.2
SEE NOTE 215 ON SHEET C0.2
SEE NOTE 216 ON SHEET C0.2
SEE NOTE 217 ON SHEET C0.2
SEE NOTE 218 ON SHEET C0.2
SEE NOTE 219 ON SHEET C0.2
SEE NOTE 220 ON SHEET C0.2
SEE NOTE 221 ON SHEET C0.2
SEE NOTE 222 ON SHEET C0.2
SEE NOTE 223 ON SHEET C0.2
SEE NOTE 224 ON SHEET C0.2
SEE NOTE 225 ON SHEET C0.2
SEE NOTE 226 ON SHEET C0.2
SEE NOTE 227 ON SHEET C0.2
SEE NOTE 228 ON SHEET C0.2
SEE NOTE 229 ON SHEET C0.2
SEE NOTE 230 ON SHEET C0.2
SEE NOTE 231 ON SHEET C0.2
SEE NOTE 232 ON SHEET C0.2
SEE NOTE 233 ON SHEET C0.2
SEE NOTE 234 ON SHEET C0.2
SEE NOTE 235 ON SHEET C0.2
SEE NOTE 236 ON SHEET C0.2
SEE NOTE 237 ON SHEET C0.2
SEE NOTE 238 ON SHEET C0.2
SEE NOTE 239 ON SHEET C0.2
SEE NOTE 240 ON SHEET C0.2
SEE NOTE 241 ON SHEET C0.2
SEE NOTE 242 ON SHEET C0.2
SEE NOTE 243 ON SHEET C0.2
SEE NOTE 244 ON SHEET C0.2
SEE NOTE 245 ON SHEET C0.2
SEE NOTE 246 ON SHEET C0.2
SEE NOTE 247 ON SHEET C0.2
SEE NOTE 248 ON SHEET C0.2
SEE NOTE 249 ON SHEET C0.2
SEE NOTE 250 ON SHEET C0.2
SEE NOTE 251 ON SHEET C0.2
SEE NOTE 252 ON SHEET C0.2
SEE NOTE 253 ON SHEET C0.2
SEE NOTE 254 ON SHEET C0.2
SEE NOTE 255 ON SHEET C0.2
SEE NOTE 256 ON SHEET C0.2
SEE NOTE 257 ON SHEET C0.2
SEE NOTE 258 ON SHEET C0.2
SEE NOTE 259 ON SHEET C0.2
SEE NOTE 260 ON SHEET C0.2
SEE NOTE 261 ON SHEET C0.2
SEE NOTE 262 ON SHEET C0.2
SEE NOTE 263 ON SHEET C0.2
SEE NOTE 264 ON SHEET C0.2
SEE NOTE 265 ON SHEET C0.2
SEE NOTE 266 ON SHEET C0.2
SEE NOTE 267 ON SHEET C0.2
SEE NOTE 268 ON SHEET C0.2
SEE NOTE 269 ON SHEET C0.2
SEE NOTE 270 ON SHEET C0.2
SEE NOTE 271 ON SHEET C0.2
SEE NOTE 272 ON SHEET C0.2
SEE NOTE 273 ON SHEET C0.2
SEE NOTE 274 ON SHEET C0.2
SEE NOTE 275 ON SHEET C0.2
SEE NOTE 276 ON SHEET C0.2
SEE NOTE 277 ON SHEET C0.2
SEE NOTE 278 ON SHEET C0.2
SEE NOTE 279 ON SHEET C0.2
SEE NOTE 280 ON SHEET C0.2
SEE NOTE 281 ON SHEET C0.2
SEE NOTE 282 ON SHEET C0.2
SEE NOTE 283 ON SHEET C0.2
SEE NOTE 284 ON SHEET C0.2
SEE NOTE 285 ON SHEET C0.2
SEE NOTE 286 ON SHEET C0.2
SEE NOTE 287 ON SHEET C0.2
SEE NOTE 288 ON SHEET C0.2
SEE NOTE 289 ON SHEET C0.2
SEE NOTE 290 ON SHEET C0.2
SEE NOTE 291 ON SHEET C0.2
SEE NOTE 292 ON SHEET C0.2
SEE NOTE 293 ON SHEET C0.2
SEE NOTE 294 ON SHEET C0.2
SEE NOTE 295 ON SHEET C0.2
SEE NOTE 296 ON SHEET C0.2
SEE NOTE 297 ON SHEET C0.2
SEE NOTE 298 ON SHEET C0.2
SEE NOTE 299 ON SHEET C0.2
SEE NOTE 300 ON SHEET C0.2
SEE NOTE 301 ON SHEET C0.2
SEE NOTE 302 ON SHEET C0.2
SEE NOTE 303 ON SHEET C0.2
SEE NOTE 304 ON SHEET C0.2
SEE NOTE 305 ON SHEET C0.2
SEE NOTE 306 ON SHEET C0.2
SEE NOTE 307 ON SHEET C0.2
SEE NOTE 308 ON SHEET C0.2
SEE NOTE 309 ON SHEET C0.2
SEE NOTE 310 ON SHEET C0.2
SEE NOTE 311 ON SHEET C0.2
SEE NOTE 312 ON SHEET C0.2
SEE NOTE 313 ON SHEET C0.2
SEE NOTE 314 ON SHEET C0.2
SEE NOTE 315 ON SHEET C0.2
SEE NOTE 316 ON SHEET C0.2
SEE NOTE 317 ON SHEET C0.2
SEE NOTE 318 ON SHEET C0.2
SEE NOTE 319 ON SHEET C0.2
SEE NOTE 320 ON SHEET C0.2
SEE NOTE 321 ON SHEET C0.2
SEE NOTE 322 ON SHEET C0.2
SEE NOTE 323 ON SHEET C0.2
SEE NOTE 324 ON SHEET C0.2
SEE NOTE 325 ON SHEET C0.2
SEE NOTE 326 ON SHEET C0.2
SEE NOTE 327 ON SHEET C0.2
SEE NOTE 328 ON SHEET C0.2
SEE NOTE 329 ON SHEET C0.2
SEE NOTE 330 ON SHEET C0.2
SEE NOTE 331 ON SHEET C0.2
SEE NOTE 332 ON SHEET C0.2
SEE NOTE 333 ON SHEET C0.2
SEE NOTE 334 ON SHEET C0.2
SEE NOTE 335 ON SHEET C0.2
SEE NOTE 336 ON SHEET C0.2
SEE NOTE 337 ON SHEET C0.2
SEE NOTE 338 ON SHEET C0.2
SEE NOTE 339 ON SHEET C0.2
SEE NOTE 340 ON SHEET C0.2
SEE NOTE 341 ON SHEET C0.2
SEE NOTE 342 ON SHEET C0.2
SEE NOTE 343 ON SHEET C0.2
SEE NOTE 344 ON SHEET C0.2
SEE NOTE 345 ON SHEET C0.2
SEE NOTE 346 ON SHEET C0.2
SEE NOTE 347 ON SHEET C0.2
SEE NOTE 348 ON SHEET C0.2
SEE NOTE 349 ON SHEET C0.2
SEE NOTE 350 ON SHEET C0.2
SEE NOTE 351 ON SHEET C0.2
SEE NOTE 352 ON SHEET C0.2
SEE NOTE 353 ON SHEET C0.2
SEE NOTE 354 ON SHEET C0.2
SEE NOTE 355 ON SHEET C0.2
SEE NOTE 356 ON SHEET C0.2
SEE NOTE 357 ON SHEET C0.2
SEE NOTE 358 ON SHEET C0.2
SEE NOTE 359 ON SHEET C0.2
SEE NOTE 360 ON SHEET C0.2
SEE NOTE 361 ON SHEET C0.2
SEE NOTE 362 ON SHEET C0.2
SEE NOTE 363 ON SHEET C0.2
SEE NOTE 364 ON SHEET C0.2
SEE NOTE 365 ON SHEET C0.2
SEE NOTE 366 ON SHEET C0.2
SEE NOTE 367 ON SHEET C0.2
SEE NOTE 368 ON SHEET C0.2
SEE NOTE 369 ON SHEET C0.2
SEE NOTE 370 ON SHEET C0.2
SEE NOTE 371 ON SHEET C0.2
SEE NOTE 372 ON SHEET C0.2
SEE NOTE 373 ON SHEET C0.2
SEE NOTE 374 ON SHEET C0.2
SEE NOTE 375 ON SHEET C0.2
SEE NOTE 376 ON SHEET C0.2
SEE NOTE 377 ON SHEET C0.2
SEE NOTE 378 ON SHEET C0.2
SEE NOTE 379 ON SHEET C0.2
SEE NOTE 380 ON SHEET C0.2
SEE NOTE 381 ON SHEET C0.2
SEE NOTE 382 ON SHEET C0.2
SEE NOTE 383 ON SHEET C0.2
SEE NOTE 384 ON SHEET C0.2
SEE NOTE 385 ON SHEET C0.2
SEE NOTE 386 ON SHEET C0.2
SEE NOTE 387 ON SHEET C0.2
SEE NOTE 388 ON SHEET C0.2
SEE NOTE 389 ON SHEET C0.2
SEE NOTE 390 ON SHEET C0.2
SEE NOTE 391 ON SHEET C0.2
SEE NOTE 392 ON SHEET C0.2
SEE NOTE 393 ON SHEET C0.2
SEE NOTE 394 ON SHEET C0.2
SEE NOTE 395 ON SHEET C0.2
SEE NOTE 396 ON SHEET C0.2
SEE NOTE 397 ON SHEET C0.2
SEE NOTE 398 ON SHEET C0.2
SEE NOTE 399 ON SHEET C0.2
SEE NOTE 400 ON SHEET C0.2
SEE NOTE 401 ON SHEET C0.2
SEE NOTE 402 ON SHEET C0.2
SEE NOTE 403 ON SHEET C0.2
SEE NOTE 404 ON SHEET C0.2
SEE NOTE 405 ON SHEET C0.2
SEE NOTE 406 ON SHEET C0.2
SEE NOTE 407 ON SHEET C0.2
SEE NOTE 408 ON SHEET C0.2
SEE NOTE 409 ON SHEET C0.2
SEE NOTE 410 ON SHEET C0.2
SEE NOTE 411 ON SHEET C0.2
SEE NOTE 412 ON SHEET C0.2
SEE NOTE 413 ON SHEET C0.2
SEE NOTE 414 ON SHEET C0.2
SEE NOTE 415 ON SHEET C0.2
SEE NOTE 416 ON SHEET C0.2
SEE NOTE 417 ON SHEET C0.2
SEE NOTE 418 ON SHEET C0.2
SEE NOTE 419 ON SHEET C0.2
SEE NOTE 420 ON SHEET C0.2
SEE NOTE 421 ON SHEET C0.2
SEE NOTE 422 ON SHEET C0.2
SEE NOTE 423 ON SHEET C0.2
SEE NOTE 424 ON SHEET C0.2
SEE NOTE 425 ON SHEET C0.2
SEE NOTE 426 ON SHEET C0.2
SEE NOTE 427 ON SHEET C0.2
SEE NOTE 428 ON SHEET C0.2
SEE NOTE 429 ON SHEET C0.2
SEE NOTE 430 ON SHEET C0.2
SEE NOTE 431 ON SHEET C0.2
SEE NOTE 432 ON SHEET C0.2
SEE NOTE 433 ON SHEET C0.2
SEE NOTE 434 ON SHEET C0.2
SEE NOTE 435 ON SHEET C0.2
SEE NOTE 436 ON SHEET C0.2
SEE NOTE 437 ON SHEET C0.2
SEE NOTE 438 ON SHEET C0.2
SEE NOTE 439 ON SHEET C0.2
SEE NOTE 440 ON SHEET C0.2
SEE NOTE 441 ON SHEET C0.2
SEE NOTE 442 ON SHEET C0.2
SEE NOTE 443 ON SHEET C0.2
SEE NOTE 444 ON SHEET C0.2
SEE NOTE 445 ON SHEET C0.2
SEE NOTE 446 ON SHEET C0.2
SEE NOTE 447 ON SHEET C0.2
SEE NOTE 448 ON SHEET C0.2
SEE NOTE 449 ON SHEET C0.2
SEE NOTE 450 ON SHEET C0.2
SEE NOTE 451 ON SHEET C0.2
SEE NOTE 452 ON SHEET C0.2
SEE NOTE 453 ON SHEET C0.2
SEE NOTE 454 ON SHEET C0.2
SEE NOTE 455 ON SHEET C0.2
SEE NOTE 456 ON SHEET C0.2
SEE NOTE 457 ON SHEET C0.2
SEE NOTE 458 ON SHEET C0.2
SEE NOTE 459 ON SHEET C0.2
SEE NOTE 460 ON SHEET C0.2
SEE NOTE 461 ON SHEET C0.2
SEE NOTE 462 ON SHEET C0.2
SEE NOTE 463 ON SHEET C0.2
SEE NOTE 464 ON SHEET C0.2
SEE NOTE 465 ON SHEET C0.2
SEE NOTE 466 ON SHEET C0.2
SEE NOTE 467 ON SHEET C0.2
SEE NOTE 468 ON SHEET C0.2
SEE NOTE 469 ON SHEET C0.2
SEE NOTE 470 ON SHEET C0.2
SEE NOTE 471 ON SHEET C0.2
SEE NOTE 472 ON SHEET C0.2
SEE NOTE 473 ON SHEET C0.2
SEE NOTE 474 ON SHEET C0.2
SEE NOTE 475 ON SHEET C0.2
SEE NOTE 476 ON SHEET C0.2
SEE NOTE 477 ON SHEET C0.2
SEE NOTE 478 ON SHEET C0.2
SEE NOTE 479 ON SHEET C0.2
SEE NOTE 480 ON SHEET C0.2
SEE NOTE 481 ON SHEET C0.2
SEE NOTE 482 ON SHEET C0.2
SEE NOTE 483 ON SHEET C0.2
SEE NOTE 484 ON SHEET C0.2
SEE NOTE 485 ON SHEET C0.2
SEE NOTE 486 ON SHEET C0.2
SEE NOTE 487 ON SHEET C0.2
SEE NOTE 488 ON SHEET C0.2
SEE NOTE 489 ON SHEET C0.2
SEE NOTE 490 ON SHEET C0.2
SEE NOTE 491 ON SHEET C0.2
SEE NOTE 492 ON SHEET C0.2
SEE NOTE 493 ON SHEET C0.2
SEE NOTE 494 ON SHEET C0.2
SEE NOTE 495 ON SHEET C0.2
SEE NOTE 496 ON SHEET C0.2
SEE NOTE 497 ON SHEET C0.2
SEE NOTE 498 ON SHEET C0.2
SEE NOTE 499 ON SHEET C0.2
SEE NOTE 500 ON SHEET C0.2
SEE NOTE 501 ON SHEET C0.2
SEE NOTE 502 ON SHEET C0.2
SEE NOTE 503 ON SHEET C0.2
SEE NOTE 504 ON SHEET C0.2
SEE NOTE 505 ON SHEET C0.2
SEE NOTE 506 ON SHEET C0.2
SEE NOTE 507 ON SHEET C0.2
SEE NOTE 508 ON SHEET C0.2
SEE NOTE 509 ON SHEET C0.2
SEE NOTE 510 ON SHEET C0.2
SEE NOTE 511 ON SHEET C0.2
SEE NOTE 512 ON SHEET C0.2
SEE NOTE 513 ON SHEET C0.2
SEE NOTE 514 ON SHEET C0.2
SEE NOTE 515 ON SHEET C0.2
SEE NOTE 516 ON SHEET C0.2
SEE NOTE 517 ON SHEET C0.2
SEE NOTE 518 ON SHEET C0.2
SEE NOTE 519 ON SHEET C0.2
SEE NOTE 520 ON SHEET C0.2
SEE NOTE 521 ON SHEET C0.2
SEE NOTE 522 ON SHEET C0.2
SEE NOTE 523 ON SHEET C0.2
SEE NOTE 524 ON SHEET C0.2
SEE NOTE 525 ON SHEET C0.2
SEE NOTE 526 ON SHEET C0.2
SEE NOTE 527 ON SHEET C0.2
SEE NOTE 528 ON SHEET C0.2
SEE NOTE 529 ON SHEET C0.2
SEE NOTE 530 ON SHEET C0.2
SEE NOTE 531 ON SHEET C0.2
SEE NOTE 532 ON SHEET C0.2
SEE NOTE 533 ON SHEET C0.2
SEE NOTE 534 ON SHEET C0.2
SEE NOTE 535 ON SHEET C0.2
SEE NOTE 536 ON SHEET C0.2
SEE NOTE 537 ON SHEET C0.2
SEE NOTE 538 ON SHEET C0.2
SEE NOTE 539 ON SHEET C0.2
SEE NOTE 540 ON SHEET C0.2
SEE NOTE 541 ON SHEET C0.2
SEE NOTE 542 ON SHEET C0.2
SEE NOTE 543 ON SHEET C0.2
SEE NOTE 544 ON SHEET C0.2
SEE NOTE 545 ON SHEET C0.2
SEE NOTE 546 ON SHEET C0.2
SEE NOTE 547 ON SHEET C0.2
SEE NOTE 548 ON SHEET C0.2
SEE NOTE 549 ON SHEET C0.2
SEE NOTE 550 ON SHEET C0.2
SEE NOTE 551 ON SHEET C0.2
SEE NOTE 552 ON SHEET C0.2
SEE NOTE 553 ON SHEET C0.2
SEE NOTE 554 ON SHEET C0.2
SEE NOTE 555 ON SHEET C0.2
SEE NOTE 556 ON SHEET C0.2
SEE NOTE 557 ON SHEET C0.2
SEE NOTE 558 ON SHEET C0.2
SEE NOTE 559 ON SHEET C0.2
SEE NOTE 560 ON SHEET C0.2
SEE NOTE 561 ON SHEET C0.2
SEE NOTE 562 ON SHEET C0.2
SEE NOTE 563 ON SHEET C0.2
SEE NOTE 564 ON SHEET C0.2
SEE NOTE 565 ON SHEET C0.2
SEE NOTE 566 ON SHEET C0.2
SEE NOTE 567 ON SHEET C0.2
SEE NOTE 568 ON SHEET C0.2
SEE NOTE 569 ON SHEET C0.2
SEE NOTE 570 ON SHEET C0.2
SEE NOTE 571 ON SHEET C0.2
SEE NOTE 572 ON SHEET C0.2
SEE NOTE 573 ON SHEET C0.2
SEE NOTE 574 ON SHEET C0.2
SEE NOTE 575 ON SHEET C0.2
SEE NOTE 576 ON SHEET C0.2
SEE NOTE 577 ON SHEET C0.2
SEE NOTE 578 ON SHEET C0.2
SEE NOTE 579 ON SHEET C0.2
SEE NOTE 580 ON SHEET C0.2
SEE NOTE 581 ON SHEET C0.2
SEE NOTE 582 ON SHEET C0.2
SEE NOTE 583 ON SHEET C0.2
SEE NOTE 584 ON SHEET C0.2
SEE NOTE 585 ON SHEET C0.2
SEE NOTE 586 ON SHEET C0.2
SEE NOTE 587 ON SHEET C0.2
SEE NOTE 588 ON SHEET C0.2
SEE NOTE 589 ON SHEET C0.2
SEE NOTE 590 ON SHEET C0.2
SEE NOTE 591 ON SHEET C0.2
SEE NOTE 592 ON SHEET C0.2
SEE NOTE 593 ON SHEET C0.2
SEE NOTE 594 ON SHEET C0.2
SEE NOTE 595 ON SHEET C0.2
SEE NOTE 596 ON SHEET C0.2
SEE NOTE 597 ON SHEET C0.2
SEE NOTE 598 ON SHEET C0.2
SEE NOTE 599 ON SHEET C0.2
SEE NOTE 600 ON SHEET C0.2
SEE NOTE 601 ON SHEET C0.2
SEE NOTE 602 ON SHEET C0.2
SEE NOTE 603 ON SHEET C0.2
SEE NOTE 604 ON SHEET C0.2
SEE NOTE 605 ON SHEET C0.2
SEE NOTE 606 ON SHEET C0.2
SEE NOTE 607 ON SHEET C0.2
SEE NOTE 608 ON SHEET C0.2
SEE NOTE 609 ON SHEET C0.2
SEE NOTE 610 ON SHEET C0.2
SEE NOTE 611 ON SHEET C0.2
SEE NOTE 612 ON SHEET C0.2
SEE NOTE 613 ON SHEET C0.2
SEE NOTE 614 ON SHEET C0.2
SEE NOTE 615 ON SHEET C0.2
SEE NOTE 616 ON SHEET C0.2
SEE NOTE 617 ON SHEET C0.2
SEE NOTE 618 ON SHEET C0.2
SEE NOTE 619 ON SHEET C0.2
SEE NOTE 620 ON SHEET C0.2
SEE NOTE 621 ON SHEET C0.2
SEE NOTE 622 ON SHEET C0.2
SEE NOTE 623 ON SHEET C0.2
SEE NOTE 624 ON SHEET C0.2
SEE NOTE 625 ON SHEET C0.2
SEE NOTE 626 ON SHEET C0.2
SEE NOTE 627 ON SHEET C0.2
SEE NOTE 628 ON SHEET C0.2
SEE NOTE 629 ON SHEET C0.2
SEE NOTE 630 ON SHEET C0.2
SEE NOTE 631 ON SHEET C0.2
SEE NOTE 632 ON SHEET C0.2
SEE NOTE 633 ON SHEET C0.2
SEE NOTE 634 ON SHEET C0.2
SEE NOTE 635 ON SHEET C0.2
SEE NOTE 636 ON SHEET C0.2
SEE NOTE 637 ON SHEET C0.2
SEE NOTE 638 ON SHEET C0.2
SEE NOTE 639 ON SHEET C0.2
SEE NOTE 640 ON SHEET C0.2
SEE NOTE 641 ON SHEET C0.2
SEE NOTE 642 ON SHEET C0.2
SEE NOTE 643 ON SHEET C0.2
SEE NOTE 644 ON SHEET C0.2
SEE NOTE 645 ON SHEET C0.2
SEE NOTE 646 ON SHEET C0.2
SEE NOTE 647 ON SHEET C0.2
SEE NOTE 648 ON SHEET C0.2
SEE NOTE 649 ON SHEET C0.2
SEE NOTE 650 ON SHEET C0.2
SEE NOTE 651 ON SHEET C0.2
SEE NOTE 652 ON SHEET C0.2
SEE NOTE 653 ON SHEET C0.2
SEE NOTE 654 ON SHEET C0.2
SEE NOTE 655 ON SHEET C0.2
SEE NOTE 656 ON SHEET C0.2
SEE NOTE 657 ON SHEET C0.2
SEE NOTE 658 ON SHEET C0.2
SEE NOTE 659 ON SHEET C0.2
SEE NOTE 660 ON SHEET C0.2
SEE NOTE 661 ON SHEET C0.2
SEE NOTE 662 ON SHEET C0.2
SEE NOTE 663 ON SHEET C0.2
SEE NOTE 664 ON SHEET C0.2
SEE NOTE 665 ON SHEET C0.2
SEE NOTE 666 ON SHEET C0.2
SEE NOTE 667 ON SHEET C0.2
SEE NOTE 668 ON SHEET C0.2
SEE NOTE 669 ON SHEET C0.2
SEE NOTE 670 ON SHEET C0.2
SEE NOTE 671 ON SHEET C0.2
SEE NOTE 672 ON SHEET C0.2
SEE NOTE 673 ON SHEET C0.2
SEE NOTE 674 ON SHEET C0.2
SEE NOTE 675 ON SHEET C0.2
SEE NOTE 676 ON SHEET C0.2
SEE NOTE 677 ON SHEET C0.2
SEE NOTE 678 ON SHEET C0.2
SEE NOTE 679 ON SHEET C0.2
SEE NOTE 680 ON SHEET C0.2
SEE NOTE 681 ON SHEET C0.2
SEE NOTE 682 ON SHEET C0.2
SEE NOTE 683 ON SHEET C0.2
SEE NOTE 684 ON SHEET C0.2
SEE NOTE 685 ON SHEET C0.2
SEE NOTE 686 ON SHEET C0.2
SEE NOTE 687 ON SHEET C0.2
SEE NOTE 688 ON SHEET C0.2
SEE NOTE 689 ON SHEET C0.2
SEE NOTE 690 ON SHEET C0.2
SEE NOTE 691 ON SHEET C0.2
SEE NOTE 692 ON SHEET C0.2
SEE NOTE 693 ON SHEET C0.2
SEE NOTE 694 ON SHEET C0.2
SEE NOTE 695 ON SHEET C0.2
SEE NOTE 696 ON SHEET C0.2
SEE NOTE 697 ON SHEET C0.2
SEE NOTE 698 ON SHEET C0.2
SEE NOTE 699 ON SHEET C0.2
SEE NOTE 700 ON SHEET C0.2
SEE NOTE 701 ON SHEET C0.2
SEE NOTE 702 ON SHEET C0.2
SEE NOTE 703 ON SHEET C0.2
SEE NOTE 704 ON SHEET C0.2
SEE NOTE 705 ON SHEET C0.2
SEE NOTE 706 ON SHEET C0.2
SEE NOTE 707 ON SHEET C0.2
SEE NOTE 708 ON SHEET C0.2
SEE NOTE 709 ON SHEET C0.2
SEE NOTE 710 ON SHEET C0.2
SEE NOTE 711 ON SHEET C0.2
SEE NOTE 712 ON SHEET C0.2
SEE NOTE 713 ON SHEET C0.2
SEE NOTE 714 ON SHEET C0.2
SEE NOTE 715 ON SHEET C0.2
SEE NOTE 716 ON SHEET C0.2
SEE NOTE 717 ON SHEET C0.2
SEE NOTE 718 ON SHEET C0.2
SEE NOTE 719 ON SHEET C0.2
SEE NOTE 720 ON SHEET C0.2
SEE NOTE 721 ON SHEET C0.2
SEE NOTE 722 ON SHEET C0.2
SEE NOTE 723 ON SHEET C0.2
SEE NOTE 724 ON SHEET C0.2
SEE NOTE 725 ON SHEET C0.2
SEE NOTE 726 ON SHEET C0.2
SEE NOTE 727 ON SHEET C0.2
SEE NOTE 728 ON SHEET C0.2
SEE NOTE 729 ON SHEET C0.2
SEE NOTE 730 ON SHEET C0.2
SEE NOTE 731 ON SHEET C0.2
SEE NOTE 732 ON SHEET C0.2
SEE NOTE 733 ON SHEET C0.2
SEE NOTE 734 ON SHEET C0.2
SEE NOTE 735 ON SHEET C0.2
SEE NOTE 736 ON SHEET C0.2
SEE NOTE 737 ON SHEET C0.2
SEE NOTE 738 ON SHEET C0.2
SEE NOTE 739 ON SHEET C0.2
SEE NOTE 740 ON SHEET C0.2
SEE NOTE 741 ON SHEET C0.2
SEE NOTE 742 ON SHEET C0.2
SEE NOTE 743 ON SHEET C0.2
SEE NOTE 744 ON SHEET C0.2
SEE NOTE 745 ON SHEET C0.2
SEE NOTE 746 ON SHEET C0.2
SEE NOTE 747 ON SHEET C0.2
SEE NOTE 748 ON SHEET C0.2
SEE NOTE 749 ON SHEET C0.2
SE

NOTE:

WHEN THE WORD "CITY" IS USED ON THESE PLANS IT SHALL MEAN THE CITY OF BALLWIN, MISSOURI

GENERAL NOTES:

1. UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF IMPROVEMENTS.

2. TOPOGRAPHIC SURVEY PREPARED AND FIELD DATA COLLECTED BY EDSI, INC. IN JUNE, JULY, AUGUST, 2015.

3. STORMWATER SHALL BE DISCHARGED AT AN ADEQUATE NATURAL DISCHARGE POINT. SINKHOLES ARE NOT ADEQUATE NATURAL DISCHARGE POINTS.

4. FILLED PLACES INCLUDING TRENCH BACKFILLS, UNDER BUILDINGS, SANITARY SEWER LINES, AND/OR PAVED AREAS SHALL BE COMPACTED IN ACCORDANCE WITH THE SOILS REPORT FOR THIS PROJECT, UNLESS OTHERWISE SPECIFIED.

5. TRENCH BACKFILLS UNDER PAVED AREA SHALL BE GRANULAR BACKFILL, UNLESS OTHERWISE SPECIFIED.

6. CONSTRUCTION AND MATERIALS USED SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE MISSOURI AMERICAN WATER COMPANY, THE SAINT LOUIS COUNTY DEPARTMENT OF HIGHWAYS, AND THE PROJECT SPECIFICATIONS. THE MOST STRINGENT REQUIREMENTS SHALL APPLY.

7. LOCATION AND ELEVATION OF EXISTING INLETS, MANHOLES AND PIPES TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. MANHOLES AND INLET TOPS BUILT WITHOUT ELEVATIONS FURNISHED BY THE ENGINEER WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

8. EXISTING ABOVE & BELOW GROUND UTILITIES TO BE PROTECTED AND USED IN PLACE, UNLESS OTHERWISE SPECIFIED.

9. A *DWG FILE WILL BE MADE AVAILABLE TO THE CONTRACTOR TO WHOM THE WORK IS AWARDED FOR HIS USE IN SITE LAYOUT.

10. PARKING ON NON-SURFACED AREAS IS PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVING CONDITIONS. CONTRACTOR SHALL KEEP ROAD CLEAR OF MUD AND DEBRIS.

11. THE STREETS SURROUNDING THIS DEVELOPMENT AND ANY STREET USED FOR CONSTRUCTION ACCESS SHALL BE CLEANED THROUGHOUT THE DAY.

12. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND LEGALLY DISPOSED OF OFF-SITE.

13. NOTIFY THE CITY DEPARTMENT OF PUBLIC WORKS 48 HOURS PRIOR TO THE COMMENCEMENT OF GRADING AND/OR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

14. EROSION AND SILTATION CONTROL DEVICES SHALL BE INSTALLED BY THE CONTRACTOR PRIOR TO ANY GRADING AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY THE OWNER AND/OR CONTROLLING REGULATORY AGENCY (AHJ) AND ADEQUATE VEGETATIVE GROWTH INSURES NO FURTHER EROSION OF THE SOIL. ADDITIONAL SILTATION CONTROL DEVICES MAY BE REQUIRED AS DIRECTED BY THE CITY.

15. WHEN CLEARING AND/OR GRADING OPERATIONS ARE COMPLETED OR SUSPENDED FOR MORE THAN 30 DAYS, ALL NECESSARY PRECAUTIONS SHALL BE TAKEN TO RETAIN SOIL MATERIALS ON SITE. PROTECTIVE MEASURES MAY BE REQUIRED BY THE DIRECTOR OF PUBLIC WORKS / CITY ENGINEER SUCH AS PERMANENT SODDING, PERIODIC WETTING, MULCHING, OR OTHER SUITABLE MEANS.

16. SILTATION DEVICES SHALL BE INSPECTED PERIODICALLY FOR DAMAGE AND FOR THE AMOUNT OF SEDIMENT WHICH HAS ACCUMULATED. REMOVAL OF SEDIMENT WILL BE REQUIRED WHEN IT REACHES 1/2 THE HEIGHT OF THE SILTATION DEVICE.

17. SAWCUT EXISTING PAVEMENT FULL DEPTH TO ASSURE A SMOOTH MATCH BETWEEN THE EXISTING AND NEW PAVEMENT. REMOVE ENOUGH PAVEMENT TO ACCOMMODATE NEW WORK.

18. PROPOSED GRADES SHALL BE WITHIN 0.1 FEET, MORE OR LESS, OF THOSE SHOWN ON THE GRADING PLAN.

19. NO GRADING OR EXCAVATION SHALL OCCUR ON THE SITE UNTIL A PERMIT IS SECURED FROM THE AHJ AND THE SILTATION CONTROL DEVICES INDICATED ARE INSTALLED AND FUNCTIONING.

20. ALL AREAS DISTURBED BY CONSTRUCTION, EXCLUDING PAVED AREAS, SHALL RECEIVE FESCUE SOD WITHIN 30 DAYS FROM THE COMPLETION OF GRADING OPERTIONS AND SHALL BE MAINTAINED FOR A PERIOD OF TWO (2) WEEKS THEREAFTER. SOD PLACEMENT AND MAINTENANCE SHALL CONFORM IN ALL RESPECTS WITH THE PROJECT SPECIFICATIONS.

21. NOTIFY THE OWNER 48 HOURS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

22. NO EXCAVATION SHALL BE MADE SO CLOSE TO THE PROPERTY LINE AS TO ENDANGER ANY ADJOINING PROPERTY OF ANY PUBLIC OR PRIVATE STREET WITHOUT SUPPORTING AND PROTECTING SUCH PUBLIC OR PRIVATE STREET OR PROPERTY FROM SETTLING, CRACKING, OR OTHER DAMAGE.

23. ALL EXCAVATIONS, GRADING, OR FILLING SHALL HAVE A FINISHED GRADE NOT TO EXCEED A FOUR HORIZONTAL TO ONE VERTICAL (4:1) SLOPE UNLESS SPECIFICALLY APPROVED BY THE OWNER.

24. DIMENSIONS ARE TO FACE OF CURB, FACE OF WALL, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

25. ALL FILLS PLACED UNDER PAVED AREAS, INCLUDING TRENCH BACKFILLS WITHIN AND OFF ROAD RIGHT-OF-WAY, SHALL BE COMPACTED TO 95% PER ASTM D698 FOR THE ENTIRE DEPTH OF THE FILL. COMPACTED GRANULAR BACKFILL IS REQUIRED IN ALL TRENCH EXCAVATION WITHIN THE STREET RIGHT-OF-WAY AND UNDER ALL PAVED AREAS. ALL TESTS SHALL BE PERFORMED UNDER THE DIRECTION OF AND VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACKFILLING OPERATIONS.

CITY OF BALLWIN STANDARD NOTES:

1. AT LEAST ONCE EVERY WEEK AND AFTER EVERY RAINFALL EVENT OF 0.25 INCHES OR MORE, EROSION AND SILTATION CONTROL DEVICES SHALL BE INSPECTED FOR DAMAGE AND AMOUNT OF SEDIMENTATION ACCUMULATED AND CORRECTIVE ACTIONS TAKEN. REPORTS OF THE INSPECTIONS AND CORRECTIVE ACTIONS SHALL BE PREPARED AND SUBMITTED TO THE CITY WITHIN 5 DAYS OF THE DATE OF THE INSPECTION.

2. TEMPORARY SILTATION CONTROL MEASURES (STRUCTURAL) SHALL BE MAINTAINED UNTIL VEGETATIVE COVER IS ESTABLISHED AT A SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL ON THE SITE.

3. ALL FINISHED GRADES (AREAS NOT TO BE DISTURBED BY FUTURE IMPROVEMENT) IN EXCESS OF 20% SLOPES (5:1) SHALL BE MULCHED AND TACKED AT THE RATE OF 100 POUNDS PER 1,000 SQUARE FEET WHEN SEEDED AS SOON AS POSSIBLE AFTER FINAL PLACEMENT. THIS IS A TEMPORARY CONSTRUCTION CONDITION. THE CONTRACTOR IS REQUIRED TO SOD ALL AREAS DISTURBED BY CONSTRUCTION THAT ARE NOT PAVED OR OCCUPIED BY A STRUCTURE AS A FINAL SITE CONDITION.

4. DEBRIS AND FOUNDATION MATERIAL FROM ANY EXISTING IMPROVEMENT WHICH IS SCHEDULED TO BE DEMOLISHED FOR THIS DEVELOPMENT MUST BE PROPERLY DISPOSED OF OFF-SITE.

5. SHOULD SEDIMENT CONTAINMENT DEVICES FAIL AND SEDIMENT IS TRANSPORTED FROM THE SITE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING THE TRANSPORTED DEBRIS FROM THE AFFECTED PUBLIC AND/OR PRIVATE AREAS. THE DEBRIS MAY BE EITHER SPREAD OUT ON THE SCHOOL DISTRICT PROPERTY OR TRANSPORTED AND DISPOSED OF OFFSITE IN A LEGAL MANNER. THE AFFECTED AREA DAMAGED SHALL BE RESTORED TO THE CONDITIONS THAT EXISTED PRIOR TO THE CONTAINMENT DEVICE FAILURE.

GRADING PERMIT APPLICATION NOTES:

1. CONTRACTOR SHALL STORE ONSITE AN EXTRA 10% OF REQUIRED EROSION AND SILTATION CONTROL DEVICE QUANTITIES FOR EMERGENCIES.

2. SWPPP COMPLIANCE REPORTS TO BE SUBMITTED WEEKLY AND AFTER HEAVY RAINFALL TO BOTH THE CITY AND TO THE OWNER. THE CONTRACTOR SHALL PROVIDE THE NAME AND TELEPHONE NUMBER OF THE PERSON DESIGNATED TO PERFORM THE INSPECTIONS AND PROVIDE THE REPORTS.

POLLUTION PREVENTION PROCEDURES:

1. HANDLING AND DISPOSAL OF HAZARDOUS MATERIALS

DO: PREVENT SPILLS
USE PRODUCTS UP
FOLLOW LABEL DIRECTIONS FOR DISPOSAL
REMOVE LIDS FROM EMPTY BOTTLES AND CANS WHEN DISPOSING IN TRASH
RECYCLE WASTES WHENEVER POSSIBLE

DON'T: POUR WASTE INTO SEWERS OR WATERWAYS ON THE GROUND
POUR WASTE DOWN THE SINK, FLOOR DRAIN OR SEPTIC TANKS
BURY CHEMICALS OR CONTAINERS, OR DISPOSE OF THEM WITH CONSTRUCTION DEBRIS
BURN CHEMICALS OR CONTAINERS
MIX CHEMICALS TOGETHER

2. CONTAINERS SHALL BE PROVIDED FOR COLLECTION OF ALL WASTE MATERIAL INCLUDING CONSTRUCTION DEBRIS, TRASH, PETROLEUM PRODUCTS AND ANY HAZARDOUS MATERIALS TO BE USED ONSITE. ALL WASTE MATERIAL SHALL BE DISPOSED OF AT FACILITIES APPROVED FOR THAT MATERIAL.

3. NO WASTE MATERIALS SHALL BE BURIED ON-SITE.

4. MIXING, PUMPING, TRANSFERRING OR OTHERWISE HANDLING CONSTRUCTION CHEMICALS SUCH AS FERTILIZER, LIME, ASPHALT, CONCRETE DRYING COMPOUNDS, AND ALL OTHER POTENTIALLY HAZARDOUS MATERIALS SHALL BE PERFORMED IN AN AREA AWAY FROM ANY WATERCOURSE, DITCH OR STORM DRAIN.

5. EQUIPMENT FUELING AND MAINTENANCE, OIL CHANGING, ETC. SHALL BE PERFORMED ONLY IN AN AREA DESIGNATED FOR THAT PURPOSE. THE DESIGNATED AREA IS EQUIPPED FOR RECYCLING OIL AND CATCHING SPILLS.

6. CONCRETE WASH WATER SHALL NOT BE ALLOWED TO FLOW DIRECTLY TO STORM SEWERS, STREAMS, DITCHES, LAKES, ETC. WITHOUT BEING TREATED. A SUMP OR PIT SHALL BE CONSTRUCTED TO CONTAIN CONCRETE WASH WATER.

7. IF SUBSTANCES SUCH AS OIL, DIESEL FUEL, HYDRAULIC FLUID, ANTIFREEZE, ETC. ARE SPILLED, LEAKED, OR RELEASED ONTO SOIL, THE SOIL SHALL BE DUG UP AND DISPOSED OF AT A LICENSED SANITARY LANDFILL (NOT A CONSTRUCTION/DEMOLITION DEBRIS LANDFILL). SPILLS ON PAVEMENT SHALL BE ABSORBED WITH SAWDUST, KITTY LITTER OR PRODUCT DESIGNED FOR THAT PURPOSE AND DISPOSED OF AT A LICENSED SANITARY LANDFILL. HAZARDOUS OR INDUSTRIAL WASTES SUCH AS MOST SOLVENTS, GASOLINE, OIL-BASED PAINTS, AND CEMENT CURING COMPOUNDS REQUIRE SPECIAL HANDLING. THESE MATERIALS WILL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH MoDNR REQUIREMENTS.

8. STATE LAW REQUIRES THE PARTY RESPONSIBLE FOR A PETROLEUM PRODUCT SPILL IN EXCESS OF 50 GALLONS TO REPORT THE SPILL TO MoDNR (531-634-2436) AS SOON AS PRACTICAL AFTER DISCOVERY. FEDERAL LAW REQUIRES THE RESPONSIBLE PARTY TO REPORT ANY RELEASE OF OIL IF IT REACHES OR THREATENS A SEWER, LAKE, CREEK, STREAM, RIVER, GROUNDWATER, WETLAND, OR AREA, LIKE A ROAD DITCH, THE DRAINS INTO ONE OF THE ABOVE.

9. SUFFICIENT TEMPORARY TOILET FACILITIES TO SERVE THE NUMBER OF WORKERS ON THE SITE SHALL BE PROVIDED. THE FACILITIES SHALL BE SERVICED FREQUENTLY TO MAINTAIN A SANITARY CONDITION.

MSD STANDARD CONSTRUCTION:

ALL STORM AND SANITARY SEWER STRUCTURES AND APPURTENANCES TO BE DEDICATED TO MSD, OR TO BE PRIVATE UNDER MSD INSPECTION, SHALL CONFORM TO THE METROPOLITAN ST. LOUIS SEWER DISTRICT, STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES, 2004. THAT WILL INCLUDE STANDARD DETAILS SHOWN THEREIN, AND SHALL INCLUDE ALL SUBSEQUENT CHANGES MADE THERETO.

SOME RECENT CHANGES CONCERN PIPE FIELD TESTING AND PERFORMANCE, AND INCLUDE THE FOLLOWING:

PART 4 - PIPE SEWER CONSTRUCTION

SECTION B, PIPE FIELD TESTS, PARAGRAPH 2, REACH INTEGRITY TESTING - DELETE THE FIRST SENTENCE AND THE FOLLOWING REPLACEMENT APPLIES:

ALL SANITARY AND COMBINED SEWERS SHALL SUSTAIN A MAXIMUM LEAKAGE LIMIT OF 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY, AS REQUIRED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES SPECIFICATIONS.

SECTION B, PIPE FIELD TESTS, PARAGRAPH 2, REACH INTEGRITY TESTING, SUBPARAGRAPH C, INFILTRATION/EXFILTRATION TESTING - DELETE THE SIXTH SENTENCE CONCERNING LEAKAGE LIMITS, AND THE FOLLOWING REPLACEMENT APPLIES:

THE MEASUREMENT OF LEAKAGE SHALL NOT EXCEED 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY, AS REQUIRED BY THE MISSOURI DEPARTMENT OF NATURAL RESOUCES SPECIFICATIONS.

SECTION B, PIPE FIELD TESTS, PARAGRAPH 4, MANHOLE TESTING, SUBPARAGRAPH A, VACUUM TESTING - AFTER THE FIRST SENTENCE, THE FOLLOWING ADDITION APPLIES:

THE VACUUM TEST MUST BE PERFORMED PRIOR TO BACKFILLING AROUND THE MANHOLE UNLESS THE CONTRACTOR PROVIDES DOCUMENTATION FROM THE PRECAST MANHOLE MANUFACTURER STATING THAT THE MANHOLE MAY BE VACUUM TESTED AFTER BACKFILLING HAS TAKEN PLACE. THE CONTRACTOR MUST SUBMIT THIS DOCUMENTATION PRIOR TO BACKFILLING AROUND ANY MANHOLE.

SECTION B, PIPE FIELD TESTS, PARAGRAPH 4, MANHOLE TESTING, SUBPARAGRAPH B, EXFILTRATION TESTING - DELETE THE SECOND SENTENCE, CONCERNING LEAKAGE LIMITS, AND THE FOLLOWING ADDITION APPLIES:

FOR EXFILTRATION TESTING, THE ALLOWABLE LEAKAGE LIMIT IS 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY WHEN THE AVERAGE HEAD ON THE TEST SECTION IS THREE FEET (3') OR LESS

LEGEND EXISTING

SANITARY SEWER	
STORM SEWER	
WATER MAIN	W
ELECTRIC	E
COMMUNICATION	T
FIBER OPTIC	FO
GAS	G
OVERHEAD ELECTRIC	OHE
STORM MANHOLE	
STORM INLET	
SANITARY MANHOLE	
CLEANOUT	VENT
ELECTRIC MANHOLE	EMH
ELECTRIC BREAKER OUTLET BOX	ELEC OUTLET BOX
ELEC METER	EM
GAS VALVE	GV
PHONE CABLE BOX	TELE J.B.
ELECTRIC TRANSFORMER BOX	ELEC TRANSFORMER BOX
POWER POLE	PP
LIGHT STANDARD	LS
GAS METER	GM
GAS VALVE	GV
SMALL DRAIN	
WATER MANHOLE	WMH
WATER METER	WM
WATER VALVE	WV
FIRE HYDRANT	FH
SPRINKLER	SPRINKLER
TELEPHONE MANHOLE	TMH
PULL BOX	PB
TRAFFIC SIGNAL CONTROL BOX	TFC CONTROLLER
BUSH	
STUMP	STUMP
TREE	
BOLLARD	
SIGN	
EDGE OF ASPH PAVEMENT	
EDGE OF CONC PAVEMENT	
FLOW DIRECTION OF SEWER LINE	
TEST HOLE	TH

LEGEND NEW WORK

CONTOUR	ELEV
SPOT ELEVATION	ELEV
STORM SEWER	
SANITARY SEWER	
MANHOLE	
CURB INLET	
GRATE INLET	
WATER LINE	W
FIRE HYDRANT	
GAS SERVICE	G
ELECTRIC SERVICE	E
TELEPHONE SERVICE	T
CONCRETE PAVEMENT	
ASPHALT PAVEMENT	
TO BE REMOVED	T.B.R.
USE IN PLACE	U.I.P.
ADJUST TO GRADE	A.T.G.
TO BE REMOVED & REPLACED	T.B.R.&R.
TO BE PROTECTED	T.B.P.
TO BE ABANDONED	T.B.A.
REVOVE ALL SURFACE IMPROVEMENTS	
SILTATION CONTROL	
SAWCUT	

Stanley P. Visnovske
E-18136
Professional Engineer

THE SEAL OF STANLEY P. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

222 SOUTH CENTRAL AVE.
SUITE# 100
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority #2009027409

Larson Engineering
Structural Engineer
Consultant Project Number:
Certificate of Authority #2007006032
13729 Riverport Drive, Suite A
Maryland Heights, MO 63043-4811
314.731.4710 tel
314.731.4712 fax

BRIC Partnership, LLC
MEP & Fire Protection Engineer
Project Number: 2005-201
Certificate of Authority #2002028690
138 W. Adams
Kirkwood, MO 63122
314.725.5989 tel
618.277.5200 fax

EDSI, Inc.
Civil Engineer
Consultant Project Number:
Certificate of Authority #001523
16141 Swingley Ridge Road, Suite 300
St. Louis, MO 63017
636.534.7037 tel
636.537.0276 fax

Henry Elementary School
700 Henry Avenue, Ballwin, MO 63011
Parkway Project PN 121501B
Classroom Additions

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 15037

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or duplicated, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2016 by Bond Architects, Inc.

NOT FOR CONSTRUCTION

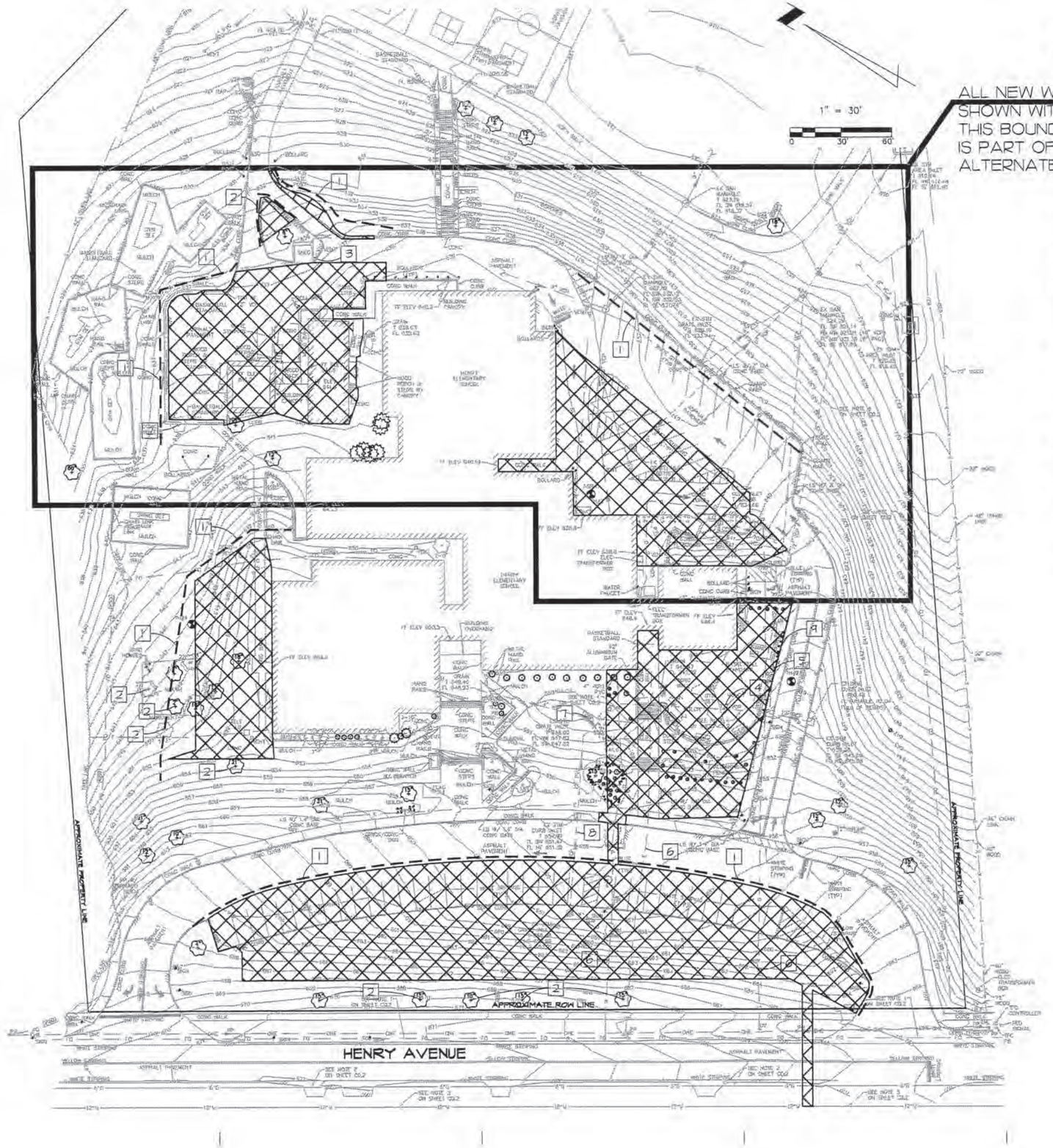
The Professional Services rendered by the Architect are offered to the client solely for the internal and bona fide use of the client. All drawings, instruments of service, documents and electronic files prepared by the Architect are not to be considered instruments for this project, and the architect expressly disclaims any and all responsibilities for such use, changes or assignment not authorized by the Architect.

DATE: 11/16/2015

Legend and General Notes

C0

8/6/2015 12:04:04 PM



8/6/2015 12:04:04 PM

KEYED DEMOLITION NOTES (THIS SHEET ONLY):

1. SILTATION CONTROL. SEE DETAIL ON SHEET C5
2. USE EXISTING TREE IN PLACE AND PROTECT FROM DAMAGE DURING CONSTRUCTION. IF THE TREE IS DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION ACTIVITY, IT SHALL BE REPLACED BY THE CONTRACTOR WITH A TREE OF SIMILAR CALIPER, TYPE AND HEIGHT AT NO COST TO THE OWNER. IN LIEU OF REPLACEMENT, THE CONTRACTOR MAY PROVIDE THE OWNER WITH A WRITTEN REPORT PREPARED AND SIGNED BY A PROFESSIONAL ARBORIST WITH AT LEAST 5 YEARS EXPERIENCE AS AN ARBORIST THAT ASSESS THE CONDITION OF THE TREE AND THE LIKELIHOOD THAT THE TREE WILL SURVIVE AFTER APPLYING RECOMMENDED REPAIRS. THE OWNER SHALL HAVE THE SOLE DISCRETION OF REQUIRING THE CONTRACTOR TO REPLACE THE DAMAGED TREE REGARDLESS OF THE CONTENT AND RECOMMENDATION OF THE ARBORIST'S REPORT.
3. USE EXISTING SHED IN PLACE. PROTECT FROM DAMAGE DURING CONSTRUCTION. IF SHED IS DAMAGED BY THE CONTRACTOR, IT SHALL BE REPLACED AT NO COST TO THE OWNER.
4. RELOCATE EXISTING SEWER LINE. SEE SHEET C2 AND C4 FOR NEW SEWER LOCATION.
5. USE A PORTION OF THE EXISTING WALL IN PLACE (SEE SHEET C2). PROTECT FROM DAMAGE DURING CONSTRUCTION. IF WALL IS DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION ACTIVITY, IT SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.
6. EXISTING UNDERGROUND UTILITY LINE SHALL BE REMOVED WHERE IT INTERFERES WITH CONSTRUCTION. CONTRACTOR SHALL REMOVE EXISTING LINE. CONTRACTOR IS NOT ALLOWED TO ABANDONED THE LINE IN PLACE. SEE UTILITY PLAN (C4) FOR NEW LOCATION.
7. CONNECT EXISTING 6"PVC DRAIN LINE TO RELOCATED 12" PVC. SEE UTILITY PLAN (C4) FOR NEW LOCATION.
8. CAP EXISTING 8" PIPE AT INLET. EXISTING LINE RUNNING WESTWARD FROM INLET MAY BE ABANDONED IN PLACE. PIPE SHALL BE FILLED WITH GROUT AND CAPPED ON THE WEST SIDE OF THE EXISTING DRIVEWAY.
9. USE A PORTION OF THE EXISTING FENCE IN PLACE. PROTECT FROM DAMAGE DURING CONSTRUCTION. IF FENCE IS DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION ACTIVITY, IT SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.

DEMOLITION PLAN NOTES:

1. WHERE NATURAL VEGETATION IS REMOVED DURING GRADING, VEGETATION SHALL BE RE-ESTABLISHED IN SUCH A DENSITY AS TO PREVENT EROSION.
2. WHEN CLEARING AND/OR GRADING OPERATIONS ARE COMPLETED OR SUSPENDED FOR MORE THAN 5 DAYS IN ANY AREA, THE DISTURBED AREA SHALL BE SEEDED OR OTHERWISE STABILIZED TO SIGNIFICANTLY REDUCE THE ERODABILITY OF THE SOIL. PROTECTIVE MEASURES MAY INCLUDE A COMBINATION OF SEEDING, SODDING, MULCHING OR OTHER SUITABLE MEANS TO PROTECT THE GROUND SURFACE FROM EROSION. ANY ACTION TAKEN TO REDUCE ERODABILITY OTHER THAN SOD SHALL BE A TEMPORARY SOLUTION. THE CONTRACTOR SHALL SOD ALL DISTURBED AREA THAT ARE NOT OCCUPIED BY EITHER PAVEMENT OR STRUCTURE AS REQUIRED BY THE PROJECT SPECIFICATIONS AS A FINAL SITE CONDITION.
3. IF CUT AND FILL OPERATIONS OCCUR DURING A SEASON NOT FAVORABLE FOR IMMEDIATE ESTABLISHMENT OF PERMANENT GROUND COVER, A FAST GERMINATING ANNUAL SUCH AS RYE GRASSES OR SUDAN GRASSES SHALL BE UTILIZED TO RETARD EROSION.
4. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
5. EROSION AND SILTATION CONTROL SHALL BE INSTALLED PRIOR TO ANY GRADING AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY THE OWNER AND /OR CONTROLLING REGULATORY AGENCY AND ADEQUATE VEGETATIVE GROWTH INSURES NO FURTHER EROSION OF THE SOIL.
6. STORM WATER PIPES, OUTLETS AND CHANNELS SHALL BE PROTECTED BY SILT BARRIERS AND KEPT FREE OF WASTE AND SILT AT ALL TIMES PRIOR TO FINAL SURFACE STABILIZATION AND/OR PAVING.
7. SILTATION CONTROL DEVICES SHALL BE INSPECTED PERIODICALLY FOR DAMAGE AND FOR THE AMOUNT OF SEDIMENT WHICH HAS ACCUMULATED. REMOVAL OF SEDIMENT WILL BE REQUIRED WHEN IT REACHES 1/2 THE HEIGHT OF THE SILTATION CONTROL DEVICE.
8. ADDITIONAL SILTATION CONTROL MAY BE REQUIRED AS DEEMED NECESSARY BY THE CITY.
9. THE CONTRACTOR SHALL REMOVE ALL SURFACE IMPROVEMENTS INCLUDING, BUT NOT LIMITED TO, PAVEMENT, CURBS, TREES, SIGNS, BOLLARDS, ELETCTRICAL OUTLETS, FENCING, GUARDRAIL, UTILITY COVERS, ETC, WITHIN THE AREA NOTED BY THE LEGEND SYMBOL ▨ ON THIS SHEET. THERE ARE EXCEPTIONS. THE EXCEPTIONS ARE NOTED ON THIS SHEET BY KEYED NOTES OR ABBREVIATIONS.

Stanley P. Visnovske
E-19116
Professional Engineer

THE SEAL OF STANLEY P. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR, GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

222 SOUTH CENTRAL AVE.
SUITE# 100
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority #2009027409

Larson Engineering
Structural Engineer
Consultant Project Number:
Certificate of Authority #2007006032
13729 Riverport Drive, Suite A
Maryland Heights, MO 63043-4811
314.731.4710 tel
314.731.4712 fax

BRIC Partnership, LLC
MEP & Fire Protection Engineer
Project Number: 2020-201
Certificate of Authority #2002028690
138 W. Adams
Kirkwood, MO 63122
314.725.5889 tel
618.277.5200 fax

EDSI, Inc.
Civil Engineer
Consultant Project Number:
Certificate of Authority #001523
16141 Swingley Ridge Road, Suite 300
St. Louis, MO 63017
636.534.7037 tel
636.537.0275 fax

Henry Elementary School
700 Henry Avenue, Ballwin, MO 63011
Parkway Project PN 121501B
Classroom Additions

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 15037

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may not be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purposes or projects without the written consent of the Architect.
Copyright © 2014 by Bond Architects, Inc.

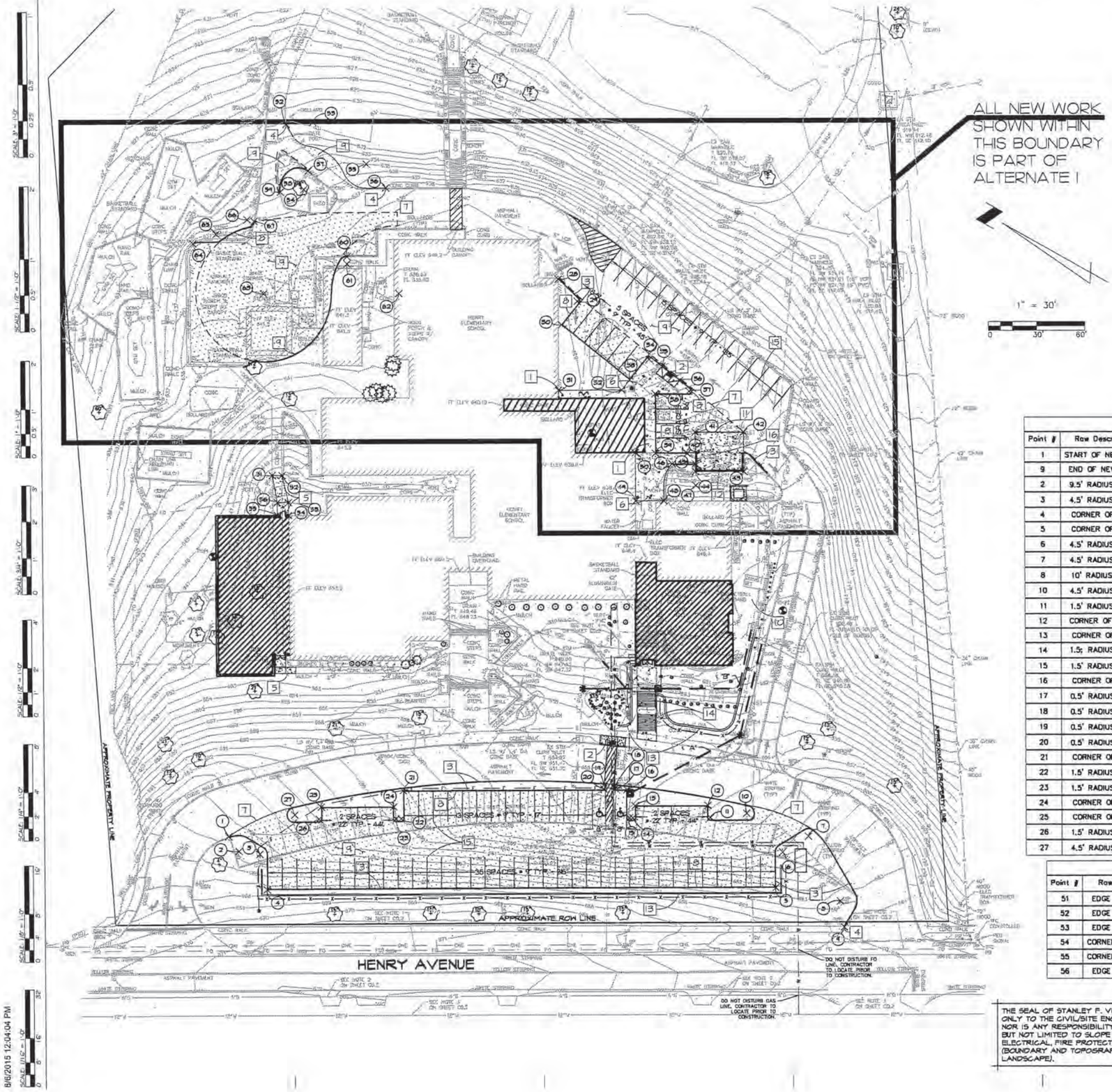
NOT FOR CONSTRUCTION

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, components or other documents not exhibiting this seal shall not be considered prepared by the architect, and this architect expressly disclaims any and all responsibility for such plans, drawings or documents not exhibiting this seal.

DATE: 11/16/2015

Demolition Plan

C1



SITE PLAN KEYED NOTES (THIS SHEET ONLY):

1. NEW 5' WIDE CONCRETE SIDEWALK.
2. NEW CONCRETE SIDEWALK RAMP.
3. NEW VERTICAL CONCRETE CURB.
4. NEW CURB TURNDOWN
5. NEW CONCERTE SIDE WALK SEE SHEET C5.
6. NEW CONCRETE SIDEWALK SHALL BE FULL SLAB REPLACEMENT FROM JOINT TO JOINT. (TYP).
7. SAWCUT AND MATCH NEW ASPHALT PAVEMENT TO EXISTING ASPHALT ELEVATION.
8. NEW ASPHALT PAVEMENT AND VERTICAL CONCRETE CURB, SEE DETAIL ON SHEET C5.
9. NEW ASPHALT PAVEMENT
10. OWNER TO REPLACE PLAYING EQUIPMENT AND INSTALL 6" OF PLAYGROUND MULCH. TO MATCH EXISTING MULCH IN PLAYING AREA.
11. PROVIDE CONCRETE PAD AT DUMPSTER PER MODOT SECTION 501. (SEE DETAIL ON SHEET C5)
12. NEW DUMPSTER ENCLOSURE.
13. NEW MODULAR BLOCK RETAINING WALL TO MATCH EXISTING WALL TYPE AND PATTERN.
14. NEW CONCRETE STEPS.
15. NEW 4' WHITE PARKING LOT STRIPING.
16. CONVERT EXISTING CURB INLET TO MANHOLE.

Point Table			
Point #	Raw Description	Northing	Easting
1	START OF NEW CURB	1011255.9325	814367.8071
9	END OF NEW CURB	1010895.7739	814506.8568
2	9.5' RADIUS POINT	1011245.9901	814362.9897
3	4.5' RADIUS POINT	1011233.9322	814367.7368
4	CORNER OF CURB	1011219.1455	814350.7987
5	CORNER OF CURB	1010945.0757	814507.1679
6	4.5' RADIUS POINT	1010952.0405	814528.5311
7	4.5' RADIUS POINT	1010942.7632	814544.9197
8	10' RADIUS POINT	1010905.8552	814519.8177
10	4.5' RADIUS POINT	1010983.1771	814538.3707
11	1.5' RADIUS POINT	1011001.5550	814524.9918
12	CORNER OF CCURB	1011006.5572	814530.7568
13	CORNER OF CURB	1011045.5861	814508.4990
14	1.5; RADIUS POINT	1011043.1859	814501.2395
15	1.5' RADIUS POINT	1011044.9205	814500.2498
16	CORNER OF CURB	1011054.8575	814514.7145
17	0.5' RADIUS POINT	1011061.6091	814511.4377
18	0.5' RADIUS POINT	1011062.4309	814512.8848
19	0.5' RADIUS POINT	1011068.8065	814509.9570
20	0.5' RADIUS POINT	1011067.6803	814507.9738
21	CORNER OF CURB	1011175.4135	814445.9318
22	1.5' RADIUS POINT	1011168.0784	814429.9826
23	1.5' RADIUS POINT	1011170.6804	814428.4981
24	CORNER OF CURB	1011175.6825	814434.2731
25	CORNER OF CURB	1011214.7114	814412.0053
26	1.5' RADIUS POINT	1011212.3112	814404.7458
27	4.5' RADIUS POINT	1011226.8695	814399.5896

Point Table			
Point #	Raw Description	Northing	Easting
28	END OF CURB	1011245.8475	814770.1164
36	EDGE OF HANDICAP RAMP	1011149.9018	814752.1507
29	1.5' RADIUS POINT	1011228.9811	814764.0150
30	CORNER OF CURB	1011230.4124	814746.3725
31	EDGE OF SIDEWALK	1011212.2713	814709.9865
32	EDGE OF SIDEWALK	1011178.0924	814729.5086
33	CORNER OF CURB	1011176.7754	814737.3878
34	1.5' RADIUS POINT	1011172.4142	814754.4008
35	EDGE OF HANDICAP RAMP	1011163.6814	814754.4577
37	1.5' RADIUS POINT	1011141.6645	814749.2500
38	CORNER OF CURB	1011159.0383	814737.6897
39	CORNER OF CURB	1011140.8837	814705.4784
40	END OF CURB	1011123.9400	814715.0726
41	CORNER OF CONC PVMT	1011126.0353	814729.0596
42	CORNER OF CONC PVMT	1011099.9623	814743.8248
43	CORNER OF CONC PVMT	1011087.9408	814722.4477
44	CORNER OF CONC PVMT	1011114.0281	814707.7226
45	EDGE OF SIDEWALK	1011116.3828	814711.9068
46	CORNER OF SIDEWALK	1011128.8123	814704.8551
47	13.5' RADIUS POINT	1011109.6114	814700.2949
48	CORNER OF SIDEWALK	1011122.1388	814682.3310
49	CORNER OF SIDEWALK	1011137.2043	814673.6741
50	CORNER OF SIDEWALK	1011151.8324	814699.6704

Point Table			
Point #	Raw Description	Northing	Easting
51	EDGE OF SIDEWALK	1011341.0986	814576.7060
52	EDGE OF SIDEWALK	1011335.8416	814579.6924
53	EDGE OF SIDEWALK	1011324.3217	814566.9265
54	CORNER OF SIDEWALK	1011320.3964	814559.9619
55	CORNER OF SIDEWALK	1011326.3339	814556.5998
56	EDGE OF SIDEWALK	1011330.2593	814563.5644

Point Table			
Point #	Raw Description	Northing	Easting
57	END OF NEW PVMT	1011439.1444	814771.3136
65	END OF NEW CURB	1011366.6490	814717.9880
58	15' RADIUS POINT	1011425.3904	814780.2693
59	27' RADIUS POINT	1011410.1275	814741.1594
60	15' RADIUS POINT	1011383.9369	814773.9574
61	END OF NEW PVMT	1011366.2287	814766.9366
62	END OF CURB	1011413.2576	814752.6923
63	9.5' RADIUS POINT	1011414.8340	814742.8175
64	END OF CURB	1011421.8840	814732.7028
66	4.5' RADIUS POINT	1011364.4355	814714.0735
67	41.5' RADIUS POINT	1011327.5147	814713.8804
68	42.5 RADIUS POINT	1011400.4456	814672.4496
69	END OF NEW CURB	1011453.6355	814678.0316
70	4.5' RADIUS POINT	1011443.9059	814690.1018
71	4.5' RADIUS POINT	1011431.6476	814707.5278
72	END OF NEW PVMT	1011427.3525	814708.8422

Stanley F. Visnovske
E-18136
Professional Engineer

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDINGS OR LANDSCAPE).

222 SOUTH CENTRAL AVE.
SUITE# 100
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitecsinc.com)
Bond Architects, Inc.
Missouri State Certificate of Authority #2009037409

Larson Engineering
Structural Engineer
Consultant Project Number:
Certificate of Authority #2007008032
13729 Riverport Drive, Suite A
Maryland Heights, MO 63043-4811
314.731.4710 tel
314.731.4712 fax

BRIC Partnership, LLC
MEP & Fire Protection Engineer
Project Number: 2020-20
Certificate of Authority #2002026890
138 W. Adams
Kirkwood, MO 63122
314.725.5889 tel
618.277.5200 fax

EDSI, Inc.
Civil Engineer
Consultant Project Number:
Certificate of Authority #001523
16141 Swingley Ridge Road, Suite 300
St. Louis, MO 63017
636.534.7037 tel
636.537.0275 fax

Henry Elementary School

700 Henry Avenue, Ballwin, MO 63011
Parkway Project PN 121501B
Classroom Additions

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 15037

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, for any other purposes or project without the written consent of the Architect.
Copyright © 2014 by Bond Architects, Inc.

NOT FOR CONSTRUCTION

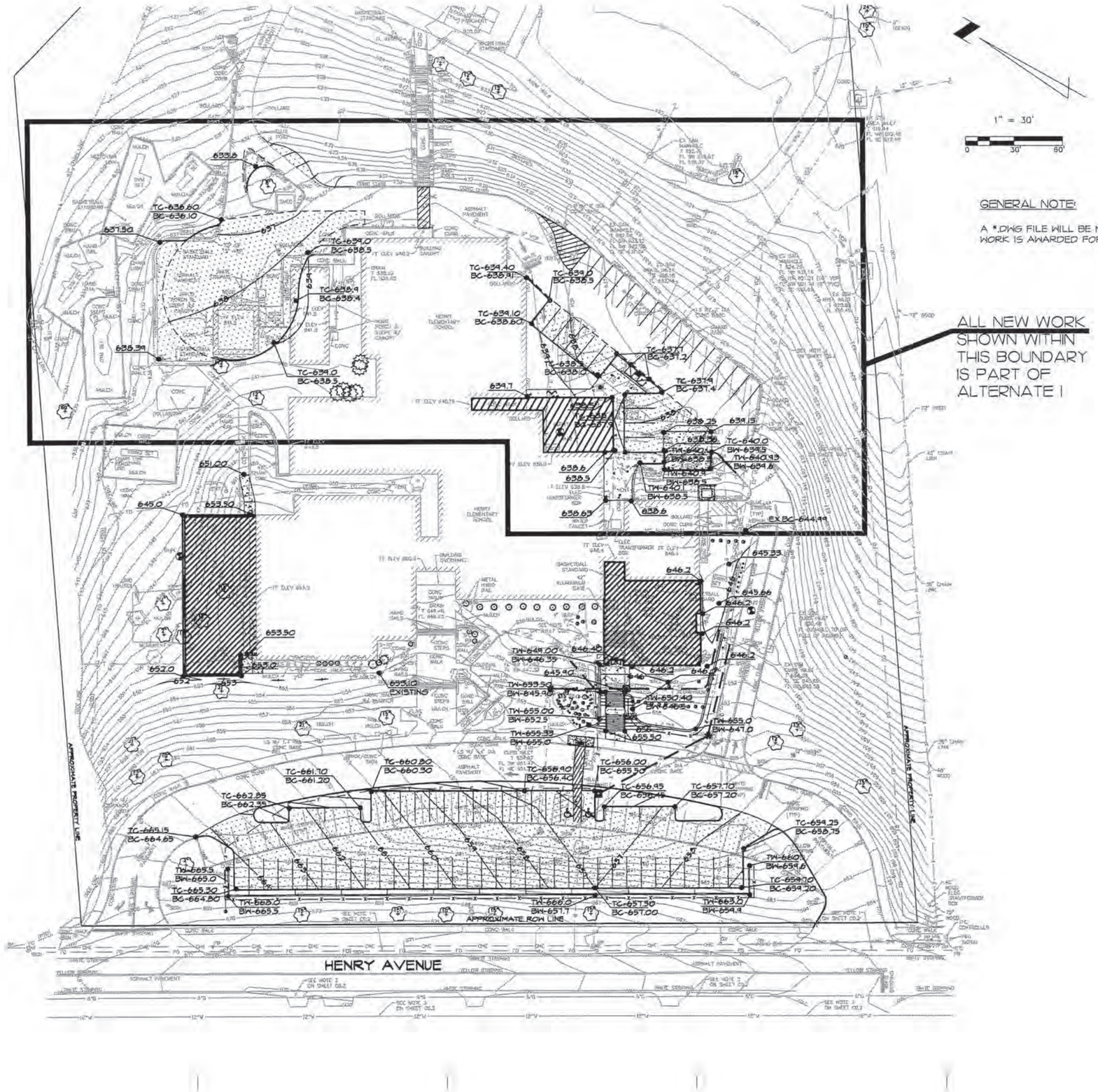
The Professional Architects seal affixed to this sheet applies only to the classes and items shown on the sheet. All drawings, instruments or other documents not authorizing this seal shall not be considered prepared by the architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not authorizing this seal.

DATE: 11/16/2015

Site Plan

C2

8/6/2015 12:04:04 PM



222 SOUTH CENTRAL AVE.
SUITE# 100
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority #2009027409

Larson Engineering
Structural Engineer
Consultant Project Number:
Certificate of Authority #2007006032
13729 Riverport Drive, Suite A
Maryland Heights, MO 63043-4811
314.731.4710 tel
314.731.4712 fax

BRIC Partnership, LLC
MEP & Fire Protection Engineer
Project Number: 2020-201
Certificate of Authority #2002028690
138 W. Adams
Kirkwood, MO 63122
314.725.5889 tel
618.277.5200 fax

EDSI, Inc.
Civil Engineer
Consultant Project Number:
Certificate of Authority #001523
16141 Swingley Ridge Road, Suite 300
St. Louis, MO 63017
636.534.7037 tel
636.537.0275 fax

Henry Elementary School
700 Henry Avenue, Ballwin, MO 63011
Parkway Project PN 121501B
Classroom Additions

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 15037

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for the specific project only. It may not be traced, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2015 by Bond Architects, Inc.

NOT FOR CONSTRUCTION

The Professional Architect has affixed to this sheet his/her seal to the contents and items shown on the sheet. All drawings, instruments or other documents not exhibiting the seal shall not be considered prepared by the architect, and the architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting the seal.

DATE: 11/16/2015

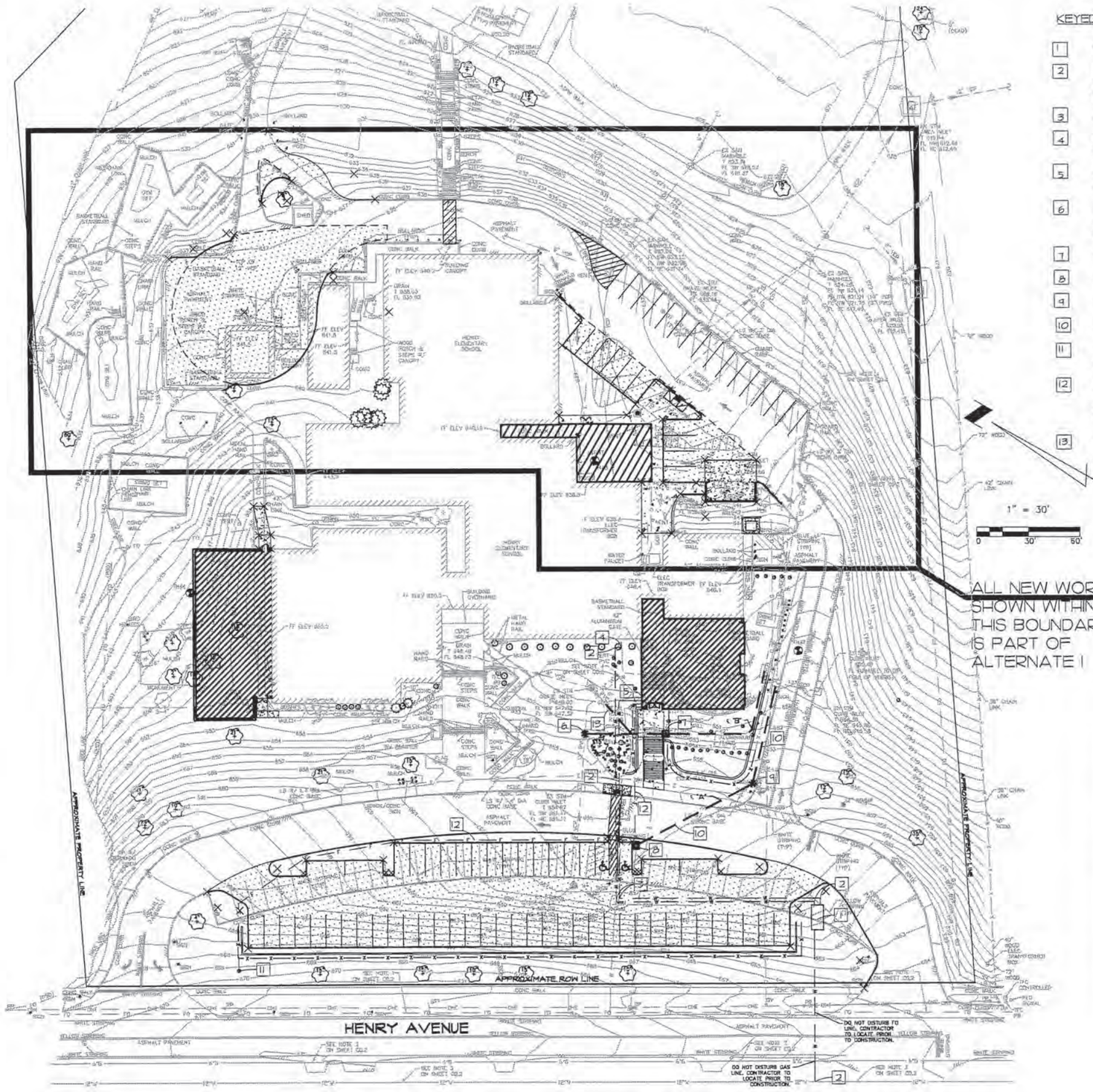
Grading Plan

C3

Stanley F. Visnovske
E-18136
Professional Engineer

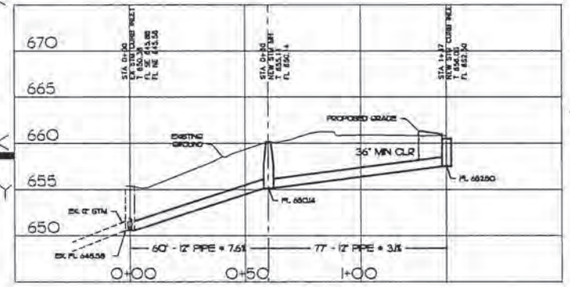
THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

8/6/2015 12:04:04 PM

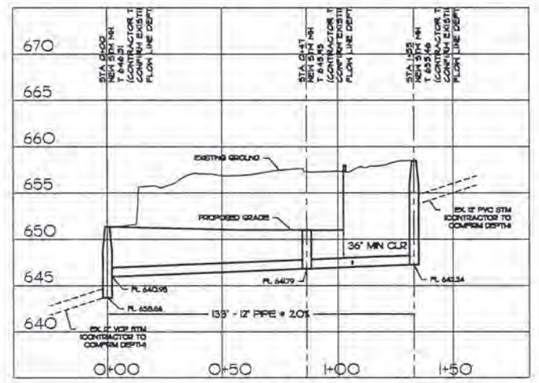


KEYED UTILITY NOTES (THIS SHEET ONLY):

1. NEW SPLIT WATER METER SERVICE VAULT.
2. NEW 6" WATER TAP. TAP OF EXISTING 12" MAIN BY MISSOURI AMERICAN WATER COMPANY (MOAC). CONTRACTOR SHALL CONTACT MOAC AND COORDINATE THE TAP OF THE MAIN AND SETTING OF NEW METER VAULT.
3. CONCRETE THRUST BLOCK
4. CONNECT NEW 3" DOMESTIC WATER SERVICE TO EXISTING DOMESTIC WATER SERVICE LINE.
5. SEE FIRE PROTECTION DRAWINGS FOR CONTINUATION OF FIRE LINE INSIDE OF THE BUILDING.
6. INTERCEPT EXISTING 12" SEWER LINE. CONSTRUCT NEW MANHOLE AND ROUTE NEW 12" PVC UNDER PLAYGROUND AND CONNECT TO EXISTING 12" PVC ON SOUTH SIDE OF NEW ADDITION., SEE ℄"B" PROFILE.
7. NEW 2-GRATE STORM INLET.
8. NEW SINGLE CURB INLET.
9. NEW STORM MANHOLE.
10. NEW 12" RCP, SEE ℄ "A" PROFILE.
11. 5" FREE STANDING STORZ FIRE DEPARTMENT CONNECTION. COORDINATE WITH LOCAL AHJ.
12. 4" FIRE PROTECTION PIPING (UNDERGROUND) EXTENDING FROM FREE-STANDING FIRE DEPARTMENT CONNECTION TO THE SPRINKLER ROOM OF ADDITION "B". COORDINATE THE TRENCH WITH THE INSTALLATION OF THE NEW FIRE MAIN AND THE EXISTING DOMESTIC WATER SUPPLY.
13. NEW 6" PIPE TO CONNECT TO NEW 12" PVC W/ 45° CONNECTION.



℄ "A" PROFILE



℄ "B" PROFILE

Stanley F. Visnovske
E-18136
Professional Engineer

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

222 SOUTH CENTRAL AVE.
SUITE# 100
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority #2009027409

Larson Engineering
Structural Engineer
Consultant Project Number:
Certificate of Authority #2007006032
13729 Riverport Drive, Suite A
Maryland Heights, MO 63043-4811
314.731.4710 tel
314.731.4712 fax

BRIC Partnership, LLC
MEP & Fire Protection Engineer
Project Number: 2020-201
Certificate of Authority #2002028690
138 W. Adams
Kirkwood, MO 63122
314.725.5889 tel
618.277.5200 fax

EDSI, Inc.
Civil Engineer
Consultant Project Number:
Certificate of Authority #001523
16141 Swingley Ridge Road, Suite 300
St. Louis, MO 63017
636.534.7037 tel
636.537.0275 fax

Henry Elementary School
700 Henry Avenue, Ballwin, MO 63011
Parkway Project PN 121501B
Classroom Additions

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 15037

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2014 by Bond Architects, Inc.

NOT FOR CONSTRUCTION

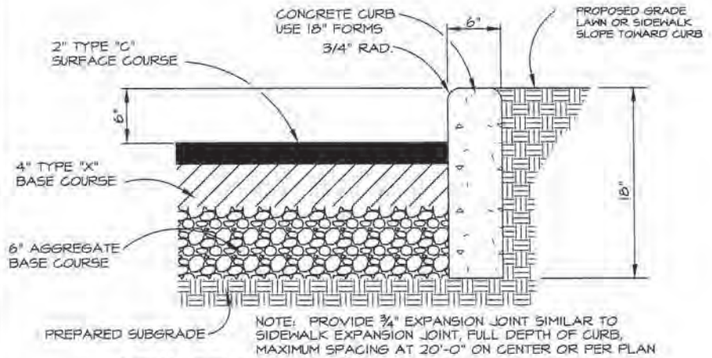
The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any kind of responsibility for such plan, drawings or documents not exhibiting this seal.

DATE: 11/16/2015

Utility Site Plan

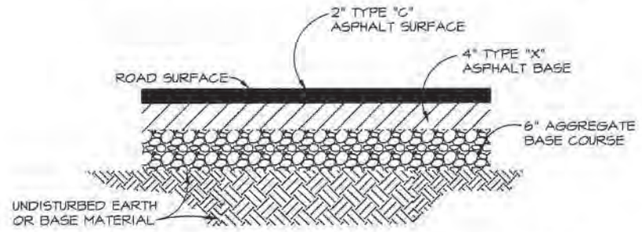
C4

8/6/2015 12:04:04 PM



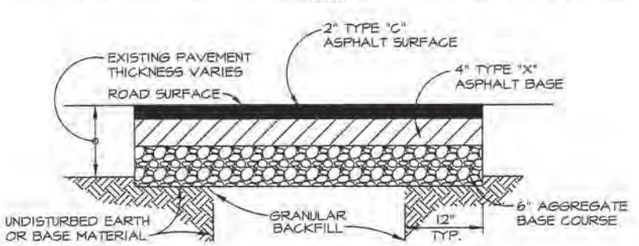
NEW VERTICAL CURB / PAVEMENT DETAIL

N.T.S.



DRIVEWAY PAVEMENT REPLACEMENT SECTION

N.T.S.

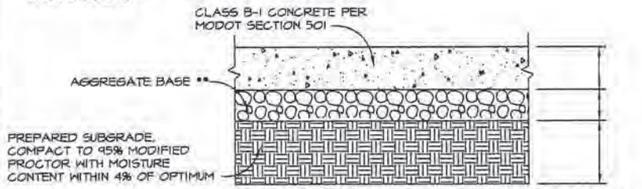


PAVEMENT REPLACEMENT FOR TRENCH SECTION

N.T.S.

NOTE:

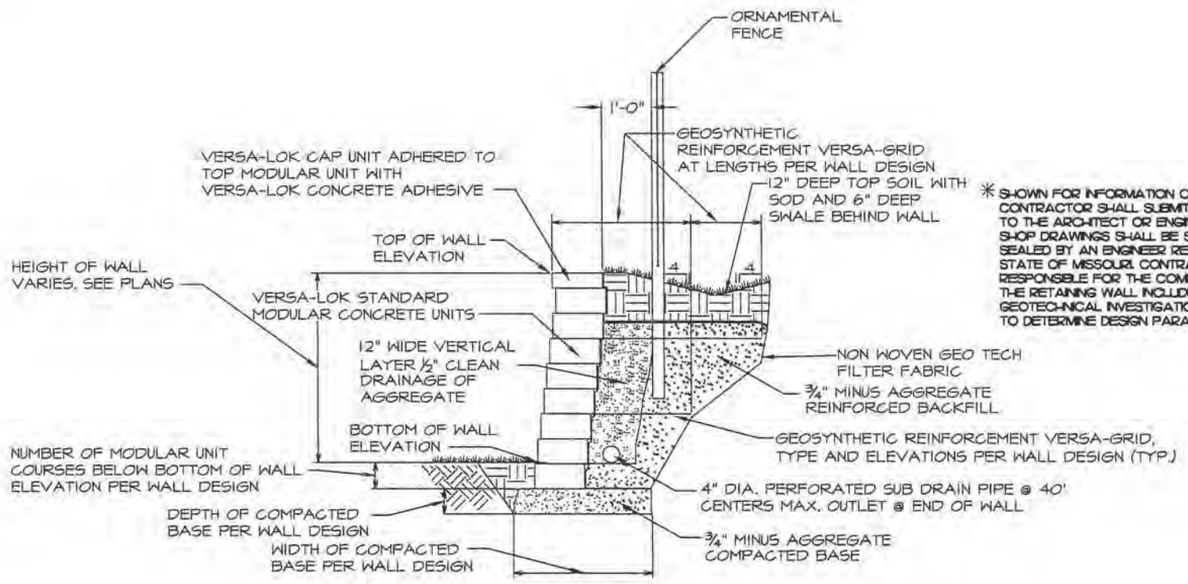
JOINT DETAILS APPY TO ALL CONCRETE PAVING AREAS.



CONCRETE PAVEMENT SECTION

N.T.S.

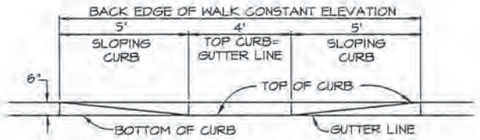
** AGGREGATE BASE SHOULD CONSIST OF MINUS-FRACTION CRUSHED STONE CONFORMING TO MISSOURI TYPE 1 OR TYPE 5 AGGREGATE. MATERIAL LOCALLY REFERRED TO AS 1-INCH MINUS CRUSHED STONE IS ACCEPTABLE EXCEPT THAT THE AMOUNT OF FINES (I.E. MATERIAL PASSING THE NO. 200 SIEVE, BY WEIGHT) MUST BE LIMITED TO 15 PERCENT



✳ SHOWN FOR INFORMATION ONLY. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ARCHITECT OR ENGINEER. SUBMITTED SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF MISSOURI. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE DESIGN OF THE RETAINING WALL INCLUDING ANY AND ALL GEOTECHNICAL INVESTIGATIONS NECCESARY TO DETERMINE DESIGN PARAMETERS.

TYPICAL SECTION-SEGMENTAL RETAINING WALL

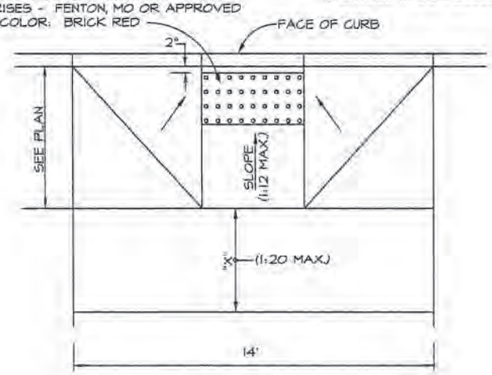
SCALE: NONE (FOR INFORMATION ONLY)



ELEVATION

24" X 48" PREMANUFACTURED IN-LAID DETECTABLE WARNING TRUNCATED DOMES ARMOR-TILE MODULAR SYSTEM BY A.S.P. ENTERPRISES - FENTON, MO OR APPROVED EQUAL. COLOR: BRICK RED

NOTE: MAINTAIN 4" SIDEWALK THICKNESS IN DEPRESSED AREA.

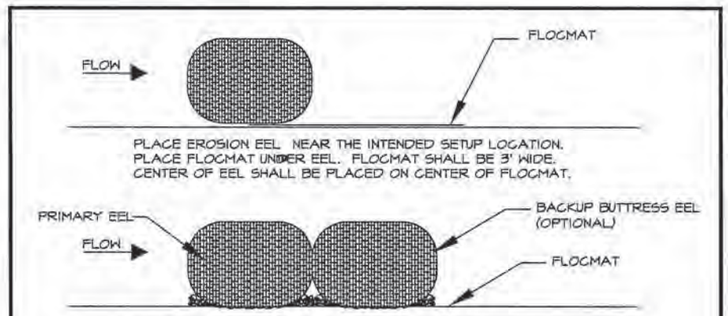


PLAN

NOTE: IF "X" IS LESS THAN 48", FLARED SIDE SLOPE SHALL NOT EXCEED 1:12.

HANDICAP RAMP

N.T.S.



MAINTENANCE:

1. KEEP BAGS FREE OF ACCUMULATED SILT, DEBRIS, ETC., UNTIL THE DISTURBED AREA HAS BEEN ADEQUATELY STABILIZED.
2. REMOVE SEDIMENT AND DEBRIS WHEN ACCUMULATION AFFECTS THE PERFORMANCE OF THE DEVICE, AFTER A RAIN, AND WHEN DIRECTED.
3. REPAIR OR REPLACE DAMAGED DEVICES THAT ARE TORN OR PUNCTURED AS REQUIRED TO MAINTAIN THE INTEGRITY OF THE DEVICE.

SILTATION CONTROL DETAIL

N.T.S.

Stanley F. Visnovske
IL 181.0x
Professional Engineer

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

222 SOUTH CENTRAL AVE.
SUITE# 100
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority #2009027409

Larson Engineering
Structural Engineer
Consultant Project Number:
Certificate of Authority #2007005032
13739 Riverport Drive, Suite A
Maryland Heights, MO 63043-4811
314.731.4710 tel
314.731.4712 fax

BRIC Partnership, LLC
MEP & Fire Protection Engineer
Project Number: 20201-201
Certificate of Authority #2002026661
138 W. Adams
Kirkwood, MO 63122
314.725.5889 tel
618.277.5200 fax

EDSI, Inc.
Civil Engineer
Consultant Project Number:
Certificate of Authority #001523
16141 Swingley Ridge Road, Suite 200
St. Louis, MO 63017
636.534.7037 tel
636.537.0275 fax

Henry Elementary School
700 Henry Avenue, Ballwin, MO 63011
Parkway Project PN 121501B
Classroom Additions

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 15037

Revisions

Description	Date

This drawing and the details on it are the sole property of the Architect and may be used for one specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2014 by Bond Architects, Inc.

NOT FOR CONSTRUCTION

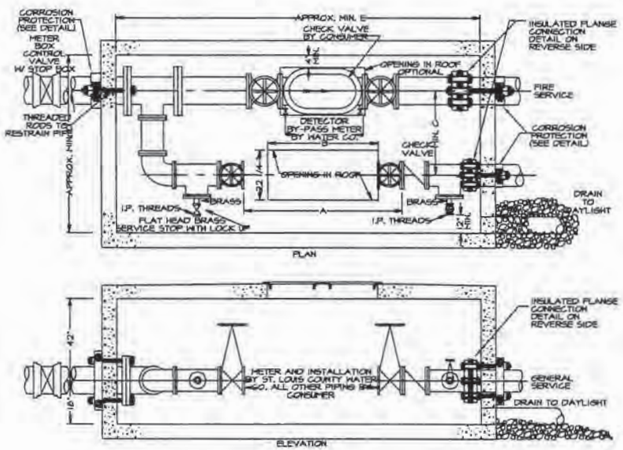
The Professional Architects seals affixed to this sheet applies only to the drawing and shall in no way be construed to apply to any other drawings or specifications prepared by other consultants. Such consultant expressly disclaims any and all responsibility for such other drawings or documents not including his own.

DATE: 11/16/2015

Details

C5

8/6/2015 12:04:04 PM

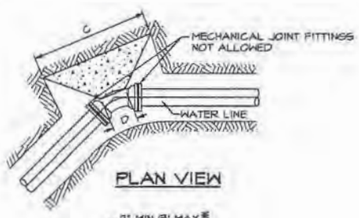


NOTES

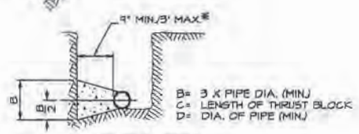
GENERAL SERVICE BYPASS					1"			FIRE SERVICE 4"			6"			4"		
SIZE	MIN. SIZE	A	B	C	D	E	C	D	E	C	D	E	C	D	E	C	D	E
IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1 1/2	1	30	33 1/4	28	12	6.03	36	12	40	50	66	84	21	60	84			
2	1	30	33 1/4	28	12	6.03	36	12	40	50	66	84	21	60	84			
3	1 1/2	34	37 1/2	32	24	7.56	36	12	40	50	66	84	21	60	84			
4	1 1/2	34	37 1/2	32	24	7.56	36	12	40	50	66	84	21	60	84			
6	2	40	43 1/2	38	24	7.56	36	24	48	50	66	84	21	60	84			
8	2	46	49 1/2	44	24	7.56	36	24	48	50	66	84	21	60	84			
8	3	46	49 1/2	44	24	7.56	36	24	48	50	66	84	21	60	84			

1. VAULT WALLS TO BE OF CONCRETE OR PRECAST CONCRETE.
2. VAULT ROOF TO BE OF REINFORCED CONCRETE WITH OPENING CENTERED OVER GENERAL SERVICE METER.
3. LIDS AND FRAMES OR OPENING TO BE SET IN PLACE, NOT IN CONCRETE.
4. VALVES ON EACH SIDE OF GENERAL METER FOR 1 1/2 " OR 2" SERVICE TO HAVE SCREW ENDS, I.P. THREADS; FOR 3" AND ABOVE, VALVES MUST HAVE FLANGED ENDS & BE IN ALIGNMENT. ALL VALVES MUST BE ADEQUATELY SECURED TO WITHSTAND WATER THRUST WITH METER REMOVED.
5. MINIMUM CLEARANCE OF 2" TO BE PROVIDED BETWEEN GENERAL METER AND DETECTOR CHECK BYPASS METER.
6. DRAINAGE FACILITIES MUST BE PROVIDED, OR BOX OTHERWISE KEPT FREE OF WATER, NO FRENCH DRAINS ALLOWED.
7. SERVICE TO BE RUN AT RIGHT ANGLES FROM METER BOX TO STREET.
8. METAL LADDER TO BE PROVIDED IF CUSTOMER SERVICE SUPERVISOR ALLOWS BOX DEPTH TO EXCEED 6 FEET.
9. D.I. CLASS 52 PIPE MINIMUM,-EXTENDED MIN. 6' FROM OUTLET SIDE OF METER PIT.
10. TYPE "K" OR "L" COPPER ON DOMESTIC,-EXTENDED MIN. 6' FROM OUTLET SIDE OF METER PIT.
11. ANY DEVIATION FROM PIPE DEPTH SHOWN MUST BE APPROVED BY DISTRICT SUPERVISOR PRIOR TO CONSTRUCTION.
12. METER BOX CONTROL VALVE TO BE LOCATED AS NEAR TO METER BOX AS PRACTICAL.
13. BOX TO BE SET WITH TOP OF BOX AT FINISHED GRADE WITH NO EXTENSION ALLOWED.
14. TAPS WILL NOT BE MADE BEFORE METER PIT AND PIPING ARE COMPLETE AND PROPERTY LINE VALVE INSTALLED, UNLESS APPROVED BY CUSTOMER SERVICE SUPERVISOR.

NEW SPLIT METER SERVICE DETAIL
N.T.S.



PLAN VIEW



ELEVATION

* STEEL REINFORCING REQUIRED IF GREATER THAN 3' (SEE DETAIL BELOW)

GENERAL NOTES:

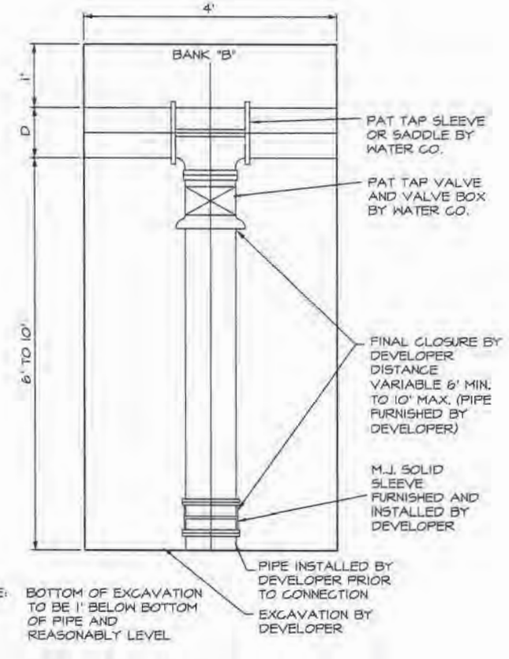
1. COVER OVER TOP OF PIPE SHALL BE 42" MINIMUM, 72" MAXIMUM. IF GRADING PLANS RECEIVED BY SLCWC WITH THE REQUEST FOR WATER MAIN LAYOUT, INDICATE ADJUSTMENTS TO EXISTING GRADE, THEN PIPE SHALL BE INSTALLED TO MEET MINIMUM AND MAXIMUM COVER FROM PROPOSED GRADES SHOWN ON SAID PLANS.
2. THRUST BLOCKS SHALL BE BUILT AGAINST UNDISTURBED SOIL WITH ADEQUATE BACKING TO PREVENT MOVEMENT OF FITTING.
3. NO THRUST BLOCKS TO BE PLACED IN SEWER LATERAL DITCHES.
4. THRUST BLOCKING MUST FIT IN EASEMENT.

MINIMUM BEARING AREA IN SQUARE FEET*

PIPE SIZE	BENDS (DEGREES) 11-1/4	22-1/2	45	90	TEE	DEAD END
6"	1.0	2.5	4.5	8.0	5.5	5.5

* BEARINGS AREAS ARE BASED ON SOIL HAVING AN ALLOWABLE SAFE LATERAL BEARING OF 1 TON PER SQUARE FOOT. AREA MUST BE REVISED FOR SOILS WITH A LOWER BEARING CAPACITY

THRUST BLOCK DETAILS AT HORIZONTAL BENDS
N.T.S.



NOTE: BOTTOM OF EXCAVATION TO BE 1' BELOW BOTTOM OF PIPE AND REASONABLY LEVEL

GENERAL RULES

1) CONNECTIONS TO AC (TRANSITE PIPE) REQUIRE AN EXCAVATION 6 FT. IN WIDTH ALONG THE MAIN. "D" DIMENSION (MAIN SIZE) IS VARIABLE.

2) ALL EXCAVATIONS SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS FOR PROTECTION OF WORKERS.

3) IF PIPE BELL IS EXPOSED IN TAP HOLE OR OTHER OBSTACLES ENCOUNTERED, CALL WATER COMPANY FOR FIELD REVIEW BEFORE COMPLETING EXCAVATION.

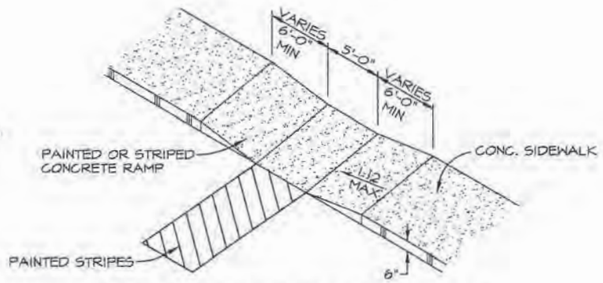
4) TAP HOLE SHOULD BE FREE OF WATER AND MUD TO ALLOW SAFE HANDLING OF HEAVY SLEEVES AND TAPPING MACHINE.

5) TAPS WILL NOT BE MADE BEFORE METER PIT AND PIPING ARE COMPLETE AND PROPERTY LINE VALVE INSTALLED, UNLESS APPROVED BY CUSTOMER SERVICE SUPERVISOR.

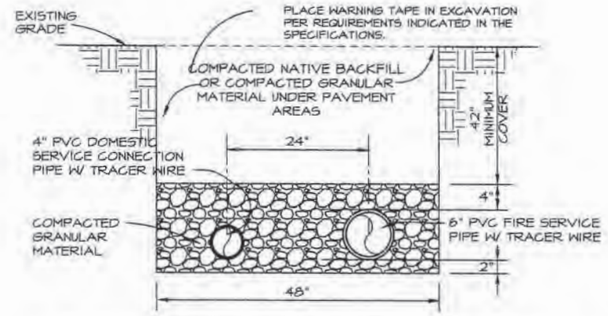
6) TAP HOLE MUST BE CLEAN ENOUGH TO REPAIR OR REWRAP ANY DAMAGE TO POLYWRAP.

7) IF OVERDIG ON BANK "B" EXCEEDS 24" PLUMBER IS RESPONSIBLE FOR THRUST BLOCK.

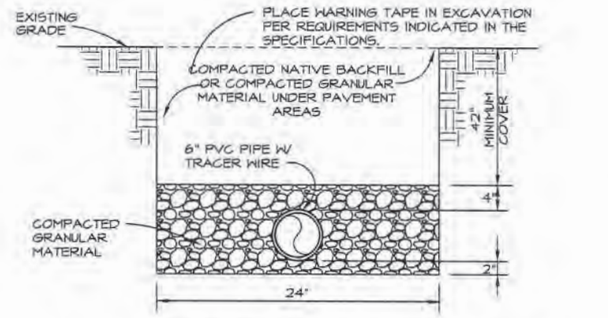
TYPICAL INSTALLATION AT PATENT TAP CONNECTION
N.T.S.



HANDICAPPED RAMP DETAIL
N.T.S.



TYPICAL WATER LINE TRENCH SECTION DOUBLE PIPE
N.T.S.



TYPICAL WATER LINE TRENCH SECTION SINGLE PIPE
N.T.S.

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

Stanley F. Visnovske
E-18126
Professional Engineer

222 SOUTH CENTRAL AVE.
SUITE# 100
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority #2009027409

Larson Engineering
Structural Engineer
Consultant Project Number:
Certificate of Authority #2007005032
13729 Riverport Drive, Suite A
Maryland Heights, MO 63043-4811
314.731.4710 tel
314.731.4712 fax

BRIC Partnership, LLC
MEP & Fire Protection Engineer
Project Number: 2020-201
Certificate of Authority #2002028690
138 W. Adams
Kirkwood, MO 63122
314.725.5889 tel
618.277.5200 fax

EDSI, Inc.
Civil Engineer
Consultant Project Number:
Certificate of Authority #001523
16141 Swingley Ridge Road, Suite 300
St. Louis, MO 63017
636.534.7037 tel
636.537.0275 fax

Henry Elementary School
700 Henry Avenue, Ballwin, MO 63011
Parkway Project PN 121501B
Classroom Additions

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 15037

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for the specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2014 by Bond Architects, Inc.

NOT FOR CONSTRUCTION

DATE: 11/16/2015

Details

C6

6/6/2015 12:04:04 PM

EXHIBIT-H

RIVER BEND ELEMENTARY

BMP ORIGINAL PROJECT INFORMATION

PARKWAY SCHOOL DISTRICT

RIVER BEND ELEMENTARY

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

224 River Valley Drive
Chesterfield, MO 63017

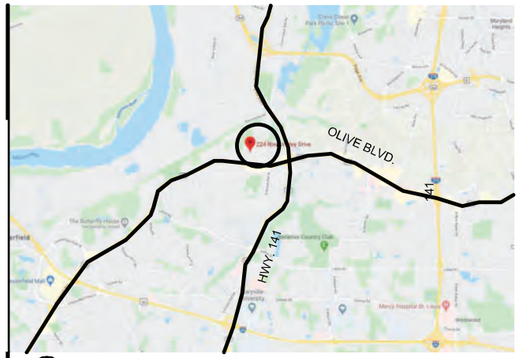
WSP PROJECT NUMBER: 30902493.003
CLIENT PROJECT NUMBER: 142301B

ISSUE FOR PERMIT
VOLUME 1
08-21-2023

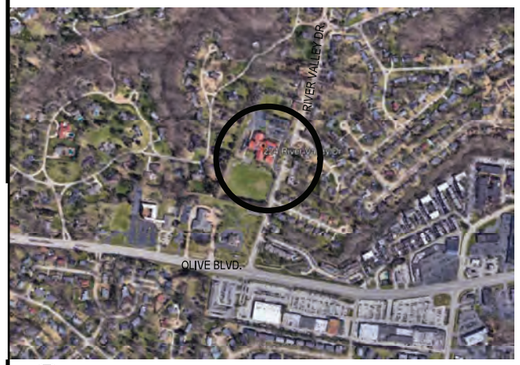
DRAWING INDEX - VOLUME 1

Sheet No:	Sheet Name
G0.01	PROJECT COVER SHEET
C1.01	CIVIL GENERAL NOTES
C1.02	PLAYGROUND GENERAL NOTES
C2.01	DEMOLITION PLAN
C2.02	DEMOLITION PLAN
C2.03	DEMOLITION PLAN
C2.04	PLAYGROUND DEMOLITION PLAN
C3.01	SITE PLAN
C3.02	SITE PLAN
C3.04	PLAYGROUND SITE PLAN
C3.05	OVERALL SITE PLAN
C4.01	GRADING & UTILITY PLAN
C4.02	GRADING & UTILITY PLAN
C4.03	GRADING & UTILITY PLAN
C4.04	UTILITY PROFILES
C5.01	BMP PLAN
C6.01	DETAILS
C6.02	DETAILS
C6.03	DETAILS
C6.04	PLAYGROUND DETAILS
C6.05	PLAYGROUND DETAILS
C7.01	SWPP PLAN
C7.02	SWPP PLAN
C8.01	EXISTING DRAINAGE AREA MAP
C9.01	PROPOSED DRAINAGE AREA MAP
C9.02	BMP DRAINAGE AREA MAP
C10.01	DRAINAGE AREA MAP - OFFSITE STORM
C11.01	TRAFFIC CONTROL PLAN

REGIONAL MAP



LOCAL MAP



PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com

WSP USA Design, Inc.
Engineering Certificate of Authority: #2008011869

SUBCONSULTANT:

REV	DESCRIPTION	DATE
1	SITE PERMIT REVISIONS	03/04/2024

PARKWAY SCHOOL DISTRICT
RIVER BEND ELEMENTARY
224 River Valley Drive
Chesterfield, MO 63017
ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006002866
PROFESSIONAL ENGINEER
MARCH 04 2023

Civil Engineer of Record: Sunil Thakkar
Professional No.: PE-2006002866

ISSUE FOR PERMIT

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	DH
DATE:	21 AUGUST 2023
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

SHEET NAME:
PROJECT COVER SHEET

CLIENT PROJECT NUMBER: 142301B
WSP PROJECT NUMBER: 30902493.003

SHEET NO: ***G0.01***

LAST EDITED: 3/4/2024 1:49 PM
FILE PATH: J:\30902493.000 Parkway 2022 Bond\10.0 Personal Folder\1 - Civil\.003 RiverbendSite Design\CAD\142301BoxA0000000001C.dwg

23MSD-00336 BASEMAP 16Q

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

GENERAL NOTES

1. ALL DISTURBED AREAS SHALL BE RESTORED WITH TOPSOIL AND SOD.
2. THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY FOR CONTROLLING ALL SILTATION AND EROSION OF THE PROJECT AREA. THE CONTRACTOR SHALL USE THE MEANS NECESSARY TO CONTROL SILTATION AND EROSION. CONTROL MEANS AND METHODS SHALL FOLLOW CITY OF CHESTERFIELD "SEDIMENT & EROSION CONTROL MANUAL" AND REQUIREMENTS OF THE CITY OF CHESTERFIELD. THE OWNER OR THE CITY OF CHESTERFIELD MAY AT THEIR OPTION DIRECT THE CONTRACTOR AS DEEMED FIT TO CONTROL EROSION. CONTROL SHALL COMMENCE WITH LAND DISTURBANCE AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY BOTH THE CITY OF CHESTERFIELD AND THE OWNER. ALL COST ASSOCIATED WITH EROSION CONTROL SHALL BE INCLUDED IN THE CONTRACTOR'S BID.
3. PROPOSED ELEVATIONS ARE SHOWN TO FINISH PAVEMENT OR GRADE.
4. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
5. CONTRACTOR TO PLACE VEHICLE WASHDOWN STATION AT CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE CITY OF CHESTERFIELD REQUIREMENTS.
6. NO EXCAVATION SHALL BE MADE SO CLOSE TO THE PROPERTY LINE AS TO ENDANGER ANY ADJOINING PROPERTY OF ANY PUBLIC OR PRIVATE STREET WITHOUT SUPPORTING AND PROTECTING SUCH PUBLIC OR PRIVATE STREET OR PROPERTY FROM SETTLING, CRACKING OR OTHER DAMAGE.
7. ANY EXISTING IMPROVEMENTS DAMAGED BY CONSTRUCTION ON THE PROJECT PROPERTY SHALL BE REPLACED IN KIND AT THE CONTRACTORS EXPENSE.
8. EXISTING ASPHALT PAVEMENT SHALL BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
9. DURING CONSTRUCTION THERE SHALL BE NO TRUCK TRAFFIC BETWEEN 7:30 A.M AND 8:40 A.M. AND BETWEEN 2:30 P.M. AND 3:30 P.M.
10. ALL EXISTING IMPROVEMENTS ARE TO REMAIN UNLESS NOTED OTHERWISE.
11. THE UNDERGROUND UTILITIES SHOWN HEREON ARE TAKEN FROM UTILITY LOCATIONS AS MARKED IN THE FIELD BY DIGRITE AND MAPS OBTAINED FROM SPIRE, METROPOLITAN ST. LOUIS SEWER DISTRICT AND MISSOURI-AMERICAN WATER COMPANY AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMO.
12. SITE IS SUBJECT TO PRIVATE UTILITY INSTALLATIONS. PRIVATE UTILITY INSTALLATIONS DO NOT APPEAR ON UTILITY BASE MAPS, NOR DOES DIGRITE LOCATE PRIVATE UTILITIES.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING TOPS AND FLOWLINES OF ALL EXISTING SEWERS PRIOR TO COMMENCING WORK AND NOTIFY THE ENGINEER OF DISCREPANCIES.
14. ALL SEWERS AND STRUCTURES SHALL BE IN ACCORDANCE WITH THE METROPOLITAN ST. LOUIS SEWER DISTRICT STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWER AND DRAINAGE FACILITIES, 2009.
15. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE GAS SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF SPIRE.
16. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE WATER SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF MISSOURI AMERICAN WATER COMPANY.
17. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE PHONE SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF AT&T DISTRIBUTION.
18. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH ELECTRIC SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF AMEREN MISSOURI.
19. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH CABLE SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF SPECTRUM.
20. INTERIM STORM WATER DRAINAGE CONTROL IN THE FORM OF SILTATION CONTROL MEASURES ARE REQUIRED.
21. THE DEVELOPER IS REQUIRED TO PROVIDE ADEQUATE STORM WATER SYSTEMS IN ACCORDANCE WITH THE CITY OF CHESTERFIELD AND MSD STANDARDS.
22. ADDITIONAL SILTATION CONTROL SHALL BE INSTALLED AS REQUIRED BY THE CITY OF CHESTERFIELD.
23. PROVIDE ADEQUATE OFF-STREET PARKING FOR CONSTRUCTION EMPLOYEES. PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVEWAY CONDITIONS.
24. ALL EXCAVATIONS, GRADING OR FILLING SHALL HAVE A FINISHED GRADE NOT TO EXCEED A 4:1 SLOPE (25%), UNLESS SPECIFICALLY APPROVED OTHERWISE. NO SLOPE SHALL EXCEED 3:1 MAXIMUM.
25. ALL GRADING AND DRAINAGE SHALL CONFORM TO THE LATEST STANDARDS AND SPECIFICATIONS OF ST. LOUIS COUNTY, THE METROPOLITAN ST. LOUIS SEWER DISTRICT AND THE CITY OF CHESTERFIELD.
26. SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASHDOWN STATION PRIOR TO LEAVING SITE. MUD TRACKED ONTO COUNTY ROADS SHALL BE REMOVED AND KEPT CLEAN AT ALL TIMES.
27. UTILITIES MUST REMAIN IN CONTINUOUS SERVICE UNLESS WRITTEN PERMISSION IS RECEIVED FROM THE OWNER TO ALLOW INTERRUPTION OF SERVICE.
28. THE CONTRACTOR SHALL PROTECT THE LIMBS OF TREES. ANY LIMBS IN THE AREA REQUIRED FOR OPERATION OF CONSTRUCTION EQUIPMENT SHALL BE PRUNED IN ADVANCE OF THE WORK. PRIOR TO PRUNING ANY BRANCHES, THE CONTRACTOR SHALL COORDINATE SUCH PRUNING WITH THE LANDSCAPE ARCHITECT. ANY IDENTIFIED DYING OR BROKEN BRANCHES SHOULD BE REMOVED TO REDUCE SAFETY HAZARDS. BRANCHES THAT REQUIRE PRUNING SHALL BE PRUNED TO AN ADJACENT LIVE LATERAL BRANCH. NO STUBS MAY BE LEFT ON THE TREE.
29. IF BORING OR TRENCHING NEEDS TO OCCUR NEAR TREE ROOTS, AS A MINIMUM, UNLESS PREFERRED METHODS ARE RECOMMENDED BY THE LANDSCAPE ARCHITECT, PRIOR TO EXCAVATION THE CONTRACTOR SHALL ROOT PRUNE, BY HAND, ALONG THE PAY LINE OF TRENCHES WITHIN THE CRITICAL ROOT ZONE (CRZ) OF TREES TO BE PROTECTED IN ORDER TO MINIMIZE DAMAGE TO TREE ROOTS IN THAT AREA. ROOT PRUNING SHALL BE PERFORMED BY MEANS AND METHODS ACCEPTABLE TO THE LANDSCAPE ARCHITECT. ROOTS SHALL BE CLEAN CUT; UNDER NO CIRCUMSTANCES, SHALL THE CONTRACTOR RIP OR TEAR TREE ROOTS. FOR PURPOSES OF THIS PROJECT, THE CRITICAL ROOT ZONE (CRZ) OF A TREE WILL BE CONSIDERED TO BE 1.5 TIMES THE DIAMETER OF THE TREE AT BREAST HEIGHT, WITH THE DIAMETER OF THE TREE IN INCHES AND THE CRZ IN FEET.
30. EXISTING WATER AND SANITARY CONNECTIONS WILL NOT BE MODIFIED WITH THIS WORK.
31. THE CONTRACTOR SHALL STAY WITHIN THE LIMITS OF DISTURBANCE AS SHOWN ON THE PLANS AND MINIMIZE DISTURBANCE WITHIN THE WORK AREA WHEREVER POSSIBLE.
32. MAINTENANCE OF THE SEWERS DESIGNATED "PUBLIC" SHALL BE THE RESPONSIBILITY OF THE METROPOLITAN ST. LOUIS SEWER DISTRICT UPON DEDICATION OF THE SEWERS TO THE DISTRICT.
33. MSD SHOP DRAWING SUBMITTAL REQUIRED FOR BMP AND ITS COMPONENTS PRIOR TO CONSTRUCTION. MSD CONTACT: PLEASE CONTACT THE DISTRICT'S CONSTRUCTION MANAGEMENT DIVISION AT (314) 335-2072 FOR QUESTIONS.
34. MSD STANDARD CONSTRUCTION: ALL STORM AND SANITARY SEWER STRUCTURES AND APPURTENANCES TO BE DEDICATED TO MSD, OR TO BE PRIVATE UNDER MSD INSPECTION, SHALL CONFORM TO THE METROPOLITAN ST. LOUIS SEWER DISTRICT, STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES, 2023. THAT WILL INCLUDE STANDARD DETAILS SHOWN THEREIN, ALL SUBSEQUENT CHANGES MADE THERETO, AND SHALL ALSO INCLUDE THE FOLLOWING:

PART 2 – MATERIALS OF CONSTRUCTION
SECTION G PIPE.
12. CORRUGATED POLYPROPYLENE PIPE.
D. PIPE FOR GRAVITY SEWER INSTALLATIONS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321. CONSOLIDATION BY WATER (JETTING OR PUDDLING) SHALL NOT BE USED. CONSOLIDATION SHALL BE IN ACCORDANCE WITH MSD STANDARD CONSTRUCTION SPECIFICATIONS FOR TRENCH BACKFILL. PRICE FOR COMPACTED BACKFILL SHALL BE INCLUDED IN PIPE UNIT COST.
1. FOR USE IN SANITARY AND COMBINED SEWER INSTALLATIONS, A REPRESENTATIVE FROM THE PIPE MANUFACTURER SHALL VISIT THE SITE WITHIN THE FIRST 100 FEET OF PIPE INSTALLATION. COORDINATION OF THIS SITE VISIT SHALL BE ARRANGED BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE THE MSD INSPECTOR AT LEAST 24 HOURS' NOTICE OF THE PLANNED DATE AND TIME OF THE MANUFACTURER'S SITE VISIT.
2. FOLLOWING THE SITE VISIT, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE A LETTER FROM THE PIPING MANUFACTURER SUMMARIZING THEIR OBSERVATIONS. AT A MINIMUM, THE LETTER SHALL:
A) INDICATE THE DATE THE INITIAL SECTION OF PIPE WAS INSTALLED; AND
B) VERIFY THAT THE INSTALLATION OCCURRED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED PROCEDURES.
E. TRENCH WIDTH SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION RECOMMENDATIONS. DISTRICT STANDARD PAYLINE WIDTHS BASED ON THE NOMINAL INSIDE PIPE DIAMETER SHALL APPLY.

STORMWATER MANAGEMENT NOTES:

$Q_{Existing}$ = 10.188 cfs
$Q_{Proposed}$ = 10.627 cfs

PROJECT DISTURBANCE = 0.588 Ac.
PROJECT MAINTENANCE = 4.032 Ac.
LIMITS OF CONSTRUCTION = 4.620 Ac.

Cumulative Site Stormwater Treatment Summary

Project Number	WQv Disturbed Area (Ac)			WQv Treated Area (Ac)			WQv Future Treatment (Ac)			Differential Runoff (cfs)
	Pervious	Impervious	Total	Pervious	Impervious	Total	Pervious	Impervious	Total	
19MSD-00510	0.163	0.534	0.697	0.061	0.474	0.535	0.082	0.060	0.142	0.084
20MSD-00415	Project was never constructed									
18MSD-00336	0.302	0.286	0.588	0.488	0.350	0.788	-0.136	+0.064	-0.200	0.439
Total	0.465	0.820	1.285	0.519	0.824	1.343	-0.054	+0.004	-0.058	0.523

ANY FUTURE LAND DISTURBANCE AND/OR INCREASE IN IMPERVIOUS AREA ON THIS SITE MAY REQUIRE ADDITIONAL STORM WATER MANAGEMENT PER MSD REGULATIONS IN PLACE AT THAT TIME (INCLUDING TOTAL LAND DISTURBANCE AND/OR IMPERVIOUSNESS ADDED ON THIS PLAN 23MSD-00336).

SITE IS SUBJECT TO DETENTION AND CHANNEL PROTECTION BUT NOT REQUIRED ON THIS PROJECT.

SANITARY SEWER NOTE:

THE EXISTING SANITARY FLOW IS ESTIMATED TO BE 7980 GAL/DAY.
SANITARY LOADING WILL NOT INCREASE WITH THIS PROJECT.

ST. LOUIS COUNTY BENCHMARK (NAVD 88)

A NAVD 88 ELEVATION WAS ESTABLISHED FOR CONTROL POINT 82 (ELEVATION: 583.67) USING A CELLULAR EQUIPPED TRIMBLE TSC3, AND BASED ON THE MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION GLOBAL NAVIGATION SATELLITE REAL TIME NETWORK FOR CONTINUOUS OPERATING REFERENCE STATIONS. A CONVENTIONAL BENCHMARK LOOP WAS THEN RUN THROUGH THE REMAINING CONTROL POINTS AND USED TO SET TEMPORARY BENCHMARKS. FIELD WORK WAS PERFORMED DURING JUNE, 2020.

REFERENCE BENCHMARK (NAVD 88 DATUM)

8312 ST. LOUIS COUNTY BENCHMARK ELEVATION 562.42

CUT "L" ON THE SOUTHEAST CORNER OF THE 3'X6' CONCRETE BASE FOR MODOT TRAFFIC SIGNAL CONTROL BOX SITUATED ON THE NORTHEAST CORNER OF RIVER VALLEY DRIVE AND OLIVE BOULEVARD IN A GRASSY AREA NORTH OF A CONCRETE DRAINAGE CHANNEL; ROUGHLY 55 FEET EAST OF THE CENTERLINE OF RIVER VALLEY DRIVE AND 103 FEET NORTH OF THE CONCRETE MEDIAN ISLAND IN OLIVE BOULEVARD.

PROJECT BENCHMARKS (NAVD 88 DATUM)

TBM ELEVATION: 594.95
FOUND "L" ON THE SOUTHEAST CORNER OF A CONCRETE BASE FOR A FLAG POLE, NORTH OF THE SOUTH ENTRANCE TO RIVER BEND ELEMENTARY SCHOOL AT ADDRESS #224 RIVER VALLEY DRIVE.

REGULATORY JURISDICTIONS

CITY OF CHESTERFIELD
690 CHESTERFIELD PARKWAY WEST
CHESTERFIELD, MO 63017-0760
636-537-4000

MONARCH FIRE PROTECTION DISTRICT
13725 OLIVE BOULEVARD
CHESTERFIELD, MO 63017
314-514-0900

METROPOLITAN ST. LOUIS SEWER DISTRICT
2350 MARKET ST.
ST. LOUIS, MO 63103-2555
314-768-6200

SWPPP INSPECTOR

MR. SHAWN GARLAND
6 SILVER LEAF COURT
LAKE ST. LOUIS, MO 63367
636-561-3158

UTILITY CONTACTS

AMEREN MISSOURI
1132 LOCUST STREET
ST. LOUIS, MO 63101
314-878-5787

AT&T TRANSMISSION TCG
2315 SALEM RD
1st FLOOR G-11
CONYERS, GA 30013
800-252-1133

MISSOURI AMERICAN WATER COMPANY
727 CRAIG RD
ST. LOUIS, MO 63131
314-996-2432

SPECTRUM
13545 BARRETT PARKWAY DRIVE
BALLWIN, MO 63021
636-923-8605

PARKWAY SCHOOL DISTRICT
455 N. WOODS MILL ROAD
CHESTERFIELD, MO 63017
314-415-8100

SPIRE
4118 SHREWSBURY AVENUE
ST. LOUIS, MO 63119
314-342-0800

METROPOLITAN ST. LOUIS SEWER DISTRICT
2350 MARKET ST
ST. LOUIS, MO 63103-2555
314-768-6200

AT&T DISTRIBUTION
12930 OLIVE STREET RD, 2nd FLOOR
CREVE COEUR, MO 63141
314-878-5787

LEGEND

CONTROL POINT	PROPOSED STORM / SANITARY MANHOLE
TBM TEMPORARY BENCHMARK	EXISTING STORM / SANITARY MANHOLE
DRAINAGE ARROW	EXISTING GRATE INLET
EXISTING TREE	PROPOSED GRATE INLET
EXISTING BUSH	PROPOSED CURB INLET
EXISTING SIGN	EXISTING DOUBLE CURB INLET
NEW SIGN	EXISTING AREA INLET
EDGE OF EXISTING PAVEMENT	PROPOSED DOWNSPOUT
EDGE OF NEW PAVEMENT	PP EXISTING UTILITY POLE
EXISTING CURB	FH EXISTING FIRE HYDRANT
NEW CURB	WV EXISTING WATER VALVE
x EXISTING FENCE	GV EXISTING GAS VALVE
x x NEW FENCE	GM EXISTING GAS METER
s f NEW EROSION CONTROL	624 EXISTING 1' CONTOUR
LIMITS OF CONSTRUCTION	625 EXISTING 5' CONTOUR
OU EXISTING OVERHEAD ELECTRIC LINE	624 PROPOSED 1' CONTOUR
T EXISTING UNDERGROUND TELEPHONE LINE	625 PROPOSED 5' CONTOUR
E EXISTING UNDERGROUND ELECTRIC LINE	x 601.92 EXISTING SPOT ELEVATION
G EXISTING GAS LINE	# KEYED NOTE IDENTIFIER
W EXISTING WATER LINE	A COORDINATE IDENTIFIER
SD x EXISTING STORM SEWER	TP 601.62 PROPOSED SPOT ELEVATION
EXISTING SANITARY LINE	
SD PROPOSED STORM LINE	
PROPERTY LINE	

ABBREVIATIONS

AI	AREA INLET	FL	FLOWLINE	PCC	POINT OF COMPOUND CURVATURE
ASPH	ASPHALT	FOC	FACE OF CURB	PGS.	PAGES
ATG	ADJUST TO GRADE	G	GUTTER	PT	POINT OF TANGENCY
BLDG	BUILDING	GI	GRATE INLET	PVMT	PAVEMENT
BM	BENCHMARK	GM	GAS METER	R	RADIUS
BMP	BEST MANAGEMENT PRACTICE	GV	GAS VALVE	RCP	REINFORCED CONCRETE PIPE
BOC	BACK OF CURB	HC	HANDICAPPED	T	TOP
CI	CURB INLET	HDPE	HIGH DENSITY POLYETHYLENE	TBM	TEMPORARY BENCHMARK
CL	CENTER LINE	IP	IRON PIPE	TBR	TO BE REMOVED
CLR	CLEARANCE	IR	IRON ROD	TBREL	TO BE RELOCATED
CO	CLEAN OUT	LS	LIGHT STANDARD	TBR&R	TO BE REMOVED AND REPLACED
CONC	CONCRETE	MAX	MAXIMUM	TC	TOP OF CURB
DCI	DOUBLE CURB INLET	ME	MATCH EXISTING	TP	TOP OF PAVEMENT
ELEV	ELEVATION	MH	MANHOLE	TR	TO REMAIN
EOA	EDGE OF ASPHALT	MIN	MINIMUM	TYP	TYPICAL
EOC	EDGE OF CONCRETE	NTS	NOT TO SCALE	UIP	USE IN PLACE
EX	EXISTING	PB	ELECTRIC PULLBOX	UP	UTILITY POLE
FG	FINISH GRADE	P.B.	PLAT BOOK	VCP	VITRIFIED CLAY PIPE
FH	FIRE HYDRANT	PC	POINT OF CURVATURE	WM	WATER METER
				WV	WATER VALVE

23MSD-00336 BASEMAP 16Q

GENERAL NOTES:

REMARKS:

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com

WSP USA Design, Inc.
Engineering Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
1	SITE PERMIT REVISIONS	03/04/2024

PARKWAY SCHOOL DISTRICT

RIVER BEND ELEMENTARY

224 River Valley Drive
Chesterfield, MO 63017

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006002866
PROFESSIONAL ENGINEER
MARCH 04 2023

Civil Engineer of Record: Sunil Thakkar
Professional No.: PE-2006002866

SHEET NAME
CIVIL GENERAL NOTES

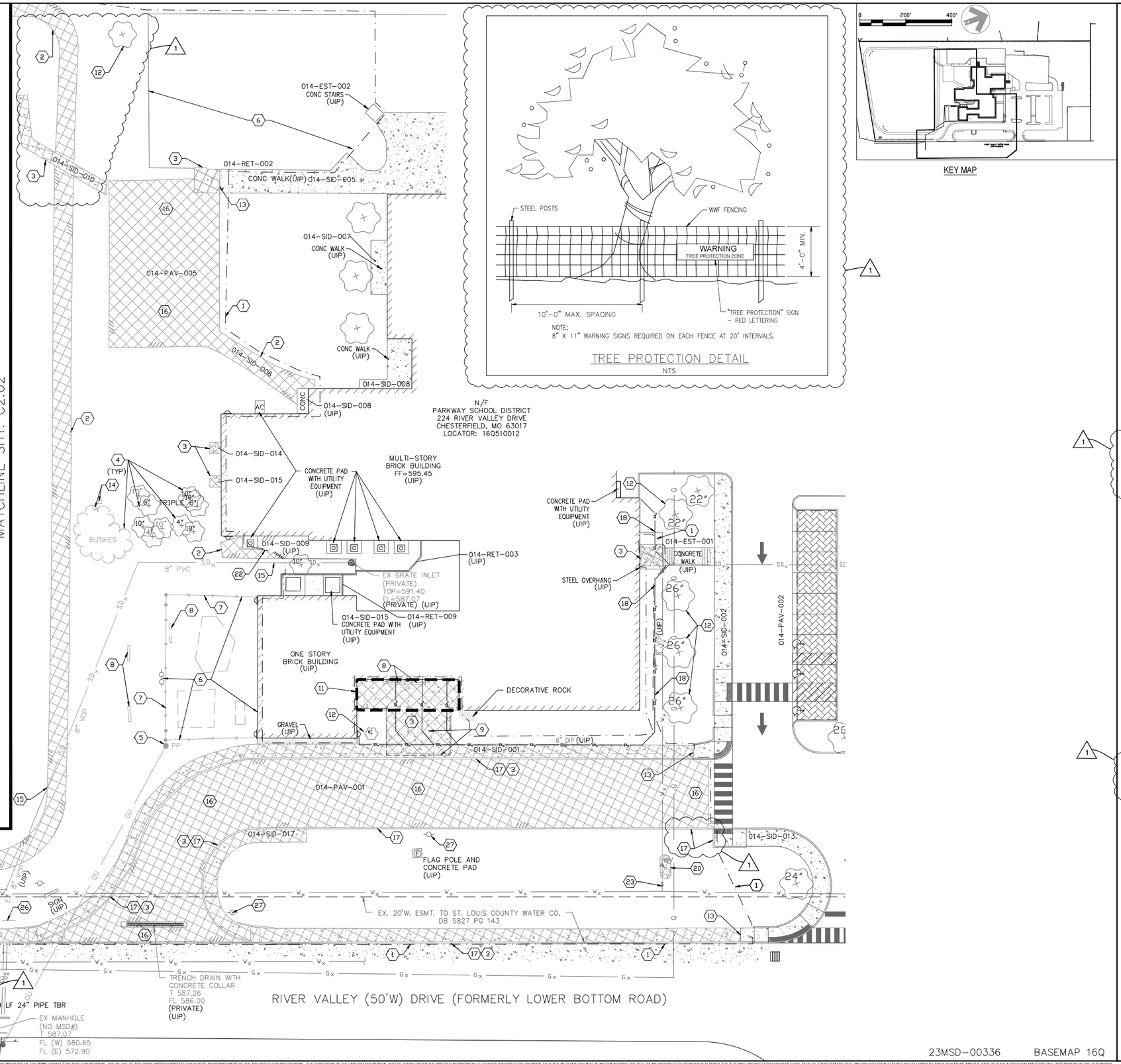
DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	DH
DATE:	21 AUGUST 2023
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 142301B
WSP PROJECT NUMBER: 30902493.003
SHEET NUMBER **C1.01**

LAST EDITED: 3/4/2024 1:49 PM
FILE PATH: J:\30902493.000 Parkway 2022 Bond\10.0 Personal Folders\1 - Civil\.003 Riverbend\Site Design\CAD\142301Bsht0000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



GENERAL NOTES:

REMARKS:

KEYED NOTES

1. LIMITS OF CONSTRUCTION.
2. EXISTING ASPHALT WALK TO BE REMOVED.
3. EXISTING CONCRETE WALK TO BE REMOVED.
4. EXISTING TREES/SHRUBS TO BE REMOVED.
5. EXISTING LIGHT POLE AND OVERHEAD FEED TO BE REMOVED BY AMEREN.
6. EXISTING PLAYGROUND EQUIPMENT, MULCH, AND SIGN TO BE REMOVED. SEE LANDSCAPING PLAN SHEET C2.04 FOR DETAILS.
7. EXISTING CHAIN LINK FENCE AND GATES TO BE REMOVED.
8. EXISTING BENCH TO BE REMOVED AND STORED FOR REUSE.
9. EXISTING BUILDING CANOPY AND COLUMNS TO BE REMOVED.
10. EXISTING BLOCK WALL TO BE REMOVED.
11. ONLY EXISTING CONCRETE WALK TO BE REMOVED, COLUMNS, CANOPY, AND FOUNDATION TO REMAIN.
12. CONTRACTOR TO PROTECT TREE AND LANDSCAPE AREA DURING CONSTRUCTION. ANY DAMAGE TO VEGETATION OR LANDSCAPING SHALL BE REPLACED IN LIKE KIND AT THE CONTRACTOR'S EXPENSE. TREES WITHIN WORK AREA TO RECIEVE PROTECTIVE FENCING, REFER TO DETAIL THIS SHEET.
13. EXISTING CONCRETE WALK TO BE REMOVED TO NEAREST JOINT.
14. EXISTING BIRDHOUSES TO BE REMOVED.
15. EXISTING 8" STORM PIPE SECTION TO BE REMOVED. TEMPORARY BYPASS AND/OR DEWATERING METHODS MAY BE REQUIRED DURING CONSTRUCTION PRIOR TO CONNECTION OF PROPOSED STORM SEWERS.
16. EXISTING ASPHALT PAVEMENT TO BE REMOVED.
17. EXISTING CURB TO BE REMOVED.
18. EXACT LOCATION AND DEPTH OF EXISTING STORM DRAIN PIPING UNKNOWN. EXISTING PIPE TO BE PROTECTED DURING CONSTRUCTION. IF DAMAGE OCCURS, PIPE SHALL BE REPLACED WITH APPROVED PIPE MATERIAL.
19. EXISTING TRENCH DRAIN AND CONCRETE COLLAR TO BE REMOVED.
20. EXISTING WATER METER VAULT TO BE REMOVED.
21. EXISTING CONCRETE STREET PAVEMENT TO BE REMOVED TO NEAREST JOINT.
22. PAVEMENT SAWCUT LINE.
23. EXISTING 6" WATER TAP TO REMAIN, 6"x3" REDUCER TO BE REMOVED.
24. EXISTING SANITARY PIPING TO BE LINED.
25. BULKHEAD EXISTING OPENING IN MANHOLE AFTER EXISTING PIPE IS REMOVED IF MANHOLE IS NOT REMOVED AND REPLACED.
26. EXISTING FENCE TO BE REMOVED AS NECESSARY AND STORED FOR REUSE.
27. EXISTING TRAFFIC SIGNAGE TO BE REMOVED AND STORED FOR REUSE.
28. EXISTING CURB INLET TO BE REMOVED.

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com

WSP USA Design, Inc.
Engineering Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
1	SITE PERMIT REVISIONS	03/04/2024

PARKWAY SCHOOL DISTRICT

RIVER BEND ELEMENTARY

224 River Valley Drive
Chesterfield, MO 63017

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006002866
PROFESSIONAL ENGINEER

MARCH 04 2023

Civil Engineer of Record: Sunil Thakkar
Professional No.: PE-2006002866

ISSUE FOR PERMIT

SHEET NAME
DEMOLITION PLAN

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	DH
DATE:	21 AUGUST 2023
SCALE:	

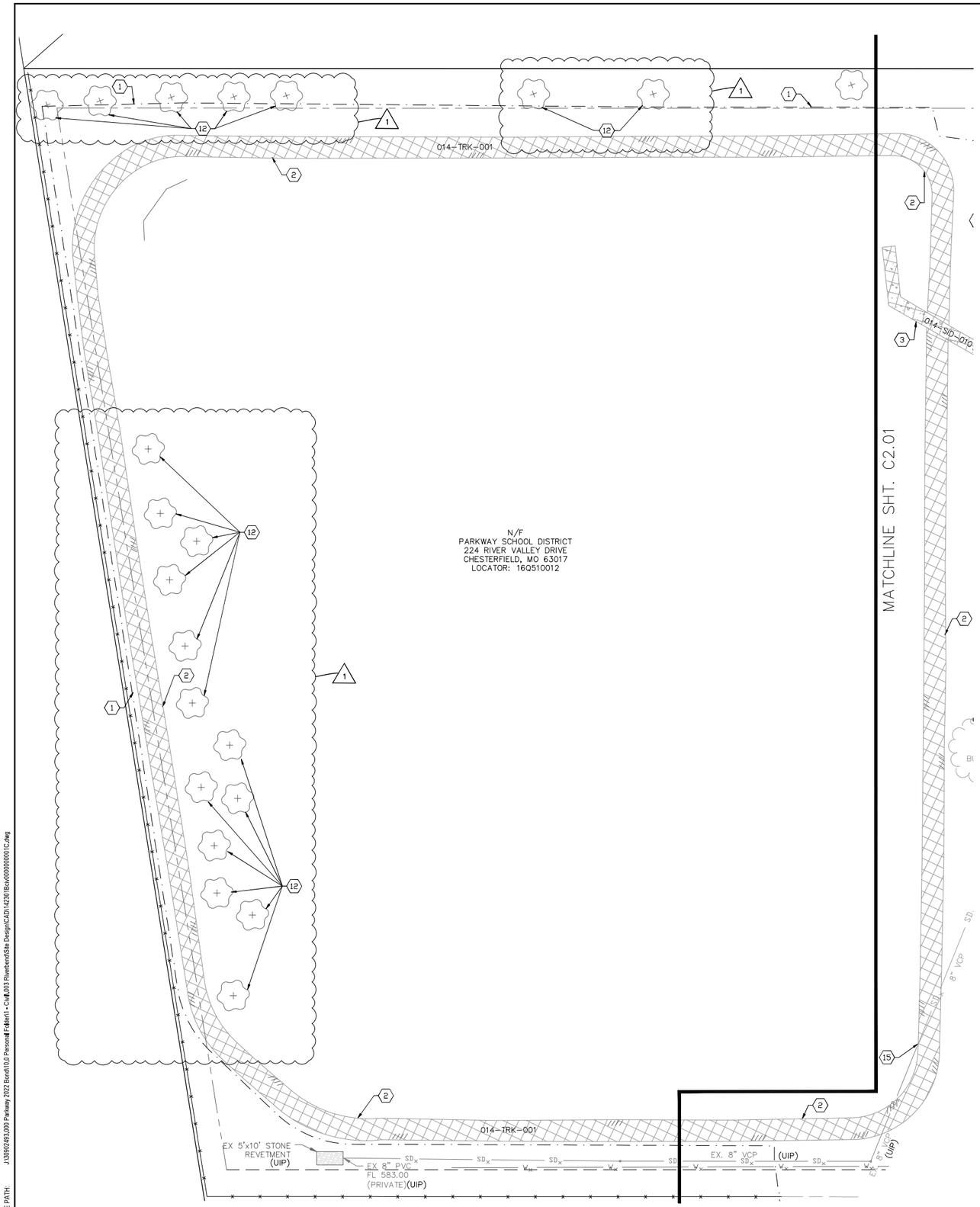
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

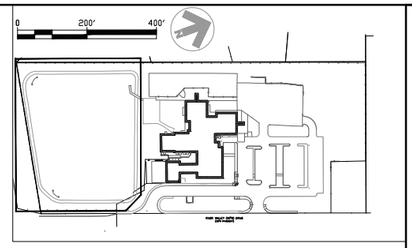
CLIENT PROJECT NUMBER: 142301B
WSP PROJECT NUMBER: 30902493.003
SHEET NUMBER **C2.01**

23MSD-00336 BASEMAP 16Q

LAST EDITED: 3/4/2024 1:49 PM
FILE PATH: J:\30902493.000 Parkway 2022 Bond\10.0 Personal Folders\1 - Civil\.003 Riverbend\Site Design\CAD\142301Bcivil00000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTS ENGINEERS WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION ALTERED BY FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.





KEY MAP

GENERAL NOTES:

REMARKS:

KEYED NOTES (#)

1. LIMITS OF CONSTRUCTION.
2. EXISTING ASPHALT WALK TO BE REMOVED.
3. EXISTING CONCRETE WALK TO BE REMOVED.
4. EXISTING TREES/SHRUBS TO BE REMOVED.
5. EXISTING LIGHT POLE AND OVERHEAD FEED TO BE REMOVED BY AMEREN.
6. EXISTING PLAYGROUND EQUIPMENT, MULCH, AND SIGN TO BE REMOVED. SEE LANDSCAPING PLAN SHEET C2.04 FOR DETAILS.
7. EXISTING CHAIN LINK FENCE AND GATES TO BE REMOVED.
8. EXISTING BENCH TO BE REMOVED AND STORED FOR REUSE.
9. EXISTING BUILDING CANOPY AND COLUMNS TO BE REMOVED.
10. EXISTING BLOCK WALL TO BE REMOVED.
11. ONLY EXISTING CONCRETE WALK TO BE REMOVED. COLUMNS, CANOPY, AND FOUNDATION TO REMAIN.
12. CONTRACTOR TO PROTECT TREE AND LANDSCAPE AREA DURING CONSTRUCTION. ANY DAMAGE TO VEGETATION OR LANDSCAPING SHALL BE REPLACED IN LIKE KIND AT THE CONTRACTOR'S EXPENSE. TREES WITHIN WORK AREA TO RECIEVE PROTECTIVE FENCING. REFER TO DETAIL ON SHT. C2.01.
13. EXISTING CONCRETE WALK TO BE REMOVED TO NEAREST JOINT.
14. EXISTING BIRDHOUSES TO BE REMOVED.
15. EXISTING 8" STORM PIPE SECTION TO BE REMOVED. TEMPORARY BYPASS AND/OR DEWATERING METHODS MAY BE REQUIRED DURING CONSTRUCTION PRIOR TO CONNECTION OF PROPOSED STORM SEWERS.
16. EXISTING ASPHALT PAVEMENT TO BE REMOVED.
17. EXISTING CURB TO BE REMOVED.
18. EXACT LOCATION AND DEPTH OF EXISTING STORM DRAIN PIPING UNKNOWN. EXISTING PIPE TO BE PROTECTED DURING CONSTRUCTION. IF DAMAGE OCCURS, PIPE SHALL BE REPLACED WITH APPROVED PIPE MATERIAL.
19. EXISTING TRENCH DRAIN AND CONCRETE COLLAR TO BE REMOVED.
20. EXISTING WATER METER VAULT TO BE REMOVED.
21. EXISTING CONCRETE STREET PAVEMENT TO BE REMOVED TO NEAREST JOINT.
22. PAVEMENT SAWCUT LINE.
23. EXISTING 6" WATER TAP TO REMAIN. 6"x3" REDUCER TO BE REMOVED.
24. EXISTING SANITARY PIPING TO BE LINED.
25. BULKHEAD EXISTING OPENING IN MANHOLE AFTER EXISTING PIPE IS REMOVED IF MANHOLE IS NOT REMOVED AND REPLACED.
26. EXISTING FENCE TO BE REMOVED AS NECESSARY AND STORED FOR REUSE.
27. EXISTING TRAFFIC SIGNAGE TO BE REMOVED AND STORED FOR REUSE.
28. EXISTING CURB INLET TO BE REMOVED.

DENOTES PAVEMENT TO BE REMOVED

0 20' 40'
1"=20'

23MSD-00336 BASEMAP 16Q

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 3/4/2024 1:49 PM
FILE PATH: J:\30902493.000 Parkway 2022 Bond\10.0 Personal Folder\1 - Civil\003 Riverbend\Site Design\CAD\142301Bnx000000000C.dwg

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com

WSP USA Design, Inc.
Engineering Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
1	SITE PERMIT REVISIONS	03/04/2024

PARKWAY SCHOOL DISTRICT

RIVER BEND ELEMENTARY

224 River Valley Drive
Chesterfield, MO 63017

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006002866
PROFESSIONAL ENGINEER
MARCH 04 2023

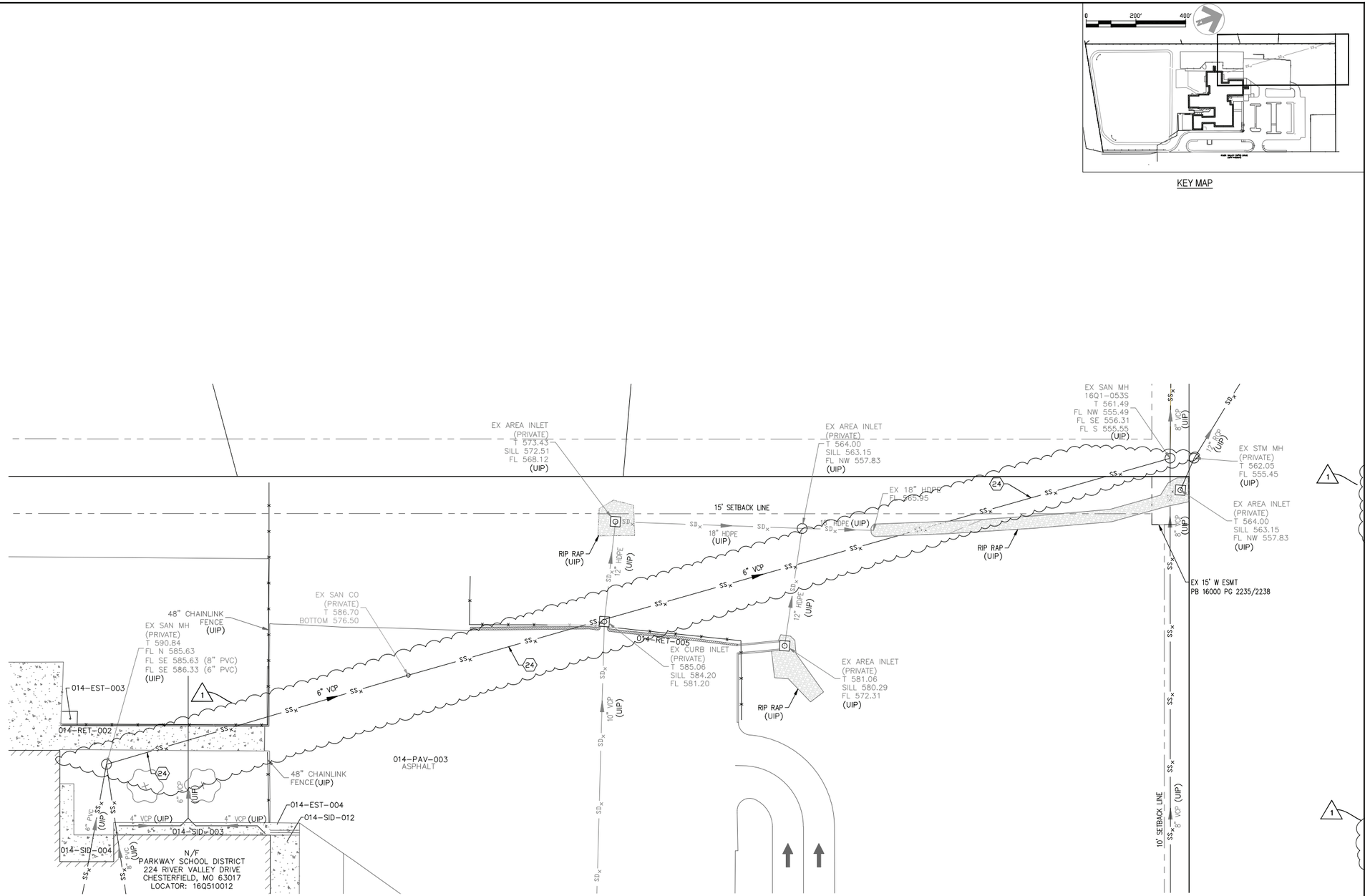
Civil Engineer of Record: Sunil Thakkar
Professional No.: PE-2006002866

SHEET NAME
DEMOLITION PLAN

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	DH
DATE:	21 AUGUST 2023
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 142301B
WSP PROJECT NUMBER: 30902493.003
SHEET NUMBER **C2.02**



KEY MAP

GENERAL NOTES:

REMARKS:

KEYED NOTES

1. LIMITS OF CONSTRUCTION.
2. EXISTING ASPHALT WALK TO BE REMOVED.
3. EXISTING CONCRETE WALK TO BE REMOVED.
4. EXISTING TREES/SHRUBS TO BE REMOVED.
5. EXISTING LIGHT POLE AND OVERHEAD FEED TO BE REMOVED BY AMEREN.
6. EXISTING PLAYGROUND EQUIPMENT, MULCH, AND SIGN TO BE REMOVED. SEE LANDSCAPING PLAN SHEET C2.04 FOR DETAILS.
7. EXISTING CHAIN LINK FENCE AND GATES TO BE REMOVED.
8. EXISTING BENCH TO BE REMOVED AND STORED FOR REUSE.
9. EXISTING BUILDING CANOPY AND COLUMNS TO BE REMOVED.
10. EXISTING BLOCK WALL TO BE REMOVED.
11. ONLY EXISTING CONCRETE WALK TO BE REMOVED, COLUMNS, CANOPY, AND FOUNDATION TO REMAIN.
12. CONTRACTOR TO PROTECT TREE AND LANDSCAPE AREA DURING CONSTRUCTION. ANY DAMAGE TO VEGETATION OR LANDSCAPING SHALL BE REPLACED IN LIKE KIND AT THE CONTRACTOR'S EXPENSE. TREES WITHIN WORK AREA TO RECIEVE PROTECTIVE FENCING. REFER TO DETAIL ON SHT. C2.01.
13. EXISTING CONCRETE WALK TO BE REMOVED TO NEAREST JOINT.
14. EXISTING BIRDHOUSES TO BE REMOVED.
15. EXISTING 8" STORM PIPE SECTION TO BE REMOVED. TEMPORARY BYPASS AND/OR DEWATERING METHODS MAY BE REQUIRED DURING CONSTRUCTION PRIOR TO CONNECTION OF PROPOSED STORM SEWERS.
16. EXISTING ASPHALT PAVEMENT TO BE REMOVED.
17. EXISTING CURB TO BE REMOVED.
18. EXACT LOCATION AND DEPTH OF EXISTING STORM DRAIN PIPING UNKNOWN. EXISTING PIPE TO BE PROTECTED DURING CONSTRUCTION. IF DAMAGE OCCURS, PIPE SHALL BE REPLACED WITH APPROVED PIPE MATERIAL.
19. EXISTING TRENCH DRAIN AND CONCRETE COLLAR TO BE REMOVED.
20. EXISTING WATER METER VAULT TO BE REMOVED.
21. EXISTING CONCRETE STREET PAVEMENT TO BE REMOVED TO NEAREST JOINT.
22. PAVEMENT SAWCUT LINE.
23. EXISTING 6" WATER TAP TO REMAIN. 6"x3" REDUCER TO BE REMOVED.
24. EXISTING SANITARY PIPING TO BE LINED.
25. BULKHEAD EXISTING OPENING IN MANHOLE AFTER EXISTING PIPE IS REMOVED IF MANHOLE IS NOT REMOVED AND REPLACED.
26. EXISTING FENCE TO BE REMOVED AS NECESSARY AND STORED FOR REUSE.
27. EXISTING TRAFFIC SIGNAGE TO BE REMOVED AND STORED FOR REUSE.
28. EXISTING CURB INLET TO BE REMOVED.

DENOTES PAVEMENT TO BE REMOVED

0 20' 40'
1"=20'

23MSD-00336 BASEMAP 16Q

PARKWAY

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com

WSP USA Design, Inc.
Engineering Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
1	SITE PERMIT REVISIONS	03/04/2024

PARKWAY SCHOOL DISTRICT

RIVER BEND ELEMENTARY

224 River Valley Drive
Chesterfield, MO 63017

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006002866
PROFESSIONAL ENGINEER
MARCH 04 2023

Civil Engineer of Record: Sunil Thakkar
Professional No.: PE-2006002866

SHEET NAME
DEMOLITION PLAN

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	DH
DATE:	21 AUGUST 2023
SCALE:	

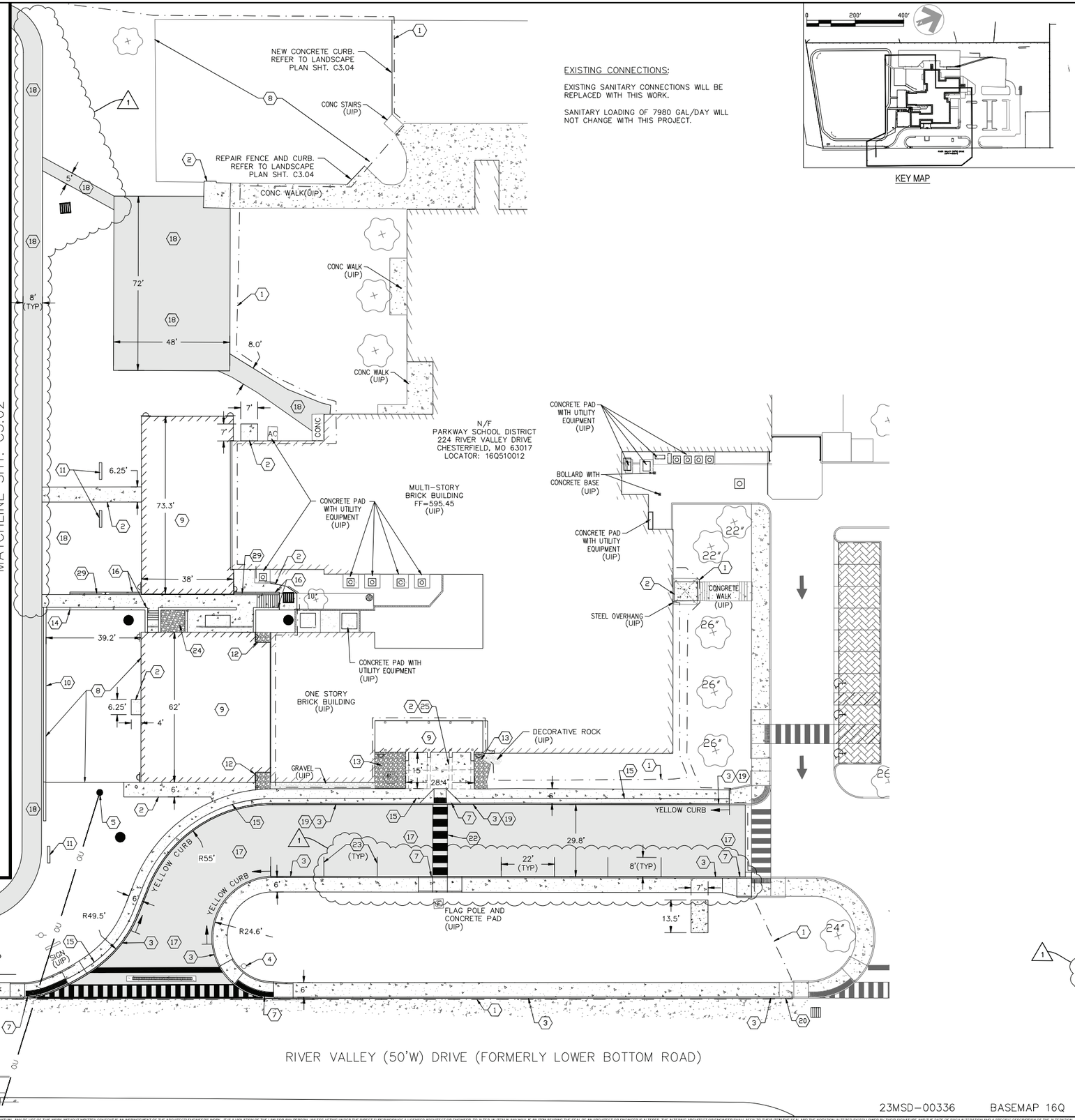
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 142301B
WSP PROJECT NUMBER: 30902493.003
SHEET NUMBER: **C2.03**

ISSUE FOR PERMIT

LAST EDITED: 3/4/2024 1:49 PM
FILE PATH: J:\30902493.000 Parkway 2022 Bond\10.0 Personal Folders\1 - Civil\.003 Riverbend\Site Design\CAD\142301B-x-0000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTS ENGINEERS WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



EXISTING CONNECTIONS:

EXISTING SANITARY CONNECTIONS WILL BE REPLACED WITH THIS WORK.

SANITARY LOADING OF 7980 GAL/DAY WILL NOT CHANGE WITH THIS PROJECT.

KEY MAP

GENERAL NOTES:

REMARKS:

KEYED NOTES

1. LIMITS OF CONSTRUCTION.
2. NEW CONCRETE WALK. REFER TO DETAIL ON SHT. C6.01.
3. NEW CONCRETE WALK WITH INTEGRAL CURB. REFER TO DETAIL ON SHT. C6.01.
4. NEW LOCATION FOR EXISTING SIGN.
5. NEW LOCATION OF LIGHT POLE WITH LIGHT AND NEW OVERHEAD FEED TO BE RELOCATED BY AMEREN.
6. NEW ORNAMENTAL ALUMINUM FENCE. REFER TO DETAIL 2 ON SHT. C6.04.
7. NEW ACCESSIBLE CURB RAMP. REFER TO DETAILS ON SHT. C6.01.
8. NEW PLAYGROUND EQUIPMENT AND RUBBERIZED SURFACE. REFER TO LANDSCAPE PLAN SHT. C3.04 FOR NEW PLAYGROUND SITE PLAN AND DETAIL 1 ON SHT. C6.04.
9. NEW BUILDING ADDITION. REFER TO ARCHITECTURAL PLANS FOR DETAILS.
10. NEW MANUFACTURED MODULAR BLOCK WALL. REFER TO PROFILE ON SHT. C4.01 AND DETAIL ON SHT. 6.01.
11. NEW LOCATION OF EXISTING BENCH.
12. NEW COMPACTED GRAVEL PAD.
13. NEW RIP-RAP TO MATCH EXISTING STYLE AT NORTH SIDE OF MAIN ENTRANCE.
14. NEW MODULAR BLOCK WALL TRANSITION TO CONCRETE WALL AT TOP OF RAMP. REFER TO STRUCTURAL PLANS FOR CONCRETE WALL DETAILS.
15. REPAINT YELLOW STRIPE TO MATCH EXISTING.
16. NEW CONCRETE RAMP, STAIRS, AND WALLS. REFER TO SHT. C6.03 AND STRUCTURAL PLANS FOR DETAILS.
17. NEW HEAVY DUTY ASPHALT PAVEMENT. REFER TO DETAIL ON SHT. C6.01.
18. NEW ASPHALT WALK. REFER TO DETAIL ON SHT. C6.01.
19. CONTRACTOR TO PAINT CURB YELLOW.
20. NEW CONCRETE CURB.
21. NEW CONCRETE STREET PAVEMENT PER CITY OF CHESTERFIELD STANDARDS. REFER TO CROSS SECTION DETAIL ON SHT C6.03.
22. NEW PAINTED CROSSWALK. REFER TO DETAIL ON SHT. C6.01.
23. NEW PAINTED PARALLEL PARKING SPACES. 4" WIDE WHITE STRIPES. DIMENSION AS SHOWN.
24. NEW GRAVEL INFILL PLANTER.
25. CONCRETE WALK TO BE DOWELED AT BUILDING SLAB. SEE STRUCTURAL PLANS. CONTROL JOINTS TO ACCENT ARCHITECTURAL BUILDING LAYOUT AS SHOWN.
26. NEW CONCRETE WALL TO MATCH EXISTING. NEW WALL SECTION TO BE DOWELED INTO EXISTING WALL SECTIONS WITH ½" DIAMETER, 6" DOWELS CENTERED AND SPACED 4" APART.
27. NEW RIP RAP. MATCH EXISTING SIZE AND GRADATION.
28. REINSTALL CHAINLINK FENCE. REFER TO DETAIL ON SHT. C6.01.
29. NEW 48" CHAINLINK FENCE TO BE INSTALLED IN CENTER OF CONCRETE RAMP/STAIR WALL. HANDRAIL SHALL BE MOUNTED TO FENCE IN AREAS WHERE CONCRETE WALL IS LESS THAN 36". REFER TO HANDRAIL AND CHAINLINK FENCE DETAILS ON SHEET C6.01.
30. NEW MULCH TO MATCH EXISTING.
31. NEW ROCK BLANKET PER MSD STANDARD DETAIL.

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com

WSP USA Design, Inc.
Engineering Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
1	SITE PERMIT REVISIONS	03/04/2024

PARKWAY SCHOOL DISTRICT

RIVER BEND ELEMENTARY

224 River Valley Drive
Chesterfield, MO 63017

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006002866
PROFESSIONAL ENGINEER
MARCH 04 2023

Civil Engineer of Record: Sunil Thakkar
Professional No.: PE-2006002866

SHEET NAME
SITE PLAN

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	DH
DATE:	21 AUGUST 2023
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

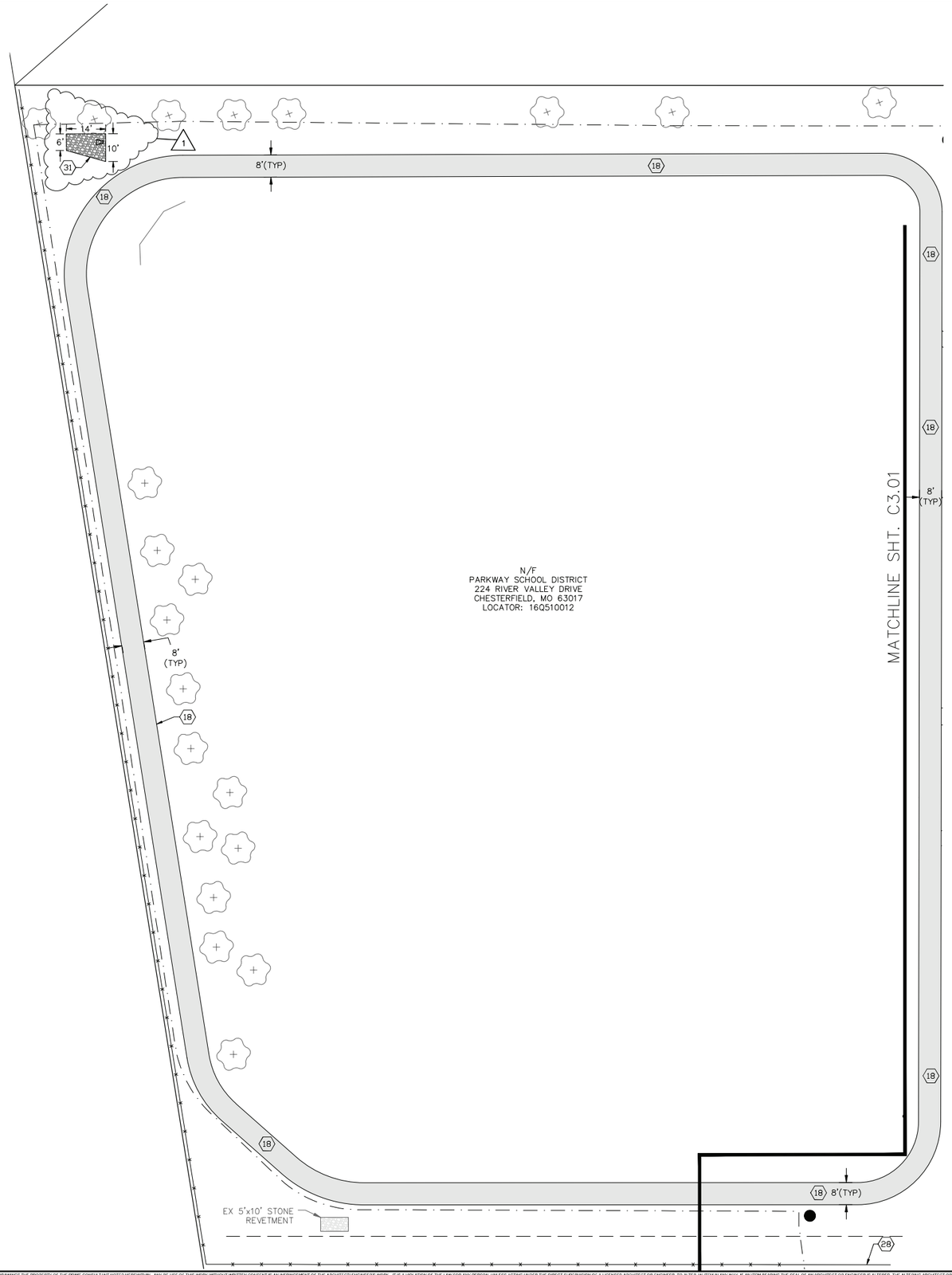
CLIENT PROJECT NUMBER: 142301B
WSP PROJECT NUMBER: 30902493.003

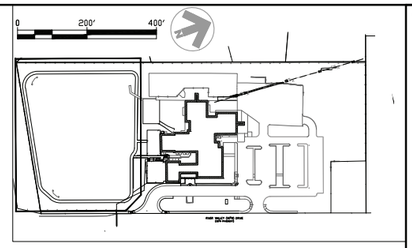
SHEET NUMBER **C3.01**

23MSD-00336 BASEMAP 16Q

LAST EDITED: 3/4/2024 1:48 PM
FILE PATH: J:\30902493.000 Parkway 2022 Bond\10.0 Personal Folder\1 - Civil\.003 Riverbend\Site Design\CAD\142301Bxv000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF ANY ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.





KEY MAP

GENERAL NOTES:

REMARKS:

KEYED NOTES (#)

1. LIMITS OF CONSTRUCTION.
2. NEW CONCRETE WALK. REFER TO DETAIL ON SHT. C6.01.
3. NEW CONCRETE WALK WITH INTEGRAL CURB. REFER TO DETAIL ON SHT. C6.01.
4. NEW LOCATION FOR EXISTING SIGN.
5. NEW LOCATION OF LIGHT POLE WITH LIGHT AND NEW OVERHEAD FEED TO BE RELOCATED BY AMEREN.
6. NEW ORNAMENTAL ALUMINUM FENCE. REFER TO DETAIL 2 ON SHT. C6.04.
7. NEW ACCESSIBLE CURB RAMP. REFER TO DETAILS ON SHT. C6.01.
8. NEW PLAYGROUND EQUIPMENT AND RUBBERIZED SURFACE. REFER TO LANDSCAPE PLAN SHT. C3.04 FOR NEW PLAYGROUND SITE PLAN AND DETAIL 1 ON SHT. C6.04.
9. NEW BUILDING ADDITION. REFER TO ARCHITECTURAL PLANS FOR DETAILS.
10. NEW MANUFACTURED MODULAR BLOCK WALL. REFER TO PROFILE ON SHT. C4.01 AND DETAIL ON SHT. 6.01.
11. NEW LOCATION OF EXISTING BENCH.
12. NEW COMPACTED GRAVEL PAD.
13. NEW RIP-RAP TO MATCH EXISTING STYLE AT NORTH SIDE OF MAIN ENTRANCE.
14. NEW MODULAR BLOCK WALL TRANSITION TO CONCRETE WALL AT TOP OF RAMP. REFER TO STRUCTURAL PLANS FOR CONCRETE WALL DETAILS.
15. REPAINT YELLOW STRIPE TO MATCH EXISTING.
16. NEW CONCRETE RAMP, STAIRS, AND WALLS. REFER TO SHT. C6.03 AND STRUCTURAL PLANS FOR DETAILS.
17. NEW HEAVY DUTY ASPHALT PAVEMENT. REFER TO DETAIL ON SHT. C6.01.
18. NEW ASPHALT WALK. REFER TO DETAIL ON SHT. C6.01.
19. CONTRACTOR TO PAINT CURB YELLOW.
20. NEW CONCRETE CURB.
21. NEW CONCRETE STREET PAVEMENT PER CITY OF CHESTERFIELD STANDARDS. REFER TO CROSS SECTION DETAIL ON SHT C6.03.
22. NEW PAINTED CROSSWALK. REFER TO DETAIL ON SHT. C6.01.
23. NEW PAINTED PARALLEL PARKING SPACES. 4" WIDE WHITE STRIPES. DIMENSION AS SHOWN.
24. NEW GRAVEL INFILL PLANTER.
25. CONCRETE WALK TO BE DOWELED AT BUILDING SLAB. SEE STRUCTURAL PLANS. CONTROL JOINTS TO ACCENT ARCHITECTURAL BUILDING LAYOUT AS SHOWN.
26. NEW CONCRETE WALL TO MATCH EXISTING. NEW WALL SECTION TO BE DOWELED INTO EXISTING WALL SECTIONS WITH ½" DIAMETER, 6" DOWELS CENTERED AND SPACED 4' APART.
27. NEW RIP RAP. MATCH EXISTING SIZE AND GRADATION.
28. REINSTALL CHAINLINK FENCE. REFER TO DETAIL ON SHT. C6.01.
29. NEW 48" CHAINLINK FENCE TO BE INSTALLED IN CENTER OF CONCRETE RAMP/STAIR WALL. HANDRAIL SHALL BE MOUNTED TO FENCE IN AREAS WHERE CONCRETE WALL IS LESS THAN 36". REFER TO HANDRAIL AND CHAINLINK FENCE DETAILS ON SHEET C6.01.
30. NEW MULCH TO MATCH EXISTING.
31. NEW ROCK BLANKET PER MSD STANDARD DETAIL.

1

0 20' 40'
1"=20'

23MSD-00336 BASEMAP 16Q

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 3/4/2024 1:49 PM
FILE PATH: J:\30902493,000 Parkway 2022 Bond\10.0 Personal Folders\1 - Civil\.003 Riverbend\Site Design\C4D\142301Box\000000001C.dwg

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com

WSP USA Design, Inc.
Engineering Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
1	SITE PERMIT REVISIONS	03/04/2024

PARKWAY SCHOOL DISTRICT

RIVER BEND ELEMENTARY

224 River Valley Drive
Chesterfield, MO 63017

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006002866
PROFESSIONAL ENGINEER

MARCH 04 2023

Civil Engineer of Record: Sunil Thakkar
Professional No.: PE-2006002866

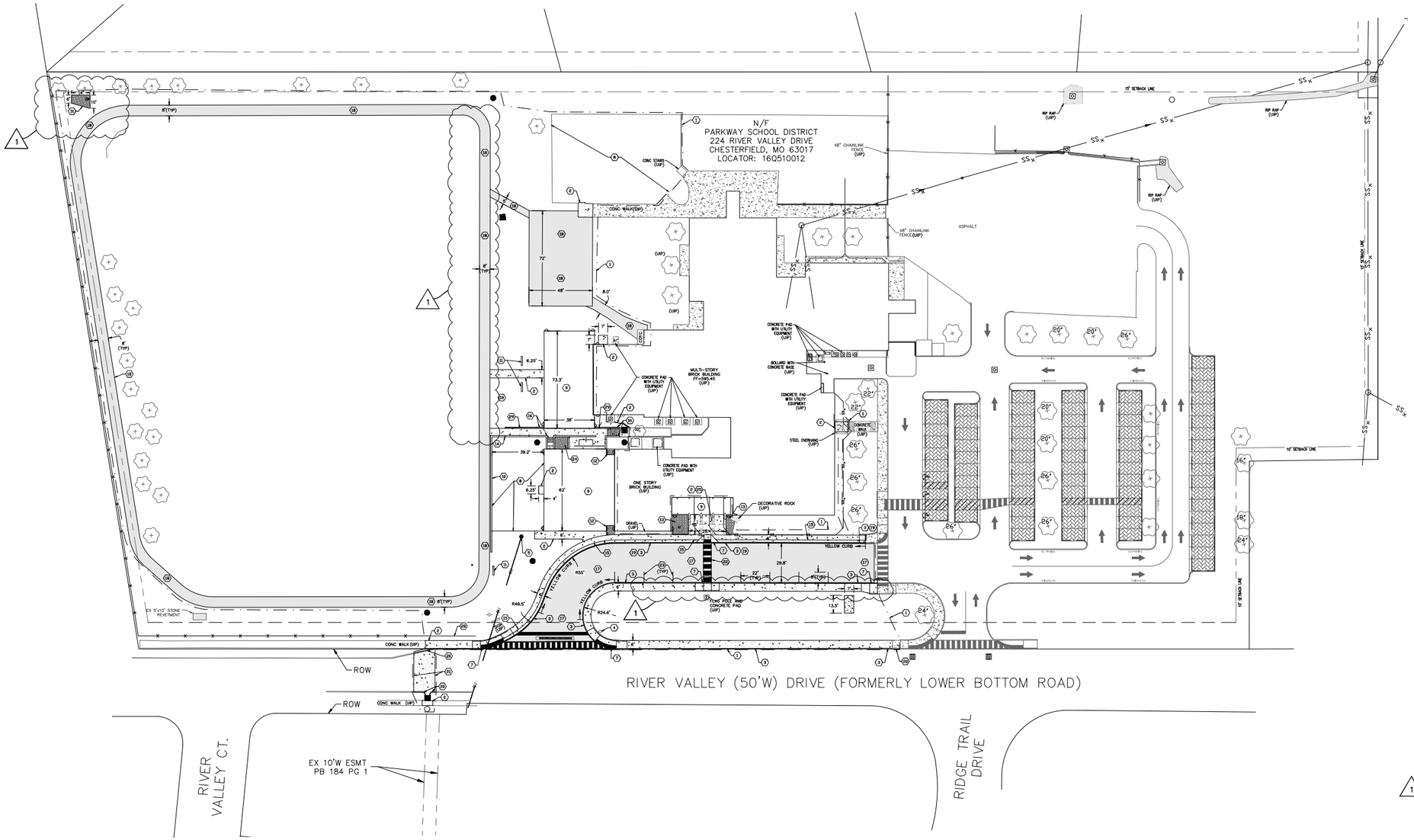
SHEET NAME
SITE PLAN

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	DH
DATE:	21 AUGUST 2023
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 142301B
WSP PROJECT NUMBER: 30902493,003

SHEET NUMBER **C3.02**



GENERAL NOTES:

REMARKS:

KEYED NOTES

1. LIMITS OF CONSTRUCTION.
2. NEW CONCRETE WALK. REFER TO DETAIL ON SHT. C6.01.
3. NEW CONCRETE WALK WITH INTEGRAL CURB. REFER TO DETAIL ON SHT. C6.01.
4. NEW LOCATION FOR EXISTING SIGN.
5. NEW LOCATION OF LIGHT POLE WITH LIGHT AND NEW OVERHEAD FEED TO BE RELOCATED BY AMEREN.
6. NEW ORNAMENTAL ALUMINUM FENCE. REFER TO DETAIL 2 ON SHT. C6.04.
7. NEW ACCESSIBLE CURB RAMP. REFER TO DETAILS ON SHT. C6.01.
8. NEW PLAYGROUND EQUIPMENT AND RUBBERIZED SURFACE. REFER TO LANDSCAPE PLAN SHT. C3.04 FOR NEW PLAYGROUND SITE PLAN AND DETAIL 1 ON SHT. C6.04.
9. NEW BUILDING ADDITION. REFER TO ARCHITECTURAL PLANS FOR DETAILS.
10. NEW MANUFACTURED MODULAR BLOCK WALL. REFER TO PROFILE ON SHT. C4.01 AND DETAIL ON SHT. 6.01.
11. NEW LOCATION OF EXISTING BENCH.
12. NEW COMPACTED GRAVEL PAD.
13. NEW RIP-RAP TO MATCH EXISTING STYLE AT NORTH SIDE OF MAIN ENTRANCE.
14. NEW MODULAR BLOCK WALL TRANSITION TO CONCRETE WALL AT TOP OF RAMP. REFER TO STRUCTURAL PLANS FOR CONCRETE WALL DETAILS.
15. REPAINT YELLOW STRIPE TO MATCH EXISTING.
16. NEW CONCRETE RAMP, STAIRS, AND WALLS. REFER TO SHT. C6.03 AND STRUCTURAL PLANS FOR DETAILS.
17. NEW HEAVY DUTY ASPHALT PAVEMENT. REFER TO DETAIL ON SHT. C6.01.
18. NEW ASPHALT WALK. REFER TO DETAIL ON SHT. C6.01.
19. CONTRACTOR TO PAINT CURB YELLOW.
20. NEW CONCRETE CURB.
21. NEW CONCRETE STREET PAVEMENT PER CITY OF CHESTERFIELD STANDARDS. REFER TO CROSS SECTION DETAIL ON SHT C6.03.
22. NEW PAINTED CROSSWALK. REFER TO DETAIL ON SHT. C6.01.
23. NEW PAINTED PARALLEL PARKING SPACES. 4" WIDE WHITE STRIPES. DIMENSION AS SHOWN.
24. NEW GRAVEL INFILL PLANTER.
25. CONCRETE WALK TO BE DOWELED AT BUILDING SLAB. SEE STRUCTURAL PLANS. CONTROL JOINTS TO ACCENT ARCHITECTURAL BUILDING LAYOUT AS SHOWN.
26. NEW CONCRETE WALL TO MATCH EXISTING. NEW WALL SECTION TO BE DOWELED INTO EXISTING WALL SECTIONS WITH $\frac{1}{2}$" DIAMETER, 6" DOWELS CENTERED AND SPACED 4' APART.
27. NEW RIP RAP. MATCH EXISTING SIZE AND GRADATION.
28. REINSTALL CHAINLINK FENCE. REFER TO DETAIL ON SHT. C6.01.
29. NEW 48" CHAINLINK FENCE TO BE INSTALLED IN CENTER OF CONCRETE RAMP/STAIR WALL. HANDRAIL SHALL BE MOUNTED TO FENCE IN AREAS WHERE CONCRETE WALL IS LESS THAN 36". REFER TO HANDRAIL AND CHAINLINK FENCE DETAILS ON SHEET C6.01.
30. NEW MULCH TO MATCH EXISTING.
31. NEW ROCK BLANKET PER MSD STANDARD DETAIL.

0 40' 80'
1"=40'

23MSD-00336 BASEMAP 16Q

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF ANY ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 3/4/2024 1:49 PM
FILE PATH: J:\30902493.000 Parkway 2022 Bond\10.0 Personal Folder\1 - Civil\003 Riverbend\Site Design\CAD\142301Bx\W0000000001C.dwg

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com

WSP USA Design, Inc.
Engineering Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
1	SITE PERMIT REVISIONS	03/04/2024

PARKWAY SCHOOL DISTRICT

RIVER BEND ELEMENTARY

224 River Valley Drive
Chesterfield, MO 63017

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006002866
PROFESSIONAL ENGINEER
MARCH 04 2023

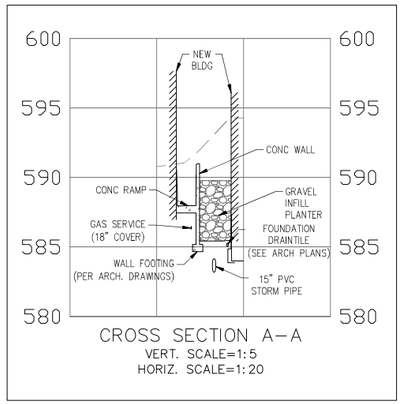
Civil Engineer of Record: Sunil Thakkar
Professional No.: PE-2006002866

SHEET NAME
SITE PLAN - OVERALL

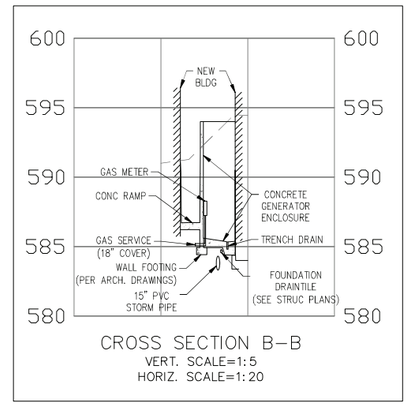
DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	DH
DATE:	21 AUGUST 2023
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

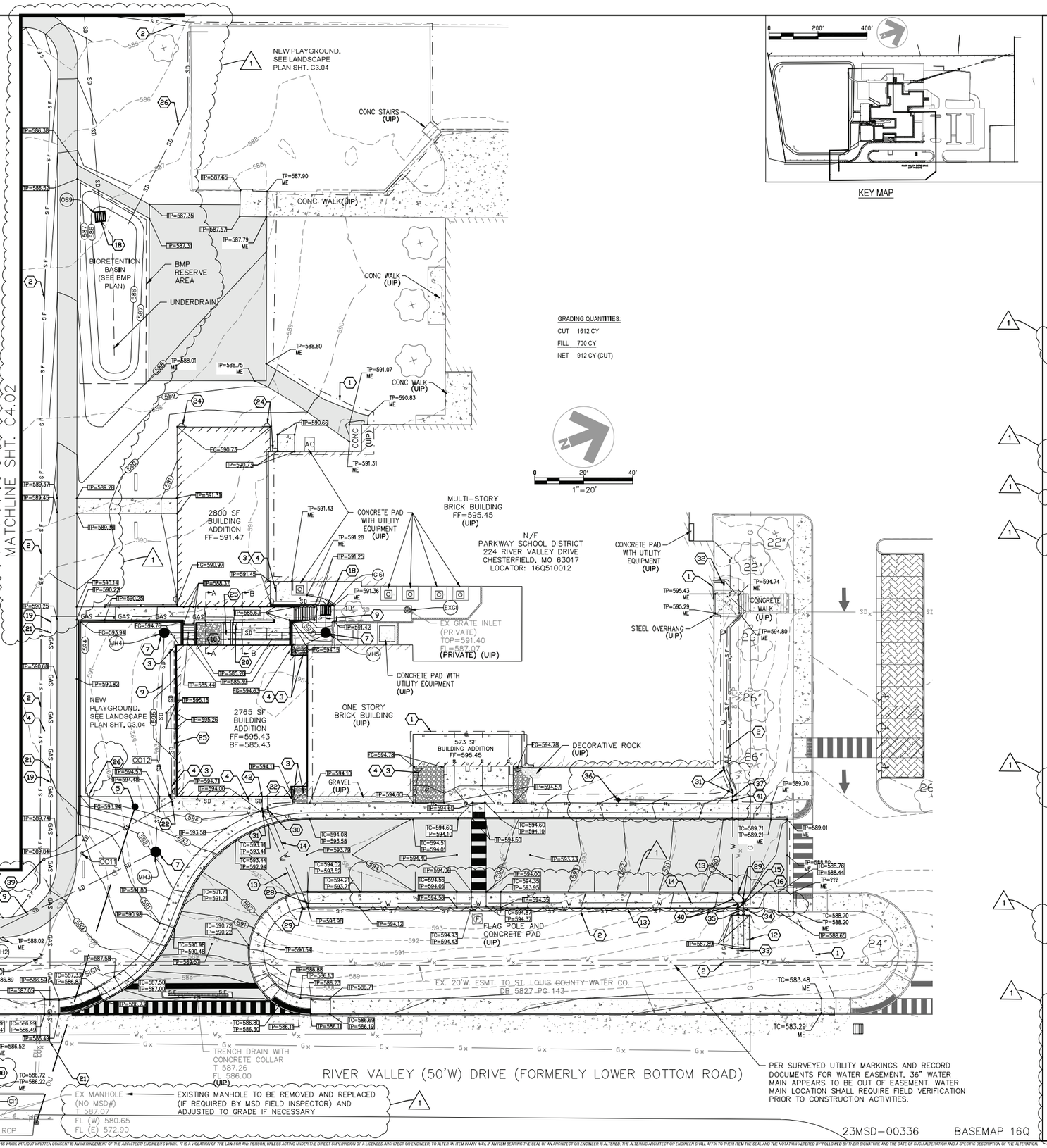
CLIENT PROJECT NUMBER: 142301B
WSP PROJECT NUMBER: 30902493.003
SHEET NUMBER **C3.05**



CROSS SECTION A–A
VERT. SCALE=1:5
HORIZ. SCALE=1:20



CROSS SECTION B–B
VERT. SCALE=1:5
HORIZ. SCALE=1:20



GRADING QUANTITIES:
CUT 1612 CY
FILL 700 CY
NET 912 CY (CUT)

0 20' 40'
1"=20'

KEY MAP

GENERAL NOTES:

1. APPROXIMATE LOCATION OF EXISTING STORM DRAIN PIPE IS SHOWN.
2. ALL EXISTING DOWNSPOUTS THAT DISCHARGE TO UNDERGROUND PIPING TO REMAIN UNLESS OTHERWISE NOTED.
3. ALL PAVEMENT TIE-INS TO MATCH EXISTING GRADES.
4. WALL SPOT GRADES SHOWN DEPICT THE ELEVATION OF THE PROPOSED GRADE AT THE BOTTOM AND TOP OF THE WALL. ACTUAL WALL HEIGHT MAY VARY FROM GRADE. REFER TO WALL DETAILS FOR WALL TOPS AND FOOTING DEPTHS.

REMARKS:

KEYED NOTES (#)

1. LIMITS OF CONSTRUCTION.
2. EROSION CONTROL - SILT FENCE. REFER TO DETAIL ON SHT. C7.02.
3. NEW DOWNSPOUT CONNECTION. REFER TO DETAIL ON SHT. C6.01.
4. NEW 6" PVC STORM PIPE.
5. NEW LOCATION OF LIGHT POLE WITH LIGHT AND NEW OVERHEAD FEED TO BE INSTALLED BY AMEREN.
6. BULKHEAD EXISTING OPENING IN MANHOLE AFTER EXISTING PIPE IS DISCONNECTED IF MANHOLE IS NOT REMOVED AND REPLACED.
7. NEW PRECAST CONCRETE MANHOLE. REFER TO MSD STANDARD DETAILS SHEET 21.
8. SUMP APRON TO SILL OF CURB INLET.
9. NEW 12" PVC STORM DRAIN.
10. NEW 6" NDS DURASLOPE TRENCH DRAIN. TOP ELEVATION=585.28. DS-232 DUCTILE IRON ADA GRATE.
11. NEW 12" FLARED END SECTION. REFER TO MSD STANDARD DETAILS OF SEWER CONSTRUCTION SHEET 61.
12. NEW SPLIT SERVICE WATER METER VAULT. REFER TO DETAILS ON SHT. C6.02.
13. NEW 6" FIRE SERVICE LINE.
14. NEW 2" DOMESTIC WATER LINE.
15. NEW 3"x2" TEE WITH THRUST BLOCK. REFER TO DETAIL ON SHT C6.02.
16. NEW 6"x4" TEE WITH THRUST BLOCK. REFER TO DETAIL ON SHT. C6.02.
17. NEW STANDARD 48" MANHOLE. REFER TO DETAIL ON SHT. C6.01. REFER TO PROFILE THIS SHEET.
18. NEW STANDARD SQUARE 2-GRATE INLET. REFER TO MSD STANDARD DETAIL SHEET 35.
19. NEW 1-1/4" POLYETHYLENE GAS SERVICE TO BE INSTALLED BY SPIRE.
20. NEW GAS METER LOCATION.
21. GAS LINE TO BE DIRECTIONAL BORED AND INSTALLED BY SPIRE
22. NEW 6" CLEANOUT. REFER TO DETAIL ON SHT. C6.03.
23. TIE NEW 6" PVC STORM PIPING INTO EXISTING 8" VCP DRAIN.
24. DOWNSPOUT TO DISCHARGE AT GRADE WITH SPLASH PAD.
25. NEW FOUNDATION DRAIN TILE WITH TIE INTO MH3. BACKFLOW PREVENTER TO BE INSTALLED AT CONNECTION TO MANHOLE.
26. NEW 4" CORRUGATED PVC PIPE. MINIMUM 1% SLOPE.
27. EXISTING SANITARY SEWER TO BE LINED BY MSD APPROVED CONTRACTOR. LINING TO FOLLOW STANDARD MSD SPECIFICATIONS.
28. NEW 2" 60° BEND WITH THRUST BLOCK. REFER TO DETAIL ON SHT C6.02
29. NEW 4" 60° BEND WITH THRUST BLOCK. REFER TO DETAIL ON SHT. C6.02.
30. NEW 2" 22.5° BEND WITH THRUST BLOCK. REFER TO DETAIL ON SHT. C6.02.
31. NEW 4" 22.5° BEND WITH THRUST BLOCK. REFER TO DETAIL ON SHT. C6.02.
32. NEW 4" 90° BEND WITH THRUST BLOCK. REFER TO DETAIL ON SHT. C6.02.
33. NEW 6" SERVICE TO METER PIT. NOTIFY OWNER AND MISSOURI AMERICAN WATER 48 HOURS PRIOR TO MAKING NEW CONNECTION.
34. NEW 3" DOMESTIC WATER LINE.
35. NEW VALVE BOX WITH CONTROL VALVE TO MATCH PIPE SIZE.
36. NEW FIRE HYDRANT. REFER TO DETAIL ON SHT. C6.02.
37. NEW POST-INDICATOR VALVE. REDUCE TO 4" PIPE TO BUILDING.
38. NEW 48" PRECAST SINGLE STREET INLET. REFER TO MSD STANDARD DETAILS OF SEWER CONSTRUCTION SHEET 36. ADJUST TO GRADE IF NECESSARY.
39. NEW 4" NDS POP-UP EMITTER WITH 90° ELBOW.
40. NEW 6" 60° BEND WITH THRUST BLOCK. REFER TO DETAIL ON SHT. C6.02.
41. NEW 6"x6" TEE WITH THRUST BLOCK. REFER TO DETAIL ON SHT. C6.02.
42. NEW FDC SHALL BE A SINGLE 5-IN STORZ CONNECTION WITH 30° DOWN ANGLE AND KNOX LOCKING CAP.

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Engineering Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
1	SITE PERMIT REVISIONS	03/04/2024

PARKWAY SCHOOL DISTRICT

RIVER BEND ELEMENTARY

224 River Valley Drive
Chesterfield, MO 63017

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006002866
PROFESSIONAL ENGINEER
MARCH 04 2023
Civil Engineer of Record: Sunil Thakkar
Professional No.: PE-2006002866

ISSUE FOR PERMIT

SHEET NAME
GRADING & UTILITY PLAN

DESIGNED BY: MS
DRAWN BY: MS
CHECKED BY: DH
DATE: 21 AUGUST 2023
SCALE:

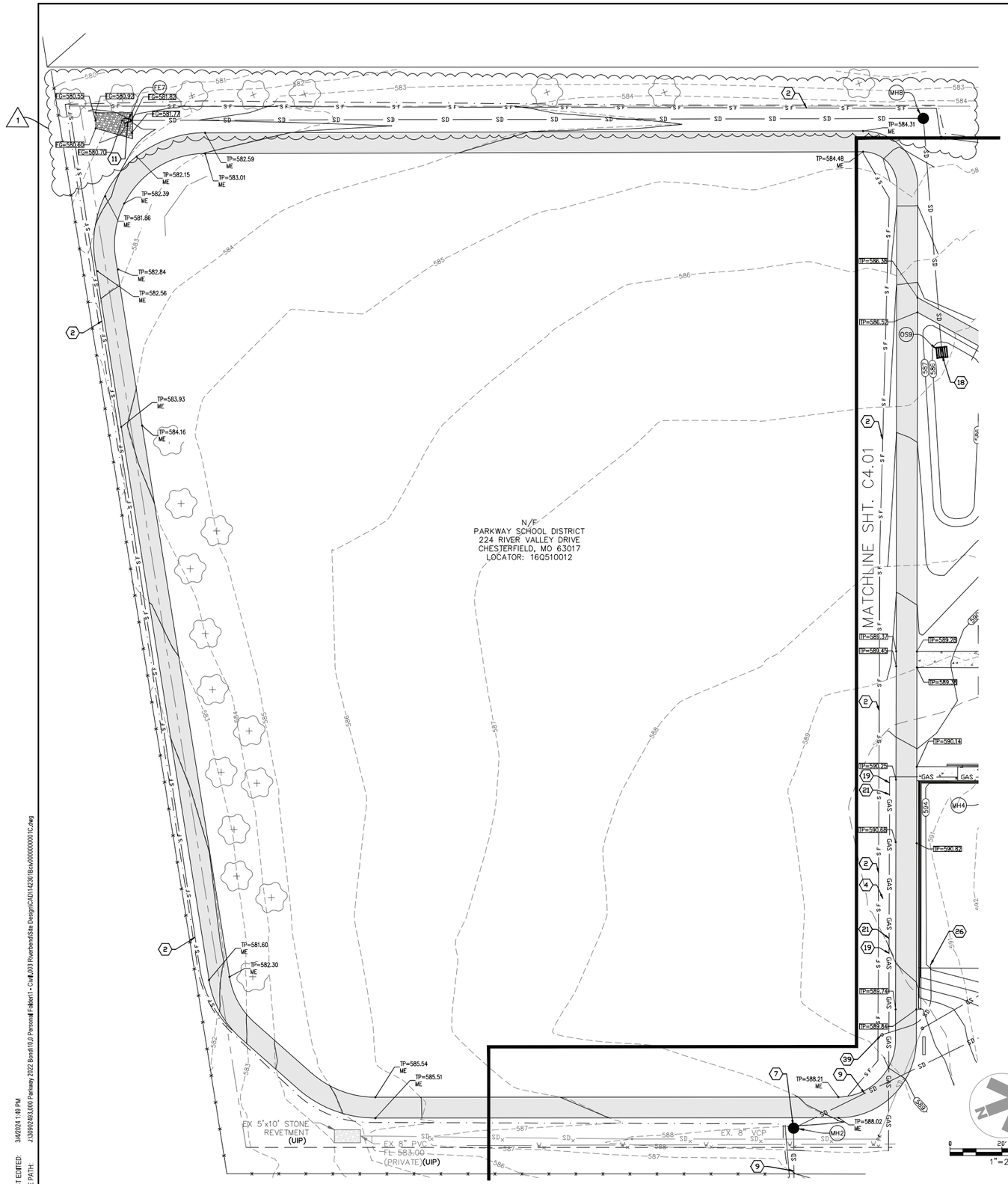
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

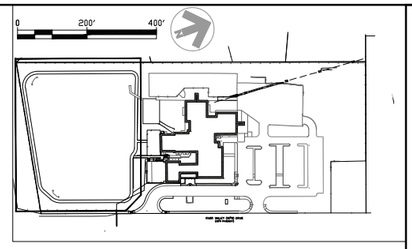
CLIENT PROJECT NUMBER: 142301B
WSP PROJECT NUMBER: 30902493.003
SHEET NUMBER **C4.01**

LAST EDITED: 3/4/2024 1:49 PM
FILE PATH: J:\30902493.000 Parkway 2022 Bond\10.0 Personal Folder\1 - Civil\.003 Riverbend\Site Design\CAD\142301Bcv000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

23MSD–00336 BASEMAP 16Q





KEY MAP

GENERAL NOTES:

REMARKS:

KEYED NOTES (#)

1. LIMITS OF CONSTRUCTION.
2. EROSION CONTROL - SILT FENCE. REFER TO DETAIL ON SHT. C7.02.
3. NEW DOWNSPOUT CONNECTION. REFER TO DETAIL ON SHT. C6.01.
4. NEW 6" PVC STORM PIPE.
5. NEW LOCATION OF LIGHT POLE WITH LIGHT AND NEW OVERHEAD FEED TO BE INSTALLED BY AMEREN.
6. BULKHEAD EXISTING OPENING IN MANHOLE AFTER EXISTING PIPE IS DISCONNECTED IF MANHOLE IS NOT REMOVED AND REPLACED.
7. NEW PRECAST CONCRETE MANHOLE. REFER TO MSD STANDARD DETAILS SHEET 21.
8. SUMP APRON TO SILL OF CURB INLET.
9. NEW 12" PVC STORM DRAIN.
10. NEW 6" NDS DURASLOPE TRENCH DRAIN. TOP ELEVATION=585.28. DS-232 DUCTILE IRON ADA GRATE.
11. NEW 12" FLARED END SECTION. REFER TO MSD STANDARD DETAILS OF SEWER CONSTRUCTION SHEET 61.
12. NEW SPLIT SERVICE WATER METER VAULT. REFER TO DETAILS ON SHT. C6.02.
13. NEW 6" FIRE SERVICE LINE.
14. NEW 2" DOMESTIC WATER LINE.
15. NEW 3"x2" TEE WITH THRUST BLOCK. REFER TO DETAIL ON SHT C6.02.
16. NEW 6"x4" TEE WITH THRUST BLOCK. REFER TO DETAIL ON SHT. C6.02.
17. NEW STANDARD 48" MANHOLE. REFER TO DETAIL ON SHT. C6.01. REFER TO PROFILE THIS SHEET.
18. NEW STANDARD SQUARE 2-GRATE INLET. REFER TO MSD STANDARD DETAIL SHEET 35.
19. NEW 1-1/4" POLYETHYLENE GAS SERVICE TO BE INSTALLED BY SPIRE.
20. NEW GAS METER LOCATION.
21. GAS LINE TO BE DIRECTIONAL BORED AND INSTALLED BY SPIRE
22. NEW 6" CLEANOUT. REFER TO DETAIL ON SHT. C6.03.
23. TIE NEW 6" PVC STORM PIPING INTO EXISTING 8" VCP DRAIN.
24. DOWNSPOUT TO DISCHARGE AT GRADE WITH SPLASH PAD.
25. NEW FOUNDATION DRAIN TILE WITH TIE INTO MH3. BACKFLOW PREVENTER TO BE INSTALLED AT CONNECTION TO MANHOLE.
26. NEW 4" CORRUGATED PVC PIPE. MINIMUM 1% SLOPE.
27. EXISTING SANITARY SEWER TO BE LINED BY MSD APPROVED CONTRACTOR. LINING TO FOLLOW STANDARD MSD SPECIFICATIONS.
28. NEW 2" 60° BEND WITH THRUST BLOCK. REFER TO DETAIL ON SHT C6.02
29. NEW 4" 60° BEND WITH THRUST BLOCK. REFER TO DETAIL ON SHT. C6.02.
30. NEW 2" 22.5° BEND WITH THRUST BLOCK. REFER TO DETAIL ON SHT. C6.02.
31. NEW 4" 22.5° BEND WITH THRUST BLOCK. REFER TO DETAIL ON SHT. C6.02.
32. NEW 4" 90° BEND WITH THRUST BLOCK. REFER TO DETAIL ON SHT. C6.02.
33. NEW 6" SERVICE TO METER PIT. NOTIFY OWNER AND MISSOURI AMERICAN WATER 48 HOURS PRIOR TO MAKING NEW CONNECTION.
34. NEW 3" DOMESTIC WATER LINE.
35. NEW VALVE BOX WITH CONTROL VALVE TO MATCH PIPE SIZE.
36. NEW FIRE HYDRANT. REFER TO DETAIL ON SHT. C6.02.
37. NEW POST-INDICATOR VALVE, REDUCE TO 4" PIPE TO BUILDING.
38. NEW 48" PRECAST SINGLE STREET INLET. REFER TO MSD STANDARD DETAILS OF SEWER CONSTRUCTION SHEET 36. ADJUST TO GRADE IF NECESSARY.
39. NEW 4" NDS POP-UP EMITTER WITH 90° ELBOW.
40. NEW 6" 60° BEND WITH THRUST BLOCK. REFER TO DETAIL ON SHT. C6.02.
41. NEW 6"x6" TEE WITH THRUST BLOCK. REFER TO DETAIL ON SHT. C6.02.
42. NEW FDC SHALL BE A SINGLE 5-IN STORZ CONNECTION WITH 30° DOWN ANGLE AND KNOX LOCKING CAP.

ISSUE FOR PERMIT

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com

WSP USA Design, Inc.
Engineering Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
1	SITE PERMIT REVISIONS	03/04/2024

PARKWAY SCHOOL DISTRICT

RIVER BEND ELEMENTARY

224 River Valley Drive
Chesterfield, MO 63017

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006002866
PROFESSIONAL ENGINEER
MARCH 04 2023

Civil Engineer of Record: Sunil Thakkar
Professional No.: PE-2006002866

SHEET NAME
GRADING & UTILITY PLAN

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	DH
DATE:	21 AUGUST 2023
SCALE:	

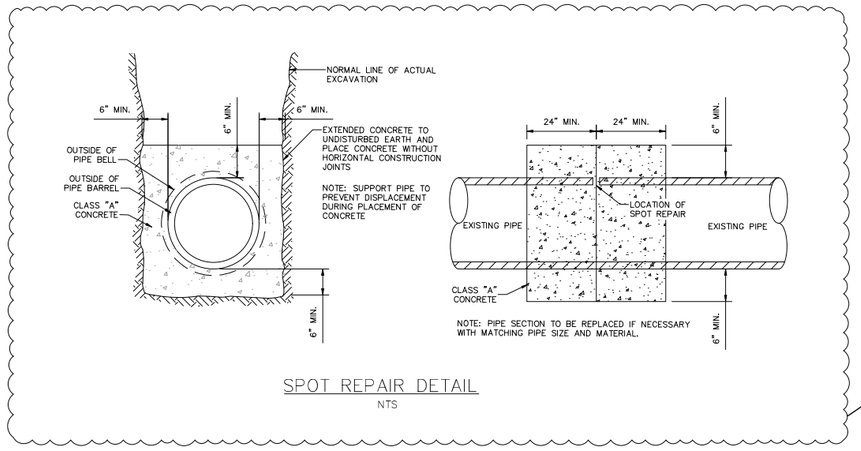
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 142301B
WSP PROJECT NUMBER: 30902493.003
SHEET NUMBER **C4.02**

23MSD-00336 BASEMAP 16Q

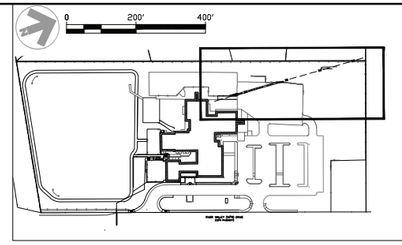
LAST EDITED: 3/4/2024 1:49 PM
FILE PATH: J:\30902493.000 Parkway 2022 Bond\10.0 Personal Folder\1 - Civil\.003 Riverbend\Site Design\CAD\142301Bcivil000000000C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



SPOT REPAIR DETAIL

NTS

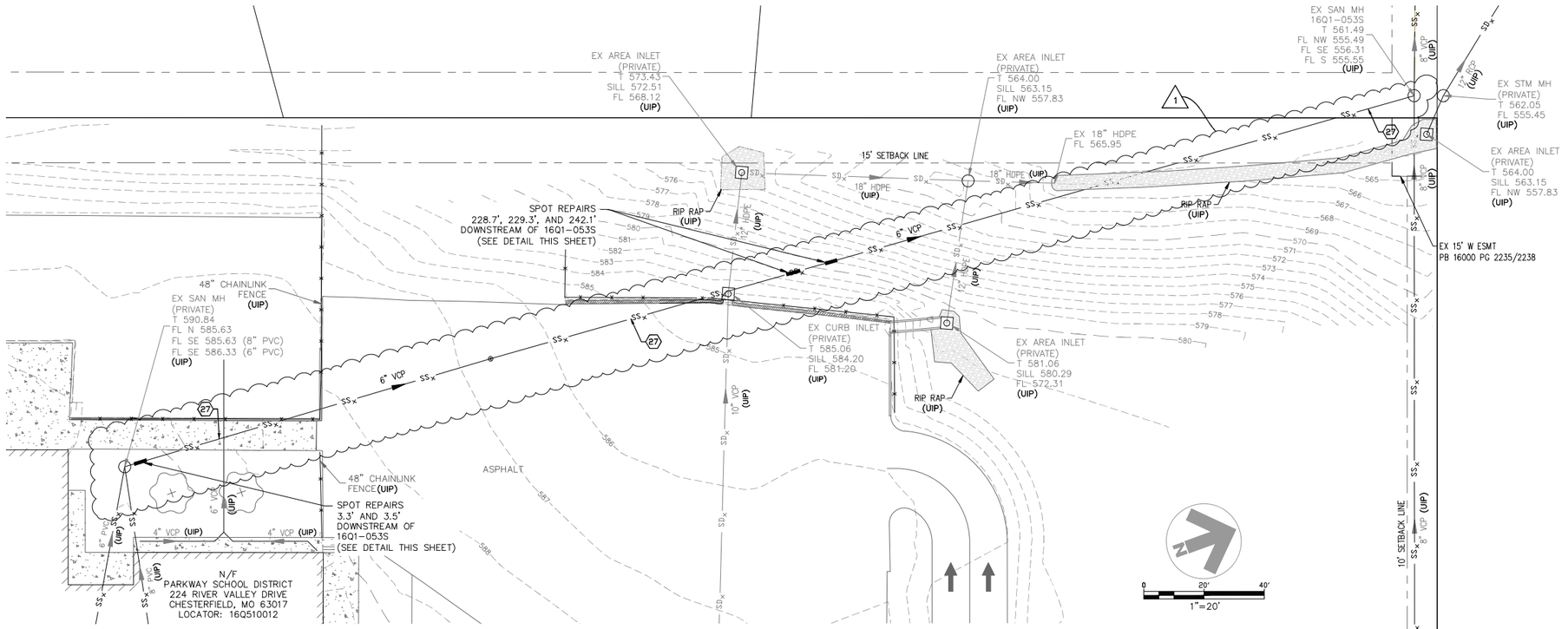


KEY MAP

EXISTING CONNECTIONS:

EXISTING SANITARY CONNECTIONS WILL BE REPLACED WITH THIS WORK.

SANITARY LOADING OF 7980 GAL/DAY WILL NOT CHANGE WITH THIS PROJECT.



GENERAL NOTES:

REMARKS:

KEYED NOTES

1. LIMITS OF CONSTRUCTION.
2. EROSION CONTROL - SILT FENCE. REFER TO DETAIL ON SHT. C7.02.
3. NEW DOWNSPOUT CONNECTION. REFER TO DETAIL ON SHT. C6.01.
4. NEW 6" PVC STORM PIPE.
5. NEW LOCATION OF LIGHT POLE WITH LIGHT AND NEW OVERHEAD FEED TO BE INSTALLED BY AMEREN.
6. BULKHEAD EXISTING OPENING IN MANHOLE AFTER EXISTING PIPE IS DISCONNECTED IF MANHOLE IS NOT REMOVED AND REPLACED.
7. NEW PRECAST CONCRETE MANHOLE. REFER TO MSD STANDARD DETAILS SHEET 21.
8. SUMP APRON TO SILL OF CURB INLET.
9. NEW 12" PVC STORM DRAIN.
10. NEW 6" NDS DURASLOPE TRENCH DRAIN. TOP ELEVATION=585.28. DS-232 DUCTILE IRON ADA GRATE.
11. NEW 12" FLARED END SECTION. REFER TO MSD STANDARD DETAILS OF SEWER CONSTRUCTION SHEET 61.
12. NEW SPLIT SERVICE WATER METER VAULT. REFER TO DETAILS ON SHT. C6.02.
13. NEW 6" FIRE SERVICE LINE.
14. NEW 2" DOMESTIC WATER LINE.
15. NEW 3"x2" TEE WITH THRUST BLOCK. REFER TO DETAIL ON SHT C6.02.
16. NEW 6"x4" TEE WITH THRUST BLOCK. REFER TO DETAIL ON SHT. C6.02.
17. NEW STANDARD 48" MANHOLE. REFER TO DETAIL ON SHT. C6.01. REFER TO PROFILE THIS SHEET.
18. NEW STANDARD SQUARE 2-GRATE INLET. REFER TO MSD STANDARD DETAIL SHEET 35.
19. NEW 1-1/4" POLYETHYLENE GAS SERVICE TO BE INSTALLED BY SPIRE.
20. NEW GAS METER LOCATION.
21. GAS LINE TO BE DIRECTIONAL BORED AND INSTALLED BY SPIRE
22. NEW 6" CLEANOUT. REFER TO DETAIL ON SHT. C6.03.
23. TIE NEW 6" PVC STORM PIPING INTO EXISTING 8" VCP DRAIN.
24. DOWNSPOUT TO DISCHARGE AT GRADE WITH SPLASH PAD.
25. NEW FOUNDATION DRAIN TILE WITH TIE INTO MH3. BACKFLOW PREVENTER TO BE INSTALLED AT CONNECTION TO MANHOLE.
26. NEW 4" CORRUGATED PVC PIPE. MINIMUM 1% SLOPE.
27. EXISTING SANITARY SEWER TO BE LINED BY MSD APPROVED CONTRACTOR. LINING TO FOLLOW STANDARD MSD SPECIFICATIONS.
28. NEW 2" 60° BEND WITH THRUST BLOCK. REFER TO DETAIL ON SHT C6.02
29. NEW 4" 60° BEND WITH THRUST BLOCK. REFER TO DETAIL ON SHT. C6.02.
30. NEW 2" 22.5° BEND WITH THRUST BLOCK. REFER TO DETAIL ON SHT. C6.02.
31. NEW 4" 22.5° BEND WITH THRUST BLOCK. REFER TO DETAIL ON SHT. C6.02.
32. NEW 4" 90° BEND WITH THRUST BLOCK. REFER TO DETAIL ON SHT. C6.02.
33. NEW 8" SERVICE TO METER PIT. NOTIFY OWNER AND MISSOURI AMERICAN WATER 48 HOURS PRIOR TO MAKING NEW CONNECTION.
34. NEW 3" DOMESTIC WATER LINE.
35. NEW VALVE BOX WITH CONTROL VALVE TO MATCH PIPE SIZE.
36. NEW FIRE HYDRANT. REFER TO DETAIL ON SHT. C6.02.
37. NEW POST-INDICATOR VALVE. REDUCE TO 4" PIPE TO BUILDING.
38. NEW 48" PRECAST SINGLE STREET INLET. REFER TO MSD STANDARD DETAILS OF SEWER CONSTRUCTION SHEET 36. ADJUST TO GRADE IF NECESSARY.
39. NEW 4" NDS POP-UP EMITTER WITH 90° ELBOW.
40. NEW 6" 60° BEND WITH THRUST BLOCK. REFER TO DETAIL ON SHT. C6.02.
41. NEW 6"x6" TEE WITH THRUST BLOCK. REFER TO DETAIL ON SHT. C6.02.
42. NEW FDC SHALL BE A SINGLE 5-IN STORZ CONNECTION WITH 30° DOWN ANGLE AND KNOX LOCKING CAP.

23MSD-00336 BASEMAP 16Q

ISSUE FOR PERMIT

PARKWAY

SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com

WSP USA Design, Inc.
Engineering Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
1	SITE PERMIT REVISIONS	03/04/2024

PARKWAY SCHOOL DISTRICT

RIVER BEND ELEMENTARY

224 River Valley Drive
Chesterfield, MO 63017

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006002866
PROFESSIONAL ENGINEER

MARCH 04 2023

Civil Engineer of Record: Sunil Thakkar
Professional No.: PE-2006002866

SHEET NAME
GRADING & UTILITY PLAN

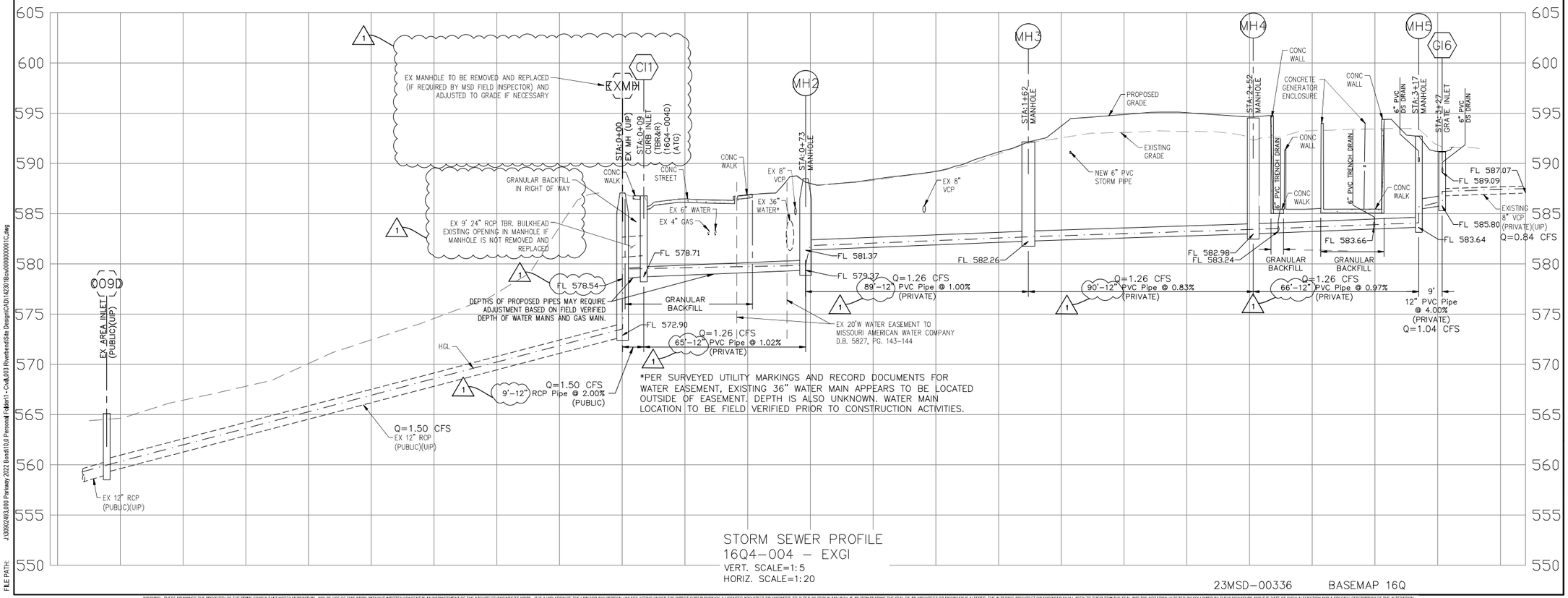
DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	DH
DATE:	21 AUGUST 2023
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 142301B
WSP PROJECT NUMBER: 30902493.003
SHEET NUMBER: **C4.03**

LAST EDITED: 3/4/2024 1:49 PM
FILE PATH: J:\30902493.000 Parkway 2022 Bond\10.0 Personal Folder\1 - Civil\.003 Riverbend\Site Design\CAD\142301Bsx000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTS ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



STORM SEWER PROFILE
16Q4-004 – EXGI
VERT. SCALE=1:5
HORIZ. SCALE=1:20

23MSD-00336 BASEMAP 16Q

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 3/4/2024 1:49 PM
FILE PATH: J:\30902493.000 Parkway 2022 Bond\10.0 Personal Folder\1 - Civil\003 Riverbend\Site Design\CAD\142301Bx\W0000000010C.dwg

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Engineering Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
1	SITE PERMIT REVISIONS	03/04/2024

PARKWAY SCHOOL DISTRICT

RIVER BEND ELEMENTARY

224 River Valley Drive
Chesterfield, MO 63017

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006002866
PROFESSIONAL ENGINEER
MARCH 04 2023

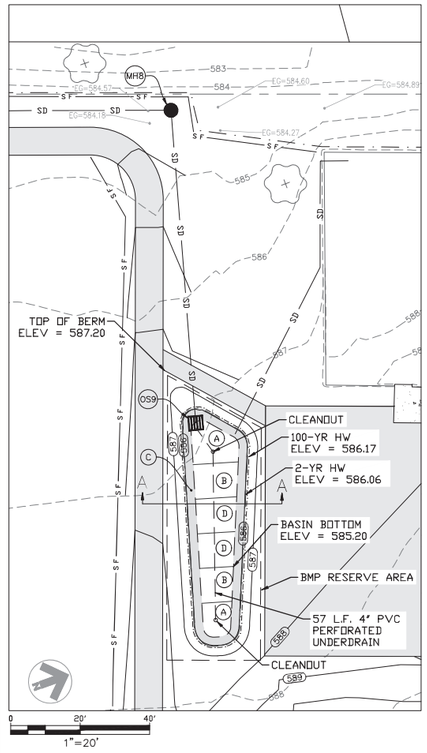
Civil Engineer of Record: Sunil Thakkar
Professional No.: PE-2006002866

SHEET NAME
UTILITY PROFILES

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	DH
DATE:	21 AUGUST 2023
SCALE:	

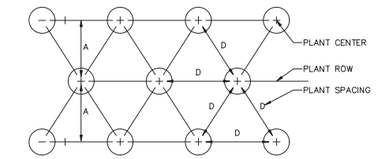
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 142301B
WSP PROJECT NUMBER: 30902493.003
SHEET NUMBER **C4.04**



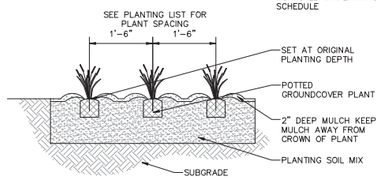
SPACING "D"	ROW "A"	NUMBER OF PLANTS/SQ. FT.
30"	26"	0.160
24"	20.6"	0.25
18"	15.8"	0.450
15"	13.0"	0.640
12"	10.4"	1.00
10"	8.66"	1.44
8"	6.93"	2.25

NOTE: PLANT QUANTITIES WERE DETERMINED BY MULTIPLYING AREA (SQ. FT.) BY NUMBER OF PLANTS/SQ. FT. FOR REQUIRED SPACING.



GROUNDCOVER SPACING

QUANTITY OF PLANTS AS NOTED IN PLANTING SCHEDULE



NOTES:

1. REMOVE SPENT FLOWERS PRIOR TO PLANTING.
2. LOOSEN ROOT MASS AT BOTTOM OF ROOTBALL.
3. TOP OF ROOTBALL STRIPPED OF 1/4" SURFACE GROWING MEDIA AND COVERED WITH 1/4" LANDSCAPE BED MIX PLUS SURFACE MULCH.

DETAIL REPRODUCED FROM MSD LANDSCAPE GUIDE FOR STORMWATER BEST MANAGEMENT PRACTICES.

Water Availability	Required Planting Period	Minimum Container Size	Water Requirement First 3 Weeks*	Water Requirement After 3 Weeks*	Maximum Mulch Depth****
No ability to water after	Late Feb. – April only	2.25" x 3.75" or larger	Water each plug immediately		1.5 for plugs
Manual watering with standard sprinkler	Late Feb. – Early June Sept. – October	4.5" x 5" (quart) or larger in summer & fall	1" (60 min) every 4 days	1" (60 min) every 7 days until plants established***	1.5" for plugs 2.5" for quarts
Automatic irrigation (set to water more frequently than normal during first two months after planting)	Late Feb. – Early Oct.	2.25" x 3.75" (plug) or larger in spring 4.5" x 5" (quart) or larger in summer & fall	1" (60 min) every 4 days in spring and fall 1" (60 min) every 3 days in summer	1" (60 min) every 7 days until plants established***	1.5" for plugs 2.5" for quarts

*This water amount includes natural rainfall. If you get a ½ inch of natural rain then you will need to add a ½ inch of water to meet the 1 inch requirement.

**Requires transport of water to the planting site in large containers and pouring enough water onto each plant (after planting) to moisten the entire planting pit.

***Plants are established when roots have grown out of the container soil and into the native soil by 3-5 inches. This normally takes 3-4 months for most perennials and grasses and up to 6-7 months for trees and shrubs.

****Shredded leaf compost is recommended for use with perennials and grasses. Shredded bark mulch is recommended for tree and shrub plantings at a depth of 3 inches.

PLANTING, WATER AND MULCH REQUIREMENTS

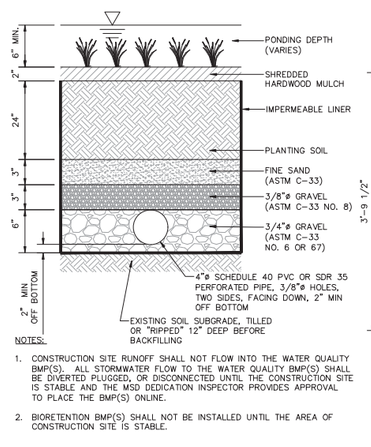
Bioretention Basin Planting Schedule

Planting Area	Botanical Name	Common Name	Height (ft)	Spacing D (in)	Row A (in)	Area	Quantity	Plug Size
A	Carex grayii	Bur Sedge	1-2	18	15.8	210	95	3"
B	Carex Shortiana	Short's Sedge	1-2	18	15.8	217	98	3"
C	Carex albicans	Oak Sedge	.83	12	10.4	382	382	3"
D	Chasmanthium latifolium	River Oats	2-4	18	15.8	217	98	3"

SHOP DRAWINGS FOR BMPS:

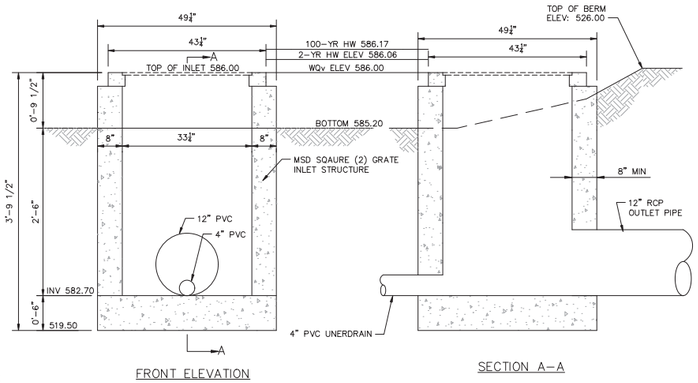
MSD shop drawing submittal required for BMP and its components prior to construction.

MSD Contact: Please contact the District's Construction Management Division at (314) 335-2072 for questions.



NOTES:

1. CONSTRUCTION SITE RUNOFF SHALL NOT FLOW INTO THE WATER QUALITY BMP(S). ALL STORMWATER FLOW TO THE WATER QUALITY BMP(S) SHALL BE DIVERTED PLUGGED, OR DISCONNECTED UNTIL THE CONSTRUCTION SITE IS STABLE AND THE MSD DEDICATION INSPECTOR PROVIDES APPROVAL TO PLACE THE BMP(S) ONLINE.
2. BIORETENTION BMP(S) SHALL NOT BE INSTALLED UNTIL THE AREA OF CONSTRUCTION SITE IS STABLE.

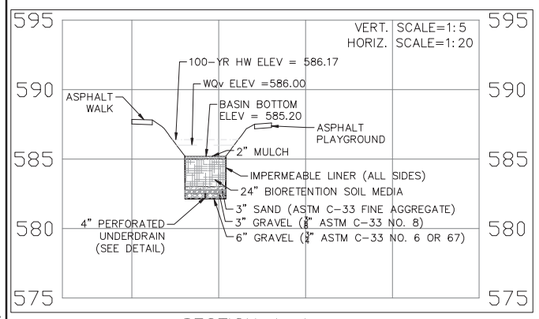


FRONT ELEVATION

SECTION A–A

OUTLET STRUCURE DETAIL

NTS



SECTION A–A

Stormwater Filtering System Calculations
Bio-retention Cell 1

1) Compute Volumetric runoff Coefficient

Site Area= 0.79 Acres
Impervious Area= 0.35 Acres
I= 0.444 (Percent Impervious)
Rv= 0.449 (Volumetric Runoff Coefficient)
S= 0.130 (Soil Group C)

2) Compute Required WQv

P= 1.14 inches
Rv 0.449
A= 0.788 Acres
WQv= 0.034 ac-ft = 1,466 cu ft
Urban BMP Group 4 Stormwater Filtering Systems shall temporarily hold at least 75% of the WQ prior to filtration
75%= 1,099 cu. ft.
Check Minimum: 0.013 ac-ft = 572 cu. ft.

4) Compute Af (Required filter bed area)

k= 2.0 ft/day (Coefficient of Permeability)
h= 0.40 ft (Average Height of Water above Filter Bed)/2
t= 2 days (Design Filter Bed Drain Time)
d= 2.00 ft (Filter Bed Depth)

Af= 305.4 sq. ft. (Required Filter Bed Area)

Actual Filter Bed Area = 650.0 sq. ft. Filter Bed Elevation = 585.20

5) Compute Provided WQv

	Provided	Required
WQv=	1,153 cu. ft.	1,099 cu. ft.

6) WQv Elevation 586.00 (from table below)

7) Stage-Storage

Stage	Elevation	Contour Area	Incremental Volume	Cumulative Volume
Bottom BioMedia -2.17	583.03	650	0	0
Bottom Mulch -0.17	585.03	650	455	455
Basin Surface 0.00	585.20	650	38	493
0.10	585.30	693	67	560
0.20	585.40	736	71	631
0.30	585.50	778	76	707
0.40	585.60	821	80	787
0.50	585.70	864	84	871
0.60	585.80	913	89	960
0.70	585.90	962	94	1,054
0.80	586.00	1,010	99	1,153
0.90	586.10	1,059	103	1,256
1.00	586.20	1,108	108	1,364
1.10	586.30	1,161	113	1,478
1.20	586.40	1,214	119	1,597
1.30	586.50	1,266	124	1,721
1.40	586.60	1,319	129	1,850
1.50	586.70	1,372	135	1,984

8) 100-yr High Water Calculation

Site Area= 0.79 Acres
Impervious Area= 0.35 Acres

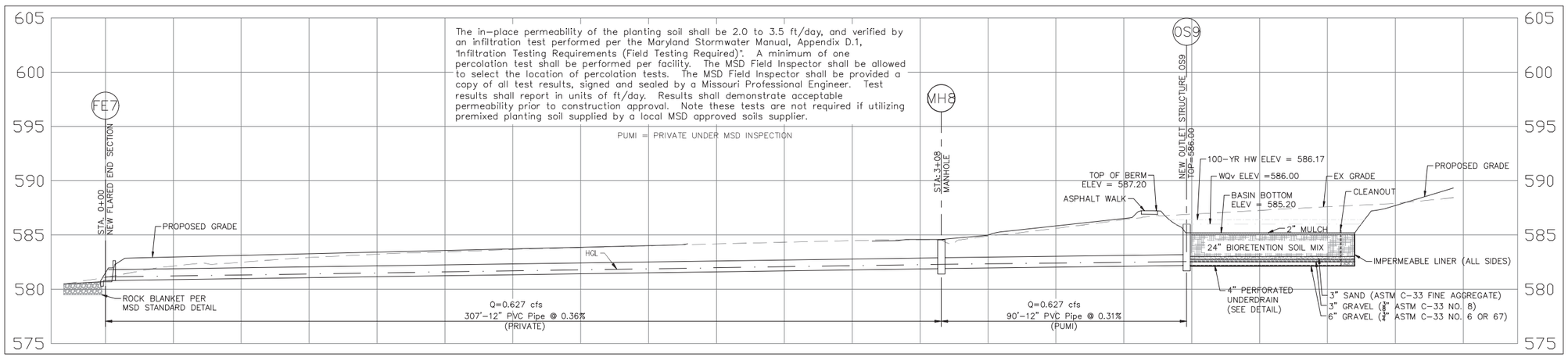
TQ= 2.67 cfs

d= 42 in
r= 1.75 ft
A= 9.62 sq. ft.
L= 11.00 ft.

h= 0.17 ft h=(Q/3.33L)^2/3

Sill of inlet = 586.00 ft
Top of Inlet = 586.92 ft
HW= 586.17 ft

Top of dam= 587.20 ft
Freeboard= 1.03 ft



The in-place permeability of the planting soil shall be 2.0 to 3.5 ft/day, and verified by an infiltration test performed per the Maryland Stormwater Manual, Appendix D.1, "Infiltration Testing Requirements (Field Testing Required)". A minimum of one percolation test shall be performed per facility. The MSD Field Inspector shall be allowed to select the location of percolation tests. The MSD Field Inspector shall be provided a copy of all test results, signed and sealed by a Missouri Professional Engineer. Test results shall report in units of ft/day. Results shall demonstrate acceptable permeability prior to construction approval. Note these tests are not required if utilizing premixed planting soil supplied by a local MSD approved soils supplier.

BASIN OUTFALL

23MSD–00336 BASEMAP 16Q

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION ALTERED BY FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 3/4/2024 1:49 PM
FILE PATH: J:\30902493,000 Parkway 2022 Bond\10.0 Personal Folders\1 - Civil\.003 Riverbend\Site Design\CAD\142301BcivX0000000010C.dwg

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Engineering Certificate of Authority: #2008011869

1 ENTIRE SHEET

REV	DESCRIPTION	DATE
1	SITE PERMIT REVISIONS	03/04/2024

PARKWAY SCHOOL DISTRICT

RIVER BEND ELEMENTARY

224 River Valley Drive
Chesterfield, MO 63017

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006002866
PROFESSIONAL ENGINEER
MARCH 04 2023

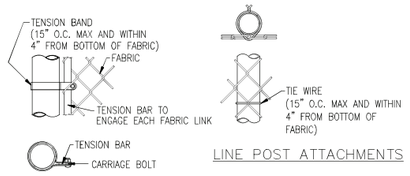
Civil Engineer of Record: Sunil Thakkar
Professional No.: PE-2006002866

SHEET NAME
BMP PLAN

DESIGNED BY: MS
DRAWN BY: MS
CHECKED BY: DH
DATE: 21 AUGUST 2023
SCALE:

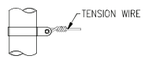
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 142301B
WSP PROJECT NUMBER: 30902493,003
SHEET NUMBER **C5.01**

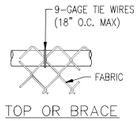


LINE POST ATTACHMENTS

CORNER, TERMINAL OR GATE POST DETAIL



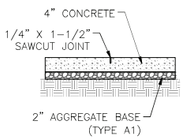
TENSION BAND DETAIL



TOP OR BRACE RAIL ATTACHMENT

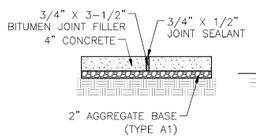
FASTENING DETAILS

NTS



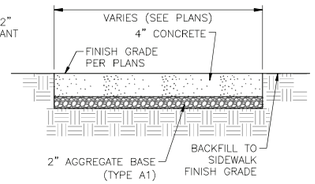
NOTE: MAXIMUM SPACING EQUALS WIDTH OF SIDEWALK OR 10'-0", WHICHEVER IS LESS.

CONTRACTION JOINT



NOTE: MAXIMUM SPACING EQUALS 20'-0" ON CENTER.

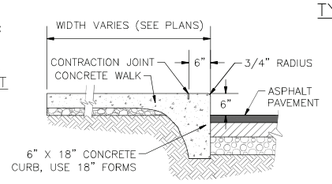
EXPANSION JOINT



CONCRETE WALK SECTION

TYPICAL CONCRETE WALK DETAILS

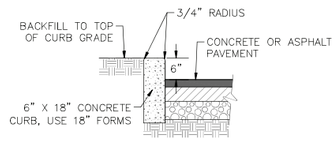
NTS



NOTE: PROVIDE CONTRACTION JOINTS AND FULL DEPTH EXPANSION JOINT PER CONCRETE SIDEWALK DETAIL

CONCRETE WALK WITH INTEGRAL CURB DETAIL

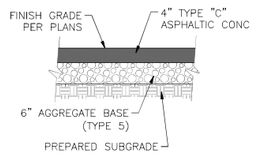
NTS



NOTE: PROVIDE 3/4" EXPANSION JOINT SIMILAR TO CONCRETE EXPANSION JOINT, FULL DEPTH OF CURB, MAXIMUM SPACING AT 20'-0" ON CENTER.

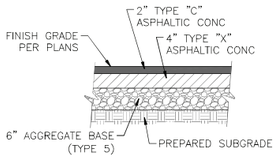
VERTICAL CONCRETE CURB DETAIL

NTS



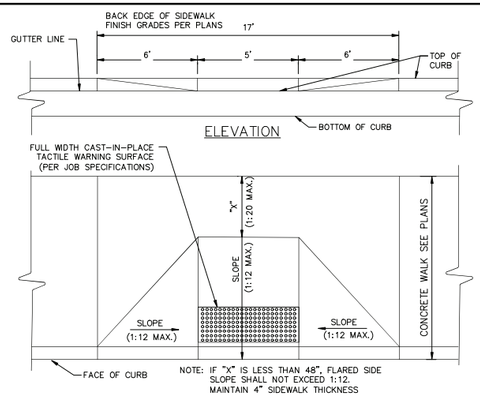
6/4 ASPHALT PAVEMENT DETAIL (STANDARD DUTY)

NTS



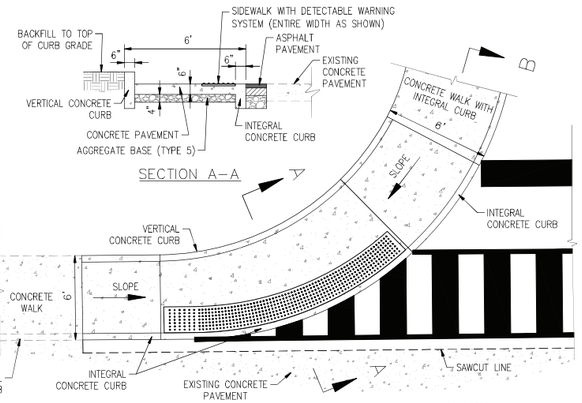
HEAVY DUTY ASPHALT PAVEMENT DETAIL

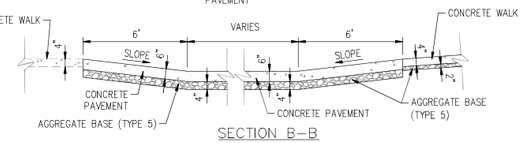
NTS



TYPE 1 ACCESSIBLE CURB RAMP DETAIL

N.T.S.

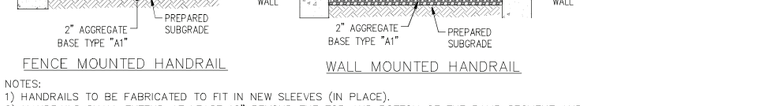




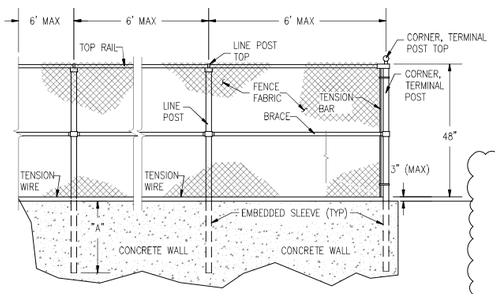
SECTION B-B

TYPE 2 ACCESSIBLE CURB RAMP DETAIL

NTS



STANDARD FENCE ELEVATION



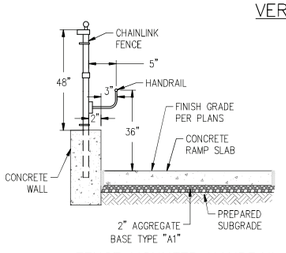
WALL MOUNTED FENCE ELEVATION

CHAIN LINK FENCE DETAILS

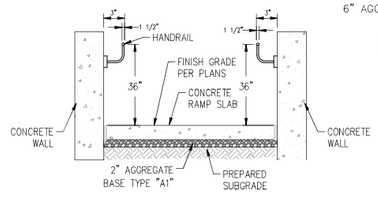
NTS

Description		Height of Fence
		48"
Line Post	Size	2.38"ø
	"A"	24"
	"B" x "C"	30" x 10"
Corner & Terminal Post	Size	3.5"ø
	"A"	30"
	"B" x "C"	36" x 10"
Gate Post * (single gate or leaf gate of double width)	Pedestrian	3.5"ø
	Vehicular	6.63"ø
Top Rail and Brace		1.66"ø
Gate Frame	Pedestrian	1.66"ø
	Vehicular	1.9"ø
Fabric	2" diamond mesh interwoven wire, 9 gage thick, top selvage knuckle and end closed, bottom selvage twisted tight	
Tension Wire	6 gage thick steel, single strand	
Tension Band	0.1" thick steel	
Tension Bar	0.1" thick steel	
Tie Wire	Aluminum alloy steel wire	

* "A", "B", and "C" are the same as Corner & Terminal Post



FENCE MOUNTED HANDRAIL

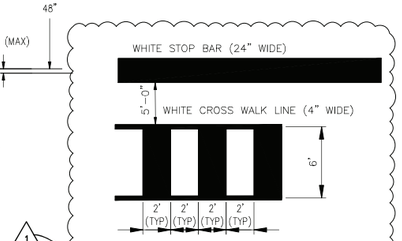


WALL MOUNTED HANDRAIL

NOTES:
1) HANDRAILS TO BE FABRICATED TO FIT IN NEW SLEEVES (IN PLACE).
2) HANDRAILS SHALL EXTEND AT LEAST 12" BEYOND THE TOP AND BOTTOM OF THE RAMP SEGMENT AND SHALL BE PARALLEL WITH THE GROUND SURFACE.
3) ALL PIPE SHALL BE SCH40 STEEL PIPE.
4) ALL JOINT WELDS TO BE CONTINUOUS.
5) GRIND WELD JOINTS SMOOTH.
6) HOT DIP GALVANIZE AFTER FABRICATION IN ACCORDANCE WITH ASTM 123-71.
7) HANDRAILS TO BE PAINTED.
   a. ONE (1) PRIME COAT WITH PAINT APPROPRIATE FOR GALVANIZED METAL.
   b. TWO (2) TOP COATS WITH BLACK ALKYD PAINT.
8) IN AREAS WHERE CONCRETE WALL IS LESS THAN 36" ABOVE RAMP SLAB, HANDRAIL SHALL BE MOUNTED TO FENCE POSTS @ 6' MAX O.C.
10) SEE STRUCTURAL AND ARCHITECTURAL PLANS FOR ADDITIONAL CONCRETE RAMP AND WALL DETAILS.

RAMP HANDRAIL DETAILS

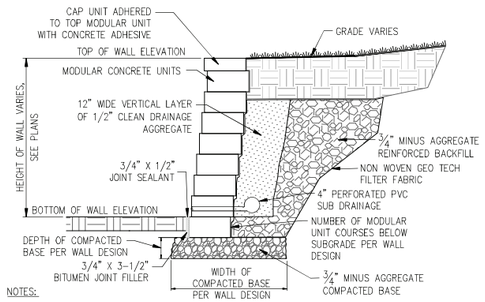
NTS



PAINTED CROSSWALK

PAVEMENT MARKING DETAILS

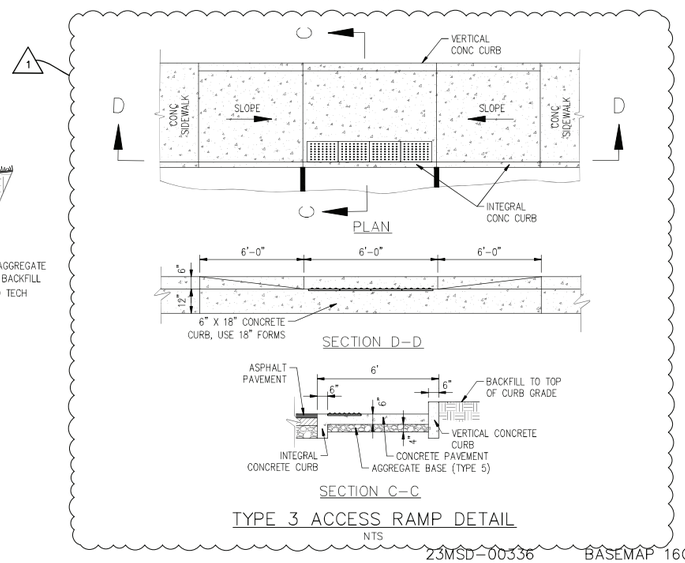
NTS



NOTES:
1. COLOR TO MATCH EXISTING WALLS ON SITE.
2. 1" WEEP HOLES TO BE ADDED ALONG BASE OF WALL AT 48" ON CENTER.

TYPICAL SECTION - MANUFACTURED MODULAR WALL DETAIL

NTS



TYPE 3 ACCESS RAMP DETAIL

NTS

GENERAL NOTES:

REMARKS:

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com

WSP USA Design, Inc.
Engineering Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
1	SITE PERMIT REVISIONS	03/04/2024

PARKWAY SCHOOL DISTRICT

RIVER BEND ELEMENTARY

224 River Valley Drive
Chesterfield, MO 63017

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT



Civil Engineer of Record: Sunil Thakkar
Professional No.: PE-2006002866

SHEET NAME
SITE DETAILS

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	DH
DATE:	21 AUGUST 2023
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

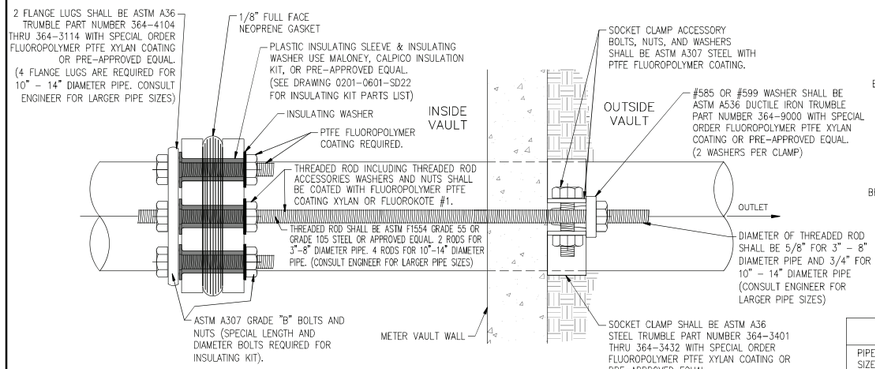
CLIENT PROJECT NUMBER: 142301B
WSP PROJECT NUMBER: 30902493.003

SHEET NUMBER **C6.01**

LAST EDITED: 3/4/2024 1:49 PM
FILE PATH: J:\30902493.000 Parkway 2022 Bond\10.0 Personal Folder\1 - Civil\.003 Riverbend\Site Design\CAD\142301Bnov000000000C.dwg

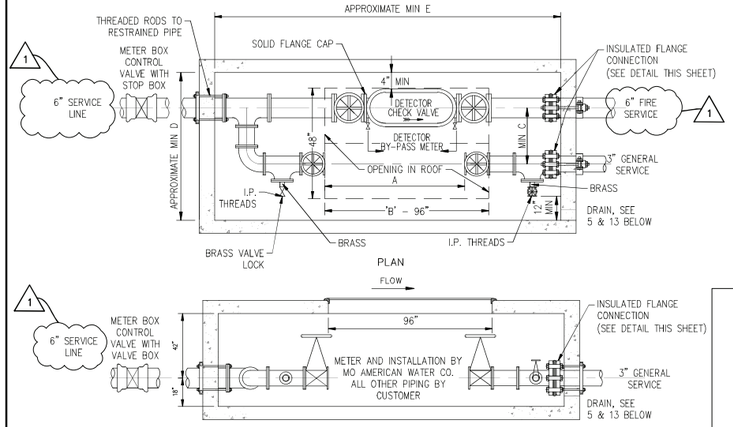
WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

23MSD-00336 BASEMAP 16Q



NOTES:
1. ALL EXTERIOR BOLTS, COLLARDS & RODS ARE TO BE COMPLETELY COVERED USING FIELD APPLICATIONS OF SPRAY ON BITUMASTIC MATERIAL EQUAL TO 3M AUTOMOTIVE UNDERCOATING.
2. ALL PARTS AND PIPELINE ON THE OUTSIDE OF THE VAULT SHALL BE ENCASED WITH 12 MIL POLYETHYLENE TUBE MEETING REQUIREMENTS OF AWWA C105.
3. ALL FLUOROPOLYMER PTFE COATINGS SHALL BE BAKED ON OR THERMALLY SET BY THE COATING MANUFACTURE.

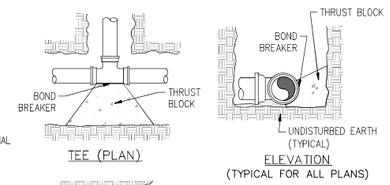
INSULATED FLANGE CONNECTION DETAIL
NTS



GENERAL SERVICE				FIRE SERVICE											
SIZE	BYPASS MIN SIZE	A	B	10"			8"			6"			4"		
				C	D	E	C	D	E	C	D	E	C	D	E
IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.
1 1/2	1 1/2	30	96	35	72	102	35	72	90	30	66	84	27	60	84
2	2	30	96	35	72	102	35	72	90	30	66	84	27	60	84
3	2	54	96	35	84	156	35	78	156	30	72	150	27	72	150
4	2	54	96	35	84	162	35	84	162	30	78	156	27	72	156
6	2	60	96	36	84	174	36	84	174	31	78	174			
8	2	66	96	37	84	186	37	84	186						

NOTES:
1. VAULT WALLS AND ROOF TO BE OF CONCRETE.
2. LIDS AND FRAMES OF OPENING TO BE SET IN PLACE, NOT IN CONCRETE.
3. VALVES ON EACH SIDE OF GENERAL METER FOR 1 1/2" OR 2" SERVICE TO HAVE SCREW ENDS. I.P. THREADS FOR 3" AND ABOVE. VALVES MUST HAVE FLANGED ENDS AND BE IN ALIGNMENT. ALL VALVES MUST BE ADEQUATELY SECURED TO WITHSTAND WATER THRUST WITH METER REMOVED.
4. MINIMUM CLEARANCE OF 6" TO BE PROVIDED BETWEEN THE EDGE AND GENERAL METER AND THE EDGE AND DETECTOR CHECK BY-PASS METER.
5. DRAINAGE FACILITIES MUST BE PROVIDED OR BOX OTHERWISE KEPT FREE OF WATER. NO FRENCH DRAINS ALLOWED UNLESS APPROVED BY AUTHORIZED COMPANY REPRESENTATIVE.
6. CLASS 52 D.I. PIPE EXTENDED MIN. 6' FROM OUTLET SIDE OF METER PIT. (ZINC COATED D.I. PIPE WITH V-BIO POLYWRAP OPTIONAL IN HIGHLY CORROSIVE SOIL AREAS.
7. TYPE "K" OR "L" COPPER ON DOMESTIC - EXTENDED MIN. 6' FROM OUTLET SIDE OF METER PIT.
8. ANY DEVIATION FROM PIPE DEPTH SHOWN MUST BE APPROVED BY AUTHORIZED COMPANY REPRESENTATIVE PRIOR TO CONSTRUCTION.
9. METER BOX CONTROL VALVE TO BE LOCATED AS NEAR TO METER BOX AS PRACTICAL.
10. BOX TO BE SET WITH TOP OF BOX AT FINISHED GRADE WITH NO EXTENSION ALLOWED.
11. CONNECTIONS TO PUBLIC WATER MAIN WILL NOT BE MADE BEFORE METER PIT AND PIPING ARE COMPLETE AND PROPERTY LINE VALVE INSTALLED, UNLESS APPROVED BY AUTHORIZED COMPANY REPRESENTATIVE.
12. LIDS SHALL BE MADE OF ALUMINUM AND SPRING LOADED. OPENING SHALL BE 48"x96" TO ALLOW UNRESTRICTED ACCESS. OPENING TO BE FLUSH WITH OUTLET SIDE OF DOMESTIC WATER SERVICE VALVE FLANGE.
13. DRAIN OR SUMP PUMP NEEDS TO BE GRADED TO ALLOW WATER DRAINAGE AWAY AND OUT FROM VAULT.

METER BOX FOR SPLIT SERVICE DETAIL
NTS

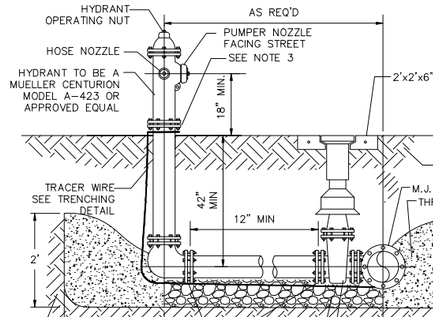


MINIMUM BEARING SURFACE IN SQUARE FEET						
PIPE SIZE	BENDS (ANGLE IN DEGREES)				TEE	DEADE END
	11.25°	22.5°	45°	90°		
2"	1.0	1.0	2.0	4.0	3.0	3.0
4"	1.0	1.0	2.0	4.0	3.0	3.0
6"	1.0	2.0	4.0	8.0	6.0	6.0
8"	2.0	4.0	7.0	14.0	10.0	10.0
10"	3.0	6.0	11.0	21.0	15.0	15.0
12"	4.0	8.0	16.0	29.0	21.0	21.0
14"	5.0	11.0	21.0	39.0	28.0	28.0
16"	7.0	14.0	27.0	50.0	36.0	36.0
18"	9.0	17.0	34.0	63.0	45.0	45.0
20"	11.0	21.0	42.0	78.0	55.0	55.0
24"	15.0	31.0	60.0	111.0	78.0	78.0
30"	24.0	47.0	92.0	171.0	121.0	121.0
36"	34.0	67.0	132.0	244.0	173.0	173.0

NOTE: AREA BASED UPON WATER PRESSURE OF 150 PSI AND ALLOWABLE SOIL PRESSURE OF 1000 PSF. ENGINEER MAY MODIFY REQUIRED SIZE BASED UPON SITE CONDITIONS.

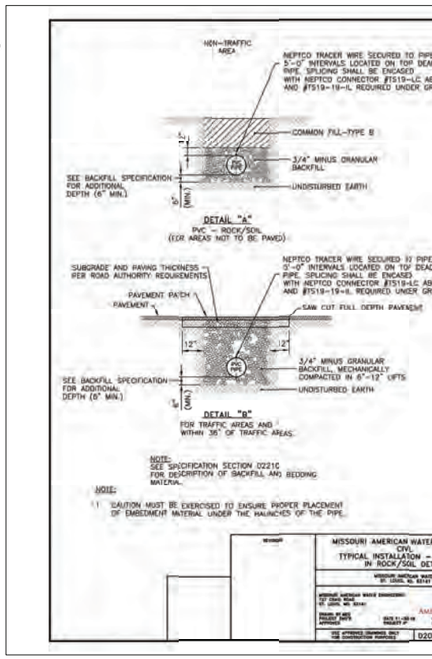
GENERAL NOTES FOR THRUST BLOCKS
1. MINIMUM THRUST BLOCK THICKNESS 1'-6".
2. MINIMUM THRUST BLOCK HEIGHT 1.5 TIMES PIPE DIAMETER.
3. EXTEND THRUST BLOCKS TO UNDISTURBED SOIL.
4. FORM VERTICAL SURFACES OF POURED CONCRETE THRUST BLOCKS EXCEPT ON THRUST FACE.
5. DO NOT ALLOW CONCRETE TO DIRECTLY CONTACT JOINTS OR FITTING BOLTS, PROTECT JOINTS AND BOLTS WITH POLYETHYLENE ENCASEMENT.

WATER MAIN THRUST BLOCK DETAILS
NTS

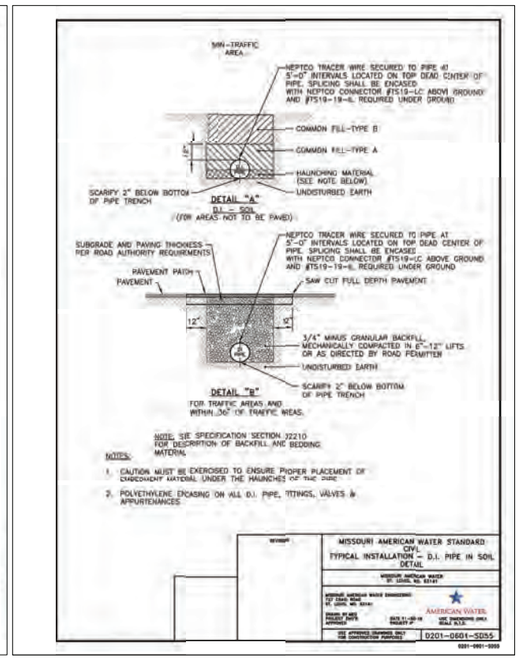


NOTES:
1. CLEARANCE BETWEEN BOTTOM OF BOLTS AND TOP OF SHEAR PAD SHALL BE 6" MINIMUM.
2. THRUST BLOCKING DIMENSIONS SHOWN ARE MINIMUM CONCRETE REQUIRED.
3. THRUST BLOCKING SHALL NOT COVER ANY JOINTS.
4. PUBLIC HYDRANTS SHALL BE PAINTED CONSISTENT WITH LOCAL MUNICIPALITY REQUIREMENTS.
5. FIRE HYDRANT SHALL BE INSTALLED 2' MIN. AND 4' MAX. FROM BACK OF CURB OR 6' MIN. AND 12' MAX. WHEN CURB IS NOT PRESENT. FIRE HYDRANT TO BE INSTALLED WITHIN RIGHT-OF-WAY OR EASEMENT LINE.
6. AREA AROUND HYDRANT AT A RADIUS OF 4' TO BE LEVEL AND UNOBSTRUCTED.
7. WATERPROOF BAGS SHALL BE PLACED OVER ALL NEWLY INSTALLED FIRE HYDRANTS.
8. HIGH PRESSURE (OVER 120 PSI) REQUIRES THE USE ALL 3 RESTRAINTS.

FIRE HYDRANT ASSEMBLY
NTS



PVC PIPE TRENCH DETAILS
NTS



DUCTILE IRON PIPE TRENCH DETAILS
NTS

GENERAL NOTES:

REMARKS:

REV	DESCRIPTION	DATE
1	SITE PERMIT REVISIONS	03/04/2024

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Engineering Certificate of Authority: #2008011869

PARKWAY SCHOOL DISTRICT

RIVER BEND ELEMENTARY

224 River Valley Drive
Chesterfield, MO 63017

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT



Civil Engineer of Record: Sunil Thakkar
Professional No.: PE-2006002866

SHEET NAME
SITE DETAILS

DESIGNED BY: MS
DRAWN BY: MS
CHECKED BY: DH
DATE: 21 AUGUST 2023
SCALE:

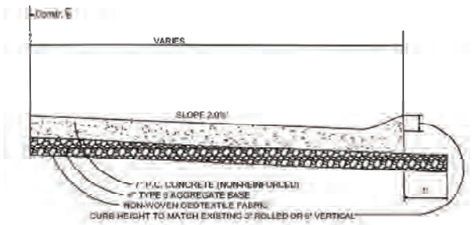
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 142301B
WSP PROJECT NUMBER: 30902493,003
SHEET NUMBER **C6.02**

LAST EDITED: 3/4/2024 1:49 PM
FILE PATH: J:\30902493,000 Parkway 2022 Bond\10.0 Personal Folder\1 - Civil\003 Riverbend\Site Design\CAD\142301BxrvX0000000010C.dwg

23MSD-00336 BASEMAP 16Q

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



1

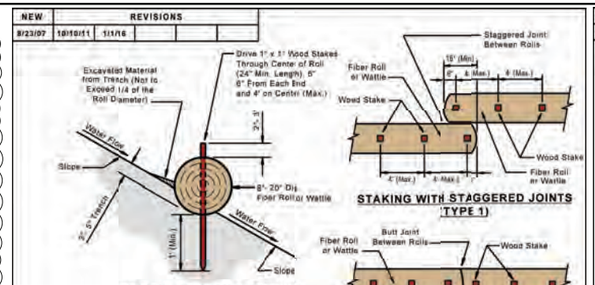
CONCRETE

CONCRETE:

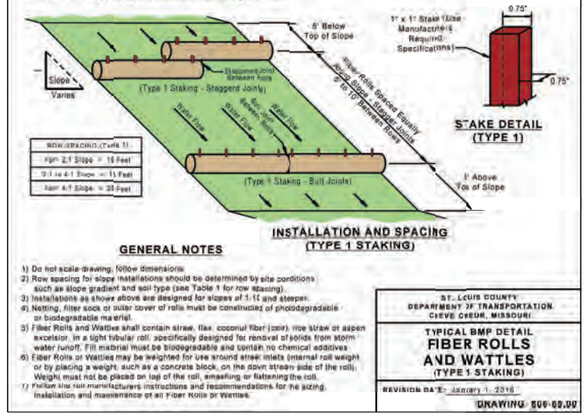
1. CONCRETE STREETS SHALL BE CONSTRUCTED SEVEN INCHES (7") THICK AND HAVE A MINIMUM OF 6.0 SACKS OF CEMENT (TYPE I) PER CUBIC YARD OF CONCRETE. NOTE: IF EXISTING PAVEMENT DEPTH IS GREATER THAN THE PAVEMENT SECTION SHOWN ABOVE, THE EXISTING PAVEMENT DEPTH SHALL BE MATCHED.
2. THE WATER TO CEMENT RATIO SHALL NOT EXCEED 0.47.
3. THE AIR CONTENT SHALL BE BETWEEN 5% AND 8% BY VOLUME.
4. THE SLUMP OF THE CONCRETE SHALL NOT EXCEED FOUR INCHES (4") WHEN PLACED.
5. THE MINIMUM COMPRESSIVE STRENGTH FOR ALL CONCRETE SHALL BE 4,000 PSI AT 28 DAYS.
6. THE USE OF ADMIXTURES IS PROHIBITED UNLESS THE CITY OF CHESTERFIELD GRANTS PRIOR APPROVAL.
7. WHITE PIGMENTED MEMBRANE CURING COMPOUND SHALL BE APPLIED IMMEDIATELY FOLLOWING BROOMING AT THE RATE OF 150 SQ. FT. PER GALLON OR AS OTHERWISE REQUIRED TO COMPLETELY COVER THE CONCRETE SURFACE.
8. PAVEMENT REMOVAL AND REPLACEMENT SHALL BE DONE IN FULL SLAB INCREMENTS, AS DIRECTED BY THE CITY OF CHESTERFIELD. PARTIAL SLAB REPLACEMENT WILL NOT BE PERMITTED.
9. FULL DEPTH SAW CUTTING SHALL BE REQUIRED AT THE LIMITS OF PAVEMENT REMOVAL, AS DIRECTED BY THE CITY OF CHESTERFIELD.
10. SLABS THAT ARE DAMAGED BY OVERBREAKAGE SHALL BE REMOVED AND REPLACED.
11. FULL DEPTH SAWCUTTING SHALL BE REQUIRED AT THE LIMITS OF PAVEMENT REMOVAL, AS DIRECTED BY THE CITY OF CHESTERFIELD.
12. JOINTS SHALL BE SEALED WITH MATERIALS THAT CONFORM TO ASTM D3405 FOR RUBBERIZED JOINT SEALER, FEDERAL SPECIFICATION SS-S-1401C.
13. A MINIMUM OF 4" OF TYPE 5 AGGREGATE SHALL BE PLACED ON THE GRADED AND COMPACTED SUBGRADE THEN SHADED AND DAMPENED.
14. DOWEL PINS SHALL BE INSTALLED AT ALL TRANSVERSE JOINTS IN PAVEMENT. DOWEL BARS SHALL BE EPOXY COATED, ASTM A 615, GRADE 40 OR 60, 1" DIAMETER, SMOOTH, 18" LONG PLACED ON 12" CENTERS.
15. TIE BARS SHALL BE INSTALLED AT ALL LONGITUDINAL JOINTS IN PAVEMENT. TIE BARS SHALL BE EPOXY COATED, ASTM A 615, GRADE 40 OR 60, #5 SIZE (5/8") 30" LONG PLACED ON 30" CENTERS.
16. HAND MIXING OF CONCRETE WILL NOT BE PERMITTED.

CITY OF CHESTERFIELD STANDARD CONCRETE STREET PAVEMENT

NEW:	REVISIONS				
8/23/07	10/10/11	1/1/16			



Note: Construct a "J-hook" at each end of a continuous run of fiber rolls or wattles, by turning the end of the roll uphill, to prevent storm water runoff and solids from flowing around the ends, when water behind the roll ponds up to a level even with the top of the roll.



GENERAL NOTES

1) Do not scale drawing, follow dimensions.
2) Row spacing for slope installations should be determined by site conditions such as slope gradient and soil type (see Table 1 for row spacing).
3) Installations as shown above are designed for slopes of 3:1 and steeper.
4) Netting, fiber sock or outer cover of rolls must be constructed of photodegradable or biodegradable material.
5) Fiber Rolls and Wattles shall contain straw, flax, coconut fiber (coir), rice straw or aspen excelsior, in a tight tubular roll, specifically designed for removal of solids from storm water runoff. Fill material must be biodegradable and contain no chemical additives.
6) Fiber Rolls or Wattles may be weighted for use around street inlets (internal roll weight or by placing a weight, such as a concrete block, on the down stream side of the roll). Weight must not be placed on top of the roll, smashing or flattening the roll.
7) Follow the roll manufacturers instructions and recommendations for the sizing, installation and maintenance of all Fiber Rolls or Wattles.

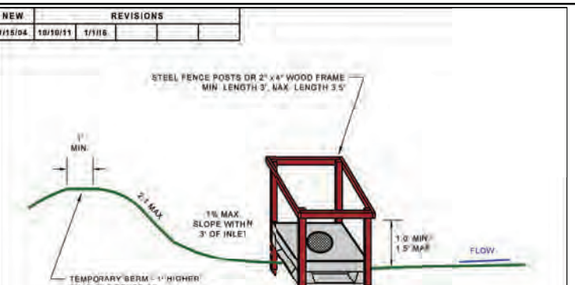
ST. LOUIS COUNTY
DEPARTMENT OF TRANSPORTATION
CREVE COEUR, MISSOURI

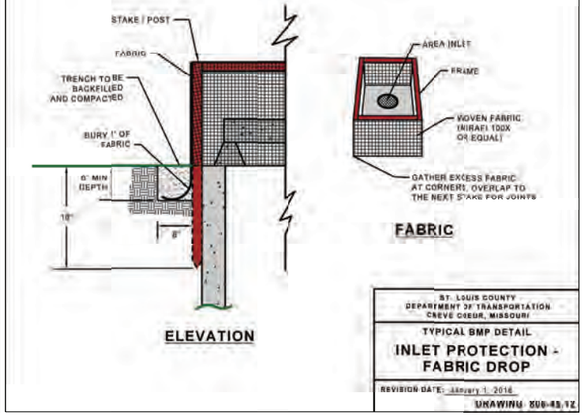
TYPICAL BMP DETAIL
FIBER ROLLS AND WATTLES
(TYPE 1 STAKING)

REVISION DATE: January 1, 2016

DRAWING 800-60.00

NEW:	REVISIONS				
1/15/04	10/10/11	1/1/16			





ST. LOUIS COUNTY
DEPARTMENT OF TRANSPORTATION
CREVE COEUR, MISSOURI

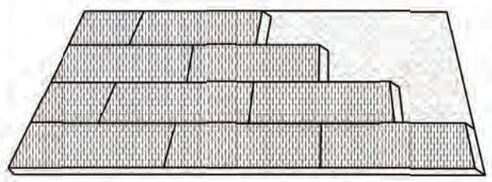
TYPICAL BMP DETAIL
INLET PROTECTION - FABRIC DROP

REVISION DATE: January 1, 2016

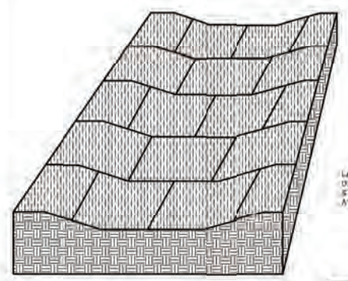
DRAWING 800-45.12

NEW:	REVISIONS				
1/15/04	10/10/11	11/7/14	1/1/16		

1) LAY SOD IN A STAGGERED PATTERN WITH STRIPS BUTTED TIGHTLY AGAINST EACH OTHER.
2) ON SLOPES GREATER THAN 4% USE PEGS OR STAPLES TO FASTEN SOD FIRMLY AT THE CORNERS AND CENTERS.



INSTALLATION OF GRASS SOD



INSTALLATION OF SOD IN WATERWAYS

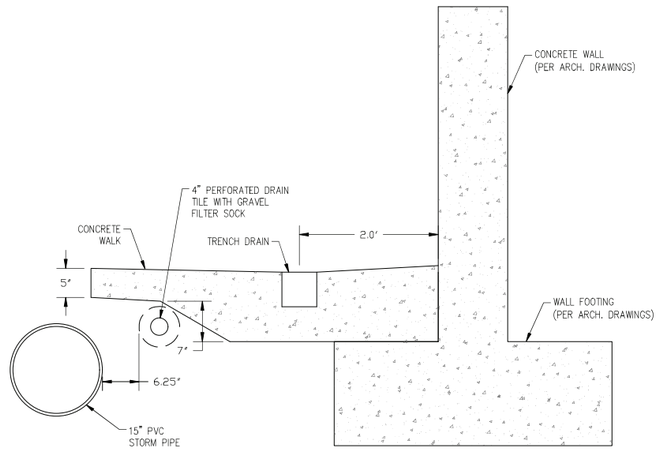
NOTE: JUTE MATTING CAN BE USED WHERE ADDITIONAL STABILITY IS REQUIRED

ST. LOUIS COUNTY
DEPARTMENT OF TRANSPORTATION
CREVE COEUR, MISSOURI

TYPICAL BMP DETAIL
SODDING

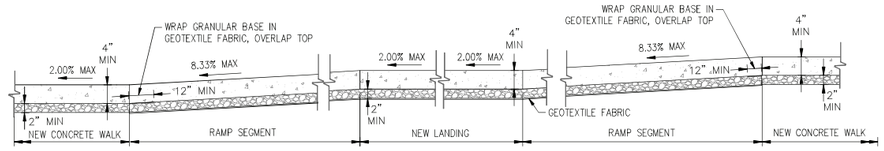
REVISION DATE: January 1, 2016

DRAWING 800-10.00



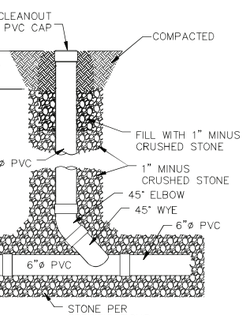
STORM SEWER AND DRAIN TILE TYPICAL SECTION AT BASMENT LEVEL ENTRANCES

NTS



CONCRETE RAMP DETAIL

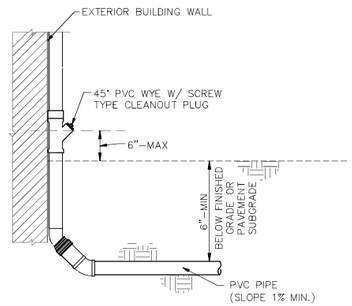
NTS



NOTES:
1. ALL CONNECTIONS SHALL BE WATER TIGHT.

CLEANOUT DETAIL

NTS



DOWNSPOUT COLLECTION DETAIL

NTS

23MSD-00336 BASEMAP 16Q

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com

WSP USA Design, Inc.
Engineering Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
1	SITE PERMIT REVISIONS	03/04/2024

PARKWAY SCHOOL DISTRICT

RIVER BEND ELEMENTARY

224 River Valley Drive
Chesterfield, MO 63017

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006002866
PROFESSIONAL ENGINEER

MARCH 04 2023

Civil Engineer of Record: Sunil Thakkar
Professional No.: PE-2006002866

SHEET NAME
SITE DETAILS

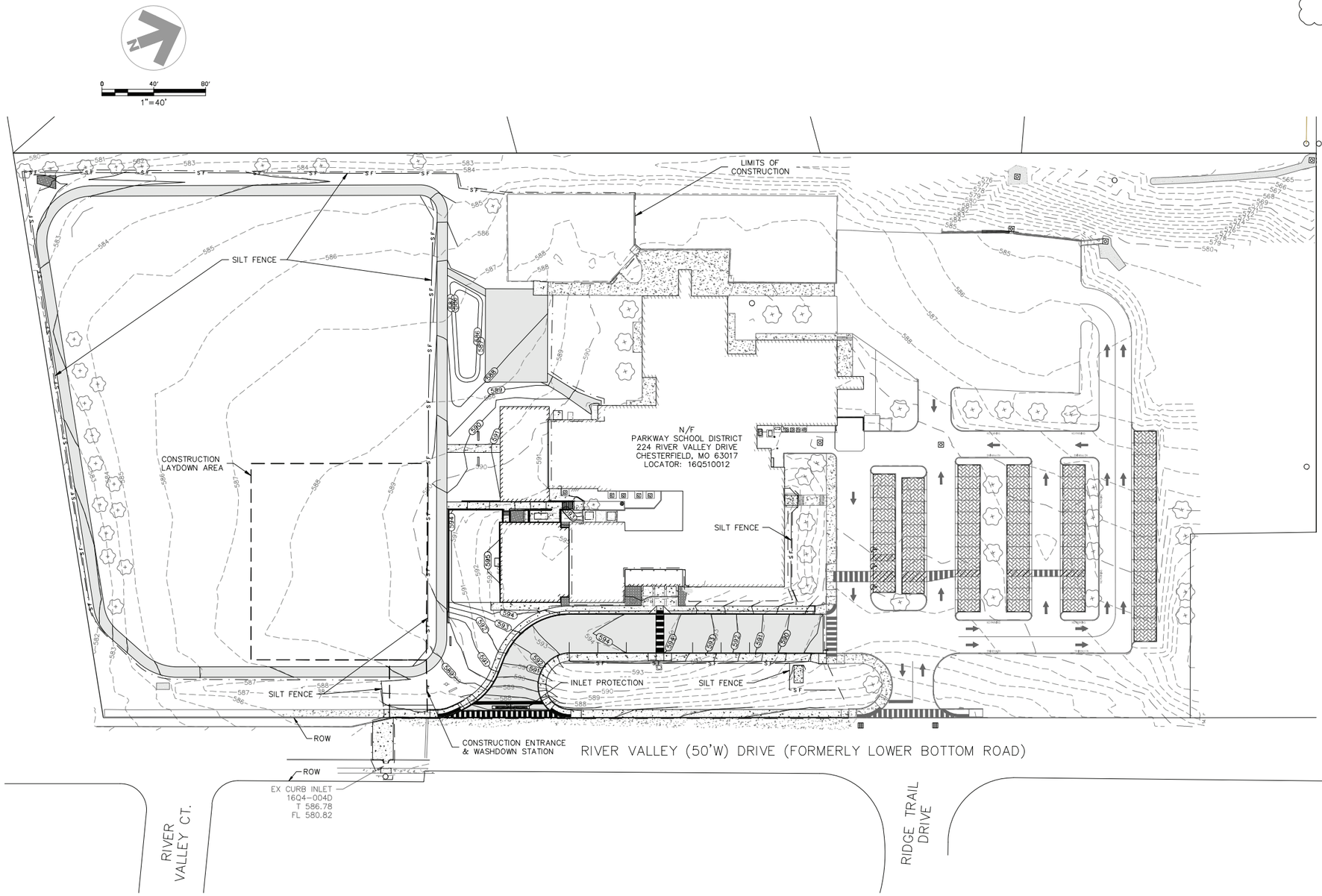
DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	DH
DATE:	21 AUGUST 2023
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 142301B
WSP PROJECT NUMBER: 30902493.003
SHEET NUMBER **C6.03**

LAST EDITED: 3/4/2024 1:49 PM
FILE PATH: J:\30902493.000 Parkway 2022 Bond\10.0 Personal Folder\1 - Civil\.003 Riverbend\Site Design\CAD\142301Bcv000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTS ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF ANY ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



SITE OWNER INFORMATION

PARKWAY SCHOOL DISTRICT
RALPH KNESE
363 N WOODS MILL RD.
CHESTERFIELD, MO 63017
(314) 415-8268

BMP QUANTITY TABLE

TEMPORARY CONSTRUCTION ENTRANCE	1 EACH
TEMPORARY WASHDOWN STATION	1 EACH
TEMPORARY INLET PROTECTION	1 EACH
TEMPORARY SILT FENCE	1,500 LF
PERMANENT SOD	15,800 SF

BMP SEQUENCE

1. Install washdown station.
2. Install filter roll.
3. Remove filter roll.
4. Remove washdown station.

OVERALL WORK SEQUENCING

Start Date: 5/1/24
Completion Date: 10/1/24

SITE AREA DETAILS

TOTAL PROPOSED DISTURBED AREA	0.588 ACRES
TOTAL PROJECT AREA	4.620 ACRES

23MSD-00336 BASEMAP 16Q

GENERAL NOTES:

REMARKS:

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com

WSP USA Design, Inc.
Engineering Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
1	SITE PERMIT REVISIONS	03/04/2024

PARKWAY SCHOOL DISTRICT

RIVER BEND ELEMENTARY

224 River Valley Drive
Chesterfield, MO 63017

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006002866
PROFESSIONAL ENGINEER
MARCH 04 2023

Civil Engineer of Record: Sunil Thakkar
Professional No.: PE-2006002866

SHEET NAME
SWPP PLAN

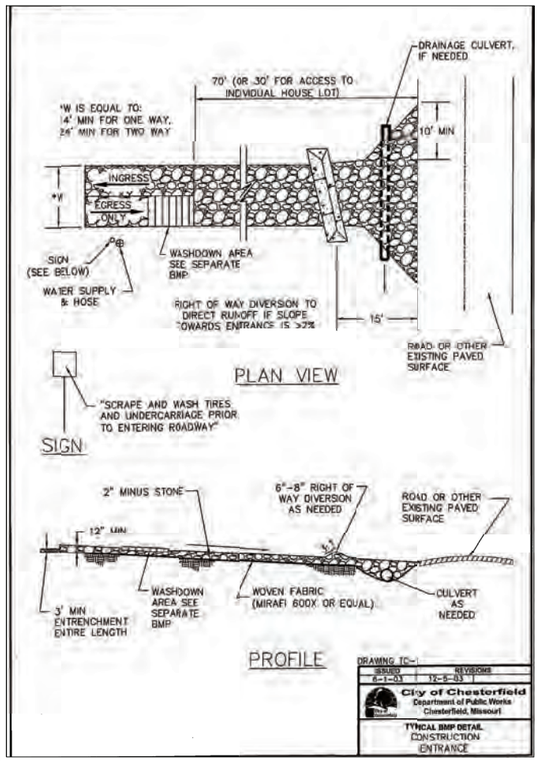
DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	DH
DATE:	21 AUGUST 2023
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 142301B
WSP PROJECT NUMBER: 30902493.003
SHEET NUMBER **C7.01**

LAST EDITED: 3/4/2024 1:49 PM
FILE PATH: J:\30902493.000 Parkway 2022 Bond\10.0 Personal Folder\1 - Civil\.003 Riverbend\Site Design\CAD\142301BrivNV000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

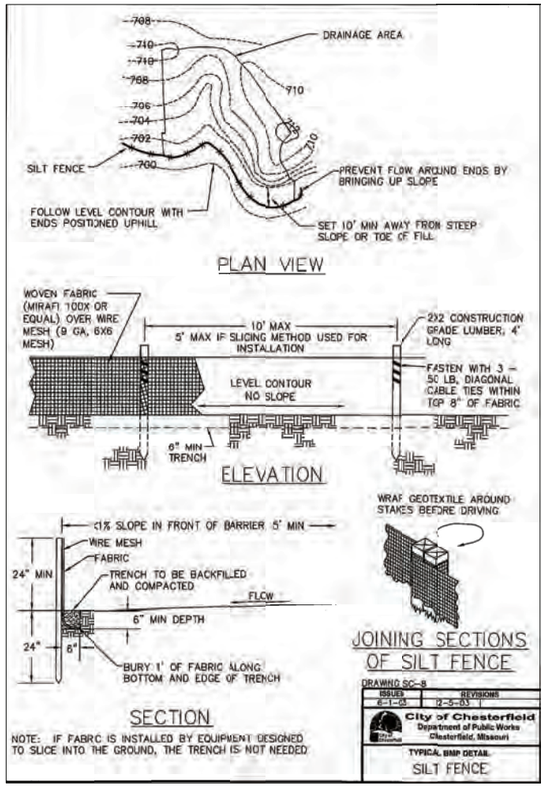


DRAWING TC-1

ISSUED	REVISIONS
6-1-03	12-5-03

City of Chesterfield
Department of Public Works
Chesterfield, Missouri

TYPICAL BMP DETAIL
CONSTRUCTION ENTRANCE

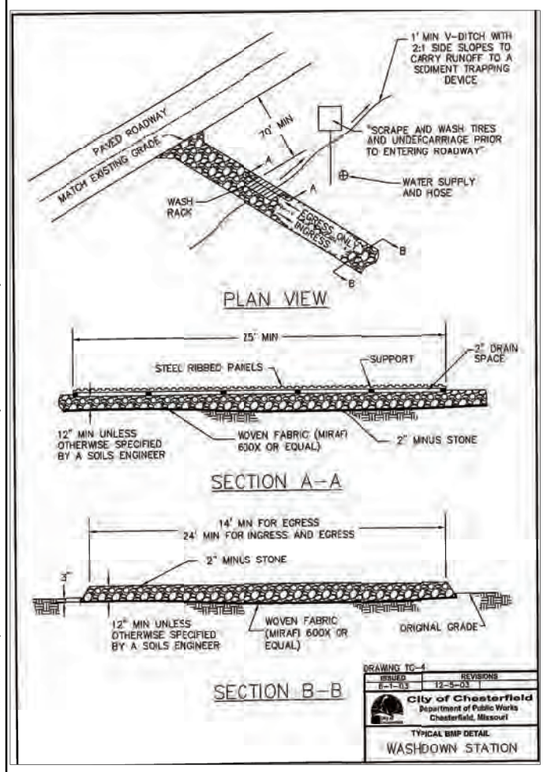


DRAWING SC-8

ISSUED	REVISIONS
6-1-03	12-5-03

City of Chesterfield
Department of Public Works
Chesterfield, Missouri

TYPICAL BMP DETAIL
SILT FENCE



DRAWING TC-4

ISSUED	REVISIONS
6-1-03	12-5-03

City of Chesterfield
Department of Public Works
Chesterfield, Missouri

TYPICAL BMP DETAIL
WASHDOWN STATION

GENERAL NOTES

1. EROSION AND SILTATION CONTROL SHALL BE INSTALLED PRIOR TO ANY GRADING AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ADEQUATE VEGETATIVE GROWTH INSURES NO FURTHER EROSION OF THE SOIL AND WORK IS ACCEPTABLE TO THE OWNER AND CONTROLLING REGULATORY AGENCY.
2. AT LEAST ONCE EVERY WEEK AND AFTER EVERY RAINFALL EVENT OF 0.25 INCHES OR MORE, EROSION AND SILTATION CONTROL DEVICES SHALL BE INSPECTED FOR DAMAGE AND AMOUNT OF SEDIMENTATION ACCUMULATED AND CORRECTIVE ACTION TAKEN. REPORTS OF THESE INSPECTIONS AND CORRECTIVE ACTIONS SHALL BE PREPARED ON THE FORMS PROVIDED BY THE CITY AND SUBMITTED TO THE DEPARTMENT OF PUBLIC WORKS WITHIN 5 DAYS OF THE DATE OF THE INSPECTION.
3. TEMPORARY SILTATION CONTROL MEASURES (STRUCTURAL) SHALL BE MAINTAINED UNTIL VEGETATIVE COVER IS ESTABLISHED AT A SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL ON THE SITE.
4. WHERE NATURAL VEGETATION IS REMOVED DURING GRADING, VEGETATION SHALL BE REESTABLISHED AS SOON AS POSSIBLE IN SUCH A DENSITY AS TO PREVENT EROSION.
5. WHEN GRADING OPERATIONS ARE COMPLETED OR WILL BE SUSPENDED FOR MORE THAN 5 DAYS IN ANY AREA, THE DISTURBED AREA SHALL BE SEEDED OR OTHERWISE STABILIZED TO SIGNIFICANTLY REDUCE THE ERODIBILITY OF THE SOIL. PROTECTIVE MEASURES MAY INCLUDE A COMBINATION OF SEEDING, SODDING, MULCHING OR OTHER SUITABLE MEANS TO PROTECT THE GROUND SURFACE FROM EROSION.
6. IF CUT AND FILL OPERATIONS OCCUR DURING A SEASON NOT FAVORABLE FOR IMMEDIATE ESTABLISHMENT OF PERMANENT GROUND COVER, A FAST GERMINATING ANNUAL SUCH AS RYE GRASSES OR SUDAN GRASSES SHALL BE UTILIZED TO RETARD EROSION, IF ADEQUATE STORM WATER DETENTION AND EROSION CONTROL DEVICES HAVE NOT BEEN ESTABLISHED.
7. ALL FINISHED GRADES (AREAS NOT TO BE DISTURBED BY FUTURE IMPROVEMENT) IN EXCESS OF 20% SLOPES (5:1) SHALL BE MULCHED AND TACKED AT A RATE OF 100 POUNDS PER 1,000 SQUARE FEET WHEN SEEDED AS SOON AS POSSIBLE AFTER FINAL PLACEMENT.
8. STORM WATER PIPES, OUTLETS AND CHANNELS SHALL BE PROTECTED BY SILT BARRIERS AND KEPT FREE OF WASTE AND SILT AT ALL TIMES PRIOR TO FINAL SURFACE STABILIZATION AND / OR PAVING.
9. A MINIMUM OF 10% SURPLUS EROSION CONTROL MATERIALS SHALL BE KEPT ON-SITE FOR EMERGENCY REPAIRS.
10. NOTIFY THE CITY OF CHESTERFIELD DEPARTMENT OF PUBLIC WORKS 48 HOURS PRIOR TO COMMENCEMENT OF GRADING AND/OR PRIOR TO COMMENCEMENT OF CONSTRUCTION.
11. PARKING ON NON-SURFACED AREAS IS PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT.
12. THE STREETS SURROUNDING THIS DEVELOPMENT AND ANY STREET USED FOR CONSTRUCTION ACCESS THERETO SHALL BE KEPT FREE FROM MUD AND CONSTRUCTION DEBRIS AND SHALL BE CLEANED THROUGHOUT THE DAY.
13. ALL FILLS PLACED UNDER PROPOSED STORM AND SANITARY SEWER LINES AND/OR PAVED AREAS, INCLUDING TRENCH BACKFILLS WITHIN AND OFF THE ROAD RIGHT-OF-WAY, SHALL BE COMPACTED TO 90% OF MINIMUM DENSITY AS DETERMINED BY THE "MODIFIED AASHTO T-180 COMPACTION TEST" (ASTM D-1557) FOR THE ENTIRE DEPTH OF THE FILL. COMPACTED GRANULAR BACKFILL IS REQUIRED IN ALL TRENCH EXCAVATION WITHIN THE STREET RIGHT-OF-WAY AND UNDER ALL PAVED AREAS. ALL TESTS SHALL BE PERFORMED UNDER THE DIRECTION OF AND VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACKFILLING OPERATIONS.
14. SOFT SOILS FROM THE BOTTOM AND BANKS OF ANY EXISTING OR FORMER POND SITES OR TRIBUTARIES OR ANY SEDIMENT BASINS OR TRAPS SHALL NOT BE PLACED IN PROPOSED PUBLIC RIGHT-OF-WAY LOCATIONS OR IN ANY STORM SEWER LOCATION.
15. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
16. DEBRIS AND FOUNDATION MATERIAL FROM ANY EXISTING ON-SITE BUILDING OR STRUCTURE WHICH IS SCHEDULED TO BE RAZED FOR THIS DEVELOPMENT MUST BE PROPERLY DISPOSED OF OFF-SITE.
17. ANY WELLS, CISTERNS AND/OR SPRINGS, WHICH MAY EXIST ON THIS PROPERTY, SHOULD BE LOCATED AND SEALED IN A MANNER ACCEPTABLE TO THE CITY OF CHESTERFIELD AND THE MODNR.
18. ALL EXCAVATIONS, GRADING OR FILLING SHALL HAVE A FINISHED GRADE NOT TO EXCEED A 4:1 SLOPE (25%), UNLESS SPECIFICALLY APPROVED OTHERWISE. NO SLOPE SHALL EXCEED 3:1 MAXIMUM.
19. NO EXCAVATION SHALL BE MADE SO CLOSE TO THE PROPERTY LINE AS TO ENDANGER ANY ADJOINING PROPERTY OF ANY PUBLIC OR PRIVATE STREET WITHOUT SUPPORTING AND PROTECTING SUCH PUBLIC OR PRIVATE STREET OR PROPERTY FROM SETTLING, CRACKING OR OTHER DAMAGE.
20. ALL DEVELOPED LOTS SHALL BE SEEDED AND MULCHED OR SODDED BEFORE AN OCCUPANCY PERMIT SHALL BE ISSUED EXCEPT THAT A TEMPORARY OCCUPANCY PERMIT MAY BE ISSUED BY THE CITY OF CHESTERFIELD DEPARTMENT OF PLANNING & DEVELOPMENT SERVICES IN CASES OF UNDUE HARDSHIP BECAUSE OF UNFAVORABLE GROUND CONDITIONS. IF THE LOT IS TO BE SEEDED AND MULCHED, IT SHALL BE DONE IN A MANNER THAT MEETS OR EXCEEDS THE REQUIREMENTS OF THE CITY'S "SEDIMENT AND EROSION CONTROL GUIDELINES".
21. REFER TO SHEET C6.0.3 FOR ADDITIONAL SWPPP PLAN DETAILS [EROSION CONTROL FILTER ROLL (FILTER SOCK) DETAIL, EROSION CONTROL INLET PROTECTION (FABRIC DROP) DETAIL AND SILT FENCE DETAIL].
22. GRADING MUST NOT BEGIN UNTIL ALL PERIMETER SILTATION CONTROL HAS BEEN INSTALLED AND INSPECTED BY THE CITY.
23. A REDLINE SWPPP INDICATING ANY AND ALL CHANGES TO THE ORIGINAL SWPPP MUST BE KEPT ONSITE AND AVAILABLE TO THE CITY INSPECTOR DURING SITE VISITS AND COMPLIANCE INSPECTIONS.
24. ADDITIONAL SILTATION CONTROL SHALL BE INSTALLED AS REQUIRED BY THE CITY OF CHESTERFIELD.
25. ANY LAND CLEARING, CONSTRUCTION, OR DEVELOPMENT INVOLVING THE MOVEMENT OF EARTH SHALL BE IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN, AND THE PERSON ISSUED A LAND DISTURBANCE PERMIT ASSUMES AND ACKNOWLEDGES RESPONSIBILITY FOR COMPLIANCE WITH THE CITY OF CHESTERFIELD LAND DISTURBANCE CODE AND THE APPROVED STORM WATER POLLUTION PLAN AT THE SITE OF THE PERMITTED ACTIVITY.
26. PRIOR TO THE ISSUANCE OF A MAJOR LAND DISTURBANCE PERMIT, A LAND DISTURBANCE ESCROW SHALL BE APPROVED BY THE CITY OF CHESTERFIELD.
27. PRIOR TO ANY MAJOR LAND DISTURBANCE ACTIVITY, A LAND DISTURBANCE PERMIT FROM THE STATE OF MISSOURI DEPARTMENT OF NATURAL RESOURCES IS REQUIRED.
28. SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASH DOWN STATION PRIOR TO LEAVING THE SITE. NO TRACKING OF MUD ONTO CITY OF CHESTERFIELD ROADS SHALL BE ALLOWED.
29. THE CONTRACTOR SHALL PROVIDE, INSTALL, MAINTAIN, AND REMOVE A PUBLIC NOTIFICATION SIGN, PER PAGES 42-43 OF THE CITY OF CHESTERFIELD SEDIMENT AND EROSION CONTROL MANUAL.
30. THE SWPPP SHALL HAVE SUFFICIENT INFORMATION TO BE OF PRACTICAL USE TO CONTRACTORS AND SITE CONSTRUCTION WORKERS TO GUIDE THE INSTALLATION AND MAINTENANCE OF BMP'S. TEMPORARY STABILIZATION IS TO TAKE PLACE WHERE SOIL DISTURBING ACTIVITIES WILL CEASE ON ANY PORTION OF THE SITE AND ARE NOT PLANNED TO RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. TEMPORARY STABILIZATION MUST BE INITIATED IMMEDIATELY UPON KNOWING THE DURATION IS MORE THAN 14 DAYS. TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN 7 CALENDAR DAYS. SLOPES FOR DISTURBED AREAS MUST BE DEFINED IN THE SWPPP, A SITE MAP OR MAPS, DEFINING THE SLOPED AREAS FOR ALL PHASES OF THE PROJECT, MUST BE INCLUDED IN THE SWPPP. THE TYPES OF BMP'S USED MUST BE SUITED TO THE AREA DISTURBED, TAKING INTO ACCOUNT THE NUMBER OF ACRES EXPOSED AND THE STEEPNESS OF THE SLOPES. IF THE SLOPE OF THE AREA IS GREATER THAN 3:1 (3 FEET HORIZONTAL TO 1 FOOT VERTICAL) OR IF THE SLOPE IS GREATER THAN 3% AND GREATER THAN 150 FEET IN LENGTH, THEN THE PERMITEE MUST ESTABLISH TEMPORARY STABILIZATION WITHIN 7 DAYS OF CEASING OPERATION ON THAT PART OF THE SITE. FINAL STABILIZATION OF DISTURBED AREAS MUST BE INITIATED IMMEDIATELY AND COMPLETED WITHIN 7 CALENDAR DAYS WHENEVER ANY CLEARING, GRADING, EXCAVATING OR OTHER EARTH DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE SITE. ALLOWANCES TO THE 7 DAY COMPLETION PERIOD FOR TEMPORARY AND FINAL STABILIZATION MAY BE MADE DUE TO WEATHER OR EQUIPMENT MALFUNCTIONS. THE USE OF ALLOWANCES SHALL BE DOCUMENTED IN THE SWPPP. A SITE MAP SHOWING THE OUTLINES OF THE TOTAL PROJECT AREA, THE AREAS TO BE DISTURBED, AREAS THAT WILL NOT BE DISTURBED, EXISTING LAND USES, LOCATIONS OF OFF-SITE MATERIALS, WASTE, BORROW AND EQUIPMENT STORAGE AREAS, LOCATIONS AND NAMES OF SURFACE WATER BODIES THE SITE DRAINS TO, AREAS OF FINAL STABILIZATION, LOCATIONS OF FLOOD PLAINS, LOCATIONS OF TEMPORARY AND PERMANENT BEST MANAGEMENT PRACTICES (BMP), LOCATIONS OF OUTFALLS, LOCATION(S) OF PORTA-POTTIES, GAS TANKS, DUMPSTERS, ETC. WITH UPDATES AND LOCATION CHANGES AND SUCH OTHER INFORMATION AS MAY BE REQUIRED BY THE CITY DEPARTMENT(S) HAVING ENFORCEMENT AUTHORITY AND RESPONSIBILITIES DESCRIBED IN SECTION 103.0 OF THE CODE. THE PERMITEE SHALL ENSURE THE BMP'S ARE PROPERLY INSTALLED AT THE LOCATIONS AND RELATIVE TIMES SPECIFIED IN THE SWPPP. PERIPHERAL OR BORDER BMP'S TO CONTROL RUNOFF FROM DISTURBED AREAS SHALL BE INSTALLED OR MARKED FOR PRESERVATION BEFORE GENERAL SITE CLEARING IS STARTED. NOTE THAT THIS REQUIREMENT DOES NOT APPLY TO EARTH DISTURBANCES RELATED TO INITIAL SITE CLEARING AND ENTRY ESTABLISHMENT, EXIT AND ACCESS OF THE SITE, WHICH MAY REQUIRE THAT STORMWATER CONTROLS BE INSTALLED IMMEDIATELY AFTER THE EARTH DISTURBANCE. STORM WATER DISCHARGES FROM DISTURBED AREAS WHICH LEAVE THE SITE, SHALL PASS THROUGH AN APPROPRIATE IMPEDIMENT TO SEDIMENT MOVEMENT, SUCH AS A SEDIMENTATION BASIN, SEDIMENT TRAPS, SILT FENCES, ETC., PRIOR TO LEAVING THE LAND DISTURBANCE SITE. A DRAINAGE COURSECHANGE SHALL BE CLEARLY MARKED ON A SITE MAP AND DESCRIBED IN THE SWPPP.
31. LOCATE STATE AND CITY LAND DISTURBANCE PERMITS, BMP INSPECTION REPORTS, ETC. WITH THE SWPPP.
32. THERE ARE NO KNOWN SINKHOLES, SPRINGS, SEEPS, OR KARST FEATURES ON THE CONSTRUCTION SITE.
33. THERE ARE NO PROPOSED INDUSTRIAL ACTIVITIES, SUCH AS CONCRETE OR ASPHALT BATCH PLANTS, PLANNED FOR THIS PROJECT.
34. THERE ARE NO ENDANGERED SPECIES OR HISTORIC PROPERTIES IMPACTED BY THIS PROJECT.
35. 404/401 PERMITS ARE NOT REQUIRED FOR THIS PROJECT AS CONSTRUCTION ACTIVITIES WILL NOT IMPACT ANY JURISDICTIONAL WATERS.
36. THERE ARE NO NON-STORMWATER DISCHARGES OR USE OF DEWATERING MEHODS PLANNED FOR THIS PROJECT.
37. IN THE EVENT STORM WATER RUNOFF LEAVES THE CONSTRUCTION SITE, THE APPROVED SITE SPECIAL INSPECTOR SHALL BE NOTIFIED IMMEDIATELY.

CONSTRUCTION PARKING

Construction parking to be located on existing asphalt parking lot.

HAUL ROUTE INFORMATION

- 1,300 CY excess to be hauled.
- 8 trucks/day and 12 trips per truck, 96 total loads per day.
- 12 CY per truck.
- Material is being hauled to Sportport Dumpsite (Maryland Heights).
- The haul route is Fee Fee Rd. North to Bennington Pl. North, then HWY 364 West to HWY 141 North to Sportport site.
- Hauling activities should last approximately 1 month.
- Hauling will be during the hours of 8:40 a.m. and 2:30 p.m.

HAUL SCHEDULE

Haul Dates: May 1, 2024 – June 1, 2024

SEDIMENT HANDLING

Sediment removed during the maintenance of BMP's should be handled and disposed of in accordance with the approved SWPPP procedures for excavation.

LOSS OF SEDIMENT OFFSITE

Sediment lost offsite shall be immediately reclaimed and replaced. The BMP shall be inspected by engineer and a repair plan made to prevent future failure.

THE PROPERTY OWNER / DEVELOPER HEREBY CERTIFIES THAT HE IS FAMILIAR WITH THE SWPPP AND ASSUMES FULL RESPONSIBILITY FOR THE PERFORMANCE AND MAINTENANCE OF THE SWPPP AS STATED ON THE APPROVED PLANS. HE WILL ENSURE THAT ALL CONTRACTORS UNDERSTAND AND ARE FAMILIAR WITH THE SWPPP FOR THE SITE AND THAT EACH CONTRACTOR AGREES TO IMPLEMENT AND PROTECT ELEMENTS OF THE SWPPP AS THEY RELATE TO HIS WORK. THE PROPERTY OWNER'S / DEVELOPER'S ONSITE REPRESENTATIVE SHALL BE RESPONSIBLE FOR THE PERFORMANCE AND MAINTENANCE OF THE SWPPP. IN ADDITION, THE UNDERSIGNED OWNER / DEVELOPER ASSURES THAT ALL CITY PROPERTY OR ROADS WILL BE ADEQUATELY PROTECTED.

OWNER'S / DEVELOPER'S CONTACT PERSON AND PHONE # : Ralph Knese (314) 415-8268

OWNER'S / DEVELOPER'S Signature

Date 1/29/2024

EMERGENCY CONTACT AND PHONE # : Bill Freymuth (314) 415-4915

FILTER ROLLS / FILTER SOCKS

1 ENTIRE SHEET

WHERE BMP IS TO BE INSTALLED:
As indicated on design plans.

WHEN BMP IS TO BE INSTALLED:
Prior to exposing any soil on site.

INSTALLATION / CONSTRUCTION PROCEDURES:
Follow the manufactures instructions and recommendations for the sizing, installation and maintenance of all filter rolls or filter socks.

O&M PROCEDURES:
Follow the manufactures instructions and recommendations for the sizing, installation and maintenance of all filter rolls or filter socks.

SITE CONDITIONS FOR REMOVAL:
Remove when general note 1 (above) is met.

NON-SEDIMENT POLLUTION CONTROL

PHYSICAL DESCRIPTION:
Control measures designed to prohibit chemicals, hazardous materials, solid waste and construction debris from polluting stormwater. Pollutants carried in solution or as surface films on runoff will be carried through most erosion control and sediment capture BMP's. Keeping substances like fuel, oil, asphalt, paint, fertilizer, soil additives, concrete wash water, solid waste and construction debris from polluting runoff can be accomplished to a large extent through good housekeeping on the site and following the manufacture's recommendations for disposal.

WHERE BMP IS TO BE INSTALLED:
Collection, storage and fueling areas should be located onsite in an area that does not receive a substantial amount of runoff from upland areas and does not drain directly to lakes, creeks, streams, rivers, sewers, groundwater, wetlands, or road ditches. Temporary sanitary facilities will be provided within 500' of each work site.

WHEN BMP IS TO BE INSTALLED:
Immediately following installation of construction entrances and wash stations.

INSTALLATION / CONSTRUCTION PROCEDURES:
Place waste receptacles near area of work.
Construct protective berm or other devices around fueling and hazardous materials storage areas.
Install appropriate signage.
Post guidelines for proper handling, storage and disposal of materials, and emergency spill cleanup on site.

O&M PROCEDURES:
Inspect activities on a weekly basis.
Inspect storage areas and control devices at least every two weeks and after every storm. Make necessary corrections and repairs.

SITE CONDITIONS FOR REMOVAL:
Maintain practices until all construction on the site has been completed.

TYPICAL DETAILS:
General pollution prevention notes attached.

POLLUTION PREVENTION PROCEDURES

1. HANDLING AND DISPOSAL OF HAZARDOUS MATERIALS

   DO: Prevent spills.
   Use products up.
   Follow label directions for disposal.
   Remove lids from empty bottles and cans when disposing in trash.
   Recycle wastes whenever possible.

   DON'T: Don't pour waste into sewers, waterways or on the ground.
   Don't pour waste down sink, floor drain or septic tanks.
   Don't bury chemicals or containers, or dispose of them with construction debris.
   Don't mix chemicals together.

2. Containers shall be provided for collection of all waste material including construction debris,trash, petroleum products and any hazardous materials to be used onsite. All waste material shall be disposed of at facilities approved for that material.
3. No waste material shall be buried on-site.
4. Mixing, pumping, transferring or otherwise handling construction chemicals such as fertilizer, lime, asphalt, concrete drying compounds, and all other potentially hazardous materials shall be performed in an area away from any watercourse, ditch or storm drain.
5. Equipment fueling and maintenance, oil changing, etc., shall be preformed only in an area designated for that purpose. The designated area is equipped for recycling oil and catching spills.
6. Concrete wash water shall not be allowed to flow directly to storm sewers, streams, ditches, lakes, etc. without being treated. A sump or pit shall be constructed to contain concrete wash water.
7. If substances such as oil, diesel fuel, hydraulic fluid, antifreeze, etc. are spilled, leaked, or released onto soil, the soil shall be dug up and disposed at a licensed sanitary landfill (not a construction / demolition debris landfill). Spills on pavement shall be absorbed with sawdust, kitty litter or product designed for that purpose and disposed of at a licensed sanitary landfill. Hazardous or industrial wastes such as most solvents, gasoline, oil-based paints, and cement curing compounds require special handling. Theses materials will be removed from the site and recycled or disposed of in accordance with MoDNR requirements.
8. State law requires the party responsible for petroleum product spill in excess of 50 gallons to report the spill to MoDNR (537-634-2436) as soon as practical after discovery. Federal law requires the responsible party to report any release of oil if it reaches or threatens a sewer, lake, creek, stream, river, groundwater, wetland, or area, like a road ditch, that drains into one of the above.

SOIL PREPARATION AND REVEGATATION

1. Remove debris, roots, branches, stone, in excess of 1 inch in size. Remove soil contaminated with petroleum products.
2. Where topsoil is to be placed, scarify surface to depth of 3 inches.
3. In areas where vehicles or equipment have compacted soil, scarify surface to depth of 6 inches.
4. Place topsoil in areas where sodding and planting are indicated.
5. Place topsoil where required to level finish grade.
6. Place topsoil during dry weather.
7. Remove roots, weeds, rocks, and foreign material while spreading.
8. Fine grade topsoil to eliminate uneven areas and low spots. Maintain profiles and contour of subgrade.
9. Roll placed topsoil.
10. Moisten prepared surface immediately prior to laying sod.
11. Lay sod within 24 hours after harvesting to prevent deterioration.
12. Lay sod smooth and tight with no open joints visible, and no overlapping; stagger end joints 12 inches minimum.
13. Where new sod adjoins existing grass areas, align top surfaces.
14. Where sod is placed adjacent to hard surfaces, such as curbs, pavements, etc., place top elevation of sod 1/2 inch below top of hard surface.
15. Water sodded areas immediately after installation. Saturate sod to 4 inches of soil.
16. After sod and soil have dried, roll sodded areas to ensure good bond between sod and soil and to remove minor depressions and irregularities.

WASHDOWN STATION

PHYSICAL DESCRIPTION:
An area located at construction entrances designed to wash sediment from the tires and undercarriage of exiting vehicles and prevent sediment from being tracked onto existing roadways.

WHERE BMP IS TO BE INSTALLED:
Across or immediately adjacent to exit paths from unpaved construction sites.

CONDITIONS FOR EFFECTIVE USE OF BMP:
Drainage: Downstream BMP sized to treat dirty runoff from washdown station.

WHEN BMP IS TO BE INSTALLED:
First order of work, along with construction entrance, prior to vehicles or equipment accessing unpaved areas.

INSTALLATION / CONSTRUCTION PROCEDURES:
Grade and compact area for drainage under washdown pad.
Install steel-ribbed plate on frame or other support to allow a 2" drain space.
Grade and vegetate downstream BMP.
Install water supply and hose.
Post sign in advance of station indicating that all exiting vehicles and equipment must use station prior to exiting site.

O&M PROCEDURES:
Remove sediment daily.
Repair settled areas.
Replace rock if necessary to maintain clean surface.

SITE CONDITIONS FOR REMOVAL:
Remove when vehicles and equipment will no longer access unpaved areas.

23MSD-00336 BASEMAP 16Q

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 3/4/2024 1:49 PM
FILE PATH: J:\30902493,000 Parkway 2022 Bond\10.0 Personal Folders\1 - Civil\003 Riverbend\Site Design\CAD\142301Bcivil000000001C.dwg

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Engineering Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
1	SITE PERMIT REVISIONS	03/04/2024

PARKWAY SCHOOL DISTRICT

RIVER BEND ELEMENTARY

224 River Valley Drive
Chesterfield, MO 63017

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006002866
PROFESSIONAL ENGINEER
MARCH 04 2023

Civil Engineer of Record: Sunil Thakkar
Professional No.: PE-2006002866

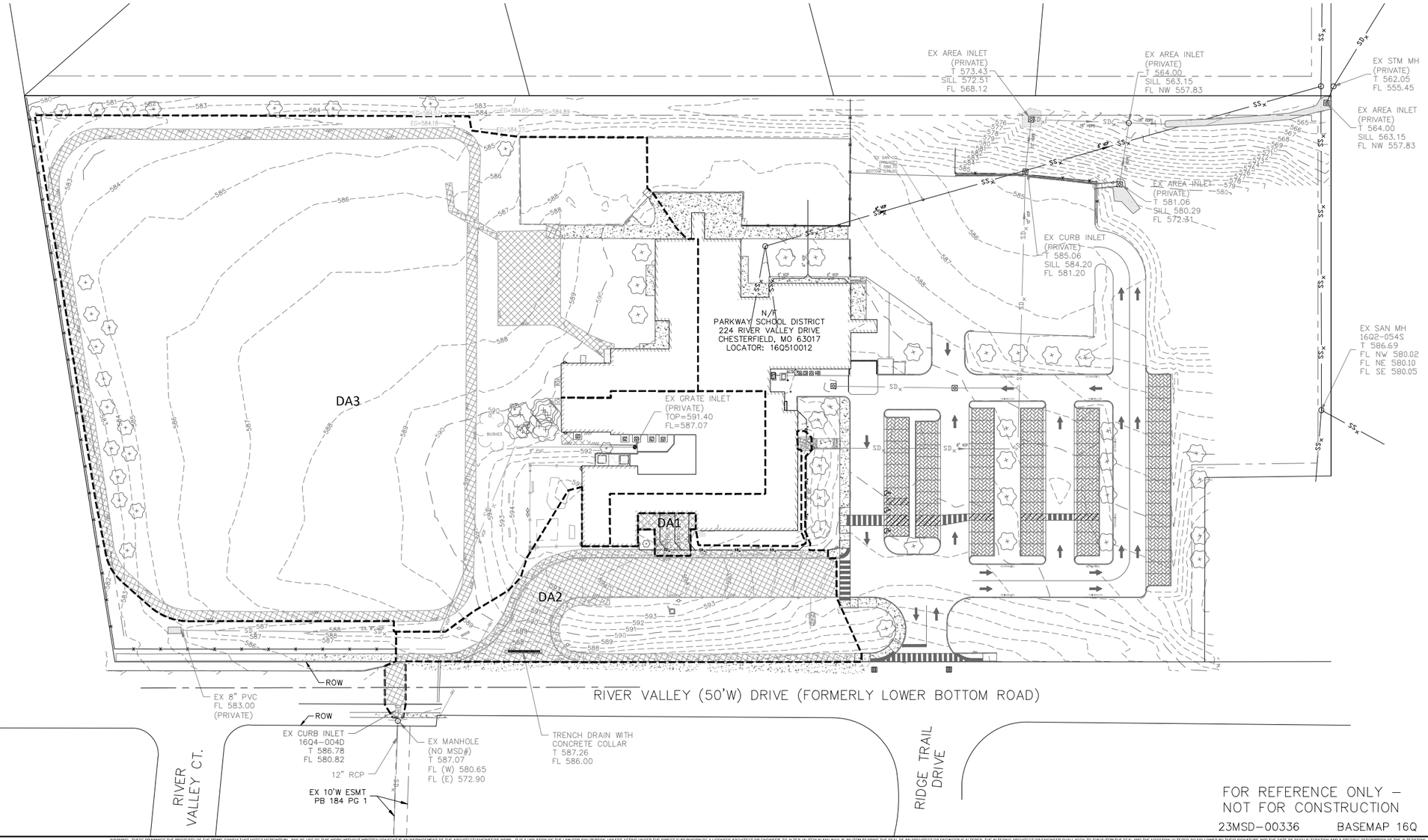
SHEET NAME
SWPP PLAN

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	DH
DATE:	21 AUGUST 2023
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 142301B
WSP PROJECT NUMBER: 30902493,003
SHEET NUMBER: **C7.02**

Drainage Area Table / Runoff Calculations					
Drainage Area	Discharge Point	Land Use	15-yr/20-min PI Factor	Pre-Development DA (acres)	Pre-Dev. Runoff (cfs)
DA1	NW Property	Pavement	3.54	0.000	0.000
		Building	4.20	0.026	0.108
		Grass	1.70	0.000	0.000
			Subtotal	**0.026**	**0.108**
DA2	East Property	Pavement	3.54	0.308	1.090
		Building	4.20	0.002	0.010
		Playground	2.00	0.024	0.048
		Grass	1.70	0.297	0.505
			Subtotal	**0.631**	**1.652**
DA3	South Property	Pavement	3.54	0.401	1.419
		Building	4.20	0.359	1.509
		Playground	2.00	0.180	0.360
		Grass	1.70	3.023	5.140
			Subtotal	**3.964**	**8.428**
			Total	**4.620**	**10.188**



GENERAL NOTES:

REMARKS:

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com

WSP USA Design, Inc.
Engineering Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

RIVER BEND ELEMENTARY

224 River Valley Drive
Chesterfield, MO 63017

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006002866
PROFESSIONAL ENGINEER

AUGUST 21 2023

Civil Engineer of Record: Sunil Thakkar
Professional No.: PE-2006002866

SHEET NAME
EXISTING DRAINAGE AREA MAP

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	DH
DATE:	21 AUGUST 2023
SCALE:	

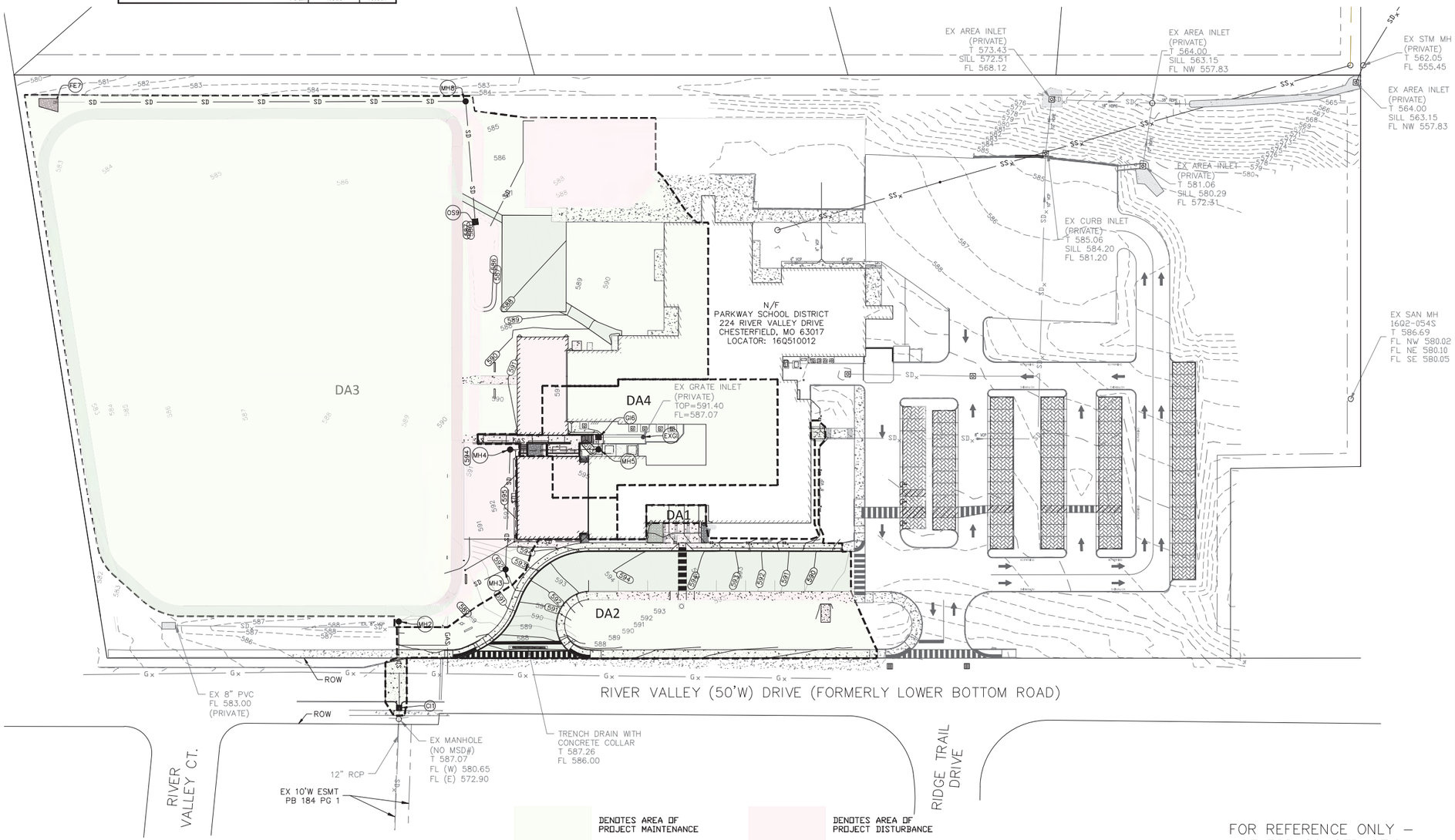
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 142301B
WSP PROJECT NUMBER: 30902493.003
SHEET NUMBER **C8.01**

LAST EDITED: 3/4/2024 1:49 PM
FILE PATH: J:\30902493.000 Parkway 2022 Bond\10.0 Personal Folders\1 - Civil\.003 Riverbend\Site Design\[CAD\142301Bcivil000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

Drainage Area Table / Runoff Calculations					
Drainage Area	Discharge Point	Land Use	15-yr/20-min PI Factor	Post-Development DA (acres)	Post-Dev. Runoff (cfs)
DA1	NW Property	Pavement	3.54	0.000	0.000
		Building	4.20	0.014	0.058
		Grass	1.70	0.000	0.000
			Subtotal	**0.014**	**0.058**
DA2	East Property	Pavement	3.54	0.351	1.244
		Building	4.20	0.002	0.010
		Playground	2.00	0.000	0.000
		Grass	1.70	0.266	0.452
			Subtotal	**0.620**	**1.707**
DA3	South Property	Pavement	3.54	0.374	1.325
		Building	4.20	0.251	1.055
		Playground	2.00	0.210	0.421
		Grass	1.70	2.820	4.794
			Subtotal	**3.656**	**7.595**
DA4	New Storm System (Street Inlet)	Pavement	3.54	0.049	0.173
		Building	4.20	0.246	1.035
		Grass	1.70	0.035	0.060
			Subtotal	**0.330**	**1.267**
			Total	**4.620**	**10.627**



FOR REFERENCE ONLY – NOT FOR CONSTRUCTION

23MSD–00336 BASEMAP 16Q

0 40' 80'
1"=40'

GENERAL NOTES:

REMARKS:

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

RIVER BEND ELEMENTARY

224 River Valley Drive
Chesterfield, MO 63017

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel.: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com

WSP USA Design, Inc.
Engineering Certificate of Authority: #2008011869

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006002866
PROFESSIONAL ENGINEER

AUGUST 21 2023

Civil Engineer of Record: Sunil Thakkar
Professional No.: PE-2006002866

SHEET NAME
PROPOSED DRAINAGE AREA MAP

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	DH
DATE:	21 AUGUST 2023
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 142301B
WSP PROJECT NUMBER: 30902493.003
SHEET NUMBER **C9.01**

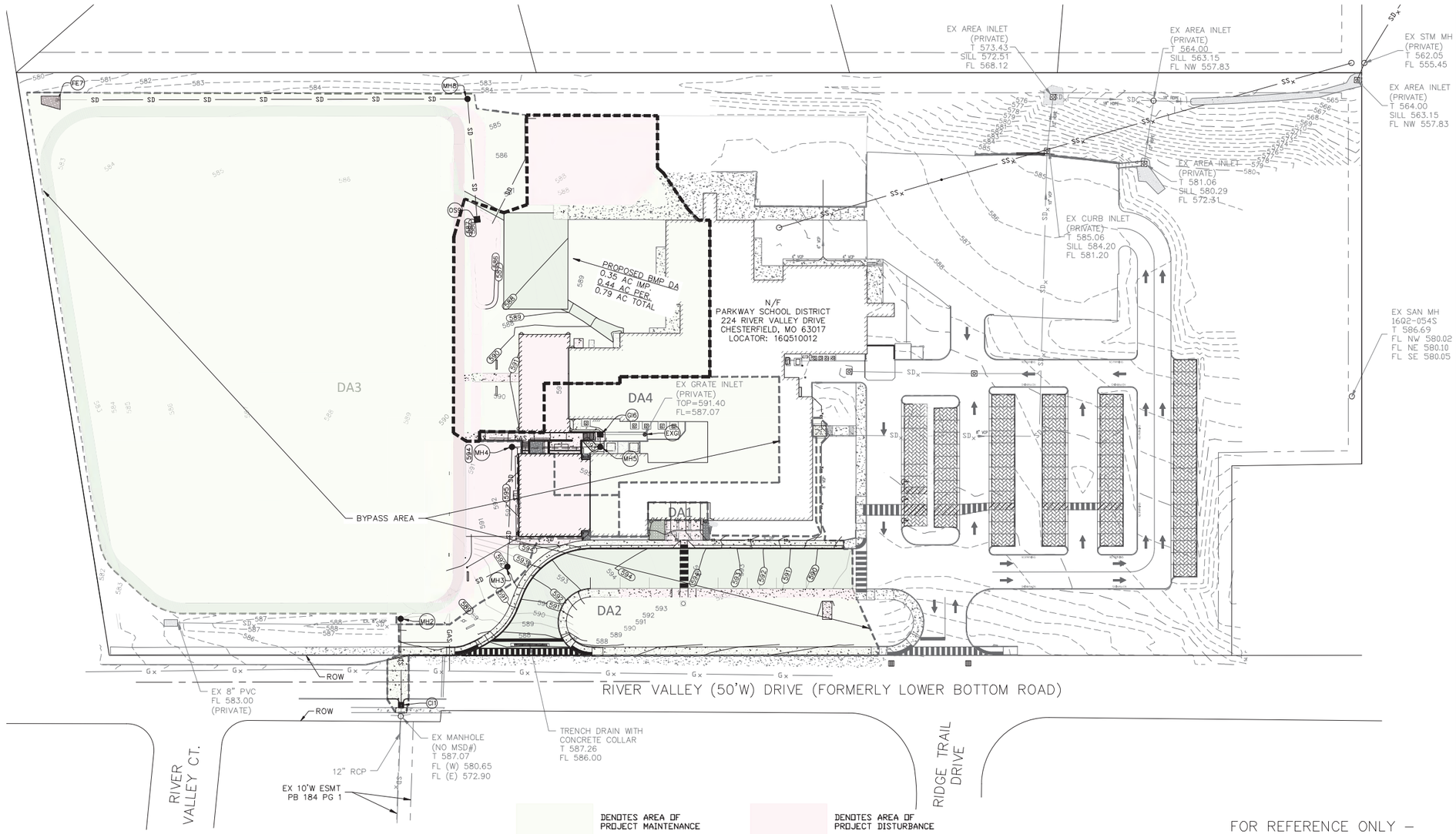
ISSUE FOR PERMIT

LAST EDITED: 3/4/2024 1:49 PM
FILE PATH: J:\30902493.000 Parkway 2022 Bond\10.0 Personal Folder\1 - Civil\.003 RiverBend\Site Design\CAD\142301Bcv000000000010C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTS ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

BMP Table						
BMP Area	Tributary Area	Impervious Area	Pervious Area	BMP	Water Quality Volume Required	Water Quality Volume Provided
1	0.788 ac.	0.351 ac.	0.537 ac.	Bioretention Basin	1099 C.F.	1153 C.F.
Untreated By-Pass						
	3.832 ac.	0.937 ac.	2.895 ac.	Untreated Bypass		

1 ENTIRE SHEET



FOR REFERENCE ONLY – NOT FOR CONSTRUCTION

23MSD-00336 BASEMAP 16Q

0 40' 80'
1"=40'

GENERAL NOTES:

REMARKS:

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Engineering Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
1	SITE PERMIT REVISIONS	03/04/2024

PARKWAY SCHOOL DISTRICT

RIVER BEND ELEMENTARY

224 River Valley Drive
Chesterfield, MO 63017

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006002866
PROFESSIONAL ENGINEER
MARCH 04 2023

Civil Engineer of Record: Sunil Thakkar
Professional No.: PE-2006002866

ISSUE FOR PERMIT

SHEET NAME
BMP DRAINAGE AREA MAP

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	DH
DATE:	21 AUGUST 2023
SCALE:	

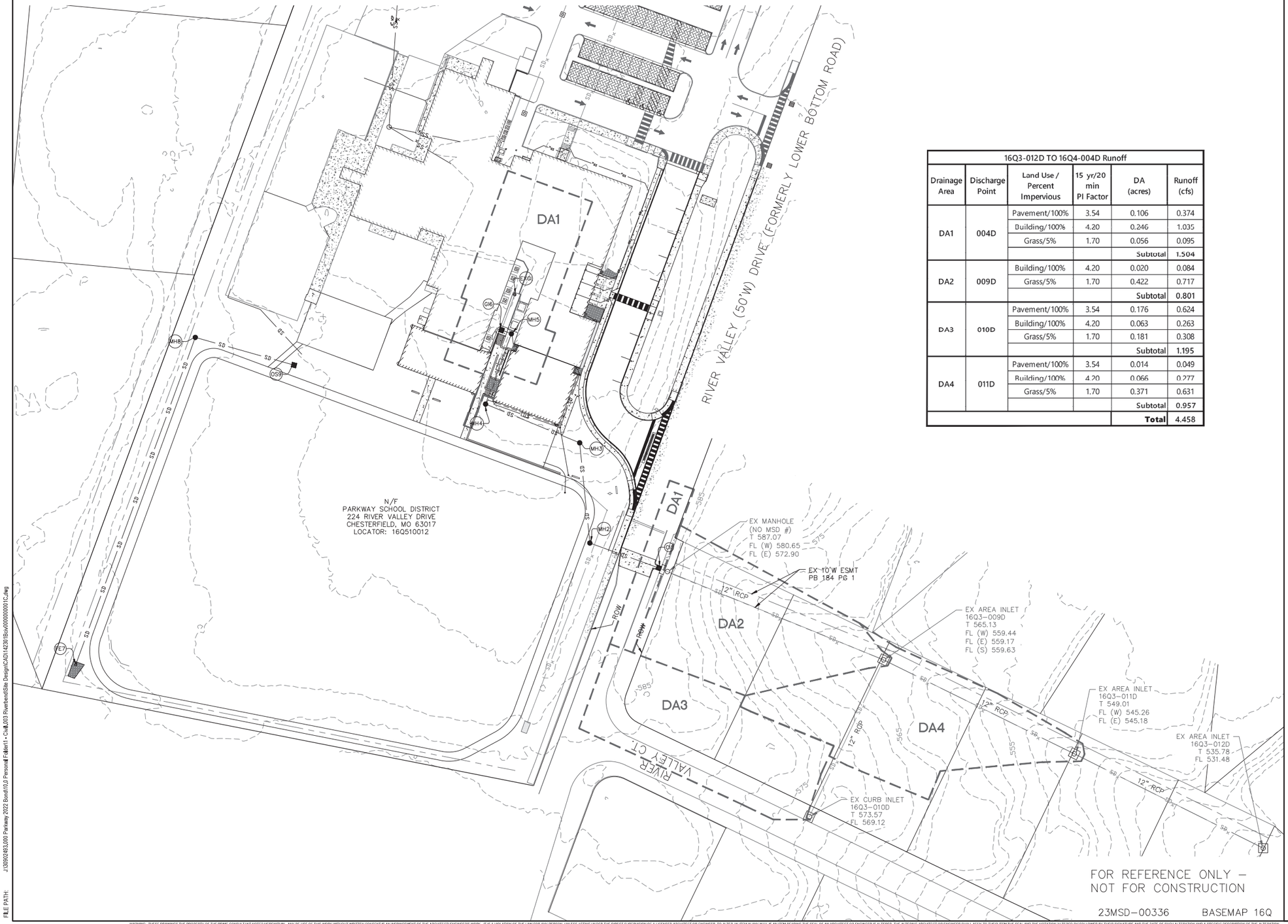
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 142301B
WSP PROJECT NUMBER: 30902493.003

SHEET NUMBER **C9.02**

LAST EDITED: 3/4/2024 1:49 PM
FILE PATH: J:\30902493.000 Parkway 2022 Bond\10.0 Personal Folder\1 - Civil\.003 Riverbend\Site Design\CAD\142301Bsht000000000C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



16Q3-012D TO 16Q4-004D Runoff					
Drainage Area	Discharge Point	Land Use / Percent Impervious	15 yr/20 min PI Factor	DA (acres)	Runoff (cfs)
DA1	004D	Pavement/100%	3.54	0.106	0.374
		Building/100%	4.20	0.246	1.035
		Grass/5%	1.70	0.056	0.095
				Subtotal	1.504
DA2	009D	Building/100%	4.20	0.020	0.084
		Grass/5%	1.70	0.422	0.717
				Subtotal	0.801
DA3	010D	Pavement/100%	3.54	0.176	0.624
		Building/100%	4.20	0.063	0.263
		Grass/5%	1.70	0.181	0.308
				Subtotal	1.195
DA4	011D	Pavement/100%	3.54	0.014	0.049
		Building/100%	4.20	0.066	0.277
		Grass/5%	1.70	0.371	0.631
				Subtotal	0.957
				Total	4.458

GENERAL NOTES:

REMARKS:

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com

WSP USA Design, Inc.
Engineering Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

RIVER BEND ELEMENTARY

224 River Valley Drive
Chesterfield, MO 63017

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006002866
PROFESSIONAL ENGINEER
AUGUST 21 2023

Civil Engineer of Record: Sunil Thakkar
Professional No.: PE-2006002866

SHEET NAME
DRAINAGE AREA MAP - OFFSITE STORM

DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	DH
DATE:	21 AUGUST 2023
SCALE:	

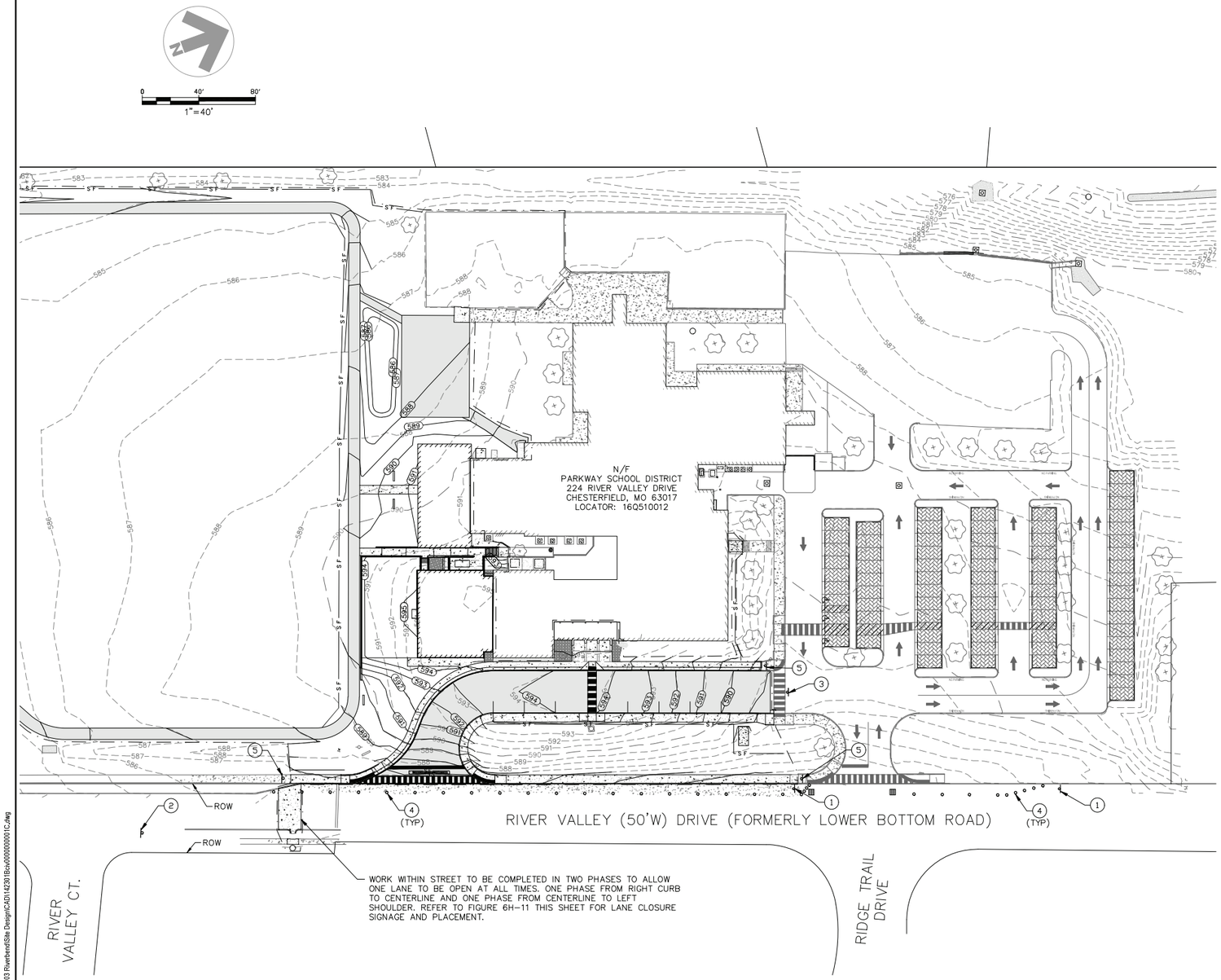
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 142301B
WSP PROJECT NUMBER: 30902493.003

SHEET NUMBER **C10.01**

LAST EDITED: 3/4/2024 1:48 PM
FILE PATH: J:\30902493.000 Parkway 2022 Bond\10.0 Personal Folders\1 - Civil\.003 Riverbend\Site Design\C4D\142301Bsht000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



1 ENTIRE SHEET

RIGHT SHOULDER CLOSED
R21-5a
1

LEFT SHOULDER CLOSED
R21-5a
2

ROAD CLOSED
R11-2
3

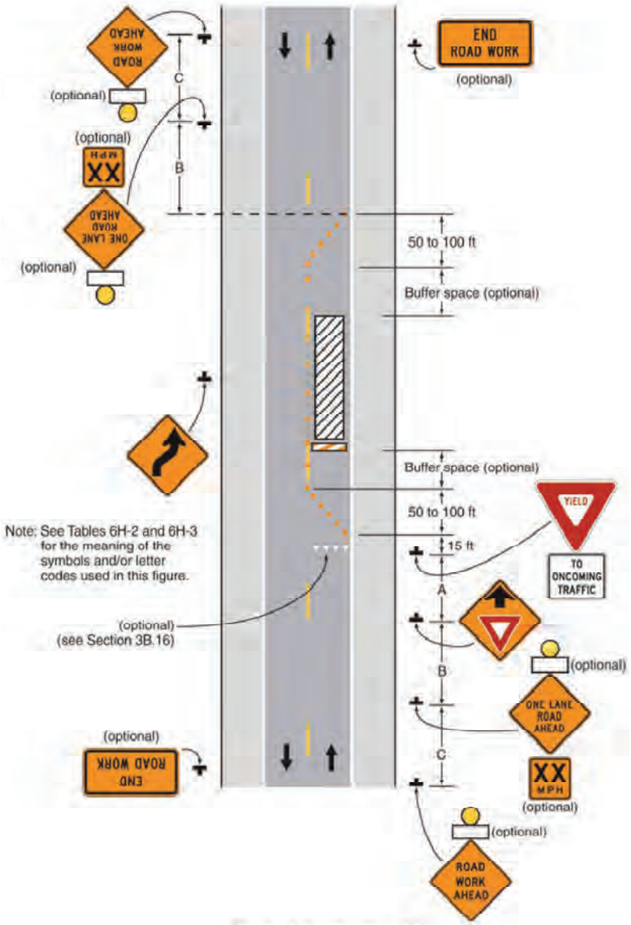
TRAFFIC CONTROL BARRELS OR CONES
4

SIDEWALK CLOSED
5

TRAFFIC CONTROL NOTES:

1. ALL TRAFFIC CONTROL DEVICES SHALL FOLLOW STANDARD MUTCD GUIDELINED FOR SPACING AND SIZING.
2. ONE LANE OF TRAFFIC ON RIVER VALLEY DRIVE MUST REMAIN OPEN AT ALL TIMES. (SEE FIGURE 6H-11 THIS SHEET)

Figure 6H-11. Lane Closure on a Two-Lane Road with Low Traffic Volumes (TA-11)



Typical Application 11

23MSD-00336 BASEMAP 16Q

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 3/4/2024 1:48 PM
FILE PATH: J:\30902493.000 Parkway 2022 Bond\10.0 Personal Folder\1 - Civil\.003 Riverbend\Site Design\CAD\142301B-civ%000000001C.dwg

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Engineering Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
1	SITE PERMIT REVISIONS	03/04/2024

PARKWAY SCHOOL DISTRICT

RIVER BEND ELEMENTARY

224 River Valley Drive
Chesterfield, MO 63017

ADDITIONS, RENOVATIONS & SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI
SUNIL THAKKAR
NUMBER PE-2006002866
PROFESSIONAL ENGINEER
MARCH 04 2023

Civil Engineer of Record: Suni Thakkar
Professional No.: PE-2006002866

SHEET NAME
TRAFFIC CONTROL PLAN

DESIGNED BY: MS
DRAWN BY: MS
CHECKED BY: DH
DATE: 21 AUGUST 2023
SCALE:

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 142301B
WSP PROJECT NUMBER: 30902493.003
SHEET NUMBER **C11.01**

EXHIBIT-I

BELLERIVE ELEMENTARY

BMP ORIGINAL PROJECT INFORMATION

BELLERIVE ELEMENTARY SCHOOL

PARKWAY SCHOOLS

620 Rue De Fleur Dr, Creve Coeur, MO 63141
Parkway Project: PN 151501B
Building Renovations and Site Improvements

BID SET
01/08/2016

Architect

Bond Architects, Inc.
MO State Cert. of Authority #2009027409
222 South Central Avenue, Suite 100
St. Louis, MO 63105
(314) 863.4994 tel
(314) 863.4996 fax
Contact: Eric Wilson
Email: ewilson@bondarchitectsinc.com

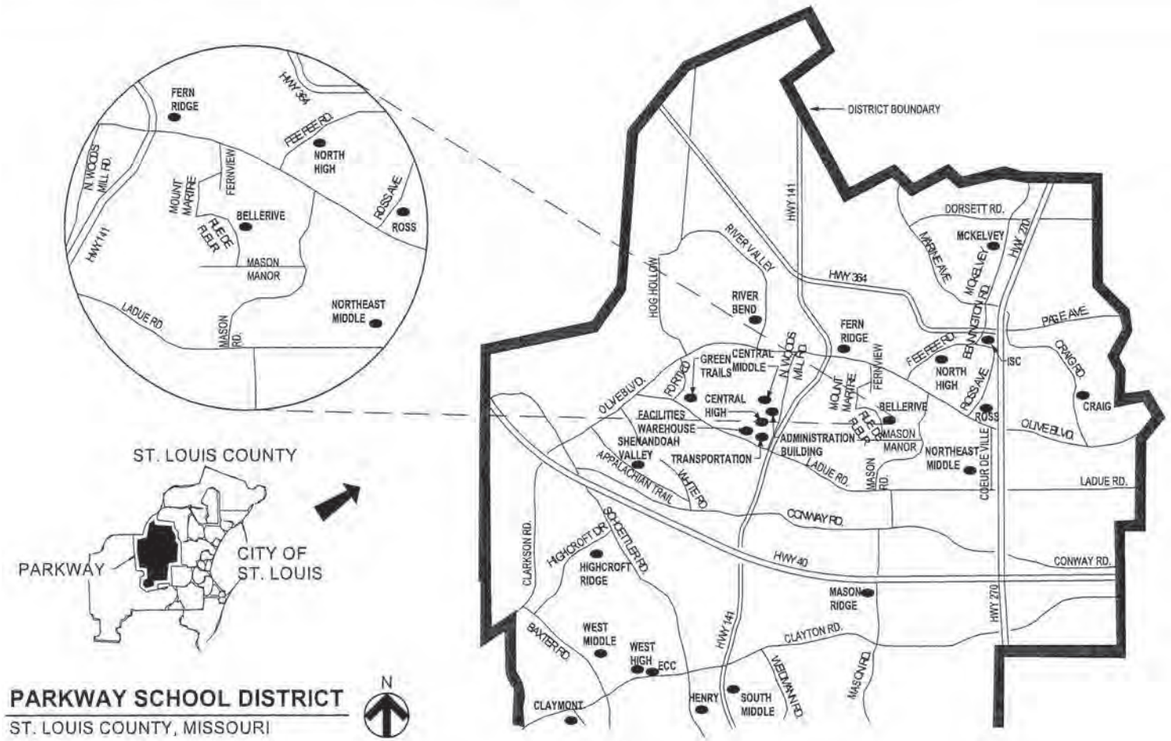
MEP Engineer

BRiC Partnership, LLC
Certificate of Authority #2002028690
138 W. Adams Ave.
Kirkwood, MO 63122
314.725.5889 tel
618.277.5200 fax
Contact: Dave Lauver
Email: dlauver@BricPartnership.com

Civil Engineer

EDSI
Certificate of Authority #001523
16141 Swingley Ridge Road, Suite 300
Chesterfield, MO 63107
636.537.5585 tel
636.537.0275 fax
Contact: Dennis Welker
Email: DW@engdesignsource.com

Project Site



PARKWAY SCHOOL DISTRICT
ST. LOUIS COUNTY, MISSOURI

1/8/2016 1:22:42 PM

Sheet Index

Sheet Number	Sheet Name
A0.0	Cover Sheet
Civil	
CO	General Notes/Legend
CO.1	Survey
C1	Demolition Plan
C2	Site Plan
C3	Grading Plan
C4	Details
C5	Details
C6	Details
C7	Details
C8	Details
C9	Details
Architectural	
A0.1	Life Safety Plan
A0.2	General Notes & Legends
A01.0	Asset Protection & Demolition Plan
A1.0	Site Plan
A2.1	Plans
A6.1	Ramp Details
A12.1	Partition Types & Door Schedule
Electrical	
E0.0	Electrical Symbols & Abbreviations
E0.1	Seismic Code Schedule - E
E0.2	Division of Responsibility
E2.0	Lighting Work
E3.0	Power Work
E5.0	Fire Alarm Work

bond ARCHITECTS
222 SOUTH CENTRAL AVE.
SUITE# 100
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority #2009027409

BRIC Partnership, LLC
MEP Engineer
Certificate of Authority #2002028690
138 W. Adams Ave.
Kirkwood, MO 63122
314.725.5889 tel
618.277.5200 fax

EDSI
Civil Engineer
Certificate of Authority #001523
16141 Swingley Ridge Road, Suite 300
Chesterfield, MO 63107
636.537.5585 tel
636.537.0275 fax

BELLERIVE ELEMENTARY SCHOOL
620 Rue De Fleur Dr, Creve Coeur, MO 63141
Parkway Project: PN 151501B
Building Renovations and Site Improvements

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 151501B

Revisions

Description	Date
BID SET	01/08/2016

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2014 by Bond Architects, Inc.

Arthur Doerr Bond, III
A-6301

The Professional Architect's seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

DATE: 01/08/2016

Cover Sheet

A0.0

NOTE:

WHEN THE WORD "CITY" IS USED ON THESE PLANS IT SHALL MEAN THE CITY OF CREVE COEUR, MISSOURI

WHEN THE INITIALS "MSD" ARE USED ON THESE PLANS IT SHALL MEAN THE METROPOLITAN ST. LOUIS SEWER DISTRICT.

GENERAL NOTES:

1. UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF IMPROVEMENTS.

2. TOPOGRAPHIC SURVEY PREPARED AND FIELD DATA COLLECTED BY EDSI, INC. IN JUNE, 2015.

3. STORMWATER SHALL BE DISCHARGED AT AN ADEQUATE NATURAL DISCHARGE POINT. SINKHOLES ARE NOT ADEQUATE NATURAL DISCHARGE POINTS.

4. FILLED PLACES INCLUDING TRENCH BACKFILLS, UNDER BUILDINGS, SANITARY SEWER LINES, AND/OR PAVED AREAS SHALL BE COMPACTED IN ACCORDANCE WITH THE SOILS REPORT FOR THIS PROJECT, UNLESS OTHERWISE SPECIFIED.

5. TRENCH BACKFILLS UNDER PAVED AREA SHALL BE GRANULAR BACKFILL, UNLESS OTHERWISE SPECIFIED.

6. CONSTRUCTION AND MATERIALS USED SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE MISSOURI AMERICAN WATER COMPANY, THE SAINT LOUIS COUNTY DEPARTMENT OF HIGHWAYS, AND THE PROJECT SPECIFICATIONS. THE MOST STRINGENT REQUIREMENTS SHALL APPLY.

7. LOCATION AND ELEVATION OF EXISTING INLETS, MANHOLES AND PIPES TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. MANHOLES AND INLET TOPS BUILT WITHOUT ELEVATIONS FURNISHED BY THE ENGINEER WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

8. EXISTING ABOVE & BELOW GROUND UTILITIES TO BE PROTECTED AND USED IN PLACE, UNLESS OTHERWISE SPECIFIED.

9. A *DWG FILE WILL BE MADE AVAILABLE TO THE CONTRACTOR TO WHOM THE WORK IS AWARDED FOR HIS USE IN SITE LAYOUT.

10. PARKING ON NON-SURFACED AREAS IS PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVING CONDITIONS. CONTRACTOR SHALL KEEP ROAD CLEAR OF MUD AND DEBRIS.

11. THE STREETS SURROUNDING THIS DEVELOPMENT AND ANY STREET USED FOR CONSTRUCTION ACCESS SHALL BE CLEANED THROUGHOUT THE DAY.

12. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND LEGALLY DISPOSED OF OFF-SITE.

13. NOTIFY THE CITY DEPARTMENT OF PUBLIC WORKS 48 HOURS PRIOR TO THE COMMENCEMENT OF GRADING AND/OR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

14. EROSION AND SILTATION CONTROL DEVICES SHALL BE INSTALLED BY THE CONTRACTOR PRIOR TO ANY GRADING AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY THE OWNER AND/OR CONTROLLING REGULATORY AGENCY (AHJ) AND ADEQUATE VEGETATIVE GROWTH INSURES NO FURTHER EROSION OF THE SOIL. ADDITIONAL SILTATION CONTROL DEVICES MAY BE REQUIRED AS DIRECTED BY THE CITY.

15. WHEN CLEARING AND/OR GRADING OPERATIONS ARE COMPLETED OR SUSPENDED FOR MORE THAN 30 DAYS, ALL NECESSARY PRECAUTIONS SHALL BE TAKEN TO RETAIN SOIL MATERIALS ON SITE. PROTECTIVE MEASURES MAY BE REQUIRED BY THE DIRECTOR OF PUBLIC WORKS / CITY ENGINEER SUCH AS PERMANENT SEEDING, PERIODIC WETTING, MULCHING, OR OTHER SUITABLE MEANS.

16. SILTATION DEVICES SHALL BE INSPECTED PERIODICALLY FOR DAMAGE AND FOR THE AMOUNT OF SEDIMENT WHICH HAS ACCUMULATED. REMOVAL OF SEDIMENT WILL BE REQUIRED WHEN IT REACHES 1/2 THE HEIGHT OF THE SILTATION DEVICE.

17. SAWCUT EXISTING PAVEMENT FULL DEPTH TO ASSURE A SMOOTH MATCH BETWEEN THE EXISTING AND NEW PAVEMENT. REMOVE ENOUGH PAVEMENT TO ACCOMMODATE NEW WORK.

18. PROPOSED GRADES SHALL BE WITHIN 0.1 FEET, MORE OR LESS, OF THOSE SHOWN ON THE GRADING PLAN.

19. NO GRADING OR EXCAVATION SHALL OCCUR ON THE SITE UNTIL A PERMIT IS SECURED FROM THE AHJ AND THE SILTATION CONTROL DEVICES INDICATED ARE INSTALLED AND FUNCTIONING.

20. ALL AREAS DISTURBED BY CONSTRUCTION, EXCLUDING PAVED AREAS, SHALL RECEIVE FESCUE SOD WITHIN 30 DAYS FROM THE COMPLETION OF GRADING OPERATIONS AND SHALL BE MAINTAINED FOR A PERIOD OF TWO (2) WEEKS THEREAFTER. SOD PLACEMENT AND MAINTENANCE SHALL CONFORM IN ALL RESPECTS WITH THE PROJECT SPECIFICATIONS.

21. NOTIFY THE OWNER 48 HOURS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

22. NO EXCAVATION SHALL BE MADE SO CLOSE TO THE PROPERTY LINE AS TO ENDANGER ANY ADJOINING PROPERTY OF ANY PUBLIC OR PRIVATE STREET WITHOUT SUPPORTING AND PROTECTING SUCH PUBLIC OR PRIVATE STREET OR PROPERTY FROM SETTLING, CRACKING, OR OTHER DAMAGE.

23. ALL EXCAVATIONS, GRADING, OR FILLING SHALL HAVE A FINISHED GRADE NOT TO EXCEED A FOUR HORIZONTAL TO ONE VERTICAL (4:1) SLOPE UNLESS SPECIFICALLY APPROVED BY THE OWNER.

24. DIMENSIONS ARE TO FACE OF CURB, FACE OF WALL, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

25. ALL FILLS PLACED UNDER PAVED AREAS, INCLUDING TRENCH BACKFILLS WITHIN AND OFF ROAD RIGHT-OF-WAY, SHALL BE COMPACTED TO 95% PER ASTM D698 FOR THE ENTIRE DEPTH OF THE FILL. COMPACTED GRANULAR BACKFILL IS REQUIRED IN ALL TRENCH EXCAVATION WITHIN THE STREET RIGHT-OF-WAY AND UNDER ALL PAVED AREAS. ALL TESTS SHALL BE PERFORMED UNDER THE DIRECTION OF AND VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACKFILLING OPERATIONS.

CITY OF CREVE COEUR STANDARD NOTES:

1. AT LEAST ONCE EVERY WEEK AND AFTER EVERY RAINFALL EVENT OF 0.25 INCHES OR MORE, EROSION AND SILTATION CONTROL DEVICES SHALL BE INSPECTED FOR DAMAGE AND AMOUNT OF SEDIMENTATION ACCUMULATED AND CORRECTIVE ACTIONS TAKEN. REPORTS OF THE INSPECTIONS AND CORRECTIVE ACTIONS SHALL BE PREPARED ON APPROPRIATE FORMS AND SUBMITTED TO THE CITY AS REQUIRED.

2. TEMPORARY SILTATION CONTROL MEASURES (STRUCTURAL) SHALL BE MAINTAINED UNTIL VEGETATIVE COVER IS ESTABLISHED AT A SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL ON THE SITE.

3. ALL FINISHED GRADES (AREAS NOT TO BE DISTURBED BY FUTURE IMPROVEMENT) IN EXCESS OF 20% SLOPES (5:1) SHALL BE MULCHED AND TACKED AT THE RATE OF 100 POUNDS PER 1,000 SQUARE FEET WHEN SEEDED AS SOON AS POSSIBLE AFTER FINAL PLACEMENT.

4. DEBRIS AND FOUNDATION MATERIAL FROM ANY EXISTING IMPROVEMENT WHICH IS SCHEDULED TO BE DEMOLISHED FOR THIS DEVELOPMENT MUST BE PROPERLY DISPOSED OF OFF-SITE.

5. SHOULD SEDIMENT CONTAINMENT DEVICES FAIL AND SEDIMENT IS TRANSPORTED FROM THE SITE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING THE TRANSPORTED DEBRIS FROM THE AFFECTED PUBLIC AND/OR PRIVATE AREAS. THE DEBRIS MAY BE EITHER SPREAD OUT ON THE SCHOOL DISTRICT PROPERTY OR TRANSPORTED AND DISPOSED OF OFFSITE IN A LEGAL MANNER. THE AFFECTED AREA DAMAGED SHALL BE RESTORED TO THE CONDITIONS THAT EXISTED PRIOR TO THE CONTAINMENT DEVICE FAILURE.

GRADING PERMIT APPLICATION NOTES:

1. CONTRACTOR SHALL STORE ONSITE AN EXTRA 10% OF REQUIRED EROSION AND SILTATION CONTROL DEVICE QUANTITIES FOR EMERGENCIES.

2. SWPPP COMPLIANCE REPORTS TO BE SUBMITTED WEEKLY AND AFTER HEAVY RAINFALL TO BOTH THE CITY AND OWNER. THE CONTRACTOR SHALL PROVIDE THE NAME AND PHONE NUMBER OF THE PERSON DESIGNATED TO PERFORM THE INSPECTIONS AND PROVIDE THE REPORTS.

POLLUTION PREVENTION PROCEDURES:

1. HANDLING AND DISPOSAL OF HAZARDOUS MATERIALS

DO: PREVENT SPILLS
USE PRODUCTS UP
FOLLOW LABEL DIRECTIONS FOR DISPOSAL
REMOVE LIDS FROM EMPTY BOTTLES AND CANS WHEN DISPOSING IN TRASH
RECYCLE WASTES WHENEVER POSSIBLE

DON'T: POUR WASTE INTO SEWERS OR WATERWAYS ON THE GROUND
POUR WASTE DOWN THE SINK, FLOOR DRAIN OR SEPTIC TANKS
BURY CHEMICALS OR CONTAINERS, OR DISPOSE OF THEM WITH CONSTRUCTION DEBRIS
BURN CHEMICALS OR CONTAINERS
MIX CHEMICALS TOGETHER

2. CONTAINERS SHALL BE PROVIDED FOR COLLECTION OF ALL WASTE MATERIAL INCLUDING CONSTRUCTION DEBRIS, TRASH, PETROLEUM PRODUCTS AND ANY HAZARDOUS MATERIALS TO BE USED ONSITE. ALL WASTE MATERIAL SHALL BE DISPOSED OF AT FACILITIES APPROVED FOR THAT MATERIAL.

3. NO WASTE MATERIALS SHALL BE BURIED ON-SITE.

4. MIXING, PUMPING, TRANSFERRING OR OTHERWISE HANDLING CONSTRUCTION CHEMICALS SUCH AS FERTILIZER, LIME, ASPHALT, CONCRETE DRYING COMPOUNDS, AND ALL OTHER POTENTIALLY HAZARDOUS MATERIALS SHALL BE PERFORMED IN AN AREA AWAY FROM ANY WATERCOURSE, DITCH OR STORM DRAIN.

5. EQUIPMENT FUELING AND MAINTENANCE, OIL CHANGING, ETC. SHALL BE PERFORMED ONLY IN AN AREA DESIGNATED FOR THAT PURPOSE. THE DESIGNATED AREA IS EQUIPPED FOR RECYCLING OIL AND CATCHING SPILLS.

6. CONCRETE WASH WATER SHALL NOT BE ALLOWED TO FLOW DIRECTLY TO STORM SEWERS, STREAMS, DITCHES, LAKES, ETC. WITHOUT BEING TREATED. A SUMP OR PIT SHALL BE CONSTRUCTED TO CONTAIN CONCRETE WASH WATER.

7. IF SUBSTANCES SUCH AS OIL, DIESEL FUEL, HYDRAULIC FLUID, ANTIFREEZE, ETC. ARE SPILLED, LEAKED, OR RELEASED ONTO SOIL, THE SOIL SHALL BE DUG UP AND DISPOSED OF AT A LICENSED SANITARY LANDFILL (NOT A CONSTRUCTION/DEMOLITION DEBRIS LANDFILL). SPILLS ON PAVEMENT SHALL BE ABSORBED WITH SAWDUST, KITTY LITTER OR PRODUCT DESIGNED FOR THAT PURPOSE AND DISPOSED OF AT A LICENSED SANITARY LANDFILL. HAZARDOUS OR INDUSTRIAL WASTES SUCH AS MOST SOLVENTS, GASOLINE, OIL-BASED PAINTS, AND CEMENT CURING COMPOUNDS REQUIRE SPECIAL HANDLING. THESE MATERIALS WILL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH MODNR REQUIREMENTS.

8. STATE LAW REQUIRES THE PARTY RESPONSIBLE FOR A PETROLEUM PRODUCT SPILL IN EXCESS OF 50 GALLONS TO REPORT THE SPILL TO MODNR (531-634-2436) AS SOON AS PRACTICAL AFTER DISCOVERY. FEDERAL LAW REQUIRES THE RESPONSIBLE PARTY TO REPORT ANY RELEASE OF OIL IF IT REACHES OR THREATENS A SEWER, LAKE, CREEK, STREAM, RIVER, GROUNDWATER, WETLAND, OR AREA, LIKE A ROAD DITCH, THE DRAINS INTO ONE OF THE ABOVE.

9. SUFFICIENT TEMPORARY TOILET FACILITIES TO SERVE THE NUMBER OF WORKERS ON THE SITE SHALL BE PROVIDED. THE FACILITIES SHALL BE SERVICED FREQUENTLY TO MAINTAIN A SANITARY CONDITION.

MSD STANDARD CONSTRUCTION:

ALL STORM AND SANITARY SEWER STRUCTURES AND APPURTENANCES TO BE DEDICATED TO MSD, OR TO BE PRIVATE UNDER MSD INSPECTION, SHALL CONFORM TO THE METROPOLITAN ST. LOUIS SEWER DISTRICT, STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES, 2009. THAT WILL INCLUDE STANDARD DETAILS SHOWN THEREIN, AND SHALL INCLUDE ALL SUBSEQUENT CHANGES MADE THERETO.

SOME RECENT CHANGES CONCERN PIPE FIELD TESTING AND PERFORMANCE, AND INCLUDE THE FOLLOWING:

PART 4 - PIPE SEWER CONSTRUCTION

SECTION B, PIPE FIELD TESTS, PARAGRAPH 2, REACH INTEGRITY TESTING - DELETE THE FIRST SENTENCE AND THE FOLLOWING REPLACEMENT APPLIES:

ALL SANITARY AND COMBINED SEWERS SHALL SUSTAIN A MAXIMUM LEAKAGE LIMIT OF 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY, AS REQUIRED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES SPECIFICATIONS.

SECTION B, PIPE FIELD TESTS, PARAGRAPH 2, REACH INTEGRITY TESTING, SUBPARAGRAPH C, INFILTRATION/EXFILTRATION TESTING - DELETE THE SIXTH SENTENCE, CONCERNING LEAKAGE LIMITS, AND THE FOLLOWING REPLACEMENT APPLIES:

THE MEASUREMENT OF LEAKAGE SHALL NOT EXCEED 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY, AS REQUIRED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES SPECIFICATIONS.

SECTION B, PIPE FIELD TESTS, PARAGRAPH 4, MANHOLE TESTING, SUBPARAGRAPH A, VACUUM TESTING - AFTER THE FIRST SENTENCE, THE FOLLOWING ADDITION APPLIES:

THE VACUUM TEST MUST BE PERFORMED PRIOR TO BACKFILLING AROUND THE MANHOLE UNLESS THE CONTRACTOR PROVIDES DOCUMENTATION FROM THE PRECAST MANHOLE MANUFACTURER STATING THAT THE MANHOLE MAY BE VACUUM TESTED AFTER BACKFILLING HAS TAKEN PLACE. THE CONTRACTOR MUST SUBMIT THIS DOCUMENTATION PRIOR TO BACKFILLING AROUND ANY MANHOLE.

SECTION B, PIPE FIELD TESTS, PARAGRAPH 4, MANHOLE TESTING, SUBPARAGRAPH B, EXFILTRATION TESTING - DELETE THE SECOND SENTENCE, CONCERNING LEAKAGE LIMITS, AND THE FOLLOWING ADDITION APPLIES:

FOR EXFILTRATION TESTING, THE ALLOWABLE LEAKAGE LIMIT IS 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY WHEN THE AVERAGE HEAD ON THE TEST SECTION IS THREE FEET (3') OR LESS

MSD PERMIABLE INTERLOCKING CONCRETE PAVEMENT CONSTRUCTION:

1. THE CONTRACTOR SHALL OBTAIN THE CONCRETE PAVER MANUFACTURER'S CERTIFICATION (PAVEDRAIN) THAT THE PAVING UNITS SUPPLIED TO CONSTRUCT THE PICP HAVE BEEN APPROVED BY MSD AND MEET THE REQUIREMENTS IN ASTM C936. THIS CERTIFICATION SHALL BE PROVIDED TO THE MSD DIVISION INSPECTOR. THE CERTIFICATION SHALL INCLUDE THE MANUFACTURER'S NAME, AND STATE THAT THE PICP SUPPLIED MEETS THE ASTM C936 SPECIFICATIONS, (TESTING SHOULD BE CURRENT WITHIN PREVIOUS 12 MONTHS) AND THAT THE PAVING MATERIALS MEET ALL REQUIREMENTS AS EVALUATED UNDER THE MANUFACTURER'S QUALITY CONTROL PROGRAM.
2. PRIOR TO OBTAINING A CONSTRUCTION PERMIT FROM MSD TO CONSTRUCT THE PERMEABLE INTERLOCKING CONCRETE PAVEMENT (PICP) FOR A GIVEN PROJECT, THE ENGINEER PROVIDING THE AS-BUILT CERTIFICATION SHALL VERIFY THAT THE INSTALLING CONTRACTOR HAS:
   - PAST HISTORY DEMONSTRATING APPLICABLE EXPERIENCE.
   - THE PICP INSTALLATION CONTRACTOR MUST HAVE A CURRENT LEVEL I CERTIFICATE FROM THE INTERLOCKING CONCRETE PAVEMENT INSTITUTE'S CONCRETE PAVER INSTALLER PROGRAM.
3. THE CONTRACTOR SHALL PREVENT AND DIVERT SEDIMENT FROM ENTERING THE SUBBASE AND PAVEMENT SURFACE UNTIL THE TRIBUTARY AREAS ARE DEEMED STABLE BY THE ASSIGNED MSD INSPECTOR.
4. VEHICULAR TRAFFIC SHALL BE PROHIBITED ON THE PICP UNTIL THE SITE IS STABLE TO PREVENT MUD FROM BEING DEPOSITED BY VEHICLES.
5. NO PRODUCT OR MATERIAL SUBSTITUTIONS ARE PERMITTED UNLESS PREVIOUSLY APPROVED BY THE MSD PLAN REVIEW ENGINEER OR BY THE MSD FIELD INSPECTOR ASSIGNED TO THE PROJECT. ALL SUBSTITUTIONS SHALL BE PRESENTED TO MSD THROUGH THE ENGINEER RESPONSIBLE FOR THE DESIGN OF THE PICP SYSTEM.
6. STONE SHOULD BE CLEAN, WASHED, 40 PERCENT FRACTURED FACES WITH A LOS ANGELES ABRASION INDEX OF LESS THAN 40 AND CONFORM TO THE GRADING REQUIREMENTS IN ASTM D448.
7. DO NOT CLEAN THE PAVER SURFACE WITH HIGH-PRESSURE HOSES OR ABRASIVES. WHEN CLEANING IS NECESSARY, COMBINATION CLEANING MACHINES THAT COMBINE A WET SPRAY AND VACUUM PROCESS HAVE BEEN FOUND TO BE EFFECTIVE.
8. A PERMANENT SIGN SHALL BE POSTED WARNING THAT CARE SHOULD BE TAKEN DURING SNOW PLOWING, AND PROHIBIT THE FOLLOWING: RESURFACING, THE USE OF SAND ABRASIVES FOR WINTER TIRE TRACTION, AND THE USE OF POWER WASHERS. MSD SIGN DETAIL CAN BE FOUND AT http://www.stlmsd.com/sites/default/files/engineering/440610.PDF
9. AT COMPLETION OF THE PROJECT, PRIOR TO FINAL DEDICATION, AN AS-BUILT CERTIFICATION, SIGNED AND SEALED BY A MISSOURI PROFESSIONAL ENGINEER, SHALL BE PROVIDED.

LEGEND EXISTING

SANITARY SEWER	
STORM SEWER	
WATER MAIN	W
ELECTRIC	E
COMMUNICATION	T
FIBER OPTIC	FO
GAS	G
OVERHEAD ELECTRIC	OHE
STORM MANHOLE	
STORM INLET	
SANITARY MANHOLE	
CLEANOUT	VENT
ELECTRIC MANHOLE	EMH
ELECTRIC BREAKER OUTLET BOX	ELEC OUTLET BOX
ELEC METER	EM
GAS VALVE	GV
PHONE CABLE BOX	TELE L.B.
ELECTRIC TRANSFORMER BOX	ELEC TRANSFORMER BOX
POWER POLE	PP
LIGHT STANDARD	LS
GAS METER	GM
GAS VALVE	GV
SMALL DRAIN	
WATER MANHOLE	WMH
WATER METER	WM
WATER VALVE	WV
FIRE HYDRANT	FH
SPRINKLER	SPRINKLER
TELEPHONE MANHOLE	TMH
PULL BOX	PB
TRAFFIC SIGNAL CONTROL BOX	TFC CONTROLLER
BUSH	STUMP
STUMP	
TREE	
BOLLARD	BOLLARD
SIGN	
EDGE OF ASPH PAVEMENT	
EDGE OF CONC PAVEMENT	
FLOW DIRECTION OF SEWER LINE	

LEGEND NEW WORK

CONTOUR	ELEV
SPOT ELEVATION	ELEV
STORM SEWER	
SANITARY SEWER	
MANHOLE	
CURB INLET	
GRATE INLET	
WATER LINE	W
FIRE HYDRANT	
GAS SERVICE	G
ELECTRIC SERVICE	E
TELEPHONE SERVICE	T
CONCRETE PAVEMENT	
ASPHALT PAVEMENT	
TO BE REMOVED	T.B.R.
USE IN PLACE	U.I.P.
ADJUST TO GRADE	A.T.G.
TO BE REMOVED & REPLACED	T.B.R.&R.
TO BE PROTECTED	T.B.P.
TO BE ABANDONED	T.B.A.
REMOVE ALL SURFACE IMPROVEMENTS	
SILT FENCE	

NOTE: Underground facilities, structures, and utilities have been plotted from best available records, therefore the relationship between proposed work and existing facilities, structures, and utilities must be considered approximate, and it is the contractors responsibility to determine their exact location and the existance of any not shown.

Stanley F. Visnovske
E-18135
Professional Engineer

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

bond ARCHITECTS
222 SOUTH CENTRAL AVE.
SUITE# 100
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority #2009027409

BRIC Partnership, LLC
MEP Engineer
Certificate of Authority #2002028880
138 W. Adams Ave.
Kirkwood, MO 63122
314.725.5889 tel
618.277.5200 fax

EDSI
Civil Engineer
Certificate of Authority #001523
16141 Swingley Ridge Road, Suite 300
Chesterfield, MO 63107
636.537.5595 tel
636.537.0275 fax

BELLERIVE ELEMENTARY SCHOOL
620 Rue De Fleur Dr, Creve Coeur, MO 63141
Parkway Project: PN 151501B
Classroom Security & Parking Lot Reconfigurations

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 151501B

Revisions

Description	Date
BID SET	01/08/16

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2014 by Bond Architects, Inc.

The Professional Architects Seal affixed to this cover applies only to the Drawings and Specifications to which it is affixed. All drawings, calculations or other documents not bearing this seal shall not be considered prepared by the Architect, and the Architect expressly disclaims any and all responsibility for such plans, drawings or documents not exhibiting this seal.

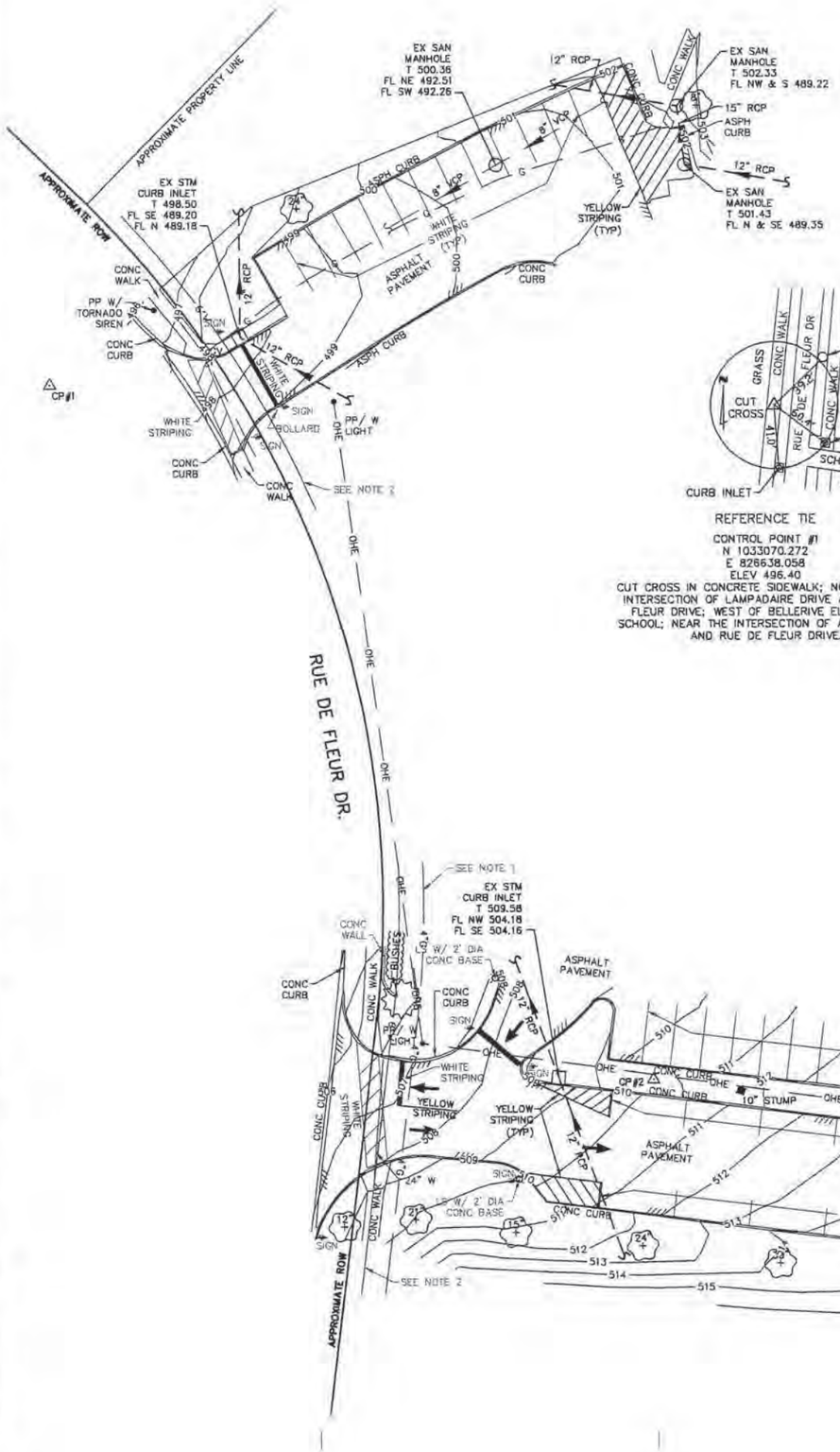
DATE: 01/08/2015

Legend and General Notes

C0

EDSI PROJECT #E-14-020.14

1/8/2016 11:02:52 AM Veronica Page
Z:\Parkway School District\E-14-020.14 - Bellerive\CD OWNER REVIEW\CIVIL - 01.08.2016.dwg



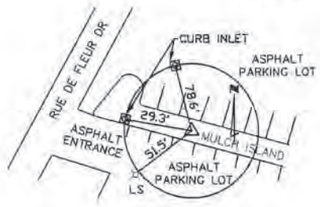
NOTES:

1. APPROXIMATE LOCATION OF 4" GAS LINE SHOWN PER LACLEDE GAS RECORD DRAWING 176-32.
2. APPROXIMATE LOCATION OF 6" WATER MAIN LINE SHOWN PER MISSOURI AMERICAN WATER RECORD DRAWING 17P.

SCALE 1" = 20'

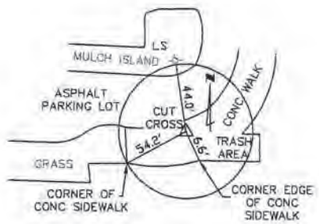
REFERENCE TIE

CONTROL POINT #1
N 1033070.272
E 826638.058
ELEV 496.40
CUT CROSS IN CONCRETE SIDEWALK; NORTHEAST OF INTERSECTION OF LAMPADAIRE DRIVE AND RUE DE FLEUR DRIVE; WEST OF BELLERIVE ELEMENTARY SCHOOL; NEAR THE INTERSECTION OF AMBOIS DRIVE AND RUE DE FLEUR DRIVE.



REFERENCE TIE

CONTROL POINT #2
N 1032858.096
E 826821.330
ELEV 510.75
REBAR WITH CAP IN MULCH; NORTHEAST OF LAMPADAIRE DRIVE; SOUTH OF BELLERIVE ELEMENTARY SCHOOL; ACROSS FROM 659 RUE DE FLEUR DRIVE.



REFERENCE TIE

CONTROL POINT #3
N 1032811.716
E 827029.603
ELEV 518.90
CUT CROSS IN CONCRETE SIDEWALK; EAST OF RUE DE FLEUR DRIVE; SOUTH OF BELLERIVE ELEMENTARY SCHOOL; NORTHEAST OF PLAYGROUND AREA.

LEGEND

SANITARY SEWER			
STORM SEWER			
WATER	W		W
UNDERGROUND ELECTRIC	E		E
OVERHEAD ELECTRIC	OHE		OHE
FIBER OPTIC	FO		FO
GAS	G		G
COMMUNICATION	T		T
STORM MANHOLE	○	WATER MANHOLE	○WMH
STORM INLET	□	WATER METER	WM
SANITARY MANHOLE	○	WATER VALVE	WV
CLEANOUT	○VENT	FIRE HYDRANT	FH
ELECTRIC MANHOLE	○EMH	SPRINKLER	SPRINKLER
ELECTRIC BREAKER OUTLET BOX	□ELEC OUTLET BOX	TELEPHONE MANHOLE	○TMH
ELEC METER	EM	PULL BOX	PB
GAS VALVE	GV	TRAFFIC SIGNAL CONTROL BOX	TFC CONTROLLER
PHONE CABLE BOX	□TELE J.B.	BUSH	
ELECTRIC TRANSFORMER BOX	□ELEC TRANSFORMER BOX	STUMP	STUMP
POWER POLE	PP	TREE	
LIGHT STANDARD	LS	BOLLARD	BOLLARD
GAS METER	GM	SIGN	
GAS VALVE	GV	EDGE OF ASPH PAVEMENT	
SMALL DRAIN		EDGE OF CONC PAVEMENT	
		FLOW DIRECTION OF SEWER LINE	

THE UNDERGROUND UTILITIES SHOWN HEREON HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND RECORD DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, WHETHER IN SERVICE OR ABANDONED. THE UTILITIES SHOWN WITHIN THE SCHOOL PROPERTY ARE CONSIDERED PRIVATE AND ARE SHOWN FROM AVAILABLE RECORD DOCUMENTS PROVIDED BY THE PARKWAY SCHOOL DISTRICT. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING MISSOURI ONE CALL AND PARKWAY SCHOOL DISTRICT TO VERIFY THE LOCATION OF UNDERGROUND FACILITIES PRIOR TO CONSTRUCTION.

bond ARCHITECTS
222 SOUTH CENTRAL AVE.
SUITE# 100
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority #2009027409

BRIC Partnership, LLC
MEP Engineer
Certificate of Authority #2002028890
138 W. Adams Ave.
Kirkwood, MO 63122
314.725.5880 tel
518.277.5200 fax

EDSI
Civil Engineer
Certificate of Authority #001523
18141 Swingley Ridge Road, Suite 300
Chesterfield, MO 63107
636.537.5585 tel
636.537.0275 fax

BELLERIVE ELEMENTARY SCHOOL
620 Rue De Fleur Dr, Creve Coeur, MO 63141
Parkway Project: PN 151501B
Classroom Security & Parking Lot Reconfigurations

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 151501B

Revisions

Description	Date
BID SET	01/08/15

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be traced, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2014 by Bond Architects, Inc.

The Professional Engineer seal affixed to this sheet applies only to the initial set of sheets shown on this sheet. All drawings, instruments or other documents and existing site lead shall not be considered prepared by the architect, and the architect expressly disclaims any and all responsibility for such plans, drawings or documents not authoring this seal.

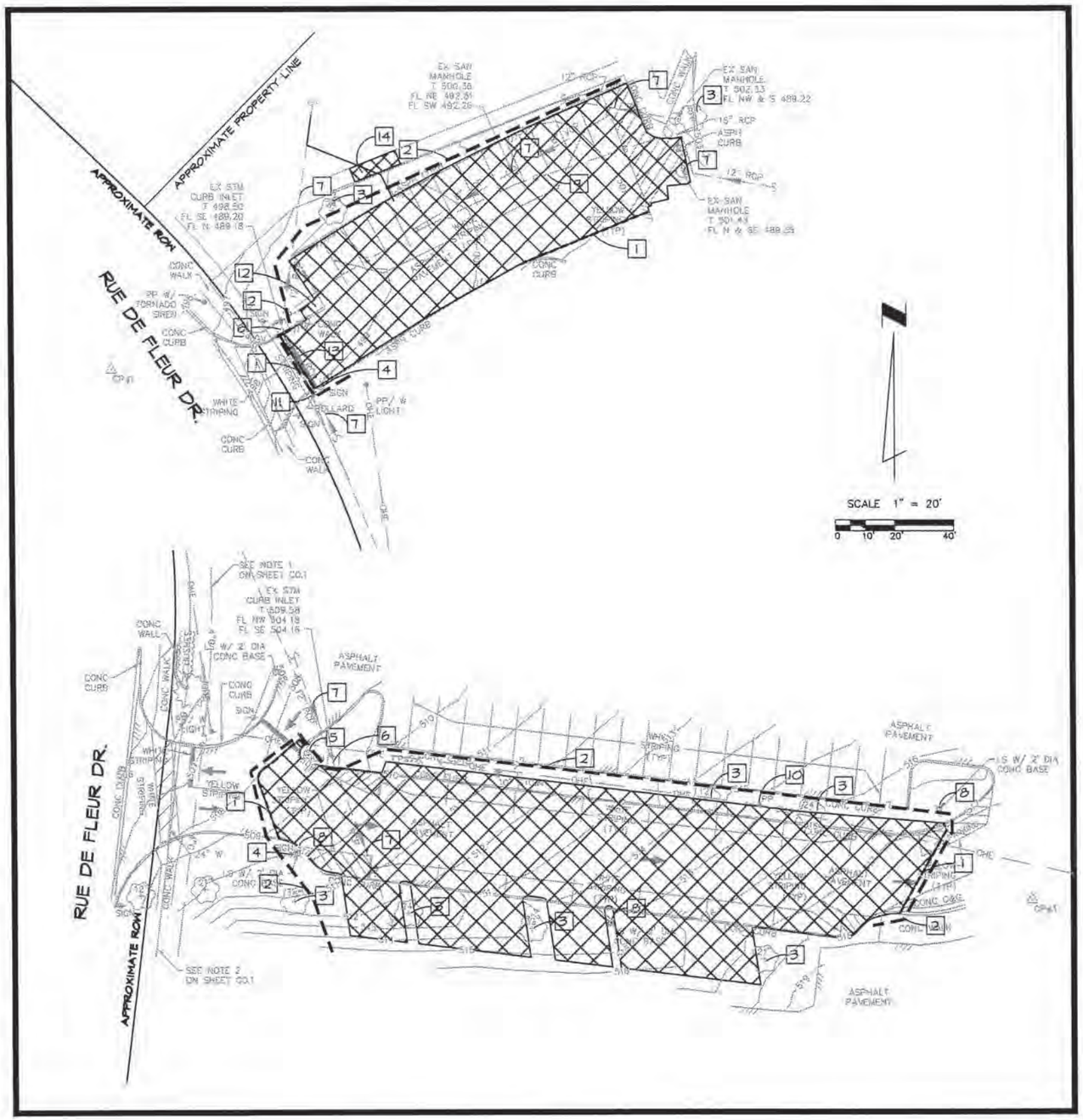
DATE: 01/08/2015

Survey

C0.1

EDSI PROJECT #E-14-020.14

1/8/2016 11:14:36 AM Veronica Page
Z:\Parkway School District\E-14-020.14 - Bellerive\CD OWNER REVIEW\Survey C-0.1.dwg



DEMOLITION PLAN NOTES:

1. WHERE NATURAL VEGETATION IS REMOVED DURING GRADING, VEGETATION SHALL BE RE-ESTABLISHED IN SUCH A DENSITY AS TO PREVENT EROSION.
2. WHEN CLEARING AND/OR GRADING OPERATIONS ARE COMPLETED OR SUSPENDED FOR MORE THAN 5 DAYS IN ANY AREA, THE DISTURBED AREA SHALL BE SEEDED OR OTHERWISE STABILIZED TO SIGNIFICANTLY REDUCE THE ERODIBILITY OF THE SOIL. PROTECTIVE MEASURES MAY INCLUDE A COMBINATION OF SEEDING, SODDING, MULCHING OR OTHER SUITABLE MEANS TO PROTECT THE GROUND SURFACE FROM EROSION.
3. IF CUT AND FILL OPERATIONS OCCUR DURING A SEASON NOT FAVORABLE FOR IMMEDIATE ESTABLISHMENT OF PERMANENT GROUND COVER, A FAST GERMINATING ANNUAL SUCH AS RYE GRASSES OR SUDAN GRASSES SHALL BE UTILIZED TO RETARD EROSION.
4. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
5. EROSION AND SILTATION CONTROL SHALL BE INSTALLED PRIOR TO ANY GRADING AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY THE OWNER AND /OR CONTROLLING REGULATORY AGENCY AND ADEQUATE VEGETATIVE GROWTH INSURES NO FURTHER EROSION OF THE SOIL.
6. STORM WATER PIPES, OUTLETS AND CHANNELS SHALL BE PROTECTED BY SILT BARRIERS AND KEPT FREE OF WASTE AND SILT AT ALL TIMES PRIOR TO FINAL SURFACE STABILIZATION AND/OR PAVING.
7. SILTATION CONTROL DEVICES SHALL BE INSPECTED PERIODICALLY FOR DAMAGE AND FOR THE AMOUNT OF SEDIMENT WHICH HAS ACCUMULATED. REMOVAL OF SEDIMENT WILL BE REQUIRED WHEN IT REACHES 1/2 THE HEIGHT OF THE SILTATION CONTROL DEVICE.
8. ADDITIONAL SILTATION CONTROL MAY BE REQUIRED AS DEEMED NECESSARY BY THE CITY.
9. THE CONTRACTOR SHALL REMOVE ALL SURFACE IMPROVEMENTS INCLUDING BUT NOT LIMITED TO PAVEMENT, CURBS, TREES, SIGNS, AND SHRUBS WITHIN THE AREA NOTED BY THE LEGEND SYMBOL ▨ ON THIS SHEET. THERE ARE EXCEPTIONS. EXCEPTIONS ARE NOTED BY OTHER NOTES OR BY ABBREVIATIONS NOTED ON THIS SHEET. CURBS ARE A PROMINENT EXCEPTION AS DESCRIBED IN THE KEYED NOTES.

KEYED DEMOLITION NOTES (THIS SHEET ONLY):

1. SAWCUT EXISTING PAVEMENT 2' HORIZONTAL DISTANT FROM THE EXTENT OF THE NEW PAVING. WHEN SAWCUTTING PAVEMENT, SAWCUT PAVEMENT FULL DEPTH TO ASSURE SMOOTH MATCH BETWEEN NEW AND EXISTING PAVEMENT.
2. SILTATION CONTROL. SEE DETAIL ON SHEET C5
3. USE EXISTING TREES AND SHRUBS IN PLACE. PROTECT FROM DAMAGE DURING CONSTRUCTION.
4. PROTECT EXISTING SIGN FROM DAMAGE DURING CONSTRUCTION. AT CONTRACTOR'S OPTION, HE MAY REMOVE AND REPLACE THE EXISTING SIGN IN ITS ORIGINAL LOCATION AT NO ADDITIONAL COST TO THE OWNER. IF SIGN IS DAMAGED DURING REMOVAL, CONTRACTOR SHALL REPLACE THE SIGN WITH ONE OF EQUAL VALUE. THE OWNER SHALL BE SOLELY RESPONSIBLE FOR DETERMINING IF THE REPLACEMENT SIGN IS ACCEPTABLE. CONTRACTOR SHALL ABIDE BY OWNER'S DECISION.
5. REMOVE AND REPLACE EXISTING SIGN. SEE SITE PLAN C2 FOR NEW PLACEMENT.
6. USE EXISTING CURB INLET IN PLACE. PROTECT FROM DAMAGE DURING CONSTRUCTION. IF INLET IS DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION ACTIVITY, IT SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.
7. USE UNDERGROUND SEWER LINE AND SEWER STRUCTURE IN PLACE AND PROTECT FROM DAMAGE DURING CONSTRUCTION. SHOULD THE CONTRACTOR DAMAGE THE UNDERGROUND SEWER LINE OR THE STRUCTURE, HE SHALL REPAIR THE DAMAGE AT NO COST TO THE OWNER. PLACE NEW PAVEMENT TO EXISTING TOP OF STRUCTURE ELEVATION.
8. USE EXISTING LIGHT STANDARD IN PLACE AND PROTECT FROM DAMAGE DURING CONSTRUCTION. IF THE LIGHT STANDARD IS DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION ACTIVITY, IT SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.
9. USE EXISTING UNDERGROUND UTILITY LINE IN PLACE AND PROTECT FROM DAMAGE DURING CONSTRUCTION. IF DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION ACTIVITY, IT SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.
10. PROTECT EXISTING POWER POLE DURING CONSTRUCTION. IF DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION ACTIVITY, IT SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.
11. PROTECT EXISTING BOLLARD DURING CONSTRUCTION. IF DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION ACTIVITY, IT SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.
12. REMOVE EXISTING CONCRETE SIDEWALK TO NEAREST JOINT.
13. REMOVE SECTION OF 12" PIPE BETWEEN PROPOSED MANHOLE AND EXISTING INLET. ABANDON PIPE SECTION PER MSD STANDARD CONSTRUCTION SPECIFICATIONS. SEE SHEET C5 FOR PROPOSED MANHOLE LOCATION.
14. REMOVE SIDEWALK AS NEEDED FOR OUTLET STRUCTURE INSTALLATION. SEE C3.

Stanley F. Visnovske E-18136 Professional Engineer

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

bond ARCHITECTS
222 SOUTH CENTRAL AVE.
SUITE 100
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority #2009027409

BRIC Partnership, LLC
MEP Engineer
Certificate of Authority #2002028690
138 W. Adams Ave.
Kirkwood, MO 63122
314.725.5889 tel
618.277.5200 fax

EDSI
Civil Engineer
Certificate of Authority #001523
16141 Swingley Ridge Road, Suite 300
Chesterfield, MO 63107
636.537.5585 tel
636.537.0275 fax

BELLERIVE ELEMENTARY SCHOOL
620 Rue De Fleur Dr, Creve Coeur, MO 63141
Parkway Project: PN 151501B
Classroom Security & Parking Lot Reconfigurations

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 151501B

Revisions

Description	Date
BID SET	01/08/16

This drawing and the details on it are the sole property of the architect and must be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2014 by Bond Architects, Inc.

The Professional Architects and Engineers do not assume responsibility for the drawings and items shown on this sheet. All drawings, calculations or other documents not submitting this seal shall not be considered prepared by that architect, and the architect expressly disclaims any and all responsibility for such plan, drawings or documents not including this seal.

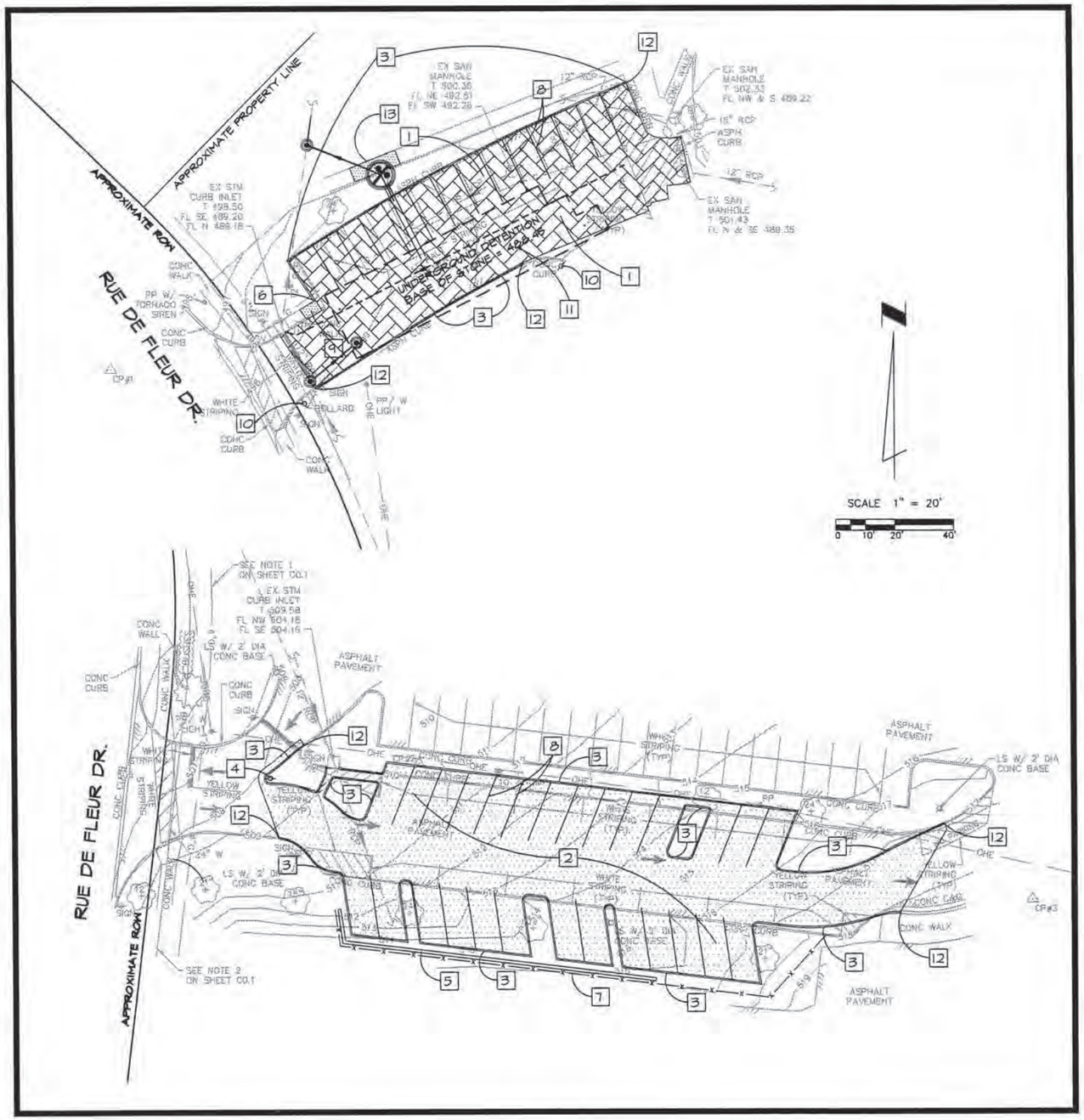
DATE: 01/08/2015

Demolition Plan

C1

EDSI PROJECT #E-14-020.14

1/8/2016 11:03:08 AM Veronica Page
Z:\Parkway School District\E-14-020.14 - Bellerive\CD OWNER REVIEW\CIVIL - 01.08.2016.dwg



SITE PLAN KEYED NOTES (THIS SHEET ONLY):

1. NEW PAVER (5702 SF TOTAL). SEE DETAIL ON SHEET C9.
2. NEW ASPHALT PAVEMENT. SEE DETAIL ON SHEET C5.
3. NEW CONCRETE CURB. SEE DETAIL ON SHEET C5.
4. RELOCATED SIGN.
5. CONSTRUCT NEW VERSALOCK RETAINING WALL. SEE DETAIL ON SHEET C5
6. CURB TURNDOWN. SEE DETAIL ON SHEET C5.
7. INSTALL NEW ORNAMENTAL FENCE. SEE DETAIL ON SHEET C5.
8. 9' X 19' TYPICAL PARKING SPACE.
9. REESTABLISH CONCRETE SIDEWALK. REPLACE TO NEAREST JOINT TO ENSURE FULL SLAB REPLACEMENT. SEE DETAIL ON SHEET C5.
10. PERVIOUS INTERLOCKING CONCRETE PAVEMENT SIGN, PER MSD DETAIL (PICP INFORMATION SIGN)
11. UNDERGROUND DETENTION. SEE SHEET C4.
12. MATCH EXISTING CURB.
13. NEW OUTLET STRUCTURE TO BE FLUSH WITH SIDEWALK. SIDEWALK TO BE REPLACED AS NEEDED. SEE DETAIL ON SHEET C5.

GENERAL NOTE:

A *.DWG FILE WILL BE MADE AVAILABLE TO THE CONTRACTOR TO WHOM THE WORK IS AWARDED FOR HIS USE IN SITE LAYOUT.

bond ARCHITECTS

222 SOUTH CENTRAL AVE.
SUITE# 100
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority #2009027409

BRIC Partnership, LLC
MEP Engineer
Certificate of Authority #2002026690
138 W. Adams Ave.
Kirkwood, MO 63122
314.725.5869 tel
618.277.5200 fax

EDSI
Civil Engineer
Certificate of Authority #001523
16141 Swingley Ridge Road, Suite 300
Chesterfield, MO 63107
636.537.5585 tel
636.537.0275 fax

BELLERIVE ELEMENTARY SCHOOL
620 Rue De Fleur Dr, Creve Coeur, MO 63141
Parkway Project: PN 151501B
Classroom Security & Parking Lot Reconfigurations

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 151501B

Revisions

Description	Date
BID SET	01/08/16

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2014 by Bond Architects, Inc.

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

DATE: 01/08/2015

Site Plan

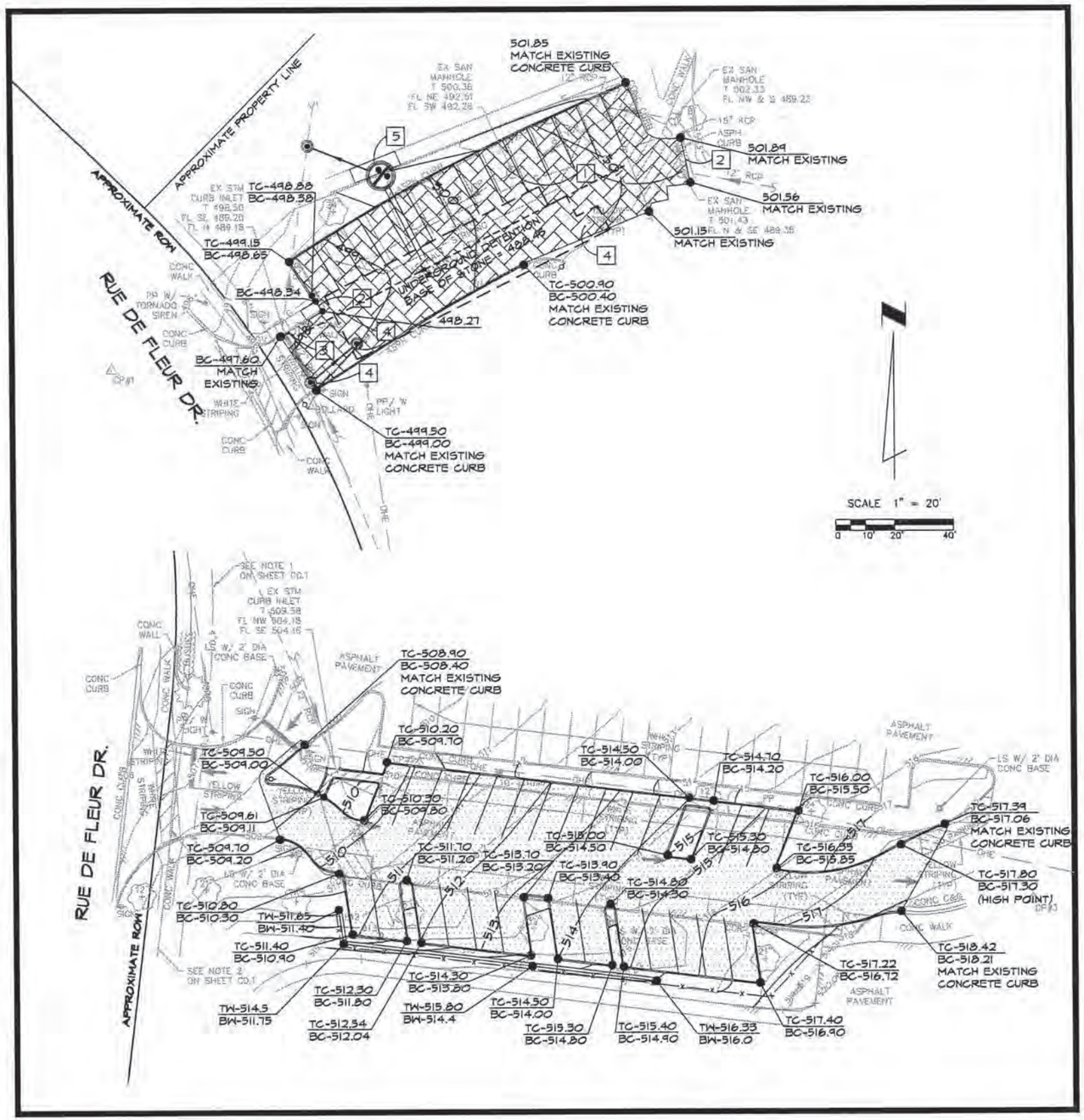
C2

Stanley F. Visnovske
E-18126
Professional Engineer

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

EDSI PROJECT #E-14-020.14

1/8/2016 11:03:28 AM Veronica Page
Z:\Parkway School District\E-14-020.14 - Bellerive\CD OWNER REVIEW\CIVIL - 01.08.2016.dwg



GRADING PLAN KEYED NOTES (THIS SHEET ONLY):

1. PLACE NEW CONCRETE PAVERS TO EXISTING TOP OF SEWER STRUCTURE ELEVATION.
2. PLACE NEW CONCRETE PAVERS TO MATCH EXISTING GRADE OF EXISTING CONCRETE SIDEWALK.
3. PLACE NEW 1' WIDE CONCRETE COLLAR AROUND INLET. SEE DETAIL ON SHEET C9.
4. NEW UTILITY STRUCTURES TO BE FLUSH WITH CONCRETE PAVERS.
5. TOP OF OUTLET STRUCTURE ASSUMED TO BE ELEV 500.0. CONTRACTOR TO SET TOP OF STRUCTURE TO MINIMIZE REGRADING OF SIDEWALK.

GENERAL NOTE:

A *.DWG FILE WILL BE MADE AVAILABLE TO THE CONTRACTOR TO WHOM THE WORK IS AWARDED FOR HIS USE IN SITE LAYOUT.

Stanley F. Visnovske
E-18136
Professional Engineer

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

bond ARCHITECTS
222 SOUTH CENTRAL AVE.
SUITE# 100
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority
#2009027409

BRIC Partnership, LLC
MEP Engineer
Certificate of Authority #2002028690
138 W. Adams Ave.
Kirkwood, MO 63122
314.725.5889 tel
618.277.5200 fax

EDSI
Civil Engineer
Certificate of Authority #001523
16141 Swingley Ridge Road, Suite 300
Chesterfield, MO 63107
636.537.5585 tel
636.537.0275 fax

BELLERIVE ELEMENTARY SCHOOL
620 Rue De Fleur Dr, Creve Coeur, MO 63141
Parkway Project: PN 151501B
Classroom Security & Parking Lot Reconfigurations

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 151501B

Revisions

Description	Date
BID SET	01/08/15

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the architect.
Copyright © 2014 by Bond Architects, Inc.

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

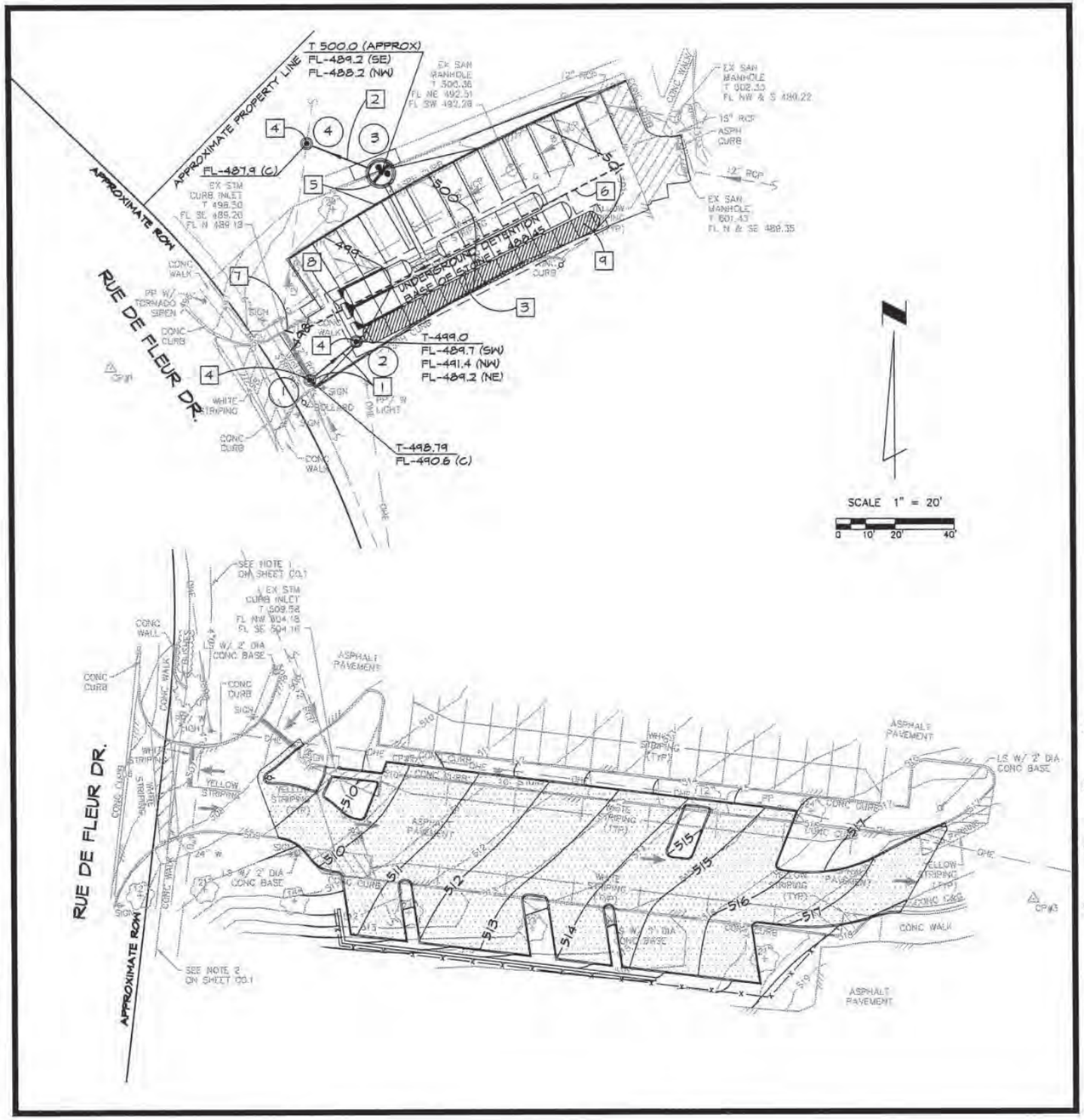
DATE: 01/08/2015

Grading Plan

C3

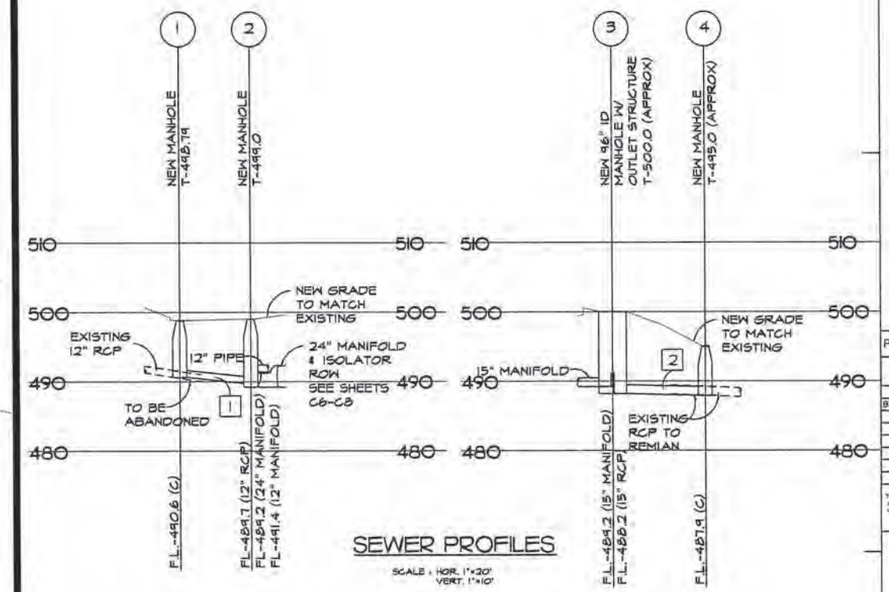
EDSI PROJECT #E-14-020.14

1/8/2016 11:45:41 AM Veronica Page
Z:\Parkway School District\E-14-020.14 - Bellerive\CD OWNER REVIEW\CIVIL - 01.08.2016.dwg



SITE PLAN KEYED NOTES (THIS SHEET ONLY):

1. 12" RCP X 17 LF AT 5.4%. UPSTREAM MANHOLE TO CONNECT TO EXISTING 12" RCP.
2. 15" RCP X 20 LF AT 1.5%.
3. NEW STORMTECH UNDERGROUND DETENTION SYSTEM. SEE DETAILS ON SHEETS C6-C8.
4. NEW 4' ID MANHOLE, SEE DETAIL ON SHEET C8.
5. NEW OUTLET STRUCTURE, SEE DETAIL ON C6.
6. 4" PERFORATED PIPE X 130 LF. SEE DETAIL ON SHEET C9.
7. PERFORATED PIPE TO TERMINATE IN EXISTING CURB INLET. SEE OUTLET STRUCTURE DETAIL ON SHEET C9.
8. OBSERVATION WELL. SEE DETAIL ON SHEET C9.
9. INSPECTION PORT. SEE DETAIL ON SHEET C8.



SEWER PROFILES

SCALE : HOR. 1"=20'
VERT. 1"=10'

Stanley F. Visnovske
E-18936
Professional Engineer

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

bond ARCHITECTS
222 SOUTH CENTRAL AVE.
SUITE# 100
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority #2009027409

BRIC Partnership, LLC
MEP Engineer
Certificate of Authority #2002028690
138 W. Adams Ave.
Kirkwood, MO 63122
314.725.5889 tel
618.277.5200 fax

EDSI
Civil Engineer
Certificate of Authority #001523
16141 Swingley Ridge Road, Suite 300
Chesterfield, MO 63107
636.537.5585 tel
636.537.0275 fax

BELLERIVE ELEMENTARY SCHOOL

620 Rue De Fleur Dr, Creve Coeur, MO 63141
Parkway Project: PN 151501B
Classroom Security & Parking Lot Reconfigurations

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 151501B

Revisions

Description	Date
BID SET	01/08/16

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be traced, copied or reproduced, in whole or in part, or for any other purpose on project without the written consent of the Architect.
Copyright. © 2014 by Bond Architects, Inc.

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal sheet shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

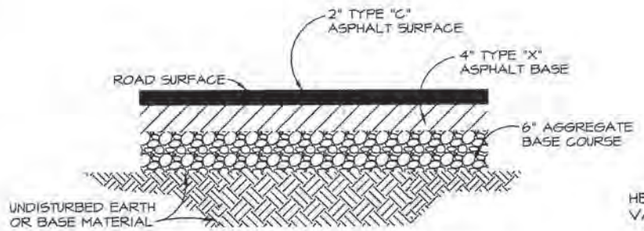
DATE: 01/08/2015

Utility Site Plan

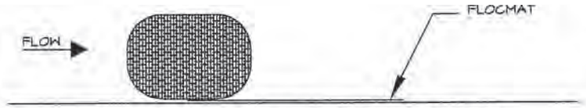
C4

EDSI PROJECT #E-14-020.14

1/8/2016 11:42:41 AM Veronica Page
Z:\Parkway School District\E-14-020.14 - Bellerive\CD OWNER REVIEW\CIVIL - 01.08.2016.dwg



PAVEMENT REPLACEMENT SECTION
N.T.S.



PLACE EROSION EEL NEAR THE INTENDED SETUP LOCATION. PLACE FLOCMAT UNDER EEL. FLOCMAT SHALL BE 3' WIDE. CENTER OF EEL SHALL BE PLACED ON CENTER OF FLOCMAT.



MOVE THE EEL OVER THE FLOCMAT AREA.

PLACE A SECOND EEL ADJACENT TO THE INITIAL EEL LOCATION (DOWNSLOPE) TO PROVIDE ADDITIONAL WEIGHT AS A BUTTRESS (OPTIONAL).

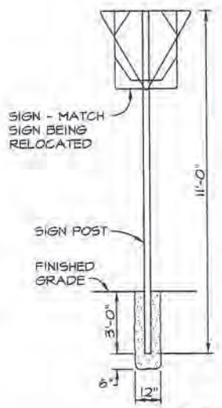
MAINTENANCE:

1. KEEP BAGS FREE OF ACCUMULATED SILT, DEBRIS, ETC., UNTIL THE DISTURBED AREA HAS BEEN ADEQUATELY STABILIZED.

2. REMOVE SEDIMENT AND DEBRIS WHEN ACCUMULATION AFFECTS THE PERFORMANCE OF THE DEVICE, AFTER A RAIN, AND WHEN DIRECTED.

3. REPAIR OR REPLACE DAMAGED DEVICES THAT ARE TORN OR PUNCTURED AS REQUIRED TO MAINTAIN THE INTEGRITY OF THE DEVICE.

SILTATION CONTROL DETAIL
N.T.S.



NOTES: (SIGN POST)

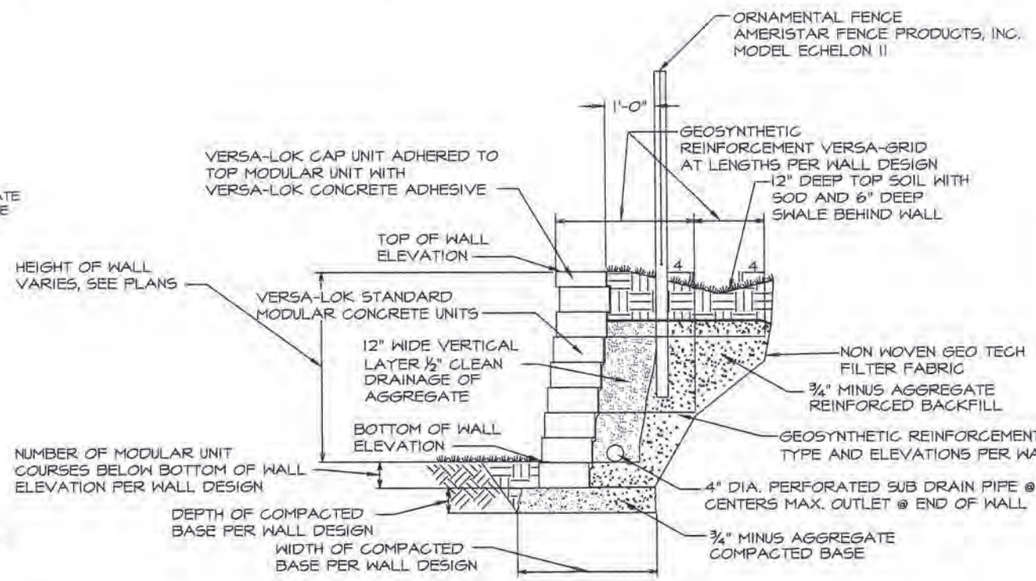
1. SIGN POST SHALL HAVE A 2-3/8 INCH OUTSIDE DIAMETER AND BE 11 FEET IN LENGTH. THEY SHALL BE SCH. 40 W/ A WALL THICKNESS OF 0.065 INCHES. THE INSIDE WALL SHALL BE GALVANIZED OR HAVE A FULL ZINC BASED ORGANIC COATING IN ACCORDANCE WITH ASTM-A513 TO OBTAIN A WEIGHT OF 0.90 OZ. PER SQ. FT. COMMERCIAL ZINC WEIGHT (G90).

2. SIGNS ARE TO BE MOUNTED A MINIMUM OF 3.5 FEET FROM THE BACK OF CURB WITH A MINIMUM CLEARANCE FROM THE SIDEWALK OF 1.5 FEET.

3. SIGN POST SHALL BE MOUNTED 36 INCHES IN THE GROUND AND BE SET IN A CONCRETE BASE.

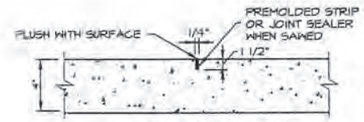
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF UNDERGROUND UTILITIES AND STRUCTURES SHOWN OR NOT SHOWN PRIOR TO THE PLACEMENT OF SIGN POSTS.

SIGN POST PLACEMENT
N.T.S.

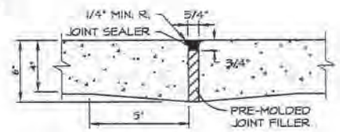


SEGMENTAL BLOCK RETAINING WALL DETAIL*
N.T.S.

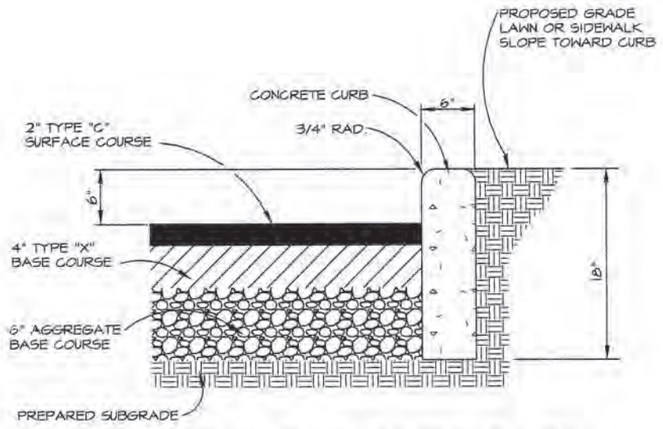
* SHOWN FOR INFORMATION ONLY. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ARCHITECT OR ENGINEER. SUBMITTED SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF MISSOURI. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE DESIGN OF THE RETAINING WALL INCLUDING ANY AND ALL GEOTECHNICAL INVESTIGATIONS NECESSARY TO DETERMINE DESIGN PARAMETERS.



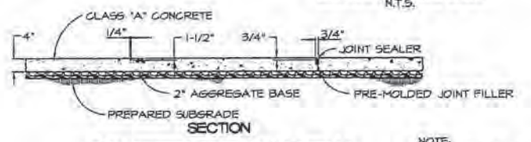
CONTRACTION JOINT
N.T.S.



EXPANSION JOINT
N.T.S.



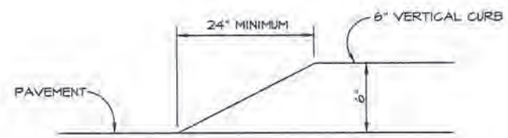
NEW VERTICAL CURB / PAVEMENT DETAIL
N.T.S.



SECTION

CONCRETE SIDEWALK DETAIL
N.T.S.

NOTE: SEAL ALL JOINTS WITH APPROVED JOINT SEALER



CURB TURNDOWN DETAIL
N.T.S.

THE SEAL OF STANLEY P. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

Stanley P. Visnovske
E-18126
Professional Engineer

bond ARCHITECTS
222 SOUTH CENTRAL AVE.
SUITE # 100
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority #2009027409

BRIC Partnership, LLC
MEP Engineer
Certificate of Authority #2002028880
138 W. Adams Ave.
Kirkwood, MO 63122
314.725.5989 tel
618.277.5200 fax

EDSI
Civil Engineer
Certificate of Authority #001523
16141 Swingley Ridge Road, Suite 300
Chesterfield, MO 63107
636.537.5585 tel
636.537.0275 fax

BELLERIVE ELEMENTARY SCHOOL
620 Rue De Fleur Dr, Creve Coeur, MO 63141
Parkway Project #: PN 151501B
Classroom Security & Parking Lot Reconfigurations

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 1515018

Revisions

Description	Date
BID SET	01/08/16

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect. Copyright © 2014 by Bond Architects, Inc.

The Professional Architect and Architect in this project hereby and by the submittal and terms stated on this sheet. All drawings, instruments or other documents are exclusive the sole property of the consultants prepared for and produced, and the architect expressly maintains full use and ownership for such plan, drawings or documents not controlling this work.

DATE: 01/08/2015

Details

C5

EDSI PROJECT #E-14-020.14

1/8/2016 11:04:17 AM Veronica Page
Z:\Parkway School District\E-14-020.14 - Bellerive\CD OWNER REVIEW\CIVIL - 01.08.2016.dwg

STORMWATER CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-3500 OR APPROVED EQUAL.
2. CHAMBERS SHALL BE MADE FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
4. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
5. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
6. CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
7. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
   a. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
   b. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
   c. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
8. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-3500 CHAMBER SYSTEM

1. STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm) MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
9. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
10. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
11. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

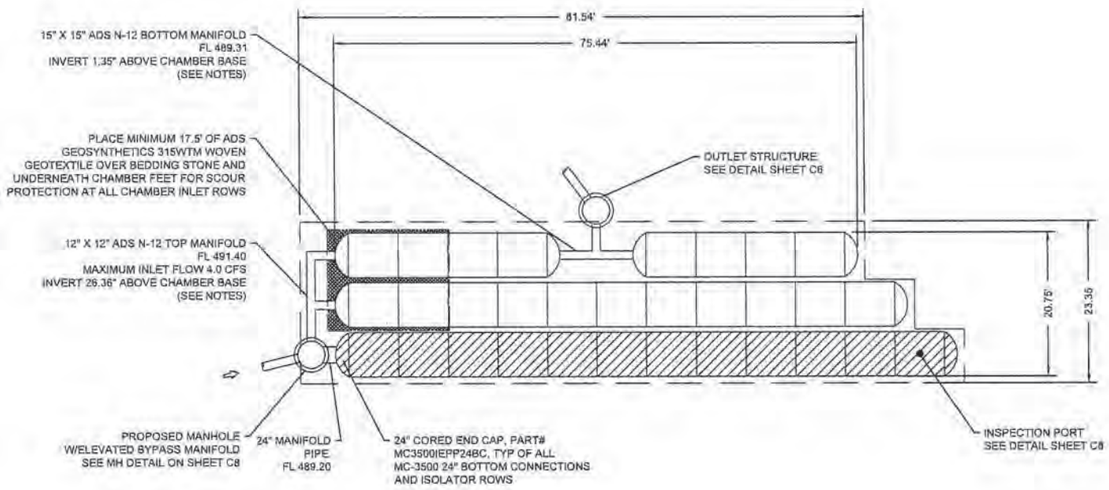
1. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
2. THE USE OF EQUIPMENT OVER MC-3500 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

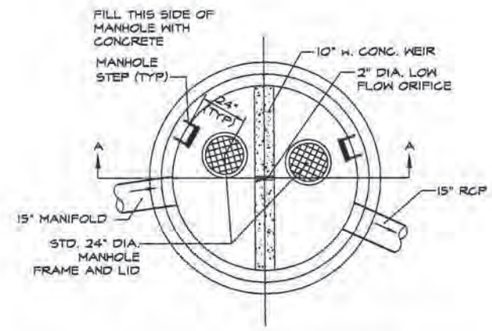
PROPOSED LAYOUT

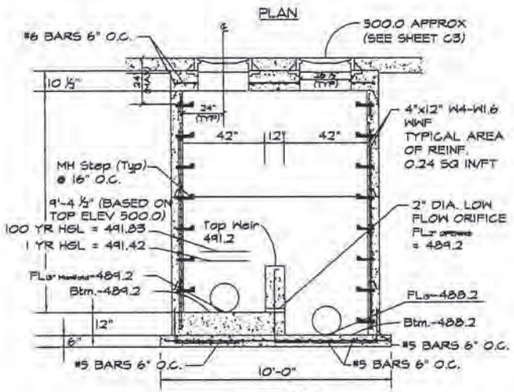
(31) STORMTECH MC-3500 CHAMBERS
(8) STORMTECH MC-3500 END CAPS
INSTALLED WITH 12" COVER STONE, 9" BASE STONE, 40% STONE VOID
VOLUME AT ELEVATION 491.20: 3,128 CF (BASE STONE EXCLUDED)
TOTAL INSTALLED SYSTEM VOLUME: 6,673 CF (PERIMETER STONE INCLUDED)
AREA OF SYSTEM: 2,071 FT²
PERIMETER OF SYSTEM: 224 FT



NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH SHEET #7 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.





PROPOSED ELEVATIONS

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	500.95
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	495.45
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	494.95
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	494.95
TOP OF STONE:	493.95
TOP OF CHAMBER:	492.95
12" TOP MANIFOLD INVERT:	491.40
12" BOTTOM MANIFOLD INVERT:	489.31
24" ISOLATOR ROW INVERT:	489.37
BOTTOM OF CHAMBER:	489.20
BOTTOM OF STONE:	488.45

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER:	MARK JOERSZ 636-346-6139 MARK.JOERSZ@ADS-PIPE.COM
ADS SALES REP:	BRIAN SNELSON 618-593-6135 BRIAN.SNELSON@ADS-PIPE.COM
PROJECT NO:	121028

ADVANCED DRAINAGE SYSTEMS, INC.

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

Stanley F. Visnovske
E-18136
Professional Engineer

bond ARCHITECTS
222 SOUTH CENTRAL AVE.
SUITE # 100
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority #2009027409

BRIC Partnership, LLC
MEP Engineer
Certificate of Authority #2002028890
138 W. Adams Ave.
Kirkwood, MO 63122
314.725.5959 tel
618.277.5200 fax

EDSI
Civil Engineer
Certificate of Authority #031523
18141 Swingley Ridge Road, Suite 300
Chesterfield, MO 63107
636.537.5585 tel
636.537.0275 fax

BELLERIVE ELEMENTARY SCHOOL
620 Rue De Fleur Dr, Creve Coeur, MO 63141
Parkway Project: PN 151501B
Classroom Security & Parking Lot Reconfigurations

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 151501B

Revisions

Description	Date
BID SET	01/09/15

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, for any other purpose or project without the written consent of the Architect.
Copyright © 2014 by Bond Architects, Inc.

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, specifications or other documents and addenda this seal affixes and the consultant prepared by the architect, and this architect expressly disclaims any and all responsibility for such plans, drawings or documents not exhibiting this seal.

DATE: 01/08/2015

Details

C6

EDSI PROJECT #E-14-020.14

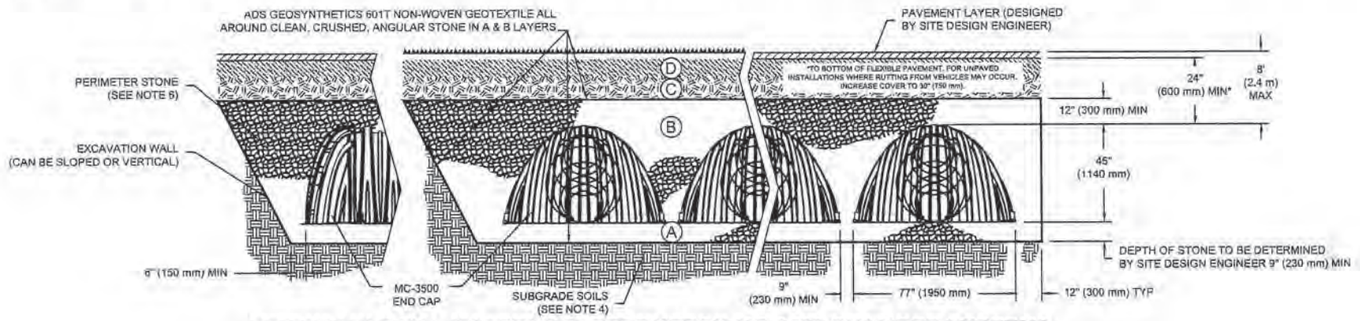
1/8/2016 11:04:31 AM Veronica Page
Z:\Parkway School District\E-14-020.14 - Bellerive\CD OWNER REVIEW\CIVIL - 01.08.2016.dwg

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

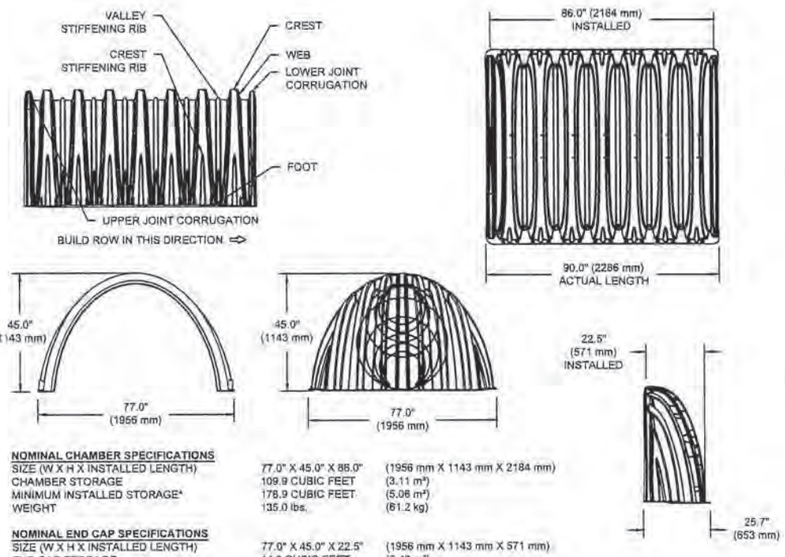
PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.

NOTES:

1. MC-3500 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
   PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	77.0" X 45.0" X 86.0"	(1956 mm X 1143 mm X 2184 mm)
CHAMBER STORAGE	109.9 CUBIC FEET	(3.11 m³)
MINIMUM INSTALLED STORAGE*	178.9 CUBIC FEET	(5.06 m³)
WEIGHT	135.0 lbs.	(61.2 kg)

NOMINAL END CAP SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	77.0" X 45.0" X 22.5"	(1956 mm X 1143 mm X 571 mm)
END CAP STORAGE	14.9 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	46.0 CUBIC FEET	(1.30 m³)
WEIGHT	50.0 lbs.	(22.7 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS. 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

PART #	STUB	B	C
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	—
MC3500IEPP06B		—	0.86" (17 mm)
MC3500IEPP08T	8" (200 mm)	31.16" (791 mm)	—
MC3500IEPP08B		—	0.81" (21 mm)
MC3500IEPP10T	10" (250 mm)	29.04" (738 mm)	—
MC3500IEPP10B		—	0.93" (24 mm)
MC3500IEPP12T	12" (300 mm)	26.36" (670 mm)	—
MC3500IEPP12B		—	1.35" (34 mm)
MC3500IEPP15T	15" (375 mm)	23.39" (594 mm)	—
MC3500IEPP15B		—	1.50" (38 mm)
MC3500IEPP18TC	18" (450 mm)	20.03" (509 mm)	—
MC3500IEPP18BC		—	1.77" (45 mm)
MC3500IEPP24TC	24" (600 mm)	14.48" (368 mm)	—
MC3500IEPP24BC		—	2.06" (52 mm)
MC3500IEPP30BC	30" (750 mm)	—	

NOTE: ALL DIMENSIONS ARE NOMINAL

CUSTOM PRECORED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS.
CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm)
THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHTEST POSSIBLE FOR THE PIPE SIZE.

MC-3500 TECHNICAL SPECIFICATION

NTS

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

Stanley F. Visnovske
E-18136
Professional Engineer

bond ARCHITECTS
222 SOUTH CENTRAL AVE.
SUITE # 100
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority #2009027409

BRIC Partnership, LLC
MEP Engineer
Certificate of Authority #2002028690
138 W. Adams Ave.
Kirkwood, MO 63122
314.725.5889 tel
618.277.5200 fax

EDSI
Civil Engineer
Certificate of Authority #001523
18141 Swingley Ridge Road, Suite 300
Chesterfield, MO 63107
636.537.5585 tel
636.537.0275 fax

BELLERIVE ELEMENTARY SCHOOL
620 Rue De Fleur Dr, Creve Coeur, MO 63141
Parkway Project: PN 151501B
Classroom Security & Parking Lot Reconfigurations

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 151501B

Revisions

Description:	Date
BID SET	01/08/15

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, for any other purpose or project without the written consent of the Architect.
Copyright © 2014 by Bond Architects, Inc.

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents was submitting this seal shall not be considered precluded by this architect, and this architect expressly disclaims any and all responsibility for such plans, drawings or documents not submitting this seal.

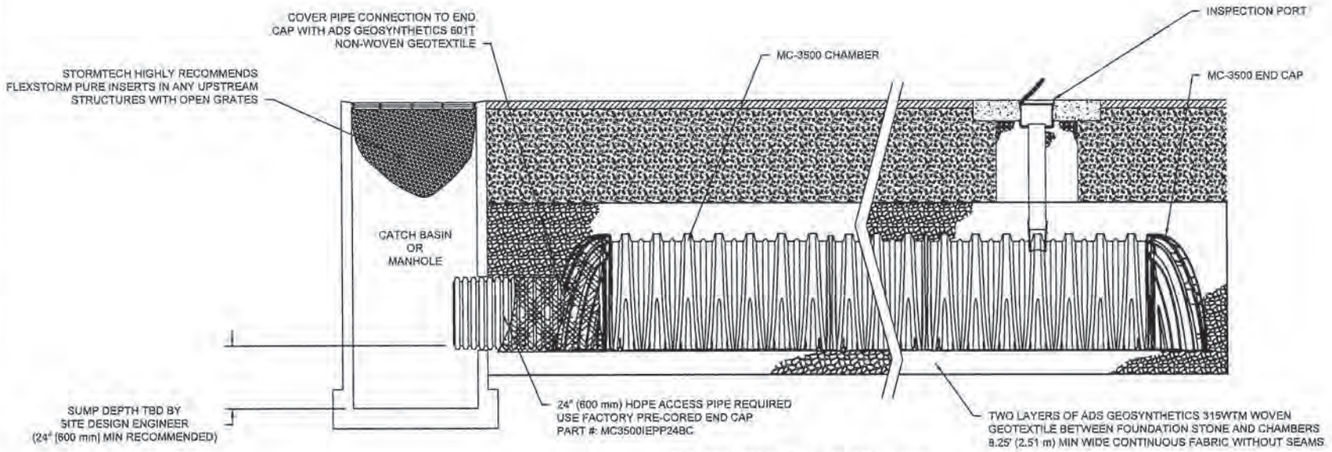
DATE: 01/08/2015

Details

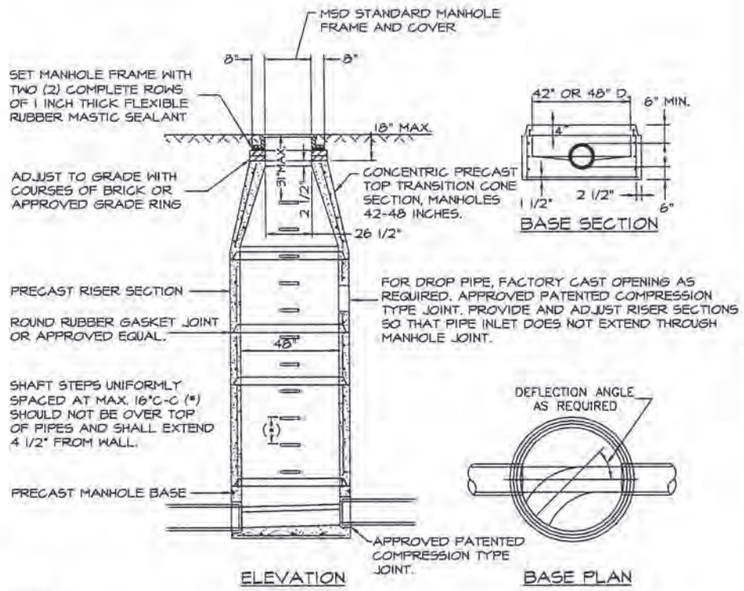
C7

EDSI PROJECT #E-14-020.14

SCALE: 3/4" = 1'-0" SCALE: 1/2" = 1'-0" SCALE: 1" = 1'-0" SCALE: 1/4" = 1'-0" SCALE: 1/8" = 1'-0" SCALE: 1/16" = 1'-0"
1/8/2016 11:04:44 AM Veronica Page
Z:\Parkway School District\E-14-020.14 - Bellerive\CD OWNER REVIEW\CIVIL - 01.08.2016.dwg



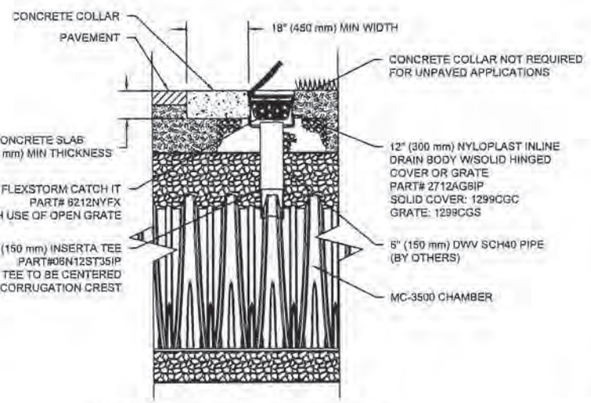
MC-3500 ISOLATOR ROW DETAIL
NTS



NOTES:

1) MANHOLE SHALL MEET ASTM C-478 REQUIREMENTS.
2) FLOWLINE ELEVATION OF INCOMING PIPES SHALL BE 1 INCH HIGHER THAN THAT OF OUTGOING PIPE.
3) PRIOR TO FABRICATION, SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL.

PRE-CAST CONCRETE MANHOLE
N.T.S.



MC-3500 6" INSPECTION PORT DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3

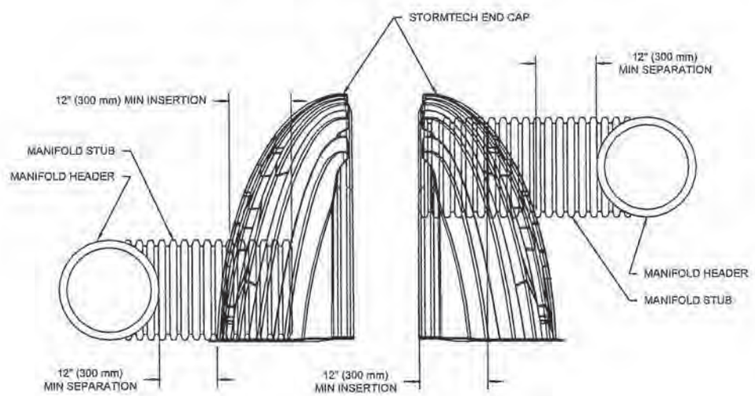
STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

MC-SERIES END CAP INSERTION DETAIL
NTS

THE SEAL OF STANLEY P. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

Stanley P. Visnovske
E-18126
Professional Engineer

bond ARCHITECTS
222 SOUTH CENTRAL AVE.
SUITE # 100
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority #2009027409

BRIC Partnership, LLC
MEP Engineer
Certificate of Authority #2002028890
138 W. Adams Ave.
Kirkwood, MO 63122
314.729.5889 tel
618.277.5200 fax

EDSI
Civil Engineer
Certificate of Authority #001523
15141 Swingley Ridge Road, Suite 300
Chesterfield, MO 63017
636.537.5585 tel
636.537.0275 fax

BELLERIVE ELEMENTARY SCHOOL
620 Rue De Fleur Dr. Creve Coeur, MO 63141
Parkway Project: PN '151501B
Classroom Security & Parking Lot Reconfigurations

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 151501B

Revisions

Description	Date
BID SET	01/08/16

This drawing and the details on it are the sole property of the architect and may be used for the specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2014 by Bond Architects, Inc.

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not matching this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

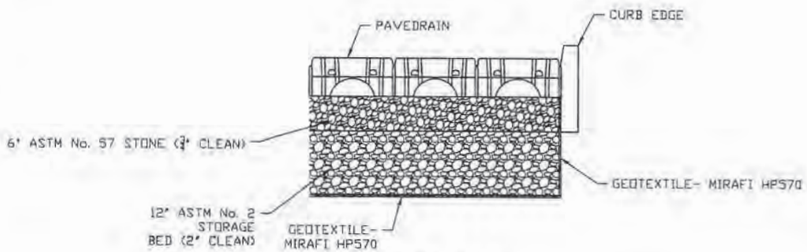
DATE: 01/08/2015

Details

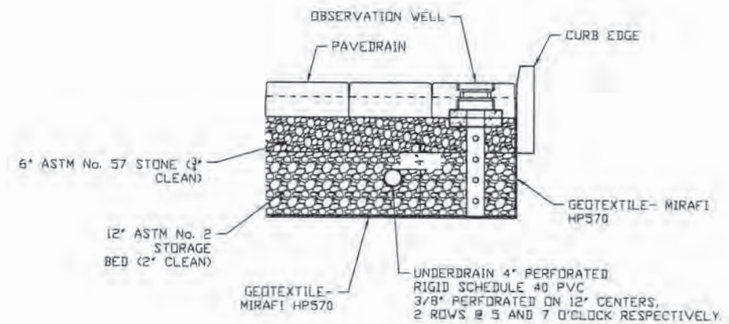
C8

EDSI PROJECT #E-14-020.14

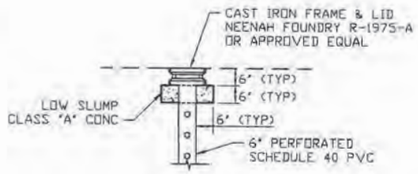
1/8/2016 11:04:55 AM Veronica Page
Z:\Parkway School District\E-14-020.14 - Bellerive\CD OWNER REVIEW\CIVIL - 01.08.2016.dwg



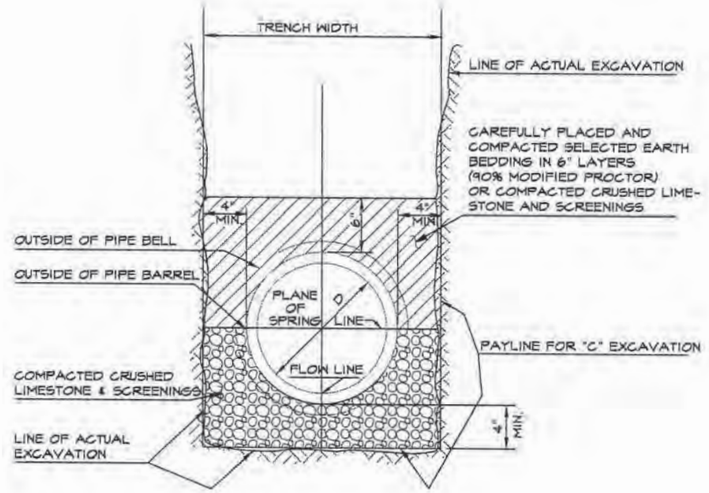
END VIEW



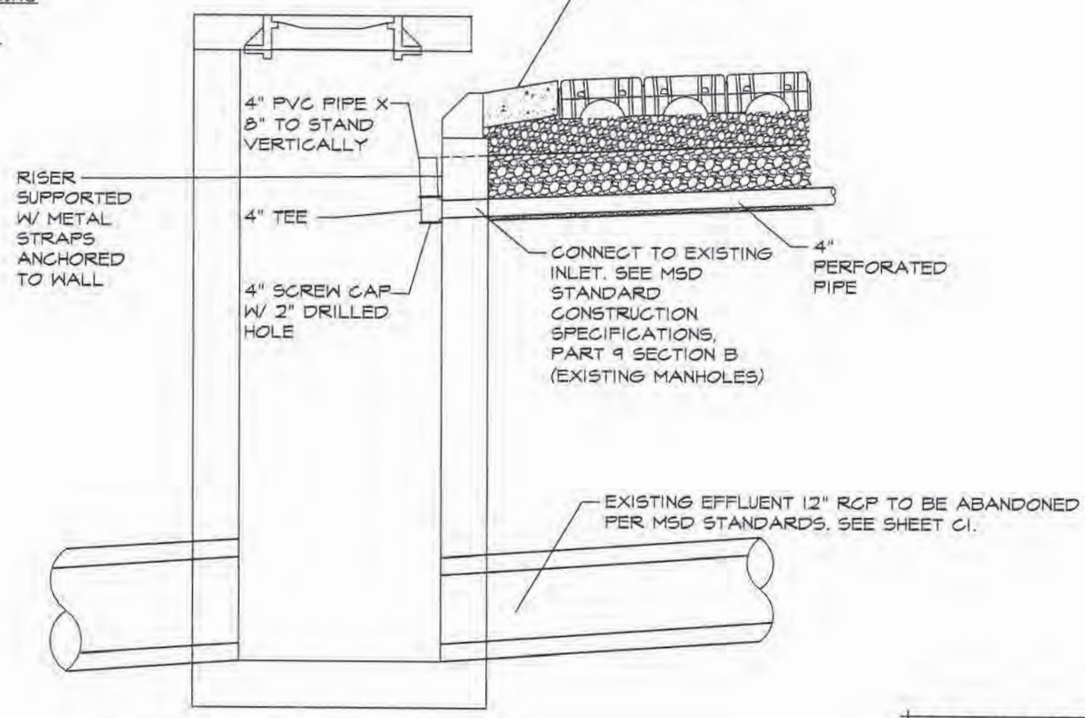
PAVEDRAIN PERMEABLE INTERLOCKING CONCRETE PAVEMENT
TYPICAL SECTION- SIDE VIEW
NTS



OBSERVATION WELL DETAIL



PIPE BEDDING CLASS "C"
REINFORCED CONCRETE PIPE
N.T.S.



EXISTING CURB INLET MODIFICATIONS
N.T.S.

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

Stanley F. Visnovske
E-18136
Professional Engineer

bond ARCHITECTS
222 SOUTH CENTRAL AVE.
SUITE# 100
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority #2009027409

BRIC Partnership, LLC
MEP Engineer
Certificate of Authority #2002028090
138 W. Adams Ave.
Kirkwood, MO 63122
314.725.5888 tel
618.277.5200 fax

EDSI
Civil Engineer
Certificate of Authority #001523
16141 Swingley Ridge Road, Suite 300
Chesterfield, MO 63107
636.537.5585 tel
636.537.0275 fax

BELLERIVE ELEMENTARY SCHOOL
620 Rue De Fleur Dr, Creve Coeur, MO 63141
Parkway Project: PN 151501B
Classroom Security & Parking Lot Reconfigurations

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 151501B

Revisions

Description	Date
BID SET	01/08/16

This drawing and the details on it are the sole property of the architect and may be used for the specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2014 by Bond Architects, Inc.

The Professional Architect who affixes to this sheet applies only to the material and plans shown on this sheet. All drawings, addendums or other documents not displaying this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for execution, drawings or documents not so bearing this seal.

DATE: 01/08/2015

Details

C9

EDSI PROJECT #E-14-020.14

1/8/2016 11:42:58 AM Veronica Page
Z:\Parkway School District\E-14-020.14 - Bellerive\CD OWNER REVIEW\CIVIL - 01.08.2016.dwg

PARKWAY SCHOOL DISTRICT

BELLERIVE ELEMENTARY

SITE IMPROVEMENTS AND INTERIOR RENOVATION

620 RUE DE FLEUR DRIVE
CREVE COEUR, MO 63141

LOCATOR: 17P520475
ZONED A - SINGLE FAMILY RESIDENTIAL

WSP PROJECT NUMBER: 30902493.7275
CLIENT PROJECT NUMBER: 152401B

ISSUE FOR BID

VOLUME 1
24 SEPTEMBER 2025

DRAWING INDEX - VOLUME 1	
NUMBER	**NAME**
G0.01	PROJECT COVER SHEET - VOLUME 1
C1.01	GENERAL NOTES
C2.01	DEMOLITION PLAN
C3.01	SITE PLAN
C3.02	ADDITIVE ALTERNATE 1 PLAN
C4.01	GRADING & UTILITY PLAN
C5.01	SITE DETAILS
C5.02	SITE DETAILS
C5.03	SITE DETAILS
C5.04	SITE DETAILS
C5.05	SITE DETAILS
C6.01	SWPP PLAN
C7.01	EXISTING DRAINAGE AREA MAP
C8.01	PROPOSED DRAINAGE AREA MAP

REGIONAL MAP



LOCAL MAP



STORMWATER MANAGEMENT NOTES:
DIFFERENTIAL RUNOFF = 0.006 cfs

PROJECT DISTURBANCE = 0.196 Ac.

THIS SITE IS SUBJECT TO DETENTION AND CHANNEL PROTECTION.
ANY FUTURE LAND DISTURBANCE AND/OR INCREASE IN IMPERVIOUS AREA ON THIS SITE MAY REQUIRE ADDITIONAL STORM WATER MANAGEMENT PER MSD REGULATIONS IN PLACE AT THAT TIME (INCLUDING TOTAL LAND DISTURBANCE AND/OR IMPERVIOUSNESS ADDED ON THIS PLAN, 25MSD-00305)

SANITARY SEWER NOTE:
SANITARY LOADING WILL NOT INCREASE WITH THIS PROJECT.

EXISTING WATER AND SEWER CONNECTIONS ARE NOT PROPOSED TO BE MODIFIED WITH THIS PROJECT.

25MSD-00305 BASEMAP 17P

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314-421-7741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT
BELLERIVE ELEMENTARY
620 RUE DE FLEUR DRIVE
CREVE COEUR, MO 63141
SITE IMPROVEMENTS AND INTERIOR RENOVATION

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER
24 SEPTEMBER 2025
Civil Engineer of Record: Michael Sestak
Professional No.: PE-2021009101

SHEET NAME
PROJECT COVER SHEET - VOLUME 1

ISSUE FOR BID

DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	ST
DATE:	24 SEPTEMBER 2025
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 152401B
WSP PROJECT NUMBER: 30902493.7275
SHEET NUMBER **G0.01**

LAST EDITED: 9/25/2025 10:20 AM
FILE PATH: C:\Users\USMS1590100\DOCACCDocs\WSP USA projects (AMER)\STL100-30902493 - Parkway 2022 Bond - R23\Project Files\H - BLR - 2024\CIVIL\152401B_BLR_VOL1_C0.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTS ENGINEERS WORK, IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

GENERAL NOTES

1. ALL DISTURBED AREAS SHALL BE RESTORED WITH TOPSOIL AND SOD, COMPLETELY WATERED IN.
2. THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY FOR CONTROLLING ALL SILTATION AND EROSION OF THE PROJECT AREA. THE CONTRACTOR SHALL USE THE MEANS NECESSARY TO CONTROL SILTATION AND EROSION. CONTROL MEANS AND METHODS SHALL FOLLOW ST. LOUIS COUNTY'S "SEDIMENT & EROSION CONTROL MANUAL" AND REQUIREMENTS OF THE CITY OF CREVE COEUR. THE OWNER OR THE CITY OF CREVE COEUR MAY AT THEIR OPTION DIRECT THE CONTRACTOR AS DEEMED FIT TO CONTROL EROSION. CONTROL SHALL COMMENCE WITH LAND DISTURBANCE AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY BOTH THE CITY OF CREVE COEUR AND THE OWNER. ALL COST ASSOCIATED WITH EROSION CONTROL SHALL BE INCLUDED IN THE CONTRACTOR'S BID.
3. PROPOSED ELEVATIONS ARE SHOWN TO FINISH PAVEMENT OR GRADE.
4. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
5. CONTRACTOR TO PLACE VEHICLE WASHDOWN STATION AT CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE CITY OF CREVE COEUR REQUIREMENTS.
6. NO EXCAVATION SHALL BE MADE SO CLOSE TO THE PROPERTY LINE AS TO ENDANGER ANY ADJOINING PROPERTY OF ANY PUBLIC OR PRIVATE STREET WITHOUT SUPPORTING AND PROTECTING SUCH PUBLIC OR PRIVATE STREET OR PROPERTY FROM SETTLING, CRACKING OR OTHER DAMAGE.
7. ANY EXISTING IMPROVEMENTS DAMAGED BY CONSTRUCTION ON THE PROJECT PROPERTY SHALL BE REPLACED IN KIND AT THE CONTRACTORS EXPENSE.
8. EXISTING ASPHALT PAVEMENT SHALL BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
9. DURING CONSTRUCTION THERE SHALL BE NO TRUCK TRAFFIC BETWEEN 7:30 A.M AND 8:40 A.M. AND BETWEEN 2:30 P.M. AND 3:30 P.M.
10. ALL EXISTING IMPROVEMENTS ARE TO REMAIN UNLESS NOTED OTHERWISE.
11. THE UNDERGROUND UTILITIES SHOWN HEREON ARE TAKEN FROM UTILITY LOCATIONS AS MARKED IN THE FIELD BY DIGRITE AND MAPS OBTAINED FROM SPIRE, METROPOLITAN ST. LOUIS SEWER DISTRICT AND MISSOURI-AMERICAN WATER COMPANY AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMO.
12. SITE IS SUBJECT TO PRIVATE UTILITY INSTALLATIONS. PRIVATE UTILITY INSTALLATIONS DO NOT APPEAR ON UTILITY BASE MAPS, NOR DOES DIGRITE LOCATE PRIVATE UTILITIES.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING TOPS AND FLOWLINES OF ALL EXISTING SEWERS PRIOR TO COMMENCING WORK AND NOTIFY THE ENGINEER OF DISCREPANCIES.
14. ALL SEWERS AND STRUCTURES SHALL BE IN ACCORDANCE WITH THE METROPOLITAN ST. LOUIS SEWER DISTRICT STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWER AND DRAINAGE FACILITIES, 2009.
15. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE GAS SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF SPIRE.
16. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE WATER SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF MISSOURI AMERICAN WATER COMPANY.
17. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE PHONE SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF AT&T DISTRIBUTION.
18. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH ELECTRIC SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF AMEREN MISSOURI.
19. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH CABLE SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF SPECTRUM.
20. INTERIM STORM WATER DRAINAGE CONTROL IN THE FORM OF SILTATION CONTROL MEASURES ARE REQUIRED.
21. THE DEVELOPER IS REQUIRED TO PROVIDE ADEQUATE STORM WATER SYSTEMS IN ACCORDANCE WITH THE CITY OF CREVE COEUR AND MSD STANDARDS.
22. ADDITIONAL SILTATION CONTROL SHALL BE INSTALLED AS REQUIRED BY THE CITY OF CREVE COEUR.
23. PROVIDE ADEQUATE OFF-STREET PARKING FOR CONSTRUCTION EMPLOYEES. PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVEWAY CONDITIONS.
24. ALL EXCAVATIONS, GRADING OR FILLING SHALL HAVE A FINISHED GRADE NOT TO EXCEED A 4:1 SLOPE (25%), UNLESS SPECIFICALLY APPROVED OTHERWISE. NO SLOPE SHALL EXCEED 3:1 MAXIMUM.
25. ALL GRADING AND DRAINAGE SHALL CONFORM TO THE LATEST STANDARDS AND SPECIFICATIONS OF ST. LOUIS COUNTY, THE METROPOLITAN ST. LOUIS SEWER DISTRICT AND THE CITY OF CREVE COEUR.
26. SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASHDOWN STATION PRIOR TO LEAVING SITE. MUD TRACKED ONTO COUNTY ROADS SHALL BE REMOVED AND KEPT CLEAN AT ALL TIMES.
27. UTILITIES MUST REMAIN IN CONTINUOUS SERVICE UNLESS WRITTEN PERMISSION IS RECEIVED FROM THE OWNER TO ALLOW INTERRUPTION OF SERVICE.
28. THE CONTRACTOR SHALL PROTECT THE LIMBS OF TREES. ANY LIMBS IN THE AREA REQUIRED FOR OPERATION OF CONSTRUCTION EQUIPMENT SHALL BE PRUNED IN ADVANCE OF THE WORK. PRIOR TO PRUNING ANY BRANCHES, THE CONTRACTOR SHALL COORDINATE SUCH PRUNING WITH THE LANDSCAPE ARCHITECT. ANY IDENTIFIED DYING OR BROKEN BRANCHES SHOULD BE REMOVED TO REDUCE SAFETY HAZARDS. BRANCHES THAT REQUIRE PRUNING SHALL BE PRUNED TO AN ADJACENT LIVE LATERAL BRANCH. NO STUBS MAY BE LEFT ON THE TREE.
29. IF BORING OR TRENCHING NEEDS TO OCCUR NEAR TREE ROOTS, AS A MINIMUM, UNLESS PREFERRED METHODS ARE RECOMMENDED BY THE LANDSCAPE ARCHITECT, PRIOR TO EXCAVATION THE CONTRACTOR SHALL ROOT PRUNE, BY HAND, ALONG THE PAY LINE OF TRENCHES WITHIN THE CRITICAL ROOT ZONE (CRZ) OF TREES TO BE PROTECTED IN ORDER TO MINIMIZE DAMAGE TO TREE ROOTS IN THAT AREA. ROOT PRUNING SHALL BE PERFORMED BY MEANS AND METHODS ACCEPTABLE TO THE LANDSCAPE ARCHITECT. ROOTS SHALL BE CLEAN CUT; UNDER NO CIRCUMSTANCES, SHALL THE CONTRACTOR RIP OR TEAR TREE ROOTS. FOR PURPOSES OF THIS PROJECT, THE CRITICAL ROOT ZONE (CRZ) OF A TREE WILL BE CONSIDERED TO BE 1.5 TIMES THE DIAMETER OF THE TREE AT BREAST HEIGHT, WITH THE DIAMETER OF THE TREE IN INCHES AND THE CRZ IN FEET.
30. EXISTING WATER AND SANITARY CONNECTIONS WILL NOT BE MODIFIED WITH THIS WORK.
31. THE CONTRACTOR SHALL STAY WITHIN THE LIMITS OF DISTURBANCE AS SHOWN ON THE PLANS AND MINIMIZE DISTURBANCE WITHIN THE WORK AREA WHEREVER POSSIBLE.
32. MAINTENANCE OF THE SEWERS DESIGNATED "PUBLIC" SHALL BE THE RESPONSIBILITY OF THE METROPOLITAN ST. LOUIS SEWER DISTRICT UPON DEDICATION OF THE SEWERS TO THE DISTRICT.
33. MSD SHOP DRAWING SUBMITTAL REQUIRED FOR BMP AND ITS COMPONENTS PRIOR TO CONSTRUCTION. MSD CONTACT: PLEASE CONTACT THE DISTRICT'S CONSTRUCTION MANAGEMENT DIVISION AT (314) 335-2072 FOR QUESTIONS.
34. DETAIL DRAWINGS: THE DETAIL DRAWINGS SHOWN HERE ARE ONLY FOR PRIVATE CONSTRUCTION THAT IS NOT UNDER MSD PERMITS. REFER TO MSD STANDARD CONSTRUCTION SPECIFICATIONS AND STANDARD DETAILS FOR PUBLIC SEWER CONSTRUCTION OR PRIVATE CONSTRUCTION UNDER MSD PERMITS.
35. EXISTING CONNECTIONS: EXISTING WATER AND SANITARY CONNECTIONS WILL NOT BE MODIFIED WITH THIS WORK.
36. LIMITS OF DISTURBANCE: THE CONTRACTOR SHALL STAY WITHIN THE LIMITS OF DISTURBANCE AS SHOWN ON THE PLANS AND MINIMIZE DISTURBANCE WITHIN THE WORK AREA WHEREVER POSSIBLE.

MSD GENERAL NOTES

ALL STORM AND SANITARY SEWER STRUCTURES AND APPURTENANCES TO BE DEDICATED TO MSD, OR TO BE PRIVATE UNDER MSD INSPECTION, SHALL CONFORM TO THE METROPOLITAN ST. LOUIS SEWER DISTRICT, STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES, 2023. THAT WILL INCLUDE STANDARD DETAILS SHOWN THEREIN, ALL SUBSEQUENT CHANGES MADE THERETO, AND SHALL ALSO INCLUDE THE FOLLOWING:

PART 2 – MATERIALS OF CONSTRUCTION
SECTION G PIPE.
12. CORRUGATED POLYPROPYLENE PIPE.
d. PIPE FOR GRAVITY SEWER INSTALLATIONS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321. CONSOLIDATION BY WATER (JETTING OR PUDDLING) SHALL NOT BE USED. CONSOLIDATION SHALL BE IN ACCORDANCE WITH MSD STANDARD CONSTRUCTION SPECIFICATIONS FOR TRENCH BACKFILL. PRICE FOR COMPACTED BACKFILL SHALL BE INCLUDED IN PIPE UNIT COST.

1. FOR USE IN SANITARY AND COMBINED SEWER INSTALLATIONS, A REPRESENTATIVE FROM THE PIPE MANUFACTURER SHALL VISIT THE SITE WITHIN THE FIRST 100 FEET OF PIPE INSTALLATION. COORDINATION OF THIS SITE VISIT SHALL BE ARRANGED BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE THE MSD INSPECTOR AT LEAST 24 HOURS' NOTICE OF THE PLANNED DATE AND TIME OF THE MANUFACTURER'S SITE VISIT.
2. FOLLOWING THE SITE VISIT, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE A LETTER FROM THE PIPING MANUFACTURER SUMMARIZING THEIR OBSERVATIONS. AT A MINIMUM, THE LETTER SHALL:
a) INDICATE THE DATE THE INITIAL SECTION OF PIPE WAS INSTALLED; AND
b) VERIFY THAT THE INSTALLATION OCCURRED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED PROCEDURES.
e. E. TRENCH WIDTH SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION RECOMMENDATIONS. DISTRICT STANDARD PAYLINE WIDTHS BASED ON THE NOMINAL INSIDE PIPE DIAMETER SHALL APPLY.

LEGEND

	CONTROL POINT
∘TBM	TEMPORARY BENCHMARK
	DRAINAGE ARROW
12"	EXISTING TREE
	EXISTING BUSH
-	EXISTING SIGN
	NEW SIGN
	EDGE OF EXISTING PAVEMENT
	EDGE OF NEW PAVEMENT
	EXISTING CURB
	NEW CURB
x	EXISTING FENCE
x x	NEW FENCE
SF	NEW EROSION CONTROL
	LIMITS OF CONSTRUCTION
OU	EXISTING OVERHEAD ELECTRIC LINE
T	EXISTING UNDERGROUND TELEPHONE LINE
E	EXISTING UNDERGROUND ELECTRIC LINE
G	EXISTING GAS LINE
W	EXISTING WATER LINE
SD	EXISTING STORM SEWER
SS	EXISTING SANITARY LINE
SD	PROPOSED STORM LINE

	PROPOSED STORM / SANITARY MANHOLE
	EXISTING STORM / SANITARY MANHOLE
	EXISTING GRATE INLET
	PROPOSED GRATE INLET
	PROPOSED CURB INLET
	EXISTING DOUBLE CURB INLET
	EXISTING AREA INLET
DS	PROPOSED DOWNSPOUT
PP	EXISTING UTILITY POLE
FH	EXISTING FIRE HYDRANT
WV	EXISTING WATER VALVE
GV	EXISTING GAS VALVE
GM	EXISTING GAS METER
624	EXISTING 1' CONTOUR
625	EXISTING 5' CONTOUR
624	PROPOSED 1' CONTOUR
625	PROPOSED 5' CONTOUR
×601.92	EXISTING SPOT ELEVATION
	KEYED NOTE IDENTIFIER
A	COORDINATE IDENTIFIER
TP 601.62	PROPOSED SPOT ELEVATION

UTILITY CONTACTS

AMEREN MISSOURI
1132 LOCUST STREET
ST. LOUIS, MISSOURI 63101
314-878-5787

AT&T DISTRIBUTION
12930 OLIVE STREET ROAD
CREVE COEUR, MO 63141
314-878-5787

MISSOURI AMERICAN WATER COMPANY
727 CRAIG RD
ST. LOUIS, MO 63131
314-996-2432

SPECTRUM
941 CHARTER COMMONS DR
TOWN AND COUNTRY, MO 63017
314-878-5787

PARKWAY SCHOOL DISTRICT
455 N. WOODS MILL RD
CHESTERFIELD, MO 63017
314-415-8100

SPIRE
3950 FOREST PARK BLVD
ST. LOUIS, MO 63108
314-658-5417

METROPOLITAN ST. LOUIS SEWER DISTRICT
2350 MARKET ST
ST. LOUIS, MO 63103-2555
314-768-6200

REGULATORY JURISDICTIONS

MONARCH FIRE PROTECTION DISTRICT
13725 OLIVE BLVD
CHESTERFIELD, MO 63107
314-514-0900

METROPOLITAN ST. LOUIS SEWER DISTRICT
2350 MARKET STREET
ST. LOUIS, MO 63103-2555
314-768-6200

CITY OF CREVE COEUR – PLANNING AND ZONING
300 N NEW BALLAS RD.
CREVE COEUR, MO 63141
314-872-2501

ABBREVIATIONS

AI	AREA INLET	FL	FLOWLINE	PCC	POINT OF COMPOUND CURVATURE
ASPH	ASPHALT	FOC	FACE OF CURB	PGS.	PAGES
ATG	ADJUST TO GRADE	G	GUTTER	PT	POINT OF TANGENCY
BLDG	BUILDING	GI	GRATE INLET	PVMT	PAVEMENT
BM	BENCHMARK	GM	GAS METER	R	RADIUS
BMP	BEST MANAGEMENT PRACTICE	GV	GAS VALVE	RCP	REINFORCED CONCRETE PIPE
BOC	BACK OF CURB	HC	HANDICAPPED	T	TOP
CI	CURB INLET	HDPE	HIGH DENSITY POLYETHYLENE	TBM	TEMPORARY BENCHMARK
CL	CENTER LINE	IP	IRON PIPE	TBR	TO BE REMOVED
CLR	CLEARANCE	IR	IRON ROD	TBREL	TO BE RELOCATED
CO	CLEAN OUT	LS	LIGHT STANDARD	TBR&R	TO BE REMOVED AND REPLACED
CONC	CONCRETE	MAX	MAXIMUM	TC	TOP OF CURB
DCI	DOUBLE CURB INLET	ME	MATCH EXISTING	TP	TOP OF PAVEMENT
ELEV	ELEVATION	MH	MANHOLE	TR	TO REMAIN
EOA	EDGE OF ASPHALT	MIN	MINIMUM	TYP	TYPICAL
EOC	EDGE OF CONCRETE	NTS	NOT TO SCALE	UIP	USE IN PLACE
EX	EXISTING	PB	ELECTRIC PULLBOX	UP	UTILITY POLE
FG	FINISH GRADE	P.B.	PLAT BOOK	VCP	VITRIFIED CLAY PIPE
FH	FIRE HYDRANT	PC	POINT OF CURVATURE	WM	WATER METER
				WV	WATER VALVE

25MSD-00305 BASEMAP 17P

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER ANY ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION ALTERED BY FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 9/25/2025 10:20 AM
FILE PATH: C:\Users\USMS719010\DC\ACCDocs\WSP USA projects (AMER)\ST. LOUIS\30902493 - Parkway 2022 Bond - P23\Project Files\H - BLR - 2024Civil\LT152401B_BLR_VOL1_CD.dwg

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314-206-4444
Fax: +1 314-421-1741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

BELLERIVE ELEMENTARY

620 RUE DE FLEUR DRIVE
CREVE COEUR, MO 63141

SITE IMPROVEMENTS AND INTERIOR RENOVATION

ISSUE FOR BID

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER

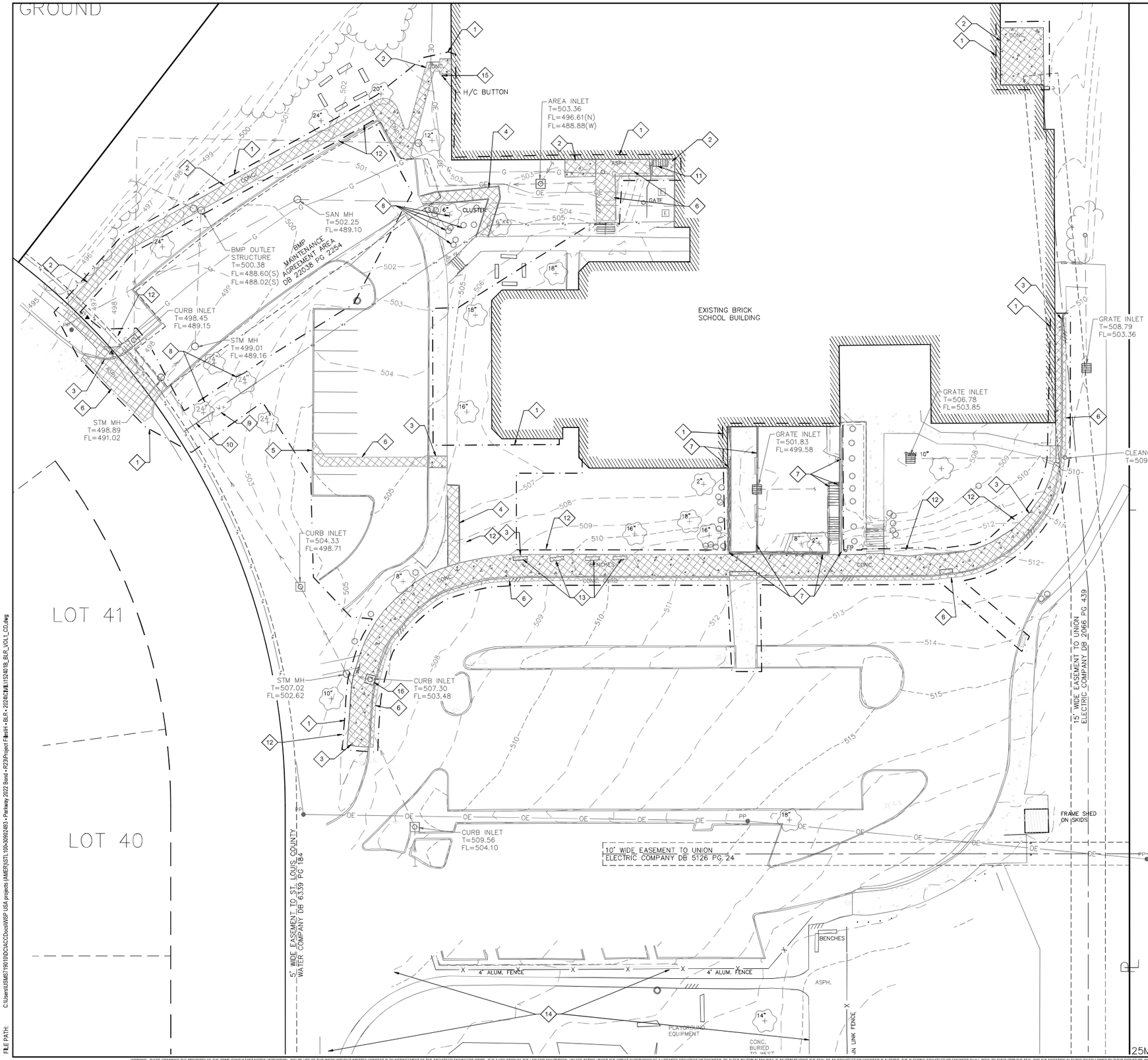
PROFESSIONAL ENGINEER
24 SEPTEMBER 2025
Civil Engineer of Record: Michael Sestak
Professional No.: PE-2021009101

SHEET NAME
CIVIL GENERAL NOTES

DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	ST
DATE:	24 SEPTEMBER 2025
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 152401B
WSP PROJECT NUMBER: 30902493.7275
SHEET NUMBER **C1.01**



GENERAL NOTES:

1. ALL EXISTING FACILITIES MUST BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
2. ANY DAMAGED VEGETATION OR IMPROVEMENTS OUTSIDE OF CONSTRUCTION LIMITS MUST BE REPLACED IN LIKE KIND AT THE CONTRACTOR'S EXPENSE.
3. LOCATIONS OF ALL EXISTING UTILITIES ARE SHOWN PER THE MOST RECENT SURVEYS AND AVAILABLE RECORD DRAWINGS. ALL SIZES, LOCATIONS, AND DEPTHS SHALL BE FIELD VERIFIED AND SHALL BE CONSIDERED APPROXIMATE.

KEYED NOTES

1. LIMITS OF CONSTRUCTION.
2. REMOVE EXISTING CONCRETE WALK TO NEAREST JOINT.
3. REMOVE EXISTING CONCRETE WALK WITH INTEGRAL CURB TO NEAREST JOINT.
4. REMOVE EXISTING CONCRETE RAMP WITH HANDRAIL.
5. REMOVE EXISTING CURB.
6. REMOVE EXISTING ASPHALT PAVEMENT.
7. REMOVE EXISTING HANDRAIL.
8. REMOVE EXISTING TREES AND SHRUBS.
9. REMOVE EXISTING WATER METER PIT.
10. REMOVE EXISTING WATER LINE, EXISTING TAP TO REMAIN.
11. REMOVE EXISTING METAL STAIRS AND PROTECT EXISTING WALL.
12. REMOVE EXISTING SIGNS AND SALVAGE FOR REINSTALLATION.
13. REMOVE EXISTING BENCHES AND SALVAGE FOR REINSTALLATION.
14. ADD ALTERNATE 1 FOR REPLACING ASPHALT TRACK AND FENCING, REFER TO SHT. C3.02.
15. PROTECT EXISTING IMPROVEMENTS DURING CONSTRUCTION.
16. REMOVE EXISTING CURB INLET TOP.

LEGEND

DENOTES PAVEMENT TO BE REMOVED

0 20' 40'
1"=20'

25MSD-00305 BASEMAP 17P

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-7741
wsp.com

WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

BELLERIVE ELEMENTARY

620 RUE DE FLEUR DRIVE
CREVE COEUR, MO 63141

SITE IMPROVEMENTS AND INTERIOR RENOVATION

ISSUE FOR BID

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER
24 SEPTEMBER 2025
Civil Engineer of Record: Michael Sestak
Professional No.: PE-2021009101

SHEET NAME
DEMOLITION PLAN

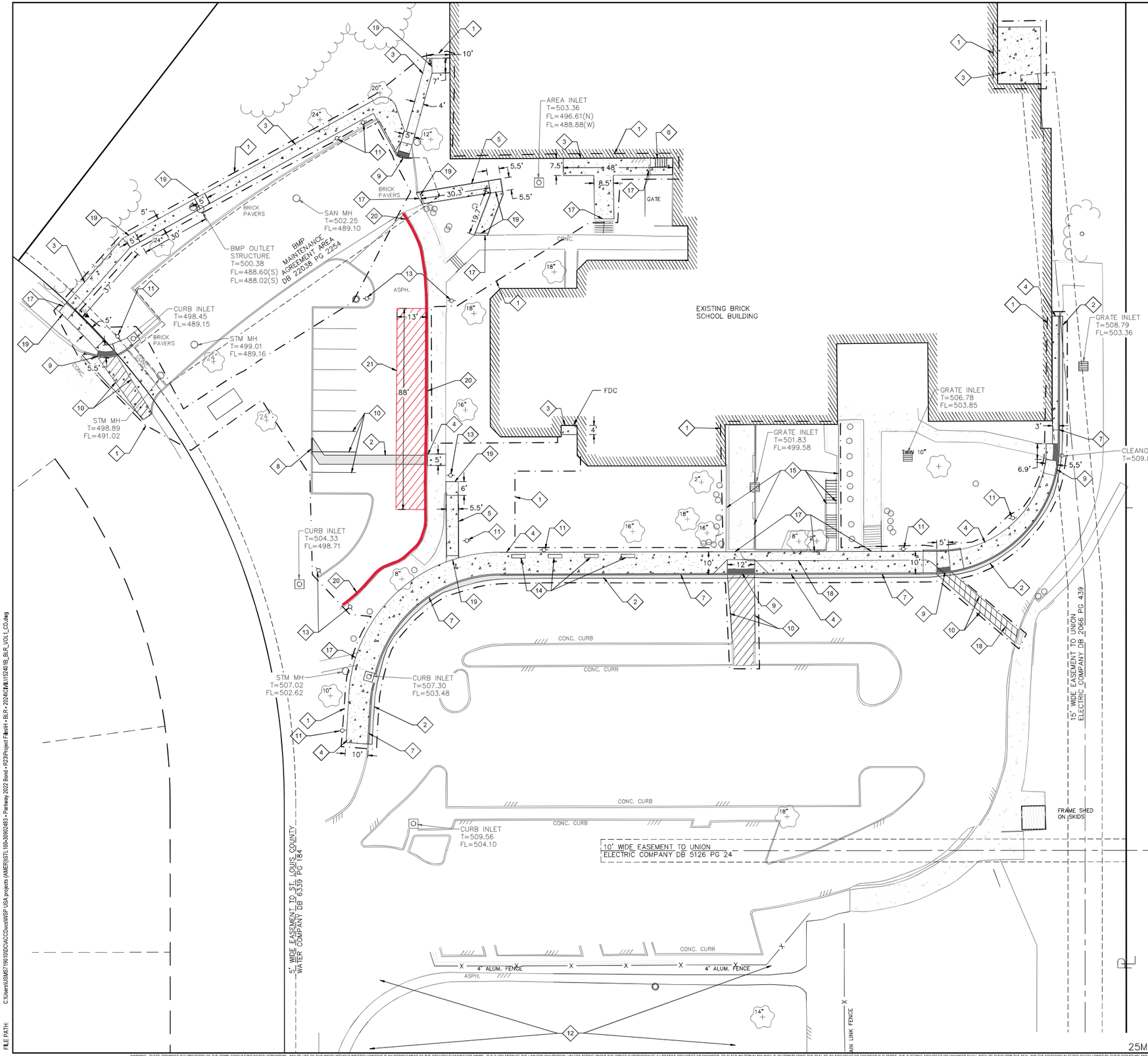
DESIGNED BY: MS
DRAWN BY: ST
CHECKED BY: ST
DATE: 24 SEPTEMBER 2025
SCALE:

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 152401B
WSP PROJECT NUMBER: 30902493.7275
SHEET NUMBER **C2.01**

LAST EDITED: 9/25/2025 10:20 AM
FILE PATH: C:\Users\US\MS7191\ID\CIACCDocs\WSP USA projects (AMER)\STL\30\30902493 • Parkway 2022 Bond • P23\Project Files\H • RLR • 2024\CIVIL\152401B_BLR_LVOL1_C01.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION ALTERED BY FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



GENERAL NOTES:

1. ALL EXISTING FACILITIES MUST BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
2. ANY DAMAGED VEGETATION OR IMPROVEMENTS OUTSIDE OF CONSTRUCTION LIMITS MUST BE REPLACED IN LIKE KIND AT THE CONTRACTOR'S EXPENSE.
3. LOCATIONS OF ALL EXISTING UTILITIES ARE SHOWN PER THE MOST RECENT SURVEYS AND AVAILABLE RECORD DRAWINGS. ALL SIZES, LOCATIONS, AND DEPTHS SHALL BE FIELD VERIFIED AND SHALL BE CONSIDERED APPROXIMATE.

KEYED NOTES

1. LIMITS OF CONSTRUCTION.
2. NEW ASPHALT PAVEMENT. REFER TO DETAIL ON SHT. C5.01.
3. NEW CONCRETE WALK. REFER TO DETAIL ON SHT. C5.01.
4. NEW CONCRETE WALK WITH INTEGRAL CURB. REFER TO DETAIL ON SHT. C5.01.
5. NEW CONCRETE RAMP WITH HANDRAIL. REFER TO DETAIL ON SHT. C5.03.
6. NEW METAL STAIRS WITH HANDRAIL. REFER TO DETAIL ON SHT. C5.03.
7. CONTRACTOR TO PAINT CURB YELLOW.
8. NEW 6" VERTICAL CURB. REFER TO DETAIL ON SHT. C5.01.
9. NEW ADA CURB RAMP. REFER TO DETAILS ON SHT. C5.01.
10. NEW PAINTED PAVEMENT MARKINGS. REFER TO DETAIL ON SHT. C5.01.
11. REINSTALL SALVAGED SIGN PER EXISTING LOCATION AND TYPE.
12. ADD ALTERNATE 1 FOR REPLACING ASPHALT TRACK AND FENCING. REFER TO SHT C3.02.
13. NEW FIRE LANE SIGN. REFER TO DETAIL ON SHT. C5.01.
14. REINSTALL SALVAGED BENCHES.
15. INSTALL NEW GUARD RAIL. REFER TO DETAILS ON SHT. C5.03.
16. NEW CURB INLET TOP PER METROPOLITAN ST. LOUIS SEWER DISTRICT STANDARD DETAILS OF SEWER CONSTRUCTION SHEET 44. INCLUDED ON SHT. C5.02.
17. INSTALL NEW ½" EXPANSION JOINT MATERIAL ALONG EXISTING CONCRETE AND WALLS. REFER TO CONCRETE WALK EXPANSION JOINT DETAIL ON SHT. C5.01.
18. REPAINT 4" WIDE WHITE STRIPE TO MATCH EXISTING.
19. NEW LANDING. 2% MAX SLOPE ALL DIRECTIONS.
20. PAINT CURB RED FOR NEW FIRE LANE.
21. PAINT RED PAVEMENT HATCHING ON NEW FIRE LANE. FOLLOW CROSSWALK DETAIL ON SHT. C5.01.

LEGEND

DENOTES NEW ASPHALT PAVEMENT

N

0 20' 40'

1"=20'

25MSD-00305 BASEMAP 17P

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314-421-1741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

BELLERIVE ELEMENTARY

620 RUE DE FLEUR DRIVE
CREVE COEUR, MO 63141

SITE IMPROVEMENTS AND INTERIOR RENOVATION

ISSUE FOR BID

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER
24 SEPTEMBER 2025
Civil Engineer of Record: Michael Sestak
Professional No.: PE-2021009101

SHEET NAME
SITE PLAN

DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	ST
DATE:	24 SEPTEMBER 2025
SCALE:	

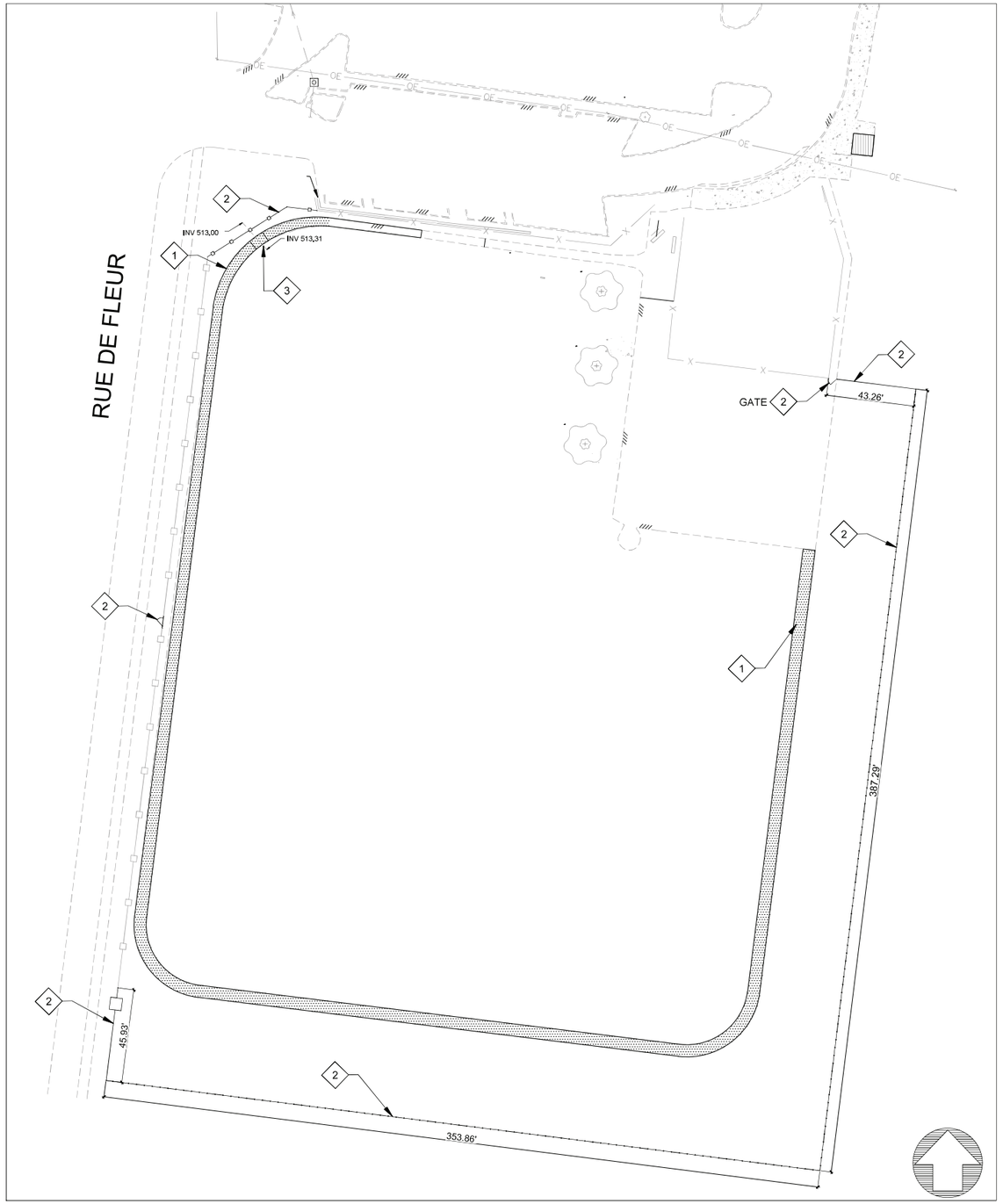
FULL SCALE SHEET SIZE= ARCH. D (24"x 36")

CLIENT PROJECT NUMBER: 152401B
WSP PROJECT NUMBER: 30902493.7275

SHEET NUMBER **C3.01**

LAST EDITED: 9/25/2025 10:20 AM
FILE PATH: C:\Users\ILSMST190110\OneACCDocs\WSP USA projects (AMER)\STL-100-30902493 - Parkway 2022 Bond - P23\Project Files\H - BLR - 2024\CAD\L1\152401B_BLR_L1VOL1_CD.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITH. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION ALTERED BY FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



1 ADDITIVE ALTERNATE PLAN

SCALE: 1"=10'

30' 0' 30' 60'

SCALE: 1" = 30'

ADDITIVE ALTERNATE KEYED NOTES

1. ADDITIVE ALTERNATE 1: EDGE, SEAL, AND RE-COAT 6-FOOT WIDE ASPHALT TRACK.

   TRACK SURFACE: 5,465 SF
2. ADDITIVE ALTERNATE 2: ENCLOSE PLAYGROUND ON SOUTH AND EAST SIDES WITH 4-FOOT TALL CHAIN LINK FENCE.
3. PERFORATED PVC STORM PIPE IN FILTER SOCK AND 12"X12" MIN. STONE TRENCH

SHEET NOTES

A. SEE C1.01 AND C1.02 FOR EXISTING AND PROPOSED DRAWING SYMBOLS.

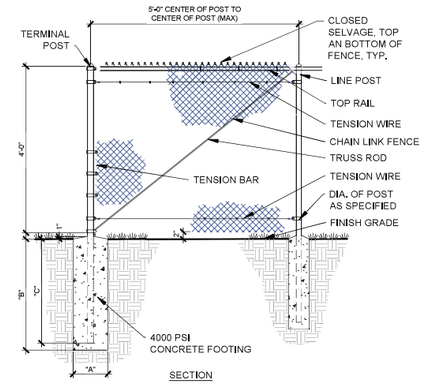
B. DIGITAL EXISTING CONDITIONS SURVEY WITH BENCHMARK INFORMATION AND CONCEPTUAL BASE PLAN WILL BE PROVIDED FOR CONSTRUCTION LAYOUT.

C. CONFIRM DIMENSIONS OF TRACK AND FENCING IN THE FIELD PRIOR TO BIDDING AND PRIOR TO INITIATING PURCHASE OF MATERIALS.

D. PROTECT THE SCHOOL BUILDING, EXISTING CURBS, PAVEMENTS, FENCING, LAWN AREAS, TREES, AND OTHER EXISTING SITE ELEMENTS FROM ANY POTENTIAL DAMAGE.

E. DAMAGED ITEMS MUST BE REPAIRED AND REPLACED IN-KIND WITH NO ADDITIONAL COST TO THE OWNER. ANY REPAIRS MUST BE COMPLETED TO THE SATISFACTION OF THE OWNER.

F. CONTRACTOR MUST SUBMIT SHOP DRAWINGS OF THEIR PROPOSED PLAY EQUIPMENT AND RUBBERIZED SURFACE AREAS FOR THE SCHOOL PLAYGROUND TO SCHOOL DISTRICT FOR REVIEW AND APPROVAL PRIOR TO INITIATING PURCHASE OF EQUIPMENT. PLAY EQUIPMENT AND LAYOUT SHOWN IS CONCEPTUAL TO IDENTIFY THE DESIRED TYPES AND QUANTITIES OF EQUIPMENT AND HOW THAT EQUIPMENT MAY FIT ON THE AGE 5-12 PLAYGROUND SPACE. ALL PLAYGROUND EQUIPMENT MUST BE APPROVED BY THE SCHOOL DISTRICT.



SECTION

LINE AND TERMINAL POSTS

FABRIC HEIGHT	TYPE POST	"A" DIAM	"B" DEPTH	"C" POST EMBEDMENT
4'-0"	LINE	8"	36"	30"
	TERMINAL	10"	36"	30"

GATE POST

GATE LEAF WIDTH	GATE POST (OD)	FABRIC HEIGHT	"A" DIAM	"B" DEPTH	"C" POST EMBED.
3' TO 6'	2.875"	3' TO 5'	12"	40"	36"

TOP SELVAGE KNUCKLE NTS

NOTES:
1. TERMINAL POSTS INCLUDE END, CORNER, AND PULL POSTS.
2. PROVIDE 6' WIDE GATE AS SHOWN ON PLAN.
3. FENCE MESH MUST BE VINYL COATED, COLOR: BLACK, ALL POSTS WIRES, BRACKETS, RAILS, ANCHORS AND FASTENERS MUST BE PAINTED, COLOR: BLACK, GLOSS FINISH.
4. ALL FENCE MESH SELVAGES MUST BE CLOSED AND ALL CUT MESH FREE OF SHARP BURRS. GRIND BURRS AND SHARP EDGES SMOOTH AND RE-COAT ALL EXPOSED METAL.
5. SET NEW POSTS NEXT TO EXISTING FENCE POSTS TO REMAIN OR REPLACE EXISTING POSTS AND ATTACH EXISTING FENCE MESH AND RAILS OF ADJACENT PROPERTY TO NEW POST.

2 ADDITIVE ALTERNATE CHAIN LINK FENCE

SCALE: NO SCALE

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444 Fax: +1 314 421-1741 wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869
Missouri Landscape Architecture Corporation: #001444

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

BELLERIVE ELEMENTARY

666 RUE DE FLEUR DR.
SAINT LOUIS, MO 63141

SITE IMPROVEMENTS AND INTERIOR RENOVATION

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER
24 SEPTEMBER 2025
Civil Engineer of Record: Michael Sestak
Professional No.: PE-2021009101

DESIGNED BY: TMT
DRAWN BY: PMJ
CHECKED BY: TMT
DATE: 24 SEPTEMBER, 2025
SCALE:

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

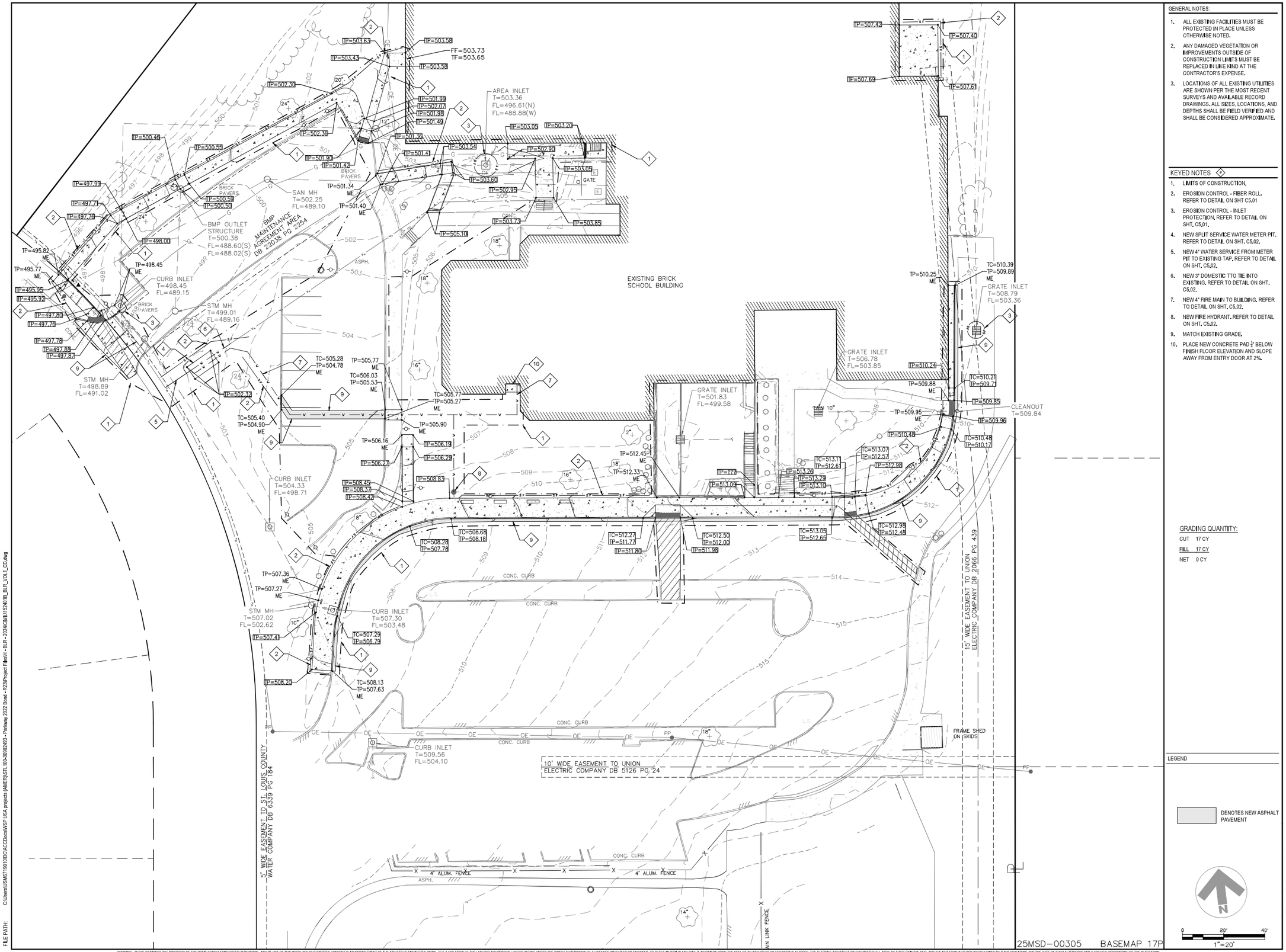
ISSUE FOR BID

SHEET NAME
ADDITIVE ALTERNATE 1 PLAN

CLIENT PROJECT NUMBER: ---------
WSP PROJECT NUMBER: 30902493.7275
SHEET NUMBER **C3.02**

LAST EDITED:
FILE PATH:

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



GENERAL NOTES:

1. ALL EXISTING FACILITIES MUST BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
2. ANY DAMAGED VEGETATION OR IMPROVEMENTS OUTSIDE OF CONSTRUCTION LIMITS MUST BE REPLACED IN LIKE KIND AT THE CONTRACTOR'S EXPENSE.
3. LOCATIONS OF ALL EXISTING UTILITIES ARE SHOWN PER THE MOST RECENT SURVEYS AND AVAILABLE RECORD DRAWINGS. ALL SIZES, LOCATIONS, AND DEPTHS SHALL BE FIELD VERIFIED AND SHALL BE CONSIDERED APPROXIMATE.

KEYED NOTES

1. LIMITS OF CONSTRUCTION.
2. EROSION CONTROL - FIBER ROLL. REFER TO DETAIL ON SHT C5.01
3. EROSION CONTROL - INLET PROTECTION. REFER TO DETAIL ON SHT. C5.01.
4. NEW SPLIT SERVICE WATER METER PIT. REFER TO DETAIL ON SHT. C5.02.
5. NEW 4" WATER SERVICE FROM METER PIT TO EXISTING TAP. REFER TO DETAIL ON SHT. C5.02.
6. NEW 3" DOMESTIC TTO TIE INTO EXISTING. REFER TO DETAIL ON SHT. C5.02.
7. NEW 4" FIRE MAIN TO BUILDING. REFER TO DETAIL ON SHT. C5.02.
8. NEW FIRE HYDRANT. REFER TO DETAIL ON SHT. C5.02.
9. MATCH EXISTING GRADE.
10. PLACE NEW CONCRETE PAD 1" BELOW FINISH FLOOR ELEVATION AND SLOPE AWAY FROM ENTRY DOOR AT 2%.

GRADING QUANTITY:

CUT	17 CY
FILL	17 CY
NET	0 CY

LEGEND

DENOTES NEW ASPHALT PAVEMENT

N

0 20' 40'
1"=20'

25MSD-00305 BASEMAP 17P

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

BELLERIVE ELEMENTARY

620 RUE DE FLEUR DRIVE
CREVE COEUR, MO 63141

SITE IMPROVEMENTS AND INTERIOR RENOVATION

ISSUE FOR BID

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER
24 SEPTEMBER 2025
Civil Engineer of Record: Michael Sestak
Professional No.: PE-2021009101

SHEET NAME
GRADING & UTILITY PLAN

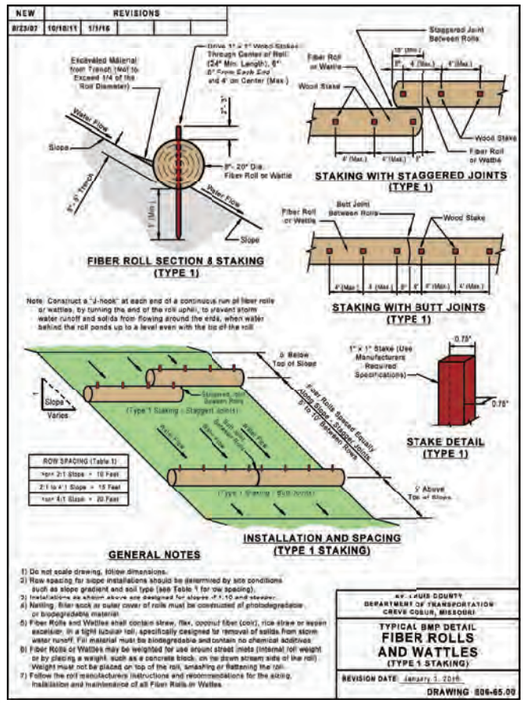
DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	ST
DATE:	24 SEPTEMBER 2025
SCALE:	

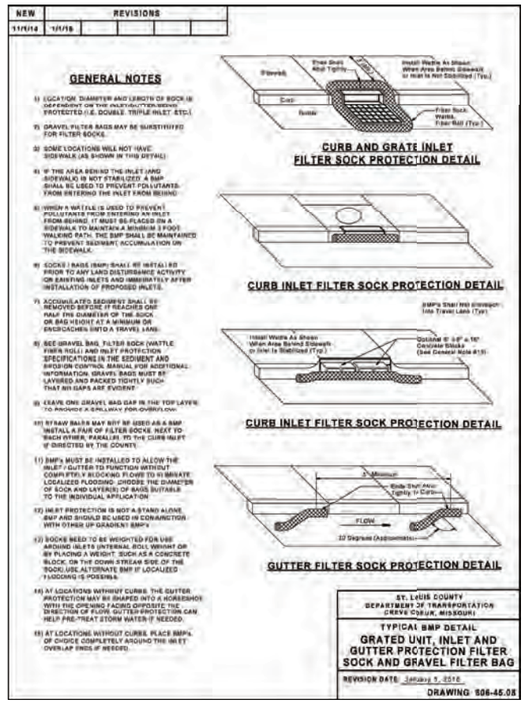
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

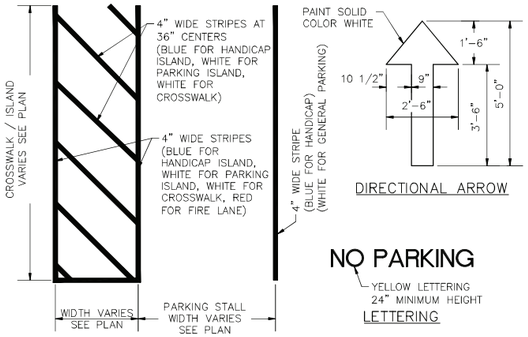
CLIENT PROJECT NUMBER: 152401B
WSP PROJECT NUMBER: 30902493.7275
SHEET NUMBER **C4.01**

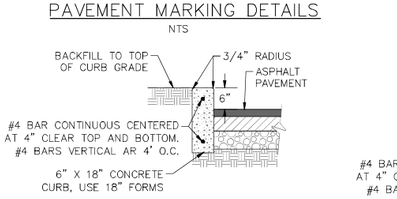
LAST EDITED: 9/25/2025 10:20 AM
FILE PATH: C:\Users\MS\MST1901\0DC\ACCDocs\WSP USA projects (AMER)\STL\30-30902493 - Parkway 2022 Bond - P23\Project Files\H - RLR - 20240M\L\152401B_RLR_VOL1_C0.dwg

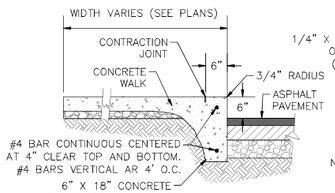
WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION ALTERED BY FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

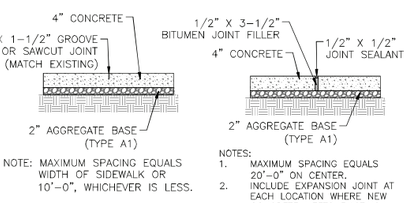


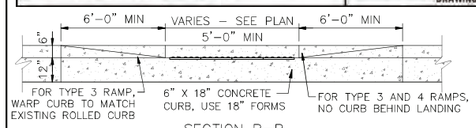


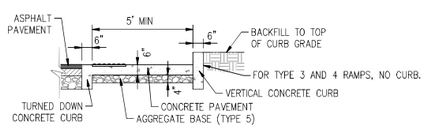


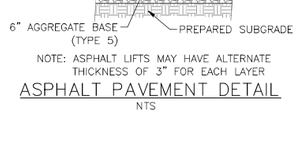


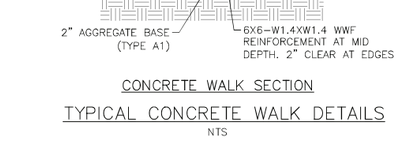


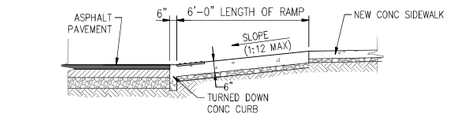


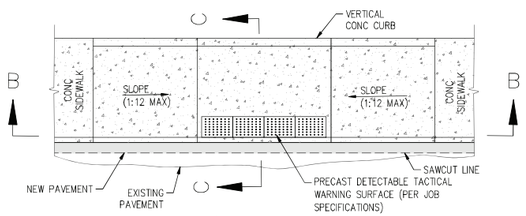


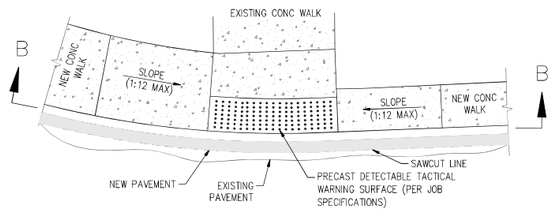


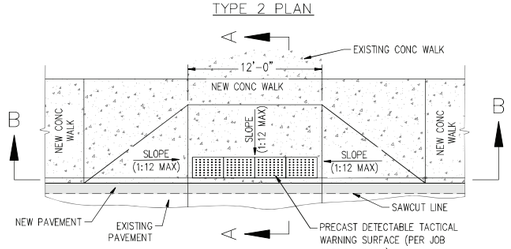


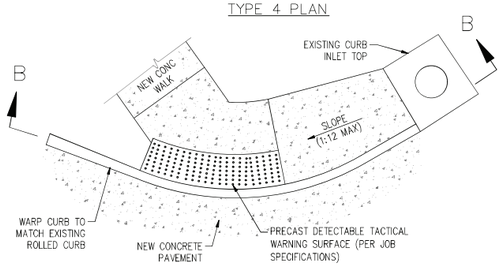












ADA CURB RAMP (TYPE 1–4) DETAILS
NTS

PARKWAY SCHOOLS
WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314-206-4444
Fax: +1 314-421-7741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT
BELLERIVE ELEMENTARY
620 RUE DE FLEUR DRIVE
CREVE COEUR, MO 63141
SITE IMPROVEMENTS AND INTERIOR RENOVATION

ISSUE FOR BID



PROFESSIONAL ENGINEER
24 SEPTEMBER 2025
Civil Engineer of Record: Michael Sestak
Professional No.: PE-2021009101

SHEET NAME
SITE DETAILS

DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	ST
DATE:	24 SEPTEMBER 2025
SCALE:	

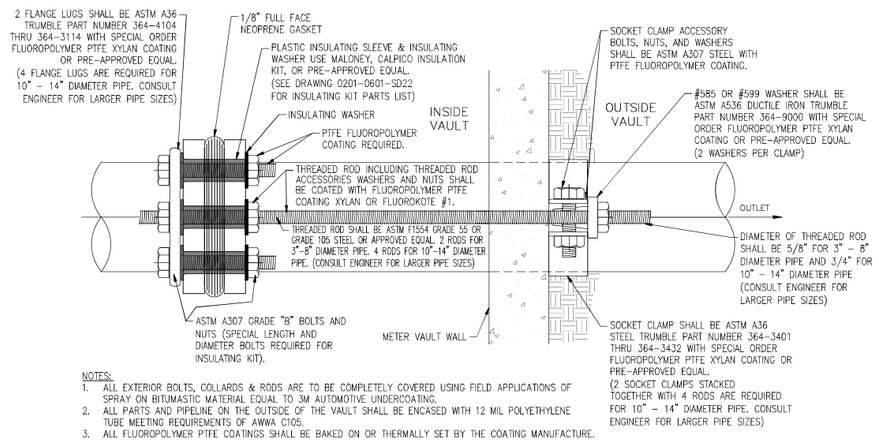
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 152401B
WSP PROJECT NUMBER: 30902493.7275
SHEET NUMBER **C5.01**

LAST EDITED: 9/25/2025 10:20 AM
FILE PATH: C:\Users\USMS7190100\OneDrive - WSP USA\Documents\ACCDocs\WSP USA projects (AMER)\STL\30\30902493 - Parkway 2022 Bond +R23\Project Files\H+BLR - 2024\CIVIL\152401B_BLR_VOL1_CD.dwg

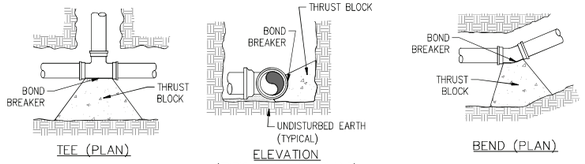
25MSD–00305 BASEMAP 17P

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTS ENGINEERS WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



NOTES:
1. ALL EXTERIOR BOLTS, COLLARDS & RODS ARE TO BE COMPLETELY COVERED USING FIELD APPLICATIONS OF SPRAY ON BITUMASTIC MATERIAL EQUAL TO 3M AUTOMOTIVE UNDERCOATING.
2. ALL PARTS AND PIPELINE ON THE OUTSIDE OF THE VAULT SHALL BE ENCASED WITH 12 MIL POLYETHYLENE TUBE MEETING REQUIREMENTS OF AWWA C105.
3. ALL FLUOROPOLYMER PTFE COATINGS SHALL BE BAKED ON OR THERMALLY SET BY THE COATING MANUFACTURE.

INSULATED FLANGE CONNECTION DETAIL
NTS



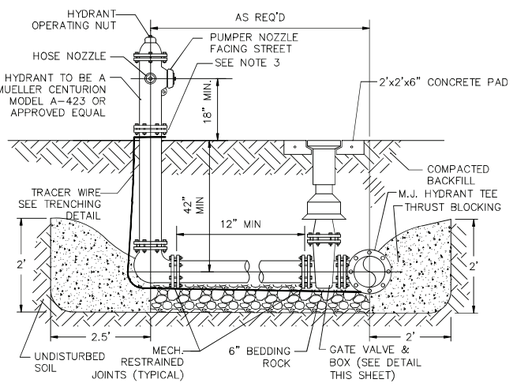
MINIMUM BEARING SURFACE IN SQUARE FEET

PIPE SIZE	BENDS (ANGLE IN DEGREES)				TEE	DEADE END
	11.25°	22.5°	45°	90°		
2"	1.0	1.0	2.0	4.0	3.0	3.0
4"	1.0	1.0	2.0	4.0	3.0	3.0
6"	1.0	2.0	4.0	8.0	6.0	6.0
8"	2.0	4.0	7.0	14.0	10.0	10.0
10"	3.0	6.0	11.0	21.0	15.0	15.0
12"	4.0	8.0	16.0	29.0	21.0	21.0
14"	5.0	11.0	21.0	39.0	28.0	28.0
16"	7.0	14.0	27.0	50.0	36.0	36.0
18"	9.0	17.0	34.0	63.0	45.0	45.0
20"	11.0	21.0	42.0	78.0	55.0	55.0
24"	15.0	31.0	60.0	111.0	78.0	78.0
30"	24.0	47.0	92.0	171.0	121.0	121.0
36"	34.0	67.0	132.0	244.0	173.0	173.0

NOTE: AREA BASED UPON WATER PRESSURE OF 150 PSI AND ALLOWABLE SOIL PRESSURE OF 1000 PSF. ENGINEER MAY MODIFY REQUIRED SIZE BASED UPON SITE CONDITIONS.

GENERAL NOTES FOR THRUST BLOCKS
1. MINIMUM THRUST BLOCK THICKNESS 1'-6".
2. MINIMUM THRUST BLOCK HEIGHT 1.5 TIMES PIPE DIAMETER.
3. EXTEND THRUST BLOCKS TO UNDISTURBED SOIL.
4. FORM VERTICAL SURFACES OF POURED CONCRETE THRUST BLOCKS EXCEPT ON THRUST FACE.
5. DO NOT ALLOW CONCRETE TO DIRECTLY CONTACT JOINTS OR FITTING BOLTS, PROTECT JOINTS AND BOLTS WITH POLYETHYLENE ENCASEMENT.

WATER MAIN THRUST BLOCK DETAILS
NTS

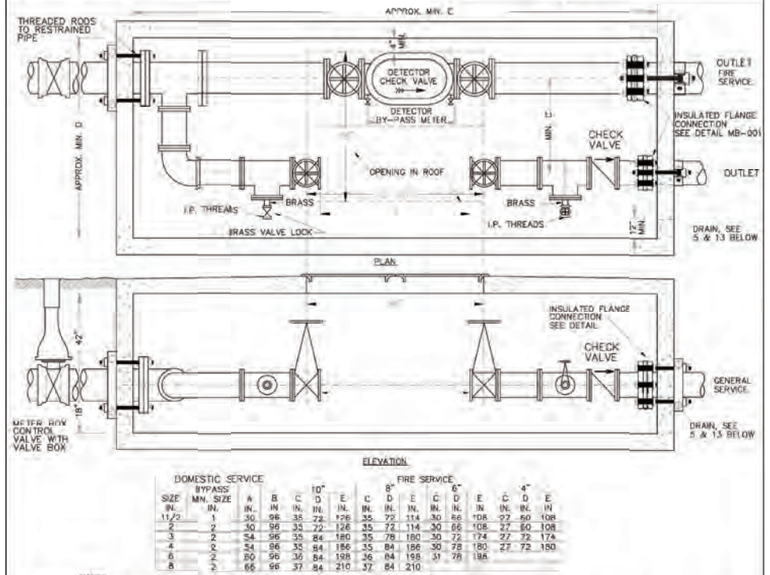


NOTES:
1. CLEARANCE BETWEEN BOTTOM OF BOLTS AND TOP OF SHEAR PAD SHALL BE 6" MINIMUM.
2. THRUST BLOCKING DIMENSIONS SHOWN ARE MINIMUM CONCRETE REQUIRED.
3. THRUST BLOCKING SHALL NOT COVER ANY JOINTS.
4. PUBLIC HYDRANTS SHALL BE PAINTED CONSISTENT WITH LOCAL MUNICIPALITY REQUIREMENTS.
5. FIRE HYDRANT SHALL BE INSTALLED 2' MIN. AND 4' MAX. FROM BACK OF CURB OR 6' MIN. AND 12' MAX. WHEN CURB IS NOT PRESENT. FIRE HYDRANT TO BE INSTALLED WITHIN RIGHT-OF-WAY OR EASEMENT LINE.
6. AREA AROUND HYDRANT AT A RADIUS OF 4' TO BE LEVEL AND UNOBSTRUCTED.
7. WATERPROOF BAGS SHALL BE PLACED OVER ALL NEWLY INSTALLED FIRE HYDRANTS.
8. HIGH PRESSURE (OVER 120 PSI) REQUIRES THE USE ALL 3 RESTRAINTS.

FIRE HYDRANT ASSEMBLY
NTS

MISSOURI AMERICAN WATER

FILE NO. ____
INDEX NO. ____
ISSUED DATE 08-15-2021
AMENDED DATE 10-25-2023



SIZE IN.	BYPASS MIN. SIZE IN.	10" A IN.	B IN.	C IN.	D IN.	E IN.	8" C IN.	D IN.	E IN.	6" C IN.	D IN.	E IN.	4" C IN.	D IN.	E IN.
1 1/2	1	30	96	35	72	126	35	72	114	30	66	108	27	60	108
2	2	30	96	35	72	126	35	72	114	30	66	108	27	60	108
3	2	54	96	35	84	180	35	78	180	30	72	174	27	72	174
4	2	54	96	35	84	186	35	84	186	30	78	180	27	72	150
6	2	60	96	36	84	198	36	84	198	31	78	186			
8	2	66	96	37	84	210	37	84	210						

NOTES
1. VAULT WALLS AND ROOF TO BE OF CONCRETE.
2. LIDS AND FRAMES OF OPENING TO BE SET IN PLACE, NOT IN CONCRETE.
3. VALVES ON EACH SIDE OF GENERAL METER FOR 1 1/2" OR 2" SERVICE TO HAVE SCREW ENDS, I.P. THREADS; FOR 3" AND ABOVE, VALVES MUST HAVE FLANGED ENDS & BE IN ALIGNMENT. ALL VALVES MUST BE ADEQUATELY SECURED TO WITHSTAND WATER THRUST WITH METER REMOVED.
4. MINIMUM CLEARANCE OF 6" TO BE PROVIDED BETWEEN THE EDGE AND GENERAL METER AND THE EDGE AND DETECTOR CHECK BYPASS METER.
5. DRAINAGE FACILITIES MUST BE PROVIDED, OR BOX OTHERWISE KEPT FREE OF WATER. NO FRENCH DRAINS ALLOWED UNLESS APPROVED BY AUTHORIZED COMPANY REPRESENTATIVE.
6. CLASS 52 DI PIPE EXTENDED MIN. 6' FROM OUTLET SIDE OF METER PIT. (ZINC COATED DI PIPE WITH V-BIO POLYWRAP OPTIONAL IN HIGHLY CORROSIVE SOIL AREAS).
7. TYPE "K" OR "L" COPPER ON DOMESTIC-EXTENDED MIN. 6' FROM OUTLET SIDE OF METER PIT.
8. ANY DEVIATION FROM PIPE DEPTH SHOWN MUST BE APPROVED BY AUTHORIZED COMPANY REPRESENTATIVE PRIOR TO CONSTRUCTION.
9. METER BOX CONTROL VALVE TO BE LOCATED AS NEAR TO METER BOX AS PRACTICAL.
10. BOX TO BE SET WITH TOP OF BOX AT FINISHED GRADE WITH NO EXTENSION ALLOWED.
11. CONNECTIONS TO PUBLIC WATER MAIN WILL NOT BE MADE BEFORE METER PIT AND PIPING ARE COMPLETE AND PROPERTY LINE VALVE INSTALLED, UNLESS APPROVED BY AUTHORIZED COMPANY REPRESENTATIVE.
12. LIDS SHALL BE MADE OF ALUMINUM AND SPRING LOADED. OPENING SHALL BE 48"x 96" TO ALLOW UNRESTRICTED ACCESS. OPENING TO BE FLUSH WITH OUTLET SIDE OF DOMESTIC WATER SERVICE VALVE FLANGE.
13. DRAIN NEEDS TO BE GRADED TO ALLOW WATER DRAINAGE AWAY AND OUT FROM VAULT.
14. CHECK VALVES REQUIRED FOR EACH METER BOX INSTALLATION AND SHALL BE RATED AT 250 PSI AND SHALL HAVE A RESILIENT SEAT.
15. ALL STEEL BOLTS, INCLUDING THE NUTS, WASHERS, LUGS, CLAMPS, AND BRACKETS USED FOR BOLT ACCESSORIES SHALL CONFORM TO AWWA C111 STANDARDS AND SHALL BE FACTORY COATED WITH AN APPROVED PTFE FLUOROPOLYMER COATING. APPROVED PTFE FLUOROPOLYMER COATING PRODUCTS INCLUDE FLUOROKOTE #1™, DR XYLAN™, SERIES 1420, 1421, 1424, OR APPROVED EQUAL. PTFE FLUOROPOLYMER COATINGS SHALL BE BAKED ON OR THERMALLY SET BY THE COATING MANUFACTURER.
16. A TEMPORARY FLANGED DUCTILE IRON SPOOL PIECE MUST BE INSTALLED IN THE PLACE OF THE METER LOCATION(S), 4" AND LARGER, TO ENSURE PIPE ALIGNMENT. MAWC PERSONNEL WILL REMOVE SPOOL PIECE AT TIME OF METER INSTALLATION AND WILL LEAVE IN METER VAULT FOR CONTRACTOR TO ACQUIRE FOR FUTURE USE.

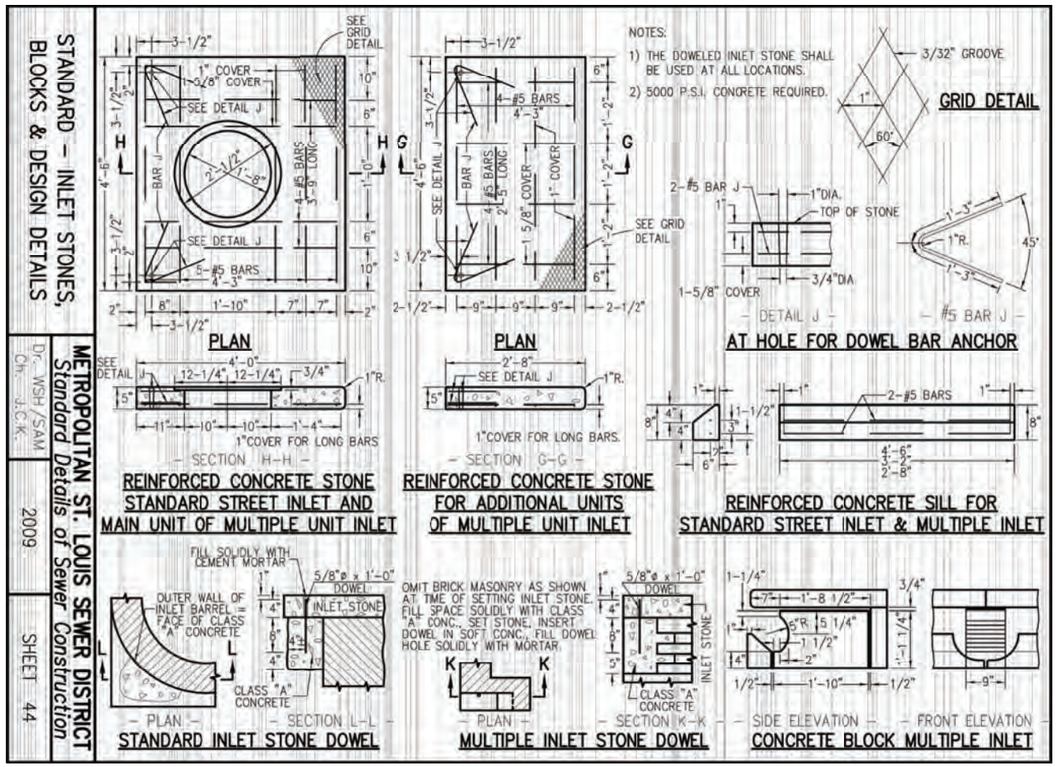
SUBJECT TO REVISION WITHOUT NOTICE 10-25-2023

METER BOX FOR SPLIT SERVICE

METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction

Dr: WSH/SAM
Ck: F.C.K.
2009
SHEET 44

STANDARD - INLET STONES, BLOCKS & DESIGN DETAILS



PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314-206-4444
Fax: +1 314-421-7741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

BELLERIVE ELEMENTARY

620 RUE DE FLEUR DRIVE
CREVE COEUR, MO 63141

SITE IMPROVEMENTS AND INTERIOR RENOVATION

ISSUE FOR BID



PROFESSIONAL ENGINEER
24 SEPTEMBER 2025
Civil Engineer of Record: Michael Sestak
Professional No.: PE-2021009101

SHEET NAME
SITE DETAILS

DESIGNED BY: MS
DRAWN BY: ST
CHECKED BY: ST
DATE: 24 SEPTEMBER 2025
SCALE:

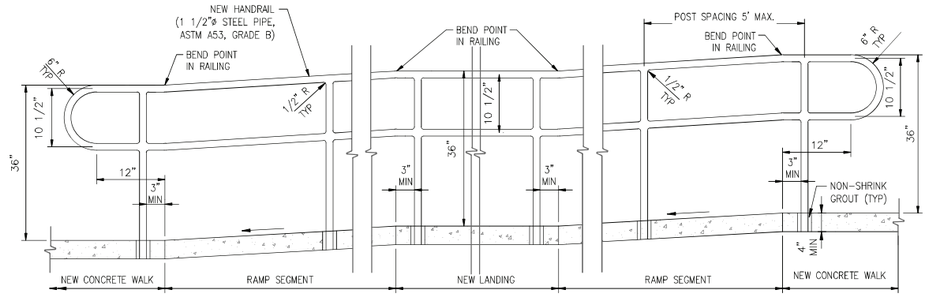
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 152401B
WSP PROJECT NUMBER: 30902493.7275
SHEET NUMBER **C5.02**

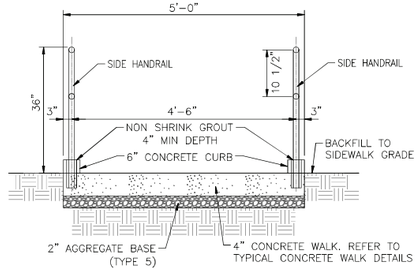
LAST EDITED: 9/25/2025 10:20 AM
FILE PATH: C:\Users\MS871901\DOCAC\Docs\WSP USA projects (AMER)\ST_100-30902493 - Parkway 2022 Bond - P23\Project Files\H - BLR - 2024\CAD\152401B_BLR_LV0.1_C0.dwg

25MSD-00305 BASEMAP 17P

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



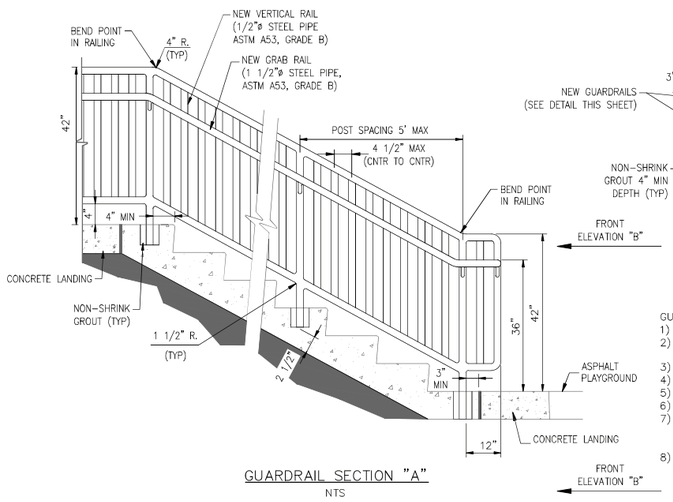
CONCRETE RAMP PROFILE



CONCRETE RAMP SECTION

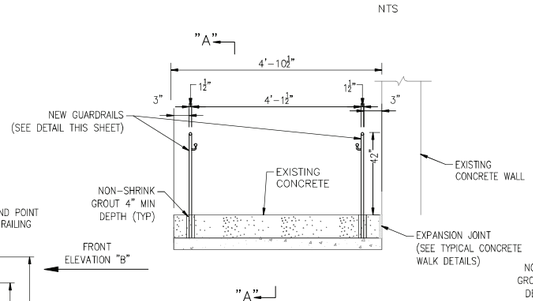
TYPICAL CONCRETE RAMP WITH HANDRAIL DETAILS

NTS

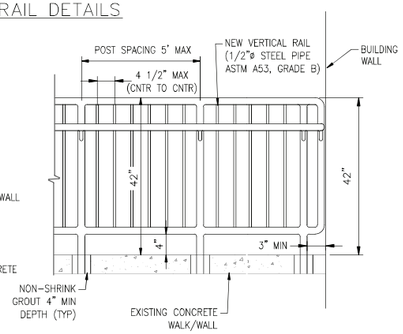


GUARDRAIL SECTION "A"

NTS



FRONT ELEVATION "B"

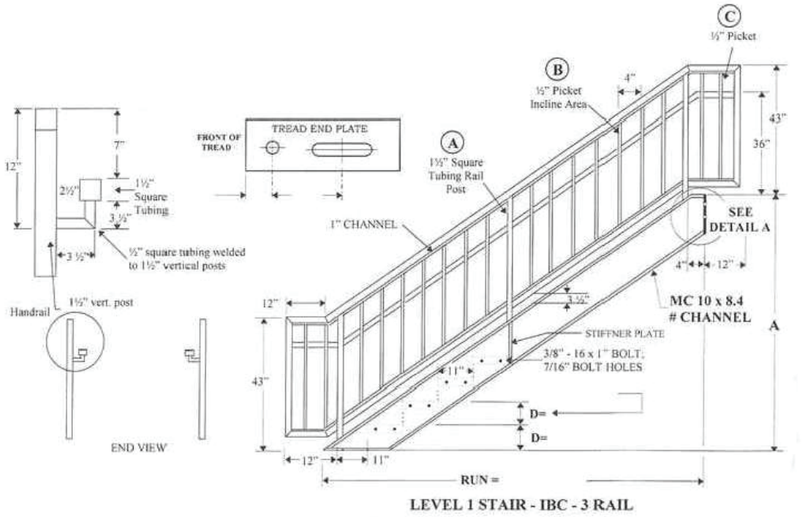


TYPICAL GUARDRAIL SECTION

GUARDRAIL NOTES:
1) GUARDRAILS TO BE FABRICATED TO FIT IN NEW SLEEVES (IN PLACE).
2) GUARDRAILS SHALL EXTEND AT LEAST 12" BEYOND THE TOP AND BOTTOM OF THE RAMP SEGMENT AND SHALL BE PARALLEL WITH THE GROUND SURFACE.
3) ALL PIPE SHALL BE SCH40 STEEL PIPE.
4) ALL JOINT WELDS TO BE CONTINUOUS.
5) GRIND WELD JOINTS SMOOTH.
6) HOT DIP GALVANIZE AFTER FABRICATION IN ACCORDANCE WITH ASTM 123-71.
7) GUARDRAILS TO BE PAINTED.
   a. ONE (1) PRIME COAT WITH PAINT APPROPRIATE FOR GALVANIZED METAL.
   b. TWO (2) TOP COATS WITH BLACK ALKYD PAINT.
8) ENTIRE PEDESTRIAN BRIDGE, STAIR, AND WALL SECTIONS AT SOUTH ENTRANCE TO RECEIVE GUARDRAIL AS DETAILED.

TYPICAL GUARDRAIL DETAILS

NTS



PREFABRICATED STEEL STAIR DETAIL

NTS

PARKWAY
SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com

WSP USA Design, Inc.,
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

BELLERIVE ELEMENTARY

620 RUE DE FLEUR DRIVE
CREVE COEUR, MO 63141

SITE IMPROVEMENTS AND INTERIOR RENOVATION

ISSUE FOR BID

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER
24 SEPTEMBER 2025

Civil Engineer of Record: Michael Sestak
Professional No.: PE-2021009101

SHEET NAME
SITE DETAILS

DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	ST
DATE:	24 SEPTEMBER 2025
SCALE:	

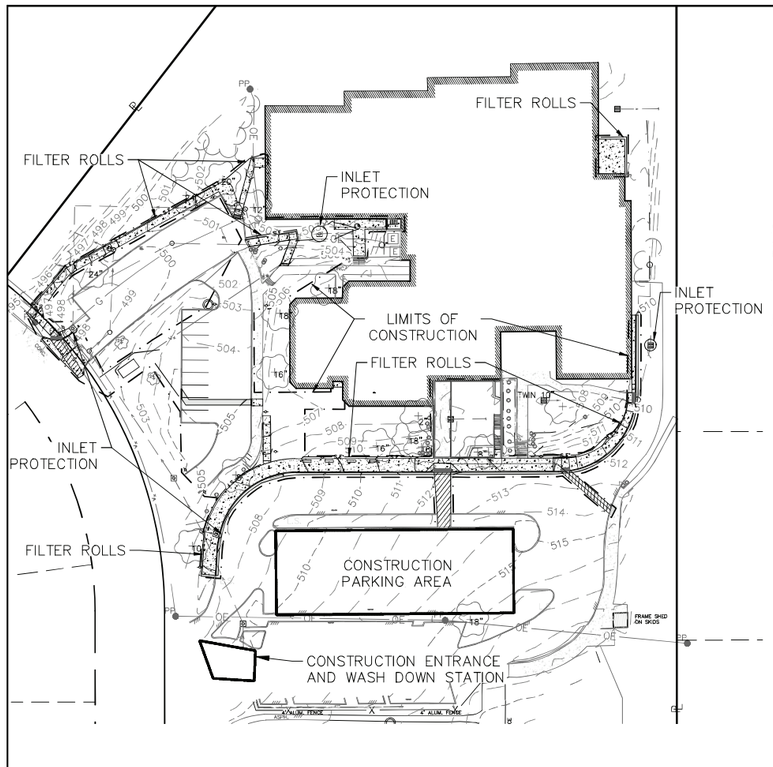
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 152401B
WSP PROJECT NUMBER: 30902493.7275
SHEET NUMBER **C5.03**

LAST EDITED: 9/25/2025 10:20 AM
FILE PATH: C:\Users\USMS7190100\DC\ACCDocs\WSP USA projects (AMER)\ST. LOUIS\30902493 - Parkway 2022 Bond - P229\Project Files\In - Rev\R - 20240618.152401B_BLR_VOL1_CD.dwg

25MSD-00305 BASEMAP 17P

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER ANY ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION ALTERED BY FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



SITE OWNER INFORMATION

PARKWAY SCHOOL DISTRICT
RALPH KNESE
363 N WOODS MILL RD.
CHESTERFIELD, MO 63017
(314) 415-8268

BMP QUANTITY TABLE

TEMPORARY CONSTRUCTION ENTRANCE	1	EACH
TEMPORARY WASHDOWN STATION	1	EACH
TEMPORARY INLET PROTECTION	4	EACH
TEMPORARY FILTER ROLLS	925	LF
PERMANENT SOD	1200	SY

OVERALL WORK SEQUENCING

Start Date: 05/20/2025
Expected completion: 09/20/2025

CONSTRUCTION PARKING

Construction parking to be located on existing asphalt parking area within the site..

BMP SEQUENCE

1. Install washdown station.
2. Install silt fence/filter roll.
3. Remove silt fence/filter roll.
4. Remove washdown station.

GENERAL NOTES

1. EROSION AND SILTATION CONTROL SHALL BE INSTALLED PRIOR TO ANY GRADING AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ADEQUATE VEGETATIVE GROWTH INSURES NO FURTHER EROSION OF THE SOIL AND WORK IS ACCEPTABLE TO THE OWNER AND CONTROLLING REGULATORY AGENCY.
2. AT LEAST ONCE EVERY WEEK AND AFTER EVERY RAINFALL EVENT OF 0.25 INCHES OR MORE, EROSION AND SILTATION CONTROL DEVICES SHALL BE INSPECTED FOR DAMAGE AND AMOUNT OF SEDIMENTATION ACCUMULATED AND CORRECTIVE ACTION TAKEN. REPORTS OF THESE INSPECTIONS AND CORRECTIVE ACTIONS SHALL BE PREPARED ON THE FORMS PROVIDED BY THE CITY AND SUBMITTED TO THE DEPARTMENT OF PUBLIC WORKS WITHIN 5 DAYS OF THE DATE OF THE INSPECTION.
3. TEMPORARY SILTATION CONTROL MEASURES (STRUCTURAL) SHALL BE MAINTAINED UNTIL VEGETATIVE COVER IS ESTABLISHED AT A SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL ON THE SITE.
4. WHERE NATURAL VEGETATION IS REMOVED DURING GRADING, VEGETATION SHALL BE REESTABLISHED AS SOON AS POSSIBLE IN SUCH A DENSITY AS TO PREVENT EROSION.
5. WHEN GRADING OPERATIONS ARE COMPLETED OR WILL BE SUSPENDED FOR MORE THAN 5 DAYS IN ANY AREA, THE DISTURBED AREA SHALL BE SEEDED OR OTHERWISE STABILIZED TO SIGNIFICANTLY REDUCE THE ERODIBILITY OF THE SOIL. PROTECTIVE MEASURES MAY INCLUDE A COMBINATION OF SEEDING, SODDING, MULCHING OR OTHER SUITABLE MEANS TO PROTECT THE GROUND SURFACE FROM EROSION.
6. IF CUT AND FILL OPERATIONS OCCUR DURING A SEASON NOT FAVORABLE FOR IMMEDIATE ESTABLISHMENT OF PERMANENT GROUND COVER, A FAST GERMINATING ANNUAL SUCH AS RYE GRASSES OR SUDAN GRASSES SHALL BE UTILIZED TO RETARD EROSION. IF ADEQUATE STORM WATER DETENTION AND EROSION CONTROL DEVICES HAVE NOT BEEN ESTABLISHED.
7. ALL FINISHED GRADES (AREAS NOT TO BE DISTURBED BY FUTURE IMPROVEMENT) IN EXCESS OF 20% SLOPES (5:1) SHALL BE MULCHED AND TACKED AT A RATE OF 100 POUNDS PER 1,000 SQUARE FEET WHEN SEEDED AS SOON AS POSSIBLE AFTER FINAL PLACEMENT.
8. STORM WATER PIPES, OUTLETS AND CHANNELS SHALL BE PROTECTED BY SILT BARRIERS AND KEPT FREE OF WASTE AND SILT AT ALL TIMES PRIOR TO FINAL SURFACE STABILIZATION AND / OR PAVING.
9. A MINIMUM OF 10% SURPLUS EROSION CONTROL MATERIALS SHALL BE KEPT ON-SITE FOR EMERGENCY REPAIRS.
10. NOTIFY THE COUNTY OF ST. LOUIS 48 HOURS PRIOR TO COMMENCEMENT OF GRADING AND/OR PRIOR TO COMMENCEMENT OF CONSTRUCTION.
11. PARKING ON NON-SURFACED AREAS IS PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVING CONDITIONS.
12. THE STREETS SURROUNDING THIS DEVELOPMENT AND ANY STREET USED FOR CONSTRUCTION ACCESS THERETO SHALL BE KEPT FREE FROM MUD AND CONSTRUCTION DEBRIS AND SHALL BE CLEANED THROUGHOUT THE DAY.
13. ALL FILLS PLACED UNDER PROPOSED STORM AND SANITARY SEWER LINES AND/OR PAVED AREAS, INCLUDING TRENCH BACKFILLS WITHIN AND OFF THE ROAD RIGHT-OF-WAY, SHALL BE COMPACTED TO 90% OF MINIMUM DENSITY AS DETERMINED BY THE "MODIFIED AASHTO T-180 COMPACTION TEST" (ASTM D-1557) FOR THE ENTIRE DEPTH OF THE FILL. COMPACTED GRANULAR BACKFILL IS REQUIRED IN ALL TRENCH EXCAVATION WITHIN THE STREET RIGHT-OF-WAY AND UNDER ALL PAVED AREAS. ALL TESTS SHALL BE PERFORMED UNDER THE DIRECTION OF AND VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACKFILLING OPERATIONS.
14. SOFT SOILS FROM THE BOTTOM AND BANKS OF ANY EXISTING OR FORMER POND SITES OR TRIBUTARIES OR ANY SEDIMENT BASINS OR TRAPS SHALL NOT BE PLACED IN PROPOSED PUBLIC RIGHT-OF-WAY LOCATIONS OR IN ANY STORM SEWER LOCATION.
15. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
16. DEBRIS AND FOUNDATION MATERIAL FROM ANY EXISTING ON-SITE BUILDING OR STRUCTURE WHICH IS SCHEDULED TO BE RAZED FOR THIS DEVELOPMENT MUST BE PROPERLY DISPOSED OF OFF-SITE.
17. ANY WELLS, CISTERNS AND/OR SPRINGS, WHICH MAY EXIST ON THIS PROPERTY, SHOULD BE LOCATED AND SEALED IN A MANNER ACCEPTABLE TO THE COUNTY OF ST. LOUIS AND THE MODNR.
18. ALL EXCAVATIONS, GRADING OR FILLING SHALL HAVE A FINISHED GRADE NOT TO EXCEED A 4:1 SLOPE (25%), UNLESS SPECIFICALLY APPROVED OTHERWISE. NO SLOPE SHALL EXCEED 3:1 MAXIMUM.
19. NO EXCAVATION SHALL BE MADE SO CLOSE TO THE PROPERTY LINE AS TO ENDANGER ANY ADJOINING PROPERTY OF ANY PUBLIC OR PRIVATE STREET WITHOUT SUPPORTING AND PROTECTING SUCH PUBLIC OR PRIVATE STREET OR PROPERTY FROM SETTLING, CRACKING OR OTHER DAMAGE.
20. ALL LOTS SHALL BE SEEDED AND MULCHED OR SODDED BEFORE AN OCCUPANCY PERMIT SHALL BE ISSUED".
21. REFER TO SHEET C6.0.0 AND C7.0.0 FOR ADDITIONAL SWPPP PLAN DETAILS [EROSION CONTROL FILTER ROLL (FILTER SOCK) DETAIL, EROSION CONTROL INLET PROTECTION (FABRIC DROP) DETAIL AND SILT FENCE DETAIL].
22. GRADING MUST NOT BEGIN UNTIL ALL PERIMETER SILTATION CONTROL HAS BEEN INSTALLED AND INSPECTED BY THE COUNTY.
23. A REDLINE SWPPP INDICATING ANY AND ALL CHANGES TO THE ORIGINAL SWPPP MUST BE KEPT ONSITE AND AVAILABLE TO THE COUNTY INSPECTOR DURING SITE VISITS AND COMPLIANCE INSPECTIONS.
24. ADDITIONAL SILTATION CONTROL SHALL BE INSTALLED AS REQUIRED BY ST. LOUIS COUNTY DEPARTMENT OF TRANSPORTATION.
25. ANY LAND CLEARING, CONSTRUCTION, OR DEVELOPMENT INVOLVING THE MOVEMENT OF EARTH SHALL BE IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN, AND THE PERSON ISSUED A LAND DISTURBANCE PERMIT ASSUMES AND ACKNOWLEDGES RESPONSIBILITY FOR COMPLIANCE WITH THE SAINT LOUIS COUNTY LAND DISTURBANCE CODE AND THE APPROVED STORM WATER POLLUTION PLAN AT THE SITE OF THE PERMITTED ACTIVITY.
26. PRIOR TO THE ISSUANCE OF A MAJOR LAND DISTURBANCE PERMIT, A LAND DISTURBANCE ESCROW SHALL BE APPROVED BY ST. LOUIS COUNTY DEPARTMENT OF PLANNING.
27. PRIOR TO ANY MAJOR LAND DISTURBANCE ACTIVITY, A LAND DISTURBANCE PERMIT FROM THE STATE OF MISSOURI DEPARTMENT OF NATURAL RESOURCES IS REQUIRED.
28. SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASH DOWN STATION PRIOR TO LEAVING THE SITE. NO TRACKING OF MUD ONTO ST. LOUIS COUNTY ROADS SHALL BE ALLOWED.
29. THE CONTRACTOR SHALL PROVIDE, INSTALL, MAINTAIN, AND REMOVE A PUBLIC NOTIFICATION SIGN, PER PAGES 42-43 OF THE ST. LOUIS COUNTY SEDIMENT AND EROSION CONTROL MANUAL.
30. THE SWPPP SHALL HAVE SUFFICIENT INFORMATION TO BE OF PRACTICAL USE TO CONTRACTORS AND SITE CONSTRUCTION WORKERS TO GUIDE THE INSTALLATION AND MAINTENANCE OF BMP'S. TEMPORARY STABILIZATION IS TO TAKE PLACE WHERE SOIL DISTURBING ACTIVITIES WILL CEASE ON ANY PORTION OF THE SITE AND ARE NOT PLANNED TO RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. TEMPORARY STABILIZATION MUST BE INITIATED IMMEDIATELY UPON KNOWING THE DURATION IS MORE THAN 14 DAYS. TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN 7 CALENDAR DAYS. SLOPES FOR DISTURBED AREAS MUST BE DEFINED IN THE SWPPP. A SITE MAP OR MAPS, DEFINING THE SLOPED AREAS FOR ALL PHASES OF THE PROJECT, MUST BE INCLUDED IN THE SWPPP. THE TYPES OF BMP'S USED MUST BE SUITED TO THE AREA DISTURBED, TAKING INTO ACCOUNT THE NUMBER OF ACRES EXPOSED AND THE STEEPNESS OF THE SLOPES. IF THE SLOPE OF THE AREA IS GREATER THAN 3:1 (3 FEET HORIZONTAL TO 1 FOOT VERTICAL) OR IF THE SLOPE IS GREATER THAN 3% AND GREATER THAN 150 FEET IN LENGTH, THEN THE PERMITTEE MUST ESTABLISH TEMPORARY STABILIZATION WITHIN 7 DAYS OF CEASING OPERATION ON THAT PART OF THE SITE. FINAL STABILIZATION OF DISTURBED AREAS MUST BE INITIATED IMMEDIATELY AND COMPLETED WITHIN 7 CALENDAR DAYS WHENEVER ANY CLEARING, GRADING, EXCAVATING OR OTHER EARTH DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE SITE. ALLOWANCES TO THE 7 DAY COMPLETION PERIOD FOR TEMPORARY AND FINAL STABILIZATION MAY BE MADE DUE TO WEATHER OR EQUIPMENT MALFUNCTIONS. THE USE OF ALLOWANCES SHALL BE DOCUMENTED IN THE SWPPP. A SITE MAP SHOWING THE OUTLINES OF THE TOTAL PROJECT AREA, THE AREAS TO BE DISTURBED, AREAS THAT WILL NOT BE DISTURBED, EXISTING LAND USES, LOCATIONS OF OFF-SITE MATERIALS, WASTE, BORROW AND EQUIPMENT STORAGE AREAS, LOCATIONS AND NAMES OF SURFACE WATER BODIES THE SITE DRAINS TO, AREAS OF FINAL STABILIZATION, LOCATIONS OF FLOOD PLAINS, LOCATIONS OF TEMPORARY AND PERMANENT BEST MANAGEMENT PRACTICES (BMP), LOCATIONS OF OUTFALLS, LOCATION(S) OF PORTA-POTTIES, GAS TANKS, DUMPSTERS, ETC. WITH UPDATES AND LOCATION CHANGES AND SUCH OTHER INFORMATION AS MAY BE REQUIRED BY THE COUNTY DEPARTMENT(S) HAVING ENFORCEMENT AUTHORITY AND RESPONSIBILITIES DESCRIBED IN SECTION 103.0 OF THE CODE. THE PERMITEE SHALL ENSURE THE BMP'S ARE PROPERLY INSTALLED AT THE LOCATIONS AND RELATIVE TIMES SPECIFIED IN THE SWPPP. PERIPHERAL OR BORDER BMP'S TO CONTROL RUNOFF FROM DISTURBED AREAS SHALL BE INSTALLED OR MARKED FOR PRESERVATION BEFORE GENERAL SITE CLEARING IS STARTED. NOTE THAT THIS REQUIREMENT DOES NOT APPLY TO EARTH DISTURBANCES RELATED TO INITIAL SITE CLEARING AND ENTRY ESTABLISHMENT, EXIT AND ACCESS OF THE SITE, WHICH MAY REQUIRE THAT STORMWATER CONTROLS BE INSTALLED IMMEDIATELY AFTER THE EARTH DISTURBANCE. STORM WATER DISCHARGES FROM DISTURBED AREAS WHICH LEAVE THE SITE, SHALL PASS THROUGH AN APPROPRIATE IMPEDIMENT TO SEDIMENT MOVEMENT, SUCH AS A SEDIMENTATION BASIN, SEDIMENT TRAPS, SILT FENCES, ETC., PRIOR TO LEAVING THE LAND DISTURBANCE SITE. A DRAINAGE COURSE/CHANGE SHALL BE CLEARLY MARKED ON A SITE MAP AND DESCRIBED IN THE SWPPP.
31. LOCATE STATE AND COUNTY LAND DISTURBANCE PERMITS, BMP INSPECTION REPORTS, ETC. WITH THE SWPPP.
32. THERE ARE NO KNOWN SINKHOLES, SPRINGS, SEEPS, OR KARST FEATURES ON THE CONSTRUCTION SITE.
33. THERE ARE NO PROPOSED INDUSTRIAL ACTIVITIES, SUCH AS CONCRETE OR ASPHALT BATCH PLANTS, PLANNED FOR THIS PROJECT.
34. THERE ARE NO ENDANGERED SPECIES OR HISTORIC PROPERTIES IMPACTED BY THIS PROJECT.
35. 404/401 PERMITS ARE NOT REQUIRED FOR THIS PROJECT AS CONSTRUCTION ACTIVITIES WILL NOT IMPACT ANY JURISDICTIONAL WATERS.
36. THERE ARE NO NON-STORMWATER DISCHARGES OR USE OF DEWATERING MEHODS PLANNED FOR THIS PROJECT.
37. IN THE EVENT STORM WATER RUNOFF LEAVES THE CONSTRUCTION SITE, THE APPROVED SITE SPECIAL INSPECTOR SHALL BE NOTIFIED BY PHONE IMMEDIATELY.

HAUL ROUTE INFORMATION

- Net cut volume for the site is 0 CY, but any material hauled in or out will travel as follows.
- Waste material is being hauled to 824 Hog Hollow Road (Chesterfield).
- The haul route is is Rue De Fleur Drive South to Mason Manor, Then West to N Mason Road, Then North to MO-340, then MO-340 West to Hog Hollow Road site.
- Concrete and asphalt material is being hauled to Simpson Materials for recycling (Valley Park).
- The haul route is Rue De Fleur Drive South to Mason Manor, Then West to N Mason Road, Then North to MO-340, then East to HWY 141 South, then to I-44 North Outer Road West to the site.
- Hauling activities should last approximately 1 month.
- Hauling will be during the hours of 8:40 a.m. and 2:30 p.m.

HAUL SCHEDULE

Haul Dates: May 20, 2026 – August 20, 2026

SEDIMENT HANDLING

Sediment removed during the maintenance of BMP's should be handled and disposed of in accordance with the approved SWPPP procedures for excavation.

LOSS OF SEDIMENT OFFSITE

Sediment lost offsite shall be immediately reclaimed and replaced. The BMP shall be inspected by engineer and a repair plan made to prevent future failure.

THE PROPERTY OWNER / DEVELOPER HEREBY CERTIFIES THAT HE IS FAMILIAR WITH THE SWPPP AND ASSUMES FULL RESPONSIBILITY FOR THE PERFORMANCE AND MAINTENANCE OF THE SWPPP AS STATED ON THE APPROVED PLANS. HE WILL ENSURE THAT ALL CONTRACTORS UNDERSTAND AND ARE FAMILIAR WITH THE SWPPP FOR THE SITE AND THAT EACH CONTRACTOR AGREES TO IMPLEMENT AND PROTECT ELEMENTS OF THE SWPPP AS THEY RELATE TO HIS WORK. THE PROPERTY OWNER'S / DEVELOPER'S ONSITE REPRESENTATIVE SHALL BE RESPONSIBLE FOR THE PERFORMANCE AND MAINTENANCE OF THE SWPPP. IN ADDITION, THE UNDERSIGNED OWNER / DEVELOPER ASSURES THAT ALL CITY PROPERTY OR ROADS WILL BE ADEQUATELY PROTECTED.

OWNER'S / DEVELOPER'S CONTACT PERSON AND PHONE # : Ralph Knese (314) 415-8268

EMERGENCY CONTACT AND PHONE # : Bill Freymuth (314) 415-4915

FILTER ROLLS / FILTER SOCKS

WHERE BMP IS TO BE INSTALLED:
As indicated on design plans.

WHEN BMP IS TO BE INSTALLED:
Prior to exposing any soil on site.

INSTALLATION / CONSTRUCTION PROCEDURES:
Follow the manufactures instructions and recommendations for the sizing, installation and maintenance of all filter rolls or filter socks.

O&M PROCEDURES:
Follow the manufactures instructions and recommendations for the sizing, installation and maintenance of all filter rolls or filter socks.

SITE CONDITIONS FOR REMOVAL:
Remove when general note 1 (above) is met.

NON-SEDIMENT POLLUTION CONTROL

PHYSICAL DESCRIPTION:
Control measures designed to prohibit chemicals, hazardous materials, solid waste and construction debris from polluting stormwater. Pollutants carried in solution or as surface films on runoff will be carried through most erosion control and sediment capture BMP's. Keeping substances like fuel, oil, asphalt, paint, fertilizer, soil additives, concrete wash water, solid waste and construction debris from polluting runoff can be accomplished to a large extent through good housekeeping on the site and following the manufacture's recommendations for disposal.

WHERE BMP IS TO BE INSTALLED:
Collection, storage and fueling areas should be located onsite in an area that does not receive a substantial amount of runoff from upland areas and does not drain directly to lakes, creeks, streams, rivers, sewers, groundwater, wetlands, or road ditches. Temporary sanitary facilities will be provided within 500' of each work site.

WHEN BMP IS TO BE INSTALLED:
Immediately following installation of construction entrances and wash stations.

INSTALLATION / CONSTRUCTION PROCEDURES:
Place waste receptacles near area of work.
Construct protective berm or other devices around fueling and hazardous materials storage areas.
Install appropriate signage.
Post guidelines for proper handling, storage and disposal of materials, and emergency spill cleanup on site.

O&M PROCEDURES:
Inspect activities on a weekly basis.
Inspect storage areas and control devices at least every two weeks and after every storm.
Make necessary corrections and repairs.

SITE CONDITIONS FOR REMOVAL:
Maintain practices until all construction on the site has been completed.

TYPICAL DETAILS:
General pollution prevention notes attached.

POLLUTION PREVENTION PROCEDURES

1. HANDLING AND DISPOSAL OF HAZARDOUS MATERIALS

   DO: Prevent spills.
   Use products up.
   Follow label directions for disposal.
   Remove lids from empty bottles and cans when disposing in trash.
   Recycle wastes whenever possible.

   DON'T: Don't pour waste into sewers, waterways or on the ground.
   Don't pour waste down sink, floor drain or septic tanks.
   Don't bury chemicals or containers, or dispose of them with construction debris.
   Don't mix chemicals together.

2. Containers shall be provided for collection of all waste material including construction debris, trash, petroleum products and any hazardous materials to be used onsite. All waste material shall be disposed of at facilities approved for that material.
3. No waste material shall be buried on-site.
4. Mixing, pumping, transferring or otherwise handling construction chemicals such as fertilizer, lime, asphalt, concrete drying compounds, and all other potentially hazardous materials shall be performed in an area away from any watercourse, ditch or storm drain.
5. Equipment fueling and maintenance, oil changing, etc., shall be preformed only in an area designated for that purpose. The designated area is equipped for recycling oil and catching spills.
6. Concrete wash water shall not be allowed to flow directly to storm sewers, streams, ditches, lakes, etc. without being treated. A sump or pit shall be constructed to contain concrete wash water.
7. If substances such as oil, diesel fuel, hydraulic fluid, antifreeze, etc. are spilled, leaked, or released onto soil, the soil shall be dug up and disposed at a licensed sanitary landfill (not a construction / demolition debris landfil). Spills on pavement shall be absorbed with sawdust, kitty litter or product designed for that purpose and disposed of at a licensed sanitary landfill. Hazardous or industrial wastes such as most solvents, gasoline, oil-based paints, and cement curing compounds require special handling. Theses materials will be removed from the site and recycled or disposed of in accordance with MoDNR requirements.
8. State law requires the party responsible for petroleum product spill in excess of 50 gallons to report the spill to MoDNR (537-634-2436) as soon as practical after discovery. Federal law requires the responsible party to report any release of oil if it reaches or threatens a sewer, lake, creek, stream, river, groundwater, wetland, or area, like a road ditch, that drains into one of the above.

SOIL PREPARATION AND REVEGATATION

1. Remove debris, roots, branches, stone, in excess of 1 inch in size. Remove soil contaminated with petroleum products.
2. Where topsoil is to be placed, scarify surface to depth of 3 inches.
3. In areas where vehicles or equipment have compacted soil, scarify surface to depth of 6 inches.
4. Place topsoil in areas where sodding and planting are indicated.
5. Place topsoil where required to level finish grade.
6. Place topsoil during dry weather.
7. Remove roots, weeds, rocks, and foreign material while spreading.
8. Fine grade topsoil to eliminate uneven areas and low spots. Maintain profiles and contour of subgrade.
9. Roll placed topsoil.
10. Moisten prepared surface immediately prior to laying sod.
11. Lay sod within 24 hours after harvesting to prevent deterioration.
12. Lay sod smooth and tight with no open joints visible, and no overlapping; stagger end joints 12 inches minimum.
13. Where new sod adjoins existing grass areas, align top surfaces.
14. Where sod is placed adjacent to hard surfaces, such as curbs, pavements, etc., place top elevation of sod 1/2 inch below top of hard surface.
15. Water sodded areas immediately after installation. Saturate sod to 4 inches of soil.
16. After sod and soil have dried, roll sodded areas to ensure good bond between sod and soil and to remove minor depressions and irregularities.

WASHDOWN STATION

PHYSICAL DESCRIPTION:
An area located at construction entrances designed to wash sediment from the tires and undercarriage of exiting vehicles and prevent sediment from being tracked onto existing roadways.

WHERE BMP IS TO BE INSTALLED:
Across or immediately adjacent to exit paths from unpaved construction sites.

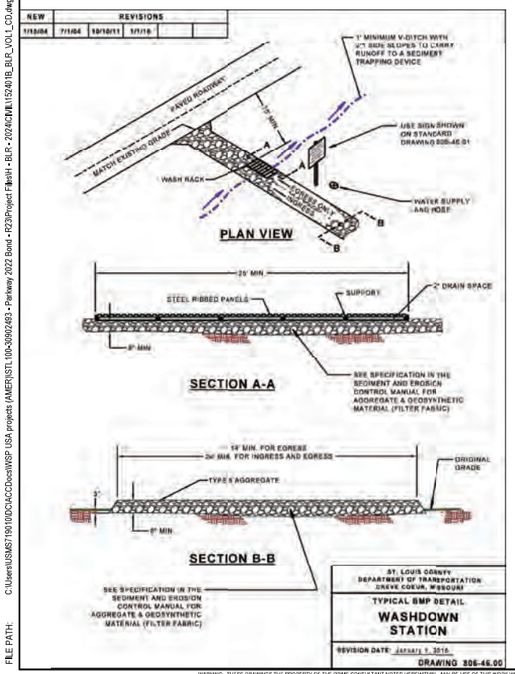
CONDITIONS FOR EFFECTIVE USE OF BMP:
Drainage: Downstream BMP sized to treat dirty runoff from washdown station.

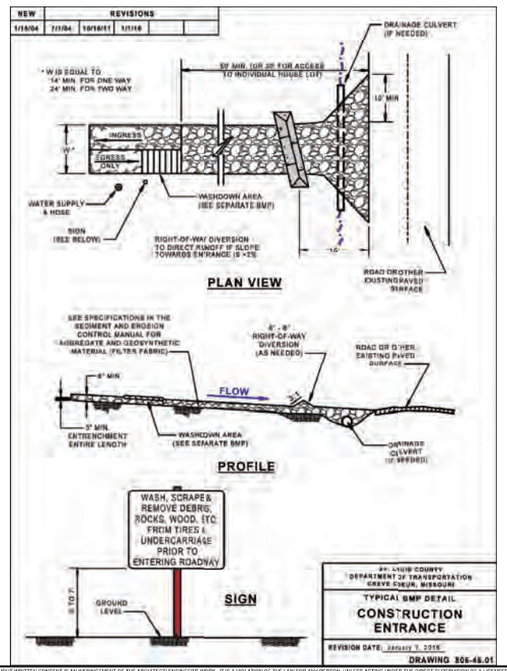
WHEN BMP IS TO BE INSTALLED:
First order of work, along with construction entrance, prior to vehicles or equipment accessing unpaved areas.

INSTALLATION / CONSTRUCTION PROCEDURES:
Grade and compact area for drainage under washdown pad.
Install steel-ribbed plate on frame or other support to allow a 2" drain space.
Grade and vegetate downstream BMP.
Install water supply and hose.
Post sign in advance of station indicating that all exiting vehicles and equipment must use station prior to exiting site.

O&M PROCEDURES:
Remove sediment daily.
Repair settled areas.
Replace rock if necessary to maintain clean surface.

SITE CONDITIONS FOR REMOVAL:
Remove when vehicles and equipment will no longer access unpaved areas.





LAST EDITED: 9/25/2025 10:20 AM
FILE PATH: C:\Users\USMS7191\DOCACCDocs\WSP USA projects (AMER)\STL\09-53902493 - Parkway 2022 Bond - P23\Project Files\H - BLR - 2024\CIVIL\152401B_BLR_L-VD1_CD.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITH. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER ANYITEM IN ANY WAY. IF ANITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314-206-4444
Fax: +1 314-421-1741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT
BELLERIVE ELEMENTARY
620 RUE DE FLEUR DRIVE
CREVE COEUR, MO 63141
SITE IMPROVEMENTS AND INTERIOR RENOVATION

ISSUE FOR BID

MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER
24 SEPTEMBER 2025

Civil Engineer of Record: Michael Sestak
Professional No.: PE-2021009101

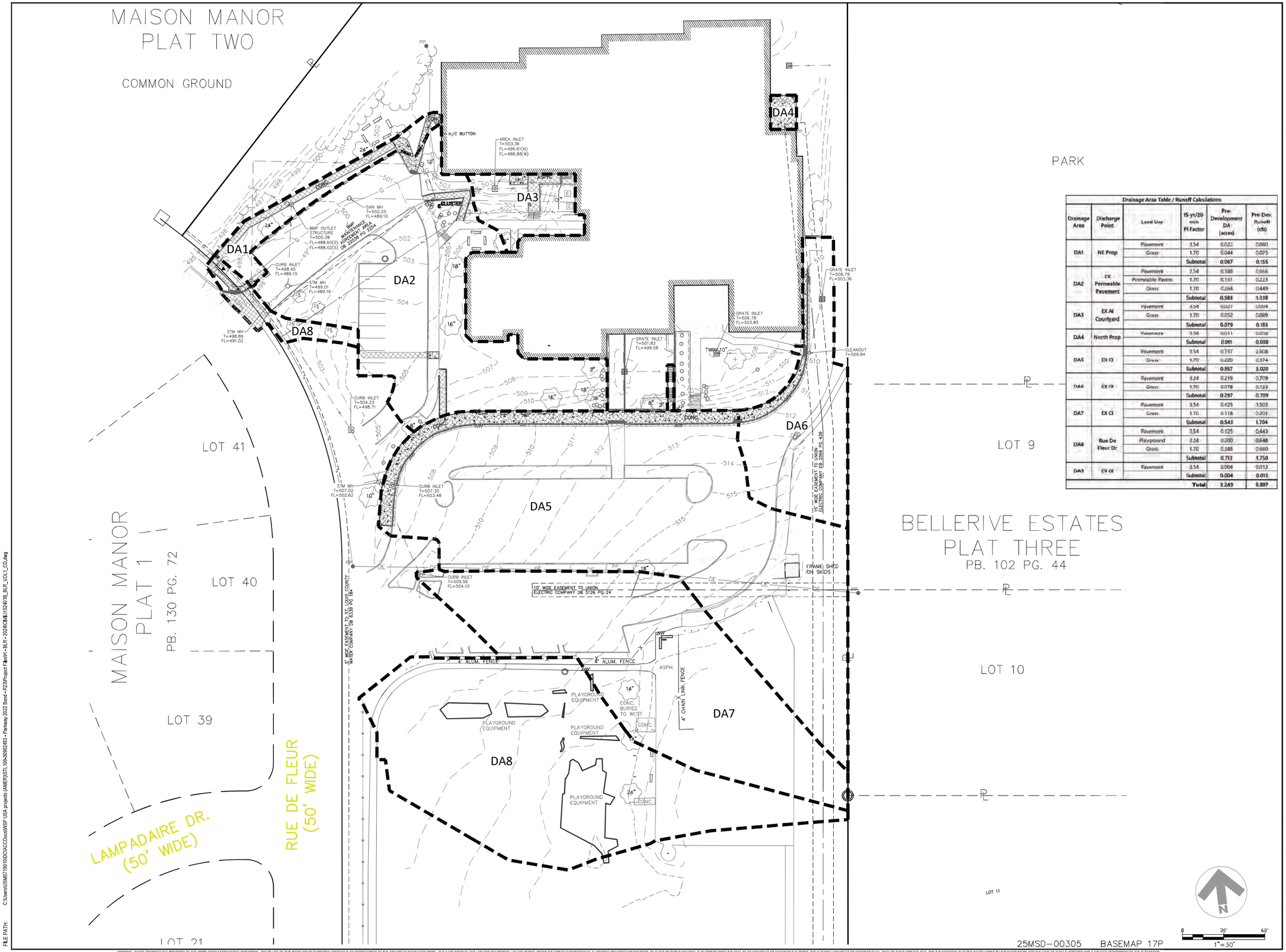
SHEET NAME
SWPP PLAN

DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	ST
DATE:	24 SEPTEMBER 2025
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 152401B
WSP PROJECT NUMBER: 30902493.7275
SHEET NUMBER **C6.01**

25MSD-00305 BASEMAP 17P



Drainage Area Table / Runoff Calculations

Drainage Area	Discharge Point	Land Use	15-yr/20-min PI Factor	Pre-Development DA (acres)	Pre-Dev. Runoff (cfs)
DA1	NE Prop	Pavement	3.54	0.022	0.080
		Grass	1.70	0.044	0.075
		Subtotal		**0.067**	**0.155**
DA2	EX Permeable Pavement	Pavement	3.54	0.188	0.666
		Permeable Pavers	1.70	0.131	0.223
		Grass	1.70	0.264	0.449
		Subtotal		**0.583**	**1.338**
DA3	EX Al Courtyard	Pavement	3.54	0.027	0.094
		Grass	1.70	0.052	0.089
		Subtotal		**0.079**	**0.183**
DA4	North Prop	Pavement	3.54	0.011	0.038
		Subtotal		**0.011**	**0.038**
DA5	EX CI	Pavement	3.54	0.737	2.608
		Grass	1.70	0.220	0.374
		Subtotal		**0.957**	**3.020**
DA6	EX r2	Pavement	3.24	0.219	0.709
		Grass	1.70	0.078	0.133
		Subtotal		**0.297**	**0.709**
DA7	EX CI	Pavement	3.54	0.425	1.503
		Grass	1.70	0.118	0.201
		Subtotal		**0.543**	**1.704**
DA8	Rue De Fleur Dr	Pavement	3.54	0.125	0.443
		Playground	3.24	0.200	0.648
		Grass	1.70	0.388	0.660
		Subtotal		**0.713**	**1.750**
DA9	EX GI	Pavement	3.54	0.004	0.013
		Subtotal		**0.004**	**0.013**
				Total	**3.249**	**8.897**

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314-206-4444
Fax: +1 314-421-1741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

BELLERIVE ELEMENTARY

620 RUE DE FLEUR DRIVE
CREVE COEUR, MO 63141

SITE IMPROVEMENTS AND INTERIOR RENOVATION

ISSUE FOR BID

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER
PE-2021009101
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER
24 SEPTEMBER 2025
Civil Engineer of Record: Michael Sestak
Professional No.: PE-2021009101

SHEET NAME
EXISTING DRAINAGE AREA MAP

DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	ST
DATE:	24 SEPTEMBER 2025
SCALE:	

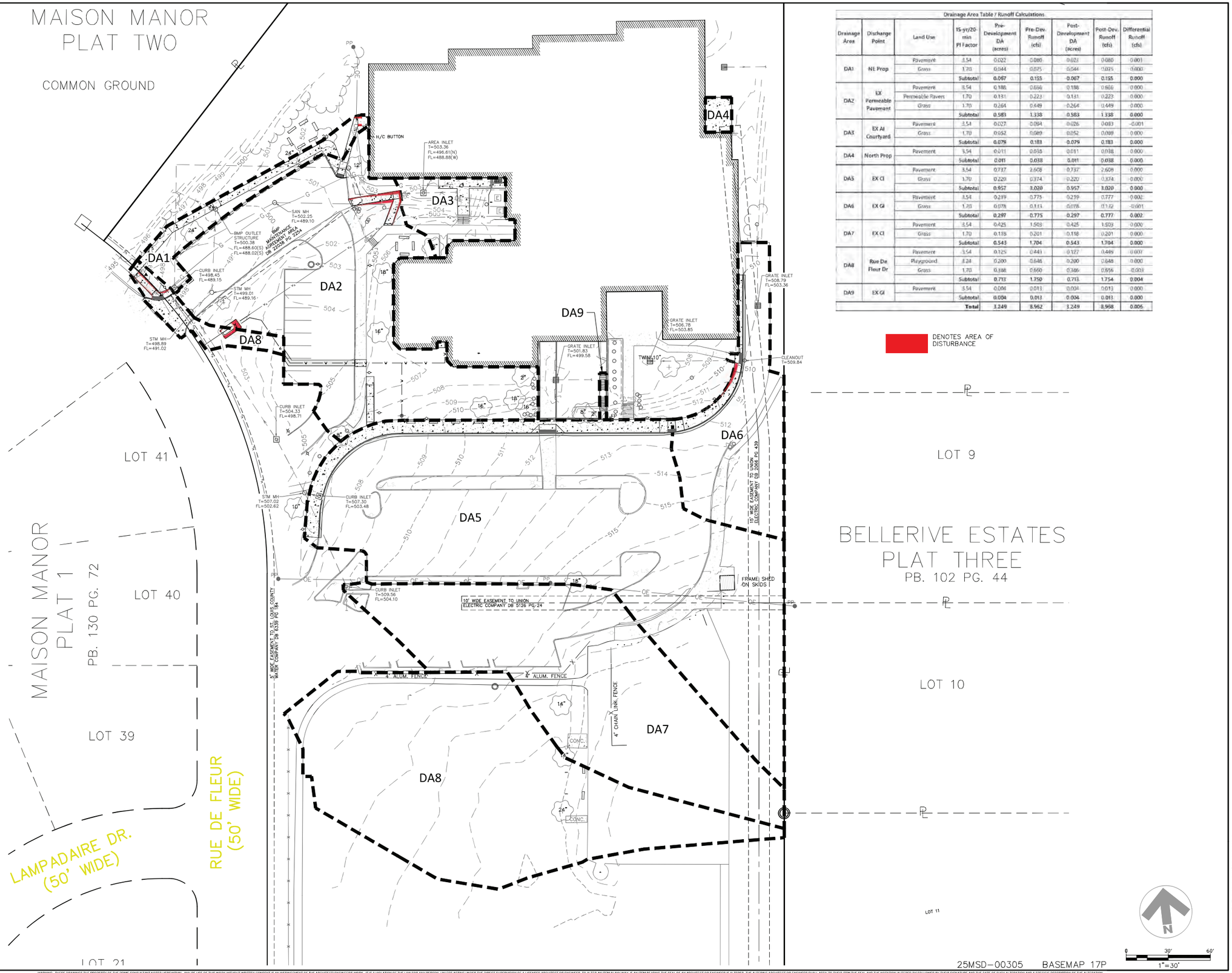
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 152401B
WSP PROJECT NUMBER: 30902493.7275
SHEET NUMBER **C6.01**

LAST EDITED: 9/25/2025 10:20 AM
FILE PATH: C:\Users\MSMS7190\ND\CACDocs\WSP USA projects (AMER)\ST. LOU-30902493 • Parkway 2022 Bond • 4239\Project Files\H • BLR • 2024\CAD\BLR152401B_BLR_PLVOL1_CD.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK, IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

25MSD-00305 BASEMAP 17P



Drainage Area Table / Runoff Calculations

Drainage Area	Discharge Point	Land Use	15-yr/20-min PI Factor	Pre-Development DA (acres)	Pre-Dev. Runoff (cfs)	Post-Development DA (acres)	Post-Dev. Runoff (cfs)	Differential Runoff (cfs)
DA1	NE Prop	Pavement	3.54	0.022	0.080	0.023	0.080	0.001
		Grass	1.70	0.044	0.075	0.044	0.075	0.000
		Subtotal		**0.067**	**0.155**	**0.067**	**0.155**	**0.000**
DA2	EX Permeable Pavement	Pavement	3.54	0.186	0.659	0.188	0.666	0.006
		Permeable Pavers	1.70	0.131	0.223	0.131	0.223	0.000
		Grass	1.70	0.264	0.449	0.264	0.449	0.000
		Subtotal		**0.583**	**1.331**	**0.583**	**1.338**	**0.000**
DA3	EX Al Courtyard	Pavement	3.54	0.027	0.094	0.026	0.093	-0.001
		Grass	1.70	0.052	0.089	0.053	0.090	0.000
		Subtotal		**0.079**	**0.183**	**0.079**	**0.183**	**0.000**
DA4	North Prop	Pavement	3.54	0.011	0.038	0.011	0.038	0.000
		Subtotal		**0.011**	**0.038**	**0.011**	**0.038**	**0.000**
DA5	EX CI	Pavement	3.54	0.737	2.608	0.737	2.608	0.000
		Grass	1.70	0.220	0.374	0.220	0.374	0.000
		Subtotal		**0.957**	**3.020**	**0.957**	**3.020**	**0.000**
DA6	EX GI	Pavement	3.54	0.219	0.775	0.219	0.777	0.002
		Grass	1.70	0.078	0.133	0.078	0.132	-0.001
		Subtotal		**0.297**	**0.775**	**0.297**	**0.777**	**0.002**
DA7	EX CI	Pavement	3.54	0.425	1.503	0.425	1.503	0.000
		Grass	1.70	0.118	0.201	0.118	0.201	0.000
		Subtotal		**0.543**	**1.704**	**0.543**	**1.704**	**0.000**
DA8	Rue De Fleur Dr	Pavement	3.54	0.125	0.443	0.127	0.449	0.007
		Playground	3.24	0.200	0.648	0.200	0.648	0.000
		Grass	1.70	0.388	0.660	0.386	0.656	-0.003
		Subtotal		**0.713**	**1.750**	**0.713**	**1.754**	**0.004**
DA9	EX GI	Pavement	3.54	0.004	0.013	0.004	0.013	0.000
		Subtotal		**0.004**	**0.013**	**0.004**	**0.013**	**0.000**
		Total		**3.249**	**8.962**	**3.249**	**8.968**	**0.006**

DENOTES AREA OF DISTURBANCE

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

BELLERIVE ELEMENTARY

620 RUE DE FLEUR DRIVE
CREVE COEUR, MO 63141

SITE IMPROVEMENTS AND INTERIOR RENOVATION

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER
PE-2021009101
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER
24 SEPTEMBER 2025
Civil Engineer of Record: Michael Sestak
Professional No.: PE-2021009101

SHEET NAME
PROPOSED DRAINAGE AREA MAP

DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	ST
DATE:	24 SEPTEMBER 2025
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 152401B
WSP PROJECT NUMBER: 30902493.7275
SHEET NUMBER **C7.01**

ISSUE FOR BID

25MSD-00305 BASEMAP 17P

LAST EDITED: 9/25/2025 10:20 AM
FILE PATH: C:\Users\MJSM571901\ID\CACD\Docs\WSP USA projects (AMER)\ST. LOUIS\30902493 - Parkway 2022 Bond - B23\Project Files\H - BLR - 20240708\1152401B_BLR_VOL1_CD.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTS' ENGINEERS WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

EXHIBIT-J

HANNA WOODS ELEMENTARY

BMP ORIGINAL PROJECT INFORMATION

Hanna Woods Elementary School

720 Hanna Road, Manchester, MO 63021

Parkway PN #171801B

Window, Door, & Roof Replacement and Solar-Tubes & Window Installation

BID GROUP NOTE:

THIS PROJECT IS DIVIDED INTO TWO BID GROUPS. PLEASE SEE INVITATION TO BID FOR A SCOPE OF WORK BREAKDOWN OF EACH BID GROUP.

Bid/Permit Set
3/31/2023

Architect

Bond Architects, Inc.

MO State Cert. of Authority #2009027409
222 South Central Avenue, Suite 501
St. Louis, MO 63105
(314) 863.4994 tel
(314) 863.4996 fax
Contact: Erik Wilson
Email: ewilson@bondarchitectsinc.com

Structural Engineer

CASE Engineering, Inc.

Consultant Project #BDA-MO-04-22
Certificate of Authority #001498
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel
Contact: Ardie Mansouri
Email: amansouri@caseengineeringinc.com

MEP & Fire Protection Engineer

RTM Engineering Consultants

Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel
Contact: Michael Mitchell
Email: michael.mitchell@rtmec.com

Civil Engineer

CEDC

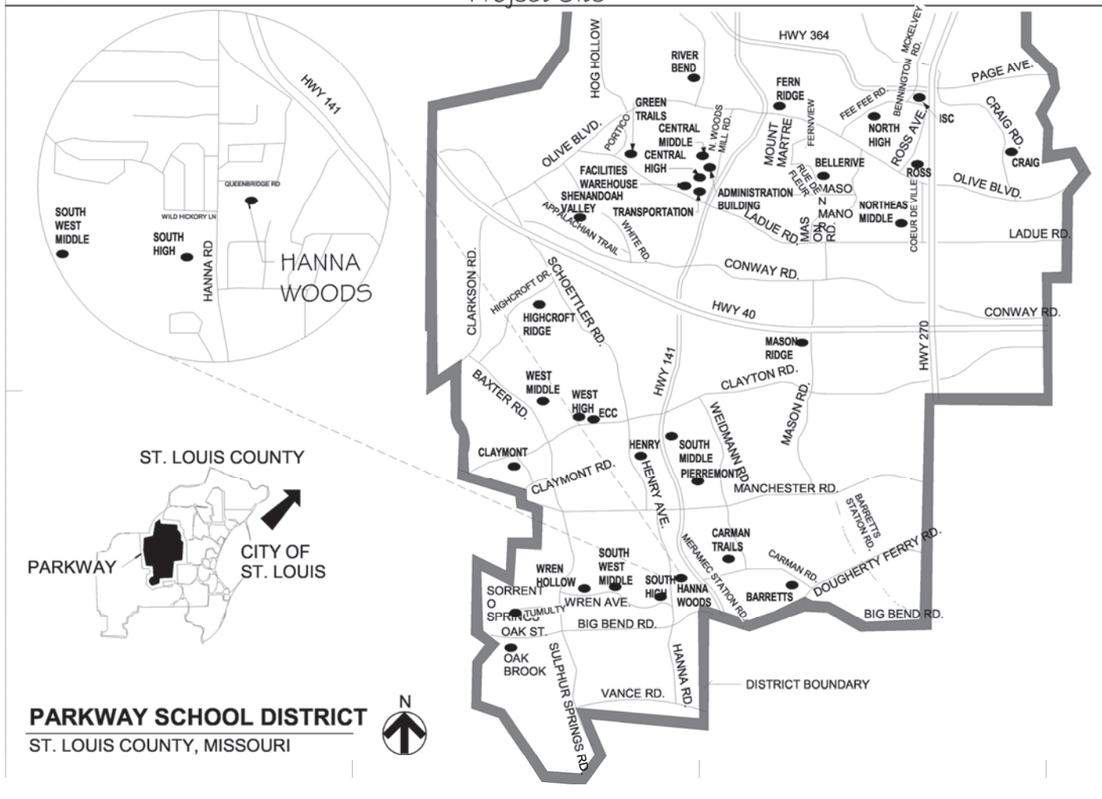
Consultant Project #2375
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel
Contact: Paul Boyer
Email: pboyer@cedc.net

Roofing Consultant

RMT Roofing Consultants, Inc.

Consultant Project #S4004-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2185 tel
Contact: Ryan O'Connell
Email: ryan@rmtroof.com

Project Site



Sheet Index

Sheet Number	Sheet Name
A0.00	COVER SHEET - BID GROUP #1
Civil	
C1.0	TITLE SHEET
C2.0	SPECIFICATION SHEET
C3.0	OVERALL SITE PLAN
C4.0	EXISTING CONDITIONS & FACILITIES REMOVAL PLAN
C4.1	EXISTING CONDITIONS & FACILITIES REMOVAL PLAN
C4.2	EXISTING CONDITIONS & FACILITIES REMOVAL PLAN
C5.0	SITE AND GRADING PLAN
C5.1	SITE AND GRADING PLAN
C5.2	SITE AND GRADING PLAN
C5.3	ENTRANCE WARPING AND SITE GRADING DETAILS
C6.0	SITE GEOMETRY AND UTILITY PLAN
C6.1	SITE GEOMETRY AND UTILITY PLAN
C6.2	SITE GEOMETRY AND UTILITY PLAN
C7.0	SEWER PROFILES AND HYDRAULIC CALCULATIONS
C8.0	SEWER DETAILS
C8.1	SEWER DETAILS
C9.0	SITE DETAILS
C9.1	SITE DETAILS
C9.2	RETAINING WALL PROFILES
C10.0	SWPPP PLAN
C10.1	BMP PLAN DETAILS
C10.2	BMP PLAN DETAILS
C11.0	EXISTING DRAINAGE AREA PLAN
C11.1	PROPOSED DRAINAGE AREA PLAN
C11.2	PROPOSED DRAINAGE AREA PLAN
C12.0	STORMWATER POLLUTION PREVENTION PLAN
C12.1	STORMWATER POLLUTION PREVENTION PLAN DETAILS
Landscape	
L1.01	LANDSCAPE PLAN
L1.02	BIORETENTION PLANTING PLAN
TPP	TREE PRESERVATION PLAN
TS	TREE SURVEY
Architectural	
A0.1	GENERAL NOTES & LEGENDS
A0.2	GENERAL NOTES & LEGENDS

Sheet Number	Sheet Name
A0.3	LIFE SAFETY PLAN
Electrical	
E0.0	SEISMIC CODE BLOCK - ELEC. & TECH. COMM.
E0.1	LEGEND, SYMBOLS, & NOTES - ELECTRICAL
E1.0	ELECTRICAL SITE PLAN
E5.0	DETAILS AND SCHEDULES - ELECTRICAL

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001498
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project #2375
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S4004-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2185 tel

Hanna Woods Elementary School
720 Hanna Road, Manchester, MO 63021
Parkway PN #171801B
Window, Door, & Roof Replacement and
Solar-Tubes & Window Installation

Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060

Revisions

No.	Description	Date
1	ADD. 1	4/14/23

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2023 by Bond Architects, Inc.

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

DATE: 3/31/2023

Bid/Permit Set
BID GROUP #1 -
SITE IMPROVEMENTS

COVER SHEET - BID GROUP #1

A0.00

4/11/2023 4:33:31 PM

SITE IMPROVEMENT PLANS

for

HANNA WOODS ELEMENTARY

PART OF SECTION 6, TOWNSHIP 44 NORTH, RANGE 5 EAST OF THE 5TH PRINCIPAL MERIDIAN, ST. LOUIS COUNTY, MISSOURI
PARKWAY SCHOOL DISTRICT

LEGEND

EXISTING CONTOURS	
PROPOSED CONTOURS	433
EXISTING STORM SEWER	
PROPOSED STORM SEWER	ST ST
EXISTING SANITARY SEWER	
PROPOSED SANITARY SEWER	SAN SAN
RIGHT-OF-WAY	
EASEMENT	
CENTERLINE	
EXISTING TREE	
EXISTING SPOT ELEVATION	
PROPOSED SPOT ELEVATION	533.88
SWALE	
TO BE REMOVED	T.B.R.
TO BE REMOVED & RELOCATED	T.B.R.& R.
TO BE USED IN PLACE	U.I.P.
ADJUST TO GRADE	A.T.G.
BACK OF CURB	B.C.
FACE OF CURB	F.C.
WATER MAIN	W W
GAS MAIN	GAS GAS
UNDERGROUND TELEPHONE	T T
OVERHEAD WIRE	OHE OHE
UNDERGROUND ELECTRIC	E E
SILTATION CONTROL	X X

SYMBOLS

FIRE HYDRANT	
POWER POLE	
WATER VALVE	WV
LIGHT STANDARD	
WATER MANHOLE	WMH
TELEPHONE MANHOLE	TMH
BRUSH & SHRUB LINE	
BOLLARD	
SIGN	
ELECTRIC YARD LIGHT	
BORING LOCATION	
MAIL BOX	MB
ELECTRIC BOX	EB
CLEAN OUT	CO
GAS VALVE	GV
GAS METER	GM
GAS DRIP	GD

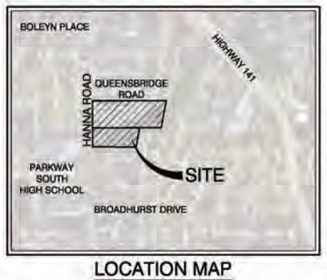
ABBREVIATIONS

N	NORTH
S	SOUTH
E	EAST
W	WEST
EX.	EXISTING
PR.	PROPOSED
CONC	CONCRETE
ASPH	ASPHALT
PB	PLAT BOOK
DB	DEED BOOK
PG	PAGE
SF	SQUARE FEET
AC	ACRES
ELEV	ELEVATION
FF	FINISH FLOOR
FL	FLOWLINE
PVC	POLYVINYL CHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
STM	STORM
SAN	SANITARY
(S)	SAVE
(R)	REMOVE
(T.B.R.)	TO BE REMOVED
(U.I.P.)	USE IN PLACE

PRIOR TO OBTAINING A CONSTRUCTION PERMIT FROM THE METROPOLITAN ST. LOUIS SEWER DISTRICT, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE THE DISTRICT WITH A COPY OF AN EXECUTED CERTIFICATE OF INSURANCE INDICATING THAT THE PERMITTEE HAS OBTAINED AND WILL CONTINUE TO CARRY COMMERCIAL GENERAL LIABILITY AND COMPREHENSIVE AUTO LIABILITY INSURANCE. THE REQUIREMENTS AND LIMITS SHALL BE AS STATED IN THE RULES AND REGULATIONS AND ENGINEERING DESIGN REQUIREMENTS FOR SANITARY AND STORMWATER DRAINAGE FACILITIES, SECTION 10.090. (ADDENDUM)

PREPARED FOR:
Bond Architects
222 South Central Ave.
Suite #501
St. Louis, MO 63105
Ph. 314-863-4994

PREPARED BY:
CEDC
CIVIL ENGINEERING DESIGN CONSULTANTS
10820 Sunset Office Drive
Suite 200
St. Louis, Missouri 63127
314.729.1400
Fax: 314.729.1404
www.cedc.net



LOCATION MAP
N.T.S.

PROPERTY DATA

OWNER	= PARKWAY SCHOOL DISTRICT
ADDRESS	= 720 & 726 HANNA ROAD
PARCEL ID	= 24Q530839 & 24Q440592
ACREAGE	= 11.91± AC. (518,641 ± S.F.)
ZONING	= R-4 SINGLE FAMILY RESIDENTIAL DISTRICT
FIRE DISTRICT	= WEST COUNTY EMS & FIRE PROTECTION DISTRICT
SCHOOL DISTRICT	= PARKWAY
WATER DISTRICT	= MISSOURI AMERICAN WATER COMPANY
SEWER DISTRICT	= METROPOLITAN SEWER DISTRICT
WATERSHED	= FISH POT CREEK
FEMA MAP	= 29189C0284K (02/04/2015)
ELECTRIC COMPANY	= AMEREN UE
PHONE COMPANY	= AT&T
GAS COMPANY	= SPIRE

FLOOD ZONE NOTES

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY LIES WITHIN UNSHADED ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) ACCORDING TO THE FLOOD INSURANCE RATE MAP PANEL NUMBER 29189C0284K, (ST. LOUIS COUNTY MISSOURI) WHICH BEARS AN EFFECTIVE OF FEBRUARY 4, 2015.

BENCHMARK

NAVD88 ELEV. = 549.47' FTUS

ST. COUNTY B.M. NO.18313

"STANDARD ALUMINUM DISK" STAMPED SL-86 1992 DISK IS SET ATTHE NORTHWEST CORNER OF HANNA AND BIG BEND ROADS; 37'SOUTHEAST OF THE SOUTHEAST CORNER OF CAR PORT STALLS AND 42'SOUTHWEST OF THE CENTER OF FIRE HYDRANT.

SITE BENCHMARK

NAVD88 ELEV. = 556.33' FTUS

CUT CROSS AND SQUARE AT THE NORTHEAST CORNER OF A CONCRETE WALK. FLAG POLE 78.5' EAST

PROPERTY DESCRIPTION

PARCEL 1:

PART OF THE SOUTHWEST 1/4 OF SECTION 6, TOWNSHIP 44 NORTH, RANGE 5 EAST, ST. LOUIS COUNTY, MISSOURI, BEING ALSO PART OF A 20 ACRE TRACT HERETOFORE CONVEYED TO EDW. J. CASSILLY, JR., INC., BY DEED RECORDED IN BOOK 4778, PAGE 165 OF SAID COUNTY RECORDS, DESCRIBED AS FOLLOWS: BEGINNING AT THE POINT OF INTERSECTION OF THE EAST LINE OF HANNA ROAD, 40 FEET WIDE, AND THE SOUTH LINE OF SAID CASSILLY TRACT; THENCE NORTH 89 DEGREES 39 MINUTES EAST ALONG SAID SOUTH LINE OF THE CASSILLY TRACT, 944.54 FEET TO A POINT IN THE WEST LINE OF UNION ELECTRIC COMPANY OF MISSOURI RIGHT-OF-WAY, 100 FEET WIDE; THENCE NORTH 10 DEGREES 20 MINUTES EAST AND ALONG THE WEST LINE OF SAID RIGHT-OF-WAY, 371.31 FEET TO A POINT; THENCE SOUTH 89 DEGREES 36 MINUTES WEST AND PARALLEL WITH SAID CASSILLY SOUTH LINE, 1,013.69 FEET TO A POINT IN THE EAST LINE OF SAID HANNA ROAD, 40 FEET WIDE, AND THENCE SOUTH 0 DEGREES 24 MINUTES EAST ALONG SAID EAST LINE 364.81 FEET TO THE POINT OF BEGINNING, AND CONTAINING 8.20 ACRES ACCORDING TO SURVEY BY GEO. W. KROPP & ASSOCIATES IN FEBRUARY, 1967.

PARCEL 2:
A TRACT OF LAND IN SECTION 6, TOWNSHIP 44 NORTH, RANGE 5 EAST, ST. LOUIS COUNTY, MISSOURI, AND DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE EASTERN LINE OF HANNA ROAD, 40 FEET WIDE, AT THE SOUTHWESTERN CORNER OF PROPERTY CONVEYED TO PARKWAY SCHOOL DISTRICT BY DEED RECORDED IN BOOK 6322, PAGE 2233 OF THE ST. LOUIS COUNTY RECORDS, THENCE ALONG THE SOUTHERN LINE OF SAID PARKWAY SCHOOL DISTRICT PROPERTY NORTH 89 DEGREES 37 MINUTES 34 SECONDS EAST, 644.64 FEET TO THE NORTHWESTERN CORNER OF "CHADWICK ESTATES PLAT #13", A SUBDIVISION ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK 132, PAGES 10 AND 11 OF THE ST. LOUIS COUNTY RECORDS, THENCE ALONG THE WESTERN LINE OF "CHADWICK ESTATE PLAT #13" SOUTH 10 DEGREES 14 MINUTES 10 SECONDS WEST 271.30 FEET TO ITS INTERSECTION WITH THE NORTHERN LINE OF "CHADWICK ESTATES PLAT #18", A SUBDIVISION ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK 144, PAGE 45 OF THE ST. LOUIS COUNTY RECORDS, THENCE ALONG THE NORTHERN LINE OF "CHADWICK ESTATES PLAT #18", NORTH 89 DEGREES 08 MINUTES 10 SECONDS WEST 595.44 FEET TO A POINT ON THE EASTERN LINE OF HANNA ROAD, AS AFOREMENTIONED, THENCE ALONG SAID EASTERN ROAD LINE NORTH 0 DEGREES 14 MINUTES 10 SECONDS WEST 253.80 FEET TO THE POINT OF BEGINNING AND CONTAINING 161,498.2 SQUARE FEET (3.707 ACRES).

SHEET INDEX

C1.0	TITLE SHEET
C2.0	SPECIFICATION SHEET
C3.0	OVERALL PLAN
C4.0–C4.1	EXISTING CONDITIONS & FACILITIES REMOVAL PLAN
C5.0–C5.1	SITE AND GRADING PLAN
C5.2	ENTRANCE WARPING AND SITE GRADING DETAILS
C6.0–C6.1	SITE GEOMETRY AND UTILITY PLAN
C7.0	SEWER PROFILES AND HYDRAULIC CALCULATIONS
C8.0–C8.1	SEWER DETAILS
C9.0–C9.1	SITE DETAILS
C9.2	RETAINING WALL PROFILES
C10.0	BEST MANAGEMENT PRACTICE PLAN
C10.1–C10.2	BEST MANAGEMENT PRACTICE PLAN DETAILS
C11.0	EXISTING DRAINAGE AREA PLAN
C11.1	PROPOSED DRAINAGE AREA PLAN
C11.2	OFFSITE DRAINAGE AREA PLAN
C12.0	STORMWATER POLLUTION PREVENTION PLAN
C12.1	STORMWATER POLLUTION PREVENTION PLAN DETAILS

STORMWATER MANAGEMENT FUTURE NOTE

PROJECT DISTURBANCE = 2.56 AC.
PROJECT RUNOFF DIFFERENTIAL = 1.60 CFS

ANY FUTURE LAND DISTURBANCE AND/OR INCREASE IN IMPERVIOUS AREA ON THIS SITE MAY REQUIRE ADDITIONAL STORMWATER MANAGEMENT PER MSD REGULATIONS IN PLACE AT THAT TIME (INCLUDING TOTAL LAND DISTURBANCE AND/OR IMPERVIOUSNESS ADDED ON THIS PLAN: 23MSD-00083).

NOTE:
CIVIL ENGINEERING DESIGN CONSULTANTS, INC. AND THE UNDERSIGNED ENGINEER HAVE NO RESPONSIBILITY FOR SERVICES PROVIDED BY OTHERS TO IMPLEMENT THE IMPROVEMENTS SHOWN ON THIS PLAN AND ALL OTHER DRAWINGS WHERE THE UNDERSIGNED ENGINEER'S SEAL APPEARS. THE CONSTRUCTION MEANS, METHODS & MATERIALS ARE THE SOLE RESPONSIBILITY OF THE OWNER AND CONTRACTOR. CIVIL ENGINEERING DESIGN CONSULTANTS, INC. HAS NO RESPONSIBILITY TO VERIFY FINAL IMPROVEMENTS AS SHOWN ON THIS PLAN UNLESS SPECIFICALLY ENGAGED AND AUTHORIZED TO DO SO BY THE OWNER OR CONTRACTOR.

NOTE:
CIVIL ENGINEERING DESIGN CONSULTANTS, INC. AND THE UNDERSIGNED ENGINEER HAVE NO RESPONSIBILITY FOR SERVICES PROVIDED BY OTHERS TO IMPLEMENT THE IMPROVEMENTS SHOWN ON THIS PLAN AND ALL OTHER DRAWINGS WHERE THE UNDERSIGNED ENGINEER'S SEAL APPEARS. THE CONSTRUCTION MEANS, METHODS & MATERIALS ARE THE SOLE RESPONSIBILITY OF THE OWNER AND CONTRACTOR. CIVIL ENGINEERING DESIGN CONSULTANTS, INC. HAS NO RESPONSIBILITY TO VERIFY FINAL IMPROVEMENTS AS SHOWN ON THIS PLAN UNLESS SPECIFICALLY ENGAGED AND AUTHORIZED TO DO SO BY THE OWNER OR CONTRACTOR.

UTILITY NOTE:
UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, RECORDS AND INFORMATION, AND , THEREFORE DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NON-EXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE FACILITIES, STRUCTURES AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS. THE UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319 RSMo.

NOTE TO CONTRACTOR:
CONTRACTOR/SUBCONTRACTOR SHALL INVESTIGATE, ASCERTAIN AND CONFORM TO ANY AND ALL PERMIT REQUIREMENTS OF THE (ANY) VARIOUS AFFECTED UTILITY COMPANIES AND/OR REGULATORY AGENCIES WITH REGARDS TO MAKING CONNECTIONS TO, OR CROSSINGS OF THEIR FACILITIES; WORKING WITHIN THEIR RIGHT-OF-WAY OR EASEMENTS; INSPECTIONS AND ASSOCIATED MONETARY CHARGES; AND/OR SPECIAL BACKFILL REQUIREMENTS. SUCH INVESTIGATION TO INCLUDE BUT NOT LIMITED TO THE MAKING OF NECESSARY APPLICATIONS AND PAYMENTS OF ALL REQUIRED FEES.

THE LOCATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS OR PROFILES ARE APPROXIMATE, IT IS THE RESPONSIBILITY OF THE CONTRACTOR/SUBCONTRACTOR TO VERIFY THE FIELD LOCATIONS, ANTICIPATED CLEARANCES AND THE EXISTENCE OF ANY FACILITIES NOT SHOWN HEREON, AS PART OF THE INVESTIGATIONS IN THE PARAGRAPH ABOVE.

THE DISCONNECT AND REMOVAL OF EXISTING OVERHEAD AND UNDERGROUND SERVICE LINES CALLED OUT TO BE REMOVED SHALL BE COORDINATED WITH THE RESPECTIVE UTILITY COMPANIES.

THE DEMOLITION PLAN IS FOR ILLUSTRATION OF THE GENERAL DEMOLITION ANTICIPATED FOR THIS PARTICULAR SITE. THE DEMOLITION PLAN DOES NOT REPRESENT ALL CONDITIONS THAT MAY BE ENCOUNTERED DURING DEMOLITION/CONSTRUCTION. THE CONTRACTOR SHALL MAKE HIMSELF THOROUGHLY FAMILIAR WITH THE SITE AND THE DEMOLITION/CONSTRUCTION REQUIREMENTS PRIOR TO BIDDING. THE INTENT OF THE DEMOLITION IS TO PROVIDE A CLEAN STABLE SITE, READY FOR CONSTRUCTION OF THE PROJECT IN CONFORMANCE WITH THE CONSTRUCTION PLANS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR CONDITIONS THAT ARE IN KEEPING WITH THIS INTENT.

NOTE:

THE UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SOURCES AND THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE ACTUAL LOCATIONS OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THIS DRAWING, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE LOCATED PRIOR TO GRADING OR CONSTRUCTION OF IMPROVEMENTS.

MISSOUR ONE CALL TICKET NUMBER 223462589 & 223462570

UTILITIES CONTACT BY MISSOURI ONE CALL WERE:
AMEREN MISSOURI ELECTRIC
ATT DISTRIBUTION
CHARTER COMMUNICATIONS
MISSOURI AMERICAN WATER CO
SPIRE MO EAST
ST LOUIS METROPOLITAN SEWER

Call BEFORE you DIG
TOLL FREE
1-800-DIG-RITE
MISSOURI ONE-CALL SYSTEM, INC.

23MSD-00083
Base Map: 24Q1

BA
bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority #
2009027499

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001488
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S43004-23
410 Sovereign Ct. Suite 18
Ballwin, MO 63011
636.391.2185 tel

Hanna Woods Elementary School
720 Hanna Road, Ballwin, MO 63021
Parkway PN #171801B
Window, Door, & Roof Replacement and
Solar-Tubes & Window Installation
Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

Description	Date

This drawing and the details and / or the information or the architectural work may not be used for any purpose, in whole or in part, or for any other project without the written consent of The Architect.
Copyright © 2022 by Bond Architects, Inc.

STATE OF MISSOURI
PAUL K. BOYER
NUMBER
3/31/23

PAUL K. BOYER, P.E. E-28258
CIVIL ENGINEER
CEDC LICENSE NO.: 2003004674

DATE: 03/31/23

Bid/Permit Set

TITLE SHEET

C1.0

GENERAL NOTES

1. ALL UTILITIES SHOWN HAVE BEEN LOCATED FROM AVAILABLE RECORDS. THEIR LOCATION SHOULD BE CONSIDERED APPROXIMATE. THE CONTRACTOR HAS THE RESPONSIBILITY TO NOTIFY ALL UTILITY COMPANIES, PRIOR TO CONSTRUCTION, TO HAVE EXISTING UTILITIES FIELD LOCATED. THE CONTRACTOR SHALL BE ON RECORD WITH THE MISSOURI ONE CALL SYSTEM. ALL PROPOSED UTILITIES TO BE UNDERGROUND.
2. ALL ELEVATIONS ARE BASED ON MSD BENCHMARK.
3. BOUNDARY AND TOPOGRAPHIC SURVEY BY MARLER SURVEYING CO.
4. ALL ON-SITE MATERIALS AND METHODS OF CONSTRUCTION TO MEET THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF MANCHESTER, MoDOT & MSD.
5. ALL GRADED AREAS SHALL BE PROTECTED FROM EROSION BY EROSION CONTROL DEVICES AND/OR SEEDING AND MULCHING AS REQUIRED BY CITY OF MANCHESTER.
6. PRIOR TO BEGINNING ANY WORK ON THE SITE, THE SUB-CONTRACTOR SHALL CONTACT THE GENERAL CONTRACTOR FOR SPECIFIC INSTRUCTIONS RELEVANT TO THE SEQUENCING OF WORK.
7. GRADING CONTRACTOR SHALL INSTALL SILTATION CONTROL PRIOR TO STARTING THE GRADING. ADDITIONAL SILTATION CONTROL DEVICES SHALL BE INSTALLED AS DIRECTED BY THE CITY OF MANCHESTER.
8. ALL FILLS AND BACKFILLS SHALL BE MADE OF SELECTED EARTH MATERIALS, FREE FROM BROKEN MASONRY, ROCK, FROZEN EARTH, RUBBISH, ORGANIC MATERIAL AND DEBRIS.
9. GRADING CONTRACTOR SHALL KEEP EXISTING ROADWAYS CLEAN OF MUD AND DEBRIS AT ALL TIMES.
10. PROPOSED CONTOURS SHOWN ARE FINISHED ELEVATIONS ON PAVED AREAS.
11. ALL GRADING & DRAINAGE TO BE IN CONFORMANCE WITH THE CITY OF MANCHESTER, MoDOT & METROPOLITAN ST. LOUIS SEWER DISTRICT STANDARDS.
12. DRIVE ENTRANCES ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF MANCHESTER & MoDOT.
13. SIDEWALKS ALONG THE ACCESSIBLE ROUTE SHALL NOT HAVE A SLOPE EXCEEDING 1"V:20"H. SLOPES GREATER THAN 1"V:20"H MUST BE DESIGNED AS A RAMP. ALL SIDEWALKS AND ASSOCIATED ACCESSIBILITY IMPROVEMENTS SHALL BE CONSTRUCTED TO THE CITY OF MANCHESTER.
14. SIDEWALKS, CURB RAMPS, RAMPS AND ACCESSIBLE PARKING SPACES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT APPROVED "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES" (ADAAG) ALONG WITH THE REQUIRED GRADES, CONSTRUCTION MATERIALS, SPECIFICATIONS AND SIGNAGE. IF ANY CONFLICT OCCURS BETWEEN THE ADAAG AND THE INFORMATION ON THE PLANS, THE ADAAG SHALL TAKE PRECEDENCE AND THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER PRIOR TO ANY CONSTRUCTION.
15. A PERMIT IS REQUIRED BY THE CITY DEPARTMENT OF PUBLIC WORKS FOR ALL DOWNSPOUTS, ROOF DRAINS AND PRIVATE STORM SEWERS.
16. BY GRAPHIC PLOTTING ONLY, THIS PROPERTY DOES NOT LIE WITHIN ANY SPECIAL FLOOD ZONE AREAS ACCORDING TO THE FLOOD INSURANCE RATE MAP PANEL NUMBER 29189C0284K AND COMMUNITY NUMBER 290366 (CITY OF MANCHESTER) WHICH BEARS AN EFFECTIVE DATE OF FEBRUARY 4, 2015. THIS PROPERTY LIES WITHIN UNSHADED ZONE X (AREAS DETERMINED TO BE OUTSIDE 500 YEAR FLOOD PLAIN).
17. NO GRADE SHALL EXCEED 3 (HORIZONTAL) :1 (VERTICAL), UNLESS JUSTIFIED BY A GEOTECHNICAL REPORT, WHICH HAS BEEN ACCEPTED/APPROVED BY THE CITY.
18. STORMWATER SHALL BE DISCHARGED AT ADEQUATE NATURAL DISCHARGE POINT. SINKHOLES ARE NOT ADEQUATE NATURAL DISCHARGE POINTS.
19. ALL LANDSCAPE AREAS TO BE FILLED WITH A MINIMUM OF 6" OF TOPSOIL.
20. ALL LANDSCAPED AREAS DISTURBED BY OFF-SITE WORK SHALL BE IMMEDIATELY SEEDED OR SODDED, AS DIRECTED BY CITY OF MANCHESTER DEPARTMENT OF PUBLIC WORKS AND/OR MoDOT, UPON COMPLETION OF WORK IN AREA AFFECTED.
21. ADEQUATE TEMPORARY OFF-STREET PARKING FOR CONSTRUCTION EMPLOYEES SHALL BE PROVIDED. PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEES' VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVEWAY CONDITIONS.
22. ALL STORM AND SANITARY SEWER STRUCTURES AND APPURTENANCES TO BE DEDICATED TO MSD, OR TO BE PRIVATE UNDER MSD INSPECTION, SHALL CONFORM TO THE METROPOLITAN ST. LOUIS SEWER DISTRICT, STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES, 2009. THAT WILL INCLUDE STANDARD DETAILS SHOWN THEREIN, AND SHALL INCLUDE ALL SUBSEQUENT CHANGES MADE THERETO.
23. ALL PROPOSED IMPROVEMENTS SHALL BE CONSTRUCTED TO THE CITY OF MANCHESTER AND ST. LOUIS COUNTY STANDARDS.
24. NO STEP ALLOWED AT ACCESSIBLE ENTRANCE DOORS.
25. ALL SIGN LOCATIONS AND SIZES TO BE APPROVED SEPARATELY THROUGH THE PLANNING DIVISION.
26. PARKING CALCULATIONS (REF. SEC. 405.290):
    ELEMENTARY, JUNIOR HIGH OR NURSERY SCHOOL
    REQUIRED: 1 PER 10 SEATS IN MAIN ASSEMBLY ROOM OR 2.5 PER CLASSROOM, WHICH EVER IS GREATER.
    CLASSROOMS = 25
    PARKING REQUIRED = 25 x 2.5 = 63 SPACES

    PROVIDED:
    EXISTING = 82 SPACES (59 FRONT LOT + 23 REAR LOT)
    PROPOSED = 97 SPACES
    TOTAL 179 SPACES (INCLUDES 6 ADA SPACES)
27. BUILDING SETBACKS (REF. SEC. 405.210, R-4):
    FRONT = 20'
    SIDE = 6'
    REAR = 15'
28. GROSS SQUARE FLOOR AREA (FLOOR AREA RATIO)
    FLOOR AREA = 55,597 SF
    SITE AREA = 518,641 S.F.
    F.A.R. FLOOR AREA/SITE AREA = 0.107
29. A LOT CONSOLIDATION PLAT IS PROPOSED AS PART OF THIS DEVELOPMENT.

CITY OF MANCHESTER NOTES

1. THE SITE IMPROVEMENT PLANS APPROVED BY THE CITY OF MANCHESTER DO NOT ALLOW THE REMOVAL OR CONSTRUCTION OF ANY SANITARY OR STORM SEWER LINES WITHOUT THE PRIOR APPROVAL OR CONSENT OF MSD.
2. ALL PUBLIC ROADS MUST BE KEPT CLEAR OF MUD AND DEBRIS AT ALL TIMES. FAILURE TO DO SO WILL BE CAUSE FOR THE CITY TO SUSPEND WORK.
3. ALL NEW SIGNS SHALL CONFORM TO THE CITY OF MANCHESTER SIGN ORDINANCE REQUIREMENTS. SIGN LOCATION AND DESIGN TO BE APPROVED WITH THE SITE IMPROVEMENT PLAN, A SEPARATE APPLICATION MUST BE MADE TO THE CITY.
4. THE GENERAL CONTRACTOR SHALL RESTORE OFFSITE CONSTRUCTION AREAS TO AN EQUAL OR BETTER CONDITION THAN EXISTED PRIOR TO THE COMMENCEMENT OF WORK IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES.
5. SAFETY NOTICE TO CONTRACTOR PRACTICES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RAZING AND REMOVAL OF THE EXISTING STRUCTURES, INCLUDING FOUNDATIONS, RELATED UTILITIES, PAVING, UNDERGROUND FACILITIES AND ANY OTHER EXISTING IMPROVEMENTS.
7. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE AND SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID DAMAGE TO ADJACENT PROPERTIES DURING ALL PHASES OF THE CONSTRUCTION PLAN.
8. BURNING ON SITE WILL NOT BE ALLOWED.
9. DISPOSAL OF MATERIAL ON-SITE WILL ONLY BE ALLOWED AS DIRECTED BY THE OWNER AND GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF MANCHESTER PUBLIC WORKS.
10. CONTRACTOR SHALL COORDINATE THE DISCONNECTION, SEALING AND/OR REMOVAL OF UTILITIES WITH THE RESPECTIVE UTILITY COMPANY.
11. THE GENERAL CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES FOR NEW SERVICES.
12. THE GENERAL CONTRACTOR SHALL FLAG ALL SANITARY AND STORM SEWER STRUCTURES WITH A 2 X 4 PAINTED ORANGE AND MARKED TO READ "STORM SEWER STRUCTURE OR SANITARY SEWER STRUCTURE DO NOT BURY".
13. ALL PRIVATE SEWERS ARE UNDER CITY OF MANCHESTER INSPECTION.
14. ALL FILLED PLACES UNDER PROPOSED STORM AND SANITARY SEWER LINES AND/OR PAVED AREAS SHALL BE COMPACTED TO 90% OF MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED AASHTO T-180 COMPACTION TEST OR 95 STANDARD PROCTOR TEST AASHTO T-99. A SEALED COPY OF ALL RESULT REPORTS SHALL BE AVAILABLE FOR REVIEW.
15. ALL EXCAVATIONS, GRADING, OR FILLING SHALL HAVE A FINISHED GRADE NOT TO EXCEED A 3:1 SLOPE (33 PERCENT). STEEPER GRADES MAY BE APPROVED BY THE DESIGNATED OFFICIAL IF THE EXCAVATION IS THROUGH ROCK OR THE EXCAVATION OR THE FILL IS ADEQUATELY PROTECTED (A DESIGNED HEAD WALL OR TOE WALL MAY BE REQUIRED). RETAINING WALLS THAT EXCEED A HEIGHT OF FOUR (4) FEET SHALL REQUIRE THE CONSTRUCTION OF SAFETY GUARDS AS IDENTIFIED IN THE APPROPRIATE SECTION(S) OF THE ADOPTED BUILDING CODES AND MUST BE APPROVED BY THE CITY OF MANCHESTER. PERMANENT SAFETY GUARDS WILL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROPRIATE SECTION(S) OF THE ADOPTED BUILDING CODES.
16. SEDIMENT AND EROSION CONTROL PLANS FOR SITES THAT EXCEED 20,000 SQUARE FEET OF GRADING SHALL PROVIDE FOR SEDIMENT OR DEBRIS BASINS, SILT TRAPS OR FILTERS, STAKED STRAW BALES OR OTHER APPROVED MEASURES TO REMOVE SEDIMENT FROM RUN-OFF WATERS. THE DESIGN TO BE APPROVED BY THE DESIGNATED OFFICIAL. TEMPORARY SILTATION CONTROL MEASURES (STRUCTURAL) SHALL BE MAINTAINED UNTIL VEGETATIVE CONTROL IS ESTABLISHED ON THE SITE, TO BE DETERMINED BY THE DESIGNATED OFFICIAL.
17. WHERE NATURAL VEGETATION IS REMOVED DURING GRADING, VEGETATION SHALL BE REESTABLISHED IN SUCH A DENSITY AS TO PREVENT EROSION. PERMANENT TYPE GRASSES SHALL BE ESTABLISHED AS SOON AS POSSIBLE OR DURING THE NEXT SEEDING PERIOD AFTER GRADING HAS BEEN COMPLETED.
18. WHEN GRADING OPERATIONS ARE COMPLETED OR SUSPENDED FOR MORE THAN 30 DAYS, PERMANENT GRASS MUST BE ESTABLISHED AT SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL ON THE SITE. BETWEEN PERMANENT GRASS SEEDING PERIODS, TEMPORARY COVER SHALL BE PROVIDED ACCORDING TO THE DESIGNATED OFFICIAL'S RECOMMENDATION.
19. ALL FINISHED GRADES (AREAS NOT TO BE DISTURBED BY FUTURE IMPROVEMENT) IN EXCESS OF 20 PERCENT SLOPES (5:1) SHALL BE MULCHED AND TACKED AT THE RATE OF 100 POUNDS PER 1,000 SQUARE FEET WHEN SEEDED.
20. PROVISIONS SHALL BE MADE TO ACCOMMODATE THE INCREASED RUNOFF CAUSED BY CHANGED SOIL AND SURFACE CONDITIONS DURING THE AFTER GRADING. UNVEGETATED OPEN CHANNELS SHALL BE DESIGNED SO THAT GRADIENTS RESULT IN VELOCITIES OF 2 FPS (FEET PER SECOND) OR LESS. OPEN CHANNELS WITH VELOCITIES MORE THAN 2 FPS AND LESS THAN 5 FPS SHALL BE ESTABLISHED IN PERMANENT VEGETATION BY USE OF COMMERCIAL EROSION CONTROL BLANKETS OR LINED WITH ROCK RIPRAP OR CONCRETE OR OTHER SUITABLE MATERIALS AS APPROVED BY THE DESIGNATED OFFICIAL. DETENTION BASINS, DIVERSIONS, OR OTHER APPROPRIATE STRUCTURES SHALL BE CONSTRUCTED TO PREVENT VELOCITIES ABOVE 5 FPS.
21. THE ADJOINING GROUND TO THE DEVELOPMENT SHALL BE PROVIDED WITH PROTECTION FROM ACCELERATED AND INCREASED SURFACE WATER, SILT FROM EROSION, AND ANY OTHER CONSEQUENCES OR EROSION. RUN-OFF WATER FROM DEVELOPED AREAS (PARKING LOTS, PAVED SITES AND BUILDINGS) ABOVE THE AREA TO BE DEVELOPED SHALL BE DIRECTED TO DIVERSIONS, DETENTION BASINS, CONCRETE GUTTERS AND/OR UNDERGROUND OUTLET SYSTEMS. SUFFICIENTLY ANCHORED STRAW BALES MAY BE TEMPORARILY SUBSTITUTED WITH THE APPROVAL OF THE DESIGNATED OFFICIAL.
22. DISTURBED AREAS SHALL BE SEEDED AND MULCHED AT THE RATES DEFINED IN SWPPP DETAILS OR SODDED BEFORE AN OCCUPANCY PERMIT SHALL BE ISSUED EXCEPT THAT A TEMPORARY OCCUPANCY PERMIT MAY BE ISSUED BY THE BUILDING DEPARTMENT IN CASES OF UNDUE HARDSHIP BECAUSE OF UNFAVORABLE GROUND CONDITIONS.
23. ALL LIGHT STANDARDS SHALL BE SHADED, SHIELDED OR DIRECTED TO PREVENT DIRECT LIGHT FROM CAUSING TRAFFIC HAZARDS, AND CASTING DIRECT LIGHT UPON ADJACENT PROPERTY CAUSING GLARE OR OTHER OBJECTIONABLE PROBLEMS TO SURROUNDING AREAS.
24. INTERIM STORM WATER DRAINAGE CONTROL IN THE FORM OF SILTATION CONTROL MEASURES ARE REQUIRED.
25. THE DEVELOPER IS REQUIRED TO PROVIDE ADEQUATE STORM WATER SYSTEMS IN ACCORDANCE WITH THE CITY OF MANCHESTER AND MSD STANDARDS.
26. ADDITIONAL SILTATION CONTROL SHALL BE INSTALLED AS REQUIRED BY THE CITY OF MANCHESTER.
27. ANY DISTURBED PROPERTY (I.E. BUSHES, FENCED, MAILBOXES, ETC.) SHALL BE REPLACED, IN KIND, AT THE DEVELOPER'S EXPENSE.
28. INTERNAL (PRIVATE) STORM SEWERS WILL REQUIRE A SEPARATE DRAINLAYER PERMIT FROM THE CITY OF MANCHESTER DEPARTMENT OF PUBLIC WORKS.
29. PROVIDE ADEQUATE OFF-STREET PARKING FOR CONSTRUCTION EMPLOYEES. PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVEWAY CONDITIONS.
30. ALL STORM WATER SHALL BE DISCHARGED AT AN ADEQUATE NATURAL DISCHARGE POINT.

MSD NOTES

STANDARD CONSTRUCTION:

ALL STORM AND SANITARY SEWER STRUCTURES AND APPURTENANCES TO BE DEDICATED TO MSD, OR TO BE PRIVATE UNDER MSD INSPECTION, SHALL CONFORM TO THE METROPOLITAN ST. LOUIS SEWER DISTRICT, STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES, 2009. THAT WILL INCLUDE STANDARD DETAILS SHOWN THEREIN, AND SHALL INCLUDE ALL SUBSEQUENT CHANGES MADE THERETO.

SOME RECENT CHANGES CONCERN PLASTIC PIPE MATERIALS AND PIPE FIELD TESTING AND PERFORMANCE, AND INCLUDE THE FOLLOWING:

PART 2 – MATERIALS OF CONSTRUCTION

HIGH DENSITY POLYETHYLENE (HDPE) PIPE IS NOT ALLOWED FOR GRAVITY SEWERS FOR STORM, COMBINED, OR SANITARY SEWERS THAT ARE "PUBLIC" OR "PRIVATE UNDER MSD INSPECTION".

CORRUGATED POLYPROPYLENE (PP) PIPE IS ALLOWED AS FOLLOWS FOR GRAVITY SEWERS THAT ARE "PUBLIC" OR "PRIVATE UNDER MSD INSPECTION:

A. FOR USE IN SANITARY AND COMBINED SEWERS 12 TO 60 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2764 "STANDARD SPECIFICATION FOR 6 TO 60 IN. POLYPROPYLENE (PP) CORRUGATED DOUBLE AND TRIPLE WALL PIPE AND FITTINGS FOR NON-PRESSURE SANITARY SEWER APPLICATIONS." PIPE SHALL HAVE A MINIMUM STIFFNESS OF 46 PSI WHEN TESTED IN ACCORDANCE WITH ASTM D2412.

B. FOR USE IN STORM SEWERS 12 TO 30 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2881 "STANDARD SPECIFICATION FOR 12 TO 60 IN. POLYPROPYLENE (PP) DUAL WALL PIPE AND FITTINGS FOR NON-PRESSURE STORM SEWER APPLICATIONS;" OR ASTM F2764 "STANDARD SPECIFICATION FOR 6 TO 60 IN. POLYPROPYLENE (PP) CORRUGATED DOUBLE AND TRIPLE WALL PIPE AND FITTINGS FOR NON-PRESSURE SANITARY SEWER APPLICATIONS;" OR FOR USE IN STORM SEWERS 36 TO 60 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2764 "STANDARD SPECIFICATION FOR 6 TO 60 IN. POLYPROPYLENE (PP) CORRUGATED DOUBLE AND TRIPLE WALL PIPE AND FITTINGS FOR NON-PRESSURE SANITARY SEWER APPLICATIONS." PIPE SHALL HAVE A MINIMUM STIFFNESS OF 46 PSI WHEN TESTED IN ACCORDANCE WITH ASTM D2412.

C. PIPE FOR GRAVITY SEWER INSTALLATIONS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321 WITH THE EXCEPTION THAT INITIAL BACKFILL SHALL BE A MINIMUM OF 6 INCHES ABOVE THE TOP OF PIPE AS SHOWN IN THE STANDARD DETAILS OF SEWER CONSTRUCTION. CONSOLIDATION BY WATER (JETTING OR PUDDLING) SHALL NOT BE USED. CONSOLIDATION SHALL BE IN ACCORDANCE WITH MSD STANDARD CONSTRUCTION SPECIFICATIONS FOR TRENCH BACKFILL. PRICE FOR COMPACTED BACKFILL SHALL BE INCLUDED IN PIPE UNIT COST.

1. A REPRESENTATIVE FROM THE PIPE MANUFACTURER SHALL VISIT THE SITE WITHIN THE FIRST 100 FEET OF PIPE INSTALLATION. COORDINATION OF THIS SITE VISIT SHALL BE ARRANGED BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE THE MSD INSPECTOR AT LEAST 24 HOURS' NOTICE OF THE PLANNED DATE AND TIME OF THE MANUFACTURER'S SITE VISIT.

2. FOLLOWING THE SITE VISIT, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE A LETTER FROM THE PIPING MANUFACTURER SUMMARIZING THEIR OBSERVATIONS. AT A MINIMUM, THE LETTER SHALL:

A) INDICATE THE DATE THE INITIAL SECTION OF PIPE WAS INSTALLED; AND
B) VERIFY THAT THE INSTALLATION OCCURRED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED PROCEDURES.

D. TRENCH WIDTH SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION RECOMMENDATIONS. DISTRICT STANDARD PAYLINE WIDTHS BASED ON THE NOMINAL INSIDE PIPE DIAMETER SHALL APPLY.

PART 4 – PIPE SEWER CONSTRUCTION

SECTION B, PIPE FIELD TESTS, PARAGRAPH 2, REACH INTEGRITY TESTING – DELETE THE FIRST SENTENCE AND THE FOLLOWING REPLACEMENT APPLIES:

ALL SANITARY AND COMBINED SEWERS SHALL SUSTAIN A MAXIMUM LEAKAGE LIMIT OF 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY, AS REQUIRED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES SPECIFICATIONS.

SECTION B, PIPE FIELD TESTS, PARAGRAPH 2, REACH INTEGRITY TESTING, SUBPARAGRAPH C, INFILTRATION/EXFILTRATION TESTING – DELETE THE SIXTH SENTENCE, CONCERNING LEAKAGE LIMITS, AND THE FOLLOWING REPLACEMENT APPLIES:

THE MEASUREMENT OF LEAKAGE SHALL NOT EXCEED 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY, AS REQUIRED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES SPECIFICATIONS.

COMPACTED FILL REQUIREMENTS:
A registered professional geotechnical engineer will verify that all compressible material has been removed prior to fill placement and that all fill, and filled areas, including trench backfills, under buildings and under sanitary and storm sewer lines constructed above the original ground surface, has been compacted to 90% Modified Proctor. Fill is to be placed in a maximum of nine-inch (9") lifts. Tests shall be taken at a maximum of fifty-feet (50') wide intervals along the route of the pipe, at a maximum interval, of two feet (2'), vertically and laterally on each side of the pipe, at a distance equal to the depth of fill over the pipe. A copy of these results will be submitted to MSD prior to placement of the sewer pipe.

DETAIL DRAWINGS:
The detail drawings shown here are only for private construction that is NOT under MSD permits. Refer to MSD specifications and standard details for public sewer construction or private construction under MSD permits.

GREASE INTERCEPTOR: (if one is required)
Grease interceptor to be located in an accessible location for MSD inspection. Grease interceptor to provide means for visual inspection from above for both the influent and effluent sides. MSD sampling manhole to be located on a private lateral in an accessible location for MSD sampling. Sampling manhole shall be located downstream of grease interceptor and all other commercial sanitary laterals to facilitate MSD sampling. Grease interceptors and sampling manholes shall be shown on the plans and not be located in drive-thru lanes or within parking spaces.

PIPE JOINTS WITH ADAPTERS AND COUPLINGS NOTE:
Note – Pipe joints with adapters and couplings shall be supplied and installed with 316 Stainless Steel nut and bolt clamps (T-Bolt) configuration; and with Stainless Steel shear bands, being a minimum of twelve (12) mils (MSD Std. Const. Specs. Pt. 2, subsection H.11). Worm drive hose clamps and concrete backfilling (causticity) will no longer be allowed at those joints. Granular backfill should be used. If flowable fill is required, the contractor shall wrap and tape the adapters and couplings with a six (6) mil polyethylene sheet.

PUBLIC SEWER MAINTENANCE:
Maintenance of the sewers designated "public" shall be the responsibility of the Metropolitan St. Louis Sewer District upon dedication of the sewers to the District.

REMOVE REPLACE OR REHAB NOTE:
The removal and replacement, or rehabilitation of the existing structure will be determined by the MSD field inspector. If the structure is determined to remain in place, then the top shall be adjusted to grade, if needed.

SANITARY LATERALS:
Laterals to be 8 inch PVC and constructed at 2.0% minimum slope.

SHOP DRAWINGS:
The project engineer shall provide shop drawings signed and sealed by a Professional Engineer licensed in Missouri for approval to MSD prior to construction of these structures. Structures shall be designed to sustain HS-20 loads. Please contact the District's Construction Management Division at (314) 335-2072 for questions.

STORM SEWER NOTES

1. ALL CONCRETE PIPE SHALL BE REINFORCED, AND CONFORM TO A.S.T.M. DESIGNATION C76-80 CLASS III UNLESS NOTED.
2. ALL SEWER CONSTRUCTION AND MATERIALS TO BE IN ACCORDANCE WITH THE METROPOLITAN ST. LOUIS SEWER DISTRICT STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES, 2009.
3. TYPE "C" BEDDING PER MSD STANDARDS IS REQUIRED FOR PIPES IN ROCK.
4. ALL TRENCHES UNDER AREAS TO BE PAVED AND UNDER EXISTING PAVING SHALL BE GRANULARLY FILLED WITH 3/4" MINUS CRUSHED LIMESTONE ONLY. BACKFILL SHALL BE PLACED IN ACCORDANCE WITH MSD STANDARDS.
5. ALL TRENCH BACKFILLS UNDER PAVEMENT WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE GRANULAR BACKFILLED. TRENCH BACKFILLS UNDER PAVED AREAS, OUTSIDE OF PUBLIC RIGHT-OF-WAY SHALL BE GRANULAR BACKFILL IN LIEU OF THE EARTH BACKFILL COMPACTED TO 95 PERCENT OF THE STANDARD AASHTO T-99 COMPACTION TEST A.S.T.M. D-698.
6. JETTING IS NOT AN ACCEPTABLE METHOD OF ACHIEVING BACKFILL COMPACTION. ALL BACKFILL MATERIAL SHALL BE MECHANICALLY COMPACTED TO AT LEAST 95 PERCENT OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY.
7. FOR SEWER PIPE (STORM, SANITARY AND COMBINED) WITH A DESIGN GRADE LESS THAN ONE PERCENT (1%), VERIFICATION OF THE PIPE GRADE WILL BE REQUIRED FOR EACH INSTALLED REACH OF SEWER, PRIOR TO ANY SURFACE RESTORATION OR INSTALLATION OF ANY SURFACE IMPROVEMENTS. THE CONTRACTOR'S FIELD SUPERVISOR WILL BE REQUIRED TO PROVIDE DAILY DOCUMENTATION VERIFYING THAT THE AS-BUILT PIPE GRADE MEETS THE DESIGN GRADE THROUGH THE SUBMITTAL OF SIGNED CUT SHEETS TO THE MSD INSPECTOR UPON REQUEST.

   FIELD SURVEYED VERIFICATION MUST BE MADE UNDER THE DIRECTION OF A LICENSED LAND SURVEYOR OR REGISTERED ENGINEER. THE CONTRACTOR WILL BE REQUIRED TO REMOVE AND REPLACE ANY SEWER REACH HAVING AN AS-BUILT GRADE WHICH IS FLATTER THAN THE DESIGN GRADE BY MORE THAN 0.1%. SEWERS WITH GRADES GREATER THAN THE DESIGN SLOPE MAY BE LEFT IN PLACE, PROVIDED NO OTHER SEWER GRADE IS REDUCED BY THIS VARIANCE IN THE AS-BUILT GRADE.

   MSD ALSO RESERVES THE RIGHT TO REQUIRE THE CONTRACTOR TO REMOVE AND REPLACE ANY SEWER (AT ANY TIME PRIOR TO CONSTRUCTION APPROVAL) FOR WHICH THE AS-BUILT GRADE DOES NOT COMPLY WITH THE GRADE TOLERANCE STATED IN THE ABOVE PARAGRAPH.

   THE SEWER CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COSTS ASSOCIATED WITH THE FIELD VERIFICATION OF THE SEWER GRADE, OR REMOVAL AND REPLACEMENT OF THE SEWER PIPE OR ASSOCIATED APPURTENANCES.
8. ADJUSTMENT OF MANHOLE TO GRADE:
   IF A MANHOLE IS TO BE RAISED: MANHOLES MAY BE RAISED USING COURSES OF BRICK OR APPROVED GRADE RING(S), PROVIDED THE TOTAL ADJUSTMENT OF THE MANHOLE DOES NOT EXCEED 12-INCHES (INCLUDING THE EXISTING RINGS OR COURSES OF BRICK). FOR MANHOLES WHICH WILL EXCEED THE MAXIMUM OF 12-INCHES, THE TRANSITION SECTION OF THE STRUCTURE SHALL BE REMOVED AND THE BOTTOM SECTION RAISED USING THE SAME MATERIAL AS THE EXISTING STRUCTURE.

   IF A MANHOLE IS TO BE LOWERED:
   MANHOLES MAY BE LOWERED BY REMOVING THE TRANSITION SECTION, AND LOWERING THE EXISTING BOTTOM SECTION BY SAWCUTTING THE EXISTING CAST-IN-PLACE CONCRETE, REMOVING THE REQUIRED COURSES OF BRICK, OR REMOVING THE PRECAST INVERT SECTION AS APPROPRIATE.

   IF STORM AND SANITARY SEWERS ARE PARALLEL AND IN THE SAME TRENCH, THE UPPER PIPE SHALL BE PLACED ON A SHELF AND THE LOWER PIPE SHALL BE BEDDED IN COMPACTED GRANULAR FILL TO THE FLOW LINE OF THE UPPER PIPE.

EARTHWORK NOTES

BULK CUT 7,706 +/- CUBIC YARD
BULK FILL 5,526 +/- CUBIC YARD (INCLUDES 15% FOR SHRINKAGE)

THE CALCULATED EARTHWORK QUANTITIES SHOULD BE REGARDED AS AN ESTIMATE OF THE BULK MOVEMENT AND/OR REDISTRIBUTION OF SOILS FOR THE SUBJECT PROPERTY. THE CALCULATED QUANTITIES ARE INTENDED FOR GENERAL USE AND SHOULD BE USED AS A COMPARISON WITH THE QUANTITIES CALCULATED BY THE EARTHWORK SUBCONTRACTOR. THE ENGINEER ASSUMES NO LIABILITY FOR COST OVERRUNS DUE TO EXCESS EXCAVATED MATERIALS OR FILL SHORTAGES. DISCREPANCIES BETWEEN THE ENGINEER'S CALCULATED QUANTITIES AND

THE EARTHWORK SUBCONTRACTOR'S ESTIMATE SHOULD BE REPORTED TO THE ENGINEER IMMEDIATELY. THE EARTHWORK QUANTITIES ESTIMATED FOR THE SUBJECT SITE ARE BASED UPON HORIZONTAL AND VERTICAL LOCATION OF THE IMPROVEMENTS AS PROPOSED ON THE SITE ENGINEERING PLANS PREPARED BY CIVIL ENGINEERING DESIGN CONSULTANTS, INC.

THE ENGINEER'S ESTIMATE DOES NOT INCLUDE ANY OF THE FOLLOWING ITEMS PERTAINING TO EARTHWORK QUANTITIES THAT MAY BE NECESSARY FOR COMPLETION OF THE PROJECT:
A.) MISCELLANEOUS UNDERGROUND CONDUITS AND MANHOLES
B.) WATER MAINS LESS THAN TWENTY-FOUR INCHES IN DIAMETER.
C.) BUILDING FOOTINGS AND FOUNDATIONS
D.) UTILITY AND/OR LIGHT STANDARD BASES

THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACTUAL SIZE OF THE FIELD EXCAVATIONS MADE FOR THE INSTALLATION OF UNDERGROUND STRUCTURES, AND THEREFORE, THE ACTUAL EARTHWORK QUANTITIES MAY VARY FROM THE THESE ESTIMATED QUANTITIES. THE ENGINEER ALSO ASSUMES NO RESPONSIBILITY FOR COSTS INCURRED DUE TO THE REMOVAL OF UNSUITABLE MATERIAL WHICH MUST BE REMOVED FROM THE SITE.

ASSUMPTIONS:

1.) IT IS ASSUMED THAT THE TOPSOIL WILL BE REUSED ON-SITE WITHIN LANDSCAPING AREAS AND WILL NOT BE HAULED OFF.
2.) SUBGRADE FOR PAVEMENT SECTIONS – ASSUMED 12"
3.) SUBGRADE FOR EXISTING PAVEMENT SECTION – ASSUMED 12"
4.) ASSUMED 15% SHRINKAGE FACTOR

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001498
796 Morus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5899 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S4004-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2185 tel

Hanna Woods Elementary School

720 Hanna Road, Ballwin, MO 63021
Parkway PN #171801B
Window, Door, & Roof Replacement and Solar-Tubes & Window Installation

Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

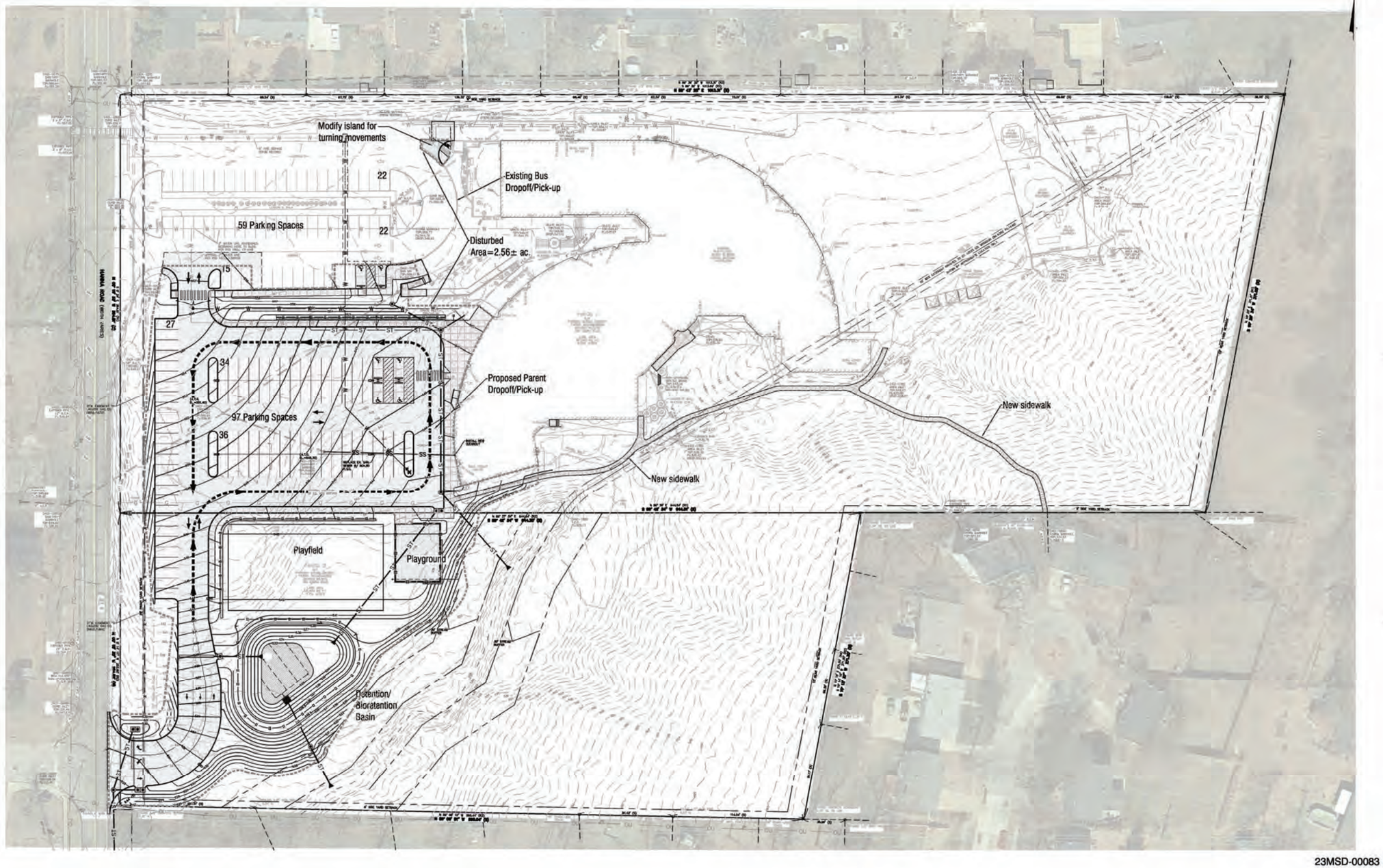
Description	Date

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.



SCALE: 3/64" = 1'-0"
SCALE: 1/32" = 1'-0"
SCALE: 1/16" = 1'-0"
SCALE: 3/32" = 1'-0"
SCALE: 1/8" = 1'-0"
SCALE: 1/4" = 1'-0"
SCALE: 1/2" = 1'-0"
SCALE: 1/16" = 1'-0"

PA
bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority #
2009027429

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001488
796 Merus Ct,
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S4004-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2185 tel

Hanna Woods Elementary School
720 Hanna Road, Ballwin, MO 63021
Parkway PN #171801B
Window, Door, & Roof Replacement and Solar-Tubes & Window Installation

Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
PAUL K BOYER
NUMBER 28258
REGISTERED PROFESSIONAL ENGINEER
3/31/23

PAUL K. BOYER, P.E. E-28258
CIVIL ENGINEER
CEDC LICENSE NO.: 2003004674

DATE: 03/31/23

Bid/Permit Set

OVERALL SITE PLAN

23MSD-00083
Base Map: 24Q1

C3.0

GENERAL NOTES

1. EXISTING GAS SERVICE TO BE DISCONNECTED DURING CONSTRUCTION. NEW GAS SERVICE WILL BE INSTALLED ONCE AREAS BROUGHT TO FINAL GRADE. GAS METER WILL REMAIN IN SAME LOCATION. CONTRACTOR TO COORDINATE SCHEDULE WITH SPIRE (CONTACT: JEFFREY SCHORSCH 314-225-0924). CONTRACT FOR RELOCATION WILL BE BETWEEN SPIRE AND THE SCHOOL DISTRICT.
2. PLAYGROUND EQUIPMENT TO BE REMOVED BY CONTRACTOR (WILL NOT BE RE-USED.) SHADE STRUCTURE SHALL BE DISMANTLED BY CONTRACTOR AND PROVIDED TO OWNER FOR TEMPORARY STORAGE AND RE-USE.
3. CONTRACTOR SHALL REMOVE WOOD CHIPS FROM PLAYGROUND AND HAUL TO DESIGNATED AREA BEHIND FERN RIDGE SCHOOL.

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

LEGEND
PAVEMENT REMOVAL

HANNA ROAD (WIDTH VARIES)

See Sheet C4.1

23MSD-00083
Base Map: 24Q1

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001498
796 Merus Ct,
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd,
St. Louis, MO 63127
314.725.5899 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S4004-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2185 tel

Hanna Woods Elementary School

720 Hanna Road, Ballwin, MO 63021
Parkway PN #171801B
Window, Door, & Roof Replacement and Solar-Tubes & Window Installation

Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2022 by Bond Architects, Inc.

STATE OF MISSOURI
PAUL K. BOYER
NUMBER E-28258
PROFESSIONAL ENGINEER
3/31/23

PAUL K. BOYER, P.E. E-28258
CIVIL ENGINEER
CEDC LICENSE NO.: 2003004674

DATE: 03/31/23

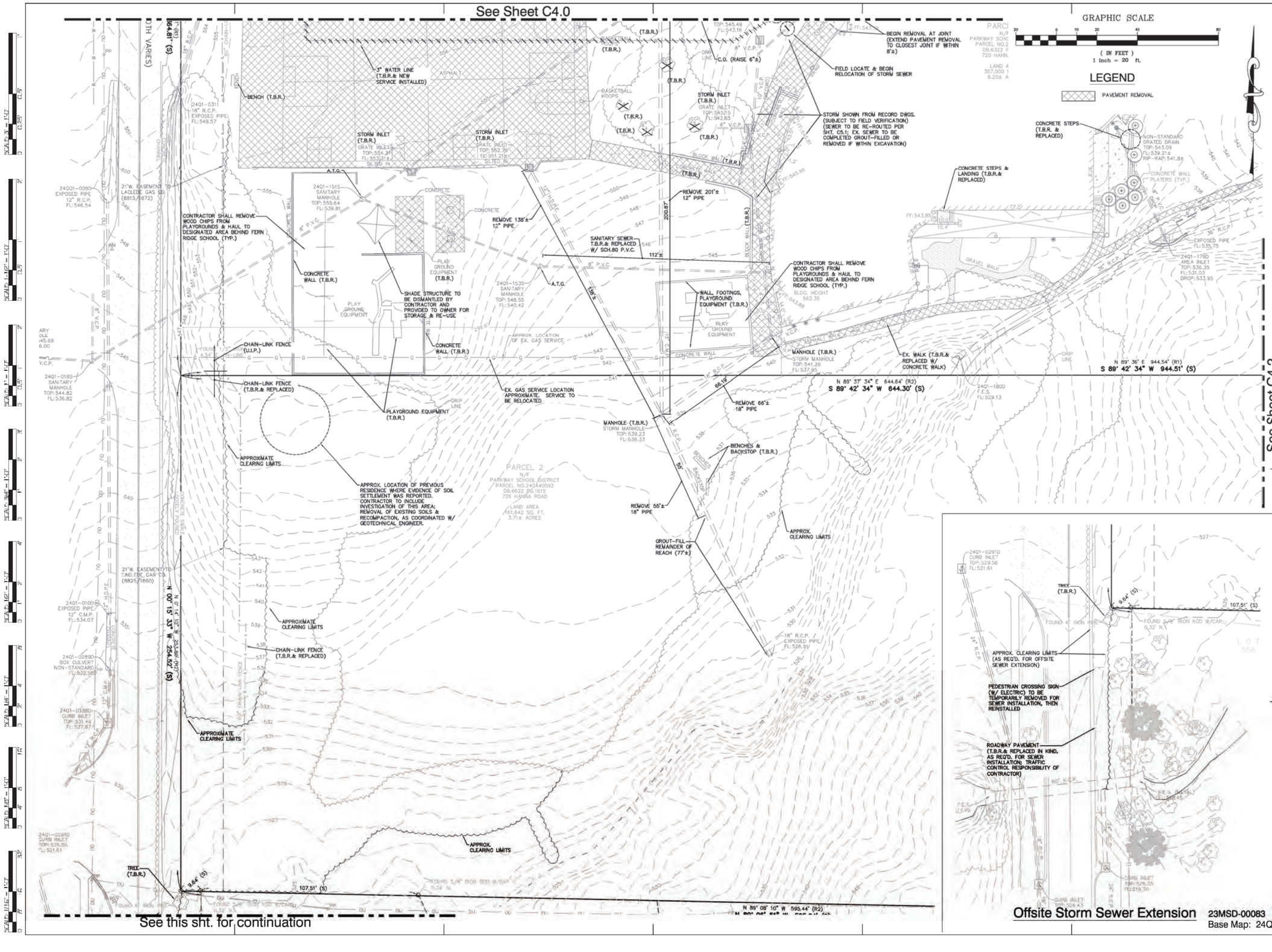
Bid/Permit Set

EXISTING CONDITIONS & FACILITIES REMOVAL PLAN

C4.0

See Sheet C4.0

See Sheet C4.2



See this sht. for continuation

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001498
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5899 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S4004-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2185 tel

Hanna Woods Elementary School

720 Hanna Road, Ballwin, MO 63021
Parkway PN #171801B
Window, Door, & Roof Replacement and Solar-Tubes & Window Installation

Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect. Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
PAUL K. BOYER
NUMBER 28258
REGISTERED PROFESSIONAL ENGINEER
3/31/23

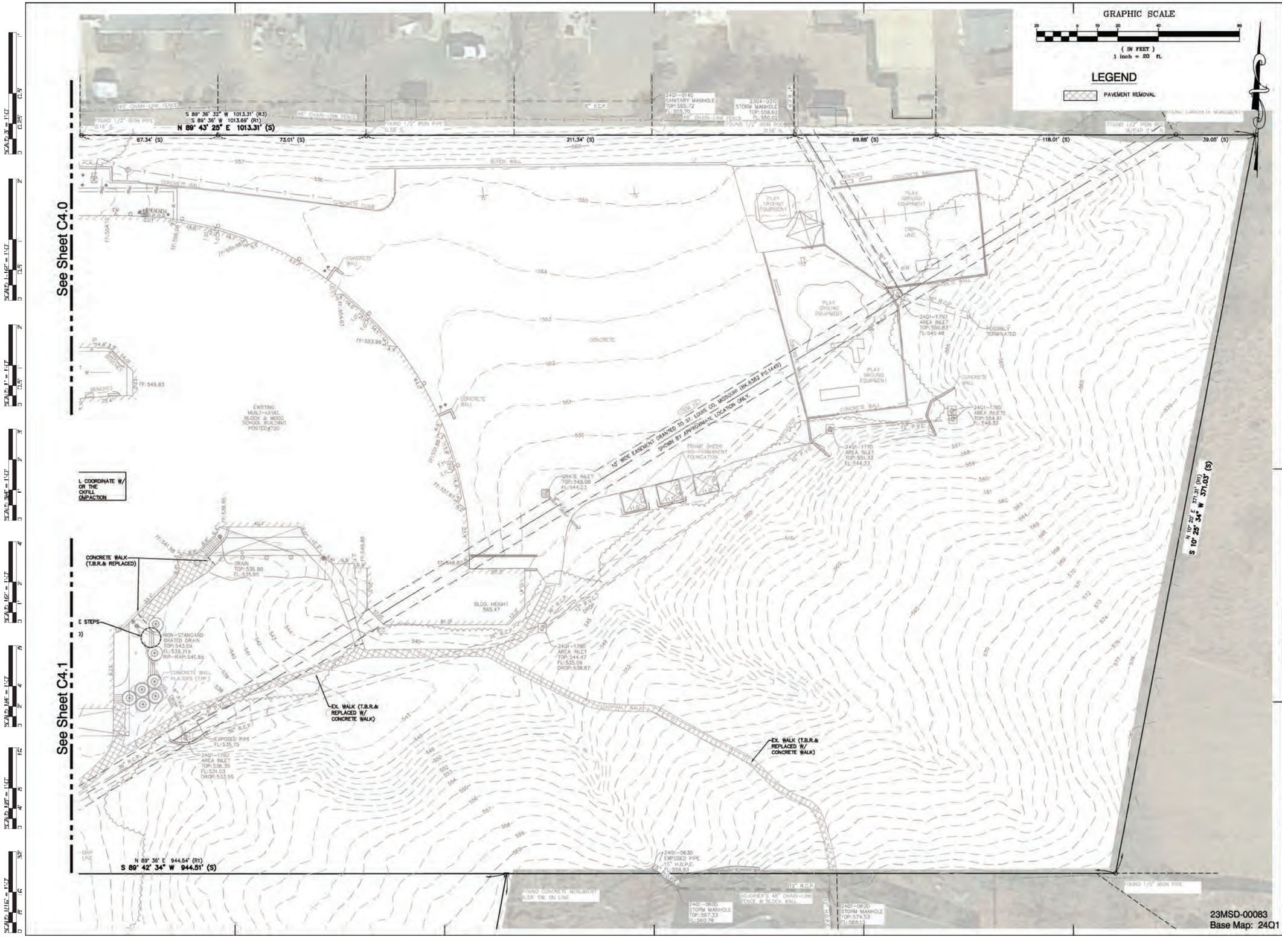
PAUL K. BOYER, P.E. E-28258
CIVIL ENGINEER
CEDC LICENSE NO.: 2003004674

DATE: 03/31/23

Bid/Permit Set

EXISTING CONDITIONS & FACILITIES REMOVAL PLAN

C4.1



bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001488
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S4004-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2185 tel

Hanna Woods Elementary School

720 Hanna Road, Ballwin, MO 63021
Parkway PN #171801B
Window, Door, & Roof Replacement and Solar-Tubes & Window Installation

Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect. Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
PAUL K. BOYER
NUMBER E-28258
REGISTERED PROFESSIONAL ENGINEER
3/31/23

PAUL K. BOYER, P.E. E-28258
CIVIL ENGINEER
CEDC LICENSE NO.: 2003004674

DATE: 03/31/23

Bid/Permit Set

EXISTING CONDITIONS & FACILITIES REMOVAL PLAN

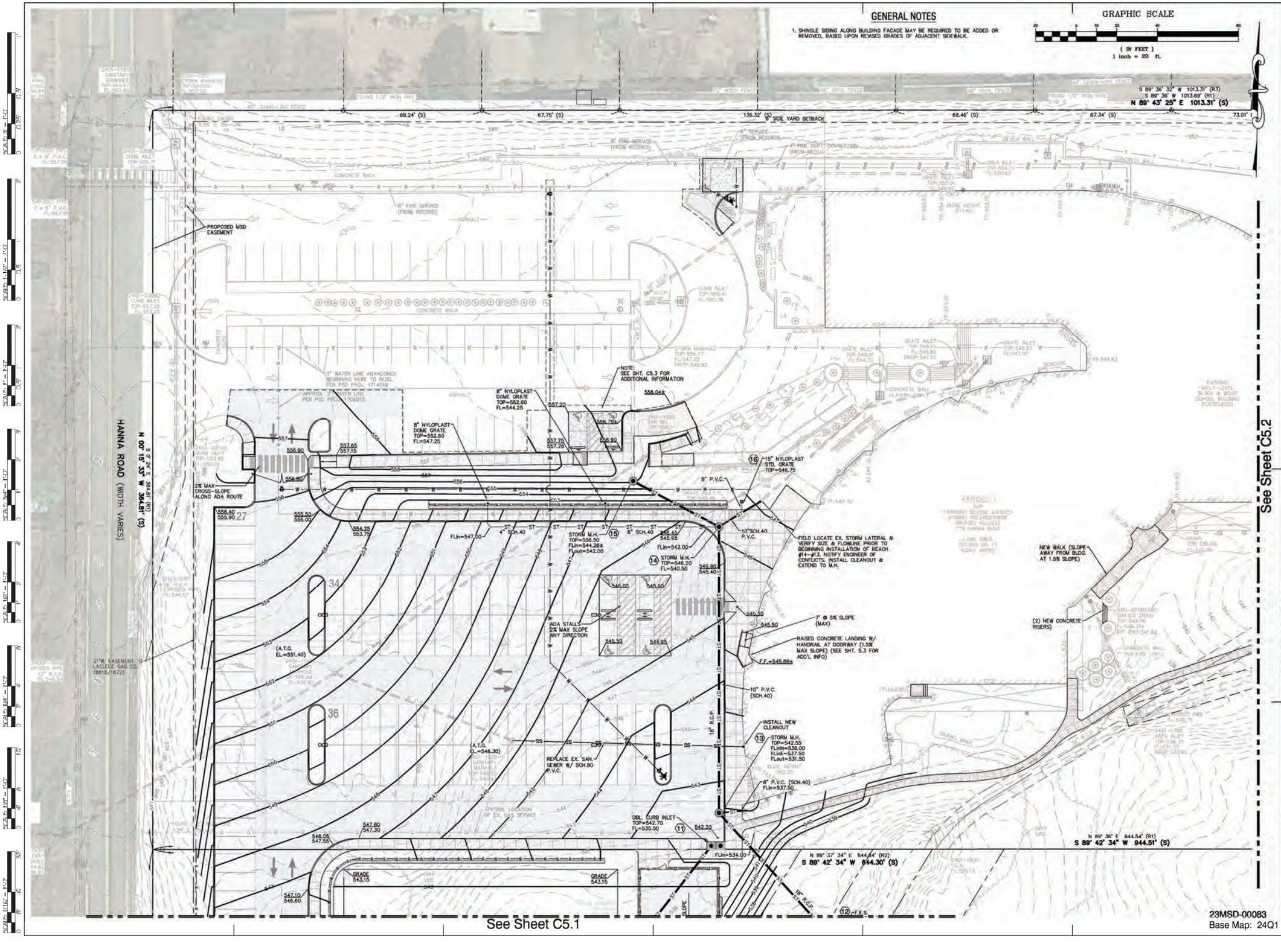
C4.2

GENERAL NOTES

1. SHINGLE SIDING ALONG BUILDING FACADE MAY BE REQUIRED TO BE ADDED OR REMOVED, BASED UPON REVISED GRADES OF ADJACENT SIDEWALK.

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.



bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001488
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S4004-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2185 tel

Hanna Woods Elementary School

720 Hanna Road, Ballwin, MO 63021
Parkway PN #171801B
Window, Door, & Roof Replacement and Solar-Tubes & Window Installation

Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
PAUL K. BOYER
NUMBER E-28258
PROFESSIONAL ENGINEER
5/31/23

PAUL K. BOYER, P.E. E-28258
CIVIL ENGINEER
CEDC LICENSE NO.: 2003004674

DATE: 03/31/23

Bid/Permit Set

SITE AND GRADING PLAN

C5.0

23MSD-00083
Base Map: 24Q1

See Sheet C5.0

GRAPHIC SCALE
(IN FEET)
1 inch = 20 ft.

See Sheet C5.2

See this sht. for continuation

Offsite Storm Sewer Extension

23MSD-00083
Base Map: 24Q1

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001488
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S4004-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2165 tel

Hanna Woods Elementary School
720 Hanna Road, Ballwin, MO 63021
Parkway PN #171801B
Window, Door, & Roof Replacement and
Solar-Tubes & Window Installation
Parkway School District
383 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect. Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
PAUL K. BOYER
NUMBER E-28258
REGISTERED PROFESSIONAL ENGINEER
3/31/23

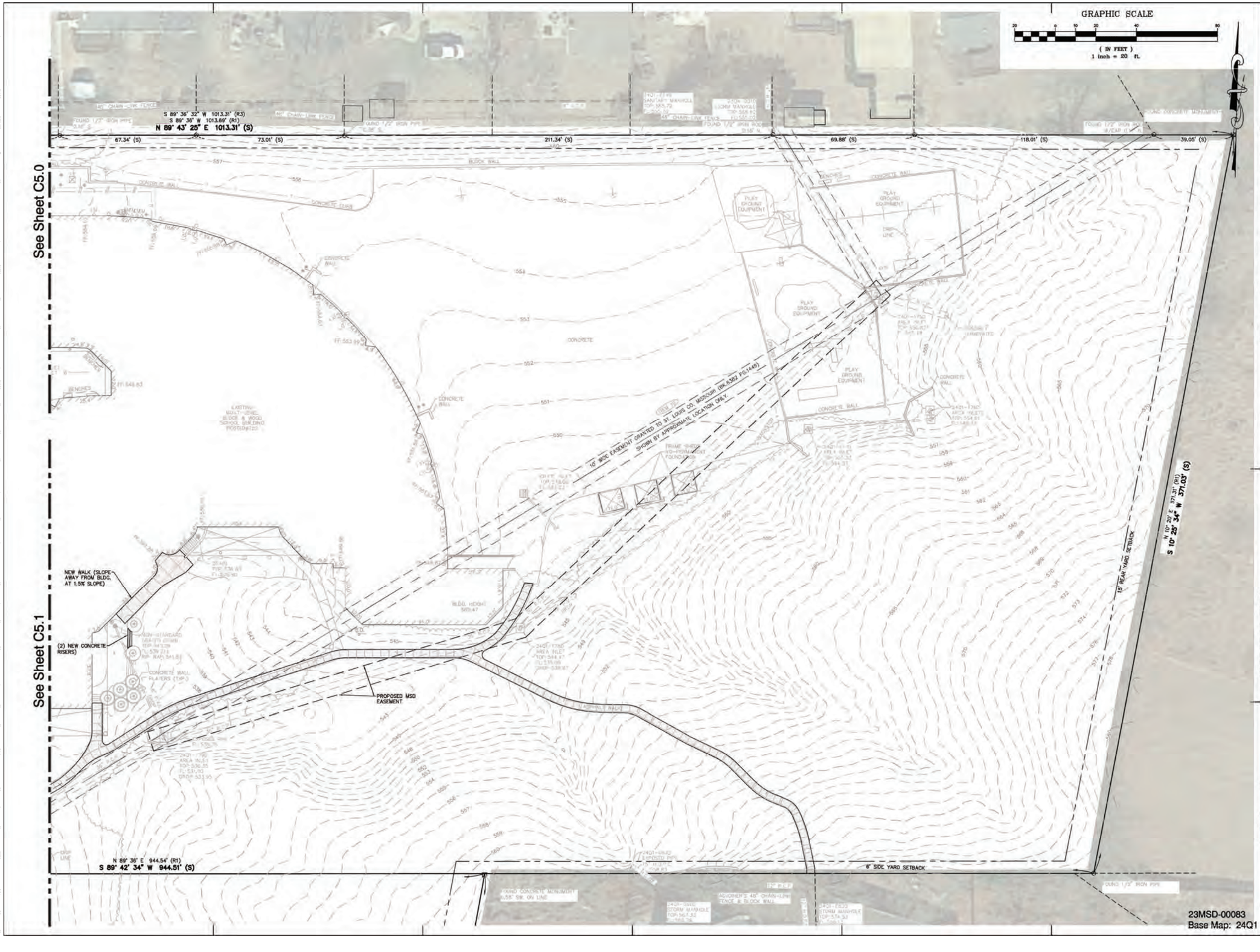
PAUL K. BOYER, P.E. E-28258
CIVIL ENGINEER
CEDC LICENSE NO.: 2003004674

DATE: 03/31/23

Bid/Permit Set

SITE AND GRADING PLAN

C5.1



bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001488
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S4004-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2185 tel

Hanna Woods Elementary School

720 Hanna Road, Ballwin, MO 63021
Parkway PN #171801B
Window, Door, & Roof Replacement and Solar-Tubes & Window Installation

Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect. Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
PAUL K. BOYER
NUMBER E-28258
REGISTERED PROFESSIONAL ENGINEER
3/31/23

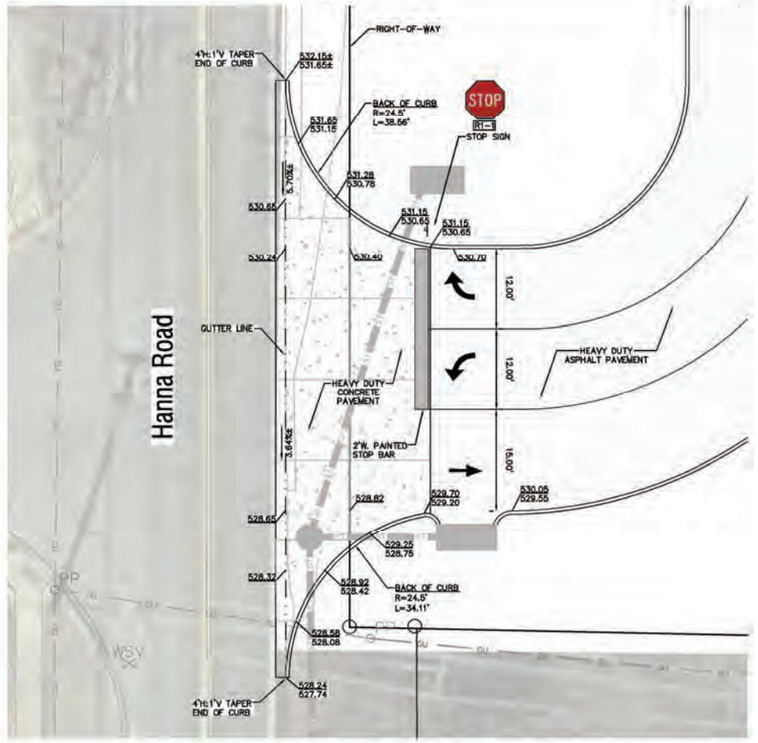
PAUL K. BOYER, P.E. E-28258
CIVIL ENGINEER
CEDC LICENSE NO.: 2003004674

DATE: 03/31/23

Bid/Permit Set

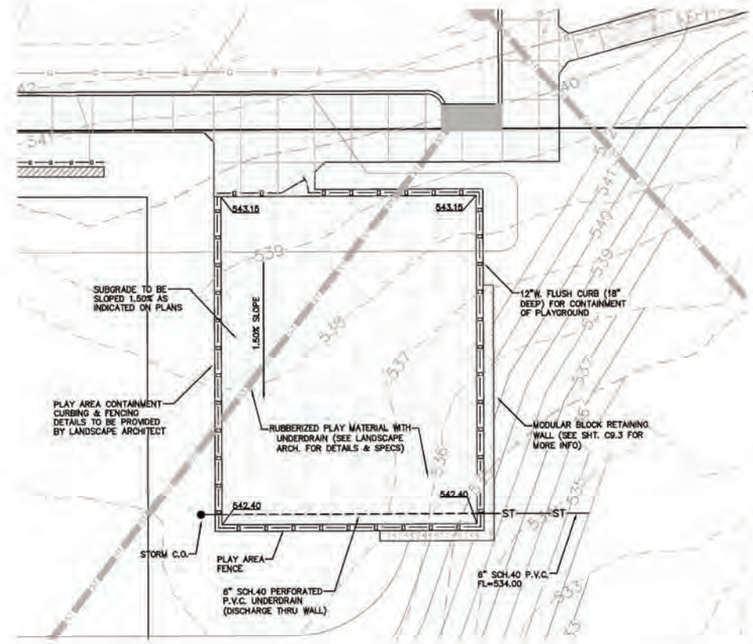
SITE AND GRADING PLAN

C5.2



ENTRANCE WARPING

SCALE: 1"=10'

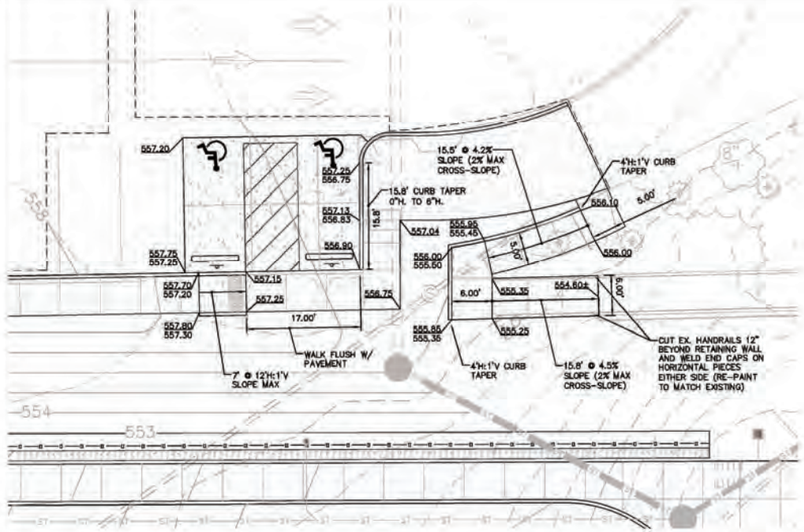


PLAYGROUND - PLAN VIEW

SCALE: 1"=10'

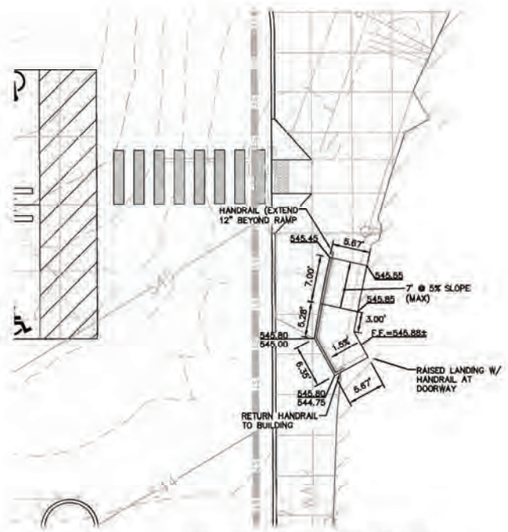
GENERAL NOTES

1. CONTRACTOR SHALL REFER TO LANDSCAPE ARCHITECT'S DRAWINGS FOR PLAYGROUND DETAILS INCLUDING PLAY AREA CONTAINMENT CURBING, PLAY AREA AGGREGATE BASE, RUBBER SURFACING, AND FENCING AROUND PLAYGROUND.



ADA STALL IN UPPER (NORTH) PARKING LOT

SCALE: 1"=10'



CONCRETE LANDING AT DOORWAY

SCALE: 1"=10'

23MSD-00083
Base Map: 24Q1

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001488
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S4004-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2185 tel

Hanna Woods Elementary School
720 Hanna Road, Ballwin, MO 63021
Parkway PN #171801B
Window, Door, & Roof Replacement and Solar-Tubes & Window Installation
Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

Description	Date

This drawing and this details are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect. Copyright © 2022 by Bond Architects, Inc.

STATE OF MISSOURI
PAUL K. BOYER
NUMBER E-28258
REGISTERED PROFESSIONAL ENGINEER
3/31/23

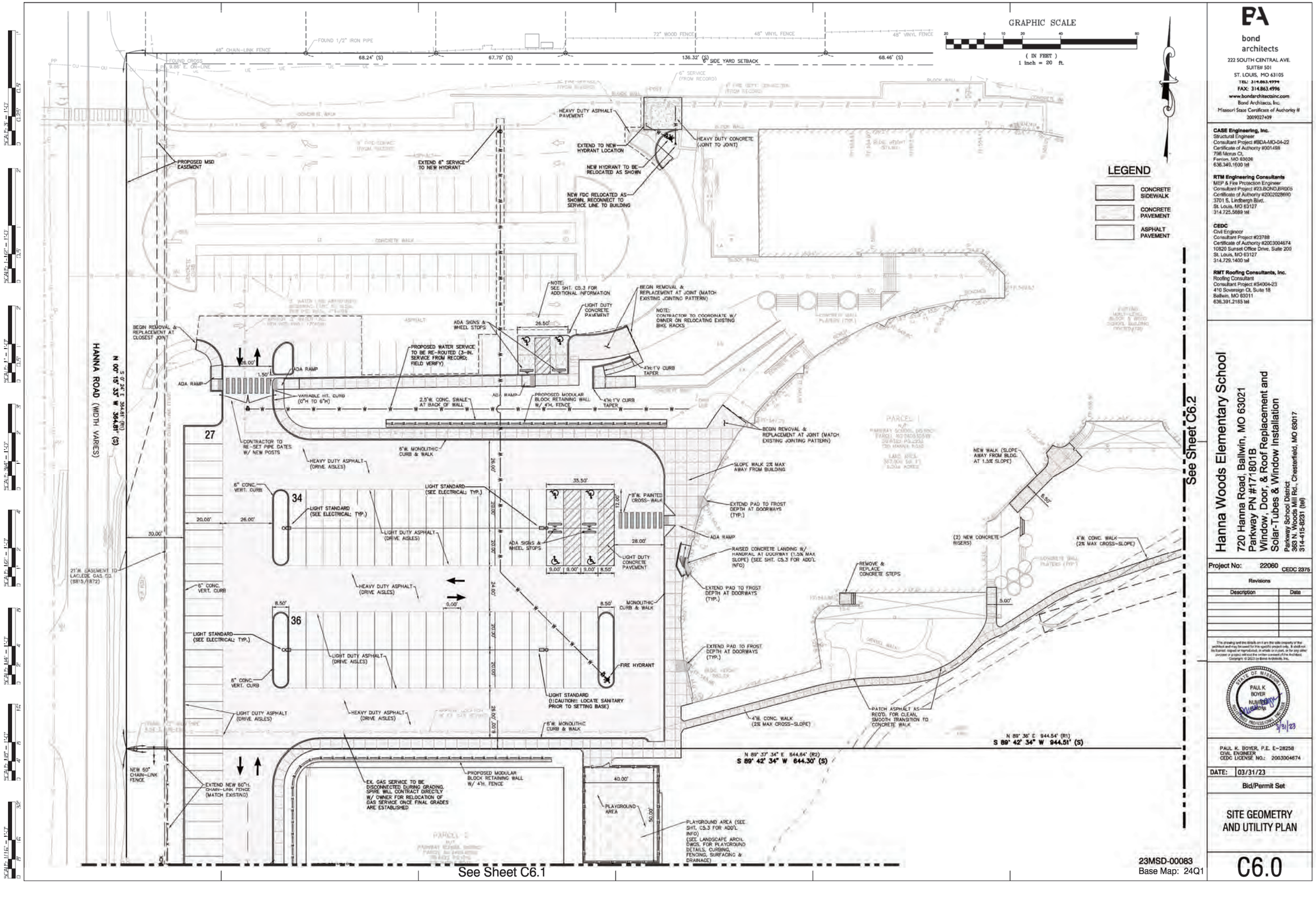
PAUL K. BOYER, P.E. E-28258
CIVIL ENGINEER
CEDC LICENSE NO.: 2003004674

DATE: 03/31/23

Bid/Permit Set

ENTRANCE WARPING AND SITE GRADING DETAILS

C5.3



bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4774
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027499

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001488
796 Menus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S4004-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2185 tel

Hanna Woods Elementary School

720 Hanna Road, Ballwin, MO 63021
Parkway PN #171801B
Window, Door, & Roof Replacement and Solar-Tubes & Window Installation

Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect. Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
PAUL K. BOYER
NUMBER 2008258
REGISTERED PROFESSIONAL ENGINEER
3/31/23

PAUL K. BOYER, P.E. E-28258
CIVIL ENGINEER
CEDC LICENSE NO.: 2003004674

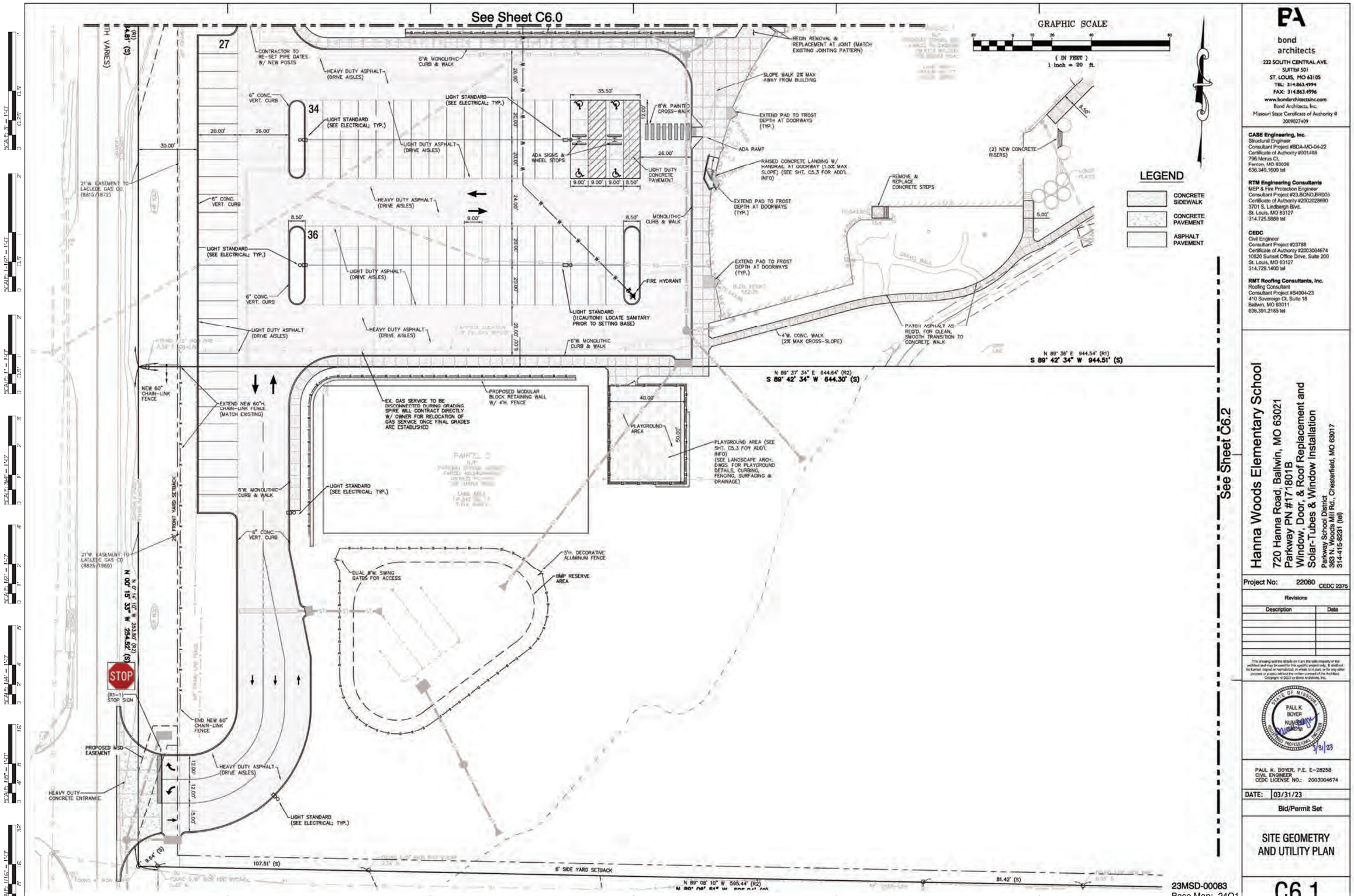
DATE: 03/31/23

Bid/Permit Set

SITE GEOMETRY AND UTILITY PLAN

23MSD-00083
Base Map: 24Q1

C6.0



PA
bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001488
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S4004-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2155 tel

Hanna Woods Elementary School
720 Hanna Road, Ballwin, MO 63021
Parkway PN #171801B
Window, Door, & Roof Replacement and Solar-Tubes & Window Installation
Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for the specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
PAUL K. BOYER
NUMBER 28258
ENGINEER
3/31/23

PAUL K. BOYER, P.E. E-28258
CIVIL ENGINEER
CEDC LICENSE NO.: 2003004674

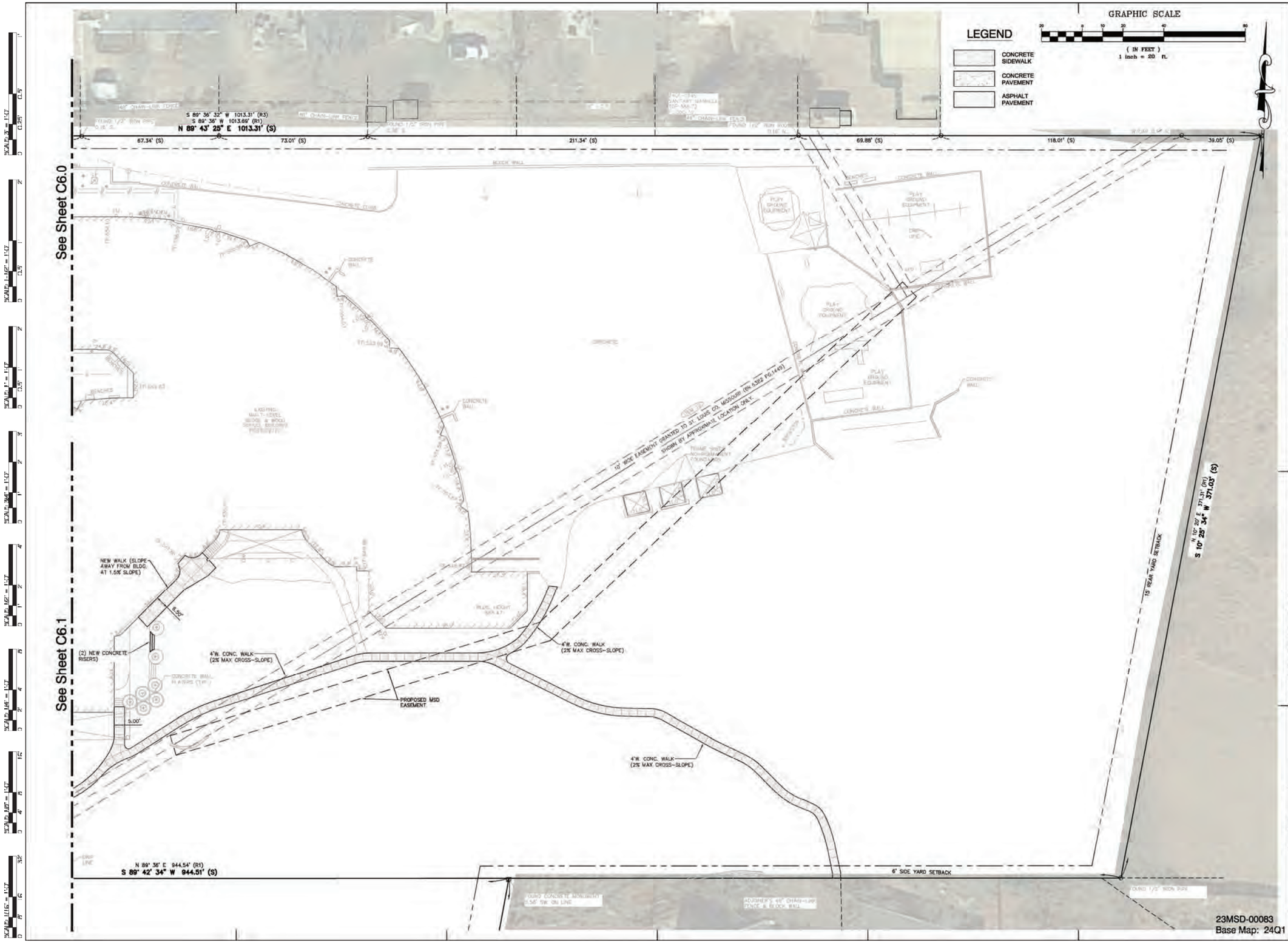
DATE: 03/31/23

Bid/Permit Set

SITE GEOMETRY AND UTILITY PLAN

C6.1

23MSD-00083
Base Map: 24Q1



bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001488
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S4004-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2185 tel

Hanna Woods Elementary School

720 Hanna Road, Ballwin, MO 63021
Parkway PN #171801B
Window, Door, & Roof Replacement and Solar-Tubes & Window Installation

Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
PAUL K. BOYER
NUMBER E-28258
PROFESSIONAL ENGINEER
3/31/23

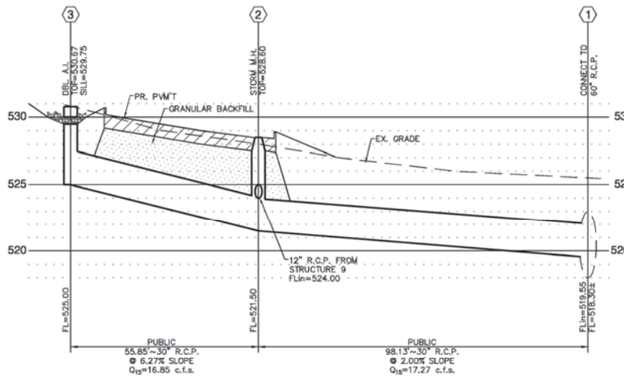
PAUL K. BOYER, P.E. E-28258
CIVIL ENGINEER
CEDC LICENSE NO.: 2003004674

DATE: 03/31/23

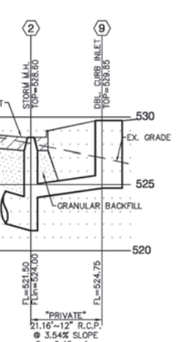
Bid/Permit Set

SITE GEOMETRY AND UTILITY PLAN

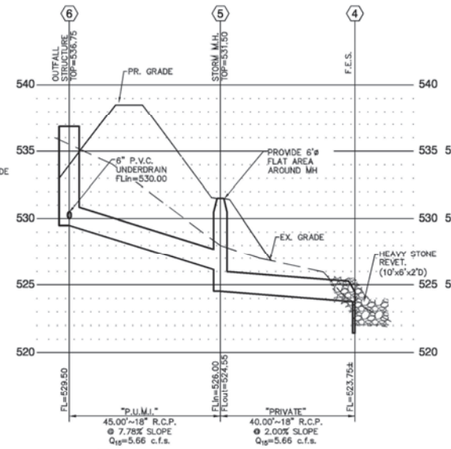
C6.2



STORM PROFILE
SCALE:
HORIZONTAL: 1"= 20'
VERTICAL: 1"= 5'



STORM PROFILE
SCALE:
HORIZONTAL: 1"= 20'
VERTICAL: 1"= 5'

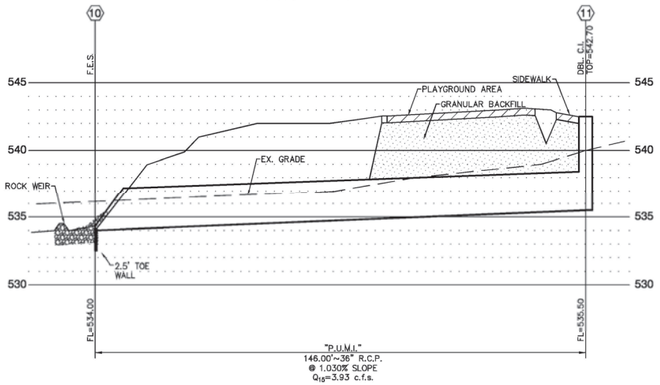


STORM PROFILE
SCALE:
HORIZONTAL: 1"= 20'
VERTICAL: 1"= 5'

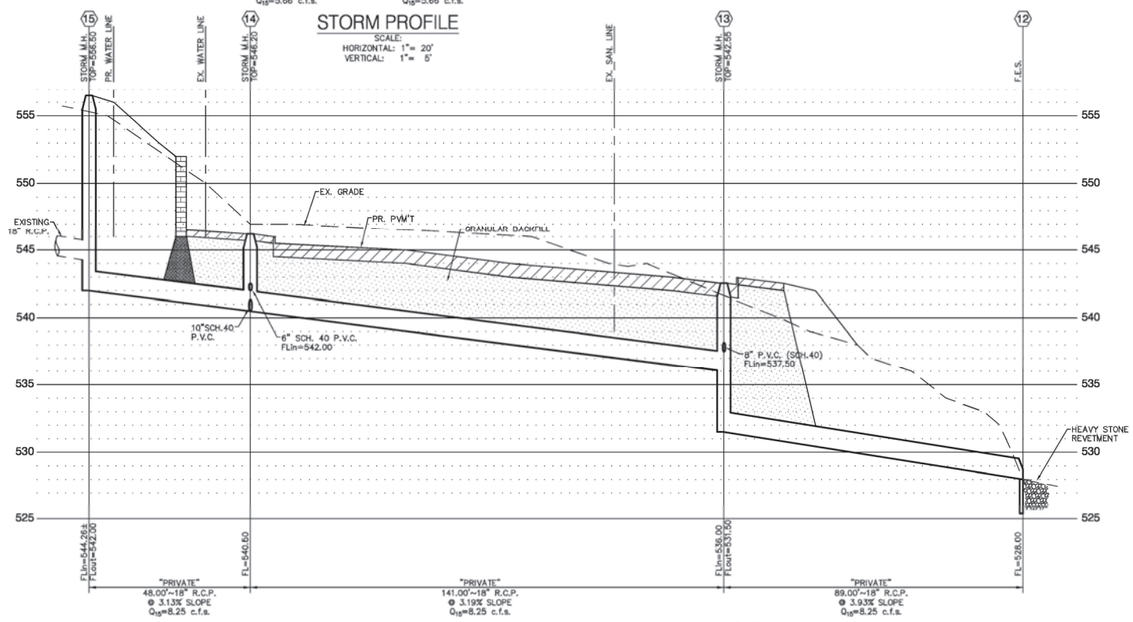


STORM PROFILE
SCALE:
HORIZONTAL: 1"= 20'
VERTICAL: 1"= 5'

P.U.M.I. = Private Under MSD Inspection



STORM PROFILE
SCALE:
HORIZONTAL: 1"= 20'
VERTICAL: 1"= 5'



STORM PROFILE
SCALE:
HORIZONTAL: 1"= 20'
VERTICAL: 1"= 5'

15 YR/20 MIN. STORM

HYDRAULIC CALCULATION SHEET (SEE DRAINAGE AREA PLAN FOR P.I. AND Q (inflow) FOR EACH STRUCTURE)

Project name:	*Hanna Woods*	Calculated By:	*PKB*
Project number:	*2375*	Checked By:	*PKB*
Project Location:	*720 Hanna Rd.*	Date:	*3/1/23*

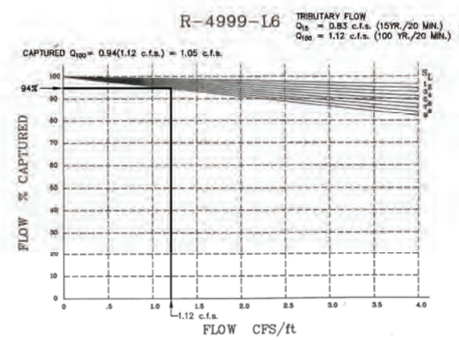
Bend Coefficients :
5° = 0.06 | 10° = 0.11 | 15° = 0.18 | 20° = 0.24 | 25° = 0.30 | 30° = 0.35 | 35° = 0.40 | 40° = 0.43 | 45° = 0.47 | 50° = 0.50 | 55° = 0.52 | 60° = 0.55 | 65° = 0.57 | 70° = 0.60 | 75° = 0.62 | 80° = 0.65 | 85° = 0.67 | 90° = 0.70

Structure Number	LINE Upper structure	LINE Lower structure	FLOW LINE ELEVATIONS Upper structure	FLOW LINE ELEVATIONS Lower Structure	Length (ft)	Flowline Grade ft/ft	Pipe Size (in.)	Full Flow Cap. (cfs)	Total (Q) (cfs)	Mean Full Flow Vel.(V) (ft/s)	Bend Coef.	Velocity Head (V_h) (ft)	QV_h (ft^4/s)	Pipe Coef. (n)	HEAD LOSS H_j (ft)	Junction (ft)	Bend (ft)	Total H_{tot}	Hydraulic Elevations Upper F.I. + Dia.	Lower H.E. +H_j	Lower H.E.	Structure Upper H.E. + H_{tot}	TOP Structure Elevation	Free Board	Structure Number
11	11	10	537.50	534.00	146.00	0.0240	15	10.03	3.93	3.20	0.00	0.16	0.63	0.013	0.54	0.21	0.00	0.21	538.75	537.75	537.21	538.96	542.50	3.54	11
10	10		534.00										ASSUME STARTING HYD.GRD. AT 100 yr. HW w/ LOW FLOW BLOCKED =								537.21				10
6	6	5	529.50	526.00	45.00	0.0778	18	29.37	5.66	3.20	0.00	0.16	0.90	0.013	0.13	0.00	0.00	0.00	531.00	527.63	527.50	531.00	536.75	5.75	6
5	5	4	524.55	523.75	40.00	0.0200	18	14.90	5.66	3.20	0.70	0.16	0.90	0.013	0.12	0.00	0.11	0.11	526.05	525.37	525.25	526.16	531.00	4.84	5
4	4		523.75										ASSUME STARTING HYD.GRD. AT TOP OF PIPE =								525.25				4
9	9	2	524.75	524.00	21.16	0.0354	12	6.73	0.42	0.53	0.00	0.00	0.00	0.013	0.00	0.00	0.00	0.00	525.75	525.00	525.00	525.75	529.25	3.50	9
2	2		521.50										ASSUME STARTING HYD.GRD. AT TOP OF PIPE =								525.00				2
8	8	7	534.50	533.00	37.00	0.0405	12	7.19	0.83	1.06	0.00	0.02	0.01	0.013	0.02	0.00	0.00	0.00	535.50	537.23	537.21	537.23	538.50	1.27	8
7	7		533.00										ASSUME STARTING HYD.GRD. AT 100 yr. HW w/ LOW FLOW BLOCKED =								537.21				7
3	3	2	525.00	521.50	55.85	0.0627	30	102.96	24.69	5.03	0.00	0.39	9.70	0.013	0.20	0.00	0.00	0.00	527.50	524.74	524.54	527.50	529.50	2.00	3
2	2	1	521.50	520.00	80.00	0.0188	30	56.32	25.11	5.12	0.11	0.41	10.20	0.013	0.30	0.54	0.00	0.54	524.00	523.30	523.00	524.54	528.50	3.96	2
1	1		520.00										ASSUME STARTING HYD.GRD. AT TOP OF PIPE (ASSUMED) =								523.00				

MEAN FULL FLOW VELOCITY: $V = Q_{ACT}/A_{PIPE}$
FRICTION LOSS (H_f): $Hf = 2.87\ n^2\ (LV^2/d^{1.33})$
VELOCITY HEAD: $V_h = V^2/2g$

JUNCTION LOSSES (JUNC.) = [$Q_{out}Vh_{out}$ - Sum ($Q_{in}V_{in}$)]x1.33/Q_{out}
BEND LOSSES (BEND) = (V^2_{in}/2g) * ANGLE COEFFICIENT

Note:
1. IF MORE THAN ONE INCOMING LINE, CALCULATE EACH BEND LOSS AND ADD TOGETHER.
2. NO STRUCTURE LOSSES TO BE CALCULATED AT A DROP.
3. IF $QV_{hout} > QV_{hout}$, NO JUNCTION LOSSES TO BE CALCULATED.



Trench Drain Structure #8a Capacity Chart

23MSD-00083
Base Map: 24Q1

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001498
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S4004-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2185 tel

Hanna Woods Elementary School
720 Hanna Road, Ballwin, MO 63021
Parkway PN #17-801B
Window, Door, & Roof Replacement and Solar-Tubes & Window Installation
Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect. Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
PAUL K. BOYER
NUMBER E-28258
REGISTERED ENGINEER
3/31/23

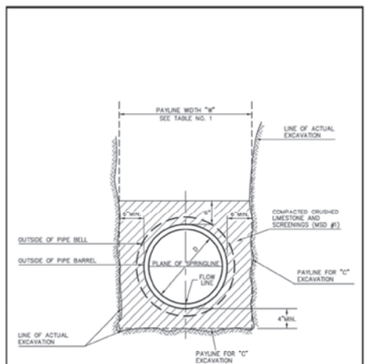
PAUL K. BOYER, P.E. E-28258
CIVIL ENGINEER
CEDC LICENSE NO.: 2003004674

DATE: 03/31/23

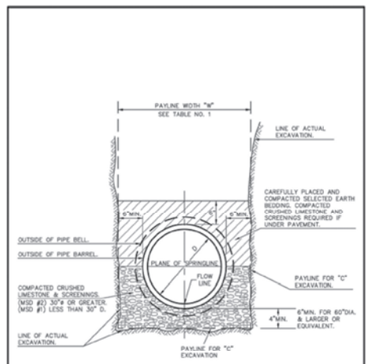
Bid/Permit Set

SEWER PROFILES AND HYDRAULIC CALCULATIONS

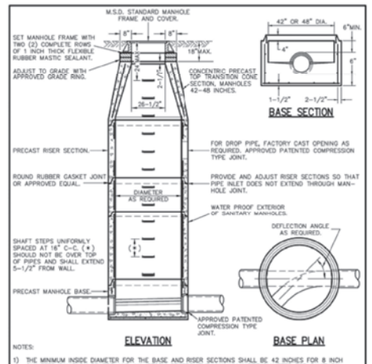
C7.0



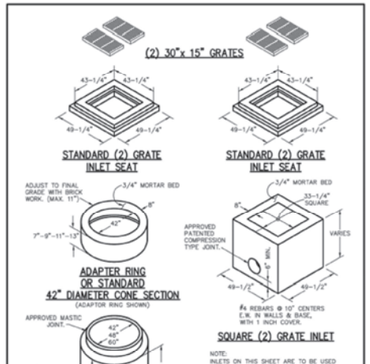
PIPE BEDDING CLASS "C" (FOR ALL 6" to 18" PIPE EXCEPT REINFORCED CONCRETE PIPE)	METROPOLITAN ST. LOUIS SEWER DISTRICT *Standard Details of Sewer Construction*		
	Dr. W.S.H. Ch. J.C.K.	2009	SHEET 4



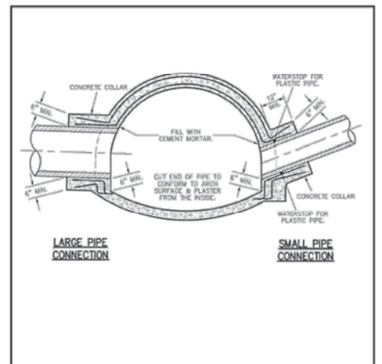
PIPE BEDDING CLASS "C" (MODIFIED FOR REINFORCED CONCRETE PIPE)	METROPOLITAN ST. LOUIS SEWER DISTRICT *Standard Details of Sewer Construction*		
	Dr. W.S.H. Ch. J.C.K.	2009	SHEET 5



PRECAST CONCRETE MANHOLE	METROPOLITAN ST. LOUIS SEWER DISTRICT *Standard Details of Sewer Construction*		
	Dr. ASH/SAM Ch. J.C.K.	2009	SHEET 21



2 GRATE INLETS PRECAST CONCRETE	METROPOLITAN ST. LOUIS SEWER DISTRICT *Standard Details of Sewer Construction*		
	Dr. JLG/SAM Ch. J.C.K.	2009	SHEET 35



CONNECTIONS TO LARGE SEWERS	METROPOLITAN ST. LOUIS SEWER DISTRICT *Standard Details of Sewer Construction*		
	Dr. WSH/SAM Ch. J.C.K.	2009	SHEET 69

AREA INLET PRECAST CONCRETE	METROPOLITAN ST. LOUIS SEWER DISTRICT *Standard Details of Sewer Construction*		
	Dr. JLG/SAM Ch. J.C.K.	2009	SHEET 34

ADJUST TO GRADE	METROPOLITAN ST. LOUIS SEWER DISTRICT *Standard Details of Sewer Construction*		
	Dr. S.A.M. Ch. W.S.H.	2009	SHEET 23 (REV)

CAST IRON SIDE INTAKE UNIT FOR GRATED INLETS 249 LBS.	METROPOLITAN ST. LOUIS SEWER DISTRICT *Standard Details of Sewer Construction*		
	Dr. RGH/SAM Ch. J.C.K.	2009	SHEET 51

GRATE SEAT FOR 2 GRATE INLET WITH SIDE INTAKE	METROPOLITAN ST. LOUIS SEWER DISTRICT *Standard Details of Sewer Construction*		
	Dr. RGH/AGH Ch. PKC	2009 2014	SHEET 32 Revised

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001498
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5899 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S4004-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2185 tel

Hanna Woods Elementary School
720 Hanna Road, Ballwin, MO 63021
Parkway PN #17-801B
Window, Door, & Roof Replacement and Solar-Tubes & Window Installation
Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
PAUL K. BOYER
NUMBER 2003004674
PROFESSIONAL ENGINEER
3/31/23

PAUL K. BOYER, P.E. E-28258
CIVIL ENGINEER
CEDC LICENSE NO.: 2003004674

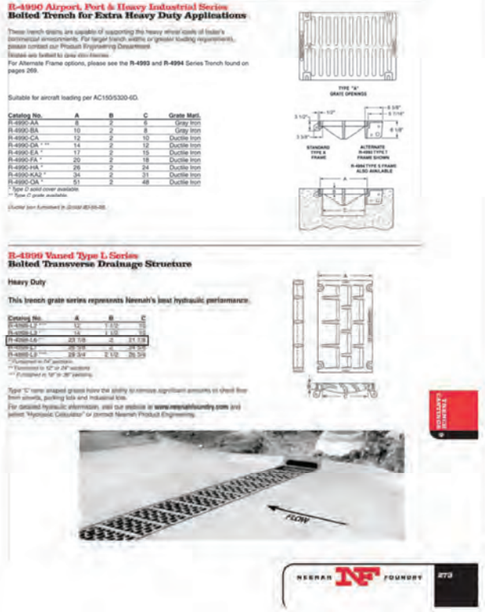
DATE: 03/31/23

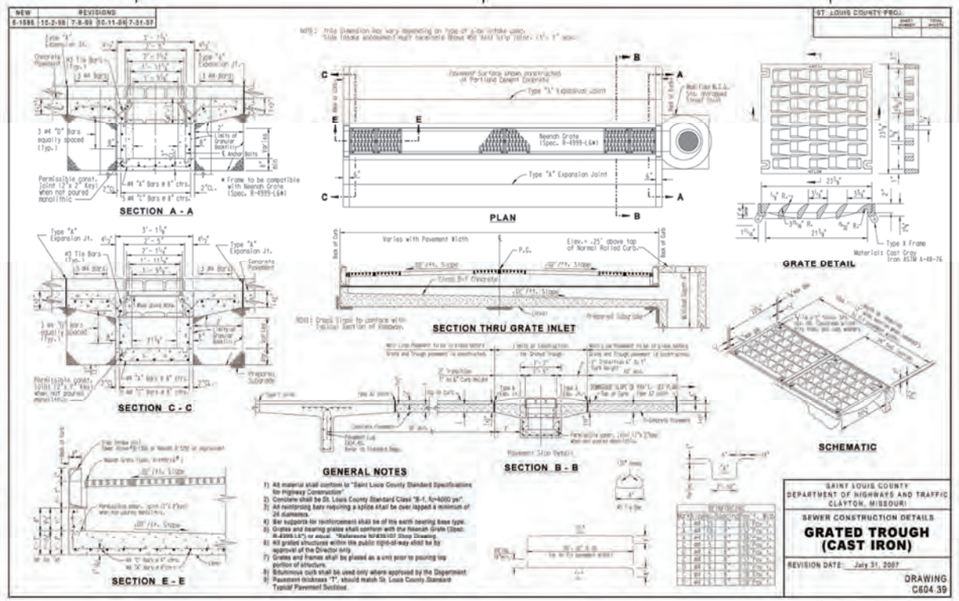
Bid/Permit Set

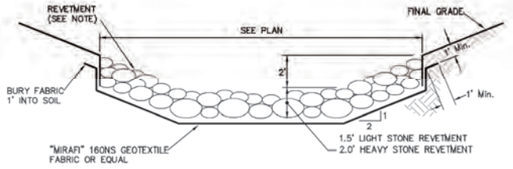
SEWER DETAILS

23MSD-00083
Base Map: 24Q1

C8.0





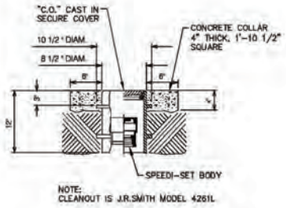


ROCK BLANKET NOTES:

1. STONE FOR LIGHT STONE REVETMENT SHALL BE AT LEAST 6 INCH TO 12 INCH DIAMETER.
2. STONE FOR HEAVY STONE REVETMENT SHALL BE AT LEAST 12 INCH DIAMETER.
3. TOP OF REVETMENT TO BE PLACED TO MATCH PROPOSED GRADE AND NOT PLACED ON TOP OF PROPOSED GRADE.

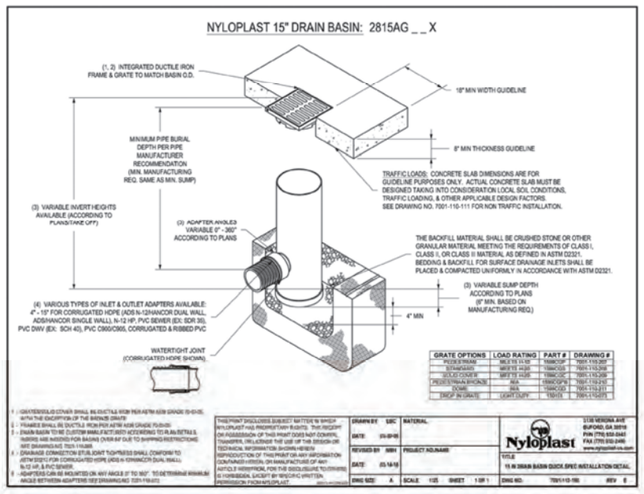
ROCK BLANKET DETAIL

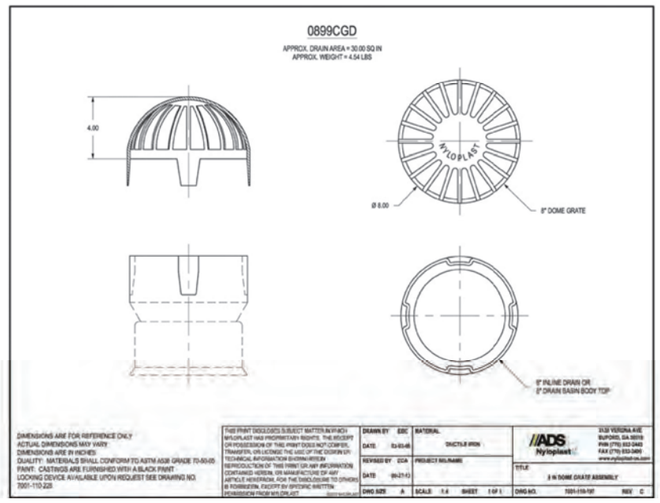
(FOR LOCATIONS SEE PLANS)

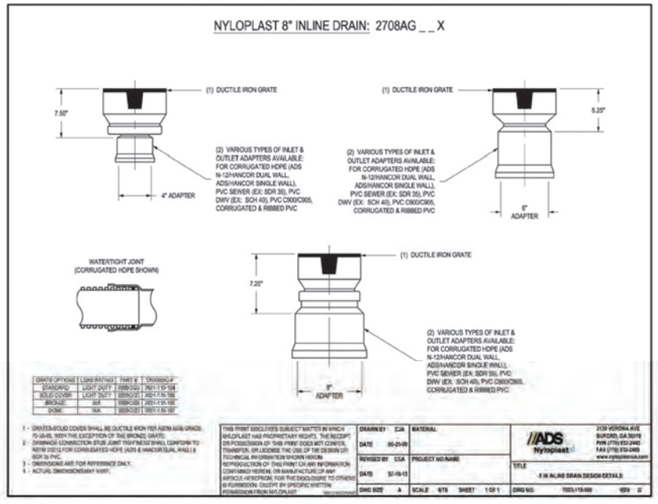


NOTE:
CLEANOUT IS J.R.SMITH MODEL 4261L

DETAIL OF SEWER CLEANOUT







bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001498
796 Morus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S40042-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2185 tel

Hanna Woods Elementary School
720 Hanna Road, Ballwin, MO 63021
Parkway PN #171801B
Window, Door, & Roof Replacement and Solar-Tubes & Window Installation
Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
PAUL K. BOYER
NUMBER E-28258
PROFESSIONAL ENGINEER
5/31/23

PAUL K. BOYER, P.E. E-28258
CIVIL ENGINEER
CEDC LICENSE NO.: 2003004674

DATE: 03/31/23

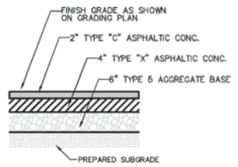
Bid/Permit Set

SEWER DETAILS

23MSD-00083
Base Map: 24Q1

C8.1

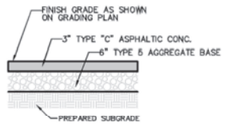
NOTE:
PAVEMENT SECTIONS REFERENCED IN THESE PLANS HAVE NOT BEEN DESIGNED BY CEDC, INC. THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR PAVEMENT RECOMMENDATIONS AND SUBGRADE PREPARATION.



6/4/2 ASPHALT PAVEMENT SECTION

HEAVY DUTY ASPHALT PAVEMENT DETAIL

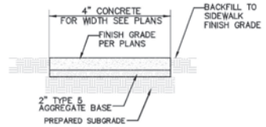
(NOT FOR USE IN RIGHT-OF-WAY)
(ON-SITE DRIVE-AISLE AREAS)



6/3 ASPHALT PAVEMENT SECTION

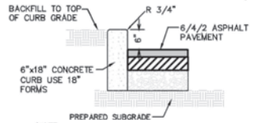
LIGHT DUTY ASPHALT PAVEMENT DETAIL

(NOT FOR USE IN RIGHT-OF-WAY)
(ON-SITE PARKING STALL AREAS)



CONCRETE SIDEWALK

N.T.S.

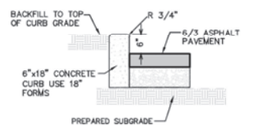


NOTE:
PROVIDE 3/4" EXPANSION JOINT SIMILAR CONCRETE EXPANSION JOINT, FULL DEPTH OF CURB, MAXIMUM SPACING AT 20' ON CENTER OR PER PLAN.

CONCRETE CURB DETAIL

(ADJACENT TO HEAVY DUTY ASPHALT PAVEMENT)

N.T.S.

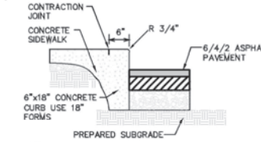


NOTE:
PROVIDE 3/4" EXPANSION JOINT SIMILAR CONCRETE EXPANSION JOINT, FULL DEPTH OF CURB, MAXIMUM SPACING AT 20' ON CENTER OR PER PLAN.

CONCRETE CURB DETAIL

(ADJACENT TO LIGHT DUTY ASPHALT PAVEMENT)

N.T.S.

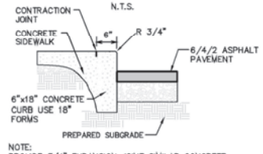


NOTE:
PROVIDE 3/4" EXPANSION JOINT SIMILAR CONCRETE EXPANSION JOINT, FULL DEPTH OF CURB, MAXIMUM SPACING AT 20' ON CENTER OR PER PLANS.

MONOLITHIC SIDEWALK DETAIL

(ADJACENT TO HEAVY DUTY ASPHALT PAVEMENT)

N.T.S.

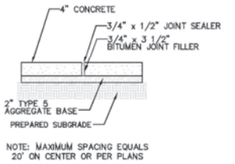


NOTE:
PROVIDE 3/4" EXPANSION JOINT SIMILAR CONCRETE EXPANSION JOINT, FULL DEPTH OF CURB, MAXIMUM SPACING AT 20' ON CENTER OR PER PLANS.

MONOLITHIC SIDEWALK DETAIL

(ADJACENT TO LIGHT DUTY ASPHALT PAVEMENT)

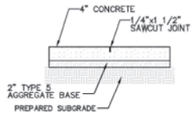
N.T.S.



NOTE: MAXIMUM SPACING EQUALS 20' ON CENTER OR PER PLANS

CONCRETE EXPANSION JOINT

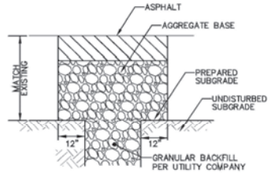
N.T.S.



NOTE: MAXIMUM SPACING EQUALS WIDTH OF SIDEWALK OR PER PLANS

CONCRETE CONTRACTION JOINT

N.T.S.

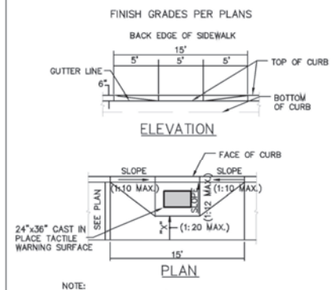


NOTE:
SAW CUT PERIMETER OF PATCH AND EXCAVATE EXISTING PAVEMENT SECTION TO SOUND BASE. EXCAVATE RECTANGULAR OR TRAPEZOIDAL PATCHES, EXTENDING 12 INCHES INTO ADJACENT SOUND PAVEMENT, UNLESS OTHERWISE INDICATED. CUT EXCAVATION FACES VERTICALLY AND REMOVE EXCAVATED MATERIAL. RECOMPACT EXISTING UNBOUND AGGREGATE BASE COURSE TO FORM NEW SUBGRADE.

NEW PAVEMENT SHALL MATCH THE EXISTING PAVEMENT TYPE AND THICKNESS

PATCHING ASPHALT TRENCH/PAVEMENT

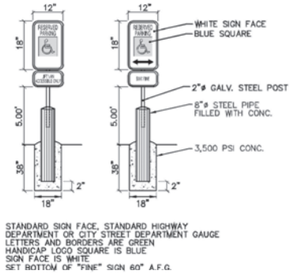
(N.T.S.)



NOTE:
IF "X" IS LESS THAN 48", FLARED SIDE SLOPE SHALL NOT EXCEED 1:12.
MAINTAIN 4" SIDEWALK THICKNESS IN DEPRESSED AREAS.

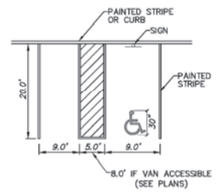
ADA RAMP DETAIL

N.T.S.



- STANDARD SIGN FACE, STANDARD HIGHWAY DEPARTMENT OR CITY STREET DEPARTMENT GAUGE
- LETTERS AND BORDERS ARE GREEN
- HANDICAP LOGO SQUARE IS BLUE
- SIGN FACE IS WHITE
- SET BOTTOM OF "FINE" SIGN 60" A.F.G.

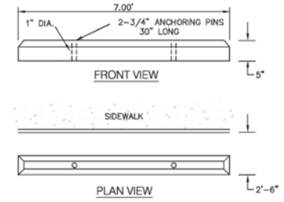
ACCESSIBLE PARKING SIGN



NOTE:
ADA STRIPING & GRAPHIC SHALL BE WHITE OR PER LOCAL CODE

TYPICAL PARKING STALLS

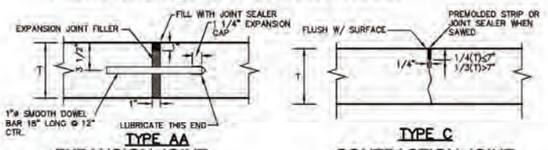
(n.t.s.)

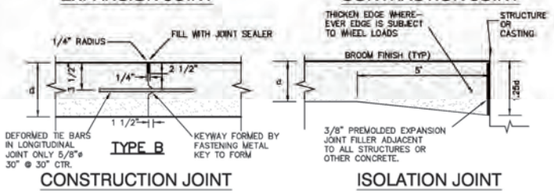


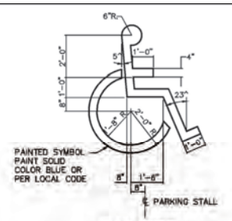
PRE-CAST WHEEL STOP

(n.t.s.)

NOTES:
1. CONSTRUCTION JOINTS ARE REQUIRED BETWEEN ALL POURS SEPARATED BY MORE THAN 30 MINUTES TIME.
2. PLACE LONGITUDINAL CONSTRUCTION JOINT AT CENTERLINE OF ROADWAYS WHEN PAVEMENT IS WIDER THAN 12'.
3. MAXIMUM OF EIGHT FEET (8') SPACING BETWEEN CONTROL JOINTS FOR 5" THICK PAVEMENT; FOURTEEN FEET (14') FOR 7" THICK PAVEMENT; SIXTEEN FEET (16') FOR 8" THICK PAVEMENT.
4. FILL JOINTS TO WITHIN 1/8" OF SURFACE WITH JOINT SEALER.
5. JOINTS TO BE SEALED WITH LIMESTONE COLORED SEALANT.
6. WHEN A JOINT FALLS WITHIN 5' OF A MANHOLE, LIGHT POLE BASE, OR OTHER STRUCTURE, SHORTEN ONE OR MORE PANELS ON EITHER SIDE OF STRUCTURE TO ALLOW CONTROL JOINTS TO FALL AT STRUCTURE.
7. CONTRACTOR MAY SUBMIT ALTERNATE JOINTING PLAN TO ENGINEER FOR REVIEW.

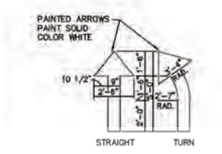






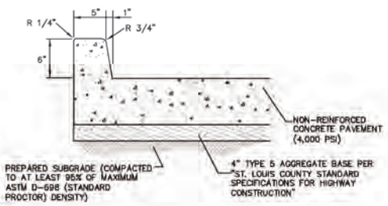
PAINTED ADA SIGN

N.T.S.



PAINTED DIRECTIONAL ARROWS

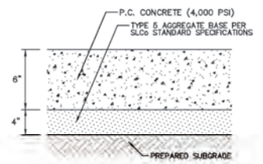
N.T.S.



NOTES:
1. REFER TO SITE PLAN FOR AREAS OF PAVEMENT TYPE AND THICKNESS.
2. EXPANSION MATERIAL SHALL BE INSTALLED EVERY 20' IN CURB. EXPANSION MATERIAL SHALL BE OF A TYPE EQUAL TO THE ASPHALT IMPREGNATED FIBERBOARD CONFORMING TO ASTM C 175 FOR EXTERIOR WORK. EXPANSION MATERIAL SHALL EXTEND FULL DEPTH OF CURB AND GUTTER, LESS 1/4" AT TOP OF CONCRETE.
3. CURBS TO BE PROVIDED WITH SAW CUT OR TOOLED JOINT AT 10' INTERVALS.
4. JOINTS AND SAW CUTS TO BE SEALED WITH LIMESTONE COLORED SEALANT.
5. TYPE 5 AGGREGATE REFERS TO ST. LOUIS COUNTY SPECIFICATION

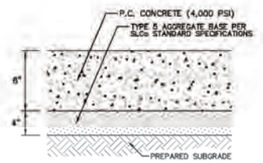
BARRIER CURBING DETAIL

(ADJACENT TO CONCRETE PAVEMENT)



LIGHT DUTY CONCRETE PAVEMENT DETAIL

(ADA STALLS WHERE INDICATED)



HEAVY DUTY CONCRETE PAVEMENT DETAIL

(ENTRANCES)

23MSD-00083
Base Map: 24Q1

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001498
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S4004-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2185 tel

Hanna Woods Elementary School
720 Hanna Road, Ballwin, MO 63021
Parkway PN #171801B
Window, Door, & Roof Replacement and Solar-Tubes & Window Installation
Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for that specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect. Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
PAUL K. BOYER
NUMBER 2008258
ENGINEER
3/31/23

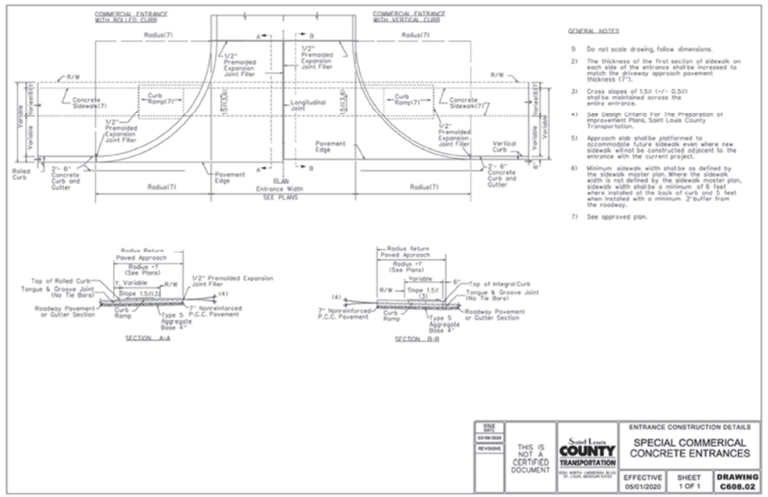
PAUL K. BOYER, P.E. E-28258
CIVIL ENGINEER
CEDC LICENSE NO.: 2003004674

DATE: 03/31/23

Bid/Permit Set

SITE DETAILS

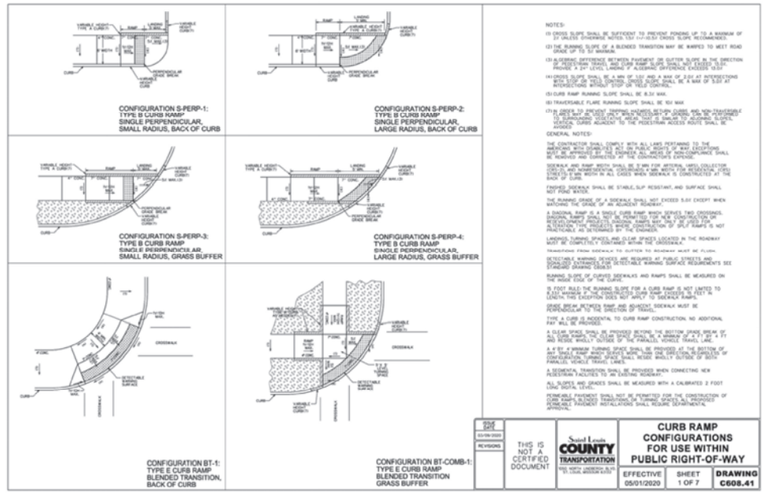
C9.0



GENERAL NOTES

1) Do not scale drawing, follow dimensions.
2) The thickness of the first section of sidewalk on each side of the entrance shall be increased to match the driveway approach pavement thickness (T").
3) Cross slopes of 1.5% (+/- 0.5%) shall be maintained across the entire entrance.
4) See Design Criteria for the Preparation of Improvement Plans, Saint Louis County Transportation.
5) Approach slab shall be platformed to accommodate future sidewalk even where new sidewalk is not constructed adjacent to the entrance with the current project.
6) Minimum sidewalk width shall be as defined by the sidewalk master plan. Where the sidewalk width is not defined by the sidewalk master plan, sidewalk shall be 5' wide or match the width where installed with a minimum 2' buffer from the roadway.
7) See approved plan.

ISSUE DATE	THIS IS NOT A CERTIFIED DOCUMENT	Saint Louis COUNTY TRANSPORTATION	ENTRANCE CONSTRUCTION DETAILS
03/06/2020			SPECIAL COMMERICAL CONCRETE ENTRANCES
REVISIONS			EFFECTIVE 05/01/2020 · SHEET 1 OF 1 · DRAWING C608.02



CONFIGURATION S-PERP-1: TYPE B CURB RAMP SINGLE PERPENDICULAR, SMALL RADIUS, BACK OF CURB

CONFIGURATION S-PERP-2: TYPE B CURB RAMP SINGLE PERPENDICULAR, LARGE RADIUS, BACK OF CURB

CONFIGURATION S-PERP-3: TYPE B CURB RAMP SINGLE PERPENDICULAR, SMALL RADIUS, GRASS BUFFER

CONFIGURATION S-PERP-4: TYPE B CURB RAMP SINGLE PERPENDICULAR, LARGE RADIUS, GRASS BUFFER

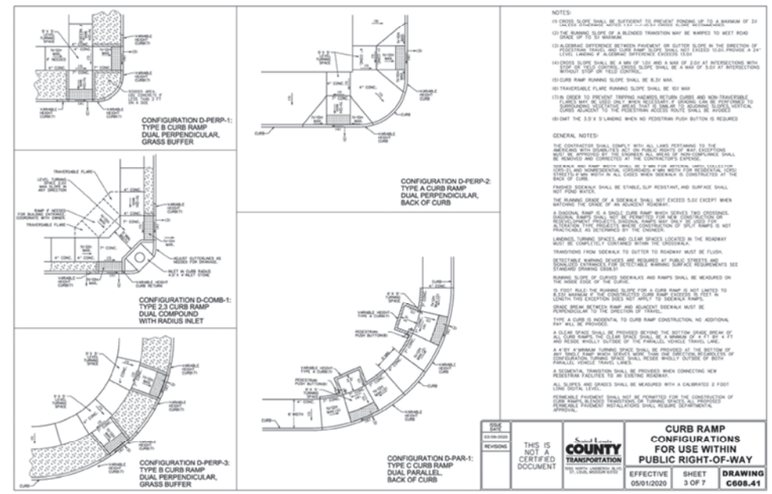
CONFIGURATION BT-1: TYPE E CURB RAMP BLENDED TRANSITION, BACK OF CURB

CONFIGURATION BT-COMB-1: TYPE E CURB RAMP BLENDED TRANSITION GRASS BUFFER

NOTES:
(1) CROSS SLOPE SHALL BE SUFFICIENT TO PREVENT PONDING UP TO A MAXIMUM OF 2% UNLESS DRAINAGE NOTES 1.5% (+/-0.5%) CROSS SLOPE RECOMMENDED.
(2) THE RUNNING SLOPE OF A BLENDED TRANSITION MAY BE WARPED TO MEET ROAD GRADE UP TO 5% MAXIMUM.
(3) A GEOMETRIC DIFFERENCE BETWEEN PAVEMENT OR GUTTER SLOPE IN THE DIRECTION OF PEDESTRIAN TRAVEL AND CURB RAMP SLOPE SHALL NOT EXCEED 13.5%. (EQUIVALENT TO 1/4" VERTICAL LEVEL LANDING 4" HORIZONTAL DIFFERENCE EXPOSED SLOPE)
(4) CROSS SLOPE SHALL BE A MIN OF 1.5% AND A MAX OF 2.5% AT INTERSECTIONS WITH STOP OR YIELD CONTROL. GRADE SLOPE SHALL BE A MAX OF 5.0% AT INTERSECTIONS WITHOUT STOP OR YIELD CONTROL.
(5) CURB RAMP RUNNING SLOPE SHALL BE 8.3% MAX.
(6) TRAVERSABLE FLARE RUNNING SLOPE SHALL BE 10% MAX
(7) IN ORDER TO PREVENT TRIPPING HAZARDS RETURN CURBS AND NON-TRAVERSABLE FLARES MAY BE USED ONLY WHEN NECESSARY IF GRADING CAN BE PERFORMED TO ELIMINATE THE NEED FOR RETURN CURBS. LANDING 4" GRADING SHALL BE USED ADJACENT TO THE PEDESTRIAN ACCESS ROUTE. CURBS ADJACENT TO THE PEDESTRIAN ACCESS ROUTE SHALL BE AVOIDED
(8) OMIT THE 3.5' X 5' LANDING WHEN NO PEDESTRIAN PUSH BUTTON IS REQUIRED

GENERAL NOTES:
THE CONTRACTOR SHALL COMPLY WITH ALL LAWS PERTAINING TO THE AMERICANS WITH DISABILITIES ACT, ON PUBLIC RIGHTS OF WAY. EXCEPTIONS MUST BE APPROVED BY THE ENGINEER ALL AREAS OF NON-COMPLIANCE SHALL BE REMOVED AND CORRECTED AT THE CONTRACTOR'S EXPENSE.
SIDEWALK AND RAMP WIDTH SHALL BE 5' MIN FOR ARTERIAL AND COLLECTOR STREETS, AND NONRESIDENTIAL DRIVEWAYS & MIN WIDTH FOR RESIDENTIAL (OR) AS SPECIFIED BY MASTER PLAN. WHERE NO WIDTH IS SPECIFIED, 4' MIN WIDTH IN ALL CASES WHEN SIDEWALK IS CONSTRUCTED AT THE BACK OF CURB.
FINISHED SIDEWALK SHALL BE STABLE, SLIP RESISTANT, AND SURFACE SHALL NOT POND WATER.
THE RUNNING GRADE OF A SIDEWALK SHALL NOT EXCEED 5.0% EXCEPT WHEN MATCHING THE GRADE OF AN ADJACENT ROADWAY.
A DIAGONAL RAMP IS A SINGLE CURB RAMP WHICH SERVES TWO CROSSINGS. ENGINEERING JUDGMENT SHOULD BE USED FOR NEW CONSTRUCTION OR ALTERATION THAT PROJECTS WHERE CONSTRUCTION OF SPLIT RAMPS IS NOT PRACTICABLE AS DETERMINED BY THE ENGINEER.
LANDINGS, TURNING SPACES, AND CLEAR SPACES LOCATED IN THE ROADWAY MUST BE COMPLETELY CONTAINED WITHIN THE CROSSWALK.
TRANSITIONS FROM SIDEWALK TO GUTTER TO ROADWAY MUST BE FLUSH.
DETECTABLE WARNING DEVICES ARE REQUIRED AT PUBLIC STREETS AND DRIVEWAYS. PARKING SPACES AND PARKING AISLES ARE NOT CONSIDERED TO BE DETECTABLE WARNING SURFACE REQUIREMENTS SEE STANDARD DRAWING C600.01
RUNNING SLOPE OF CURVED SIDEWALKS AND RAMPS SHALL BE MEASURED ON THE INSIDE EDGE OF THE CURVE.
IF, DUE TO THE RUNNING SLOPE FOR A CURB RAMP IS NOT LIKELY TO EXIT WARNING IF THE CONSTRUCTED CURB RAMP EXCEEDS 13.5% IN LENGTH THIS EXCEPTION DOES NOT APPLY TO SIDEWALK RAMP.
GRADE BREAK BETWEEN RAMP AND ADJACENT SIDEWALK MUST BE PERPENDICULAR TO THE DIRECTION OF THE RAMP.
TYPE A CURB IS INCIDENTAL TO CURB RAMP CONSTRUCTION, NO ADDITIONAL PAY WILL BE PROVIDED.
A CLEAR SPACE SHALL BE PROVIDED BEYOND THE BOTTOM GRADE BREAK OF ALL CURB RAMPS. THE CLEAR SPACE SHALL BE A MINIMUM OF 4 FT BY 4 FT AND RESIDE WHOLLY OUTSIDE OF THE PARALLEL VEHICLE TRAVEL LANE.
A 5'0" X 5'0" MINIMUM TURNING SPACE SHALL BE PROVIDED AT THE BOTTOM OF CURB RAMPS. TWO CLEAR SPACES SHALL BE PROVIDED BEYOND THE BOTTOM GRADE BREAK OF CONFIGURATION. TURNING SPACE SHALL RESIDE WHOLLY OUTSIDE OF BOTH PARALLEL VEHICLE TRAVEL LANES.
A SIDEWALK TRANSITION SHALL BE PROVIDED WHEN CONNECTING NEW SIDEWALK VALUES TO AN EXISTING ROADWAY.
ALL SLOPES AND GRADES SHALL BE MEASURED WITH A CALIBRATED 2 FOOT LONG DIGITAL LEVEL.
PERMEABLE PAVEMENT SHALL NOT BE PERMITTED FOR THE CONSTRUCTION OF CURB RAMPS, BLENDED TRANSITIONS, OR TURNING SPACES. ALL PROPOSED PERMEABLE PAVEMENT INSTALLATIONS SHALL REQUIRE DEPARTMENTAL APPROVAL.

ISSUE DATE	THIS IS NOT A CERTIFIED DOCUMENT	Saint Louis COUNTY TRANSPORTATION	CURB RAMP CONFIGURATIONS FOR USE WITHIN PUBLIC RIGHT-OF-WAY
03/06/2020			EFFECTIVE 05/01/2020 · SHEET 1 OF 7 · DRAWING C608.41
REVISIONS			



CONFIGURATION D-PERP-1: TYPE B CURB RAMP DUAL PERPENDICULAR, GRASS BUFFER

CONFIGURATION D-PERP-2: TYPE A CURB RAMP DUAL PERPENDICULAR, BACK OF CURB

CONFIGURATION D-COMB-1: TYPE 2.3 CURB RAMP DUAL COMPOUND WITH RADIUS INLET

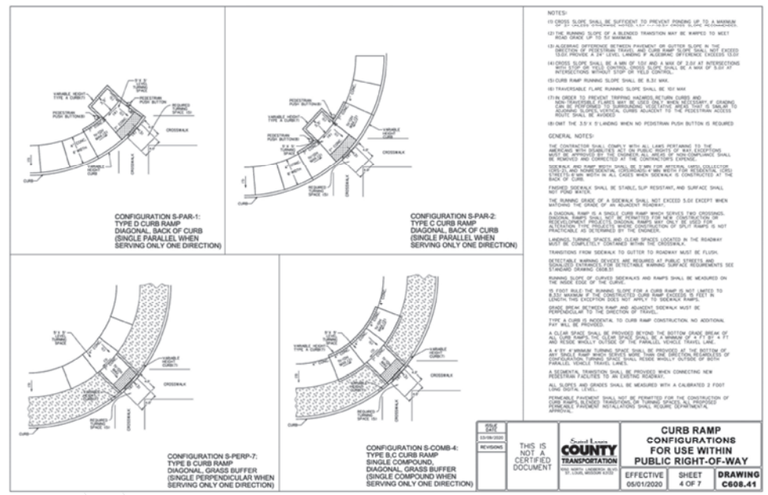
CONFIGURATION D-PERP-3: TYPE B CURB RAMP DUAL PERPENDICULAR, GRASS BUFFER

CONFIGURATION D-PAR-1: TYPE C CURB RAMP DUAL PARALLEL, BACK OF CURB

NOTES:
(1) CROSS SLOPE SHALL BE SUFFICIENT TO PREVENT PONDING UP TO A MAXIMUM OF 2% UNLESS DRAINAGE NOTES 1.5% (+/-0.5%) CROSS SLOPE RECOMMENDED.
(2) THE RUNNING SLOPE OF A BLENDED TRANSITION MAY BE WARPED TO MEET ROAD GRADE UP TO 5% MAXIMUM.
(3) A GEOMETRIC DIFFERENCE BETWEEN PAVEMENT OR GUTTER SLOPE IN THE DIRECTION OF PEDESTRIAN TRAVEL AND CURB RAMP SLOPE SHALL NOT EXCEED 13.5%. (EQUIVALENT TO 1/4" VERTICAL LEVEL LANDING 4" HORIZONTAL DIFFERENCE EXPOSED SLOPE)
(4) CROSS SLOPE SHALL BE A MIN OF 1.5% AND A MAX OF 2.5% AT INTERSECTIONS WITH STOP OR YIELD CONTROL. GRADE SLOPE SHALL BE A MAX OF 5.0% AT INTERSECTIONS WITHOUT STOP OR YIELD CONTROL.
(5) CURB RAMP RUNNING SLOPE SHALL BE 8.3% MAX.
(6) TRAVERSABLE FLARE RUNNING SLOPE SHALL BE 10% MAX
(7) IN ORDER TO PREVENT TRIPPING HAZARDS RETURN CURBS AND NON-TRAVERSABLE FLARES MAY BE USED ONLY WHEN NECESSARY IF GRADING CAN BE PERFORMED TO ELIMINATE THE NEED FOR RETURN CURBS. LANDING 4" GRADING SHALL BE USED ADJACENT TO THE PEDESTRIAN ACCESS ROUTE. CURBS ADJACENT TO THE PEDESTRIAN ACCESS ROUTE SHALL BE AVOIDED
(8) OMIT THE 3.5' X 5' LANDING WHEN NO PEDESTRIAN PUSH BUTTON IS REQUIRED

GENERAL NOTES:
THE CONTRACTOR SHALL COMPLY WITH ALL LAWS PERTAINING TO THE AMERICANS WITH DISABILITIES ACT, ON PUBLIC RIGHTS OF WAY. EXCEPTIONS MUST BE APPROVED BY THE ENGINEER ALL AREAS OF NON-COMPLIANCE SHALL BE REMOVED AND CORRECTED AT THE CONTRACTOR'S EXPENSE.
SIDEWALK AND RAMP WIDTH SHALL BE 5' MIN FOR ARTERIAL AND COLLECTOR STREETS, AND NONRESIDENTIAL DRIVEWAYS & MIN WIDTH FOR RESIDENTIAL (OR) AS SPECIFIED BY MASTER PLAN. WHERE NO WIDTH IS SPECIFIED, 4' MIN WIDTH IN ALL CASES WHEN SIDEWALK IS CONSTRUCTED AT THE BACK OF CURB.
FINISHED SIDEWALK SHALL BE STABLE, SLIP RESISTANT, AND SURFACE SHALL NOT POND WATER.
THE RUNNING GRADE OF A SIDEWALK SHALL NOT EXCEED 5.0% EXCEPT WHEN MATCHING THE GRADE OF AN ADJACENT ROADWAY.
A DIAGONAL RAMP IS A SINGLE CURB RAMP WHICH SERVES TWO CROSSINGS. ENGINEERING JUDGMENT SHOULD BE USED FOR NEW CONSTRUCTION OR ALTERATION THAT PROJECTS WHERE CONSTRUCTION OF SPLIT RAMPS IS NOT PRACTICABLE AS DETERMINED BY THE ENGINEER.
LANDINGS, TURNING SPACES, AND CLEAR SPACES LOCATED IN THE ROADWAY MUST BE COMPLETELY CONTAINED WITHIN THE CROSSWALK.
TRANSITIONS FROM SIDEWALK TO GUTTER TO ROADWAY MUST BE FLUSH.
DETECTABLE WARNING DEVICES ARE REQUIRED AT PUBLIC STREETS AND DRIVEWAYS. PARKING SPACES AND PARKING AISLES ARE NOT CONSIDERED TO BE DETECTABLE WARNING SURFACE REQUIREMENTS SEE STANDARD DRAWING C600.01
RUNNING SLOPE OF CURVED SIDEWALKS AND RAMPS SHALL BE MEASURED ON THE INSIDE EDGE OF THE CURVE.
IF, DUE TO THE RUNNING SLOPE FOR A CURB RAMP IS NOT LIKELY TO EXIT WARNING IF THE CONSTRUCTED CURB RAMP EXCEEDS 13.5% IN LENGTH THIS EXCEPTION DOES NOT APPLY TO SIDEWALK RAMP.
GRADE BREAK BETWEEN RAMP AND ADJACENT SIDEWALK MUST BE PERPENDICULAR TO THE DIRECTION OF THE RAMP.
TYPE A CURB IS INCIDENTAL TO CURB RAMP CONSTRUCTION, NO ADDITIONAL PAY WILL BE PROVIDED.
A CLEAR SPACE SHALL BE PROVIDED BEYOND THE BOTTOM GRADE BREAK OF ALL CURB RAMPS. THE CLEAR SPACE SHALL BE A MINIMUM OF 4 FT BY 4 FT AND RESIDE WHOLLY OUTSIDE OF THE PARALLEL VEHICLE TRAVEL LANE.
A 5'0" X 5'0" MINIMUM TURNING SPACE SHALL BE PROVIDED AT THE BOTTOM OF CURB RAMPS. TWO CLEAR SPACES SHALL BE PROVIDED BEYOND THE BOTTOM GRADE BREAK OF CONFIGURATION. TURNING SPACE SHALL RESIDE WHOLLY OUTSIDE OF BOTH PARALLEL VEHICLE TRAVEL LANES.
A SIDEWALK TRANSITION SHALL BE PROVIDED WHEN CONNECTING NEW SIDEWALK VALUES TO AN EXISTING ROADWAY.
ALL SLOPES AND GRADES SHALL BE MEASURED WITH A CALIBRATED 2 FOOT LONG DIGITAL LEVEL.
PERMEABLE PAVEMENT SHALL NOT BE PERMITTED FOR THE CONSTRUCTION OF CURB RAMPS, BLENDED TRANSITIONS, OR TURNING SPACES. ALL PROPOSED PERMEABLE PAVEMENT INSTALLATIONS SHALL REQUIRE DEPARTMENTAL APPROVAL.

ISSUE DATE	THIS IS NOT A CERTIFIED DOCUMENT	Saint Louis COUNTY TRANSPORTATION	CURB RAMP CONFIGURATIONS FOR USE WITHIN PUBLIC RIGHT-OF-WAY
03/06/2020			EFFECTIVE 05/01/2020 · SHEET 3 OF 7 · DRAWING C608.41
REVISIONS			



CONFIGURATION S-PAR-1: TYPE D CURB RAMP DIAGONAL, BACK OF CURB (SINGLE PARALLEL WHEN SERVING ONLY ONE DIRECTION)

CONFIGURATION S-PAR-2: TYPE C CURB RAMP DIAGONAL, BACK OF CURB (SINGLE PARALLEL WHEN SERVING ONLY ONE DIRECTION)

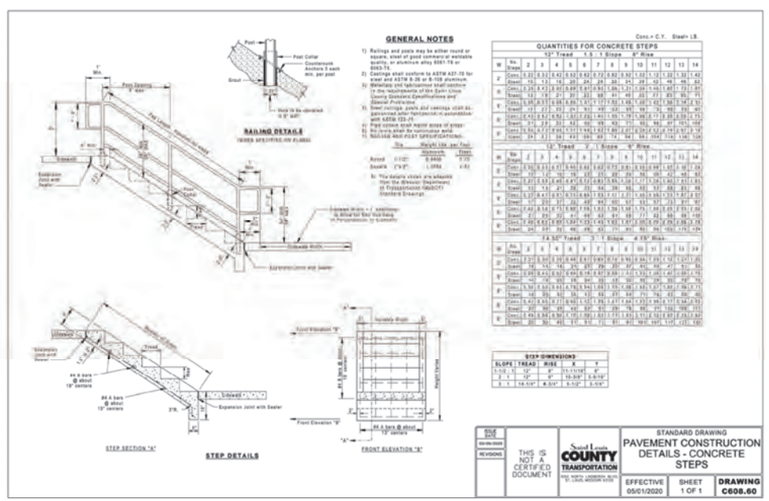
CONFIGURATION S-PERP-7: TYPE B CURB RAMP DIAGONAL, GRASS BUFFER (SINGLE PERPENDICULAR WHEN SERVING ONLY ONE DIRECTION)

CONFIGURATION S-COMB-4: TYPE B.C CURB RAMP SINGLE COMPOUND, DIAGONAL, GRASS BUFFER (SINGLE COMPOUND WHEN SERVING ONLY ONE DIRECTION)

NOTES:
(1) CROSS SLOPE SHALL BE SUFFICIENT TO PREVENT PONDING UP TO A MAXIMUM OF 2% UNLESS DRAINAGE NOTES 1.5% (+/-0.5%) CROSS SLOPE RECOMMENDED.
(2) THE RUNNING SLOPE OF A BLENDED TRANSITION MAY BE WARPED TO MEET ROAD GRADE UP TO 5% MAXIMUM.
(3) A GEOMETRIC DIFFERENCE BETWEEN PAVEMENT OR GUTTER SLOPE IN THE DIRECTION OF PEDESTRIAN TRAVEL AND CURB RAMP SLOPE SHALL NOT EXCEED 13.5%. (EQUIVALENT TO 1/4" VERTICAL LEVEL LANDING 4" HORIZONTAL DIFFERENCE EXPOSED SLOPE)
(4) CROSS SLOPE SHALL BE A MIN OF 1.5% AND A MAX OF 2.5% AT INTERSECTIONS WITH STOP OR YIELD CONTROL. GRADE SLOPE SHALL BE A MAX OF 5.0% AT INTERSECTIONS WITHOUT STOP OR YIELD CONTROL.
(5) CURB RAMP RUNNING SLOPE SHALL BE 8.3% MAX.
(6) TRAVERSABLE FLARE RUNNING SLOPE SHALL BE 10% MAX
(7) IN ORDER TO PREVENT TRIPPING HAZARDS RETURN CURBS AND NON-TRAVERSABLE FLARES MAY BE USED ONLY WHEN NECESSARY IF GRADING CAN BE PERFORMED TO ELIMINATE THE NEED FOR RETURN CURBS. LANDING 4" GRADING SHALL BE USED ADJACENT TO THE PEDESTRIAN ACCESS ROUTE. CURBS ADJACENT TO THE PEDESTRIAN ACCESS ROUTE SHALL BE AVOIDED
(8) OMIT THE 3.5' X 5' LANDING WHEN NO PEDESTRIAN PUSH BUTTON IS REQUIRED

GENERAL NOTES:
THE CONTRACTOR SHALL COMPLY WITH ALL LAWS PERTAINING TO THE AMERICANS WITH DISABILITIES ACT, ON PUBLIC RIGHTS OF WAY. EXCEPTIONS MUST BE APPROVED BY THE ENGINEER ALL AREAS OF NON-COMPLIANCE SHALL BE REMOVED AND CORRECTED AT THE CONTRACTOR'S EXPENSE.
SIDEWALK AND RAMP WIDTH SHALL BE 5' MIN FOR ARTERIAL AND COLLECTOR STREETS, AND NONRESIDENTIAL DRIVEWAYS & MIN WIDTH FOR RESIDENTIAL (OR) AS SPECIFIED BY MASTER PLAN. WHERE NO WIDTH IS SPECIFIED, 4' MIN WIDTH IN ALL CASES WHEN SIDEWALK IS CONSTRUCTED AT THE BACK OF CURB.
FINISHED SIDEWALK SHALL BE STABLE, SLIP RESISTANT, AND SURFACE SHALL NOT POND WATER.
THE RUNNING GRADE OF A SIDEWALK SHALL NOT EXCEED 5.0% EXCEPT WHEN MATCHING THE GRADE OF AN ADJACENT ROADWAY.
A DIAGONAL RAMP IS A SINGLE CURB RAMP WHICH SERVES TWO CROSSINGS. ENGINEERING JUDGMENT SHOULD BE USED FOR NEW CONSTRUCTION OR ALTERATION THAT PROJECTS WHERE CONSTRUCTION OF SPLIT RAMPS IS NOT PRACTICABLE AS DETERMINED BY THE ENGINEER.
LANDINGS, TURNING SPACES, AND CLEAR SPACES LOCATED IN THE ROADWAY MUST BE COMPLETELY CONTAINED WITHIN THE CROSSWALK.
TRANSITIONS FROM SIDEWALK TO GUTTER TO ROADWAY MUST BE FLUSH.
DETECTABLE WARNING DEVICES ARE REQUIRED AT PUBLIC STREETS AND DRIVEWAYS. PARKING SPACES AND PARKING AISLES ARE NOT CONSIDERED TO BE DETECTABLE WARNING SURFACE REQUIREMENTS SEE STANDARD DRAWING C600.01
RUNNING SLOPE OF CURVED SIDEWALKS AND RAMPS SHALL BE MEASURED ON THE INSIDE EDGE OF THE CURVE.
IF, DUE TO THE RUNNING SLOPE FOR A CURB RAMP IS NOT LIKELY TO EXIT WARNING IF THE CONSTRUCTED CURB RAMP EXCEEDS 13.5% IN LENGTH THIS EXCEPTION DOES NOT APPLY TO SIDEWALK RAMP.
GRADE BREAK BETWEEN RAMP AND ADJACENT SIDEWALK MUST BE PERPENDICULAR TO THE DIRECTION OF THE RAMP.
TYPE A CURB IS INCIDENTAL TO CURB RAMP CONSTRUCTION, NO ADDITIONAL PAY WILL BE PROVIDED.
A CLEAR SPACE SHALL BE PROVIDED BEYOND THE BOTTOM GRADE BREAK OF ALL CURB RAMPS. THE CLEAR SPACE SHALL BE A MINIMUM OF 4 FT BY 4 FT AND RESIDE WHOLLY OUTSIDE OF THE PARALLEL VEHICLE TRAVEL LANE.
A 5'0" X 5'0" MINIMUM TURNING SPACE SHALL BE PROVIDED AT THE BOTTOM OF CURB RAMPS. TWO CLEAR SPACES SHALL BE PROVIDED BEYOND THE BOTTOM GRADE BREAK OF CONFIGURATION. TURNING SPACE SHALL RESIDE WHOLLY OUTSIDE OF BOTH PARALLEL VEHICLE TRAVEL LANES.
A SIDEWALK TRANSITION SHALL BE PROVIDED WHEN CONNECTING NEW SIDEWALK VALUES TO AN EXISTING ROADWAY.
ALL SLOPES AND GRADES SHALL BE MEASURED WITH A CALIBRATED 2 FOOT LONG DIGITAL LEVEL.
PERMEABLE PAVEMENT SHALL NOT BE PERMITTED FOR THE CONSTRUCTION OF CURB RAMPS, BLENDED TRANSITIONS, OR TURNING SPACES. ALL PROPOSED PERMEABLE PAVEMENT INSTALLATIONS SHALL REQUIRE DEPARTMENTAL APPROVAL.

ISSUE DATE	THIS IS NOT A CERTIFIED DOCUMENT	Saint Louis COUNTY TRANSPORTATION	CURB RAMP CONFIGURATIONS FOR USE WITHIN PUBLIC RIGHT-OF-WAY
03/06/2020			EFFECTIVE 05/01/2020 · SHEET 4 OF 7 · DRAWING C608.41
REVISIONS			



GENERAL NOTES

1) Railings and posts may be either round or square, steel of good commercial weldable quality, or aluminum alloy 6061-T6 or 6063-T6.
2) Castings shall conform to ASTM A27-70 for steel and ASTM B-26 or B-108 aluminum.
3) Materials and fabrication shall conform to the requirements of the Saint Louis County Standard Specifications and Special Provisions.
4) Steel railings, parts and castings shall be galvanized after fabrication in accordance with ASTM 123-71.
5) Field cutting shall expose areas of gross-galvanized steel and castings shall be painted with two coats of zinc rich paint.
6) All bolts shall be noncorrosive steel.
7) Railings shall PASS SPHERE TEST.

Item	Weight (lbs. per foot)
Round 1-1/2"	0.4400
Square 1"x1"	1.0700

b) The above values are adapted from the Structural Department of Transportation Publication Standard Drawings.

RAILING DETAILS
(OTHER SPECIFYING OR FLUSH)

STEP SECTION "A"

STEP DETAILS

FRONT ELEVATION "B"

Conc.= C.Y. Steel= LB.

QUANTITIES FOR CONCRETE STEPS

12" Tread 6.5 : 1 Slope 6" Rise

W	No. Steps	2	3	4	5	6	7	8	9	10	11	12	13	14
2'	Conc.	0.22	0.33	0.43	0.52	0.62	0.72	0.82	0.92	1.02	1.12	1.22	1.32	1.42
	Steel	10	13	16	20	24	28	31	35	39	43	46	50	54
3'	Conc.	0.26	0.40	0.53	0.66	0.80	0.93	1.06	1.20	1.34	1.46	1.60	1.73	1.86
	Steel	12	16	20	25	29	33	37	41	45	49	53	57	61
4'	Conc.	0.30	0.47	0.64	0.81	0.98	1.15	1.32	1.49	1.66	1.82	1.98	2.15	2.31
	Steel	14	19	24	29	34	39	44	49	54	59	64	69	74
5'	Conc.	0.34	0.53	0.74	0.93	1.13	1.33	1.53	1.73	1.93	2.13	2.33	2.53	2.73
	Steel	16	22	28	33	39	45	51	57	63	69	75	81	87
6'	Conc.	0.38	0.60	0.83	1.06	1.29	1.51	1.74	1.97	2.20	2.43	2.66	2.89	3.12
	Steel	18	25	32	38	44	51	58	64	71	78	84	91	98
7'	Conc.	0.42	0.67	0.92	1.18	1.43	1.69	1.94	2.20	2.45	2.71	2.96	3.22	3.47
	Steel	20	28	35	42	49	56	64	71	78	86	93	100	107
8'	Conc.	0.46	0.73	1.01	1.29	1.57	1.84	2.12	2.40	2.68	2.96	3.24	3.52	3.80
	Steel	22	31	39	47	54	62	70	78	86	94	102	110	118

12" Tread 7 : 1 Slope 4 1/2" Rise

W	No. Steps	3	4	5	6	7	8	9	10	11	12	13	14
2'	Conc.	0.30	0.43	0.57	0.70	0.83	0.97	1.10	1.23	1.37	1.50	1.63	1.77
	Steel	13	17	21	25	29	33	37	41	45	49	53	57
3'	Conc.	0.35	0.50	0.65	0.80	0.95	1.10	1.25	1.40	1.55	1.70	1.85	2.00
	Steel	15	20	25	30	35	40	45	50	55	60	65	70
4'	Conc.	0.40	0.57	0.74	0.92	1.09	1.27	1.44	1.62	1.79	1.97	2.14	2.32
	Steel	17	23	29	35	41	47	53	59	65	71	77	83
5'	Conc.	0.45	0.64	0.84	1.03	1.23	1.42	1.62	1.81	2.01	2.20	2.40	2.59
	Steel	19	26	33	40	47	54	61	68	75	82	89	96
6'	Conc.	0.50	0.71	0.93	1.14	1.36	1.57	1.79	2.00	2.22	2.43	2.65	2.86
	Steel	21	29	37	45	53	61	69	77	85	93	101	109
7'	Conc.	0.55	0.78	1.02	1.25	1.49	1.72	1.96	2.19	2.43	2.66	2.90	3.13
	Steel	23	32	41	50	59	68	77	86	95	104	113	122
8'	Conc.	0.60	0.85	1.11	1.36	1.62	1.87	2.13	2.38	2.64	2.89	3.15	3.40
	Steel	25	35	45	55	65	75	85	95	105	115	125	135

STEP DIMENSIONS

SLOPE	TREAD	RISE	X	Y
1-1/2 : 1	10"	6"	11-11/16"	4"
2 : 1	9"	4"	10-3/8"	3 5/16"
3 : 1	14-1/8"	4 3/4"	9-1/2"	3-1/16"

ISSUE DATE	THIS IS NOT A CERTIFIED DOCUMENT	Saint Louis COUNTY TRANSPORTATION	STANDARD DRAWING PAVEMENT CONSTRUCTION DETAILS - CONCRETE STEPS
03/06/2020			EFFECTIVE 05/01/2020 · SHEET 1 OF 1 · DRAWING C608.60
REVISIONS			

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001498
796 Merus Ct,
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd,
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S4004-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2185 tel

Hanna Woods Elementary School
720 Hanna Road, Ballwin, MO 63021
Parkway PN #171801B
Window, Door, & Roof Replacement and Solar-Tubes & Window Installation
Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI · PAUL K. BOYER · NUMBER E-28258 · REGISTERED PROFESSIONAL ENGINEER · 3/31/23

PAUL K. BOYER, P.E. E-28258
CIVIL ENGINEER
CEDC LICENSE NO.: 2003004674

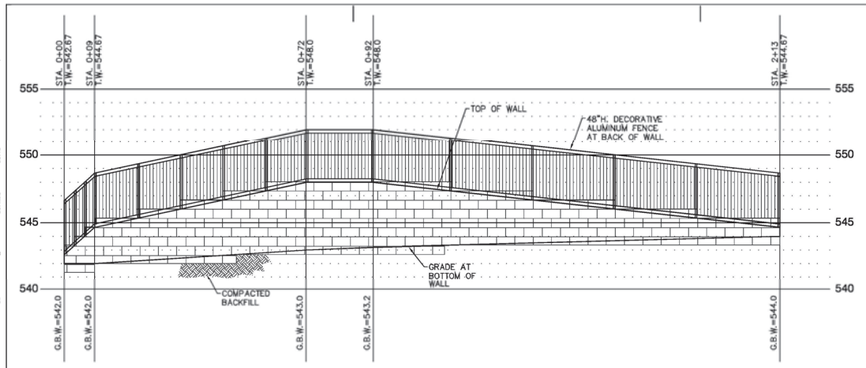
DATE: 03/31/23

Bid/Permit Set

SITE DETAILS

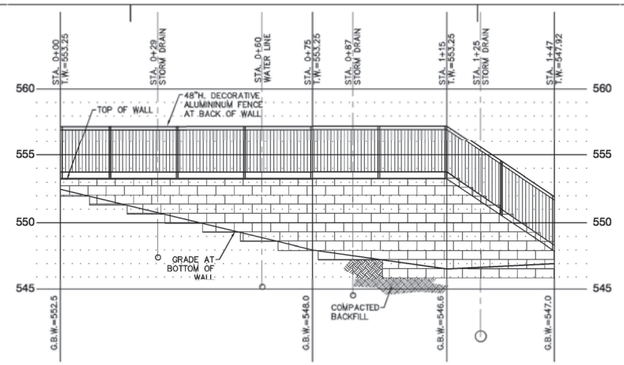
23MSD-00083
Base Map: 24Q1

C9.1



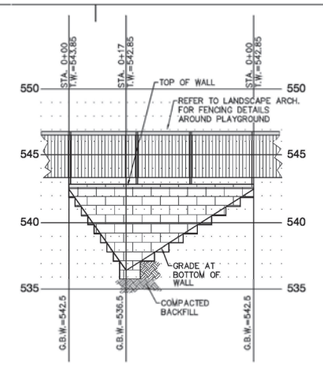
RETAINING WALL "A" PROFILE

SCALE:
HORIZONTAL: 1"= 20'
VERTICAL: 1"= 5'



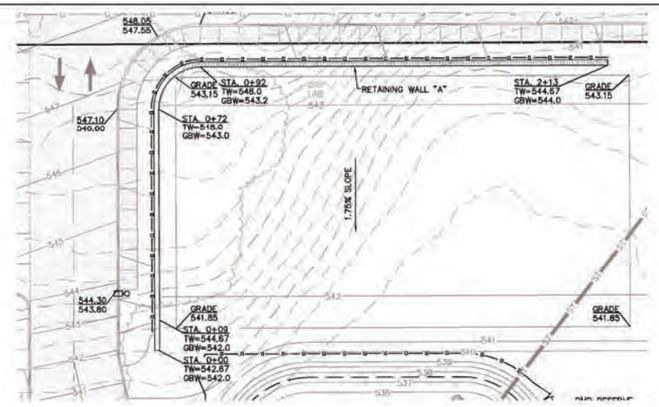
RETAINING WALL "B" PROFILE

SCALE:
HORIZONTAL: 1"= 20'
VERTICAL: 1"= 5'



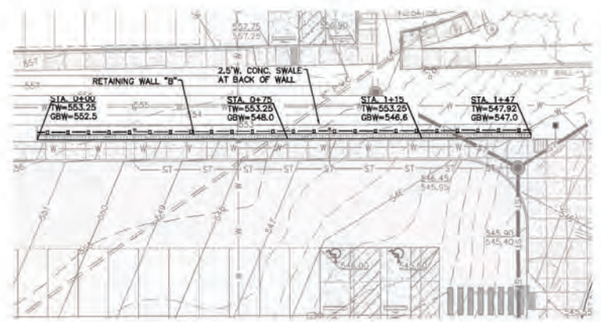
RETAINING WALL "C" PROFILE

SCALE:
HORIZONTAL: 1"= 20'
VERTICAL: 1"= 5'



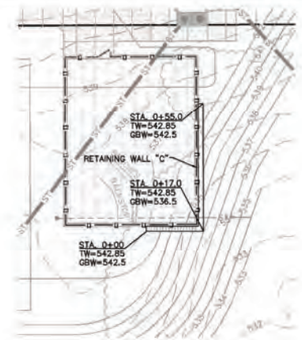
RETAINING WALL "A" PLAN VIEW

SCALE: 1"=20'



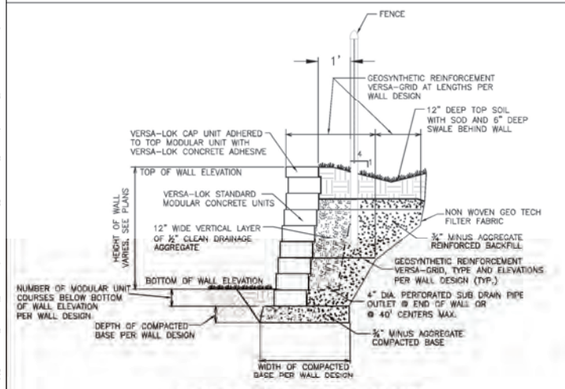
RETAINING WALL "B" PLAN VIEW

SCALE: 1"=20'



RETAINING WALL "C" PLAN VIEW

SCALE: 1"=20'

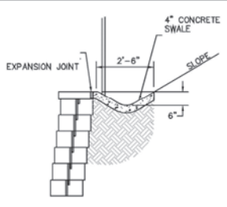


LANDSCAPE AREA TOP AND BOTTOM OF WALL WITH FENCE AT TOP

N.T.S.

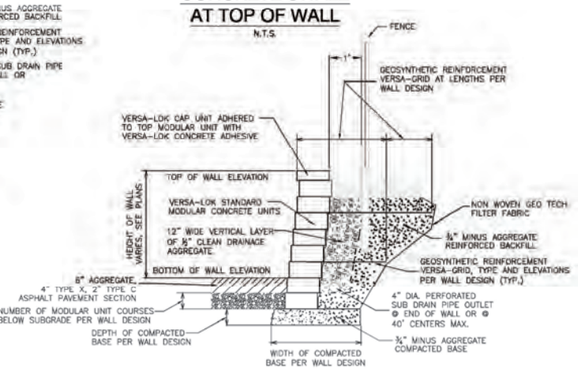
MODULAR CONCRETE UNIT
SCALE: NONE

NOTES:
1.) REFER TO THIS DRAWING FOR WALL PROFILE AND HEIGHT ONLY. DESIGN OF WALL SHALL BE BY OTHERS.
2.) TYPE OF WALL TO BE DETERMINED BY OWNER AND ARCHITECT. FENCE TYPE, COLOR/STYLE/ETC. TO BE COORDINATED WITH ARCHITECT.
3.) STRUCTURAL CALCULATIONS TO BE PROVIDED BY WALL MANUFACTURER OR STRUCTURAL ENGINEER. PERMITS FOR WALL TO BE OBTAINED BY CONTRACTOR.
4.) THE WALL MANUFACTURER SHALL OBTAIN A COPY OF THE GEOTECHNICAL REPORT IF ONE HAS BEEN PREPARED FOR THIS PROJECT AND COMPLY WITH THE REQUIREMENTS OUTLINED IN REPORT.
5.) HORIZONTAL LOCATION OF BASE OF WALL IS SUBJECT TO FINAL WALL DESIGN AND WALL BATTER.
6.) CONTRACTOR TO ACCOUNT FOR WALL BATTER WHEN STAKING OUT WALL AND BUILDING WALL.



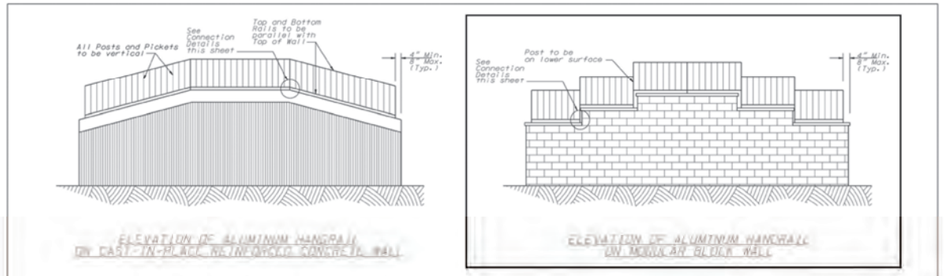
CONCRETE SWALE AT TOP OF WALL

N.T.S.



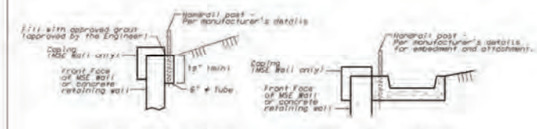
PAVEMENT AT BOTTOM OF WALL WITH FENCE AT TOP

N.T.S.



ELEVATION OF ALUMINUM HANDRAIL ON CAST-IN-PLACE REINFORCED CONCRETE WALL

ELEVATION OF ALUMINUM HANDRAIL ON MODULAR BLOCK WALL



HANDRAIL POST CONNECTION BEHIND WALL (WITHOUT GUTTER)

HANDRAIL POST CONNECTION BEHIND WALL (WITH GUTTER)

POST CONNECTION DETAILS

GENERAL NOTES

1. All metals, except stainless steel, to be painted with two coats of approved aluminum primer and two coats of approved finish paint. Stainless steel to be unpainted.
2. All welds to be ground smooth and finished to match adjacent surfaces. Welds on stainless steel to be passivated.
3. All exposed edges of aluminum members to be ground smooth and finished to match adjacent surfaces. Exposed edges of stainless steel members to be ground smooth.
4. Handrail to be supported by aluminum handrail posts spaced at 6'-0" maximum on center. Posts to be embedded in concrete or attached to concrete surface as shown on plans.
5. Handrail to be supported by aluminum handrail posts spaced at 6'-0" maximum on center. Posts to be embedded in concrete or attached to concrete surface as shown on plans.
6. Handrail to be supported by aluminum handrail posts spaced at 6'-0" maximum on center. Posts to be embedded in concrete or attached to concrete surface as shown on plans.
7. Handrail to be supported by aluminum handrail posts spaced at 6'-0" maximum on center. Posts to be embedded in concrete or attached to concrete surface as shown on plans.
8. Handrail to be supported by aluminum handrail posts spaced at 6'-0" maximum on center. Posts to be embedded in concrete or attached to concrete surface as shown on plans.
9. Handrail to be supported by aluminum handrail posts spaced at 6'-0" maximum on center. Posts to be embedded in concrete or attached to concrete surface as shown on plans.
10. Handrail to be supported by aluminum handrail posts spaced at 6'-0" maximum on center. Posts to be embedded in concrete or attached to concrete surface as shown on plans.

ISSUE DATE 03/09/2020
REVISIONS

THIS IS NOT A CERTIFIED DOCUMENT

Saint Louis COUNTY TRANSPORTATION
100 NORTH LINDBERGH BLVD.
ST. LOUIS, MISSOURI 63132

STANDARD DRAWING
ALUMINUM HANDRAIL FOR RETAINING WALLS

EFFECTIVE	SHEET	DRAWING
05/01/2020	1 OF 1	C607.13

23MSD-00083
Base Map: 24Q1

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001498
796 Morus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S4004-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2185 tel

Hanna Woods Elementary School
720 Hanna Road, Ballwin, MO 63021
Parkway PN #171801B
Window, Door, & Roof Replacement and Solar-Tubes & Window Installation
Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for the specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project, without the written consent of the Architect. Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
PAUL K. BOYER
NUMBER E-28258
PROFESSIONAL ENGINEER
5/31/23

PAUL K. BOYER, P.E. E-28258
CIVIL ENGINEER
CEDC LICENSE NO.: 2003004674

DATE: 03/31/23

Bid/Permit Set

RETAINING WALL PROFILES

C9.2

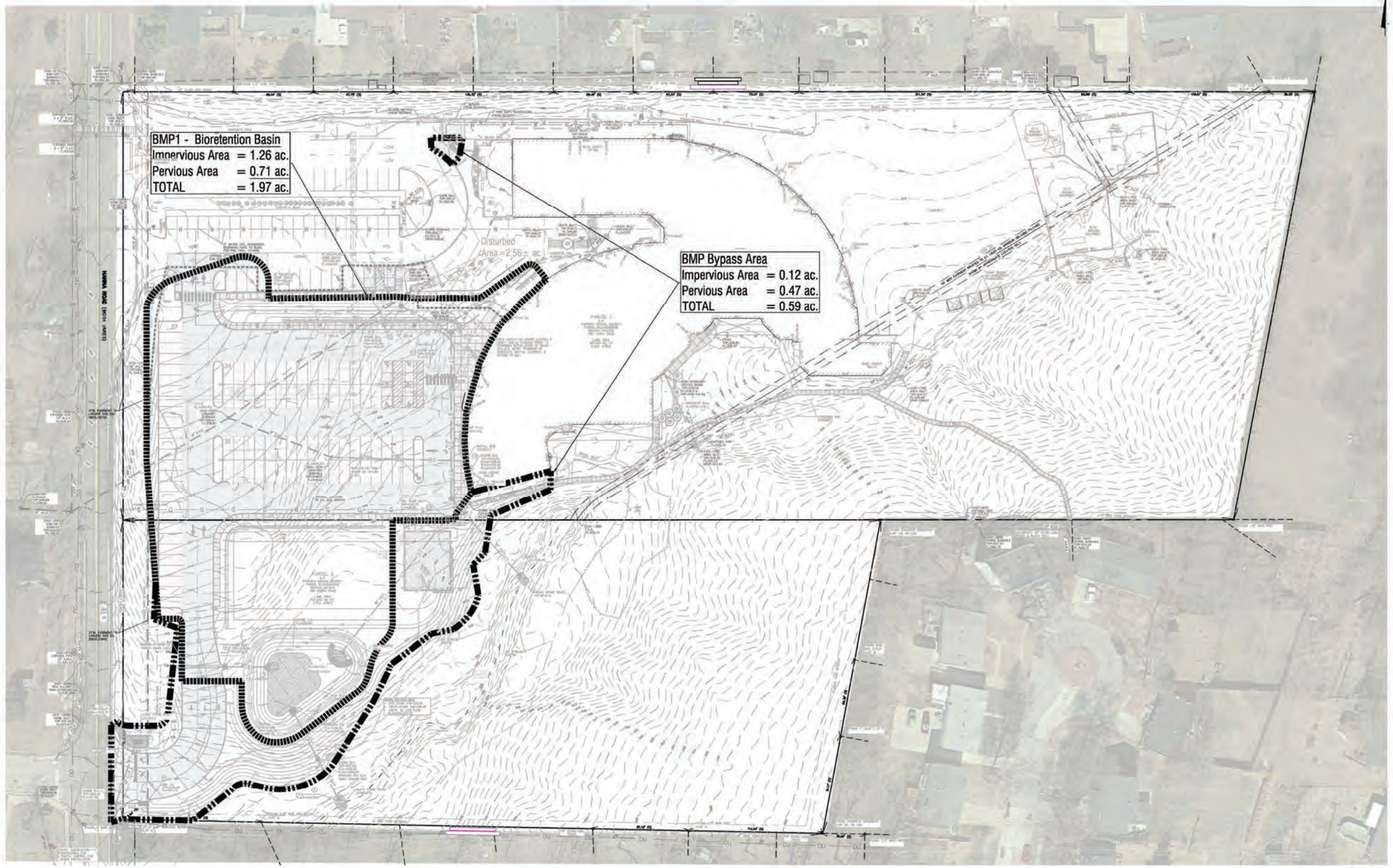
STORMWATER MANAGEMENT NOTE:
LAND AREA DISTURBED= 2.56 ACRES

1. ANY FUTURE LAND DISTURBANCE AND/OR INCREASE IN IMPERVIOUS AREA ON THIS SITE MAY REQUIRE ADDITIONAL STORM WATER MANAGEMENT PER MSD REGULATIONS IN PLACE AT THAT TIME (INCLUDING TOTAL LAND DISTURBANCE AND/OR IMPERVIOUSNESS ADDED ON THIS PLAN 23MSD-).

BMP TABLE

BMP AREA	TRIBUTARY AREA	Impervious area	Pervious area	BMP	WATER QUALITY VOLUME REQUIRED	WATER QUALITY VOLUME PROVIDED	CHANNEL PROTECTION VOLUME REQUIRED	CHANNEL PROTECTION VOLUME PROVIDED
1	1.97 ACRES	1.26 ac.	0.71 ac.	BIORETENTION BASIN	3,825 C.F.	5,722 C.F.	7,931 C.F.	8,405 C.F.
UNTREATED BYPASS								
BYPASS	TRIBUTARY AREA	Impervious area	Pervious area					
	0.59 ACRES	0.12 ac.	0.47 ac.	UNTREATED BYPASS				

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.



23MSD-00083
Base Map: 24Q1

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority #
2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001488
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S4004-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2185 tel

Hanna Woods Elementary School
720 Hanna Road, Ballwin, MO 63021
Parkway PN #171801B
Window, Door, & Roof Replacement and Solar-Tubes & Window Installation
Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
PAUL K. BOYER
NUMBER 28258
PROFESSIONAL ENGINEER
3/31/23

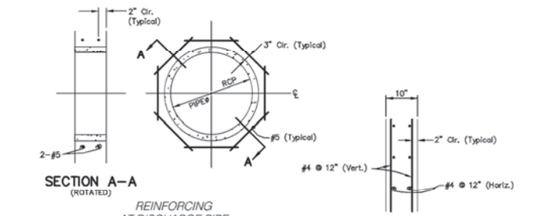
PAUL K. BOYER, P.E. E-28258
CIVIL ENGINEER
CEDC LICENSE NO.: 2003004674

DATE: 03/31/23

Bid/Permit Set

BMP PLAN

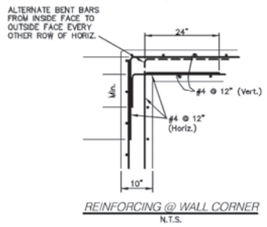
C10.0



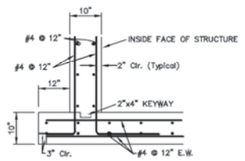
SECTION A–A
(ROTATED)

REINFORCING AT DISCHARGE PIPE
N.T.S.

WALL REINFORCING
N.T.S.

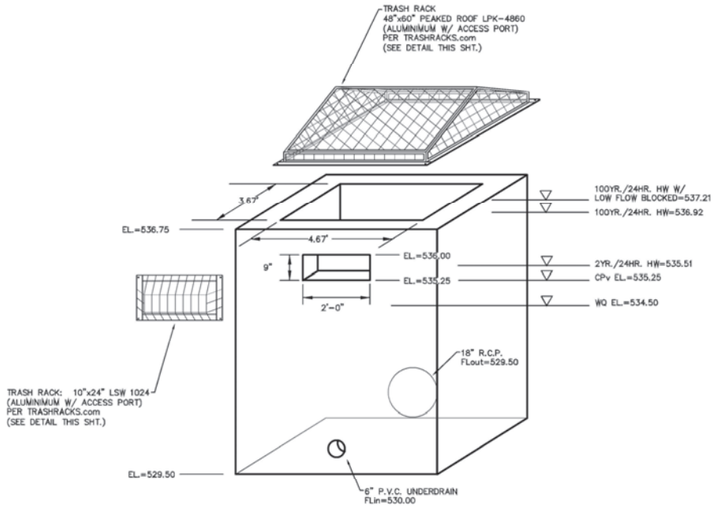


REINFORCING @ WALL CORNER
N.T.S.



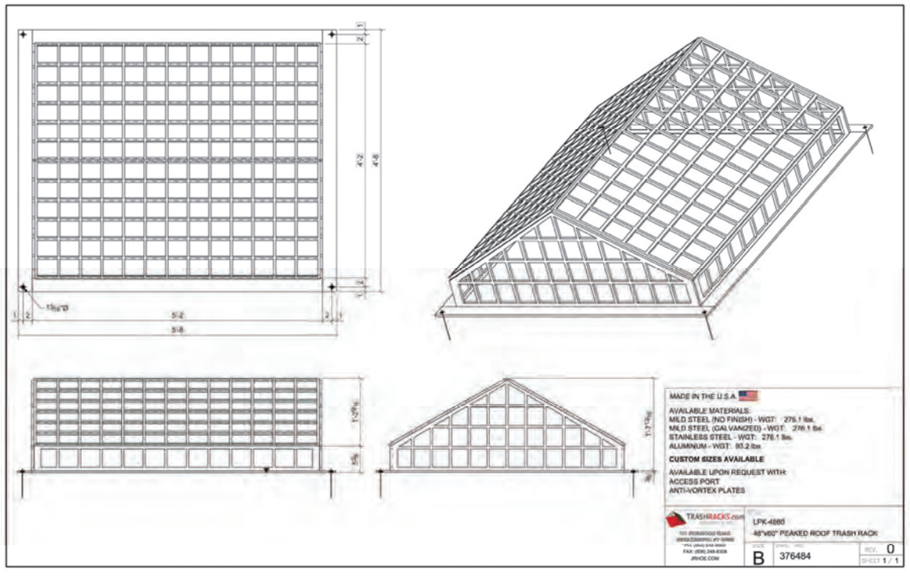
FOOTING REINFORCING
N.T.S.

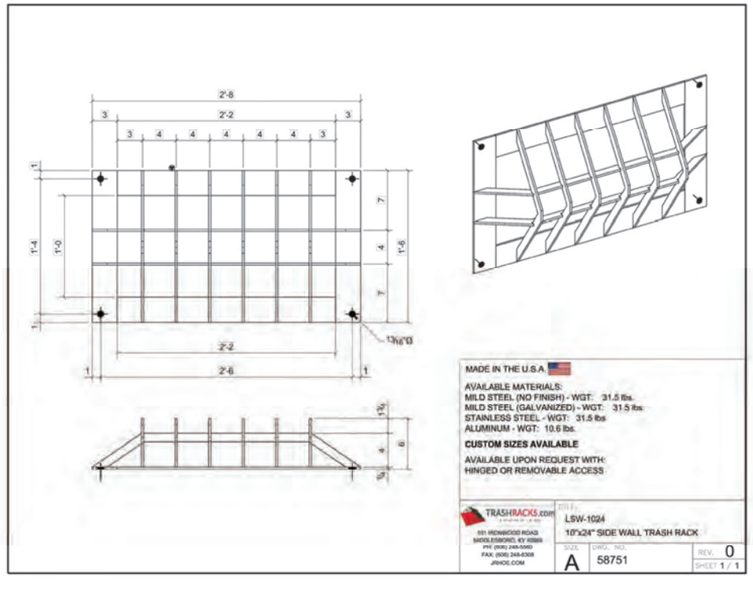
NOTES:
1. ANY UNSUITABLE SOIL (AS DETERMINED BY SOILS ENGINEER) BELOW DETENTION STRUCTURE SHALL BE REMOVED AND REPLACED WITH SELECTED EARTHEN MATERIAL AND COMPACTED IN PLACE WITH VIBRATORY TAMPER.
2. BACKFILL MATERIAL AROUND OVERFLOW STRUCTURE TO BE COMPACTED CLAY.
3. ALL EXPOSED CONCRETE EDGES TO HAVE 3/4" CHAMFER EDGES.
4. CONCRETE–fc = 3000 psi
   STEEL–fy = 60,000 psi
5. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW, PRIOR TO CONSTRUCTION.



OUTFALL STRUCTURE #6
N.T.S.

SHOP DRAWINGS
ENGINEER APPROVED SHOP DRAWINGS MUST BE SUBMITTED TO MSD PRIOR TO THE CONSTRUCTION OF THIS STRUCTURE.
MSD CONTACT: BRIAN DUNN (314) 335–2072





bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001498
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S4004-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2185 tel

Hanna Woods Elementary School
720 Hanna Road, Ballwin, MO 63021
Parkway PN #171801B
Window, Door, & Roof Replacement and Solar-Tubes & Window Installation
Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project, without the written consent of the Architect. Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
PAUL K. BOYER
NUMBER 2008
REGISTERED PROFESSIONAL ENGINEER
3/31/23

PAUL K. BOYER, P.E. E–28258
CIVIL ENGINEER
CEDC LICENSE NO.: 2003004674

DATE: 03/31/23

Bid/Permit Set

BMP PLAN DETAILS

23MSD-00083
Base Map: 24Q1

C10.1

BIORETENTION NOTES

1. MATERIAL SPECIFICATIONS

THE ALLOWABLE MATERIALS TO BE USED IN BIORETENTION AREA ARE DETAILED IN THE MSD LANDSCAPE GUIDE FOR STORMWATER BEST MANAGEMENT PRACTICES.

2. PLANTING SOIL

THE PLANTING SOIL SHOULD BE SANDY LOAM OR LOAMY SAND (SHOULD CONTAIN A MINIMUM OF 60 PERCENT SAND, BY VOLUME). THE CLAY CONTENT FOR THESE SOILS SHOULD BE LESS THAN 10 PERCENT BY VOLUME. A SATURATED HYDRAULIC CONDUCTIVITY OF AT LEAST 2.0 FEET PER DAY IS REQUIRED.

THE SOIL SHOULD BE FREE OF STONES, STUMPS, ROOTS OR OTHER WOODY MATERIAL OVER 1 INCH IN DIAMETER. FOR BEST RESULTS, BRUSH OR SEEDS FROM NOXIOUS WEEDS SUCH AS JOHNSON GRASS, MUGWORT, NUTSEDGE AND CANADIAN THISTLE SHOULD NOT BE PRESENT IN THE SOILS. PLACEMENT OF THE PLANTING SOIL SHOULD BE IN LIFTS OF 12 TO 18 INCHES, LOOSELY COMPACTED (RUBBER WHEELED HEAVY EQUIPMENT AND MECHANICAL TAMPING DEVICES ARE NOT RECOMMENDED FOR COMPACTION).

THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:

PHRANGE	5.2–8.0
ORGANIC MATTER	1.5 – 5 PERCENT (BY WEIGHT)
MAGNESIUM	35 LB./AC
PHOSPHORUS (PHOSPHATE – P2O5	75 LB./AC
POTASSIUM (POTASH – K2O)	85 lb./AC
SOLUBLE SALTS	NOT TO EXCEED 500 PPM

ALL BIORETENTION AREAS SHALL HAVE A MINIMUM OF ONE TEST. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, PHOSPHORUS, AND POTASSIUM AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOP SOIL WAS EXCAVATED.

SINCE DIFFERENT LABS CALIBRATE THEIR TESTING EQUIPMENT DIFFERENTLY, ALL TESTING RESULTS SHALL COME FROM THE SAME TESTING FACILITY.

SHOULD THE PH FALL OUT OF THE ACCEPTABLE RANGE, IT MAY BE MODIFIED (HIGHER) WITH LIME OR (LOWER) WITH IRON SULFATE PLUS SULFUR.

3. COMPACTION

IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF THE BIORETENTION AREA AND THE REQUIRED BACKFILL WHEN POSSIBLE. USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF BIORETENTION AREAS ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.

COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE.

WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE.

WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12 IN. TO 18 IN. DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

4. PLANT MATERIAL

RECOMMENDED PLANT MATERIAL FOR BIORETENTION AREAS CAN BE FOUND IN MSD LANDSCAPE GUIDE FOR STORMWATER BEST MANAGEMENT PRACTICES.

5. PLANT INSTALLATION

MULCH SHOULD BE PLACED TO A UNIFORM THICKNESS OF 2 IN. TO 3 IN. SHREDDED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.

ROOT STOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION.

TREES SHALL BE BRACED USING 2 IN. BY 2 IN. STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL.

GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.

THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS DEFEATS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.

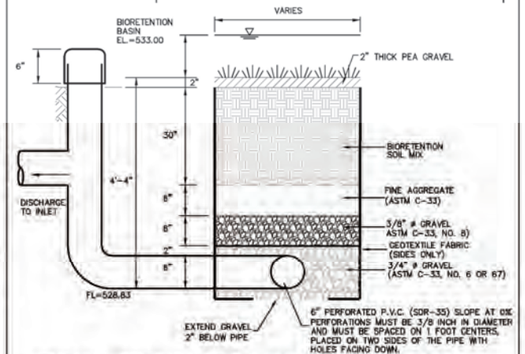
6. MISCELLANEOUS

THE BIORETENTION FACILITY MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

7. BMP CONSTRUCTION NOTES:

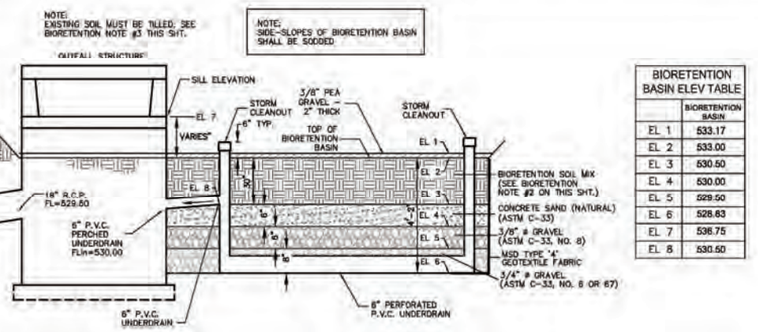
- ALL STORM WATER FLOW TO THE BMP AREAS SHALL BE DIVERTED, PLUGGED OR DISCONNECTED UNTIL THE CONSTRUCTION SITE IS STABLE AND THE MSD INSPECTOR PROVIDES APPROVAL TO PLACE THE BMP ONLINE.
- CONSTRUCTION SITE RUNOFF SHALL NOT FLOW INTO BMP AREAS.
- AREAS NOT SUBJECT TO IMMEDIATE CONSTRUCTION ACTIVITY SHALL REMAIN VEGETATED AND UNDISTURBED AS LONG AS POSSIBLE.
- CONTRACTOR SHALL PROVIDE TO THE PROJECT ENGINEER (CEDC) SHOP DRAWINGS OF THE FOLLOWING FOR APPROVAL:
  a. BIORETENTION SOIL MEDIA
  b. GEOTEXTILE FABRIC
  c. SAND
  d. GRAVEL
  e. PERFORATED PIPE

ONCE THE CONTRACTOR HAS SUBMITTED THE ABOVE ITEMS FOR APPROVAL, THE PROJECT ENGINEER (CEDC) WILL FORWARD SIGNED AND SEALED SHOP DRAWINGS TO MSD FOR APPROVAL PRIOR TO CONSTRUCTION OF THE BMP. **THE MSD CONTACT IS BRIAN DUNN AT (314) 335-2072.**



TYPICAL SECTION FOR A BIORETENTION BASIN

(n.t.s.)



BIORETENTION BASIN ELEV TABLE	
	BIORETENTION BASIN
EL 1	533.17
EL 2	533.00
EL 3	530.50
EL 4	530.00
EL 5	529.50
EL 6	528.63
EL 7	536.75
EL 8	530.50

TYPICAL SECTION FOR BIORETENTION/DETENTION BASINS WITH PERCHED UNDERDRAIN

THE IN-PLACE PERMEABILITY OF THE PLANTING SOIL SHALL BE 2.0 TO 3.5 FT/DAY, AND VERIFIED BY AND INFILTRATION TEST PERFORMED PER THE MARYLAND STORMWATER MANUAL, APPENDIX D.1, "INFILTRATION TESTING REQUIREMENTS (FIELD TESTING REQUIRED)". A MINIMUM OF ONE PERCOLATION TEST SHALL BE PERFORMED PER FACILITY. THE MSD FIELD INSPECTOR SHALL BE ALLOWED TO SELECT THE LOCATION OF PERCOLATION TESTS. THE MSD FIELD INSPECTOR SHALL BE PROVIDED A COPY OF ALL TEST RESULTS, SIGNED AND SEALED BY A MISSOURI PROFESSIONAL ENGINEER. TEST RESULTS SHALL REPORT IN UNITS OF FT/DAY. RESULTS SHALL DEMONSTRATE ACCEPTABLE PERMEABILITY PRIOR TO CONSTRUCTION APPROVAL. NOTE THESE TESTS ARE NOT REQUIRED IF UTILIZING PREMIXED PLANTING SOIL SUPPLIED BY A LOCAL MSD APPROVED SOILS SUPPLIER.

THE RAIN GARDEN IS DESIGNED TO HOLD STORM WATER RUNOFF SO IT CAN FILTER POLLUTANTS. THERE ARE SPECIAL PLANTS IN THE BEDS WHICH ACTUALLY ASSIST IN THE PROCESS OF ABSORBING THE POLLUTANTS. THE PLANTS ARE ALSO USED TO FEED AND ATTRACT BIRDS AND BUTTERFLIES.

NOTES:
1. STANDARD 18"X12"X0.080" ALUMINUM SIGN FACE WITH BLACK 0.625" SERIES 2000 STANDARD ALPHABET ON WHITE BACKGROUND.
2. GALVANIZED STEEL POST 8'-6" LONG.
3. SET BOTTOM OF SIGN 5'-0" ABOVE GRADE.
4. SET BOTTOM OF POST 3'-0" BELOW GRADE.

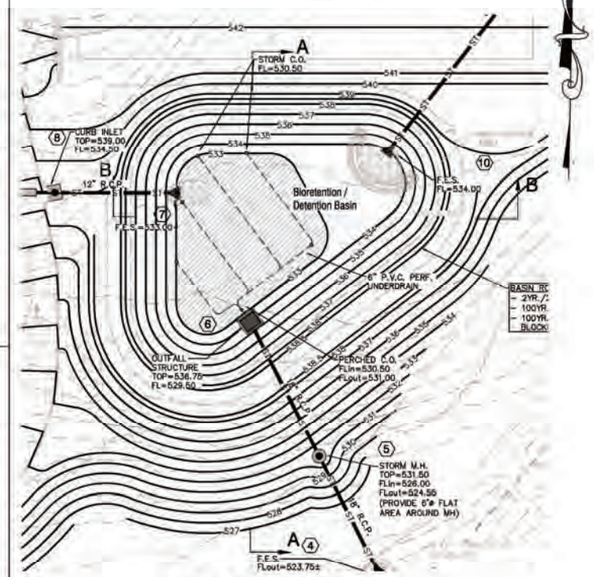
RAIN GARDEN SIGN DETAIL

(n.t.s.)

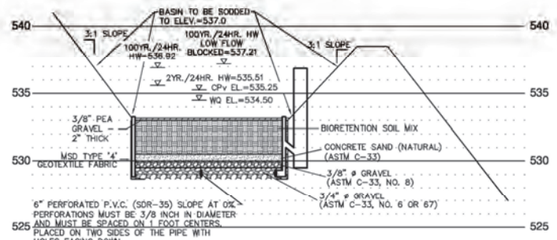
SHOP DRAWINGS MUST BE SUBMITTED TO MSD FOR THE BIORETENTION SOIL AND MATERIALS PRIOR TO CONSTRUCTION. MSD CONTACT: BRIAN DUNN (314) 335-2072

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.



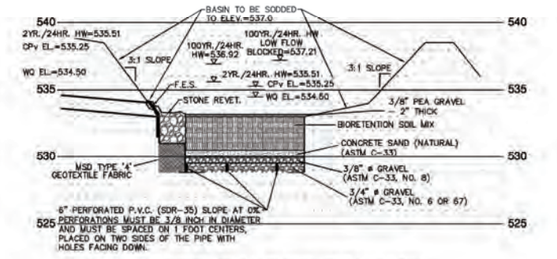
PLAN VIEW-BIORETENTION BASIN



BIORETENTION/DETENTION BASIN SECTION A-A

100YR./24HR. HW W/ LOW FLOW BLOCKED=537.21
100YR./24HR. HW=536.92

SCALE:
HORIZONTAL: 1"= 20'
VERTICAL: 1"= 5'



BIORETENTION/DETENTION BASIN SECTION B-B

SCALE:
HORIZONTAL: 1"= 20'
VERTICAL: 1"= 5'

Planting, Water and Mulch Requirements for Stormwater BMPs

Table 3- Planting, Water and Mulch Requirements

Water Availability	Required Planting Period	Minimum Container Size	Water Requirement First 3 Weeks*	Water Requirement After 3 Weeks*	Maximum Mulch Depth****
No ability to water after	Late Feb. – April only	2.25" x 3.75" or larger	Water each plug immediately		1.5 for plugs
Manual watering with standard sprinkler	Late Feb. – Early June	4.5" x 5" (quart) or larger in summer & fall	1" (60 min) every 4 days	1" (60 min) every 7 days until plants established***	1.5" for plugs
Automatic irrigation (set to water more frequently than normal during first two months after planting)	Late Feb. – Early Oct.	2.25" x 3.75" (plug) or larger in spring 4.5" x 5" (quart) or larger in summer & fall	.5" (60 min) every 4 days in spring and fall 1" (60 min) every 3 days in summer	1" (60 min) every 7 days until plants established***	1.5" for plugs 3.5" for quarts

*This water amount includes natural rainfall. If you get a ½ inch of natural rain then you will need to add a ½ inch of water to meet the 1 inch requirement.

**Requires transport of water to the planting site in large containers and pouring enough water onto each plant (after planting) to moisten the entire planting pit.

***Plants are established when roots have grown out of the container soil and into the native soil by 3-5 inches. This normally takes 3-4 months for most perennials and grasses and up to 6-7 months for trees and shrubs.

****Shredded leaf compost is recommended for use with perennials and grasses. Shredded bark mulch is recommended for tree and shrub plantings at a depth of 3 inches.

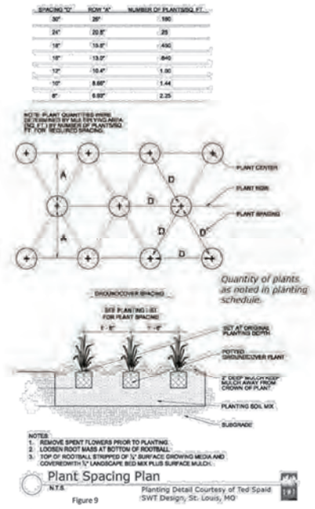
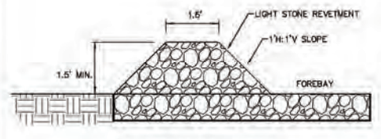


Figure 9



STONE WEIR

1. STONE FOR LIGHT STONE REVETMENT SHALL BE AT LEAST 6 INCH TO 12 INCH DIAMETER.
2. STONE SHOULD BE DRY STACKED ON FINISH GRADE

PA
bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority #
2009027499

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001488
796 Manus Ct.
Fenton, MO 63026
636.340.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #03.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5888 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #54004-23
410 Sovereign Ct. Suite 18
Ballwin, MO 63011
636.391.2185 tel

Hanna Woods Elementary School
720 Hanna Road, Ballwin, MO 63021
Parkway PN #171801B
Window, Door, & Roof Replacement and Solar-Tubes & Window Installation
Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

Description	Date

This drawing and this details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect. Copyright © 2023 by Bond Architects, Inc.

PAUL K BOYER NUMBER E-28258 REGISTERED PROFESSIONAL ENGINEER 3/31/23

PAUL K. BOYER, P.E. E-28258
CIVIL ENGINEER
CEDC LICENSE NO.: 2003004674

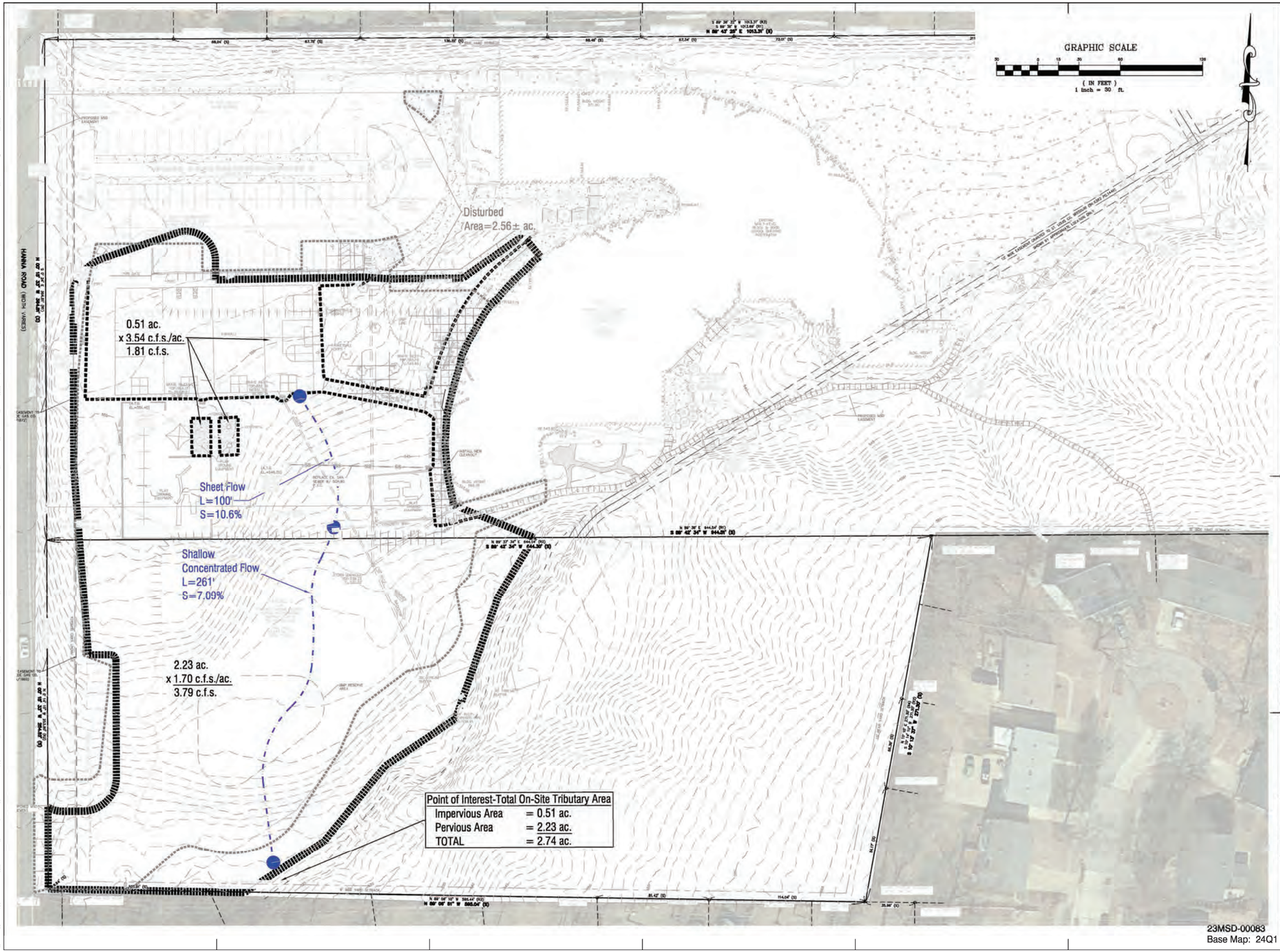
DATE: 03/31/23

Bid/Permit Set

BMP PLAN DETAILS

23MSD-00083
Base Map: 24Q1

C10.2



bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027499

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001498
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S4004-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2185 tel

Hanna Woods Elementary School
720 Hanna Road, Ballwin, MO 63021
Parkway PN #171801B
Window, Door, & Roof Replacement and
Solar-Tubes & Window Installation
Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect. Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
PAUL K. BOYER
NUMBER E-28258
REGISTERED PROFESSIONAL ENGINEER
3/31/23

PAUL K. BOYER, P.E. E-28258
CIVIL ENGINEER
CEDC LICENSE NO.: 2003004674

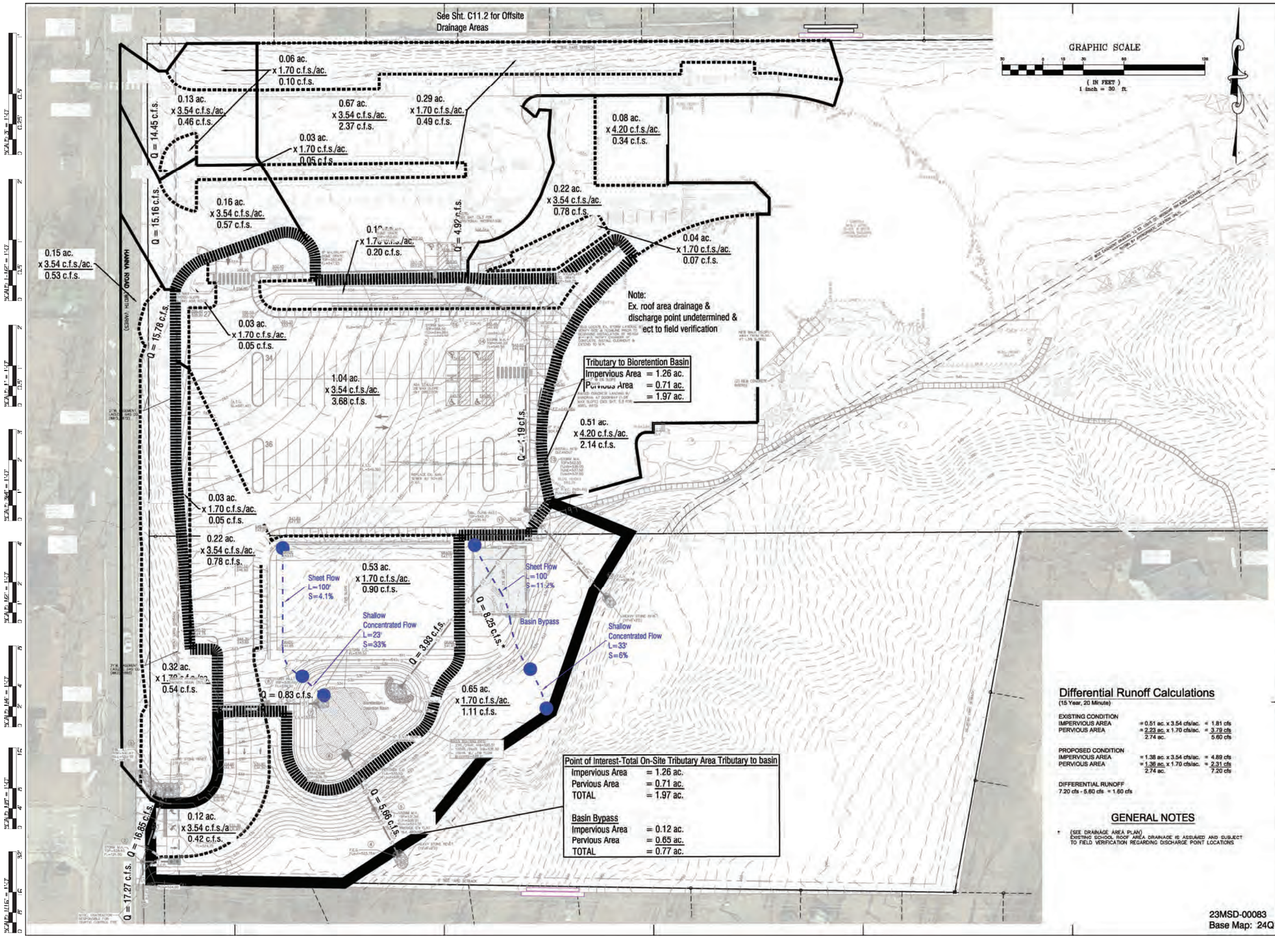
DATE: 03/31/23

Bid/Permit Set

EXISTING DRAINAGE AREA PLAN

23MSD-00083
Base Map: 24Q1

C11.0



bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001488
796 Merus Ct,
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S4004-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2165 tel

Hanna Woods Elementary School

720 Hanna Road, Ballwin, MO 63021
Parkway PN #171801B
Window, Door, & Roof Replacement and Solar-Tubes & Window Installation

Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect. Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
PAUL K BOYER
NUMBER 28258
REGISTERED PROFESSIONAL ENGINEER
3/31/23

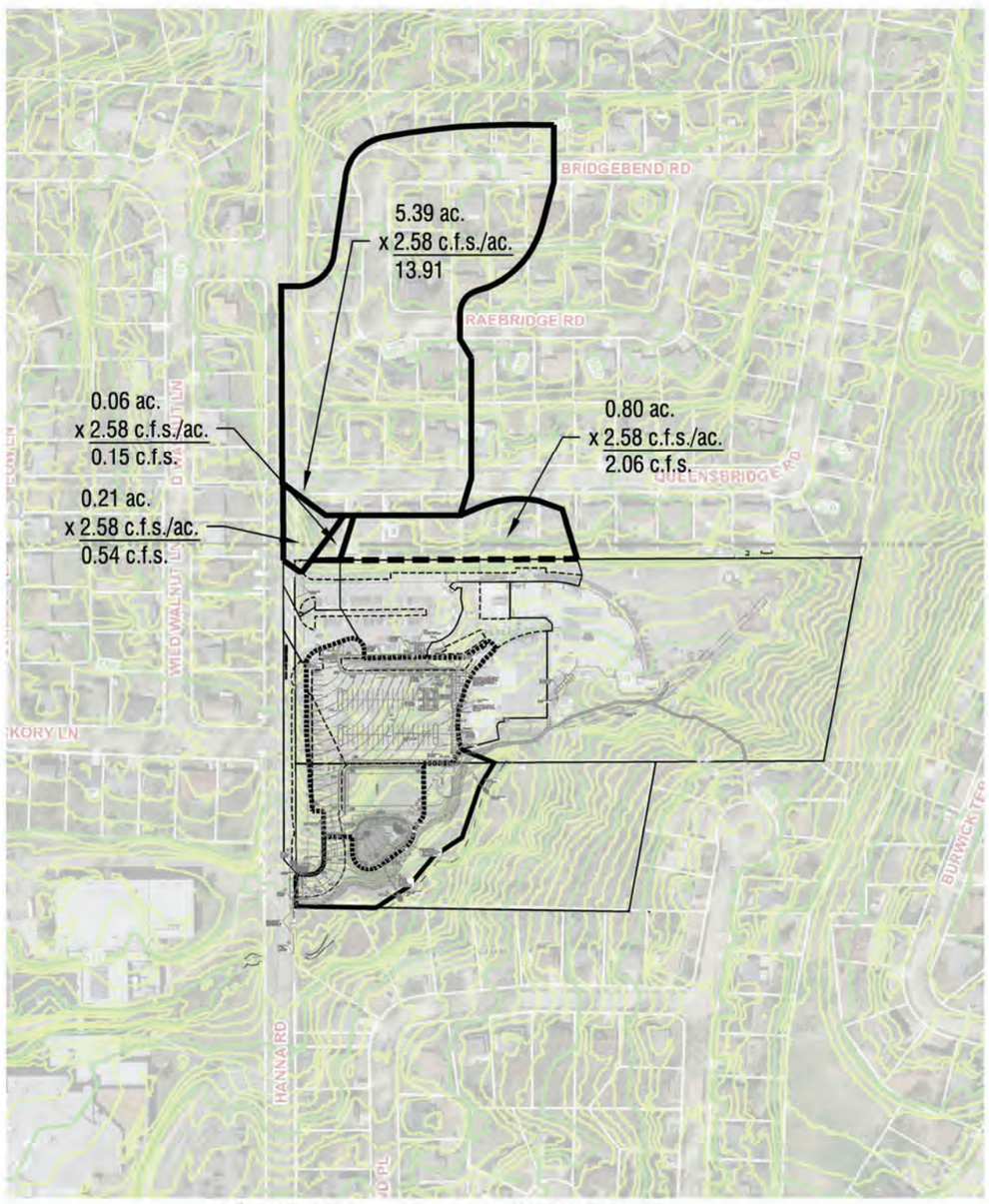
PAUL K. BOYER, P.E. E-28258
CIVIL ENGINEER
CEDC LICENSE No.: 2003004674

DATE: 03/31/23

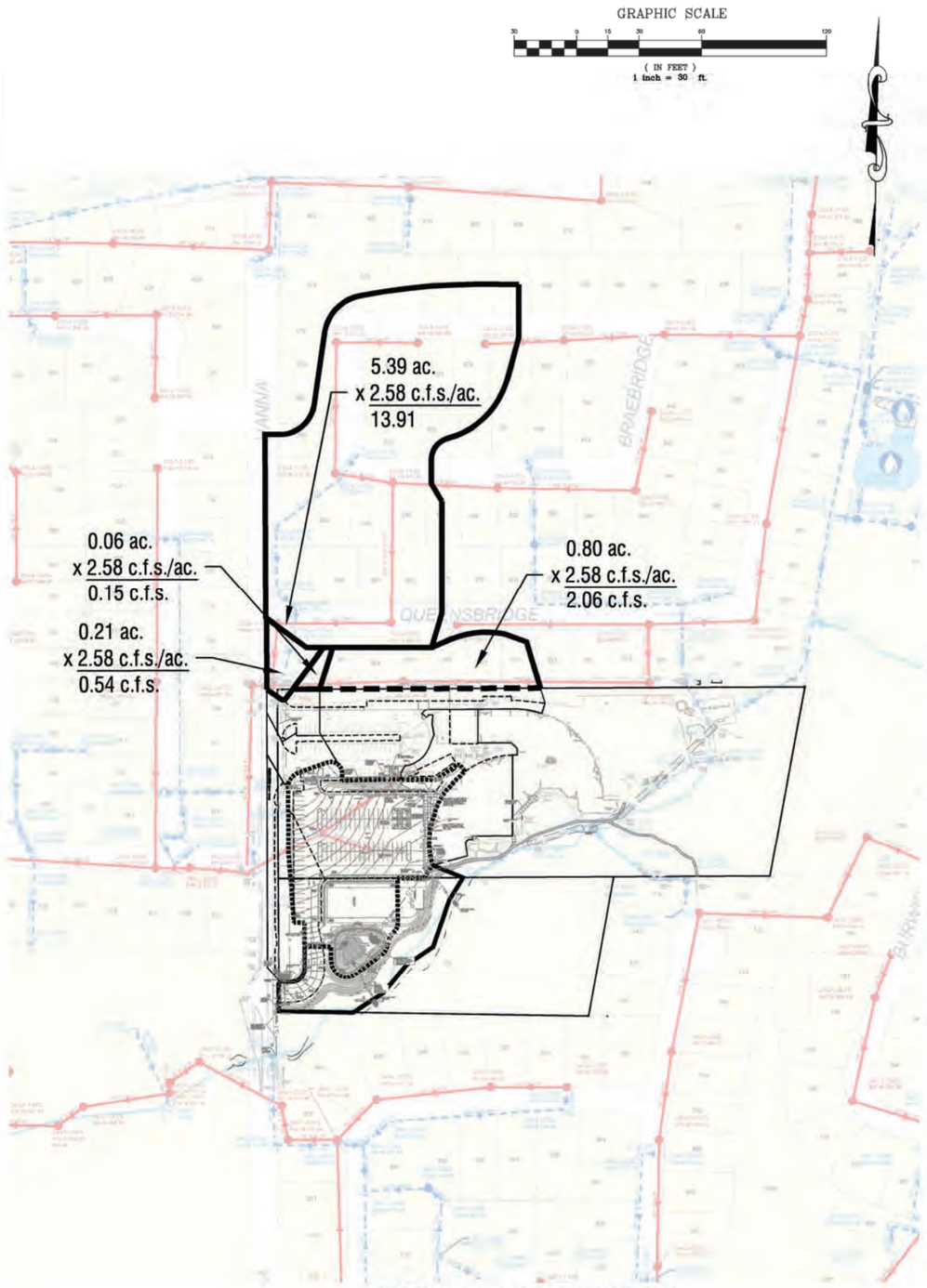
Bid/Permit Set

PROPOSED DRAINAGE AREA PLAN

C11.1



MSD Ortho-Topo Map 23Q-24Q



MSD Base Map 23Q-24Q

23MSD-00083
Base Map: 24Q1

PA
bond
architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority #
2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001488
796 Merus Ct,
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S4004-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2185 tel

Hanna Woods Elementary School
720 Hanna Road, Ballwin, MO 63021
Parkway PN #171801B
Window, Door, & Roof Replacement and
Solar-Tubes & Window Installation
Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
PAUL K. BOYER
NUMBER E-28258
ENGINEER
3/31/23

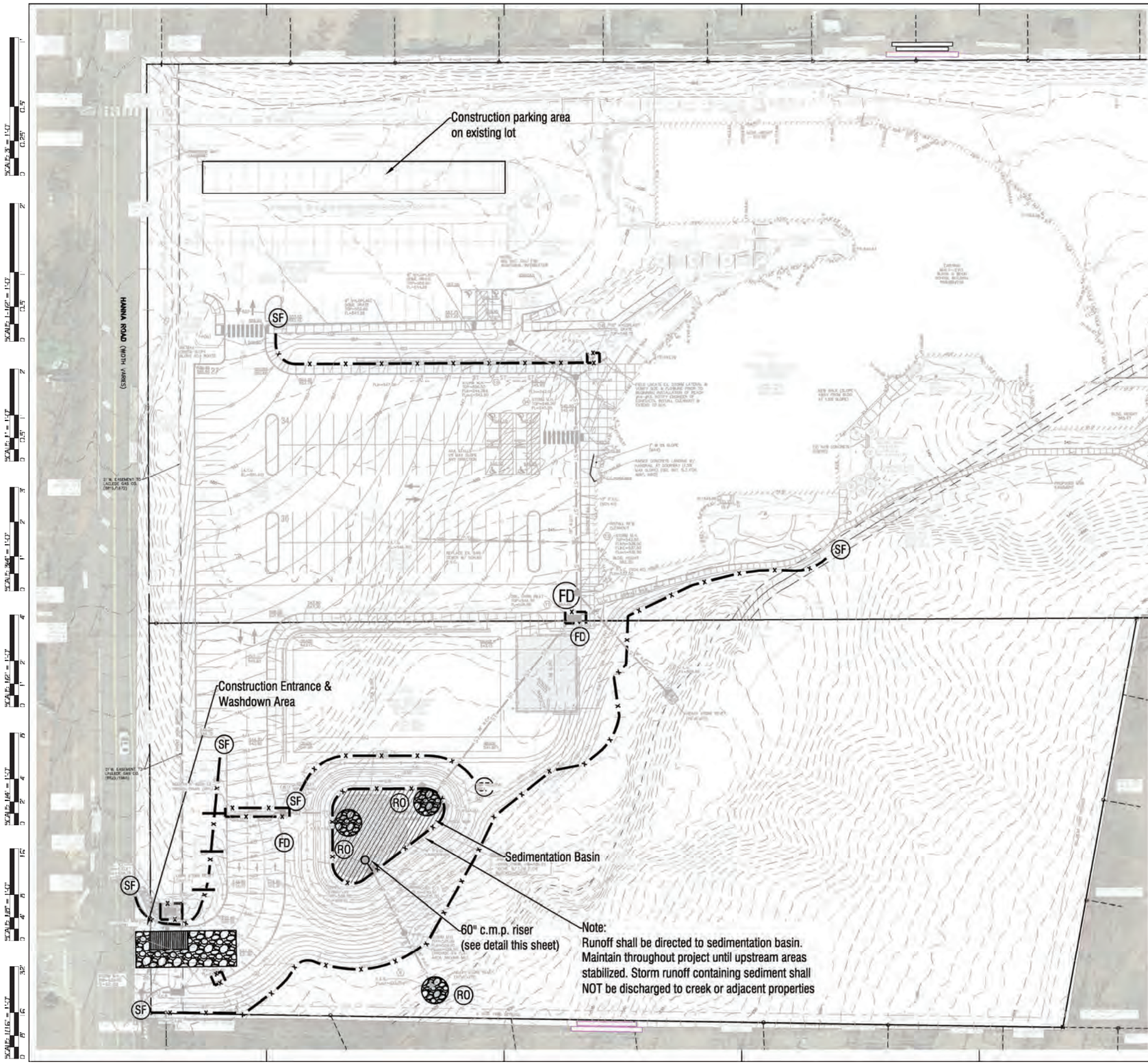
PAUL K. BOYER, P.E. E-28258
CIVIL ENGINEER
CEDC LICENSE NO.: 2003004674

DATE: 03/31/23

Bid/Permit Set

PROPOSED DRAINAGE AREA PLAN

C11.2

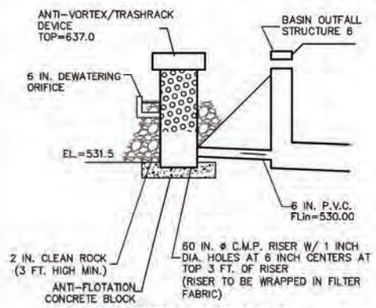


GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

EROSION CONTROL LEGEND

SYMBOL	B.M.P.
RO	ROCK OUTLET
SF	SILT FENCE
FD	FABRIC DROP
	CONSTRUCTION ENTRANCE
	SEDIMENTATION BASIN



60" Ø PERFORATED C.M.P.
SCHEMATIC DETAIL 'A'

NOT TO SCALE

23MSD-00083
Base Map: 24Q1

PA
bond
architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority #
2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001488
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.BR005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S4004-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2185 tel

Hanna Woods Elementary School
720 Hanna Road, Ballwin, MO 63021
Parkway PN #171801B
Window, Door, & Roof Replacement and
Solar-Tubes & Window Installation
Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect. Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
PAUL K BOYER
NUMBER
REGISTERED PROFESSIONAL ENGINEER
3/31/23

PAUL K. BOYER, P.E. E-28258
CIVIL ENGINEER
CEDC LICENSE NO.: 2003004674

DATE: 03/31/23

Bid/Permit Set

STORMWATER POLLUTION PREVENTION PLAN

C12.0

CONSTRUCTION ENTRANCE

PHYSICAL DESCRIPTION - A stabilized entrance to a construction site designed to minimize the amount of sediment tracked from the site on vehicles and equipment. Stabilization generally consists of aggregate over geosynth and geosynthetic material. Mud and sediment fall off of tires as they travel along the stabilized entrance; however, additional measures in the form of a washdown area should also be included on site. The stabilized entrance also distributes the axle load of vehicles over a larger area, thereby mitigating the rutting impact vehicles normally have on unpaved areas. See additional information in the "Construction Site Access Requirements" section of this manual.

WHERE BMP IS TO BE INSTALLED - At locations where it is safe for construction vehicles and equipment to access existing streets – preferably at location of future streets or drives.

CONDITIONS FOR EFFECTIVE USE OF BMPs

Drainage: Ditches or pipes, if needed, sized for 15 year, 20 minute storm; HGL 5" below surface of entrance

WHEN BMP IS TO BE INSTALLED - First order of work, along with washdown area, prior to vehicles or equipment accessing unpaved areas.

INSTALLATION / CONSTRUCTION PROCEDURES

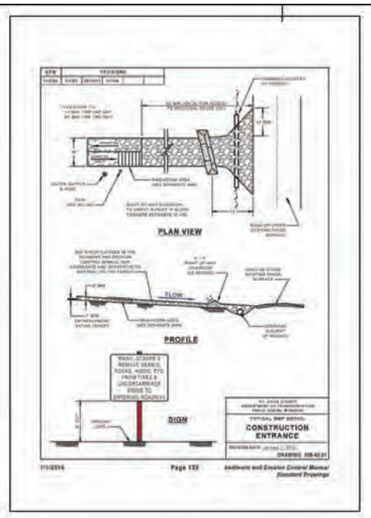
- ✓ Grade and compact area of construction entrance.
- ✓ Install culvert under entrance if needed to maintain positive drainage.
- ✓ Place geosynthetic material (not to compacted soil, lay geogrid on top of this), and cover with aggregate, forming diversion across entrance if needed to direct runoff away from roadway.
- ✓ See Washdown Station BMP for additional steps.

O&M PROCEDURES:

- ✓ Immediately remove any mud or debris tracked onto paved surfaces.
- ✓ Remove sediment and clods of dirt from construction entrance continuously.
- ✓ Replace rock if necessary to maintain clean surface.
- ✓ Repair settled areas.

SITE CONDITIONS FOR REMOVAL - Remove when vehicles and equipment will no longer access unpaved areas.

TYPICAL DETAIL - 609-40.01



WASHDOWN STATION

PHYSICAL DESCRIPTION - An area located at construction entrances designed to wash sediment from the tires and undercarriage of exiting vehicles and prevent sediment from being tracked onto existing roadways.

WHERE BMP IS TO BE INSTALLED - Access or immediately adjacent to exit route from unpaved construction sites.

CONDITIONS FOR EFFECTIVE USE OF BMPs

Drainage: Downstream BMPs sized to treat dirty runoff from washdown station

WHEN BMP IS TO BE INSTALLED - First order of work, along with construction entrance, prior to vehicles or equipment accessing unpaved areas.

INSTALLATION/CONSTRUCTION PROCEDURES

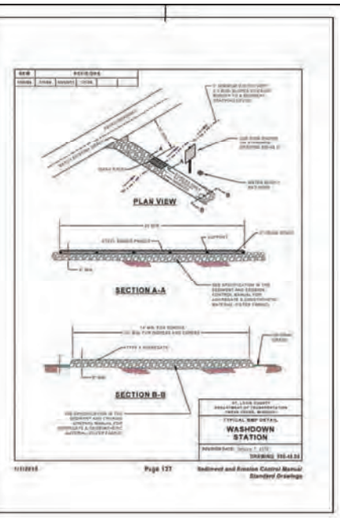
- ✓ Grade and compact area for drainage under washdown pad.
- ✓ Install steel-ribbed plate on frame or other support to allow a 2" drain space
- ✓ Grade and vegetate downstream BMPs (V-ditch shown on detail)
- ✓ Install water supply and hoses.
- ✓ Post sign in advance of station indicating that all exiting vehicles and equipment must use station prior to exiting site.

O&M PROCEDURES:

- ✓ Remove sediment daily.
- ✓ Repair settled areas.
- ✓ Replace rock if necessary to maintain clean surface.

SITE CONDITIONS FOR REMOVAL - Remove when vehicles and equipment will no longer access unpaved areas.

TYPICAL DETAIL - 806-46.00



INLET PROTECTION - FABRIC DROP AND DROP IN FILTER

PHYSICAL DESCRIPTION - A woven fabric barrier placed around an area inlet or drop in type filter designed to prevent sediment from entering the storm sewer. Shallow temporary ponding during and after rainfall should be expected. Use an alternate method if flooding of driving lanes, adjacent property, etc. is possible.

WHERE BMP IS TO BE INSTALLED - At inlets designed to drain a small gently sloping area with maximum grade of 5%. Overflow capacity is limited on standard-area inlets.

CONDITIONS FOR EFFECTIVE USE OF BMPs

Type of Flow: Shallow sheet flow.
Contributing Area: Maximum of 2 ac/1a flowing to inlet.

WHEN BMP IS TO BE INSTALLED - Immediately after placement of inlet and before construction starts on existing inlets.

INSTALLATION / CONSTRUCTION PROCEDURES

- ✓ Backfill, compact and uniformly grade area around inlet.
- ✓ Construct downstream berm, if required. Rock bags or sand bags may be used to construct berm.
- ✓ Drive posts or wood frame close to inlet sill so overflow will fall directly on the structure and not on unprotected soil.
- ✓ Dig trench around inlet for fabric to be buried.
- ✓ Cut required length of fabric from one roll so eliminate joints. Fasten fabric tightly around posts / frame to enhance stability.
- ✓ Backfill and compact trench.
- ✓ Install drop in type filter per manufacturer specifications.

O&M PROCEDURES

- ✓ Inspect every week and after every storm.
- ✓ Remove trash accumulation and sediment once it reaches depth of 6" or inlet.
- ✓ Replace loose, torn or clogged fabric.
- ✓ Repair any erosion or settlement of temporary berm downstream of inlet.
- ✓ Maintain drop in type filter per manufacturer specifications

SITE CONDITIONS FOR REMOVAL - Remove after contributing drainage areas have been adequately stabilized. Restore area to grade and vegetate.

TYPICAL DETAIL - 609-45.12 (Single Unit)
609-45.13 (Double Unit)



SILT FENCE

PHYSICAL DESCRIPTION - Silt fences are used as temporary perimeter controls, appropriate to the BMP, at sites where construction activities will disturb the soil. They can also be used on the interior of the site. A silt fence consists of a length of filter fabric stretched between anchoring posts spaced at regular intervals along the site at toe and down slope areas. The filter fabric should be entrenched in the ground. When installed correctly and inspected frequently, silt fence can be an effective barrier to silt leaving the site in storm water runoff.

WHERE BMP IS TO BE INSTALLED – Silt fences apply to construction sites with relatively small drainage areas. They are appropriate in areas where runoff will occur as low-level flow, not exceeding 0.5 c.f.s. The drainage area for silt fences should not exceed 0.25 acre per 100-foot fence length (100 square feet per foot of fence). The slope length above the fence should not exceed 100 feet (NAHB, 1995). This fence should be designed to withstand the runoff from a 10-year peak storm event.

CONDITIONS FOR EFFECTIVE USE OF BMPs - Spacing of parallel lengths of silt fence along slopes is relative to slope steepness as follows:

Type of Flow: Sheet flow only.
Contributing Slope Length: 30-foot maximum for 3:1 slopes.
50 foot maximum for slopes between 3:1 and 10:1
100 foot maximum for slopes under 10%.

For additional information see Section 806.70 of St. Louis County's Standard Specification for Road and Bridge Construction.

WHEN BMP IS TO BE INSTALLED - Prior to disturbance of natural vegetation and at intervals during construction of fill slopes. Install on the perimeter of the site (where storm water exits the site) prior to disturbance of natural vegetation, around material stockpiles and interior to the site along slopes, at the base of slopes and at intervals during construction of slopes.

INSTALLATION / CONSTRUCTION PROCEDURES

- ✓ Drive post 8" fence line.
- ✓ Dig trench to required dimensions in front of posts for fabric burial.
- ✓ Attach wire mesh to posts.
- ✓ Attach fabric to posts, allowing required length below ground level to run fabric along bottom of trench.
- ✓ Backfill and compact soil in trench to protect and anchor fabric.

If a standard-strength fabric is used, it can be reinforced with wire mesh behind the filter fabric. This increases the effective life of the fence. The maximum life expectancy for synthetic fabric silt fences is about 6 months, depending on the amount of rainfall and runoff.

The stakes used to anchor the filter fabric should be wood or metal. Wooden stakes should have minimum dimensions of 2 by 2 inches if a hardwood like oak is used. Stakes from soft woods like No. 2 Southern Pine, should have minimum dimensions of 4 by 4 inches. When using steel (standard U, T, L or C shape ratchet) posts in place of wooden stakes, they should weigh no less than 1.0 lb/linear foot. If metal posts are used, attachment points are needed for fastening the filter fabric with wire ties. Posts should be at least 5 feet long and driven or placed at a slight upstream angle with the ground to a minimum depth of 16 inches. Depth shall be increased to a minimum of 22 inches if fence is placed on a slope of 3:1 or greater. When the post embedment depth is impossible to obtain, the posts shall be adequately secured to prevent overturning of the fence due to sediment loading.

Erect silt fence in a continuous fashion from a single roll of fabric to eliminate gaps in the fence. If a continuous roll of fabric is not available, overlap the fabric from both directions only at stakes or posts. Overlap at least 6 inches.

The Geosynthetic filter fabric and wire mesh (when applicable) shall be no less than 30 inches above ground and are stapled or wired to the upslope side of the post. Staples should be a 17-gauge wire and ¾ inch long. Excavate a trench to bury the bottom of the fabric fence in a "J" configuration at least 6 inches below the ground surface. The trench shall be backfilled with native soil and the soil compacted over the geotextile. This helps to prevent gaps from forming near the ground surface. Gaps would make the fencing useless as a sediment barrier.

The height of the fence posts should be 38 inches (22-inch embedment) to 42 inches. (16-inch embedment) above the original ground surface. If standard-strength fabric is used with 14-gauge steel wire with a mesh spacing of 6 inches by 6 inches (or a prefabricated polymeric mesh of equivalent strength), space the posts no more than 4 feet apart. If extra-strength fabric is used without wire mesh reinforcement, space the posts no more than 4 feet apart with woven or 6 feet apart with non-woven geosynthetic.

Alternate Construction: Install fence by slicing it into ground with specialized equipment
Install posts at reduced spacing indicated on detail

LIMITATIONS - Do not install silt fences along areas where rocks or other hard surfaces will prevent you from uniformly anchoring the fence posts and entrenching the filter fabric. Installing fences in such an area greatly reduces their effectiveness and can create runoff channels leading offsite. Silt fences are not suitable for areas where large amounts of concentrated runoff are likely. Fence shall not be used when slope is 1:1 or greater and water flow rates exceed 2 cubic feet per minute. Open, windy areas present a maintenance challenge, too, because high winds can make the filter fabric deteriorate faster. Do not install silt fences across streams, ditches, or waterways (Smolen et al., 1996).

When the pores of the fence fabric become clogged with sediment, pools of water are likely to form on the uphill side of the fence. Setting and design of the silt fence should account for this. Take care to avoid unnecessarily diverting stormwater from these pools, causing further erosion damage.

MAINTENANCE CONSIDERATIONS - Inspect silt fences regularly and frequently, as well as after each rainfall event, to make sure that they are intact and that there are no gaps where the fence meets the ground or tears along the length of the fence. If you find gaps or tears, repair or replace the fabric immediately. Remove accumulated sediments from the fence base when the sediment reaches one-third to one-half the fence height. Remove sediment more frequently if accumulated sediment is creating noticeable strain on the fabric and the fence might fail from a sudden storm event. When you remove the silt fence, remove the accumulated sediment, dress the area disturbed to give it a pleasing appearance and vegetate all bare areas as well.

O&M PROCEDURES

- ✓ Inspect every week and after every storm.
- ✓ Protect area from vehicular and foot traffic.
- ✓ Reseed areas that have not sprouted within 21 days of planting.
- ✓ Repair damaged or eroded areas and reseed and stabilize as needed
- ✓ Do not mow until 4 inches of growth occurs
- ✓ During the first 4 months, mow no more than ⅓ the grass height
- ✓ Re-fertilize during 2nd growing season

SITE CONDITIONS FOR REMOVAL - Does not require removal, but temporary seeding can be removed immediately prior to work returning to an area

- ✓ Repair unstable or broken posts.
- ✓ Stabilize any areas susceptible to undermining.
- ✓ Extend fence or add additional row(s) of fence if necessary to provide adequate protection.

SILTING AND DESIGN CONSIDERATIONS - The material for silt fences should be a geotextile sheet of synthetic fabric such as polypropylene, nylon, and polyester or polyethylene yarn. Choose the material based on the minimum synthetic fabric requirements shown in **Table 1** below.

Table 1- Temporary Silt Fence Property Requirements

Physical Property	Test Method	Units	MARV Quantitative Requirements (Measured Qtil Fence)		
			Supported Silt Fence [1]	Wovens Elongation ≤ 50%	Non-Wovens Elongation ≤ 50%
Post Spacing (Maximum)		feet	4	4	6
Height of Wire / Polymer Fence (Minimum)		inches	30	---	---
Grab Strength (Minimum): Machine Direction Cross Machine Direction	ASTM D 4632	pounds	95 90	125 100	125 100
Permittivity (Minimum)	ASTM D 4491	sec.$^{-1}$	0.05	0.05	0.05
Apparent Opening Size (AOS) [2]	ASTM D 4751	Sieve Number	30	30	30
Ultraviolet Stability (Minimum) (retained strength)	ASTM D 4355	70% after 500 h of exposure			

Notes:

MARV - Minimum Average Roll Value

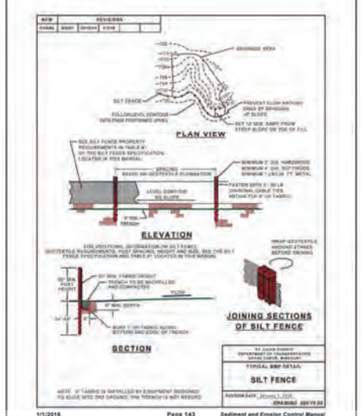
[1] Elongation measured in accordance with ASTM D 4632.

[2] **Silt Fence Support** - 14-gauge steel wire with a mesh spacing of 6 inches by 6 inches (or a prefabricated polymeric mesh of equivalent strength).

[3] Maximum Average Roll Value.

SITE CONDITIONS FOR REMOVAL - After permanent vegetation of slope is established. Remove fence and post, re-grade trench area and vegetate.

TYPICAL DETAIL - 609-70.6



SODDING

PHYSICAL DESCRIPTION - A ¾ inch to 1-inch thick mat of vigorous turf, free of disease, insects and weeds. Sod prevents raindrops from disrupting the soil structure and causing erosion. Sod slows water runoff and acts as a filter when sediment-laden runoff crosses over the sodded area.

WHERE BMP IS TO BE INSTALLED - Typically installed in areas requiring immediate erosion protection, such as swales or detention ponds and as filter strips, around inlets, and adjacent to curbs. Also installed in areas requiring immediate aesthetic appearance or function such as entrances to new subdivision and off-site construction areas.

CONDITIONS FOR EFFECTIVE USE OF BMPs - Type of Flow: Sheet flow and low concentrated flows with velocities less than 5 fps.

WHEN BMP IS TO BE INSTALLED - Immediately after finish grading, installation of area inlets, and installation of underground services and foundations of new homes.

INSTALLATION / CONSTRUCTION PROCEDURES

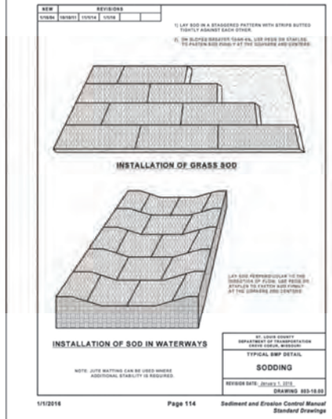
- ✓ Finish grade area and remove all debris larger than ½ inch in diameter and concentrated areas of smaller debris.
- ✓ Soil preparation of area to be sodded shall be determined by tests to determine lime and fertilizer requirements. Soil amendments shall be mixed into top 3 to 6 inches of soil by disking or other means.
- ✓ Level and roll soil lightly to provide an even grade and firm the surface. Soil should not be excessively wet or dry.
- ✓ Lay first row of sod perpendicular to the slope or direction of flow. Butt subsequent rows tight against previous rows with strips staggered in brick-like pattern. Fill minor gaps with good soil and roll entire surface to ensure contact.
- ✓ Stake, staple and / or set corners and centers of sod strips as required.
- ✓ Water immediately after installation enough to soak 4 inches into soil without causing runoff.
- ✓ For additional information see Section 803 of St. Louis County's Standard Specification for Road and Bridge Construction.
- ✓ Type of sod shall be as specified in the contract or on the approved plans.

O&M PROCEDURES:

- ✓ Water sod daily for 3 weeks – enough to soak 4-inches into soil without causing runoff.
- ✓ Reposition areas of sod that has moved along the slope.
- ✓ Remove sediment accumulations - replace sod if necessary.
- ✓ Repair any eroded areas, replace sod, and stabilize as needed.
- ✓ Do not mow until 3-inches of new growth occur. During the first 4 months, mow no more than ⅓ the grass height.

SITE CONDITIONS FOR REMOVAL - Not applicable.

TYPICAL DETAIL - 803-10.00



SEEDING

PHYSICAL DESCRIPTION - Establishment of vegetation by spreading grass seed designed to protect exposed soil from erosion by eliminating direct impact of precipitation and allowing overland flow rates. Once established, the vegetative cover will also filter pollutants from the runoff. Use only perennial vegetation for final stabilization.

WHERE BMP IS TO BE INSTALLED - To exposed soil after a phase of rough or finish grading has been completed, or areas where no activity will occur for 30 days.

CONDITIONS FOR EFFECTIVE USE OF BMPs

Type of Flow: Sheet flow
Contributing Slope Length: 20 foot maximum for 3:1 slopes
50 foot maximum for slopes between 3:1 and 10:1
100 foot maximum for slopes under 10%
Minimum Rains: See attached chart(s)
Acceptable Dates: See attached chart

WHEN BMP IS TO BE INSTALLED - Immediately after rough or finished grading is completed.

INSTALLATION / CONSTRUCTION PROCEDURES

- ✓ Install upstream BMPs to protect area to be seeded.
- ✓ Rough grade area and remove all debris larger than 1-inch in diameter and concentrated areas of smaller debris.
- ✓ Install stabilization grids, if needed.
- ✓ Mix soil amendments (lime, fertilizer, etc.) into top 3 to 6 inches of soil as needed.
- ✓ Plant seed ½ to ¾ inch deep.
- ✓ Roll lightly to firm surface.
- ✓ Cover seeded area with mulch unless seeding completed during optimum spring and summer dates.
- ✓ Install additional stabilization (matting, Bonded Fiber matrix, etc.) as required.
- ✓ Water immediately – enough to soak 4 inches into soil without causing runoff.
- ✓ If contract / permit allows seeding to be used for final stabilization, only perennial vegetation seeds shall be used.
- ✓ For additional information see Sections 803 and 806.30 of St. Louis County's Standard Specification for Road and Bridge Construction.

O&M PROCEDURES:

- ✓ Inspect every week and after every storm
- ✓ Protect area from vehicular and foot traffic
- ✓ Repair damaged or eroded areas and reseed and stabilize as needed
- ✓ Do not mow until 4 inches of growth occurs
- ✓ During the first 4 months, mow no more than ⅓ the grass height
- ✓ Re-fertilize during 2nd growing season

SITE CONDITIONS FOR REMOVAL - Does not require removal, but temporary seeding can be removed immediately prior to work returning to an area

SEEDING REQUIREMENTS

Dates for Seeding

Permanent Seeding	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Tall Fescue			O	O	O			O	O			
Smooth Brome			O	O	O			O	O			
Fescue & Brome			O	O	O			O	O			
Fescue, Part B (Degrees)	A	A	O	O	O	F	F	O	O	F	F	A

Temporary Seeding	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Rye or Sudex	A	A	O	O	O	O	O	O	O	O	A	A
Oats	A	A	O	O	O	O	O	O	O			

O = Optimum seeding dates
A = Acceptable seeding dates
F = Permitted seeding dates with seasonally 2 months later - mulched over 50% of land and 75% of fertilizer - followed with additional 75% seed and reseeding fertilizer.

Minimum Fertilizer and Seeding Rates

Permanent Seeding*	Pounds per acre	Pounds Per 1000 sq. ft.
Tall Fescue	400	7.5
Smooth Brome	200	4.5
Mixture # 1	150	3.7
Mixture # 2	175	4.2

Mixture # 1 = Tall Fescue @ 150 pounds per acre and Brome @ 150 pounds per acre.
Mixture # 2 = Tall Fescue @ 150 pounds per acre, Perennial Rye grass @ 75 pounds per acre and Kentucky Bluegrass @ 10 pounds per acre.
* = Seeding rate for mixes in excess of 25% (5.7) shall be 75 pounds per 1000 sq. ft.

Temporary Seeding	Pounds per acre	Pounds Per 1000 sq. ft.
Rye or Sudex	150	3.5
Oats	200	4.5

Fertilizer	Permanent Seeding (pounds per acre)	Temporary Seeding (pounds per acre)
Nitrogen	45	30
Phosphate	90	30
Potassium	90	30
Lime - ENM	800	800

ENM = Effective neutralizing material per State evaluation of quarried rock.

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-04-22
Certificate of Authority #001488
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #23.BOND.ER005
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project #23788
Certificate of Authority #2003004674
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
314.729.1400 tel

RMT Roofing Consultants, Inc.
Roofing Consultant
Consultant Project #S40d4-23
410 Sovereign Ct, Suite 18
Ballwin, MO 63011
636.391.2165 tel

Hanna Woods Elementary School
720 Hanna Road, Ballwin, MO 63021
Parkway PN #171801B
Window, Door, & Roof Replacement and Solar-Tubes & Window Installation
Parkway School District
383 N. Woods Mill Rd., Chesterfield, MO 63017
314-415-8231 (tel)

Project No: 22060 CEDC 2375

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project, without the written consent of the Architect. Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
PAUL K. BOYER
NUMBER 2003004674
REGISTERED PROFESSIONAL ENGINEER
3/31/23

PAUL K. BOYER, P.E. E-28258
CIVIL ENGINEER
CEDC LICENSE NO.: 2003004674

DATE: 03/31/23

Bid/Permit Set

STORMWATER POLLUTION PREVENTION PLAN DETAILS

C12.1

23MSD-00083
Base Map: 24Q1

EXHIBIT-K

SORRENTO SPRINGS ELEMENTARY

BMP ORIGINAL PROJECT INFORMATION

GENERAL NOTES

1. ALL DISTURBED AREAS SHALL BE RESTORED WITH TOPSOIL AND SOD.
2. THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY FOR CONTROLLING ALL SILTATION AND EROSION OF THE PROJECT AREA. THE CONTRACTOR SHALL USE THE MEANS NECESSARY TO CONTROL SILTATION AND EROSION. CONTROL MEANS AND METHODS SHALL FOLLOW ST. LOUIS COUNTY "SEDIMENT & EROSION CONTROL MANUAL" AND REQUIREMENTS OF THE ORDINARY LAND DISTURBANCE PERMIT. THE OWNER OR ST. LOUIS COUNTY MAY AT THEIR OPTION DIRECT THE CONTRACTOR AS DEEMED FIT TO CONTROL EROSION. CONTROL SHALL COMMENCE WITH LAND DISTURBANCE AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY BOTH ST. LOUIS COUNTY AND THE OWNER. ALL COST ASSOCIATED WITH EROSION CONTROL SHALL BE INCLUDED IN THE CONTRACTOR'S BID.
3. PROPOSED ELEVATIONS ARE SHOWN TO FINISH PAVEMENT OR GRADE.
4. NOTIFY THE ST. LOUIS COUNTY DEPARTMENT OF PUBLIC WORKS 48 HOURS PRIOR TO THE COMMENCEMENT OF GRADING OR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
5. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
6. NO EXCAVATION SHALL BE MADE SO CLOSE TO THE PROPERTY LINE AS TO ENDANGER ANY ADJOINING PROPERTY OF ANY PUBLIC OR PRIVATE STREET WITHOUT SUPPORTING AND PROTECTING SUCH PUBLIC OR PRIVATE STREET OR PROPERTY FROM SETTLING, CRACKING OR OTHER DAMAGE.
7. CONTRACTOR TO PLACE VEHICLE WASHDOWN STATION AT CONSTRUCTION ENTRANCE IN ACCORDANCE WITH ST. LOUIS COUNTY REQUIREMENTS.
8. ANY EXISTING IMPROVEMENTS DAMAGED BY CONSTRUCTION ON THE PROJECT PROPERTY SHALL BE REPLACED IN KIND AT THE CONTRACTORS EXPENSE.
9. ALL EXISTING IMPROVEMENTS ARE TO REMAIN UNLESS NOTED OTHERWISE.
10. THE UNDERGROUND UTILITIES SHOWN HEREON ARE TAKEN FROM UTILITY LOCATIONS AS MARKED IN THE FIELD BY DIGRITE AND MAPS OBTAINED FROM SPIRE, METROPOLITAN ST. LOUIS SEWER DISTRICT AND MISSOURI-AMERICAN WATER COMPANY AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES; SHOWN OR NOT SHOWN, AND SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMO.
11. SITE IS SUBJECT TO PRIVATE UTILITY INSTALLATIONS. PRIVATE UTILITY INSTALLATIONS DO NOT APPEAR ON UTILITY BASE MAPS, NOR DOES DIGRITE LOCATE PRIVATE UTILITIES.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING TOPS AND FLOWLINES OF ALL EXISTING SEWERS PRIOR TO COMMENCING WORK AND NOTIFY THE ENGINEER OF DISCREPANCIES.
13. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH SITE IMPROVEMENT CONSTRUCTION SHALL CONFORM TO THE LATEST STANDARDS AND SPECIFICATIONS OF ST. LOUIS COUNTY.
14. ALL GRADING AND DRAINAGE SHALL CONFORM TO THE LATEST STANDARDS AND SPECIFICATIONS OF ST. LOUIS COUNTY AND THE METROPOLITAN ST. LOUIS SEWER DISTRICT.
15. ALL STORM AND SANITARY SEWER STRUCTURES AND APPURTENANCES TO BE DEDICATED TO MSD, OR TO BE PRIVATE UNDER MSD INSPECTION, SHALL CONFORM TO THE METROPOLITAN ST. LOUIS SEWER DISTRICT, STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWER AND DRAINAGE FACILITIES, 2009, THAT WILL INCLUDE STANDARD DETAILS SHOWN THEREIN, AND SHALL INCLUDE ALL SUBSEQUENT CHANGES MADE THERETO.
16. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE GAS SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF SPIRE.
17. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE WATER SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF MISSOURI AMERICAN WATER COMPANY.
18. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE PHONE SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF AT&T DISTRIBUTION.
19. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH ELECTRIC SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF AMEREN MISSOURI.
20. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH CABLE SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF SPECTRUM.
21. INSTALLATION OF LANDSCAPING AND ORNAMENTAL ENTRANCE MONUMENT OR IDENTIFICATION SIGNAGE CONSTRUCTION, IF SHOWN ON PLANS, SHALL BE REVIEWED BY THE DEPARTMENT OF HIGHWAYS AND TRAFFIC FOR SIGHT DISTANCE CONSIDERATIONS AND APPROVED PRIOR TO INSTALLATION OR CONSTRUCTION.
22. ALL STORM WATER SHALL BE DISCHARGED AT AN ADEQUATE NATURAL DISCHARGE POINT. "SINKHOLES ARE NOT ADEQUATE DISCHARGE POINTS".
23. INTERIM STORM WATER DRAINAGE CONTROL IN THE FORM OF SILTATION CONTROL MEASURES ARE REQUIRED.
24. THE CONTRACTOR IS REQUIRED TO PROVIDE ADEQUATE STORM WATER SYSTEMS IN ACCORDANCE WITH ST. LOUIS COUNTY AND MSD STANDARDS.
25. ADDITIONAL SILTATION CONTROL SHALL BE INSTALLED AS REQUIRED BY ST. LOUIS COUNTY DEPARTMENT OF HIGHWAYS AND TRAFFIC.
26. ALL OFFSITE PROPERTY OWNERS SHALL BE GIVEN NOTICE 48 HOURS IN ADVANCE OF ANY WORK.
27. ANY DISTURBED OFF SITE PROPERTY (I.E. BUSHES, FENCES, MAILBOXES, ETC.) SHALL BE REPLACED, IN LIKE KIND, AT THE CONTRACTORS EXPENSE.
28. PROVIDE ADEQUATE OFF-STREET PARKING FOR CONSTRUCTION EMPLOYEES. PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVEWAY CONDITIONS.
29. ALL EXCAVATIONS, GRADING OR FILLING SHALL HAVE A FINISHED GRADE NOT TO EXCEED A 4:1 SLOPE (25%), UNLESS SPECIFICALLY APPROVED OTHERWISE. NO SLOPE SHALL EXCEED 3:1 MAXIMUM.
30. ALL DISTURBED EARTH AREAS WITHIN ST. LOUIS COUNTY RIGHT-OF-WAY SHALL BE SODDED.
31. INTERNAL (PRIVATE) STORM SEWERS WILL REQUIRE SEPARATE DRAINLAYERS PERMIT FROM ST. LOUIS COUNTY DEPARTMENT OF PUBLIC WORKS.
32. SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASHDOWN STATION PRIOR TO LEAVING SITE. MUD TRACKED ONTO COUNTY ROADS SHALL BE REMOVED AND KEPT CLEAN AT ALL TIMES.
33. UTILITIES MUST REMAIN IN CONTINUOUS SERVICE UNLESS WRITTEN PERMISSION IS RECEIVED FROM THE OWNER TO ALLOW INTERRUPTION OF SERVICE.
34. ALL SIDEWALKS TO BE CONSTRUCTED TO CURRENT ST. LOUIS COUNTY AND ADA STANDARDS.
35. ALL PROPOSED IMPROVEMENTS SHALL BE CONSTRUCTED TO ST. LOUIS COUNTY STANDARDS.
36. ANY LAND DISTURBANCE ACTIVITY INVOLVING ONE ACRE OR MORE OF LAND IS A MAJOR LAND DISTURBANCE (MLD) AND A LAND DISTURBANCE PERMIT FOR THE MLD MUST BE OBTAINED FROM THE DEPARTMENT OF PUBLIC WORKS. ANY LAND DISTURBANCE ACTIVITY INVOLVING LESS THAN ONE ACRE OF LAND IS AN ORDINARY LAND DISTURBANCE AND THE APPROPRIATE PERMIT MUST BE OBTAINED FROM THE DEPARTMENT OF PUBLIC WORKS.
37. NO STEPS TO ACCESSIBLE ENTRANCE DOORS.
38. THE LANDSCAPING PLAN IS APPROVED PER SECTION 1003.162(2.2.c) OF THE ZONING ORDINANCE.
39. PRIOR TO IMPROVEMENT/CONSTRUCTION PLAN APPROVAL, THE ENGINEER SHALL PROVIDE A SIGNED AND SEALED NOTE ON THE PLANS FOR BOTH RESIDENTIAL AND COMMERCIAL PROJECTS, STATING THAT THE UNIMPROVED EXISTING SIDEWALK IN THE LIMITS OF THE PROJECT MEETS CURRENT ST. LOUIS COUNTY/ADA STANDARDS.
40. THE PERMIT PROCESS REQUIRES A SEPARATE IMPROVEMENT PLAN SUBMITTAL TO THE ST. LOUIS COUNTY TRANSPORTATION DEPARTMENT.
41. BACKFLOW PREVENTION SHALL BE PROVIDE IN ACCORDANCE WITH THE CURRENT PLUMBING CODE.
42. ALL IMPROVEMENTS WILL CONFORM TO RELATED ST. LOUIS COUNTY CAPITAL IMPROVEMENT PROJECT AR 1468.
43. A LAND DISTURBANCE PERMIT IS REQUIRED.
44. ANY ENTITY THAT PERFORMS WORK ON ST. LOUIS COUNTY MAINTAINED PROPERTY SHALL PROVIDE THE COUNTY WITH A CERTIFICATE OF INSURANCE EVIDENCING GENERAL LIABILITY COVERAGE (BODY INJURY AND PROPERTY DAMAGE) IN THE AMOUNT SPECIFIED AS THE LIMITS OF LIABILITY SET BY THE STATE FOR PUBLIC ENTITIES. SUCH CERTIFICATES SHALL INCLUDE "ST. LOUIS COUNTY" AS ADDITIONALLY INSURED AND SHALL BE PROVIDED PRIOR TO THE ISSUANCE OF ANY PERMIT. THE CERTIFICATE SHALL PROVIDE FOR A 30 DAY POLICY CANCELLATION NOTICE TO ST. LOUIS COUNTY. UPON REQUEST, THE COUNTY WILL PROVIDE THE SPECIFIC AMOUNTS FOR BOTH PERSON AND PER OCCURRENCE LIMITS.

GENERAL NOTES CONT.

45. ALL HYDRANTS, POWER POLES OR OTHER POTENTIAL OBSTRUCTIONS WITHIN THE ST. LOUIS COUNTY ROAD RIGHT-OF-WAY SHALL HAVE A MINIMUM TWO (2) FOOT SETBACK FROM THE FACE OF CURB, AS DIRECTED BY THE ST. LOUIS COUNTY DEPARTMENT OF TRANSPORTATION.
46. ALL CONSTRUCTION SHALL BE PER MOST CURRENT DETAILS LOCATED IN THE ST. LOUIS COUNTY DESIGN CRITERIA MANUAL AND/OR THE SEDIMENT AND EROSION CONTROL MANUAL.
47. THE CONTRACTOR SHALL MAINTAIN EXISTING TRAFFIC CONTROL SIGNS (STREET NAME, STOP, NO PARKING, ONE-WAY, TURN, ETC.) UNTIL SUCH A TIME AS THEY NEED TO BE REMOVED / RELOCATED FOR CONSTRUCTION OPERATIONS. TEMPORARY SIGNING SHALL BE IN ACCORDANCE WITH THE CURRENT VERSION OF MUTCD CHAPTER 6F (TEMPORARY TRAFFIC CONTROL ZONE DEVICES). EXISTING SIGNS SHALL NOT LIE ON THE GROUND FOR ANY PERIOD OF TIME. PORTABLE SUPPORTS SHALL NOT BE LOCATED ON SIDEWALKS OR AREA DESIGNATED FOR PEDESTRIAN TRAFFIC. SIGNS SHALL BE CRASHWORTHY AND PROPERLY MAINTAINED FOR CLEANLINESS, VISIBILITY, AND PROPER POSITIONING, AND SHALL BE COORDINATED WITH THE ST. LOUIS COUNTY SIGN SHOP AT (314) 615-0242.

UTILITY CONTACTS

AMEREN MISSOURI
1132 LOCUST STREET
ST. LOUIS, MISSOURI 63101
314-678-5787

AT&T DISTRIBUTION
12930 OLIVE STREET ROAD
CREVE COEUR, MO 63141
314-878-5787

MISSOURI-AMERICAN WATER COMPANY
727 CRAIG RD
ST. LOUIS, MO 63131
314-996-2432

SPECTRUM
2275 CASSENS DR
FENTON, MO 63026
314-878-5787

SPIRE
3950 FOREST PARK BLVD
ST. LOUIS, MO 63108
314-658-5417

METROPOLITAN ST. LOUIS SEWER DISTRICT
2350 MARKET ST
ST. LOUIS, MO 63103-2555
314-768-6200

PARKWAY SCHOOL DISTRICT
455 N. WOODSMILL RD
CHESTERFIELD, MO 63017
314-415-8100

REGULATORY JURISDICTIONS

WEST COUNTY EMS & FIRE PROTECTION DISTRICT
17065 MANCHESTER ROAD
WILDWOOD, MO 63040
314-458-2100

ST. LOUIS COUNTY DEPARTMENT OF PUBLIC WORKS
41 S. CENTRAL AVENUE, 6TH FLOOR
CLAYTON, MO 63105
314-615-5184

METROPOLITAN ST. LOUIS SEWER DISTRICT
2350 MARKET STREET
ST. LOUIS, MO 63103-2555
314-768-6200

STORMWATER MANAGEMENT NOTE:

ANY FUTURE LAND DISTURBANCE AND/OR INCREASE IN IMPERVIOUS AREA ON THIS SITE MAY REQUIRE ADDITIONAL STORM WATER MANAGEMENT PER MSD REGULATIONS IN PLACE AT THAT TIME (INCLUDING TOTAL LAND DISTURBANCE AND/OR IMPERVIOUSNESS ADDED ON THIS PLAN, P-XXXXX-XX)

$Q_{Existing}$ = 4.23 cfs
$Q_{Proposed}$ = 3.79 cfs
DIFFERENTIAL RUNOFF = -0.44 cfs

LEGEND

- CONTROL POINT
- TBM TEMPORARY BENCHMARK
- DRAINAGE ARROW
- EXISTING TREE
- EXISTING BUSH
- EXISTING SIGN
- NEW SIGN
- EDGE OF EXISTING PAVEMENT
- EDGE OF NEW PAVEMENT
- EXISTING CURB
- NEW CURB
- X EXISTING FENCE
- X NEW FENCE
- SF NEW EROSION CONTROL
- LIMITS OF CONSTRUCTION
- P-F.O. EXISTING PARKWAY FIBER OPTIC LINE
- EJ-F.O. EXISTING EDWARD JONES FIBER OPTIC LINE
- ATT-T EXISTING ATT TRANSMISSION LINE
- E EXISTING UNDERGROUND ELECTRIC LINE
- G EXISTING GAS LINE
- W EXISTING WATER LINE
- SD_x EXISTING STORM SEWER
- SS_x EXISTING SANITARY LINE
- SS PROPOSED SANITARY LINE
- PROPOSED STORM / SANITARY MANHOLE
- EXISTING STORM / SANITARY MANHOLE
- EXISTING GRATE INLET
- PROPOSED GRATE INLET
- PROPOSED CURB INLET
- EXISTING DOUBLE CURB INLET
- EXISTING AREA INLET
- PP EXISTING UTILITY POLE
- FH EXISTING FIRE HYDRANT
- WV EXISTING WATER VALVE
- GV EXISTING GAS VALVE
- GM EXISTING GAS METER
- 624 EXISTING 1' CONTOUR
- 625 EXISTING 5' CONTOUR
- 624 PROPOSED 1' CONTOUR
- 625 PROPOSED 5' CONTOUR
- x 601.92 EXISTING SPOT ELEVATION
- (#) KEYED NOTE IDENTIFIER
- (A) COORDINATE IDENTIFIER
- TP 601.62 PROPOSED SPOT ELEVATION

ABBREVIATIONS

ASPH	ASPHALT	GV	GAS VALVE	R	RADIUS
ATG	ADJUST TO GRADE	HC	HANDICAPPED	RCP	REINFORCED CONCRETE PIPE
BM	BENCHMARK	IP	IRON PIPE	T	TOP
BOC	BACK OF CURB	IR	IRON ROD	TBM	TEMPORARY BENCHMARK
CI	CURB INLET	LS	LIGHT STANDARD	TBR	TO BE REMOVED
CLR	CLEARANCE	MAX	MAXIMUM	TBREL	TO BE RELOCATED
CONC	CONCRETE	ME	MATCH EXISTING	TBR&R	TO BE REMOVED AND REPLACED
DCI	DOUBLE CURB INLET	MH	MANHOLE	TC	TOP OF CURB
ELEV	ELEVATION	MIN	MINIMUM	TP	TOP OF PAVEMENT
EOP	EDGE OF PAVEMENT	NTS	NOT TO SCALE	TR	TO REMAIN
EX	EXISTING	PB	ELECTRIC PULLBOX	TYP	TYPICAL
FG	FINISH GRADE	P.B.	PLAT BOOK	UIP	USE IN PLACE
FH	FIRE HYDRANT	PC	POINT OF CURVATURE	UP	UTILITY POLE
FL	FLOWLINE	PCC	POINT OF COMPOUND CURVATURE	VCP	VITRIFIED CLAY PIPE
FOC	FACE OF CURB	PGS	PAGES	WM	WATER METER
G	GUTTER	PT	POINT OF TANGENCY	WV	WATER VALVE
GM	GAS METER	PVMT	PAVEMENT		

MSD P-XXXXX-XX BASEMAP: 24R

ISSUANCE:	NO.	DATE	DESCRIPTION
	1	10/18/19	BID/PERMIT DOCUMENTS

CIVIL
Wood
15933 Clayton Road
Suite 215
St. Louis, MO 63011
Phone: 636.386.3800
Missouri State Certificate of Authority #2002000326

LANDSCAPE ARCHITECT
SWT Design
7722 Big Bend Boulevard
St. Louis, MO 63119
Phone: 314.644.5700
Missouri State Certificate of Authority #2006002904

PROFESSIONAL SEAL
DATE: 10-18-2019
MISSOURI STATE OF MISSOURI STUART M. HAW III NUMBER E-22997 REGISTERED PROFESSIONAL ENGINEER
Stuart M. Haw III, PE
MO E-22997
EXPIRATION DATE: 12/31/19

DATE	DRAWN	CHECKED	APPROVED
10/18/19	MJR	SJM	SMH

wood. Corporate Certificate of Authority #2002000326

SORRENTO SPRINGS BUILDING RENOVATIONS & SITE IMPROVEMENTS
PARKWAY SCHOOLS

PROJECT LOCATION:
380 Tumulty Dr.
Ballwin, MO 63021

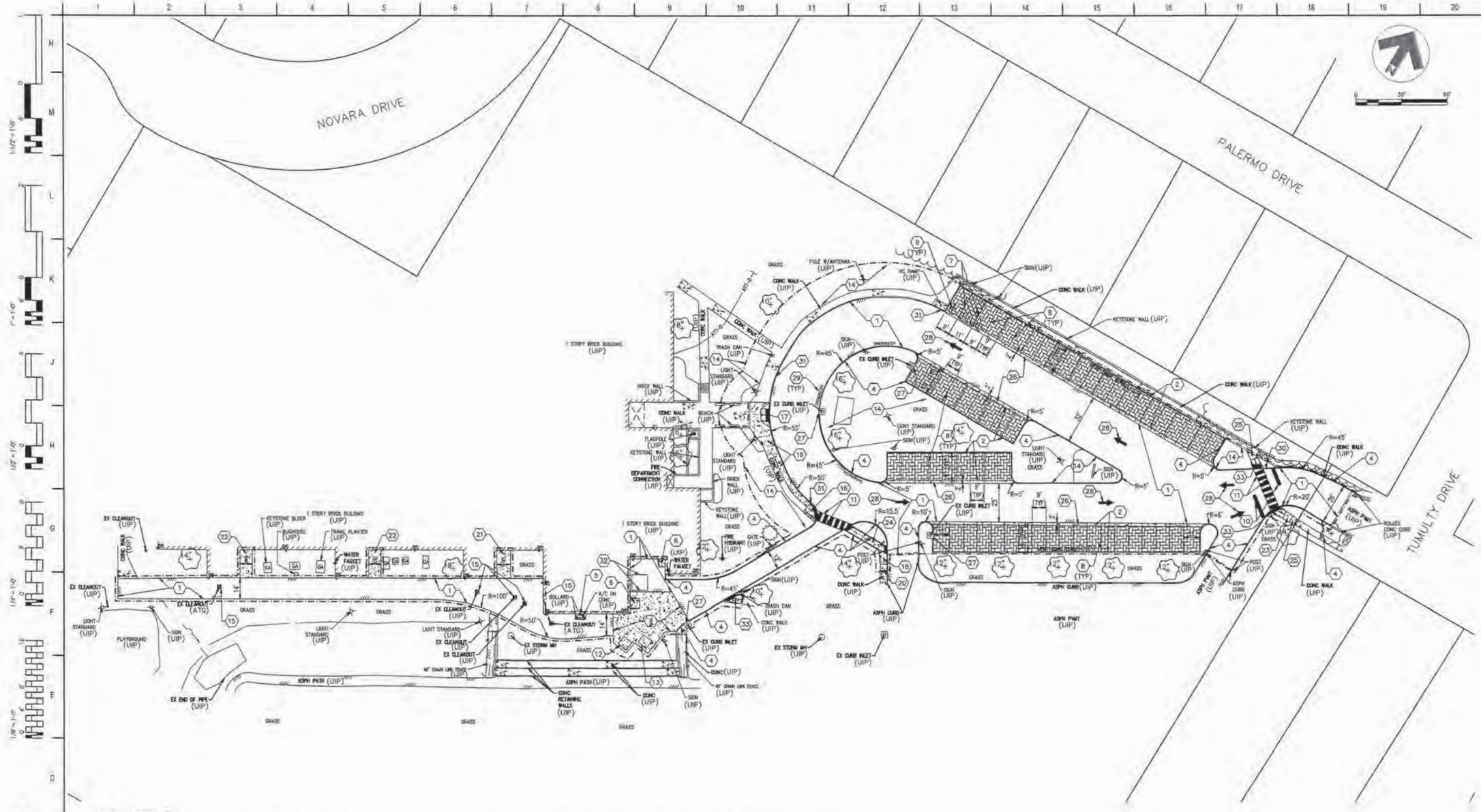
OWNER:
Administrative Office
455 N Woods Mill Road
Chesterfield, Missouri 63017

GENERAL NOTES

SHEET NO:
C1.0.0

PSD PROJECT #: PN1819018
FGM JOB #: 19-2682.01
© 2019 FGM Architects Inc.

10/18/2019 1:53 PM
P:\St Louis\2019\32519P001 Parkway\10-CAD\32519P008 Sorrento Springs\03-PLAN\Issue For Bid Plans\18190Bid000000001C.dwg
Copyright 2019 FGM ARCHITECTS, INC.



KEYED NOTES (#)

1. NEW HEAVY DUTY ASPHALT PAVEMENT. REFER TO DETAIL ON SHT. C6.0.0.
2. NEW PERMEABLE PAVERS. REFER TO DETAIL ON SHT. C7.0.0.
3. NEW CONCRETE DUMPSTER PAD. REFER TO DETAIL ON SHT. C6.0.0.
4. NEW VERTICAL CONCRETE CURB. REFER TO DETAIL ON SHT. C6.0.0.
5. NEW CONCRETE PAVEMENT AROUND A/C BLOCKS AND BOLLARDS.
6. NEW CONCRETE RAMP.
7. NEW PAINTED ISLAND (BLUE). REFER TO DETAIL ON SHT. C6.0.0.
8. NEW PAINTED PARKING STRIPE. REFER TO DETAIL ON SHT. C6.0.0.
9. NEW PAINTED HANDICAP SYMBOL. REFER TO DETAIL ON SHT. C6.0.0.
10. NEW PAINTED STOP BAR. REFER TO DETAIL ON SHT. C6.0.0.
11. NEW PAINTED CROSS WALK. REFER TO DETAIL ON SHT. C6.0.0.
12. RELOCATED RECYCLING DUMPSTER.
13. RELOCATED TRASH DUMPSTER.
14. NEW LANDSCAPE AREA. REFER TO LANDSCAPE PLANS.
15. NEW CLEANOUT CAP, FRAME AND CONCRETE COLLAR. REFER TO DETAIL ON SHT. C6.0.0.
16. NEW TYPE 1 ACCESS RAMP (WITH PRECAST DETECTABLE TACTICAL WARNING SURFACE). REFER TO DETAIL ON SHT. C7.0.0.
17. NEW TYPE 2 ACCESS RAMP (WITH PRECAST DETECTABLE TACTICAL WARNING SURFACE). REFER TO DETAIL ON SHT. C7.0.0.
18. NEW TYPE 3 ACCESS RAMP (WITH PRECAST DETECTABLE TACTICAL WARNING SURFACE). REFER TO DETAIL ON SHT. C7.0.0.
19. NEW VARIABLE WIDTH CONCRETE WALK WITH INTEGRAL CURB. REFER TO DETAIL ON SHT. C6.0.0.
20. NEW 5' WIDE CONCRETE WALK WITH INTEGRAL CURB. REFER TO DETAIL ON SHT. C6.0.0.
21. NEW 9' WIDE CONCRETE WALK. REFER TO DETAIL ON SHT. C6.0.0.
22. NEW 8' WIDE CONCRETE WALK. REFER TO DETAIL ON SHT. C6.0.0.
23. NEW 5' WIDE CONCRETE WALK. REFER TO DETAIL ON SHT. C6.0.0.
24. NEW 4' WIDE CONCRETE WALK. REFER TO DETAIL ON SHT. C6.0.0.
25. NEW VARIABLE WIDTH CONCRETE WALK. REFER TO DETAIL ON SHT. C6.0.0.
26. NEW CONCRETE PAVEMENT. REFER TO DETAIL ON SHT. C6.0.0.
27. NEW DEBRIS GRATING AT INLET OPENING.
28. NEW PAINTED DIRECTIONAL ARROW. REFER TO DETAIL ON SHT.C6.0.0.
29. NEW PAINTED WORDING "NO PARKING" LETTERS TO BE 2' TALL (YELLOW).
30. RELOCATED SIGN "YIELD HERE TO".
31. CONTRACTOR TO PAINT CURB YELLOW.
32. RELOCATED FRAME SHED.
33. NEW TYPE 4 ACCESS RAMP (WITH PRECAST DETECTABLE TACTICAL WARNING SURFACE). REFER TO DETAIL ON SHT. C7.0.0

NO.	DATE	ISSUANCE DESCRIPTION
1	10/18/19	BID/PERMIT DOCUMENTS

CIVIL
Wood
15933 Clayton Road
Suite 215
St. Louis, MO 63011
Phone: 636.386.3800

Missouri State Certificate of Authority #2002000326

LANDSCAPE ARCHITECT
SWT Design
7722 Big Bend Boulevard
St. Louis, MO 63119
Phone: 314.644.5700

Missouri State Certificate of Authority #2006002904

PROFESSIONAL SEAL
DATE: 10-18-2019

STATE OF MISSOURI — STUART M. HAW III — NUMBER E-22997 — PROFESSIONAL ENGINEER

Stuart M. Haw III, PE
MO E-22997

EXPIRATION DATE: 12/31/19

DATE	10/18/19	
DRAWN	MJR	
CHECKED	SJM	
APPROVED	SMH	

wood. Corporate Certificate of Authority #2000000326

SORRENTO SPRINGS BUILDING RENOVATIONS & SITE IMPROVEMENTS
PARKWAY SCHOOLS

PROJECT LOCATION:
300 Tumulty Dr.
Ballwin, MO 63021

OWNER:
Administrative Office
455 N Woods Mill Road
Chesterfield, Missouri 63107

SITE PLAN

SHEET NO.
C3.0.0

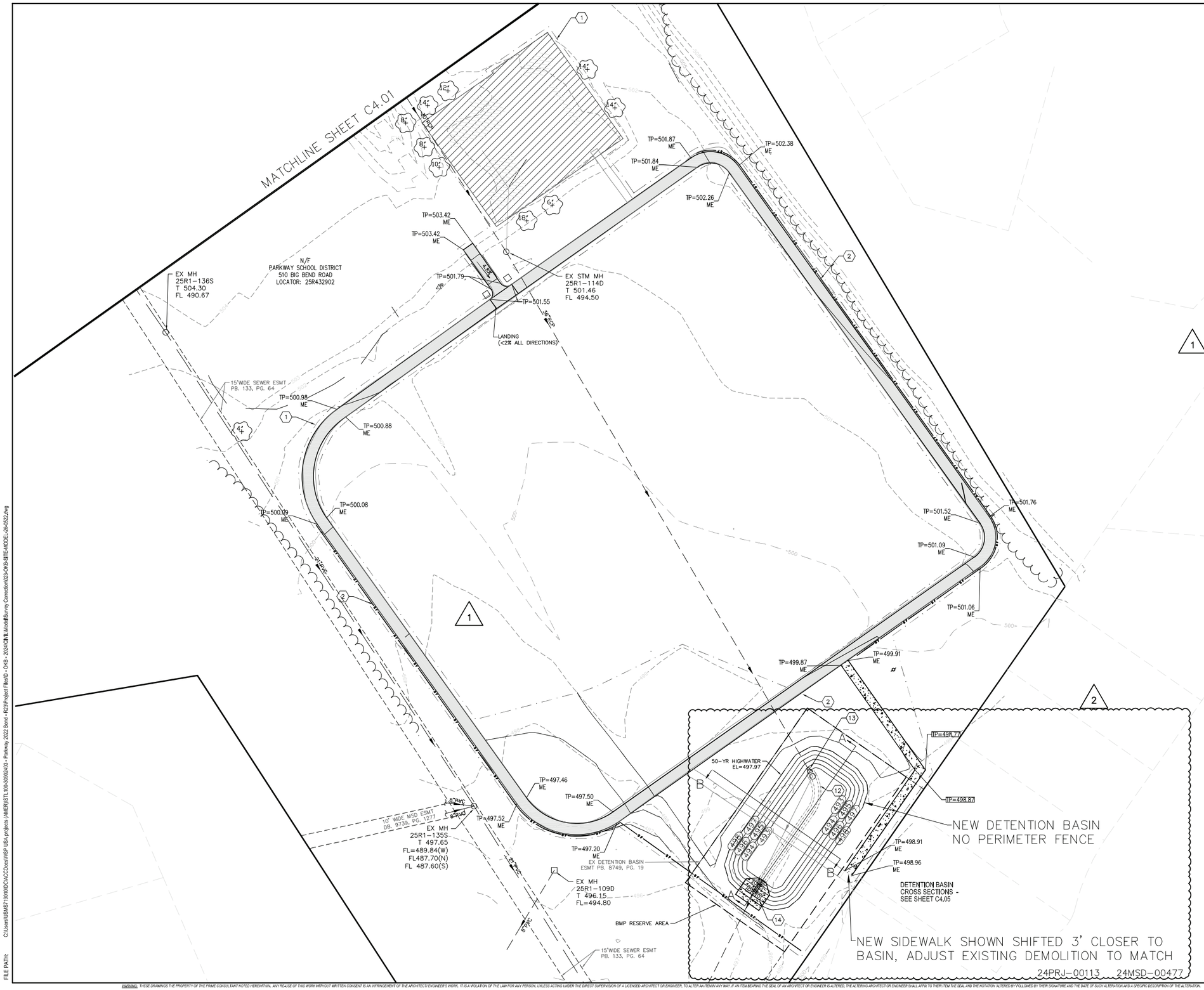
RSD PROJECT #: PN181901B
FGM JOB #: 19-2665.01
© 2019 FGM Architects Inc.

6/3/2019 2:35:19 PM
C:\revit temp\2018\19-2665.01_Parkway Sorrento Springs Building Reno_Central2_2018_benpl@fgmarchitects.com.rvt
Copyright 2019 FGM ARCHITECTS, INC.

EXHIBIT-L

OAK BROOK ELEMENTARY

BMP ORIGINAL PROJECT INFORMATION



GENERAL NOTES:

1. LOCATION AND DEPTH OF EXISTING STORM AND SANITARY SEWERS IS SHOWN ACCORDING TO SURVEY AND AVAILABLE RECORD DATA AND SHOULD BE CONSIDERED APPROXIMATE. FIELD VERIFICATION OF LOCATION AND DEPTH SHALL BE REQUIRED.
2. ALL IMPACTED LAWN AREAS SHALL BE REPLACED WITH SOD UPON COMPLETION OF CONSTRUCTION.
3. EXISTING SANITARY FLOW IS 11,040 GAL/DAY. SANITARY LOADING IS NOT INCREASING WITH THIS PROJECT.
4. CONSTRUCTION SHALL BE PHASED SUCH THAT EXISTING SEWERS CAN REMAIN IN PLACE AND IN USE AS LONG AS POSSIBLE WITH MINIMAL INTERRUPTION AT .

REMARKS:

KEYED NOTES (#)

1. LIMITS OF CONSTRUCTION / DISTURBANCE.
2. EROSION CONTROL - FILTER SOCK. REFER TO DETAIL ON SHT. C5.01.
3. EROSION CONTROL - INLET PROTECTION. REFER TO DETAIL ON SHT. C5.01.
4. EXISTING STORM STRUCTURE BASE TO BE REMOVED AND REPLACED. SALVAGE TOP STONES IF POSSIBLE.
5. TOP OF CONCRETE SHALL BE ¾" LOWER THAN FINISH FLOOR AND SLOPED AWAY FROM DOORS AT 1.5%.
6. CLEAN DEBRIS FROM STRUCTURE. INSPECT AND REPLACE AS NECESSARY.
7. NEW 12" NDS CATCH BASIN. SEE PROFILES FOR ELEVATION DETAILS.
8. NEW 6" PVC STORM PIPE TO TIE INTO EXISTING STRUCTURE.
9. NEW PERMEABLE INTERLOCKING CONCRETE PAVEMENT. REFER TO BMP PLAN ON SHT. C4.03.
10. NEW 6" CLEANOUT.
11. NEW 6" UNDERDRAIN TO TIE TO EXISTING STRUCTURE. REFER TO BMP DETAILS ON SHT. C5.03.
12. NEW 6' WIDE GRASS SWALE. REFER TO DETAIL ON SHT. C5.03.
13. NEW FLARED END SECTION TO ATTACH TO EXISTING 36" PIPE. REFER TO DETAIL ON SHT. C5.03.
14. NEW DETENTION BASIN OUTLET STRUCTURE WITH CONCRETE APRON. REFER TO DETAILS ON SHT. C5.03.

GRADING QUANTITY:

CUT	1200 CY
FILL	1184 CY
NET	16 CY

0 30' 60'
1"=30'

BASEMAP 25R1

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-7741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
1	ADDENDUM 2	06.04.2025
2	CD-02	06.22.2026

PARKWAY SCHOOL DISTRICT

OAK BROOK ELEMENTARY

510 Big Bend Rd
Ballwin, MO 63021

SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER
6 DECEMBER 2024

Civil Engineer of Record:	Michael Sestak
Professional No.:	PE-2021009101
DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	DH
DATE:	6 DECEMBER 2024
SCALE:	AS NOTED

FULL SCALE SHEET SIZE= ARCH-D (24"x 36")

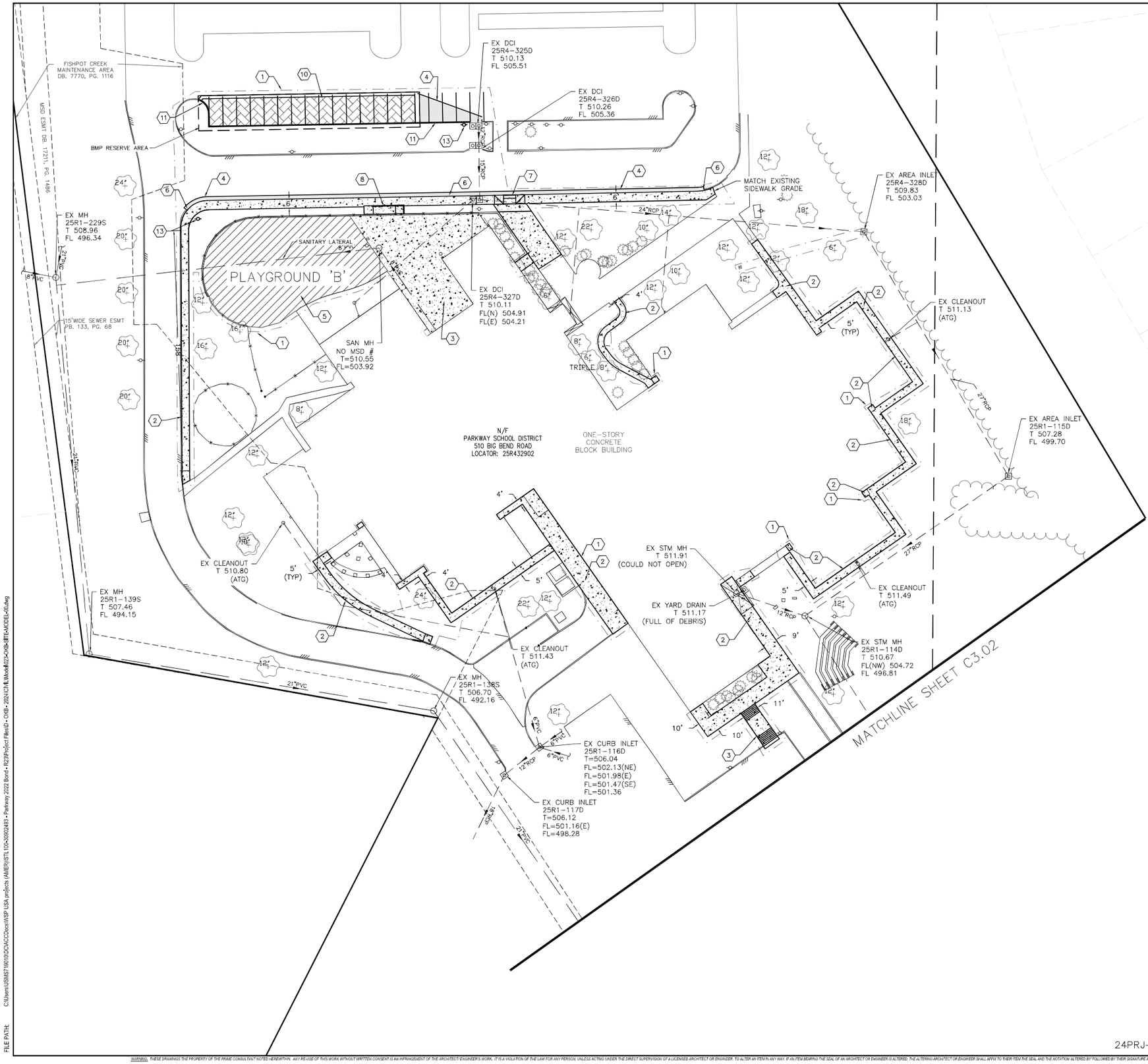
SHEET NAME
GRADING AND DRAINAGE PLAN

CLIENT PROJECT NUMBER: 232401B
WSP PROJECT NUMBER: 30902493,6970

SHEET NUMBER **C4.02**

LAST EDITED: 6/12/2025 5:48 PM
FILE PATH: C:\Users\MSMST190\ND\ACCDocs\WSP USA projects (AMER)\STL\190-30902493 - Parkway 2022 Bond - R23\Project Files\D - CAD - 2024\Civil Models\Survey Correction\402-OAK-SITE-MODEL-25r402.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



GENERAL NOTES:

1. ALL EXISTING IMPROVEMENTS TO BE USED IN PLACE UNLESS OTHERWISE NOTED.
2. ALL IMPACTED LAWN AREAS SHALL BE REPLACED WITH SOD UPON COMPLETION OF CONSTRUCTION.
3. THE FOLLOWING SHALL REQUIRE SEPARATE PERMITS: LAND DISTURBANCE, PARKING LOT, BUILDINGS/STRUCTURES, TRASH ENCLOSURES, RETAINING WALLS, FENCES TALLER THAN 6FT/IN OVERALL HEIGHT, AND SIGNS.

REMARKS:

KEYED NOTES (#)

1. LIMITS OF CONSTRUCTION / DISTURBANCE.
2. NEW CONCRETE WALK. REFER TO DETAILS ON SHT. C5.01.
3. NEW CONCRETE STAIRS WITH HANDRAIL. REFER TO DETAIL ON SHT. C5.01
4. NEW ASPHALT PAVEMENT. REFER TO DETAIL ON SHT. C5.01.
5. NEW PLAYGROUND IMPROVEMENTS. REFER TO PLAYGROUND PLANS FOR DETAILS.
6. NEW CONCRETE WALK WITH INTEGRAL CURB. REFER TO DETAILS ON SHT. C5.01 AND C5.02 FOR JOINTS.
7. NEW ACCESSIBLE CURB RAMP REFER TO DETAIL ON SHT. C5.01.
8. NEW ACCESSIBLE RAMP WITH DECORATIVE HANDRAIL TO PLAYGROUND. REFER TO DETAIL ON SHT. C5.02.
9. NEW 6' WIDE GRASS SWALE. REFER TO DETAIL ON SHT. C5.03.
10. NEW PERMABLE INTERLOCKING CONCRETE PAVERS. REFER TO BMP PLAN ON SHT. C4.03.
11. NEW CONCRETE CURB. REFER TO DETAIL ON SHT. C5.01.
12. NEW 4' CHAIN LINK FENCE. REFER TO DETAIL ON SHT. C5.03.
13. RELOCATED SIGN.

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314-206-4444
Fax: +1 314-421-0741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

OAK BROOK ELEMENTARY

510 Big Bend Rd
Ballwin, MO 63021

SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER
22 MAY 2025

Civil Engineer of Record:	Michael Sestak
Professional No.:	PE-2021009101
DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	DH
DATE:	22 MAY 2025
SCALE:	AS NOTED

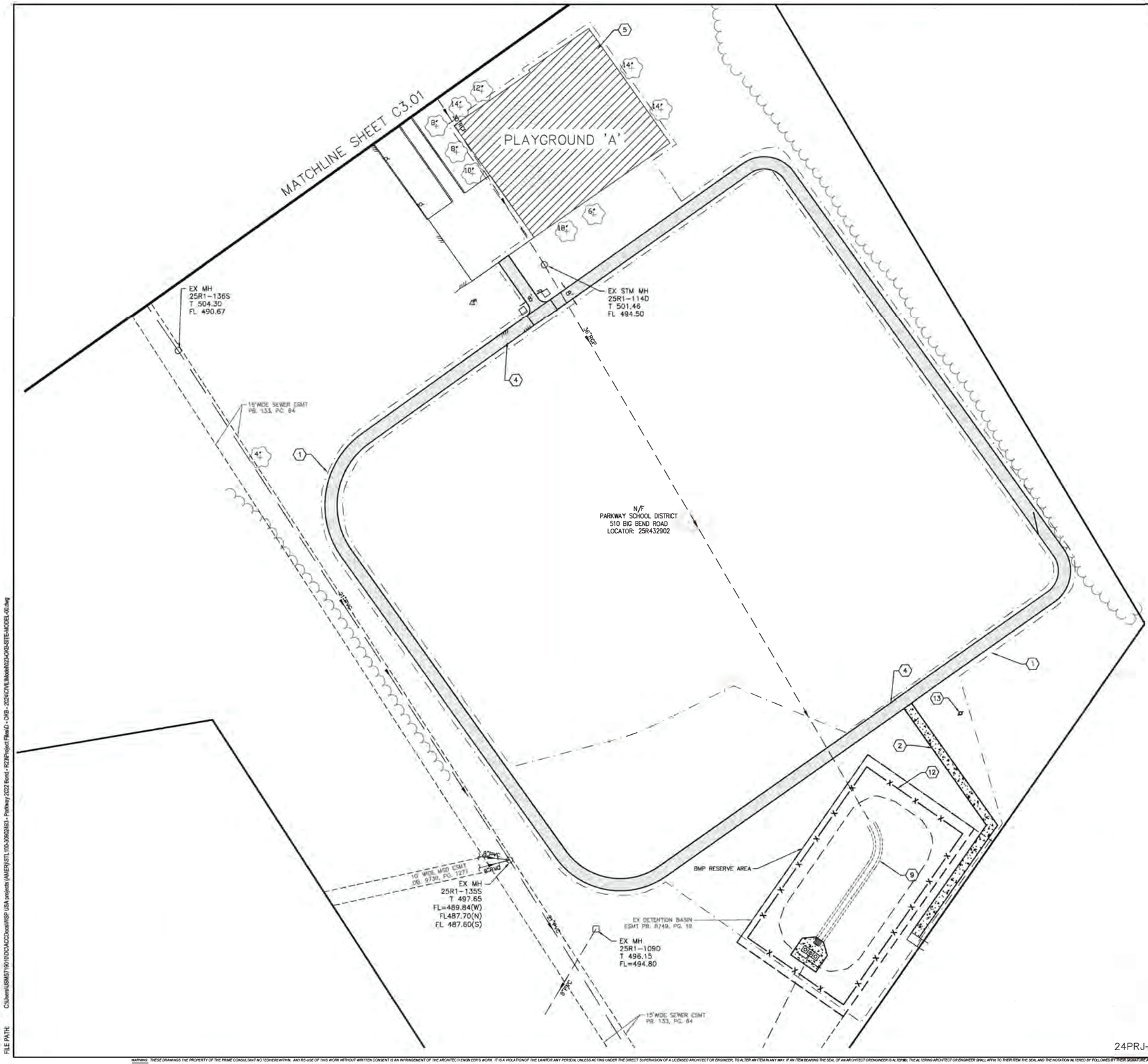
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

SHEET NAME
SITE PLAN

CLIENT PROJECT NUMBER: 232401B
WSP PROJECT NUMBER: 30902493.6970
SHEET NUMBER **C3.01**

LAST EDITED: 2/19/2026 2:55 PM
FILE PATH: C:\Users\USMS71901\DOCAACCDocs\WSP USA projects (AMER)\ST L\00439062AR1 - Parkway 2022 Bond - R23\Project Files\D - CIVIL - 2024\CIVIL\Mod\M23CIVDB-SITE-MODEL-D.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION ALTERED BY FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



GENERAL NOTES:

1. ALL EXISTING IMPROVEMENTS TO BE USED IN PLACE UNLESS OTHERWISE NOTED.
2. ALL IMPACTED LAWN AREAS SHALL BE REPLACED WITH SOD UPON COMPLETION OF CONSTRUCTION.
3. THE FOLLOWING SHALL REQUIRE SEPARATE PERMITS: LAND DISTURBANCE, PARKING LOT, BUILDINGS/STRUCTURES, TRASH ENCLOSURES, RETAINING WALLS, FENCES TALLER THAN 6FT/IN OVERALL HEIGHT, AND SIGNS.

REMARKS:

KEYED NOTES (#)

1. LIMITS OF CONSTRUCTION / DISTURBANCE.
2. NEW CONCRETE WALK. REFER TO DETAILS ON SHT. C5.01.
3. NEW CONCRETE STAIRS WITH HANDRAIL. REFER TO DETAIL ON SHT. C5.01
4. NEW ASPHALT PAVEMENT. REFER TO DETAIL ON SHT. C5.01.
5. NEW PLAYGROUND IMPROVEMENTS. REFER TO PLAYGROUND PLANS FOR DETAILS.
6. NEW CONCRETE WALK WITH INTEGRAL CURB. REFER TO DETAILS ON SHT. C5.01 AND C5.02 FOR JOINTS.
7. NEW ACCESSIBLE CURB RAMP REFER TO DETAIL ON SHT. C5.01.
8. NEW ACCESSIBLE RAMP WITH DECORATIVE HANDRAIL TO PLAYGROUND. REFER TO DETAIL ON SHT. C5.02.
9. NEW 6' WIDE GRASS SWALE. REFER TO DETAIL ON SHT. C5.03.
10. NEW PERMABLE INTERLOCKING CONCRETE PAVERS. REFER TO BMP PLAN ON SHT. C4.03.
11. NEW CONCRETE CURB. REFER TO DETAIL ON SHT. C5.01.
12. NEW 4' CHAIN LINK FENCE. REFER TO DETAIL ON SHT. C5.03.
13. RELOCATED SIGN.

24PRJ-00113 24MSD-00477

BASEMAP 25R1

0 30' 60'
1"=30'

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com

WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE

PARKWAY SCHOOL DISTRICT

OAK BROOK ELEMENTARY

510 Big Bend Rd
Ballwin, MO 63021

SITE IMPROVEMENTS

ISSUE FOR PERMIT

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER
22 MAY 2025

Civil Engineer of Record:	Michael Sestak
Professional No.:	PE-2021009101
DESIGNED BY:	MS
DRAWN BY:	MS
CHECKED BY:	DH
DATE:	22 MAY 2025
SCALE:	AS NOTED

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

SHEET NAME
SITE PLAN

CLIENT PROJECT NUMBER:	232401B
WSP PROJECT NUMBER:	30902493.6970
SHEET NUMBER	C3.02

LAST EDITED: @1/9/2026 2:05 PM
FILE PATH: C:\Users\MS\MST19010\DOCACO\cad\WSP USA projects (AMER)\ST1-100-30902493 - Parkway 2022 Bond - P23\Project Files\2 - CWB - 2024\CIVIL Models\P23-OAK\BASE\SITE-MODEL-00.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTEDHEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATIONOF THE LAWFOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT ORENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION ALTERED BY FOLLOWED BY THEIR SIGNATURE AND THE DATEOF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

EXHIBIT-M

CENTRAL MIDDLE

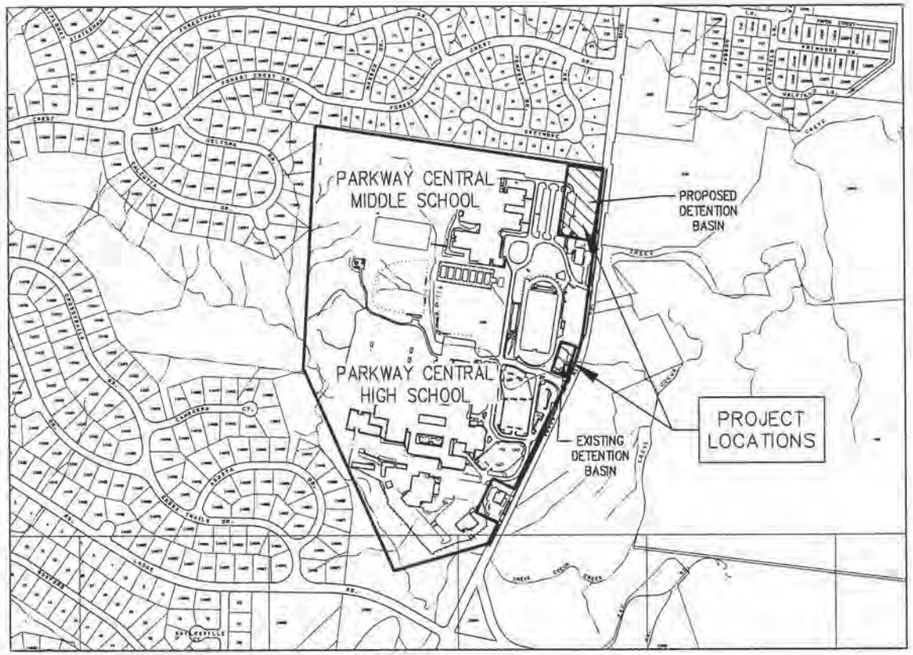
BMP ORIGINAL PROJECT INFORMATION

CENTRAL MIDDLE SCHOOL
PSD PROJECT: 400901B
STORMWATER DETENTION BASIN

471 NORTH WOODS MILL
CHESTERFIELD, MISSOURI 63017

GENERAL NOTES

1. ALL DISTURBED AREAS SHALL BE RESTORED WITH TOPSOIL AND SOD.
2. THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY FOR CONTROLLING ALL SILTATION AND EROSION WITHIN THE PROJECT AREA. THE CONTRACTOR SHALL USE THE MEANS NECESSARY TO CONTROL SILTATION AND EROSION. CONTROL MEANS AND METHODS SHALL FOLLOW THE SWPPP AND THE CITY OF CHESTERFIELD'S "SEDIMENT & EROSION CONTROL MANUAL". THE OWNER OR THE CITY OF CHESTERFIELD MAY AT THEIR OPTION DIRECT THE CONTRACTOR AS DEEMED FIT TO CONTROL EROSION. CONTROL SHALL COMMENCE WITH LAND DISTURBANCE AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY BOTH THE CITY OF CHESTERFIELD AND THE OWNER. ALL COST ASSOCIATED WITH EROSION CONTROL SHALL BE INCLUDED IN THE CONTRACTOR'S BID.
3. PROPOSED ELEVATIONS ARE SHOWN TO FINISH PAVEMENT OR GRADE.
4. NOTIFY THE CITY OF CHESTERFIELD DEPARTMENT OF PUBLIC WORKS 48 HOURS PRIOR TO THE COMMENCEMENT OF GRADING OR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
5. PARKING ON NON-SURFACED AREAS IS PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVING CONDITIONS.
6. THE STREETS SURROUNDING THIS DEVELOPMENT AND ANY STREET USED FOR CONSTRUCTION ACCESS THERETO SHALL BE KEPT FREE FROM MUD AND CONSTRUCTION DEBRIS AND SHALL BE CLEANED THROUGHOUT THE DAY.
7. ALL FILLS PLACED UNDER PROPOSED STORM AND SANITARY SEWER LINES, AND PAVED AREAS, INCLUDING TRENCH BACKFILLS WITHIN AND OFF THE ROAD RIGHT-OF-WAY, SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED BY THE STANDARD ASTM D-1557 FOR THE ENTIRE DEPTH OF THE FILL COMPACTED GRANULAR BACKFILL IS REQUIRED IN ALL TRENCH EXCAVATION WITHIN THE STREET RIGHT-OF-WAY AND UNDER ALL PAVED AREAS. ALL TESTS SHALL BE PREFORMED UNDER THE DIRECTION OF AND VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACKFILLING OPERATIONS.
8. SOFT SOILS FROM THE BOTTOM AND BANKS OF ANY EXISTING OR FORMER POND SITES OR TRIBUTARIES, OR ANY SEDIMENT BASINS OR TRAPS SHALL NOT BE PLACE IN PROPOSED PUBLIC RIGHT-OF-WAY LOCATIONS OR IN ANY STORM SEWER LOCATION.
9. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
10. ANY WELLS, CISTERNS OR SPRINGS, WHICH MAY EXIST ON THIS PROPERTY, SHOULD BE LOCATED AND SEALED IN A MANNER ACCEPTABLE TO THE CITY OF CHESTERFIELD AND MODNR.
11. ALL EXCAVATIONS, GRADING OR FILLING SHALL HAVE A FINISHED GRADE NOT TO EXCEED A 4:1 SLOPE (25%), UNLESS SPECIFICALLY APPROVED OTHERWISE.
12. NO EXCAVATION SHALL BE MADE SO CLOSE TO THE PROPERTY LINE AS TO ENDANGER ANY ADJOINING PROPERTY OF ANY PUBLIC OR PRIVATE STREET WITHOUT SUPPORTING AND PROTECTING SUCH PUBLIC OR PRIVATE STREET OR PROPERTY FROM SETTLING, CRACKING OR OTHER DAMAGE.
13. CONTRACTOR TO PLACE VEHICLE WASHDOWN STATION AT CONSTRUCTION ENTRANCE IN ACCORDANCE WITH ST. LOUIS COUNTY REQUIREMENTS.
14. ANY EXISTING IMPROVEMENTS DAMAGED BY CONSTRUCTION ON THE PROJECT PROPERTY SHALL BE REPLACED IN KIND AT THE CONTRACTORS EXPENSE.
15. EXISTING ASPHALT PAVEMENT SHALL BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
16. ALL EXISTING IMPROVEMENTS ARE TO REMAIN UNLESS NOTED OTHERWISE.
17. THE UNDERGROUND UTILITIES SHOWN HEREON ARE TAKEN FROM UTILITY LOCATIONS AS MARKED IN THE FIELD BY DIGRITE AND MAPS OBTAINED FROM LACLEDE GAS COMPANY, METROPOLITAN ST. LOUIS SEWER DISTRICT AND MISSOURI-AMERICAN WATER COMPANY AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMO.
18. SITE IS SUBJECT TO PRIVATE UTILITY INSTALLATIONS. PRIVATE UTILITY INSTALLATIONS DO NOT APPEAR ON UTILITY BASE MAPS, NOR DOES DIGRITE LOCATE PRIVATE UTILITIES.
19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING TOPS AND FLOWLINES OF ALL EXISTING SEWERS PRIOR TO COMMENCING WORK AND NOTIFYING THE ENGINEER OF DISCREPANCIES
20. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH SITE IMPROVEMENT CONSTRUCTION SHALL CONFORM TO THE LATEST STANDARDS AND SPECIFICATIONS OF THE CITY OF CHESTERFIELD.
21. ALL GRADING AND DRAINAGE SHALL CONFORM TO THE LATEST STANDARDS AND SPECIFICATIONS OF THE CITY OF CHESTERFIELD AND THE METROPOLITAN ST. LOUIS SEWER DISTRICT.
22. ALL SEWER CONSTRUCTION AND MATERIALS TO BE IN ACCORDANCE WITH THE METROPOLITAN ST. LOUIS SEWER DISTRICT STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES, 2009.
23. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE GAS SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF LACLEDE GAS COMPANY.
24. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE WATER SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF MISSOURI AMERICAN WATER COMPANY.
25. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE PHONE SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF AT&T DISTRIBUTION.
26. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH ELECTRIC SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF AMERENUE.
27. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH CABLE SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF CHARTER COMMUNICATIONS.



LEGEND

- CONTROL POINT
- TBM TEMPORARY BENCHMARK
- DRAINAGE ARROW
- EXISTING TREE
- EXISTING SHRUB
- CO EXISTING CLEANOUT
- (S) EXISTING SANITARY MANHOLE
- (D) EXISTING SANITARY MANHOLE
- EXISTING CURB INLET
- EXISTING AREA INLET
- EXISTING GRATE INLET
- EXISTING END OF PIPE
- (G) EXISTING GAS VALVE
- (W) EXISTING WATER METER
- (W) EXISTING WATER VALVE
- EXISTING SIGN
- EXISTING UTILITY POLE
- EXISTING UTILITY POLE WITH GUYWIRE
- NEW OVERFLOW STRUCTURE
- NEW FLARED END SECTION
- NEW EDGE OF PAVEMENT
- EXISTING EDGE OF PAVEMENT
- EXISTING CURB
- NEW MANUFACTURED MODULAR WALL
- SD NEW STORM SEWER
- X-X-X NEW FENCE
- SF NEW EROSION CONTROL
- SD_x EXISTING STORM SEWER
- G_x EXISTING GAS LINE
- E_x EXISTING ELECTRIC LINE
- C_x EXISTING TELEPHONE LINE
- SS_x EXISTING SANITARY SEWER
- CATV EXISTING CABLE TELEVISION LINE
- FO EXISTING FIBER OPTIC
- RIGHT OF WAY LINE
- 513 EXISTING 1' CONTOUR
- 515 EXISTING 5' CONTOUR
- 512 PROPOSED 1' CONTOUR
- 515 PROPOSED 5' CONTOUR
- ×501.92 EXISTING SPOT ELEVATION
- FL=490.91 PROPOSED SPOT ELEVATION
- (1) KEYED NOTE IDENTIFIER
- (1) EXISTING STORM STRUCTURE IDENTIFIER
- (1) NEW STORM STRUCTURE IDENTIFIER

SHEET INDEX

C-1	COVER SHEET
C-2	DEMOLITION PLAN
C-3	SITE PLAN
C-4	GRADING PLAN AND UTILITY PLAN
C-5	SEWER PROFILES AND CROSS SECTIONS
C-6	EXISTING DETENTION BASIN
C-7	SITE DETAILS
C-8	SITE DETAILS
DA-1	PRE-PROJECT CONDITIONS
DA-2	POST-PROJECT CONDITIONS
1 of 2	TOPOGRAPHIC SURVEY
2 of 2	TOPOGRAPHIC SURVEY

USGS DATUM BENCHMARK

ST. LOUIS COUNTY BENCHMARK #13-124 (ELEVATION 501.82)
STANDARD TABLET STAMPED "30 GEU" NORTHEAST TOWER LEG OF THE SOUTHERN MOST POWERLINE 120' +/- WEST OF 141 AT PARKWAY CENTRAL HIGH SCHOOL.

SITE BENCHMARK

T.B.M. "A" (ELEVATION 509.87)
CUT "L" ON SOUTHWEST CORNER OF CONCRETE PAD OF AT&T PHONE BOX #501.
50' +/- WEST OF CENTERLINE OF WOODS MILL ROAD AND 1000' +/- NORTH OF ENTRANCE TO PARKWAY ADMINISTRATION BUILDING IN NORTHEAST CORNER OF PROPERTY.

ABBREVIATIONS

ASPH	ASPHALT	NW	NORTHWEST
BLDG	BUILDING	PC	POINT OF CURVATURE
BM	BENCHMARK	PNT	POINT
BW	BOTTOM OF WALL	PT	POINT OF TANGENCY
CCP	CORRUGATED PLASTIC PIPE	PVC	POLYVINYL CHLORIDE
CLR	CLEARANCE	PVMT	PAVEMENT
CO	CLEANOUT	R	RADIUS
CMP	CORRUGATED METAL PIPE	RCP	REINFORCED CONCRETE PIPE
CONC	CONCRETE	SAN	SANITARY
DIA	DIAMETER	STM	STORM
EX	EXISTING	SW	SOUTHWEST
ELEV	ELEVATION	T	TOP
FF	FINISH FLOOR	TBM	TEMPORARY BENCHMARK
FG	FINISH GRADE	TC	TOP OF CURB
FH	FIRE HYDRANT	TP	TOP OF PAVEMENT
FL	FLOWLINE	TW	TOP OF WALL
G	GUTTER	TYP	TYPICAL
MAX	MAXIMUM	UIP	USE IN PLACE
ME	MATCH EXISTING	VCP	VITRIFIED CLAY PIPE
MH	MANHOLE	W/	WITH
MIN	MINIMUM	W.	WIDE
NE	NORTHEAST		
NTS	NOT TO SCALE		

UTILITY CONTACTS

AMEREN UE
1132 LOCUST STREET
ST. LOUIS, MO 63101
314-878-5787

AT&T TRANSMISSION TCG
2315 SALEM RD
1st FLOOR G-11
CONYERS, GA 30013
800-252-1133

MISSOURI-AMERICAN WATER COMPANY
727 CRAIG RD
ST. LOUIS, MO 63131
314-996-2432

CHARTER COMMUNICATIONS
2275 CASSENS DR
FENTON, MO 63026
314-878-5787

AT&T DISTRIBUTION
12930 OLIVE STREET RD, 2nd FLOOR
CREVE COEUR, MO 63141
314-878-5787

XO COMMUNICATIONS
2020 WESTPORT CENTER DRIVE
ST. LOUIS, MO 63146
314-787-7000

PARKWAY SCHOOL DISTRICT
455 N. WOODSMILL ROAD
CHESTERFIELD, MO 63017
314-415-8100

LACLEDE GAS COMPANY
3950 FOREST PARK BLVD
ST. LOUIS, MO 63108
314-658-5417

METROPOLITAN ST. LOUIS SEWER DISTRICT
2350 MARKET ST
ST. LOUIS, MO 63103-2555
314-768-6200

REGULATORY JURISDICTIONS

CITY OF CHESTERFIELD
690 CHESTERFIELD PARKWAY WEST
CHESTERFIELD, MO 63017-0760
636-537-4000

MONARCH FIRE PROTECTION DISTRICT
13725 OLIVE BOULEVARD
CHESTERFIELD, MO 63017
314-514-0900

METROPOLITAN ST. LOUIS SEWER DISTRICT
2350 MARKET ST
ST. LOUIS, MO 63103-2555
314-768-6200

MSD P-19772-03 BASE MAP: 17Q

REVISIONS

NO.	DESCRIPTION	BY	DATE

PROJECT: CENTRAL MIDDLE SCHOOL PSD PROJECT: 400901B STORMWATER DETENTION BASIN

TITLE: COVER SHEET

CLIENT: PARKWAY SCHOOL DISTRICT
455 North Woods Mill Road
Chesterfield, Missouri 63017
Phone: 314-415-8100 Fax: 314-415-8207

amec
AMEC Earth & Environmental, Inc.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011-2436 Fax: 636-386-3604
Phone: 636-386-3600
Corp Cert. of Auth. #2002000326

Date:
Brad P. Loomis - Engineer
MO PE-2006019652

ISSUE FOR BID

Proj. No. 2008008	REV No. 0
DR: MJR	CHK: BPL
DATE: 05/18//2010	

C-1
SHEET NUMBER

PLOT DATE: 5/18/2010 3:22:40 PM

FILE: P:\STLOUIS\2008\082008008 PARKWAY\10 CAD\CENTRAL DETENTION BASIN\CADD\ONSI\PLAN\00CENTRAL DETENTION BASIN C-SP0001.DWG

KEYED NOTES (#)

1. EXISTING 15" CPP PIPE TO BE REMOVED.
2. EXISTING END OF 15" CPP PIPE TO BE REMOVED.
3. LIMITS OF CONSTRUCTION.
4. EXISTING CONCRETE SWALE TO BE REMOVED.
5. EXISTING CONCRETE TO BE REMOVED AS NECESSARY FOR REMOVAL OF EXISTING 15" CPP PIPE.
6. EXISTING RIP RAP TO BE REMOVED AS NECESSARY FOR CONSTRUCTION OF NEW 36" RCP PIPE.
7. EXISTING 18" CMP PIPE TO BE REMOVED.

0 20' 40'

DENOTES EXISTING PAVEMENT TO BE REMOVED

NORTH WOODS MILL ROAD
ASPHALT PAVEMENT (UIP)

MSD P-19772-03 BASE MAP: 17Q

REVISIONS			
NO.	DESCRIPTION	BY	DATE

PROJECT:
CENTRAL MIDDLE SCHOOL
PSD PROJECT: 400901B
STORMWATER DETENTION BASIN

TITLE:
DEMOLITION PLAN

CLIENT:
PARKWAY SCHOOL DISTRICT
455 North Woods Mill Road
Chesterfield, Missouri 63017
Phone: 314-415-8100 Fax: 314-415-8207

AMEC Earth & Environmental, Inc.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-256-3300 Fax: 636-256-3304
Missouri Engineering Corporation
Corp Cert. of Auth. #2002000328

Date:
Brad P. Loomis – Engineer
MO PE-2009019682

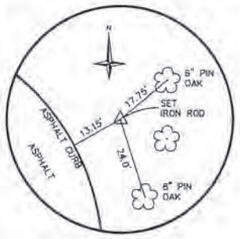
ISSUE FOR BID

Proj. No. 2008008	REV No. 0
DR: MJR	CHK: BPL
DATE: 05/18//2010	

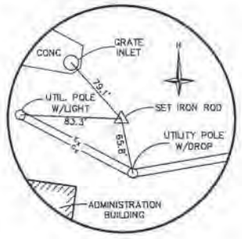
C-2
SHEET NUMBER

PLOT DATE: 5/18/2010 3:23:24 PM

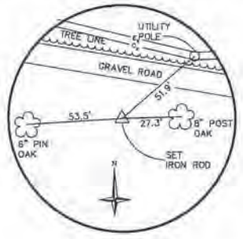
FILE: P:\STLOUIS\2008\062008008 PARKWAY\10 CAD\CENTRAL DETENTION BASIN\CADD\ONSI\PLAN\00CENTRAL DETENTION BASIN C-SP0001.DWG



CONTROL POINT #20
N=1032433.2813
E=819757.2643



CONTROL POINT #110
N=1032187.0402
E=819820.8917



CONTROL POINT #113
N=1032546.457
E=819856.979

COORDINATE TABLE

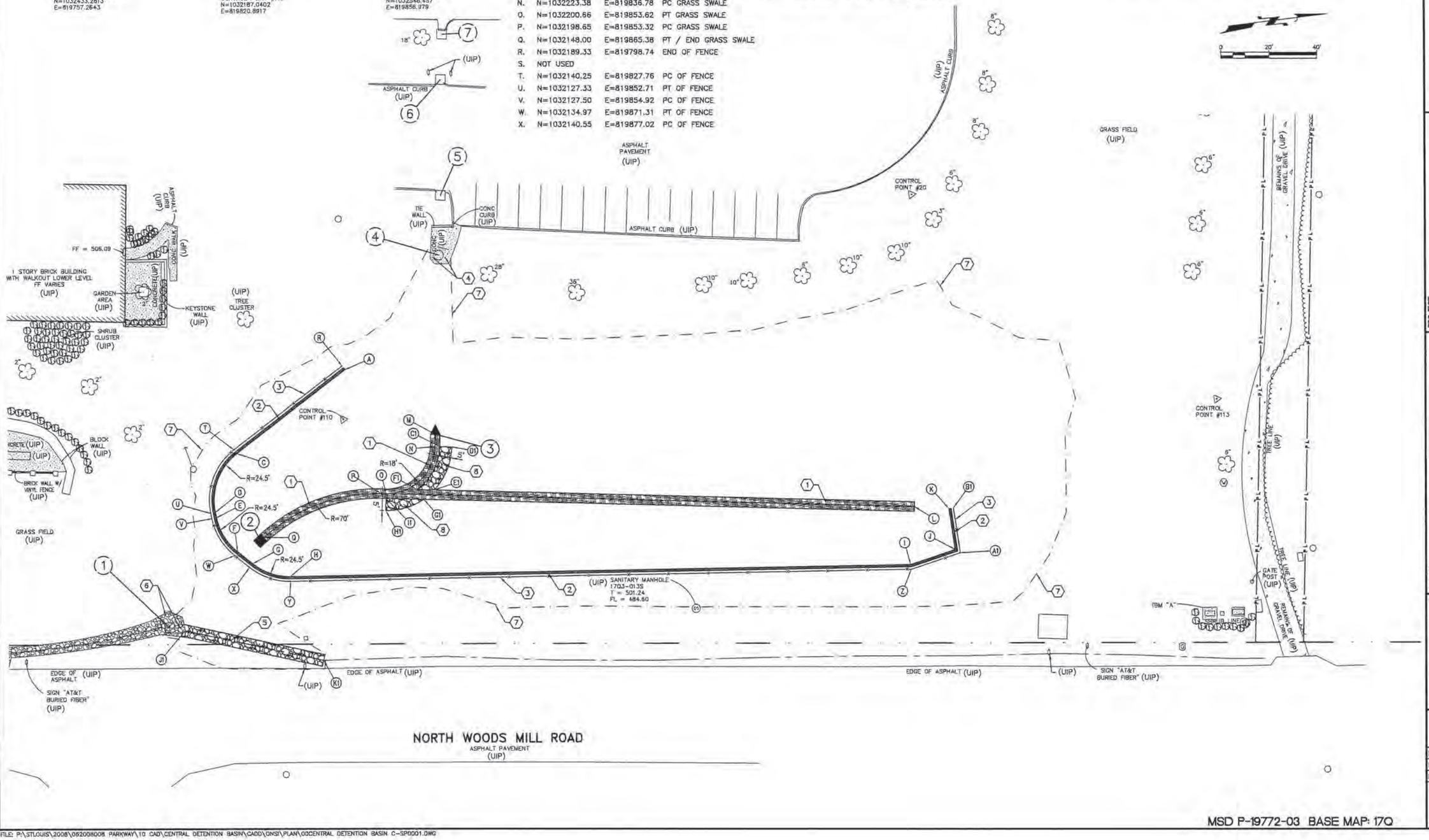
A.	N=1032190.34	E=819800.46	END OF WALL
B.	NOT USED		
C.	N=1032141.27	E=819829.48	PC OF WALL
D.	N=1032129.32	E=819852.55	PT OF WALL
E.	N=1032129.50	E=819854.76	PC OF WALL
F.	N=1032136.41	E=819869.92	PT OF WALL
G.	N=1032141.98	E=819875.62	PC OF WALL
H.	N=1032156.97	E=819882.86	PT OF WALL
I.	N=1032413.47	E=819909.54	ANGLE PNT WALL
J.	N=1032432.58	E=819905.63	ANGLE PNT WALL
K.	N=1032432.12	E=819888.52	END OF WALL
L.	N=1032418.07	E=819885.90	END GRASS SWALE
M.	N=1032224.12	E=819831.79	END GRASS SWALE
N.	N=1032223.38	E=819836.78	PC GRASS SWALE
O.	N=1032200.66	E=819853.62	PT GRASS SWALE
P.	N=1032198.65	E=819853.32	PC GRASS SWALE
Q.	N=1032148.00	E=819865.38	PT / END GRASS SWALE
R.	N=1032189.33	E=819798.74	END OF FENCE
S.	NOT USED		
T.	N=1032140.25	E=819827.76	PC OF FENCE
U.	N=1032127.33	E=819852.71	PT OF FENCE
V.	N=1032127.50	E=819854.92	PC OF FENCE
W.	N=1032134.97	E=819871.31	PT OF FENCE
X.	N=1032140.55	E=819877.02	PC OF FENCE

COORDINATE TABLE

Y.	N=1032156.76	E=819884.85	PT OF FENCE
Z.	N=1032413.57	E=819911.56	ANGLE PNT FENCE
A1.	N=1032434.63	E=819907.26	ANGLE PNT FENCE
B1.	N=1032434.11	E=819888.46	END OF FENCE
C1.	N=1032225.35	E=819837.07	ROCK BLANKET
D1.	N=1032230.30	E=819837.80	ROCK BLANKET
E1.	N=1032220.86	E=819854.60	ROCK BLANKET
F1.	N=1032213.46	E=819853.50	ROCK BLANKET
G1.	N=1032215.85	E=819857.90	ROCK BLANKET
H1.	N=1032199.63	E=819860.55	ROCK BLANKET
I1.	N=1032200.36	E=819855.60	ROCK BLANKET
J1.	N=1032110.52	E=819898.64	℄ ROCK SWALE
K1.	N=1032166.21	E=819919.07	℄ ROCK SWALE

KEYED NOTES (#)

1. NEW GRASS SWALE WITH PERMANENT EROSION CONTROL BLANKET (Miraft-HP570 manufactured by TenCate OR EQUAL). REFER TO DETAIL ON SHT. C-7.
2. NEW MANUFACTURED MODULAR WALL. REFER TO DETAIL ON SHT C-7.
3. NEW 4' HIGH ALUMINUM FENCE. REFER TO DETAIL ON SHT. C-7.
4. EXISTING CONCRETE TO BE RESTORED TO ORIGINAL CONDITION WITH LIKE KIND MATERIALS.
5. NEW ROCK SWALE (MSD #5). REFER TO DETAIL ON SHT. 7.
6. EXISTING RIP RAP TO BE RESTORED TO ORIGINAL CONDITION WITH LIKE KIND MATERIALS.
7. LIMITS OF CONSTRUCTION.
8. NEW ROCK BLANKET (MSD #5). REFER TO DETAIL ON SHT. C-7.



MSD P-19772-03 BASE MAP: 17Q

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

PROJECT: CENTRAL MIDDLE SCHOOL
PSD PROJECT: 400901B
STORMWATER DETENTION BASIN

TITLE: SITE PLAN

CLIENT: PARKWAY SCHOOL DISTRICT
455 North Woods Mill Road
Chesterfield, Missouri 63017
Phone: 314-415-8100 Fax: 314-415-8207

AMEC Earth & Environmental, Inc.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-386-3800 Fax: 636-386-3804
Corp Cert. of Auth. #2002003326
amec

Date:
Brad P. Loomis – Engineer
MO PE-2005019682

ISSUE FOR BID

Proj. No. 2008008	REV No. 0
DR: MJR	CHK: BPL
DATE: 05/18//2010	

C-3
SHEET NUMBER

PLOT DATE: 5/18/2010 3:23:54 PM

FILE: P:\STLOUIS\2008\062008008 PARKWAY\10 CAD\CENTRAL DETENTION BASIN\CADD\ONSI\PLAN\03CENTRAL DETENTION BASIN C-SP0001.DWG

KEYED NOTES (#)

1. NEW EROSION CONTROL – FIBER ROLL. REFER TO DETAIL ON SHT. C-7.
2. NEW EROSION CONTROL – INLET PROTECTION. REFER TO DETAIL ON SHT. C-7.
3. LIMITS OF CONSTRUCTION.
4. NEW OUTFALL STRUCTURE. REFER TO DETAIL ON SHT. C-8.
5. EXISTING STORMWATER BMP RESERVE AREA D.B. 18486, PG. 127 (HEREBY ELIMINATED).
6. NEW STORMWATER BMP RESERVE AREA.
7. NEW GRASS SWALE WITH PERMANENT EROSION CONTROL BLANKET (Mirafi–HP570 manufactured by TenCate OR EQUAL). REFER TO DETAIL ON SHT. C-7.
8. NEW 4' HIGH ALUMINUM FENCE. REFER TO DETAIL ON SHT. C-7.
9. NEW ROCK BLANKET (MSD #5). REFER TO DETAIL ON SHT. C-7.

GENERAL NOTES

1. FOR SECTION A–A, B–B, AND C–C REFER TO SHT. C-5.

NORTH WOODS MILL ROAD
ASPHALT PAVEMENT (UIP)

MSD P-19772-03 BASE MAP: 17Q

REVISIONS			
NO.	DESCRIPTION	BY	DATE

PROJECT: CENTRAL MIDDLE SCHOOL
PSD PROJECT: 400901B
STORMWATER DETENTION BASIN

TITLE: GRADING PLAN AND UTILITY PLAN

CLIENT: PARKWAY SCHOOL DISTRICT
455 North Woods Mill Road
Chesterfield, Missouri 63017
Phone: 314-415-8100 Fax: 314-415-8207

AMEC Earth & Environmental, Inc.
15933 Clayton Road Suite 215
Ballwin, Missouri 63011
636-386-3800 Fax: 636-386-3804
Corp Cert. of Auth.: 2002000326

amec

Date:
Brad P. Loomis – Engineer
MO PE-2008019682

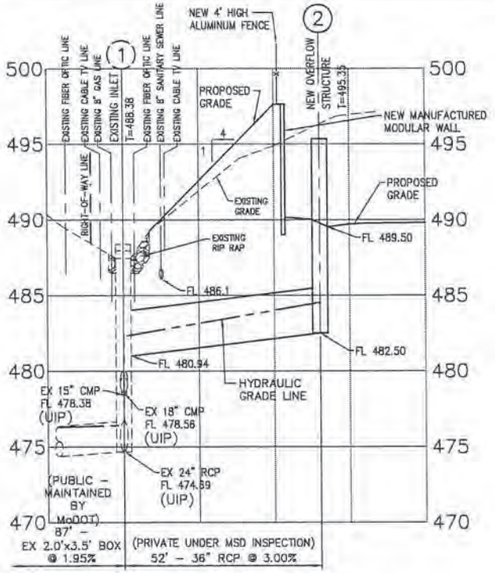
ISSUE FOR BID

Proj. No. 2008008	REV No. 0
DR: MJR	CHK: BPL
DATE: 05/18//2010	

C-4
SHEET NUMBER

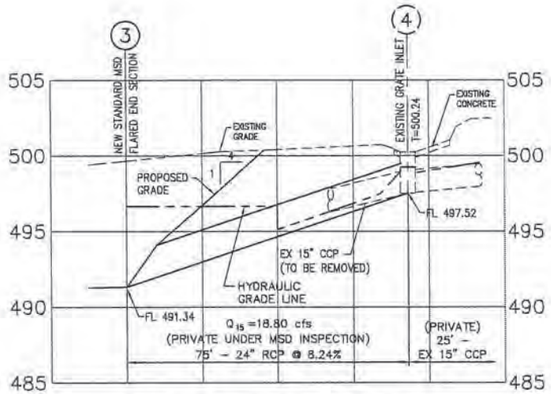
PLOT DATE: 5/19/2010 3:24:38 PM

FILE: P:\STLOUIS\2008\052008008 PARKWAY\10 CAD\CENTRAL DETENTION BASIN\CADD\ONSI\PLAN\00CENTRAL DETENTION BASIN C-SP0001.DWG



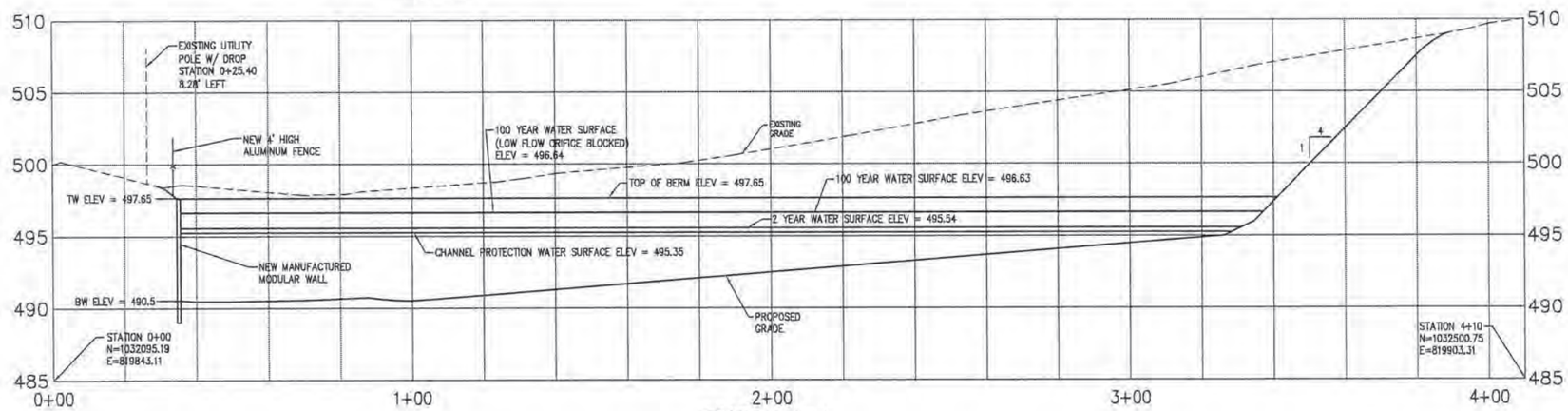
STORM SEWER PROFILE

SCALE: 1"=5' VERT.
1"=20' HORIZ.



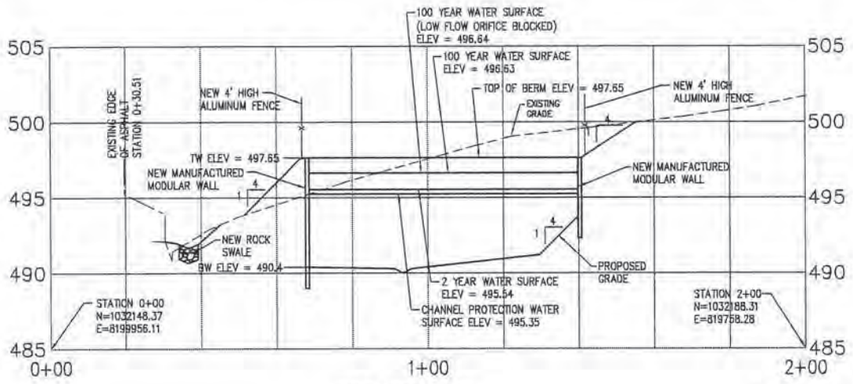
STORM SEWER PROFILE

SCALE: 1"=5' VERT.
1"=20' HORIZ.



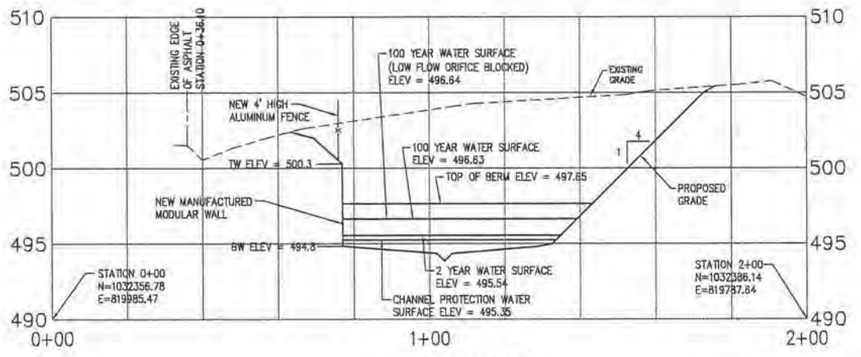
SECTION A–A

SCALE: 1"=5' VERT.
1"=20' HORIZ.



SECTION B–B

SCALE: 1"=5' VERT.
1"=20' HORIZ.



SECTION C–C

SCALE: 1"=5' VERT.
1"=20' HORIZ.

GENERAL NOTES

1. FOR PLAN LOCATION OF SECTION A–A, B–B, AND C–C REFER TO SHT. C–4.

MSD P-19772-03 BASE MAP: 17Q

REVISIONS

NO.	DESCRIPTION	BY	DATE

PROJECT: CENTRAL MIDDLE SCHOOL
PSD PROJECT: 400901B
STORMWATER DETENTION BASIN

TITLE: SEWER PROFILES AND CROSS SECTIONS

CLIENT: PARKWAY SCHOOL DISTRICT
455 North Woods Mill Road
Chesterfield, Missouri 63017
Phone: 314-415-8100 Fax: 314-415-8207

AMEC Earth & Environmental, Inc.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-386-3803 Fax: 636-386-3804
Douglas.Goodwin@amec.com
Corp Cert. of Auth. #2000200326

Date:
Brad P. Loomis – Engineer
MO PE-2006019882

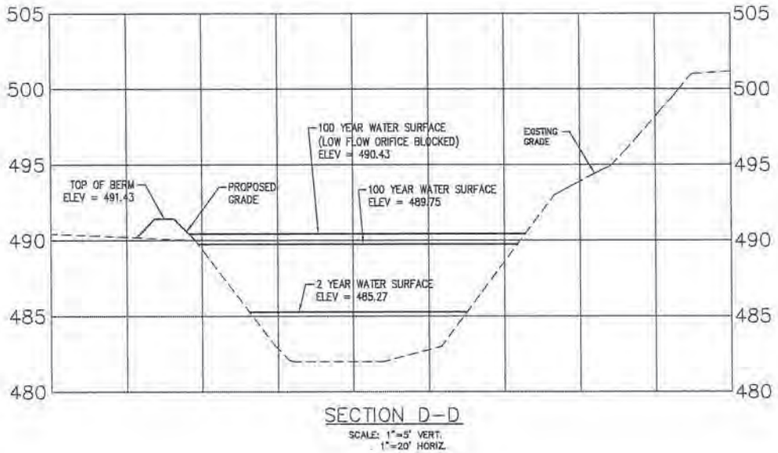
ISSUE FOR BID

Proj. No. 2008008	REV No. 0
DR: MJR	CHK: BPL
DATE: 05/18/2010	

C-5
SHEET NUMBER

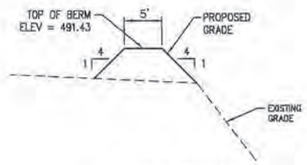
PLOT DATE: 5/18/2010 3:26:55 PM

FILE: P:\STLOUIS\2008\052008008 PARKWAY\10 CAD\CENTRAL DETENTION BASIN\CADD\CNSI\PLAN\00CENTRAL DETENTION BASIN C-SP0001.DWG



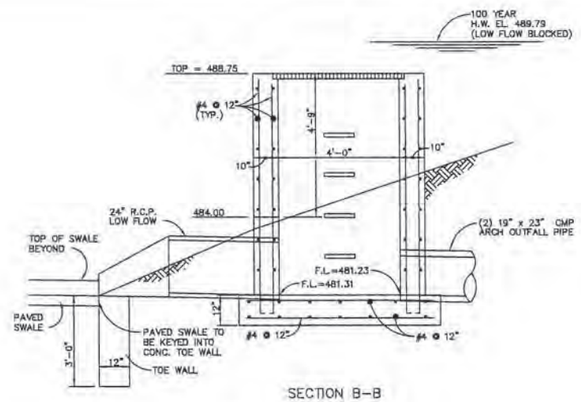
SECTION D–D

SCALE: 1"=5' VERT.
1"=20' HORIZ.

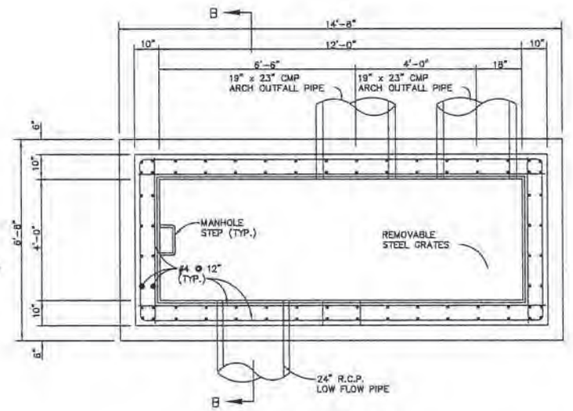


BERM DETAIL

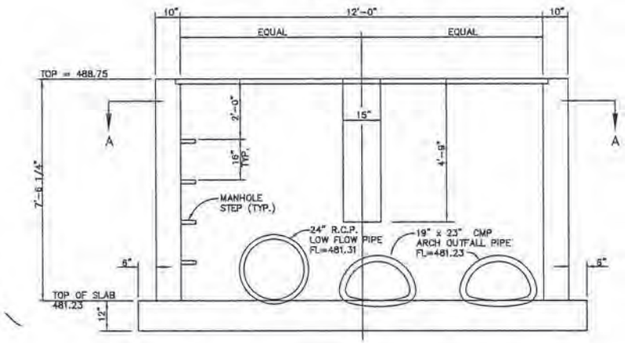
NTS



SECTION B–B



SECTION A–A

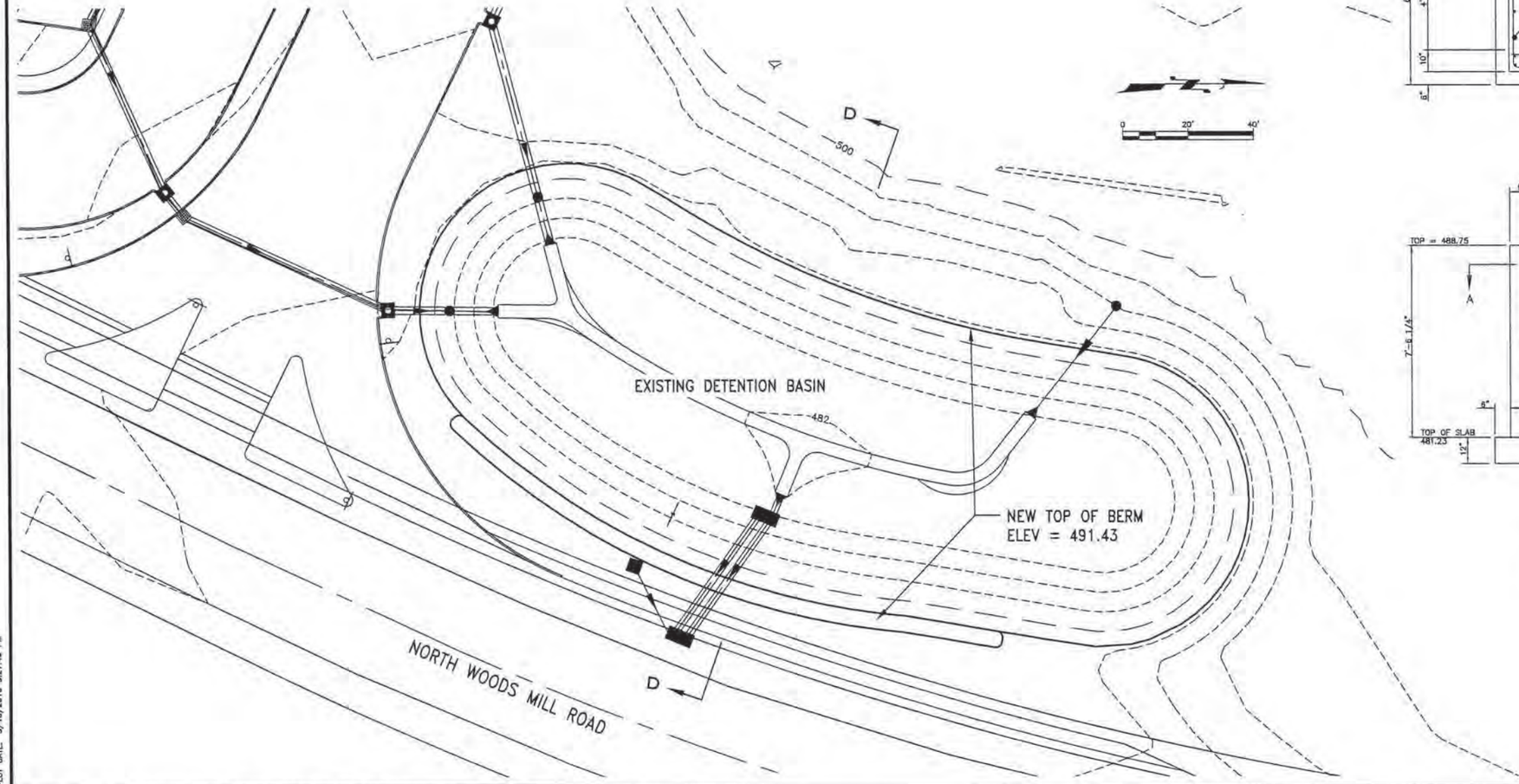


ELEVATION

EXISTING DETENTION BASIN
OVERFLOW STRUCTURE

NTS

(FOR REFERENCE ONLY)



MSD P-19772-03 BASE MAP: 17Q

REVISIONS

NO.	DESCRIPTION	BY	DATE
1	MSD REVIEW COMMENTS	AMEC	03/22/2010

PROJECT:
CENTRAL MIDDLE SCHOOL
PSD PROJECT: 40090IB
STORMWATER DETENTION BASIN

TITLE:
EXISTING DETENTION BASIN

CLIENT:
PARKWAY SCHOOL DISTRICT
455 North Woods Mill Road
Chesterfield, Missouri 63017
Phone: 314-415-8100 Fax: 314-415-8207

AMEC Earth & Environmental, Inc.
13421 Manchester Road, Suite 103
Ballwin, Missouri 63011
Phone: 636-394-3500 Fax: 636-394-3604
Corp Cert. of Auth. #2002000326

Date:
Brad P. Loomis – Engineer
MO PE-2006019682

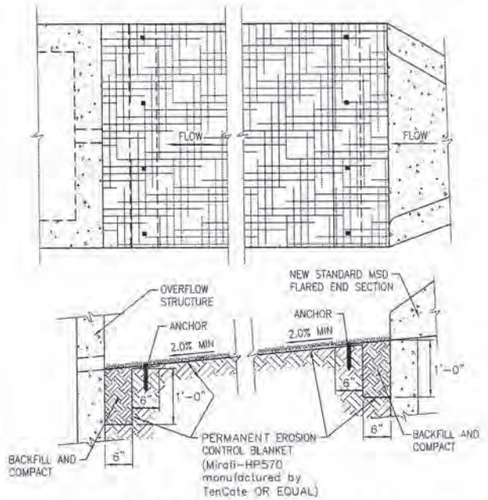
ISSUE FOR BID

Proj. No. 2008008	REV No. 0
DR: MJR	CHK: BPL
DATE: 05/18/2010	

C-6
SHEET NUMBER

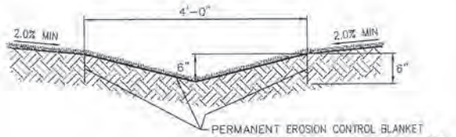
PLOT SCALE: 1:2.5849
SHEET: ANSI A (8.50 X 11.00 inches)
PENTABLE:
PLOT DATE: 5/19/2010 3:27:49 PM

FILE: P:\STLOUIS\2008\082008008 PARKWAY\10 CAD\04 CENTRAL\CADD\XREF\V-SP0001.DWG



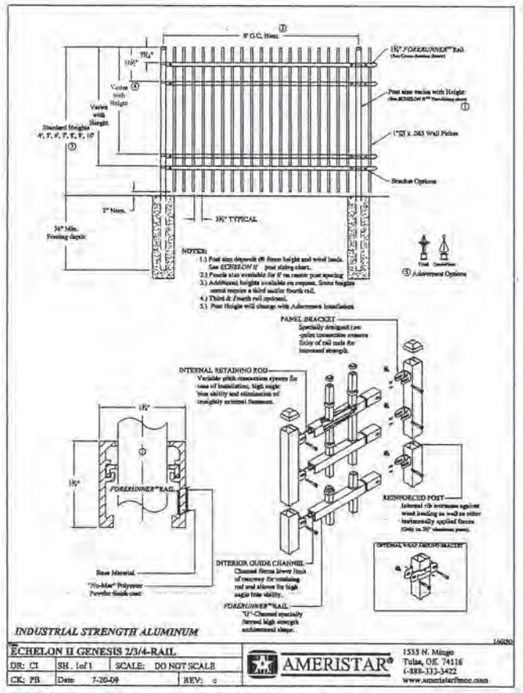
EROSION CONTROL BLANKET INSTALLATION DETAIL

NTS



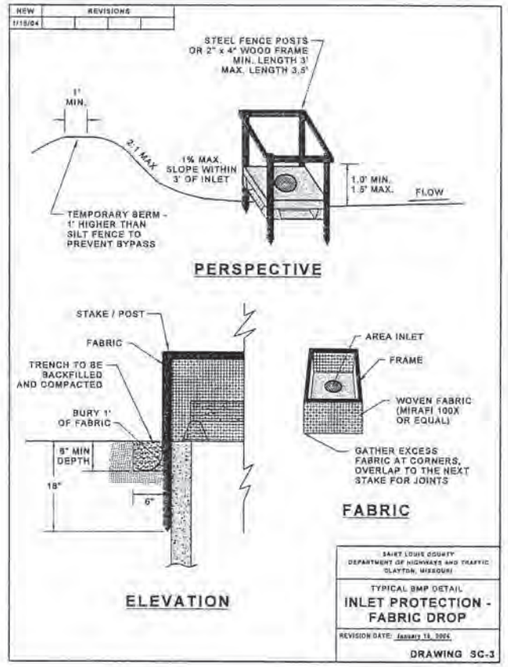
GRASS SWALE DETAIL

NTS



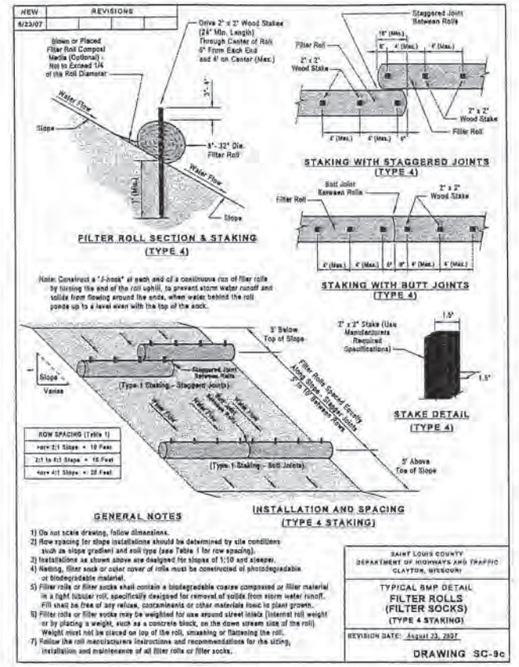
4' HIGH ALUMINUM FENCE DETAIL

NTS



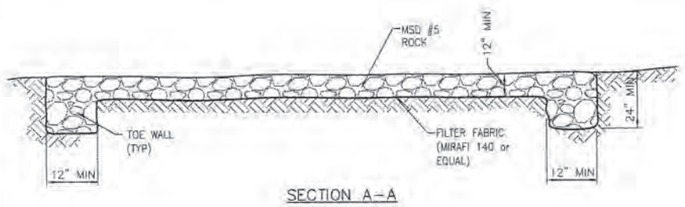
EROSION CONTROL INLET PROTECTION (FABRIC DROP) DETAIL

NTS

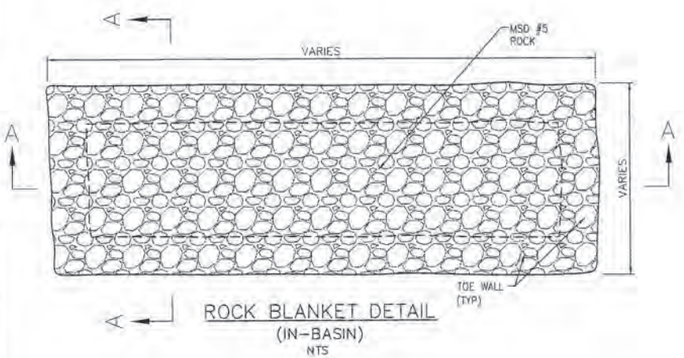


EROSION CONTROL FILTER ROLL (FILTER SOCK) DETAIL

NTS

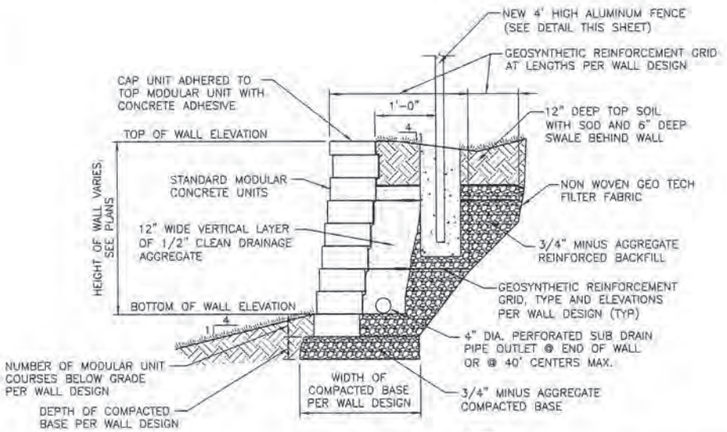


SECTION A-A



ROCK BLANKET DETAIL (IN-BASIN)

NTS



NOTES:

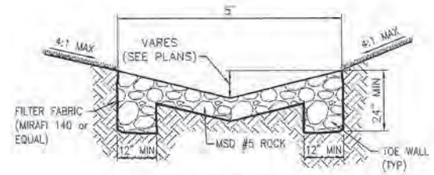
COLOR TO CONFORM TO JOB SPECIFICATIONS.

SEPARATE PERMIT REQUIRED FOR ALL WALLS 48" OR HIGHER.

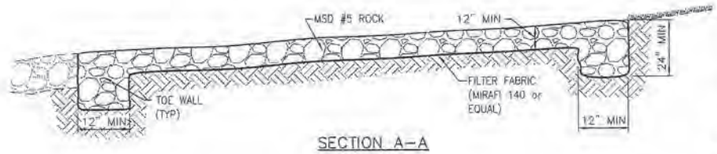
IN AREAS OF FILL AN IMPERMEABLE GEOMEMBRANE LINER SHALL BE INSTALLED.

TYPICAL SECTION - MANUFACTURED MODULAR WALL

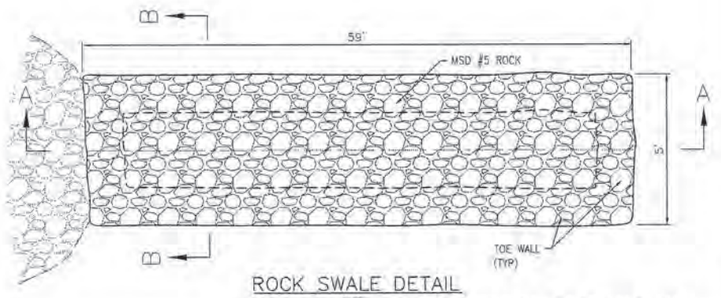
NTS



SECTION B-B



SECTION A-A



ROCK SWALE DETAIL

NTS

REVISIONS

NO.	DESCRIPTION	BY	DATE

PROJECT: CENTRAL MIDDLE SCHOOL
PSD PROJECT: 400901B
STORMWATER DETENTION BASIN

TITLE: SITE DETAILS

CLIENT: PARKWAY SCHOOL DISTRICT
455 North Woods Mill Road
Chesterfield, Missouri 63017
Phone: 314-415-8100 Fax: 314-415-8207

amec

AMEC Earth & Environmental, Inc.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-386-3800 Fax: 636-386-3804
Missouri Certificate of Authority
Corp Cert. of Auth: #2002000326

Date:
Brad P. Loomis - Engineer
MO PE-2006019882

ISSUE FOR BID

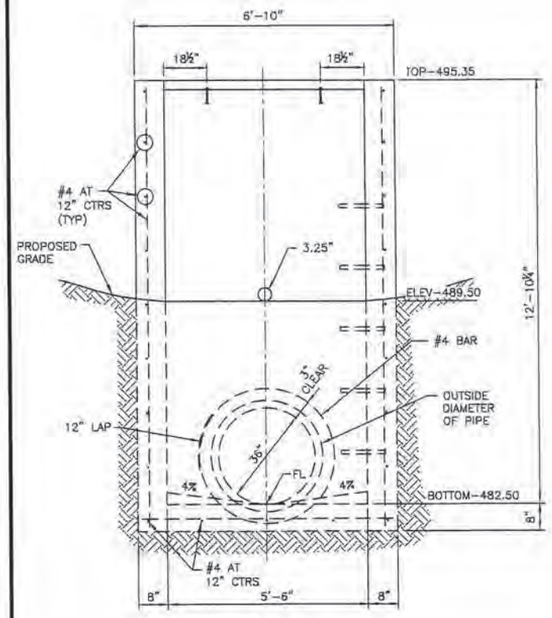
Proj. No. 2008008	REV No. 0
DR: MJR	CHK: BPL
DATE: 05/18/2010	

C-7
SHEET NUMBER

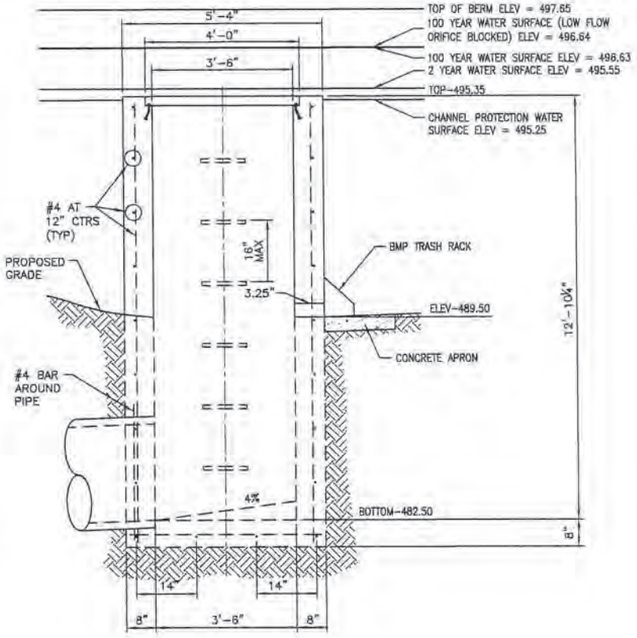
MSD P-19772-03 BASE MAP: 170

PLOT DATE: 5/19/2010 3:29:57 PM

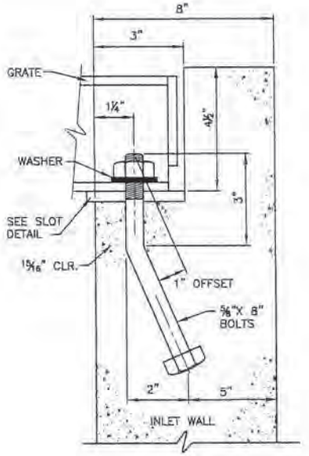
FILE: P:\STLOUIS\2008\062008008 PARKWAY\10 CAD\CENTRAL DETENTION BASIN\CADD\GNSI\PLAN\00CENTRAL DETENTION BASIN C-SP0001.DWG



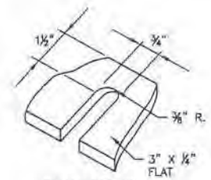
SECTION A-A
NTS



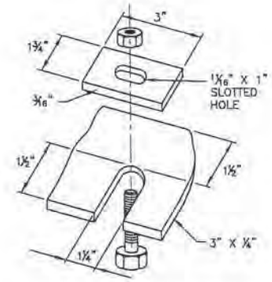
SECTION B-B
NTS



GRATE INSTALLATION DETAIL
NTS

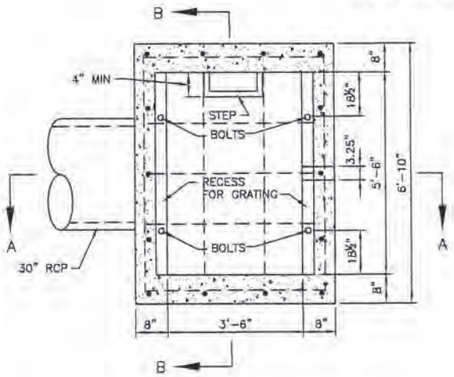


SLOT DETAIL
NTS



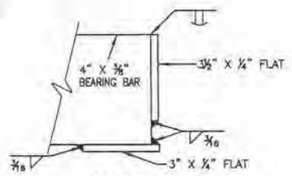
ALTERNATE SLOT AND HOLD DOWN PLATE DETAIL
NTS

NOTE:
ENGINEER APPROVED SHOP DRAWINGS MUST BE SUBMITTED TO MSD PRIOR TO CONSTRUCTION OF THIS STRUCTURE.

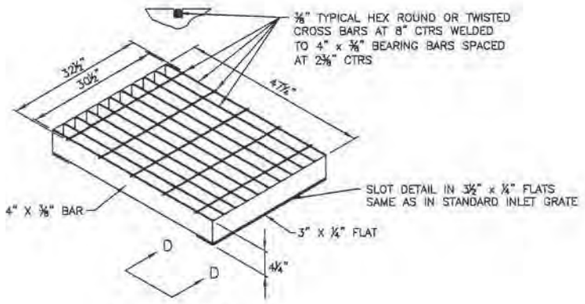


PLAN
NTS

TOP OF BOX = 495.35
LOWEST HOLE = 489.50
INVERT OF OUTLET PIPE = 482.50



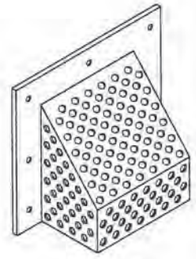
SECTION D-D
NTS



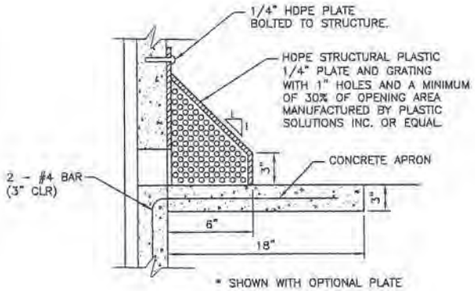
NOTE: 2 GRATES REQUIRED.

CLOSED MESH GRATE
NTS

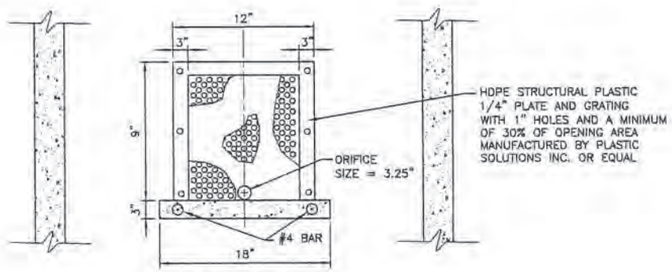
OVERFLOW STRUCTURE DETAILS
NTS



ISOMETRIC



* SHOWN WITH OPTIONAL PLATE
SECTION



ELEVATION

BMP TRASH RACK
NTS

REVISIONS

NO.	DESCRIPTION	BY	DATE

PROJECT: CENTRAL MIDDLE SCHOOL
PSD PROJECT: 400901B
STORMWATER DETENTION BASIN

TITLE: SITE DETAILS

CLIENT: PARKWAY SCHOOL DISTRICT
455 North Woods Mill Road
Chesterfield, Missouri 63017
Phone: 314-415-8100 Fax: 314-415-8207

AMEC Earth & Environmental, Inc.
13933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-386-3800 Fax: 636-386-3804
Corp. Cert. of Auth. #2000000326

Date:
Brad P. Loomis - Engineer
MO PE-2006019652

ISSUE FOR BID

Proj. No. 2008008	REV No. 0
DR: MJR	CHK: BPL
DATE: 05/18/2010	

C-8
SHEET NUMBER

MSD P-19772-03 BASE MAP: 17Q

PLOT DATE: 5/18/2010 3:30:38 PM

FILE: P:\STLOUIS\2008\082008008 PARKWAY\10 CAD\CENTRAL DETENTION BASIN\CADD\ONSI\PLAN\00CENTRAL DETENTION BASIN C-SP0001.DWG

CENTRAL HIGH SCHOOL

CENTRAL MIDDLE SCHOOL

0 100' 200'

FOR REFERENCE ONLY -
NOT FOR CONSTRUCTION

MSD P-19772-03 BASE MAP: 17Q

REVISIONS			
NO.	DESCRIPTION	BY	DATE
1	MSD REVIEW COMMENTS	AMEC	08/22/2010

PROJECT:
CENTRAL MIDDLE SCHOOL
PSD PROJECT: 400901B
STORMWATER DETENTION BASIN

TITLE:
PRE-PROJECT CONDITIONS

CLIENT:
PARKWAY SCHOOL DISTRICT
455 North Woods Mill Road
Chesterfield, Missouri 63017
Phone: 314-415-8100 Fax: 314-415-8207

amec

AMEC Earth & Environmental, Inc.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-386-8000 Fax: 636-386-8004
Engineer Certificate of Authority Number
Dept Cert. of Auth. #2002000328

Date:
Brad P. Loomis - Engineer
MO PE-2006019682

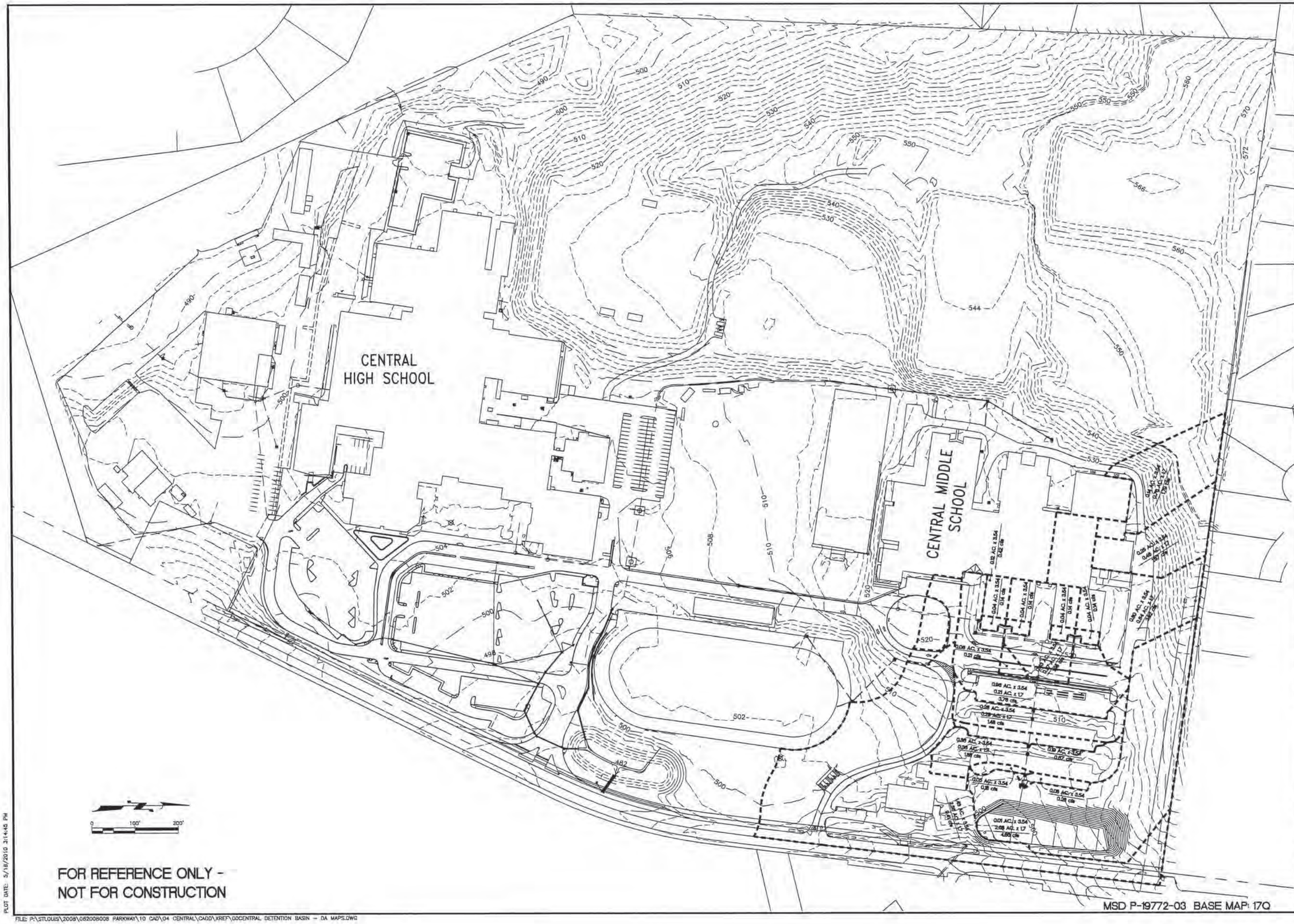
ISSUE FOR BID

Proj. No. 2008008	REV No. 0
DR: MJR	CHK: CMS
DATE: 05/18/2010	

DA-1
SHEET NUMBER

PLOT SCALE: 1:2.5949
SHEET: ANSI A (8.50 X 11.00 inches)
PENTABLE: ---
PLOT DATE: 5/16/2010 3:16:17 PM

FILE: P:\STLOUIS\2008\082008008 PARKWAY\10 CAD\04 CENTRAL\CADD\XREF\00CENTRAL DETENTION BASIN - DA MAPS.DWG



REVISIONS

NO.	DESCRIPTION	BY	DATE
1	MSD REVIEW COMMENTS	AMEC	03/22/2010

PROJECT:
CENTRAL MIDDLE SCHOOL
PSD PROJECT: 400901B
STORMWATER DETENTION BASIN

TITLE:
POST-PROJECT CONDITIONS

CLIENT:
PARKWAY SCHOOL DISTRICT
455 North Woods Mill Road
Chesterfield, Missouri 63017
Phone: 314-415-8100 Fax: 314-415-8207

amec
AMEC Earth & Environmental, Inc.
13421 Manchester Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-386-3800 Fax: 636-386-3804
Email: [illegible]@amec.com
Corp Cert. of Auth.: 2006000326

Date:
Brad P. Loomis - Engineer
MO PE-2006019682

ISSUE FOR BID

Proj. No. 2008008	REV No. 0
DR: MJR	CHK: BPL
DATE: 05/18/2010	

DA-2
SHEET NUMBER

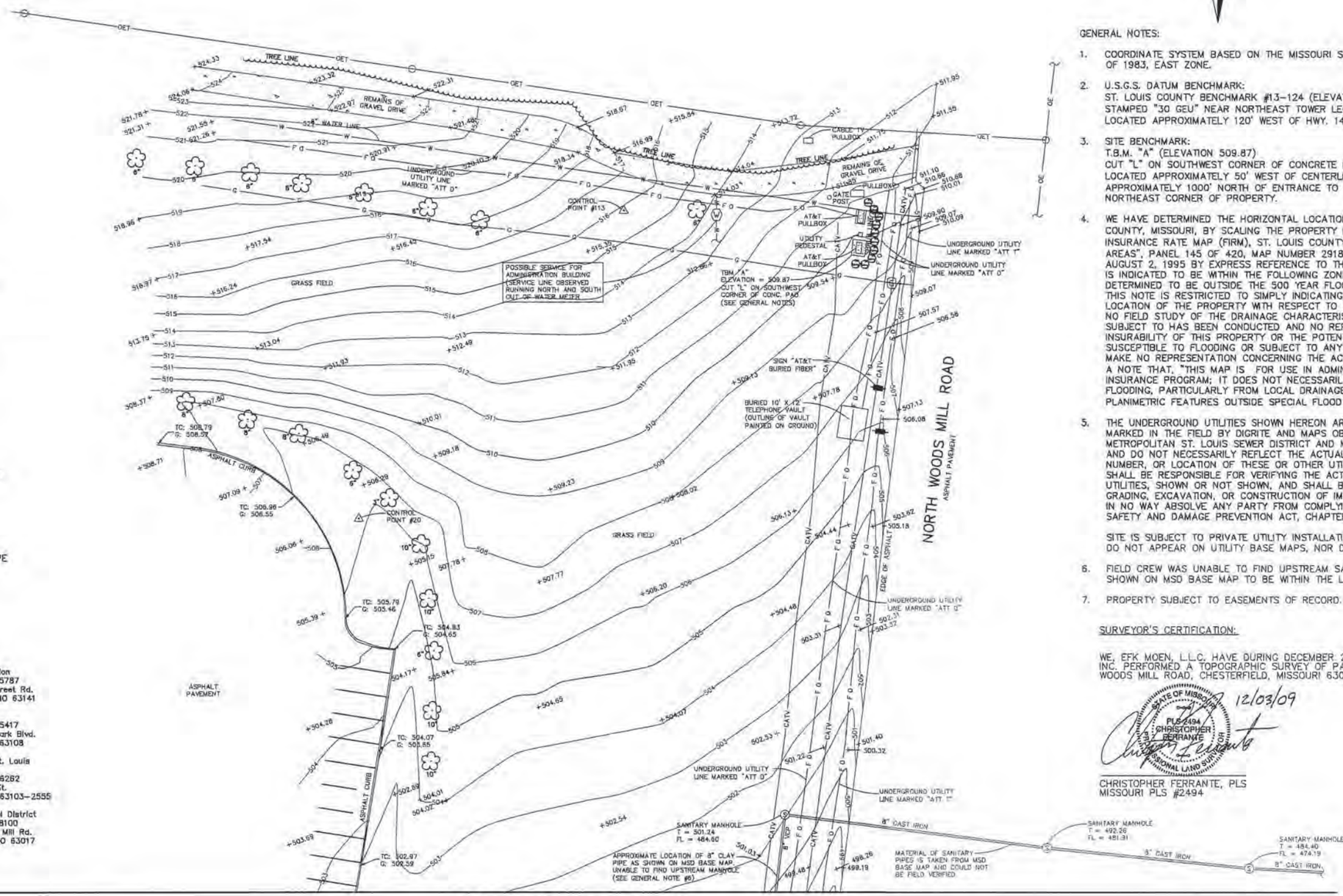
PLOT SCALE: 1:2.5849
SHEET: ANSI A (8.50 X 11.00 inches)
PENTABLE:
PLOT DATE: 5/18/2010 3:14:45 PM

FILE: P:\STLOUIS\2008\082008008 PARKWAY\10 CAD\04 CENTRAL\CADD\XREF\00CENTRAL DETENTION BASIN - DA MAPS.DWG

A TOPOGRAPHIC SURVEY OF
PARKWAY CENTRAL MIDDLE SCHOOL
471 N. WOODS MILL ROAD
CHESTERFIELD, MISSOURI 63017

LEGEND

- BOUNDARY MARK
- CATCH BASIN
- BM BENCHMARK
- CULVERT END
- CO CLEANOUT
- E ELECTRIC MANHOLE
- TRAFFIC MASTER ARM
- FIRE HYDRANT
- GAS METER
- G GAS MANHOLE
- GUY WIRE
- G GAS VALVE
- HEADWALL END
- SIGN
- —E— BURIED ELEC
- —G— BURIED GAS
- —FO— FIBER OPTIC
- —T— BURIED TELEPHONE
- SHRUB
- LIGHT STANDARD
- MANHOLE INLET
- S SANITARY MANHOLE
- D STORM MANHOLE
- TP TELEPHONE PEDESTAL
- TREE
- TRAFFIC CONTROL BOX
- TRANSMISSION TOWER
- UTILITY POLE
- W WATER METER
- W WATER MANHOLE
- W WATER VALVE
- YARD LIGHT
- CMP CORRUGATED METAL PIPE
- — W — BURIED WATER
- TC TOP OF CURB ELEV.
- G GUTTER ELEVATION
- CPP CORRUGATED PLASTIC PIPE
- —OE— OVERHEAD ELECTRIC
- —OET— OVERHEAD ELEC. W/TELEPHONE



MATCH LINE (SEE PAGE 2)

N

20 0 20 40 60
Scale in Feet
Scale: 1"= 20'

GENERAL NOTES:

1. COORDINATE SYSTEM BASED ON THE MISSOURI STATE PLANE COORDINATE SYSTEM OF 1983, EAST ZONE.
2. U.S.G.S. DATUM BENCHMARK:
   ST. LOUIS COUNTY BENCHMARK #13-124 (ELEVATION 501.82) STANDARD TABLET STAMPED "30 GEU" NEAR NORTHEAST TOWER LEG OF THE SOUTHERN MOST POWERLINE. LOCATED APPROXIMATELY 120' WEST OF HWY. 141 AT PARKWAY CENTRAL HIGH SCHOOL.
3. SITE BENCHMARK:
   T.B.M. "A" (ELEVATION 509.87)
   CUT "L" ON SOUTHWEST CORNER OF CONCRETE PAD OF AT&T PHONE BOX #501. LOCATED APPROXIMATELY 50' WEST OF CENTERLINE OF WOODS MILL ROAD AND APPROXIMATELY 1000' NORTH OF ENTRANCE TO PARKWAY ADMINISTRATION BUILDING IN NORTHEAST CORNER OF PROPERTY.
4. WE HAVE DETERMINED THE HORIZONTAL LOCATION OF THIS TRACT OF LAND IN ST. LOUIS COUNTY, MISSOURI, BY SCALING THE PROPERTY IN REFERENCE TO THE "FLOOD INSURANCE RATE MAP (FIRM), ST. LOUIS COUNTY, MISSOURI, AND INCORPORATED AREAS", PANEL 145 OF 420, MAP NUMBER 29189C0145 H WITH EFFECTIVE DATE OF AUGUST 2, 1995 BY EXPRESS REFERENCE TO THIS MAP AND ITS LEGEND, THIS TRACT IS INDICATED TO BE WITHIN THE FOLLOWING ZONE: ZONE X – UNSHADED, AREAS DETERMINED TO BE OUTSIDE THE 500 YEAR FLOODPLAIN. THE EVALUATION PROVIDED IN THIS NOTE IS RESTRICTED TO SIMPLY INDICATING THE APPARENT PHYSICAL, HORIZONTAL LOCATION OF THE PROPERTY WITH RESPECT TO THE FEATURES DISPLAYED ON THE MAP. NO FIELD STUDY OF THE DRAINAGE CHARACTERISTICS TO WHICH THIS PROPERTY MAY BE SUBJECT TO HAS BEEN CONDUCTED AND NO REPRESENTATION CONCERNING THE INSURABILITY OF THIS PROPERTY OR THE POTENTIAL OF THIS PROPERTY TO BE SUSCEPTIBLE TO FLOODING OR SUBJECT TO ANY FLOOD HAZARD HAS BEEN MADE. WE MAKE NO REPRESENTATION CONCERNING THE ACCURACY OF THIS FIRM WHICH INCLUDES A NOTE THAT, "THIS MAP IS FOR USE IN ADMINISTERING THE NATIONAL FLOOD INSURANCE PROGRAM; IT DOES NOT NECESSARILY IDENTIFY ALL AREAS SUBJECT TO FLOODING, PARTICULARLY FROM LOCAL DRAINAGE SOURCES OF SMALL SIZE, OR ALL PLANIMETRIC FEATURES OUTSIDE SPECIAL FLOOD HAZARD AREAS."
5. THE UNDERGROUND UTILITIES SHOWN HEREON ARE TAKEN FROM UTILITY LOCATIONS AS MARKED IN THE FIELD BY DIGRITE AND MAPS OBTAINED FROM LACLEDE GAS COMPANY, METROPOLITAN ST. LOUIS SEWER DISTRICT AND MISSOURI-AMERICAN WATER COMPANY AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMO.

   SITE IS SUBJECT TO PRIVATE UTILITY INSTALLATIONS. PRIVATE UTILITY INSTALLATIONS DO NOT APPEAR ON UTILITY BASE MAPS, NOR DOES DIGRITE LOCATE PRIVATE UTILITIES.
6. FIELD CREW WAS UNABLE TO FIND UPSTREAM SANITARY MANHOLE. SAID MANHOLE IS SHOWN ON MSD BASE MAP TO BE WITHIN THE LIMITS OF THIS TOPOGRAPHIC SURVEY.
7. PROPERTY SUBJECT TO EASEMENTS OF RECORD.

UTILITY INFORMATION:

Ameren UE
Ph. 314-878-5787
1132 Locust St.
St. Louis, MO 63101

AT&T Transmission TCG
Ph. 800-252-1133
2315 Salem Rd.
1st Floor G-11
Conyers, GA 30013

Missouri American Water Co.
Ph. 314-996-2432
727 Craig Rd.
St. Louis, MO 63131

Charter Communications
Ph. 314-878-5787
2275 Cassens Dr.
Fenton, MO 63026

XO Communications
Ph. 314-787-7000
2020 Westport Center Dr.
St. Louis, MO 63146

AT&T Distribution
Ph. 314-878-5787
12930 Olive Street Rd.
Creve Coeur, MO 63141

Laclede Gas
Ph. 314-658-5417
3950 Forest Park Blvd.
St. Louis, MO 63108

Metropolitan St. Louis Sewer District
Ph. 314-768-6282
2350 Market St.
St. Louis, MO 63103-2555

Parkway School District
Ph. 314-415-8100
455 N. Woods Mill Rd.
Chesterfield, MO 63017

SURVEYOR'S CERTIFICATION:

WE, EFK MOEN, L.L.C. HAVE DURING DECEMBER 2009, BY ORDER OF AMEC INFRASTRUCTURE, INC. PERFORMED A TOPOGRAPHIC SURVEY OF PARKWAY CENTRAL MIDDLE SCHOOL, 471 N. WOODS MILL ROAD, CHESTERFIELD, MISSOURI 63017, AND THE RESULTS ARE SHOWN HEREON.

STATE OF MISSOURI
PLS-2494
CHRISTOPHER J. FERRANTE
PROFESSIONAL LAND SURVEYOR

12/03/09

CHRISTOPHER FERRANTE, PLS
MISSOURI PLS #2494

PREPARED BY:
EFK•Moen, LLC
Civil Engineering Design
13523 Barrett Parkway, Suite 250
St. Louis, Missouri 63021
Voice: 314-729-4100
Fax: 314-729-4199

PROJECT NAME: PARKWAY CENTRAL DETENTION

PROJECT NO.: 08058.16 | SHEET 1 OF 2

A TOPOGRAPHIC SURVEY OF
PARKWAY CENTRAL MIDDLE SCHOOL
471 N. WOODS MILL ROAD
CHESTERFIELD, MISSOURI 63017

UTILITY INFORMATION:

Ameren UE
Ph. 314-878-5787
1132 Locust St.
St. Louis, MO 63101

AT&T Transmission TCG
Ph. 800-252-1133
2315 Salem Rd.
1st Floor G-11
Conyers, GA 30013

Missouri American Water Co.
Ph. 314-996-2432
727 Craig Rd.
St. Louis, MO 63131

Charter Communications
Ph. 314-878-5787
2275 Cassens Dr.
Fenton, MO 63026

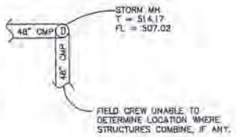
XO Communications
Ph. 314-787-7000
2020 Westport Center Dr.
St. Louis, MO 63146

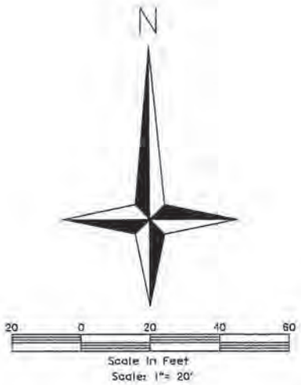
AT&T Distribution
Ph. 314-878-5787
12930 Olive Street Rd.
Creve Coeur, MO 63141

Laclede Gas
Ph. 314-658-5417
3950 Forest Park Blvd.
St. Louis, MO 63108

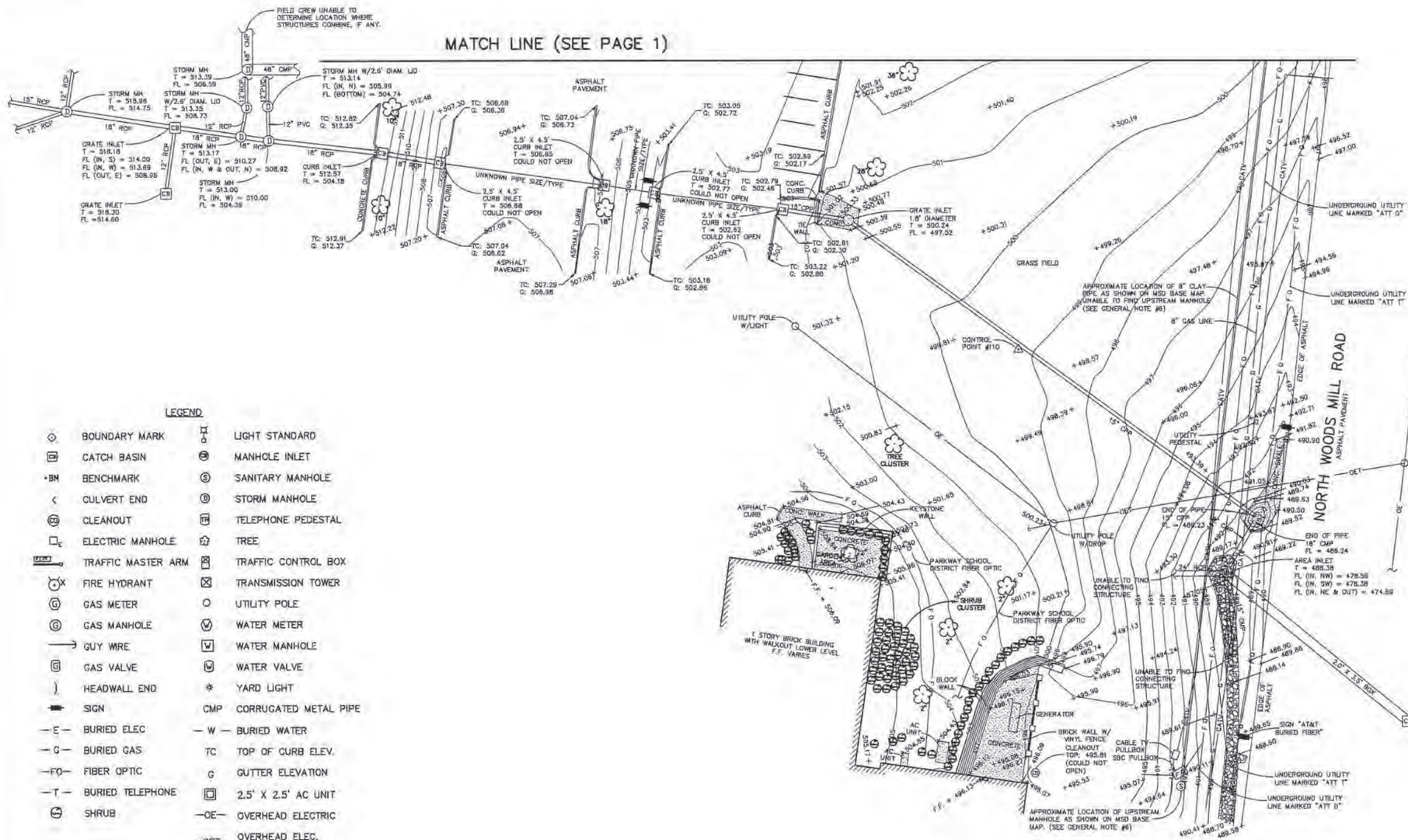
Metropolitan St. Louis
Sewer District
Ph. 314-768-6262
2350 Market St.
St. Louis, MO 63103-2555

Parkway School District
Ph. 314-415-8100
455 N. Woods Mill Rd.
Chesterfield, MO 63017

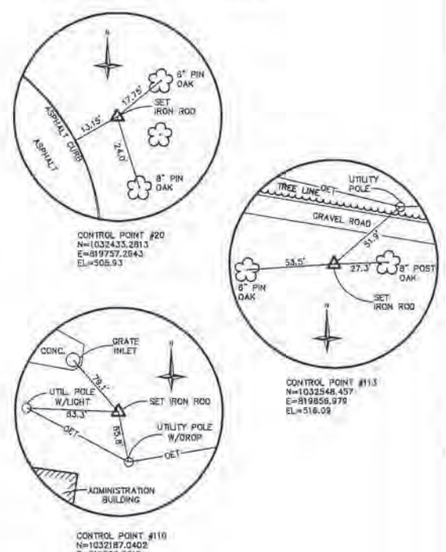




MATCH LINE (SEE PAGE 1)



THREE POINT TIES



LEGEND

◇	BOUNDARY MARK		LIGHT STANDARD
CB	CATCH BASIN	MH	MANHOLE INLET
BM	BENCHMARK	S	SANITARY MANHOLE
‹	CULVERT END	D	STORM MANHOLE
CO	CLEANOUT	TP	TELEPHONE PEDESTAL
E	ELECTRIC MANHOLE		TREE
	TRAFFIC MASTER ARM	TCB	TRAFFIC CONTROL BOX
	FIRE HYDRANT		TRANSMISSION TOWER
G	GAS METER	O	UTILITY POLE
G	GAS MANHOLE	W	WATER METER
	GUY WIRE	W	WATER MANHOLE
G	GAS VALVE	W	WATER VALVE
)	HEADWALL END	*	YARD LIGHT
	SIGN	CMP	CORRUGATED METAL PIPE
—E—	BURIED ELEC	— W —	BURIED WATER
— G —	BURIED GAS	TC	TOP OF CURB ELEV.
—FO—	FIBER OPTIC	G	GUTTER ELEVATION
—T—	BURIED TELEPHONE	AC	2.5' X 2.5' AC UNIT
	SHRUB	—OE—	OVERHEAD ELECTRIC
		—OET—	OVERHEAD ELEC. W/TELEPHONE
		CPP	CORRUGATED PLASTIC PIPE

PREPARED BY:
EFK • Moen, LLC
Civil Engineering Design
13523 Barrett Parkway, Suite 250
St. Louis, Missouri 63021
Voice: 314-729-4100
Fax: 314-729-4199

PROJECT NAME: PARKWAY CENTRAL DETENTION

PROJECT NO.: 08058.16 | SHEET 2 OF 2

EXHIBIT-N

SOUTH MIDDLE

BMP ORIGINAL PROJECT INFORMATION

CIVIL ABBREVIATIONS

ASPH	ASPHALT	OHE	OVERHEAD ELECTRIC
BC	BACK OF CURB	ORD	ORDINANCE
BIT	BITUMINOUS	OU	OVERHEAD UTILITY
BK	BOOK	PB	PLAT BOOK
BM	BENCHMARK	PC	POINT OF CURVATURE
BOP	BEGINNING OF PROJECT	PCA	PORTLAND CONCRETE ASSOCIATION
BW	BOTTOM OF WALL	PCC	PORTLAND CEMENT CONCRETE
CL	CENTERLINE	PCH	PIPE CULVERT HEADWALLS
CI	CURB INLET	PG	PAGE
CJ	CONSTRUCTION JOINT	PI	POINT OF INTERSECTION
CMP	CORRUGATED METAL PIPE	PIV	POST INDICATOR VALVE
CO	CLEANOUT	PL	PROPERTY LINE
CONC	CONCRETE	PP	POWER POLE
CPR	COPPER PIPE	PROP	PROPOSED
CS	COMBINED SEWER	PSI	POUNDS PER SQUARE INCH
CT	COOLING TOWER	PT	POINT OF TANGENT
D	DEGREE OF CURVE	PVC	POINT OF VERTICAL CURVE, POLYVINYL CHLORIDE PIPE
DI	DUCTILE IRON PIPE		
DIA	DIAMETER	PVI	POINT OF VERTICAL INTERSECTION
DIM	DIMENSION	PVMT	PAVEMENT
DND	DO NOT DISTURB	PVT	POINT OF VERTICAL TANGENT
DS	DOWNSPOUT	PUMI	PRIVATE UNDER MSD INSPECTION
DW	DOMESTIC WATER	R, RAD	RADIUS
ELEC	ELECTRIC	RCP	REINFORCED CONCRETE PIPE
ELEV	ELEVATION	RD	ROADWAY
EOP	EDGE OF PAVEMENT	ROW	RIGHT OF WAY
EX, EXIST	EXISTING	RTE	ROUTE
EJ	EXPANSION JOINT	SP	SPACES
ET	ELECTRIC TRANSFORMER	SPEC	SPECIFICATION
FF	FINISH FLOOR	SS, SA	SANITARY SEWER
FH	FIRE HYDRANT	ST	STORM SEWER
FL	FLOW LINE	STA	STATION
FO	FIBER OPTIC	STL	STEEL PIPE
FP	FIRE PROTECTION	TBA	TO BE ABANDONED
FW	FIRE WATER	TBA&F	TO BE ABANDONED AND FILLED
G	NATURAL GAS	TBR	TO BE REMOVED
GM	GAS METER	TBR&R	TO BE REMOVED AND REPLACED
GV	GAS VALVE	TBR&S	TO BE REMOVED AND SALVAGED
HORIZ	HORIZONTAL	TC	TOP OF CURB
ID	INSIDE DIAMETER	TELE	TELEPHONE
INV	INVERT	TI	TOP OF INLET
L	LENGTH OF CURVE	TW	TOP OF WALL
MAX	MAXIMUM	TYP	TYPICAL
MEP	MECHANICAL/ELECTRICAL/PLUMBING	UG	UNDERGROUND
MH	MANHOLE	UGE	UNDERGROUND ELECTRIC
MIN	MINIMUM	UGT	UNDERGROUND TELEPHONE
MISC	MISCELLANEOUS	UIP	USE IN PLACE
MON	MONUMENT	VAC	VACATED
N	NORTH	VCP	VITRIFIED CLAY PIPE
NIC	NOT IN CONTRACT	VERT	VERTICAL
NO	NUMBER	W	WATER
NTS	NOT TO SCALE	W/	WITH
OC	ON CENTER	WM	WATER METER
OD	OUTSIDE DIAMETER	WV	WATER VALVE
OH	OVERHEAD	WWF	WELDED WIRE FABRIC
		UNO	UNLESS NOTED OTHERWISE

CIVIL LEGEND

- PROPERTY LINE
- G — SILTATION FENCE
- ST — STORM SEWER
- UD — STORM UNDERDRAIN
- SS — SANITARY SEWER
- G — GAS SERVICE
- FW — FIRE SERVICE WATER
- W — DOMESTIC SERVICE WATER
- CO — CLEANOUT
- FH — FIRE HYDRANT
- WV — WATER VALVE
- FIV — FIRE SERVICE POST INDICATOR VALVE

CIVIL DRAWING INDEX

C001	CIVIL GENERAL INFORMATION
C100	PARTIAL TOPOGRAPHIC SURVEY
C101	PARTIAL TOPOGRAPHIC SURVEY
C200	OVERALL DEMOLITION PLAN AND WORK SEQUENCE
C201	ENLARGED DEMOLITION PLAN
C202	ENLARGED DEMOLITION PLAN
C203	ENLARGED DEMOLITION PLAN
C204	ENLARGED DEMOLITION PLAN
C300	OVERALL SITE AND GRADING PLAN AND WORK SEQUENCE
C301	ENLARGED SITE AND GRADING PLAN
C302	ENLARGED SITE AND GRADING PLAN
C303	ENLARGED SITE AND GRADING PLAN
C304	ENLARGED SITE AND GRADING PLAN
C400	CIVIL SITE DETAILS
C401	CIVIL UTILITY DETAILS
C500	BMP DETAILS
C501	BMP DETAILS
C502	BMP DETAILS
C503	BMP DETAILS
C504	BMP PLANTING PLANS
C600	STORM SEWER PROFILES
C601	STORM SEWER PROFILES
C700	SWPP PLAN
G701	SWPP DETAILS
DAM1	EXISTING DRAINAGE AREA MAP
DAM2	PROPOSED DRAINAGE AREA MAP
DAM3	BMP DRAINAGE AREA MAP

SURVEY INFORMATION

BENCHMARK INFORMATION:

STATION SL-64 = ST LOUIS COUNTY BENCHMARK 13-223 ELEVATION 646.21
"STANDARD ALUMINUM DISK" STAMPED SL-64 1992 IS AT THE NORTHWEST CORNER OF CLAYTON ROAD AND CABERNET DRIVE - 36' WEST OF THE CENTERLINE OF CABERNET DRIVE AND 19' NORTH OF THE NORTH EDGE OF CLAYTON ROAD.

STATION SL-65 = ST LOUIS COUNTY BENCHMARK 13-224
ELEVATION 491.69
"STANDARD ALUMINUM DISK" STAMPED SL-65 1992, DISK IS AT THE ENTRANCE TO #14206 MANCHESTER ROAD; 41' SOUTH OF THE CENTERLINE OF MANCHESTER ROAD AND 18' WEST OF A POWER POLE. APPROXIMATELY 0.4 MILES EAST OF THE INTERSECTION OF HIGHWAY 141 AND MANCHESTER ROAD.

TBM 'A' - 'O' IN OPEN ON FIRE HYDRANT 55'± NW OF THE NW BUILDING CORNER, AS SHOWN ELEV=574.72

PUBLIC UTILITY CONTACTS

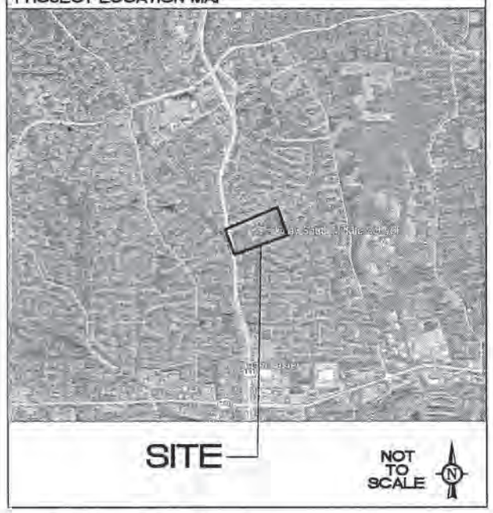
CONTACT TYPE:	COMPANY NAME:	CONTACT PHONE:	STREET ADDRESS:	
STORM/SANITARY:	METROPOLITAN ST. LOUIS SEWER DISTRICT (MSD)	(314) 768-6200	2350 MARKET ST.	ST. LOUIS, MO 63103
ELECTRIC:	AMEREN MISSOURI	(888) 992-6619	1901 CHOUTEAU AVE.	ST. LOUIS, MO 63166
NATURAL GAS:	SPIRE	(314) 621-6960	720 OLIVE ST.	ST. LOUIS, MO 63101
WATER:	MISSOURI AMERICAN WATER	(866) 430-0820	727 CRAIG RD.	ST. LOUIS, MO 63141

PROPERTY INFORMATION

INFORMATION BELOW PER ST. LOUIS COUNTY ASSESSOR'S WEBSITE:

PROPERTY OWNER: PARKWAY SCHOOL DISTRICT
PROPERTY ADDRESS: 760 WOODS MILL RD.
BALLWIN, MO 63011
PARCEL #: 21021018S
ZONING: NU
AREA OF PROPERTY: 29.26 ACRES
FIRM PANEL: 29189C0282K, EFFECTIVE 02/04/2015
ZONE X: AREA OF MINIMAL FLOODING

PROJECT LOCATION MAP



MSD CONSTRUCTION/AS-BUILT NOTE:

CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETING ALL SEWER AND DRAINAGE WORK REQUIRED IN ORDER TO COMPLETE THIS PROJECT. THIS INCLUDES, BUT IS NOT LIMITED TO, COMPLETING ALL WORK AND REQUIREMENTS ASSOCIATED WITH THE MSD PERMIT. FURTHER, THIS WORK SHALL INCLUDE COORDINATING AND SCHEDULING INSPECTIONS WITH MSD INSPECTORS. IF THE MSD INSPECTOR NOTICES ANY DEFICIENCIES WITH THE CONTRACTOR'S WORK, THE CONTRACTOR SHALL REPAIR THESE DEFICIENCIES TO THE SATISFACTION OF THE MSD INSPECTOR. FURTHERMORE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING ANY AND ALL AS-BUILT SURVEYS, IF REQUIRED BY THE MSD PERMIT, FOR ANY STRUCTURES, BASINS, AND/OR APPURTENANCES. THE CONTRACTOR SHALL COORDINATE WITH THE MSD INSPECTOR FOR CLARIFICATIONS ON WHICH COMPLETED ITEMS MUST BE SURVEYED. THE CONTRACTOR SHALL MAKE THE AS-BUILT SURVEY(S) AVAILABLE TO THE DESIGN TEAM IN BOTH ELECTRONIC AND HARD COPY FORMAT.

STORMWATER MANAGEMENT FUTURE NOTE:

PREVIOUS PROJECT: (MSD P-17289-03)
PROJECT DISTURBANCE = 0.15 ACRES
PROJECT RUNOFF DIFFERENTIAL = 0.03 CFS (INCREASE)

CURRENT PROJECT:
PROJECT DISTURBANCE = 5.00 ACRES
(INCLUDES 1.50 ACRES OF EXISTING PAVEMENT RESTORATION/MAINTENANCE)
PROJECT RUNOFF DIFFERENTIAL = 1.56 CFS (INCREASE)

ANY FUTURE LAND DISTURBANCE AND/OR INCREASE IN IMPERVIOUS AREA ON THIS SITE MAY REQUIRE ADDITIONAL STORM WATER MANAGEMENT PER MSD REGULATIONS IN PLACE AT THAT TIME (INCLUDING TOTAL LAND DISTURBANCE AND/OR IMPERVIOUSNESS ADDED ON THIS PLAN).

MSD NOTES (APPLY TO ALL CIVIL SHEETS):

1. PRIOR TO OBTAINING A CONSTRUCTION PERMIT FROM THE METROPOLITAN ST. LOUIS SEWER DISTRICT, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE THE DISTRICT WITH A COPY OF AN EXECUTED CERTIFICATE OF INSURANCE INDICATING THAT THE PERMITTEE HAS OBTAINED AND WILL CONTINUE TO CARRY COMMERCIAL GENERAL LIABILITY AND COMPREHENSIVE AUTO LIABILITY INSURANCE. THE REQUIREMENTS AND LIMITS SHALL BE AS STATED IN THE "RULES AND REGULATIONS AND ENGINEERING DESIGN REQUIREMENTS FOR SANITARY AND STORMWATER DRAINAGE FACILITY", SECTION 10.090(ADDENDUM).
2. ANY ABANDONED SEWERS SHALL BE REMOVED OR COMPLETELY GROUT FILLED.
3. ALL FILLED AREAS, INCLUDING TRENCH BACKFILLS, UNDER BUILDINGS, PROPOSED STORM AND SANITARY SEWER LINES, AND PAVED AREAS, SHALL BE COMPACTED TO A MINIMUM OF 90 PERCENT OF "MODIFIED PROCTOR". FILL IS TO BE PLACED IN A MAXIMUM OF 8-INCH LIFTS. TESTS SHALL BE TAKEN AT A MAXIMUM OF 50-FOOT INTERVALS ALONG THE ROUTE OF THE PIPE; AT A MAXIMUM OF 2-FOOT VERTICALLY; AND LATERALLY ON EACH SIDE OF THE PIPE, AT A DISCHARGE EQUAL TO THE DEPTH OF FILL OVER THE PIPE. A COPY OF THESE RESULTS SHALL BE SUBMITTED TO MSD PRIOR TO CONSTRUCTION APPROVAL.
4. CONTRACTOR SHALL PROVIDE SIGNED AND SEALED SHOP DRAWINGS TO BE APPROVED BY THE PROJECT ENGINEER & MSD. CONTACT MSD AT PHONE NUMBER 314-335-2072.
5. PIPE JOINTS WITH ADAPTERS AND COUPLINGS SHALL BE SUPPLIED AND INSTALLED WITH 316 STAINLESS STEEL NUT AND BOLT CLAMPS (T-BOLT) CONFIGURATION; AND WITH STAINLESS STEEL SHEAR BANDS, BEING A MINIMUM OF TWELVE (12) MILS (MSD STD. CONST SPECS. PT. 2, SUBSECTION H 11). WORM DRIVE HOSE CLAMPS AND CONCRETE BACKFILLING (CAUTIOUTY) WILL NO LONGER BE ALLOWED AT THOSE JOINTS. GRANULAR BACKFILL SHOULD BE USED. IF FLOWABLE FILL IS REQUIRED, THE CONTRACTOR SHALL WRAP AND TAPE THE ADAPTERS AND COUPLINGS WITH A SIX (6) MIL POLYETHYLENE SHEET.
6. STANDARD CONSTRUCTION:

   ALL STORM AND SANITARY SEWER STRUCTURES AND APPURTENANCES TO BE DEDICATED TO MSD, OR TO BE PRIVATE UNDER MSD INSPECTION, SHALL CONFORM TO THE METROPOLITAN ST. LOUIS SEWER DISTRICT, STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWER AND DRAINAGE FACILITIES, 2009. THAT WILL INCLUDE STANDARD DETAILS SHOWN THEREIN, AND SHALL INCLUDE ALL SUBSEQUENT CHANGES MADE THERETO.

   SOME RECENT CHANGES CONCERN PLASTIC PIPE MATERIALS AND PIPE FIELD TESTING AND PERFORMANCE, AND INCLUDE THE FOLLOWING:

   PART 2 - MATERIALS OF CONSTRUCTION

   HIGH DENSITY POLYETHYLENE (HDPE) PIPE IS NOT ALLOWED FOR GRAVITY SEWERS FOR STORM, COMBINED, OR SANITARY SEWERS THAT ARE "PUBLIC" OR "PRIVATE UNDER MSD INSPECTION".

   POLYPROPYLENE (PP) PIPE IS ALLOWED AS FOLLOWS FOR GRAVITY SEWERS THAT ARE "PUBLIC" OR "PRIVATE UNDER MSD INSPECTION:

   FOR USE IN SANITARY AND COMBINED SEWERS 12 TO 60 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2764 "STANDARD SPECIFICATION FOR 6 TO 60 IN. POLYPROPYLENE (PP) CORRUGATED DOUBLE AND TRIPLE WALL PIPE AND FITTINGS FOR NON-PRESSURE SANITARY SEWER APPLICATIONS."
   FOR USE IN STORM SEWERS 12 TO 24 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2561 "STANDARD SPECIFICATION FOR 12 TO 60 IN. POLYPROPYLENE (PP) DUAL WALL PIPE AND FITTINGS FOR NON-PRESSURE STORM SEWER APPLICATIONS;" OR FOR USE IN STORM SEWERS 12 TO 60 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2764 "STANDARD SPECIFICATION FOR 6 TO 60 IN. POLYPROPYLENE (PP) CORRUGATED DOUBLE AND TRIPLE WALL PIPE AND FITTINGS FOR NON- PRESSURE SANITARY SEWER APPLICATIONS."

   PART 4 - PIPE SEWER CONSTRUCTION

   SECTION B, PIPE FIELD TESTS, PARAGRAPH 2, REACH INTEGRITY TESTING - DELETE THE FIRST SENTENCE AND THE FOLLOWING REPLACEMENT APPLIES:

   ALL SANITARY AND COMBINED SEWERS SHALL SUSTAIN A MAXIMUM LEAKAGE LIMIT OF 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY, AS REQUIRED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES SPECIFICATIONS.

   SECTION B, PIPE FIELD TESTS, PARAGRAPH 2, REACH INTEGRITY TESTING, SUBPARAGRAPH C, INFILTRATION/EXFILTRATION TESTING - DELETE THE SIXTH SENTENCE, CONCERNING LEAKAGE LIMITS, AND THE FOLLOWING REPLACEMENT APPLIES:

   THE MEASUREMENT OF LEAKAGE SHALL NOT EXCEED 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY, AS REQUIRED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES SPECIFICATIONS.

   SECTION B, PIPE FIELD TESTS, PARAGRAPH 4, MANHOLE TESTING, SUBPARAGRAPH A, VACUUM TESTING - AFTER THE FIRST SENTENCE, THE FOLLOWING ADDITION APPLIES:

   THE VACUUM TEST MUST BE PERFORMED PRIOR TO BACKFILLING AROUND THE MANHOLE UNLESS THE CONTRACTOR PROVIDES DOCUMENTATION FROM THE PRECAST MANHOLE MANUFACTURER STATING THAT THE MANHOLE MAY BE VACUUM TESTED AFTER BACKFILLING HAS TAKEN PLACE. THE CONTRACTOR MUST SUBMIT THIS DOCUMENTATION PRIOR TO BACKFILLING AROUND ANY MANHOLE.

MSD NOTES (CONTINUED)

SECTION B, PIPE FIELD TESTS, PARAGRAPH 4, MANHOLE TESTING, SUBPARAGRAPH B, EXFILTRATION TESTING - DELETE THE SECOND SENTENCE, CONCERNING LEAKAGE LIMITS, AND THE FOLLOWING ADDITION APPLIES:

FOR EXFILTRATION TESTING, THE ALLOWABLE LEAKAGE LIMIT IS 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY WHEN THE AVERAGE HEAD ON THE TEST SECTION IS THREE FEET (3') OR LESS.

IF REINFORCED CONCRETE PIPE IS USED FOR SANITARY OR COMBINED SEWERS LARGER THAN 27", ALL PIPE AND JOINTS SHALL CONFORM TO ASTM C 361. IN ADDITION, IF THE DIAMETER IS LARGER THAN 48", THE JOINT TYPE MUST INCLUDE A GASKET THAT IS CONFINED IN A GROOVE IN THE SPIGOT OF THE PIPE.

7. MAINTENANCE OF THE SEWERS DESIGNATED "PUBLIC" SHALL BE THE RESPONSIBILITY OF THE METROPOLITAN ST. LOUIS SEWER DISTRICT UPON DEDICATION OF THE SEWERS TO THE DISTRICT.

GRADING NOTES (APPLY TO ALL CIVIL SHEETS):

1. INTERIM STORM WATER DRAINAGE CONTROL IN THE FORM OF SILTATION CONTROL MEASURES ARE REQUIRED.
2. NO SLOPES SHALL EXCEED 3H:1V.
3. PROPOSED ELEVATIONS SHOWN ON PLAN ARE FINISH GRADE ELEVATIONS.
4. CONTRACTOR SHALL TAKE SPECIAL CARE DURING COMPACTION OF BACKFILL MATERIALS OVER THE TOP OF STRUCTURES OR PIPES IN ORDER TO PREVENT ANY DAMAGE TO BELOW GRADE STRUCTURES.
5. CLEARING TECHNIQUES THAT RETAIN VEGETATION TO THE MAXIMUM EXTENT PRACTICAL SHALL BE USED, AND THE CLEARING PERIOD FOR DISTURBED AREAS TO BE WITHOUT VEGETATIVE COVER SHALL BE MINIMIZED TO THE EXTENT PRACTICAL.
6. WHEN ANY GRADING OCCURS PRIOR TO FINAL GRADING, THE SITE SHALL AT ALL TIMES BE MAINTAINED SUCH THAT ALL STORM WATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
7. ALL EXCESS EARTHWORK MATERIALS SHALL BE HAULED OFF-SITE AND DISPOSED OF IN A LEGAL MANNER.
8. ALL NEW ADA PARKING SPACES AND ACCESS AISLES SHALL NOT BE SLOPPED GREATER THAN 2 PERCENT IN ANY DIRECTION. ADA ACCESS PATHS SHALL NOT HAVE A LATERAL (CROSS) SLOPE GREATER THAN 2 PERCENT AND A LONGITUDINAL (RUNNING) SLOPE GREATER THAN 5 PERCENT.

GENERAL NOTES:

1. UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF IMPROVEMENTS.
2. TOPOGRAPHIC SURVEY PREPARED AND FIELD DATA COLLECTED BY CIVIL DESIGN INC. IN OCTOBER, 2018.
3. AREAS OF NEW SOIL/ROCK FILL PLACEMENT INCLUDING TRENCH BACKFILLS, UNDER BUILDINGS, SANITARY SEWER LIES AND/OR PAVED AREAS SHALL BE COMPACTED IN ACCORDANCE WITH THE SOILS REPORT FOR THIS PROJECT, UNLESS OTHERWISE SPECIFIED.
4. TRENCH BACKFILLS UNDER PAVED AREA SHALL BE GRANULAR BACKFILL, UNLESS OTHERWISE SPECIFIED.
5. EXISTING ABOVE AND BELOW GRADE UTILITIES ARE TO BE PROTECTED AND USED IN PLACE, UNLESS OTHERWISE SPECIFIED.
6. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL PERMITS REQUIRED FOR COMPLETION OF THIS PROJECT.
7. ALL CONSTRUCTION ACTIVITIES SHALL COMPLY WITH ALL APPLICABLE OSHA REGULATIONS.
8. LOCATION AND ELEVATION OF EXISTING INLETS, MANHOLES, AND PIPES TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL VERIFY ALL FIGURES AND ELEVATIONS BEFORE PROCEEDING WITH THE WORK. IF ANY INFORMATION IN THE FIELD DIFFERS FROM THAT ON THE DRAWINGS OR SPECIFICATIONS, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY.
9. CIVIL DRAWINGS SHALL NOT BE USED TO LOCATE OR CONSTRUCT BUILDING FOOTINGS, FOUNDATIONS, OR ANY OTHER STRUCTURE(S) ASSOCIATED WITH THE BUILDING(S). FOR LOCATION AND CONSTRUCTION OF BUILDING FOOTINGS, FOUNDATIONS, ETC., REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS.
10. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION ACTIVITIES, MUST BE REMOVED AND LEGALLY DISPOSED OF OFF-SITE.
11. DIMENSIONS SHOWN ARE TO FACE OF CURB, FACE OF WALL, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

UTILITY NOTES (APPLY TO ALL CIVIL SHEETS):

1. LOCATE EXISTING UNDERGROUND UTILITIES AND SEWERS IN AREAS OF WORK PRIOR TO STARTING OPERATIONS. WHEN UTILITIES ARE TO REMAIN IN PLACE, PROVIDE ADEQUATE MEANS OF PROTECTION DURING OPERATIONS. SHOULD UNKNOWN UTILITIES BE ENCOUNTERED DURING EXCAVATION, CONTRACTOR SHALL NOTIFY THE OWNERS REPRESENTATIVE IMMEDIATELY FOR FURTHER DIRECTION.
2. CONTRACTOR SHALL MAINTAIN A MINIMUM OF 10' HORIZONTAL DISTANCE AND 18" VERTICAL DISTANCE BETWEEN ANY WATER LINE AND ANY SANITARY SEWER LINE.
3. CONTRACTOR SHALL PROVIDE TEMPORARY COVERS FOR ANY EXCAVATIONS LEFT UNATTENDED FOR ANY PERIOD OF TIME.
4. THE CONTRACTOR SHALL COMPLETE ALL UTILITY WORK TO THE APPROPRIATE STANDARDS OF EACH RESPECTIVE UTILITY COMPANY.
5. SIZE OF UTILITY LINE EXCAVATIONS SHOWN ON THE PLANS ARE APPROXIMATE ONLY. CONTRACTOR SHALL ADJUST SIZE OF TRENCH EXCAVATIONS AS REQUIRED ON A CASE BY CASE BASIS TO PROPERLY CONSTRUCT UTILITY SERVICES. CONTRACTOR SHALL BE RESPONSIBLE FOR SHORING EXCAVATIONS AS REQUIRED ACCORDING TO ALL FEDERAL, STATE, LOCAL, AND OSHA REGULATIONS.
6. BACKFLOW PREVENTION ON ALL DOMESTIC AND FIRE WATER LINES ARE REQUIRED IN ACCORDANCE WITH CURRENT PLUMBING STANDARDS.
7. CONTRACTOR SHALL COORDINATE AND IS RESPONSIBLE FOR ALL DESIGN AND PERMITTING OF PROPOSED FIRE WATER SERVICE AND CONNECTION TO PUBLIC MAIN.

DEMOLITION NOTES (APPLY TO ALL CIVIL SHEETS):

1. THE STREETS AND AREAS SURROUNDING THIS PROJECT SERVE BOTH PEDESTRIAN AND VEHICLE TRAFFIC. ALL NECESSARY CARE SHALL BE TAKEN BY THE CONTRACTOR TO ENSURE SAFETY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AND MAINTAINING SAFE AND EFFICIENT PROJECT LIMITS. THE CONTRACTOR SHALL FOLLOW ALL FEDERAL, STATE, AND LOCAL GUIDELINES WITH REGARDS TO CONSTRUCTION SAFETY THROUGHOUT THE DURATION OF THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY BREACHES OF SAFETY OR DESTRUCTION OF PROPERTY RELATED TO THE CONSTRUCTION OF THIS PROJECT.
2. ALL DEMOLITION DEBRIS SHALL BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF OFF SITE ACCORDING TO ALL FEDERAL, STATE, AND LOCAL REGULATIONS.
3. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS NOT TO DAMAGE ANY EXISTING SITE FEATURES TO REMAIN. IF ANY DAMAGE OCCURS, THE CONTRACTOR SHALL CONTACT THE OWNER'S REPRESENTATIVE IMMEDIATELY. THE CONTRACTOR SHALL REPAIR ALL DAMAGED ITEMS TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST.
4. WHERE PAVEMENT, WALKS, ETC. ARE TO BE REMOVED, SAWCUT AT LOCATIONS SHOWN, OR REMOVE ENTIRELY TO NEAREST AVAILABLE JOINT.
5. USE OF EXPLOSIVES AND/OR BURNING ON SITE IS NOT PERMITTED.
6. CONTRACTOR TO COORDINATE IDENTIFICATION, REMOVAL AND/OR ABANDONMENT AND REESTABLISHMENT OF EXISTING IRRIGATION SYSTEMS WITH OWNER PRIOR TO DEMOLITION.
7. CONTRACTOR TO COORDINATE ALL DEMOLITION ACTIVITIES/SCHEDULE WITH ABATEMENT CONTRACTOR AND PROPOSED WORK SEQUENCE AS SHOWN ON SHEETS C200 AND C300. CONTRACTOR WILL BE RESPONSIBLE FOR ALL COST ASSOCIATED WITH SITE WORK SEQUENCE INCLUDING, BUT NOT LIMITED TO, TEMPORARY ACCESS ROAD(S), PEDESTRIAN ACCESS, PIPING, ROAD CLOSURE BARRICADES/SIGNAGE, TRAFFIC CONTROL PERSONNEL (FLAGMEN, SPOTTERS, ETC.)

MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/30/2018 7:07:59 AM

Christner ARCHITECTS
Architecture / Interior Design / Graphics

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS IN THESE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. NEITHER THESE DRAWINGS NOR THEIR GRAPHICS AND ELEMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER FOR ANY USE WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF CHRISTNER ASSOCIATES, INC. NOR ARE THEY TO BE ASSIGNED TO ANY THIRTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

Parkway South Middle School
Building Addition, Renovations & Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

BID / PERMIT SET 02-04-2019

CIVIL GENERAL INFORMATION

PSD Project No.:	4118018
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

C001

TOPOGRAPHIC SURVEY

A TRACT OF LAND BEING PART OF PARKWAY SOUTH JUNIOR HIGH SCHOOL #760 WOODS MILL ROAD IN ST. LOUIS COUNTY, BALLWIN, MISSOURI



LOCATION MAP
NOT TO SCALE

MISSOURI LAND SURVEYING CORPORATION LICENSE NUMBER: 2011002042 EXPIRES: 12-31-2019

SYMBOLS & ABBREVIATIONS:

AC	ACRES
ASPH	ASPHALT
BK	BOOK
BLDG	BUILDING
(C)	CALCULATED
CLF	CHAIN LINK FENCE
CONC	CONCRETE
DB	DEED BOOK
E	EAST
E MH	ELECTRIC MANHOLE
ELEV	ELEVATION
FF	FINISHED FLOOR
FL	FLOW LINE
L	LENGTH
(M)	MEASURED IN FIELD BY SURVEYOR
MH	MANHOLE
N	NORTH
NTS	NOT TO SCALE
PB	PLAT BOOK
PG	PAGE
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
(R)	PER RECORDED DOCUMENT
RR TIE	RAIL ROAD TIE WALL
S	SOUTH
SA	SANITARY
SBM	SITE BENCHMARK
SF	SQUARE FEET
ST	STORM
TRANS	TRANSFORMER
VCP	VITRIFIED CLAY PIPE
W	WEST
WC	WALL CORNER
W MH	WATER MANHOLE
W/	DENOTES WITH
PP	POWER POLE W/GUY WIRE
PP	POWER POLE
	GUY WIRE
	STREET SIGN
GV	GAS VALVE
GM	GAS METER
WV	WATER VALVE
WM	WATER METER
WF/WS	WATER FAUCET OR SPRINKLER
CO	CLEAN OUT
YD	YARD DRAIN
EB/EM	ELECTRIC BOX OR METER
MB	MAIL BOX
TB/CM	TELEPHONE OR CABLE BOX
LS	LIGHT STANDARD
FH	FIRE HYDRANT
TS	TRAFFIC SIGNAL
EYL	ELECTRIC YARD LIGHT
CM	COIN METER
	CONTROL STATION
	SURVEY CONTROL POINT
	SET IRON ROD W/PLASTIC CAP
	SET CUT CROSS
	FOUND MONUMENT AS NOTED
	AREA/GRATE INLET
	CURB/DROP INLET
	MANHOLE
OU	OVERHEAD UTILITY LINE
G	UNDERGROUND GAS LINE
T	UNDERGROUND TELEPHONE LINE
E	UNDERGROUND ELECTRIC LINE
FO	UNDERGROUND FIBER OPTIC LINE
X	FENCE LINE
	TREE LINE
±	PLUS OR MINUS
	TREE W/ SIZE
	BUSH W/ SIZE

EX STM GRATE TOP=573.77 FL(OUT)(E)=568.62

EX STM GRATE TOP=574.44 FL(OUT)(N)=570.64

EX STM INLET TOP=572.76 FL(IN)(W)=564.91 FL(OUT)(E)=564.48

EX AREA DRAIN TOP=563.38

EX STM INLET TOP=566.02 FL(IN)(NW)=564.47 FL(OUT)(S)=564.37

FF=576.24 FF=576.21 FF=576.15 FF=576.17 FF=576.08 FF=563.78 FF=576.10 FF=575.14 FF=576.12 FF=565.15 FF=563.15 FF=562.65

FL=564.31 FL=563.91 FL=563.27

GRAPHIC SCALE
1 INCH = 20 FEET

BENCHMARK INFORMATION:

ST. LOUIS COUNTY BENCHMARK 12301
860.93 – OUR SQUARE FEET WEST OF THE EAST END OF THE TOP OF CONCRETE BARRIER WALL ALONG THE NORTH SIDE OF THE BRIDGE A-4094 FOR CLAYTON ROAD OVER HIGHWAY 141, ROUGHLY 50 FEET NORTH OF CENTERLINE OF CLAYTON ROAD AND 180 FEET EAST OF CENTERLINE OF HIGHWAY 141. (NAVD88)

HORIZONTAL CONTROL STATEMENT:

STATE PLANE COORDINATES ON THIS PROJECT WERE ESTABLISHED UTILIZING THE MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION GLOBAL NAVIGATION SATELLITE REAL TIME NETWORK FOR CONTINUOUS OPERATING REFERENCE STATIONS DURING THE MONTH OF NOVEMBER 2018, AND ARE BASED ON THE MISSOURI COORDINATE SYSTEM OF NAD1983, ZONE EAST, 2401.

VERTICAL CONTROL STATEMENT:

ELEVATIONS ON THIS PROJECT WERE ESTABLISHED UTILIZING THE MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION GLOBAL NAVIGATION SATELLITE REAL TIME NETWORK FOR CONTINUOUS OPERATING REFERENCE STATIONS DURING THE MONTH OF NOVEMBER 2018, AND ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88).

SOURCE OF TITLE INFORMATION:

NO TITLE INSURANCE COMMITMENT WAS FURNISHED TO THE SURVEYOR, THEREFORE THERE MAY BE OTHER EASEMENTS, COVENANTS AND RESTRICTIONS AFFECTING THE SUBJECT PROPERTY THAT ARE NOT SHOWN ON THIS SURVEY.

UTILITY INFORMATION:

THE UNDERGROUND STRUCTURES, UTILITIES AND EASEMENTS HAVE BEEN PLOTTED FROM READILY AVAILABLE RECORDS AND AVAILABLE MAPS AS WELL AS FIELD OBSERVED MARKINGS AT THE TIME OF THE FIELD VISIT. LOCATIONS ARE APPROXIMATE AND SHOULD BE VERIFIED PRIOR TO ANY CONSTRUCTION.

THE CLIENT IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. LOCATION, RELOCATION AND CONNECTION OF THE UTILITIES SHALL BE COORDINATED WITH THE UTILITY COMPANIES.

Missouri One Call System, Inc.
Call Before You Dig!
1-800-DIG-RITE
(1-800-344-7483)

All the improvements & facilities and utilities, above ground and underground shown herein were plotted from available information and do not necessarily reflect the actual existence, nonexistence, elevation, size, type, number or location of these or other improvements, facilities, or utilities.
The General Contractor and/or owner shall be responsible for verifying the actual location & elevation of all improvements, facilities, & utilities, shown or not shown, and said improvements, facilities, & utilities shall be located in the field prior to any grading, excavation or construction of any improvements. These provisions shall in no way absolve any part from complying with the Underground Facility Safety & Damage Prevention Act, Chapter 319, RSMo.

CALL MISSOURI ONE-CALL, 1-800-DIG-RITE.

SURVEYOR'S CERTIFICATION:

THIS IS TO CERTIFY THAT CIVIL DESIGN, INC., AT THE ORDER OF THE PARKWAY C-2 SCHOOL DISTRICT, EXECUTED A PARTIAL TOPOGRAPHIC SURVEY OF A TRACT OF LAND BEING PART OF #760 WOODS MILL ROAD OF ST. LOUIS COUNTY, MISSOURI. FURTHERMORE, THIS SURVEY WAS PERFORMED IN ACCORDANCE WITH THE CURRENT STANDARDS FOR PROPERTY BOUNDARY SURVEYS AND THE RESULTS OF SAID SURVEY ARE SHOWN ON THIS PLAT. WE CERTIFY THAT THE ABOVE PLAT WAS MADE FROM AN ACTUAL SURVEY PERFORMED IN THE FIELD DURING THE MONTH OF NOVEMBER 2018 ACCORDING TO THE RECORDS AVAILABLE AND RECORDED.

PHILIP A. GROUT
MISSOURI PLS-2010018502

DATE:

PRINTED: 10/5/2018 7:07:59 AM

BID / PERMIT SET 01/04/2019

Civil Design Inc. ARCHITECTS
Architecture / Interior Design / Graphics

THE ARCHITECTS' EXPRESSED & REPRESENTED DESIGNS, PLANS AND DRAWINGS ARE COPYRIGHTED AND OTHER PROPERTY RIGHTS FOR THESE ARCHITECTURAL WORKS AND TECHNICAL DOCUMENTS AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE USED BY ANY PERSON, FIRM OR CORPORATION FOR ANY USE WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF CIVIL DESIGN, ENGINEERING ASSOCIATES, INC. AND THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

Parkway South Middle School
Building Addition, Renovations & Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

PARTIAL TOPOGRAPHIC SURVEY

PSD Project No.:	4118018
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	GWK

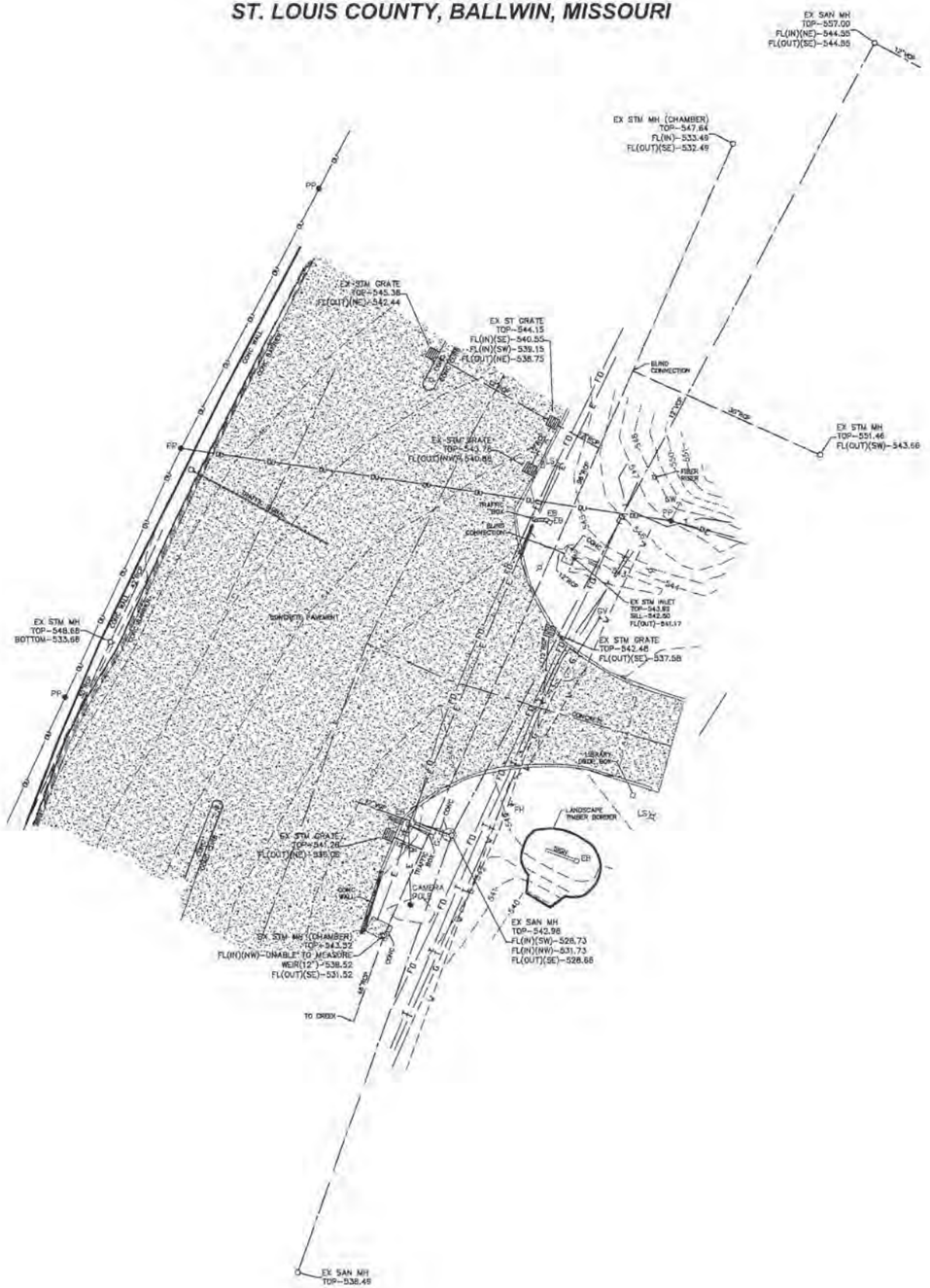
C100

TOPOGRAPHIC SURVEY

A TRACT OF LAND BEING PART OF PARKWAY SOUTH JUNIOR HIGH SCHOOL #760 WOODS MILL ROAD IN ST. LOUIS COUNTY, BALLWIN, MISSOURI

SYMBOLS & ABBREVIATIONS:

AC	ACRES
ASPH	ASPHALT
BK	BOOK
BLDG	BUILDING
(C)	CALCULATED
CLF	CHAIN LINK FENCE
CONC	CONCRETE
DB	DEED BOOK
E	EAST
E MH	ELECTRIC MANHOLE
ELEV	ELEVATION
FF	FINISHED FLOOR
FL	FLOW LINE
L	LENGTH
(M)	MEASURED IN FIELD BY SURVEYOR
MH	MANHOLE
N	NORTH
NTS	NOT TO SCALE
PB	PLAT BOOK
PG	PAGE
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
(R)	PER RECORDED DOCUMENT
RR TIE	RAIL ROAD TIE WALL
S	SOUTH
SA	SANITARY
SBM	SITE BENCHMARK
SF	SQUARE FEET
ST	STORM
TRANS	TRANSFORMER
VCP	VITRIFIED CLAY PIPE
W	WEST
WC	WALL CORNER
W MH	WATER MANHOLE
W/	DENOTES WITH
PP	POWER POLE W/GUY WIRE
PP	POWER POLE
	GUY WIRE
	STREET SIGN
GV	GAS VALVE
GM	GAS METER
WV	WATER VALVE
WM	WATER METER
WF/WS	WATER FAUCET OR SPRINKLER
CO	CLEAN OUT
YD	YARD DRAIN
EB/EM	ELECTRIC BOX OR METER
MB	MAIL BOX
TB/CM	TELEPHONE OR CABLE BOX
LS	LIGHT STANDARD
FH	FIRE HYDRANT
TS	TRAFFIC SIGNAL
EYL	ELECTRIC YARD LIGHT
CM	COIN METER
	CONTROL STATION
	SURVEY CONTROL POINT
	SET IRON ROD W/PLASTIC CAP
	SET CUT CROSS
	FOUND MONUMENT AS NOTED
	AREA/GRATE INLET
	CURB/DROP INLET
	MANHOLE
OU	OVERHEAD UTILITY LINE
G	UNDERGROUND GAS LINE
T	UNDERGROUND TELEPHONE LINE
E	UNDERGROUND ELECTRIC LINE
FO	UNDERGROUND FIBER OPTIC LINE
X	FENCE LINE
	TREE LINE
±	PLUS OR MINUS
10"	TREE W/ SIZE
48"	BUSH W/ SIZE





LOCATION MAP
NOT TO SCALE



20 0 10 20
GRAPHIC SCALE
1 INCH = 20 FEET

MISSOURI
LAND SURVEYING
CORPORATION
LICENSE NUMBER:
2011020042
EXPIRES: 12-31-2019

BENCHMARK INFORMATION:

ST. LOUIS COUNTY BENCHMARK 12301
880.93 – CUT SQUARE FEET WEST OF THE EAST END OF THE TOP OF CONCRETE BARRIER WALL ALONG THE NORTH SIDE OF THE BRIDGE A-4064 FOR CLAYTON ROAD OVER HIGHWAY 141, ROUGHLY 50 FEET NORTH OF CENTERLINE OF CLAYTON ROAD AND 180 FEET EAST OF CENTERLINE OF HIGHWAY 141. (NAVD88)

HORIZONTAL CONTROL STATEMENT:

STATE PLANE COORDINATES ON THIS PROJECT WERE ESTABLISHED UTILIZING THE MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION GLOBAL NAVIGATION SATELLITE REAL TIME NETWORK FOR CONTINUOUS OPERATING REFERENCE STATIONS DURING THE MONTH OF NOVEMBER 2018, AND ARE BASED ON THE MISSOURI COORDINATE SYSTEM OF NAD1983, ZONE EAST, 2401.

VERTICAL CONTROL STATEMENT:

ELEVATIONS ON THIS PROJECT WERE ESTABLISHED UTILIZING THE MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION GLOBAL NAVIGATION SATELLITE REAL TIME NETWORK FOR CONTINUOUS OPERATING REFERENCE STATIONS DURING THE MONTH OF NOVEMBER 2018, AND ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88).

SOURCE OF TITLE INFORMATION:

NO TITLE INSURANCE COMMITMENT WAS FURNISHED TO THE SURVEYOR; THEREFORE THERE MAY BE OTHER EASEMENTS, COVENANTS AND RESTRICTIONS AFFECTING THE SUBJECT PROPERTY THAT ARE NOT SHOWN ON THIS SURVEY.

UTILITY INFORMATION:

THE UNDERGROUND STRUCTURES, UTILITIES AND EASEMENTS HAVE BEEN PLOTTED FROM READILY AVAILABLE RECORDS AND AVAILABLE MAPS AS WELL AS FIELD OBSERVED MARKINGS AT THE TIME OF THE FIELD VISIT. LOCATIONS ARE APPROXIMATE AND SHOULD BE VERIFIED PRIOR TO ANY CONSTRUCTION.

THE CLIENT IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. LOCATION, RELOCATION AND CONNECTION OF THE UTILITIES SHALL BE COORDINATED WITH THE UTILITY COMPANIES.

SURVEYOR'S CERTIFICATION:

THIS IS TO CERTIFY THAT CIVIL DESIGN, INC., AT THE ORDER OF THE PARKWAY C-2 SCHOOL DISTRICT, EXECUTED A PARTIAL TOPOGRAPHIC SURVEY OF A TRACT OF LAND BEING PART OF #760 WOODS MILL ROAD OF ST. LOUIS COUNTY, MISSOURI. FURTHERMORE, THIS SURVEY WAS PERFORMED IN ACCORDANCE WITH THE CURRENT STANDARDS FOR PROPERTY BOUNDARY SURVEYS AND THE RESULTS OF SAID SURVEY ARE SHOWN ON THIS PLAT. WE CERTIFY THAT THE ABOVE PLAT WAS MADE FROM AN ACTUAL SURVEY PERFORMED IN THE FIELD DURING THE MONTH OF NOVEMBER 2018 ACCORDING TO THE RECORDS AVAILABLE AND RECORDED.

PHILIP A. GROUT
MISSOURI PLS-2010018902

DATED

Missouri One Call System, Inc.
Call Before You Dig!
1-800-DIG-RITE
(1-800-344-7483)

All the improvements & facilities and utilities, above ground and underground shown herein were plotted from available information, and do not necessarily reflect the actual existence, nonexistence, elevation, size, type, number or location of these or other improvements, facilities, or utilities.
The General Contractor and/or owner shall be responsible for verifying the actual location & elevation of all improvements, facilities, & utilities, shown or not shown, and said improvements, facilities, & utilities shall be located in the field prior to any grading, excavation or construction of any improvements. These provisions shall in no way absolve any part from complying with the Underground Facility Safety & Damage Prevention Act, Chapter 319, RSMo.

CALL MISSOURI ONE-CALL, 1-800-DIG-RITE.

PRINTED: 10/5/2018 7:07:59 AM

BID / PERMIT SET 01/04/2019

Chiodini+ ARCHITECTS
Architecture / Interior Design / Graphics

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS FOR THESE ARCHITECTURAL WORKS AND TECHNICAL DOCUMENTS AND ANY DEVELOPED THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE USED IN WHOLE OR IN PART FOR ANY PURPOSE WHATSOEVER FOR ANY USE WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS C. CHIODINI, CHIODINI ASSOCIATES. NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

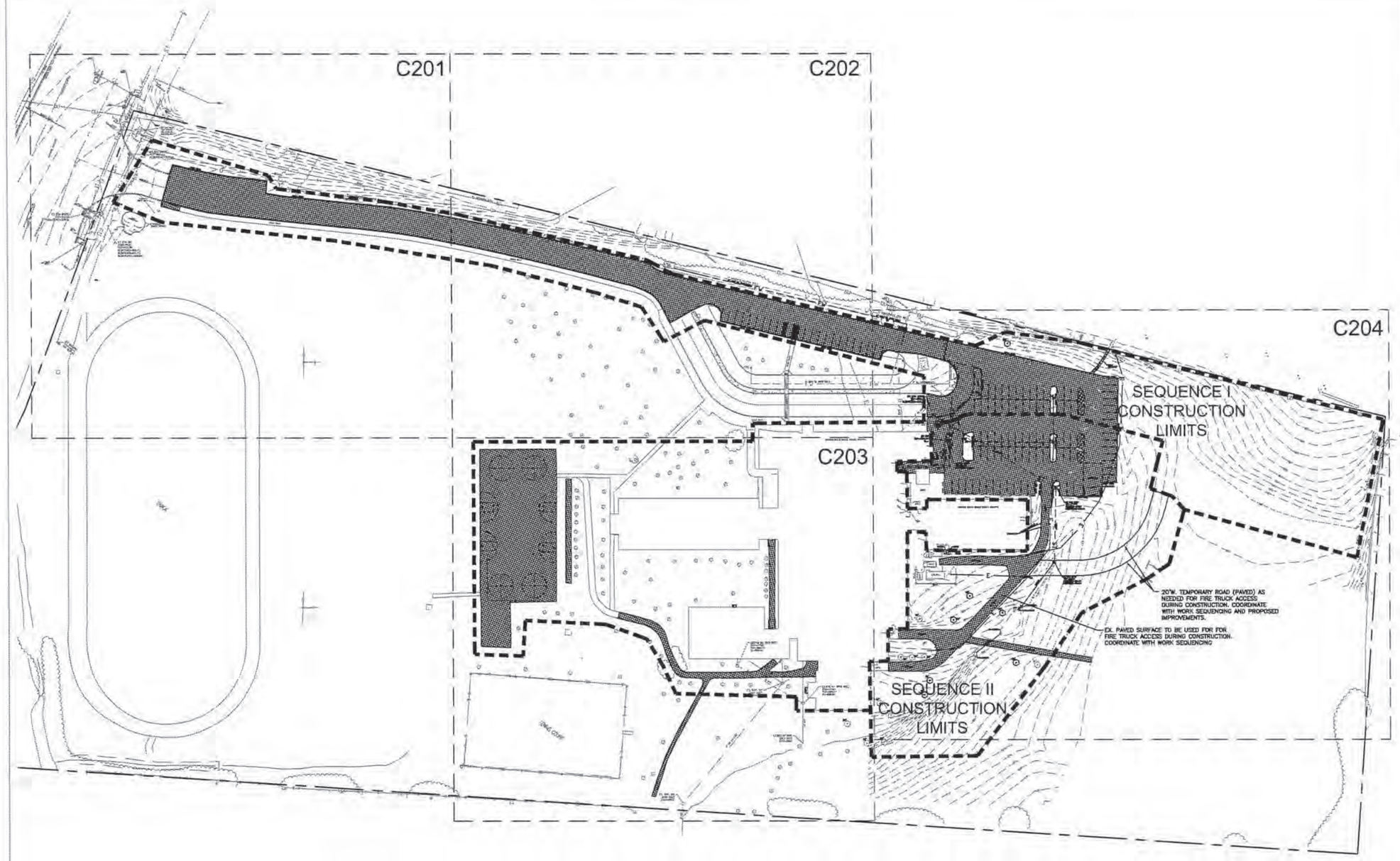
Parkway South Middle School
Building Addition, Renovations
& Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

PARTIAL TOPOGRAPHIC SURVEY

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	GWK

C101



NOTES:

1. PROPOSED SEQUENCE CONSTRUCTION LIMITS SHOWN IS TO SERVE ONLY AS A GUIDE FOR BIDDING PURPOSES. A DETAILED FINAL CONSTRUCTION SEQUENCING PLAN AND SCHEDULE SHALL BE DEVELOPED BY THE CONTRACTOR AND COORDINATED WITH AND APPROVED BY THE OWNER.
2. CONTRACTOR WILL BE RESPONSIBLE TO MAINTAIN ONE (1) LANE OF ROADWAY ACCESS THROUGHOUT DURATION OF THE PROJECT.
3. CONTRACTOR IS RESPONSIBLE FOR ALL ASSOCIATED COST TO PROVIDE ROADWAY ACCESS. SEE ALSO DEMOLITION NOTES ON SHEET C001.
4. SEE SHEET C300 FOR ADDITIONAL SEQUENCING INFORMATION.

MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

Christner ARCHITECTS
Architecture / Interior Design / Graphics

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE ARCHITECTURAL WORKS AND "TECHNICAL DOCUMENTS" AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE USED IN WHOLE OR IN PART FOR ANY REASON WHATSOEVER ON ANY LAND WITH OUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS C. CHODAK, CHODAK ASSOCIATES, NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

COPYRIGHT PENDING

BID / PERMIT SET 02-04-2019

Parkway South Middle School
Building Addition, Renovations
& Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

OVERALL DEMOLITION PLAN AND WORK SEQUENCE

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

C200

MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

BID / PERMIT SET 02-04-2019

Christner ARCHITECTS
Architecture / Interior Design / Graphics

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE ARCHITECTURAL WORKS AND TECHNICAL SUBMISSIONS AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND SPECIFICATIONS ARE NOT TO BE USED IN WHOLE OR IN PART FOR ANY PURPOSE WHATSOEVER FOR ANY USE WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOAD C. DIXSON. DIXSON ASSOCIATES, MOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

Parkway South Middle School
Building Addition, Renovations
& Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

ENLARGED DEMOLITION PLAN

PSD Project No.:	4118018
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

C201

LEGEND

PAVEMENT REMOVAL LIMITS

(UIP) USE IN PLACE

(TBR) TO BE REMOVED

(TBR&R) TO BE REMOVED & REPLACED

KEYED NOTES:

1. FULL DEPTH PAVEMENT SAWCUT

MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

BID / PERMIT SET 02-04-2019

Christner ARCHITECTS
Architecture / Interior Design / Graphics

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS FOR THESE ARCHITECTURAL WORKS AND TECHNICAL DOCUMENTS AND ANY DEVELOPMENTS THEREOF. THESE DRAWINGS AND DOCUMENTS AND HELP TO BE USED FOR ANY PURPOSE WHATSOEVER BY ANY MANNER WHATSOEVER FOR ANY USE WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS C. CHOSNI, CHOSNI ASSOCIATES, INC. AND THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

Parkway South Middle School Building Addition, Renovations & Site Improvements -

760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

ENLARGED DEMOLITION PLAN

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

C202

MATCH LINE C202

EXISTING ASPHALT PLAY AREA (TBR)

EXISTING ASPHALT WALK (TBR)

CONTRACTOR TO DOCUMENTS EXISTING PAVEMENT STRIPING TO REPRODUCE AFTER NEW SURFACE IS INSTALLED (TYP. ALL). SEE SITE PLAN

EXISTING CONC. WALK TO REMAIN IN PLACE

EXISTING ASPHALT WALK (TBR)

EXISTING EXTERIOR STAIRS (TBR) SEE NOTES ON SITE AND GRADING PLAN

EXISTING ASPHALT WALK (TBR)

EXISTING CONC. LANDING (TBR) SEE SITE AND GRADING PLAN

EXISTING EXTERIOR STAIRS (TBR) SEE NOTES ON SITE AND GRADING PLAN

EX. STM MH (PER REC)
3104-1730
TOP=556.00
FL=550.41

EXISTING ASPHALT WALK (TBR)

EXISTING CONC. LANDING (TBR) SEE NOTES ON SITE AND GRADING PLAN

EX. SAN MH
TOP=558.17
FL=554.85

EXISTING EXTERIOR STAIRS (TBR) SEE NOTES ON SITE AND GRADING PLAN

EXISTING ASPHALT WALK (TBR)

TENNIS COURT

EXISTING PROPERTY LINE (APPROXIMATE, NOT SURVEYED)

EX. SAN MH (PER REC)
3104-0505

EXISTING GP PIPE (PER REC)
3104-1803

12" (DND)

24" (DND)

15(DND)

18" (DN

GRAPHIC SCALE

LEGEND

PAVEMENT REMOVAL LIMITS

(UIP) USE IN PLACE

(TBR) TO BE REMOVED

(TBR&R) TO BE REMOVED & REPLACED

KEYED NOTES:

1 FULL DEPTH PAVEMENT SAWCUT

MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

Christner ARCHITECTS
Architecture / Interior Design / Graphics

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE ARCHITECTURAL, PICTORIAL AND TECHNICAL DOCUMENTS AND ANY REPRODUCTIONS OF THESE DRAWINGS AND SPECIFICATIONS AND NOT TO BE USED IN WHOLE OR IN PART WITHOUT WRITTEN PERMISSION FOR ANY USE WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS C. CHRISTNER, CHRISTNER ASSOCIATES, NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

0 COMMENCHT PICKING

Parkway South Middle School
Building Addition, Renovations
& Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

BID / PERMIT SET 02-04-2019

ENLARGED DEMOLITION PLAN

PSD Project No.: 4118018
Project Number: 2018.033
Date: 02.04.2019
Drawn By: NJC

C203

MATCH LINE C202

MATCH LINE C203

EXISTING GAS METER

EXISTING PROPERTY LINE (APPROXIMATE, NOT SURVEYED)

COORDINATE LOCATION OF ABANDONMENT WITH NEW FIRE SERVICE, SEE SITE PLAN

CONTRACTOR TO COORDINATE LIMITS OF WATER SERVICE REMOVAL/REPLACEMENT WITH SITE PLAN

CONTRACTOR TO COORDINATE LIMITS OF LIGHT POLE ELECT. SERVICE REMOVAL WITH ELECTRICAL PLANS

CONTRACTOR TO COORDINATE LIMITS OF GAS SERVICE REMOVAL/REPLACEMENT WITH SITE PLAN

EX STM GRATE TOP=573.77 FL(OUT)(E)=566.62 (TBR)

REMOVE EX. SIDEWALK TO NEAREST JOINT (TYP.)

(TBR) EX MH TOP=574.44 FL=

APPROXIMATE LOCATION OF EXISTING ELECT. SERVICE (TO BE RELOCATED) CONTRACTOR TO COORDINATE WITH ELECTRICAL PLANS AND AMEREN

EXISTING SOUTH MIDDLE SCHOOL BUILDING

CONTRACTOR TO COORDINATE LIMITS OF ELECT. SERVICE REMOVAL WITH ELECTRICAL PLANS

EX STM INLET(TBR) TOP=570.75 FL(IN)(W)=564.51 FL(OUT)(SE)=564.46

EXISTING EXTERIOR STAIRS (TBR) SEE NOTES ON SITE AND GRADING PLAN

BOLLARDS (TBR)

EX STM INLET(TBR) TOP=568.52 FL(IN)(W)=564.47 FL(OUT)(S)=564.37

HEADWALL (TBR) FL=564.31

EX. ROOF TO BE SALVAGED FOR REUSE

EXISTING PROPERTY LINE (APPROXIMATE, NOT SURVEYED)

LEGEND

PAVEMENT REMOVAL LIMITS

(UIP) USE IN PLACE

(TBR) TO BE REMOVED

(TBR&R) TO BE REMOVED & REPLACED

KEYED NOTES

1. FULL DEPTH PAVEMENT SAWCUT

GRAPHIC SCALE

MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

BID / PERMIT SET 02-04-2019

Christner
ARCHITECTS
Architecture / Interior Design / Graphics

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE ARCHITECTURAL WORKS AND TECHNICAL INFORMATION CONTAINED HEREIN. NONE OF THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER FOR ANY USE WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF THE ARCHITECT. HOWEVER, THEY TO BE LOANED OR SHOWN TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

Parkway South Middle School
Building Addition, Renovations
& Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

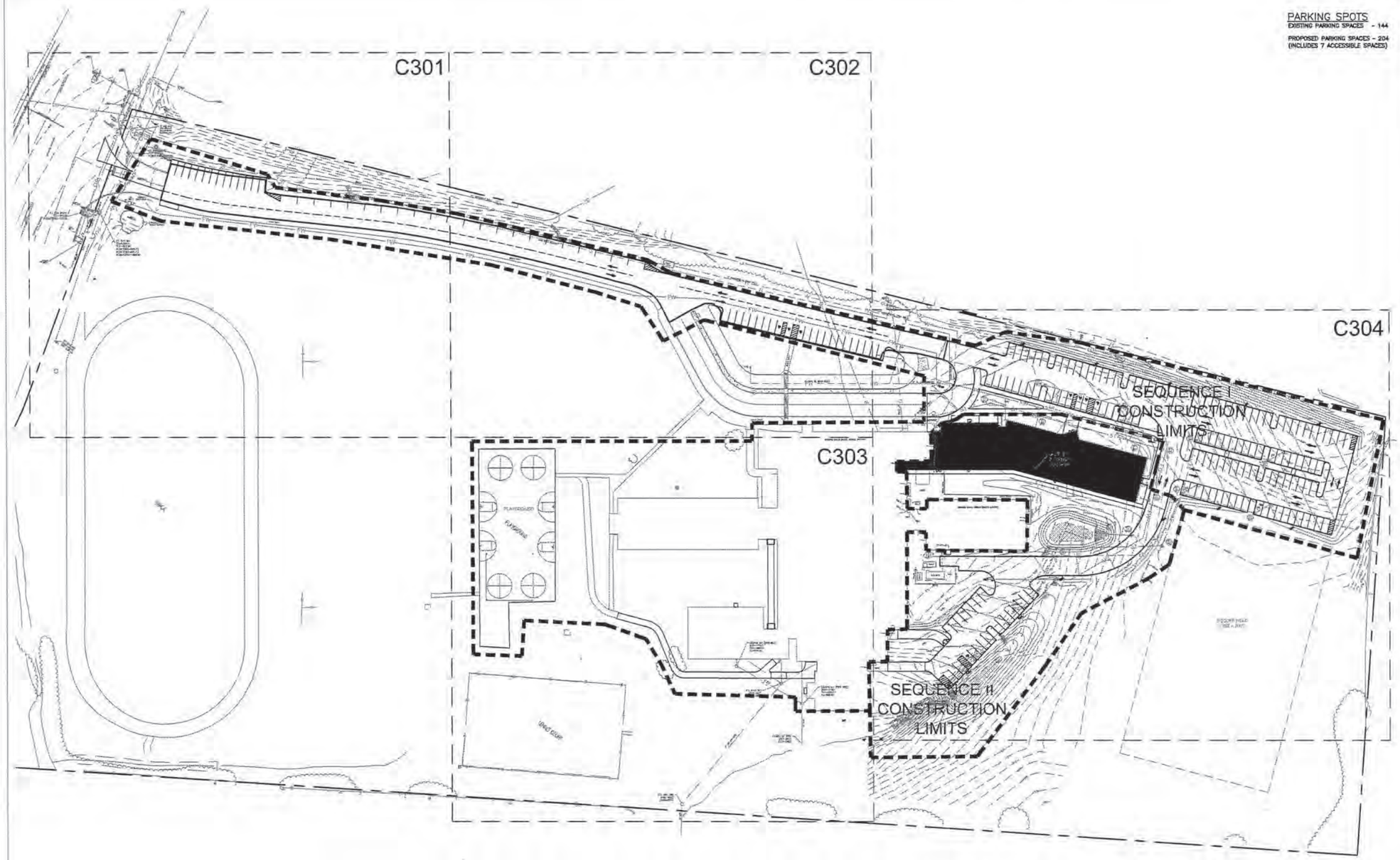
ENLARGED DEMOLITION PLAN

PSD Project No.: 411801B
Project Number: 2018.033
Date: 02.04.2019
Drawn By: NJC

C204

PARKING SPOTS
EXISTING PARKING SPACES - 144

PROPOSED PARKING SPACES - 204
(INCLUDES 7 ACCESSIBLE SPACES)



SOUTH MIDDLE SCHOOL BUILDING ADDITION, RENOVATION AND SITE IMPROVEMENTS WORK SEQUENCE

SEQUENCE I CONSTRUCTION:

1. SEQUENCE IA: MAY 23, 2019 THROUGH MAY 26, 2019 – OWNER TO VACATE EXISTING PARKING AND PAVED AREAS INVOLVED IN THE CONSTRUCTION AND AREAS OF RENOVATION REQUIRING ABATEMENT INCLUDING EXISTING ROOMS 1606, 1607, 1608, 1609, 1706 AND CORRIDOR C1B EACH SIDE OF EXISTING LOCKER ROOMS. CONTRACTOR ALLOWED TO BEGIN THE SITE WORK IN THE FIELD MAY 28, 2019.
2. SEQUENCE IB: MAY 28, 2019 THROUGH AUGUST 2, 2019 – CONTRACTOR BEGINS SITE WORK AND COMPLETES ALL SITE WORK EXCEPT THAT RELATED TO THE BUILDING ADDITION AND THAT LOCATED SOUTH OF THE NEW PARKING LOT. CONTRACTOR ALLOWED TO BEGIN IN THE FIELD MAY 28, 2019.
3. SEQUENCE IC: MAY 28, 2019 THROUGH JUNE 10, 2019 – OWNER'S ABATEMENT CONTRACTOR WILL PROVIDE DEMOLITION AND ABATEMENT OF THE EXISTING ROOMS INVOLVED IN THE RENOVATION INCLUDING ROOMS 1606, 1607, 1608, 1609, 1706 AND CORRIDOR C1B EACH SIDE OF EXISTING LOCKER ROOMS. CONTRACTOR IS TO MARK ALL AREAS WHERE SPOT ABATEMENT IS REQUIRED FOR THE NEW WORK IN CORRIDOR C1B. ABATEMENT CONTRACTOR ALLOWED TO BEGIN IN THE FIELD MAY 28, 2019.
4. SEQUENCE ID: JUNE 11, 2019 THROUGH AUGUST 2, 2019 – CONTRACTOR BEGINS AND COMPLETES RENOVATION WORK IN ALL AREAS OF THE EXISTING BUILDING INCLUDING RENOVATION OF THE EXISTING MAIN ENTRANCE, RENOVATION OF EXISTING LOCKER ROOM AREAS INCLUDING ROOMS 1606, 1607, 1608, 1706 AND CORRIDOR C1B, RE-ROOFING EXISTING ROOF AREAS, REPLACEMENT OF EXISTING CHILLER AND CHILLED WATER PUMPS, REPLACEMENT OF ROOF TOP EQUIPMENT, INSTALLATION OF NEW MEP EQUIPMENT SUPPORTING THE OPERATION OF THE EXISTING BUILDING, REPLACEMENT OF THE NATURAL GAS SERVICE ENTRANCE AND ALL WORK REQUIRED TO ALLOW OCCUPANCY AND USE OF THE EXISTING BUILDING FOR THE SCHOOL YEAR 2019-2020. CONTRACTOR ALLOWED TO BEGIN IN THE FIELD JUNE 11, 2019.

SEQUENCE II CONSTRUCTION:

1. SEQUENCE II: MAY 28, 2019 THROUGH JULY 17, 2020 – CONTRACTOR BEGINS AND COMPLETES ALL WORK RELATED TO THE BUILDING ADDITION AND ALL REMAINING SITE WORK. CONTRACTOR ALLOWED TO BEGIN IN THE FIELD MAY 28, 2019.

ADDITIONAL SITE SEQUENCING NOTES:

1. PROPOSED SEQUENCE CONSTRUCTION LIMITS SHOWN IS TO SERVE ONLY AS A GUIDE FOR BIDDING PURPOSES. A DETAILED FINAL CONSTRUCTION SEQUENCING PLAN AND SCHEDULE SHALL BE DEVELOPED BY THE CONTRACTOR AND COORDINATED WITH AND APPROVED BY THE OWNER.
2. CONTRACTOR WILL BE RESPONSIBLE TO MAINTAIN ONE (1) LANE OF ROADWAY ACCESS AND PEDESTRIAN ACCESS WHERE NEEDED THROUGHOUT DURATION OF THE PROJECT.
3. CONTRACTOR IS RESPONSIBLE FOR ALL ASSOCIATED COST TO PROVIDE ROADWAY ACCESS. SEE ALSO SHEET C200 AND DEMOLITION NOTES ON SHEET D001.

GRAPHIC SCALE

MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018, 7:07:59 AM

Christner ARCHITECTS
Architecture / Interior Design / Graphics
1610 S. Brentwood Blvd. | St. Louis, MO 63144 | phone 314.644.1144
christnerarchitects.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS, SPECIFICATIONS, ARCHITECTURAL WORKS AND TECHNICAL DOCUMENTS AND ANY DESIGNS THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS C. CHRISTNER, CHRISTNER ASSOCIATES, INC. ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

Parkway South Middle School
Building Addition, Renovations
& Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

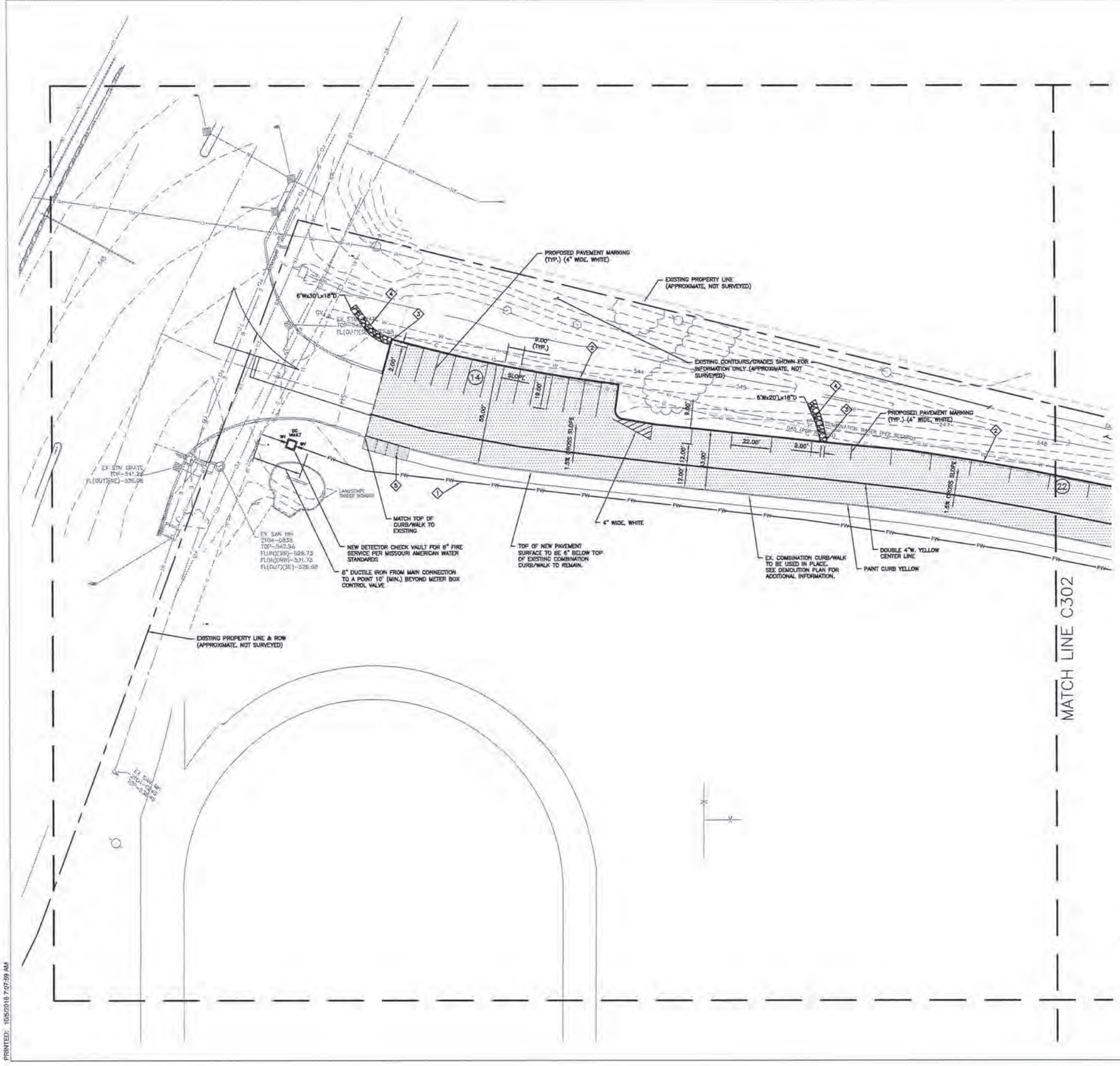
REVISIONS:

BID / PERMIT SET 02-04-2019

OVERALL SITE AND GRADING PLAN AND WORK SEQUENCE

PSD Project No.:	4118018
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

C300



LEGEND

- ASPHALT PAVEMENT (SEE DETAIL A/C400)
- ASPHALT PLAY SURFACE (SEE DETAIL H/C400)
- CONCRETE PAVEMENT (SEE DETAIL E/C400)
- PERMEABLE PAVERS (SEE BMP DETAILS)
- SIDEWALK PAVEMENT (SEE DETAIL B/C400)
- 580 — PROPOSED CONTOUR
- 000.00 — PROPOSED FINISH GRADE ELEVATION

KEYED NOTES:
APPLIES TO SHEETS C301-C304)

1. 8 INCH DEDICATED FIRE MAIN (C900 PVC)
2. CONCRETE VERTICAL CURB (SEE DETAIL F/C400)
3. CURB CUT IN VERTICAL CURB (SEE DETAIL G/C400)
4. ROCK BLANKET OUTLET PROTECTION (PER MSD STANDARDS FOR ROCK BLANKET)
5. COMBINED CURB AND WALK (SEE DETAIL G/C400)
6. 6 INCH DEDICATED FIRE MAIN
7. FIRE HYDRANT WITH 6 INCH SUPPLY LINE.
8. WHEEL STOP (TYP.) (SEE DETAIL G/C400)
9. ACCESSIBLE CURB RAMP (SEE DETAIL M/C400)

MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

Christner ARCHITECTS
Architecture / Interior Design / Graphics
12415 Bowling Green Drive, Suite 210, St. Louis, Missouri 63146
(314)434-4400 (314)434-4411 fax

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE ARCHITECTURAL WORKS AND TECHNICAL DOCUMENTS AND ANY DEVISITEES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER FOR ANY USE WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS C. CHOSNI, CHOSNI ASSOCIATES, NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

BID / PERMIT SET 02-04-2019

Parkway South Middle School
Building Addition, Renovations
& Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

ENLARGED SITE AND GRADING PLAN

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

C301

LEGEND

- ASPHALT PAVEMENT (SEE DETAIL A/C400)
- ASPHALT PLAY SURFACE (SEE DETAIL H/C400)
- CONCRETE PAVEMENT (SEE DETAIL E/C400)
- PERMEABLE PAVERS (SEE BMP DETAILS)
- SIDEWALK PAVEMENT (SEE DETAIL B/C400)
- 580 — PROPOSED CONTOUR
- 000.00 — PROPOSED FINISH GRADE ELEVATION

KEYED NOTES:
APPLIES TO SHEETS C301-C304)

1. 8 INCH DEDICATED FIRE MAIN (C900 PVC)
2. CONCRETE VERTICAL CURB (SEE DETAIL F/C400)
3. CURB CUT IN VERTICAL CURB (SEE DETAIL G/C400)
4. ROCK BLANKET OUTLET PROTECTION (PER MSD STANDARDS FOR ROCK BLANKET)
5. COMBINED CURB AND WALK (SEE DETAIL G/C400)
6. 6 INCH DEDICATED FIRE MAIN
7. FIRE HYDRANT WITH 6 INCH SUPPLY LINE
8. WHEEL STOP (TYP.) (SEE DETAIL D/C400)
9. ACCESSIBLE CURB RAMP (SEE DETAIL M/C400)

EXISTING CONTOURS/GRADES SHOWN FOR INFORMATION ONLY (APPROXIMATE, NOT SURVEYED)

EX. RETAINING WALL

8"Wx20"Lx18"D

22.00'

9.00'

12.00'

3.00'

2.00'

1.5% CROSS SLOPE

PAINT CURB YELLOW

DOUBLE 4"W. YELLOW CENTER LINE

EX. COMBINATION CURB/WALK TO BE USED IN PLACE. SEE DEMOLITION PLAN FOR ADDITIONAL INFORMATION.

TOP OF NEW PAVEMENT SURFACE TO BE 6" BELOW TOP OF EXISTING COMBINATION CURB/WALK TO REMAIN.

PROPOSED PAVEMENT MARKING (TYP.) (4" WIDE, WHITE)

DIRECTIONAL ARROW WHITE (TYP.)

EXISTING WATER VAULT (FIRE/DOMESTIC) CONTRACTOR RESPONSIBLE FOR INSPECTION AND REPLACEMENT OF COMBINED METER AND INSTALL 6" DOMESTIC METER PER MISSOURI AMERICAN WATER STANDARDS. CONTRACTOR TO COORDINATE WITH MISSOURI AMERICAN WATER FOR EXISTING FIRE SERVICE ABANDONMENT. SEE DEMOLITION PLANS. CONTRACTOR RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH MODIFICATIONS TO EXISTING VAULT.

DOUBLE 4"W. YELLOW CENTER LINE

DIRECTIONAL ARROW WHITE (TYP.)

NEW ACCESSIBLE PARKING (FINISH GRADE NOT TO EXCEED 1.5% ANY DIRECTION)

23.00'

22.00'

41.00'

18.00'

1.5% CROSS SLOPE

9.00'

8.00'

MATCH TO EX. CONC. WALK

PROPOSED PAVEMENT MARKING (TYP.) (4" WIDE, WHITE)

MATCH LINE C301

MATCH LINE C303

MATCH LINE C304

GRAPHIC SCALE

1 IN. (FEET)

MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

BID / PERMIT SET 02-04-2019

Christner ARCHITECTS
Architecture / Interior Design / Graphics
1071 S. Woodson Rd. | Suite 101 | St. Louis, Missouri 63124
314.863.6100 | christnerarchitects.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS IN THESE DRAWINGS AND DOCUMENTS. THESE DRAWINGS AND DOCUMENTS AND ANY DERIVATIVES THEREOF, THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER FOR ANY USE WITHOUT FIRST OBTAINING THE WRITTEN PERMISSION AND CONSENT OF LOUIS C. CHOENA, CHOENA ASSOCIATES, INC. AND THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

Parkway South Middle School
Building Addition, Renovations
& Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

ENLARGED SITE AND GRADING PLAN

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

C302

MATCH LINE C302

MATCH LINE C304

PLAYGROUND

PLAYGROUND

100'±

38'±

EXISTING CONC. WALK

MATCH EXISTING GRADE

SLOPE NEW WALK TO DRAIN (2% (MAX.) CROSS SLOPE AND 5% (MAX.) LONGITUDINAL SLOPE)

NEW 5'x5' CONC. LANDING AT DOOR
1. SET TOP OF LANDING 0.5" BELOW DOOR SILL AND SLOPE AWAY AT 1.5%

NEW CONCRETE STAIRS W/ HANDRAILS
1. CONTRACTOR TO REMOVE AND REPLACE EXISTING STAIRS AND HANDRAILS TO MATCH EXISTING AND ACCORDING TO DISTRICT STANDARDS.
2. CONTRACTOR TO DOCUMENT EXISTING CONDITIONS/ELEVATIONS PRIOR TO DEMOLITION IN ORDER TO REPLICATE.
3. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL PRIOR TO CONSTRUCTION.
4. INSTALL NEW STAIRWELL DRAIN TO MATCH EXISTING AND CONNECT TO EXISTING STAIRWELL DRAIN OUTLET. ENSURE EXISTING OUTLET IS IN GOOD WORKING CONDITION.

8.00'

5.00'

EX.STM MH (PER REC)
2104-178D
TOP=568.00
FL=536.41

RECONSTRUCT EXISTING WALK (SID-016)

RECONSTRUCT EXISTING WALK (SID-015)

EX.STM MH (PER REC)
2104-178D
TOP=558.17
FL=554.65

NEW CONCRETE STAIRS W/ HANDRAILS
1. CONTRACTOR TO REMOVE AND REPLACE EXISTING STAIRS AND HANDRAILS TO MATCH EXISTING AND ACCORDING TO DISTRICT STANDARDS.
2. CONTRACTOR TO DOCUMENT EXISTING CONDITIONS/ELEVATIONS PRIOR TO DEMOLITION IN ORDER TO REPLICATE.
3. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL PRIOR TO CONSTRUCTION.

NEW CONC. LANDING AT DOOR
1. SET TOP OF LANDING 0.5" BELOW DOOR SILL AND SLOPE AWAY AT 1.5%

MATCH WIDTH OF DOOR

TENNIS COURT

EXISTING PROPERTY LINE (APPROXIMATE, NOT SURVEYED) (PER REC) 2104-0305

MSD 7 - (CONTRAC 12" STONE

24"

15"

36"

GRAPHIC SCALE

1 IN. 15'-0" (1" = 30 FT)

MSD PROJECT 18MSD-00571 MSD MAP 21Q

LEGEND

- ASPHALT PAVEMENT (SEE DETAIL A/C400)
- ASPHALT PLAY SURFACE (SEE DETAIL H/C400)
- CONCRETE PAVEMENT (SEE DETAIL E/C400)
- PERMEABLE PAVERS (SEE BMP DETAILS)
- SIDEWALK PAVEMENT (SEE DETAIL B/C400)
- 580 — PROPOSED CONTOUR
- 000.00 — PROPOSED FINISH GRADE ELEVATION

KEYED NOTES
APPLIES TO SHEETS C301-C304)

1. 8 INCH DEDICATED FIRE MAIN (C900 PVC)
2. CONCRETE VERTICAL CURB (SEE DETAIL F/C400)
3. CURB CUT IN VERTICAL CURB (SEE DETAIL G/C400)
4. ROCK BLANKET OUTLET PROTECTION (PER MSD STANDARDS FOR ROCK BLANKET)
5. COMBINED CURB AND WALK (SEE DETAIL G/C400)
6. 6 INCH DEDICATED FIRE MAIN
7. FIRE HYDRANT WITH 6 INCH SUPPLY LINE
8. WHEEL STOP (TYP.) (SEE DETAIL D/C400)
9. ACCESSIBLE CURB RAMP (SEE DETAIL M/C400)

Christner ARCHITECTS
Architecture / Interior Design / Graphics

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE ARCHITECTURAL WORKS AND TECHNICAL DOCUMENTS AND ANY IDEAS EMBODIED THEREIN. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF CHRISTNER, INC. ANY UNAUTHORIZED REUSE OF THESE DRAWINGS AND DOCUMENTS SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO THE ARCHITECT AND THE USER SHALL INDEMNIFY AND HOLD HARMLESS THE ARCHITECT AGAINST ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES, INCLUDING BUT NOT LIMITED TO ATTORNEY'S FEES AND COSTS OF DEFENSE, ARISING OUT OF OR RESULTING THEREFROM.
© COPYRIGHT PENDING

Parkway South Middle School
Building Addition, Renovations
& Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

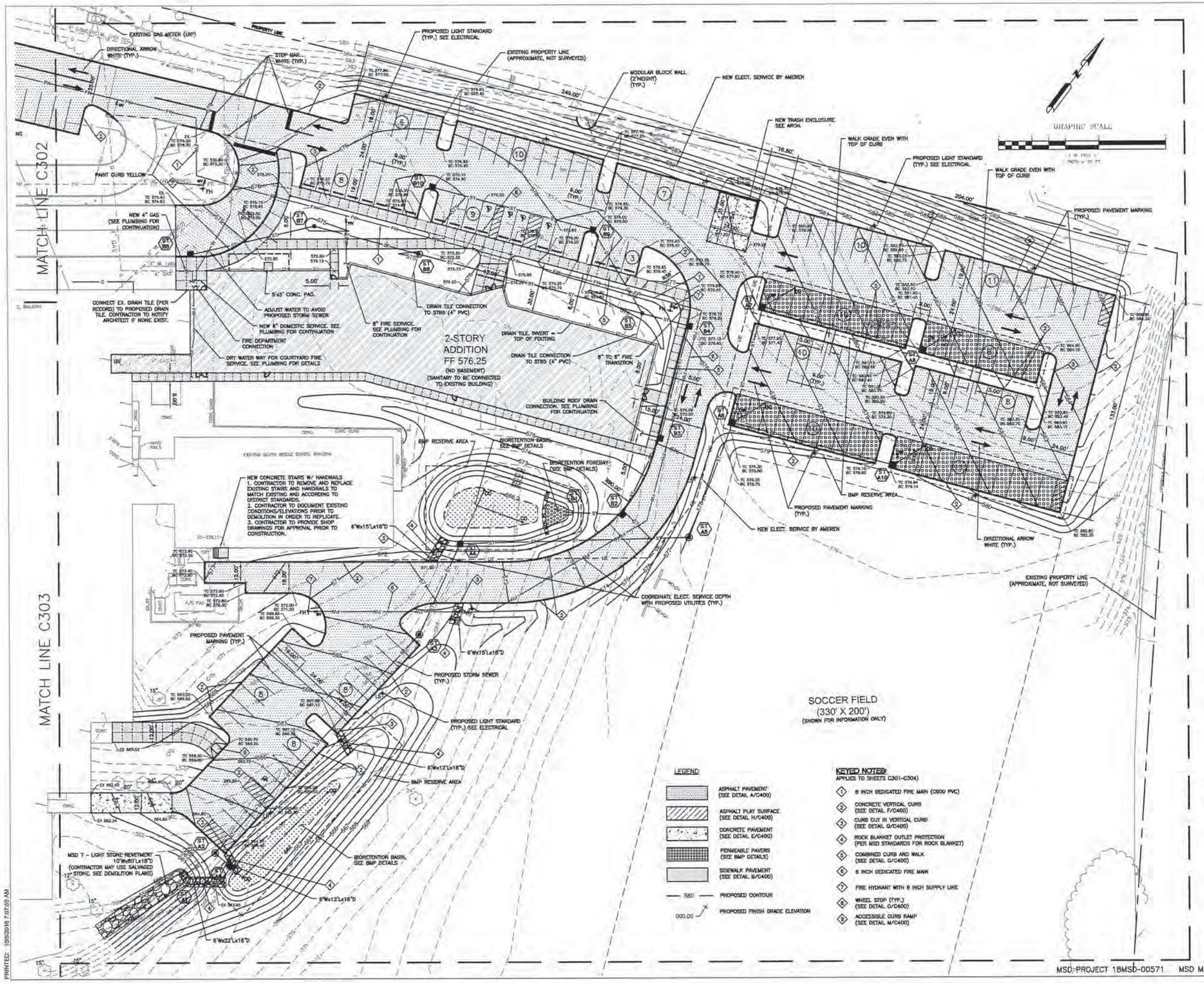
BID / PERMIT SET 02-04-2019

ENLARGED SITE AND GRADING PLAN

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

C303

PRINTED: 10/5/2018 7:07:59 AM



MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

BID / PERMIT SET 02-04-2019

Christner ARCHITECTS
Architecture / Interior Design / Graphics

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS IN THESE ARCHITECTURAL WORKS AND TECHNICAL DRAWINGS, SPECIFICATIONS, AND ELECTRONIC VIDEO DRAWINGS AND FOLDOUTS AND NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER NOR ARE THEY LIKE WISE TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF THE ARCHITECT. ANY REUSE WITHOUT SUCH WRITTEN PERMISSION SHALL BE UNAUTHORIZED AND WILLFUL INFRINGEMENT. ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

Parkway South Middle School Building Addition, Renovations & Site Improvements - Revised

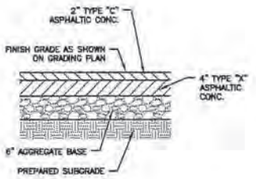
760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

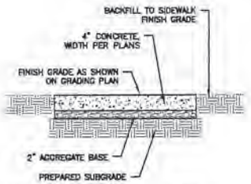
ENLARGED SITE AND GRADING PLAN

PSD Project No.:	4118018
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

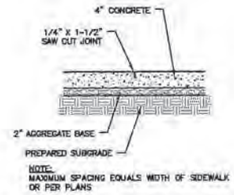
C304



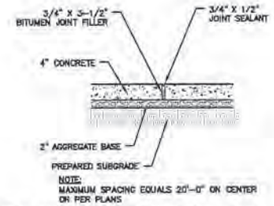
A 6/4/2 ASPHALT PAVEMENT
NOT TO SCALE



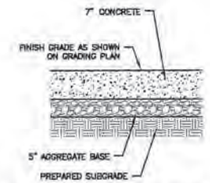
B SIDEWALK PAVEMENT
NOT TO SCALE



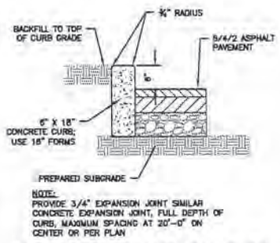
C SIDEWALK CONTRACTION JOINT
NOT TO SCALE



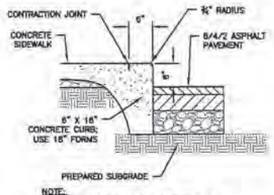
D SIDEWALK EXPANSION JOINT
NOT TO SCALE



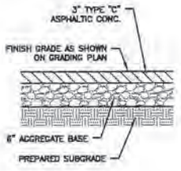
E CONCRETE PAVEMENT
NOT TO SCALE



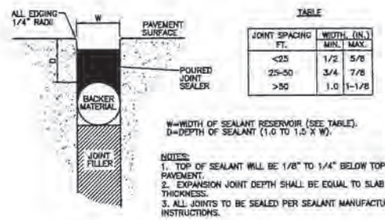
F CONCRETE VERTICAL CURB
NOT TO SCALE



G COMBINED CURB/SIDEWALK
NOT TO SCALE



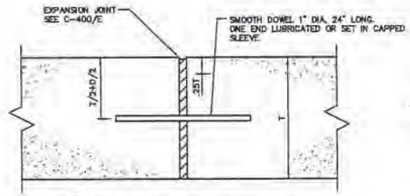
H 6/3 ASPHALT PAVEMENT
NOT TO SCALE



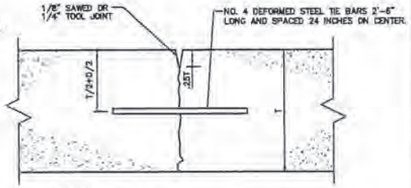
TABLE

JOINT SPACING FT.	WIDTH, (IN.) MIN.	MAX.
<25	1/2	5/8
25-50	3/4	7/8
>50	1.0	1-1/8

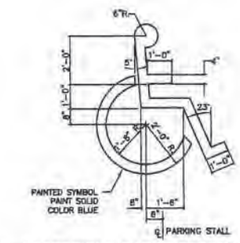
E CONCRETE PAVEMENT EXPANSION JOINT
NOT TO SCALE



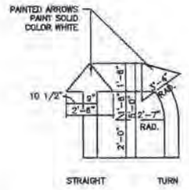
I DOWELED EXPANSION JOINT
NOT TO SCALE



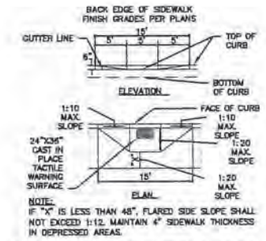
J CONTRACTION JOINT - TIED
NOT TO SCALE



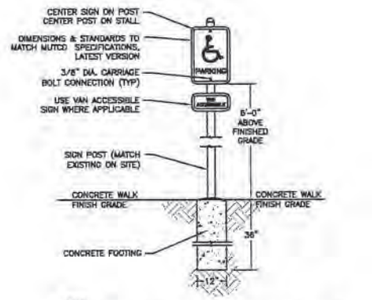
K ACCESSIBLE PARKING STALL SYMBOL
NOT TO SCALE



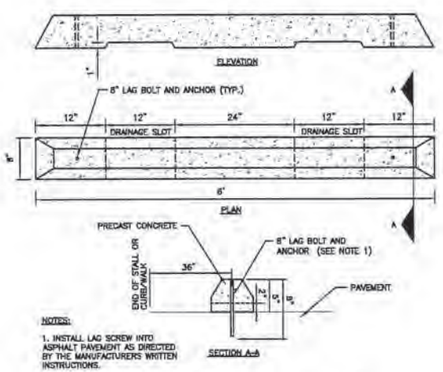
L PAINTED DIRECTIONAL ARROWS
NOT TO SCALE



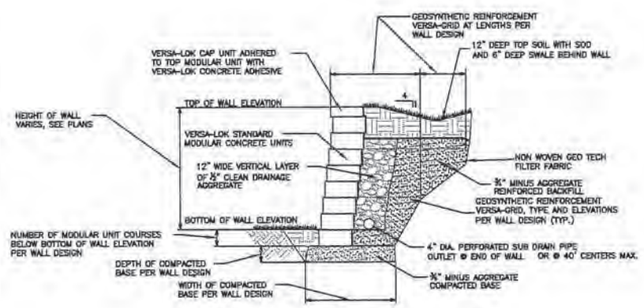
M ACCESSIBLE CURB RAMP
NOT TO SCALE



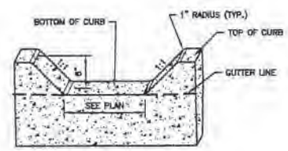
N ACCESSIBLE PARKING SIGN
NOT TO SCALE



O WHEEL STOP (PRECAST CONCRETE)
NOT TO SCALE



P MODULAR BLOCK WALL
NOT TO SCALE



Q CONCRETE CURB CUT
NOT TO SCALE

PRINTED: 10/5/2018 7:07:52 AM

MSD PROJECT 18MSD-00571 MSD MAP 210

BID / PERMIT SET 02-04-2019

Christner ARCHITECTS
Architecture / Interior Design / Graphics

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS IN THESE ARCHITECTURAL WORKS AND TECHNICAL DRAWINGS AND ELECTRONIC FILES. ALL OF THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER OR ANY USE WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF CHRISTNER ASSOCIATES, AIA AND THAT TO BE ASSIGNED TO AND PAID BY PERMIT FIRST WITHHOLDING SAID WRITTEN PERMISSION AND CONSENT.
© COPYRIGHT CHRISTNER

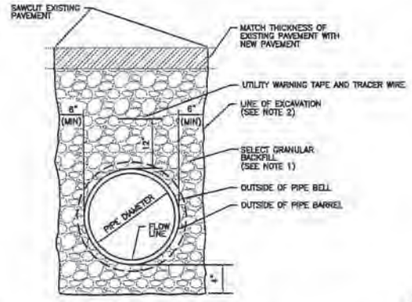
Parkway South Middle School
Building Addition, Renovations & Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

CIVIL SITE DETAILS

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

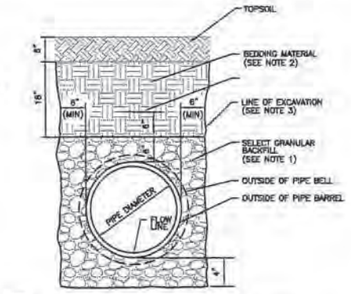
C400



NOTES:

1. SELECT GRANULAR BACKFILL SHALL CONSIST OF CRUSHED LIMESTONE AND SCREENINGS. COMPACT BACKFILL TO 95% MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED PROCTOR COMPACTION TEST. (ASTM D 1557)
2. CONTRACTOR SHALL BE RESPONSIBLE FOR SHORING AND BENCHING TRENCH EXCAVATIONS IN ACCORDANCE WITH ALL LOCAL, STATE, FEDERAL AND OSHA REQUIREMENTS.

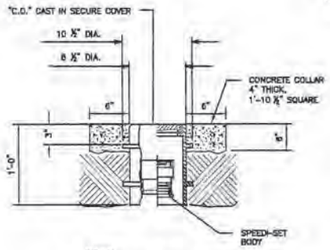
A UTILITY TRENCH - UNDER STRUCTURES
NOT TO SCALE



NOTES:

1. SELECT GRANULAR BACKFILL SHALL CONSIST OF CRUSHED LIMESTONE AND SCREENINGS. COMPACT BACKFILL TO 95% MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED PROCTOR COMPACTION TEST. (ASTM D 1557)
2. COMPACT BEDDING MATERIAL UNDER LAWNS TO 85% MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED PROCTOR COMPACTION TEST. (ASTM D 1557)
3. CONTRACTOR SHALL BE RESPONSIBLE FOR SHORING AND BENCHING TRENCH EXCAVATIONS IN ACCORDANCE WITH ALL LOCAL, STATE, FEDERAL AND OSHA REQUIREMENTS.

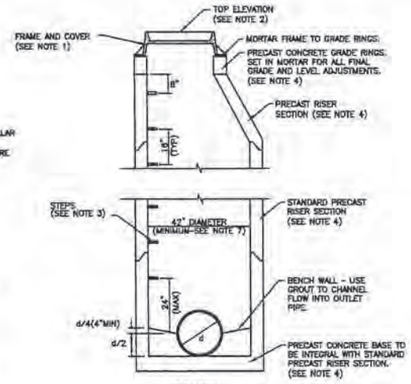
B UTILITY TRENCH - UNDER LAWN
NOT TO SCALE



NOTES:

1. CLEANOUT IS J.R.SMITH MODEL 4261L
2. SEE DETAIL F, THIS SHEET FOR BOTTOM SECTION OF CLEANOUT.

C CLEANOUT TOP SECTION
NOT TO SCALE



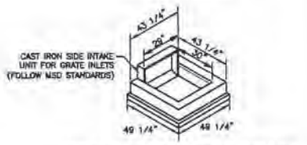
NOTES:

1. FRAME SHALL BE NEENAH R-3501-H4 OR MSD APPROVED EQUAL.
2. SET TOPS OF MANHOLE COVERS AND GRATE INLETS FLUSH WITH SURROUNDING FINAL GRADES.
3. STEPS SHALL BE NEENAH R-1981-Y OR MSD APPROVED EQUAL. STEP SPACING AND ALIGNMENT SHALL BE MAINTAINED UNIFORM AND VERTICAL THROUGHOUT THE TOTAL DEPTH AS INDICATED.
4. PRECAST CONCRETE SECTIONS SHALL CONFORM TO ASTM C-478. ALL JOINTS BETWEEN THESE SECTIONS SHALL BE GROUTED SMUT.
5. WHEN MANHOLES AND INLETS ARE SET IN PAVEMENTS, BACKFILL AROUND STRUCTURE SHALL BE COMPACTED GRANULAR MATERIAL.
6. THIS DETAIL IS ONLY TO BE USED AS A GENERAL GUIDE TO MANHOLE AND INLET CONSTRUCTION. ALL SEWER PIPES AND STRUCTURES MUST BE BUILT IN ACCORDANCE WITH THE MSD STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES-2009.
7. MINIMUM MANHOLE/INLET DIAMETER SHALL BE 42" DIAMETER, WHERE APPLICABLE. CONTRACTOR TO DETERMINE MANHOLE/INLET DIAMETER NECESSARY FOR EACH SPECIFIC CIRCUMSTANCE. CONTRACTOR TO SUBMIT PRECAST SHOP DRAWINGS, WITH EACH MANHOLE/INLET DIAMETER CLEARLY MARKED, TO ENGINEER FOR APPROVAL.
8. ALL MANHOLE/INLET DETAILS MUST FOLLOW CURRENT MSD STANDARDS.

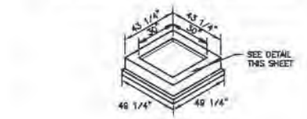
D MANHOLE / INLET DETAIL
NOT TO SCALE



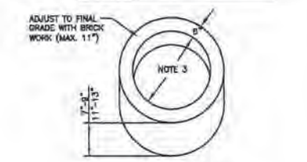
2 GRATES



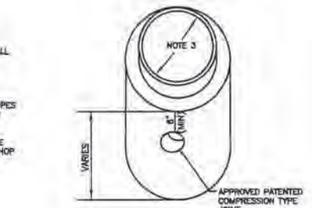
GRATE SEAT W/SIDE INTAKE



GRATE SEAT



ADAPTER RING

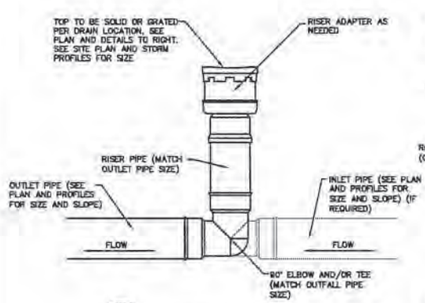


MANHOLE / INLET BASE

NOTES:

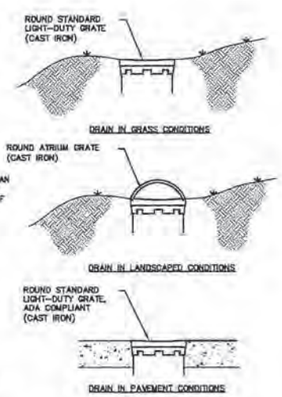
1. SEE DETAIL A, THIS SHEET FOR MANHOLE/INLET BASE DETAILS.
2. ALL INLET DETAILS MUST FOLLOW CURRENT MSD STANDARDS.
3. USE MINIMUM STANDARD SIZE DIAMETERS PER MSD STANDARDS.

E CURB INLET
NOT TO SCALE

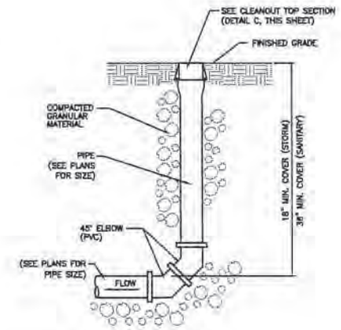


NOTE:

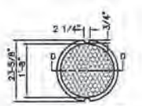
1. BASIS OF DESIGN PROVIDED BY NYLOPLAST. CONTRACTOR SHALL INSTALL NYLOPLAST STRUCTURE, OR AN EQUIVALENT STRUCTURE APPROVED BY ENGINEER.
2. PIPE AND FITTINGS UNDER LAWNS/LANDSCAPING SHALL BE PVC-SDR-35. PIPE AND FITTINGS UNDER PAVEMENTS SHALL BE PVC-SDR-26.
3. CONTRACTOR SHALL FOLLOW MANUFACTURER SPECIFICATIONS FOR STRUCTURE INSTALLATION.



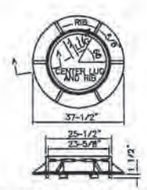
F DRAIN BASIN
NOT TO SCALE



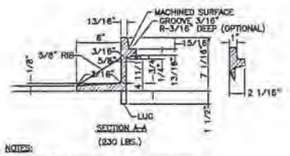
G CLEANOUT
NOTE TO SCALE



CLOSED-TYPE COVER



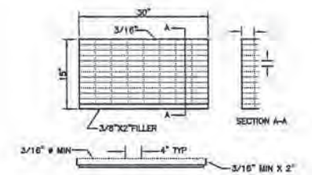
CAST IRON MANHOLE FRAME



NOTES:

1. FOLLOW MSD STANDARDS FOR CONSTRUCTION.
2. FOLLOW LID MANUFACTURER SPECIFICATIONS FOR SETTING AND ATTACHING TO PRECAST ECCENTRIC CONE SECTION OR GRADE RINGS.

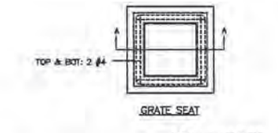
H MANHOLE FRAME AND LID
NOTE TO SCALE



FINISH	-ASPHALTIC 10 MIL COATING
MATERIAL	-MILD CARBON STEEL: ASTM A569
CAPACITY	-H-20 LOADING
WEIGHT	-65 LB MINIMUM
TOLERANCES	-ALL DIMENSIONS ± 1/8"
IDENTIFICATION	-THE MANUFACTURER MUST PLACE THEIR NAME OR MARK ON EACH UNIT FOR THE PURPOSE OF IDENTIFICATION

NOTE: MINIMUM DISTANCE FROM THE FLOWLINE TO THE TOP OF THE GRATE IS 31" FOR 12" PIPES AND 34" FOR 15" PIPES.

I GRATE (30"x15")
NOTE TO SCALE



STEEL REQUIREMENTS FOR GRATE SEAT

J GRATE SEAT
NOTE TO SCALE

NOTES:

1. DETAILS ON THIS SHEET ARE TO BE USED FOR PRIVATE CONSTRUCTION ONLY AND AS A GENERAL GUIDE TO MANHOLE AND INLET CONSTRUCTION. ALL SEWER PIPES AND STRUCTURES MUST BE BUILT IN ACCORDANCE WITH THE MSD STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWER AND DRAINAGE FACILITIES, 2009.

MSD PROJECT 18MSD-00571 MSD MAP 21Q

BID / PERMIT SET 02-04-2019

PRINTED: 11/5/2018 7:07:59 AM

Christner ARCHITECTS
Architecture / Interior Design / Graphics

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY RIGHTS IN THESE AND OTHER PROPERTY RIGHTS FOR THESE ARCHITECTURAL WORKS AND TECHNICAL DRAWINGS AND CALCULATIONS AND NOT THESE DRAWINGS AND CALCULATIONS ARE NOT TO BE REPRODUCED, CHANGED OR ISSUED IN ANY PHASES WHATSOEVER FOR ANY USE WITHOUT FIRST OBTAINED THE EXPRESS WRITTEN PERMISSION AND CONSENT OF CHRISTNER, INC. REGARDLESS, NOR WHETHER TO BE BUILDING TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT

© COPYRIGHT CHRISTNER

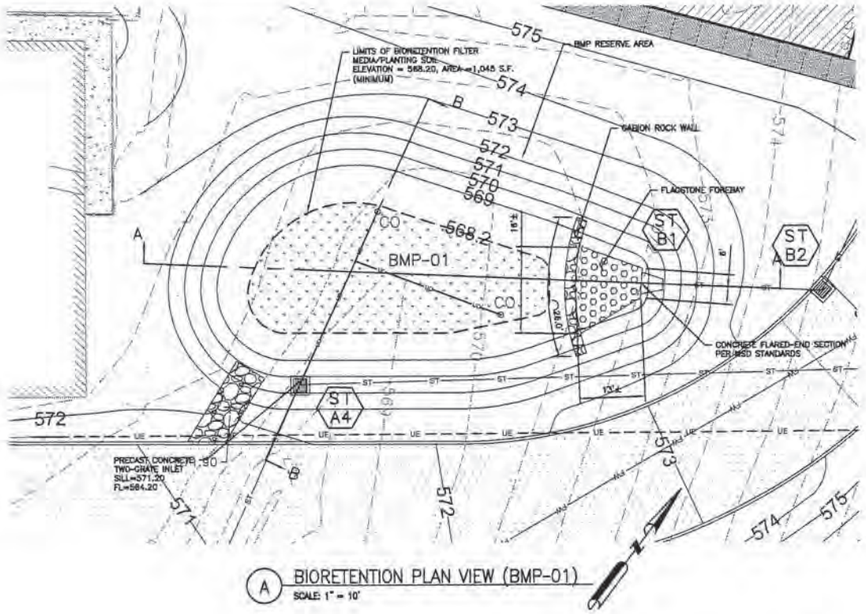
Parkway South Middle School
Building Addition, Renovations
& Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

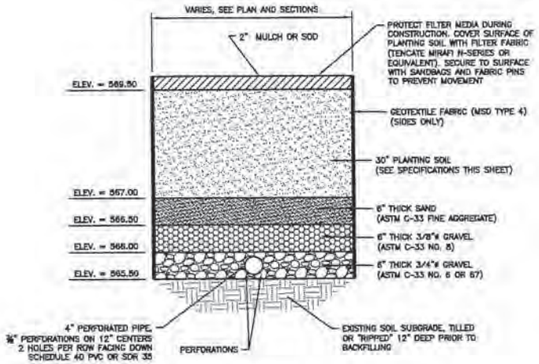
CIVIL UTILITY DETAILS

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

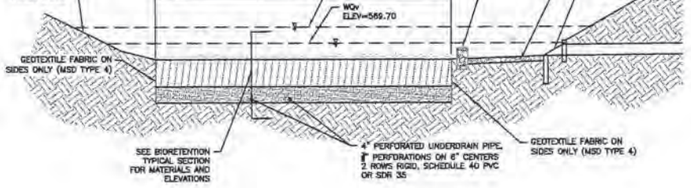
C401



A BIORETENTION PLAN VIEW (BMP-01)
SCALE: 1" = 10'



D BIORETENTION BASIN TYPICAL SECTION
NOT TO SCALE



B BIORETENTION SECTION A-A
VERTICAL: 1"=5', HORIZONTAL: 1"=10'

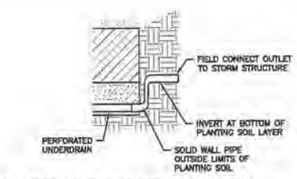
PLANTING SOIL SPECIFICATIONS

THE PLANTING SOIL SHOULD BE A SANDY LOAM OR LOAMY SAND (SHOULD CONTAIN A MINIMUM OF 60 PERCENT SAND, BY VOLUME). THE CLAY CONTENT FOR THESE SOILS SHOULD BE LESS THAN 10 PERCENT BY VOLUME. A SATURATED HYDRAULIC CONDUCTIVITY OF AT LEAST 2.0 FEET PER DAY (1.0 INCHES PER HOUR) IS REQUIRED. THE SOIL SHOULD BE FREE OF STONES, STUMPS, ROOTS, OR OTHER WOODY MATERIAL OVER 1 INCH IN DIAMETER. FOR BEST RESULTS, BRUSH OR SEEDS FROM NOXIOUS WEEDS, SUCH AS JOHNSON GRASS, MUGWORT, NUTSEDGE AND CANADIAN THISTLE SHOULD NOT BE PRESENT IN THE SOILS. PLACEMENT OF THE PLANTING SOIL SHOULD BE IN LIFTS OF 12 TO 18 INCHES, LOOSELY COMPACTED (RUBBER WHEELED HEAVY EQUIPMENT AND MECHANICAL TAMPING DEVICES ARE NOT RECOMMENDED FOR COMPACTION). THE SPECIFIC CHARACTERISTICS ARE PRESENTED IN THE FOLLOWING TABLE.

PARAMETER	VALUE
pH RANGE	5.2 TO 8.00
ORGANIC MATTER	1.5 TO 5.0%
MAGNESIUM	35 lbs. per acre, minimum
PHOSPHORUS (P_2O_5)	75 lbs. per acre, minimum
POTASSIUM (K_2O)	85 lbs. per acre, minimum
SOLUBLE SALTS	≤ 500 ppm

SHOP DRAWINGS FOR BMPS:

MSD SHOP DRAWING SUBMITTAL REQUIRED FOR BMP AND ITS COMPONENTS PRIOR TO CONSTRUCTION.
MSD CONTACT: PLEASE CONTACT THE DISTRICT'S CONSTRUCTION MANAGEMENT DIVISION AT (314) 335-5272 FOR QUESTIONS.



G PERCHED UNDERDRAIN DETAIL
NOT TO SCALE

GENERAL NOTES AND SPECIFICATIONS FOR INFILTRATION BASIN:

1. COMPACTION

COMPACTION OF BOTH THE BASE OF THE BIORETENTION AREA AND THE REQUIRED BACKFILL SHALL BE MINIMIZED DURING ALL STAGES OF CONSTRUCTION. IF BIORETENTION AREAS ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHALL USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES WILL SIGNIFICANTLY CONTRIBUTE TO SUBGRADE AND BACKFILL COMPACTION, WHICH WILL RESULT IN DESIGN FAILURE.

COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER OR SUBSOILER. THESE TILLING OPERATIONS ARE TO RETRACTURE THE SOIL PROFILE THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN 12" TO 18" LIFTS. DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS, SANDS, AND AGGREGATE. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A LOADER WITH MARSH TRACKS.

2. MULCH

MULCH SHOULD BE PLACED TO A UNIFORM THICKNESS OF 2" TO 3". SHREDDED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (5 TO 12 MONTHS) PRIOR TO INSTALLATION.

3. UNDERDRAINS

THE ENDS OF THE UNDERDRAIN SYSTEM NOT CONNECTED TO A CLEANOUT OR STRUCTURE SHALL BE CAPPED. THE MAIN COLLECTOR PIPE FOR THE UNDERDRAIN SYSTEM SHALL BE INSTALLED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS, OR CLEANOUT PIPES SHALL BE PROVIDED PER PLANS.

4. SETTLING OF FILTER MATERIAL

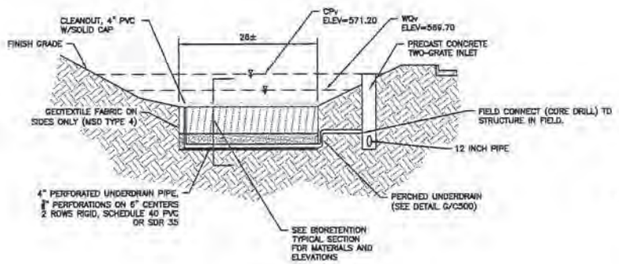
AFTER A PERIOD OF TIME THAT INCLUDES TWO (2) SIGNIFICANT (1" OR GREATER) STORM EVENTS, THE CONTRACTOR SHALL APPLY ADDITIONAL FILTER MEDIA (PLANTING SOIL) AS REQUIRED TO RESTORE THE FILTER BED AREA TO PLAN GRADE.

5. CONSTRUCTION SITE RUNOFF:

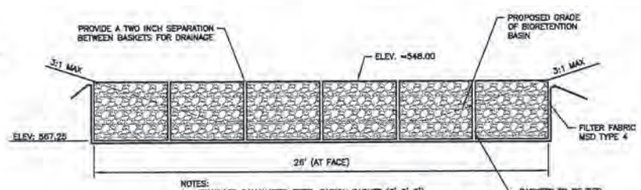
CONSTRUCTION SITE RUNOFF SHALL NOT FLOW INTO BMP AREAS. ALL STORMWATER FLOW TO BMP AREAS SHALL BE DIVERTED, PLUGGED, OR DISCONNECTED UNTIL THE CONSTRUCTION SITE IS STABLE AND THE MSD DEDICATION INSPECTOR PROVIDES APPROVAL TO PLACE THE BMP ON-LINE.

6. INFILTRATION TESTING (FOR WHEN UTILIZING ONSITE SOILS AND/OR MIXING ONSITE FOR PLANING SOIL:

THE IN-PLACE PERMEABILITY OF THE PLANTING SOIL SHALL BE 2.0 TO 3.5 FT/DAY, AND VERIFIED BY AND INFILTRATION TEST PERFORMED PER THE MARYLAND STORMWATER MANUAL, APPENDIX D.1, "INFILTRATION TESTING REQUIREMENTS (FIELD TESTING REQUIRED)". A MINIMUM OF ONE PERCOLATION TEST SHALL BE PERFORMED PER FACILITY. THE MSD FIELD INSPECTOR SHALL BE ALLOWED TO SELECT THE LOCATION OF PERCOLATION TESTS. THE MSD FIELD INSPECTOR SHALL BE PROVIDED A COPY OF ALL TEST RESULTS, SIGNED AND SEALED BY A MISSOURI PROFESSIONAL ENGINEER. TEST RESULTS SHALL REPORT IN UNITS OF FT/DAY. RESULTS SHALL DEMONSTRATE ACCEPTABLE PERMEABILITY PRIOR TO CONSTRUCTION APPROVAL. NOTE THESE TESTS ARE NOT REQUIRED IF UTILIZING PREMIXED PLANTING SOIL SUPPLIED BY A LOCAL MSD APPROVED SOILS SUPPLIER.

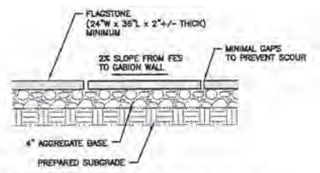


C BIORETENTION SECTION B-B
VERTICAL: 1"=5', HORIZONTAL: 1"=10'



NOTES:
1. STANDARD GALVANIZED STEEL GABION BASKET (3'x3'x3')
2. FILL BASKETS WITH TRAP ROCK MEETING MSD-6 GABION BASKET CRITERIA. COORDINATE COLOR OF ROCK WITH LANDSCAPE ARCHITECT.
3. PLACE FILTER FABRIC AROUND ALL SIDES OF GABION BASKET IN CONTACT WITH SOIL.

E GABION BASKET SPILLWAY
NOT TO SCALE



NOTES:
1. COORDINATE COLOR OF FLAGSTONE WITH LANDSCAPE ARCHITECT.

F FLAGSTONE FOREBAY SECTION
NOT TO SCALE

MSD PROJECT 18MSD-00571 MSD MAP 210

PRINTED: 10/5/2018 7:07:59 AM

BID / PERMIT SET 02-04-2019

Christner ARCHITECTS
Architecture / Interior Design / Graphics

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS IN THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DRAWINGS" AND ELEVATIONS. THESE ARCHITECTURAL WORKS, TECHNICAL DRAWINGS AND ELEVATIONS ARE NOT TO BE REPRODUCED, CHANGED OR USED IN ANY MANNER WHATSOEVER FOR ANY USE WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF THE ARCHITECT AND/OR ASSOCIATES, NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT CHRISTNER

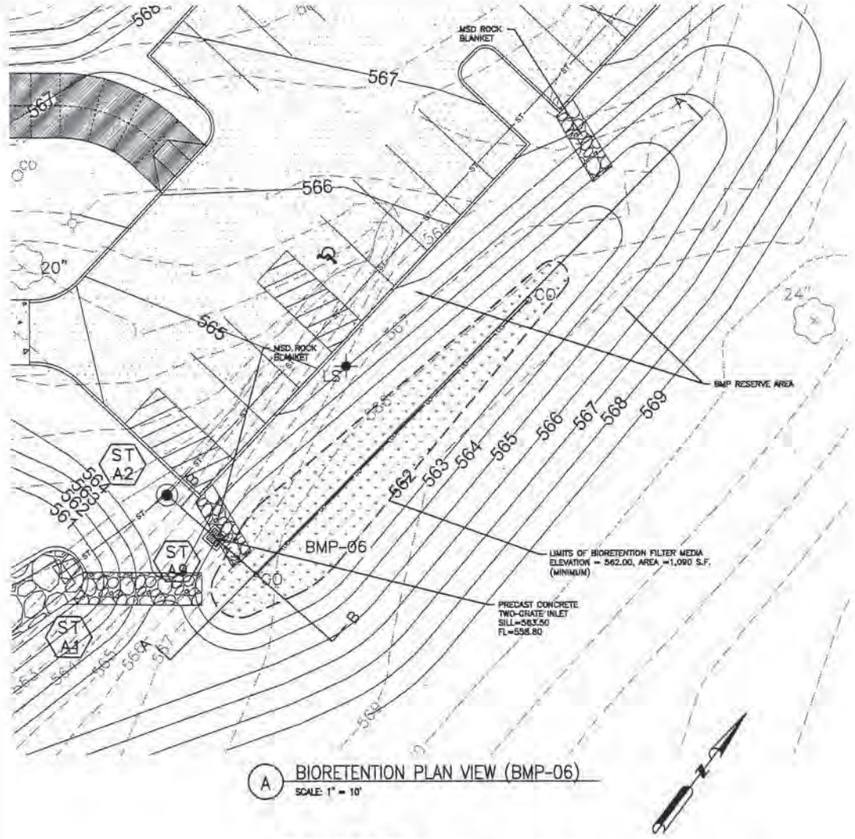
Parkway South Middle School
Building Addition, Renovations
& Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

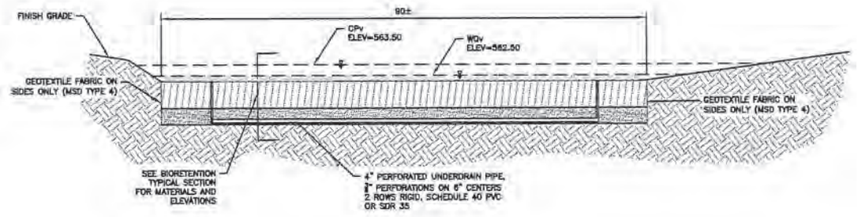
BMP DETAILS

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

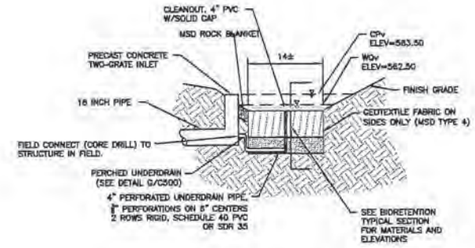
C500



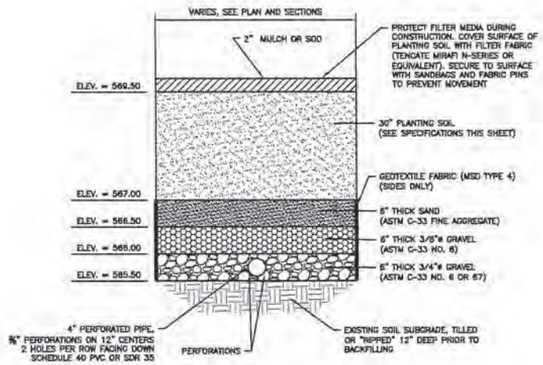
A BIORETENTION PLAN VIEW (BMP-06)
SCALE: 1" = 10'



B BIORETENTION SECTION A-A
VERTICAL: 1"=5', HORIZONTAL: 1"=10'



C BIORETENTION SECTION B-B
VERTICAL: 1"=5', HORIZONTAL: 1"=10'



D BIORETENTION BASIN TYPICAL SECTION
NOT TO SCALE

PLANTING SOIL SPECIFICATIONS

THE PLANTING SOIL SHOULD BE A SANDY LOAM OR LOAMY SAND (SHOULD CONTAIN A MINIMUM OF 60 PERCENT SAND, BY VOLUME). THE CLAY CONTENT FOR THESE SOILS SHOULD BE LESS THAN 10 PERCENT BY VOLUME. A SATURATED HYDRAULIC CONDUCTIVITY OF AT LEAST 2.0 FEET PER DAY (1.0 INCHES PER HOUR) IS REQUIRED. THE SOIL SHOULD BE FREE OF STONES, STUMPS, ROOTS, OR OTHER WOODY MATERIAL OVER 1 INCH IN DIAMETER. FOR BEST RESULTS, BRUSH OR SEEDS FROM NOXIOUS WEEDS, SUCH AS JOHNSON GRASS, MUGWORT, NUTSEDGE AND CANADIAN THISTLE SHOULD NOT BE PRESENT IN THE SOILS. PLACEMENT OF THE PLANTING SOIL SHOULD BE IN LIFTS OF 12 TO 18 INCHES, LOOSELY COMPACTED (RUBBER WHEELED HEAVY EQUIPMENT AND MECHANICAL TAMPING DEVICES ARE NOT RECOMMENDED FOR COMPACTION). THE SPECIFIC CHARACTERISTICS ARE PRESENTED IN THE FOLLOWING TABLE.

PARAMETER	VALUE
pH RANGE	5.2 TO 8.00
ORGANIC MATTER	1.5 TO 5.0%
MAGNESIUM	35 lbs. per acre, minimum
PHOSPHORUS (P_2O_5)	75 lbs. per acre, minimum
POTASSIUM (K_2O)	85 lbs. per acre, minimum
SOLUBLE SALTS	≤ 500 ppm

SHOP DRAWINGS FOR BMPS:

MSD SHOP DRAWING SUBMITTAL REQUIRED FOR BMP AND ITS COMPONENTS PRIOR TO CONSTRUCTION.
MSD CONTACT: PLEASE CONTACT THE DISTRICT'S CONSTRUCTION MANAGEMENT DIVISION AT (314) 335-2072 FOR QUESTIONS.

GENERAL NOTES AND SPECIFICATIONS FOR INFILTRATION BASIN:

1. COMPACTION

COMPACTION OF BOTH THE BASE OF THE BIORETENTION AREA AND THE REQUIRED BACKFILL SHALL BE MINIMIZED DURING ALL STAGES OF CONSTRUCTION. IF BIORETENTION AREAS ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHALL USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES WILL SIGNIFICANTLY CONTRIBUTE TO SUBGRADE AND BACKFILL COMPACTION, WHICH WILL RESULT IN DESIGN FAILURE.

COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN 12" TO 18" LIFTS. DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS, SANDS, AND AGGREGATE. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A LOADER WITH MARSH TRACKS.

2. MULCH

MULCH SHOULD BE PLACED TO A UNIFORM THICKNESS OF 2" TO 3". SHREDDED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (5 TO 12 MONTHS) PRIOR TO INSTALLATION.

3. UNDERDRAINS

THE ENDS OF THE UNDERDRAIN SYSTEM NOT CONNECTED TO A CLEANOUT OR STRUCTURE SHALL BE CAPPED. THE MAIN COLLECTOR PIPE FOR THE UNDERDRAIN SYSTEM SHALL BE INSTALLED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS, OR CLEANOUT PIPES SHALL BE PROVIDED PER PLANS.

4. SETTLING OF FILTER MATERIAL

AFTER A PERIOD OF TIME THAT INCLUDES TWO (2) SIGNIFICANT (1" OR GREATER) STORM EVENTS, THE CONTRACTOR SHALL APPLY ADDITIONAL FILTER MEDIA (PLANTING SOIL) AS REQUIRED TO RESTORE THE FILTER BED AREA TO PLAN GRADE.

5. CONSTRUCTION SITE RUNOFF:

CONSTRUCTION SITE RUNOFF SHALL NOT FLOW INTO BMP AREAS. ALL STORMWATER FLOW TO BMP AREAS SHALL BE DIVERTED, PLUGGED, OR DISCONNECTED UNTIL THE CONSTRUCTION SITE IS STABLE AND THE MSD DEDICATION INSPECTOR PROVIDES APPROVAL TO PLACE THE BMP ON-LINE.

6. INFILTRATION TESTING (FOR WHEN UTILIZING ONSITE SOILS AND/OR MIXING ONSITE FOR PLANING SOIL:

THE IN-PLACE PERMEABILITY OF THE PLANTING SOIL SHALL BE 2.0 TO 3.5 FT/DAY, AND VERIFIED BY AND INFILTRATION TEST PERFORMED PER THE MARYLAND STORMWATER MANUAL, APPENDIX D.1, "INFILTRATION TESTING REQUIREMENTS (FIELD TESTING REQUIRED)". A MINIMUM OF ONE PERCOLATION TEST SHALL BE PERFORMED PER FACILITY. THE MSD FIELD INSPECTOR SHALL BE ALLOWED TO SELECT THE LOCATION OF PERCOLATION TESTS. THE MSD FIELD INSPECTOR SHALL BE PROVIDED A COPY OF ALL TEST RESULTS, SIGNED AND SEALED BY A MISSOURI PROFESSIONAL ENGINEER. TEST RESULTS SHALL REPORT IN UNITS OF FT/DAY. RESULTS SHALL DEMONSTRATE ACCEPTABLE PERMEABILITY PRIOR TO CONSTRUCTION APPROVAL. NOTE THESE TESTS ARE NOT REQUIRED IF UTILIZING PREMIXED PLANTING SOIL SUPPLIED BY A LOCAL MSD APPROVED SOILS SUPPLIER.

MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

Christner, Inc.
ARCHITECTS
Architecture / Interior Design / Graphics

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS IN THESE PLANS, SPECIFICATIONS, DESIGNS, "ARCHITECTURAL WORKS" AND TECHNIQUES DISCLOSED HEREIN. ANY DOWNSTREAM THEREOF, THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER, NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS E. CHRISTNER, CHRISTNER ASSOCIATES, NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

Parkway South Middle School
Building Addition, Renovations
& Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

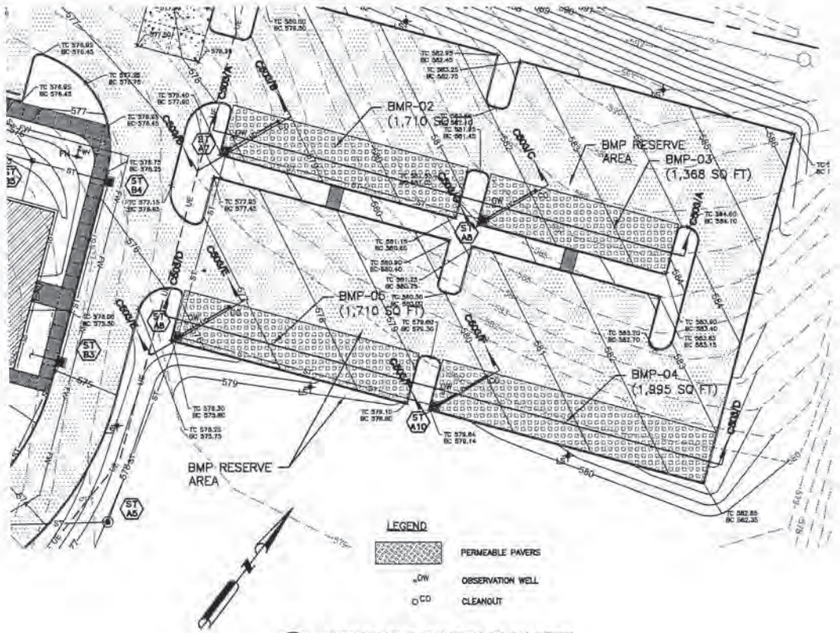
REVISIONS:

BID / PERMIT SET 02-04-2019

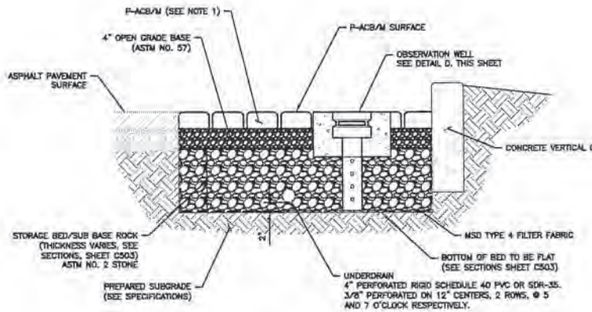
BMP DETAILS

PSD Project No.:	4118018
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

C501



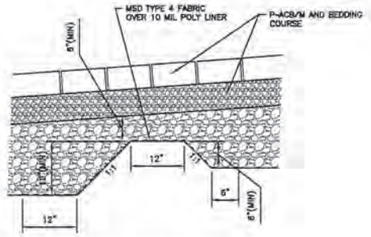
A PERMEABLE PAVERS PLAN VIEW
SCALE: 1" = 20'



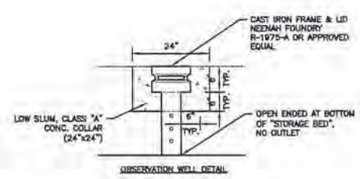
NOTES:

1. P-ACB/B PAVEDRAIN PAVERS. INSTALL PAVERS PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. CONTRACTOR SHALL INSTALL A MOCKUP FOR APPROVAL.
3. IT IS RECOMMENDED THAT A RUBBER BLADE BE USED DURING THE EVENT THAT A SNOW PLOW IS USED. A STEEL BLADE HAS THE TENDENCY TO CATCH THE PAVER AND PULL IT FREE.
4. TERRACING OF SUBGRADE BELOW PICP SECTION WILL BE UTILIZED. MINIMUM DEPTH OF STORAGE BED TO BE MAINTAINED. (SEE C503 FOR SECTIONS)
5. PROVIDE JOINTS IN THE CONCRETE EDGE RESTRAINT AS FOLLOWS; PROVIDE CONTRACTION JOINTS AT 10' CENTERS AND AT RADIUS POINTS.
6. PROVIDE EXPANSION JOINTS AT 80' MAX SPACING.

B PERMEABLE - ARTICULATING CONCRETE BLOCK/MAT TYPICAL SECTION
NOT TO SCALE



C TERRACED BERM DETAIL
NOT TO SCALE



D OBSERVATION WELL DETAIL
NOT TO SCALE

PERMEABLE CONCRETE
BLOCK PAVEMENT

POWER WASHING, RESURFACING, AND THE USE OF SAND ABRASIVES FOR WINTER TIRE TRACKING ARE PROHIBITED.

CARE SHALL BE TAKEN DURING SNOW PLOWING. USE RUBBER BLADE

NOTES:

1. STANDARD 18"x12"x0.080" ALUMINUM SIGN FACE WITH BLACK TEXT ON WHITE BACKGROUND GALVANIZED STEEL POST PAINTED BLACK 9'-6" LONG.
2. SET BOTTOM OF SIGN 5'-0" ABOVE GRADE.
3. SET BOTTOM OF POST 3'-0" BELOW GRADE.

E P-ACB/M INFORMATION SIGN
NOT TO SCALE

NOTES:

1. THE CONTRACTOR SHALL OBTAIN THE CONCRETE PAVER MANUFACTURER'S CERTIFICATION THAT THE PAVING UNITS SUPPLIED TO CONSTRUCT THE PERMEABLE - ARTICULATING CONCRETE BLOCK/MAT (P-ACB/M) HAVE BEEN APPROVED BY MSD AND MEET THE REQUIREMENTS IN ASTM C936. THIS CERTIFICATION SHALL BE PROVIDED TO THE MSD DIVISION INSPECTOR. THE CERTIFICATION SHALL INCLUDE THE MANUFACTURER'S NAME, AND STATE THAT THE P-ACB/M SUPPLIED MEETS THE ASTM C936 SPECIFICATIONS, (TESTING SHOULD BE CURRENT WITHIN PREVIOUS 12 MONTHS) AND THAT THE PAVING MATERIALS MEET ALL REQUIREMENTS AS EVALUATED UNDER THE MANUFACTURER'S QUALITY CONTROL PROGRAM.
2. PRIOR TO OBTAINING A CONSTRUCTION PERMIT FROM MSD TO CONSTRUCT THE PERMEABLE - ARTICULATING CONCRETE BLOCK/MAT (P-ACB/M) FOR A GIVEN PROJECT, THE CONTRACTOR'S ENGINEER PROVIDING THE AS-BUILT CERTIFICATION SHALL VERIFY THAT THE INSTALLING CONTRACTOR HAS PAST HISTORY DEMONSTRATING APPLICABLE EXPERIENCE. THE P-ACB/M INSTALLATION CONTRACTOR MUST HAVE A CURRENT LEVEL 1 CERTIFICATE FROM THE INTERLOCKING CONCRETE PAVEMENT INSTITUTE'S CONCRETE PAVER INSTALLER PROGRAM.
3. THE CONTRACTOR SHALL PREVENT AND DIVERT SEDIMENT FROM ENTERING THE SUBBASE AND PAVEMENT SURFACE UNTIL THE TRIBUTARY AREAS ARE DEEMED STABLE BY THE ASSIGNED MSD INSPECTOR.
4. VEHICULAR TRAFFIC SHALL BE PROHIBITED ON THE P-ACB/M UNTIL THE SITE IS STABLE TO PREVENT MUD FROM BEING DEPOSITED BY VEHICLES.
5. NO PRODUCT OR MATERIAL SUBSTITUTIONS ARE PERMITTED UNLESS PREVIOUSLY APPROVED BY THE MSD PLAN REVIEW ENGINEER OR BY THE MSD FIELD INSPECTOR ASSIGNED TO THE PROJECT. ALL SUBSTITUTIONS SHALL BE PRESENTED TO MSD THROUGH THE ENGINEER RESPONSIBLE FOR THE DESIGN OF THE P-ACB/M SYSTEM.
6. STONE SHOULD BE CLEAN, WASHED, 90 PERCENT FRACTURED FACES WITH A LOS ANGELES ABRASION INDEX OF LESS THAN 40 AND CONFORM TO THE GRADING REQUIREMENTS IN ASTM D448.
7. DO NOT CLEAN THE PAVER SURFACE WITH HIGH-PRESSURE HOSES OR ABRASIVES. WHEN CLEANING IS NECESSARY, COMBINATION CLEANING MACHINES THAT COMBINE A WET SPRAY AND VACUUM PROCESS HAVE BEEN FOUND TO BE EFFECTIVE.
8. A PERMANENT SIGN SHALL BE POSTED WARNING THAT CARE SHOULD BE TAKEN DURING SNOW PLOWING; AND PROHIBIT THE FOLLOWING: RESURFACING, THE USE OF SAND ABRASIVES FOR WINTER TIRE TRACTION, AND THE USE OF POWER WASHERS.
9. AT COMPLETION OF THE PROJECT, PRIOR TO FINAL DEDICATION, AN AS-BUILT CERTIFICATION, SIGNED AND SEALED BY A MISSOURI PROFESSIONAL ENGINEER, SHALL BE PROVIDED BY THE CONTRACTOR.

MANUFACTURER'S PREQUALIFICATION:

THE P-ACB/M MANUFACTURER SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING A QUALITY CONTROL PROGRAM TO ASSURE COMPLIANCE WITH REQUIREMENTS IN ASTM C936. PRIOR TO USE ON PROJECTS REQUIRING MSD APPROVAL, THE MANUFACTURER SHALL SUBMIT FIVE (5) COPIES OF A COMPLETED PERVIOUS PAVING APPLICATION AS WELL AS DOCUMENTATION DESCRIBING THE QUALITY CONTROL PROGRAM. THE COMPLETED APPLICATION AND OTHER DOCUMENTS SHALL BE SUBMITTED TO:

MSD BMP COMMITTEE
METROPOLITAN ST. LOUIS SEWER DISTRICT
2350 MARKET STREET
ST. LOUIS, MISSOURI 63103-2555

MATERIAL CERTIFICATION:

THE CONTRACTOR SHALL OBTAIN THE CONCRETE PAVER MANUFACTURER'S CERTIFICATION THAT THE PAVING UNITS SUPPLIED TO CONSTRUCT THE P-ACB/M HAVE BEEN APPROVED BY MSD AND MEET THE REQUIREMENTS IN ASTM C936. THIS CERTIFICATION SHALL BE PROVIDED TO THE MSD DIVISION INSPECTOR. THE CERTIFICATION SHALL INCLUDE THE MANUFACTURER'S NAME, AND STATE THAT THE P-ACB/M SUPPLIED MEETS THE ASTM C936 SPECIFICATIONS, (TESTING SHOULD BE CURRENT WITHIN PREVIOUS 12 MONTHS) AND THAT THE PAVING MATERIALS MEET ALL REQUIREMENTS AS EVALUATED UNDER THE MANUFACTURER'S QUALITY CONTROL PROGRAM.

CONTRACTOR PREQUALIFICATION:

PRIOR TO OBTAINING A CONSTRUCTION PERMIT FROM MSD TO CONSTRUCT THE PERMEABLE ARTICULTING CONCRETE BLOCK/MAT (P-ACB/M) FOR A GIVEN PROJECT, THE CONTRACTOR'S ENGINEER PROVIDING AS-BUILT CERTIFICATION SHALL VERIFY THAT THE INSTALLING CONTRACTOR HAS:

1. PAST HISTORY DEMONSTRATING APPLICABLE EXPERIENCE.
2. THE P-ACB/M INSTALLATION CONTRACTOR MUST HAVE A CURRENT LEVEL 1 CERTIFICATE FROM THE INTERLOCKING CONCRETE PAVEMENT INSTITUTE'S CONCRETE PAVER INSTALLER PROGRAM.

AS-BUILT CERTIFICATION:

AT COMPLETION OF PROJECT, PRIOR TO FINAL DEDICATION, AN AS-BUILT CERTIFICATION, SIGNED AND SEALED BY THE CONTRACTOR'S LICENSED PROFESSIONAL ENGINEER, SHALL BE PROVIDED CERTIFYING:

1. THE P-ACB/M SYSTEM WAS BUILT IN ACCORDANCE WITH THE DETAILS, DIMENSIONS, AND MATERIALS AS APPROVED BY MSD FOR THIS PROJECT.
2. THE P-ACB/M SYSTEM WAS INSTALLED BY A QUALIFIED CONTRACTOR, AND HAS SATISFIED ALL APPLICABLE QUALITY CONTROL AND PERFORMANCE TESTS.
3. THE P-ACB/M SYSTEM INSTALLATION WAS WITNESSED BY THE CERTIFYING ENGINEER OR A REPRESENTATIVE UNDER HIS/HER DIRECT SUPERVISION.

MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

Christner
ARCHITECTS
Architecture / Interior Design / Graphics

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS IN THE PLANS, ARCHITECTURAL WORKS AND TECHNICAL DOCUMENTS' AND ANY REPRODUCTIONS THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED BY ANY MEANS WHATSOEVER, NOR ASSIGNED TO ANY THIRD PARTY WITHOUT THE EXPRESS WRITTEN CONSENT OF LOUIS C. CHRISTNER, CHRISTNER ASSOCIATES, INC. AND THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT (YEAR) CHRISTNER

Parkway South Middle School
Building Addition, Renovations
& Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

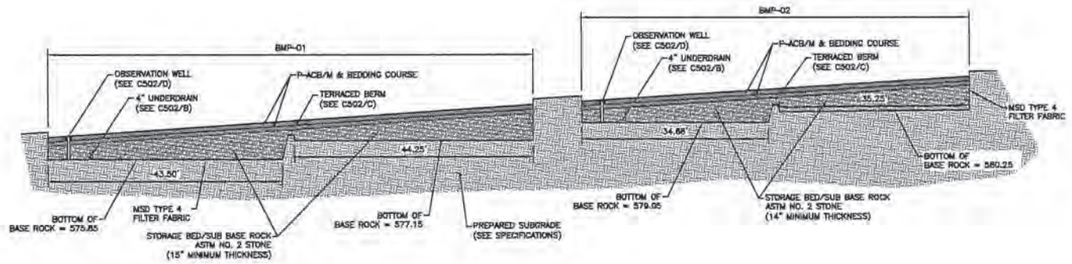
REVISIONS:

BMP DETAILS

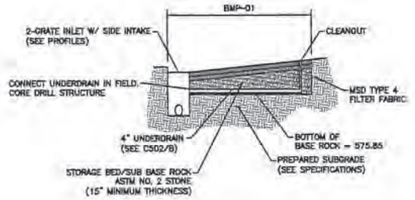
PSD Project No.:	4118018
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

C502

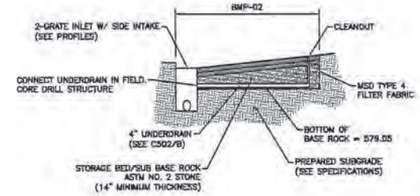
BID / PERMIT SET 02-04-2019



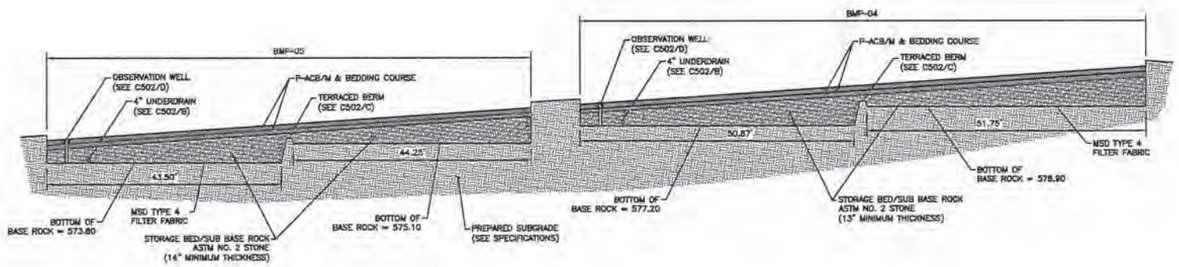
A PERMEABLE PAVERS SECTION A-A
VERTICAL: 1"=5', HORIZONTAL: 1"=10'



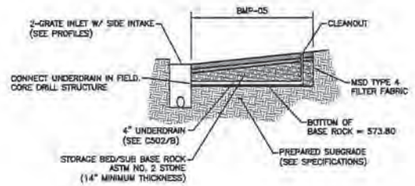
B PERMEABLE PAVERS SECTION B-B
VERTICAL: 1"=5', HORIZONTAL: 1"=10'



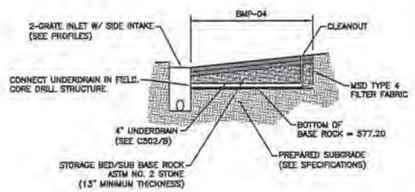
C PERMEABLE PAVERS SECTION C-C
VERTICAL: 1"=5', HORIZONTAL: 1"=10'



D PERMEABLE PAVERS SECTION D-D
VERTICAL: 1"=5', HORIZONTAL: 1"=10'



E PERMEABLE PAVERS SECTION E-E
VERTICAL: 1"=5', HORIZONTAL: 1"=10'



F PERMEABLE PAVERS SECTION F-F
VERTICAL: 1"=5', HORIZONTAL: 1"=10'

Christner ARCHITECTS
Architecture / Interior Design / Graphics

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE DRAWINGS. THESE DRAWINGS AND DESIGNS ARE NOT TO BE CHANGED OR COPIED IN ANY FORM WHATSOEVER, FURTHERMORE THEY ARE NOT TO BE ASSIGNED TO ANY THIRD PARTY, NOR ARE THEY TO BE USED BY ANY OWNER OR OTHER PERSON FOR ANY USE WHATSOEVER, WITHOUT THE EXPRESS WRITTEN CONSENT OF CHRISTNER, INC. IN THE EVENT UNAUTHORIZED REVISIONS TO THESE PLANS OR DOCUMENTS ARE MADE BY ANY PARTY, THAT PARTY AGREES TO INDEMNIFY AND HOLD HARMLESS CHRISTNER, INC. FROM AND AGAINST ANY AND ALL LOSS, DAMAGE, AND/OR EXPENSE, INCLUDING ATTORNEY'S FEES, ARISING FROM SUCH UNAUTHORIZED REVISIONS.
© COPYRIGHT PENDING

Parkway South Middle School
Building Addition, Renovations & Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

BID / PERMIT SET 02-04-2019

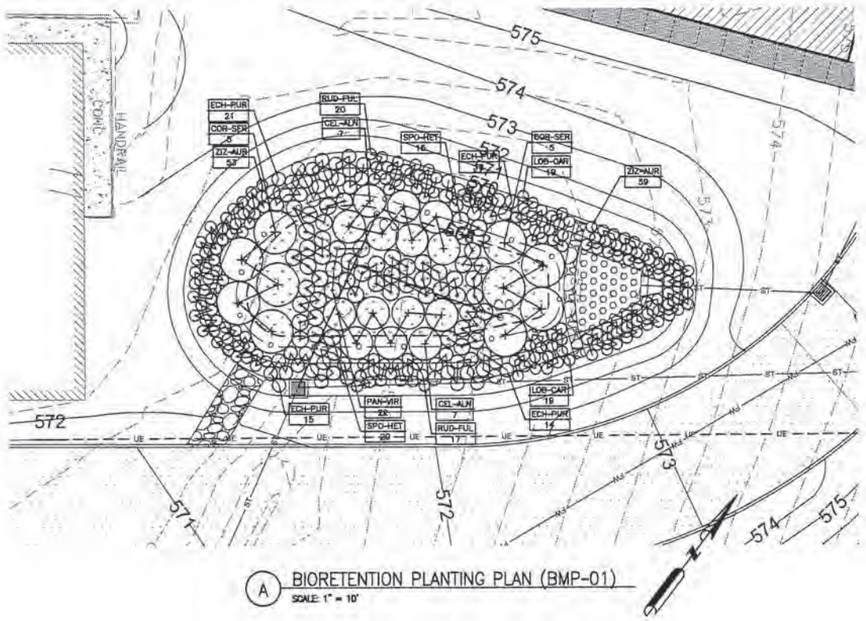
BMP DETAILS

PSD Project No.:	4118018
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

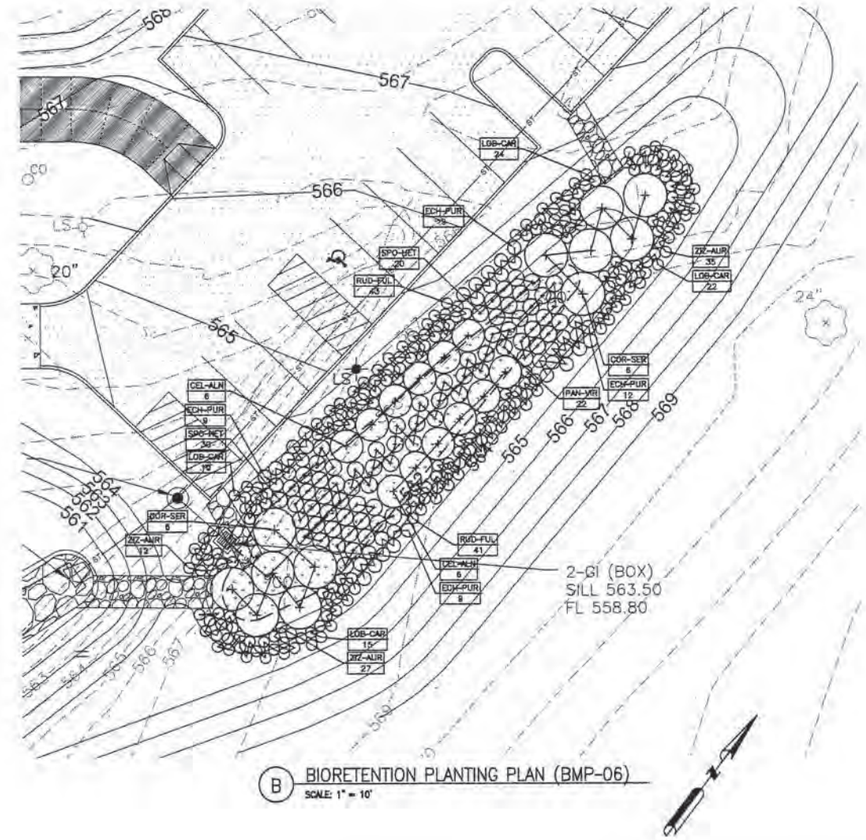
C503

MSD PROJECT 18MSD-00571 MSD MAP 21Q

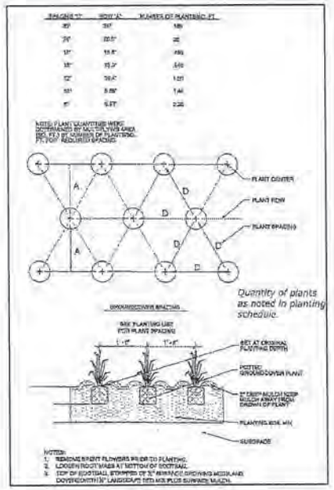
PRINTED: 10/5/2018 7:07:59 AM



A BIORETENTION PLANTING PLAN (BMP-01)
SCALE: 1" = 10'



B BIORETENTION PLANTING PLAN (BMP-06)
SCALE: 1" = 10'



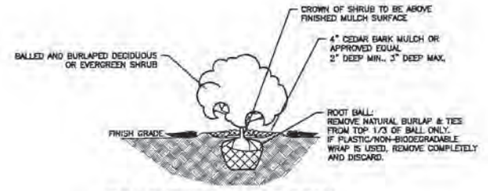
D BIORETENTION PLANT SPACING
NOT TO SCALE

PLANT MATERIALS

	KEY	BOTANICAL/COMMON NAME	METHOD	SIZE	QUANITY	REMARKS
SHRUBS / PERENNIALS	CLE-ALN	CLETHRA ALNIFOLIA SWEET PEPPERBUSH	CONT	5 GAL	26	FULL HEALTHY PLANT
	COR-SER	CORNUS SERICEA 'SILVER & GOLD' SILVER & GOLD YELLOW TWIG DOGWOOD	CONT	5 GAL	22	FULL HEALTHY PLANT
	ECH-PUR	ECHINACEA PURPUREA PURPLE CONEFLOWER	CONT	1 GAL	102	FULL HEALTHY PLANT
	LOB-CAR	LOBELIA CARDINALIS CARDINAL FLOWER	CONT	1 GAL	106	FULL HEALTHY PLANT
	PAN-VIR	PANICUM VIRGATUM SWITCHGRASS	CONT	3 GAL	44	FULL HEALTHY PLANT
	RUD-SUB	RUDBECKIA FULGIDA ORANGE CONEFLOWER	CONT	1 GAL	121	FULL HEALTHY PLANT
	SPO-HET	SPOROBOLUS HETEROLEPIS PRAIRIE DROPSEED	CONT	3 GAL	85	FULL HEALTHY PLANT
	ZIZ-AUR	ZIZIA AUREA GOLDEN ALEXANDER	CONT	1 GAL	138	FULL HEALTHY PLANT

PLANTING NOTES:

1. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITY LINES AND OTHER UNDERGROUND OBSTRUCTIONS IN AREAS OF WORK PRIOR TO START OF OPERATIONS.
2. EXTERMINATE AND REMOVE ALL EXISTING WEEDS FROM SITE AREA PRIOR TO PLANTING.
3. THE STANDARDS SET FORTH IN "AMERICAN STANDARDS FOR NURSERY STOCK" REPRESENT GENERAL GUIDELINE SPECIFICATIONS ONLY AND WILL CONSTITUTE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIAL.
4. ANY PLANT MATERIAL THAT DIES OR DEFOLIATES (PRIOR TO ACCEPTANCE OF WORK) SHALL BE REMOVED AND REPLACED.
5. THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO REJECT ANY PLANT MATERIAL NOT MEETING SPECIFICATIONS.
6. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR SOIL SAMPLING AND TESTING TO DETERMINE EXACT FERTILIZER REQUIREMENTS.
7. ALL SHRUB PLANTING AREAS SHALL RECEIVE A MINIMUM OF 3 INCH DEPTH OF SHREDDED OAK MULCH OR APPROVED EQUAL AFTER INSTALLATION OF PLANT MATERIAL.
8. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR WATERING ALL PLANTS UNTIL THE TIME THE LANDSCAPE IS APPROVED BY THE OWNER'S REPRESENTATIVE.
9. LANDSCAPE CONTRACTOR SHALL PROVIDE UNIT COSTS AND POSSIBLE ALTERNATIVES FOR PLANT MATERIAL TO THE LANDSCAPE ARCHITECT.
10. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR COMPLETELY MAINTAINING THE WORK (INCLUDING BUT NOT LIMITED TO: WATERING, MULCHING, SPRAYING, FERTILIZING, ETC.) OF ALL PLANTING AND TURF AREAS UNTIL TOTAL ACCEPTANCE OF THE WORK BY THE LANDSCAPE DESIGNER AND OWNER.
11. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL WORK FOR A PERIOD OF ONE YEAR BEGINNING AT THE DATE OF ACCEPTANCE BY OWNER'S REPRESENTATIVE.



C SHRUB PLANTING DETAIL
NOT TO SCALE

Table 3: Planting, Water and Mulch Requirements

Water Availability	Required Planting Period	Minimum Container Size	Water Requirement First 3 Weeks*	Water Requirement After 3 Weeks*	Minimum Mulch Depth***
No ability to water after	Late Feb. – April only	2.25" x 2.75" or larger	Water each plug immediately		1.5 for plugs
Manual watering with standard sprinkler	Late Feb. – Early June Sept. – October	4.5" x 5" (quart) or larger in summer & fall	1" (60 min) every 4 days	1" (60 min) every 7 days until plants established**	1.5" for plugs 2.5" for quarts
Automatic irrigation (will also water more frequently than normal during first two months after planting)	Late Feb. – Early Oct.	2.25" x 2.75" (plug) or larger in spring 4.5" x 5" (quart) or larger in summer & fall	1" (60 min) every 4 days in spring and fall 1" (60 min) every 3 days in summer	1" (60 min) every 7 days until plants established**	1.5" for plugs 2.5" for quarts

*This water amount includes natural rainfall. If you get a ½ inch of natural rain then you will need to add a ½ inch of water to meet the 1 inch requirement.

**Requires transport of water to the planting site in large containers and pouring enough water onto each plant (after planting) to moisten the entire planting pit.

***Plants are established when roots have grown out of the container soil and into the native soil by 3-5 inches. This normally takes 3-4 months for most perennials and grasses and up to 6-7 months for trees and shrubs.

****Shredded leaf compost is recommended for use with perennials and grasses. Shredded bark mulch is recommended for tree and shrub plantings at a depth of 3 inches.

E BIORETENTION PLANTING, WATER & MULCH TABLE
NOT TO SCALE

Christner ARCHITECTS
Architecture / Interior Design / Graphics

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE ARCHITECTURAL WORKS AND "DRAWINGS, SPECIFICATIONS AND DIGITAL MEDIA" AND THESE DRAWINGS AND DIGITAL MEDIA ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER NOR ANY USE WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF THE ARCHITECT ASSIGNED, NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

Parkway South Middle School
Building Addition, Renovations
& Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

BMP PLANTING PLANS

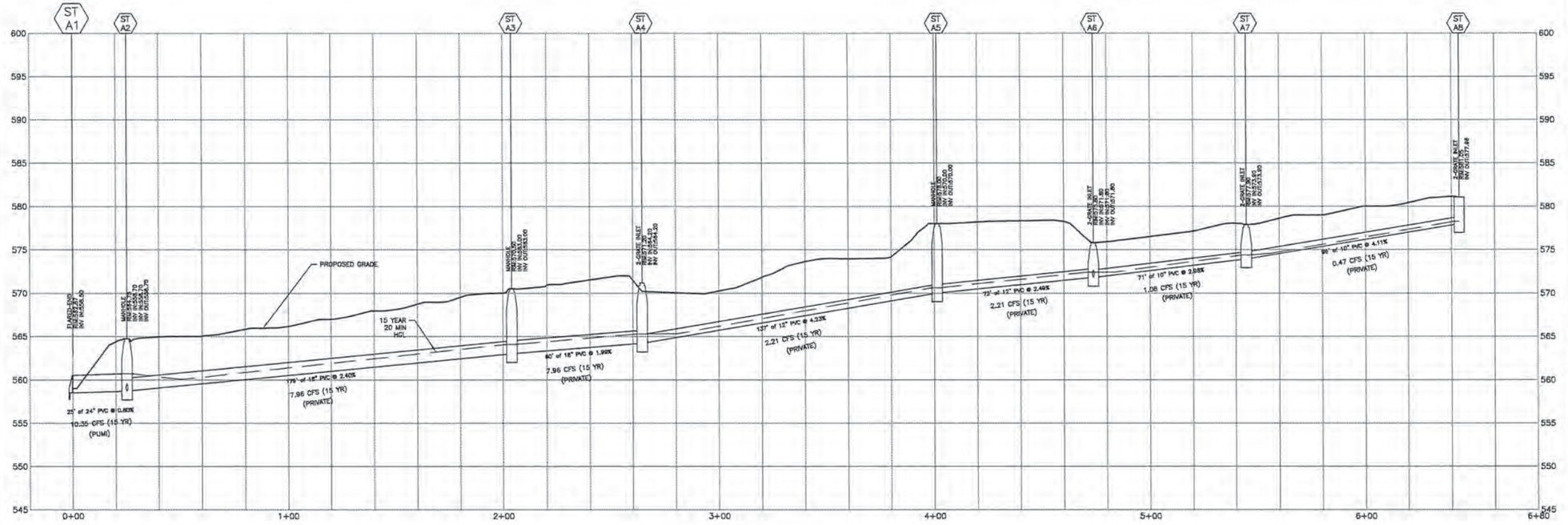
PSD Project No.:	411601B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

C504

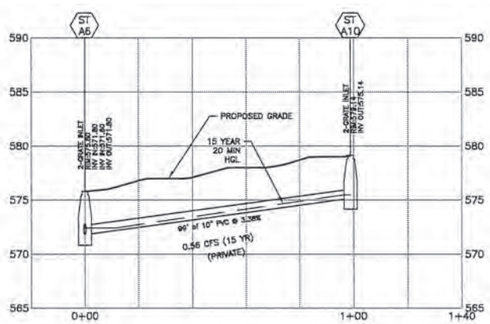
BID / PERMIT SET 02-04-2019

MSD PROJECT 18MSD-00571 MSD MAP 21Q

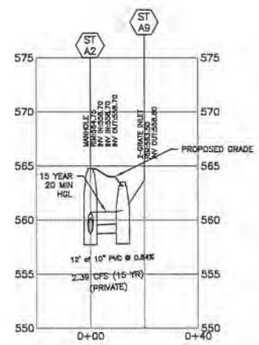
PRINTED: 10/8/2018 7:07:59 AM



A STORM A1-A8 PROFILE
SCALE: HORZ. 1"=20', VERT. 1"=5'



B STORM A6-A10 PROFILE
SCALE: HORZ. 1"=20', VERT. 1"=5'



C STORM A2-A9 PROFILE
SCALE: HORZ. 1"=20', VERT. 1"=5'

MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

BID / PERMIT SET 02-04-2019

Christner ARCHITECTS
Architecture / Interior Design / Graphics
1421 S. Brentwood Blvd. | St. Louis, MO 63144 | 314.918.1700 | christner.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE ARCHITECTURAL WORKS AND TECHNICAL INFORMATION CONTAINED IN THESE CONSTRUCTION DOCUMENTS AND DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER FOR ANY USE WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF CHRISTNER ASSOCIATES, NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

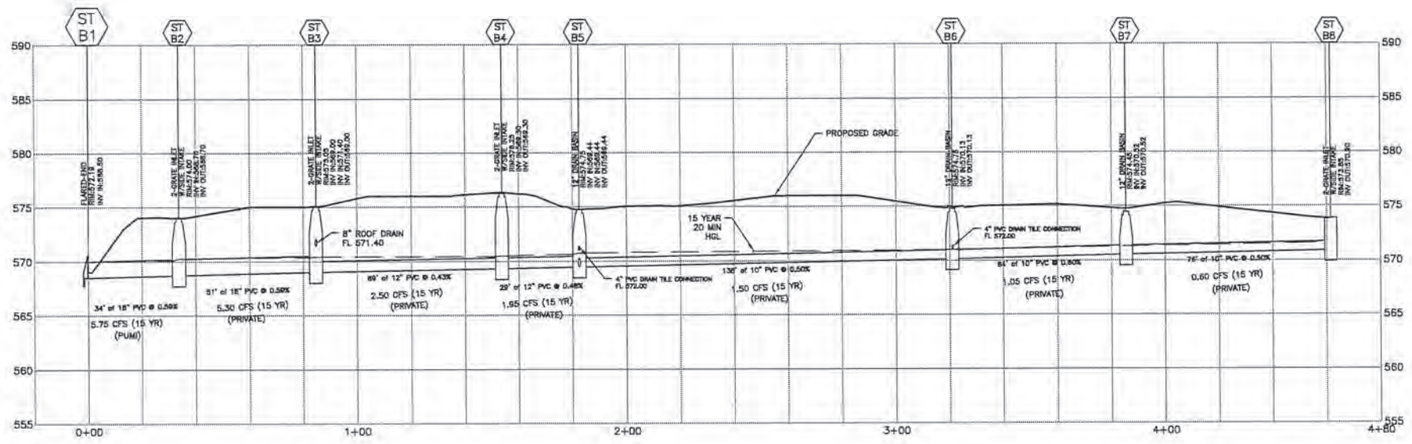
Parkway South Middle School
Building Addition, Renovations
& Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

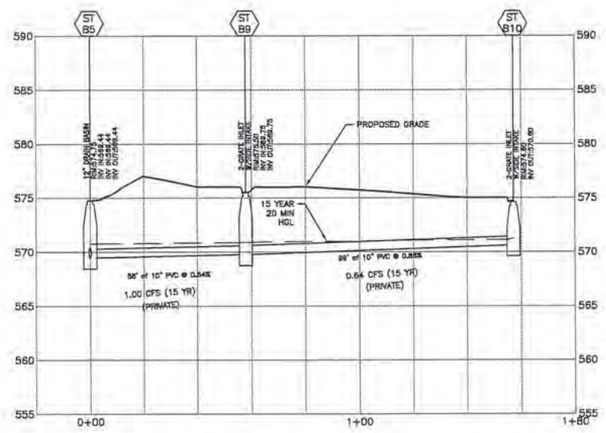
STORM SEWER PROFILES

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

C600



D STORM B1-B8 PROFILE
SCALE: HORZ. 1"=20', VERT. 1"=5'



E STORM B5-B10 PROFILE
SCALE: HORZ. 1"=20', VERT. 1"=5'

MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

BID / PERMIT SET 02-04-2019

Christner
ARCHITECTS
Architecture / Interior Design / Graphics

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE USED IN WHOLE OR IN PART BY ANY OTHER PERSON WHATSOEVER FOR ANY USE WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHRISTNER, CHRISTNER ASSOCIATES, NOR ARE THEY TO BE ASSIGNED TO WRITTEN PERMISSION AND CONSENT.
© COPYRIGHT PENDING

Parkway South Middle School
Building Addition, Renovations
& Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

STORM SEWER PROFILES

PSD Project No.: 411801B
Project Number: 2018.033
Date: 02.04.2019
Drawn By: NJC

C601

PROPERTY ADDRESS
760 WOODS MILL ROAD
BALLWIN, MISSOURI 63011

OWNER INFORMATION
PARKWAY CONSOLIDATED SCHOOL DISTRICT
760 WOODS MILL ROAD
BALLWIN, MISSOURI 63011
CONTACT:
P:

PROJECT INFORMATION
PROJECT DISTURBANCE: 5.0 ACRES

GRAPHIC SCALE

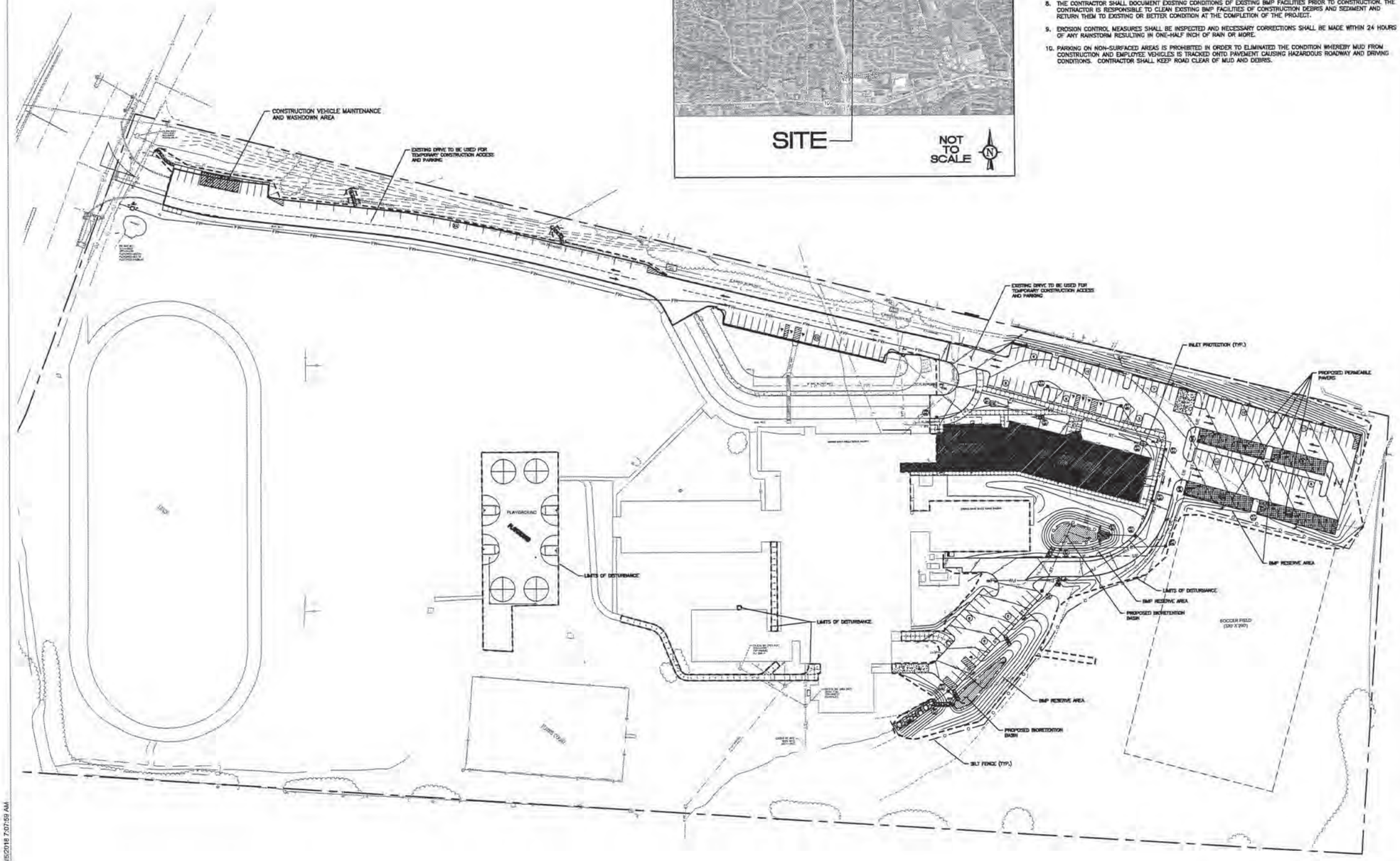
(IN FEET)
1 INCH = 50 FT

PROJECT LOCATION MAP



EROSION AND SEDIMENT CONTROL NOTES:

1. CONTRACTOR TO PROVIDE TEMPORARY SEEDING OVER ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES WHICH ARE LEFT INACTIVE FOR 30 DAYS. TEMPORARY SEEDING SHALL BE IN ACCORDANCE WITH THE ST. LOUIS COUNTY STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
2. ALL EROSION CONTROL AND SEDIMENTATION CONTROL MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL, INSPECT AND MAINTAIN. THE MAINTENANCE OF THESE EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CONSIDERED INCIDENTAL TO THE DEVICES THEMSELVES. MAINTENANCE SHALL CONTINUE TO BE THE RESPONSIBILITY OF THE CONTRACTOR UNTIL THE OWNER TAKES OWNERSHIP OF THE IMPROVEMENTS.
3. ALL EROSION CONTROL SHALL CONFORM TO THE ST. LOUIS COUNTY STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
4. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO BEGINNING CONSTRUCTION.
5. A WASHDOWN AREA FOR VEHICLES SHALL BE PROVIDED TO REDUCE THE RISK OF VEHICLES TRACKING SEDIMENT AND DEBRIS.
6. PAVED AREAS WITHIN THE PROPERTY LIMITS AND STREETS ADJACENT TO THE CONSTRUCTION SITE SHALL BE CLEANED DAILY OR MORE FREQUENTLY AS NECESSARY. CLEANING SHALL INCLUDE SCRAPING SIGNIFICANT AMOUNTS OF SOIL AND POWER SWEEPING AS NEEDED TO REMOVE ANY EXCESS MUD, DIRT, OR ROCK TRACKED FROM THE CONSTRUCTION AREA. SEDIMENT SHALL NOT BE ALLOWED TO LEAVE THE SITE AND BE DEPOSITED ON THE CITY STREETS.
7. ALL INLETS STRUCTURES RECEIVING DRAINAGE FROM THE PROPOSED DISTURBED AREAS SHALL BE PROTECTED WITH SEDIMENT CONTROL MEASURES TO PREVENT SEDIMENT FROM ENTERING THE STORM SYSTEM AND DISCHARGING TO EXISTING BMP FACILITIES. SEDIMENT CONTROL MEASURES SHALL REMAIN UNTIL THE DISTURBED DRAINAGE AREAS HAVE BEEN PROPERLY STABILIZED.
8. THE CONTRACTOR SHALL DOCUMENT EXISTING CONDITIONS OF EXISTING BMP FACILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO CLEAN EXISTING BMP FACILITIES OF CONSTRUCTION DEBRIS AND SEDIMENT AND RETURN THEM TO EXISTING OR BETTER CONDITION AT THE COMPLETION OF THE PROJECT.
9. EROSION CONTROL MEASURES SHALL BE INSPECTED AND NECESSARY CORRECTIONS SHALL BE MADE WITHIN 24 HOURS OF ANY RAINSTORM RESULTING IN ONE-HALF INCH OF RAIN OR MORE.
10. PARKING ON NON-SURFACED AREAS IS PROHIBITED IN ORDER TO ELIMINATED THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVING CONDITIONS. CONTRACTOR SHALL KEEP ROAD CLEAR OF MUD AND DEBRIS.



MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

BID / PERMIT SET 02-04-2019

Christner ARCHITECTS
Architecture / Interior Design / Graphics

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL SUBMISSIONS" DESCRIBED HEREIN. ACCORDINGLY, THESE DRAWINGS AND SPECIFICATIONS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF CHRISTNER, INC. AND ANY RIGHTS ASSOCIATED WITH AND THAT TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

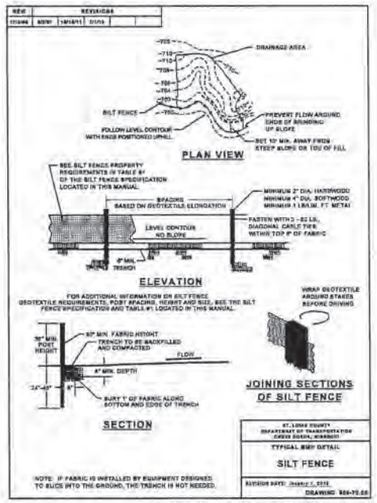
Parkway South Middle School Building Addition, Renovations & Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

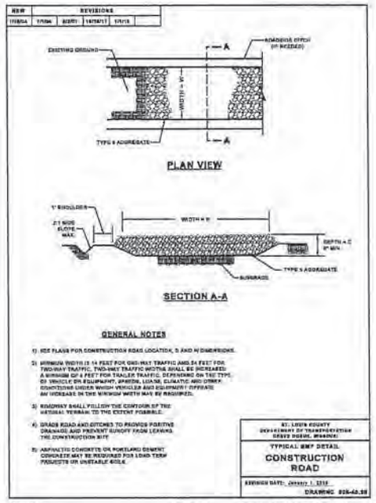
SWPP PLAN

PSD Project No.:	4118018
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

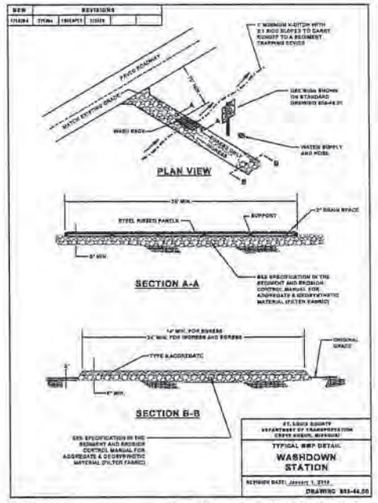
C700



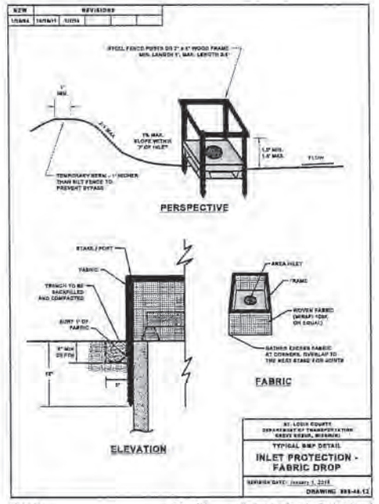
1/1/2016 Page 143 *Sediment and Erosion Control Manual Standard Drawings*



1/1/2016 Page 128 *Sediment and Erosion Control Manual Standard Drawings*



1/1/2016 Page 127 *Sediment and Erosion Control Manual Standard Drawings*



1/1/2016 Page 128 *Sediment and Erosion Control Manual Standard Drawings*

VEHICLE MAINTENANCE AND WASHING AREAS

DESCRIPTION - Ideally, vehicle maintenance and washing occurs in garages and wash facilities, not on active construction sites. However, if these activities must occur onsite, operators should follow appropriate BMPs to prevent untreated nutrient-enriched wastewater or hazardous wastes from being discharged to surface or ground waters. Vehicle maintenance and washing BMPs prevent construction site spills of wash water, fuel, or coolant from contaminating surface or ground water. They apply to all construction sites.

APPROPRIATE APPLICATION OF BMP - Inspect construction vehicles daily, and repair any leaks immediately. Dispose of all used oil, antifreeze, solvents and other automotive-related chemicals according to manufacturer instructions. These wastes require special handling and disposal. Used oil, antifreeze, and some solvents can be recycled at designated facilities, but other chemicals must be disposed of at a hazardous waste disposal site. Local government agencies can help identify such facilities.

Designate special paved areas for vehicle repair. To direct wash water to sanitary sewer systems or other treatment facilities, ensure that vehicle washing areas are impervious and are bermed. Use blowers or vacuums instead of water to remove dry materials from vehicles if possible. Because water alone can remove most dirt adequately, use high-pressure water spray without detergents at vehicle washing areas. If you must use detergents, avoid phosphate or organic-based cleansers to reduce nutrient enrichment and biological oxygen demand in wastewater. Use only biodegradable products that are free of halogenated solvents. Clearly mark all washing areas, and inform workers that all washing must occur in this area.

O&M PROCEDURES - Vehicle maintenance operations produce substantial amounts of hazardous and other wastes that require regular disposal. Clean up spills and dispose of cleanup materials immediately. Inspect equipment and storage containers regularly to identify leaks or signs of deterioration. Maintenance of vehicle wash areas is minimal, usually involving repairs to berms and drainage to the sanitary sewer system.

TYPICAL DETAILS - Not applicable.

7/1/2015 Page 197 *Sediment and Erosion Control Manual*

NON-SEDIMENT POLLUTION CONTROL

PHYSICAL DESCRIPTION - Control measures designed to prohibit chemicals, hazardous materials, solid waste and construction debris from polluting stormwater. Pollutants carried in solution or as surface films on runoff will be carried through most erosion control and sediment capture BMPs. Keeping substances like fuel, oil, asphalt, paint, solvents, fertilizer, soil additives, concrete wash water, solid waste and construction debris from polluting runoff can be accomplished to a large extent through good housekeeping on the site and following the manufacturer's recommendations for disposal.

WHERE BMP IS TO BE INSTALLED - Collection, storage and fueling areas should be located onsite in an area that does not receive a substantial amount of runoff from upland areas and does not drain directly to lakes, creeks, streams, rivers, sewers, groundwater, wetlands, or road ditches.

CONDITIONS FOR EFFECTIVE USE OF BMP:

- ✓ Reduction in pollutants depends heavily on how construction personnel perform their duties. An effective management system requires training and signage to promote proper storage, handling and disposal of materials. Follow up observations of actions and inspection of storage areas by management personnel is also required.
- ✓ Plans should contain notes clearly stating requirements for addressing potential pollutants.
- ✓ Fueling areas and storage areas for hazardous materials should be protected by berms or other means of catching leaks or spills. Do not store hazardous chemicals, drums, or bagged materials directly on the ground. Place these items on a pallet and under cover in secondary containment.

WHEN BMP IS TO BE INSTALLED - Immediately following installation of construction entrance and wash station

INSTALLATION / CONSTRUCTION PROCEDURES

- ✓ Place waste receptacles near area of work.
- ✓ Construct protective berm or other devices around fueling and hazardous materials storage areas.
- ✓ Install appropriate signage.
- ✓ Post guidelines for proper handling, storage and disposal of materials, and emergency spill cleanup on site.

O&M PROCEDURES:

- ✓ Inspect activities on regular basis.
- ✓ Inspect storage areas and control devices at least every two weeks and after every storm.
- ✓ Make necessary corrections and repairs.

SITE CONDITIONS FOR REMOVAL - Maintain practices until all construction on the site has been completed.

TYPICAL DETAILS - General pollution prevention notes attached.

7/1/2015 Page 77 *Sediment and Erosion Control Manual*

NOTE:
CONTRACTOR RESPONSIBLE FOR ALL COST ASSOCIATED WITH INSTALLATION AND MAINTENANCE OF EROSION CONTROL FOR DURATION OF PROJECT. REFER TO ST. LOUIS COUNTY SEDIMENT AND EROSION CONTROL MANUAL FOR O&M PROCEDURES.

MSD PROJECT 18MSD-00571 MSD MAP 21Q

BID / PERMIT SET 02-04-2019

Christner ARCHITECTS
Architecture / Interior Design / Graphics
Saint Louis | Kansas City | Lake Ozark | Lake of the Ozarks | Kansas City Airport

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS, SPECIFICATIONS AND DRAWINGS. THESE PLANS, SPECIFICATIONS AND DRAWINGS MAY NOT BE CHANGED OR ALTERED IN ANY WAY, NOR MAY THEY BE REPRODUCED. CHANGES OR ALTERATIONS MAY NOT BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER FOR ANY USE WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF CHRISTNER ASSOCIATES, INC. AND ANY THEFT TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© _COPYRIGHT PENDING

Parkway South Middle School
Building Addition, Renovations & Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

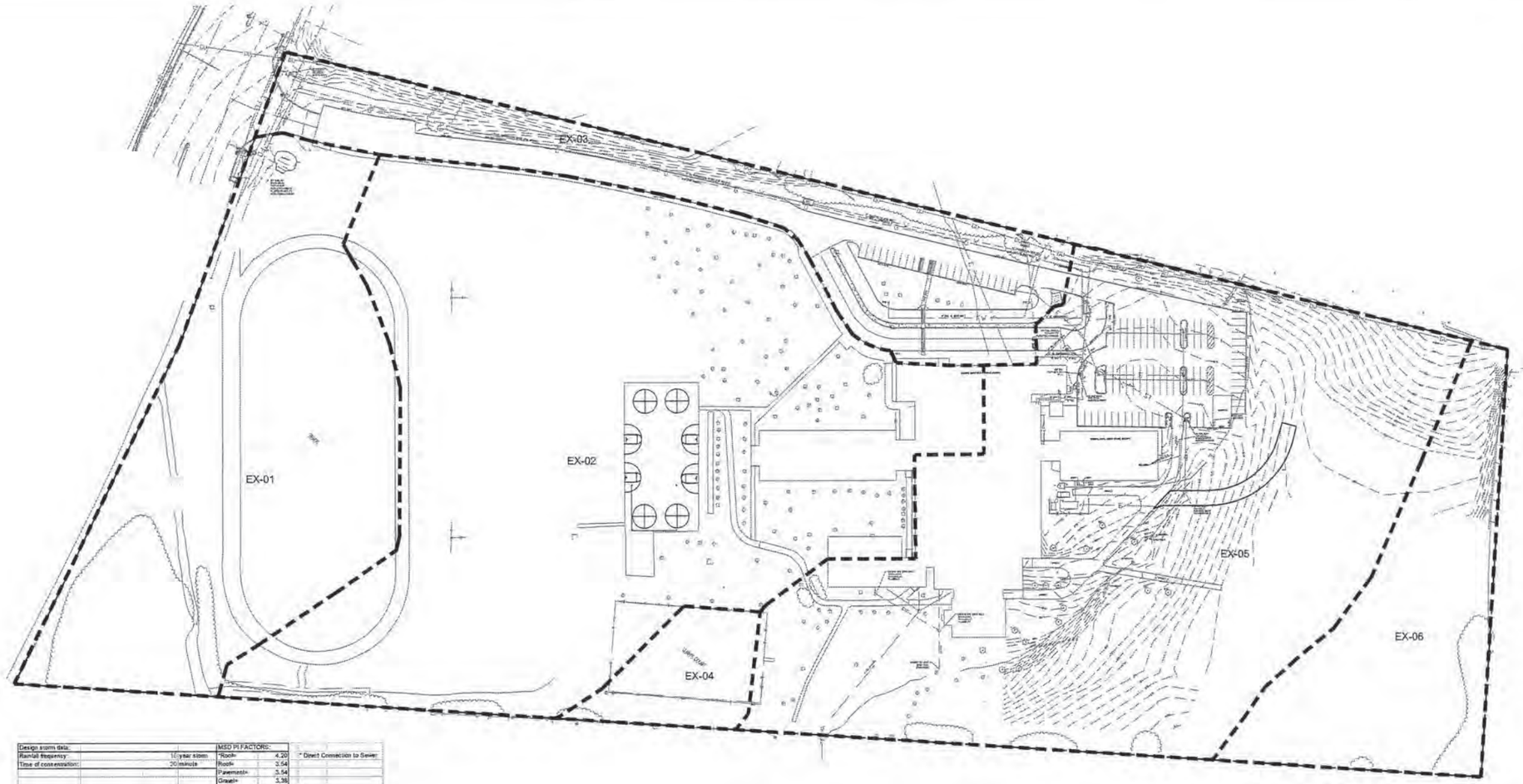
REVISIONS:

SWPP DETAILS

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

C701

PRINTED: 10/5/2018, 7:07:59 AM



Design storm data:			MSD PI FACTORS:		
Rainfall frequency:	10	year storm	*Roofs=	4.20	* Direct Connection to Sewer
Time of concentration:	20	minute	Roofs=	3.54	
			Pavement=	3.54	
			Grass=	3.38	
			Lawn=	1.78	

Existing Drainage Areas:								
Drainage Area Title:	EX-01	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Track	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	0	0.00	x	3.54	=	0.00
Q=PIA	Q= flow (cfs)	Pavement=	43560	0.44	x	3.54	=	1.56
	PI= PI factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawn=	199940	4.59	x	1.78	=	8.17
		DA Totals=	243501	5.03				9.73
Drainage Area Title:	EX-02	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Playground	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	28773	0.66	x	3.54	=	2.34
Q=PIA	Q= flow (cfs)	Pavement=	52875	1.21	x	3.54	=	4.29
	PI= PI factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawn=	360567	8.35	x	1.78	=	14.80
		DA Totals=	442256	10.22				21.43
Drainage Area Title:	EX-03	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Entrance/Dropoff	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	0	0.00	x	3.54	=	0.00
Q=PIA	Q= flow (cfs)	Pavement=	64975	1.49	x	3.54	=	5.27
	PI= PI factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawn=	58058	1.33	x	1.78	=	2.37
		DA Totals=	123033	2.83				7.64
Drainage Area Title:	EX-04	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Tennis Court	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	0	0.00	x	3.54	=	0.00
Q=PIA	Q= flow (cfs)	Pavement=	17424	0.40	x	3.54	=	1.42
	PI= PI factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawn=	10960	0.25	x	1.78	=	0.45
		DA Totals=	28384	0.65				1.86
Drainage Area Title:	EX-05	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Parking	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	57971	1.33	x	3.54	=	4.71
Q=PIA	Q= flow (cfs)	Pavement=	56929	1.30	x	3.54	=	4.62
	PI= PI factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawn=	283086	6.54	x	1.78	=	11.66
		DA Totals=	398986	9.16				20.99
Drainage Area Title:	EX-06	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Misc Areas	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	0	0.00	x	3.54	=	0.00
Q=PIA	Q= flow (cfs)	Pavement=	0	0.00	x	3.54	=	0.00
	PI= PI factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawn=	101626	2.33	x	1.78	=	4.16
		DA Totals=	101626	2.33				4.16
Existing Drainage Summary:								
		Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
		*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	86744	1.99	x	3.54	=	7.05
		Pavement=	235859	5.40	x	3.54	=	19.12
		Gravel=	0	0.00	x	3.38	=	0.00
		Lawn=	1012217	23.40	x	1.78	=	41.65
		Totals=	1344731	30.86				67.82

LEGEND

DRAINAGE AREA

GRAPHIC SCALE

DRAINAGE AREA MAP FOR REVIEW INFORMATION ONLY. NOT FOR CONSTRUCTION

MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

Christner ARCHITECTS
Architecture / Interior Design / Graphics

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL SOLEMNITY" AND ANY DERIVITIVES THEREOF. THESE DRAWINGS AND SOLEMNITY ARE NOT TO BE USED IN WHOLE OR IN PART IN ANY MANNER WHATSOEVER FOR ANY USE WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHITZIK, CHITZIK ASSOCIATES, AIA® AND THEY TO BE ASSIGNED TO WRITTEN PROVISIONS AND CONDITIONS SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

Parkway South Middle School
Building Addition, Renovations
& Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

BID / PERMIT SET 02-04-2019

EXISTING DRAINAGE AREA MAP

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

DAM1

Design storm data:			MSD PI FACTORS:		
Rainfall frequency:	10	year storm	*Roofs=	4.20	* Direct Connection to Sewer
Time of concentration:	20	minute	Roofs=	3.54	
			Pavements=	3.54	
			Gravel=	3.38	
			Lawns=	1.78	

Site Differential Summary: Undetained (Proposed Development)

Existing Drainage	Total Q=:	67.82	CFS	
Proposed Drainage	Total Q=:	69.47	CFS	
Differential	Total Q=:	1.65	CFS	INCREASE

Proposed Drainage Areas:

Drainage Area Title:	PR-01	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Track	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	0	0.00	x	3.54	=	0.00
Q=PI*A	Q= flow (cfs)	Pavements=	43560	0.44	x	3.54	=	1.56
	PI= PI factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawns=	199450	4.58	x	1.78	=	8.17
		DA Totals=	243031	5.03				9.73

Drainage Area Title:	PR-02	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Playground	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	29772	0.66	x	3.54	=	2.34
Q=PI*A	Q= flow (cfs)	Pavements=	52878	1.21	x	3.54	=	4.29
	PI= PI factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawns=	363597	8.35	x	1.78	=	14.86
		DA Totals=	445236	10.22				21.48

Drainage Area Title:	PR-03	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Entrance/Drop-off	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	0	0.00	x	3.54	=	0.00
Q=PI*A	Q= flow (cfs)	Pavements=	66141	1.52	x	3.54	=	5.36
	PI= PI factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawns=	56645	1.31	x	1.78	=	2.33
		DA Totals=	122886	2.83				7.69

Drainage Area Title:	PR-04	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Tennis Court	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	0	0.00	x	3.54	=	0.00
Q=PI*A	Q= flow (cfs)	Pavements=	17424	0.40	x	3.54	=	1.42
	PI= PI factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawns=	12890	0.25	x	1.78	=	0.46
		DA Totals=	28314	0.65				1.88

Drainage Area Title:	PR-05	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Parking	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	75156	1.73	x	3.54	=	6.11
Q=PI*A	Q= flow (cfs)	Pavements=	79199	1.82	x	3.54	=	6.45
	PI= PI factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawns=	245313	5.63	x	1.78	=	10.02
		DA Totals=	399668	9.18				22.58

Drainage Area Title:	PR-06	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Misc Areas	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	0	0.00	x	3.54	=	0.00
Q=PI*A	Q= flow (cfs)	Pavements=	0	0.00	x	3.54	=	0.00
	PI= PI factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawns=	101828	2.33	x	1.78	=	4.16
		DA Totals=	101828	2.33				4.16

Proposed Drainage Summary:

	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
	*Roofs=	0	0.00	x	4.20	=	0.00
	Roofs=	103928	2.39	x	3.54	=	8.45
	Pavements=	209201	5.95	x	3.54	=	21.05
	Gravel=	0	0.00	x	3.38	=	0.00
	Lawns=	978301	22.44	x	1.78	=	39.96
	Totals=	1331731	30.80				69.47

LEGEND

DRAINAGE AREA

GRAPHIC SCALE

1" = 100' - 0"
1 INCH = 100 FT

DRAINAGE AREA MAP FOR REVIEW INFORMATION ONLY. NOT FOR CONSTRUCTION

MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

BID / PERMIT SET 02-04-2019

Christner, ARCHITECTS
Architecture / Interior Design / Graphics

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE ARCHITECTURAL WORKS AND TECHNICAL DRAWINGS AND DOCUMENTS. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER OR FOR ANY USE WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF CLIENT AND CHRISTNER, CHRISTNER ARCHITECTS, INC. FIRST TO BE ASSIGNED TO AND PAID FOR, AND THEN ONLY TO THE EXTENT OF SUCH WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

Parkway South Middle School
Building Addition, Renovations
& Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

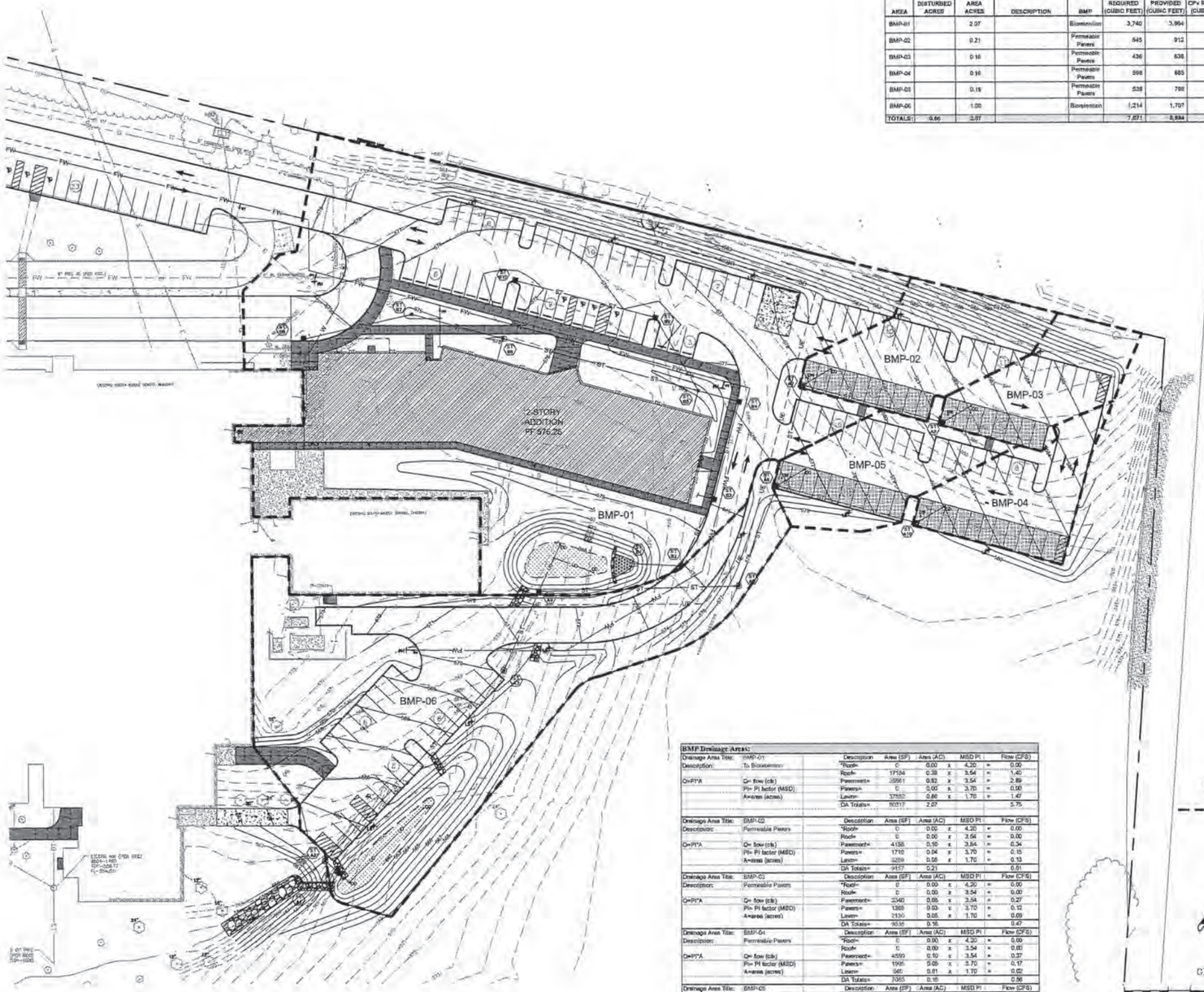
PROPOSED
DRAINAGE AREA MAP

PSD Project No.:	4118018
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

DAM2

BMP SUMMARY TABLE

AREA	PREVIOUSLY DISTURBED ACRES	DRAINAGE AREA ACRES	DESCRIPTION	BMP	WQv REQUIRED (CUBIC FEET)	WQv PROVIDED (CUBIC FEET)	CPv REQUIRED (CUBIC FEET)	CPv PROVIDED (CUBIC FEET)	Qp REQUIRED	Qp PROVIDED	REMARKS
BMP-01		2.07		Bioretention	3,740	3,964	7,891	8,539	NO	N/A	
BMP-02		0.21		Permeable Pavers	845	912	837	912	NO	N/A	
BMP-03		0.16		Permeable Pavers	436	538	626	638	NO	N/A	
BMP-04		0.16		Permeable Pavers	598	665	629	665	NO	N/A	
BMP-05		0.18		Permeable Pavers	536	786	762	786	NO	N/A	
BMP-06		1.00		Bioretention	1,214	1,797	3,974	3,462	NO	N/A	
TOTALS:	0.00	3.97			7,871	8,884	13,989	15,244			



BMP Drainage Areas:

		Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Drainage Area Title:	BMP-01	*Roof=	0	0.00	x	4.20	=	0.00
Description:	To Bioretention	Roof=	17184	0.39	x	3.54	=	1.40
C=PI*A	C= flow (cfs)	Pavement=	28961	0.83	x	3.54	=	2.89
	PI= PI factor (MSD)	Pavers=	0	0.00	x	3.70	=	0.00
	A=area (acres)	Lawn=	37552	0.86	x	1.70	=	1.47
		DA Totals=	90317	2.07				5.75
Drainage Area Title:	BMP-02	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Permeable Pavers	*Roof=	0	0.00	x	4.20	=	0.00
		Roof=	0	0.00	x	3.54	=	0.00
C=PI*A	C= flow (cfs)	Pavement=	4158	0.10	x	3.54	=	0.34
	PI= PI factor (MSD)	Pavers=	1716	0.04	x	3.70	=	0.15
	A=area (acres)	Lawn=	3283	0.08	x	1.70	=	0.13
		DA Totals=	9157	0.21				0.61
Drainage Area Title:	BMP-03	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Permeable Pavers	*Roof=	0	0.00	x	4.20	=	0.00
		Roof=	0	0.00	x	3.54	=	0.00
C=PI*A	C= flow (cfs)	Pavement=	3340	0.08	x	3.54	=	0.27
	PI= PI factor (MSD)	Pavers=	1368	0.03	x	3.70	=	0.12
	A=area (acres)	Lawn=	2130	0.05	x	1.70	=	0.09
		DA Totals=	6838	0.16				0.47
Drainage Area Title:	BMP-04	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Permeable Pavers	*Roof=	0	0.00	x	4.20	=	0.00
		Roof=	0	0.00	x	3.54	=	0.00
C=PI*A	C= flow (cfs)	Pavement=	4599	0.10	x	3.54	=	0.37
	PI= PI factor (MSD)	Pavers=	1995	0.05	x	3.70	=	0.17
	A=area (acres)	Lawn=	940	0.01	x	1.70	=	0.02
		DA Totals=	7083	0.16				0.56
Drainage Area Title:	BMP-05	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Permeable Pavers	*Roof=	0	0.00	x	4.20	=	0.00
		Roof=	0	0.00	x	3.54	=	0.00
C=PI*A	C= flow (cfs)	Pavement=	4153	0.09	x	3.54	=	0.33
	PI= PI factor (MSD)	Pavers=	1710	0.04	x	3.70	=	0.15
	A=area (acres)	Lawn=	2302	0.05	x	1.70	=	0.09
		DA Totals=	8125	0.19				0.57
Drainage Area Title:	BMP-06	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	To Bioretention	*Roof=	0	0.00	x	4.20	=	0.00
		Roof=	0	0.00	x	3.54	=	0.00
C=PI*A	C= flow (cfs)	Pavement=	16512	0.38	x	3.54	=	1.34
	PI= PI factor (MSD)	Pavers=	0	0.00	x	3.70	=	0.00
	A=area (acres)	Lawn=	26912	0.62	x	1.70	=	1.05
		DA Totals=	43424	1.00				2.39

LEGEND

DRAINAGE AREA

GRAPHIC SCALE

DRAINAGE AREA MAP FOR REVIEW INFORMATION ONLY. NOT FOR CONSTRUCTION

MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:49 AM

Christner ARCHITECTS
Architecture / Interior Design / Graphics

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE ARCHITECTURAL WORKS AND TECHNICAL DOCUMENTS AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE USED IN WHOLE OR IN PART FOR ANY PURPOSE WHATSOEVER FOR ANY USE WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS D. DIGIOIA, DIGIOIA ASSOCIATES, NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PERSON OR FIRM WITHOUT SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

Parkway South Middle School
Building Addition, Renovations
& Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

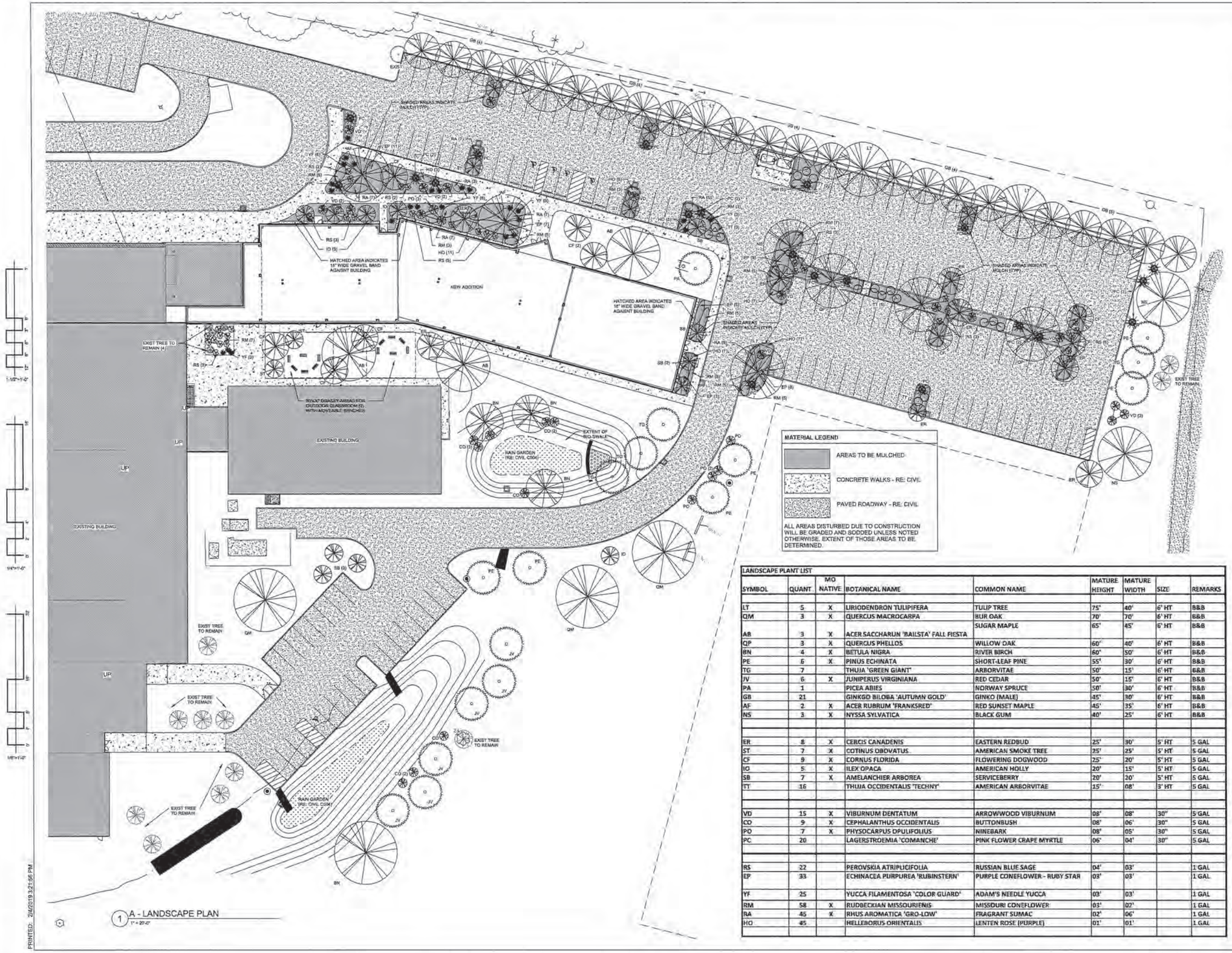
REVISIONS:

BID / PERMIT SET 02-04-2019

BMP DRAINAGE AREA MAP

PSD Project No.: 411801B
Project Number: 2018.033
Date: 02.04.2019
Drawn By: NJC

DAM3



1 A - LANDSCAPE PLAN
1" = 20'-0"

PRINTED: 2/4/2019 3:21:56 PM

LANDSCAPE PLANT LIST

SYMBOL	QUANT	MO NATIVE	BOTANICAL NAME	COMMON NAME	MATURE HEIGHT	MATURE WIDTH	SIZE	REMARKS
LT	5	X	LIRIODENDRON TULIPIFERA	TULIP TREE	75'	40'	6' HT	B&B
QM	3	X	QUERCUS MACROCARPA	BUR OAK	70'	70'	6' HT	B&B
AB	3	X	ACER SACCHARUN 'BAILSTA' FALL FIESTA	SUGAR MAPLE	65'	45'	6' HT	B&B
QP	3	X	QUERCUS PHELLOS	WILLOW OAK	60'	40'	6' HT	B&B
BN	4	X	BETULA NIGRA	RIVER BIRCH	60'	50'	6' HT	B&B
PE	6	X	PINUS ECHINATA	SHORT-LEAF PINE	55'	30'	6' HT	B&B
TG	7		THUJA 'GREEN GIANT'	ARBORVITAE	50'	15'	6' HT	B&B
JV	6	X	JUNIPERUS VIRGINIANA	RED CEDAR	50'	15'	6' HT	B&B
PA	1		PICEA ABIES	NORWAY SPRUCE	50'	30'	6' HT	B&B
GB	21		GINKGO BILOBA 'AUTUMN GOLD'	GINKO (MALE)	45'	30'	6' HT	B&B
AF	2	X	ACER RUBRUM 'FRANKSRED'	RED SUNSET MAPLE	45'	35'	6' HT	B&B
NS	3	X	NYSSA SYLVATICA	BLACK GUM	40'	25'	6' HT	B&B
ER	8	X	CERCIS CANADENIS	EASTERN REDBUD	25'	30'	5' HT	5 GAL
ST	7	X	COTINUS OBOVATUS	AMERICAN SMOKE TREE	25'	25'	5' HT	5 GAL
CF	9	X	CORNUS FLORIDA	FLOWERING DOGWOOD	25'	20'	5' HT	5 GAL
IO	5	X	ILEX OPACA	AMERICAN HOLLY	20'	15'	5' HT	5 GAL
SB	7	X	AMELANCHIER ARBOREA	SERVICEBERRY	20'	20'	5' HT	5 GAL
TT	16		THUJA OCCIDENTALIS 'TECHNY'	AMERICAN ARBORVITAE	15'	08'	3' HT	5 GAL
VD	15	X	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	08'	08'	30"	5 GAL
CO	9	X	CEPHALANTHUS OCCIDENTALIS	BUTTONBUSH	08'	06'	30"	5 GAL
PO	7	X	PHYSOCARPUS OPULIFOLIUS	NINEBARK	08'	05'	30"	5 GAL
PC	20		LAGERSTROEMIA 'COMANCHE'	PINK FLOWER CRAPE MYRTLE	06'	04'	30"	5 GAL
RS	22		PEROVSKIA ATRIPLICIFOLIA	RUSSIAN BLUE SAGE	04'	03'		1 GAL
EP	33		ECHINACEA PURPUREA 'RUBINSTERN'	PURPLE CONEFLOWER - RUBY STAR	03'	03'		1 GAL
YF	25		YUCCA FILAMENTOSA 'COLOR GUARD'	ADAM'S NEEDLE YUCCA	03'	03'		1 GAL
RM	58	X	RUDBECKIAN MISSOURIENS	MISSOURI CONEFLOWER	03'	02'		1 GAL
RA	45	X	RHUS AROMATICA 'GRO-LOW'	FRAGRANT SUMAC	02'	06'		1 GAL
HO	45		HELLEBORUS ORIENTALIS	LENTEN ROSE (PURPLE)	01'	01'		1 GAL

BID/ PERMIT SET 02-04-2019

Chiodini ARCHITECTS
Architecture / Interior Design / Graphics
3223 S. Kirkwood Road, Suite 200 St. Louis, Missouri 63144

CHI ARCHITECTS EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN HIS PLANS, ARCHITECTURAL WORKS AND DRAWINGS. ALL PLANS, DRAWINGS AND DOCUMENTS PREPARED BY THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER NOR ARE THEY TO BE ASSIGNED FIRST OBTAINING THE EXPRESS, WRITTEN PERMISSION AND CONSENT OF CHI ARCHITECTS. ALL DRAWINGS AND DOCUMENTS ARE NOT TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.
© COPYRIGHT PENDING

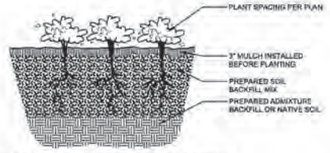
Parkway South Middle School
Building Addition, Renovations & Site Improvements -
760 Woods Mill Road
Manchester, MO 63011

REVISIONS:

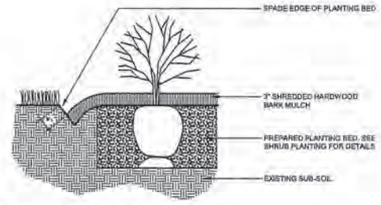
LANDSCAPE PLAN

PSD Project No.: 411801B
Project Number: 2018.033
Date: 02.04.2019
Drawn By: RJL

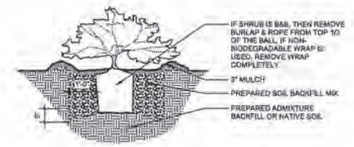
L100



1 ANNUAL / PERENNIAL PLANTING
1/2" = 1'-0"



2 SPADE-CUT EDGE DETAIL
1/2" = 1'-0"



3 EVERGREEN / DECIDUOUS SHRUB PLANTING
1/2" = 1'-0"

LANDSCAPE NOTES

GENERAL LANDSCAPE NOTES:

1. ALL NATURAL VEGETATION SHALL BE MAINTAINED WHERE IT DOES NOT INTERFERE WITH CONSTRUCTION OR THE PERMANENT PLAN OF OPERATION. EVERY EFFORT POSSIBLE SHALL BE MADE TO PROTECT EXISTING STRUCTURES OR VEGETATION FROM DAMAGE DUE TO EQUIPMENT USAGE. CONTRACTOR SHALL AT ALL TIMES PROTECT ALL MATERIALS AND WORK AGAINST INJURY TO PUBLIC.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH OTHER SITE RELATED WORK BEING PERFORMED BY OTHER CONTRACTORS. REFER TO ARCHITECTURAL DRAWINGS FOR FURTHER COORDINATION OF WORK TO BE DONE.
3. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS NOT PRESENTLY KNOWN OR SHOWN. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE OR VERIFY THE EXISTENCE OF AND EXACT LOCATION OF THE ABOVE (CALL 1-800-DIG-RITE).
4. PLANT MATERIAL ARE TO BE PLANTED IN THE SAME RELATIONSHIP TO GRADE AS WAS GROWN IN NURSERY CONDITIONS. ALL PLANTING BEDS SHALL BE CULTIVATED TO 6" DEPTH MINIMUM AND GRADED SMOOTH IMMEDIATELY BEFORE PLANTING OF PLANTS. PLANT GROUNDCOVER TO WITHIN 12" OF TRUNK OF TREES OR SHRUBS PLANTED WITHIN THE AREA.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO:
   A.) VERIFY ALL EXISTING AND PROPOSED FEATURES SHOWN ON THE DRAWINGS PRIOR TO COMMENDMENT OF WORK.
   B.) REPORT ALL DISCREPANCIES FOUND WITH REGARD TO EXISTING CONDITIONS OR PROPOSED DESIGN TO THE LANDSCAPE ARCHITECT IMMEDIATELY FOR A DECISION.
   C.) STAKE THE LOCATIONS OF ALL PROPOSED PLANT MATERIAL AND OBTAIN THE APPROVAL OF THE OWNER'S REPRESENTATIVE OR LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
6. ITEMS SHOWN ON THIS DRAWING TAKE PRECEDENCE OVER THE MATERIAL LIST. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL QUANTITIES AND CONDITIONS PRIOR TO IMPLEMENTATION OF THIS PLAN. NO SUBSTITUTIONS OF TYPES OR SIZE OF PLANT MATERIALS WILL BE ACCEPTED WITHOUT WRITTEN APPROVAL FROM ARCHITECT.
7. PROVIDE SINGLE-STEM TREES UNLESS OTHERWISE NOTED IN PLANT SCHEDULE.
8. ALL PLANT MATERIAL SHALL COMPLY WITH THE RECOMMENDATIONS AND REQUIREMENTS OF ANSI Z60.1 "AMERICAN STANDARDS FOR NURSERY STOCK".
9. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE FOR INSPECTION OF PLANT MATERIAL BY THE ARCHITECT PRIOR TO ACCEPTANCE. PLANTS NOT CONFORMING EXACTLY TO PLANT LIST WILL NOT BE ACCEPTED AND SHALL BE REPLACED AT THE LANDSCAPE CONTRACTOR'S EXPENSE.
10. ALL BIDS ARE TO HAVE UNIT PRICES LISTED. TEH OWNER HAS THE OPTION TO DELETE ANY PORTION OF THE CONTRACT PRIOR TO SIGNING THE CONTRACT OR BEGINNING WORK. THIS WILL BE A UNIT PRICE CONTRACT.

MULCH:

1. ALL MULCH TO BE SHREDDED OAK BARK MULCH AT 3" DEPTH (AFTER COMPACTION) UNLESS OTHERWISE NOTED. MULCH SHALL BE CLEAN AND FREE OF ALL FOREIGN MATERIALS, INCLUDING WEEDS, MOLD, DELETERIOUS MATERIALS, ETC.
2. NO PLASTIC SHEETING OR FILTER FABRIC SHALL BE PLACED BENEATH SHREDDED BARK MULCH BEDS. MYRAFI FABRIC SHALL BE USED BENEATH ALL GRAVEL MULCH BEDS.
3. EDGE ALL BEDS WITH SPADE-CUT EDGE UNLESS OTHERWISE NOTED. REFER TO DETAIL.

MAINTENANCE:

1. CONTRACTOR SHALL PROVIDE A SEPERATE PROPOSAL TO MAINTAIN ALL PLANTS, SHRUBS, GROUNDCOVER, PERENNIALS AND ANNUALS FOR A PERIOD OF 12 MONTHS AFTER ACCEPTANCE.
2. CONTRACTOR SHALL ENSURE THAT ONLY COMPETENT AND TRAINED PERSONNEL SHALL PROVIDE SUCH SERVICES AND THAT SUCH SERVICES BE PROVIDED IN A TIMELY MANNER.

TOPSOIL:

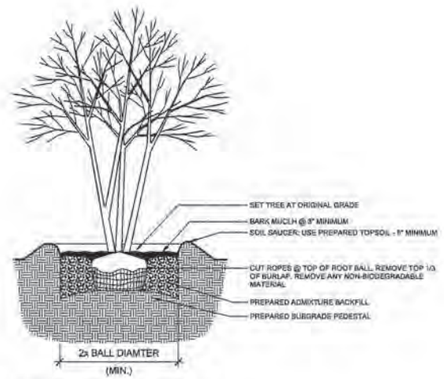
1. TOPSOIL MIX FOR ALL PROPOSED LANDSCAPE PLANTINGS SHALL BE FIVE (5) PARTS WELL-DRAINED SCREENED ORGANIC TOPSOIL TO ONE (1) PART CANADIAN SPHAGNUM PEAT MOSS AS PER PLANTING DETAILS. ROTO TILL TOP SOIL MIX TO A DEPTH OF 6" MINIMUM AND GRADE SMOOTH.
2. PROVIDE A SOIL ANALYSIS, AS REQUESTED, MADE BY AN INDEPENDENT SOIL-TESTING AGENCY OUTLINING THE % OF ORGANIC MATTER, INORGANIC MATTER, DELETERIOUS MATERIAL, PH AND MINERAL CONTENT.
3. ANY FOREIGN TOPSOIL USED SHALL BE FREE OF ROOTS, STUMPS, WEEDS, BRUSH, STONES (LARGER THAN 1"), LITTER OR ANY OTHER EXTRANEOUS OR TOXIC MATERIAL.
4. CONTRACTOR TO APPLY PRE-EMERGENT HERBICIDE TO ALL PLANTING BEDS UPON COMPLETION OF PLANTING OPERATIONS AND BEFORE APPLICATION OF SHREDDED BARK MULCH.

MISCELLANEOUS MATERIAL:

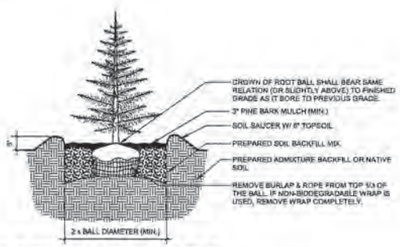
1. PROVIDE STAKES AND DEADMEN OF SOUND, NEW HARDWOOD, FREE OF KNOTHOLES AND DEFECTS.
2. TREE WRAP TAPE SHALL BE 4" MINIMUM, DESIGNED TO PREVENT BORER DAMAGE AND WINTER FREEZING. ADDITIONALLY, ONLY 3-PLY TYING MATERIAL SHALL BE USED.

TURF:

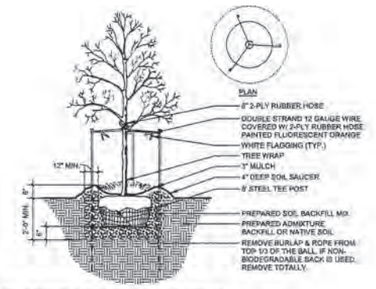
1. ALL DISTURBED LAWN AREAS TO BE SEEDED WITH A MIXTURE OF TURF-TYPE FESCUE (190# PER ACRE) AND BLUEGRASS (18# PER ACRE). LAWN AREAS SHALL BE UNCONDITIONALLY WARRANTED FOR A PERIOD OF 90 DAYS FROM DATE OF FINAL ACCEPTANCE. BARE AREAS MORE THAN ONE SQUARE FOOT PER ANY 50 SQUARE FEET SHALL BE REPLACED.
2. ANY POINTS CARRYING CONCENTRATED WATER LOADS AND ALL SLOPES OF 15% OR GREATER SHALL BE SODDED.
3. ALL SOD SHALL BE PLACED A MAXIMUM OF 24 HOURS AFTER HARVESTING.
4. RECONDITION EXISTING LAWN AREAS DAMAGED BY CONTRACTOR'S OPERATIONS INCLUDING EQUIPMENT/MATERIAL STORAGE AND MOVEMENT OF VEHICLES.
5. CONTRACTOR TO ENSURE SOD IS PLACED BELOW SIDEWALK AND ALL PAVED AREA ELEVATIONS TO ALLOW FOR PROPER DRAINAGE.



4 MULTI-STEM TREE PLANTING
1/2" = 1'-0"



5 EVERGREEN TREE PLANTING
1/2" = 1'-0"



6 DECIDUOUS TREE PLANTING
1/2" = 1'-0"

Christner®
ARCHITECTS
Architecture / Interior Design / Graphics
10215 Watson Road, Suite 100 (314) 821-5460
St. Louis, Missouri 63127

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS FOR THESE PLANS, SPECIFICATIONS AND OTHER PROPERTY RIGHTS FOR THESE ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVITIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY MANNER WHATSOEVER FOR ANY USE WHATSOEVER WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS C. CHRISTNER, CHRISTNER ASSOCIATES, INC. AND ARE "NOT TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAME. SYNETHN IMPRESSION AND CONVENT.

© COPYRIGHT 11/30/2018

Parkway South Middle School
Building Addition, Renovations
& Site Improvements -
760 Woods Mill Road
Manchester, MO 63011

REVISIONS:

BID/ PERMIT SET 02-04-2019

LANDSCAPE DETAILS

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	RJL

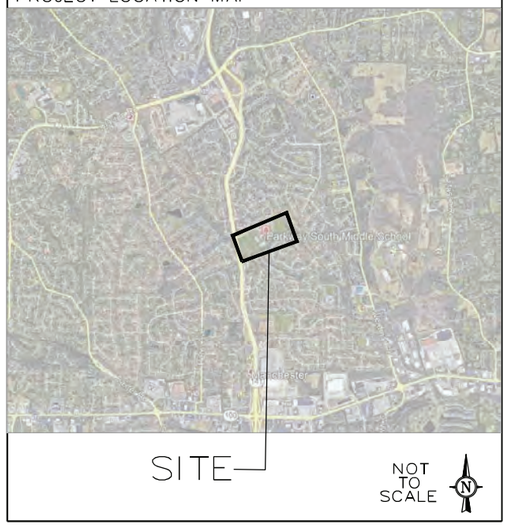
L101

PRINTED: 2/4/2019 3:21:57 PM

CIVIL ABBREVIATIONS

ASPH	ASPHALT	OHE	OVERHEAD ELECTRIC
BC	BACK OF CURB	ORD	ORDINANCE
BIT	BITUMINOUS	OU	OVERHEAD UTILITY
BK	BOOK	PB	PLAT BOOK
BM	BENCHMARK	PC	POINT OF CURVATURE
BOP	BEGINNING OF PROJECT	PCA	PORTLAND CONCRETE ASSOCIATION
BW	BOTTOM OF WALL	PCC	PORTLAND CEMENT CONCRETE
CL	CENTERLINE	PCH	PIPE CULVERT HEADWALLS
CI	CURB INLET	PG	PAGE
CJ	CONSTRUCTION JOINT	PI	POINT OF INTERSECTION
CMP	CORRUGATED METAL PIPE	PIV	POST INDICATOR VALVE
CO	CLEANOUT	PL	PROPERTY LINE
CONC	CONCRETE	PP	POWER POLE
CPR	COPPER PIPE	PROP	PROPOSED
CS	COMBINED SEWER	PSI	POUNDS PER SQUARE INCH
CT	COOLING TOWER	PT	POINT OF TANGENT
D	DEGREE OF CURVE	PVC	POINT OF VERTICAL CURVE, POLYVINYL CHLORIDE PIPE
DI	DUCTILE IRON PIPE		
DIA	DIAMETER	PVI	POINT OF VERTICAL INTERSECTION
DIM	DIMENSION	PVMT	PAVEMENT
DND	DO NOT DISTURB	PVT	POINT OF VERTICAL TANGENT
DS	DOWNSPOUT	PUMI	PRIVATE UNDER MSD INSPECTION
DW	DOMESTIC WATER	R, RAD	RADIUS
ELEC	ELECTRIC	RCP	REINFORCED CONCRETE PIPE
ELEV	ELEVATION	RD	ROADWAY
EOP	EDGE OF PAVEMENT	ROW	RIGHT OF WAY
EX, EXIST	EXISTING	RTE	ROUTE
EJ	EXPANSION JOINT	SP	SPACES
ET	ELECTRIC TRANSFORMER	SPEC	SPECIFICATION
FF	FINISH FLOOR	SS, SA	SANITARY SEWER
FH	FIRE HYDRANT	ST	STORM SEWER
FL	FLOW LINE	STA	STATION
FO	FIBER OPTIC	STL	STEEL PIPE
FP	FIRE PROTECTION	TBA	TO BE ABANDONED
FW	FIRE WATER	TBA&F	TO BE ABANDONED AND FILLED
G	NATURAL GAS	TBR	TO BE REMOVED
GM	GAS METER	TBR&R	TO BE REMOVED AND REPLACED
GV	GAS VALVE	TBR&S	TO BE REMOVED AND SALVAGED
HORIZ	HORIZONTAL	TC	TOP OF CURB
ID	INSIDE DIAMETER	TELE	TELEPHONE
INV	INVERT	TI	TOP OF INLET
L	LENGTH OF CURVE	TW	TOP OF WALL
MAX	MAXIMUM	TYP	TYPICAL
MEP	MECHANICAL/ELECTRICAL/PLUMBING	UG	UNDERGROUND
MH	MANHOLE	UGE	UNDERGROUND ELECTRIC
MIN	MINIMUM	UGT	UNDERGROUND TELEPHONE
MISC	MISCELLANEOUS	UIP	USE IN PLACE
MON	MONUMENT	VAC	VACATED
N	NORTH	VCP	VITRIFIED CLAY PIPE
NIC	NOT IN CONTRACT	VERT	VERTICAL
NO	NUMBER	W	WATER
NTS	NOT TO SCALE	W/	WITH
OC	ON CENTER	WM	WATER METER
OD	OUTSIDE DIAMETER	WV	WATER VALVE
OH	OVERHEAD	WWF	WELDED WIRE FABRIC
		UNO	UNLESS NOTED OTHERWISE

PROJECT LOCATION MAP



MSD CONSTRUCTION/AS-BUILT NOTE:

CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETING ALL SEWER AND DRAINAGE WORK REQUIRED IN ORDER TO COMPLETE THIS PROJECT. THIS INCLUDES, BUT IS NOT LIMITED TO, COMPLETING ALL WORK AND REQUIREMENTS ASSOCIATED WITH THE MSD PERMIT. FURTHER, THIS WORK SHALL INCLUDE COORDINATING AND SCHEDULING INSPECTIONS WITH MSD INSPECTORS. IF THE MSD INSPECTOR NOTICES ANY DEFICIENCIES WITH THE CONTRACTOR'S WORK, THE CONTRACTOR SHALL REPAIR THESE DEFICIENCIES TO THE SATISFACTION OF THE MSD INSPECTOR. FURTHERMORE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING ANY AND ALL AS-BUILT SURVEYS, IF REQUIRED BY THE MSD PERMIT, FOR ANY STRUCTURES, BASINS, AND/OR APPURTENANCES. THE CONTRACTOR SHALL COORDINATE WITH THE MSD INSPECTOR FOR CLARIFICATIONS ON WHICH COMPLETED ITEMS MUST BE SURVEYED. THE CONTRACTOR SHALL MAKE THE AS-BUILT SURVEY(S) AVAILABLE TO THE DESIGN TEAM IN BOTH ELECTRONIC AND HARD COPY FORMAT.

STORMWATER MANAGEMENT FUTURE NOTE:

PREVIOUS PROJECT: (MSD P-17269-03)
PROJECT MSD SITE DISTURBANCE = 0.15 ACRES
PROJECT RUNOFF DIFFERENTIAL = 0.03 CFS (INCREASE)

CURRENT PROJECT:
PROJECT MSD SITE DISTURBANCE = 3.58 ACRES
PROJECT RUNOFF DIFFERENTIAL = 1.70 CFS (INCREASE)

ANY FUTURE LAND DISTURBANCE AND/OR INCREASE IN IMPERVIOUS AREA ON THIS SITE MAY REQUIRE ADDITIONAL STORM WATER MANAGEMENT PER MSD REGULATIONS IN PLACE AT THAT TIME (INCLUDING TOTAL LAND DISTURBANCE AND/OR IMPERVIOUSNESS ADDED ON THIS PLAN).

PRINTED: 10/5/2018 7:07:59 AM

CIVIL LEGEND

- PROPERTY LINE
- O — SILTATION FENCE
- ST — STORM SEWER
- UD — STORM UNDERDRAIN
- SS — SANITARY SEWER
- G — GAS SERVICE
- FW — FIRE SERVICE WATER
- W — DOMESTIC SERVICE WATER
- CO — CLEANOUT
- FH — FIRE HYDRANT
- WV — WATER VALVE
- PIV — FIRE SERVICE POST INDICATOR VALVE

CIVIL DRAWING INDEX

C001	CIVIL GENERAL INFORMATION
C100	PARTIAL TOPOGRAPHIC SURVEY
C101	PARTIAL TOPOGRAPHIC SURVEY
C200	OVERALL DEMOLITION PLAN AND WORK SEQUENCE
C201	ENLARGED DEMOLITION PLAN
C202	ENLARGED DEMOLITION PLAN
C203	ENLARGED DEMOLITION PLAN
C204	ENLARGED DEMOLITION PLAN
C300	OVERALL SITE AND GRADING PLAN AND WORK SEQUENCE
C301	ENLARGED SITE AND GRADING PLAN
C302	ENLARGED SITE AND GRADING PLAN
C303	ENLARGED SITE AND GRADING PLAN
C304	ENLARGED SITE AND GRADING PLAN
C400	CIVIL SITE DETAILS
C401	CIVIL UTILITY DETAILS
C500	BMP DETAILS
C501	BMP DETAILS
C502	BMP DETAILS
C503	BMP DETAILS
C504	BMP PLANTING PLANS
C600	STORM SEWER PROFILES
C601	STORM SEWER PROFILES
C700	SWPP PLAN
C701	RESOURCES MAP AND HAUL ROUTE AND SWPP INFORMATION
C702	SWPP DETAILS
C703	SWPP DETAILS
DAM1	EXISTING DRAINAGE AREA MAP
DAM2	PROPOSED DRAINAGE AREA MAP
DAM3	BMP DRAINAGE AREA MAP
DAM4	PROPOSED SUB-AREA DRAINAGE MAP

PUBLIC UTILITY CONTACTS

CONTACT TYPE:	COMPANY NAME:	CONTACT PHONE:	STREET ADDRESS:	
STORM/SANITARY:	METROPOLITAN ST. LOUIS SEWER DISTRICT (MSD)	(314) 768-6200	2350 MARKET ST.	ST. LOUIS, MO 63103
ELECTRIC:	AMEREN MISSOURI	(886) 992-6619	1901 CHOUTEAU AVE.	ST. LOUIS, MO 63166
NATURAL GAS:	SPIRE	(314) 621-6960	720 OLIVE ST.	ST. LOUIS, MO 63101
WATER:	MISSOURI AMERICAN WATER	(866) 430-0820	727 CRAIG RD.	ST. LOUIS, MO 63141

GEOTECHNICAL ENGINEER'S STATEMENT:

GEOTECHNOLOGY, INC. AND THE UNDERSIGNED ENGINEER HAVE NOT PREPARED THE PLAN ON THIS SHEET. THE SEAL OF THE UNDERSIGNED PROFESSIONAL ENGINEER HAS BEEN AFFIXED AT THE REQUEST OF ST. LOUIS COUNTY AND IS A PROFESSIONAL OPINION TO INDICATE THAT THE UNDERSIGNED HAS REVIEWED THE PLANS AND THAT IN HIS OPINION THE GRADING AND IMPROVEMENTS RELATIVE TO SLOPE CONSTRUCTION AS SHOWN ON THE PLANS, AS WELL AS THE FOUNDATIONS, ARE COMPATIBLE WITH THE SOIL AND GEOLOGIC CONDITIONS AT THE SITE AS DESCRIBED IN THE GEOTECHNICAL REPORT FOR THE DEVELOPMENT DATED SEPTEMBER 20, 2018.

GEOTECHNOLOGY, INC. AND THE UNDERSIGNED ASSUME NO RESPONSIBILITY FOR SERVICES BY OTHERS (PURSUANT TO RSMO 327.411).

CONSTRUCTION MEANS AND METHODS FOR IMPLEMENTATION OF THE GRADING PLAN SHALL BE LEFT TO THE DEVELOPER/CONTRACTOR. OBSERVATIONS OF THE DEVELOPER/CONTRACTOR'S COMPLIANCE WITH THE APPLICABLE SPECIFICATIONS SHALL BE IDENTIFIED AND VERIFIED IN WRITING.

GEOTECHNOLOGY, INC.

_____
SENTHIL KUMAR, E-023728

DATE:_____

MSD NOTES (APPLY TO ALL CIVIL SHEETS):

1. PRIOR TO OBTAINING A CONSTRUCTION PERMIT FROM THE METROPOLITAN ST. LOUIS SEWER DISTRICT, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE THE DISTRICT WITH A COPY OF AN EXECUTED CERTIFICATE OF INSURANCE INDICATING THAT THE PERMITTEE HAS OBTAINED AND WILL CONTINUE TO CARRY COMMERCIAL GENERAL LIABILITY AND COMPREHENSIVE AUTO LIABILITY INSURANCE. THE REQUIREMENTS AND LIMITS SHALL BE AS STATED IN THE "RULES AND REGULATIONS AND ENGINEERING DESIGN REQUIREMENTS FOR SANITARY AND STORMWATER DRAINAGE FACILITY", SECTION 10.090(ADDENDUM).
2. ANY ABANDONED SEWERS SHALL BE REMOVED OR COMPLETELY GROUT FILLED.
3. ALL FILLED AREAS, INCLUDING TRENCH BACKFILLS, UNDER BUILDINGS, PROPOSED STORM AND SANITARY SEWER LINES, AND PAVED AREAS, SHALL BE COMPACTED TO A MINIMUM OF 90 PERCENT OF "MODIFIED PROCTOR". FILL IS TO BE PLACED IN A MAXIMUM OF 9-INCH LIFTS. TESTS SHALL BE TAKEN AT A MAXIMUM OF 50-FOOT INTERVALS ALONG THE ROUTE OF THE PIPE; AT A MAXIMUM OF 2-FOOT VERTICALLY; AND LATERALLY ON EACH SIDE OF THE PIPE, AT A DISCHARGE EQUAL TO THE DEPTH OF FILL OVER THE PIPE. A COPY OF THESE RESULTS SHALL BE SUBMITTED TO MSD PRIOR TO CONSTRUCTION APPROVAL.
4. NOT USED
5. PIPE JOINTS WITH ADAPTERS AND COUPLINGS SHALL BE SUPPLIED AND INSTALLED WITH 316 STAINLESS STEEL NUT AND BOLT CLAMPS (T-BOLT) CONFIGURATION; AND WITH STAINLESS STEEL SHEAR BANDS, BEING A MINIMUM OF TWELVE (12) MILS (MSD STD. CONST SPECS. PT. 2, SUBSECTION H 11). WORM DRIVE HOSE CLAMPS AND CONCRETE BACKFILLING (CAUSTICITY) WILL NO LONGER BE ALLOWED AT THOSE JOINTS. GRANULAR BACKFILL SHOULD BE USED. IF FLOWABLE FILL IS REQUIRED, THE CONTRACTOR SHALL WRAP AND TAPE THE ADAPTERS AND COUPLINGS WITH A SIX (6) MIL POLYETHYLENE SHEET.
6. STANDARD CONSTRUCTION:

   ALL STORM AND SANITARY SEWER STRUCTURES AND APPURTENANCES TO BE DEDICATED TO MSD, OR TO BE PRIVATE UNDER MSD INSPECTION, SHALL CONFORM TO THE METROPOLITAN ST. LOUIS SEWER DISTRICT, STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES, 2009. THAT WILL INCLUDE STANDARD DETAILS SHOWN THEREIN, AND SHALL INCLUDE ALL SUBSEQUENT CHANGES MADE THERETO.

   SOME RECENT CHANGES CONCERN PLASTIC PIPE MATERIALS AND PIPE FIELD TESTING AND PERFORMANCE, AND INCLUDE THE FOLLOWING:

   PART 2 – MATERIALS OF CONSTRUCTION

   HIGH DENSITY POLYETHYLENE (HDPE) PIPE IS NOT ALLOWED FOR GRAVITY SEWERS FOR STORM, COMBINED, OR SANITARY SEWERS THAT ARE •PUBLIC•• OR •PRIVATE UNDER MSD INSPECTION••

   POLYPROPYLENE (PP) PIPE IS ALLOWED AS FOLLOWS FOR GRAVITY SEWERS THAT ARE •PUBLIC•• OR •PRIVATE UNDER MSD INSPECTION:

   FOR USE IN SANITARY AND COMBINED SEWERS 12 TO 60 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2764 •STANDARD SPECIFICATION FOR 6 TO 60 IN. POLYPROPYLENE (PP) CORRUGATED DOUBLE AND TRIPLE WALL PIPE AND FITTINGS FOR NON-• PRESSURE SANITARY SEWER APPLICATIONS.••
   FOR USE IN STORM SEWERS 12 TO 24 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2881 •STANDARD SPECIFICATION FOR 12 TO 60 IN. POLYPROPYLENE (PP) DUAL WALL PIPE AND FITTINGS FOR NON-•PRESSURE STORM SEWER APPLICATIONS;•• OR
   FOR USE IN STORM SEWERS 12 TO 60 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2764 •STANDARD SPECIFICATION FOR 6 TO 60 IN. POLYPROPYLENE (PP) CORRUGATED DOUBLE AND TRIPLE WALL PIPE AND FITTINGS FOR NON-• PRESSURE SANITARY SEWER APPLICATIONS.••

   PART 4 – PIPE SEWER CONSTRUCTION

   SECTION B, PIPE FIELD TESTS, PARAGRAPH 2, REACH INTEGRITY TESTING – DELETE THE FIRST SENTENCE AND THE FOLLOWING REPLACEMENT APPLIES:

   ALL SANITARY AND COMBINED SEWERS SHALL SUSTAIN A MAXIMUM LEAKAGE LIMIT OF 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY, AS REQUIRED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES SPECIFICATIONS.

   SECTION B, PIPE FIELD TESTS, PARAGRAPH 2, REACH INTEGRITY TESTING, SUBPARAGRAPH C, INFILTRATION/EXFILTRATION TESTING – DELETE THE SIXTH SENTENCE, CONCERNING LEAKAGE LIMITS, AND THE FOLLOWING REPLACEMENT APPLIES:

   THE MEASUREMENT OF LEAKAGE SHALL NOT EXCEED 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY, AS REQUIRED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES SPECIFICATIONS.

   SECTION B, PIPE FIELD TESTS, PARAGRAPH 4, MANHOLE TESTING, SUBPARAGRAPH A, VACUUM TESTING – AFTER THE FIRST SENTENCE, THE FOLLOWING ADDITION APPLIES:

   THE VACUUM TEST MUST BE PERFORMED PRIOR TO BACKFILLING AROUND THE MANHOLE UNLESS THE CONTRACTOR PROVIDES DOCUMENTATION FROM THE PRECAST MANHOLE MANUFACTURER STATING THAT THE MANHOLE MAY BE VACUUM TESTED AFTER BACKFILLING HAS TAKEN PLACE. THE CONTRACTOR MUST SUBMIT THIS DOCUMENTATION PRIOR TO BACKFILLING AROUND ANY MANHOLE.

MSD NOTES (CONTINUED)

SECTION B, PIPE FIELD TESTS, PARAGRAPH 4, MANHOLE TESTING, SUBPARAGRAPH B, EXFILTRATION TESTING – DELETE THE SECOND SENTENCE, CONCERNING LEAKAGE LIMITS, AND THE FOLLOWING ADDITION APPLIES:

FOR EXFILTRATION TESTING, THE ALLOWABLE LEAKAGE LIMIT IS 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY WHEN THE AVERAGE HEAD ON THE TEST SECTION IS THREE FEET (3') OR LESS.

IF REINFORCED CONCRETE PIPE IS USED FOR SANITARY OR COMBINED SEWERS LARGER THAN 27•; ALL PIPE AND JOINTS SHALL CONFORM TO ASTM C 361. IN ADDITION, IF THE DIAMETER IS LARGER THAN 48•, THE JOINT TYPE MUST INCLUDE A GASKET THAT IS CONFINED IN A GROOVE IN THE SPIGOT OF THE PIPE.

7. MAINTENANCE OF THE SEWERS DESIGNATED "PUBLIC" SHALL BE THE RESPONSIBILITY OF THE METROPOLITAN ST. LOUIS SEWER DISTRICT UPON DEDICATION OF THE SEWERS TO THE DISTRICT. ⚠
8. NO NEW GREASE TRAP PROPOSED AS PART OF THIS PROJECT.

GRADING NOTES (APPLY TO ALL CIVIL SHEETS):

1. INTERIM STORM WATER DRAINAGE CONTROL IN THE FORM OF SILTATION CONTROL MEASURES ARE REQUIRED.
2. NO SLOPES SHALL EXCEED 3H:1V.
3. PROPOSED ELEVATIONS SHOWN ON PLAN ARE FINISH GRADE ELEVATIONS.
4. CONTRACTOR SHALL TAKE SPECIAL CARE DURING COMPACTION OF BACKFILL MATERIALS OVER THE TOP OF STRUCTURES OR PIPES IN ORDER TO PREVENT ANY DAMAGE TO BELOW GRADE STRUCTURES.
5. CLEARING TECHNIQUES THAT RETAIN VEGETATION TO THE MAXIMUM EXTENT PRACTICAL SHALL BE USED, AND THE TIME PERIOD FOR DISTURBED AREAS TO BE WITHOUT VEGETATIVE COVER SHALL BE MINIMIZED TO THE EXTENT PRACTICAL.
6. WHEN ANY GRADING OCCURS PRIOR TO FINAL GRADING, THE SITE SHALL AT ALL TIMES BE MAINTAINED SUCH THAT ALL STORM WATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
7. ALL EXCESS EARTHWORK MATERIALS SHALL BE HAULED OFF-SITE AND DISPOSED OF IN A LEGAL MANNER.
8. ALL NEW ADA PARKING SPACES AND ACCESS AISLES SHALL NOT BE SLOPPED GREATER THAN 2 PERCENT IN ANY DIRECTION. ADA ACCESS PATHS SHALL NOT HAVE A LATERAL (CROSS) SLOPE GREATER THAN 2 PERCENT AND A LONGITUDINAL (RUNNING) SLOPE GREATER THAN 5 PERCENT.

GENERAL NOTES:

1. UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF IMPROVEMENTS.
2. TOPOGRAPHIC SURVEY PREPARED AND FIELD DATA COLLECTED BY CML DESIGN INC. IN OCTOBER, 2018.
3. AREAS OF NEW SOIL/ROCK FILL PLACEMENT INCLUDING TRENCH BACKFILLS, UNDER BUILDINGS, SANITARY SEWER LIES AND/OR PAVED AREAS SHALL BE COMPACTED IN ACCORDANCE WITH THE SOILS REPORT FOR THIS PROJECT, UNLESS OTHERWISE SPECIFIED.
4. TRENCH BACKFILLS UNDER PAVED AREA SHALL BE GRANULAR BACKFILL, UNLESS OTHERWISE SPECIFIED.
5. EXISTING ABOVE AND BELOW GRADE UTILITIES ARE TO BE PROTECTED AND USED IN PLACE, UNLESS OTHERWISE SPECIFIED.
6. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL PERMITS REQUIRED FOR COMPLETION OF THIS PROJECT.
7. ALL CONSTRUCTION ACTIVITIES SHALL COMPLY WITH ALL APPLICABLE OSHA REGULATIONS.
8. LOCATION AND ELEVATION OF EXISTING INLETS, MANHOLES, AND PIPES TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL VERIFY ALL FIGURES AND ELEVATIONS BEFORE PROCEEDING WITH THE WORK. IF ANY INFORMATION IN THE FIELD DIFFERS FROM THAT ON THE DRAWINGS OR SPECIFICATIONS, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY.
9. CIVIL DRAWINGS SHALL NOT BE USED TO LOCATE OR CONSTRUCT BUILDING FOOTINGS, FOUNDATIONS, OR ANY OTHER STRUCTURE(S) ASSOCIATED WITH THE BUILDING(S). FOR LOCATION AND CONSTRUCTION OF BUILDING FOOTINGS, FOUNDATIONS, ETC., REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS.
10. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION ACTIVITIES, MUST BE REMOVED AND LEGALLY DISPOSED OF OFF-SITE.
11. DIMENSIONS SHOWN ARE TO FACE OF CURB, FACE OF WALL, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

PROPERTY INFORMATION

INFORMATION BELOW PER ST. LOUIS COUNTY ASSESSOR'S WEBSITE:

PROPERTY OWNER: PARKWAY SCHOOL DISTRICT
PROPERTY ADDRESS: 760 WOODS MILL RD. BALLWIN, MO 63011
PARCEL #: 21021081S
ZONING: NU
AREA OF PROPERTY: 29.26 ACRES
FIRM PANEL: 29189C0028K, EFFECTIVE 02/04/2015 ZONE X: AREA OF MINIMAL FLOODING

SURVEY INFORMATION

BENCHMARK INFORMATION:

ST. LOUIS COUNTY BENCHMARK 12301
660.93 – CUR SQUARE FEET WEST OF THE EAST END OF THE TOP OF CONCRETE BARRIER WALL ALONG THE NORTH SIDE OF THE BRIDGE A-4064 FOR CLAYTON ROAD OVER HIGHWAY 141, ROUGHLY 50 FEET NORTH OF CENTERLINE OF CLAYTON ROAD AND 180 FEET EAST OF CENTERLINE OF HIGHWAY 141. (NAVD88)

PARKING CALCULATIONS:

EXISTING PARKING SPACES – 144

REQUIRED PARKING SPACES – 117
(1 SPACE FOR EVERY CLASSROOM AND OFFICE)
PROPOSED 117 TOTAL CLASSROOMS AND OFFICES

PROPOSED PARKING SPACES – 201
(INCLUDES (5) STANDARD ACCESSIBLE AND (3) VAN-ACCESSIBLE SPACES)

ST. LOUIS COUNTY GENERAL NOTES:

1. ALL PROPOSED IMPROVEMENTS SHALL BE CONSTRUCTED TO ST. LOUIS COUNTY STANDARDS
2. ALL GRADING AND DRAINAGE TO BE IN CONFORMANCE WITH ST. LOUIS COUNTY AND MSD STANDARDS.
3. NO SLOPES SHALL EXCEED 3 (HORIZONTAL) TO 1 (VERTICAL), UNLESS JUSTIFIED BY A GEOTECHNICAL REPORT, WHICH HAS BEEN ACCEPTED/APPROVED BY ST. LOUIS COUNTY.
4. STORM WATER SHALL DISCHARGE TO AN ADEQUATE NATURAL DISCHARGE POINT. SINKHOLES ARE NOT ADEQUATE DISCHARGE POINTS.
5. ANY LAND DISTURBANCE ACTIVITY INVOLVING ONE ACRE OR MORE OF LAND IS A MAJOR LAND DISTURBANCE (MLD) AND A LAND DISTURBANCE PERMIT FOR THE MLD MUST BE OBTAINED FROM THE DEPARTMENT OF PUBLIC WORKS. ANY LAND DISTURBANCE ACTIVITY INVOLVING LESS THAN ONE ACRE OF LAND IS AN ORDINARY LAND DISTURBANCE AND THE APPROPRIATE PERMIT(S) MUSH BE OBTAINED FROM THE DEPARTMENT OF PUBLIC WORKS.
6. A LAND DISTURBANCE PERMIT WILL BE REQUIRED.
7. THE PERMIT PROCESS REQUIRES IMPROVEMENT PLAN SUBMITTAL TO THE DEPARTMENT OF TRANSPORTATION.
8. NO STEP AT ACCESSIBLE ENTRANCE DOORS
9. A MINIMUM LEVEL AREA OF 60"x60" (FRONT APPROACH) OR 48"x60" (SIDE APPROACH) IS REQUIRED OUTSIDE OF THE ENTRANCE DOORS FOR WHEELCHAIR MANEUVERABILITY.
10. THE DEVELOPER OR MUNICIPALITY IS ADVISED THAT UTILITY COMPANIES MAY REQUIRE COMPENSATION FOR RELOCATION OF THEIR FACILITIES WITHIN THE PUBLIC ROAD RIGHT-OF-WAY. ST. LOUIS COUNTY SHALL BEAR NO RESPONSIBILITY FOR UTILITY RELOCATION OR ADJUSTMENT COSTS OR ASSOCIATED DELAYS.
11. PROVIDE ADEQUATE OFF-STREET PARKING FOR CONSTRUCTION EMPLOYEES. PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVEWAY CONDITIONS.
12. ALL SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASH-DOWN STATION PRIOR TO LEAVING THE SITE SO THAT NO SEDIMENT IS TRACKED ONTO COUNTY ROADS.
13. INTERIM STORM WATER DRAINAGE CONTROL IN THE FORM OF SILTATION CONTROL MEASURES SHALL BE PROVIDED.
14. THE DEVELOPER SHALL PROVIDE ADEQUATE STORM WATER SYSTEMS IN ACCORDANCE WITH ST. LOUIS COUNTY AND MSD STANDARDS.
15. ADDITIONAL SILTATION CONTROL SHALL BE INSTALLED AS REQUIRED BY ST. LOUIS COUNTY DEPARTMENT OF TRANSPORTATION.
16. A PERMIT SHALL BE OBTAINED FROM THE ST. LOUIS COUNTY DEPARTMENT OF PUBLIC WORKS FOR CONSTRUCTION OF RETAINING WALLS.
17. A PERMIT SHALL BE OBTAINED FROM THE ST. LOUIS COUNTY DEPARTMENT OF PUBLIC WORKS FOR ROOF DRAIN CONNECTIONS.
18. ALL AFFECTED OFFSITE PROPERTY OWNERS SHALL BE GIVEN NOTICE 48 HOURS IN ADVANCE OF ANY WORK.
19. ANY DISTURBED OFF SITE PROPERTY (I.E. BUSHES, FENCES, MAILBOXES, ETC.) SHALL BE REPLACED IN KIND AT THE DEVELOPER'S EXPENSE.
20. A DRAIN LAYER PERMIT SHALL BE OBTAINED FROM THE ST. LOUIS COUNTY DEPARTMENT OF PUBLIC WORKS FOR INTERNAL (PRIVATE) STORM SEWERS.
21. ALL CONSTRUCTION SHALL BE PER MOST CURRENT DETAILS LOCATED IN THE ST. LOUIS COUNTY DESIGN CRITERIA MANUAL AND/OR THE SEDIMENT AND EROSION CONTROL MANUAL.
22. ALL SIDEWALKS AND ASSOCIATED ACCESSIBILITY IMPROVEMENTS SHALL BE CONSTRUCTED TO ST. LOUIS COUNTY ADA STANDARDS.
23. SIDEWALK TERMINATIONS IN COMPLIANCE WITH ST. LOUIS COUNTY ADA STANDARDS SHALL BE PROVIDED.
24. MAXIMUM LEGAL LENGTHS IN THE COUNTY ARE FORTY (40) FEET FOR ANY SINGLE UNIT TRUCK AND FIFTY-FIVE (55) FEET FOR ANY COMBINATION OF VEHICLES, INCLUDING THE LOAD. MAXIMUM LEGAL WIDTH IS EIGHT (8) FEET AND MAXIMUM HEIGHT IS THIRTEEN AND ONE-HALF (13½) FEET. LEGAL WEIGHT LIMITS IN THE COUNTY ARE THE SAME AS THOSE REQUIRED BY MISSOURI STATE LAWS, EXCEPT IN CASES WHEN THE COUNTY COUNCIL HAS ESTABLISHED ROADWAY LOAD LIMITS BY ORDINANCE OR WHEN BRIDGES ARE POSTED UNDER STATE REGULATIONS. ANY VEHICLES EXCEEDING THESE LIMITS SHALL REQUIRE A SPECIAL USE PERMIT FOR OVERWEIGHT AND/OR OVER-DIMENSION VEHICLES PRIOR TO DRIVING ON ST. LOUIS COUNTY ROADWAYS. CONTACT JAMES HAYES AT (314) 615-8515 FOR PERMITS. ⚠

UTILITY NOTES (APPLY TO ALL CIVIL SHEETS):

1. LOCATE EXISTING UNDERGROUND UTILITIES AND SEWERS IN AREAS OF WORK PRIOR TO STARTING OPERATIONS. WHEN UTILITIES ARE TO REMAIN IN PLACE, PROVIDE ADEQUATE MEANS OF PROTECTION DURING OPERATIONS. SHOULD UNKNOWN UTILITIES BE ENCOUNTERED DURING EXCAVATION, CONTRACTOR SHALL NOTIFY THE OWNERS REPRESENTATIVE IMMEDIATELY FOR FURTHER DIRECTION.
2. CONTRACTOR SHALL MAINTAIN A MINIMUM OF 10' HORIZONTAL DISTANCE AND 18" VERTICAL DISTANCE BETWEEN ANY WATER LINE AND ANY SANITARY SEWER LINE.
3. CONTRACTOR SHALL PROVIDE TEMPORARY COVERS FOR ANY EXCAVATIONS LEFT UNATTENDED FOR ANY PERIOD OF TIME.
4. THE CONTRACTOR SHALL COMPLETE ALL UTILITY WORK TO THE APPROPRIATE STANDARDS OF EACH RESPECTIVE UTILITY COMPANY.
5. SIZE OF UTILITY LINE EXCAVATIONS SHOWN ON THE PLANS ARE APPROXIMATE ONLY. CONTRACTOR SHALL ADJUST SIZE OF TRENCH EXCAVATIONS AS REQUIRED ON A CASE BY CASE BASIS TO PROPERLY CONSTRUCT UTILITY SERVICES. CONTRACTOR SHALL BE RESPONSIBLE FOR SHORING EXCAVATIONS AS REQUIRED ACCORDING TO ALL FEDERAL, STATE, LOCAL, AND OSHA REGULATIONS.
6. BACKFLOW PREVENTION ON ALL DOMESTIC AND FIRE WATER LINES ARE REQUIRED IN ACCORDANCE WITH CURRENT PLUMBING STANDARDS.
7. CONTRACTOR SHALL COORDINATE AND IS RESPONSIBLE FOR ALL DESIGN AND PERMITTING OF PROPOSED FIRE WATER SERVICE AND CONNECTION TO PUBLIC MAIN.

DEMOLITION NOTES (APPLY TO ALL CIVIL SHEETS):

1. THE STREETS AND AREAS SURROUNDING THIS PROJECT SERVE BOTH PEDESTRIAN AND VEHICLE TRAFFIC. ALL NECESSARY CARE SHALL BE TAKEN BY THE CONTRACTOR TO ENSURE SAFETY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AND MAINTAINING SAFE AND EFFICIENT PROJECT LIMITS. THE CONTRACTOR SHALL FOLLOW ALL FEDERAL, STATE, AND LOCAL GUIDELINES WITH REGARDS TO CONSTRUCTION SAFETY THROUGHOUT THE ENTIRE DURATION OF THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY BREACHES OF SAFETY OR DESTRUCTION OF PROPERTY RELATED TO THE CONSTRUCTION OF THIS PROJECT.
2. ALL DEMOLITION DEBRIS SHALL BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF OFF SITE ACCORDING TO ALL FEDERAL, STATE, AND LOCAL REGULATIONS.
3. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS NOT TO DAMAGE ANY EXISTING SITE FEATURES TO REMAIN. IF ANY DAMAGE OCCURS, THE CONTRACTOR SHALL CONTACT THE OWNER'S REPRESENTATIVE IMMEDIATELY. THE CONTRACTOR SHALL REPAIR ALL DAMAGED ITEMS TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST.
4. WHERE PAVEMENT, WALKS, ETC. ARE TO BE REMOVED, SAWCUT AT LOCATIONS SHOWN, OR REMOVE ENTIRELY TO NEAREST AVAILABLE JOINT.
5. USE OF EXPLOSIVES AND/OR BURNING ON SITE IS NOT PERMITTED.
6. CONTRACTOR TO COORDINATE IDENTIFICATION, REMOVAL AND/OR ABANDONMENT AND REESTABLISHMENT OF EXISTING IRRIGATION SYSTEMS WITH OWNER PRIOR TO DEMOLITION.
7. CONTRACTOR TO COORDINATE ALL DEMOLITION ACTIVITIES/SCHEDULE WITH ABATEMENT CONTRACTOR AND PROPOSED WORK SEQUENCE AS SHOWN ON SHEETS C200 AND C300. CONTRACTOR WILL BE RESPONSIBLE FOR ALL COST ASSOCIATED WITH SITE WORK SEQUENCE INCLUDING, BUT NOT LIM

C201

C202

C203

C204

SEQUENCE I CONSTRUCTION LIMITS

SEQUENCE II CONSTRUCTION LIMITS

20'W. TEMPORARY ROAD (PAVED) AS NEEDED FOR FIRE TRUCK ACCESS DURING CONSTRUCTION. COORDINATE WITH WORK SEQUENCING AND PROPOSED IMPROVEMENTS.

EX. PAVED SURFACE TO BE USED FOR FIRE TRUCK ACCESS DURING CONSTRUCTION. COORDINATE WITH WORK SEQUENCING

EXISTING MIDDLE SCHOOL BUILDING

TENNIS COURT

TRACK

PERMANENT DRAINAGE EASEMENT PER MODOT J6U0804

WOODS MILL ROAD (WIDTH VARIES)

50' BUILDING LINE

20' BUILDING LINE

S56°31'12"W 1902.07'

S51°13'29"E 184.49'

S52°44'18"E

N66°25'00"E 1642.39'

S5°48'51"E 23.29'

NOTES:

1. PROPOSED SEQUENCE CONSTRUCTION LIMITS SHOWN IS TO SERVE ONLY AS A GUIDE FOR BIDDING PURPOSES. A DETAILED FINAL CONSTRUCTION SEQUENCING PLAN AND SCHEDULE SHALL BE DEVELOPED BY THE CONTRACTOR AND COORDINATED WITH AND APPROVED BY THE OWNER.
2. CONTRACTOR WILL BE RESPONSIBLE TO MAINTAIN ONE (1) LANE OF ROADWAY ACCESS THROUGHOUT DURATION OF THE PROJECT.
3. CONTRACTOR IS RESPONSIBLE FOR ALL ASSOCIATED COST TO PROVIDE ROADWAY ACCESS. SEE ALSO DEMOLITION NOTES ON SHEET C001.
4. SEE SHEET C300 FOR ADDITIONAL SEQUENCING INFORMATION.

GRAPHIC SCALE

(IN FEET)
1 INCH = 60 FT

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

ST. LOUIS COUNTY 19LND-00011 ST. LOUIS COUNTY PAC #19PAC-00019 ST. LOUIS COUNTY HT #4686 MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

AS BUILTS RECORD DRAWINGS 04-20-2021

Christner, Inc.
ARCHITECTS
Architecture / Interior Design / Graphics
1401 S. Brentwood Blvd. | Suite 215 | St. Louis, Missouri 63144
314.644.5500 | christnerinc.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHIODINI ASSOCIATES. NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

CDI
CML DESIGN INC
5220 Oakland Ave
St. Louis, MO 63110
(314) 865-5570

Parkway South Middle School Building Addition, Renovations & Site Improvements -

760 Woods Mill Road
Ballwin, MO 63011

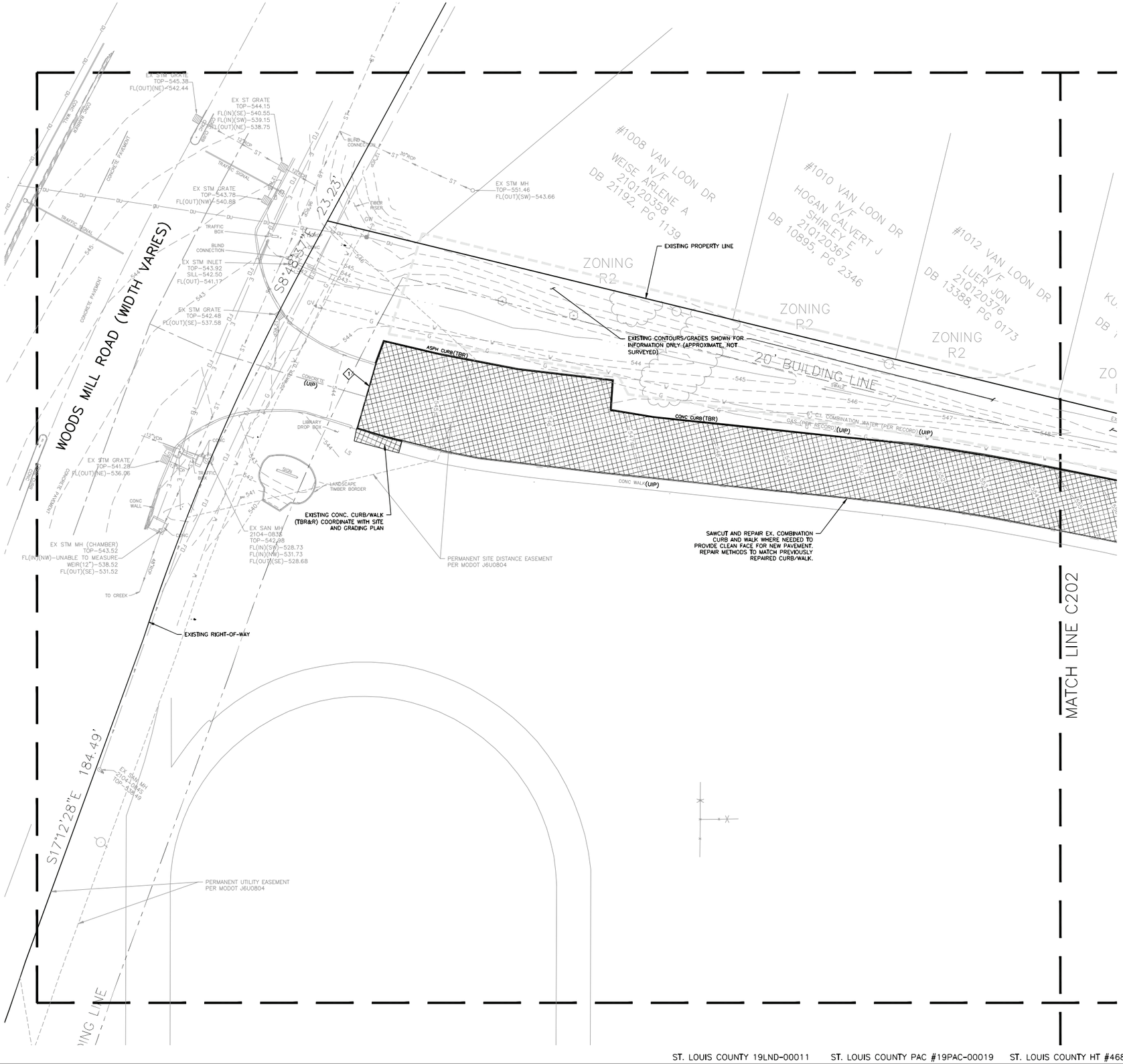
REVISIONS:

7	06-04-19	CODE

OVERALL DEMOLITION PLAN AND WORK SEQUENCE

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

C200



LEGEND

PAVEMENT REMOVAL LIMITS

(UIP) USE IN PLACE

(TBR) TO BE REMOVED

(TBR&R) TO BE REMOVED & REPLACED

KEYED NOTES:

1. FULL DEPTH PAVEMENT SAWCUT

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

ST. LOUIS COUNTY 19LND-00011 ST. LOUIS COUNTY PAC #19PAC-00019 ST. LOUIS COUNTY HT #4686 MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

AS BUILTS RECORD DRAWINGS 04-20-2021

Christner, Inc. ARCHITECTS
Architecture / Interior Design / Graphics
1401 S. Brentwood Blvd. | Suite 215 | St. Louis, Missouri 63144
314.918.0000 | mail@christnerinc.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE TO BE USED WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHIODINI ASSOCIATES. NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

CDI
3220 Oakland Ave
St. Louis, MO 63110
(314) 865-5570
CML DESIGN INC.
MARK MOBLEY
Licensed Fire Protection Engineer in Missouri & Illinois

Parkway South Middle School Building Addition, Renovations & Site Improvements

760 Woods Mill Road
Ballwin, MO 63011

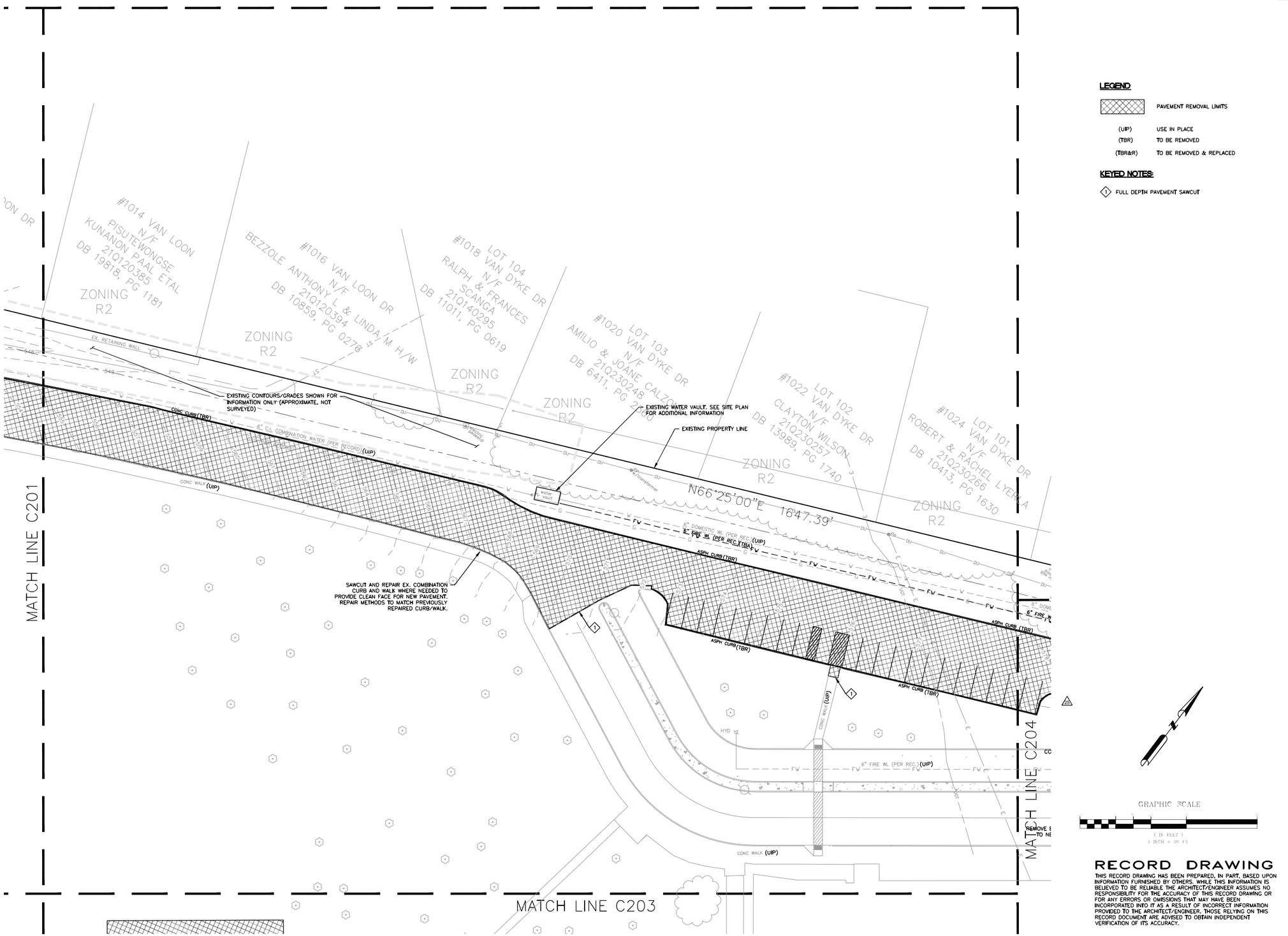
REVISIONS:

7	06-04-19	CODE
25	07-03-19	DRIVE CONTOURS

ENLARGED DEMOLITION PLAN

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

C201



LEGEND

PAVEMENT REMOVAL LIMITS

(UIP) USE IN PLACE

(TBR) TO BE REMOVED

(TBR&R) TO BE REMOVED & REPLACED

KEYED NOTES:

1. FULL DEPTH PAVEMENT SAWCUT

GRAPHIC SCALE

(IN FEET)
1 INCH = 20 FT.

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

ST. LOUIS COUNTY 19LND-00011 ST. LOUIS COUNTY PAC #19PAC-00019 ST. LOUIS COUNTY HT #4686 MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

AS BUILTS RECORD DRAWINGS 04-20-2021

Christner, Inc. ARCHITECTS
Architecture / Interior Design / Graphics
1001 S. Brentwood Blvd. / Suite 315 / St. Louis, Missouri 63144
314.918.9999 / info@christnerinc.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHIODINI, CHIODINI ASSOCIATES. NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

CDI
3220 Oakland Ave
St. Louis, MO 63110
(314) 865-5570
CML DESIGN INC.
MARK WEBB
Licensed Fire Protection Engineer in Missouri, # 2007035

Parkway South Middle School Building Addition, Renovations & Site Improvements -

760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

7	06-04-19	CODE
25	07-03-19	DRIVE CONTOURS

ENLARGED DEMOLITION PLAN

PSD Project No.: 411801B
Project Number: 2018.033
Date: 02.04.2019
Drawn By: NJC

C202

MATCH LINE C202

EXISTING SOUTH MIDDLE SCHOOL BUILDING

#760 WOODS MILL ROAD
N/F
PARKWAY CONSOLIDATED SCHOOL DISTRICT
21Q10815
DB 04824 01623

EXISTING ASPHALT PLAY AREA (TBR)

EXISTING ASPHALT WALK (TBR)

CONTRACTOR TO DOCUMENTS EXISTING PAVEMENT STRIPING TO REPRODUCE AFTER NEW SURFACE IS INSTALLED (TYP. ALL). SEE SITE PLAN

EXISTING CONC. WALK TO REMAIN IN PLACE

EXISTING ASPHALT WALK (TBR)

EXISTING CONC. LANDING (TBR) SEE SITE AND GRADING PLAN

EXISTING EXTERIOR STAIRS (TBR) SEE NOTES ON SITE AND GRADING PLAN

EXISTING ASPHALT WALK (TBR)

EXISTING EXTERIOR STAIRS (TBR) SEE NOTES ON SITE AND GRADING PLAN

EX.STM MH (PER REC)
21Q4-1780
TOP-566.00
FL-556.41

EXISTING ASPHALT WALK (TBR)

EXISTING CONC. LANDING (TBR) SEE NOTES ON SITE AND GRADING PLAN

EX. SAN. MH
TOP-558.17
FL-554.65

EXISTING EXTERIOR STAIRS (TBR) SEE NOTES ON SITE AND GRADING PLAN

EXISTING ASPHALT WALK (TBR)

TENNIS COURT

EX.END OF PIPE (PER REC) 21Q4-1800

EXISTING PROPERTY LINE

IR W/CAP MARLER

IR W/CAP MARLER

EX. SAN. MH (PER REC) 21Q4-050S

S56°31'12"W 1902.07'

107.73' 85.02' 85.02' 28.34' 76.11' 90.88' 70.00' 70.00'

ZONING NU

ZONING NU

ZONING NU

ZONING R2

ZONING R2

ZONING R2

#915 TRIANG...

#97...

LEGEND

PAVEMENT REMOVAL LIMITS

(UIP) USE IN PLACE

(TBR) TO BE REMOVED

(TBR&R) TO BE REMOVED & REPLACED

KEYED NOTES:

1. FULL DEPTH PAVEMENT SAWCUT

GRAPHIC SCALE

(IN FEET)
1 INCH = 20 FT.

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

AS BUILTS RECORD DRAWINGS 04-20-2021

PRINTED: 10/5/2018 7:07:59 AM

ST. LOUIS COUNTY 19LND-00011 ST. LOUIS COUNTY PAC #19PAC-00019 ST. LOUIS COUNTY HT #4686 MSD PROJECT 18MSD-00571 MSD MAP 21Q

Christner, Inc. ARCHITECTS
Architecture / Interior Design / Graphics
1001 S. Brentwood Blvd. | Suite 210 | St. Louis, Missouri 63144
314.963.9393 | christnerinc.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHIODINI, CHIODINI ASSOCIATES, NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

CDI
3220 Watson Road
St. Louis, MO 63139
(314) 645-5570
CML DESIGN INC.

Parkway South Middle School
Building Addition, Renovations & Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

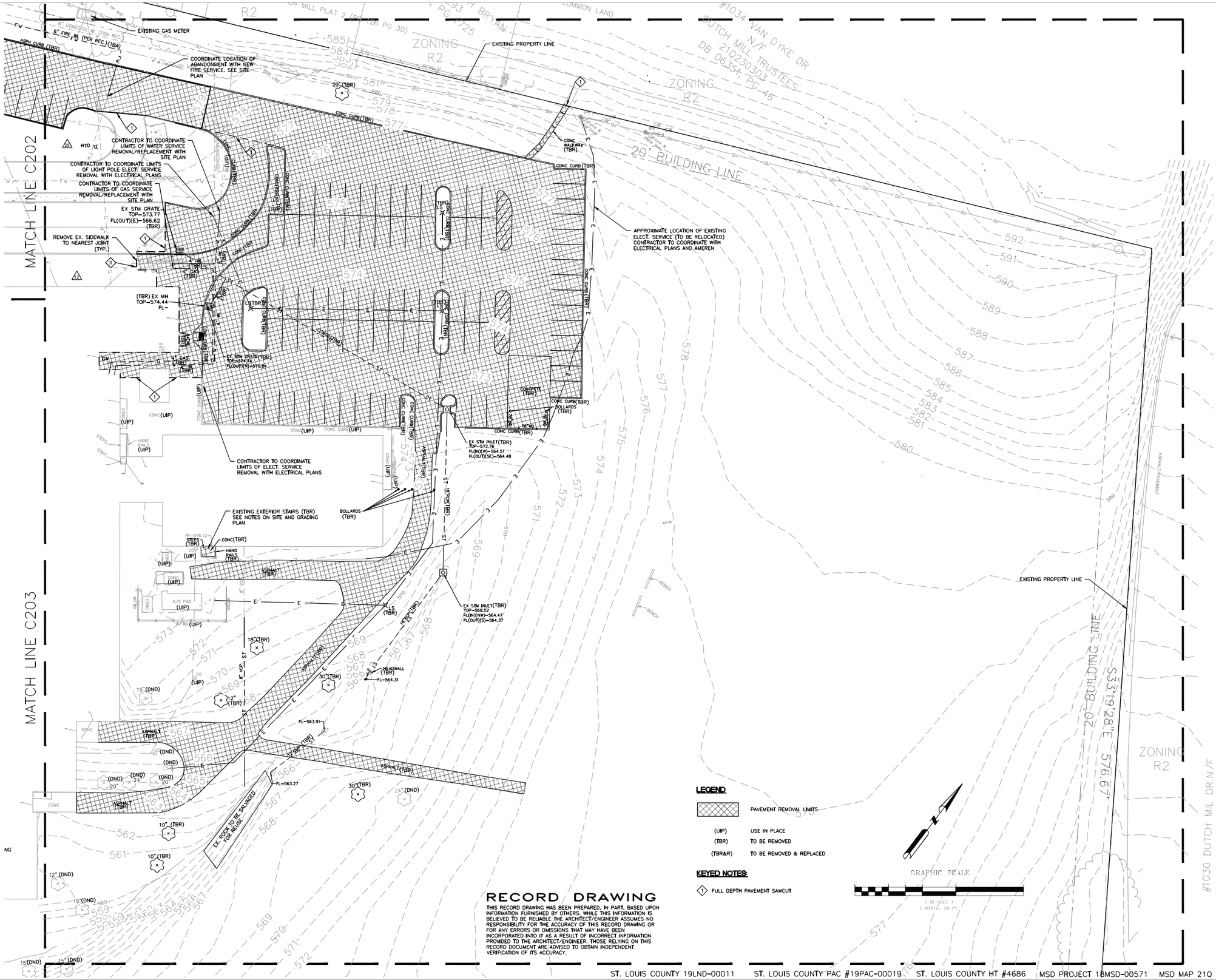
REVISIONS:

7	06-04-19	CODE

ENLARGED DEMOLITION PLAN

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

C203



RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

ST. LOUIS COUNTY 19LND-00011 ST. LOUIS COUNTY PAC #19PAC-00019 ST. LOUIS COUNTY HT #4686 MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

AS BUILTS RECORD DRAWINGS 04-20-2021

Christner, Inc. ARCHITECTS
Architecture / Interior Design / Graphics
1001 S. Brentwood Blvd. | Suite 311 | St. Louis, Missouri 63144

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE TO BE USED WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHIODINI. CHIODINI ASSOCIATES, NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

CDI
3220 Oakland Ave
St. Louis, MO 63110
(314) 865-5570
CML DESIGN INC.
MARK WEIMER
Missouri & Illinois Certificate of Authority # E-2007001871

Parkway South Middle School Building Addition, Renovations & Site Improvements -

760 Woods Mill Road
Ballwin, MO 63011

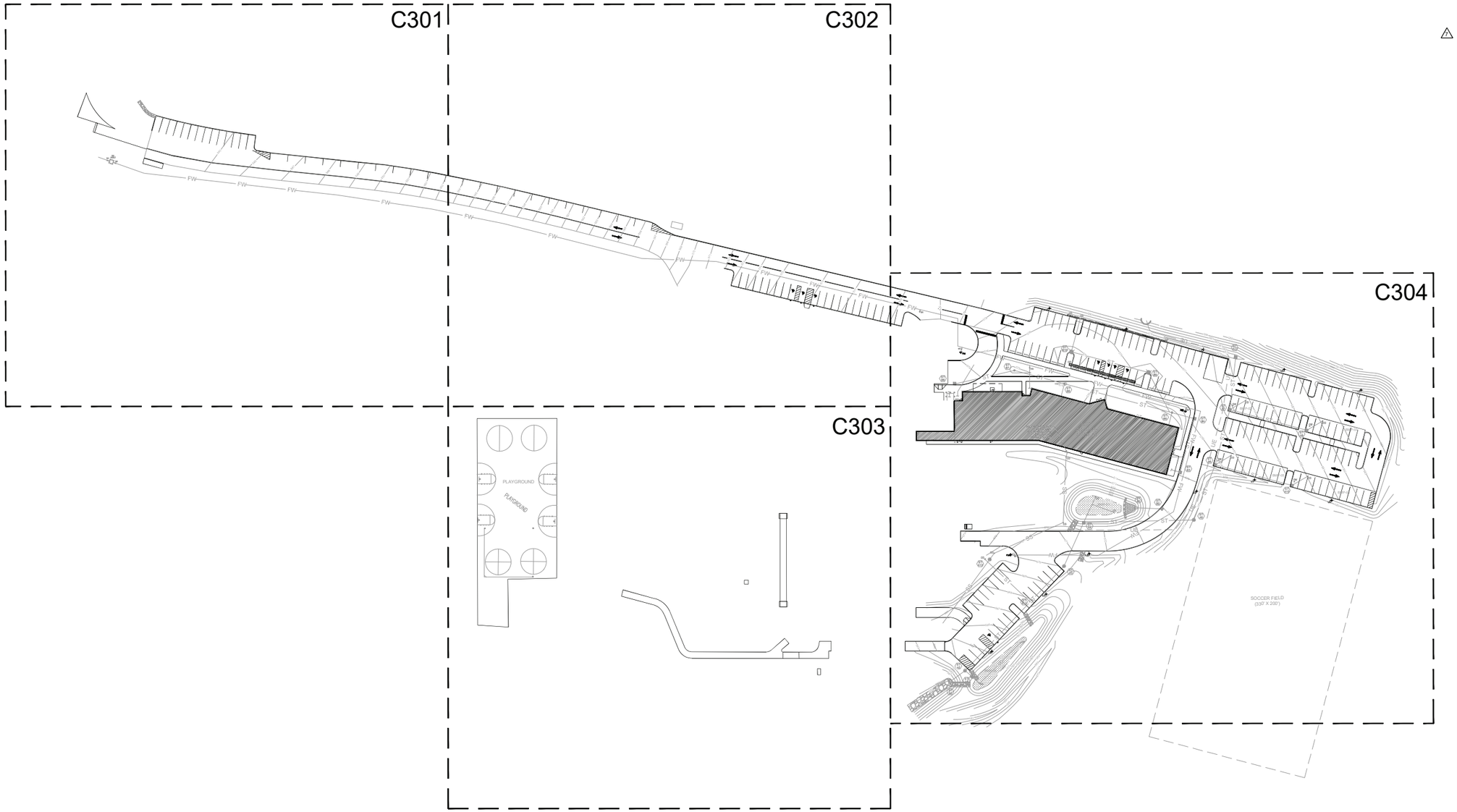
REVISIONS:

7	06-04-19	CODE
12	06-10-19	REVISION 12
25	07-03-19	DRIVE CONTOURS

ENLARGED DEMOLITION PLAN

PSD Project No.: 411801B
Project Number: 2018.033
Date: 02.04.2019
Drawn By: NJC

C204



SOUTH MIDDLE SCHOOL BUILDING ADDITION, RENOVATION AND SITE IMPROVEMENTS WORK SEQUENCE

SEQUENCE I CONSTRUCTION:

1. SEQUENCE IA: MAY 23, 2019 THROUGH MAY 26, 2019 - OWNER TO VACATE EXISTING PARKING AND PAVED AREAS INVOLVED IN THE CONSTRUCTION AND AREAS OF RENOVATION REQUIRING ABATEMENT INCLUDING EXISTING ROOMS 1606, 1607, 1608, 1609, 1706 AND CORRIDOR C1B EACH SIDE OF EXISTING LOCKER ROOMS. CONTRACTOR ALLOWED TO BEGIN THE SITE WORK IN THE FIELD MAY 28, 2019.
2. SEQUENCE IB: MAY 28, 2019 THROUGH AUGUST 2, 2019 - CONTRACTOR BEGINS SITE WORK AND COMPLETES ALL SITE WORK EXCEPT THAT RELATED TO THE BUILDING ADDITION AND THAT LOCATED SOUTH OF THE NEW PARKING LOT. CONTRACTOR ALLOWED TO BEGIN IN THE FIELD MAY 28, 2019.
3. SEQUENCE IC: MAY 28, 2019 THROUGH JUNE 10, 2019 - OWNER'S ABATEMENT CONTRACTOR WILL PROVIDE DEMOLITION AND ABATEMENT OF THE EXISTING ROOMS INVOLVED IN THE RENOVATION INCLUDING ROOMS 1606, 1607, 1608, 1609, 1706 AND CORRIDOR C1B EACH SIDE OF EXISTING LOCKER ROOMS. CONTRACTOR IS TO MARK ALL AREAS WHERE SPOT ABATEMENT IS REQUIRED FOR THE NEW WORK IN CORRIDOR C1B. ABATEMENT CONTRACTOR ALLOWED TO BEGIN IN THE FIELD MAY 28, 2019.
4. SEQUENCE ID: JUNE 11, 2019 THROUGH AUGUST 2, 2019 - CONTRACTOR BEGINS AND COMPLETES RENOVATION WORK IN ALL AREAS OF THE EXISTING BUILDING INCLUDING RENOVATION OF THE EXISTING MAIN ENTRANCE, RENOVATION OF EXISTING LOCKER ROOM AREAS INCLUDING ROOMS 1606, 1607, 1608, 1706 AND CORRIDOR C1B, RE-ROOFING EXISTING ROOF AREAS, REPLACEMENT OF EXISTING CHILLER AND CHILLED WATER PUMPS, REPLACEMENT OF ROOF TOP EQUIPMENT, INSTALLATION OF NEW MEP EQUIPMENT SUPPORTING THE OPERATION OF THE EXISTING BUILDING, REPLACEMENT OF THE NATURAL GAS SERVICE ENTRANCE AND ALL WORK REQUIRED TO ALLOW OCCUPANCY AND USE OF THE EXISTING BUILDING FOR THE SCHOOL YEAR 2019-2020. CONTRACTOR ALLOWED TO BEGIN IN THE FIELD JUNE 11, 2019.

SEQUENCE II CONSTRUCTION:

1. SEQUENCE II: MAY 28, 2019 THROUGH JULY 17, 2020 - CONTRACTOR BEGINS AND COMPLETES ALL WORK RELATED TO THE BUILDING ADDITION AND ALL REMAINING SITE WORK. CONTRACTOR ALLOWED TO BEGIN IN THE FIELD MAY 28, 2019.

ADDITIONAL SITE SEQUENCING NOTES:

1. PROPOSED SEQUENCE CONSTRUCTION LIMITS SHOWN IS TO SERVE ONLY AS A GUIDE FOR BIDDING PURPOSES. A DETAILED FINAL CONSTRUCTION SEQUENCING PLAN AND SCHEDULE SHALL BE DEVELOPED BY THE CONTRACTOR AND COORDINATED WITH AND APPROVED BY THE OWNER.
2. CONTRACTOR WILL BE RESPONSIBLE TO MAINTAIN ONE (1) LANE OF ROADWAY ACCESS AND PEDESTRIAN ACCESS WHERE NEEDED THROUGHOUT DURATION OF THE PROJECT.
3. CONTRACTOR IS RESPONSIBLE FOR ALL ASSOCIATED COST TO PROVIDE ROADWAY ACCESS. SEE ALSO SHEET C200 AND DEMOLITION NOTES ON SHEET C001.

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

GRAPHIC SCALE

(IN FEET)
1 INCH = 50 FT.

ST. LOUIS COUNTY 19LND-00011 ST. LOUIS COUNTY PAC #19PAC-00019 ST. LOUIS COUNTY HT #4686 MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

AS BUILTS RECORD DRAWINGS 04-20-2021

Christner, Inc. ARCHITECTS
Architecture / Interior Design / Graphics
1401 S. Brentwood Blvd. | Suite 215 | St. Louis, Missouri 63144
314.918.9999 | info@christnerinc.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHIODINI, CHIODINI ASSOCIATES. NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

CDI
3220 Oakland Ave
St. Louis, MO 63110
(314) 865-5570
CML DESIGN INC.
MARK WEBB
Licensed Notary Commissioner of Missouri, # 18ENO0000

Parkway South Middle School
Building Addition, Renovations & Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

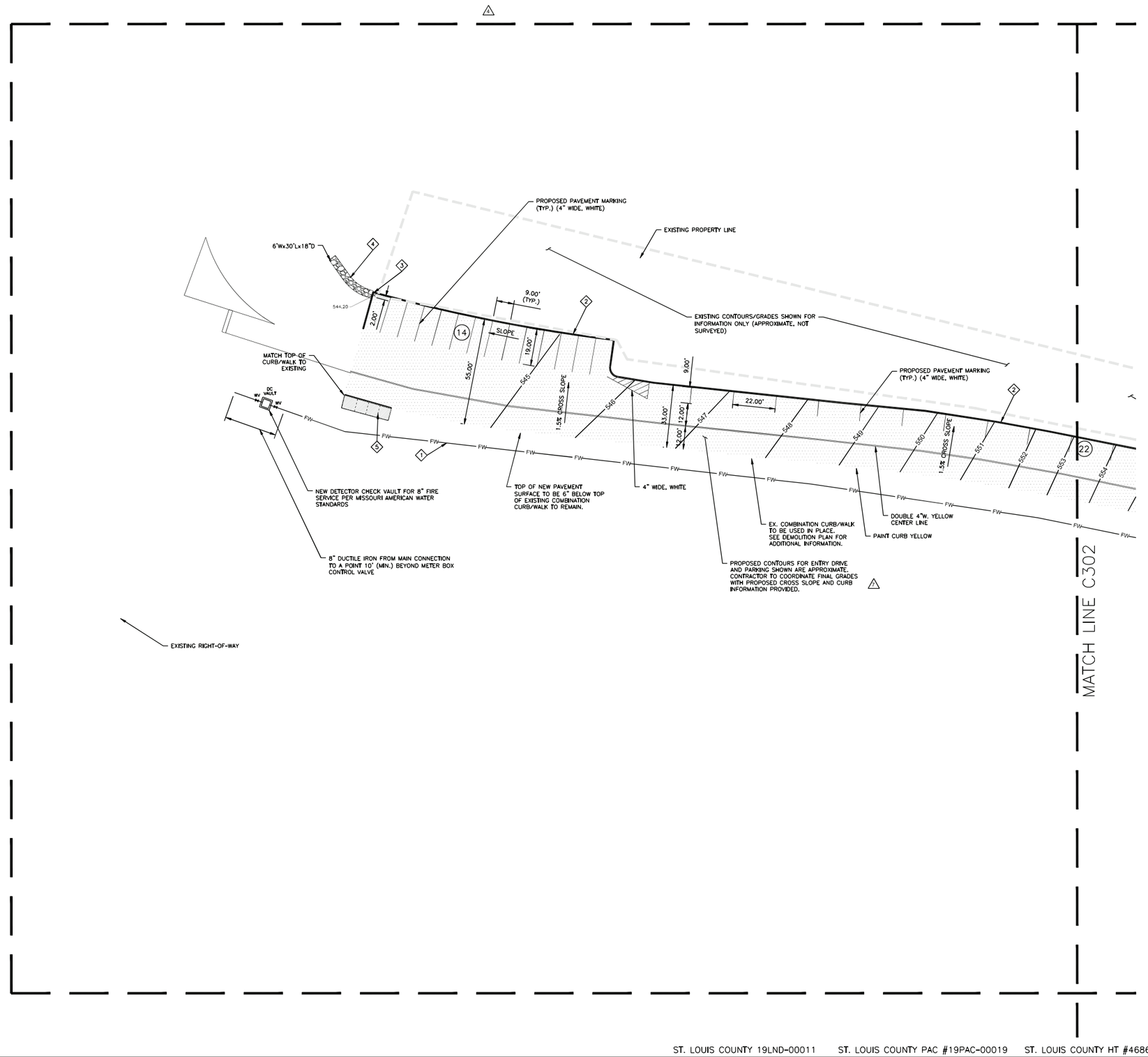
REVISIONS:

7	06-04-19	CODE

OVERALL SITE AND GRADING PLAN AND WORK SEQUENCE

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

C300



LEGEND

- ASPHALT PAVEMENT (SEE DETAIL A/C400)
- ASPHALT PLAY SURFACE (SEE DETAIL H/C400)
- CONCRETE PAVEMENT (SEE DETAIL E/C400)
- PERMEABLE PAVERS (SEE BMP DETAILS)
- SIDEWALK PAVEMENT (SEE DETAIL B/C400)
- 580 — PROPOSED CONTOUR
- 000.00 — PROPOSED FINISH GRADE ELEVATION

KEYED NOTES:
APPLIES TO SHEETS C301-C304)

1. 8 INCH DEDICATED FIRE MAIN (C900 PVC)
2. CONCRETE VERTICAL CURB (SEE DETAIL F/C400)
3. CURB CUT IN VERTICAL CURB (SEE DETAIL O/C400)
4. ROCK BLANKET OUTLET PROTECTION (PER MSD STANDARDS FOR ROCK BLANKET)
5. COMBINED CURB AND WALK (SEE DETAIL G/C400)
6. 6 INCH DEDICATED FIRE MAIN
7. FIRE HYDRANT WITH 6 INCH SUPPLY LINE
8. WHEEL STOP (TYP.) (SEE DETAIL O/C400)
9. ACCESSIBLE CURB RAMP (SEE DETAIL M/C400)

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

ST. LOUIS COUNTY 19LND-00011 ST. LOUIS COUNTY PAC #19PAC-00019 ST. LOUIS COUNTY HT #4686 MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

AS BUILTS RECORD DRAWINGS 04-20-2021

Christner, Inc. ARCHITECTS
Architecture / Interior Design / Graphics
1001 S. Brentwood Blvd. | Suite 2170 | St. Louis, Missouri 63144
314.963.0000 | christner.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHIODINI, CHIODINI ASSOCIATES. NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

CDI
3220 Oakland Ave
St. Louis, MO 63110
(314) 865-5570
CDI DESIGN INC
ELISE WEBB

Parkway South Middle School Building Addition, Renovations & Site Improvements -

760 Woods Mill Road
Ballwin, MO 63011

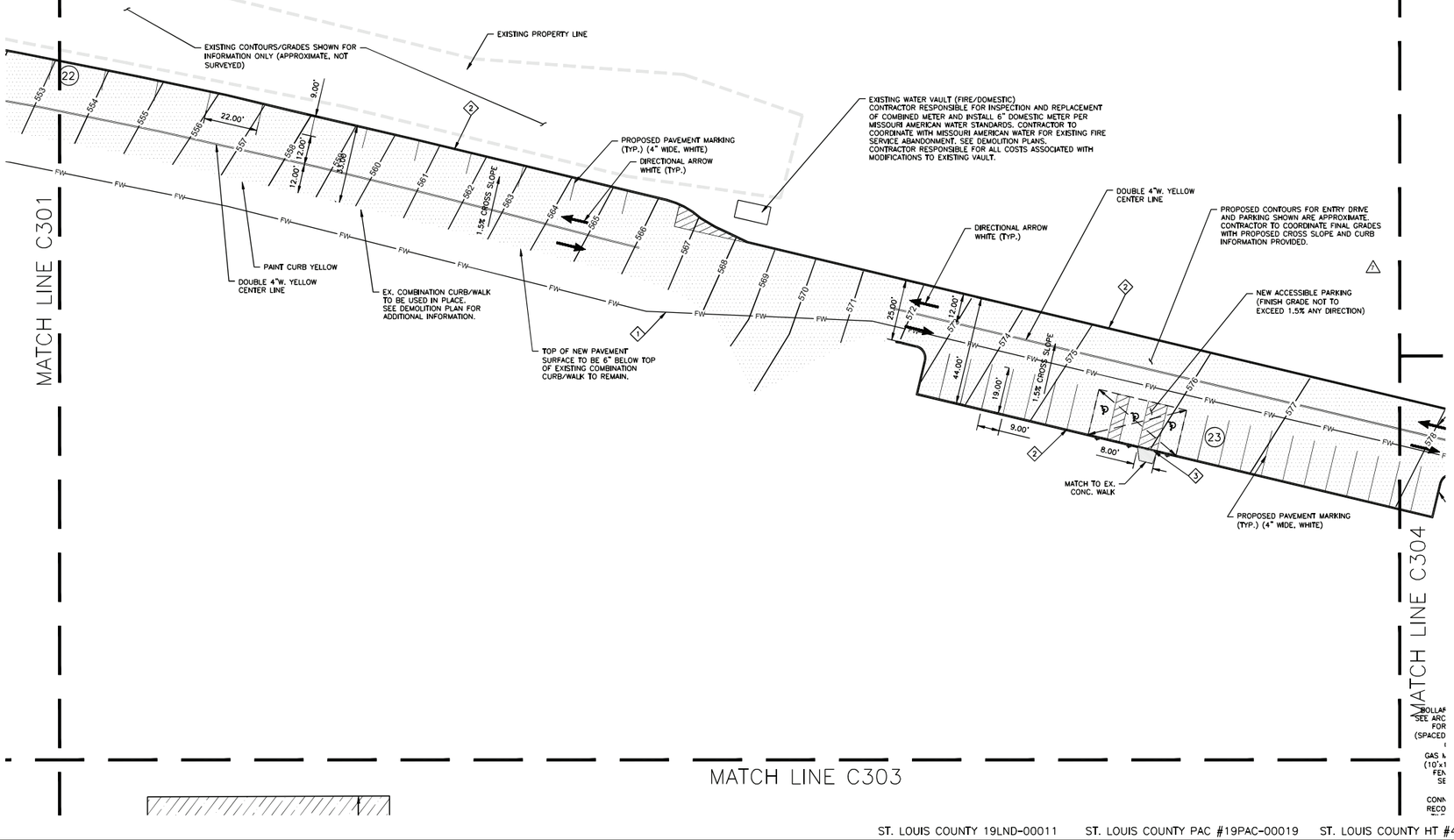
REVISIONS:

4	02-21-19	ADDM 4
7	06-04-19	CODE
25	07-03-19	DRIVE CONTOURS

ENLARGED SITE AND GRADING PLAN

PSD Project No.: 411801B
Project Number: 2018.033
Date: 02.04.2019
Drawn By: NJC

C301



LEGEND

- ASPHALT PAVEMENT (SEE DETAIL A/C400)
- ASPHALT PLAY SURFACE (SEE DETAIL H/C400)
- CONCRETE PAVEMENT (SEE DETAIL E/C400)
- PERMEABLE PAVERS (SEE BMP DETAILS)
- SIDEWALK PAVEMENT (SEE DETAIL B/C400)
- 580 — PROPOSED CONTOUR
- 000.00 — PROPOSED FINISH GRADE ELEVATION

KEYED NOTES:
APPLIES TO SHEETS C301-C304)

1. 8 INCH DEDICATED FIRE MAIN (C900 PVC)
2. CONCRETE VERTICAL CURB (SEE DETAIL F/C400)
3. CURB CUT IN VERTICAL CURB (SEE DETAIL Q/C400)
4. ROCK BLANKET OUTLET PROTECTION (PER MSD STANDARDS FOR ROCK BLANKET)
5. COMBINED CURB AND WALK (SEE DETAIL G/C400)
6. 6 INCH DEDICATED FIRE MAIN
7. FIRE HYDRANT WITH 6 INCH SUPPLY LINE
8. WHEEL STOP (TYP.) (SEE DETAIL O/C400)
9. ACCESSIBLE CURB RAMP (SEE DETAIL M/C400)

GRAPHIC SCALE
(IN FEET)
1 INCH = 20 FT.

RECORD DRAWING
THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

ST. LOUIS COUNTY 19LND-00011 ST. LOUIS COUNTY PAC #19PAC-00019 ST. LOUIS COUNTY HT #4686 MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

AS BUILTS RECORD DRAWINGS 04-20-2021

Christner, Inc. ARCHITECTS
Architecture / Interior Design / Graphics
1001 S. Brentwood Blvd. | Suite 311 | St. Louis, Missouri 63144
314.963.9393 | christner.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHIODINI, CHIODINI ASSOCIATES. NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.
© COPYRIGHT PENDING

CDI
3220 Oakland Ave
St. Louis, MO 63110
(314) 865-5570
CML DESIGN INC.
ROBERT MYERS

Parkway South Middle School Building Addition, Renovations & Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

7	06-04-19	CODE
25	07-03-19	DRIVE CONTOURS

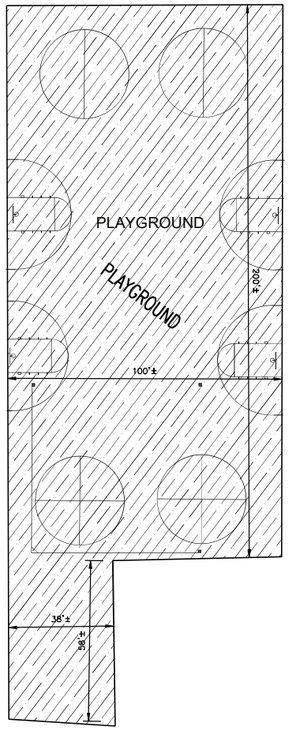
ENLARGED SITE AND GRADING PLAN

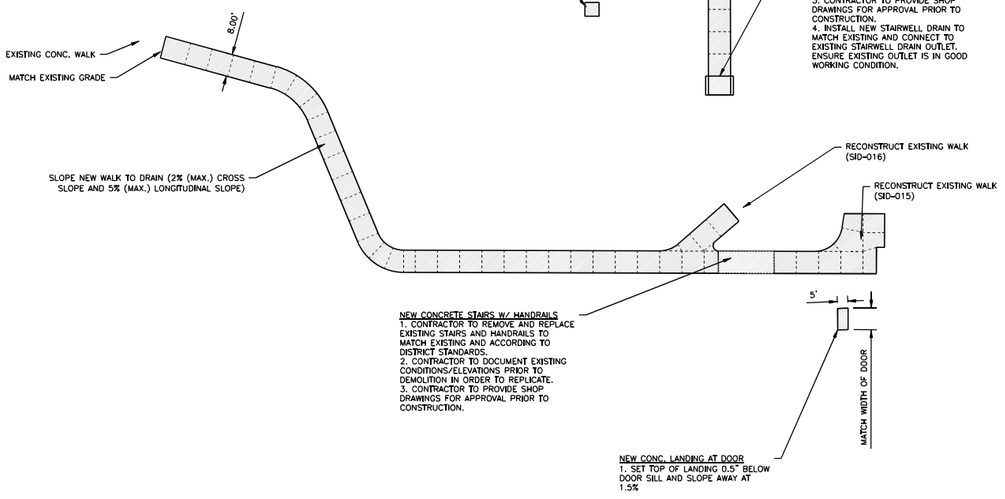
PSD Project No.: 411801B
Project Number: 2018.033
Date: 02.04.2019
Drawn By: NJC

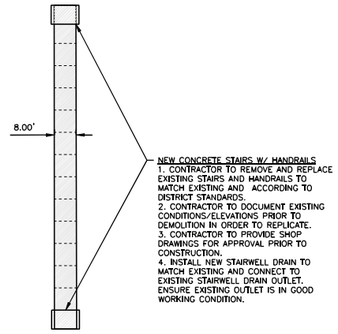
C302

MATCH LINE C302

MATCH LINE C303







MATCH LINE C303

MATCH LINE C304

EXISTING PROPERTY LINE

MSD 7 -

(CONTRAC
STONE.

LEGEND

- ASPHALT PAVEMENT (SEE DETAIL A/C400)
- ASPHALT PLAY SURFACE (SEE DETAIL H/C400)
- CONCRETE PAVEMENT (SEE DETAIL E/C400)
- PERMEABLE PAVERS (SEE BMP DETAILS)
- SIDEWALK PAVEMENT (SEE DETAIL B/C400)
- 580 — PROPOSED CONTOUR
- 000.00 — PROPOSED FINISH GRADE ELEVATION

KEYED NOTES:

APPLIES TO SHEETS C301-C304)

1. 8 INCH DEDICATED FIRE MAIN (C900 PVC)
2. CONCRETE VERTICAL CURB (SEE DETAIL F/C400)
3. CURB CUT IN VERTICAL CURB (SEE DETAIL G/C400)
4. ROCK BLANKET OUTLET PROTECTION (PER MSD STANDARDS FOR ROCK BLANKET)
5. COMBINED CURB AND WALK (SEE DETAIL G/C400)
6. 6 INCH DEDICATED FIRE MAIN
7. FIRE HYDRANT WITH 6 INCH SUPPLY LINE
8. WHEEL STOP (TYP.) (SEE DETAIL O/C400)
9. ACCESSIBLE CURB RAMP (SEE DETAIL M/C400)

GRAPHIC SCALE

(IN FEET)
1 INCH = 20 FT.

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

ST. LOUIS COUNTY 19LND-00011 ST. LOUIS COUNTY PAC #19PAC-00019 ST. LOUIS COUNTY HT #4686 MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

AS BUILTS RECORD DRAWINGS 04-20-2021

Chioini ARCHITECTS
Architecture / Interior Design / Graphics
1401 S. Brentwood Blvd. | Suite 315 | St. Louis, Missouri 63144
314.644.4500 | chioini@chioini.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHIODINI, CHIODINI ASSOCIATES, NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

CDI
3220 Oakland Ave
St. Louis, MO 63110
(314) 865-5570
CML DESIGN INC.

Parkway South Middle School
Building Addition, Renovations & Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

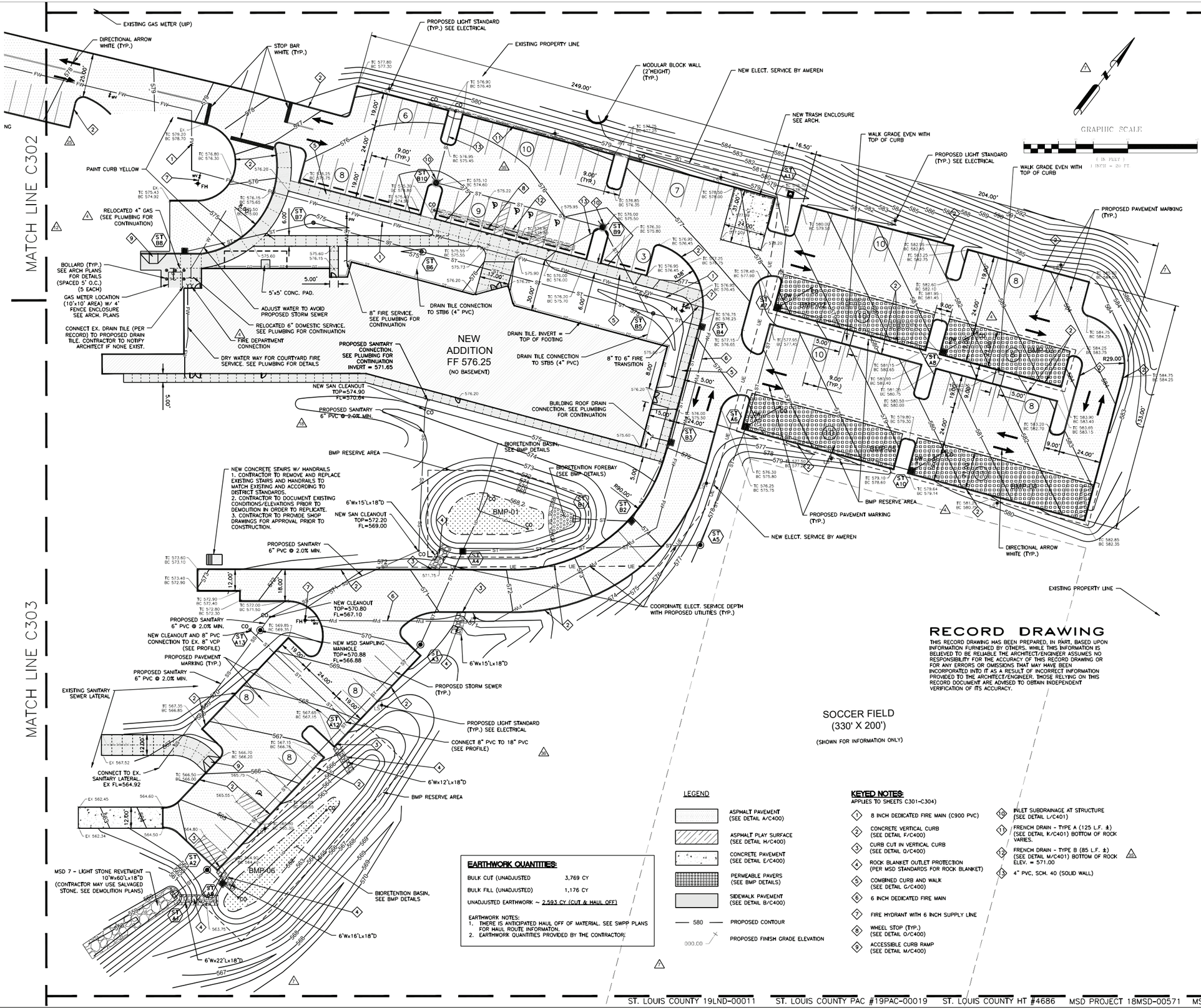
REVISIONS:

7	06-04-19	CODE

ENLARGED SITE AND GRADING PLAN

PSD Project No.: 411801B
Project Number: 2018.033
Date: 02.04.2019
Drawn By: NJC

C303



RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER, THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

EARTHWORK QUANTITIES:

BULK CUT (UNADJUSTED	3,769 CY
BULK FILL (UNADJUSTED)	1,176 CY
UNADJUSTED EARTHWORK ~ 2,593 CY (CUT & HAUL OFF)	

EARTHWORK NOTES:
1. THERE IS ANTICIPATED HAUL OFF OF MATERIAL. SEE SWPP PLANS FOR HAUL ROUTE INFORMATION.
2. EARTHWORK QUANTITIES PROVIDED BY THE CONTRACTOR.

LEGEND

- ASPHALT PAVEMENT (SEE DETAIL A/C400)
- ASPHALT PLAY SURFACE (SEE DETAIL H/C400)
- CONCRETE PAVEMENT (SEE DETAIL E/C400)
- PERMEABLE PAVERS (SEE BMP DETAILS)
- SIDEWALK PAVEMENT (SEE DETAIL B/C400)
- 580 — PROPOSED CONTOUR
- 000.00 — PROPOSED FINISH GRADE ELEVATION

KEYED NOTES:
APPLIES TO SHEETS C301-C304)

1. 8 INCH DEDICATED FIRE MAIN (C900 PVC)
2. CONCRETE VERTICAL CURB (SEE DETAIL F/C400)
3. CURB CUT IN VERTICAL CURB (SEE DETAIL O/C400)
4. ROCK BLANKET OUTLET PROTECTION (PER MSD STANDARDS FOR ROCK BLANKET)
5. COMBINED CURB AND WALK (SEE DETAIL G/C400)
6. 6 INCH DEDICATED FIRE MAIN
7. FIRE HYDRANT WITH 6 INCH SUPPLY LINE
8. WHEEL STOP (TYP.) (SEE DETAIL O/C400)
9. ACCESSIBLE CURB RAMP (SEE DETAIL M/C400)
10. INLET SUBDRAINAGE AT STRUCTURE (SEE DETAIL L/C401)
11. FRENCH DRAIN - TYPE A (125 L.F. ±) (SEE DETAIL K/C401) BOTTOM OF ROCK VARIES.
12. FRENCH DRAIN - TYPE B (85 L.F. ±) (SEE DETAIL M/C401) BOTTOM OF ROCK ELEV. = 571.00
13. 4" PVC, SCH. 40 (SOLID WALL)

ST. LOUIS COUNTY 19LND-00011 ST. LOUIS COUNTY PAC #19PAC-00019 ST. LOUIS COUNTY HT #4686 MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

Christner, Inc. ARCHITECTS
Architecture / Interior Design / Graphics
1401 S. Brentwood Blvd. | Suite 511 | St. Louis, Missouri 63144
314.644.5500 | christnerinc.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVITIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE TO BE USED WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHIODINI, CHIODINI ASSOCIATES, NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

COPYRIGHT PENDING

CDI
3220 Watson Ave
St. Louis, MO 63139
(314) 843-5370
CML DESIGN INC
SUSIE WEBB

AS BUILTS RECORD DRAWINGS 04-20-2021

Parkway South Middle School Building Addition, Renovations & Site Improvements - 760 Woods Mill Road Ballwin, MO 63011

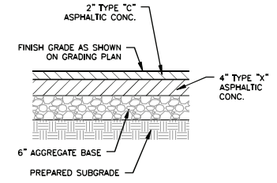
REVISIONS:

4	02-21-19	ADDM 4
7	06-04-19	CODE
12	06-10-19	REVISION 12
18	06-21-19	REVISION 18
25	07-03-19	DRIVE CONTOURS
35	08-19-19	CD-36
18	09-16-19	REVISION 18 (R1)
36	09-26-19	STORM TIE IN

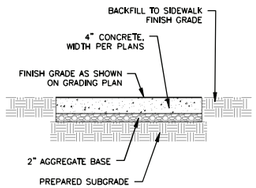
ENLARGED SITE AND GRADING PLAN

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

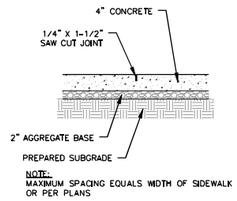
C304



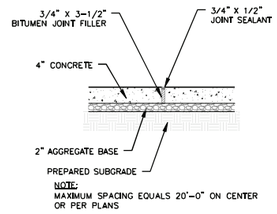
A 6/4/2 ASPHALT PAVEMENT
NOT TO SCALE



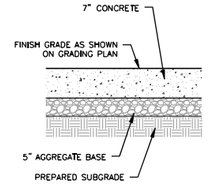
B SIDEWALK PAVEMENT
NOT TO SCALE



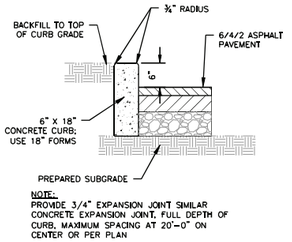
C SIDEWALK CONTRACTION JOINT
NOT TO SCALE



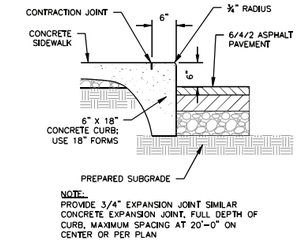
D SIDEWALK EXPANSION JOINT
NOT TO SCALE



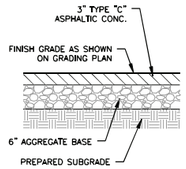
E CONCRETE PAVEMENT
NOT TO SCALE



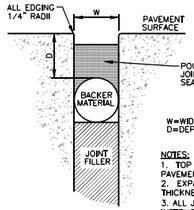
F CONCRETE VERTICAL CURB
NOT TO SCALE



G COMBINED CURB/SIDEWALK
NOT TO SCALE



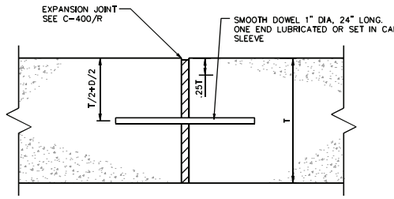
H 6/3 ASPHALT PAVEMENT
NOT TO SCALE



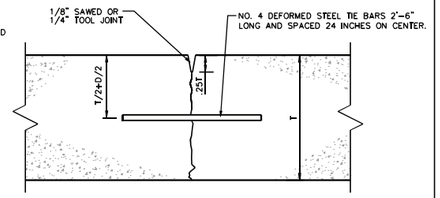
TABLE

JOINT SPACING FT.	WIDTH, (IN.) MIN.	MAX.
<25	1/2	5/8
25-50	3/4	7/8
>50	1.0	1-1/8

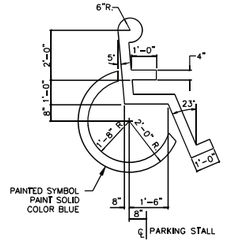
R CONCRETE PAVEMENT EXPANSION JOINT
NOT TO SCALE



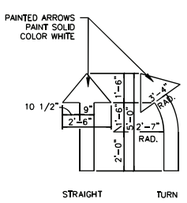
I DOWELED EXPANSION JOINT
NOT TO SCALE



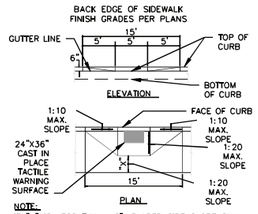
J CONTRACTION JOINT - TIED
NOT TO SCALE



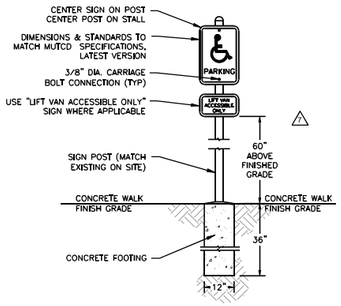
K ACCESSIBLE PARKING STALL SYMBOL
NOT TO SCALE



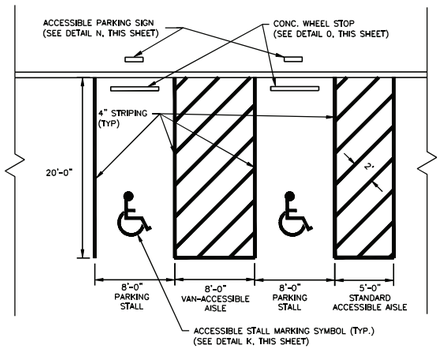
L PAINTED DIRECTIONAL ARROWS
NOT TO SCALE



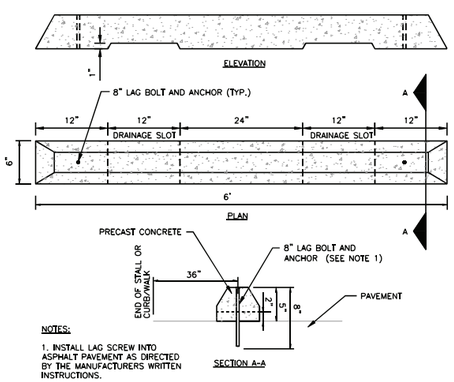
M ACCESSIBLE CURB RAMP
NOT TO SCALE



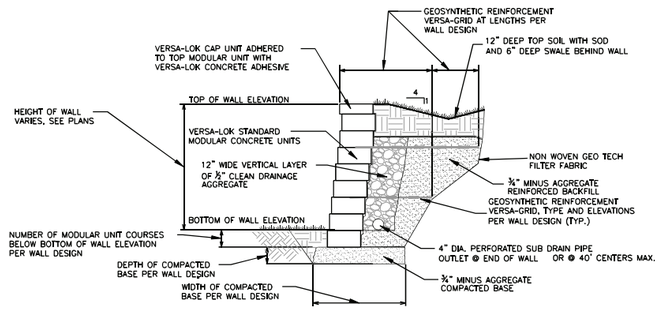
N ACCESSIBLE PARKING SIGN
NOT TO SCALE



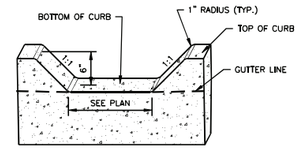
S ACCESSIBLE PARKING STALL DETAIL
NOT TO SCALE



O WHEEL STOP (PRECAST CONCRETE)
NOT TO SCALE



P MODULAR BLOCK WALL
NOT TO SCALE



Q CONCRETE CURB CUT
NOT TO SCALE

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

GENERAL SITE DETAILS NOTE:

1. DETAILS ON THIS SHEET ARE TO BE USED FOR PRIVATE CONSTRUCTION ONLY AND NOT TO BE USED WITHIN ST. LOUIS COUNTY RIGHT-OF-WAY

AS BUILTS RECORD DRAWINGS 04-20-2021

PRINTED: 10/5/2018 7:07:59 AM

ST. LOUIS COUNTY 19LND-00011 ST. LOUIS COUNTY PAC #19PAC-00019 ST. LOUIS COUNTY HT #4686 MSD PROJECT 18MSD-00571 MSD MAP 21Q

Christner ARCHITECTS
Architecture / Interior Design / Graphics
1001 S. Brentwood Blvd. | Suite 19 | St. Louis, Missouri 63144
314.918.9999 | info@christner.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHIODINI. CHIODINI ASSOCIATES. IN THE EVENT THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.
© COPYRIGHT PENDING

CDI
3220 Gratiot Ave
St. Louis, MO 63103
(314) 865-5570
CIVIL DESIGN INC.
ROBERT WEBB
Missouri State Certificate of Authority # E-2003030511

Parkway South Middle School Building Addition, Renovations & Site Improvements -

760 Woods Mill Road
Ballwin, MO 63011

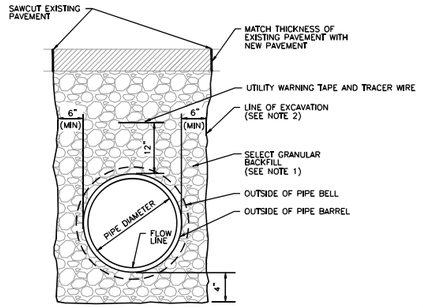
REVISIONS:

7	06-04-19	CODE

CIVIL SITE DETAILS

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

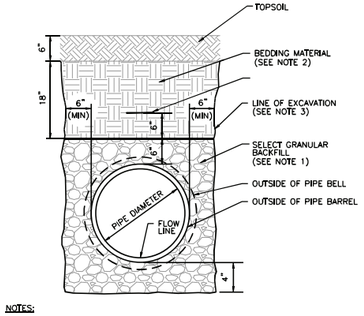
C400



NOTES:

1. SELECT GRANULAR BACKFILL SHALL CONSIST OF CRUSHED LIMESTONE AND SCREENINGS. COMPACT BACKFILL TO 95% MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED PROCTOR COMPACTION TEST. (ASTM D 1557)
2. CONTRACTOR SHALL BE RESPONSIBLE FOR SHORING AND BENCHING TRENCH EXCAVATIONS IN ACCORDANCE WITH ALL LOCAL, STATE, FEDERAL AND OSHA REQUIREMENTS.

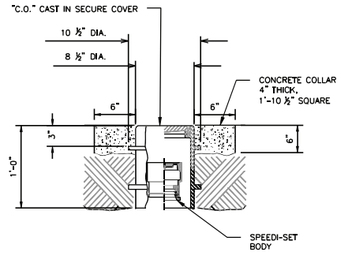
A UTILITY TRENCH - UNDER STRUCTURES
NOT TO SCALE



NOTES:

1. SELECT GRANULAR BACKFILL SHALL CONSIST OF CRUSHED LIMESTONE AND SCREENINGS. COMPACT BACKFILL TO 95% MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED PROCTOR COMPACTION TEST. (ASTM D 1557)
2. COMPACT BEDDING MATERIAL UNDER LAWNS TO 85% MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED PROCTOR COMPACTION TEST. (ASTM D 1557)
3. CONTRACTOR SHALL BE RESPONSIBLE FOR SHORING AND BENCHING TRENCH EXCAVATIONS IN ACCORDANCE WITH ALL LOCAL, STATE, FEDERAL AND OSHA REQUIREMENTS.

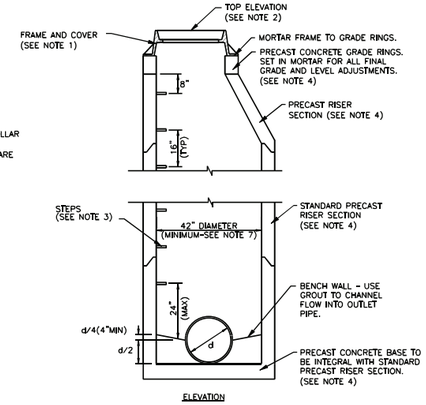
B UTILITY TRENCH - UNDER LAWN
NOT TO SCALE



NOTES:

1. CLEANOUT IS J.R.SMITH MODEL 4261L
2. SEE DETAIL F, THIS SHEET FOR BOTTOM SECTION OF CLEANOUT.

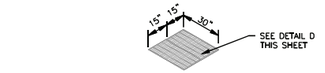
C CLEANOUT TOP SECTION
NOT TO SCALE



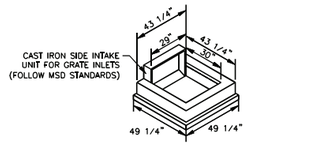
NOTES:

1. FRAME SHALL BE NEENAH R-3501-H4 OR MSD APPROVED EQUAL.
2. SET TOPS OF MANHOLE COVERS AND GRATE INLETS FLUSH WITH SURROUNDING FINAL GRADES.
3. STEPS SHALL BE NEENAH R-1981-Y OR MSD APPROVED EQUAL. STEP SPACING AND ALIGNMENT SHALL BE MAINTAINED UNIFORM AND VERTICAL THROUGHOUT THE TOTAL DEPTH AS INDICATED.
4. PRECAST CONCRETE SECTIONS SHALL CONFORM TO ASTM C-478. ALL JOINTS BETWEEN THESE SECTIONS SHALL BE GROUTED SMUT.
5. WHEN MANHOLES AND INLETS ARE SET IN PAVEMENTS, BACKFILL AROUND STRUCTURE SHALL BE COMPACTED GRANULAR MATERIAL.
6. THIS DETAIL IS ONLY TO BE USED AS A GENERAL GUIDE TO MANHOLE AND INLET CONSTRUCTION. ALL SEWER PIPES AND STRUCTURES MUST BE BUILT IN ACCORDANCE WITH THE MSD STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES-2009.
7. MINIMUM MANHOLE/INLET DIAMETER SHALL BE 42" DIAMETER, WHERE APPLICABLE. CONTRACTOR TO DETERMINE MANHOLE/INLET DIAMETER NECESSARY FOR EACH SPECIFIC CIRCUMSTANCE. CONTRACTOR TO SUBMIT PRECAST SHOP DRAWINGS, WITH EACH MANHOLE/INLET DIAMETER CLEARLY MARKED, TO ENGINEER FOR APPROVAL.
8. ALL MANHOLE/INLET DETAILS MUST FOLLOW CURRENT MSD STANDARDS.

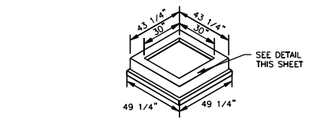
D MANHOLE / INLET DETAIL
NOT TO SCALE



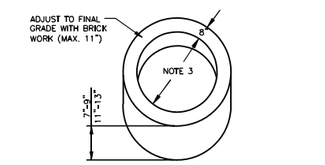
2 GRATES



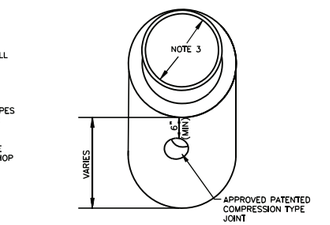
GRATE SEAT W/SIDE INTAKE



GRATE SEAT



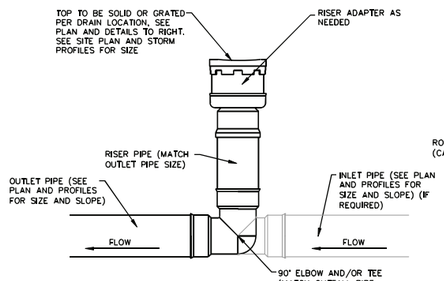
ADAPTER RING



MANHOLE / INLET BASE

NOTES:

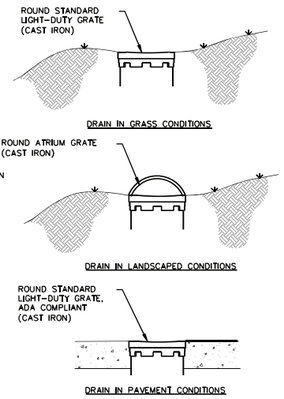
1. SEE DETAIL A, THIS SHEET FOR MANHOLE/INLET BASE DETAILS.
2. ALL INLET DETAILS MUST FOLLOW CURRENT MSD STANDARDS.
3. USE MINIMUM STANDARD SIZE DIAMETERS PER MSD STANDARDS.

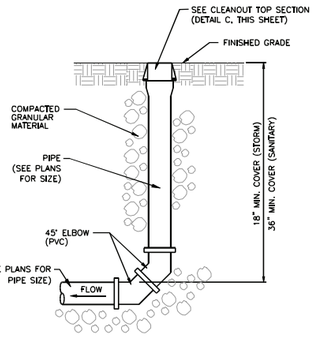


NOTES:

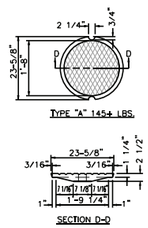
1. BASIS OF DESIGN PROVIDED BY NYLOPLAST. CONTRACTOR SHALL INSTALL NYLOPLAST STRUCTURE, OR AN EQUIVALENT STRUCTURE APPROVED BY ENGINEER.
2. PIPE AND FITTINGS UNDER LAWNS/LANDSCAPING SHALL BE PVC:SDR-35. PIPE AND FITTINGS UNDER PAVEMENTS SHALL BE PVC:SDR-26.
3. CONTRACTOR SHALL FOLLOW MANUFACTURER SPECIFICATIONS FOR STRUCTURE INSTALLATION.

F DRAIN BASIN
NOT TO SCALE

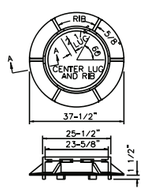




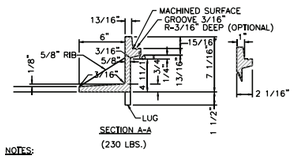
G CLEANOUT
NOT TO SCALE



CLOSED-TYPE COVER



CAST IRON MANHOLE FRAME



NOTES:

1. FOLLOW MSD STANDARDS FOR CONSTRUCTION.
2. FOLLOW LID MANUFACTURER SPECIFICATIONS FOR SETTING AND ATTACHING TO PRECAST ECCENTRIC CONE SECTION OR GRADE RINGS.

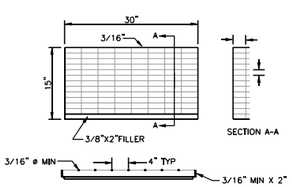
H MANHOLE FRAME AND LID
NOT TO SCALE

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

NOTES:

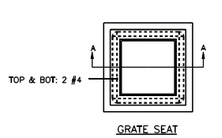
1. DETAILS ON THIS SHEET ARE TO BE USED FOR PRIVATE CONSTRUCTION ONLY AND AS A GENERAL GUIDE TO MANHOLE AND INLET CONSTRUCTION. ALL SEWER PIPES AND STRUCTURES MUST BE BUILT IN ACCORDANCE WITH THE MSD STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWER AND DRAINAGE FACILITIES, 2009.



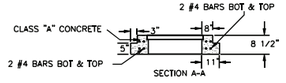
FINISH -ASPHALTIC 10 MIL COATING
MATERIAL -MILD CARBON STEEL: ASTM A569
CAPACITY -H-20 LOADING
WEIGHT -65 LB MINIMUM
TOLERANCES -ALL DIMENSIONS ± 1/8"
IDENTIFICATION -THE MANUFACTURER MUST PLACE THEIR NAME OR MARK ON EACH UNIT FOR THE PURPOSE OF IDENTIFICATION

NOTE: MINIMUM DISTANCE FROM THE FLOWLINE TO THE TOP OF THE GRATE IS 31" FOR 12" PIPES AND 34" FOR 15" PIPES.

I GRATE (30"x15")
NOT TO SCALE

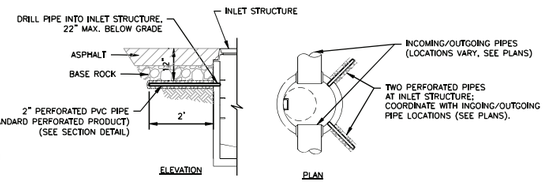


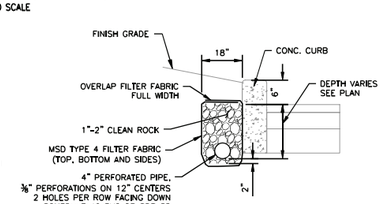
GRATE SEAT



STEEL REQUIREMENTS FOR GRATE SEAT

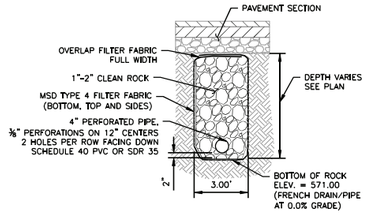
J GRATE SEAT
NOT TO SCALE





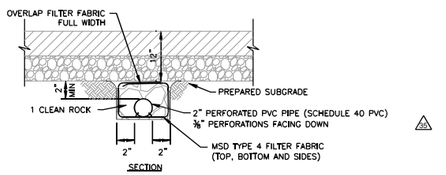
NOTE: GEOTECHNICAL ENGINEER TO OBSERVE THAT THE CLEAN ROCK IS PROPERLY ENCAPSULATED IN GEOTEXTILE TO REDUCE THE RISK OF INFILTRATION AND SETTLEMENT OF SURROUNDING SOILS. CONTRACTOR TO COORDINATE

K FRENCH DRAIN - TYPE A
NOT TO SCALE



NOTE: GEOTECHNICAL ENGINEER TO OBSERVE THAT THE CLEAN ROCK IS PROPERLY ENCAPSULATED IN GEOTEXTILE TO REDUCE THE RISK OF INFILTRATION AND SETTLEMENT OF SURROUNDING SOILS. CONTRACTOR TO COORDINATE

M FRENCH DRAIN - TYPE B
NOT TO SCALE



NOTE: GEOTECHNICAL ENGINEER TO OBSERVE THAT THE CLEAN ROCK IS PROPERLY ENCAPSULATED IN GEOTEXTILE TO REDUCE THE RISK OF INFILTRATION AND SETTLEMENT OF SURROUNDING SOILS. CONTRACTOR TO COORDINATE

L INLET SUBDRAINAGE
NOT TO SCALE

ST. LOUIS COUNTY 19LND-00011 ST. LOUIS COUNTY PAC #19PAC-00019 ST. LOUIS COUNTY HT #4686 MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

AS BUILTS RECORD DRAWINGS 04-20-2021

Christner, Inc. ARCHITECTS
Architecture / Interior Design / Graphics
1001 S. Brentwood Blvd. / Suite 19 / St. Louis, Missouri 63144
314.644.5500 / christnerinc.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER, NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

CDI 3220 Oakland Ave St. Louis, MO 63110 (314) 865-5370
CDI DESIGN INC
SUE E WEBB
Licensed Fire Protection Engineer, Missouri & Arkansas

Parkway South Middle School Building Addition, Renovations & Site Improvements -

760 Woods Mill Road
Ballwin, MO 63011

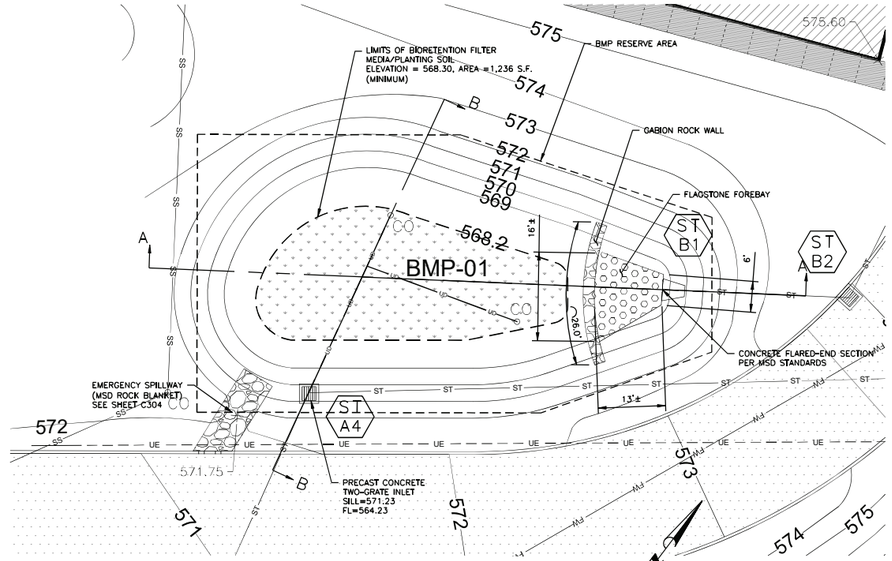
REVISIONS:

35	08-19-19	CD-36

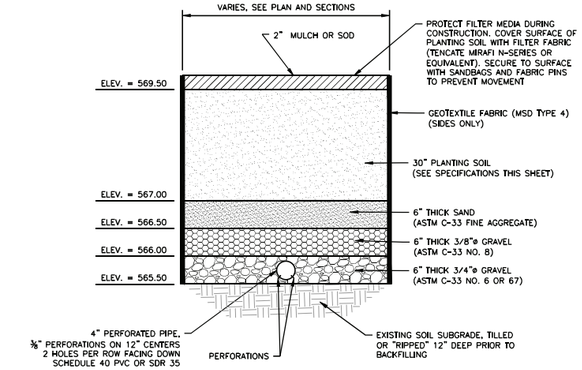
CIVIL UTILITY DETAILS

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

C401



A BIORETENTION PLAN VIEW (BMP-01)
SCALE: 1" = 10'



D BIORETENTION BASIN TYPICAL SECTION
NOT TO SCALE

PLANTING SOIL SPECIFICATIONS

THE PLANTING SOIL SHOULD BE A SANDY LOAM OR LOAMY SAND (SHOULD CONTAIN A MINIMUM OF 60 PERCENT SAND, BY VOLUME). THE CLAY CONTENT FOR THESE SOILS SHOULD BE LESS THAN 10 PERCENT BY VOLUME. A SATURATED HYDRAULIC CONDUCTIVITY OF AT LEAST 2.0 FEET PER DAY (1.0 INCHES PER HOUR) IS REQUIRED. THE SOIL SHOULD BE FREE OF STONES, STUMPS, ROOTS, OR OTHER WOODY MATERIAL OVER 1 INCH IN DIAMETER. FOR BEST RESULTS, BRUSH OR SEEDS FROM NOXIOUS WEEDS, SUCH AS JOHNSON GRASS, MUGWORT, NUTSEDGE AND CANADIAN THISTLE SHOULD NOT BE PRESENT IN THE SOILS. PLACEMENT OF THE PLANTING SOIL SHOULD BE IN LIFTS OF 12 TO 18 INCHES, LOOSELY COMPACTED (RUBBER WHEELED HEAVY EQUIPMENT AND MECHANICAL TAMPING DEVICES ARE NOT RECOMMENDED FOR COMPACTION). THE SPECIFIC CHARACTERISTICS ARE PRESENTED IN THE FOLLOWING TABLE.

PARAMETER	VALUE
pH RANGE	5.2 TO 8.00
ORGANIC MATTER	1.5 TO 5.0%
MAGNESIUM	35 lbs. per acre, minimum
PHOSPHORUS (P_2O_5)	75 lbs. per acre, minimum
POTASSIUM (K_2O)	85 lbs. per acre, minimum
SOLUBLE SALTS	≤ 500 ppm

SHOP DRAWINGS FOR BMPS:

MSD SHOP DRAWING SUBMITTAL REQUIRED FOR BMP AND ITS COMPONENTS PRIOR TO CONSTRUCTION.
MSD CONTACT: PLEASE CONTACT THE DISTRICT'S CONSTRUCTION MANAGEMENT DIVISION AT (314) 335-2072 FOR QUESTIONS.

GENERAL NOTES AND SPECIFICATIONS FOR INFILTRATION BASIN:

1. COMPACTION

COMPACTION OF BOTH THE BASE OF THE BIORETENTION AREA AND THE REQUIRED BACKFILL SHALL BE MINIMIZED DURING ALL STAGES OF CONSTRUCTION. IF BIORETENTION AREAS ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHALL USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES WILL SIGNIFICANTLY CONTRIBUTE TO SUBGRADE AND BACKFILL COMPACTION, WHICH WILL RESULT IN DESIGN FAILURE.

COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN 12" TO 18" LIFTS. DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS, SANDS, AND AGGREGATE. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A LOADER WITH MARSH TRACKS.

2. MULCH

MULCH SHOULD BE PLACED TO A UNIFORM THICKNESS OF 2" TO 3". SHREDDED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (5 TO 12 MONTHS) PRIOR TO INSTALLATION.

3. UNDERDRAINS

THE ENDS OF THE UNDERDRAIN SYSTEM NOT CONNECTED TO A CLEANOUT OR STRUCTURE SHALL BE CAPPED. THE MAIN COLLECTOR PIPE FOR THE UNDERDRAIN SYSTEM SHALL BE INSTALLED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS, OR CLEANOUT PIPES SHALL BE PROVIDED PER PLANS.

4. SETTLING OF FILTER MATERIAL

AFTER A PERIOD OF TIME THAT INCLUDES TWO (2) SIGNIFICANT (1" OR GREATER) STORM EVENTS, THE CONTRACTOR SHALL APPLY ADDITIONAL FILTER MEDIA (PLANTING SOIL) AS REQUIRED TO RESTORE THE FILTER BED AREA TO PLAN GRADE.

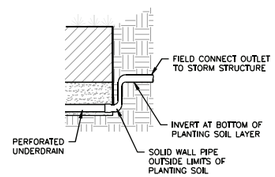
5. CONSTRUCTION SITE RUNOFF:

CONSTRUCTION SITE RUNOFF SHALL NOT FLOW INTO BMP AREAS. ALL STORMWATER FLOW TO BMP AREAS SHALL BE DIVERTED, PLUGGED, OR DISCONNECTED UNTIL THE CONSTRUCTION SITE IS STABLE AND THE MSD DEDICATION INSPECTOR PROVIDES APPROVAL TO PLACE THE BMP ON-LINE.

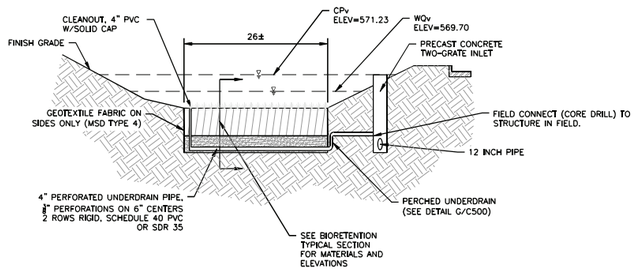
6. INFILTRATION TESTING (FOR WHEN UTILIZING ONSITE SOILS AND/OR MIXING ONSITE FOR PLANING SOIL:

THE IN-PLACE PERMEABILITY OF THE PLANTING SOIL SHALL BE 2.0 TO 3.5 FT/DAY, AND VERIFIED BY AND INFILTRATION TEST PERFORMED PER THE MARYLAND STORMWATER MANUAL, APPENDIX D.1, "INFILTRATION TESTING REQUIREMENTS (FIELD TESTING REQUIRED)"- A MINIMUM OF ONE PERCOLATION TEST SHALL BE PERFORMED PER FACILITY. THE MSD FIELD INSPECTOR SHALL BE ALLOWED TO SELECT THE LOCATION OF PERCOLATION TESTS. THE MSD FIELD INSPECTOR SHALL BE PROVIDED A COPY OF ALL TEST RESULTS, SIGNED AND SEALED BY A MISSOURI PROFESSIONAL ENGINEER. TEST RESULTS SHALL REPORT IN UNITS OF FT/DAY. RESULTS SHALL DEMONSTRATE ACCEPTABLE PERMEABILITY PRIOR TO CONSTRUCTION APPROVAL. NOTE THESE TESTS ARE NOT REQUIRED IF UTILIZING PREMIXED PLANTING SOIL SUPPLIED BY A LOCAL MSD APPROVED SOILS SUPPLIER.

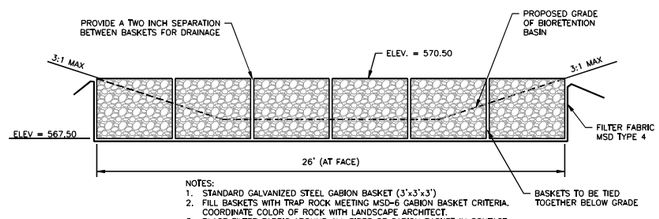
B BIORETENTION SECTION A-A
VERTICAL: 1"=5', HORIZONTAL: 1"=10'



G PERCHED UNDERDRAIN DETAIL
NOT TO SCALE

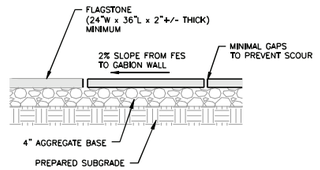


C BIORETENTION SECTION B-B
VERTICAL: 1"=5', HORIZONTAL: 1"=10'



NOTES:
1. STANDARD GALVANIZED STEEL GABION BASKET (3'x3'x3')
2. FILL BASKETS WITH TRAP ROCK MEETING MSD-#6 GABION BASKET CRITERIA. COORDINATE COLOR OF ROCK WITH LANDSCAPE ARCHITECT.
3. PLACE FILTER FABRIC AROUND ALL SIDES OF GABION BASKET IN CONTACT WITH SOIL

E GABION BASKET SPILLWAY
NOT TO SCALE



NOTES:
1. COORDINATE COLOR OF FLAGSTONE WITH LANDSCAPE ARCHITECT.

F FLAGSTONE FOREBAY SECTION
NOT TO SCALE

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

ST. LOUIS COUNTY 19LND-00011 ST. LOUIS COUNTY PAC #19PAC-00019 ST. LOUIS COUNTY HT #4686 MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

AS BUILTS RECORD DRAWINGS 04-20-2021

Chiodini Architects
Architecture / Interior Design / Graphics
1001 S. Brentwood Blvd. / Suite 311 / St. Louis, Missouri 63144
314.644.5300 / www.gochiodini.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHIODINI, CHIODINI ASSOCIATES, NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

COPYRIGHT PENDING

CDI DIVIL DESIGN INC. 3220 Oakland Ave St. Louis, MO 63110 (314) 865-5570 Missouri State Certificate of Authority # E-2010031811

Parkway South Middle School Building Addition, Renovations & Site Improvements -

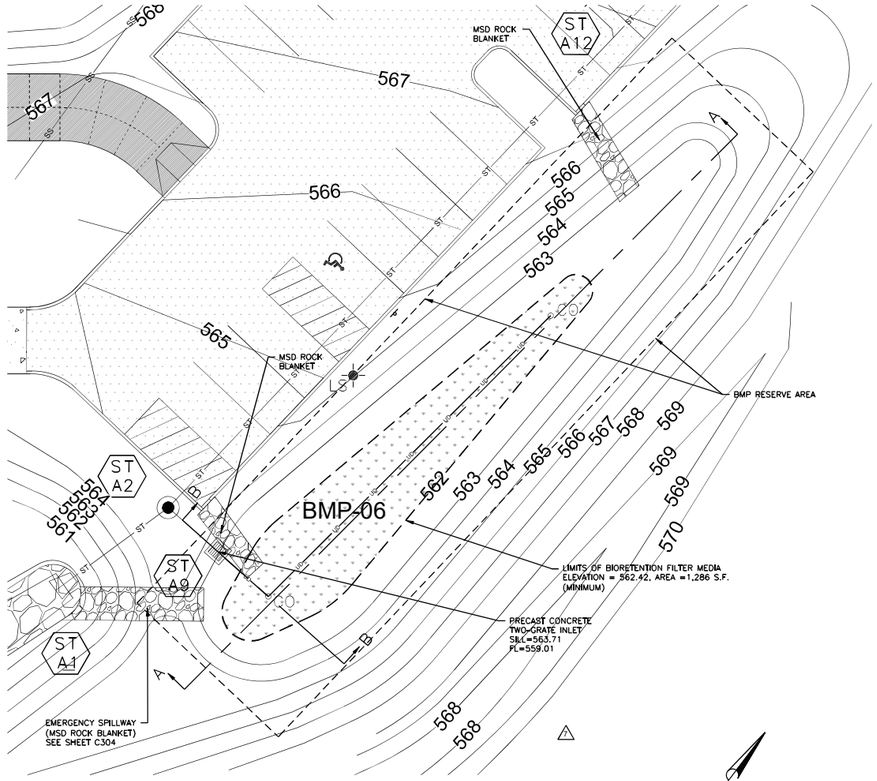
760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

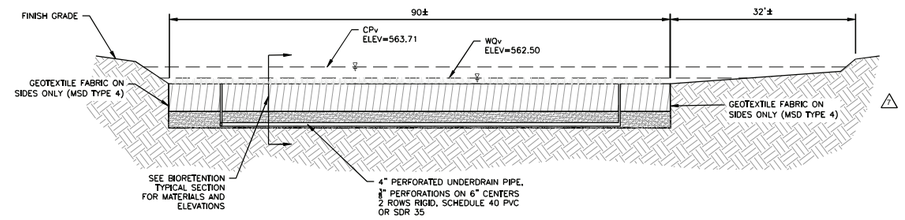
BMP DETAILS

PSD Project No.: 411801B
Project Number: 2018.033
Date: 02.04.2019
Drawn By: NJC

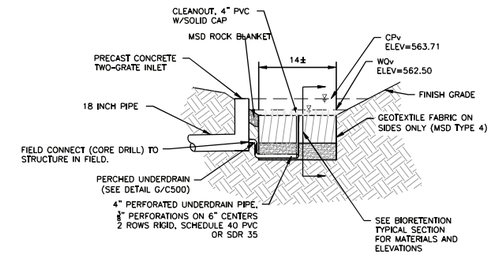
C500



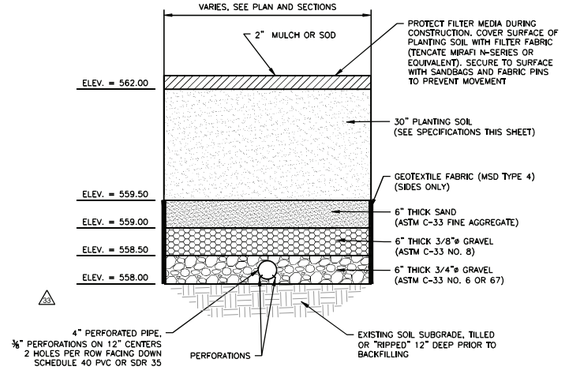
A BIORETENTION PLAN VIEW (BMP-06)
SCALE: 1" = 10'



B BIORETENTION SECTION A-A
VERTICAL: 1"=5', HORIZONTAL: 1"=10'



C BIORETENTION SECTION B-B
VERTICAL: 1"=5', HORIZONTAL: 1"=10'



D BIORETENTION BASIN TYPICAL SECTION
NOT TO SCALE

PLANTING SOIL SPECIFICATIONS

THE PLANTING SOIL SHOULD BE A SANDY LOAM OR LOAMY SAND (SHOULD CONTAIN A MINIMUM OF 60 PERCENT SAND, BY VOLUME). THE CLAY CONTENT FOR THESE SOILS SHOULD BE LESS THAN 10 PERCENT BY VOLUME. A SATURATED HYDRAULIC CONDUCTIVITY OF AT LEAST 2.0 FEET PER DAY (1.0 INCHES PER HOUR) IS REQUIRED. THE SOIL SHOULD BE FREE OF STONES, STUMPS, ROOTS, OR OTHER WOODY MATERIAL OVER 1 INCH IN DIAMETER. FOR BEST RESULTS, BRUSH OR SEEDS FROM NOXIOUS WEEDS, SUCH AS JOHNSON GRASS, MUGWORT, NUTSEDGE AND CANADIAN THISTLE SHOULD NOT BE PRESENT IN THE SOILS. PLACEMENT OF THE PLANTING SOIL SHOULD BE IN LIFTS OF 12 TO 18 INCHES, LOOSELY COMPACTED (RUBBER WHEELED HEAVY EQUIPMENT AND MECHANICAL TAMPING DEVICES ARE NOT RECOMMENDED FOR COMPACTION). THE SPECIFIC CHARACTERISTICS ARE PRESENTED IN THE FOLLOWING TABLE.

PARAMETER	VALUE
pH RANGE	5.2 TO 8.00
ORGANIC MATTER	1.5 TO 5.0%
MAGNESIUM	35 lbs. per acre, minimum
PHOSPHORUS (P_2O_5)	75 lbs. per acre, minimum
POTASSIUM (K_2O)	85 lbs. per acre, minimum
SOLUBLE SALTS	≤ 500 ppm

SHOP DRAWINGS FOR BMPS:

MSD SHOP DRAWING SUBMITTAL REQUIRED FOR BMP AND ITS COMPONENTS PRIOR TO CONSTRUCTION.
MSD CONTACT: PLEASE CONTACT THE DISTRICT'S CONSTRUCTION MANAGEMENT DIVISION AT (314) 335-2072 FOR QUESTIONS.

GENERAL NOTES AND SPECIFICATIONS FOR INFILTRATION BASIN:

1. COMPACTION

COMPACTION OF BOTH THE BASE OF THE BIORETENTION AREA AND THE REQUIRED BACKFILL SHALL BE MINIMIZED DURING ALL STAGES OF CONSTRUCTION. IF BIORETENTION AREAS ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHALL USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES WILL SIGNIFICANTLY CONTRIBUTE TO SUBGRADE AND BACKFILL COMPACTION, WHICH WILL RESULT IN DESIGN FAILURE.

COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN 12" TO 18" LIFTS. DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS, SANDS, AND AGGREGATE. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A LOADER WITH MARSH TRACKS.

2. MULCH

MULCH SHOULD BE PLACED TO A UNIFORM THICKNESS OF 2" TO 3". SHREDDED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (5 TO 12 MONTHS) PRIOR TO INSTALLATION.

3. UNDERDRAINS

THE ENDS OF THE UNDERDRAIN SYSTEM NOT CONNECTED TO A CLEANOUT OR STRUCTURE SHALL BE CAPPED. THE MAIN COLLECTOR PIPE FOR THE UNDERDRAIN SYSTEM SHALL BE INSTALLED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS, OR CLEANOUT PIPES SHALL BE PROVIDED PER PLANS.

4. SETTLING OF FILTER MATERIAL

AFTER A PERIOD OF TIME THAT INCLUDES TWO (2) SIGNIFICANT (1" OR GREATER) STORM EVENTS, THE CONTRACTOR SHALL APPLY ADDITIONAL FILTER MEDIA (PLANTING SOIL) AS REQUIRED TO RESTORE THE FILTER BED AREA TO PLAN GRADE.

5. CONSTRUCTION SITE RUNOFF:

CONSTRUCTION SITE RUNOFF SHALL NOT FLOW INTO BMP AREAS. ALL STORMWATER FLOW TO BMP AREAS SHALL BE DIVERTED, PLUGGED, OR DISCONNECTED UNTIL THE CONSTRUCTION SITE IS STABLE AND THE MSD DEDICATION INSPECTOR PROVIDES APPROVAL TO PLACE THE BMP ON-LINE.

6. INFILTRATION TESTING (FOR WHEN UTILIZING ONSITE SOILS AND/OR MIXING ONSITE FOR PLANING SOIL:

THE IN-PLACE PERMEABILITY OF THE PLANTING SOIL SHALL BE 2.0 TO 3.5 FT/DAY, AND VERIFIED BY AND INFILTRATION TEST PERFORMED PER THE MARYLAND STORMWATER MANUAL, APPENDIX D.1, -INFILTRATION TESTING REQUIREMENTS (FIELD TESTING REQUIRED)-. A MINIMUM OF ONE PERCOLATION TEST SHALL BE PERFORMED PER FACILITY. THE MSD FIELD INSPECTOR SHALL BE ALLOWED TO SELECT THE LOCATION OF PERCOLATION TESTS. THE MSD FIELD INSPECTOR SHALL BE PROVIDED A COPY OF ALL TEST RESULTS, SIGNED AND SEALED BY A MISSOURI PROFESSIONAL ENGINEER. TEST RESULTS SHALL REPORT IN UNITS OF FT/DAY. RESULTS SHALL DEMONSTRATE ACCEPTABLE PERMEABILITY PRIOR TO CONSTRUCTION APPROVAL. NOTE THESE TESTS ARE NOT REQUIRED IF UTILIZING PREMIXED PLANTING SOIL SUPPLIED BY A LOCAL MSD APPROVED SOILS SUPPLIER.

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

PRINTED: 10/5/2018 7:07:59 AM

Christini ARCHITECTS
Architecture / Interior Design / Graphics
1001 S. Brentwood Blvd. | Suite 315 | St. Louis, Missouri 63144
314.918.9999 | info@christini.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE TO BE USED WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHIODINI. CHIODINI ASSOCIATES, NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

CDI
3220 Oakland Ave
St. Louis, MO 63110
(314) 865-5570
CIVIL DESIGN INC.
ELISE VIEBIG
Missouri Notary Commission, a Missouri Corporation

Parkway South Middle School
Building Addition, Renovations & Site Improvements - Phase 1
760 Woods Mill Road
Ballwin, MO 63011

AS BUILTS RECORD DRAWINGS 04-20-2021

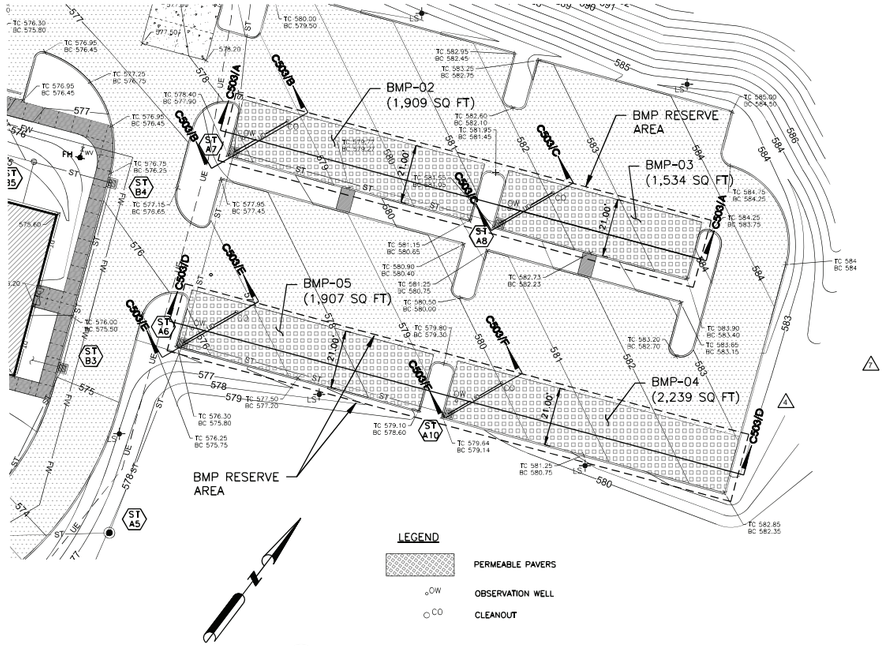
REVISIONS:

7	06-04-19	CODE
33	08-15-19	ASI-4

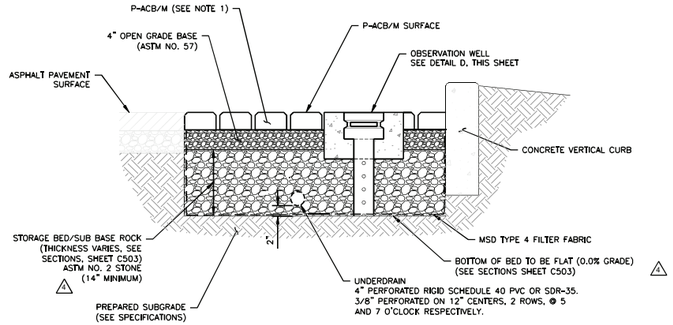
BMP DETAILS

PSD Project No.: 411801B
Project Number: 2018.033
Date: 02.04.2019
Drawn By: NJC

C501



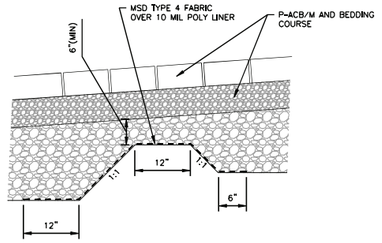
A PERMEABLE PAVERS PLAN VIEW
SCALE: 1" = 20'



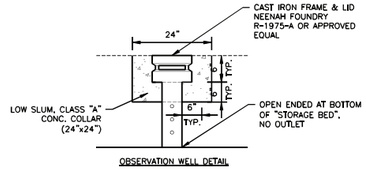
NOTES:

1. P-ACB/B PAVEDRAIN PAVERS. INSTALL PAVERS PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. CONTRACTOR SHALL INSTALL A MOCKUP FOR APPROVAL.
3. IT IS RECOMMENDED THAT A RUBBER BLADE BE USED DURING THE EVENT THAT A SNOW PLOW IS USED. A STEEL BLADE HAS THE TENDENCY TO CATCH THE PAVER AND PULL IT FREE.
4. TERRACING OF SUBGRADE BELOW PICP SECTION WILL BE UTILIZED. MINIMUM DEPTH OF STORAGE BED TO BE MAINTAINED. (SEE C503 FOR SECTIONS)
5. PROVIDE JOINTS IN THE CONCRETE EDGE RESTRAINT AS FOLLOWS; PROVIDE CONTRACTION JOINTS AT 10' CENTERS AND AT RADIUS POINTS.
6. PROVIDE EXPANSION JOINTS AT 80' MAX SPACING.

B PERMEABLE - ARTICULATING CONCRETE BLOCK/MAT TYPICAL SECTION
NOT TO SCALE



C TERRACED BERM DETAIL
NOT TO SCALE



D OBSERVATION WELL DETAIL
NOT TO SCALE

PERMEABLE CONCRETE BLOCK PAVEMENT

POWER WASHING, RESURFACING, AND THE USE OF SAND ABRASIVES FOR WINTER TIRE TRACKING ARE PROHIBITED.

CARE SHALL BE TAKEN DURING SNOW PLOWING. USE RUBBER BLADE

NOTES:

1. STANDARD 18"x12"x0.080" ALUMINUM SIGN FACE WITH BLACK TEXT ON WHITE BACKGROUND GALVANIZED STEEL POST PAINTED BLACK 9'-6" LONG.
2. SET BOTTOM OF SIGN 5'-0" ABOVE GRADE.
3. SET BOTTOM OF POST 3'-0" BELOW GRADE.

E P-ACB/M INFORMATION SIGN
NOT TO SCALE

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

NOTES:

1. THE CONTRACTOR SHALL OBTAIN THE CONCRETE PAVER MANUFACTURER'S CERTIFICATION THAT THE PAVING UNITS SUPPLIED TO CONSTRUCT THE PERMEABLE - ARTICULATING CONCRETE BLOCK/MAT (P-ACB/M) HAVE BEEN APPROVED BY MSD AND MEET THE REQUIREMENTS IN ASTM C936. THIS CERTIFICATION SHALL BE PROVIDED TO THE MSD DIVISION INSPECTOR. THE CERTIFICATION SHALL INCLUDE THE MANUFACTURER'S NAME, AND STATE THAT THE P-ACB/M SUPPLIED MEETS THE ASTM C936 SPECIFICATIONS, (TESTING SHOULD BE CURRENT WITHIN PREVIOUS 12 MONTHS) AND THAT THE PAVING MATERIALS MEET ALL REQUIREMENTS AS EVALUATED UNDER THE MANUFACTURER'S QUALITY CONTROL PROGRAM.
2. PRIOR TO OBTAINING A CONSTRUCTION PERMIT FROM MSD TO CONSTRUCT THE PERMEABLE - ARTICULATING CONCRETE BLOCK/MAT (P-ACB/M) FOR A GIVEN PROJECT, THE CONTRACTOR'S ENGINEER PROVIDING THE AS-BUILT CERTIFICATION SHALL VERIFY THAT THE INSTALLING CONTRACTOR HAS PAST HISTORY DEMONSTRATING APPLICABLE EXPERIENCE. THE P-ACB/M INSTALLATION CONTRACTOR MUST HAVE A CURRENT LEVEL 1 CERTIFICATE FROM THE INTERLOCKING CONCRETE PAVEMENT INSTITUTE'S CONCRETE PAVER INSTALLER PROGRAM.
3. THE CONTRACTOR SHALL PREVENT AND DIVERT SEDIMENT FROM ENTERING THE SUBBASE AND PAVEMENT SURFACE UNTIL THE TRIBUTARY AREAS ARE DEEMED STABLE BY THE ASSIGNED MSD INSPECTOR.
4. VEHICULAR TRAFFIC SHALL BE PROHIBITED ON THE P-ACB/M UNTIL THE SITE IS STABLE TO PREVENT MUD FROM BEING DEPOSITED BY VEHICLES.
5. NO PRODUCT OR MATERIAL SUBSTITUTIONS ARE PERMITTED UNLESS PREVIOUSLY APPROVED BY THE MSD PLAN REVIEW ENGINEER OR BY THE MSD FIELD INSPECTOR ASSIGNED TO THE PROJECT. ALL SUBSTITUTIONS SHALL BE PRESENTED TO MSD THROUGH THE ENGINEER RESPONSIBLE FOR THE DESIGN OF THE P-ACB/M SYSTEM.
6. STONE SHOULD BE CLEAN, WASHED, 90 PERCENT FRACTURED FACES WITH A LOS ANGELES ABRASION INDEX OF LESS THAN 40 AND CONFORM TO THE GRADING REQUIREMENTS IN ASTM D448.
7. DO NOT CLEAN THE PAVER SURFACE WITH HIGH-PRESSURE HOSES OR ABRASIVES. WHEN CLEANING IS NECESSARY, COMBINATION CLEANING MACHINES THAT COMBINE A WET SPRAY AND VACUUM PROCESS HAVE BEEN FOUND TO BE EFFECTIVE.
8. A PERMANENT SIGN SHALL BE POSTED WARNING THAT CARE SHOULD BE TAKEN DURING SNOW PLOWING; AND PROHIBIT THE FOLLOWING: RESURFACING, THE USE OF SAND ABRASIVES FOR WINTER TIRE TRACTION, AND THE USE OF POWER WASHERS.
9. AT COMPLETION OF THE PROJECT, PRIOR TO FINAL DEDICATION, AN AS-BUILT CERTIFICATION, SIGNED AND SEALED BY A MISSOURI PROFESSIONAL ENGINEER, SHALL BE PROVIDED BY THE CONTRACTOR.

MANUFACTURER'S PREQUALIFICATION:

THE P-ACB/M MANUFACTURER SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING A QUALITY CONTROL PROGRAM TO ASSURE COMPLIANCE WITH REQUIREMENTS IN ASTM C936. PRIOR TO USE ON PROJECTS REQUIRING MSD APPROVAL, THE MANUFACTURER SHALL SUBMIT FIVE (5) COPIES OF A COMPLETED PERVIOUS PAVING APPLICATION AS WELL AS DOCUMENTATION DESCRIBING THE QUALITY CONTROL PROGRAM. THE COMPLETED APPLICATION AND OTHER DOCUMENTS SHALL BE SUBMITTED TO:

MSD BMP COMMITTEE
METROPOLITAN ST. LOUIS SEWER DISTRICT
2350 MARKET STREET
ST. LOUIS, MISSOURI 63103-2555

MATERIAL CERTIFICATION:

THE CONTRACTOR SHALL OBTAIN THE CONCRETE PAVER MANUFACTURER'S CERTIFICATION THAT THE PAVING UNITS SUPPLIED TO CONSTRUCT THE P-ACB/M HAVE BEEN APPROVED BY MSD AND MEET THE REQUIREMENTS IN ASTM C936. THIS CERTIFICATION SHALL BE PROVIDED TO THE MSD DIVISION INSPECTOR. THE CERTIFICATION SHALL INCLUDE THE MANUFACTURER'S NAME, AND STATE THAT THE P-ACB/M SUPPLIED MEETS THE ASTM C936 SPECIFICATIONS, (TESTING SHOULD BE CURRENT WITHIN PREVIOUS 12 MONTHS) AND THAT THE PAVING MATERIALS MEET ALL REQUIREMENTS AS EVALUATED UNDER THE MANUFACTURER'S QUALITY CONTROL PROGRAM.

CONTRACTOR PREQUALIFICATION:

PRIOR TO OBTAINING A CONSTRUCTION PERMIT FROM MSD TO CONSTRUCT THE PERMEABLE ARTICULTING CONCRETE BLOCK/MAT (P-ACB/M) FOR A GIVEN PROJECT, THE CONTRACTOR'S ENGINEER PROVIDING AS-BUILT CERTIFICATION SHALL VERIFY THAT THE INSTALLING CONTRACTOR HAS:

1. PAST HISTORY DEMONSTRATING APPLICABLE EXPERIENCE.
2. THE P-ACB/M INSTALLATION CONTRACTOR MUST HAVE A CURRENT LEVEL 1 CERTIFICATE FROM THE INTERLOCKING CONCRETE PAVEMENT INSTITUTE'S CONCRETE PAVER INSTALLER PROGRAM.

AS-BUILT CERTIFICATION:

AT COMPLETION OF PROJECT, PRIOR TO FINAL DEDICATION, AN AS-BUILT CERTIFICATION, SIGNED AND SEALED BY THE CONTRACTOR'S LICENSED PROFESSIONAL ENGINEER, SHALL BE PROVIDED CERTIFYING:

1. THE P-ACB/M SYSTEM WAS BUILT IN ACCORDANCE WITH THE DETAILS, DIMENSIONS, AND MATERIALS AS APPROVED BY MSD FOR THIS PROJECT.
2. THE P-ACB/M SYSTEM WAS INSTALLED BY A QUALIFIED CONTRACTOR, AND HAS SATISFIED ALL APPLICABLE QUALITY CONTROL AND PERFORMANCE TESTS.
3. THE P-ACB/M SYSTEM INSTALLATION WAS WITNESSED BY THE CERTIFYING ENGINEER OR A REPRESENTATIVE UNDER HIS/HER DIRECT SUPERVISION.

PRINTED: 10/5/2018 7:07:59 AM

Chiodini Architects
Architecture / Interior Design / Graphics
1001 S. Brentwood Blvd. | Suite 19 | St. Louis, Missouri 63144
314.644.4004 | chiodiniarchitects.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER, NOR ARE TO BE USED WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHIODINI, CHIODINI ASSOCIATES. NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

CDI
3220 Oakland Ave
St. Louis, MO 63110
(314) 865-5570
CIVIL DESIGN INC.
ELLIOT STEELE
Missouri & Illinois Certificates of Authority: E-2007030871

Parkway South Middle School
Building Addition, Renovations & Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

AS BUILTS RECORD DRAWINGS 04-20-2021

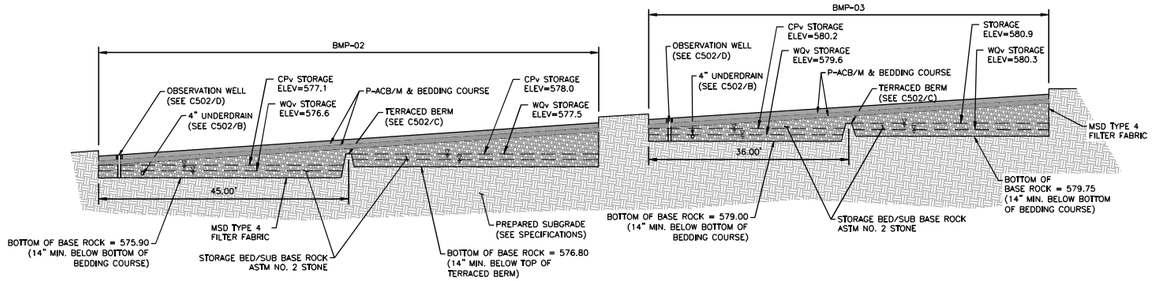
REVISIONS:

4	02-21-19	ADDM 4
7	06-04-19	CODE

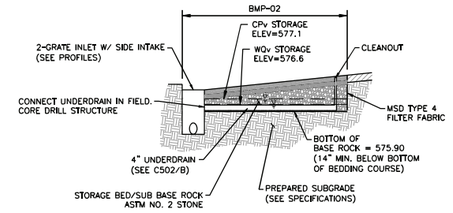
BMP DETAILS

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

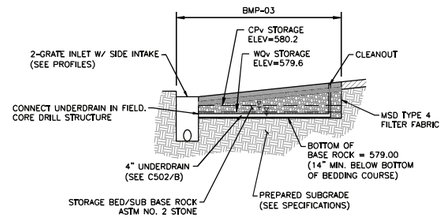
C502



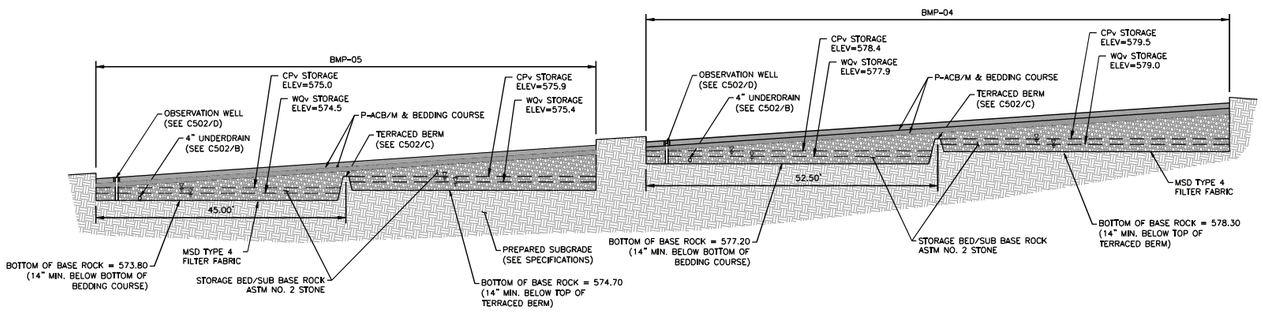
A PERMEABLE PAVERS SECTION A-A
VERTICAL: 1"=5', HORIZONTAL: 1"=10'



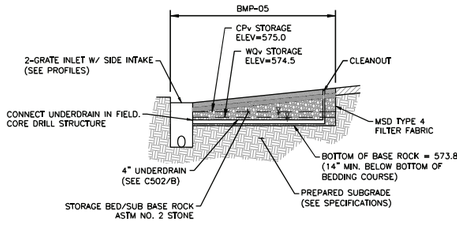
B PERMEABLE PAVERS SECTION B-B
VERTICAL: 1"=5', HORIZONTAL: 1"=10'



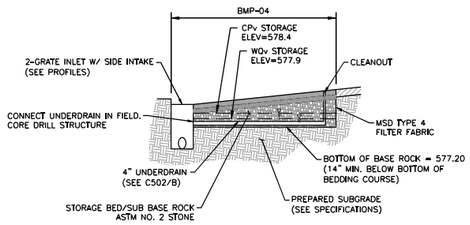
C PERMEABLE PAVERS SECTION C-C
VERTICAL: 1"=5', HORIZONTAL: 1"=10'



D PERMEABLE PAVERS SECTION D-D
VERTICAL: 1"=5', HORIZONTAL: 1"=10'



E PERMEABLE PAVERS SECTION E-E
VERTICAL: 1"=5', HORIZONTAL: 1"=10'



F PERMEABLE PAVERS SECTION F-F
VERTICAL: 1"=5', HORIZONTAL: 1"=10'

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

ST. LOUIS COUNTY 19LND-00011 ST. LOUIS COUNTY PAC #19PAC-00019 ST. LOUIS COUNTY HT #4686 MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

AS BUILTS RECORD DRAWINGS 04-20-2021

Christini ARCHITECTS
Architecture / Interior Design / Graphics
1001 S. Brentwood Blvd. | Suite 311 | St. Louis, Missouri 63144
314.918.9999 | info@christini.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHIODINI, CHIODINI ASSOCIATES, NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

CDI
CML DESIGN INC.
3220 Oakland Ave
St. Louis, MO 63110
(314) 865-5570
Certificate of Authority # 2007018784

Parkway South Middle School
Building Addition, Renovations & Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

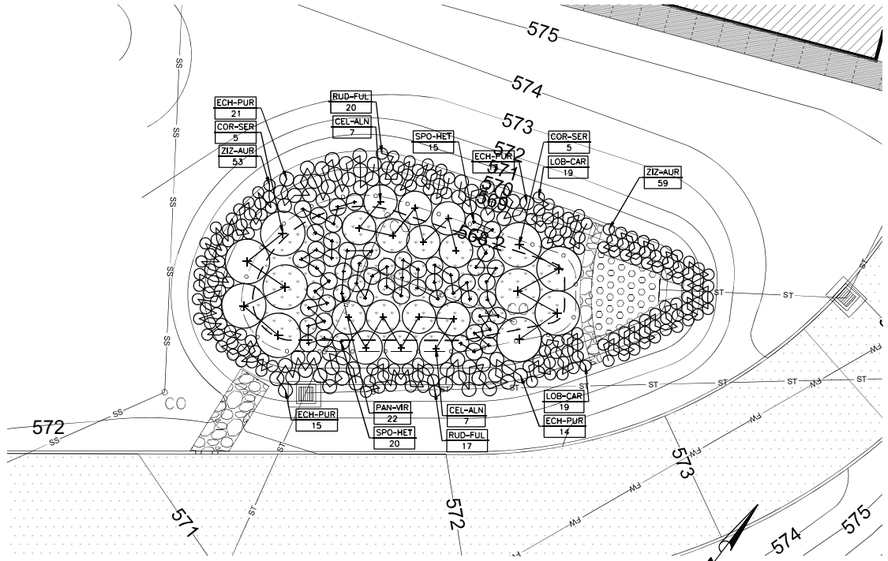
REVISIONS:

4	02-21-19	ADDM 4

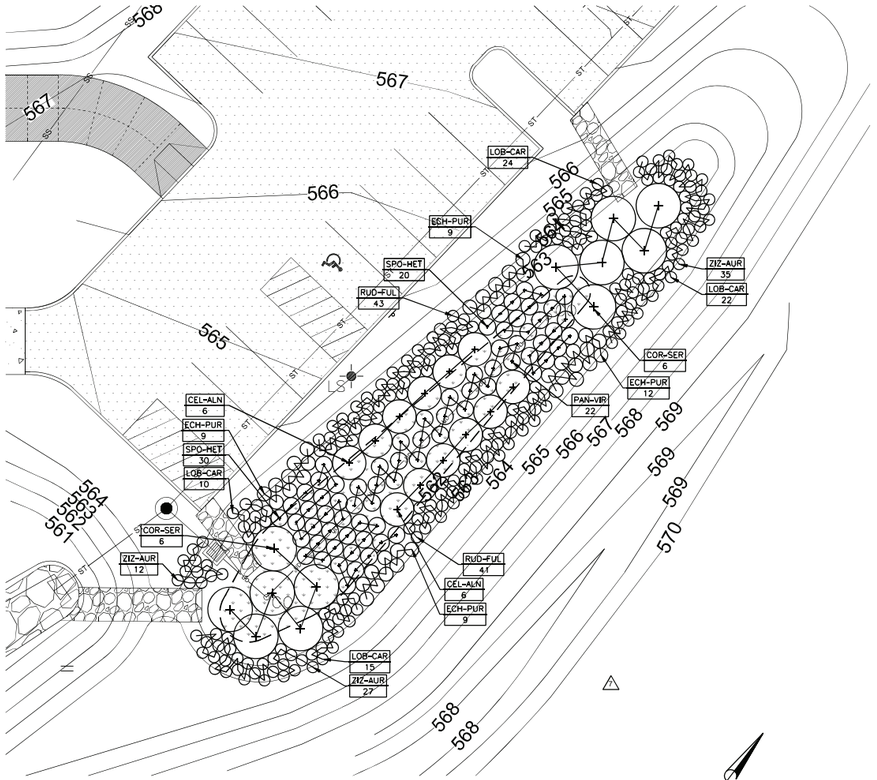
BMP DETAILS

PSD Project No.: 411801B
Project Number: 2018.033
Date: 02.04.2019
Drawn By: NJC

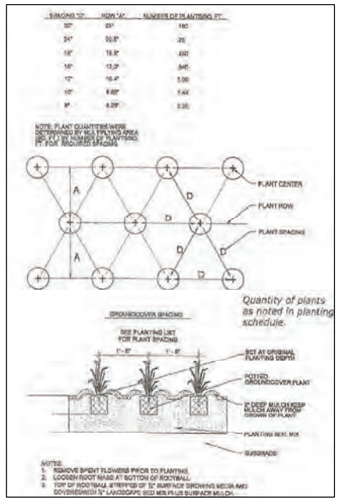
C503



A BIORETENTION PLANTING PLAN (BMP-01)
SCALE: 1" = 10'



B BIORETENTION PLANTING PLAN (BMP-06)
SCALE: 1" = 10'



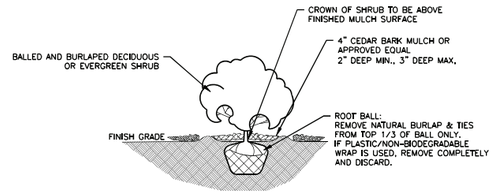
D BIORETENTION PLANT SPACING
NOT TO SCALE

PLANT MATERIALS

	KEY	BOTANICAL/COMMON NAME	METHOD	SIZE	QUANITY	REMARKS
SHRUBS / PERRENIALS	CLE-ALN	CLETHRA ALNIFOLIA SWEET PEPPERBUSH	CONT	5 GAL	26	FULL HEALTHY PLANT
	COR-SER	CORNUS SERICEA 'SILVER & GOLD' SILVER & GOLD YELLOW TWIG DOGWOOD	CONT	5 GAL	22	FULL HEALTHY PLANT
	ECH-PUR	ECHINACEA PURPUREA PURPLE CONEFLOWER	CONT	1 GAL	102	FULL HEALTHY PLANT
	LOB-CAR	LOBELIA CARDINALIS CARDINAL FLOWER	CONT	1 GAL	109	FULL HEALTHY PLANT
	PAN-VIR	PANICUM VIRGATUM SWITCHGRASS	CONT	3 GAL	44	FULL HEALTHY PLANT
	RUD-SUB	RUDBECKIA FULGIDA ORANGE CONEFLOWER	CONT	1 GAL	121	FULL HEALTHY PLANT
	SPO-HET	SPOROBOLUS HETEROLEPIS PRAIRIE DROPSEED	CONT	3 GAL	85	FULL HEALTHY PLANT
	ZIZ-AUR	ZIZIA AUREA GOLDEN ALEXANDER	CONT	1 GAL	136	FULL HEALTHY PLANT

PLANTING NOTES:

1. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITY LINES AND OTHER UNDERGROUND OBSTRUCTIONS IN AREAS OF WORK PRIOR TO START OF OPERATIONS.
2. EXTERMINATE AND REMOVE ALL EXISTING WEEDS FROM SITE AREA PRIOR TO PLANTING.
3. THE STANDARDS SET FORTH IN "AMERICAN STANDARDS FOR NURSERY STOCK" REPRESENT GENERAL GUIDELINE SPECIFICATIONS ONLY AND WILL CONSTITUTE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIAL.
4. ANY PLANT MATERIAL THAT DIES OR DEFOLIATES (PRIOR TO ACCEPTANCE OF WORK) SHALL BE REMOVED AND REPLACED.
5. THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO REJECT ANY PLANT MATERIAL NOT MEETING SPECIFICATIONS.
6. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR SOIL SAMPLING AND TESTING TO DETERMINE EXACT FERTILIZER REQUIREMENTS.
7. ALL SHRUB PLANTING AREAS SHALL RECEIVE A MINIMUM OF 3 INCH DEPTH OF SHREDDED OAK MULCH OR APPROVED EQUAL AFTER INSTALLATION OF PLANT MATERIAL.
8. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR WATERING ALL PLANTS UNTIL THE TIME THE LANDSCAPE IS APPROVED BY THE OWNER'S REPRESENTATIVE.
9. LANDSCAPE CONTRACTOR SHALL PROVIDE UNIT COSTS AND POSSIBLE ALTERNATIVES FOR PLANT MATERIAL TO THE LANDSCAPE ARCHITECT.
10. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR COMPLETELY MAINTAINING THE WORK (INCLUDING BUT NOT LIMITED TO: WATERING, MULCHING, SPRAYING, FERTILIZING, ETC.) OF ALL PLANTING AND TURF AREAS UNTIL TOTAL ACCEPTANCE OF THE WORK BY THE LANDSCAPE DESIGNER AND OWNER.
11. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL WORK FOR A PERIOD OF ONE YEAR BEGINNING AT THE DATE OF ACCEPTANCE BY OWNER'S REPRESENTATIVE.



C SHRUB PLANTING DETAIL
NOT TO SCALE

Table 2: Planting, Water and Mulch Requirements

Water Availability	Required Planting Period	Minimum Container Size	Water Requirement First 3 Weeks*	Water Requirement After 3 Weeks*	Maximum Mulch Depth****
No ability to water after	Late Feb – April only	2.25" x 2.25" or larger	Water each day immediately		1.5 for plugs
Manual watering with standard sprinkler	Late Feb. – Early June Sept – October	4.5" x 6" (quart) or larger in summer & Fall	1" (60 min) every 4 days	1" (60 min) every 7 days until plants established***	1.5" for plugs 2.5" for quarts
Automatic irrigation (set for under soon-to-begin after three months during first two months after planting)	Late Feb. – Early Oct.	2.25" x 2.75" (plug) or larger in spring 4.5" x 6" (quart) or larger in summer & Fall	1" (60 min) every 4 days in spring and Fall 1" (60 min) every 3 days in summer	1" (60 min) every 7 days until plants established***	1.5" for plugs 2.5" for quarts

*This water amount includes natural rainfall. If you get a ½ inch of natural rain then you will need to add a ½ inch of water to meet the 1 inch requirement.

**Requires transport of water to the planting site in large containers and pouring enough water on to each plant (after planting) to moisten the entire planting pit.

***Plants are established when roots have grown out of the container soil and into the native soil by 1-3 inches. This normally takes 3-4 months for most perennials and grasses and up to 6-9 months for trees and shrubs.

****Shredded leaf compost is recommended for use with perennials and grasses. Shredded bark mulch is recommended for trees and shrub plantings at a depth of 3 inches.

E BIORETENTION PLANTING, WATER & MULCH TABLE
NOT TO SCALE

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

GENERAL BMP PLANTING PLAN NOTE:

THIS SHEET IS NOT INCLUDED WITH ST. LOUIS COUNTY APPROVAL ⚠

ST. LOUIS COUNTY 19LND-00011 ST. LOUIS COUNTY PAC #19PAC-00019 ST. LOUIS COUNTY HT #4686 MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

AS BUILTS RECORD DRAWINGS 04-20-2021

Christner, Inc. ARCHITECTS
Architecture / Interior Design / Graphics
1401 S. Brentwood Blvd. | Suite 311 | St. Louis, Missouri 63144
314.644.5500 | christner.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE TO BE USED WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHIODINI. CHIODINI ASSOCIATES, NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

CDI
3220 Oakland Ave
St. Louis, MO 63110
(314) 865-5570
CIVIL DESIGN INC.
ROBERT WEBB
Licensed Missouri Professional Engineer

Parkway South Middle School
Building Addition, Renovations & Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

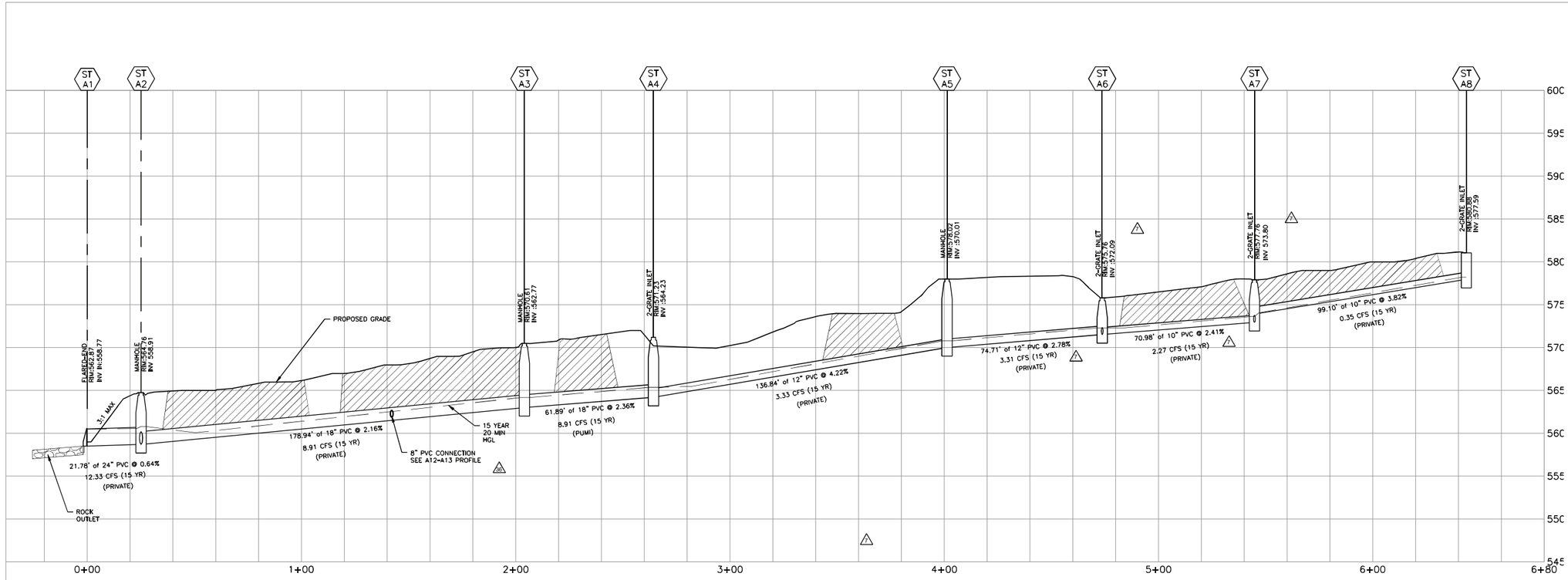
REVISIONS:

7	06-04-19	CODE

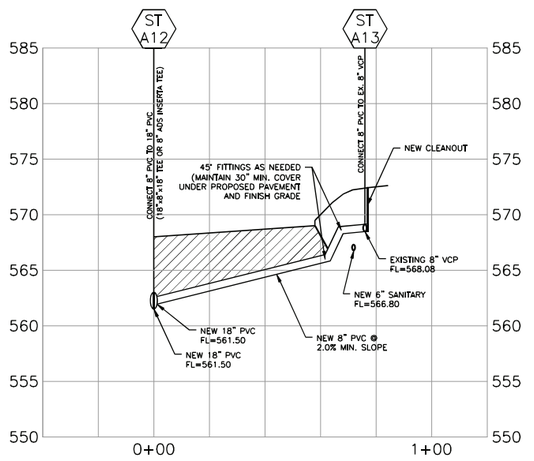
BMP PLANTING PLANS

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

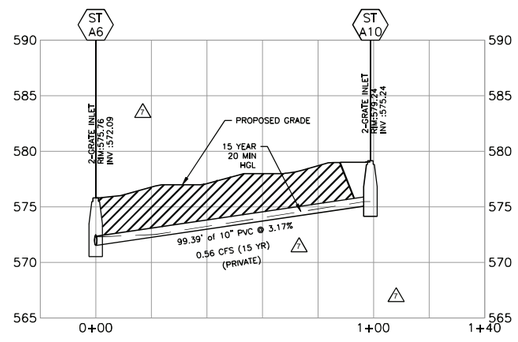
C504



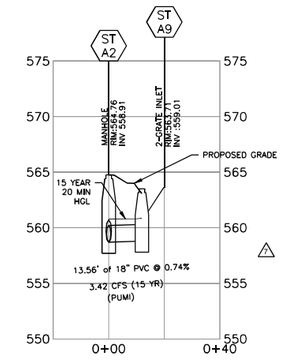
A STORM A1-A8 PROFILE
SCALE: HORZ. 1"=20', VERT. 1"=5'



G STORM A12-A13 PROFILE
SCALE: HORZ. 1"=20', VERT. 1"=5'



B STORM A6-A10 PROFILE
SCALE: HORZ. 1"=20', VERT. 1"=5'



C STORM A2-A9 PROFILE
SCALE: HORZ. 1"=20', VERT. 1"=5'

LEGEND

GRANULAR BACKFILL BELOW PAVEMENT

15YR-20MIN FREEBOARD

Line No.	Inlet ID	Rim-Hw (ft)
1	A2	3.94
2	A3	6.35
3	A4	5.85
4	A5	7.22
5	A6	3.50
6	A7	4.29
7	A8	2.83
8	A11	3.46
9	A10	3.67
10	A9	2.62
11	B2	3.83
12	B3	5.22
13	B4	5.57
14	B5	3.79
15	B6	3.73
16	B7	3.59
17	B8	2.49
18	B9	4.37
19	B10	3.09

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

ST. LOUIS COUNTY 19LND-00011 ST. LOUIS COUNTY PAC #19PAC-00019 ST. LOUIS COUNTY HT #4686 MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

AS BUILTS RECORD DRAWINGS 04-20-2021

Chiodini Architects
Architecture / Interior Design / Graphics
1931 S. Brentwood Blvd. / Suite 311 / St. Louis, Missouri 63144
314-963-0300 / info@chiodini.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE THEY TO BE LOANED OUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHIODINI, CHIODINI ASSOCIATES, NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

CDI
3220 Oakland Ave
St. Louis, MO 63110
(314) 865-5570
CIVIL DESIGN INC.
MARK WEBB
Licensed Professional Engineer

Parkway South Middle School
Building Addition, Renovations & Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

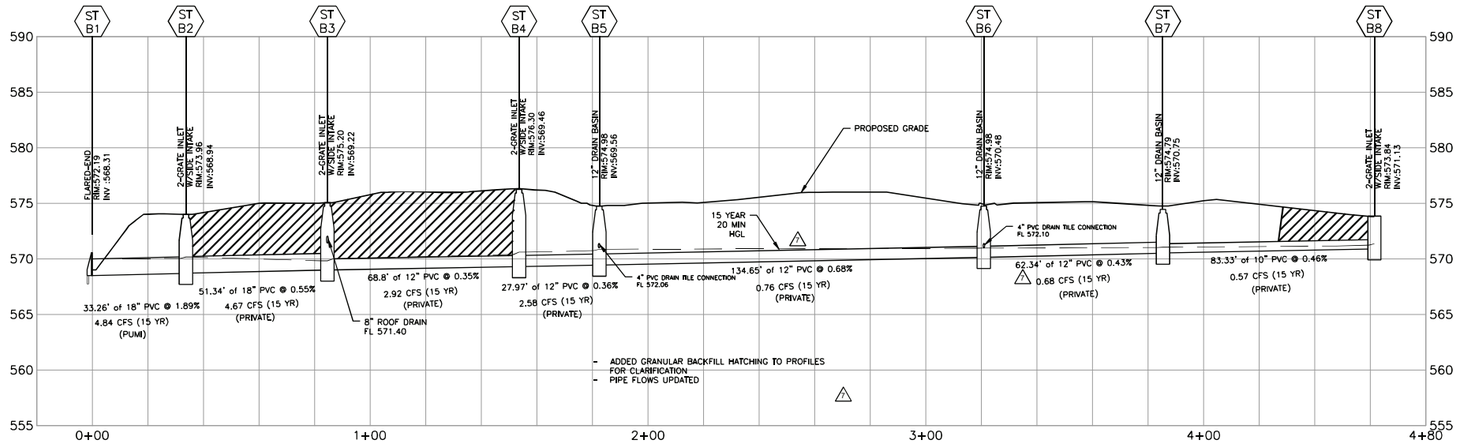
REVISIONS:

4	02-21-19	ADDM 4
7	06-04-19	CODE
36	09-26-19	STORM TIE IN

STORM SEWER PROFILES

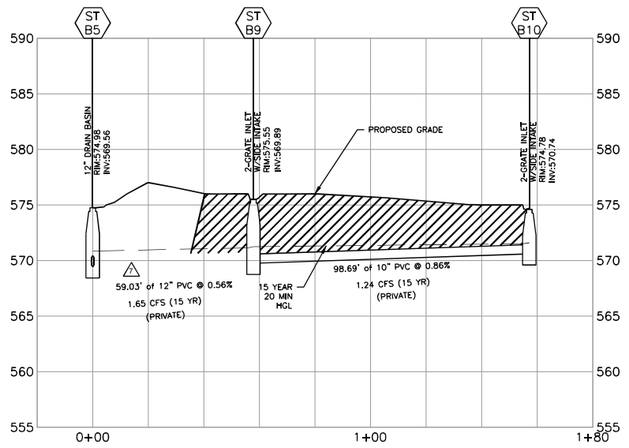
PSD Project No.: 411801B
Project Number: 2018.033
Date: 02.04.2019
Drawn By: NJC

C600



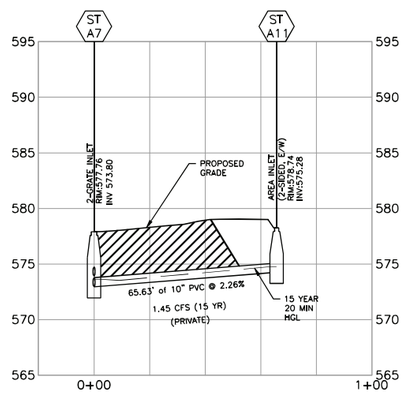
D STORM B1-B8 PROFILE

SCALE: HORZ. 1"=20', VERT. 1"=5'



E STORM B5-B10 PROFILE

SCALE: HORZ. 1"=20', VERT. 1"=5'



F STORM A7-A11 PROFILE

SCALE: HORZ. 1"=20', VERT. 1"=5'

15YR-20MIN FREEBOARD

Line No.	Inlet ID	Rim-Hw (ft)
1	A2	3.94
2	A3	6.35
3	A4	5.85
4	A5	7.22
5	A6	3.50
6	A7	4.29
7	A8	2.83
8	A11	3.46
9	A10	3.67
10	A9	2.62
11	B2	3.83
12	B3	5.22
13	B4	5.57
14	B5	3.79
15	B6	3.73
16	B7	3.59
17	B8	2.49
18	B9	4.37
19	B10	3.09

LEGEND

GRANULAR BACKFILL BELOW PAVEMENT

- ADDED GRANULAR BACKFILL HATCHING TO PROFILES FOR CLARIFICATION

1 1

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

ST. LOUIS COUNTY 19LND-00011 ST. LOUIS COUNTY PAC #19PAC-00019 ST. LOUIS COUNTY HT #4686 MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

AS BUILTS RECORD DRAWINGS 04-20-2021

Chiodini Architects
Architecture / Interior Design / Graphics
1931 S. Brentwood Blvd. / Suite 315 / St. Louis, Missouri 63144
314.963.0300 / info@chiodini.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ASSIGNED OUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHIODINI. CHIODINI ASSOCIATES. NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

CDI
3220 Oakland Ave
St. Louis, MO 63110
(314) 865-5370
CIVIL DESIGN INC.
MARK WEBB
Licensed Professional Engineer

Parkway South Middle School Building Addition, Renovations & Site Improvements -

760 Woods Mill Road
Ballwin, MO 63011

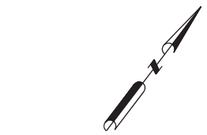
REVISIONS:

4	02-21-19	ADDM 4
7	06-04-19	CODE

STORM SEWER PROFILES

PSD Project No.: 411801B
Project Number: 2018.033
Date: 02.04.2019
Drawn By: NJC

C601



GRAPHIC SCALE

(IN FEET)
1 INCH = 50 FT.

SWPP KEYED NOTES:

1. INLET PROTECTION
2. SILT FENCE
3. ROCK BLANKET OUTLET PROTECTION (PER MSD STANDARDS FOR ROCK BLANKET)
4. PUBLIC NOTIFICATION SIGN FOR COMMERCIAL SITES SEE SHEET C701

PROPERTY ADDRESS
760 WOODS MILL ROAD
BALLWIN, MISSOURI 63011

OWNER INFORMATION
PARKWAY CONSOLIDATED SCHOOL DISTRICT
760 WOODS MILL ROAD
BALLWIN, MISSOURI 63011
CONTACT: MARTY COLLIER
OFFICE: 314-415-8220
24-HR EMERGENCY: 314-415-8200

ST. LOUIS COUNTY SPECIAL INSPECTOR
ECO CONSTRUCTORS
CONTACT: JOE MADDOX
C: 314-540-4544

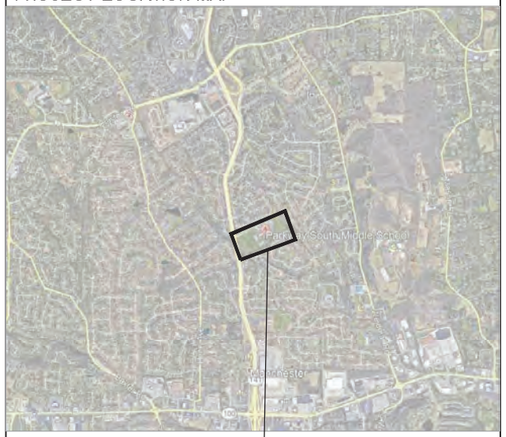
PROJECT INFORMATION
TOTAL SITE AREA: 29.65 ACRES
PROJECT DISTURBANCE: 5.08 ACRES
(INCLUDES 1.50 ACRES OF EXISTING PAVEMENT RESTORATION/MAINTENANCE)

SWPPP CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT THIS STORM WATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS AND REGULATIONS OF ST. LOUIS COUNTY AND THE MISSOURI DEPARTMENT OF NATURAL RESOURCES. TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE INFORMATION CONTAINED IN THIS PLAN IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWN VIOLATIONS.

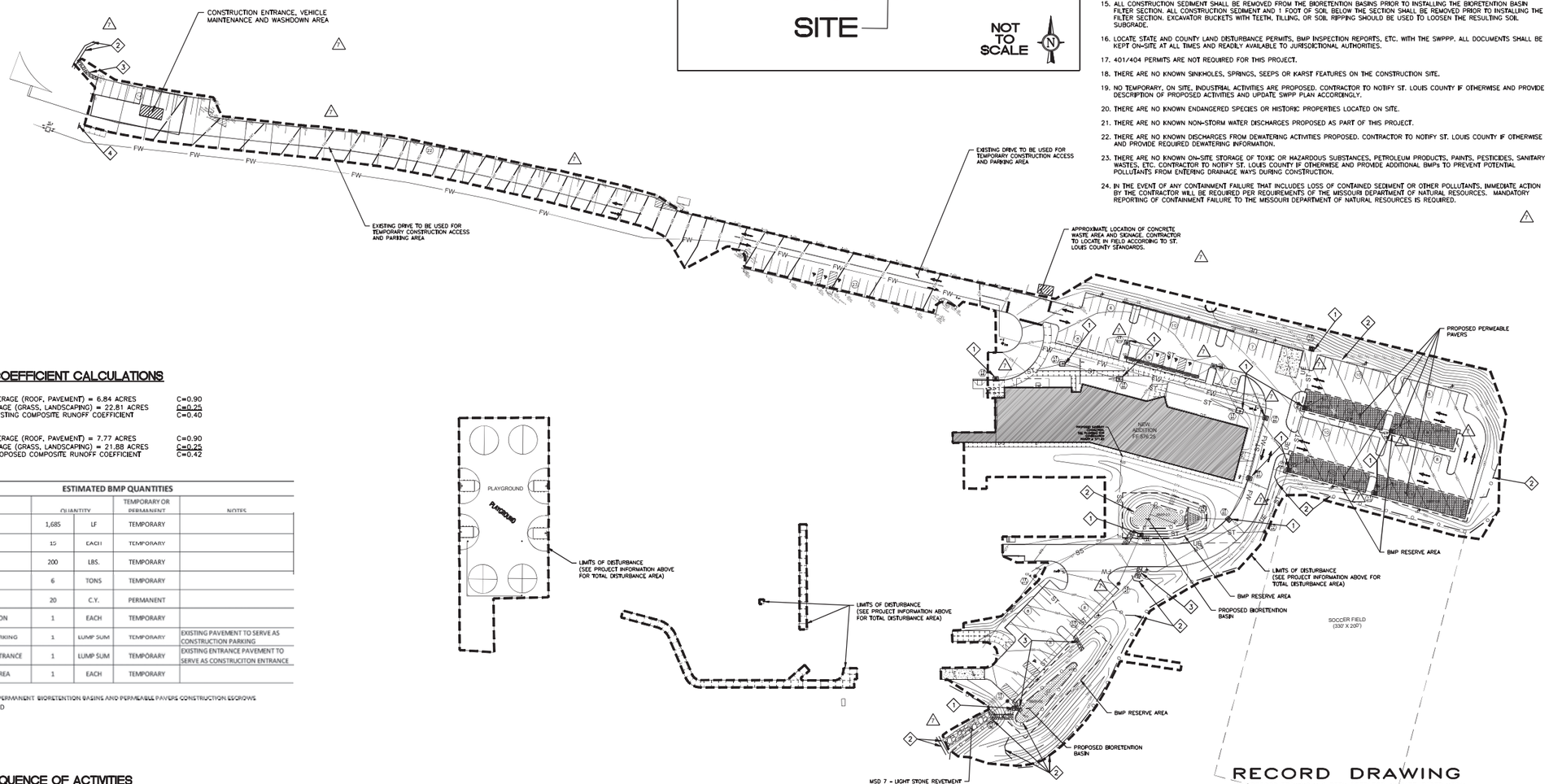
SIGNATURE: _____ DATE:_____

PROJECT LOCATION MAP



SWPPP NOTES:

1. CONTRACTOR TO PROVIDE TEMPORARY SEEDING OVER ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES WHICH ARE LEFT INACTIVE FOR 30 DAYS. TEMPORARY SEEDING SHALL BE IN ACCORDANCE WITH THE ST. LOUIS COUNTY STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
2. ALL EROSION CONTROL AND SEDIMENTATION CONTROL MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL, INSPECT AND MAINTAIN. THE MAINTENANCE OF THESE EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CONSIDERED INCIDENTAL TO THE DEVICES THEMSELVES. MAINTENANCE SHALL CONTINUE TO BE THE RESPONSIBILITY OF THE CONTRACTOR UNTIL THE OWNER TAKES OWNERSHIP OF THE IMPROVEMENTS.
3. AT LEAST ONCE EVERY WEEK AND NO LATER THAN 24 HOURS AFTER EVERY RAINFALL EVENT OF 0.5 INCHES OR MORE, EROSION AND SILTATION CONTROL DEVICES SHALL BE INSPECTED BY THE SPECIAL INSPECTOR FOR DAMAGE AND AMOUNT OF SEDIMENTATION ACCUMULATED AND CORRECTIVE ACTIONS SHALL BE TAKEN. REPORTS OF THESE INSPECTIONS AND CORRECTIVE ACTIONS SHALL BE PROVIDED TO THE OWNER AND ST. LOUIS COUNTY WITHIN 5 DAYS OF THE DATE OF INSPECTION.
4. ALL EROSION CONTROL SHALL CONFORM TO THE ST. LOUIS COUNTY STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
5. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO BEGINNING CONSTRUCTION.
6. A WASHDOWN AREA FOR VEHICLES SHALL BE PROVIDED TO REDUCE THE RISK OF VEHICLES TRACKING SEDIMENT AND DEBRIS.
7. PAVED AREAS WITHIN THE PROPERTY LIMITS AND STREETS ADJACENT TO THE CONSTRUCTION SITE SHALL BE CLEANED DAILY OR MORE FREQUENTLY AS NECESSARY. CLEANING SHALL INCLUDE SCRAPING SIGNIFICANT AMOUNTS OF SOIL AND POWER SWEEPING AS NEEDED TO REMOVE ANY EXCESS MUD, DIRT, OR ROCK TRACKED FROM THE CONSTRUCTION AREA. SEDIMENT SHALL NOT BE ALLOWED TO LEAVE THE SITE AND BE DEPOSITED ON THE CITY STREETS.
8. ALL INLETS STRUCTURES RECEIVING DRAINAGE FROM THE PROPOSED DISTURBED AREAS SHALL BE PROTECTED WITH SEDIMENT CONTROL MEASURES TO PREVENT SEDIMENT FROM ENTERING THE STORM SYSTEM AND DISCHARGING TO EXISTING BMP FACILITIES. SEDIMENT CONTROL MEASURES SHALL REMAIN UNTIL THE DISTURBED DRAINAGE AREAS HAVE BEEN PROPERLY STABILIZED.
9. PARKING ON NON-SURFACED AREAS IS PROHIBITED IN ORDER TO ELIMINATED THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVING CONDITIONS. CONTRACTOR SHALL KEEP ROAD CLEAR OF MUD AND DEBRIS.
10. ANY LAND CLEARING, CONSTRUCTION, OR DEVELOPMENT INVOLVING THE MOVEMENT OF EARTH SHALL BE IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN, AND THE PERSON ISSUED A LAND DISTURBANCE PERMIT ASSUMES AND ACKNOWLEDGES RESPONSIBILITY FOR COMPLIANCE WITH THE SAINT LOUIS COUNTY LAND DISTURBANCE CODE AND THE APPROVED STORM WATER POLLUTION PLAN AT THE SITE OF THE PERMITTED ACTIVITY.
11. PRIOR TO THE ISSUANCE OF A MAJOR LAND DISTURBANCE PERMIT, A LAND DISTURBANCE ESCROW SHALL BE APPROVED BY ST. LOUIS COUNTY DEPARTMENT OF PLANNING.
12. PRIOR TO ANY MAJOR LAND DISTURBANCE ACTIVITY, A LAND DISTURBANCE PERMIT FROM THE STATE OF MISSOURI DEPARTMENT OF NATURAL RESOURCES IS REQUIRED.
13. THE CONTRACTOR SHALL PROVIDE, INSTALL, MAINTAIN, AND REMOVE A PUBLIC NOTIFICATION SIGN, PER PAGES 42-43 OF THE ST. LOUIS COUNTY SEDIMENT AND EROSION CONTROL MANUAL.
14. BIORETENTION BASINS AND PERMEABLE PAVERS SHALL BE PROTECTED DURING CONSTRUCTION AND KEPT OFFLINE UNTIL DISTURBED AREAS FLOWING INTO THE BMPs HAVE BEEN VEGETATED AND ESTABLISHED.
15. ALL CONSTRUCTION SEDIMENT SHALL BE REMOVED FROM THE BIORETENTION BASINS PRIOR TO INSTALLING THE BIORETENTION BASIN FILTER SECTION. ALL CONSTRUCTION SEDIMENT AND 1 FOOT OF SOIL BELOW THE SECTION SHALL BE REMOVED PRIOR TO INSTALLING THE FILTER SECTION. EXCAVATOR BUCKETS WITH TEETH, TILLING, OR SOIL RIPPING SHOULD BE USED TO LOOSEN THE RESULTING SOIL SUBGRADE.
16. LOCATE STATE AND COUNTY LAND DISTURBANCE PERMITS, BMP INSPECTION REPORTS, ETC. WITH THE SWPPP. ALL DOCUMENTS SHALL BE KEPT ON-SITE AT ALL TIMES AND READILY AVAILABLE TO JURISDICTIONAL AUTHORITIES.
17. 401/404 PERMITS ARE NOT REQUIRED FOR THIS PROJECT.
18. THERE ARE NO KNOWN SINKHOLES, SPRINGS, SEEPS OR KARST FEATURES ON THE CONSTRUCTION SITE.
19. NO TEMPORARY, ON SITE, INDUSTRIAL ACTIVITIES ARE PROPOSED. CONTRACTOR TO NOTIFY ST. LOUIS COUNTY IF OTHERWISE AND PROVIDE DESCRIPTION OF PROPOSED ACTIVITIES AND UPDATE SWPP PLAN ACCORDINGLY.
20. THERE ARE NO KNOWN ENDANGERED SPECIES OR HISTORIC PROPERTIES LOCATED ON SITE.
21. THERE ARE NO KNOWN NON-STORM WATER DISCHARGES PROPOSED AS PART OF THIS PROJECT.
22. THERE ARE NO KNOWN DISCHARGES FROM DEWATERING ACTIVITIES PROPOSED. CONTRACTOR TO NOTIFY ST. LOUIS COUNTY IF OTHERWISE AND PROVIDE REQUIRED DEWATERING INFORMATION.
23. THERE ARE NO KNOWN ON-SITE STORAGE OF TOXIC OR HAZARDOUS SUBSTANCES, PETROLEUM PRODUCTS, PAINTS, PESTICIDES, SANITARY WASTES, ETC. CONTRACTOR TO NOTIFY ST. LOUIS COUNTY IF OTHERWISE AND PROVIDE ADDITIONAL BMPs TO PREVENT POTENTIAL POLLUTANTS FROM ENTERING DRAINAGE WAYS DURING CONSTRUCTION.
24. IN THE EVENT OF ANY CONTAINMENT FAILURE THAT INCLUDES LOSS OF CONTAINED SEDIMENT OR OTHER POLLUTANTS, IMMEDIATE ACTION BY THE CONTRACTOR WILL BE REQUIRED PER REQUIREMENTS OF THE MISSOURI DEPARTMENT OF NATURAL RESOURCES. MANDATORY REPORTING OF CONTAINMENT FAILURE TO THE MISSOURI DEPARTMENT OF NATURAL RESOURCES IS REQUIRED.



RUNOFF COEFFICIENT CALCULATIONS

EXISTING SITE
IMPERVIOUS COVERAGE (ROOF, PAVEMENT) = 6.84 ACRES C=0.90
PERVIOUS COVERAGE (GRASS, LANDSCAPING) = 22.81 ACRES C=0.25
APPROXIMATE EXISTING COMPOSITE RUNOFF COEFFICIENT C=0.40

PROPOSED SITE
IMPERVIOUS COVERAGE (ROOF, PAVEMENT) = 7.77 ACRES C=0.90
PERVIOUS COVERAGE (GRASS, LANDSCAPING) = 21.88 ACRES C=0.25
APPROXIMATE PROPOSED COMPOSITE RUNOFF COEFFICIENT C=0.42

ESTIMATED BMP QUANTITIES

ITEM	QUANTITY		TEMPORARY OR PERMANENT	NOTES
SILT FENCE	1,685	LF	TEMPORARY	
INLET PROTECTION	15	EACH	TEMPORARY	
TEMPORARY SEED	200	LBS.	TEMPORARY	
MULCH (STRAW)	6	TONS	TEMPORARY	
ROCK OUTLET	20	C.Y.	PERMANENT	
WASHDOWN STATION	1	EACH	TEMPORARY	
CONSTRUCTION PARKING	1	LUMP SUM	TEMPORARY	EXISTING PAVEMENT TO SERVE AS CONSTRUCTION PARKING
CONSTRUCTION ENTRANCE	1	LUMP SUM	TEMPORARY	EXISTING ENTRANCE PAVEMENT TO SERVE AS CONSTRUCUTON ENTRANCE
CONCRETE WASH AREA	1	EACH	TEMPORARY	

NOTE: PROPOSED, PERMANENT BIORETENTION BASINS AND PERMEABLE PAVERS CONSTRUCTION ESCROWS ESTABLISHED BY MSD

SWPPP SEQUENCE OF ACTIVITIES

ANTICIPATED DATE FOR START OF CONSTRUCTION: JUNE 2019
COMPLETION DATE: TO BE DETERMINED BASED ON WHEN SITE CONSTRUCTION IS COMPLETED AND SITE IS STABILIZED. (APPROXIMATELY 14 MONTHS)

1. INSTALL AND MAINTAIN STABILIZED CONSTRUCTION ENTRANCE AND VEHICLE WASHDOWN AREA ON EXISTING ASPHALT DRIVE.
2. INSTALL AND MAINTAIN SILT FENCE, AND SEED AND MULCH WITH REINFORCING IF NEEDED, THROUGHOUT CONSTRUCTION ACTIVITIES.
3. CLEAR/GRUB/GRADE SITE WITH ALL IMPACTS BEING MINIMIZED, LEAVING NATURAL VEGETATION WHEN POSSIBLE, AND SCHEDULE/PHASE WORK TO MINIMIZE BARE SOIL AREAS LIMITING THE TIME OF EXPOSURE.
4. UPON COMPLETION OF ALL CONSTRUCTION ACTIVITIES CONTRIBUTING TO A DRAINAGE AREA, AND ONCE THE ARE IS STABILIZED, REMOVE UNNEEDED SEDIMENT CONTROLS AND RESEED ANY DISTURBED AREAS.

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

ST. LOUIS COUNTY 19LND-00011 ST. LOUIS COUNTY PAC #19PAC-00019 ST. LOUIS COUNTY HT #4686 MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

AS BUILTS RECORD DRAWINGS 04-20-2021

Christner, Inc. ARCHITECTS
Architecture / Interior Design / Graphics
1001 S. Brentwood Blvd. | Suite 19 | St. Louis, Missouri 63144
314.963.9393 | info@christner.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVITIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHIODINI. CHIODINI ASSOCIATES, NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

CDI CIVIL DESIGN, INC.
5220 Oakland Ave
St. Louis, MO 63139
(314) 863-5570
MISSOURI State Certificate of Authority #2007029481

Parkway South Middle School Building Addition, Renovations & Site Improvements -

760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

7	06-04-19	CODE

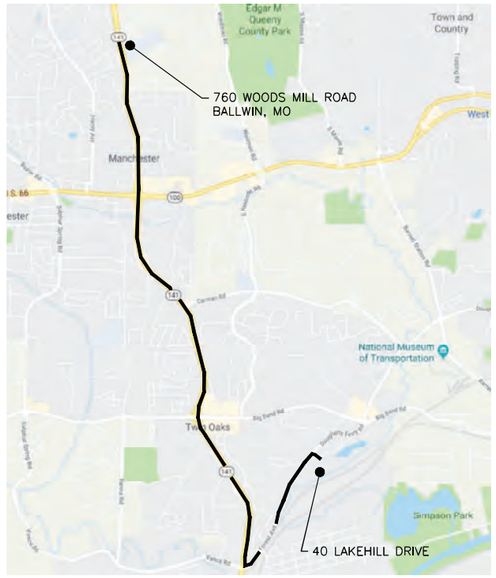
SWPP PLAN

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

C700

EXISTING SITE NATURAL RESOURCES MAP





HAUL ROUTE
N.T.S.

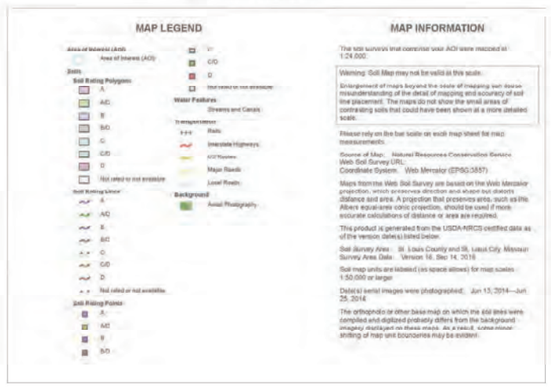
EARTHWORK QUANTITIES:

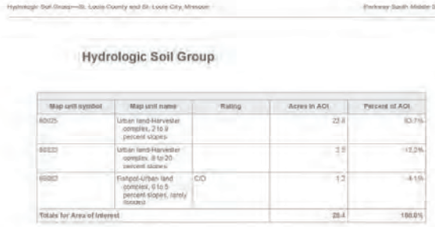
BULK CUT (UNADJUSTED	3,769 CY
BULK FILL (UNADJUSTED)	1,176 CY

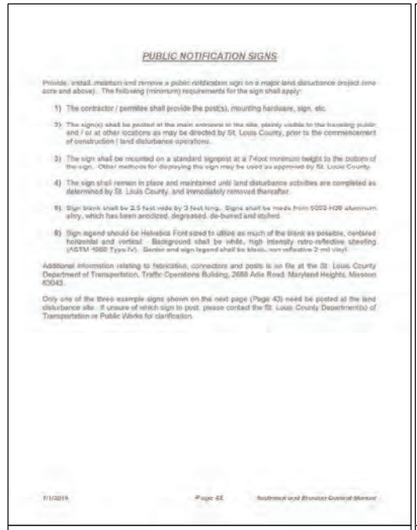
UNADJUSTED EARTHWORK ~ 2,593 CY (CUT & HAUL OFF)

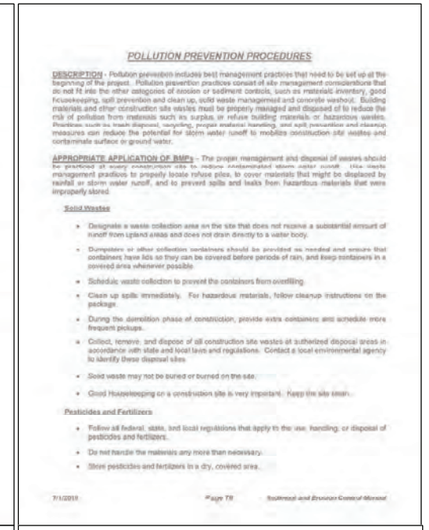
EARTHWORK NOTES:
1. THERE IS ANTICIPATED HAUL OFF OF MATERIAL
2. EARTHWORK QUANTITIES PROVIDED BY THE CONTRACTOR.

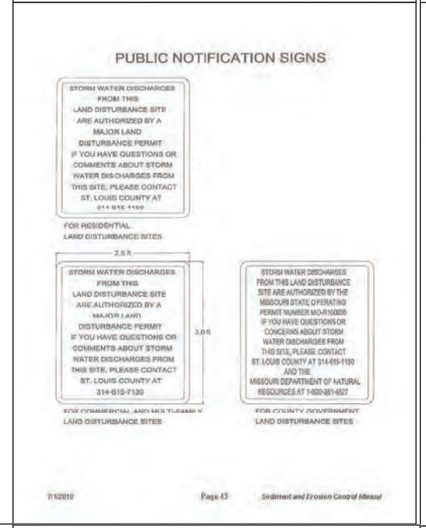
HAUL EQUIPMENT:
4 AXLE DUMP TRUCKS, 88,000 LB GROSS VEHICLE WEIGHT
(CONTRACTOR TO NOTIFY ST. LOUIS COUNTY IF OTHERWISE)

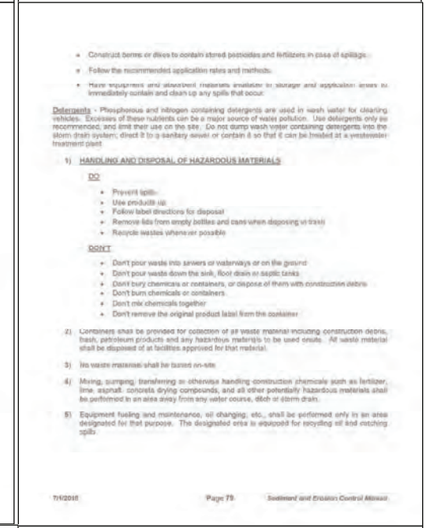


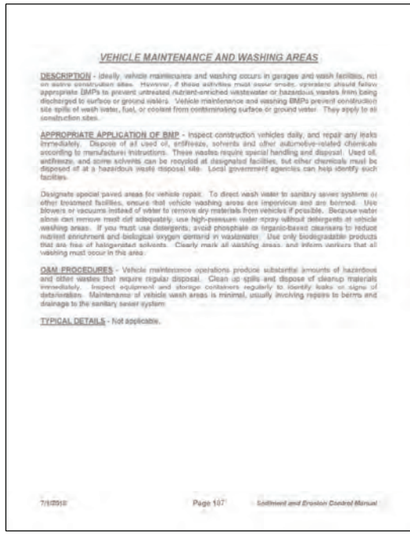


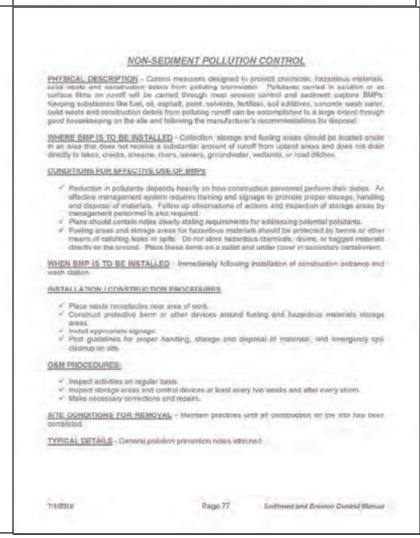


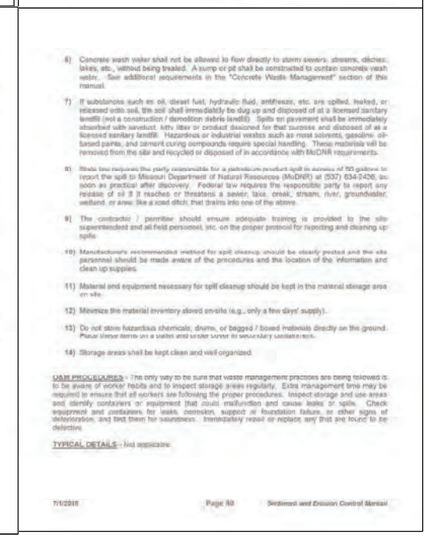












RECORD DRAWING
THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

PRINTED: 10/5/2018 7:07:59 AM

ST. LOUIS COUNTY 19LND-00011 ST. LOUIS COUNTY PAC #19PAC-00019 ST. LOUIS COUNTY HT #4686 MSD PROJECT 18MSD-00571 MSD MAP 21Q

Christner, Inc.
ARCHITECTS
Architecture / Interior Design / Graphics
1001 S. Bentwood Blvd. • Suite 311 • St. Louis, Missouri 63144
314.644.5500 • christnerinc.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER, NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHODZIN, CHODZIN ASSOCIATES, NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.
© COPYRIGHT PENDING

CDI
CIVIL DESIGN INC.
SUE WISE
Missouri State Certificate of Authority # E2010031
3220 Oakland Ave
St. Louis, MO 63110
(314) 865-5570

AS BUILTS RECORD DRAWINGS 04-20-2021

Parkway South Middle School
Building Addition, Renovations & Site Improvements -
760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

7	06-04-19	CODE

RESOURCES MAP AND HAUL ROUTE AND SWPP INFORMATION

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

C701

CONCRETE WASTE MANAGEMENT

DESCRIPTION - The purpose of this specification is to set forth procedures and practices designed to eliminate the discharge of concrete waste materials to storm drainage systems, drainage areas, streets or watercourses, which shall be required of the contractor.

APPROPRIATE APPLICATION OF BMP - Concrete waste management procedures and practices will be implemented on construction projects as follows:

- Where concrete is used as a construction material or where concrete dust and debris result from demolition activities.
- Where slurries containing Portland cement concrete (PCC), asphaltic concrete (AC) or bituminous concrete (BC) are generated, such as from saw-cutting, coring, grinding, grooving and hydro-concrete demolition.
- Where concrete trucks and other concrete-coated equipment are washed on-site, when approved by the Resident Engineer or Construction Inspector.
- Where mortar-mixing station exist.

AWARENESS / ENFORCEMENT

- Contractor's and / or permit holder's superintendent or representative shall oversee and enforce concrete waste management procedures.
  - Discuss the concrete management techniques described in this BMP (such as handling of concrete waste and washout) with the ready-mix concrete supplier before any deliveries are made.
- The site superintendent shall make drivers aware of the presence of the concrete waste management facilities. The site superintendent should post signage indicating the location and designated use of the concrete waste management areas, and provide careful oversight to inspect for evidence of improper dumping of concrete waste and wash water.

IMPLEMENTATION

- Contractors, private individuals, public agencies, etc. using concrete material, shall incorporate requirements for concrete waste management into material supplier and subcontractor agreements. Include requirements in contracts with concrete delivery companies that drivers must use designated concrete washout facilities.
- Store dry and wet materials under cover, away from drainage areas.
- Avoid mixing excess amounts of fresh concrete.
- Do not allow excess concrete to be dumped on-site, except in designated areas.
- Cover the structures before predicted rainstorms to prevent overflows.
- Monitor on site concrete waste storage and disposal procedures at least weekly or as directed by the Resident Engineer or Construction Inspector.

CONSTRUCTION ENTRANCE

PHYSICAL DESCRIPTION - A stabilized entrance to a construction site designed to minimize the amount of sediment transported from the site on vehicles and equipment. Stabilization generally consists of aggregate over geogrid and geosynthetic material. Mud and sediment fall off of tires as they travel along the stabilized entrance; however, additional measures in the form of a washdown area should also be located on site. The stabilized entrance also distributes the axle load of vehicles over a larger area; thereby mitigating the rutting impact vehicles normally have on unpaved areas. See additional information in the "Construction Site Access Requirements" section of this manual.

WHERE BMP IS TO BE INSTALLED - At locations where it is safe for construction vehicles and equipment to access existing streets – preferably at location of future streets or drives.

CONDITIONS FOR EFFECTIVE USE OF BMPs

Drainage: Ditches or pipes, if needed, sized for 15 year, 20 minute storm; HGL 8" below surface of entrance.

WHEN BMP IS TO BE INSTALLED - First order of work, along with washdown area, prior to vehicles or equipment accessing unpaved areas.

INSTALLATION / CONSTRUCTION PROCEDURES

- ✓ Grade and compact area of construction entrance.
- ✓ Install culvert under entrance if needed to maintain positive drainage.
- ✓ Place geosynthetic material next to compacted soil, lay geogrid on top of this, and cover with aggregate, forming diversion excess entrance if needed to direct runoff away from roadway.
- ✓ See Washdown Station BMP for additional steps.

O&M PROCEDURES:

- ✓ Immediately remove any mud or debris tracked onto paved surfaces.
- ✓ Remove sediment and clods of dirt from construction entrance continuously.
- ✓ Replace rock if necessary to maintain clean surface.
- ✓ Repair settled areas.

SITE CONDITIONS FOR REMOVAL - Remove when vehicles and equipment will no longer access unpaved areas.

TYPICAL DETAIL - 606-46.01

WASHDOWN STATION

PHYSICAL DESCRIPTION - An area located at construction entrances designed to wash sediment from the tires and undercarriage of exiting vehicles and prevent sediment from being tracked onto existing roadways.

WHERE BMP IS TO BE INSTALLED – Across or immediately adjacent to exit paths from unpaved construction sites.

CONDITIONS FOR EFFECTIVE USE OF BMPs

Drainage: Downstream BMPs sized to treat only runoff from washdown station

WHEN BMP IS TO BE INSTALLED - First order of work, along with construction entrance, prior to vehicles or equipment accessing unpaved areas.

INSTALLATION/CONSTRUCTION PROCEDURES

- ✓ Grade and compact area for drainage under washdown pad.
- ✓ Install steel-ribbed plate on frame or other support to allow a 2" drain space.
- ✓ Grade and vegetate downstream BMPs (V-ditch shown on detail).
- ✓ Install water supply and hose.
- ✓ Post sign in advance of station indicating that all exiting vehicles and equipment must use station prior to exiting site.

O&M PROCEDURES:

- ✓ Remove sediment daily.
- ✓ Repair settled areas.
- ✓ Replace rock if necessary to maintain clean surface.

SITE CONDITIONS FOR REMOVAL – Remove when vehicles and equipment will no longer access unpaved areas.

TYPICAL DETAIL - 606-46.00

CONSTRUCTION ROAD

PHYSICAL DESCRIPTION - A stabilized pathway providing vehicular access to a remote construction area designed to reduce rutting, tracking of mud to wet weather, and creation of dust in dry weather. The "roadway" can be constructed of aggregate over fabric, asphaltic concrete or Portland cement concrete based on the longevity of the project, required performance, and site conditions. Roadways should follow the natural terrain to the extent possible.

WHERE BMP IS TO BE INSTALLED - On long travel paths on unpaved areas, adjacent to bodies of water, and in areas where poor soil is encountered.

CONDITIONS FOR EFFECTIVE USE OF BMPs

Drainage: Road ditches or pipes, if needed, sized for 15 year, 20 minute storm; HGL 8" below surface of road.

WHEN BMP IS TO BE INSTALLED - First order of work, prior to vehicles or equipment accessing remote areas.

INSTALLATION / CONSTRUCTION PROCEDURES

- ✓ Grade and compact area of construction road and if needed, adjacent road ditches.
- ✓ Install culvert under road if needed to maintain positive drainage.
- ✓ Place any compact roadway materials.
- ✓ Vegetate road ditches.

O&M PROCEDURES

- ✓ Remove sediment and clods of dirt from road daily.
- ✓ Remove sediment from road ditches.
- ✓ Repair settled areas.
- ✓ Replace rock if necessary to maintain clean surface.
- ✓ Remove sediment from road ditch once it is within 6" of top of road surface.

SITE CONDITIONS FOR REMOVAL – Remove when vehicles and equipment will no longer access remote areas, re-grade area and vegetate.

TYPICAL DETAIL - 606-46.02

SEEDING

PHYSICAL DESCRIPTION - Establishment of vegetation by spreading grass seed designed to protect exposed soil from erosion by eliminating direct impact of precipitation and slowing overland flow rates. Once established, this vegetative cover will also filter pollutants from the runoff. Use only perennial vegetation for final stabilization.

WHERE BMP IS TO BE INSTALLED - To exposed soil after a phase of rough or finish grading has been completed, or areas where no activity will occur for 30 days.

CONDITIONS FOR EFFECTIVE USE OF BMPs

Type of Flow:	Sheet flow
Contributing Slope Length:	50 feet maximum for 3:1 slopes 30 feet maximum for slope between 2:1 and 1:2:1 100 feet maximum for slopes under 10%
Minimum Rates:	See attached chart(s)
Acceptable Dates:	See attached chart

WHEN BMP IS TO BE INSTALLED - Immediately after rough or finished grading is completed.

INSTALLATION / CONSTRUCTION PROCEDURES

- ✓ Install upstream BMPs to protect area to be seeded.
- ✓ Rough grade area and remove all debris larger than 1-inch in diameter and concentrate areas of smaller debris.
- ✓ Install stabilization grids, if needed.
- ✓ Mix soil amendments (lime, fertilizer, etc.) into top 3 to 6 inches of soil as needed.
- ✓ Plant seed ½ to ¾ inch deep.
- ✓ Roll lightly to firm surface.
- ✓ Cover seeded area with mulch unless seeding completed during optimum spring and summer dates.
- ✓ Install additional stabilization (netting, bonded fiber matrix, etc.) as required.
- ✓ Water immediately - enough to soak 4 inches into soil without causing runoff.
- ✓ If contract / permit allows seeding to be used for final stabilization, only perennial vegetation seeds shall be used.
- ✓ For additional information see Sections 806 and 806.50 of St. Louis County's Standard Specification for Road and Bridge Construction.

O&M PROCEDURES:

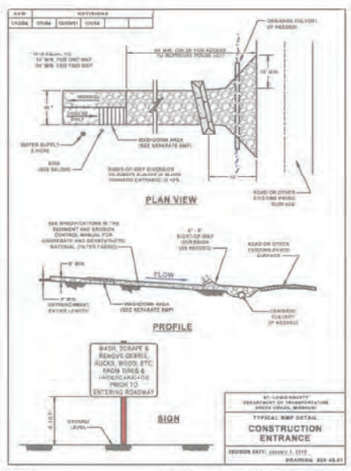
- ✓ Inspect every week and after every storm.
- ✓ Protect area from vehicular and foot traffic.
- ✓ Reseed areas that have not sprouted within 21 days of planting.
- ✓ Repair damaged or eroded areas and reseed and stabilize as needed.
- ✓ Do not mow until 4 inches of growth occurs.
- ✓ During the first 4 months, mow no more than ½ the grass height.
- ✓ Re-fertilize during 2nd growing season.

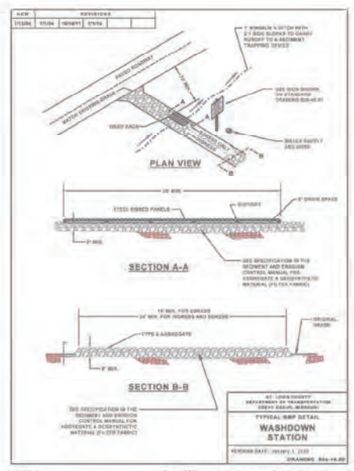
SITE CONDITIONS FOR REMOVAL – Once not require removal, but temporary seeding can be removed immediately prior to work returning to an area.

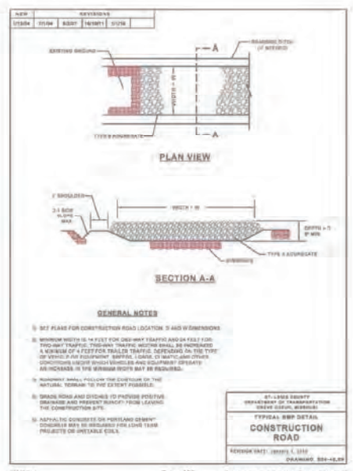
- In St. Louis County, the contractor is required by Missouri State Law (10 CSR 10-6.170) and County Ordinance (612.340) to control fugitive dust (dirt) from the construction site. Signal installation, etc. Dust control, including saw-cut material etc., on the construction site shall be monitored for safety purposes and to prevent nuisances. The contractor / permitee shall apply reasonable measures to control dust and particulate matter (of any size or source) due to roadway / construction traffic, grading, clearing and grubbing, building demolition, saw-cutting etc. from migrating off the site of origin. Operations residue from grinding, saw-cutting etc. should be picked up (cleaned-up) by means of a vacuum device or swept up. Compressed or blown air may be used to clean negligible residual dust that the vacuum or sweeping did not clean up, as long as the above dust control procedures (and law and ordinance) are met. Saw cutting residue, slurry or dry, should not be allowed to enter storm drains or watercourses. Saw cutting residue should not be allowed to flow across the pavement and should not be left on the surface of the pavement when traffic is present, when precipitation is anticipated before cleanup or overnight. In approved locations, saw-cut slurry may flow into the dirt (where it can soak into the ground) adjacent to the saw-cutting operation and be buried, on site, 2" minimum below finished grade. Other dust control and clean-up procedures may be acceptable as approved by the Engineer or St. Louis County. See additional Concrete Waste Management requirements in this Manual.

WASHOUT AREA PROTOCOL

- Contain concrete washout on site or take it offsite for disposal in designated areas only.
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- For onsite washout:
  - Locate washout area on-site at least 50 feet from storm drains, open ditches, or water bodies. Do not allow runoff from this area by constructing a temporary pit or berm of area large enough to contain liquid and solid waste. Locate it in a dirt area where the liquid portion of the washout can soak into the ground. They are preferably built belowgrade to prevent breaches and reduce the likelihood of runoff. Discontinue use of the washout once it reaches 75% capacity. Washouts should be sized to handle solids and wash water to prevent overflow. It is estimated that 7 gallons of wash water are used to wash one truck chute and 50 gallons are used to wash out the hopper of a concrete pump. Implement a maintenance schedule for washout areas.
  - Temporary washout facilities should have pit or berried areas of sufficient volume to completely contain all liquid and waste concrete materials generated during washout procedures.
  - Wash out wastes into the pit where the concrete can set, be broken up, and used on site; or buried on site; or disposed of properly.
- Do not wash sweepings from exposed aggregate concrete into the street or storm drain. Collect and return sweepings to aggregate base stockpile or dispose of in the trash.
- Do not place concrete wash water in a pit that is connected to the storm drain system or that drains to nearby waterways.







SEEDING REQUIREMENTS

Dates for Seeding

Permanent Seeding	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Tall Fescue			O	O	O			O	O			
Smooth Brome			O	O	O			O	O			
Fescue & Brome			O	O	O	O	O	O				
Fescue, Pot & Bluegrass	A	A	O	O	U	F	F	U	S	F	F	A
Temporary Seeding	**Jan**	**Feb**	**March**	**April**	**May**	**June**	**July**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Rye or Grain	A	A	O	O	S	S	S	O	O	S	A	A
Oats	A	A	O	O	S	S	S	O	O	S		

O = Optimum seeding dates
A = Acceptable seeding dates
F = Fertilized seeding dates with reseeding 2 months later - Initially over 25% of mixt. and 75% of fertilizer. Reseed with additional 75% seed and remaining fertilizer.

Minimum Fertilizer and Seeding Rates

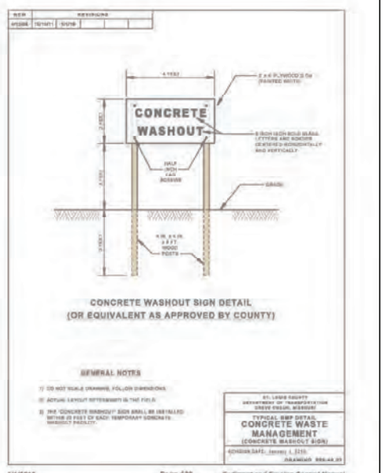
Permanent Seeding*	Pounds per acre	Pounds Per 1000 sq. ft.
Tall Fescue	200	7.0
Smooth Brome	250	6.0
Mixture # 1	250	5.7
Mixture # 2	210	4.8

Mixture # 1 = Tall Fescue @ 100 pounds per acre and Brome @ 150 pounds per acre.
Mixture # 2 = Tall Fescue @ 100 pounds per acre, Perennial Rye grass @ 100 pounds per acre, and Kentucky Blue Grass @ 10 pounds per acre.
* = Seeding rate for slopes in excess of 25% (3:1), shall be 10 pounds per 1000 sq. ft.

Temporary Seeding	Pounds per acre	Pounds Per 1000 sq. ft.
Rye or Grain	120	2.8
Oats	150	3.5

Fertilizer	Fertilized Seeding (pounds per acre)	Temporary Seeding (pounds per acre)
Nitrogen	45	30
Phosphate	45	30
Potassium	45	30
Lime - Ton	3.0	1.0

Note = Effective nutrient(s) required per Soils Analysis or approved tests.



RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

MULCH

PHYSICAL DESCRIPTION - A layer of organic material designed to protect exposed soil or freshly seeded areas from erosion by eliminating direct impact of precipitation and slowing overland flow rates. Mulch materials may include, but are not limited to, such things as grass, hay, straw, wood chips, wood fibers, hydro mulch and shredded bark. Type I mulch is prohibited in the flood plain.

- Type I Mulch-Vegetative (includes grass, hay, and straw)
- Type II Mulch-Vegetative with asphalt emulsion (includes grass, hay, and straw).
- Type III Mulch-Vegetative with overspray (includes grass, hay, and straw).
- Type V Mulch-Hydro mulch (includes wood fiber, wood cellulose).
- Shredded Hardwood Bark Mulch.
- Wood Chips, (not recycled lumber).

WHERE BMP IS TO BE INSTALLED - Typically installed on seeded areas for temporary use, and in landscaped areas for permanent use.

CONDITIONS FOR EFFECTIVE USE OF BMPs

Type of Flow:	Sheet flow only
Slopes:	See attached chart for types of mulch acceptable as a function of slope length and steepness
Mulching Rates:	See attached table

WHEN BMP IS TO BE INSTALLED - Immediately after grading landscaped areas or seeding other areas.

INSTALLATION / CONSTRUCTION PROCEDURES

- ✓ Install upstream BMPs to protect area to be mulched.
- ✓ Rough grade area and remove all debris larger than 1 inch if area is to be vegetated and mowed in the future, larger than 2 inches if area is to be permanently mulched.
- ✓ If area is to be seeded, follow requirements of Seeding BMP.
- ✓ Spread mulch and anchor by punching it into the ground, using netting, peg and twine, or tacking with liquid binder.
- ✓ For additional information see Section 802 of St. Louis County's Standard Specifications for Road and Bridge Construction.

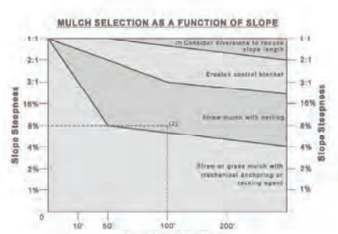
O&M PROCEDURES

- ✓ Inspect every week and after every storm until adequate vegetation is established, annually for permanent mulch.
- ✓ Protect from vehicular and foot traffic.
- ✓ Repair damaged, degraded or eroded areas - reseed as needed and replace mulch.

SITE CONDITIONS FOR REMOVAL - Temporary mulch should be removed when adequate vegetation is established.

TYPICAL DETAILS - Type of mulch required for various slopes and application rates attached.

MULCH SELECTION AS A FUNCTION OF SLOPE



(1) For slopes steeper than 1:1, consider building a diversion above slope to divert water.
(2) Example: for 8% slope, 100 feet long, requires straw mulch with netting.

GENERAL MULCH RECOMMENDATIONS TO PROTECT FROM SPLASH AND SHEET FLOW

Material	Bale Per Acre	Specifications	Notes
Straw	2 to 2.5 tons	Dry, unchopped, unweathered, small weeds	Spread by hand or machine; must be tacked or tied down
Wood Fiber or Wood Cellulose	0.5 to 1 ton		Use with hydro seeder; may be used in tack slots. Do not use in hot, dry weather.
Wood Chips	5 to 6 tons	Air dry. Add nitrogen fertilizer at 12 lb per ton	Apply with blower; chip handler, or by hand. Not for thin turf areas.
Hay	2 to ½ tons	Air dry, shredded, or baler-milled, or chop	Apply with mulch blower, chip handler or by hand. Do not use excess hay.

TYPICAL DETAILS - Minimum seeding rates and acceptable dates for work attained

INSTALLATION / CONSTRUCTION PROCEDURES

- ✓ Excavate diversion area except for area of upstream connection.
- ✓ Compact by required to place diversion properly.
- ✓ Install pipe bedding or channel lining as required.

ST. LOUIS COUNTY 19LND-00011 ST. LOUIS COUNTY PAC #19PAC-00019 ST. LOUIS COUNTY HT #4686 MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

Christner, Inc.
ARCHITECTS
Architecture / Interior Design / Graphics
1401 S. Brentwood Blvd. | Suite 911 | St. Louis, Missouri 63144
314.644.5500 | christnerinc.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVATIVES THEREOF. THOSE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE THEY TO BE USED WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHODINI. CHODINI ASSOCIATES. NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

CDI
CIVIL DESIGN INC.
SUE E WISE
3220 Oakland Ave
St. Louis, MO 63110
(314) 865-5570

AS BUILTS RECORD DRAWINGS 04-20-2021

Parkway South Middle School Building Addition, Renovations & Site Improvements -

760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

7	06-04-19	CODE

SWPP DETAILS

PSD Project No.: 411801B
Project Number: 2018.033
Date: 02.04.2019
Drawn By: NJC

C702

ROCK OUTLET / EMBANKMENT PROTECTION / PAVED DITCH

PHYSICAL DESCRIPTION - A rock apron installed over a geotextile fabric at a point of concentrated discharge, designed to slow the velocity of flow and protect the receiving area from erosion.

Follow guidelines shown in the St. Louis County Standard Specifications for Road and Bridge Construction concerning use of related BMP's such as:

- Light Stone Revetment;
- Heavy Stone Revetment;
- Articulating Cellular Concrete Erosion Control System;
- Concrete Slope Protection;
- Gabions;
- Reno Mattresses;
- Type 2 Rock Blanket;
- Ditch Liner;
- Rock Lining.

WHERE BMP IS TO BE INSTALLED - Installed at BMP outlets, for example, at the end of pipe slope drains, the emergency overflow or outlet pipe of a sediment basin.

CONDITIONS FOR EFFECTIVE USE OF BMP's

Type of Flow:	Concentrated flow
Flow at Outlet:	Maximum velocity of 10 fps

WHEN BMP IS TO BE INSTALLED - With the construction of the upstream BMP that creates the concentrated discharge.

INSTALLATION / CONSTRUCTION PROCEDURES

- ✓ Grade subgrade of rock blanket to required section.
- ✓ Place filter fabric, providing enough slack to ensure that rock will not tear the fabric when it is placed.
- ✓ Install rock with uniform profile and cross section.

O&M PROCEDURES:

- ✓ Inspect every week and after every storm during construction.
- ✓ Remove sediment and trash accumulation.
- ✓ Replace displaced rock - larger rock may be required.
- ✓ Stabilize eroded areas - rebuild if necessary.

INLET PROTECTION - BLOCK & GRAVEL, GRAVEL BAGS, AND FIBER ROLLS

PHYSICAL DESCRIPTION - A temporary sediment control barrier consisting of a sized concrete block wall supporting gravel filter media, gravel bags, or fiber rolls around a storm water inlet designed to prevent sediment from entering the storm sewer. Shallow temporary ponding during and after rainfall should be expected. Use an alternate method if flooding of driving lanes, adjacent property, etc. is possible. Block and Gravel (Double Area Inlet), Fiber Roll (Single Curb Inlet), Fiber Roll (Double Curb Inlet), Fiber Roll (Triple Curb Inlet), Fiber Roll (Grated Inlet), or Fiber Roll (Gutter Protection)

WHERE BMP IS TO BE INSTALLED - At inlets where heavy flows are expected and an overflow capacity is necessary to prevent excessive ponding around the structure.

CONDITIONS FOR EFFECTIVE USE OF BMP'S

Type of Flow:	Sheet flow and concentrated flow.
Contributing Area:	Maximum of 1 acre.

WHEN BMP IS TO BE INSTALLED - Immediately after placement of inlet and before construction starts on existing inlets.

INSTALLATION / CONSTRUCTION PROCEDURES

- ✓ Backfill, compact and uniformly grade area around inlet.
- ✓ Install first row of concrete blocks adjacent to the inlet sill, placing one block on its side on each side of inlet. The blocks and placed against the sill for lateral support and to avoid washouts when overflows occur.
- ✓ If needed for lateral support, install 2 x 4 lumber through vertical block openings.
- ✓ Fill vertical block openings with gravel for stability.
- ✓ Place second row of block offsetting one-half block from the first row, in a brick-like pattern.
- ✓ Fill vertical block openings with gravel.
- ✓ Anchor wire screen over horizontal block openings to support gravel.
- ✓ Place gravel around the blocks.

O&M PROCEDURES

- ✓ Inspect every week and after every storm.
- ✓ Remove sediment accumulation to keep it at least 8 inches from the top of the blocks.
- ✓ Remove trash accumulation at inlet.
- ✓ Repair elements to original configuration as needed.

SITE CONDITIONS FOR REMOVAL - Remove after contributing drainage areas have been adequately stabilized. Restore area to grade and vegetate.

TYPICAL DETAIL - 806-45.02 (Block and Gravel, Single Area Inlet)
806-45.00 (Fiber Roll, Single Curb Inlet)

INLET PROTECTION - FABRIC DROP AND DROP IN FILTER

PHYSICAL DESCRIPTION - A woven fabric barrier braced around an area inlet or once in type filter designed to prevent sediment from entering the storm sewer. Shallow temporary ponding during and after rainfall should be expected. Use an alternate method if flooding of driving lanes, adjacent property, etc. is possible.

WHERE BMP IS TO BE INSTALLED - At inlets designed to drain a small gently sloping area with maximum grade of 5%. Overflow capacity is limited on standard area inlets.

CONDITIONS FOR EFFECTIVE USE OF BMP's

Type of Flow:	Shallow sheet flow.
Contributing Area:	Maximum of 2 c.f.s. flowing to inlet.

WHEN BMP IS TO BE INSTALLED - Immediately after placement of inlet and before construction starts on existing inlets.

INSTALLATION / CONSTRUCTION PROCEDURES

- ✓ Backfill, compact and uniformly grade area around inlet.
- ✓ Construct downstream berm, if required. Rock bags or sand bags may be used to construct berm.
- ✓ Drive posts or wood frame close to inlet sill so overflow will fall directly on the structure and not on unprotected soil.
- ✓ Dig trench around inlet for fabric to be buried.
- ✓ Cut required length of fabric from one roll to eliminate joins. Fasten fabric tightly around posts / frame to enhance stability.
- ✓ Backfill and compact trench.
- ✓ Install drop in type filter per manufacturer specifications.

O&M PROCEDURES

- ✓ Inspect every week and after every storm.
- ✓ Remove trash accumulation and sediment once it reaches depth of 8" at inlet.
- ✓ Replace loose, torn or clogged fabric.
- ✓ Repair any erosion or settlement of temporary berm downstream of inlet.
- ✓ Maintain drop in type filter per manufacturer specifications.

SITE CONDITIONS FOR REMOVAL - Remove after contributing drainage areas have been adequately stabilized. Restore area to grade and vegetate.

TYPICAL DETAIL - 806-45.10 (Single Unit)
806-45.15 (Double Unit)

SILT FENCE

PHYSICAL DESCRIPTION - Silt fences are used as temporary perimeter controls, appropriate to the BMP, at sites where construction activities will disturb the soil. They are also to be used on the interior of the site. A silt fence consists of a length of filter fabric stretched between anchoring posts spaced at regular intervals along the site at line and down slope areas. The filter fabric should be entrenched in the ground. When installed correctly and inspected frequently, silt fence can be an effective barrier to silt leaving the site in storm water runoff.

WHERE BMP IS TO BE INSTALLED - Silt fences apply to construction sites with relatively small drainage areas. They are appropriate in areas where runoff will occur as low-level flow, not exceeding 0.5 c.f.s. The drainage area for silt fences should not exceed 0.25 acre per 100-foot fence length (100 square feet per foot of fence). The slope length above the fence should not exceed 100 feet (NAHB, 1995). The fence should be designed to withstand the runoff from a 10-year peak storm event.

CONDITIONS FOR EFFECTIVE USE OF BMPs - Spacing of parallel lengths of silt fence along slopes is relative to slope steepness as follows:

Type of Flow:	Sheet flow only:
Contributing Slope Length	30-foot maximum for 3:1 slopes. 50 foot maximum for slopes between 3:1 and 10:1. 100 foot maximum for slopes under 10%.

For additional information see Section 806.70 of St. Louis County's Standard Specification for Road and Bridge Construction.

WHEN BMP IS TO BE INSTALLED - Prior to disturbance of natural vegetation and in intervals during construction of fill slopes. Install on the perimeter of the site (where storm water exits the site) prior to disturbance of natural vegetation, around material stockpiles and interior to the site along slopes, at the base of slopes and at intervals during construction of slopes.

INSTALLATION / CONSTRUCTION PROCEDURES

- ✓ Drive post for fence line.
- ✓ Dig trench to required dimensions in front of posts for fabric burial.
- ✓ Attach wire mesh to posts.
- ✓ Attach fabric to posts, allowing required length below ground level to run fabric along bottom of trench.
- ✓ Backfill and compact soil in trench to protect and anchor fabric.

If a standard-strength fabric is used, it can be reinforced with wire mesh behind the filter fabric. This increases the effective life of the fence. The maximum life expectancy for synthetic fabric silt fences is about 6 months, depending on the amount of rainfall and runoff.

The stakes used to anchor the filter fabric should be wood or metal. Wooden stakes should have minimum dimensions of 2 by 2 inches if a hardwood like oak is used. Stakes from soft woods like No. 2 Southern Pine, should have minimum dimensions of 4 by 4 inches. When using steel (standard U, T, L or C-shape sections) posts in place of wooden stakes, they should weigh no less than 1.0 lb/linear foot. If metal posts are used, attachment points are needed for fastening the filter fabric with wire ties. Posts should be least 5 feet long and driven or placed at a slight upstream angle into the ground to a minimum depth of 16 inches. Depth shall be increased to a minimum of 22 inches if fence is placed on a slope of 3:1 or greater. When the post embedment depth is impossible to obtain, the posts shall be adequately secured to prevent overturning of the fence due to sediment loading.

Erect silt fence in a continuous fashion from a single roll of fabric to eliminate gaps in the fence. If a continuous roll of fabric is not available, overlap the fabric from both directions only at stakes or posts. Overlap at least 6 inches.

The Geosynthetic filter fabric and wire mesh (when applicable) shall be no less than 30 inches above ground and are stapled or wired to the upslope side of the post. Staples should be a 17-gauge wire and 1½ inch long. Excavate a trench to bury the bottom of the fabric fence in a "J" configuration at least 6 inches below the ground surface. The trench shall be backfilled with native soil and the soil compacted over the geotextile. This helps to prevent gaps from forming near the ground surface. Gaps could make the fencing useless as a sediment barrier.

The height of the fence posts should be 38 inches (22-inch embedment) to 42 inches (16-inch embedment) above the original ground surface. If standard-strength fabric is used with 14-gauge steel wire with a mesh spacing of 6 inches by 6 inches (or a prefabricated polymeric mesh of equivalent strength), space the posts no more than 4 feet apart. If extra-strength fabric is used without wire mesh reinforcement, space the posts no more than 4 feet apart with woven or 6 feet apart with non-woven geosynthetic.

Alternate Construction: Install fence by slicing it into ground with specialized equipment. Install posts at reduced spacing indicated on detail.

LIMITATIONS - Do not install silt fences along areas where rocks or other hard surfaces will prevent you from uniformly anchoring the fence posts and entrenching the filter fabric. Installing fences in such an area greatly reduces their effectiveness and can create runoff channels leading offsite. Silt fences are not suitable for areas where large amounts of concentrated runoff are likely. Fence shall not be used when slope is 1:1 or greater and water flow rates exceed 2 cubic feet per minute. Open, windy areas present a maintenance challenge, too, because high winds can make the filter fabric deteriorate faster. Do not install silt fences across streams, ditches, or waterways (Smolen et al., 1988).

When the pores of the fence fabric become clogged with sediment, pools of water are ready to form on the uphill side of the fence. Setting and design of the silt fence should account for this. Take care to avoid unnecessarily diverting stormwater from these pools, causing further erosion damage.

MAINTENANCE CONSIDERATIONS - Inspect silt fences regularly and frequently, as well as after each rainfall event, to make sure that they are intact and that there are no gaps where the fence meets the ground or tears along the length of the fence. If you find gaps or tears, repair or replace the fabric immediately. Remove accumulated sediments from the fence base when the sediment reaches one-third to one-half the fence height. Remove sediment more frequently if accumulated sediment is creating noticeable strain on the fabric and the fence might fail from a sudden storm event. When you remove the silt fence, remove the accumulated sediment, dress the area disturbed to give it a pleasing appearance and vegetate all bare areas as well.

O&M PROCEDURES

- ✓ Inspect every week and after every storm.
- ✓ Remove sediment buildup deeper than ½ the fence height or 12", whichever is less.
- ✓ Replace torn of clogged fabric, repair loose fabric.
- ✓ Repair unstable or broken posts.
- ✓ Stabilize any areas susceptible to undermining.
- ✓ Extend fence or add additional row(s) of fence if necessary to provide adequate protection.

SILTING AND DESIGN CONSIDERATIONS - The material for silt fences should be a pervious sheet of synthetic fabric such as polypropylene, nylon, and polyester or polyethylene yarn. Choose this material based on the minimum synthetic fabric requirements shown in Table 1 below.

Table 1 - Temporary Silt Fence Property Requirements:

Physical Property	Test Method	Units	MARV Geotextile Requirements		
			Unsupported Silt Fence		
			Supported Silt Fence [1]	Woven Elongation ≤ 50% [2]	Non-Woven Elongation ≥ 50% [2]
Roll Elongation (Maximum)		feet	4	4	4
Height of Wire / Polymer Fence (Minimum)		inches	30	--	--
Grab Strength (Minimum): Machine Direction Cross Machine Direction	ASTM D 4632	pounds	90 90	125 100	125 100
Permittivity (minimum)	ASTM D 4491	sec [-1]	0.05	0.05	0.05
Apparent Opening Size (AOS)	ASTM D 4751	sieve number	30	30	30
Ultraviolet Stability (Minimum retained strength)	ASTM D 4355	70% after 500 h of exposure			

Notes:

MARV - Minimum Average Roll Value

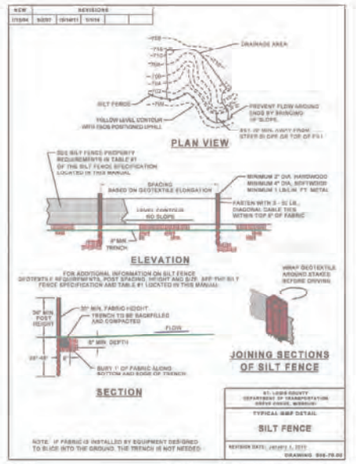
* Elongation measured in accordance with ASTM D 4632

† Silt Fence Support - 14-gauge steel wire with a mesh spacing of 6 inches by 6 inches (or a prefabricated polymeric mesh of equivalent strength)

‡ Maximum Average Roll Value

SITE CONDITIONS FOR REMOVAL - After permanent vegetation of slope is established. Remove fence and post, re-grade trench area and vegetate.

TYPICAL DETAIL - 806-70.0

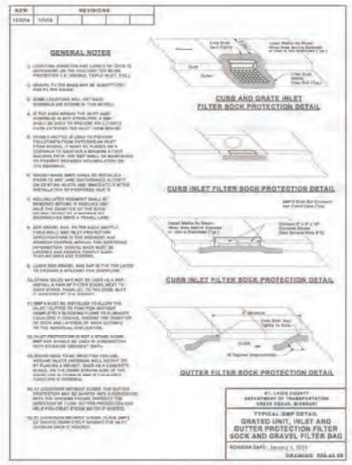


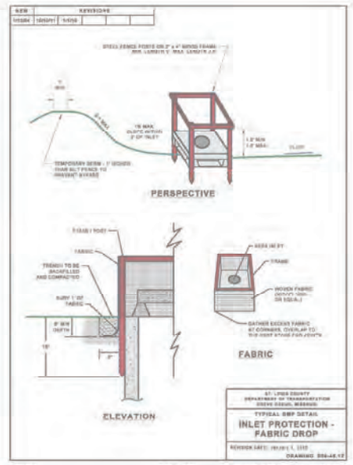
SITE CONDITIONS FOR REMOVAL - Removed concurrently with upstream BMPs. Some may be left as a permanent post construction BMP as shown on approved plans or in this permit.

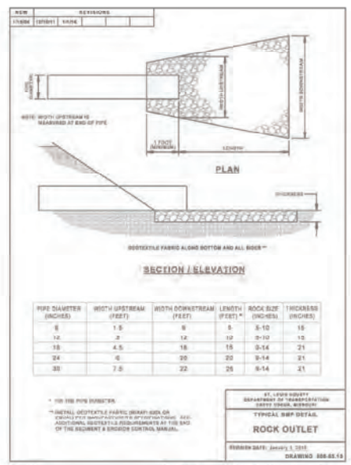
TYPICAL DETAIL

The Design Criteria Manual includes standard drawing numbers:

- C600.15 - Paved Ditches and Gutters
- C611.50 - Heavy Stone Revetment Ditch Liner
- C611.60 - Concrete Slope Protection
- C611.70 - Gabion Walls







PIPE DIAMETER (INCHES)	WIDTH UPSTREAM (FEET)	WIDTH DOWNSTREAM (FEET)	LENGTH (FEET) *	ROCK SIZE (INCHES)	THICKNESS (INCHES)
8	1.5	8	8	5-10	15
12	3	12	12	5-10	15
18	4.5	18	18	9-14	21
24	6	20	20	9-14	21
30	7.5	22	26	9-14	21

* OR THE PIPE DIAMETER.

** INSTALL GEOTEXTILE FABRIC UNDER SIDE OR BOTTOM ROCK WHERE SOIL CONDITIONS EXIST. SEE ADDITIONAL GEOTEXTILE REQUIREMENTS AT THE END OF THE SEDIMENT & EROSION CONTROL MANUAL.

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

Christner, Inc.
ARCHITECTS
Architecture / Interior Design / Graphics
1001 S. Lindbergh Blvd. | Suite 210 | St. Louis, Missouri 63141
314.432.5454 | christnerinc.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVATIVES THEREOF. THOSE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHODOV, CHODOV ASSOCIATES, NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

CDI
CDI DESIGN INC.
SUBCONSULTANT
Certified Minority Contractor of the City of St. Louis
3220 Gratiola Ave
St. Louis, MO 63139
(314) 645-5370

Parkway South Middle School Building Addition, Renovations & Site Improvements -

760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

7	06-04-19	CODE

AS BUILTS RECORD DRAWINGS 04-20-2021

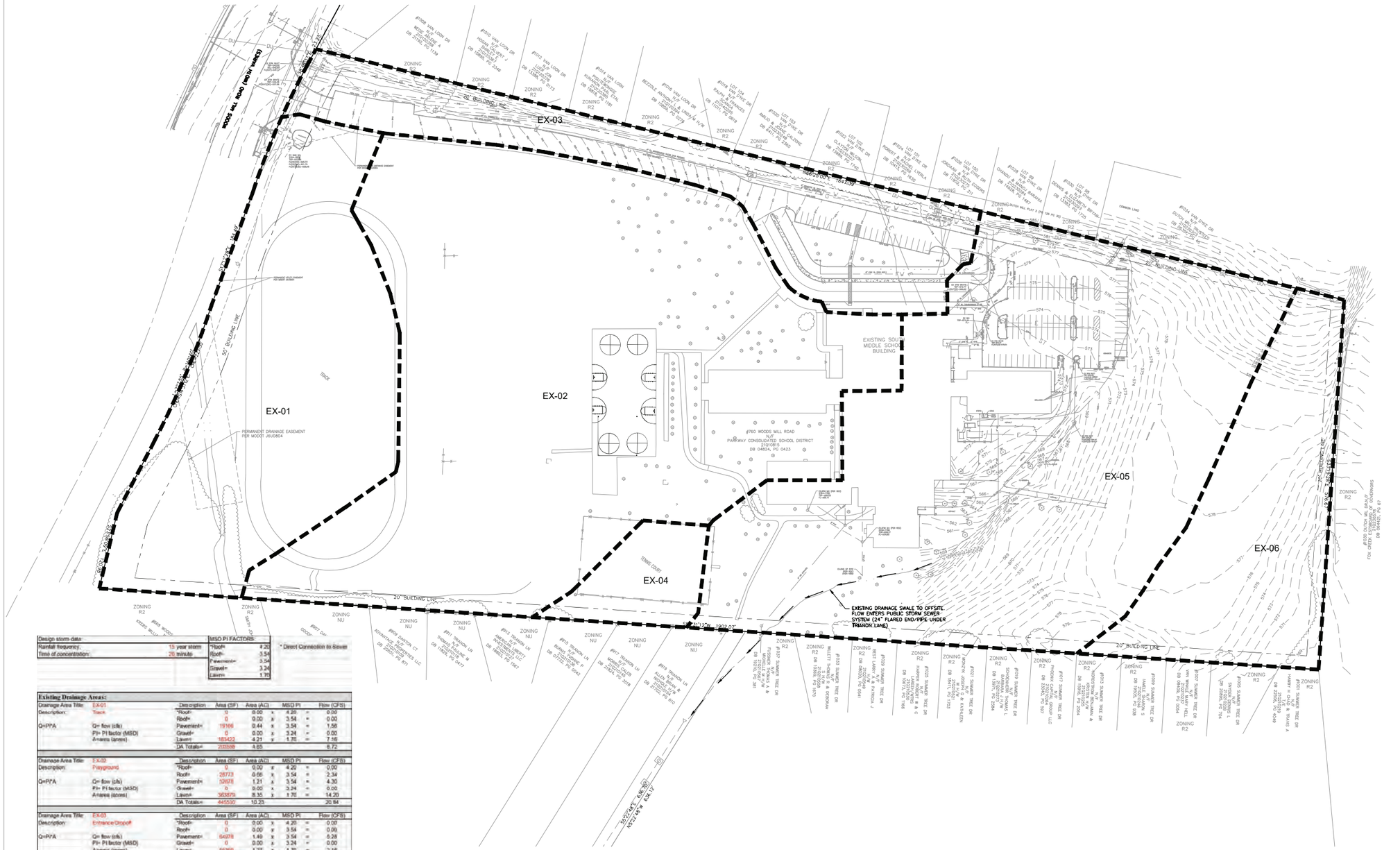
SWPP DETAILS

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

C703

PRINTED: 10/5/2018 7:07:59 AM

ST. LOUIS COUNTY 19LND-00011 ST. LOUIS COUNTY PAC #19PAC-00019 ST. LOUIS COUNTY HT #4686 MSD PROJECT 18MSD-00571 MSD MAP 21Q



Design storm data:		MSD PI FACTORS	
Rainfall frequency:	15 year storm	*Roof=	4.20
Time of concentration:	20 minute	Pavement=	3.54
		Gravel=	3.24
		Lawn=	1.70

* Direct Connection to Sewer

Existing Drainage Areas:

Drainage Area Title:	EX-01	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Track	*Roof=	0	0.00	x	4.20	=	0.00
		Roof=	0	0.00	x	3.54	=	0.00
Q=PPA	Q= flow (cfs)	Pavement=	19166	0.44	x	3.54	=	1.56
	PI= PI factor (MSD)	Gravel=	0	0.00	x	3.24	=	0.00
	A=area (acres)	Lawn=	183422	4.21	x	1.70	=	7.16
		DA Totals=	202588	4.65				8.72

Drainage Area Title:	EX-02	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Playground	*Roof=	0	0.00	x	4.20	=	0.00
		Roof=	28773	0.66	x	3.54	=	2.34
Q=PPA	Q= flow (cfs)	Pavement=	52678	1.21	x	3.54	=	4.30
	PI= PI factor (MSD)	Gravel=	0	0.00	x	3.24	=	0.00
	A=area (acres)	Lawn=	363879	8.35	x	1.70	=	14.20
		DA Totals=	445330	10.23				20.84

Drainage Area Title:	EX-03	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Entrance/Drop#	*Roof=	0	0.00	x	4.20	=	0.00
		Roof=	0	0.00	x	3.54	=	0.00
Q=PPA	Q= flow (cfs)	Pavement=	64278	1.49	x	3.54	=	5.28
	PI= PI factor (MSD)	Gravel=	0	0.00	x	3.24	=	0.00
	A=area (acres)	Lawn=	55059	1.27	x	1.70	=	2.16
		DA Totals=	120337	2.76				7.44

Drainage Area Title:	EX-04	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Tennis Court	*Roof=	0	0.00	x	4.20	=	0.00
		Roof=	0	0.00	x	3.54	=	0.00
Q=PPA	Q= flow (cfs)	Pavement=	17424	0.40	x	3.54	=	1.42
	PI= PI factor (MSD)	Gravel=	0	0.00	x	3.24	=	0.00
	A=area (acres)	Lawn=	10151	0.23	x	1.70	=	0.40
		DA Totals=	27575	0.63				1.81

Drainage Area Title:	EX-05	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Parking	*Roof=	0	0.00	x	4.20	=	0.00
		Roof=	57971	1.33	x	3.54	=	4.71
Q=PPA	Q= flow (cfs)	Pavement=	56529	1.31	x	3.54	=	4.63
	PI= PI factor (MSD)	Gravel=	0	0.00	x	3.24	=	0.00
	A=area (acres)	Lawn=	264478	6.07	x	1.70	=	10.32
		DA Totals=	378978	8.71				19.66

Drainage Area Title:	EX-06	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Misc Areas	*Roof=	0	0.00	x	4.20	=	0.00
		Roof=	0	0.00	x	3.54	=	0.00
Q=PPA	Q= flow (cfs)	Pavement=	0	0.00	x	3.54	=	0.00
	PI= PI factor (MSD)	Gravel=	0	0.00	x	3.24	=	0.00
	A=area (acres)	Lawn=	116142	2.67	x	1.70	=	4.53
		DA Totals=	116142	2.67				4.53

Existing Drainage Summary:

	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
	*Roof=	0	0.00	x	4.20	=	0.00
	Roof=	86744	1.99	x	3.54	=	7.05
	Pavement=	211375	4.85	x	3.54	=	17.18
	Gravel=	0	0.00	x	3.24	=	0.00
	Lawn=	997431	22.81	x	1.70	=	38.77
	Totals=	1291550	29.65				63.00

LEGEND

DRAINAGE AREA

GRAPHIC SCALE

(IN FEET)
1 INCH = 60 FT.

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

DRAINAGE AREA MAP FOR REVIEW INFORMATION ONLY. NOT FOR CONSTRUCTION

ST. LOUIS COUNTY 19LND-00011 ST. LOUIS COUNTY PAC #19PAC-00019 ST. LOUIS COUNTY HT #4686 MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

AS BUILTS RECORD DRAWINGS 04-20-2021

Christner, Inc.
ARCHITECTS
Architecture / Interior Design / Graphics
1401 S. Brentwood Blvd. | Suite 315 | St. Louis, Missouri 63144
314.918.9999 | info@christnerinc.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHIODINI ASSOCIATES, NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

CDI
3220 Oakland Ave
St. Louis, MO 63110
(314) 865-5570
CML DESIGN INC

Parkway South Middle School Building Addition, Renovations & Site Improvements -

760 Woods Mill Road
Ballwin, MO 63011

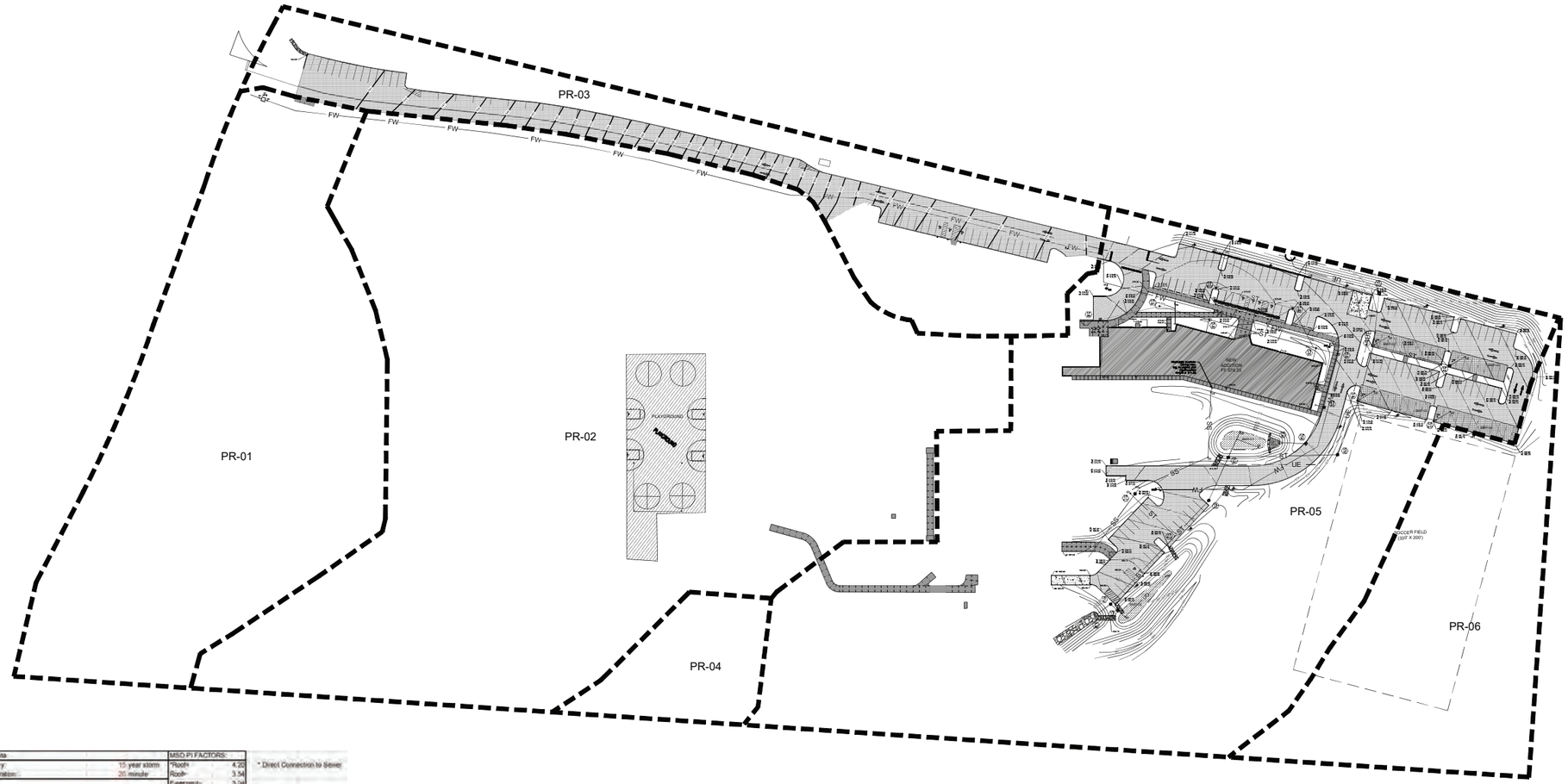
REVISIONS:

7	06-04-19	CODE

EXISTING DRAINAGE AREA MAP

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

DAM1



Design storm data:		MSD PI FACTORS:	
Rainfall frequency:	15 year storm	*Roof=	4.20
Time of concentration:	20 minute	Roof=	3.54
		Pavement=	3.54
		Gravel=	3.38
		Lawn=	1.70

* Direct Connection to Sewer

Proposed Drainage Areas:

Drainage Area Title:	PR-01	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Track	*Roof=	0	0.00	x	4.20	=	0.00
		Roof=	0	0.00	x	3.54	=	0.00
Q=PIA	Q= flow (cfs)	Pavement=	19160	0.44	x	3.54	=	1.56
	PI= PI factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawn=	183422	4.21	x	1.70	=	7.16
		DA Totals=	202582	4.65				8.72

Drainage Area Title:	PR-02	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Playground	*Roof=	0	0.00	x	4.20	=	0.00
		Roof=	28773	0.66	x	3.54	=	2.34
Q=PIA	Q= flow (cfs)	Pavement=	52878	1.21	x	3.54	=	4.30
	PI= PI factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawn=	363879	8.35	x	1.70	=	14.20
		DA Totals=	445530	10.23				20.84

Drainage Area Title:	PR-03	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Entrance/Dropoff	*Roof=	0	0.00	x	4.20	=	0.00
		Roof=	0	0.00	x	3.54	=	0.00
Q=PIA	Q= flow (cfs)	Pavement=	66141	1.52	x	3.54	=	5.38
	PI= PI factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawn=	54196	1.24	x	1.70	=	2.12
		DA Totals=	120337	2.76				7.49

Drainage Area Title:	PR-04	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Tennis Court	*Roof=	0	0.00	x	4.20	=	0.00
		Roof=	0	0.00	x	3.54	=	0.00
Q=PIA	Q= flow (cfs)	Pavement=	17424	0.40	x	3.54	=	1.42
	PI= PI factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawn=	10151	0.23	x	1.70	=	0.40
		DA Totals=	27575	0.63				1.81

Drainage Area Title:	PR-05	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Parking	*Roof=	0	0.00	x	4.20	=	0.00
		Roof=	75155	1.73	x	3.54	=	6.11
Q=PIA	Q= flow (cfs)	Pavement=	78714	1.80	x	3.54	=	6.38
	PI= PI factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawn=	238021	5.46	x	1.70	=	9.32
		DA Totals=	392890	9.01				21.81

Drainage Area Title:	PR-06	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Misc Areas	*Roof=	0	0.00	x	4.20	=	0.00
		Roof=	0	0.00	x	3.54	=	0.00
Q=PIA	Q= flow (cfs)	Pavement=	0	0.00	x	3.54	=	0.00
	PI= PI factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawn=	102830	2.36	x	1.70	=	4.01
		DA Totals=	102830	2.36				4.01

Proposed Drainage Summary:

	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
	*Roof=	0	0.00	x	4.20	=	0.00
	Roof=	103928	2.39	x	3.54	=	8.45
	Pavement=	254373	5.38	x	3.54	=	19.04
	Gravel=	0	0.00	x	3.38	=	0.00
	Lawn=	953209	21.88	x	1.70	=	37.20
	Totals=	1291510	29.65				64.68

Site Differential Summary: Undetained (Proposed Development)				
Existing Drainage:	Total Q=	63.00	CFS.	
Proposed Drainage:	Total Q=	64.69	CFS.	
Differential	Total Q=	1.70	CFS.	INCREASE

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

LEGEND

DRAINAGE AREA

GRAPHIC SCALE

(IN FEET)
1 INCH = 50 FT.

DRAINAGE AREA MAP FOR REVIEW INFORMATION ONLY. NOT FOR CONSTRUCTION

ST. LOUIS COUNTY 19LND-00011 ST. LOUIS COUNTY PAC #19PAC-00019 ST. LOUIS COUNTY HT #4686 MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

Christner, Inc.
ARCHITECTS
Architecture / Interior Design / Graphics
1001 S. Brentwood Blvd. | Suite 315 | St. Louis, Missouri 63144
314.644.5500 | christner.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE TO BE USED WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHIODINI, CHIODINI ASSOCIATES, NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

CDI
3220 Oakland Ave
St. Louis, MO 63110
(314) 865-5570
CML DESIGN INC.

Parkway South Middle School
Building Addition, Renovations & Site Improvements - Revised
760 Woods Mill Road
Ballwin, MO 63011

REVISIONS:

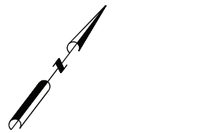
7	06-04-19	CODE

AS BUILTS RECORD DRAWINGS 04-20-2021

PROPOSED DRAINAGE AREA MAP

PSD Project No.: 411801B
Project Number: 2018.033
Date: 02.04.2019
Drawn By: NJC

DAM2



GRAPHIC SCALE

(IN FEET)
1 INCH = 50 FT.

STORMWATER MANAGEMENT FUTURE NOTE:

PREVIOUS PROJECT: (MSD P-17269-03)
PROJECT MSD SITE DISTURBANCE = 0.15 ACRES
PROJECT RUNOFF DIFFERENTIAL = 0.03 CFS (INCREASE)

CURRENT PROJECT:
PROJECT MSD SITE DISTURBANCE = 3.58 ACRES
PROJECT RUNOFF DIFFERENTIAL = 1.70 CFS (INCREASE)

ANY FUTURE LAND DISTURBANCE AND/OR INCREASE IN IMPERVIOUS AREA ON THIS SITE MAY REQUIRE ADDITIONAL STORM WATER MANAGEMENT PER MSD REGULATIONS IN PLACE AT THAT TIME (INCLUDING TOTAL LAND DISTURBANCE AND/OR IMPERVIOUSNESS ADDED ON THIS PLAN).

BMP SUMMARY TABLE

AREA	PREVIOUSLY DISTURBED ACRES	DRAINAGE AREA ACRES	DESCRIPTION	BMP	WQv REQUIRED (CUBIC FEET)	WQv PROVIDED (CUBIC FEET)	CPv REQUIRED (CUBIC FEET)	CPv PROVIDED (CUBIC FEET)	Qp REQUIRED	Qp PROVIDED	REMARKS
BMP-01		1.97		Bioretention	3,716	3,964	7,462	8,539	NO	N/A	
BMP-02		0.18		Permeable Pavers	514	892	696	892	NO	N/A	
BMP-03		0.11		Permeable Pavers	361	706	484	706	NO	N/A	
BMP-04		0.17		Permeable Pavers	605	1,029	807	1,029	NO	N/A	
BMP-05		0.16		Permeable Pavers	518	892	717	892	NO	N/A	
BMP-06		1.60		Bioretention	1,321	1,841	4,200	4,251	NO	N/A	
TOTALS	0.00	4.13			7,035	9,324	14,376	16,288			

PERMEABLE PAVER AREA SUMMARY

AREA	PERVIOUS/GRASS AREA (SF)	IMPERVIOUS AREA (SF)	PAVER AREA (SF)	TRIBUTARY AREA RATIO
BMP-02	304	3775	1680	2.16 :1
BMP-03	741	2401	1512	2.08 :1
BMP-04	642	4395	2205	2.28 :1
BMP-05	1107	3760	1680	2.08 :1

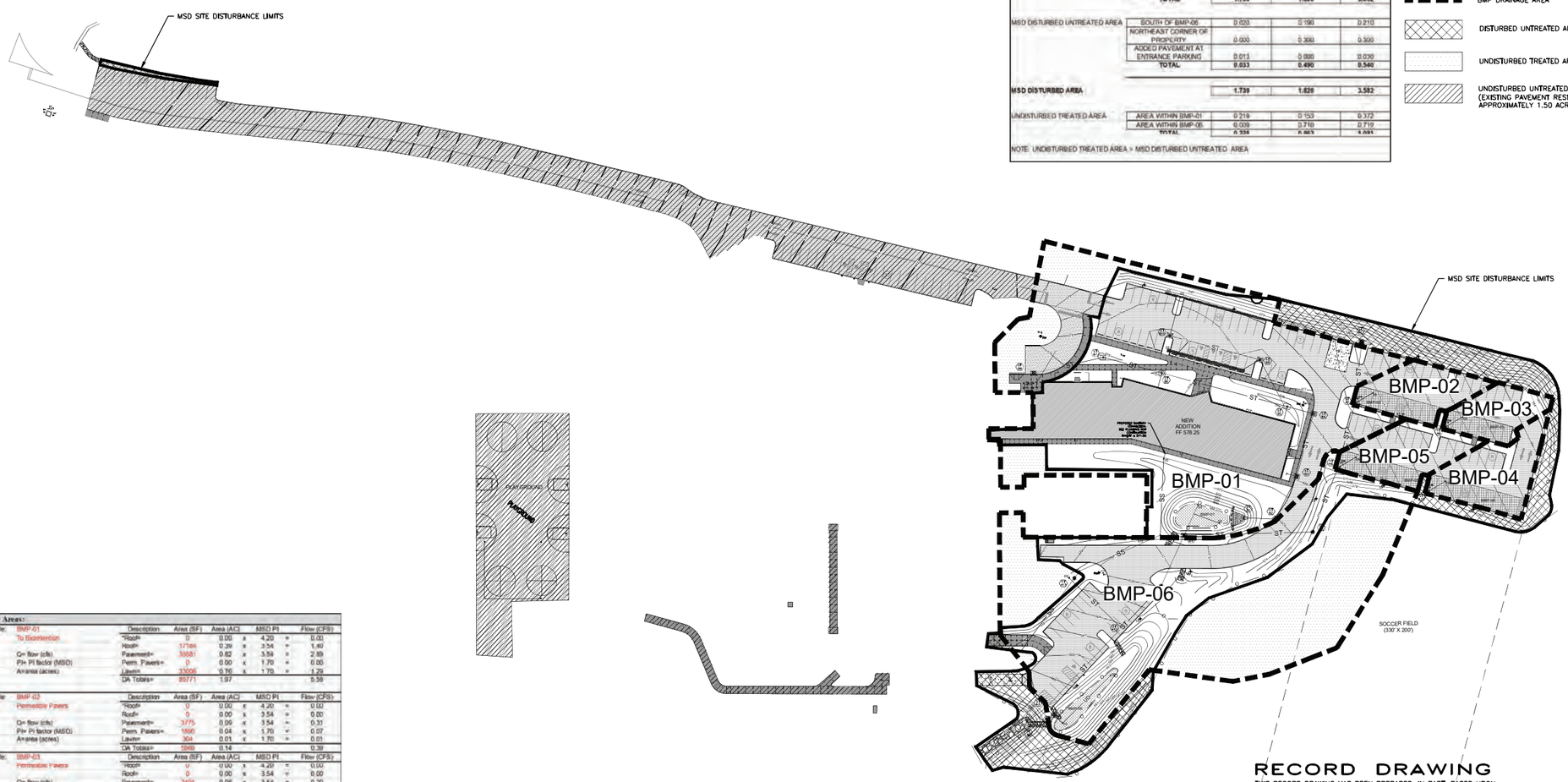
MSD DISTURBANCE/TREATMENT AREA ANALYSIS TABLE

	AREA	IMPERVIOUS (AC)	PERVIOUS (AC)	TOTAL (AC)
MSD DISTURBED TREATED AREA	BMP-01	0.392	0.007	1.399
	BMP-02	0.067	0.050	0.127
	BMP-03	0.070	0.037	0.107
	BMP-04	0.101	0.065	0.166
	BMP-05	0.086	0.069	0.155
	BMP-06	0.371	0.510	0.878
	TOTAL	**1.706**	**1.339**	**3.042**
MSD DISTURBED UNTREATED AREA	SOUTH OF BMP-06	0.020	0.190	0.210
	NORTHEAST CORNER OF PROPERTY	0.000	0.300	0.300
	ADDED PAVEMENT AT ENTRANCE PARKING	0.013	0.000	0.030
	TOTAL	**0.033**	**0.490**	**0.540**
MSD DISTURBED AREA		**1.739**	**1.829**	**3.582**
UNDISTURBED TREATED AREA	AREA WITHIN BMP-01	0.219	0.153	0.372
	AREA WITHIN BMP-06	0.009	0.710	0.719
	TOTAL	**0.228**	**0.863**	**1.091**

NOTE: UNDISTURBED TREATED AREA > MSD DISTURBED UNTREATED AREA

LEGEND

- MSD SITE DISTURBANCE AREA
- BMP DRAINAGE AREA
- DISTURBED UNTREATED AREA
- UNDISTURBED TREATED AREA
- UNDISTURBED UNTREATED AREA (EXISTING PAVEMENT RESTORATION/MAINTENANCE) APPROXIMATELY 1.50 ACRES TOTAL



BMP Drainage Areas:

		Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Drainage Area Title:	BMP-01	*Roof=	0	0.00	x	4.20	=	0.00
Description:	To Bioretention	Roof=	17184	0.39	x	3.54	=	1.40
Q=PPA	Q= flow (cfs)	Pavement=	35581	0.82	x	3.54	=	2.89
	PI= PI factor (MSD)	Perm. Pavers=	0	0.00	x	1.70	=	0.00
	A=area (acres)	Lawn=	33006	0.76	x	1.70	=	1.29
		DA Totals=	85771	1.97				5.58
Drainage Area Title:	BMP-02	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Permeable Pavers	*Roof=	0	0.00	x	4.20	=	0.00
Q=PPA	Q= flow (cfs)	Roof=	0	0.00	x	3.54	=	0.00
	PI= PI factor (MSD)	Pavement=	3775	0.09	x	3.54	=	0.31
	A=area (acres)	Perm. Pavers=	1680	0.04	x	1.70	=	0.07
		Lawn=	304	0.01	x	1.70	=	0.01
		DA Totals=	5849	0.14				0.39
Drainage Area Title:	BMP-03	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Permeable Pavers	*Roof=	0	0.00	x	4.20	=	0.00
Q=PPA	Q= flow (cfs)	Roof=	0	0.00	x	3.54	=	0.00
	PI= PI factor (MSD)	Pavement=	2401	0.06	x	3.54	=	0.20
	A=area (acres)	Perm. Pavers=	1512	0.03	x	1.70	=	0.06
		Lawn=	741	0.02	x	1.70	=	0.03
		DA Totals=	4654	0.11				0.29
Drainage Area Title:	BMP-04	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Permeable Pavers	*Roof=	0	0.00	x	4.20	=	0.00
Q=PPA	Q= flow (cfs)	Roof=	0	0.00	x	3.54	=	0.00
	PI= PI factor (MSD)	Pavement=	4395	0.10	x	3.54	=	0.36
	A=area (acres)	Perm. Pavers=	2205	0.05	x	1.70	=	0.09
		Lawn=	642	0.01	x	1.70	=	0.03
		DA Totals=	7242	0.17				0.47
Drainage Area Title:	BMP-05	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Permeable Pavers	*Roof=	0	0.00	x	4.20	=	0.00
Q=PPA	Q= flow (cfs)	Roof=	0	0.00	x	3.54	=	0.00
	PI= PI factor (MSD)	Pavement=	3760	0.09	x	3.54	=	0.31
	A=area (acres)	Perm. Pavers=	1680	0.04	x	1.70	=	0.07
		Lawn=	1107	0.03	x	1.70	=	0.04
		DA Totals=	6757	0.16				0.42
Drainage Area Title:	BMP-06	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	To Bioretention	*Roof=	0	0.00	x	4.20	=	0.00
Q=PPA	Q= flow (cfs)	Roof=	0	0.00	x	3.54	=	0.00
	PI= PI factor (MSD)	Pavement=	16512	0.38	x	3.54	=	1.34
	A=area (acres)	Perm. Pavers=	0	0.00	x	1.70	=	0.00
		Lawn=	53147	1.22	x	1.70	=	2.07
		DA Totals=	69659	1.60				3.42

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

DRAINAGE AREA MAP FOR REVIEW INFORMATION ONLY. NOT FOR CONSTRUCTION

ST. LOUIS COUNTY 19LND-00011 ST. LOUIS COUNTY PAC #19PAC-00019 ST. LOUIS COUNTY HT #4686 MSD PROJECT 18MSD-00571 MSD MAP 21Q

PRINTED: 10/5/2018 7:07:59 AM

AS BUILTS RECORD DRAWINGS 04-20-2021

Chiodini Architects
Architecture / Interior Design / Graphics
1001 S. Brentwood Blvd. | Suite 210 | St. Louis, Missouri 63144
314.963.0000 | info@chiodini.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVATIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHIODINI ASSOCIATES. NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

CDI
3220 Oakland Ave
St. Louis, MO 63110
(314) 865-5570
CDI DESIGN INC.
MARK WEBB
Licensed Master Contractor of a Missouri & KENTUCKY

Parkway South Middle School Building Addition, Renovations & Site Improvements -

760 Woods Mill Road
Ballwin, MO 63011

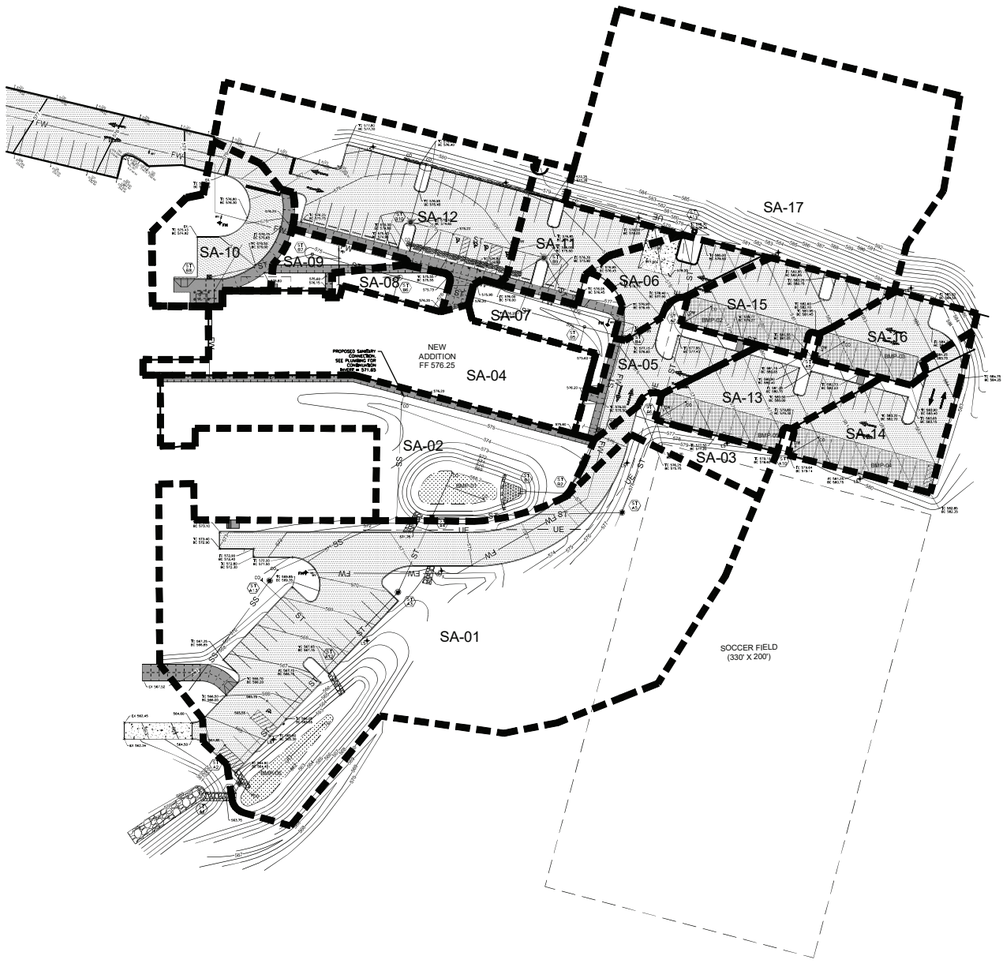
REVISIONS:

7	06-04-19	CODE

BMP DRAINAGE AREA MAP

PSD Project No.: 411801B
Project Number: 2018.033
Date: 02.04.2019
Drawn By: NJC

DAM3



LEGEND

SUB-AREA DRAINAGE LIMITS

GRAPHIC SCALE

(IN FEET)
1 INCH = 40 FT.

Design storm data:		MSD PI FACTORS:		
Rainfall frequency:	15 year storm	*Roofs=	4.20	* Direct Connection to Sewer
Time of concentration:	20 minute	Roofs=	3.54	
		Pavement=	3.54	
		Gravel=	3.38	
		Lawns=	1.70	

Proposed Drainage Areas:

Drainage Area Title:	SA-01	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	To Structure A9	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	0	0.00	x	3.54	=	0.00
Q=PfA	Q= flow (cfs)	Pavement=	18912	0.38	x	3.54	=	1.34
	Pf= Pf factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawns=	53147	1.22	x	1.70	=	2.07
		DA Totals=	69659	1.60				3.42

Drainage Area Title:	SA-02	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	To Structure A4	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	0	0.00	x	3.54	=	0.00
Q=PfA	Q= flow (cfs)	Pavement=	4358	0.10	x	3.54	=	0.35
	Pf= Pf factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawns=	13249	0.30	x	1.70	=	0.52
		DA Totals=	17607	0.40				0.87

Drainage Area Title:	SA-03	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	To Structure B2	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	0	0.00	x	3.54	=	0.00
Q=PfA	Q= flow (cfs)	Pavement=	744	0.02	x	3.54	=	0.06
	Pf= Pf factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawns=	2798	0.06	x	1.70	=	0.11
		DA Totals=	3542	0.08				0.17

Drainage Area Title:	SA-04	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	Roof to Structure B3	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	17184	0.39	x	3.54	=	1.40
Q=PfA	Q= flow (cfs)	Pavement=	0	0.00	x	3.54	=	0.00
	Pf= Pf factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawns=	0	0.00	x	1.70	=	0.00
		DA Totals=	17184	0.39				1.40

Drainage Area Title:	SA-05	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	To Structure B3	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	0	0.00	x	3.54	=	0.00
Q=PfA	Q= flow (cfs)	Pavement=	3667	0.08	x	3.54	=	0.30
	Pf= Pf factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawns=	1261	0.03	x	1.70	=	0.05
		DA Totals=	4948	0.11				0.35

Drainage Area Title:	SA-06	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	To Structure B4	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	0	0.00	x	3.54	=	0.00
Q=PfA	Q= flow (cfs)	Pavement=	4055	0.09	x	3.54	=	0.33
	Pf= Pf factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawns=	302	0.01	x	1.70	=	0.01
		DA Totals=	4357	0.10				0.34

Drainage Area Title:	SA-07	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	To Structure B6	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	0	0.00	x	3.54	=	0.00
Q=PfA	Q= flow (cfs)	Pavement=	310	0.01	x	3.54	=	0.03
	Pf= Pf factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawns=	3756	0.09	x	1.70	=	0.15
		DA Totals=	4066	0.09				0.17

Drainage Area Title:	SA-08	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	To Structure B8	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	0	0.00	x	3.54	=	0.00
Q=PfA	Q= flow (cfs)	Pavement=	239	0.01	x	3.54	=	0.02
	Pf= Pf factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawns=	1554	0.04	x	1.70	=	0.06
		DA Totals=	1793	0.04				0.08

Drainage Area Title:	SA-09	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	To Structure B7	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	0	0.00	x	3.54	=	0.00
Q=PfA	Q= flow (cfs)	Pavement=	487	0.01	x	3.54	=	0.04
	Pf= Pf factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawns=	1877	0.04	x	1.70	=	0.07
		DA Totals=	2364	0.05				0.11

Drainage Area Title:	SA-10	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	To Structure B5	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	0	0.00	x	3.54	=	0.00
Q=PfA	Q= flow (cfs)	Pavement=	5910	0.14	x	3.54	=	0.48
	Pf= Pf factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawns=	2260	0.05	x	1.70	=	0.09
		DA Totals=	8170	0.19				0.57

Drainage Area Title:	SA-11	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	To Structure B9	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	0	0.00	x	3.54	=	0.00
Q=PfA	Q= flow (cfs)	Pavement=	4663	0.11	x	3.54	=	0.36
	Pf= Pf factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawns=	913	0.02	x	1.70	=	0.04
		DA Totals=	5576	0.13				0.41

Drainage Area Title:	SA-12	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	To Structure B10	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	0	0.00	x	3.54	=	0.00
Q=PfA	Q= flow (cfs)	Pavement=	11634	0.27	x	3.54	=	0.96
	Pf= Pf factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawns=	7156	0.16	x	1.70	=	0.28
		DA Totals=	18990	0.44				1.24

Drainage Area Title:	SA-13	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	To Structure A6	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	0	0.00	x	3.54	=	0.00
Q=PfA	Q= flow (cfs)	Pavement=	5650	0.13	x	3.54	=	0.46
	Pf= Pf factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawns=	1107	0.03	x	1.70	=	0.04
		DA Totals=	6757	0.16				0.50

Drainage Area Title:	SA-14	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	To Structure A10	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	0	0.00	x	3.54	=	0.00
Q=PfA	Q= flow (cfs)	Pavement=	6600	0.15	x	3.54	=	0.54
	Pf= Pf factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawns=	642	0.01	x	1.70	=	0.03
		DA Totals=	7242	0.17				0.58

Drainage Area Title:	SA-15	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	To Structure A7	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	0	0.00	x	3.54	=	0.00
Q=PfA	Q= flow (cfs)	Pavement=	5685	0.13	x	3.54	=	0.46
	Pf= Pf factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawns=	304	0.01	x	1.70	=	0.01
		DA Totals=	5989	0.14				0.47

Drainage Area Title:	SA-16	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	To Structure A8	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	0	0.00	x	3.54	=	0.00
Q=PfA	Q= flow (cfs)	Pavement=	3913	0.09	x	3.54	=	0.32
	Pf= Pf factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawns=	741	0.02	x	1.70	=	0.03
		DA Totals=	4654	0.11				0.36

Drainage Area Title:	SA-17	Description	Area (SF)	Area (AC)		MSD PI		Flow (CFS)
Description:	To Structure A11	*Roofs=	0	0.00	x	4.20	=	0.00
		Roofs=	0	0.00	x	3.54	=	0.00
Q=PfA	Q= flow (cfs)	Pavement=	0	0.00	x	3.54	=	0.00
	Pf= Pf factor (MSD)	Gravel=	0	0.00	x	3.38	=	0.00
	A=area (acres)	Lawns=	37191	0.85	x	1.70	=	1.45
		DA Totals=	37191	0.85				1.45

RECORD DRAWING

THIS RECORD DRAWING HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE THE ARCHITECT/ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS THAT MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT OF INCORRECT INFORMATION PROVIDED TO THE ARCHITECT/ENGINEER. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY.

PRINTED: 10/5/2018 7:07:59 AM

DRAINAGE AREA MAP FOR REVIEW INFORMATION ONLY. NOT FOR CONSTRUCTION

ST. LOUIS COUNTY 19LND-00011 ST. LOUIS COUNTY PAC #19PAC-00019 ST. LOUIS COUNTY HT #4686 MSD PROJECT 18MSD-00571 MSD MAP 21Q

Christner, Inc.
ARCHITECTS
Architecture / Interior Design / Graphics
1001 S. Brentwood Blvd. | Suite 19 | St. Louis, Missouri 63144
314.918.9999 | info@christnerinc.com

THE ARCHITECT EXPRESSLY RESERVES HIS COMMON LAW AND STATUTORY LAW COPYRIGHTS AND OTHER PROPERTY RIGHTS FOR THESE "ARCHITECTURAL WORKS" AND "TECHNICAL DOCUMENTS" AND ANY DERIVITIVES THEREOF. THESE DRAWINGS AND DOCUMENTS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE TO BE USED WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN CONSENT OF LOUIS G. CHIODINI, CHIODINI ASSOCIATES, NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

© COPYRIGHT PENDING

CDI
CIVIL DESIGN INC.
SUE E WISE
Licensed Missouri Professional Engineer
3220 Oakland Ave
St. Louis, MO 63110
(314) 865-5570

AS BUILTS RECORD DRAWINGS 04-20-2021

Parkway South Middle School Building Addition, Renovations & Site Improvements -

760 Woods Mill Road
Ballwin, MO 63011

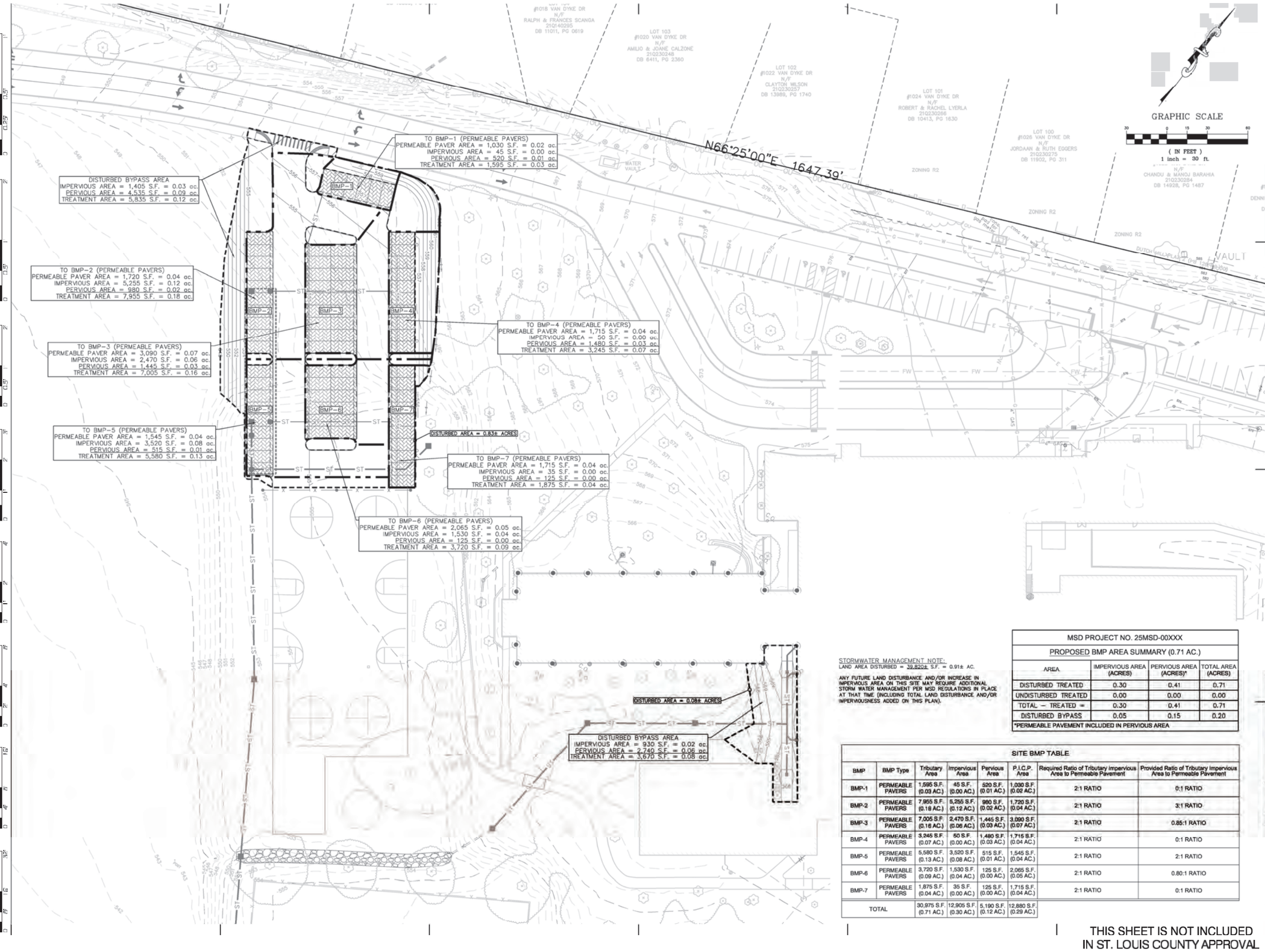
REVISIONS:

7	06-04-19	CODE

PROPOSED SUB-AREA DRAINAGE MAP

PSD Project No.:	411801B
Project Number:	2018.033
Date:	02.04.2019
Drawn By:	NJC

DAM4



STORMWATER MANAGEMENT NOTE:
LAND AREA DISTURBED = 39,820± S.F. = 0.91± AC.

ANY FUTURE LAND DISTURBANCE AND/OR INCREASE IN IMPERVIOUS AREA ON THIS SITE MAY REQUIRE ADDITIONAL STORM WATER MANAGEMENT PER MSD REGULATIONS IN PLACE AT THAT TIME (INCLUDING TOTAL LAND DISTURBANCE AND/OR IMPERVIOUSNESS ADDED ON THIS PLAN).

MSD PROJECT NO. 25MSD-00XXX			
PROPOSED BMP AREA SUMMARY (0.71 AC.)			
AREA	IMPERVIOUS AREA (ACRES)	PERVIOUS AREA (ACRES)*	TOTAL AREA (ACRES)
DISTURBED TREATED	0.30	0.41	0.71
UNDISTURBED TREATED	0.00	0.00	0.00
TOTAL – TREATED =	0.30	0.41	0.71
DISTURBED BYPASS	0.05	0.15	0.20
*PERMEABLE PAVEMENT INCLUDED IN PERVIOUS AREA			

SITE BMP TABLE

BMP	BMP Type	Tributary Area	Impervious Area	Pervious Area	P.I.C.P. Area	Required Ratio of Tributary Impervious Area to Permeable Pavement	Provided Ratio of Tributary Impervious Area to Permeable Pavement
BMP-1	PERMEABLE PAVERS	1,595 S.F. (0.03 AC.)	45 S.F. (0.00 AC.)	520 S.F. (0.01 AC.)	1,030 S.F. (0.02 AC.)	2:1 RATIO	0:1 RATIO
BMP-2	PERMEABLE PAVERS	7,955 S.F. (0.18 AC.)	5,255 S.F. (0.12 AC.)	980 S.F. (0.02 AC.)	1,720 S.F. (0.04 AC.)	2:1 RATIO	3:1 RATIO
BMP-3	PERMEABLE PAVERS	7,005 S.F. (0.16 AC.)	2,470 S.F. (0.06 AC.)	1,445 S.F. (0.03 AC.)	3,090 S.F. (0.07 AC.)	2:1 RATIO	0.85:1 RATIO
BMP-4	PERMEABLE PAVERS	3,245 S.F. (0.07 AC.)	50 S.F. (0.00 AC.)	1,480 S.F. (0.03 AC.)	1,715 S.F. (0.04 AC.)	2:1 RATIO	0:1 RATIO
BMP-5	PERMEABLE PAVERS	5,580 S.F. (0.13 AC.)	3,520 S.F. (0.08 AC.)	515 S.F. (0.01 AC.)	1,545 S.F. (0.04 AC.)	2:1 RATIO	2:1 RATIO
BMP-6	PERMEABLE PAVERS	3,720 S.F. (0.09 AC.)	1,530 S.F. (0.04 AC.)	125 S.F. (0.00 AC.)	2,065 S.F. (0.05 AC.)	2:1 RATIO	0.80:1 RATIO
BMP-7	PERMEABLE PAVERS	1,875 S.F. (0.04 AC.)	35 S.F. (0.00 AC.)	125 S.F. (0.00 AC.)	1,715 S.F. (0.04 AC.)	2:1 RATIO	0:1 RATIO
TOTAL		30,975 S.F. (0.71 AC.)	12,905 S.F. (0.30 AC.)	5,190 S.F. (0.12 AC.)	12,880 S.F. (0.29 AC.)		

THIS SHEET IS NOT INCLUDED IN ST. LOUIS COUNTY APPROVAL

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

RTM Engineering
MEP/FP/T
3701 S. Lindbergh Blvd., Suite 204
St. Louis, MO 63127
(314) 725.5889

CEDC
Civil Engineering
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
(314)729.1404

CASE Engineering
Structural Engineering
796 Menue Court
Fenton, MO 63026
(636)349.1600

Parkway South Middle
760 Woods Mill Rd., St. Louis County, MO 63011
Parkway PN # 412401B

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 24028

Revisions

Description	Date
Revision #1	02/04/25

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, as whole or in part, or for any other purpose or project without the written consent of the Architect. Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
BRANDON ASHER HARP
NUMBER E-28000
REGISTERED PROFESSIONAL ENGINEER

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not affixing this seal.

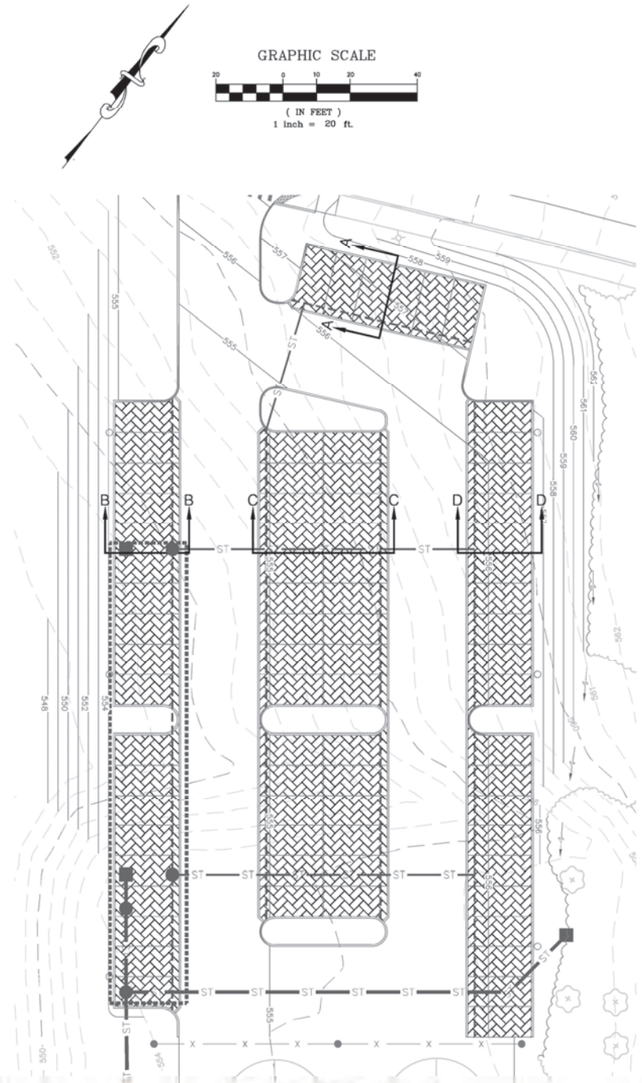
DATE: 01/21/25

Bid/Permit Set

Best Management Practices Plan

C10

10/3/2024 3:13:46 PM



PERMEABLE PAVER PLAN

SCALE: 1"=20'

Contractor is responsible for hiring a professional land surveyor for preparation of MSD sewer as-builts to be submitted for review and approval to the Metropolitan St. Louis Sewer District.

PERMEABLE INTERLOCKING CONCRETE PAVEMENT

POWER WASHING, RESURFACING, AND THE USE OF SAND OR ASH ABRASIVES FOR WINTER TIRE TRACKING ARE PROHIBITED.

CARE SHALL BE TAKEN DURING SNOW PLOWING.

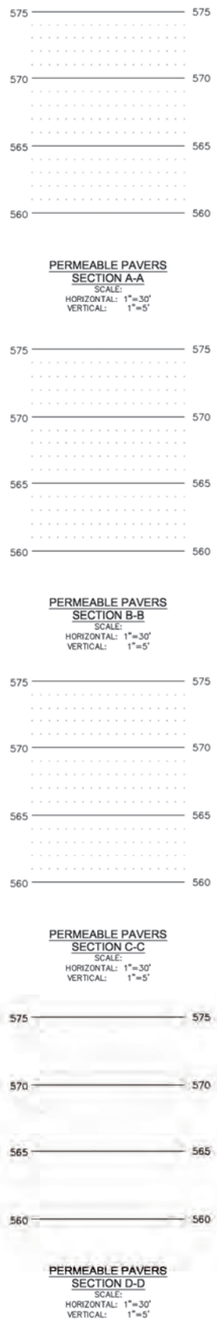
NOTES:
1. STANDARD 18"X12"X0.080" ALUMINUM SIGN FACE WITH BLACK 0.625" SERIES 2000 STANDARD ALPHABET ON WHITE BACKGROUND.
2. GALVANIZED STEEL POST 9'-6" LONG.
3. SET BOTTOM OF SIGN 5'-0" ABOVE GRADE.
4. SET BOTTOM OF POST 3'-0" BELOW GRADE.

PERMEABLE INTERLOCKING CONCRETE PAVEMENT (PICP) SIGN DETAIL

(n.t.s.)

SHOP DRAWINGS FOR BMPS

MSD SHOP DRAWING SUBMITTALS ARE REQUIRED FOR BMPS AND THEIR COMPONENTS PRIOR TO CONSTRUCTION.
MSD CONTACT: BRIAN DUNN (314) 335-2072



PERMEABLE PAVERS SECTION A-A
SCALE:
HORIZONTAL: 1"=30'
VERTICAL: 1"=5'

PERMEABLE PAVERS SECTION B-B
SCALE:
HORIZONTAL: 1"=30'
VERTICAL: 1"=5'

PERMEABLE PAVERS SECTION C-C
SCALE:
HORIZONTAL: 1"=30'
VERTICAL: 1"=5'

PERMEABLE PAVERS SECTION D-D
SCALE:
HORIZONTAL: 1"=30'
VERTICAL: 1"=5'

PERMEABLE PAVERS NOTES

Permeable Interlocking Concrete Pavement (PICP) plan notes:

1. The contractor shall obtain the concrete paver manufacturer's certification that the paving units supplied to construct the PICP have been approved by MSD and meet the requirements in ASTM C936. This certification shall be provided to the MSD Division Inspector. The certification shall include the manufacturer's name, and state that the PICP supplied meets the ASTM C936 specifications, (testing should be current within previous 12 months) and that the paving materials meet all requirements as evaluated under the manufacturer's quality control program.
2. Prior to obtaining a construction permit from MSD to construct the permeable interlocking concrete pavement (PICP) for a given project, the engineer providing the as-built certification shall verify that the installing contractor has:
   A. Past history demonstrating applicable experience.
   B. The PICP installation contractor must have a current Level 1 certificate from the Interlocking Concrete Pavement Institute's concrete paver installer program.
3. The contractor shall prevent and divert sediment from entering the subbase and pavement surface until the tributary areas are deemed stable by the assigned MSD inspector.
4. Vehicular traffic shall be prohibited on the PICP until the site is stable to prevent mud from being deposited by vehicles.
5. No product or material substitutions are permitted unless previously approved by the MSD plan review engineer or by the MSD field inspector assigned to the project. All substitutions shall be presented to MSD through the engineer responsible for the design of the PICP system.
6. Stone should be clean, washed, 90 percent fractured faces with a Los Angeles Abrasion Index of less than 40 and conform to the grading requirements in ASTM D448.
7. Do not clean the paver surface with high pressure hoses or abrasives. When cleaning is necessary, combination cleaning machines that combine a wet spray and vacuum process have been found to be effective.
8. A permanent sign shall be posted warning that care should be taken during snow plowing; and prohibit the following: resurfacing, the use of sand abrasives for winter tire traction, and the use of power washers.
9. At completion of the project, prior to final dedication, an as-built certification, signed and sealed by a Missouri Professional Engineer, shall be provided. Contractor responsible for coordinating and/or providing certification from Missouri Professional Engineer.
10. The minimum pavement section subject to vehicular traffic shall be (from top to bottom) 3-1/8 inch thick paving units, 2-inch bedding stone (typically ASTM No. 8 or 9 stone), 4-inch thick layer of base stone (ASTM No. 57 or similar size), and a layer of subbase stone (ASTM No. 2 or similar size), all underlain by MSD Type 4 filter fabric. Minimum 12-inch thick subbase will be required for all applications.
11. Observation wells should be provided in low areas within the permeable pavement system, and shall extend to the bottom of the storage bed. The wells shall consist of a six inch schedule 40 PVC pipe with cast iron frame and cover, as shown on the MSD PICP details.
12. Prepared subgrade soil shall be separated from the porous subbase. The prepared subgrade soil shall be dry and covered with MSD Type 4 filter fabric (such as Mirafi 140N or approved equal) on the sides of the typical section. Separation of the prepared subgrade along the bottom of the section may be provided by MSD Type 4 filter fabric or a well graded filter layer.
13. Subgrade should be compacted to a minimum density of 90% to 95% of the theoretical density per AASHTO T 180.
14. The property owner must execute a Maintenance Agreement with MSD, and the entire PICP area labeled therein as a 'Reserved Area for Stormwater Management'.

MANUFACTURER'S PREQUALIFICATION:
The PICP manufacturer shall be responsible for establishing and maintaining a quality control program to assure compliance with requirements in ASTM C936. Prior to use on projects requiring MSD approval, the manufacturer shall submit five (5) copies of a completed pervious paving application as well as documentation describing the quality control program. The completed application and other documentation shall be submitted to:

MSD BMP Committee
Metropolitan St. Louis Sewer District
2350 Market Street
St. Louis, Missouri 63103-2555

MATERIAL CERTIFICATION:
The contractor shall obtain the concrete paver manufacturer's certification that the paving units supplied to construct the PICP have been approved by MSD and meet the requirements in ASTM C936. This certification shall be provided to the MSD Division Inspector. The certification shall include the manufacturer's name, and state that the PICP supplied meets the ASTM C936 specifications, (testing should be current within previous 12 months) and that the paving materials meet all requirements as evaluated under the manufacturer's quality control program.

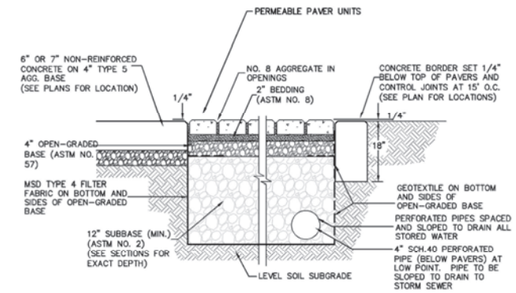
CONTRACTOR PREQUALIFICATION:
Prior to obtaining a construction permit form MSD to construct permeable interlocking concrete pavement (PICP) for a given project, the engineer providing as-built certification shall verify that the installing contractor has:

1. Past history demonstrating application experience
2. The PICP installation contractor must have a current Level 1 certificate from the Interlocking Concrete Pavement Institute's concrete paver installer program.

Note: Contractor is responsible for contracting and/or providing as-built certification from a Professional Engineer.

AS-BUILT CERTIFICATION:
At completion of the project, prior to final dedication, an as-built certification, signed and sealed by a Missouri professional Engineer, shall be provided certifying:

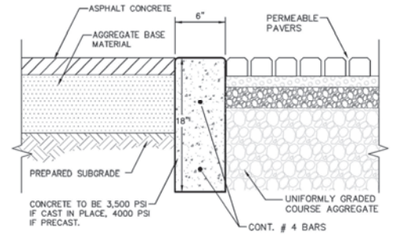
1. The PICP system was built in accordance with the details, dimensions, and materials as approved by MSD for this project.
2. The PICP system was installed by a qualified contractor, and has satisfied all applicable quality control and performance tests.
3. The PICP system installation was witnessed by the certifying engineer or a representative under his direct supervision.



PERMEABLE PAVER DETAIL

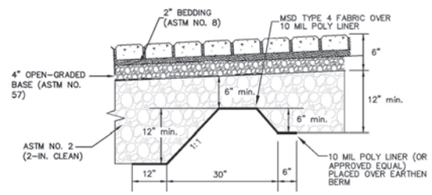
(N.T.S.)

NOTE: CONTRACTOR TO PROVIDE SIGNED AND SEALED SHOP DRAWINGS TO BE APPROVED THE THE PROJECT ENGINEER AND MSD. CONTACT MSD AT 314-335-2072



CONCRETE BAND

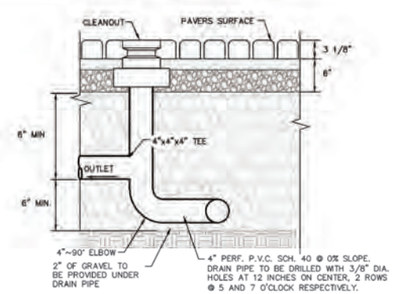
(n.t.s.)



BERM DETAIL FOR PERVIOUS PAVEMENT SUBGRADE SECTION

N.T.S.

NOTES:
1. CONTRACTOR MAY SUBMIT ALTERNATE METHOD TO HOLD WATER ON THE TERRACES. SUBMIT TO MSD, ATTENTION BRIAN DUNN (314) 335-2072



CLEANOUT WITH PERCHED DISCHARGE PIPE PERMEABLE PAVERS

N.T.S.

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

RTM Engineering
MEP/FP/T
3701 S. Lindbergh Blvd., Suite 204
St. Louis, MO 63127
(314) 725.5889

CEDC
Civil Engineering
10800 Sunset Office Drive, Suite 200
St. Louis, MO 63127
(314)729.1404

CASE Engineering
Structural Engineering
798 Menue Court
Fenton, MO 63026
(636)349.1600

Parkway South Middle
760 Woods Mill Rd., St. Louis County, MO 63011
Parkway PN # 412401B

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 24028

Revisions

Description	Date
Revision #1	02/04/25

This drawing and the details on it are the sole property of the architect and may be used for the specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect. Copyright © 2022 by Bond Architects, Inc.

STATE OF MISSOURI
BRANDON ASHER HARP
NUMBER E-28000
REGISTERED PROFESSIONAL ENGINEER

The Architectural Architects work (Work) in this drawing applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

DATE: 01/21/25

Bid/Permit Set

Best Management Practices Plan Details

C11

10/3/2024 3:13:46 PM

FOR DRAINAGE PURPOSES ONLY
NOT FOR CONSTRUCTION

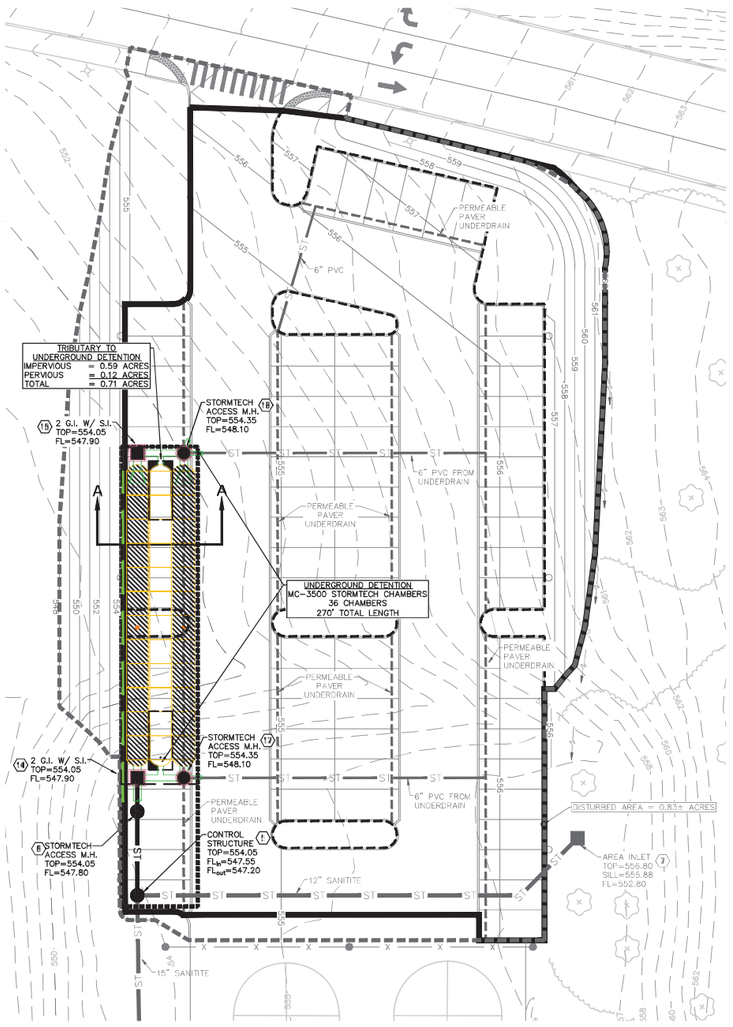
STORMWATER MANAGEMENT NOTE:
LAND AREA DISTURBED= 0.91± ACRES

1. ANY FUTURE LAND DISTURBANCE AND/OR INCREASE IN IMPERVIOUS AREA ON THIS SITE MAY REQUIRE ADDITIONAL STORM WATER MANAGEMENT PER MSD REGULATIONS IN PLACE AT THAT TIME (INCLUDING TOTAL LAND DISTURBANCE AND/OR IMPERVIOUSNESS ADDED ON THIS PLAN. MSD #).

GRAPHIC SCALE

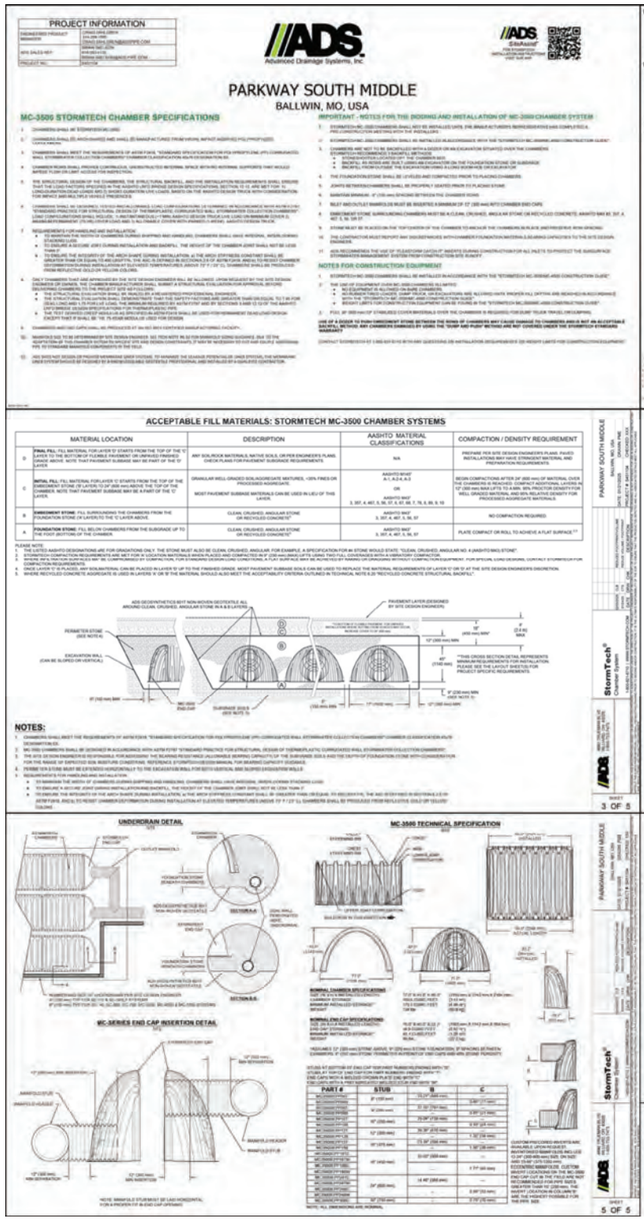
20 0 10 20 40

(IN FEET)
1 inch = 20 ft.



MSD PROJECT NO. 25MSD-00XXX			
PROPOSED DETENTION AREA SUMMARY (0.7" AC.)			
AREA	IMPERVIOUS AREA (ACRES)	PERVIOUS AREA (ACRES)	TOTAL AREA (ACRES)
DISTURBED TREATED	0.59	0.12	0.71
UNDISTURBED TREATED	0.00	0.00	0.00
TOTAL – TREATED =	0.59	0.12	0.71
DISTURBED BYPASS	0.05	0.15	0.20

10/3/2024 3:13:46 PM



bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

RTM Engineering
MEP/FP/T
3701 S. Lindbergh Blvd., Suite 204
St. Louis, MO 63127
(314) 725.5889

CEDC
Civil Engineering
10800 Sunset Office Drive, Suite 200
St. Louis, MO 63127
(314)729.1404

CASE Engineering
Structural Engineering
798 Menue Court
Fenton, MO 63026
(636)349.1600

Parkway South Middle
760 Woods Mill Rd., St. Louis County, MO 63011
Parkway PN # 412401B

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 24028

Revisions

Description	Date
Revision #1	02/04/25

The following and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2020 by Bond Architects, Inc.

STATE OF MISSOURI
BRANDY ASHER HAIR
NUMBER E-28550
REGISTERED PROFESSIONAL ENGINEER

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not indicating this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not bearing this seal.

DATE: 01/21/25
Bid/Permit Set

Detention Plan & Details

C12

THIS SHEET IS NOT INCLUDED IN ST. LOUIS COUNTY APPROVAL

DIFFERENTIAL RUNOFF CALCULATIONS WITHIN THE DISTURBED AREA

(15 YEAR, 20 MINUTE)

EXISTING CONDITION

PAVEMENT AREA	= 0.03 ac. x 3.54 cfs/ac.	= 0.11 cfs
GRASS AREA	= 0.88 ac. x 1.70 cfs/ac.	= 1.50 cfs
	= 0.91 ac.	= 1.61 cfs

PROPOSED CONDITION

PAVEMENT AREA	= 0.33 ac. x 3.54 cfs/ac.	= 1.17 cfs
*GRASS AREA	= 0.58 ac. x 1.70 cfs/ac.	= 0.99 cfs
	= 0.91 ac.	= 2.16 cfs

DIFFERENTIAL RUNOFF = 1.61 cfs – 2.16 cfs = 0.55 cfs (INCREASE)

*PERMEABLE PAVEMENT INCLUDED IN GRASS AREA. PERMEABLE PAVEMENT AREA TO USE MSD PI FACTOR OF 1.70 CFS/AC FOR DIFFERENTIAL RUNOFF.

DIFFERENTIAL RUNOFF CALCULATIONS

(15 YEAR, 20 MINUTE)

ROOF AREA TO USE MSD PI FACTOR OF 3.54 CFS/AC TO REPRESENT DIRECT CONNECTION TO THE SEWER, PER MSD PROJECT NUMBER 18MSD-00571

EXISTING CONDITION

BUILDING AREA	= 0.66 ac. x 3.54 cfs/ac.	= 2.34 cfs
PAVEMENT AREA	= 1.33 ac. x 3.54 cfs/ac.	= 4.71 cfs
GRASS AREA	= 8.24 ac. x 1.70 cfs/ac.	= 14.01 cfs
	= 10.23 ac.	= 21.06 cfs

PROPOSED CONDITION

BUILDING AREA	= 0.66 ac. x 3.54 cfs/ac.	= 2.34 cfs
PAVEMENT AREA	= 1.63 ac. x 3.54 cfs/ac.	= 5.77 cfs
*GRASS AREA	= 7.94 ac. x 1.70 cfs/ac.	= 13.50 cfs
	= 10.23 ac.	= 21.61 cfs

DIFFERENTIAL RUNOFF = 21.06 cfs – 21.61 cfs = 0.55 cfs (INCREASE)

*PERMEABLE PAVEMENT INCLUDED IN GRASS AREA. PERMEABLE PAVEMENT AREA TO USE MSD PI FACTOR OF 1.70 CFS/AC FOR DIFFERENTIAL RUNOFF.

GRAPHIC SCALE

60 0 30 60 120

(IN FEET)
1 inch = 60 ft.

PER MSD PROJECT NO. 18MSD-00571
BUILDING AREA: 0.00 AC. x 3.54 C.F.S./AC = 0.00 C.F.S.
PAVEMENT AREA: 1.52 AC. x 3.54 C.F.S./AC. = 5.38 C.F.S.
GRASS AREA: 1.24 AC. x 1.70 C.F.S./AC. = 2.12 C.F.S.
2.76 AC. = 7.49 C.F.S.

PER MSD PROJECT NO. 18MSD-00571
BUILDING AREA: 0.00 AC. X 3.54 C.F.S./AC = 0.00 C.F.S.
PAVEMENT AREA: 0.44 AC. x 0.54 C.F.S./AC. = 1.56 C.F.S.
GRASS AREA: 4.21 AC. x 1.70 C.F.S./AC. = 7.16 C.F.S.
4.65 AC. = 8.72 C.F.S.

PER MSD PROJECT NO. 18MSD-00571
BUILDING AREA: 0.66 AC. x 3.54 C.F.S./AC = 2.34 C.F.S.
PAVEMENT AREA: 1.33 AC. x 3.54 C.F.S./AC. = 4.71 C.F.S.
GRASS AREA: 8.24 AC. x 1.70 C.F.S./AC. = 14.01 C.F.S.
10.23 AC. = 21.06 C.F.S.

PER MSD PROJECT NO. 18MSD-00571
BUILDING AREA: 1.73 AC. x 3.54 C.F.S./AC = 6.11 C.F.S.
PAVEMENT AREA: 1.80 AC. x 3.54 C.F.S./AC. = 6.38 C.F.S.
GRASS AREA: 5.48 AC. x 1.70 C.F.S./AC. = 9.32 C.F.S.
9.01 AC. = 21.81 C.F.S.

PER MSD PROJECT NO. 18MSD-00571
BUILDING AREA: 0.00 AC. x 3.54 C.F.S./AC = 0.00 C.F.S.
PAVEMENT AREA: 0.40 AC. x 3.54 C.F.S./AC. = 1.42 C.F.S.
GRASS AREA: 0.23 AC. x 1.70 C.F.S./AC. = 0.40 C.F.S.
0.63 AC. = 1.81 C.F.S.

PER MSD PROJECT NO. 18MSD-00571
BUILDING AREA: 0.00 AC. x 3.54 C.F.S./AC = 0.00 C.F.S.
PAVEMENT AREA: 0.00 AC. x 3.54 C.F.S./AC. = 0.00 C.F.S.
GRASS AREA: 2.36 AC. x 1.70 C.F.S./AC. = 4.01 C.F.S.
2.36 AC. = 4.01 C.F.S.

DISTURBED AREA = 0.83± ACRES

DISTURBED AREA = 0.08± ACRES

S89°46'57"E 23.23'

S1°12'3"E 184.48'

S89°44'48"E 361.00'

S56°31'12"W 1802.07'

S33°28'48"W 638.70'

S36°12'

FOR DRAINAGE PURPOSES ONLY
NOT FOR CONSTRUCTION

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

RTM Engineering
MEP/FP/T
3701 S. Lindbergh Blvd., Suite 204
St. Louis, MO 63127
(314) 725.5889

CEDC
Civil Engineering
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
(314)729.1404

CASE Engineering
Structural Engineering
796 Menue Court
Fenton, MO 63026
(636)349.1600

Parkway South Middle
760 Woods Mill Rd., St. Louis County, MO 63011
Parkway PN # 412401B

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 24028

Revisions

Description	Date
Revision #1	02/04/25

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect. Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
BRANDON ASHER HAIR
NUMBER E-38026
REGISTERED PROFESSIONAL ENGINEER

The Professional Architect and Client in this street spatial help in the material and data shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by the architect, and this architect reasonably disclaims any and all responsibility for such plan. Errorsor in documents not exhibiting this seal.

DATE: 01/21/25

Bid/Permit Set

Existing Drainage Area Plan

C13

10/3/2024 3:13:46 PM

DIFFERENTIAL RUNOFF CALCULATIONS WITHIN THE DISTURBED AREA

(15 YEAR, 20 MINUTE)

EXISTING CONDITION

PAVEMENT AREA	= 0.03 ac. x 3.54 cfs/ac.	= 0.11 cfs
GRASS AREA	= 0.88 ac. x 1.70 cfs/ac.	= 1.50 cfs
	= 0.91 ac.	= 1.61 cfs

PROPOSED CONDITION

PAVEMENT AREA	= 0.33 ac. x 3.54 cfs/ac.	= 1.17 cfs
*GRASS AREA	= 0.58 ac. x 1.70 cfs/ac.	= 0.99 cfs
	= 0.91 ac.	= 2.16 cfs

DIFFERENTIAL RUNOFF = 1.61 cfs – 2.16 cfs = 0.55 cfs (INCREASE)

*PERMEABLE PAVEMENT INCLUDED IN GRASS AREA. PERMEABLE PAVEMENT AREA TO USE MSD PI FACTOR OF 1.70 CFS/AC FOR DIFFERENTIAL RUNOFF.

DIFFERENTIAL RUNOFF CALCULATIONS

(15 YEAR, 20 MINUTE)

ROOF AREA TO USE MSD PI FACTOR OF 3.54 CFS/AC TO REPRESENT DIRECT CONNECTION TO THE SEWER, PER MSD PROJECT NUMBER 18MSD-00571

EXISTING CONDITION

BUILDING AREA	= 0.66 ac. x 3.54 cfs/ac.	= 2.34 cfs
PAVEMENT AREA	= 1.33 ac. x 3.54 cfs/ac.	= 4.71 cfs
GRASS AREA	= 8.24 ac. x 1.70 cfs/ac.	= 14.01 cfs
	= 10.23 ac.	= 21.06 cfs

PROPOSED CONDITION

BUILDING AREA	= 0.66 ac. x 3.54 cfs/ac.	= 2.34 cfs
PAVEMENT AREA	= 1.63 ac. x 3.54 cfs/ac.	= 5.77 cfs
*GRASS AREA	= 7.94 ac. x 1.70 cfs/ac.	= 13.50 cfs
	= 10.23 ac.	= 21.61 cfs

DIFFERENTIAL RUNOFF = 21.06 cfs – 21.61 cfs = 0.55 cfs (INCREASE)

*PERMEABLE PAVEMENT INCLUDED IN GRASS AREA. PERMEABLE PAVEMENT AREA TO USE MSD PI FACTOR OF 1.70 CFS/AC FOR DIFFERENTIAL RUNOFF.

GRAPHIC SCALE

60 0 30 60 120

(IN FEET)
1 inch = 60 ft.

PER MSD PROJECT NO. 18MSD-00571

BUILDING AREA:	0.00 AC. x 3.54 C.F.S./AC	= 0.00 C.F.S.
PAVEMENT AREA:	1.52 AC. x 3.54 C.F.S./AC.	= 5.38 C.F.S.
GRASS AREA:	1.24 AC. x 1.70 C.F.S./AC.	= 2.12 C.F.S.
	2.76 AC.	= 7.49 C.F.S.

PER MSD PROJECT NO. 18MSD-00571

BUILDING AREA:	0.00 AC. X 3.54 C.F.S./AC	= 0.00 C.F.S.
PAVEMENT AREA:	0.44 AC. x 0.54 C.F.S./AC.	= 1.56 C.F.S.
GRASS AREA:	4.21 AC. x 1.70 C.F.S./AC.	= 7.16 C.F.S.
	4.65 AC.	= 8.72 C.F.S.

PER MSD PROJECT NO. 18MSD-00571

BUILDING AREA:	0.66 AC. x 3.54 C.F.S./AC	= 2.34 C.F.S.
PAVEMENT AREA:	1.63 AC. x 3.54 C.F.S./AC.	= 5.77 C.F.S.
GRASS AREA:	7.94 AC. x 1.70 C.F.S./AC.	= 13.50 C.F.S.
	10.23 AC.	= 21.61 C.F.S.

PER MSD PROJECT NO. 18MSD-00571

BUILDING AREA:	1.73 AC. x 3.54 C.F.S./AC	= 6.11 C.F.S.
PAVEMENT AREA:	1.80 AC. x 3.54 C.F.S./AC.	= 6.38 C.F.S.
GRASS AREA:	5.48 AC. x 1.70 C.F.S./AC.	= 9.32 C.F.S.
	9.01 AC.	= 21.81 C.F.S.

PER MSD PROJECT NO. 18MSD-00571

BUILDING AREA:	0.00 AC. x 3.54 C.F.S./AC	= 0.00 C.F.S.
PAVEMENT AREA:	0.40 AC. x 3.54 C.F.S./AC.	= 1.42 C.F.S.
GRASS AREA:	0.23 AC. x 1.70 C.F.S./AC.	= 0.40 C.F.S.
	0.63 AC.	= 1.81 C.F.S.

PER MSD PROJECT NO. 18MSD-00571

BUILDING AREA:	0.00 AC. x 3.54 C.F.S./AC	= 0.00 C.F.S.
PAVEMENT AREA:	0.00 AC. x 3.54 C.F.S./AC.	= 0.00 C.F.S.
GRASS AREA:	2.36 AC x 1.70 C.F.S./AC.	= 4.01 C.F.S.
	2.36 AC.	= 4.01 C.F.S.

DISTURBED AREA = 0.83± ACRES

DISTURBED AREA = 0.08± ACRES

S87°46'48"E 361.00'

S56°01'12"W 1802.07'

S 87°46'48" E 184.48'

S 87°46'48" E 23.23'

N 56°01'12" E 1847.29'

638.70'
638.12'

FOR DRAINAGE PURPOSES ONLY
NOT FOR CONSTRUCTION

10/3/2024 3:13:46 PM

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

RTM Engineering
MEP/FP/T
3701 S. Lindbergh Blvd., Suite 204
St. Louis, MO 63127
(314) 725.5889

CEDC
Civil Engineering
10800 Sunset Office Drive, Suite 200
St. Louis, MO 63127
(314)729.1404

CASE Engineering
Structural Engineering
796 Menue Court
Fenton, MO 63026
(636)349.1600

Parkway South Middle
760 Woods Mill Rd., St. Louis County, MO 63011
Parkway PN # 412401B

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 24028

Revisions

Description	Date
Revision #1	02/04/25

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect. Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
BRANDON ASHER HAIR
NUMBER E-28026
REGISTERED PROFESSIONAL ENGINEER

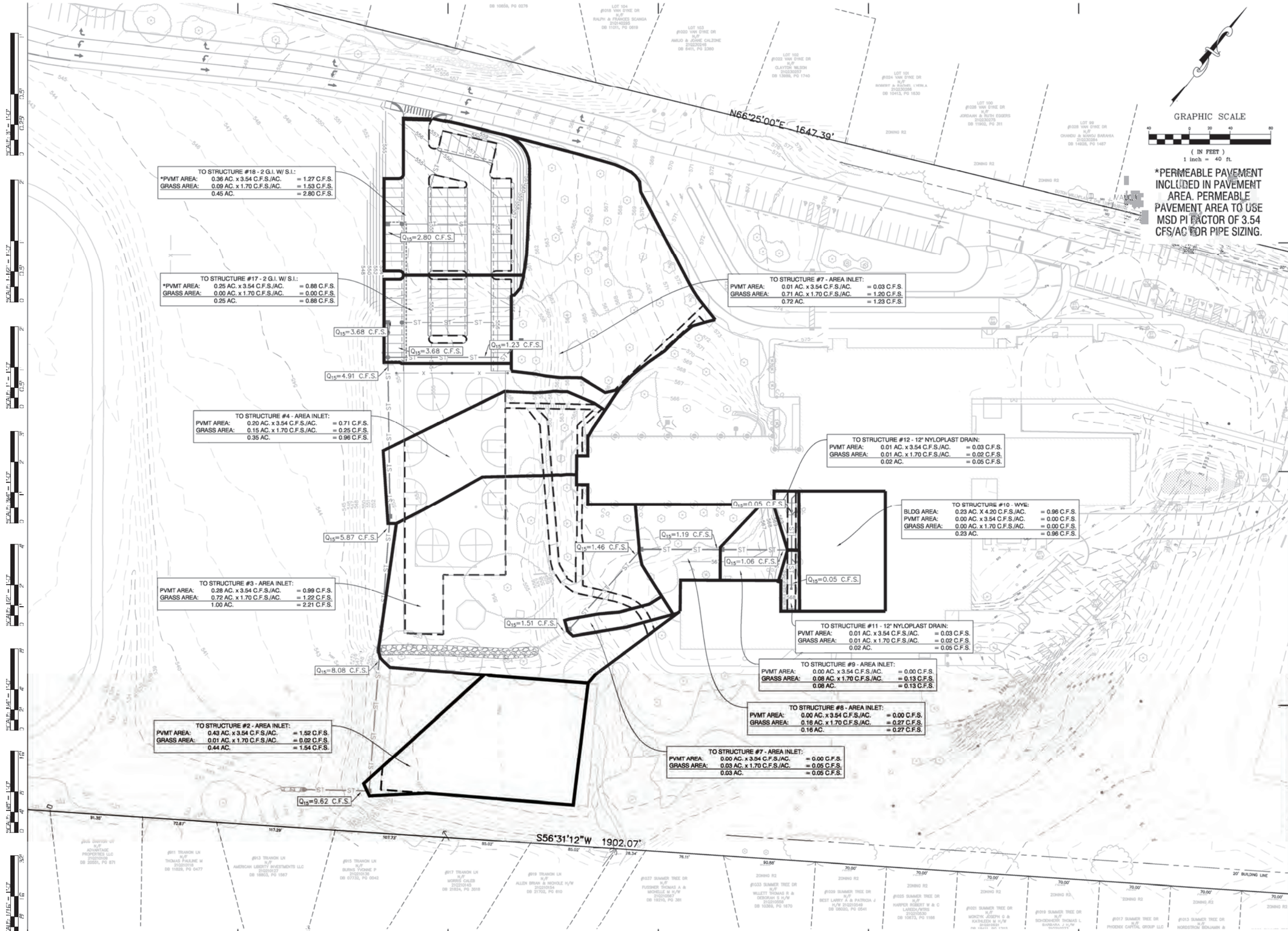
The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

DATE: 01/21/25

Bid/Permit Set

Proposed Drainage Area Plan

C14



bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

RTM Engineering
MEP/FP/T
3701 S. Lindbergh Blvd., Suite 204
St. Louis, MO 63127
(314) 725.5889

CEDC
Civil Engineering
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
(314)729.1404

CASE Engineering
Structural Engineering
706 Mervue Court
Fenton, MO 63026
(636)349.1600

Parkway South Middle
760 Woods Mill Rd., St. Louis County, MO 63011
Parkway PN # 412401B

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 24028

Revisions

Description	Date
Revision #1	02/04/25

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
BRANDON ALVER LAIR
NUMBER E-28030
REGISTERED PROFESSIONAL ENGINEER

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

DATE: 01/21/25

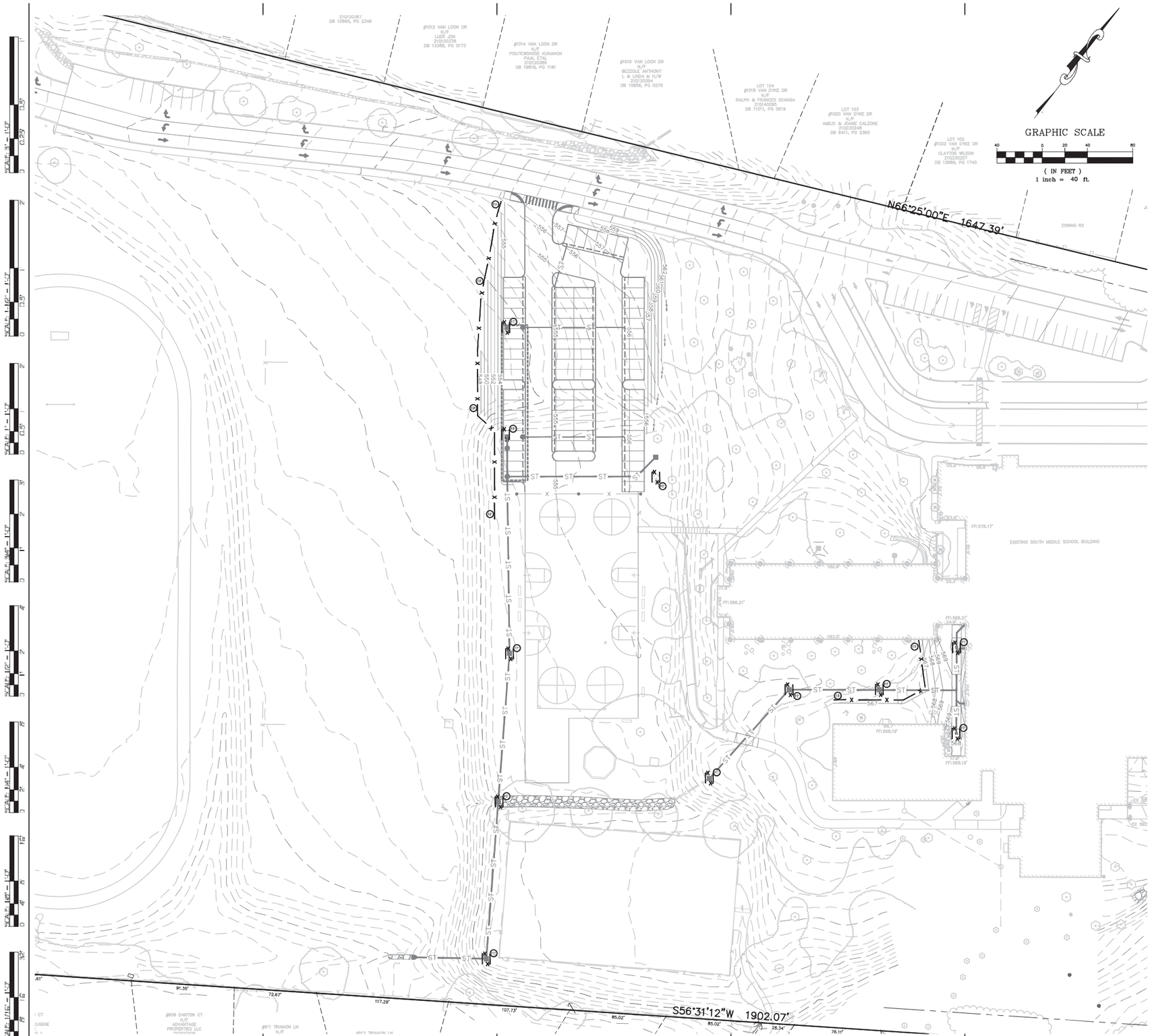
Bid/Permit Set

Inlet Drainage Area Plan

C15

10/3/2024 3:13:46 PM

FOR DRAINAGE PURPOSES ONLY
NOT FOR CONSTRUCTION



10/3/2024 3:13:46 PM

EROSION CONTROL LEGEND

SF — x — SILT FENCE (806-70.00)

FD FABRIC DROP (806-45.12)

CE CONSTRUCTION ENTRANCE/WASHDOWN AREA (8" TYPE 5 AGGREGATE ST. LOUIS CO. DETAIL 806-46.00 & 806-46.01)

SWPPP CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT THIS STORM WATER POLLUTION PREVENTION PAN HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS AND REGULATIONS OF ST. LOUIS COUNTY, THE MISSOURI DEPARTMENT OF NATURAL RESOURCES, AND THE GENERAL PERMIT REQUIREMENTS OF THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY. TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE INFORMATION CONTAINED IN THIS PLAN IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWN VIOLATIONS.

SIGNATURE: _____

DATE: _____

SWPPP NOTES

1.) DEVELOPER: PARKWAY SCHOOL DISTRICT

EMERGENCY CONTACT: T.B.D.

2.) SITE ADDRESS: 760 WOODS MILL ROAD
ST. LOUIS, MO 63011

3.) ALL FILL OR BACKFILL OPERATIONS SHALL BE EXECUTED UNDER THE DIRECT SUPERVISION OF THE GEOTECHNICAL ENGINEER. THE GEOTECHNICAL ENGINEER SHALL PERFORM FIELD TESTING AND ASCERTAIN COMPLIANCE WITH SPECIFICATION REQUIREMENTS OF ALL MATERIALS TO BE USED AS FILLS.

4.) ACCORDING TO THE UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY, THE FOLLOWING SOILS ARE LOCATED ON-SITE:

60D2S URBAN LAND, HARVESTER, 2 TO 9 PERCENT SLOPES

5.) TOTAL LAND ESTIMATED TO BE DISTURBED = 0.91 acres ±

6.) PERMIT HOLDER
a. PERMIT HOLDER SHALL NOTIFY ALL CONTRACTORS AND OTHER ENTITIES (INCLUDING UTILITY CREWS, CITY/ COUNTY EMPLOYEES, OR THEIR AGENTS) THAT WILL PERFORM WORK AT THE SITE, OF THE EXISTENCE OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND WHAT ACTIONS OR PRECAUTIONS SHALL BE TAKEN WHILE ON SITE TO MINIMIZE THE POTENTIAL FOR EROSION AND THE POTENTIAL FOR DAMAGING ANY BEST MANAGEMENT PRACTICES (BMP's)

b. PERMIT HOLDER SHALL DETERMINE THE NEED FOR AND ESTABLISH TRAINING PROGRAMS TO ENSURE THAT ALL SITE WORKERS HAVE BEEN TRAINED, AT A MINIMUM, IN EROSION CONTROL, MATERIAL HANDLING AND STORAGE, AND HOUSEKEEPING

c. PERMIT HOLDER SHALL PROVIDE COPIES OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) TO ALL PARTIES WHO ARE RESPONSIBLE FOR INSTALLATION, OPERATION OR MAINTENANCE OF ANY BEST MANAGEMENT PRACTICES (BMP's)

d. PERMIT HOLDER SHALL MAINTAIN A CURRENT COPY OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) ON THE SITE AT ALL TIMES.

7.) MAJOR LAND DISTURBANCE
a. PRIOR TO ANY MAJOR LAND DISTURBANCE ACTIVITY, A LAND DISTURBANCE PERMIT FROM THE STATE OF MISSOURI DEPARTMENT OF NATURAL RESOURCES & ST. LOUIS COUNTY WILL BE REQUIRED.

8.) DESCRIPTION OF B.M.P.'S (INTERIM & PERMANENT STABILIZATION PRACTICES/SCHEDULE)
a. CONTRACTOR SHALL ESTABLISH PERIMETER SILTATION CONTROL PRIOR TO ANY CONSTRUCTION ACTIVITIES. AREAS REQUIRING MINOR CLEARING &/OR GRADING PRIOR TO INSTALLATION OF SILTATION CONTROL SHALL BE COMPLETED IN A TIMELY MANNER AND SILTATION CONTROL ESTABLISHED IMMEDIATELY FOLLOWING

b. TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED WHERE THE ACCESS AREAS INTERSECT WITH PUBLIC ACCESS WAYS. DURING MUDDY CONDITIONS, DRIVERS OF VEHICLES WILL BE REQUIRED TO WASH THEIR WHEELS BEFORE ENTERING THE ROADWAY. WHERE SEDIMENT IS TRANSPORTED ONTO PUBLIC ACCESS WAYS, THE ROAD SHALL BE CLEANED THOROUGHLY AND IMMEDIATELY OR AS DIRECTED BY ST. LOUIS COUNTY. SEDIMENT SHALL BE REMOVED FROM THE ROAD BY SHOVELING OR SWEEPING. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.

c. UPON COMMENCEMENT OF INITIAL CLEARING AND GRUBBING OPERATIONS, AS WELL AS FUTURE GRADING OPERATIONS, TOPSOIL MUST BE STRIPPED FROM GRADED AREAS AND STOCKPILED FOR USE IN FINAL GRADING AND/OR EXCESS REMOVAL. THE STOCKPILES SHALL BE KEPT ON THE SITE BUT MUST STAY CLEAR OF ALL CONSTRUCTION ACTIVITY. THE STOCKPILES SHALL BE SEEDED AND MULCHED OR OTHERWISE PROTECTED WITH TEMPORARY VEGETATION TO PREVENT SOIL LOSS AND SEDIMENT TRANSPORT FROM THE STOCKPILE ITSELF UNTIL NEEDED.

d. TEMPORARY ROADS SHALL FOLLOW THE CONTOUR OF THE NATURAL TERRAIN TO THE EXTENT POSSIBLE. SLOPES SHALL NOT EXCEED 15 PERCENT SLOPE.

e. CONTRACTOR SHALL CLEAR AND GRUB THOSE AREAS OF THE SITE SCHEDULED FOR CONSTRUCTION. AREAS NOT SCHEDULED FOR IMMEDIATE DEVELOPMENT ON THE SITE SHALL BE LEFT IN ESTABLISHED VEGETATION UNTIL REQUIRED. ROADWAYS SHALL BE CLEARED, GRUBBED, AS REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF SILTATION CONTROL THROUGHOUT THE DURATION OF THE PROJECT.

f. STORM DRAINS SHALL BE INSTALLED AS EARLY AS POSSIBLE. PROVIDED THE INSTALLATION DOES NOT CONFLICT WITH OTHER CONSTRUCTION ACTIVITIES. CATCH BASINS SHALL BE CLEANED AROUND DAILY THAT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION OF EACH INLET. INLETS MAY BE UTILIZED FOR STORMWATER CONTROL DURING CONSTRUCTION WITH THE SILT FENCE AND EROSION CONTROL MEASURES IN PLACE.

g. ALL PROPOSED TURF AREAS, ONCE CONSTRUCTED TO FINAL GRADE SHALL BE SEEDED/ SODDED WITHIN 5 DAYS AFTER FINAL GRADING OF THE SITE WHERE SHOWN ON THE PLAN. SHOULD WEATHER CAUSE DELAYS IN EARTHWORK OPERATIONS, ADDITIONAL SILTATION CONTROL MEASURES MAY BE REQUIRED.

h. ANY DISTURBED AREAS WHICH WILL REMAIN UNWORKED FOR 30 DAYS OR MORE SHALL BE STABILIZED WITH SEEDING, MULCHING OR MATTING WITHIN 5 DAYS. IF SEASONAL CONDITIONS PROHIBIT SEEDING, MULCHING OR MATTING SHALL BE USED.

i. INSPECTION OF SILTATION CONTROL DEVICES SHALL TAKE PLACE ONCE EVERY SEVEN DAYS AND WITHIN 24 HOURS OF ANY RAIN EVENT OF 1/2 INCH OR MORE. ANY SILTATION CONTROL IN NEED OF REPAIR SHALL OCCUR IMMEDIATELY. NO LAND DISTURBANCE SHALL BE PERFORMED NO LATER THAN 24 HOURS AFTER A RAINFALL THAT CAUSES STORMWATER RUNOFF TO OCCUR ON-SITE.

j. ALL GRADING OPERATIONS ARE SUBJECT TO THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEERING REPORT IF ONE HAS BEEN PREPARED FOR THIS PROJECT.

k. SEDIMENTATION CONTROLS SHALL ONLY BE REMOVED AFTER THE SITE IS COMPLETELY STABILIZED, VEGETATION IS WELL ESTABLISHED, AND ALL PAVEMENT AREAS ARE INSTALLED.

9.) PLANNED RESPONSE TO LOSS OF CONTAINED SEDIMENT
a. B.M.P.'s SHALL BE REPAIRED AND/OR REPLACED IMMEDIATELY AS REQUIRED TO STABILIZE SITE AND CONTAIN SEDIMENT LADEN RUNOFF. OFFSITE AREAS SHALL BE INSPECTED FOR EVIDENCE OF IMPACT FROM ANY FAILURE. PERMIT HOLDER SHALL BE REQUIRED TO PROVIDE DOCUMENTATION OF THE B.M.P. MEASURES INSTALLED AND MAINTENANCE PERFORMED TO PREVENT THE LOSS. IT IS MANDATORY TO REPORT ANY LOSS OF CONTAINED SEDIMENT TO ST. LOUIS COUNTY DEPARTMENT OF PUBLIC WORKS.

b. CONTRACTOR IS RESPONSIBLE FOR INSTALLING ADDITIONAL B.M.P. MEASURES BEYOND THOSE SHOWN IF CONDITIONS DICTATE OR CURRENT MEASURES ARE INSUFFICIENT.

10.) DESCRIPTION OF PERMANENT B.M.P.'S TO REMAIN AFTER CONSTRUCTION
a. STORM DRAINS — THE DEVELOPMENT WILL BE SERVED BY A STORMWATER SYSTEM CONSISTING OF PIPES AND GRATED INLETS. THE STORM SYSTEM WILL CONVEY STORMWATER TO AN EXISTING STORM WATER POND. THE STORM DRAINAGE SYSTEM DESIGNATED AS "PRIVATE" SHALL BE OPERATED AND MAINTAINED BY THE OWNER. THE STORM DRAINAGE SYSTEM DESIGNATED AS "PUBLIC" SHALL BE MAINTAINED BY THE METROPOLITAN ST. LOUIS SEWER DISTRICT (MSD) UPON DEDICATION OF THE SEWERS TO THE DISTRICT.

b. TURF AREAS — TURF AREAS SHALL BE MAINTAINED TO INSURE SITE AREAS REMAIN STABILIZED UPON COMPLETION OF CONSTRUCTION ACTIVITIES.

c. PAVED AREAS AND WALKWAYS — AREAS SUBJECT TO FOOT AND VEHICLE TRAFFIC SHALL BE PAVED AND KEPT IN GOOD REPAIR FOLLOWING COMPLETION OF CONSTRUCTION ACTIVITIES. MAINTENANCE SHALL BE THE OWNER'S RESPONSIBILITY.

11.) TABLE OF BEST MANAGEMENT PRACTICES:

TABLE 1 – LIST OF BEST MANAGEMENT PRACTICES

ITEM	STATUS
SILT FENCE	TEMPORARY
INLET PROTECTION	TEMPORARY
WASHDOWN AREA	TEMPORARY

12.) ANY LAND CLEARING, CONSTRUCTION, OR DEVELOPMENT INVOLVING THE MOVEMENT OF EARTH SHALL BE IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN, AND THE PERSON ISSUED A LAND DISTURBANCE PERMIT ASSUMES AND ACKNOWLEDGES RESPONSIBILITY FOR COMPLIANCE WITH THE ST. LOUIS COUNTY LAND DISTURBANCE CODE AND THE APPROVED STORM WATER POLLUTION PLAN AT THE SITE OF THE PERMITTED ACTIVITY.

13.) DESCRIPTION OF B.M.P.'S TO PREVENT POTENTIAL POLLUTANTS
(CONSTRUCTION WASTES, TOXIC OR HAZARDOUS SUBSTANCES, PETROLEUM PRODUCTS, PESTICIDES, HERBICIDES, SITE LITTER, SANITARY WASTE, ETC.)

a. SOLID NON-HAZARDOUS CONSTRUCTION WASTE – DISPOSE OF IN TRASH DUMPSTERS OR APPROVED EQUIVALENT IN A LOCATION APPROVED BY THE OWNER. POTENTIALLY SOLUBLE OR LEACHABLE SOLID WASTE SHALL BE STORED OFF THE GROUND AND IN COVERED LEAK-PROOF CONTAINERS. SOLID WASTE SHALL BE PROPERLY DISPOSED OF OFF-SITE ON A REGULAR BASIS.

b. HAZARDOUS WASTE – HAZARDOUS WASTE SHALL BE SEGREGATED FROM NON-HAZARDOUS CONSTRUCTION SITE DEBRIS. LIQUID OR SEMI-LIQUID HAZARDOUS WASTE SHALL BE STORED IN APPROPRIATE CONTAINERS (CLOSED DRUMS OR SIMILAR) AND SHALL BE KEPT UNDER COVER. GRANULAR, SOLUBLE OR LEACHABLE HAZARDOUS WASTE MATERIALS SHALL BE STORED OFF THE GROUND AND IN COVERED LEAK-PROOF CONTAINERS. THE OWNER SHALL PROPERLY APPROVE ANY HAZARDOUS WASTE STORAGE AREA LOCATIONS.

c. HAZARDOUS WASTE SHALL BE PROPERLY DISPOSED OF OFF-SITE ON A REGULAR BASIS BY A REPUTABLE, LICENSED HAZARDOUS WASTE HAULER.

d. IT IS NOT THE INTENT OF THIS SWPPP TO SUPERSEDE OR REPLACE NORMAL SITE ASSESSMENT AND REMEDIATION PROCEDURES CONCERNING HAZARDOUS MATERIALS. SIGNIFICANT SPILLS AND/OR CONTAMINATION WARRANT AN IMMEDIATE RESPONSE BY TRAINED PROFESSIONALS. SUSPECTED JOB SITE CONTAMINATION SHOULD IMMEDIATELY BE REPORTED TO REGULATORY AUTHORITIES AND PROTECTIVE MEASURES TAKEN.

e. FRESH CONCRETE WASTE AND CONCRETE EQUIPMENT WASHDOWNS SHALL BE CONTAINED AND SHALL BE STORED AWAY FROM DRAINAGE DITCHES, SWALES AND DRAINAGE STRUCTURES. WHERE APPROPRIATE, CONTAINMENT BERMS SHALL BE PLACED AROUND WASTE STORAGE AREAS.

f. ON-SITE FUELING FACILITIES ARE REQUIRED TO ADHERE TO ALL APPLICABLE FEDERAL AND STATE REGULATIONS CONCERNING STORAGE AND DISPENSERS.

g. PROVISIONS SHALL BE MADE SO THAT A SUFFICIENT NUMBER OF TEMPORARY TOILET FACILITIES ARE AVAILABLE TO SERVE THE NUMBER OF WORKERS ON-SITE.

14.) ANTICIPATED CONSTRUCTION SCHEDULE (FOLLOWING COMPLETION OF DEMOLITION)
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

REFER TO CONSTRUCTION SCHEDULE

EROSION CONTROL INSTALL
SITE GRADING
EROSION CONTROL MAINTENANCE
FOOTINGS/FOUNDATIONS
SLAB ON GRADE CONSTRUCTION
FRAME CONSTRUCTION
PAVING AND CURBS
PERMANENT VEGETATION

15.) THE CONTRACTOR SHALL REFER TO THE MOST CURRENT EDITION OF ST. LOUIS COUNTY'S MODEL BEST MANAGEMENT PRACTICES (BMP) FOR LAND DISTURBANCE SEDIMENT AND EROSION CONTROL HANDBOOK FOR DETAILS AND SPECIFICATIONS.

16.) ALL DISTURBED AREAS SHALL BE SODDED, PLANTED, CONCRETED, PAVED OR OTHERWISE SURFACED WITHIN FOURTEEN (14) DAYS OF COMPLETION OF EACH PHASE OF WORK.

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

RTM Engineering
MEP/FP/IT
3701 S. Lindbergh Blvd., Suite 204
St. Louis, MO 63127
(314) 725.5889

CEDC
Civil Engineering
10820 Sunset Office Drive, Suite 200
St. Louis, MO 63127
(314)729.1404

CASE Engineering
Structural Engineering
706 Menus Court
Fenton, MO 63026
(636)349.1600

Parkway South Middle

760 Woods Mill Rd., St. Louis County, MO 63011
Parkway PN # 412401B

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 24028

Revisions

Description	Date
Revision #1	02/04/25

The drawing and the models in it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
BRANDY ANN HAIR
NUMBER E-39556
REGISTERED ENGINEER

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not indicating this seal shall not be considered prepared by the architect, and the architect expressly disclaims any and all responsibility for such data. Drawings or documents not bearing this seal.

DATE: 01/21/25

Bid/Permit Set

Stormwater Pollution Prevention Plan

C16

CONSTRUCTION ENTRANCE

PHYSICAL DESCRIPTION - A stabilized entrance to a construction site designed to minimize the amount of sediment tracked from the site on vehicles and equipment. Stabilization generally consists of aggregate over geogrid and geosynthetic material. Mud and sediment fall off of tires as they travel along the stabilized entrance, however, additional measures in the form of a washdown area should also be included on site. The stabilized entrance also distributes the axle load of vehicles over a larger area, thereby mitigating the rutting impact vehicles normally have on unpaved areas. See additional information in the "Construction Site Assess Requirements" section of this manual.

WHERE BMP IS TO BE INSTALLED - At locations where it is safe for construction vehicles and equipment to access existing streets – preferably at location of future streets or drives.

CONDITIONS FOR EFFECTIVE USE OF BMPs

Drainage: Ditches or pipes, if needed, sized for 10 year, 20 minute storm; HGL 6" below surface of entrance

WHEN BMP IS TO BE INSTALLED - First order of work, along with washdown area, prior to vehicles or equipment accessing unpaved areas

INSTALLATION / CONSTRUCTION PROCEDURES

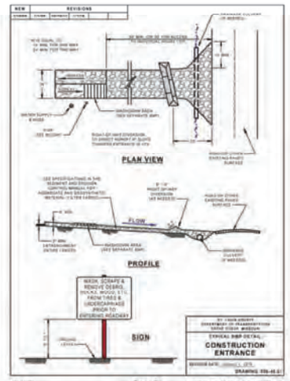
- Grade and compact area of construction entrance.
- Install culvert under entrance if needed to maintain positive drainage.
- Place geosynthetic material root to compacted soil, lay geogrid on top of that, and cover with aggregate, forming shallow access entrance if needed to direct runoff away from roadway.
- See Washdown Station BMP for additional steps.

O&M PROCEDURES:

- Immediately remove any mud or debris tracked onto paved surfaces.
- Remove sediment and clods of dirt from construction entrance continuously.
- Replace rock if necessary to maintain clean surface.
- Repair settled areas.

SITE CONDITIONS FOR REMOVAL - Remove when vehicles and equipment will no longer access unpaved areas.

TYPICAL DETAIL - 806-46.01



WASHDOWN STATION

PHYSICAL DESCRIPTION - An area located at construction entrances designed to wash sediment from tire treads and undercarriage of exiting vehicles and prevent sediment from being tracked onto existing roadways.

WHERE BMP IS TO BE INSTALLED - Across or immediately adjacent to exit paths from unpaved construction sites.

CONDITIONS FOR EFFECTIVE USE OF BMPs

Drainage: Downstream BMPs sized to treat dirty runoff from washdown station

WHEN BMP IS TO BE INSTALLED - First order of work, along with construction entrance, prior to vehicles or equipment accessing unpaved areas.

INSTALLATION/CONSTRUCTION PROCEDURES

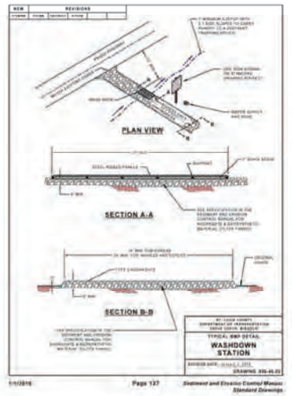
- Grade and compact area for drainage under washroom pad.
- Install steel-ribbed plate on frame or other support to allow a 2" drain space.
- Grade and vegetate downstream BMPs (V-ditch shown on detail).
- Install water supply and hose.
- Post sign in advance of station indicating that all exiting vehicles and equipment must use station prior to exiting site.

O&M PROCEDURES:

- Remove sediment daily.
- Repair settled areas.
- Replace rock if necessary to maintain clean surface.

SITE CONDITIONS FOR REMOVAL - Remove when vehicles and equipment will no longer access unpaved areas.

TYPICAL DETAIL - 806-46.00



INLET PROTECTION - FABRIC DROP AND DROP IN FILTER

PHYSICAL DESCRIPTION - A woven fabric barrier placed around an area inlet or drop in type filter designed to prevent sediment from entering the storm sewer. Shallow temporary ponding during and after rainfall should be expected. Use an alternate method if flooding of driving lanes, adjacent property, etc. is possible.

WHERE BMP IS TO BE INSTALLED - At inlets designed to drain a small gently sloping area with maximum grade of 5%. Overflow capacity is limited on elevated area inlets.

CONDITIONS FOR EFFECTIVE USE OF BMPs

Type of Flow:	Shallow sheet flow
Contributing Area:	Maximum of 2 c.f.s flowing to inlet

WHEN BMP IS TO BE INSTALLED - Immediately after placement of inlet and before construction starts on existing inlets.

INSTALLATION / CONSTRUCTION PROCEDURES

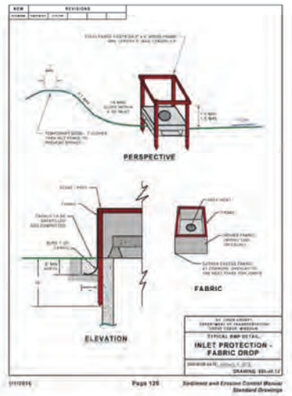
- Backfill, compact and uniformly grade area around inlet.
- Construct downstream berm, if required. Rock bags or sand bags may be used to construct berm.
- Drive posts or wood frame close to inlet sill so overflow will fall directly on the structure and not on unprotected soil.
- Dig trench around inlet for fabric to be buried.
- Cut required length of fabric from one roll to eliminate joints. Fasten fabric tightly around posts / frame to enhance stability.
- Backfill and compact trench.
- Install drop-in type filter per manufacturer specifications.

O&M PROCEDURES

- Inspect every week and after every storm.
- Remove trash accumulation and sediment once it reaches depth of 6" at inlet.
- Replace loose, torn or clogged fabric.
- Repair any erosion or settlement of temporary berm downstream of inlet.
- Maintain drop-in type filter per manufacturer specifications.

SITE CONDITIONS FOR REMOVAL - Remove after contributing drainage areas have been adequately stabilized. Restore area to grade and vegetate.

TYPICAL DETAIL - 806-45.12 (Single Unit)
806-45.13 (Double Unit)



SILT FENCE

PHYSICAL DESCRIPTION - Silt fences are used as temporary perimeter controls, appropriate to the BMP, at sites where construction activities will disturb the soil. They can also be used on the interior of the site. A silt fence consists of a length of filter fabric stretched between anchoring posts spaced at regular intervals along the site at low and down slope areas. The filter fabric should be entrenched in the ground. When installed correctly and inspected frequently, silt fence can be an effective barrier to silt leaving the site in storm water runoff.

WHERE BMP IS TO BE INSTALLED - Silt fences apply to construction sites with relatively small drainage areas. They are appropriate in areas where runoff will occur as low-level flow; not exceeding 0.5 c.f.s. The drainage area for silt fences should not exceed 0.25 acre per 100 lineal fence length (100 square feet per foot of fence). The slope length above the fence should not exceed 100 feet (NAHB, 1993). The fence should be designed to withstand the runoff from a 10-year peak storm event.

CONDITIONS FOR EFFECTIVE USE OF BMPs - Spacing of parallel lengths of silt fence along slopes is relative to slope steepness as follows:

Type of Flow:	Sheet flow only
Contributing Slope Length:	30-foot maximum for 3:1 slopes 50 foot maximum for slopes between 3:1 and 10:1 100 foot maximum for slopes under 10%

For additional information see Section 806.70 of St. Louis County's Standard Specification for Road and Bridge Construction.

WHEN BMP IS TO BE INSTALLED - Prior to disturbance of natural vegetation and at intervals during construction of fill slopes. Install on the perimeter of the site (where storm water exits the site) prior to disturbance of natural vegetation, around material stockpiles and interior to the site along slopes, at the base of slopes and at intervals during construction of slopes.

INSTALLATION / CONSTRUCTION PROCEDURES

- Drive post for fence ties.
- Dig trench to required dimensions in front of posts for fabric burial.
- Attach wire mesh to posts.
- Attach fabric to posts, allowing required length below ground level to run fabric along bottom of trench.
- Backfill and compact soil in trench to protect and anchor fabric.

If a standard-strength fabric is used, it can be reinforced with wire mesh behind the filter fabric. This increases the effective life of the fence. The maximum life expectancy for synthetic fabric silt fences is about 6 months, depending on the amount of rainfall and runoff.

The stakes used to anchor the filter fabric should be wood or metal. Wooden stakes should have minimum dimensions of 2 by 2 inches if a hardwood like oak is used. Stakes from soft woods like No. 2 Southern Pine, should have minimum dimensions of 4 by 4 inches. When using steel (standard U, T, L, or C shape sections) posts in place of wooden stakes, they should weigh no less than 1.0 lb/linear foot. If metal posts are used, attachment points are needed for fastening the filter fabric with wire ties. Posts should be least 5 feet long and driven or placed at a slight upstream angle into the ground to a minimum depth of 16 inches. Depth shall be increased to a minimum of 22 inches if fence is placed on a slope of 3:1 or greater. When the post embedment depth is impossible to obtain, the posts shall be adequately secured to prevent overturning or the fence due to sediment loading.

Erect silt fence in a continuous fashion from a single roll of fabric to eliminate gaps in the fence. If a continuous roll of fabric is not available, overlap the fabric from both directions only at stakes or posts. Overlap at least 6 inches.

The Geosynthetic filter fabric and wire mesh (when applicable) shall be no less than 30 inches above ground and are stapled or wired to the upslope side of the post. Staples should be a 17-gauge wire and ½ inch long. Excavate a trench to bury the bottom of the fabric fence in a "J" configuration at least 8 inches below the ground surface. The trench shall be backfilled with native soil and the soil compacted over the geotextile. This helps to prevent gaps from forming near the ground surface. Gaps would make the fencing useless as a sediment barrier.

The height of the fence posts should be 36 inches (22-inch embedment) to 42 inches (16-inch embedment) above the original ground surface. If standard-strength fabric is used with 14-gauge wire with a mesh spacing of 6 inches by 6 inches (or a prefabricated polymeric mesh of equivalent strength), space the posts no more than 4 feet apart. If extra-strength fabric is used without wire mesh reinforcement, space the posts no more than 4 feet apart with woven or 6 feet apart with non-woven geosynthetic.

Alternate Construction: Install fence by slicing it into ground with specialized equipment. Install posts at reduced spacing indicated on detail.

LIMITATIONS - Do not install silt fences along areas where rocks or other hard surfaces will prevent you from uniformly anchoring the fence posts and entrenching the filter fabric. Installing fences in such an area greatly reduces their effectiveness and can create runoff channels leading offsite. Silt fences are not suitable for areas where large amounts of concentrated runoff are likely. Fence shall not be used when slope is 1:1 or greater and water flow rates exceed 2 cubic feet per minute. Open, windy areas present a maintenance challenge, too, because high winds can make the filter fabric deteriorate faster. Do not install silt fences across streams, ditches, or waterways (Smolen et al., 1988).

When the pores of the fence fabric become clogged with sediment, pools of water are likely to form on the uphill side of the fence. Setting and design of the silt fence should account for this. Take care to avoid unnecessarily disturbing stormwater from these pools, causing further erosion damage.

MAINTENANCE CONSIDERATIONS - Inspect silt fences regularly and frequently, as well as after each rainfall event, to make sure that they are intact and that there are no gaps where the fence meets the ground or holes along the length of the fence. If you find gaps or holes, repair or replace the fabric immediately. Remove accumulated sediments from the fence base when the sediment reaches one-third to one-half the fence height. Remove sediment more frequently if accumulated sediment is creating noticeable strain on the fabric and the fence might fail from a sudden storm event. When you remove the silt fence, remove the accumulated sediment, dress the area disturbed to give it a pleasing appearance and vegetate all bare areas as well.

O&M PROCEDURES

- Inspect every week and after every storm.
- Remove sediment build-up when it reaches 1/3 the fence height or 12", whichever is less.
- Revision torn or clogged fabric; repair loose fabric.

- Repair unstable or broken posts.
- Stabilize any areas susceptible to undermining.
- Extend fence or add additional rows(s) at fence if necessary to provide adequate protection.

SILTING AND DESIGN CONSIDERATIONS - The material for silt fences should be a pervious sheet of synthetic fabric such as polypropylene, nylon, and polyester or polyethylene yarn. Choose the material based on the minimum synthetic fabric requirements shown in **Table 1** below.

Table 1: Temporary Silt Fence Property Requirements

Physical Property	Test Method	Units	MARV Geosynthetic Requirements: Supported Silt Fence[1]	Unsupported Silt Fence: Woven	Unsupported Silt Fence: Non-Woven
				Elongation ≤ 50%[2]	Elongation ≤ 50%[2]
Post Spacing (Maximum)		feet	4	4	6
Height of Wire / Polymer Fence (Minimum)		inches	30	---	---
Grab Strength (Minimum): Machine Direction Cross Machine Direction	ASTM D 4632	pounds	90 90	120 100	120 100
Permittivity (Minimum)	ASTM D 4491	sec^{-1}	0.05	0.05	0.05
Apparent Opening Size (AOS)[3]	ASTM D 4751	Sieve Number	30	30	30
Ultraviolet Stability (Minimum) (retained strength)	ASTM D 4355		70% after 500 h of exposure		

Notes:

MARV: Minimum Average Roll Value

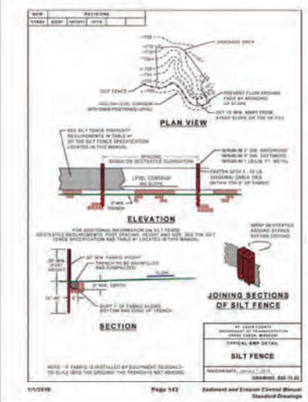
[1] Elongation measured in accordance with ASTM D 4632

[2] **Silt Fence Support** - 14-gauge steel wire with a mesh spacing of 6 inches by 6 inches (or a prefabricated polymeric mesh of equivalent strength)

[3] Maximum Average Roll Value

SITE CONDITIONS FOR REMOVAL - After permanent vegetation of slope is established. Remove fence and post, re-grade trench area and vegetate

TYPICAL DETAIL - 806-70.0



MULCH

PHYSICAL DESCRIPTION - A layer of organic material designed to protect exposed soil or freshly seeded areas from erosion by eliminating direct impact of precipitation and slowing overland flow rates. Mulch materials may include, but are not limited to, such things as grass, hay, straw, wood chips, wood fibers, hydro mulch and shredded bark. Type 1 mulch is prohibited in the flood plain.

- Type I Mulch-Vegetative (includes grass, hay, and straw).
- Type II Mulch-Vegetative with asphalt emulsion (includes grass, hay, and straw).
- Type III Mulch-Vegetative with oversizing (includes grass, hay, and straw).
- Type V Mulch-Hydro mulch (includes wood fiber, wood cellulose).
- Shredded Hardwood Bark Mulch.
- Wood Chips, (not recycled lumber).

WHERE BMP IS TO BE INSTALLED - Typically installed on seeded areas for temporary use, and in landscaped areas for permanent use.

CONDITIONS FOR EFFECTIVE USE OF BMPs

Type of Flow:	Sheet flow only
Slopes:	See attached chart for types of mulch acceptable as a function of slope length and steepness
Mulching Rates:	See attached table

WHEN BMP IS TO BE INSTALLED - Immediately after grading landscaped areas or seeding other areas

INSTALLATION / CONSTRUCTION PROCEDURES

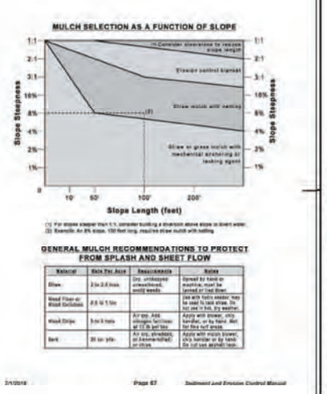
- Install upstream BMPs to protect area to be mulched.
- Rough grade area and remove all debris larger than 1 inch if area is to be regulated and mowed in the future, larger than 2 inches if area is to be permanently mulched.
- If area is to be seeded, follow requirements in Seeding BMP.
- Spread mulch and anchor by punching it into the ground, using netting, peg and twine, or lacking with liquid binder.
- For additional information see Section 802 of St. Louis County's Standard Specifications for Road and Bridge Construction.

O&M PROCEDURES

- Inspect every week and after every storm until adequate vegetation is established; annually for permanent mulch.
- Protect from vehicular and foot traffic.
- Repair damaged, degraded or eroded areas - reseed as needed and replace mulch

SITE CONDITIONS FOR REMOVAL - Temporary mulch should be removed when adequate vegetation is established

TYPICAL DETAILS - Type of mulch required for various slopes and application rates attached



Material	Rate Per Acre	Requirements	Notes
Straw	2 to 2.5 tons	Dry, unchopped unweathered, weed seeds	Spread by hand or machine; must be tucked in / tied down
Wood Fiber or Wood Cellulose	0.5 to 1 ton	Use with hydro mulch; Tack with asphalt emulsion, 75 lbs per ton; 2 hrs. to matting	
Wood Chips	5 to 9 tons	Dry, free of resin-type chipper fractions; up to 50% may pass through a 1" screen	Apply with blower, skid-handler, or by hand. Not for turf areas.
Sod	30 cu. yds.	Dry, shredded, or commercially prepared	Apply with mulch blower. Only handler or by hand for turf not mowed.

SEEDING

PHYSICAL DESCRIPTION - Establishment of vegetation by spreading grass seed designed to protect exposed soil from erosion by eliminating direct impact of precipitation and slowing overland flow rates. Once established, the vegetative cover will also filter pollutants from the runoff. Use only perennial vegetation for final stabilization.

WHERE BMP IS TO BE INSTALLED - To exposed soil after a phase or rough or finish grading has been completed, or areas where no activity will occur for 30 days.

CONDITIONS FOR EFFECTIVE USE OF BMPs

Type of Flow:	Sheet flow
Contributing Slope Length:	30-foot maximum for 3:1 slopes 50 foot maximum for slope between 3:1 and 10:1 100 foot maximum for slopes under 10%
Minimum Rates:	See attached chart(s)
Acceptable Dates	See attached chart

WHEN BMP IS TO BE INSTALLED - Immediately after rough or finished grading is completed

INSTALLATION / CONSTRUCTION PROCEDURES

- Install upstream BMPs to protect area to be seeded.
- Rough grade area and remove all debris larger than 1-inch in diameter and concentrated areas of smaller debris.
- Install stabilization grids, if needed.
- Mix soil amendments (lime, fertilizer, etc.) into top 3 to 6 inches of soil as needed.
- Plant seed ¼ to ½ inch deep.
- Roll lightly to firm surface.
- Cover seeded area with mulch unless seeding completed during optimum spring and summer dates.
- Install additional stabilization (netting, bonded fiber matrix, etc.) as required.
- Water immediately - enough to soak 4 inches into soil without causing runoff.
- If contract / permit allows, seeding to be used for final stabilization, only perennial vegetation needs shall be used.
- For additional information see Sections 806 and 808.50 of St. Louis County's Standard Specification for Road and Bridge Construction.

O&M PROCEDURES:

- Inspect every week and after every storm.
- Protect areas from vehicular and foot traffic.
- Reseed areas that have not sprouted within 21 days of planting.
- Repair damaged or eroded areas and reseed and stabilize as needed.
- Do not mow until 4 inches of growth occurs.
- During the first 4 months, mow no more than ⅓ the grass height.
- Re-fertilize during 2nd growing season.

SITE CONDITIONS FOR REMOVAL - Does not require removal, but temporary seeding can be removed immediately prior to work returning to an area

SEEDING REQUIREMENTS

Dates for Seeding

Permanent Seeding	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Tall Fescue				O	O	O			P	O		
Smooth Brome				O	O	O			P	O		
Fescue & Smooth Brome				P	O	O	O	O	P	O		
Fescue, Fall & Bluegrass	A	A	O	P	P	P	P	P	P	O	A	A
Temporary Seeding	**Jan**	**Feb**	**March**	**April**	**May**	**June**	**July**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Rye or Oats	A	A	O	O	O	O	O	O	O	O	P	A
Oats	A	A	O	O	O	O			O	O	P	A

O = Optimum seeding dates
A = Acceptable seeding dates
P = Permitted seeding dates with reseeding 2 months later - Usually use 50% of seed and 50% of fertilizer. Reseed with additional 75% seed and remaining fertilizer

Minimum Fertilizer and Seeding Rates

Permanent Seeding	Pounds per acre	Pounds Per 1000 sq. ft.
Tall Fescue	200	4.5
Smooth Brome	200	4.6
Bluegrass	200	4.7
Multiple Mix[1]	200	4.5

Mixture # 1 = Tall Fescue @ 150 pounds per acre and Brome @ 150 pounds per acre.
Mixture #2 = Tall Fescue @ 150 pounds per acre, Perennial Rye grass @ 150 pounds per acre, and Kentucky Blue grass @ 50 pounds per acre.
[1] Seeding rate for mixture in excess of 25% (1:1), shall be 10 pounds per 1000 sq. ft.

Temporary Seeding	Pounds per acre	Pounds Per 1000 sq. ft.
Rye or Oats	150	3.5
Oats	150	3.5

Fertilizer	Permanent Seeding: pounds per acre	Temporary Seeding: pounds per acre
Nitrogen*	40	30
Phosphate	50	50
Potassium	50	50
Lime - Ton	400	400

DAM = Effective neutralizing material per State evaluation of quarried rock

SODDING

PHYSICAL DESCRIPTION - A ¾-inch to 1-inch thick mat of vigorous turf, free of disease, insects and weeds. Sod prevents raindrops from disrupting the soil structure and causing erosion. Sod slows water runoff and acts as a filter when sediment laden runoff crosses over the sodded area.

WHERE BMP IS TO BE INSTALLED - Typically installed in areas requiring immediate erosion protection, such as swales or detention ponds and as filter strips, around inlets, and adjacent to outlets. Also installed in areas requiring immediate aesthetic appearance or function such as entrances to new subdivision and off site construction areas.

CONDITIONS FOR EFFECTIVE USE OF BMPs - Type of Flow: Sheet flow and low concentrated flows with velocities less than 5 fps.

WHEN BMP IS TO BE INSTALLED - Immediately after finish grading, installation of area inlets, and installation of underground services and foundations of new homes.

INSTALLATION / CONSTRUCTION PROCEDURES

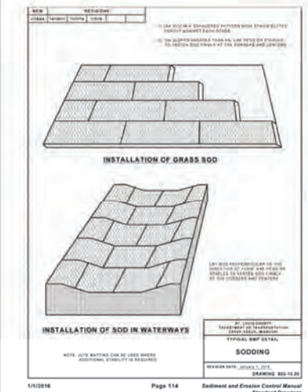
- Finish grade area and remove all debris larger than ½ inch in diameter and concentrated areas of smaller debris.
- Soil preparation of area to be sodded shall be determined by tests to determine lime and fertilizer requirements. Soil amendments shall be mixed into top 3 to 6 inches of soil by disking or other means.
- Level and roll soil lightly to provide an even grade and firm the surface. Sod should not be excessively wet or dry.
- Lay first row of sod perpendicular to the slope or direction of flow. Butt subsequent rows tight against previous rows with strips staggered in brick-like pattern. Fill minor gaps with good soil and roll entire surface to ensure contact.
- Stake, staple and / or set corners and centers of sod strips as required.
- Water immediately after installation enough to soak 4 inches into soil without causing runoff.
- For additional information see Section 805 of St. Louis County's Standard Specification for Road and Bridge Construction.
- Type of sod shall be as specified in the contract or on the approved plans.

O&M PROCEDURES:

- Water sod daily for 2 weeks - enough to soak 4 inches into soil without causing runoff.
- Reinstall areas of sod that has moved along the slope.
- Remove sediment accumulations - replace sod if necessary.
- Repair any eroded areas, replace sod, and stabilize as needed.
- Do not mow until 3 inches of new growth occur. During the first 6 months, mow no more than ⅓ the grass height.

SITE CONDITIONS FOR REMOVAL - Not applicable.

TYPICAL DETAIL - 803-10.00



bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority #
2009027409

RTM Engineering
MEP/FP/T
3701 S. Lindbergh Blvd., Suite 204
St. Louis, MO 63127
(314) 725.5889

CEDC
Civil Engineering
10800 Sunset Office Drive, Suite 200
St. Louis, MO 63127
(314)729.1404

CASE Engineering
Structural Engineering
798 Merus Court
Fenton, MO 63026
(636)349.1600

Parkway South Middle

760 Woods Mill Rd., St. Louis County, MO 63011
Parkway PN # 412401B

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 24028

Revisions

Description	Date
Revision #1	02/04/25

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect. Copyright © 2023 by Bond Architects, Inc.

STATE OF MISSOURI
BRANDON ASHER HARP
NUMBER E-28030
REGISTERED PROFESSIONAL ENGINEER

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments of other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

DATE: 01/21/25

Bid/Permit Set

Stormwater Pollution Prevention Plan Details

C17

10/3/2024 3:13:46 PM

EXHIBIT-O

WEST MIDDLE

MSD BMP MAP

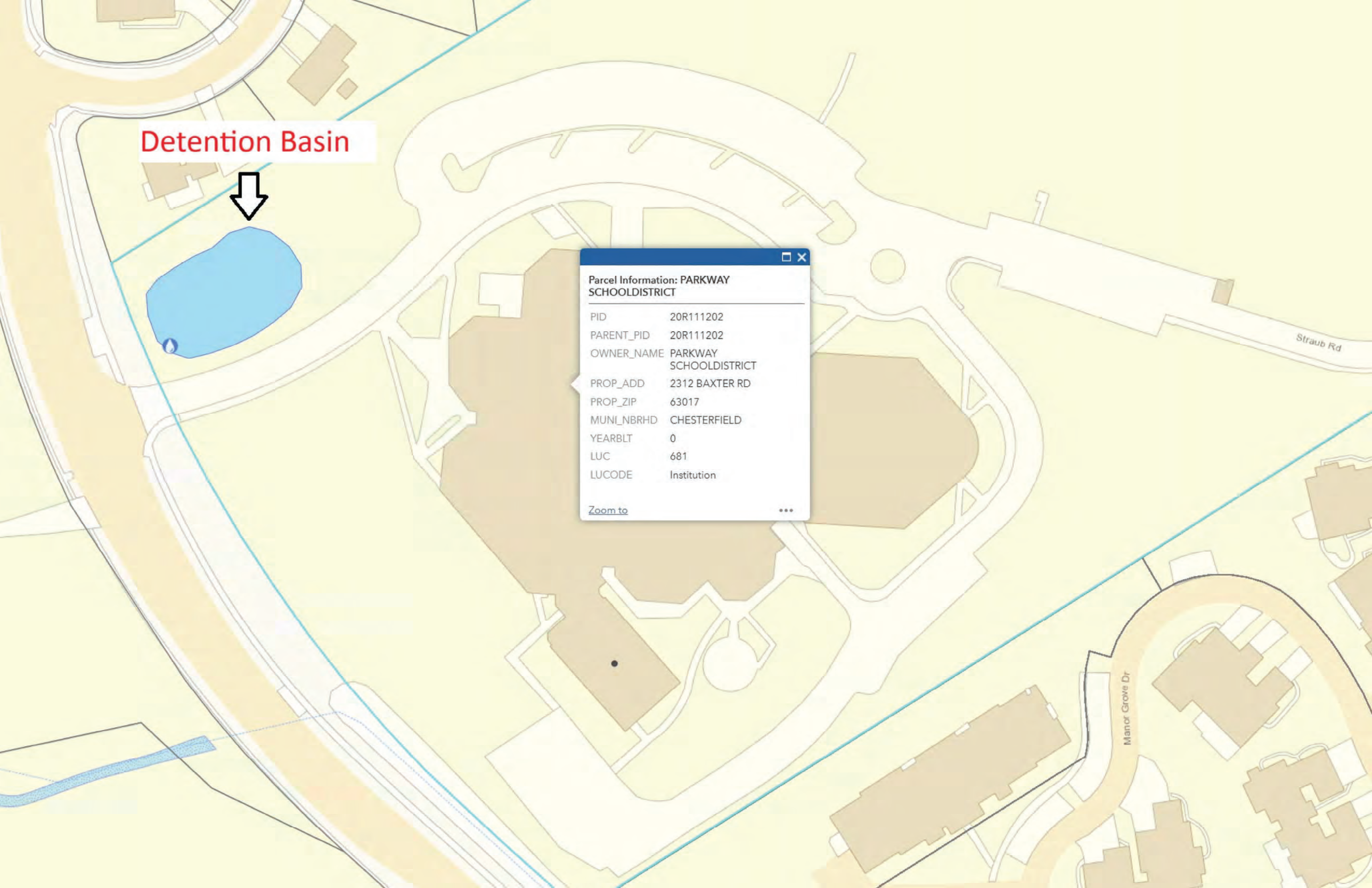

Detention Basin
Parcel Information: PARKWAY SCHOOLDISTRICT
PID 20R111202
PARENT_PID 20R111202
OWNER_NAME PARKWAY SCHOOLDISTRICT
PROP_ADD 2312 BAXTER RD
PROP_ZIP 63017
MUNI_NBRHD CHESTERFIELD
YEARBLT 0
LUC 681
LUCODE Institution
Zoom to
Straub Rd
Manor Grove Dr

EXHIBIT-P

NORTHEAST MIDDLE

BMP ORIGINAL PROJECT INFORMATION

PARKWAY SCHOOL DISTRICT

NORTHEAST MIDDLE SCHOOL

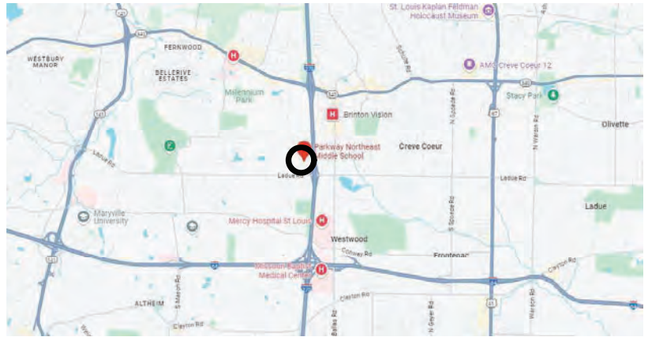
VOLUME 1 - SITE IMPROVEMENTS

181 COEUR DE VILLE DRIVE
CREVE COEUR, MO 63141
LOCATOR: 18O520015
ZONED A

WSP PROJECT NUMBER: 30902493.6999
CLIENT PROJECT NUMBER: 452401B

ISSUE FOR BID
1.24.2025

REGIONAL MAP



LOCAL MAP



PLAN NORTH

DRAWING INDEX - VOLUME 1

NUMBER	NAME
G0.01	PROJECT COVER SHEET - VOLUME 1
C1.01	GENERAL NOTES
C2.01	DEMOLITION PLAN
C2.02	DEMOLITION PLAN
C3.01	SITE PLAN
C3.02	SITE PLAN
C4.01	GRADING PLAN
C4.02	GRADING PLAN
C4.03	UTILITY PLAN
C4.04	UTILITY PLAN
C4.05	BMP PLAN
C4.10	SANITARY SEWER PROFILE
C4.11	STORM PROFILES
C4.12	STORM PROFILES
C4.13	STORM PROFILES
C4.14	STORM PROFILES
C4.15	STORM PROFILES
C5.01	DETAILS
C5.02	DETAILS
C5.03	BMP DETAILS
C6.01	SWPP PLAN
C6.02	SWPP PLAN
C7.01	EXISTING DRAINAGE AREA MAP
C8.01	PROPOSED DRAINAGE AREA MAP

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel.: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

SUBCONSULTANT:

REV	DESCRIPTION	DATE
0	ISSUE FOR BID	01.24.25

PARKWAY SCHOOL DISTRICT
NORTHEAST MIDDLE SCHOOL
181 COEUR DE VILLE DRIVE
CREVE COEUR, MO 63141
VOLUME 1 - SITE IMPROVEMENTS

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER
PE-2021009101
PROFESSIONAL ENGINEER
1/24/25

Civil Engineer of Record: Michael Sestak
Professional No.: PE-2021009101

DESIGNED BY: MS
DRAWN BY: MS
CHECKED BY: DH
DATE: 24 JANUARY 2025
SCALE:
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

ISSUE FOR BID

SHEET NAME:
PROJECT COVER SHEET - VOLUME 1

CLIENT PROJECT NUMBER: 452401B
WSP PROJECT NUMBER: 30902493.6999

SHEET NO. **G0.01**

LAST EDITED:
FILE PATH: C:\Users\USMS7190\ODC\ACCDocs\WSP USA projects (AMER)\STL100-30902493 - Parkway 2022 Bond - R23\Project Files\F - NEM - 2024\Arch\NLM52401BCv000000000001C.dwg
1/22/2025 4:05 PM

24PRJ–00000 25MSD–00025 BASEMAP 180

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

GENERAL NOTES

1. ALL DISTURBED AREAS SHALL BE RESTORED WITH TOPSOIL AND SOD, COMPLETELY WATERED IN.
2. THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY FOR CONTROLLING ALL SILTATION AND EROSION OF THE PROJECT AREA. THE CONTRACTOR SHALL USE THE MEANS NECESSARY TO CONTROL SILTATION AND EROSION. CONTROL MEANS AND METHODS SHALL FOLLOW ST. LOUIS COUNTY'S "SEDIMENT & EROSION CONTROL MANUAL" AND REQUIREMENTS OF THE CITY OF CREVE COEUR. THE OWNER OR THE CITY OF CREVE COEUR MAY AT THEIR OPTION DIRECT THE CONTRACTOR AS DEEMED FIT TO CONTROL EROSION. CONTROL SHALL COMMENCE WITH LAND DISTURBANCE AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY BOTH THE CITY OF CREVE COEUR AND THE OWNER. ALL COST ASSOCIATED WITH EROSION CONTROL SHALL BE INCLUDED IN THE CONTRACTOR'S BID.
3. PROPOSED ELEVATIONS ARE SHOWN TO FINISH PAVEMENT OR GRADE.
4. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
5. CONTRACTOR TO PLACE VEHICLE WASHDOWN STATION AT CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE CITY OF CREVE COEUR REQUIREMENTS.
6. NO EXCAVATION SHALL BE MADE SO CLOSE TO THE PROPERTY LINE AS TO ENDANGER ANY ADJOINING PROPERTY OF ANY PUBLIC OR PRIVATE STREET WITHOUT SUPPORTING AND PROTECTING SUCH PUBLIC OR PRIVATE STREET OR PROPERTY FROM SETTLING, CRACKING OR OTHER DAMAGE.
7. ANY EXISTING IMPROVEMENTS DAMAGED BY CONSTRUCTION ON THE PROJECT PROPERTY SHALL BE REPLACED IN KIND AT THE CONTRACTORS EXPENSE.
8. EXISTING ASPHALT PAVEMENT SHALL BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
9. DURING CONSTRUCTION THERE SHALL BE NO TRUCK TRAFFIC BETWEEN 7:30 A.M AND 8:40 A.M. AND BETWEEN 2:30 P.M. AND 3:30 P.M.
10. ALL EXISTING IMPROVEMENTS ARE TO REMAIN UNLESS NOTED OTHERWISE.
11. THE UNDERGROUND UTILITIES SHOWN HEREON ARE TAKEN FROM UTILITY LOCATIONS AS MARKED IN THE FIELD BY DIGRITE AND MAPS OBTAINED FROM SPIRE, METROPOLITAN ST. LOUIS SEWER DISTRICT AND MISSOURI-AMERICAN WATER COMPANY AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMO.
12. SITE IS SUBJECT TO PRIVATE UTILITY INSTALLATIONS. PRIVATE UTILITY INSTALLATIONS DO NOT APPEAR ON UTILITY BASE MAPS, NOR DOES DIGRITE LOCATE PRIVATE UTILITIES.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING TOPS AND FLOWLINES OF ALL EXISTING SEWERS PRIOR TO COMMENCING WORK AND NOTIFY THE ENGINEER OF DISCREPANCIES.
14. ALL SEWERS AND STRUCTURES SHALL BE IN ACCORDANCE WITH THE METROPOLITAN ST. LOUIS SEWER DISTRICT STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWER AND DRAINAGE FACILITIES, 2009.
15. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE GAS SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF SPIRE.
16. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE WATER SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF MISSOURI AMERICAN WATER COMPANY.
17. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE PHONE SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF AT&T DISTRIBUTION.
18. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH ELECTRIC SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF AMEREN MISSOURI.
19. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH CABLE SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF SPECTRUM.
20. INTERIM STORM WATER DRAINAGE CONTROL IN THE FORM OF SILTATION CONTROL MEASURES ARE REQUIRED.
21. THE DEVELOPER IS REQUIRED TO PROVIDE ADEQUATE STORM WATER SYSTEMS IN ACCORDANCE WITH THE CITY OF CREVE COEUR AND MSD STANDARDS.
22. ADDITIONAL SILTATION CONTROL SHALL BE INSTALLED AS REQUIRED BY THE CITY OF CREVE COEUR.
23. PROVIDE ADEQUATE OFF-STREET PARKING FOR CONSTRUCTION EMPLOYEES. PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVEWAY CONDITIONS.
24. ALL EXCAVATIONS, GRADING OR FILLING SHALL HAVE A FINISHED GRADE NOT TO EXCEED A 4:1 SLOPE (25%), UNLESS SPECIFICALLY APPROVED OTHERWISE. NO SLOPE SHALL EXCEED 3:1 MAXIMUM.
25. ALL GRADING AND DRAINAGE SHALL CONFORM TO THE LATEST STANDARDS AND SPECIFICATIONS OF ST. LOUIS COUNTY, THE METROPOLITAN ST. LOUIS SEWER DISTRICT AND THE CITY OF CREVE COEUR.
26. SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASHDOWN STATION PRIOR TO LEAVING SITE. MUD TRACKED ONTO COUNTY ROADS SHALL BE REMOVED AND KEPT CLEAN AT ALL TIMES.
27. UTILITIES MUST REMAIN IN CONTINUOUS SERVICE UNLESS WRITTEN PERMISSION IS RECEIVED FROM THE OWNER TO ALLOW INTERRUPTION OF SERVICE.
28. THE CONTRACTOR SHALL PROTECT THE LIMBS OF TREES. ANY LIMBS IN THE AREA REQUIRED FOR OPERATION OF CONSTRUCTION EQUIPMENT SHALL BE PRUNED IN ADVANCE OF THE WORK. PRIOR TO PRUNING ANY BRANCHES, THE CONTRACTOR SHALL COORDINATE SUCH PRUNING WITH THE LANDSCAPE ARCHITECT. ANY IDENTIFIED DYING OR BROKEN BRANCHES SHOULD BE REMOVED TO REDUCE SAFETY HAZARDS. BRANCHES THAT REQUIRE PRUNING SHALL BE PRUNED TO AN ADJACENT LIVE LATERAL BRANCH. NO STUBS MAY BE LEFT ON THE TREE.
29. IF BORING OR TRENCHING NEEDS TO OCCUR NEAR TREE ROOTS, AS A MINIMUM, UNLESS PREFERRED METHODS ARE RECOMMENDED BY THE LANDSCAPE ARCHITECT, PRIOR TO EXCAVATION THE CONTRACTOR SHALL ROOT PRUNE, BY HAND, ALONG THE PAY LINE OF TRENCHES WITHIN THE CRITICAL ROOT ZONE (CRZ) OF TREES TO BE PROTECTED IN ORDER TO MINIMIZE DAMAGE TO TREE ROOTS IN THAT AREA. ROOT PRUNING SHALL BE PERFORMED BY MEANS AND METHODS ACCEPTABLE TO THE LANDSCAPE ARCHITECT. ROOTS SHALL BE CLEAN CUT; UNDER NO CIRCUMSTANCES, SHALL THE CONTRACTOR RIP OR TEAR TREE ROOTS. FOR PURPOSES OF THIS PROJECT, THE CRITICAL ROOT ZONE (CRZ) OF A TREE WILL BE CONSIDERED TO BE 1.5 TIMES THE DIAMETER OF THE TREE AT BREAST HEIGHT, WITH THE DIAMETER OF THE TREE IN INCHES AND THE CRZ IN FEET.
30. EXISTING WATER AND SANITARY CONNECTIONS WILL NOT BE MODIFIED WITH THIS WORK.
31. THE CONTRACTOR SHALL STAY WITHIN THE LIMITS OF DISTURBANCE AS SHOWN ON THE PLANS AND MINIMIZE DISTURBANCE WITHIN THE WORK AREA WHEREVER POSSIBLE.
32. MAINTENANCE OF THE SEWERS DESIGNATED "PUBLIC" SHALL BE THE RESPONSIBILITY OF THE METROPOLITAN ST. LOUIS SEWER DISTRICT UPON DEDICATION OF THE SEWERS TO THE DISTRICT.
33. MSD SHOP DRAWING SUBMITTAL REQUIRED FOR BMP AND ITS COMPONENTS PRIOR TO CONSTRUCTION. MSD CONTACT: PLEASE CONTACT THE DISTRICT'S CONSTRUCTION MANAGEMENT DIVISION AT (314) 335-2072 FOR QUESTIONS.
34. DETAIL DRAWINGS: THE DETAIL DRAWINGS SHOWN HERE ARE ONLY FOR PRIVATE CONSTRUCTION THAT IS NOT UNDER MSD PERMITS. REFER TO MSD STANDARD CONSTRUCTION SPECIFICATIONS AND STANDARD DETAILS FOR PUBLIC SEWER CONSTRUCTION OR PRIVATE CONSTRUCTION UNDER MSD PERMITS.
35. EXISTING CONNECTIONS: EXISTING WATER AND SANITARY CONNECTIONS WILL NOT BE MODIFIED WITH THIS WORK.
36. LIMITS OF DISTURBANCE: THE CONTRACTOR SHALL STAY WITHIN THE LIMITS OF DISTURBANCE AS SHOWN ON THE PLANS AND MINIMIZE DISTURBANCE WITHIN THE WORK AREA WHEREVER POSSIBLE.

MSD GENERAL NOTES

ALL STORM AND SANITARY SEWER STRUCTURES AND APPURTENANCES TO BE DEDICATED TO MSD, OR TO BE PRIVATE UNDER MSD INSPECTION, SHALL CONFORM TO THE METROPOLITAN ST. LOUIS SEWER DISTRICT, STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES, 2023. THAT WILL INCLUDE STANDARD DETAILS SHOWN THEREIN, ALL SUBSEQUENT CHANGES MADE THERETO, AND SHALL ALSO INCLUDE THE FOLLOWING:

PART 2 – MATERIALS OF CONSTRUCTION
SECTION G PIPE.
12. CORRUGATED POLYPROPYLENE PIPE.
d. PIPE FOR GRAVITY SEWER INSTALLATIONS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321. CONSOLIDATION BY WATER (JETTING OR PUDDLING) SHALL NOT BE USED. CONSOLIDATION SHALL BE IN ACCORDANCE WITH MSD STANDARD CONSTRUCTION SPECIFICATIONS FOR TRENCH BACKFILL. PRICE FOR COMPACTED BACKFILL SHALL BE INCLUDED IN PIPE UNIT COST.

1. FOR USE IN SANITARY AND COMBINED SEWER INSTALLATIONS, A REPRESENTATIVE FROM THE PIPE MANUFACTURER SHALL VISIT THE SITE WITHIN THE FIRST 100 FEET OF PIPE INSTALLATION. COORDINATION OF THIS SITE VISIT SHALL BE ARRANGED BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE THE MSD INSPECTOR AT LEAST 24 HOURS' NOTICE OF THE PLANNED DATE AND TIME OF THE MANUFACTURER'S SITE VISIT.
2. FOLLOWING THE SITE VISIT, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE A LETTER FROM THE PIPING MANUFACTURER SUMMARIZING THEIR OBSERVATIONS. AT A MINIMUM, THE LETTER SHALL:
a) INDICATE THE DATE THE INITIAL SECTION OF PIPE WAS INSTALLED; AND
b) VERIFY THAT THE INSTALLATION OCCURRED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED PROCEDURES.
e. E. TRENCH WIDTH SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION RECOMMENDATIONS. DISTRICT STANDARD PAYLINE WIDTHS BASED ON THE NOMINAL INSIDE PIPE DIAMETER SHALL APPLY.

STORMWATER MANAGEMENT NOTES:

DIFFERENTIAL RUNOFF = -0.113 cfs

PROJECT DISTURBANCE = 0.121 Ac.
PROJECT MAINTENANCE = 2.939 Ac.
LIMITS OF CONSTRUCTION = 3.060 Ac.

Cumulative Site Stormwater Summary

Project	Disturbed Area (Ac)	Treated Area (Ac)	Future Treatment (Ac)	Differential Runoff (cfs)
20MSD-0422	0.030	0.000	0.030	0.033
Current*	0.121	0.279	-0.158	-0.113
		Total	-0.128	-0.080

*THE CURRENT PROJECT HAS 0.039 AC OF PERVIOUS DISTURBANCE AND 0.082 AC OF IMPERVIOUS DISTURBANCE. THE PROPOSED BMP TREATS A PERVIOUS AREA OF 0.029 AC AND AN IMPERVIOUS AREA OF 0.250 AC, RESULTING IN THE VALUES SHOWN IN THE TABLE. REFER TO STORMWATER MANAGEMENT REPORT FOR ADDITIONAL DETAILS.

THIS SITE IS SUBJECT TO DETENTION AND CHANNEL PROTECTION.
ANY FUTURE LAND DISTURBANCE AND/OR INCREASE IN IMPERVIOUS AREA ON THIS SITE MAY REQUIRE ADDITIONAL STORM WATER MANAGEMENT PER MSD REGULATIONS IN PLACE AT THAT TIME (INCLUDING TOTAL LAND DISTURBANCE AND/OR IMPERVIOUSNESS ADDED ON THIS PLAN)

SANITARY SEWER NOTE:

THE EXISTING SANITARY FLOW IS ESTIMATED TO BE 26130 GAL/DAY. SANITARY LOADING WILL NOT INCREASE WITH THIS PROJECT.

EXISTING WATER AND SEWER CONNECTIONS ARE NOT PROPOSED TO BE MODIFIED WITH THIS PROJECT.

ST. LOUIS COUNTY BENCHMARK (NAVD 88)

A NAVD 88 ELEVATION WAS ESTABLISHED FOR CONTROL POINT [#102] (ELEVATION: 647.53) USING A TRIMBLE R8 ROVER, AND BASED ON THE MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION GLOBAL NAVIGATION SATELLITE REAL TIME NETWORK FOR CONTINUOUS OPERATING REFERENCE STATIONS. A CONVENTIONAL BENCHMARK LOOP WAS THEN RUN THROUGH THE REMAINING CONTROL POINTS AND USED TO SET TEMPORARY BENCHMARKS. FIELD WORK WAS PERFORMED DURING AUGUST, 2024.

REFERENCE BENCHMARK (NAVD 88 DATUM)

[13353] ST. LOUIS COUNTY BENCHMARK ELEVATION 617.21

CUT "U" ON THE TOP EAST EDGE OF THE ROUND CONCRETE BASE FOR A TRAFFIC SIGNAL MAST SITUATED SOUTHEAST OF THE INTERSECTION OF LADUE ROAD WITH BEACON HILL LANE FROM THE SOUTH AND WITH COEUR DE VILLE DRIVE FROM THE NORTH, HAVING TWO SIGNAL ARMS CONTROLLING TRAFFIC ALONG EASTBOUND LADUE ROAD AND ALONG SOUTHBOUND COEUR DE VILLE DRIVE; ROUGHLY 43 FEET EAST OF THE CENTERLINE OF BEACON HILL LANE, 57 FEET SOUTH OF THE CENTERLINE OF MEDIAN ISLAND IN LADUE ROAD, AND 9 FEET NORTHEAST OF THE NORTHERNMOST CORNER OF THE NORTHEASTERN BRICK PILLAR OF BEACON HILL SUBDIVISION MONUMENT.

PROJECT BENCHMARKS (NAVD 88 DATUM)

[TBM 1] ELEVATION: 647.51

A CUT "L" ON THE NORTHEAST CORNER OF CONCRETE WALL FOR STAIRWELL ON THE EAST SIDE OF THE NORTHEAST MIDDLE SCHOOL.

UTILITY CONTACTS

AMEREN MISSOURI
1132 LOCUST STREET
ST. LOUIS, MISSOURI 63101
314-878-5787

AT&T DISTRIBUTION
12930 OLIVE STREET ROAD
CREVE COEUR, MO 63141
314-878-5787

MISSOURI AMERICAN WATER COMPANY
727 CRAIG RD
ST. LOUIS, MO 63131
314-996-2432

SPECTRUM
941 CHARTER COMMONS DR
TOWN AND COUNTRY, MO 63017
314-878-5787

PARKWAY SCHOOL DISTRICT
455 N. WOODS MILL RD
CHESTERFIELD, MO 63017
314-415-8100

SPIRE
3950 FOREST PARK BLVD
ST. LOUIS, MO 63108
314-658-5417

METROPOLITAN ST. LOUIS SEWER DISTRICT
2350 MARKET ST
ST. LOUIS, MO 63103-2555
314-768-6200

REGULATORY JURISDICTIONS

CREVE COEUR FIRE PROTECTION DISTRICT
11221 OLIVE BOULEVARD
CREVE COEUR, MO 63141
314-432-5570

ST. LOUIS COUNTY DEPARTMENT OF PUBLIC WORKS
41 S. CENTRAL AVENUE, 6TH FLOOR
CLAYTON, MO 63105
314-615-5184

METROPOLITAN ST. LOUIS SEWER DISTRICT
2350 MARKET STREET
ST. LOUIS, MO 63103-2555
314-768-6200

CITY OF CREVE COEUR – PLANNING AND ZONING
300 N NEW BALLAS RD.
CREVE COEUR, MO 63141
314-872-2501

ST. LOUIS COUNTY GENERAL NOTES:

1. ALL WORK WITHIN ST. LOUIS COUNTY RIGHT-OF-WAY SHALL BE CONSTRUCTED TO COUNTY STANDARDS.
2. PROVIDE ADEQUATE OFF-STREET PARKING FOR CONSTRUCTION EMPLOYEES. PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVEWAY CONDITIONS.
3. ALL SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASH-DOWN STATION PRIOR TO LEAVING THE SITE SO THAT NO SEDIMENT IS TRACKED ONTO COUNTY ROADS.
4. PRIOR TO SPECIAL USE PERMIT ISSUANCE BY ST. LOUIS COUNTY, A SPECIAL CASH ESCROW OR A SPECIAL ESCROW SUPPORTED BY AN IRREVOCABLE LETTER OF CREDIT SHALL BE ESTABLISHED WITH ST. LOUIS COUNTY DEPARTMENT OF TRANSPORTATION TO GUARANTEE COMPLETION OF REQUIRED ROAD IMPROVEMENTS. ROAD IMPROVEMENTS SHALL BE COMPLETED PRIOR TO THE ISSUANCE OF OCCUPANCY PERMITS.
5. INTERIM STORM WATER DRAINAGE CONTROL IN THE FORM OF SILTATION CONTROL MEASURES SHALL BE PROVIDED.
6. THE DEVELOPER SHALL PROVIDE ADEQUATE STORM WATER SYSTEMS IN ACCORDANCE WITH ST. LOUIS COUNTY AND M.S.D. STANDARDS.
7. ALL DISTURBED EARTH AREAS WITHIN ST. LOUIS COUNTY RIGHT-OF-WAY SHALL BE SODDED.
8. ADDITIONAL SILTATION CONTROL MAY BE REQUIRED BY ST. LOUIS COUNTY DEPARTMENT OF TRANSPORTATION.
9. APPLICANT SHALL USE EXTREME CAUTION IN AREAS WHERE TRAFFIC SIGNAL FACILITIES ARE EXISTING. IN THE EVENT THE CONTRACTOR DAMAGES ANY TRAFFIC SIGNAL FACILITIES, REPAIRS SHALL BE MADE AT THE CONTRACTOR'S EXPENSE BY AN ELECTRICAL CONTRACTOR AS DIRECTED BY ST. LOUIS COUNTY.
10. CONTINUOUS PEDESTRIAN ACCESS SHALL BE PROVIDED DURING THE CONSTRUCTION PROCESS. PRIOR TO THE START OF CONSTRUCTION, ADEQUATE PEDESTRIAN ACCESS AROUND THE SITE SHALL BE PROVIDED AND VERIFIED. NO EXISTING SIDEWALK SHALL BE REMOVED WITHOUT PROVIDING ADEQUATE PEDESTRIAN FACILITIES AND ROUTES DURING CONSTRUCTION ACTIVITIES.
11. MAXIMUM LEGAL LENGTHS IN THE COUNTY ARE FORTY (40) FEET FOR ANY SINGLE UNIT TRUCK AND FIFTY-FIVE (55) FEET FOR ANY COMBINATION OF VEHICLES, INCLUDING THE LOAD. MAXIMUM LEGAL WIDTH IS EIGHT (8) FEET AND MAXIMUM HEIGHT IS THIRTEEN AND ONE-HALF (13½) FEET. LEGAL WEIGHT LIMITS IN THE COUNTY ARE THE SAME AS THOSE REQUIRED BY MISSOURI STATE LAWS, EXCEPT IN CASES WHEN THE COUNTY COUNCIL HAS ESTABLISHED ROADWAY LOAD LIMITS BY ORDINANCE OR WHEN BRIDGES ARE POSTED UNDER STATE REGULATIONS. ANY VEHICLES EXCEEDING THESE LIMITS SHALL REQUIRE A SPECIAL USE PERMIT FOR OVERWEIGHT AND/OR OVER-DIMENSION VEHICLES PRIOR TO DRIVING ON ST. LOUIS COUNTY ROADWAYS. CONTACT TONY BARNETT AT (314) 615-8515 FOR PERMITS.
12. ALL PROPOSED UTILITY RELATED WORK WITHIN COUNTY RIGHT-OF-WAY SHALL REQUIRE A SEPARATE SPECIAL USE PERMIT. CONTACT JAMES HAYES AT 314-615-5485 FOR FIBER, SANITARY SEWER AND WATER SERVICE LINES OR TONY BARNETT AT 314-615-8515 FOR ELECTRIC AND GAS.

LEGEND

CONTROL POINT	PROPOSED STORM / SANITARY MANHOLE
TBM TEMPORARY BENCHMARK	EXISTING STORM / SANITARY MANHOLE
DRAINAGE ARROW	EXISTING GRATE INLET
EXISTING TREE	PROPOSED GRATE INLET
EXISTING BUSH	PROPOSED CURB INLET
EXISTING SIGN	EXISTING DOUBLE CURB INLET
NEW SIGN	EXISTING AREA INLET
EDGE OF EXISTING PAVEMENT	PROPOSED DOWNSPOUT
EDGE OF NEW PAVEMENT	EXISTING UTILITY POLE
EXISTING CURB	EXISTING FIRE HYDRANT
NEW CURB	EXISTING WATER VALVE
EXISTING FENCE	EXISTING GAS VALVE
NEW FENCE	EXISTING GAS METER
NEW EROSION CONTROL	EXISTING 1' CONTOUR
LIMITS OF CONSTRUCTION	EXISTING 5' CONTOUR
EXISTING OVERHEAD ELECTRIC LINE	PROPOSED 1' CONTOUR
EXISTING UNDERGROUND TELEPHONE LINE	PROPOSED 5' CONTOUR
EXISTING UNDERGROUND ELECTRIC LINE	EXISTING SPOT ELEVATION
EXISTING GAS LINE	KEYED NOTE IDENTIFIER
EXISTING WATER LINE	COORDINATE IDENTIFIER
EXISTING STORM SEWER	PROPOSED SPOT ELEVATION
EXISTING SANITARY LINE	
PROPOSED STORM LINE	

ABBREVIATIONS

AI	AREA INLET	FL	FLOWLINE	PT	POINT OF TANGENCY
ASPH	ASPHALT	FOC	FACE OF CURB	PVMT	PAVEMENT
ATG	ADJUST TO GRADE	G	GUTTER	R	RADIUS
APPROX	APPROXIMATELY	GI	GRATE INLET	RCP	REINFORCED CONCRETE PIPE
BLDG	BUILDING	GM	GAS METER	ROW	RIGHT OF WAY
BM	BENCHMARK	GV	GAS VALVE	STM	STORM
BMP	BEST MANAGEMENT PRACTICE	HC	HANDICAPPED	T	TOP
BOC	BACK OF CURB	HDPE	HIGH DENSITY POLYETHYLENE	TBM	TEMPORARY BENCHMARK
CI	CURB INLET	IP	IRON PIPE	TBR	TO BE REMOVED
CL	CENTER LINE	IR	IRON ROD	TBREL	TO BE RELOCATED
CLR	CLEARANCE	LS	LIGHT STANDARD	TBR&R	TO BE REMOVED AND REPLACED
CO	CLEAN OUT	MAX	MAXIMUM	TC	TOP OF CURB
CONC	CONCRETE	ME	MATCH EXISTING	TP	TOP OF PAVEMENT
DCI	DOUBLE CURB INLET	MH	MANHOLE	TR	TO REMAIN
ELEV	ELEVATION	MIN	MINIMUM	TYP	TYPICAL
EOA	EDGE OF ASPHALT	NTS	NOT TO SCALE	UIP	USE IN PLACE
EOC	EDGE OF CONCRETE	PB	ELECTRIC PULLBOX	UP	UTILITY POLE
ESMT	EASEMENT	P.B.	PLAT BOOK	VCP	VITRIFIED CLAY PIPE
EX	EXISTING	PC	POINT OF CURVATURE	WM	WATER METER
FG	FINISH GRADE	PCC	POINT OF COMPOUND CURVATURE	WV	WATER VALVE
FH	FIRE HYDRANT	PGS.	PAGES		

25PRJ-00000 25MSD-00025 BASEMAP 180

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION ALTERED BY FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 1/22/2025 4:05 PM
FILE PATH: C:\Users\MS\MS1901\00\CADDocs\WSP USA projects (AMER)\ST L\00-25902493 - Parkway 2022 Bond - P23\Project Files\F - NEM - 2024\Civil\MS2401B\CAD\00000001C.dwg

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-7741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
0	ISSUE FOR BID	01.24.25

PARKWAY SCHOOL DISTRICT

NORTHEAST MIDDLE SCHOOL

181 COEUR DE VILLE DRIVE
CREVE COEUR, MO 63141

VOLUME 1 - SITE IMPROVEMENTS

STATE OF MISSOURI
MICHAEL SISSAS
NUMBER PE-2012009101
PROFESSIONAL ENGINEER
1/24/25

PROFESSIONAL SEAL

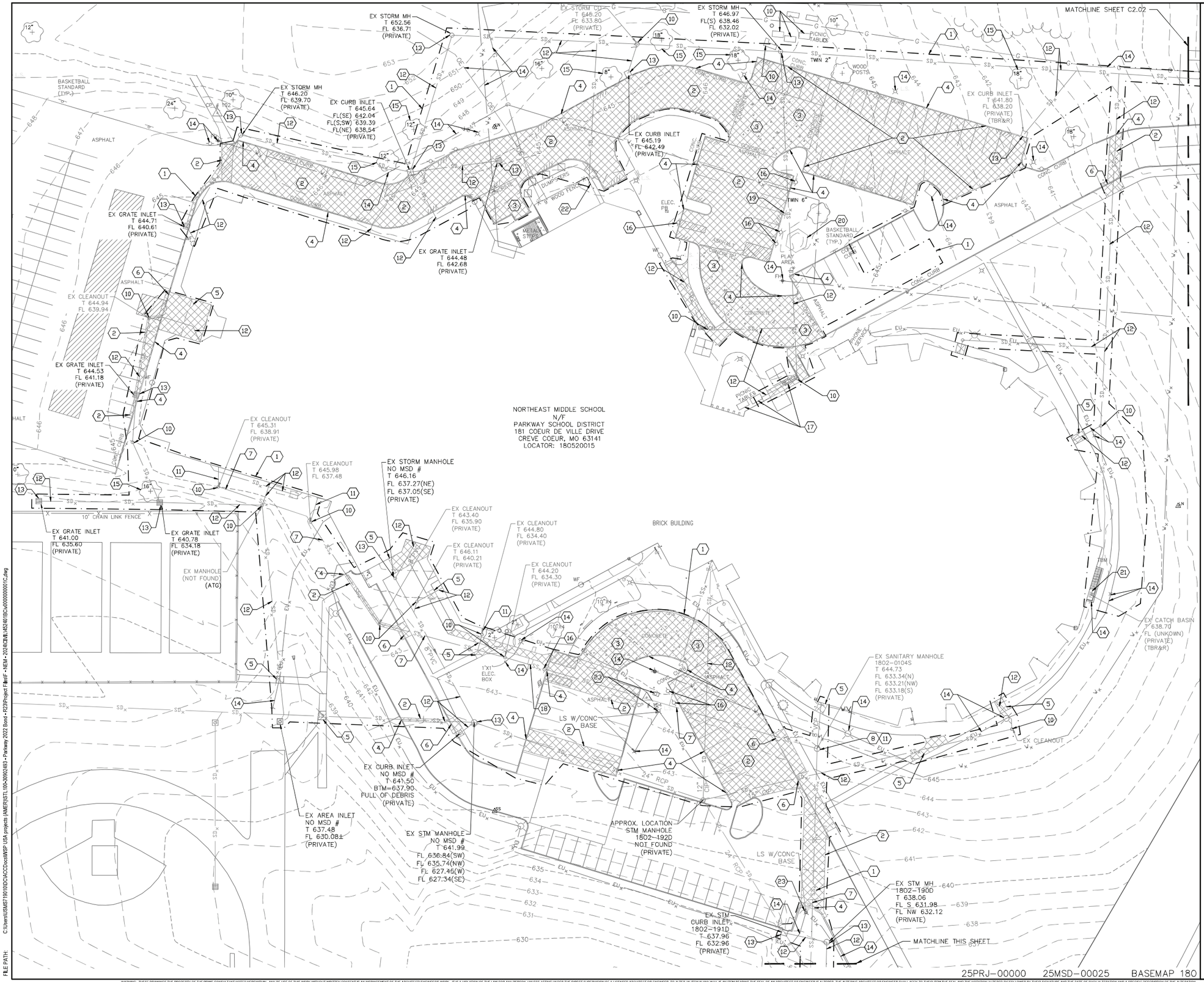
SHEET NAME
CIVIL GENERAL NOTES

DESIGNED BY: MS
DRAWN BY: ST
CHECKED BY: DH
DATE: 24 JANUARY 2025
SCALE:

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 452401B
WSP PROJECT NUMBER: 30902493.6999

SHEET NUMBER **C1.01**



GENERAL NOTES:

1. ALL EXISTING IMPROVEMENTS TO BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
2. ANY DAMAGED VEGETATION OR IMPROVEMENTS OUTSIDE OF CONSTRUCTION LIMITS SHALL BE REPLACED IN LIKE KIND AT THE CONTRACTOR'S EXPENSE.
3. LOCATIONS OF ALL EXISTING UTILITIES ARE SHOWN PER THE MOST RECENT SURVEYS AND AVAILABLE RECORD DRAWINGS. ALL SIZES, LOCATIONS, AND DEPTHS SHALL BE FIELD VERIFIED AND SHALL BE CONSIDERED APPROXIMATE.

KEYED NOTES:

(#)

1. LIMITS OF CONSTRUCTION.
2. EXISTING ASPHALT PAVEMENT TO BE SAWCUT AS NECESSARY AND REMOVED AND REPLACED.
3. EXISTING CONCRETE PAVEMENT TO BE REMOVED TO NEAREST JOINT AND REPLACED.
4. EXISTING CONCRETE CURB TO BE SAWCUT AND REMOVED AND REPLACED.
5. EXISTING CONCRETE WALK TO BE REMOVED TO NEAREST JOINT AND REPLACED.
6. EXISTING CONCRETE WALK WITH INTEGRAL CURB TO BE REMOVED AND REPLACED.
7. EXISTING SANITARY SEWER TO BE REMOVED AND REPLACED.
8. EXISTING SANITARY SEWER STRUCTURE TO BE INSPECTED AND REMOVED AND REPLACED IF NECESSARY.
9. EXISTING STRUCTURE TO BE EVALUATED BY MSD INSPECTOR AND REPLACED IF NECESSARY.
10. EXISTING CLEANOUT TO BE REMOVED.
11. EXISTING LATERAL TO BUILDING TO BE REMOVED AND REPLACED.
12. EXISTING STORM PIPE TO BE REMOVED AND REPLACED.
13. EXISTING STORM STRUCTURE TO BE INSPECTED AND REMOVED AND REPLACED IF NECESSARY.
14. EXISTING IMPROVEMENTS AND UTILITIES TO BE PROTECTED DURING CONSTRUCTION. LOCATION SHOULD BE CONSIDERED APPROXIMATE AND SHALL BE FIELD VERIFIED.
15. EXISTING TREE TO BE REMOVED.
16. EXISTING SIGN TO BE REMOVED.
17. EXISTING BENCHES AND TABLES TO BE REMOVED AND REPLACED.
18. EXISTING CONCRETE SWALE TO BE REMOVED AND REPLACED AS NECESSARY.
19. EXISTING BASKETBALL GOAL TO BE REMOVED AND REPLACED.
20. EXISTING PLAY EQUIPMENT TO BE REMOVED AND REPLACED.
21. EXISTING STORM PIPE TO BE LEFT IN PLACE AND PLUGGED AT FLOOR DRAIN AT UPSTREAM END ONLY.
22. EXISTING FENCE TO BE REMOVED AS NECESSARY DURING CONSTRUCTION AND REPLACED.
23. EXISTING IMPROVEMENTS TO BE REMOVED ANDREPLACED AS NECESSARY.

LEGEND

DENOTES PAVEMENT TO BE REMOVED

N

0 30' 60'

1"=30'

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314-421-7741
wsp.com

WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
0	ISSUE FOR BID	01.24.25

PARKWAY SCHOOL DISTRICT

NORTHEAST MIDDLE SCHOOL

181 COEUR DE VILLE DRIVE
CREVE COEUR, MO 63141

VOLUME 1 - SITE IMPROVEMENTS

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER
1/24/25

PROFESSIONAL SEAL

SHEET NAME
DEMOLITION PLAN

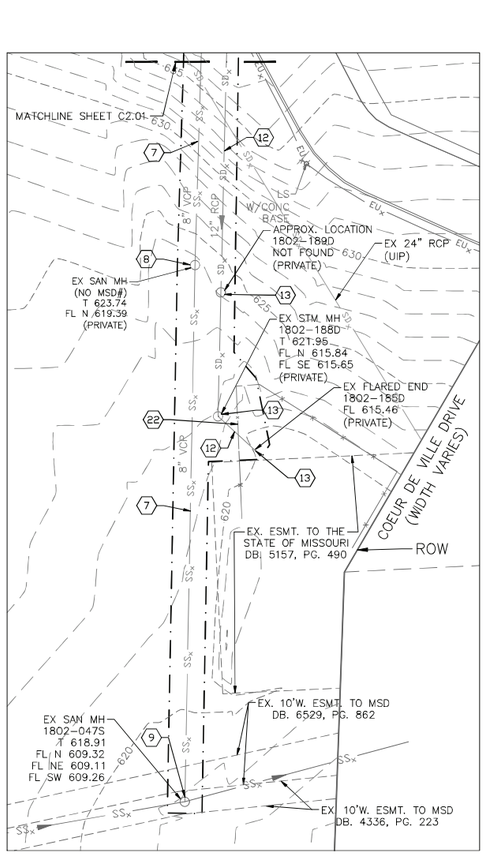
DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	DH
DATE:	24 JANUARY 2025
SCALE:	

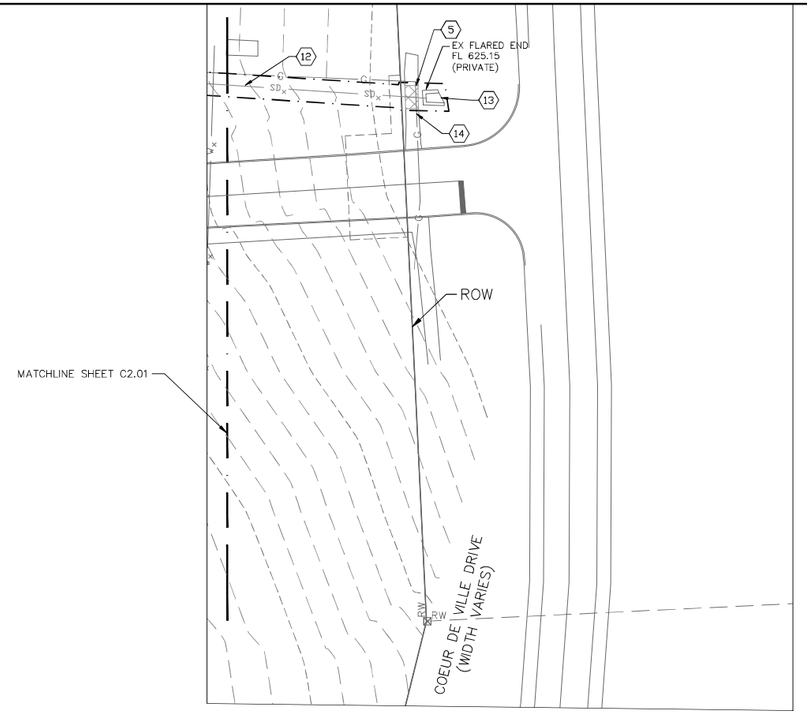
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 452401B
WSP PROJECT NUMBER: 30902493,6999
SHEET NUMBER **C2.01**

LAST EDITED: 1/22/2025 4:05 PM
FILE PATH: C:\Users\MSS7190\ID\CACDocs\WSP USA projects (AMER)\ST_L\30-30902493 - Parkway 2022 Bond - R23\Project Files\F - NEM - 2024\CIVIL\452401B\civil000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTS ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION ALTERED BY FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.





GENERAL NOTES:

1. ALL EXISTING IMPROVEMENTS TO BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
2. ANY DAMAGED VEGETATION OR IMPROVEMENTS OUTSIDE OF CONSTRUCTION LIMITS SHALL BE REPLACED IN LIKE KIND AT THE CONTRACTOR'S EXPENSE.

KEYED NOTES:

(#)

1. LIMITS OF CONSTRUCTION.
2. EXISTING ASPHALT PAVEMENT TO BE SAWCUT AS NECESSARY AND REMOVED AND REPLACED.
3. EXISTING CONCRETE PAVEMENT TO BE REMOVED TO NEAREST JOINT AND REPLACED.
4. EXISTING CONCRETE CURB TO BE SAWCUT AND REMOVED AND REPLACED.
5. EXISTING CONCRETE WALK TO BE REMOVED TO NEAREST JOINT AND REPLACED.
6. EXISTING CONCRETE WALK WITH INTEGRAL CURB TO BE REMOVED AND REPLACED.
7. EXISTING SANITARY SEWER TO BE REMOVED AND REPLACED.
8. EXISTING SANITARY SEWER STRUCTURE TO BE INSPECTED AND REMOVED AND REPLACED IF NECESSARY.
9. EXISTING STRUCTURE TO BE EVALUATED BY MSD INSPECTOR AND REPLACED IF NECESSARY.
10. EXISTING CLEANOUT TO BE REMOVED.
11. EXISTING LATERAL TO BUILDING TO BE REMOVED AND REPLACED.
12. EXISTING STORM PIPE TO BE REMOVED AND REPLACED.
13. EXISTING STORM STRUCTURE TO BE INSPECTED AND REMOVED AND REPLACED IF NECESSARY.
14. EXISTING IMPROVEMENTS AND UTILITIES TO BE PROTECTED DURING CONSTRUCTION, LOCATION SHOULD BE CONSIDERED APPROXIMATE AND SHALL BE FIELD VERIFIED.
15. EXISTING TREE TO BE REMOVED.
16. EXISTING SIGN TO BE REMOVED AND REPLACED.
17. EXISTING BENCHES AND TABLES TO BE REMOVED AND REPLACED.
18. EXISTING CONCRETE SWALE TO BE REMOVED AND REPLACED AS NECESSARY.
19. EXISTING BASKETBALL GOAL TO BE REMOVED AND REPLACED.
20. EXISTING PLAY EQUIPMENT TO BE REMOVED AND REPLACED.
21. EXISTING STORM PIPE TO BE LEFT IN PLACE AND PLUGGED AT FLOOR DRAIN AT UPSTREAM END ONLY.
22. EXISTING FENCE TO BE REMOVED AS NECESSARY DURING CONSTRUCTION AND REPLACED.
23. EXISTING IMPROVEMENTS TO BE REMOVED ANDREPLACED AS NECESSARY.

LEGEND

DENOTES PAVEMENT TO BE REMOVED

N

0 30' 60'

1"=30'

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102

Tel: +1 314 206-4444
Fax: +1 314-421-1741
wsp.com

WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
0	ISSUE FOR BID	01.24.25

PARKWAY SCHOOL DISTRICT

NORTHEAST MIDDLE SCHOOL

181 COEUR DE VILLE DRIVE
CREVE COEUR, MO 63141

VOLUME 1 - SITE IMPROVEMENTS

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER

1/24/25

PROFESSIONAL SEAL

SHEET NAME
DEMOLITION PLAN

DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	DH
DATE:	24 JANUARY 2025
SCALE:	

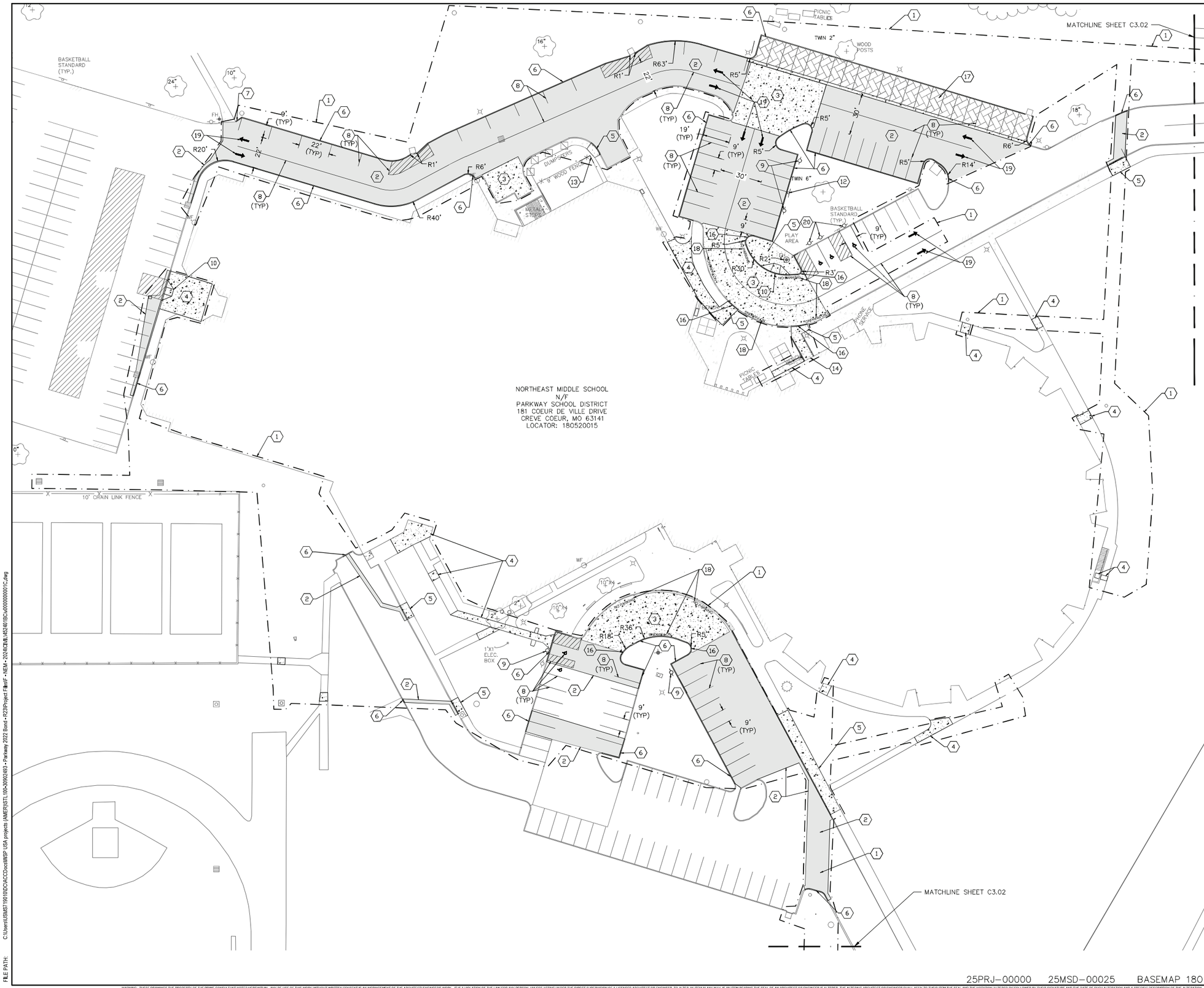
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 452401B
WSP PROJECT NUMBER: 30902493.6999
SHEET NUMBER **C2.02**

25PRJ-00000 25MSD-00025 BASEMAP 180

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 1/22/2025 4:05 PM
FILE PATH: C:\Users\MSS0719\ID\CACCDocs\WSP USA projects (AMER)\ST L\00-30902493 - Parkway 2022 Bond - #239\Project Files\F - MEM - 2024\CM\LMS2401BC\dv0000000001C.dwg



GENERAL NOTES:

1. ALL EXISTING IMPROVEMENTS TO BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
2. ANY DAMAGED VEGETATION OR IMPROVEMENTS OUTSIDE OF CONSTRUCTION LIMITS SHALL BE REPLACED IN LIKE KIND AT THE CONTRACTOR'S EXPENSE.

KEYED NOTES:

KEYED NOTES (#)

1. LIMITS OF CONSTRUCTION.
2. NEW ASPHALT PAVEMENT REFER TO DETAIL ON SHT. C5.01.
3. NEW CONCRETE PAVEMENT. REFER TO DETAIL ON SHT. C5.01.
4. NEW CONCRETE WALK. REFER TO DETAIL ON SHT. C5.01.
5. NEW CONCRETE WALK WITH INTEGRAL CURB. REFER TO DETAIL ON SHT. C5.01.
6. NEW VERTICAL CONCRETE CURB. REFER TO DETAIL ON SHT. C5.01.
7. NEW CURB TRANSITION. REFER TO DETAIL ON SHT. C5.01.
8. NEW PAVEMENT MARKINGS. REFER TO DETAILS ON SHT. C5.01.
9. REPLACE SIGN AS EXISTING. REFER TO DETAIL ON SHT. C5.01.
10. NEW ADA CURB RAMP. REFER TO DETAIL ON SHT. C5.01.
11. REPLACE BENCHES AND TABLES AS EXISTING.
12. REPLACE BASKETBALL GOAL AS EXISTING.
13. REPLACE FENCE AS EXISTING. REFER TO DETAILS FOR WOOD AND CHAIN LINK FENCES ON SHT C5.01.
14. NEW CONCRETE RAMP TO BUILDING. REFER TO DETAIL ON SHT. C5.01.
15. NEW PAINTED DOUBLE YELLOW CENTER STRIPE. REFER TO DETAIL ON SHT. C5.01.
16. CONTRACTOR TO PAINT CURB YELLOW TO MATCH EXISTING.
17. NEW PERMEABLE PAVERS. REFER TO BMP PLAN ON SHT C4.05.
18. NEW PAINTED LETTERING "NO PARKING". REFER TO DETAIL ON SHT. C5.01.
19. NEW PAINTED DIRECTIONAL ARROW. REFER TO DETAIL ON SHT. C5.01.
20. NEW LOCATIONS FOR ADA PARKING SIGNS.

LEGEND

- DENOTES NEW ASPHALT PAVEMENT
- DENOTES NEW CONCRETE PAVEMENT
- DENOTES NEW PERMEABLE PAVERS

N

0 30' 60'
1"=30'

25PRJ-00000 25MSD-00025 BASEMAP 180

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTI ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 1/22/2025 4:05 PM
FILE PATH: C:\Users\USMS1901\DC\ACCDocs\WSP USA projects (AMER)\ST L 10\30902493 - Parkway 2022 Bond - R2\Project Files\F - NEM - 2024\Dft\NEM_452401B_C3_000000010C.dwg

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314-206-4444
Fax: +1 314-421-7741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
0	ISSUE FOR BID	01.24.25

PARKWAY SCHOOL DISTRICT

NORTHEAST MIDDLE SCHOOL

181 COEUR DE VILLE DRIVE
CREVE COEUR, MO 63141

VOLUME 1 - SITE IMPROVEMENTS

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2012009101
PROFESSIONAL ENGINEER
1/24/25

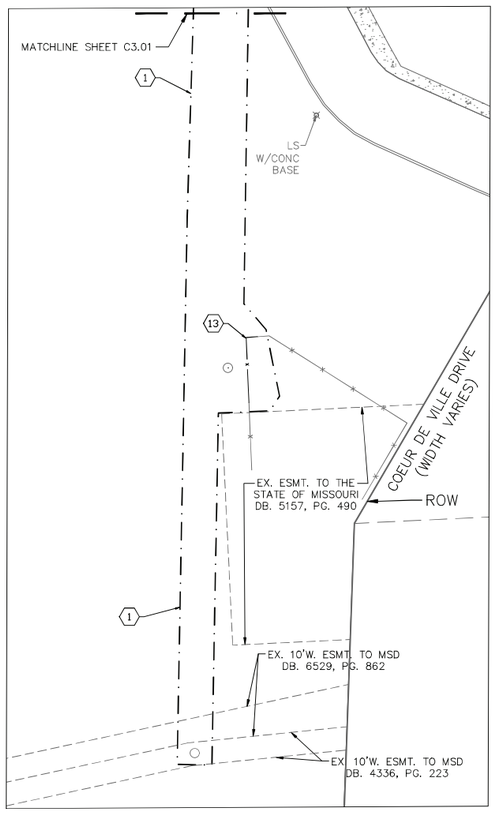
PROFESSIONAL SEAL

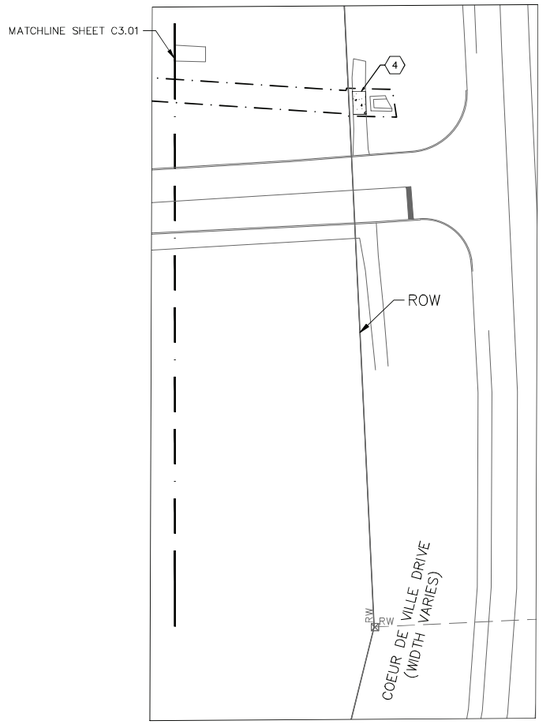
SHEET NAME
SITE PLAN

DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	DH
DATE:	24 JANUARY 2025
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 452401B
WSP PROJECT NUMBER: 30902493,6999
SHEET NUMBER **C3.01**





GENERAL NOTES:

1. ALL EXISTING IMPROVEMENTS TO BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
2. ANY DAMAGED VEGETATION OR IMPROVEMENTS OUTSIDE OF CONSTRUCTION LIMITS SHALL BE REPLACED IN LIKE KIND AT THE CONTRACTOR'S EXPENSE.

KEYED NOTES:

KEYED NOTES (#)

1. LIMITS OF CONSTRUCTION.
2. NEW ASPHALT PAVEMENT REFER TO DETAIL ON SHT. C5.01.
3. NEW CONCRETE PAVEMENT. REFER TO DETAIL ON SHT. C5.01.
4. NEW CONCRETE WALK. REFER TO DETAIL ON SHT. C5.01.
5. NEW CONCRETE WALK WITH INTEGRAL CURB. REFER TO DETAIL ON SHT. C5.01.
6. NEW VERTICAL CONCRETE CURB. REFER TO DETAIL ON SHT. C5.01.
7. NEW CURB TRANSITION. REFER TO DETAIL ON SHT. C5.01.
8. NEW PAVEMENT MARKINGS. REFER TO DETAILS ON SHT. C5.01.
9. REPLACE SIGN AS EXISTING. REFER TO DETAIL ON SHT. C5.01.
10. NEW ADA CURB RAMP. REFER TO DETAIL ON SHT. C5.01.
11. REPLACE BENCHES AND TABLES AS EXISTING.
12. REPLACE BASKETBALL GOAL AS EXISTING.
13. REPLACE FENCE AS EXISTING. REFER TO DETAILS FOR WOOD AND CHAIN LINK FENCES ON SHT C5.01.
14. NEW CONCRETE RAMP TO BUILDING. REFER TO DETAIL ON SHT. C5.01.
15. NEW PAINTED DOUBLE YELLOW CENTER STRIPE. REFER TO DETAIL ON SHT. C5.01.
16. CONTRACTOR TO PAINT CURB YELLOW TO MATCH EXISTING.
17. NEW PERMEABLE PAVERS. REFER TO BMP PLAN ON SHT C4.05.
18. NEW PAINTED LETTERING "NO PARKING". REFER TO DETAIL ON SHT. C5.01.
19. NEW PAINTED DIRECTIONAL ARROW. REFER TO DETAIL ON SHT. C5.01.
20. NEW LOCATIONS FOR ADA PARKING SIGNS.

LEGEND

DENOTES NEW CONCRETE PAVEMENT

N

0 30' 60'
1"=30'

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314-421-7741
wsp.com

WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
0	ISSUE FOR BID	01.24.25

PARKWAY SCHOOL DISTRICT

NORTHEAST MIDDLE SCHOOL

181 COEUR DE VILLE DRIVE
CREVE COEUR, MO 63141

VOLUME 1 - SITE IMPROVEMENTS

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER
PE-2012009101
PROFESSIONAL ENGINEER
1/24/25

PROFESSIONAL SEAL

SHEET NAME
SITE PLAN

DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	DH
DATE:	24 JANUARY 2025
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 452401B
WSP PROJECT NUMBER: 30902493,6999
SHEET NUMBER **C3.02**

25PRJ-00000 25MSD-00025 BASEMAP 180

LAST EDITED: 1/22/2025 4:05 PM
FILE PATH: C:\Users\ISSMST190100\DOCACC\Docs\WSP USA projects (AMER)\STL\30902493 - Parkway 2022 Bond - R23\Project Files\F - NEM - 2024\CIVIL\452401B\c3v00000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



GENERAL NOTES:

1. ALL EXISTING IMPROVEMENTS TO BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
2. ANY DAMAGED VEGETATION OR IMPROVEMENTS OUTSIDE OF CONSTRUCTION LIMITS SHALL BE REPLACED IN LIKE KIND AT THE CONTRACTOR'S EXPENSE.

KEYED NOTES:

KEYED NOTES (#)

1. LIMITS OF CONSTRUCTION.
2. EROSION CONTROL - SILT FENCE/FILTER ROLL. REFER TO DETAIL ON SHT. C5.02.
3. EROSION CONTROL - INLET PROTECTION. REFER TO DETAIL ON SHT. C5.02.

GRADING QUANTITIES

CUT	20 CY
FILL	2 CY
TOTAL	18 CY CUT

0 30' 60'
1"=30'

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314-206-4444
Fax: +1 314-421-7741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
0	ISSUE FOR BID	01.24.25

PARKWAY SCHOOL DISTRICT

NORTHEAST MIDDLE SCHOOL

181 COEUR DE VILLE DRIVE
CREVE COEUR, MO 63141

VOLUME 1 - SITE IMPROVEMENTS

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER
1/24/25

PROFESSIONAL SEAL

SHEET NAME
GRADING PLAN

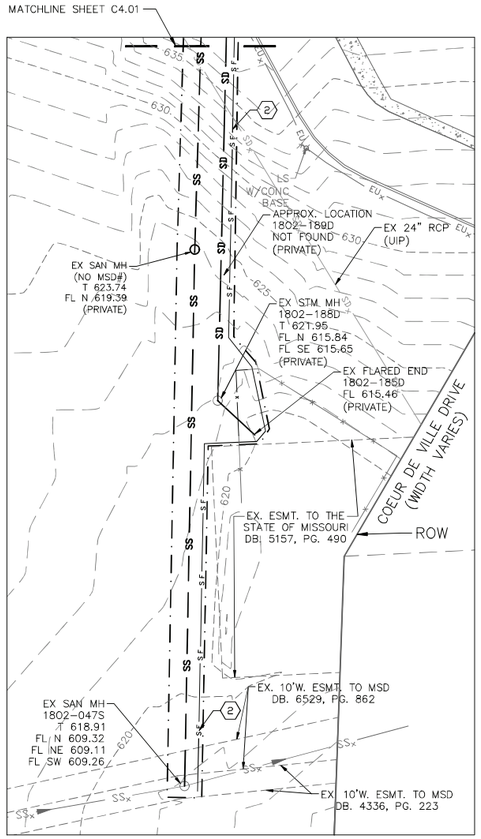
DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	DH
DATE:	24 JANUARY 2025
SCALE:	

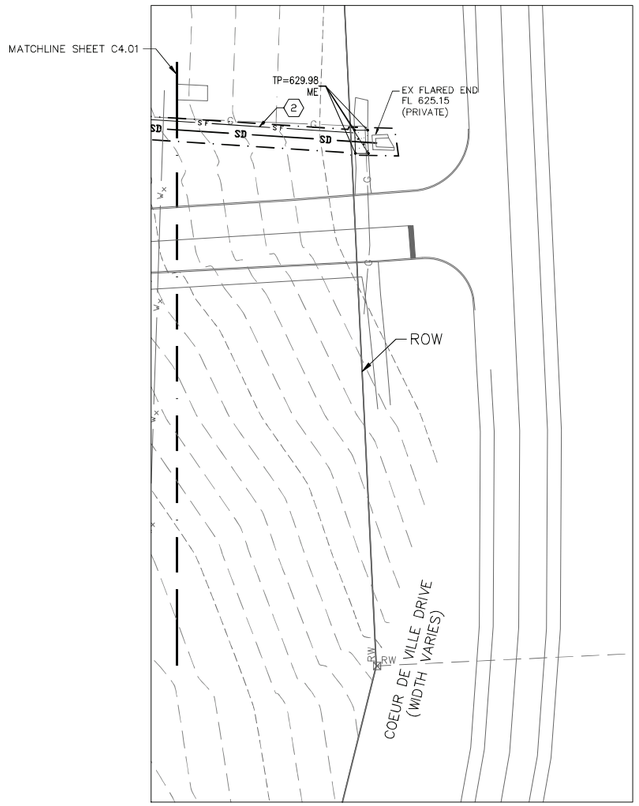
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 452401B
WSP PROJECT NUMBER: 30902493.6999
SHEET NUMBER **C4.01**

LAST EDITED: 1/22/2025 4:05 PM
FILE PATH: C:\Users\USMSTI19100DC\ACCDocs\WSP USA projects (AMER)\STL\100\30902493 - Parkway 2022 Bond - R23\Project Files\F - NEM - 2024\CIVIL\452401B\civil\00000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTS ENGINEERS WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.





GENERAL NOTES:

1. ALL EXISTING IMPROVEMENTS TO BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
2. ANY DAMAGED VEGETATION OR IMPROVEMENTS OUTSIDE OF CONSTRUCTION LIMITS SHALL BE REPLACED IN LIKE KIND AT THE CONTRACTOR'S EXPENSE.

KEYED NOTES:

KEYED NOTES (#)

1. LIMITS OF CONSTRUCTION.
2. EROSION CONTROL - SILT FENCE/FILTER ROLL. REFER TO DETAIL ON SHT. C5.02.
3. EROSION CONTROL - INLET PROTECTION. REFER TO DETAIL ON SHT. C5.02.

N

0 30' 60'

1"=30'

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-7741
wsp.com

WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
0	ISSUE FOR BID	01.24.25

PARKWAY SCHOOL DISTRICT

NORTHEAST MIDDLE SCHOOL

181 COEUR DE VILLE DRIVE
CREVE COEUR, MO 63141

VOLUME 1 - SITE IMPROVEMENTS

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER

1/24/25

PROFESSIONAL SEAL

SHEET NAME
GRADING PLAN

DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	DH
DATE:	24 JANUARY 2025
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

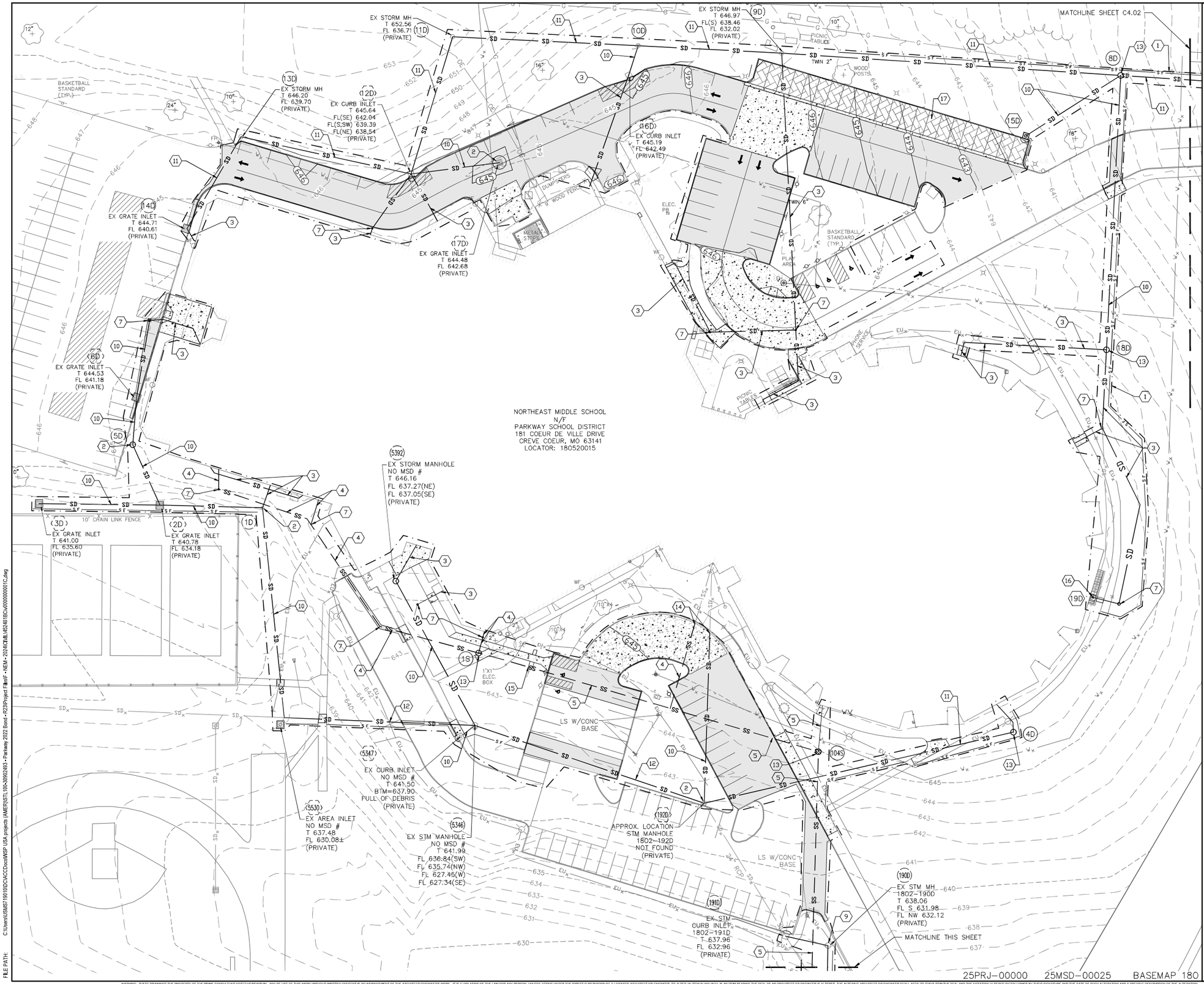
CLIENT PROJECT NUMBER: 452401B
WSP PROJECT NUMBER: 30902493,6999

SHEET NUMBER **C4.02**

25PRJ-00000 25MSD-00025 BASEMAP 180

LAST EDITED: 1/22/2025 4:05 PM
FILE PATH: C:\Users\MS1911\DC\ACCDocs\WSP USA projects (AMER)\ST L (10)-30902493 - Parkway 2022 Bond - P23\Project Files\F - NEM - 2024\CIVIL\452401B\c4\000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTS/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



GENERAL NOTES:

1. ALL EXISTING IMPROVEMENTS TO BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
2. ANY DAMAGED VEGETATION OR IMPROVEMENTS OUTSIDE OF CONSTRUCTION LIMITS SHALL BE REPLACED IN LIKE KIND AT THE CONTRACTOR'S EXPENSE.

KEYED NOTES:

KEYED NOTES (#)

1. LIMITS OF CONSTRUCTION.
2. ADJUST TO GRADE AS NECESSARY.
3. NEW 6" PVC STORM SEWER PIPE AT 2% MINIMUM SLOPE. PIPE BEDDING CLASS "C". REFER TO MSD STANDARD DETAIL ON SHT. C5.02.
4. NEW 6" PVC SANITARY SEWER PIPE AT 2% MINIMUM SLOPE. PIPE BEDDING CLASS "C". REFER TO MSD STANDARD DETAIL ON SHT. C5.02.
5. NEW 8" PVC SANITARY SEWER PIPE. PIPE BEDDING CLASS "C". REFER TO MSD STANDARD DETAIL ON SHT. C5.01.
6. INSPECT EXISTING SANITARY STRUCTURE. NEW PRECAST CONCRETE MANHOLE TO BE INSTALLED AS NECESSARY. REFER TO MSD STANDARD DETAIL ON SHT. C5.02.
7. NEW 6" PVC CLEANOUT. REFER TO DETAIL ON SHT. C5.01.
8. CONNECT NEW 8" PVC TO EXISTING MANHOLE. MANHOLE TO BE REPLACED AT THE DISCRETION OF THE MSD INSPECTOR.
9. INSPECT EXISTING STORM STRUCTURE. NEW PRECAST CONCRETE STRUCTURE TO BE INSTALLED AS NECESSARY. REFER TO DETAILS ON SHT. C5.02.
10. NEW 12" RCP STORM PIPE. PIPE BEDDING CLASS "C". REFER TO MSD STANDARD DETAIL ON SHT. C5.02.
11. NEW 15" RCP STORM PIPE. PIPE BEDDING CLASS "C". REFER TO MSD STANDARD DETAIL ON SHT. C5.02.
12. NEW 24" RCP STORM PIPE. PIPE BEDDING CLASS "C". REFER TO MSD STANDARD DETAIL ON SHT. C5.02.
13. NEW PRECAST CONCRETE MANHOLE. REFER TO DETAIL ON SHT. C5.02.
14. INSPECT EXISTING LATERAL TO BUILDING. REPAIR AS NECESSARY.
15. NEW CONCRETE SWALE WITH 4" PVC PIPES UNDER SIDEWALK TO MATCH EXISTING.
16. NEW NDS 6" ROUND "SPEE-D" CATCH BASIN WITH GRATE TOP.
17. NEW PERMEABLE INTERLOCKING CONCRETE PAVEMENT. REFER TO SHT. C4.05 FOR DETAILS.

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314-206-4444
Fax: +1 314-421-7741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
0	ISSUE FOR BID	01.24.25

PARKWAY SCHOOL DISTRICT

NORTHEAST MIDDLE SCHOOL

181 COEUR DE VILLE DRIVE
CREVE COEUR, MO 63141

VOLUME 1 - SITE IMPROVEMENTS

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER
1/24/25

PROFESSIONAL SEAL

SHEET NAME
UTILITY PLAN

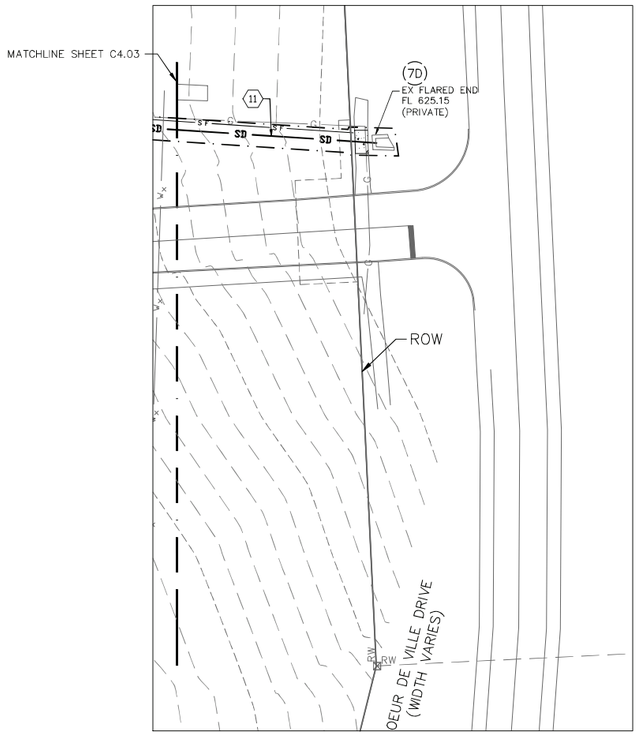
DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	DH
DATE:	24 JANUARY 2025
SCALE:	

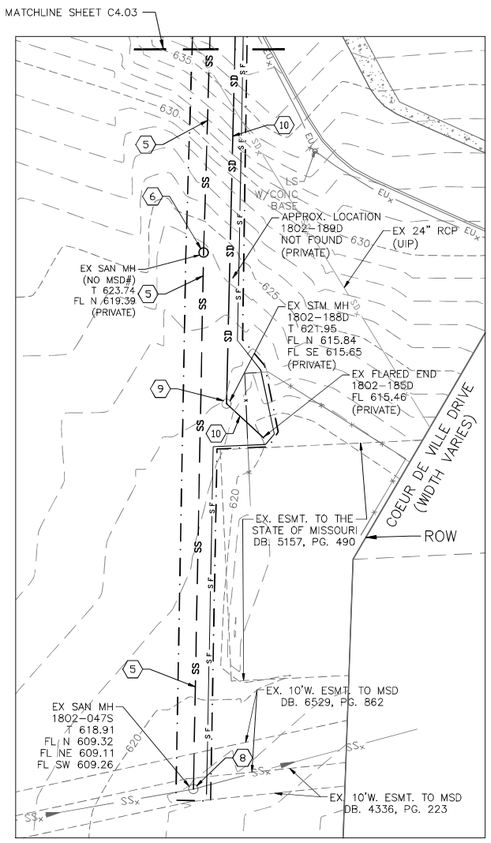
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 452401B
WSP PROJECT NUMBER: 30902493,6999
SHEET NUMBER **C4.03**

LAST EDITED: 1/22/2025 4:05 PM
FILE PATH: C:\Users\ILSMS2719\10\DC\ACCDocs\WSP USA projects (AMER)\ST\L100-30902493 - Parkway 2022 Bond - R23\Project Files\F - NEM - 2024\DWL\452401BC\v0\000000010.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTS ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.





GENERAL NOTES:

1. ALL EXISTING IMPROVEMENTS TO BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
2. ANY DAMAGED VEGETATION OR IMPROVEMENTS OUTSIDE OF CONSTRUCTION LIMITS SHALL BE REPLACED IN LIKE KIND AT THE CONTRACTOR'S EXPENSE.

KEYED NOTES:

KEYED NOTES (#)

1. LIMITS OF CONSTRUCTION.
2. ADJUST TO GRADE AS NECESSARY.
3. NEW 6" PVC STORM SEWER PIPE AT 2% MINIMUM SLOPE. PIPE BEDDING CLASS "C". REFER TO MSD STANDARD DETAIL ON SHT. C5.02.
4. NEW 6" PVC SANITARY SEWER PIPE AT 2% MINIMUM SLOPE. PIPE BEDDING CLASS "C". REFER TO MSD STANDARD DETAIL ON SHT. C5.02.
5. NEW 8" PVC SANITARY SEWER PIPE. PIPE BEDDING CLASS "C". REFER TO MSD STANDARD DETAIL ON SHT. C5.01.
6. INSPECT EXISTING SANITARY STRUCTURE. NEW PRECAST CONCRETE MANHOLE TO BE INSTALLED AS NECESSARY. REFER TO MSD STANDARD DETAIL ON SHT. C5.02.
7. NEW 6" PVC CLEANOUT. REFER TO DETAIL ON SHT. C5.01.
8. CONNECT NEW 8" PVC TO EXISTING MANHOLE. MANHOLE TO BE REPLACED AT THE DISCRETION OF THE MSD INSPECTOR.
9. INSPECT EXISTING STORM STRUCTURE. NEW PRECAST CONCRETE STRUCTURE TO BE INSTALLED AS NECESSARY. REFER TO DETAILS ON SHT. C5.02.
10. NEW 12" RCP STORM PIPE. PIPE BEDDING CLASS "C". REFER TO MSD STANDARD DETAIL ON SHT. C5.02.
11. NEW 15" RCP STORM PIPE. PIPE BEDDING CLASS "C". REFER TO MSD STANDARD DETAIL ON SHT. C5.02.
12. NEW 24" RCP STORM PIPE. PIPE BEDDING CLASS "C". REFER TO MSD STANDARD DETAIL ON SHT. C5.02.
13. NEW PRECAST CONCRETE MANHOLE. REFER TO DETAIL ON SHT. C5.02.
14. INSPECT EXISTING LATERAL TO BUILDING. REPAIR AS NECESSARY.
15. NEW CONCRETE SWALE WITH 4" PVC PIPES UNDER SIDEWALK TO MATCH EXISTING.
16. NEW NDS 6" ROUND "SPEE-D" CATCH BASIN WITH GRATE TOP.
17. NEW PERMEABLE INTERLOCKING CONCRETE PAVEMENT. REFER TO SHT. C4.05 FOR DETAILS.

N

0 30' 60'
1"=30'

25PRJ-00000 25MSD-00025 BASEMAP 180

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTS ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 1/22/2025 4:05 PM
FILE PATH: C:\Users\MSM5190\DOCS\ACCDocs\WSP USA projects (AMER\NST\110-30902493 - Parkway 2022 Bond - R2\Project Files\F - NEM - 2024\Dgn\MJ452401B\civil\000000001C.dwg

PARKWAY

SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-7741
wsp.com

WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
0	ISSUE FOR BID	01.24.25

PARKWAY SCHOOL DISTRICT

NORTHEAST MIDDLE SCHOOL

181 COEUR DE VILLE DRIVE
CREVE COEUR, MO 63141

VOLUME 1 - SITE IMPROVEMENTS

STATE OF MISSOURI
MICHAEL SISTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER
1/24/25

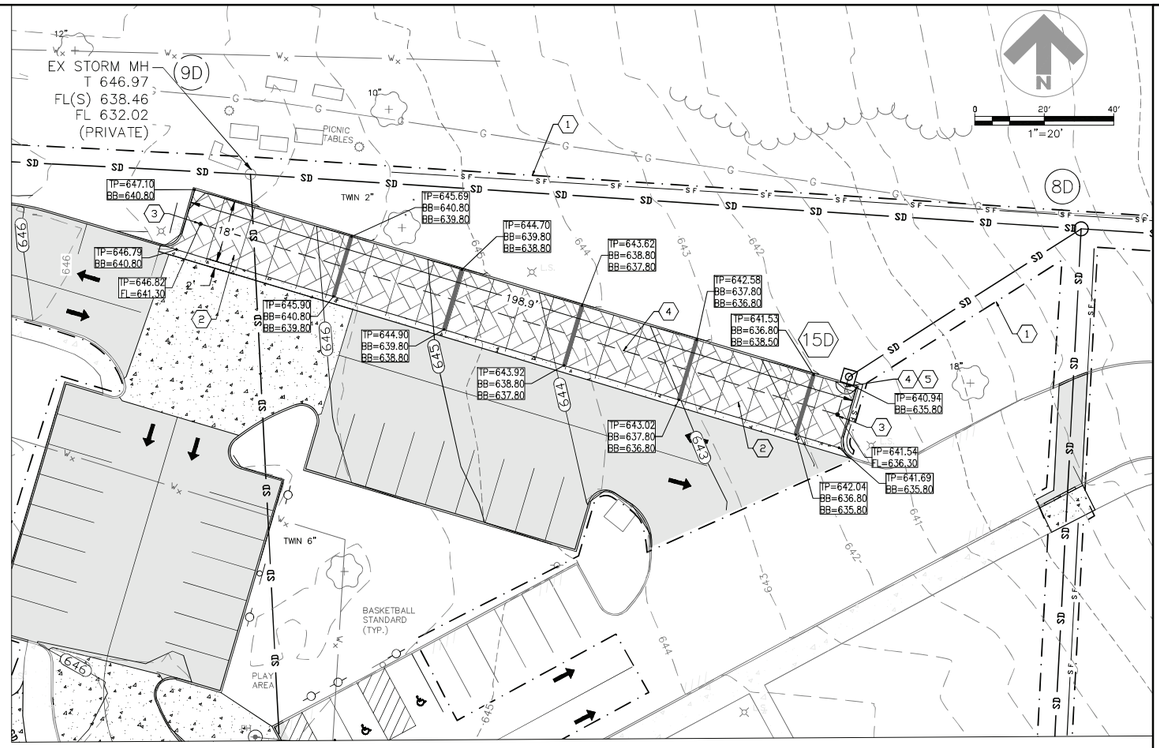
PROFESSIONAL SEAL

SHEET NAME
UTILITY PLAN

DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	DH
DATE:	24 JANUARY 2025
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 452401B
WSP PROJECT NUMBER: 30902493,6999
SHEET NUMBER **C4.04**



GENERAL NOTES:

1. ALL EXISTING IMPROVEMENTS TO BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
2. ANY DAMAGED VEGETATION OR IMPROVEMENTS OUTSIDE OF CONSTRUCTION LIMITS SHALL BE REPLACED IN LIKE KIND AT THE CONTRACTOR'S EXPENSE.

KEYED NOTES:

KEYED NOTES (#)

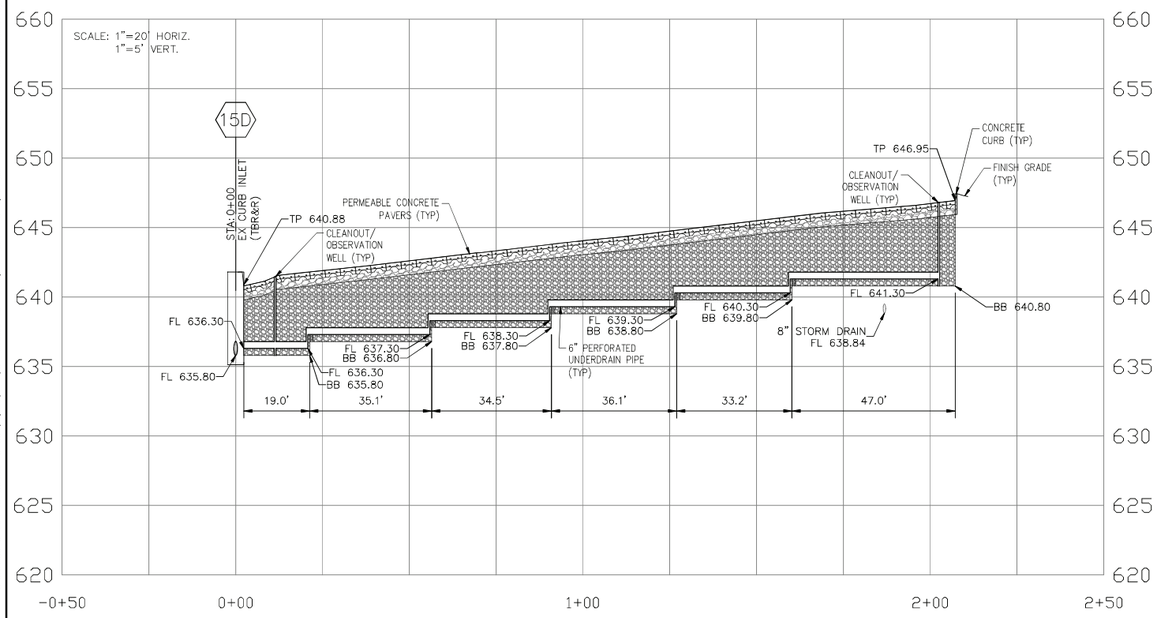
1. LIMITS OF CONSTRUCTION.
2. NEW PERMEABLE INTERLOCKING CONCRETE PAVEMENT (PICP). REFER TO SHT. C5.03 FOR DETAILS.
3. NEW PICP OBSERVATION WELL. REFER TO SHT. C5.03 FOR DETAILS.
4. NEW 6" PERFORATED UNDERDRAIN. REFER TO SHT. C5.03 FOR DETAILS.
5. CONNECT UNDERDRAIN TO NEW CURB INLET 15D.

TP=TOP OF PAVEMENT
BB=BOTTOM OF BEDDING
FL=FLOWLINE OF PIPE

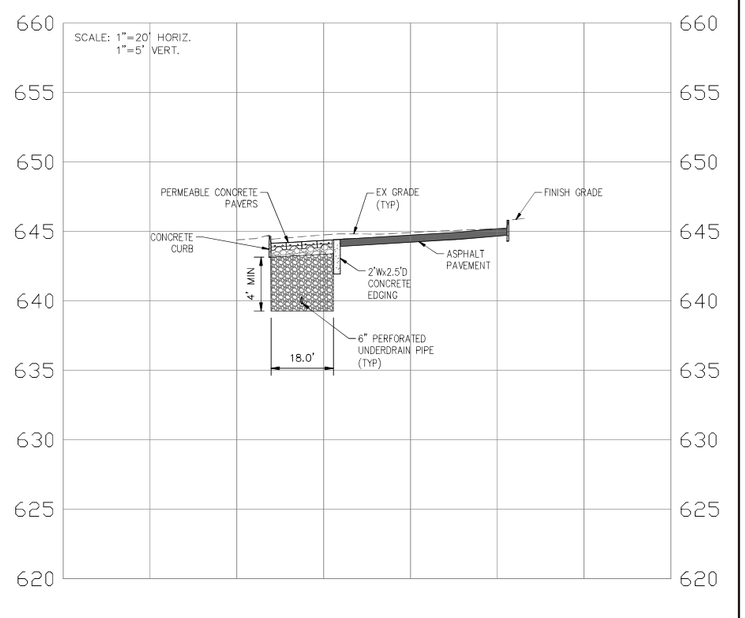
BMP Storage Volume Required vs BMP Storage Volume Provided

BMP Drainage Area	Total Drainage Area (FT^2)	2-Year 24 Hour Total Runoff / DA: Q - Runoff (Inches & Feet)	Volume of Runoff / DA (FT^3)	Volume of Storage Required at 40% Void Ratio (FT^3)	Total Area of BMP (FT^2)	Level Storage Depth (inches & Feet)	Total Effective Storage Bedding Volume / BMP (FT^2) at Level Storage Depth *	Volume of Effective Storage Available at 40% Void Ratio (FT^3)	Ratio of Required Storage to Actual Effective Storage Volume	Depth of Stored Q (Feet & Inches)	Storage Bed % Full
DA-BMP-1	12151	2.16	2187.2	5468.0	199' x 18'	48	14328	5731.2	0.954	3.816	95.4%
		0.180			3582	4				45.80	

* - Computed with only the minimum level portion of the storage bedding and not the entire sloped portion.



PICP BMP PROFILE



PICP BMP CROSS SECTION

25PRJ-00000 25MSD-00025 BASEMAP 180

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTS ENGINEERS WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF ANY ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 1/22/2025 4:05 PM
FILE PATH: C:\Users\USMS719100\OneDrive - WSP USA\Projects (AMER)\ST\L100\30902493 - Parkway 2022 Bond - R23\Project Files\F - NEM - 2024\CIVIL\452401B\civil000000001C.dwg

PARKWAY

SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314-421-1741
wsp.com

WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
0	ISSUE FOR BID	01.24.25

PARKWAY SCHOOL DISTRICT

NORTHEAST MIDDLE SCHOOL

181 COEUR DE VILLE DRIVE
CREVE COEUR, MO 63141

VOLUME 1 - SITE IMPROVEMENTS

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER
1/24/25

PROFESSIONAL SEAL

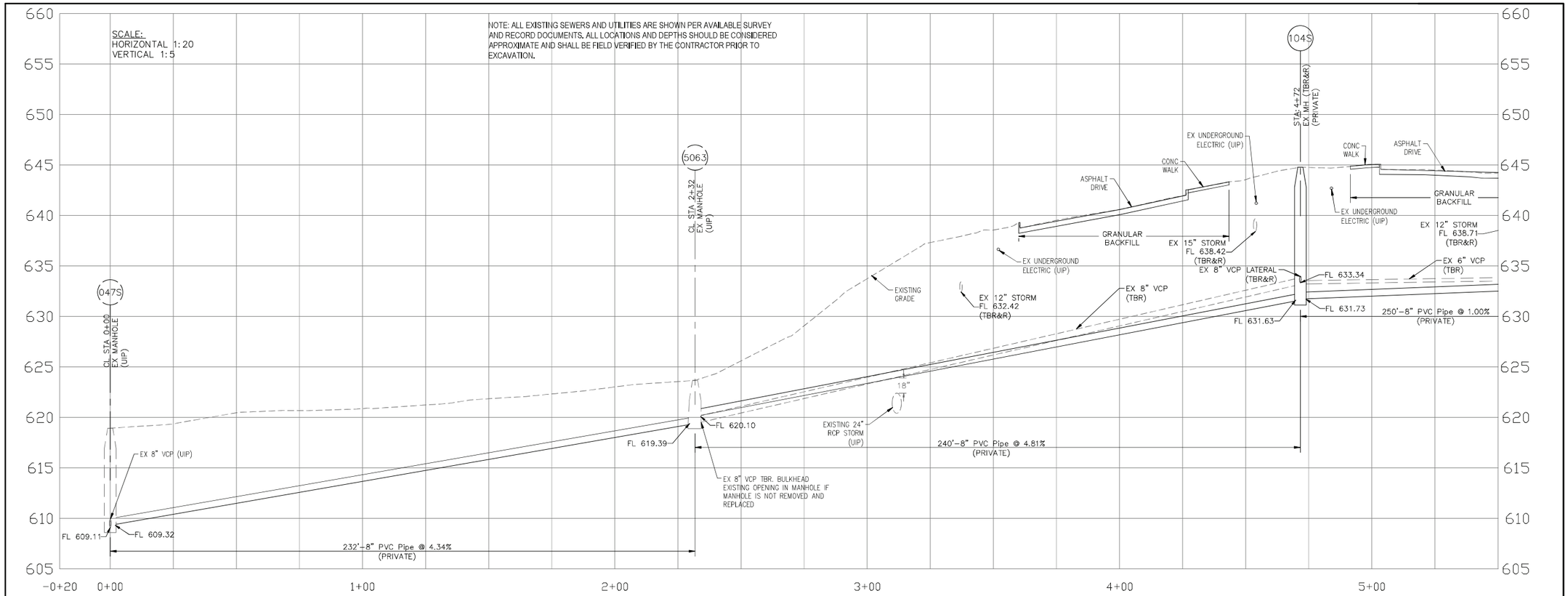
SHEET NAME
BMP PLAN

DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	DH
DATE:	24 JANUARY 2025
SCALE:	

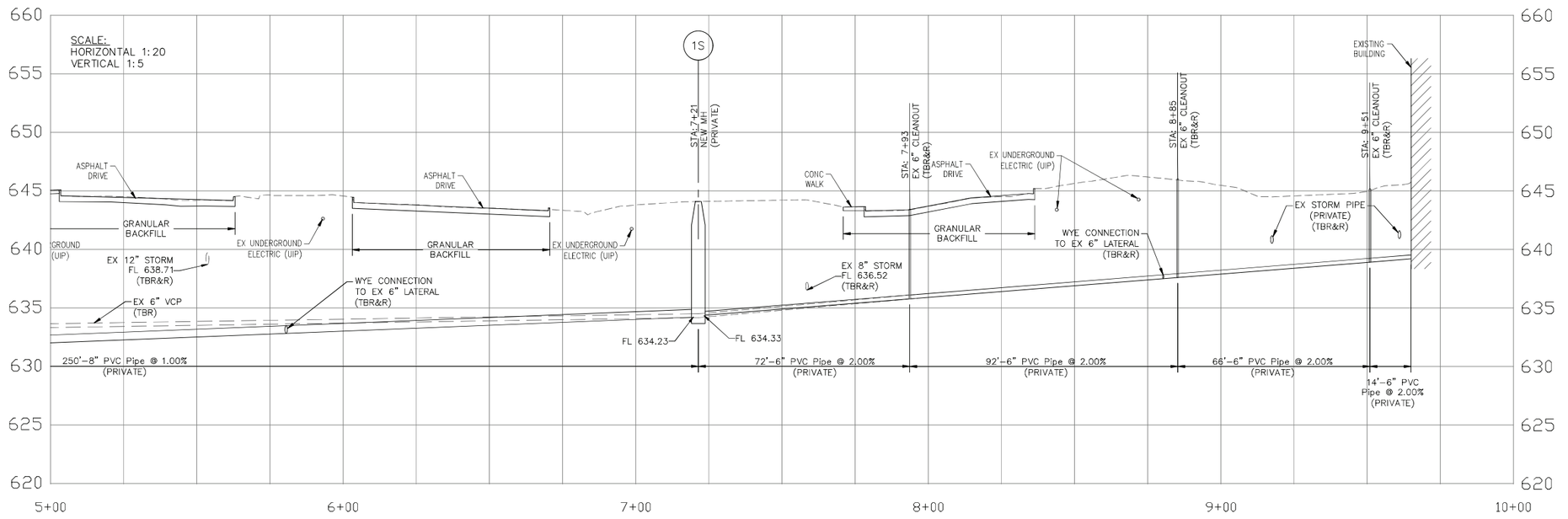
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 452401B
WSP PROJECT NUMBER: 30902493,6999

SHEET NUMBER **C4.05**



SANITARY SEWER (047S–BLDG) PROFILE



SANITARY SEWER (047S–BLDG) PROFILE (CONT.)

25PRJ–00000 25MSD–00025 BASEMAP 180

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 1/22/2025 4:05 PM
FILE PATH: C:\Users\USMS7190\DOCACCDocs\WSP-USA projects (AMER)\ST.LOU-30902493 - Parkway 2022 Bond - P23\Project Files\F - NEM - 2024\CIVIL\452401BC-v000000001C.dwg

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-7741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
0	ISSUE FOR BID	01.24.25

PARKWAY SCHOOL DISTRICT

NORTHEAST MIDDLE SCHOOL

181 COEUR DE VILLE DRIVE
CREVE COEUR, MO 63141

VOLUME 1 - SITE IMPROVEMENTS



1/24/25

PROFESSIONAL SEAL

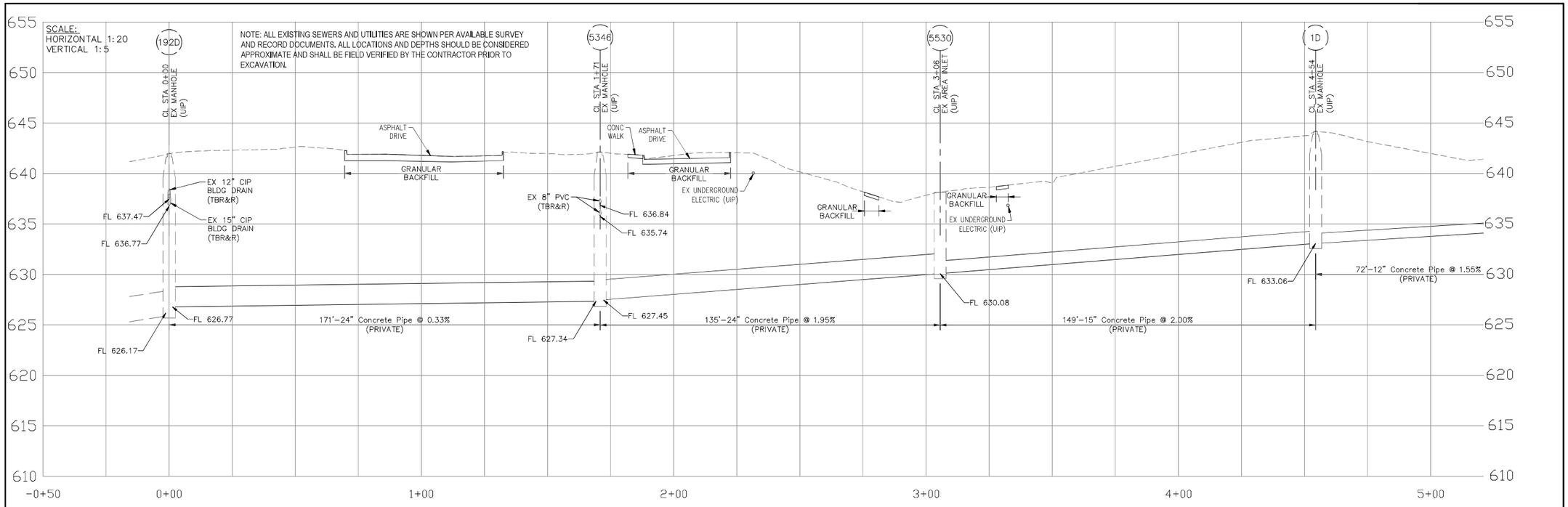
SHEET NAME
SANITARY SEWER PROFILES

DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	DH
DATE:	24 JANUARY 2025
SCALE:	

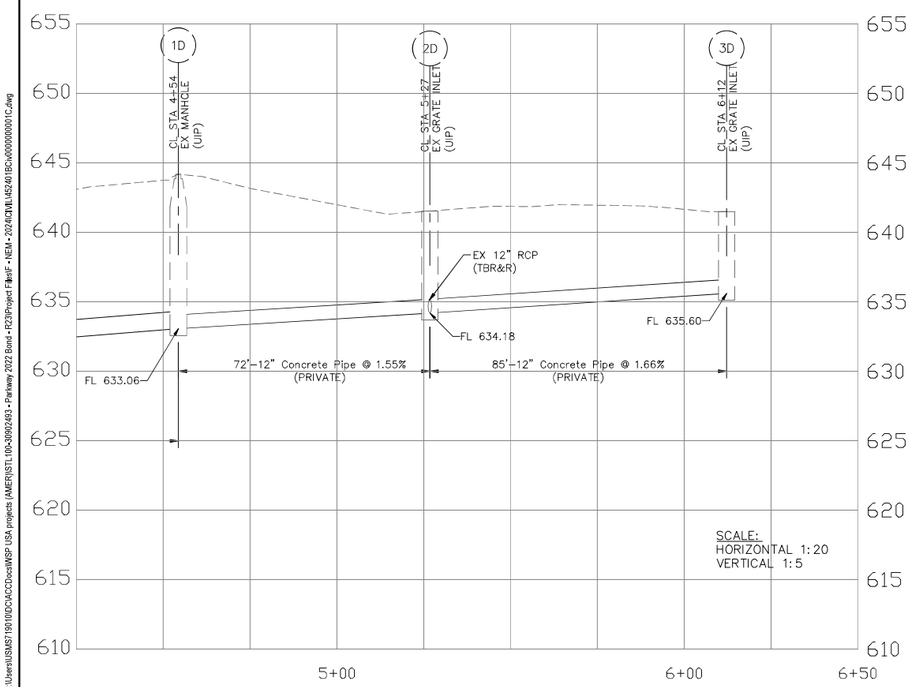
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 452401B
WSP PROJECT NUMBER: 30902493,6999

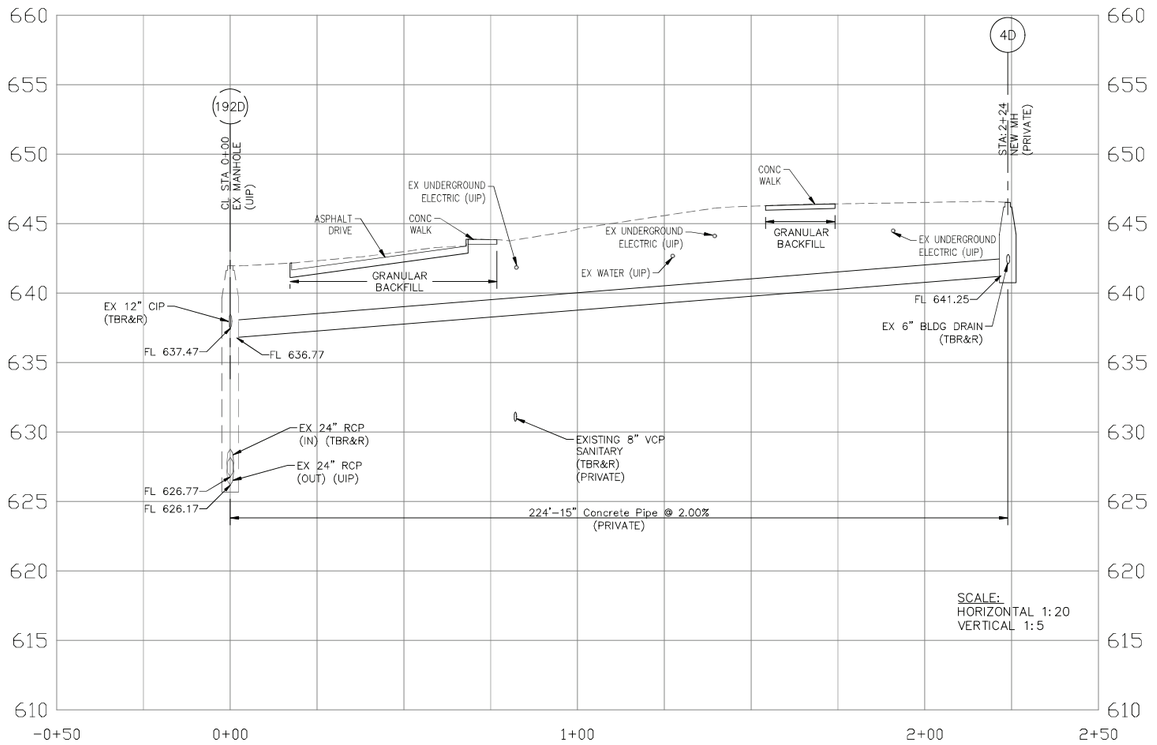
SHEET NUMBER **C4.10**



STORM SEWER (192D–3D) PROFILE



STORM SEWER (192D–3D) PROFILE (CONT.)



STORM SEWER (192D–4D) PROFILE

25PRJ–00000 25MSD–00025 BASEMAP 180

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 1/22/2025 4:05 PM
FILE PATH: C:\Users\USMST190100\DC\ACCDocs\WSP USA projects (AMER)\ST\L100-30902493 - Parkway 2022 Bond - R23\Project Files\F - NEM - 2024\CIVIL\452401B0-v0000000001C.dwg

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-7741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
0	ISSUE FOR BID	01.24.25

PARKWAY SCHOOL DISTRICT

NORTHEAST MIDDLE SCHOOL

181 COEUR DE VILLE DRIVE
CREVE COEUR, MO 63141

VOLUME 1 - SITE IMPROVEMENTS

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2012009101
PROFESSIONAL ENGINEER
1/24/25

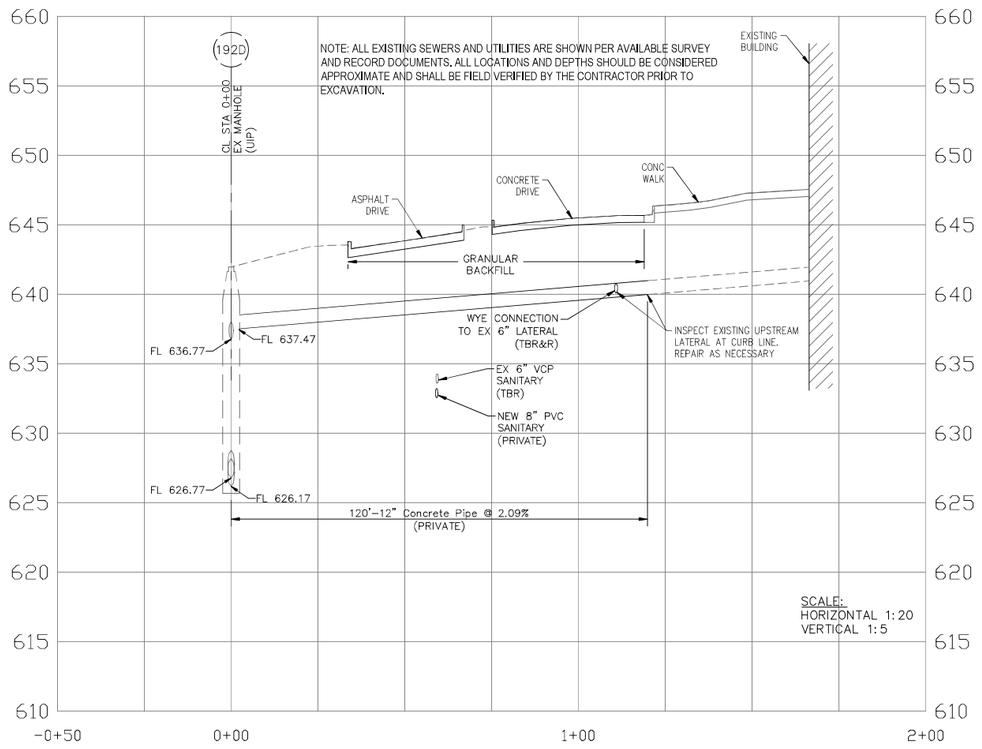
PROFESSIONAL SEAL

SHEET NAME
STORM PROFILES

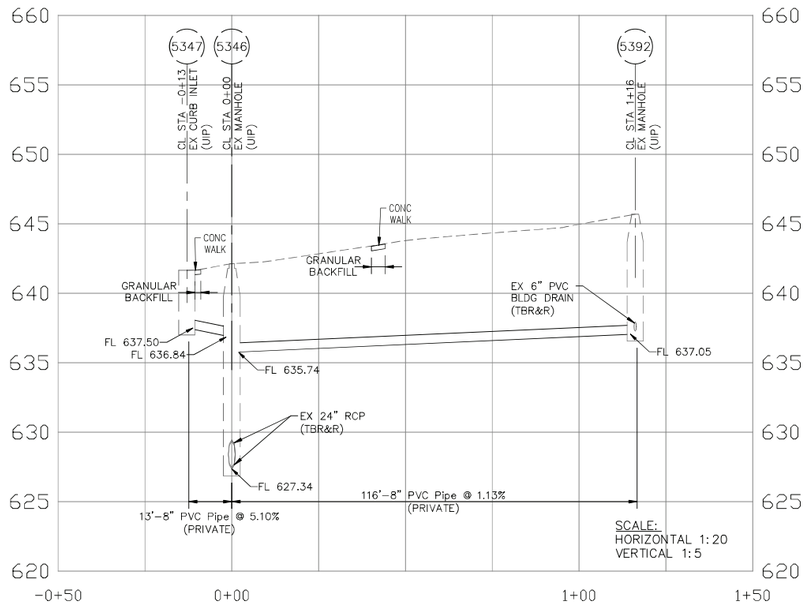
DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	DH
DATE:	24 JANUARY 2025
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 452401B
WSP PROJECT NUMBER: 30902493,6999
SHEET NUMBER **C4.11**



STORM SEWER (192D−BLDG) PROFILE



STORM SEWER (5347−5392) PROFILE

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-7741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
0	ISSUE FOR BID	01.24.25

PARKWAY SCHOOL DISTRICT

NORTHEAST MIDDLE SCHOOL

181 COEUR DE VILLE DRIVE
CREVE COEUR, MO 63141

VOLUME 1 - SITE IMPROVEMENTS

STATE OF MISSOURI
MICHAEL SENTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER
1/24/25

PROFESSIONAL SEAL

SHEET NAME
STORM PROFILES

DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	DH
DATE:	24 JANUARY 2025
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

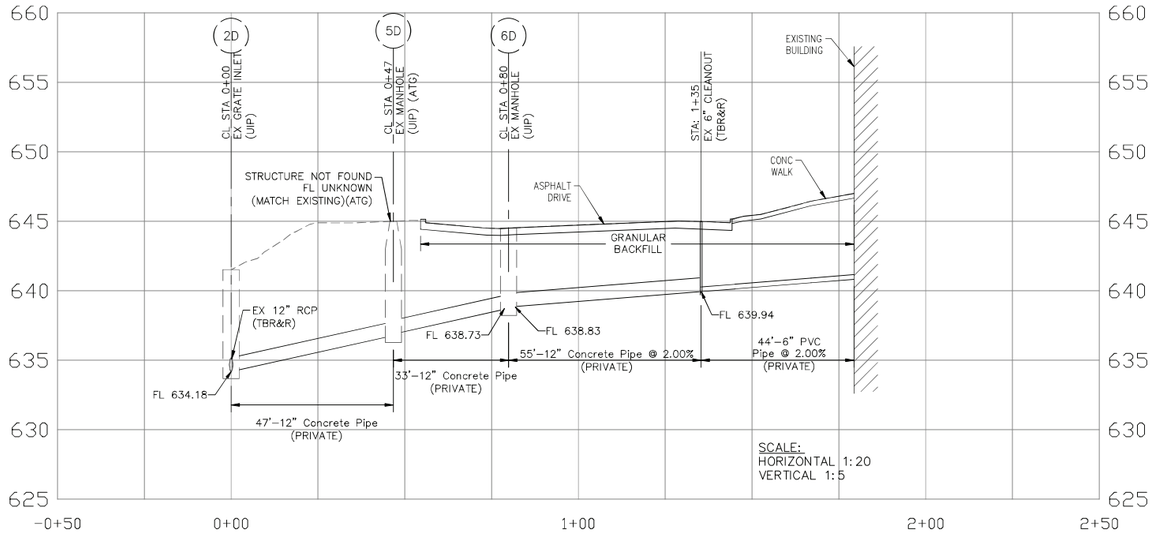
CLIENT PROJECT NUMBER: 452401B
WSP PROJECT NUMBER: 30902493,6999
SHEET NUMBER **C4.12**

LAST EDITED: 1/22/2025 4:05 PM
FILE PATH: C:\Users\ISSMST190100\DOCACCD\ocid\WSP USA projects (AMER)\ST\L100-30902493 - Parkway 2022 Bond - R23\Project Files\F - NEM - 2024\CIVIL\452401B\c4x0000000001C.dwg

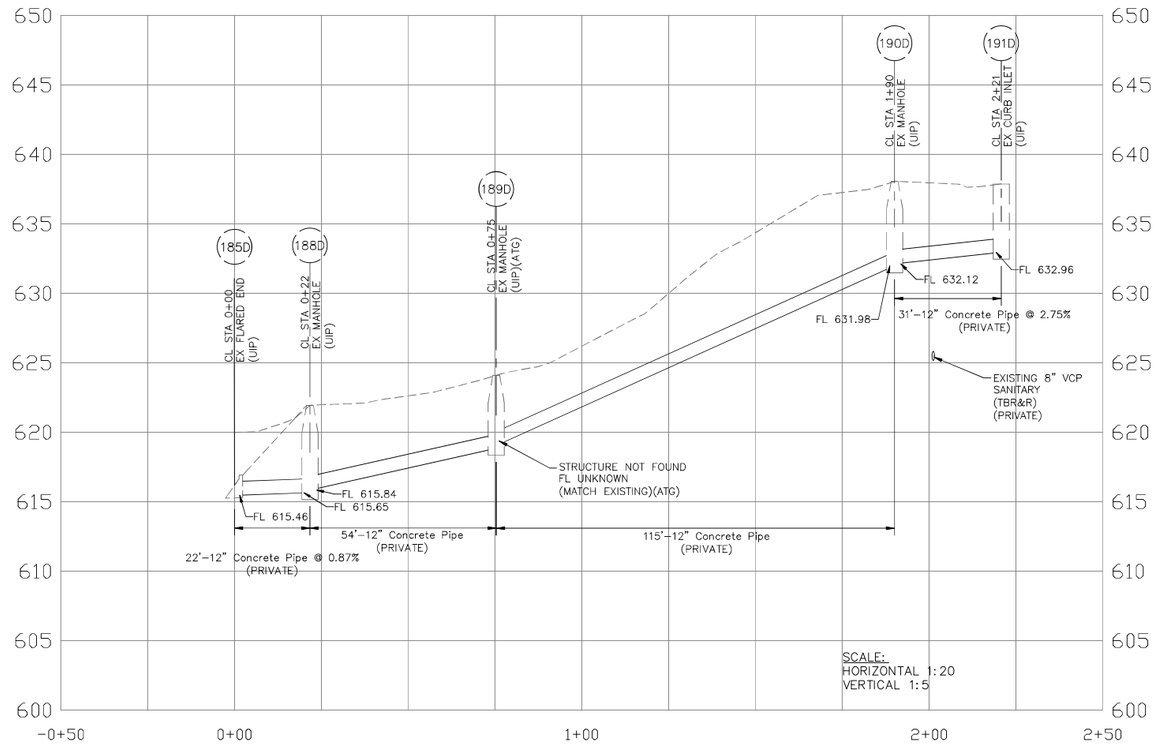
25PRJ−00000 25MSD−00025 BASEMAP 180

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

NOTE: ALL EXISTING SEWERS AND UTILITIES ARE SHOWN PER AVAILABLE SURVEY AND RECORD DOCUMENTS. ALL LOCATIONS AND DEPTHS SHOULD BE CONSIDERED APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO EXCAVATION.



STORM SEWER (2D-BLDG) PROFILE



STORM SEWER (185D-191D) PROFILE

25PRJ-00000 25MSD-00025 BASEMAP 180

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 1/22/2025 4:05 PM
FILE PATH: C:\Users\USMST190100\DCIACCDocs\WSP USA projects (AMER)\ST\L100-30902493 - Parkway 2022 Bond - R23\Project Files\F - NEM - 2024\CIVIL\452401B0-v000000000\C.dwg

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-7741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
0	ISSUE FOR BID	01.24.25

PARKWAY SCHOOL DISTRICT

NORTHEAST MIDDLE SCHOOL

181 COEUR DE VILLE DRIVE
CREVE COEUR, MO 63141

VOLUME 1 - SITE IMPROVEMENTS

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER
1/24/25

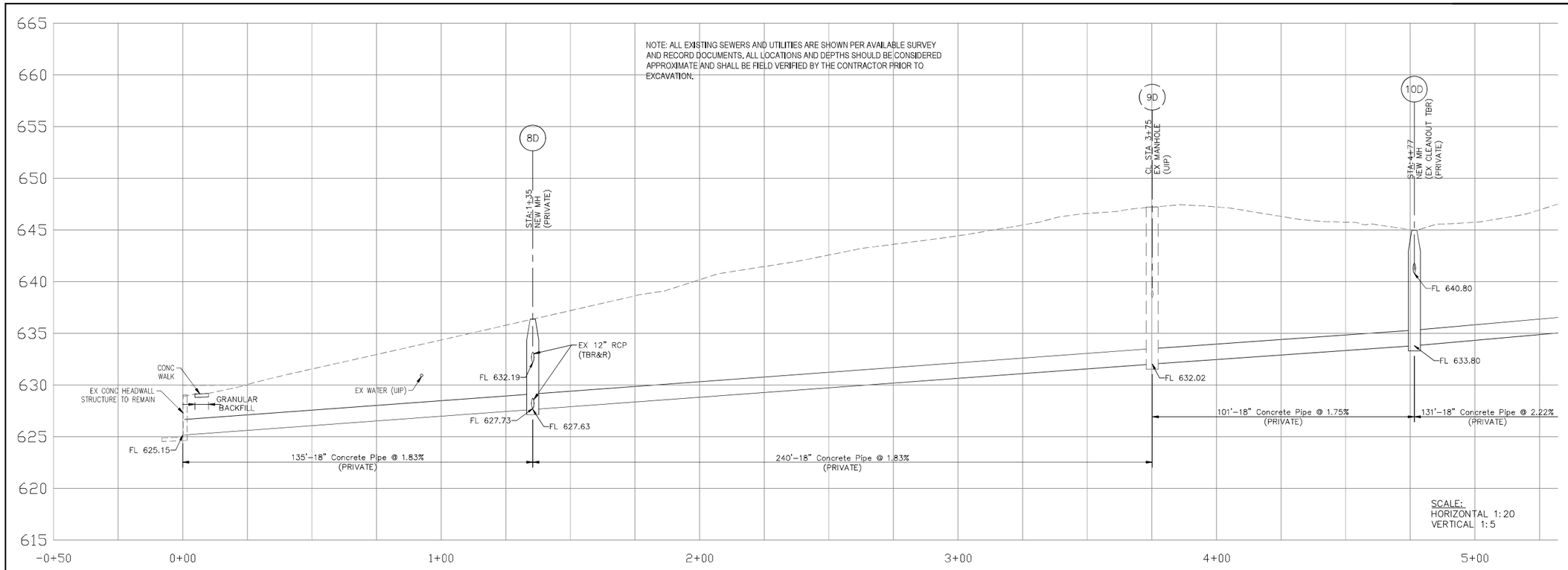
PROFESSIONAL SEAL

SHEET NAME
STORM PROFILES

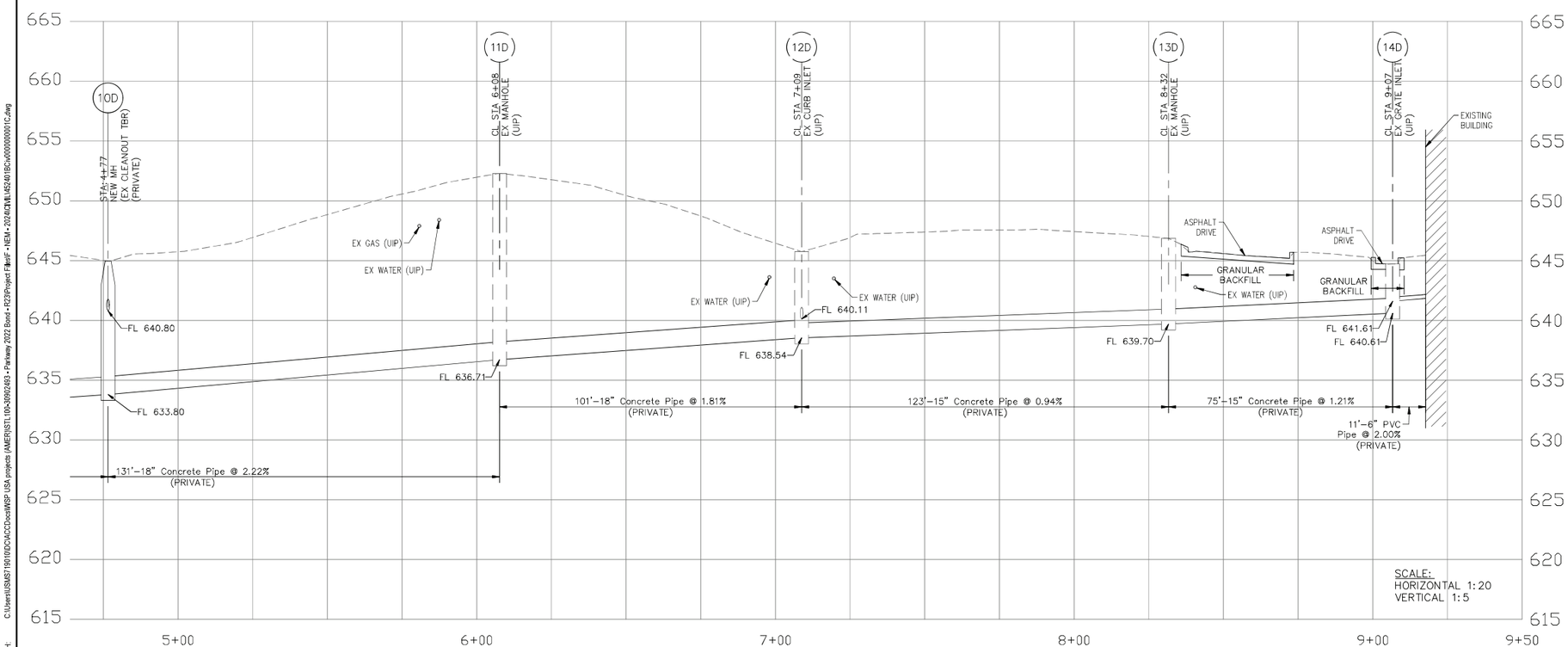
DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	DH
DATE:	24 JANUARY 2025
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 452401B
WSP PROJECT NUMBER: 30902493,6999
SHEET NUMBER **C4.13**



STORM SEWER (7D-BLDG) PROFILE



STORM SEWER (7D-BLDG) PROFILE (CONT.)

25PRJ-00000 25MSD-00025 BASEMAP 180

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION ALTERED BY FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 1/22/2025 4:05 PM
FILE PATH: C:\Users\USMS7190100\CACDocs\WSP USA projects (AMER)\STL\110-30902493 - Parkway 2022 Bond - B23\Project Files\F - NEM - 2024\07\MLMS240180-v000000001C.dwg

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-7741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
0	ISSUE FOR BID	01.24.25

PARKWAY SCHOOL DISTRICT

NORTHEAST MIDDLE SCHOOL

181 COEUR DE VILLE DRIVE
CREVE COEUR, MO 63141

VOLUME 1 - SITE IMPROVEMENTS

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER
1/24/25

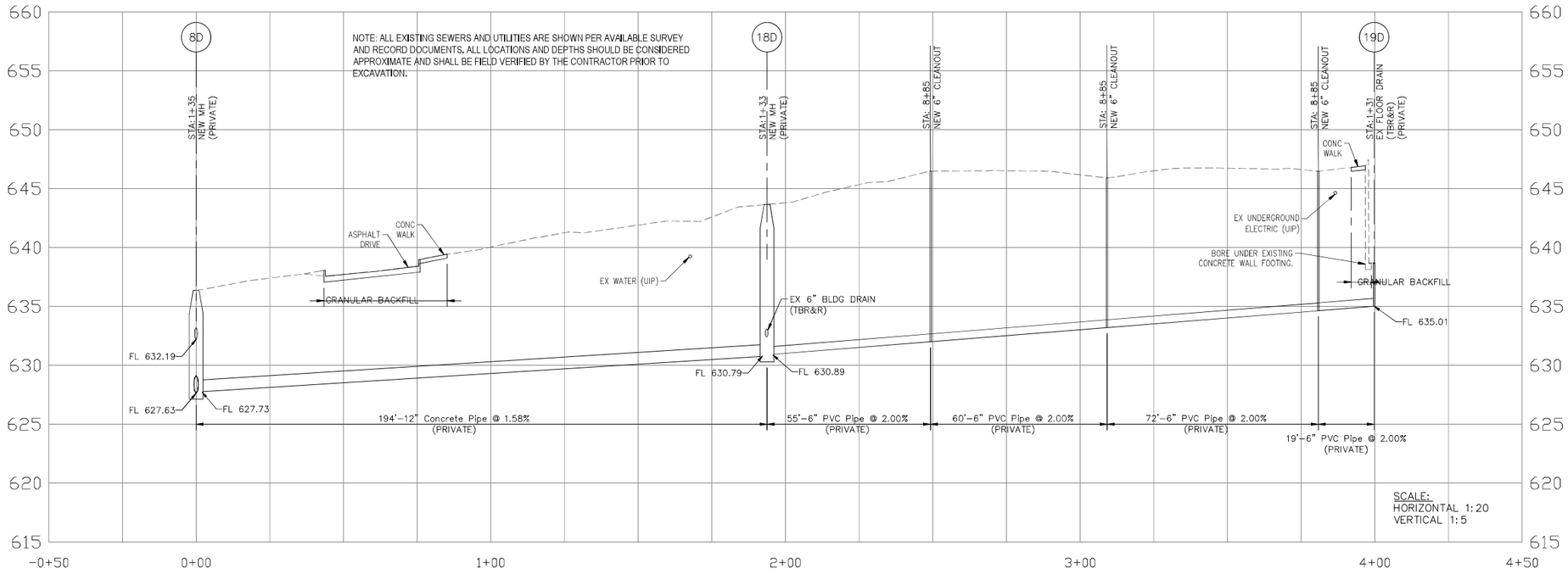
PROFESSIONAL SEAL

SHEET NAME
STORM PROFILES

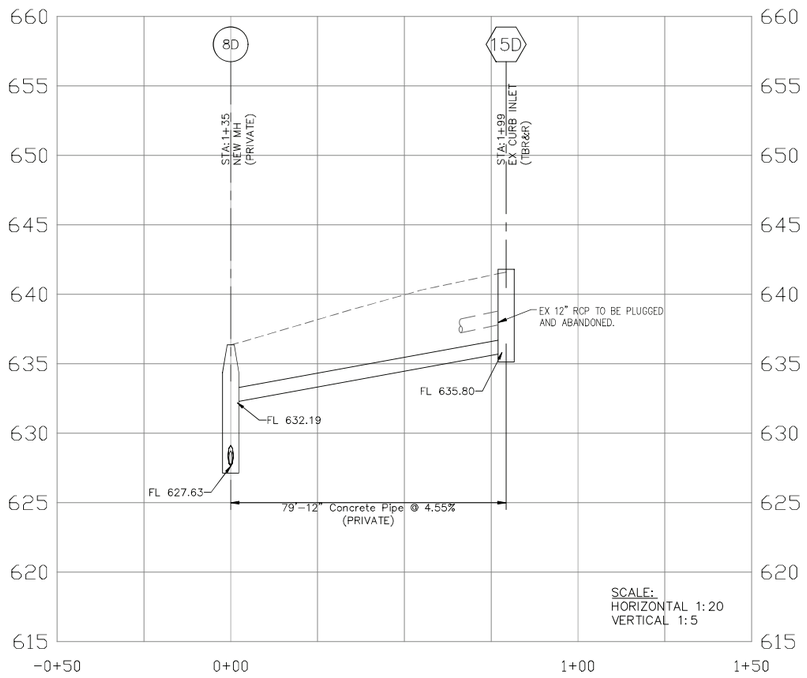
DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	DH
DATE:	24 JANUARY 2025
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

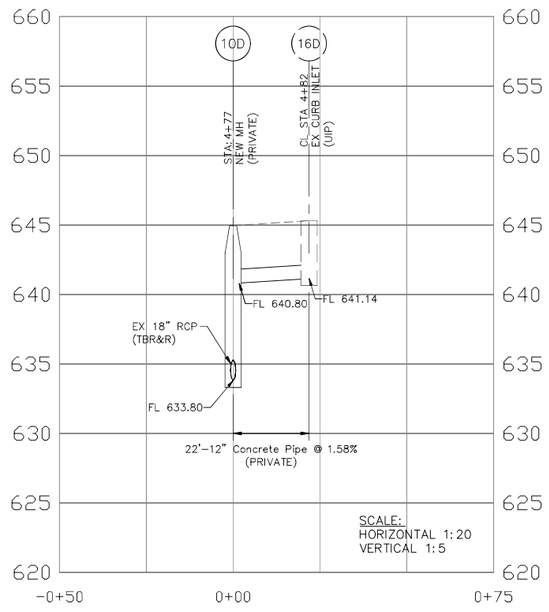
CLIENT PROJECT NUMBER: 452401B
WSP PROJECT NUMBER: 30902493,6999
SHEET NUMBER **C4.14**



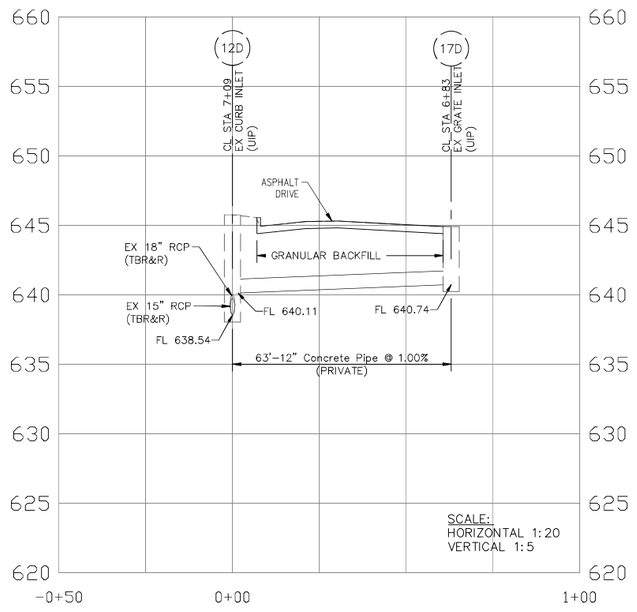
STORM SEWER (8D–19D) PROFILE



STORM SEWER (8D–15D) PROFILE



STORM SEWER (10D–16D) PROFILE



STORM SEWER (12D–17D) PROFILE

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-7741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
0	ISSUE FOR BID	01.24.25

PARKWAY SCHOOL DISTRICT

NORTHEAST MIDDLE SCHOOL

181 COEUR DE VILLE DRIVE
CREVE COEUR, MO 63141

VOLUME 1 - SITE IMPROVEMENTS

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER
1/24/25

PROFESSIONAL SEAL

SHEET NAME
STORM PROFILES

DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	DH
DATE:	24 JANUARY 2025
SCALE:	

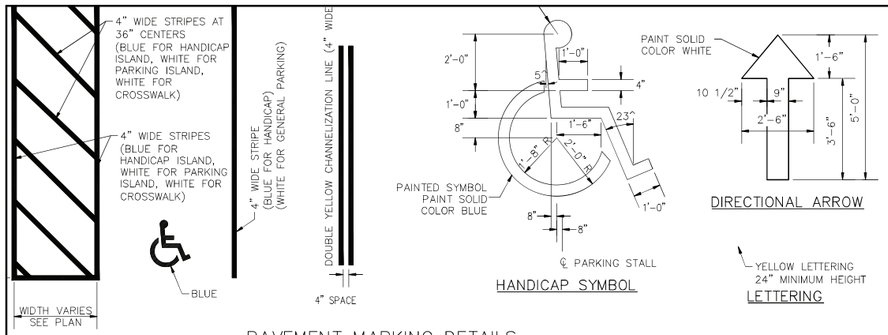
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 452401B
WSP PROJECT NUMBER: 30902493,6999
SHEET NUMBER **C4.15**

LAST EDITED: 1/22/2025 4:05 PM
FILE PATH: C:\Users\USMS7190100\DC\ACCDocs\WSP USA projects (AMER)\STL100-30902493 - Parkway 2022 Bond - B23\Project Files\F - NEM - 2024\CIVIL\452401BC4v000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION ALTERED BY FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

25PRJ–00000 25MSD–00025 BASEMAP 180



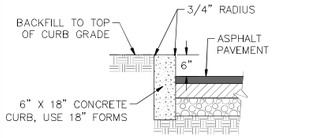
HANDICAP SYMBOL

DIRECTIONAL ARROW

LETTERING

PAVEMENT MARKING DETAILS

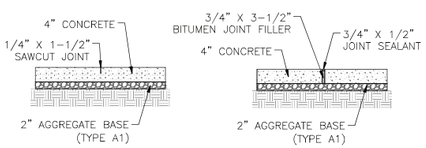
NTS



NOTE: PROVIDE 3/4" EXPANSION JOINT SIMILAR TO CONCRETE EXPANSION JOINT, FULL DEPTH OF CURB, MAXIMUM SPACING AT 20'-0" ON CENTER.

VERTICAL CONCRETE CURB DETAIL

NTS

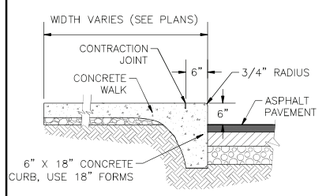


NOTE: MAXIMUM SPACING EQUALS WIDTH OF SIDEWALK OR 10'-0", WHICHEVER IS LESS.

CONTRACTION JOINT

NOTE: MAXIMUM SPACING EQUALS 20'-0" ON CENTER.

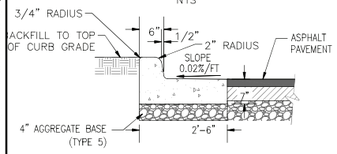
EXPANSION JOINT



NOTE: PROVIDE CONTRACTION JOINTS AND FULL DEPTH EXPANSION JOINT PER CONCRETE SIDEWALK DETAIL

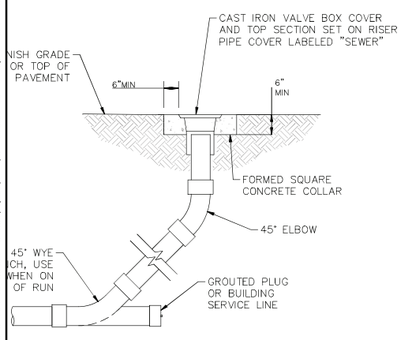
CONCRETE WALK WITH INTEGRAL CURB DETAIL

NTS



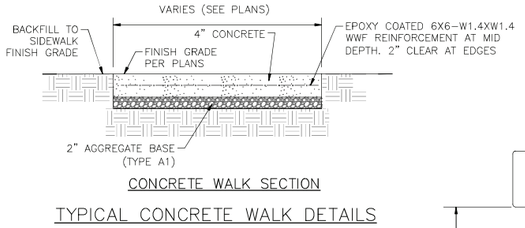
VERTICAL CONCRETE CURB AND GUTTER

NTS



6" CLEANOUT DETAIL

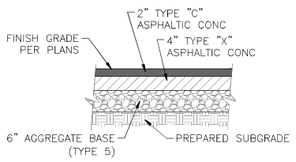
NTS



CONCRETE WALK SECTION

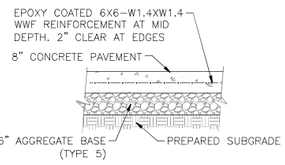
TYPICAL CONCRETE WALK DETAILS

NTS



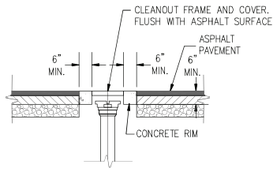
ASPHALT PAVEMENT DETAIL

NTS



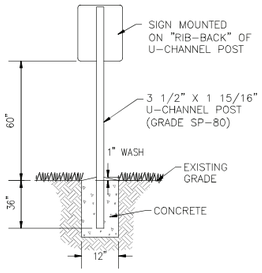
CONCRETE STREET PAVEMENT DETAIL

NTS



CONCRETE COLLAR DETAIL

NTS



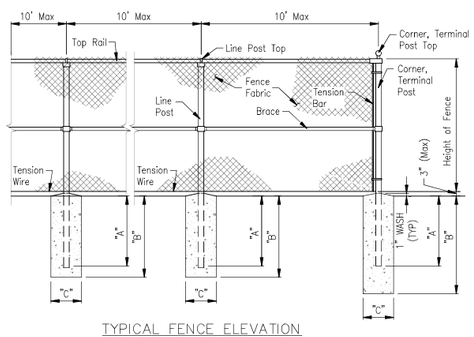
STREET SIGN

SIGN MOUNTING DETAIL

NTS

Description		Height of Fence
		48"
Line Post	Size	2.38"ø
	"A"	24"
	"B" x "C"	30" x 10"
Corner & Terminal Post	Size	2.38"ø
	"A"	30"
	"B" x "C"	36" x 10"
Gate Post * (single gate or leaf gate of double width)	Pedestrian	3.5"ø
	Vehicular	6.63"ø
Top Rail and Brace		1.66"ø
Gate Frame	Pedestrian	1.66"ø
	Vehicular	1.9"ø
Fabric	2" diamond mesh interwoven wire, 6 gage thick, top selvage knuckle and end closed, bottom selvage twisted tight	
Tension Wire	6 gage thick steel, single strand	
Tension Band	0.1" thick steel	
Tension Bar	0.1" thick steel	
Tie Wire	Aluminum alloy steel wire	

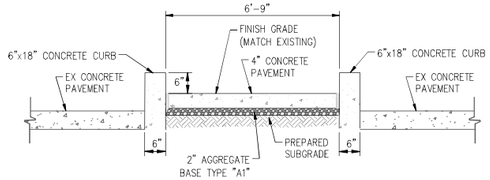
* "A", "B", and "C" are the same as Corner & Terminal Post



TYPICAL FENCE ELEVATION

CHAIN LINK FENCE DETAIL

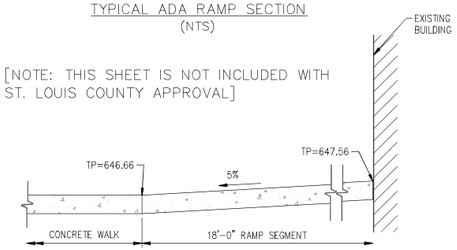
NTS



TYPICAL ADA RAMP SECTION

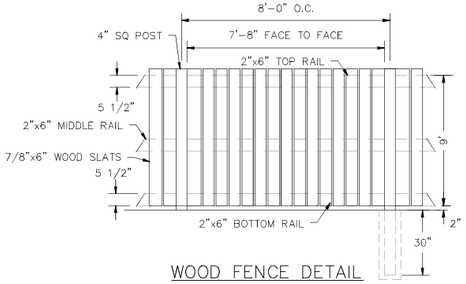
(NTS)

[NOTE: THIS SHEET IS NOT INCLUDED WITH ST. LOUIS COUNTY APPROVAL]



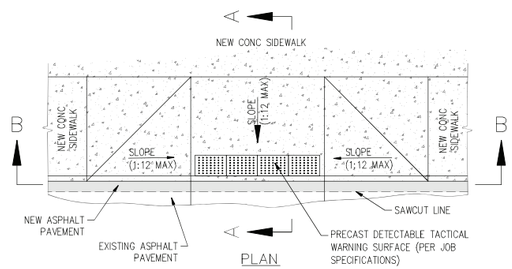
CONCRETE RAMP DETAILS

NTS

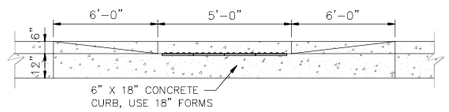


WOOD FENCE DETAIL

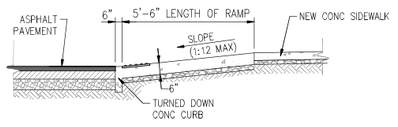
NTS



PLAN



SECTION B-B



SECTION A-A

ACCESSIBLE RAMP DETAIL (STRAIGHT)

NTS

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-7741
wsp.com

WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
0	ISSUE FOR BID	01.24.25

PARKWAY SCHOOL DISTRICT

NORTHEAST MIDDLE SCHOOL

181 COEUR DE VILLE DRIVE
CREVE COEUR, MO 63141

VOLUME 1 - SITE IMPROVEMENTS

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER
1/24/25

PROFESSIONAL SEAL

SHEET NAME
DETAILS

DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	DH
DATE:	24 JANUARY 2025
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

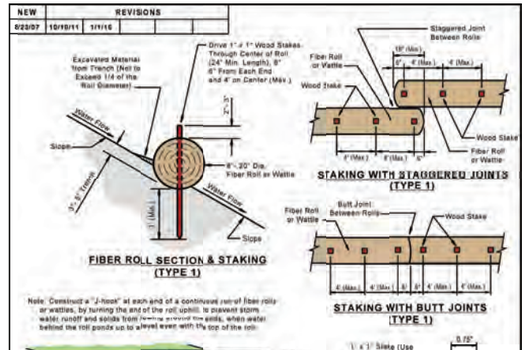
CLIENT PROJECT NUMBER: 452401B
WSP PROJECT NUMBER: 30902493,6999
SHEET NUMBER **C5.01**

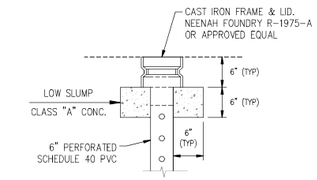
LAST EDITED: 1/22/2025 4:05 PM
FILE PATH: C:\Users\MSESTAK\OneDrive - WSP USA\Projects (AMER)\ST1\100-30902493 - Parkway 2022 Bond - R2\3\Project Files\F - NEM - 2024\CIVIL\452401B\Cv\00000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECTS ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF ANY ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

25PRJ-00000 25MSD-00025 BASEMAP 180

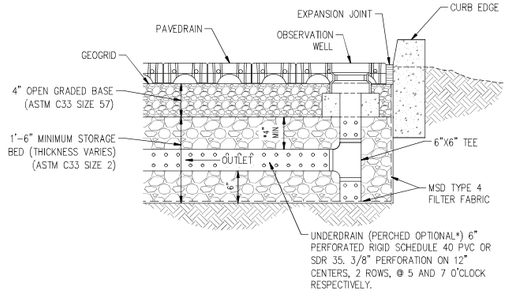
NEW	REVISIONS				
6/23/07	10/10/11	1/1/16			


Drive 1" ø 1" Wood Stakes Through Center of Roll (24" Min. Length), 6" From Each End and 4' on Center (Max.)
Excavated Material from Trench (Not to Exceed 1/4 of the Roll Diameter)
Fiber Roll or Wattle
Wood Stake
Slope
Water Flow
8"-20" Dia. Fiber Roll or Wattle
Staggered Joint Between Rolls
Butt Joint Between Rolls
Wood Stake
Fiber Roll or Wattle
Slope
Water Flow
Slope
Wattle
(Type 1 Staking - Staggered Joints)
(Type 1 Staking - Butt Joints)
5" Above Toe of Slope
5" Below Top of Slope
Fiber Roll Shoved Snugly Against Adjacent Roll
Butt Joint Between Rolls
Staggered Joint Between Rolls
Wood Stake
Fiber Roll or Wattle
Wood Stake
Fiber Roll or Wattle
Slope
Water Flow
Wood Stake
Fiber Roll or Wattle
Wood Stake
Fiber Roll or Wattle
Wood Stake
Fiber Roll or Wattle



PICP OBSERVATION WELL DETAIL

NTS



* ADDITIONAL UNDERDRAINS MAY BE PERCHED ABOVE THE REQUIRED STORAGE ELEVATION AND WITHIN THE STORAGE BED IN ORDER TO PROTECT THE PAVER BLOCKS.

PERMEABLE INTERLOCKING CONCRETE PAVEMENT

NTS

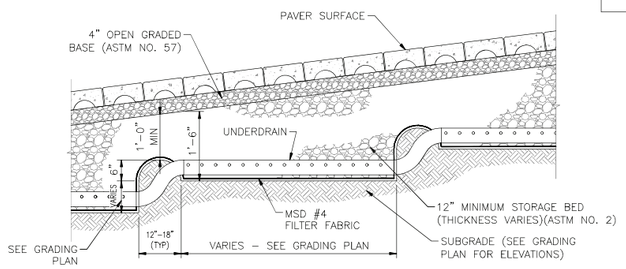
PERMEABLE INTERLOCKING CONCRETE PAVEMENT NOTES

1. THE CONTRACTOR SHALL OBTAIN THE CONCRETE PAVER MANUFACTURER'S CERTIFICATION THAT THE PAVING UNITS SUPPLIED TO CONSTRUCT THE PICP HAVE BEEN APPROVED BY MSD AND MEET THE REQUIREMENTS IN ASTM C936. THIS CERTIFICATION SHALL BE PROVIDED TO THE MSD DIVISION INSPECTOR. THE CERTIFICATION SHALL INCLUDE THE MANUFACTURER'S NAME, AND STATE THAT THE PICP SUPPLIED MEETS THE ASTM C936 SPECIFICATIONS, (TESTING SHOULD BE CURRENT WITHIN PREVIOUS 12 MONTHS) AND THAT THE PAVING MATERIALS MEET ALL REQUIREMENTS AS EVALUATED UNDER THE MANUFACTURER'S QUALITY CONTROL PROGRAM.
2. PRIOR TO OBTAINING A CONSTRUCTION PERMIT FROM MSD TO CONSTRUCT THE PERMEABLE INTERLOCKING CONCRETE PAVEMENT (PICP) FOR A GIVEN PROJECT, THE ENGINEER PROVIDING THE AS-BUILT CERTIFICATION SHALL VERIFY THAT THE INSTALLING CONTRACTOR HAS:

a. PAST HISTORY DEMONSTRATING APPLICABLE EXPERIENCE.

b. THE PICP INSTALLATION CONTRACTOR MUST HAVE A CURRENT LEVEL 1 CERTIFICATE FROM THE INTERLOCKING CONCRETE PAVEMENT INSTITUTE'S CONCRETE PAVER INSTALLER PROGRAM.

3. THE CONTRACTOR SHALL PREVENT AND DIVERT SEDIMENT FROM ENTERING THE SUBBASE AND PAVEMENT SURFACE UNTIL THE TRIBUTARY AREAS ARE DEEMED STABLE BY THE ASSIGNED MSD INSPECTOR.
4. VEHICULAR TRAFFIC SHALL BE PROHIBITED ON THE PICP UNTIL THE SITE IS STABLE TO PREVENT MUD FROM BEING DEPOSITED BY VEHICLES.
5. NO PRODUCT OR MATERIAL SUBSTITUTIONS ARE PERMITTED UNLESS PREVIOUSLY APPROVED BY THE MSD PLAN REVIEW ENGINEER OR BY THE MSD FIELD INSPECTOR ASSIGNED TO THE PROJECT. ALL SUBSTITUTIONS SHALL BE PRESENTED TO MSD THROUGH THE ENGINEER RESPONSIBLE FOR THE DESIGN OF THE PICP SYSTEM.
6. STONE SHOULD BE CLEAN, WASHED, 90 PERCENT FRACTURED FACES WITH A LOS ANGELES ABRASION INDEX OF LESS THAN 40 AND CONFORM TO THE GRADING REQUIREMENTS IN ASTM D448.
7. DO NOT CLEAN THE PAVER SURFACE WITH HIGH-PRESSURE HOSES OR ABRASIVES. WHEN CLEANING IS NECESSARY, COMBINATION CLEANING MACHINES THAT COMBINE A WET SPRAY AND VACUUM PROCESS HAVE BEEN FOUND TO BE EFFECTIVE.
8. A PERMANENT SIGN SHALL BE POSTED WARNING THAT CARE SHOULD BE TAKEN DURING SNOW PLOWING; AND PROHIBIT THE FOLLOWING: RESURFACING, THE USE OF SAND ABRASIVES FOR WINTER TIRE TRACTION, AND THE USE OF POWER WASHERS.
9. INFILTRATION BED: TO PREVENT CONSTRUCTION SEDIMENT FROM CLOGGING INFILTRATION BED, AT NO TIME MAY CONSTRUCTION SEDIMENT ENTER THESE FACILITIES. ADDITIONALLY, THESE FACILITIES SHALL NOT BE CONSTRUCTED UNTIL ALL SURROUNDING AREA THAT DRAINS TO THEM IS FULLY STABLE/ESTABLISHED.
10. AT COMPLETION OF THE PROJECT, PRIOR TO FINAL DEDICATION, AN AS-BUILT CERTIFICATION, SIGNED AND SEALED BY A MISSOURI PROFESSIONAL ENGINEER, SHALL BE PROVIDED.



TYPICAL STEP SUBGRADE GRADING

NTS

SHOP DRAWING REVIEW NOTE

ENGINEER APPROVED SHOP DRAWINGS MUST BE SUBMITTED TO MSD PRIOR TO CONSTRUCTION OF THIS STRUCTURE. MSD CONTACT: BRIAN DUNN (314) 335-2072.

PERVIOUS PAVEMENT AS-BUILT CERTIFICATION

DATE: _____

To: Metropolitan St. Louis Sewer District
Department of Engineering
Attn: Keith Milson

From: _____(Consultant Engineer's Name)
Title: _____

Consulting Engineer Company Name & Address
_____
_____
_____

Re: Engineering/Construction Certification for the following project:

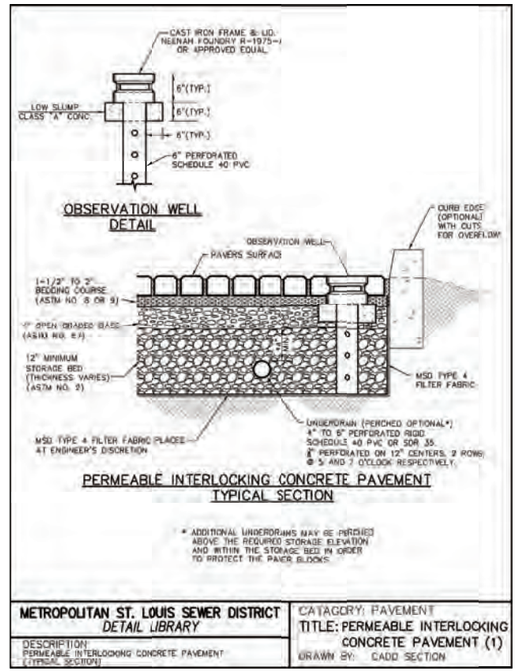
MSD Project Name: _____
MSD P#: _____
Project Address:_____
_____
_____

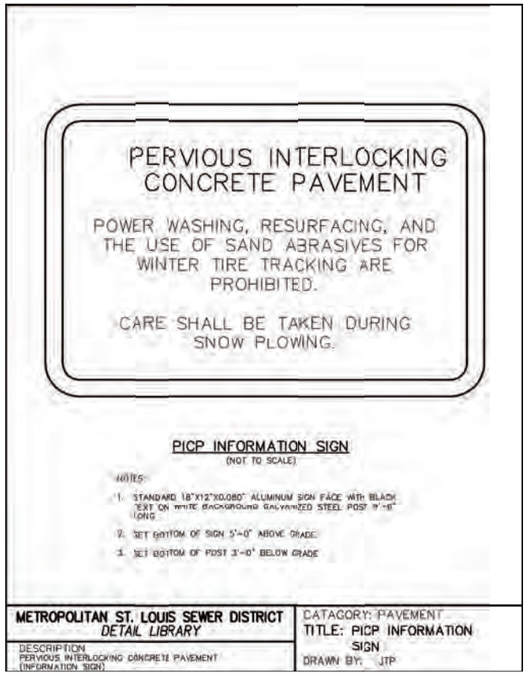
For the project's permeable pavement practice, this correspondence shall serve as a certification of the following:

1. The Pervious Pavement was built in accordance with the details, dimensions, and materials as approved by MSD for this project.
2. The Pervious Pavement was installed by a qualified contractor, and has satisfied all applicable quality control and performance tests.
3. The Pervious Pavement installation was witnessed periodically by the certifying engineer or a representative under their direct supervision.

(P.E. seal with signature and date)

Printed Name:_____
Discipline: _____
License No: _____





WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314-421-7561
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
0	ISSUE FOR BID	01.24.25

PARKWAY SCHOOL DISTRICT

NORTHEAST MIDDLE SCHOOL

181 COEUR DE VILLE DRIVE
CREVE COEUR, MO 63141

VOLUME 1 - SITE IMPROVEMENTS

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER
1/24/25

PROFESSIONAL SEAL

SHEET NAME
BMP DETAILS

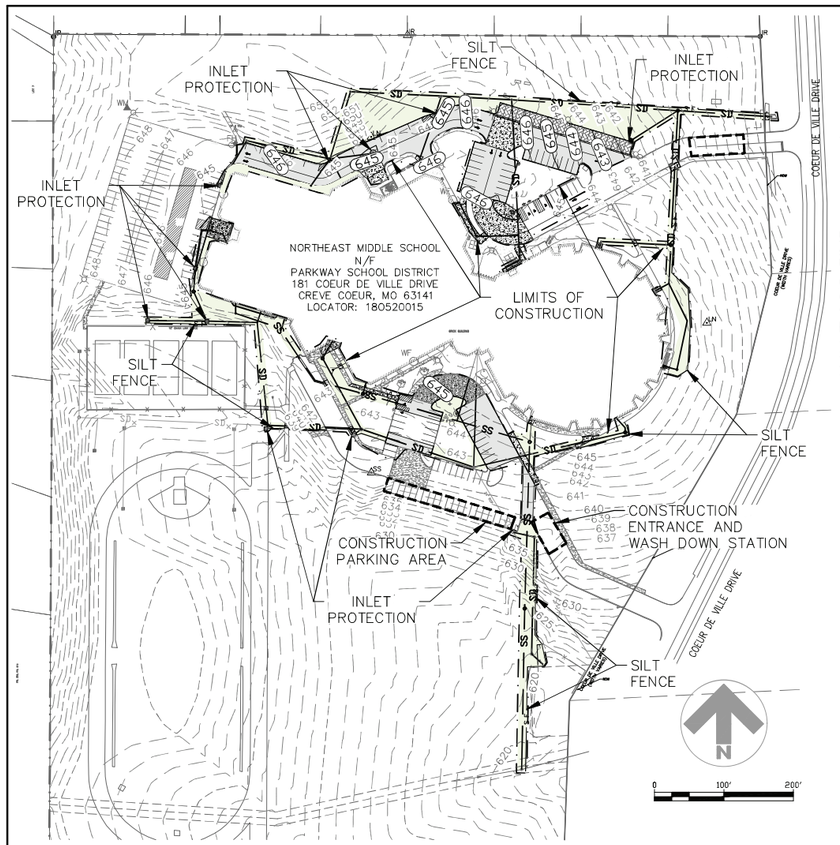
DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	DH
DATE:	24 JANUARY 2025
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 452401B
WSP PROJECT NUMBER: 30902493.6999
SHEET NUMBER **C5.03**

LAST EDITED: 1/22/2025 4:05 PM
FILE PATH: C:\Users\JSMST190\ND\ACCDocs\WSP USA projects (AMER)\ST L\00-30902493 - Parkway 2022 Bond - R23\Project Files\F - MEM - 2024\DWL\452401BCivil00000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



SITE OWNER INFORMATION

PARKWAY SCHOOL DISTRICT
RALPH KNESE
363 N WOODS MILL RD.
CHESTERFIELD, MO 63017
(314) 415–8268

BMP QUANTITY TABLE

TEMPORARY CONSTRUCTION ENTRANCE	2	EACH
TEMPORARY WASHDOWN STATION	2	EACH
TEMPORARY INLET PROTECTION	11	EACH
TEMPORARY SILT FENCE	1,500	LF
PERMANENT SOD	46,523	SF

OVERALL WORK SEQUENCING

Start Date: 05/20/2025
Expected completion: 09/20/2025

CONSTRUCTION PARKING

Construction parking to be located on existing asphalt parking area within the site..

BMP SEQUENCE

1. Install washdown station.
2. Install silt fence/filter roll.
3. Remove silt fence/filter roll.
4. Remove washdown station.

DENOTES SOD AREA

GENERAL NOTES

1. EROSION AND SILTATION CONTROL SHALL BE INSTALLED PRIOR TO ANY GRADING AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ADEQUATE VEGETATIVE GROWTH INSURES NO FURTHER EROSION OF THE SOIL AND WORK IS ACCEPTABLE TO THE OWNER AND CONTROLLING REGULATORY AGENCY.
2. AT LEAST ONCE EVERY WEEK AND AFTER EVERY RAINFALL EVENT OF 0.25 INCHES OR MORE, EROSION AND SILTATION CONTROL DEVICES SHALL BE INSPECTED FOR DAMAGE AND AMOUNT OF SEDIMENTATION ACCUMULATED AND CORRECTIVE ACTION TAKEN. REPORTS OF THESE INSPECTIONS AND CORRECTIVE ACTIONS SHALL BE PREPARED ON THE FORMS PROVIDED BY THE COUNTY AND SUBMITTED TO THE DEPARTMENT OF PUBLIC WORKS WITHIN 5 DAYS OF THE DATE OF THE INSPECTION.
3. TEMPORARY SILTATION CONTROL MEASURES (STRUCTURAL) SHALL BE MAINTAINED UNTIL VEGETATIVE COVER IS ESTABLISHED AT A SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL ON THE SITE.
4. WHERE NATURAL VEGETATION IS REMOVED DURING GRADING, VEGETATION SHALL BE REESTABLISHED AS SOON AS POSSIBLE IN SUCH A DENSITY AS TO PREVENT EROSION.
5. WHEN GRADING OPERATIONS ARE COMPLETED OR WILL BE SUSPENDED FOR MORE THAN 5 DAYS IN ANY AREA, THE DISTURBED AREA SHALL BE SEEDED OR OTHERWISE STABILIZED TO SIGNIFICANTLY REDUCE THE ERODIBILITY OF THE SOIL. PROTECTIVE MEASURES MAY INCLUDE A COMBINATION OF SEEDING, SODDING, MULCHING OR OTHER SUITABLE MEANS TO PROTECT THE EXPOSED GROUND SURFACE FROM EROSION.
6. IF CUT AND FILL OPERATIONS OCCUR DURING A SEASON NOT FAVORABLE FOR IMMEDIATE ESTABLISHMENT OF PERMANENT GROUND COVER, A FAST GERMINATING ANNUAL SUCH AS RYE GRASSES OR SUDAN GRASSES SHALL BE UTILIZED TO RETARD EROSION, IF ADEQUATE STORM WATER DETENTION AND EROSION CONTROL DEVICES HAVE NOT BEEN ESTABLISHED.
7. ALL FINISHED GRADES (AREAS NOT TO BE DISTURBED BY FUTURE IMPROVEMENT) IN EXCESS OF 20% SLOPES (5:1) SHALL BE MULCHED AND TACKED AT A RATE OF 100 POUNDS PER 1,000 SQUARE FEET WHEN SEEDED AS SOON AS POSSIBLE AFTER FINAL PLACEMENT.
8. STORM WATER PIPES, OUTLETS AND CHANNELS SHALL BE PROTECTED BY SILT BARRIERS AND KEPT FREE OF WASTE AND SILT AT ALL TIMES PRIOR TO FINAL SURFACE STABILIZATION AND / OR PAVING.
9. A MINIMUM OF 10% SURPLUS EROSION CONTROL MATERIALS SHALL BE KEPT ON–SITE FOR EMERGENCY REPAIRS.
10. NOTIFY THE COUNTY OF ST. LOUIS 48 HOURS PRIOR TO COMMENCEMENT OF GRADING AND/OR PRIOR TO COMMENCEMENT OF CONSTRUCTION.
11. PARKING ON NON–SURFACED AREAS IS PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVING CONDITIONS.
12. THE STREETS SURROUNDING THIS DEVELOPMENT AND ANY STREET USED FOR CONSTRUCTION ACCESS THERETO SHALL BE KEPT FREE FROM MUD AND CONSTRUCTION DEBRIS AND SHALL BE CLEANED THROUGHOUT THE DAY.
13. ALL FILLS PLACED UNDER PROPOSED STORM AND SANITARY SEWER LINES AND/OR PAVED AREAS, INCLUDING TRENCH BACKFILLS WITHIN AND OFF THE ROAD RIGHT–OF–WAY, SHALL BE COMPACTED TO 90% OF MINIMUM DENSITY AS DETERMINED BY THE "MODIFIED AASHTO T–180 COMPACTION TEST" (ASTM D–1557) FOR THE ENTIRE DEPTH OF THE FILL. COMPACTED GRANULAR BACKFILL IS REQUIRED IN ALL TRENCH EXCAVATION WITHIN THE STREET RIGHT–OF–WAY AND UNDER ALL PAVED AREAS. ALL TESTS SHALL BE PERFORMED UNDER THE DIRECTION OF AND VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACKFILLING OPERATIONS.
14. SOFT SOILS FROM THE BOTTOM AND BANKS OF ANY EXISTING OR FORMER POND SITES OR TRIBUTARIES OR ANY SEDIMENT BASINS OR TRAPS SHALL NOT BE PLACED IN PROPOSED PUBLIC RIGHT–OF–WAY LOCATIONS OR IN ANY STORM SEWER LOCATION.
15. ALL TRASH AND DEBRIS ON–SITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND PROPERLY DISPOSED OF OFF–SITE.
16. DEBRIS AND FOUNDATION MATERIAL FROM ANY EXISTING ON–SITE BUILDING OR STRUCTURE WHICH IS SCHEDULED TO BE RAZED FOR THIS DEVELOPMENT MUST BE PROPERLY DISPOSED OF OFF–SITE.
17. ANY WELLS, CISTERNS AND/OR SPRINGS, WHICH MAY EXIST ON THIS PROPERTY, SHOULD BE LOCATED AND SEALED IN A MANNER ACCEPTABLE TO THE COUNTY OF ST. LOUIS AND THE MODNR.
18. ALL EXCAVATIONS, GRADING OR FILLING SHALL HAVE A FINISHED GRADE NOT TO EXCEED A 4:1 SLOPE (25%), UNLESS SPECIFICALLY APPROVED OTHERWISE. NO SLOPE SHALL EXCEED 3:1 MAXIMUM.
19. NO EXCAVATION SHALL BE MADE SO CLOSE TO THE PROPERTY LINE AS TO ENDANGER ANY ADJOINING PROPERTY OF ANY PUBLIC OR PRIVATE STREET WITHOUT SUPPORTING AND PROTECTING SUCH PUBLIC OR PRIVATE STREET OR PROPERTY FROM SETTLING, CRACKING OR OTHER DAMAGE.
20. ALL LOTS SHALL BE SEEDED AND MULCHED OR SODDED BEFORE AN OCCUPANCY PERMIT SHALL BE ISSUED".
21. REFER TO SHEET C6.0.0 AND C7.0.0 FOR ADDITIONAL SWPPP PLAN DETAILS [EROSION CONTROL FILTER ROLL (FILTER SOCK) DETAIL, EROSION CONTROL INLET PROTECTION (FABRIC DROP) DETAIL AND SILT FENCE DETAIL].
22. GRADING MUST NOT BEGIN UNTIL ALL PERIMETER SILTATION CONTROL HAS BEEN INSTALLED AND INSPECTED BY THE COUNTY.
23. A REDLINE SWPPP INDICATING ANY AND ALL CHANGES TO THE ORIGINAL SWPPP MUST BE KEPT ONSITE AND AVAILABLE TO THE COUNTY INSPECTOR DURING SITE VISITS AND COMPLIANCE INSPECTIONS.
24. ADDITIONAL SILTATION CONTROL SHALL BE INSTALLED AS REQUIRED BY ST. LOUIS COUNTY DEPARTMENT OF TRANSPORTATION.
25. ANY LAND CLEARING, CONSTRUCTION, OR DEVELOPMENT INVOLVING THE MOVEMENT OF EARTH SHALL BE IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN, AND THE PERSON ISSUED A LAND DISTURBANCE PERMIT ASSUMES AND ACKNOWLEDGES RESPONSIBILITY FOR COMPLIANCE WITH THE SAINT LOUIS COUNTY LAND DISTURBANCE CODE AND THE APPROVED STORM WATER POLLUTION PLAN AT THE SITE OF THE PERMITTED ACTIVITY.
26. PRIOR TO THE ISSUANCE OF A MAJOR LAND DISTURBANCE PERMIT, A LAND DISTURBANCE ESCROW SHALL BE APPROVED BY ST. LOUIS COUNTY DEPARTMENT OF PLANNING.
27. PRIOR TO ANY MAJOR LAND DISTURBANCE ACTIVITY, A LAND DISTURBANCE PERMIT FROM THE STATE OF MISSOURI DEPARTMENT OF NATURAL RESOURCES IS REQUIRED.
28. SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASH DOWN STATION PRIOR TO LEAVING THE SITE. NO TRACKING OF MUD ONTO ST. LOUIS COUNTY ROADS SHALL BE ALLOWED.
29. THE CONTRACTOR SHALL PROVIDE, INSTALL, MAINTAIN, AND REMOVE A PUBLIC NOTIFICATION SIGN, PER PAGES 42–43 OF THE ST. LOUIS COUNTY SEDIMENT AND EROSION CONTROL MANUAL.
30. THE SWPPP SHALL HAVE SUFFICIENT INFORMATION TO BE OF PRACTICAL USE TO CONTRACTORS AND SITE CONSTRUCTION WORKERS TO GUIDE THE INSTALLATION AND MAINTENANCE OF BMP'S. TEMPORARY STABILIZATION IS TO TAKE PLACE WHERE SOIL DISTURBING ACTIVITIES WILL CEASE ON ANY PORTION OF THE SITE AND ARE NOT PLANNED TO RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. TEMPORARY STABILIZATION MUST BE INITIATED IMMEDIATELY UPON KNOWING THE DURATION IS MORE THAN 14 DAYS. TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN 7 CALENDAR DAYS. SLOPES FOR DISTURBED AREAS MUST BE DEFINED IN THE SWPPP. A SITE MAP OR MAPS, DEFINING THE SLOPED AREAS FOR ALL PHASES OF THE PROJECT, MUST BE INCLUDED IN THE SWPPP. THE TYPES OF BMP'S USED MUST BE SUITED TO THE AREA DISTURBED, TAKING INTO ACCOUNT THE NUMBER OF ACRES EXPOSED AND THE STEEPNESS OF THE SLOPES. IF THE SLOPE OF THE AREA IS GREATER THAN 3:1 (3 FEET HORIZONTAL TO 1 FOOT VERTICAL) OR IF THE SLOPE IS GREATER THAN 3% AND GREATER THAN 150 FEET IN LENGTH, THEN THE PERMITEE MUST ESTABLISH TEMPORARY STABILIZATION WITHIN 7 DAYS OF CEASING OPERATION ON THAT PART OF THE SITE. FINAL STABILIZATION OF DISTURBED AREAS MUST BE INITIATED IMMEDIATELY AND COMPLETED WITHIN 7 CALENDAR DAYS WHENEVER ANY CLEARING, GRADING, EXCAVATING OR OTHER EARTH DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE SITE. ALLOWANCES TO THE 7 DAY COMPLETION PERIOD FOR TEMPORARY AND FINAL STABILIZATION MAY BE MADE DUE TO WEATHER OR EQUIPMENT MALFUNCTIONS. THE USE OF ALLOWANCES SHALL BE DOCUMENTED IN THE SWPPP. A SITE MAP SHOWING THE OUTLINES OF THE TOTAL PROJECT AREA, THE AREAS TO BE DISTURBED, AREAS THAT WILL NOT BE DISTURBED, EXISTING LAND USES, LOCATIONS OF OFF–SITE MATERIALS, WASTE, BORROW AND EQUIPMENT STORAGE AREAS, LOCATIONS AND NAMES OF SURFACE WATER BODIES THE SITE DRAINS TO, AREAS OF FINAL STABILIZATION, LOCATIONS OF FLOOD PLAINS, LOCATIONS OF TEMPORARY AND PERMANENT BEST MANAGEMENT PRACTICES (BMP), LOCATIONS OF OUTFALLS, LOCATION(S) OF PORTA–POTTIES, GAS TANKS, DUMPSTERS, ETC. WITH UPDATES AND LOCATION CHANGES AND SUCH OTHER INFORMATION AS MAY BE REQUIRED BY THE COUNTY DEPARTMENT(S) HAVING ENFORCEMENT AUTHORITY AND RESPONSIBILITIES DESCRIBED IN SECTION 103.0 OF THE CODE. THE PERMITEE SHALL ENSURE THE BMP'S ARE PROPERLY INSTALLED AT THE LOCATIONS AND RELATIVE TIMES SPECIFIED IN THE SWPPP. PERIPHERAL OR BORDER BMP'S TO CONTROL RUNOFF FROM DISTURBED AREAS SHALL BE INSTALLED OR MARKED FOR PRESERVATION BEFORE GENERAL SITE CLEARING IS STARTED. NOTE THAT THIS REQUIREMENT DOES NOT APPLY TO EARTH DISTURBANCES RELATED TO INITIAL SITE CLEARING AND ENTRY ESTABLISHMENT, EXIT AND ACCESS OF THE SITE, WHICH MAY REQUIRE THAT STORMWATER CONTROLS BE INSTALLED IMMEDIATELY AFTER THE EARTH DISTURBANCE. STORM WATER DISCHARGES FROM DISTURBED AREAS WHICH LEAVE THE SITE, SHALL PASS THROUGH AN APPROPRIATE IMPEDIMENT TO SEDIMENT MOVEMENT, SUCH AS A SEDIMENTATION BASIN, SEDIMENT TRAPS, SILT FENCES, ETC., PRIOR TO LEAVING THE LAND DISTURBANCE SITE. A DRAINAGE COURSECHANGE SHALL BE CLEARLY MARKED ON A SITE MAP AND DESCRIBED IN THE SWPPP.
31. LOCATE STATE AND COUNTY LAND DISTURBANCE PERMITS, BMP INSPECTION REPORTS, ETC. WITH THE SWPPP.
32. THERE ARE NO KNOWN SINKHOLES, SPRINGS, SEEPS, OR KARST FEATURES ON THE CONSTRUCTION SITE.
33. THERE ARE NO PROPOSED INDUSTRIAL ACTIVITIES, SUCH AS CONCRETE OR ASPHALT BATCH PLANTS, PLANNED FOR THIS PROJECT.
34. THERE ARE NO ENDANGERED SPECIES OR HISTORIC PROPERTIES IMPACTED BY THIS PROJECT.
35. 404/401 PERMITS ARE NOT REQUIRED FOR THIS PROJECT AS CONSTRUCTION ACTIVITIES WILL NOT IMPACT ANY JURISDICTIONAL WATERS.
36. THERE ARE NO NON–STORMWATER DISCHARGES OR USE OF DEWATERING MEHODS PLANNED FOR THIS PROJECT.
37. IN THE EVENT STORM WATER RUNOFF LEAVES THE CONSTRUCTION SITE, THE APPROVED SITE SPECIAL INSPECTOR SHALL BE NOTIFIED BY PHONE IMMEDIATELY.

HAUL ROUTE INFORMATION

- Net cut volume for the site is 32 CY.
- Waste material is being hauled to 824 Hog Hollow Road (Chesterfield).
- The haul route is Coeur De Ville Drive North to HWY 340 West to Hog Hollow Road site.
- Concrete and asphalt material is being hauled to Simpson Materials for recycling (Valley Park).
- The haul route is Coeur De Ville Drive South to Ladue Road, then West to HWY 141 South, then to I–44 North Outer Road West to the site.
- Hauling activities should last approximately 1 month.
- Hauling will be during the hours of 8:40 a.m. and 2:30 p.m.

HAUL SCHEDULE

Haul Dates: May 20, 2025 – August 20, 2025

SEDIMENT HANDLING

Sediment removed during the maintenance of BMP's should be handled and disposed of in accordance with the approved SWPPP procedures for excavation.

LOSS OF SEDIMENT OFFSITE

Sediment lost offsite shall be immediately reclaimed and replaced. The BMP shall be inspected by engineer and a repair plan made to prevent future failure.

THE PROPERTY OWNER / DEVELOPER HEREBY CERTIFIES THAT HE IS FAMILIAR WITH THE SWPPP AND ASSUMES FULL RESPONSIBILITY FOR THE PERFORMANCE AND MAINTENANCE OF THE SWPPP AS STATED ON THE APPROVED PLANS. HE WILL ENSURE THAT ALL CONTRACTORS UNDERSTAND AND ARE FAMILIAR WITH THE SWPPP FOR THE SITE AND THAT EACH CONTRACTOR AGREES TO IMPLEMENT AND PROTECT ELEMENTS OF THE SWPPP AS THEY RELATE TO HIS WORK. THE PROPERTY OWNER'S / DEVELOPER'S ONSITE REPRESENTATIVE SHALL BE RESPONSIBLE FOR THE PERFORMANCE AND MAINTENANCE OF THE SWPPP. IN ADDITION, THE UNDERSIGNED OWNER / DEVELOPER ASSURES THAT ALL CITY PROPERTY OR ROADS WILL BE ADEQUATELY PROTECTED.

OWNER'S / DEVELOPER'S CONTACT PERSON AND PHONE # : Ralph Knese (314) 415–8268

OWNER'S / DEVELOPER'S Signature _____

Date _____

EMERGENCY CONTACT AND PHONE # : Bill Freymuth (314) 415–4915

FILTER ROLLS / FILTER SOCKS

WHERE BMP IS TO BE INSTALLED:
As indicated on design plans.

WHEN BMP IS TO BE INSTALLED:
Prior to exposing any soil on site.

INSTALLATION / CONSTRUCTION PROCEDURES:
Follow the manufactures instructions and recommendations for the sizing, installation and maintenance of all filter rolls or filter socks.

O&M PROCEDURES:
Follow the manufactures instructions and recommendations for the sizing, installation and maintenance of all filter rolls or filter socks.

SITE CONDITIONS FOR REMOVAL:
Remove when general note 1 (above) is met.

NON–SEDIMENT POLLUTION CONTROL

PHYSICAL DESCRIPTION:
Control measures designed to prohibit chemicals, hazardous materials, solid waste and construction debris from polluting stormwater. Pollutants carried in solution or as surface films on runoff will be carried through most erosion control and sediment capture BMP's. Keeping substances like fuel, oil, asphalt, paint, fertilizer, soil additives, concrete wash water, solid waste and construction debris from polluting runoff can be accomplished to a large extent through good housekeeping on the site and following the manufacture's recommendations for disposal.

WHERE BMP IS TO BE INSTALLED:
Collection, storage and fueling areas should be located onsite in an area that does not receive a substantial amount of runoff from upland areas and does not drain directly to lakes, creeks, streams, rivers, sewers, groundwater, wetlands, or road ditches. Temporary sanitary facilities will be provided within 500' of each work site.

WHEN BMP IS TO BE INSTALLED:
Immediately following installation of construction entrances and wash stations.

INSTALLATION / CONSTRUCTION PROCEDURES:
Place waste receptacles near area of work.
Construct protective berm or other devices around fueling and hazardous materials storage areas.
Install appropriate signage.
Post guidelines for proper handling, storage and disposal of materials, and emergency spill cleanup on site.

O&M PROCEDURES:
Inspect activities on a weekly basis.
Inspect storage areas and control devices at least every two weeks and after every storm.
Make necessary corrections and repairs.

SITE CONDITIONS FOR REMOVAL:
Maintain practices until all construction on the site has been completed.

TYPICAL DETAILS:
General pollution prevention notes attached.

POLLUTION PREVENTION PROCEDURES

1. HANDLING AND DISPOSAL OF HAZARDOUS MATERIALS

   DO: Prevent spills.
   Use products up.
   Follow label directions for disposal.
   Remove lids from empty bottles and cans when disposing in trash.
   Recycle wastes whenever possible.

   DON'T: Don't pour waste into sewers, waterways or on the ground.
   Don't pour waste down sink, floor drain or septic tanks.
   Don't bury chemicals or containers, or dispose of them with construction debris.
   Don't mix chemicals together.

2. Containers shall be provided for collection of all waste material including construction debris, trash, petroleum products and any hazardous materials to be used onsite. All waste material shall be disposed of at facilities approved for that material.
3. No waste material shall be buried on–site.
4. Mixing, pumping, transferring or otherwise handling construction chemicals such as fertilizer, lime, asphalt, concrete drying compounds, and all other potentially hazardous materials shall be performed in an area away from any watercourse, ditch or storm drain.
5. Equipment fueling and maintenance, oil changing, etc., shall be preformed only in an area designated for that purpose. The designated area is equipped for recycling oil and catching spills.
6. Concrete wash water shall not be allowed to flow directly to storm sewers, streams, ditches, lakes, etc. without being treated. A sump or pit shall be constructed to contain concrete wash water.
7. If substances such as oil, diesel fuel, hydraulic fluid, antifreeze, etc. are spilled, leaked, or released onto soil, the soil shall be dug up and disposed at a licensed sanitary landfill (not a construction / demolition debris landfill). Spills on pavement shall be absorbed with sawdust, kitty litter or product designed for that purpose and disposed of at a licensed sanitary landfill. Hazardous or industrial wastes such as most solvents, gasoline, oil–based paints, and cement curing compounds require special handling. Theses materials will be removed from the site and recycled or disposed of in accordance with MoDNR requirements.
8. State law requires the party responsible for petroleum product spill in excess of 50 gallons to report the spill to MoDNR (537–634–2436) as soon as practical after discovery. Federal law requires the responsible party to report any release of all if it reaches or threatens a sewer, lake, creek, stream, river, groundwater, wetland, or area, like a road ditch, that drains into one of the above.

SOIL PREPARATION AND REVEGATATION

1. Remove debris, roots, branches, stone, in excess of 1 inch in size. Remove soil contaminated with petroleum products.
2. Where topsoil is to be placed, scarify surface to depth of 3 inches.
3. In areas where vehicles or equipment have compacted soil, scarify surface to depth of 6 inches.
4. Place topsoil in areas where sodding and planting are indicated.
5. Place topsoil where required to level finish grade.
6. Place topsoil during dry weather.
7. Remove roots, weeds, rocks, and foreign material while spreading.
8. Fine grade topsoil to eliminate uneven areas and low spots. Maintain profiles and contour of subgrade.
9. Roll placed topsoil.
10. Moisten prepared surface immediately prior to laying sod.
11. Lay sod within 24 hours after harvesting to prevent deterioration.
12. Lay sod smooth and tight with no open joints visible, and no overlapping; stagger end joints 12 inches minimum.
13. Where new sod adjoins existing grass areas, align top surfaces.
14. Where sod is placed adjacent to hard surfaces, such as curbs, pavements, etc., place top elevation of sod 1/2 inch below top of hard surface.
15. Water sodded areas immediately after installation. Saturate sod to 4 inches of soil.
16. After sod and soil have dried, roll sodded areas to ensure good bond between sod and soil and to remove minor depressions and irregularities.

WASHDOWN STATION

PHYSICAL DESCRIPTION:
An area located at construction entrances designed to wash sediment from the tires and undercarriage of exiting vehicles and prevent sediment from being tracked onto existing roadways.

WHERE BMP IS TO BE INSTALLED:
Across or immediately adjacent to exit paths from unpaved construction sites.

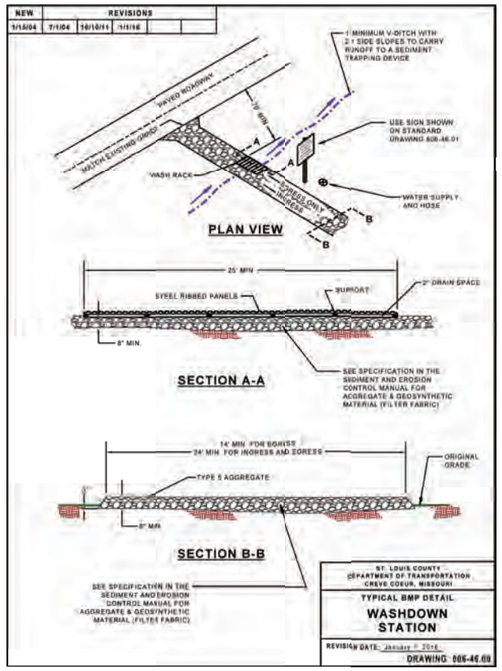
CONDITIONS FOR EFFECTIVE USE OF BMP:
Drainage: Downstream BMP sized to treat dirty runoff from washdown station.

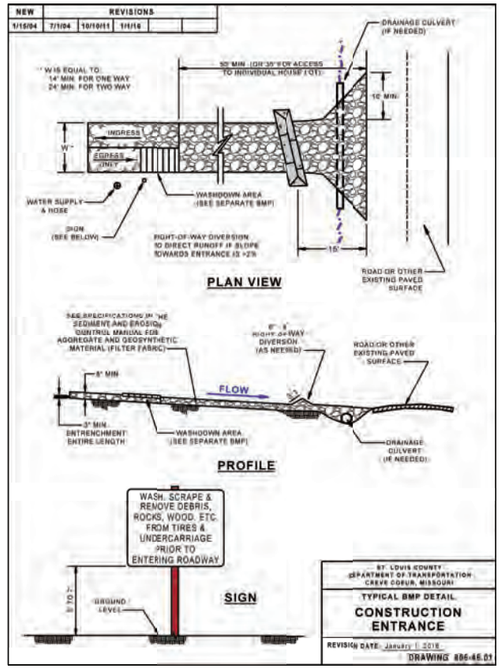
WHEN BMP IS TO BE INSTALLED:
First order of work, along with construction entrance, prior to vehicles or equipment accessing unpaved areas.

INSTALLATION / CONSTRUCTION PROCEDURES:
Grade and compact area for drainage under washdown pad.
Install steel–ribbed plate on frame or other support to allow a 2" drain space.
Grade and vegetate downstream BMP.
Install water supply and hose.
Post sign in advance of station indicating that all exiting vehicles and equipment must use station prior to exiting site.

O&M PROCEDURES:
Remove sediment daily.
Repair settled areas.
Replace rock if necessary to maintain clean surface.

SITE CONDITIONS FOR REMOVAL:
Remove when vehicles and equipment will no longer access unpaved areas.





LAST EDITED: 1/22/2025 4:05 PM
FILE PATH: C:\Users\SMS\19010DOCACCDocs\WSP USA projects (AMER)\ST.LOU\30902493 - Parkway 2022 Bond - P23\Project Files\F - NEM - 2024\Civil\MS2401B\Cx\00000001.cf.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION ALTERED BY FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

25PRJ–00000 25MSD–00025 BASEMAP 180

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-44444
Fax: +1 314 421-7741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
0	ISSUE FOR BID	01.24.25

PARKWAY SCHOOL DISTRICT

NORTHEAST MIDDLE SCHOOL

181 COEUR DE VILLE DRIVE
CREVE COEUR, MO 63141

VOLUME 1 - SITE IMPROVEMENTS

STATE OF MISSOURI
MICHAEL SESIAS
NUMBER PE–2021009101
PROFESSIONAL ENGINEER
1/24/25

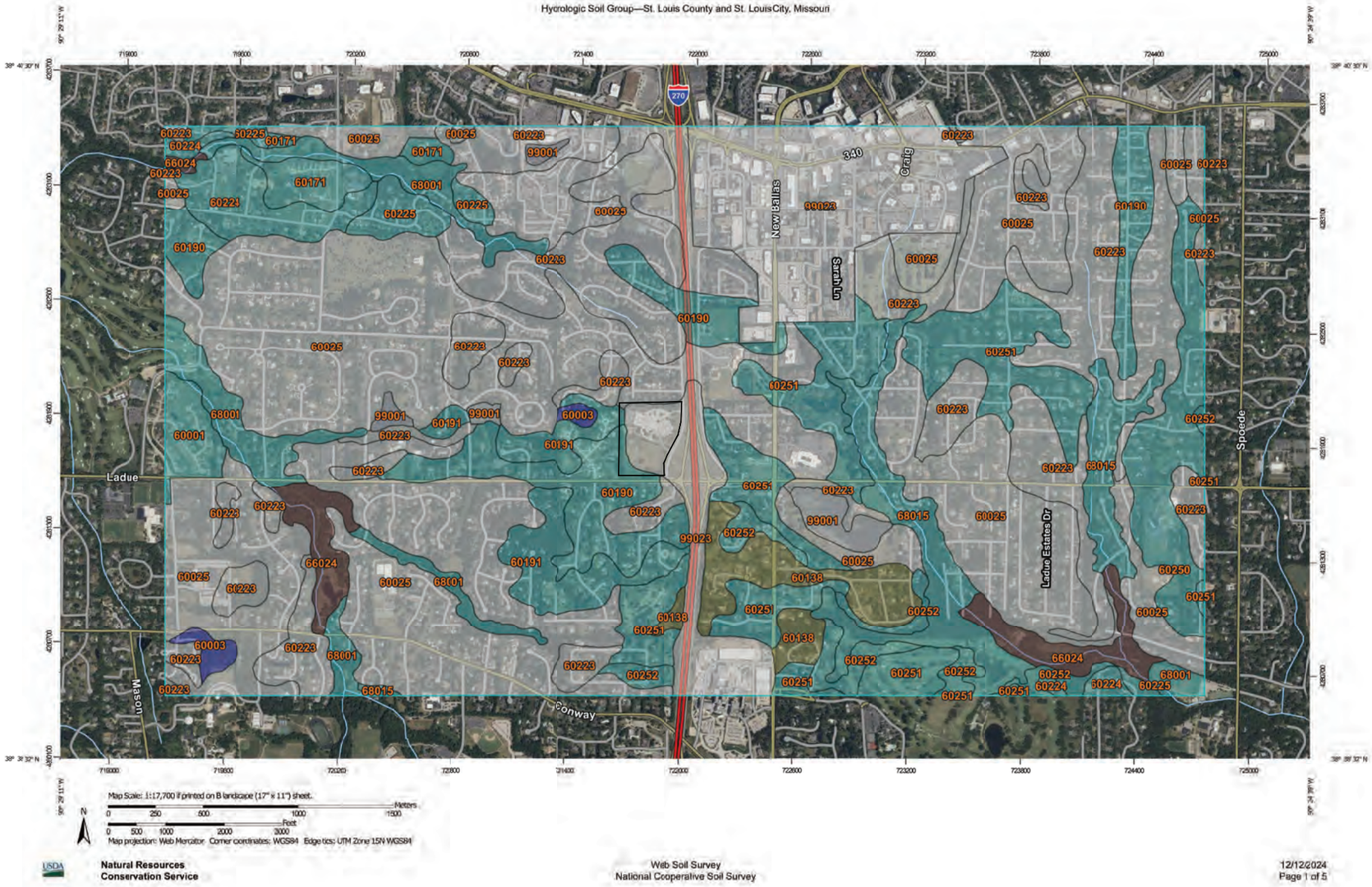
PROFESSIONAL SEAL

SHEET NAME
DETAILS

DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	DH
DATE:	24 JANUARY 2025
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 452401B
WSP PROJECT NUMBER: 30902493.6999
SHEET NUMBER **C6.01**





SWPPP CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT THIS STORM WATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS AND REGULATIONS OF ST. LOUIS COUNTY AND THE MISSOURI DEPARTMENT OF NATURAL RESOURCES, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE INFORMATION CONTAINED IN THIS PLAN IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWN VIOLATIONS.

SIGNATURE: _____ DATE: 12/12/2024

LAST EDITED: 1/22/2025 4:05 PM
FILE PATH: C:\Users\MS\MS1901\WDC\ACCDocs\WSP USA projects (AMER)\ST L 00-30902493 - Parkway 2022 Bond - R23\Project Files\F - NEM - 2024\CIVIL\M52401B\Civil000000001C.dwg

25PRJ–00000 25MSD–00025 BASEMAP 180

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314 421-7741
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
0	ISSUE FOR BID	01.24.25

PARKWAY SCHOOL DISTRICT

NORTHEAST MIDDLE SCHOOL

181 COEUR DE VILLE DRIVE
CREVE COEUR, MO 63141

VOLUME 1 - SITE IMPROVEMENTS

STATE OF MISSOURI
MICHAEL SISTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER
1/24/25

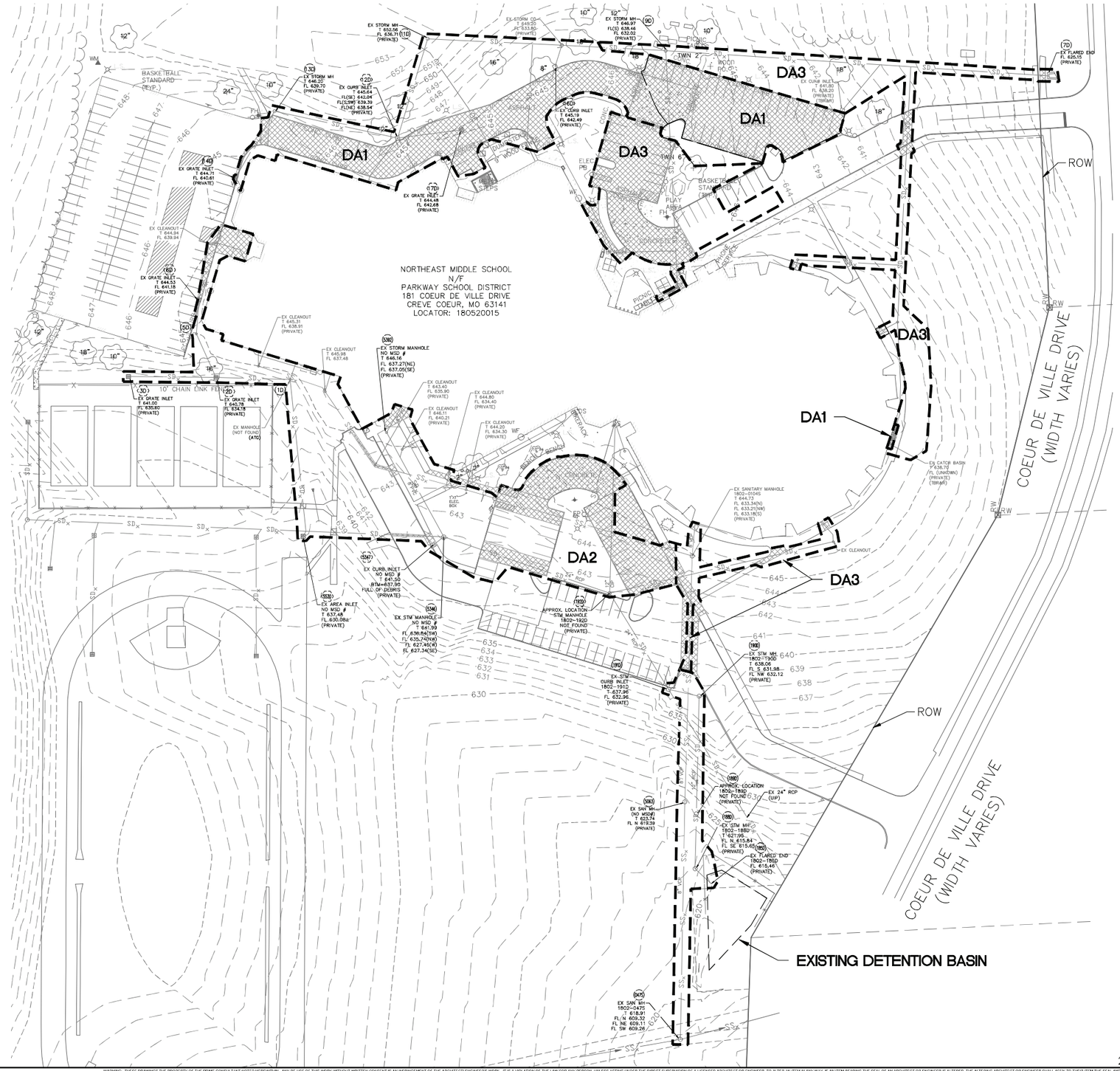
PROFESSIONAL SEAL

SHEET NAME
DETAILS

DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	DH
DATE:	24 JANUARY 2025
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 452401B
WSP PROJECT NUMBER: 30902493,6999
SHEET NUMBER **C6.02**



Drainage Area Table / Runoff Calculations					
Drainage Area	Discharge Point	Land Use	15-yr/20-min PI Factor	Pre-Development DA (acres)	Pre-Dev. Runoff (cfs)
DA1	Sub Area 1 (inlets)	Pavement	3.54	0.587	2.077
		Grass	1.70	0.385	0.654
		Subtotal		0.972	2.731
DA2	South Storm System (Basin)	Pavement	3.54	0.461	1.632
		Grass	1.70	0.782	1.330
		Subtotal		1.243	2.962
DA3	East Property (Coeur De Ville Drive)	Pavement	3.54	0.333	1.178
		Grass	1.70	0.512	0.871
		Subtotal		0.845	2.049
		Total		3.060	7.742

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314-421-7561
wsp.com
WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
0	ISSUE FOR BID	01.24.25

PARKWAY SCHOOL DISTRICT

NORTHEAST MIDDLE SCHOOL

181 COEUR DE VILLE DRIVE
CREVE COEUR, MO 63141

VOLUME 1 - SITE IMPROVEMENTS

STATE OF MISSOURI
MICHAEL SESTAK
NUMBER PE-2021009101
PROFESSIONAL ENGINEER
1/24/25

PROFESSIONAL SEAL

SHEET NAME
EXISTING DRAINAGE AREA MAP

DESIGNED BY: MS
DRAWN BY: ST
CHECKED BY: DH
DATE: 24 JANUARY 2025
SCALE:

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 452401B
WSP PROJECT NUMBER: 30902493,6999
SHEET NUMBER **C7.01**

LAST EDITED: 1/22/2025 4:05 PM
FILE PATH: C:\Users\USMS719010\DOCACC\Docs\WSP USA projects (AMER)\IST\L10\30902493 - Parkway 2022 Bond - R23\Project Files\F - NEW - 2024\CIVIL\452401B0-n0000000001C.dwg

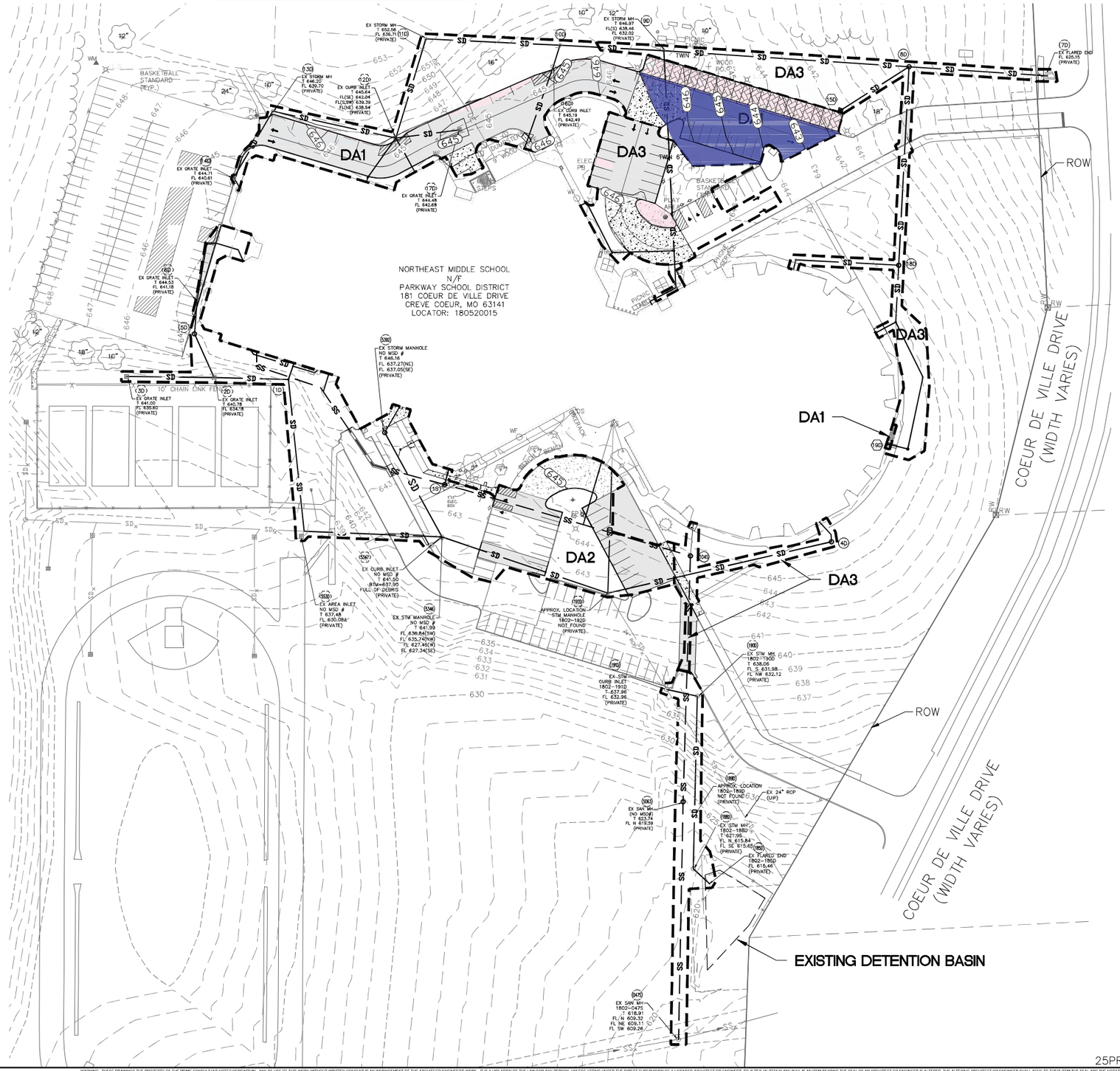
WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

25PRJ-00000 25MSD-00025 BASEMAP 180

BMP Storage Volume Required vs BMP Storage Volume Provided

BMP Drainage Area	Total Drainage Area (FT^2)	2 Year-24 Hour Total Runoff / DA: Q - Runoff (inches & Feet)	Volume of Runoff / DA (FT^3)	Volume of Storage Required at 40% Void Ratio (FT^3)	Total Area of BMP (FT^2)	Level Storage Depth (inches & Feet)	Total Effective Storage Bedding Volume / BMP (FT^3) at Level Storage Depth *	Volume of Effective Storage Available at 40% Void Ratio (FT^3)	Ratio of Required Storage to Actual Effective Storage Volume	Depth of Stored Q (Feet & Inches)	Storage Bed % Full
DA-BMP-1	12151	2.16	2187.2	5468.0	199 x 18'	48	14328	5731.2	0.954	3.816	95.4%
		0.180			3582	4				45.80	

* - Computed with only the minimum level portion of the storage bedding and not the entire sloped portion.



Drainage Area Table / Runoff Calculations

Drainage Area	Discharge Point	Land Use	15-yr/20-min PI Factor	Post-Development DA (acres)	Post-Dev. Runoff (cfs)
DA1	Sub Area 1 (Inlets)	Pavement	3.54	0.358	1.267
		Grass	1.70	0.435	0.569
		Subtotal		**0.693**	**1.836**
	Sub Area 2 (Permeable Pavement)	Pavement	3.54	0.167	0.592
		Permeable Pavement	1.70	0.082	0.140
		Grass	1.70	0.029	0.050
		Subtotal		**0.279**	**0.782**
DA2	South Storm System (Basin)	Pavement	3.54	0.461	1.632
		Grass	1.70	0.782	1.330
		Subtotal		**1.243**	**2.962**
DA3	East Property (Coeur De Ville Drive)	Pavement	3.54	0.333	1.178
		Grass	1.70	0.512	0.871
		Subtotal		**0.845**	**2.049**
		Total		**3.060**	**7.629**

DENOTES AREA OF DISTURBANCE

DENOTES AREA TRIBUTARY TO BMP

N

0 50' 100'
1"=50'

25PRJ-00000 25MSD-00025 BASEMAP 180

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY REUSE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 1/22/2025 4:05 PM
FILE PATH: C:\Users\MSESTAR\1901\0\DOCACCD\ocs\WSP USA projects (AMER)\IST\1-00-30902493 - Parkway 2022 Bond - R23\Project Files\F - NEM - 2024\CIVIL\452401B-n000000000101C.dwg

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel: +1 314 206-4444
Fax: +1 314-421-7741
wsp.com

WSP USA Design, Inc.
Missouri State Certificate of Authority: #2008011869

REV	DESCRIPTION	DATE
0	ISSUE FOR BID	01.24.25

PARKWAY SCHOOL DISTRICT

NORTHEAST MIDDLE SCHOOL

181 COEUR DE VILLE DRIVE
CREVE COEUR, MO 63141

VOLUME 1 - SITE IMPROVEMENTS

STATE OF MISSOURI
MICHAEL SESTAK
PE-2012009101
PROFESSIONAL ENGINEER
1/24/25

PROFESSIONAL SEAL

SHEET NAME
PROPOSED DRAINAGE AREA MAP

DESIGNED BY:	MS
DRAWN BY:	ST
CHECKED BY:	DH
DATE:	24 JANUARY 2025
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 452401B
WSP PROJECT NUMBER: 30902493,6999
SHEET NUMBER **C8.01**

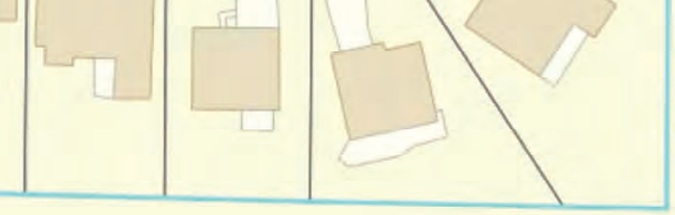
EXHIBIT-Q

SOUTHWEST MIDDLE

MSD BMP MAP

(2) Detention Ponds





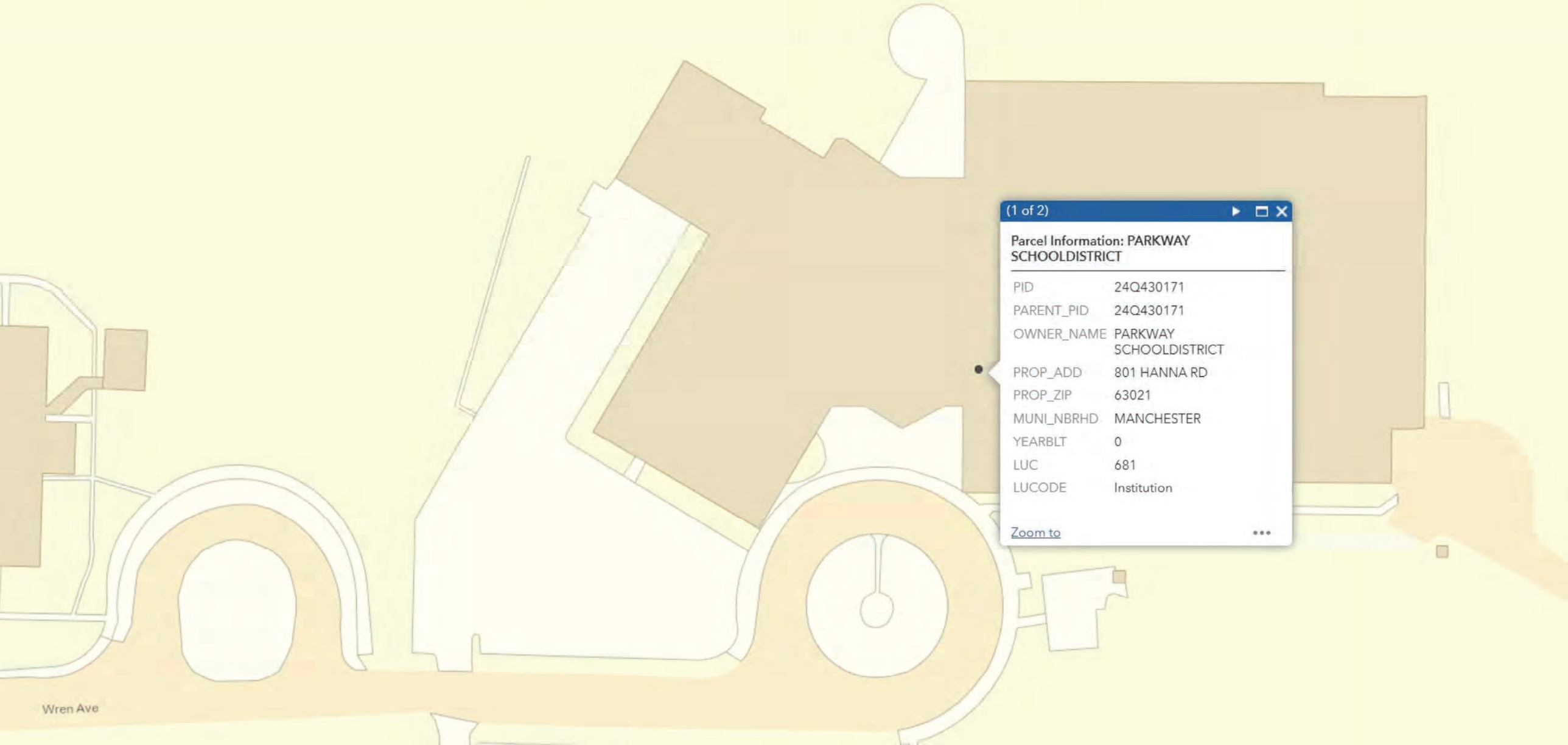


EXHIBIT-R

CENTRAL HIGH

BMP ORIGINAL PROJECT INFORMATION

--SCIENCE LAB ADDITION
--SYNTHETIC TURF FIELDS
--MSD PROJECT 20MSD-00501

SAINT LOUIS COUNTY HIGHWAYS AND TRAFFIC NOTES:

1. PROVIDE ADEQUATE OFF-STREET PARKING FOR CONSTRUCTION EMPLOYEES. PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVEWAY CONDITIONS.
2. THE DEVELOPER IS REQUIRED TO PROVIDE ADEQUATE STORM WATER SYSTEMS IN ACCORDANCE WITH ST. LOUIS COUNTY STANDARDS.
3. INTERNAL (PRIVATE) STORM SEWERS WILL REQUIRE A SEPARATE DRAINLAYER PERMIT FROM ST. LOUIS COUNTY DEPARTMENT OF PUBLIC WORKS.

CONTRACTOR PARKING:

EXISTING PAVED ASPHALT PARKING LOT

"SCRAPE AND WASH TIRES AND UNDERCARRIAGE PRIOR TO ENTERING ROADWAY"

WATER SUPPLY

EXISTING ASPHALT PAVEMENT

14'WIDE WASH RACK

PLAN VIEW

25'

STEEL RIBBED PANELS

SECTION A-A

WASHDOWN STATION
N.T.S.

WASHDOWN STATION

FINISH FLOOR ELEVATIONS
FIRST FLOOR=509.50
SECOND FLOOR=523.50

NATATORIUM

GYMNASIUM

NOTE: Underground facilities, structures, and utilities have been plotted from best available records, therefore the relationship between proposed work and existing facilities, structures, and utilities must be considered approximate, and it is the contractors responsibility to determine their exact location and the existance of any not shown.

BENCHMARK INFORMATION:

15-124 SQUAD - "STANDARD TABLET" stamped 30 SEI 1975 set in Northeast lower leg of Southernmost power line about 120' West of Highway 141 @ Parkway Central High School Parking Lot.

SITE TBM-500 Spike Nail

SCALE: 1"=30'
0 30' 60'

LEGEND EXISTING CONDITIONS

CONTOUR	—ELEV—
SPOT ELEVATION	ELEV
SEWER	
FOUND IRON PIPE	
GRATE INLET	
AREA INLET	
DRAIN	
ROOF DRAIN	
VENT	
MANHOLE	
LIGHT STANDARD	
SIGN	
CLEANOUT	
GUY WIRE	
POWER POLE	
WATER VALVE	
WATER METER	
SPRINKLER VALVE	
GAS VALVE	
GAS METER	
GAS DRIP	
FIRE HYDRANT	
WATER SPRINKLER	
FLAGPOLE	
WATER LINE	—W—
GAS LINE	—G—
OVERHEAD ELECTRIC	—OE—
ELECTRIC BOX	
UNDERGROUND TELEPHONE	—UT—
TELEPHONE BOX	
BUSH	
TREE	

LEGEND NEW WORK

CONTOUR	—ELEV—
SPOT ELEVATION	ELEV
STORM SEWER	
SANITARY SEWER	
MANHOLE	
CLEANOUT	
GRATE INLET	
WATER LINE	—W—
FIRE HYDRANT	
GAS SERVICE	—G—
ELECTRIC SERVICE	—E—
TELEPHONE SERVICE	—T—
CONCRETE PAVEMENT	
ASPHALT PAVEMENT	
TO BE REMOVED	T.B.R.
USE IN PLACE	U.I.P.
ADJUST TO GRADE	A.T.G.
TO BE REMOVED & REPLACED	T.B.R.&R.
TO BE PROTECTED	T.B.P.
TO BE ABANDONED	T.B.A.
REVOVE ALL SURFACE IMPROVEMENTS ASPHALT OVERLAY	

NOTE:

SEE SURVEY DRAWINGS FOR PARKWAY UTILITY LEGEND

BMP DEVICE	ESTIMATED QUANTITY	ESTIMATED UNIT PRICE	ESTIMATED COST
Silt Fence	XXX LF	$X.XX/LF	$X.XX
Sod	XXX SY	$X.XX/LF	$X.XX
Wash Down Station	1 EA	$X/EA	$X.XX
		TOTAL	$X.XX

TOTAL PARCEL AREA:	99 AC
PROJECT AREA:	1.3 AC
IMPERVIOUS PROJECT AREA BEFORE CONSTRUCTION:	
PAVEMENT (Sidewalk and Parking)	0.14 AC
IMPERVIOUS PROJECT AREA AFTER CONSTRUCTION:	
BUILDING	0.40 AC
PAVEMENT (Sidewalk and Parking)	0.40 AC
ESTIMATED EARTHWORK CALCULATIONS (BID PACK 1):	
TOTAL ESTIMATED EXCAVATION	2600 CY
TOTAL ESTIMATED EMBANKMENT	850 CY

THE SEAL OF STANLEY F. VISNOVSKE ON THIS DRAWING APPLIES ONLY TO THE CIVIL/SITE ENGINEERING SHOWN. IT DOES NOT APPLY, NOR IS ANY RESPONSIBILITY TAKEN FOR GEOTECHNICAL (INCLUDING BUT NOT LIMITED TO SLOPE STABILITY), STRUCTURAL, HVAC, PLUMBING, ELECTRICAL, FIRE PROTECTION, TRAFFIC ENGINEERING, SURVEYING (BOUNDARY AND TOPOGRAPHIC), OR ARCHITECTURAL (BUILDING OR LANDSCAPE).

PB 100 YEARS®

PB PARSONS BRINCKERHOFF
1831 CHESTNUT STREET, ST. LOUIS MO. 63103-2225
P 314.421.1478 F 314.421.1741 E www.pbworld.com

Health Education + Research Associates, Inc.
14 N. KINGSHEAD SUITE 200
ST. LOUIS MO. 63108

Structural Engineer
HEIDEMAN ASSOCIATES, INC.
13845 Barrett Parkway Drive Suite 200 St. Louis, Missouri 63021
p 314.822.2217 f 314.822.7808

GENESIS ENGINEERING
16141 SWINGLY RIDGE ROAD SUITE 300
ST. LOUIS MISSOURI 63017

REV	DESCRIPTION	DATE

BID PACKAGE 2 - FINAL BID DOCUMENTS
Science Renovations / Addition
PARKWAY CENTRAL
HIGH SCHOOL
369 NORTH WOODS MILL ROAD
Chesterfield, Missouri 63017

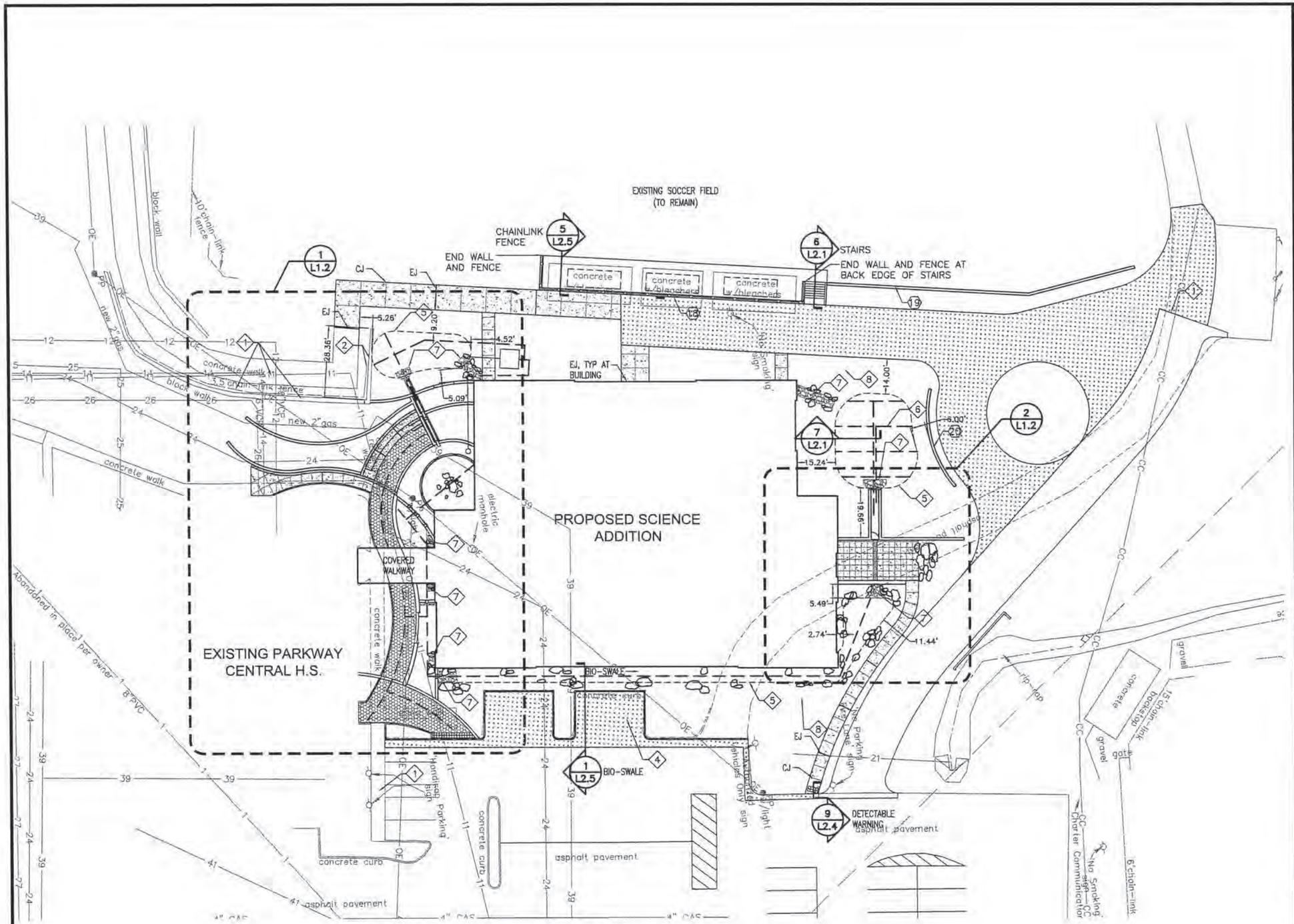
PARKWAY SCHOOL DISTRICT

STATE OF MISSOURI

Name / Number — Date
Stanley F. Visnovske, P.E. / 018136
Genesis Engineering, Inc. Corporate Number 2005009462

SHEET CONTENT
STORMWATER POLLUTION PREVENTION PLAN

DATE:	OCTOBER 27, 2009
SCALE:	AS NOTED
DRAWN BY:	SFV
CHECKED BY:	SFV
APPROVED BY:	SFV
PSD PROJECT NUMBER:	P109000518
PB PROJECT NUMBER:	35998A
SHEET NUMBER:	C3.1



SHEET NOTES

1. UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF IMPROVEMENTS.
2. UNLESS OTHERWISE INDICATED, ALL CAST-IN-PLACE CONCRETE SITE WALLS SHALL RECEIVE AN INTEGRAL COLOR AND A RUBBED SMOOTH FORM FINISH. COLOR SELECTION BY OWNER'S REPRESENTATIVE FROM MANUFACTURER'S FULL RANGE. HONEYCOMBS, SPALLING, FORM LINES OR OTHER OBJECTIONABLE DISTORTIONS IN THE SURFACE OF THE CONCRETE WILL BE CAUSE FOR REJECTION.
3. SEE L1.2 FOR WALL SCHEDULE.
4. SEE CIVIL FOR SITE DIMENTIONS.

KEY NOTES

1. EXISTING, SEE CIVIL.
2. REMOVE THIS SHORT SECTION OF WALL AND FENCE AND BLEND REMAINING WALL WITH PROPOSED WALL. SEE CIVIL FURTHER INSTRUCTION.
3. RE-ALIGNED DRIVEWAY, SEE CIVIL DRAWINGS.
4. REMOVE AND REPLACE PAVEMENT AS INDICATED, SEE CIVIL DRAWINGS.
5. LIMITS OF BIO-RETENTION SOILS.
6. UNDERDRAIN
7. ROCK REVETMENT AT OUTFALL, SEE DETAIL 6/L2.5
8. ACID NEUTRALIZATION TANK, SEE CIVIL DRAWINGS.

PROPOSED LEGEND

- POROUS PAVERS, DETAIL 9/L2.1
- CONCRETE SIDEWALK, SEE CIVIL DETAILS
- ASPHALT, SEE CIVIL DETAILS
- ROCK REVETMENT
- TRENCH DRAIN
- RETAINING WALL
- UNDERDRAIN
- WALL TYPE SEE PAGE L1.2
- ROCK OUTCROP / BOULDERS

1 DETAIL REFERENCE PLAN

1" = 20'-0"

5 0 10 20

N

LANDSCAPE ABBREVIATIONS

BAR –	STEEL REBAR	FT. –	FOOT / FEET
BW –	BOTTOM OF WALL	MAX. –	MAXIMUM
CJ –	CONTROL JOINT	MIN. –	MINIMUM
CL –	CLEAR	MFG. –	MANUFACTURING
DIA –	DIAMETER	MSD –	METROPOLITAN ST LOUIS SEWER DISTRICT
EF –	EACH FACE		
EJ –	EXPANSION JOINT	R –	RADIUS
EW –	EACH WAY	SCH. –	SCHEDULE
EL. / ELEV.	ELEVATION	TYP. –	TYPICAL
FFE –	FINISH FLOOR ELEVATION	TW –	TOP OF WALL
F.G. –	FINISH GRADE		

GENERAL NOTE

IT IS THE RESPONSIBILITY OF THE PRIME CONTRACTOR TO MAKE SURE THAT HE AND ALL HIS SUBCONTRACTORS COORDINATE THE WORK SHOWN ON THE "L" SERIES DRAWINGS WITH ALL OTHER DRAWINGS OF THE CONSTRUCTION DOCUMENTS. CLAIMS RESULTING FROM LACK OF COORDINATION WILL BE REJECTED. IF INCONSISTENCIES OR CONFLICTING DIRECTION IS DISCOVERED, THE CONTRACTOR SHALL CONTACT THE OWNER'S REPRESENTATIVE IMMEDIATELY.



PB 100 YEARS®

PB PARSONS BRINCKERHOFF
1831 CHESTNUT STREET, ST. LOUIS MO. 63103-2225
T 314.421.1478 F 314.421.1741 | www.pbworld.com

Health Education + Research Associates, Inc.
14 N. KINGSTEAD SUITE 200
ST. LOUIS MO, 63108

HEIDEMAN ASSOCIATES, INC.
13345 Bennett Parkway Drive Suite 200 St. Louis, Missouri 63021
p 314.822.2217 f 314.822.7556 www.zaccomputer.com

GENESIS ENGINEERING
16141 SWINGLY RIDGE ROAD SUITE 200
ST. LOUIS MISSOURI 63017

REV	DESCRIPTION	DATE

BID PACKAGE 2 - FINAL BID DOCUMENTS
Science Renovations / Addition
PARKWAY CENTRAL HIGH SCHOOL
369 NORTH WOODS MILL ROAD
Chesterfield, Missouri 63017

PARKWAY SCHOOL DISTRICT
STATE OF MISSOURI

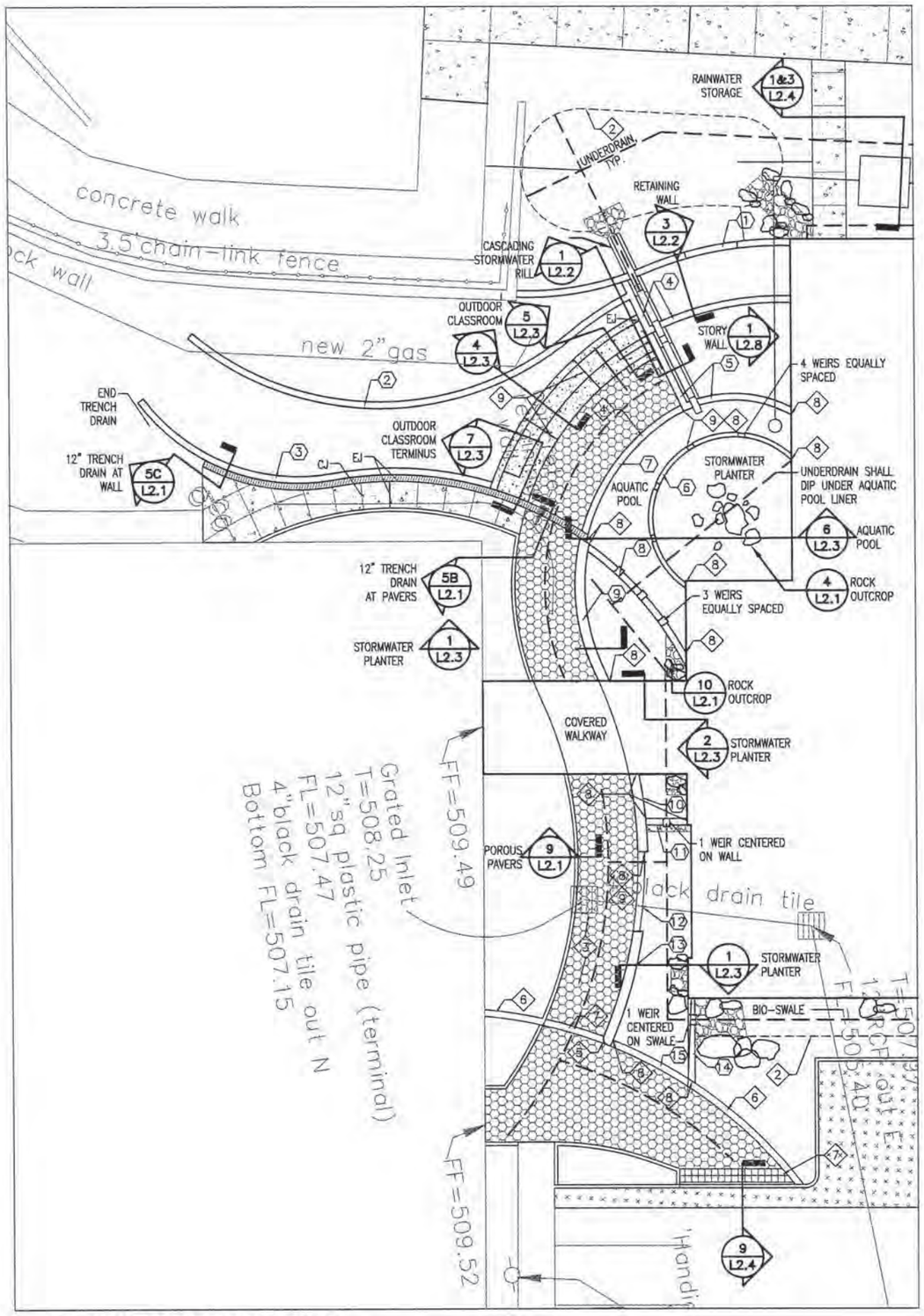
Name / Number	Date
Lann Miller, Landscape Architect / 2002009610 PB Americas, Inc. / 000044	

SHEET CONTENT
DETAIL REFERENCE PLAN

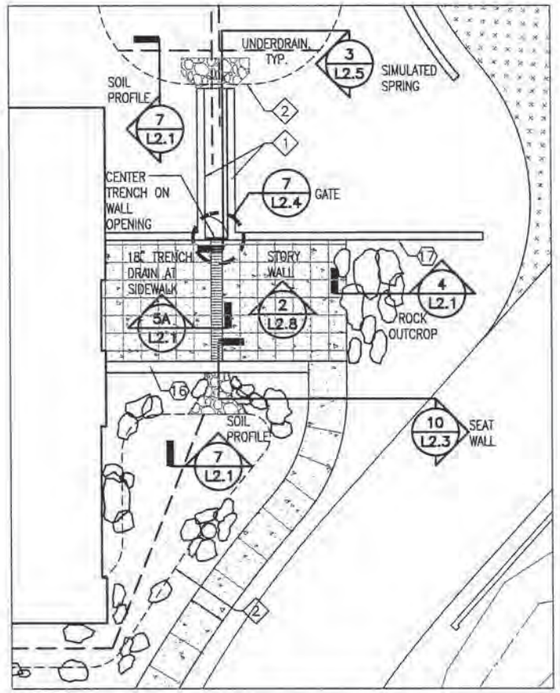
DATE:	OCTOBER 27, 2009
SCALE:	1" = 20'-0"
DRAWN BY:	LEL
CHECKED BY:	HLM
APPROVED BY:	HLM

PSD PROJECT NUMBER: P6000018
PB PROJECT NUMBER: 35898A

SHEET NUMBER: **L1.1**



1 ENLARGED SITE PLAN
1" = 10'-0"



2 ENLARGED SITE PLAN
1" = 10'-0"

WALL SCHEDULE

WALL NO.	WALL TYPE	DETAIL REFERENCE	COMMENTS
1	SEGMENTAL BLOCK	3 TO 7, 9/L2.2	MANUFACTURER, MODEL AND COLOR SHALL MATCH EXISTING WALL.
2	SEGMENTAL BLOCK	3 – 9/L2.2	SEE NOTE 1 DETAIL 8/L2.2 FOR WALL TYPE.
3	SEGMENTAL BLOCK	3 – 9/L2.2	TYPE SAME AS WALL 2
4	SEGMENTAL BLOCK	3 – 9/L2.2	TYPE SAME AS WALL 2
5	SEGMENTAL BLOCK	3 – 9/L2.2, 8/L2.3	CONCRETE LEVELING PAD REQUIRED, TYPE SAME AS WALL 2
6	CAST-IN-PLACE	6 AND 9/L2.3	AQUATIC POOL AND STORMWATER PLANTER WALLS
7	CAST-IN-PLACE	8/L2.3, SIMILAR	FORMS FOOTING OF WALL 5
8	CAST-IN-PLACE	3/L2.3	–
9	CAST-IN-PLACE	1, 10/L2.3	–
10	CAST-IN-PLACE	1, 10/L2.3	–
11	CAST-IN-PLACE	3/L2.3	–
12	CAST-IN-PLACE	8/L2.3, SIMILAR	–
13	CAST-IN-PLACE	1, 10/L2.3	–
14	CAST-IN-PLACE	3/L2.3	–
15	CAST-IN-PLACE	8/L2.3, SIMILAR	–
16	CAST-IN-PLACE	10/L2.3 & 8/L2.4	–
17	CAST-IN-PLACE	SEE STRUCTURAL	FINISH PER PAGE L2.8
18	CAST-IN-PLACE	11/L2.2	SEE L1.1 FOR LOCATION.
19	SEGMENTAL BLOCK	3 TO 7, 9/L2.2	MANUFACTURER, MODEL AND COLOR SHALL MATCH EXISTING WALL.
20	SEGMENTAL BLOCK	3 TO 7, 9/L2.2	MANUFACTURER, MODEL AND COLOR SHALL MATCH EXISTING WALL.

SHEET NOTES

1. SEE L1.1 FOR SHEET NOTES.

KEY NOTES

1. CAST-IN-PLACE CONCRETE WALL, SEE STRUCTURAL DRAWINGS
2. LIMITS OF BIO-RETENTION SOIL PROFILE
3. RUNNING BOND PAVER PATTERN SHALL RUN PARALLEL WITH THIS CURVED SIDEWALK FOR ALL POROUS PAVER SURFACE AREAS, SEE DETAIL 2/L2.5
4. TOP OF CURB SHALL BE 6" ABOVE PAVER FINISH GRADE. HEIGHT OF ALL OTHER CURBS ADJACENT TO POROUS PAVERS SHALL BE AS DETAILED ON 9/L2.1
5. ROUND CORNER OF SEATWALL WITH 12-INCH RADIUS, THIS CORNER ONLY.
6. 12-INCH WIDE CURB, ALL OTHER CURBS ADJACENT TO POROUS PAVERS SHALL BE 6" WIDE.
7. DROP CURB TO BE FLUSH WITH PAVER FINISH GRADE.
8. WATERSTOP, DETAIL 4/L2.4
9. TERMINATE CONCRETE WITH CONSTRUCTION JOINT. CUT ALTERNATE REINFORCING BARS AT JOINT. EXPOSED FACES OF JOINT SHALL RECIEVE 1/4" RADUIS ON EDGES.

PROPOSED LEGEND

- POROUS PAVERS, DETAIL 9/L2.1
- CONCRETE SIDEWALK, SEE CIVIL DETAILS
- ASPHALT, SEE CIVIL DETAILS
- ROCK REVETMENT
- TRENCH DRAIN
- RETAINING WALL
- UNDERDRAIN
- WALL TYPE SEE PAGE L1.2
- ROCK OUTCROP / BOULDERS



PB 100 YEARS®
PB PARSONS BRINCKERHOFF
1631 CHESTNUT STREET, ST. LOUIS MO. 63103-2225
T 314.421.1476 F 314.421.1741 I www.pbworld.com
Health Education + Research Associates, Inc.
14 N. NEWSTEAD SUITE 200
ST. LOUIS MO. 63108
HEIDEMAN ASSOCIATES, INC.
13545 Barrett Parkway Drive Suite 200
St. Louis, Missouri 63021
p 314.822.7217
f 314.822.7908
GENESIS ENGINEERING
18141 SWINGLY RIDGE ROAD SUITE 300
ST. LOUIS MISSOURI 63017

REV	DESCRIPTION	DATE

BID PACKAGE 2 - FINAL BID DOCUMENTS
Science Renovations / Addition
PARKWAY CENTRAL HIGH SCHOOL
369 NORTH WOODS MILL ROAD
Chesterfield, Missouri 63017

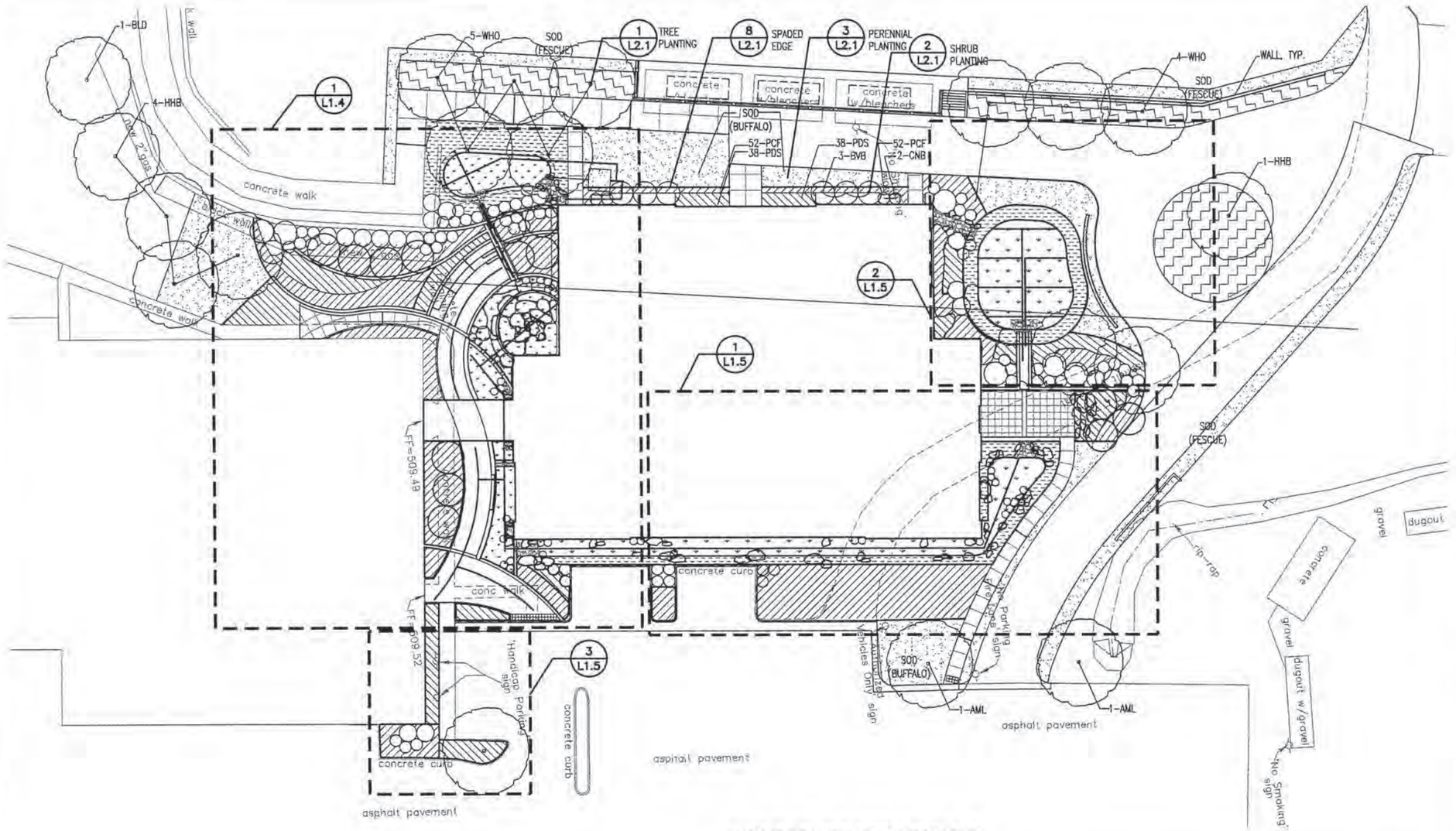
PARKWAY SCHOOL DISTRICT
STATE OF MISSOURI

Name / Number Date
Lenn Miller, Landscape Architect / 2002009610
PB Americas, Inc. / 000044

SHEET CONTENT
DETAIL REFERENCE PLAN

DATE:	OCTOBER 27, 2009
SCALE:	1" = 20'-0"
DRAWN BY:	LBL
CHECKED BY:	HLM
APPROVED BY:	HLM
PSD PROJECT NUMBER:	PR0008018
PB PROJECT NUMBER:	39998A

SHEET NUMBER: **L1.2**



SHEET NOTES

1. UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. PLANT SUBSTITUTIONS FOR NATIVE GRASSES AND FORBS SHALL BE SELECTED FROM THE METROPOLITAN SEWER DISTRICT'S "LANDSCAPE GUIDE FOR STORMWATER BEST MANAGEMENT PRACTICE DESIGN". SUBSTITUTIONS SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
3. SEE PAGE L1.4 FOR THE PLANTING SCHEDULE AND THIS PAGE FOR THE NATIVE SEEDING SCHEDULE.
4. SOD SHALL BE LEGACY OR PRESTIGE BUFFALO GRASS SOD OR TURF TYPE FESCUE SOD WHERE INDICATED.
5. THE QUANTITIES SHOWN ON THE PLANTING PLANS SHALL SUPERSEDE QUANTITIES SHOWN ON THE PLANTING SCHEDULE.
6. PREPARE PLANTING BEDS AS DETAILED. ALL PLANTING AREAS, EXCEPT NATIVE PRAIRIE SEEDING AND SODDED AREAS, SHALL BE MULCHED WITH SHREDDED HARDWOOD BARK MULCH UNLESS OTHERWISE DETAILED OR NOTED ON THE DRAWINGS.
7. SOD ALL AREAS DISTURBED BY CONSTRUCTION TO THE LIMITS OF DISTURBANCE. CUT IN SOD WITH EXISTING TURF TO FORM A SEAMLESS TRANSITION.
8. PLANTS SHALL BE NURSERY GROWN AND FREE OF PEST AND DISEASE. PROTECT PLANTINGS FROM DAMAGE AND DRYING OUT UNTIL INSTALLATION.
9. ALL PLANTINGS SHALL BE WATERED AS NEEDED FOR A TOTAL OF 52 WATERING CYCLES FOLLOWING INSTALLATION.
10. INSTALL EROSION CONTROL MAT AT ALL AREAS TO RECEIVE NATIVE PRAIRIE SEED MIX, SC150BN BY NORTH AMERICAN GREEN OR APPROVED EQUAL.

PROPOSED LEGEND

- SHADE TREE
- ORNAMENTAL TREE
- SHRUBS
- BIO-RETENTION AREA (SLOPED HILLSIDES)
- BIO-RETENTION AREA (FLAT BOTTOM) AND BIO-RETENTION SOILS
- NATIVE PRAIRIE SEED MIX
- PERENNIALS / GROUNDCOVER
- AQUATIC POOL
- SOD

NATIVE PRAIRIE SEED MIX TABLE

FORBS (WILDFLOWERS) (RATE = 2oz/1000sf)

QTY (oz)	BOTANICAL NAME	COMMON NAME
0.12	Aster oolentangiensis	SKY BLUE ASTER
0.12	Penstemon albidus	WHITE BEARDTONGUE
0.12	Monarda fistulosa	WILD BERGAMOT
0.12	Rudbeckia hirta	BLACK-EYED SUSAN
0.12	Liatris spicata	BLAZING STAR
0.12	Echinacea pallida	PALE PURPLE CONEFLOWER
0.12	Coreopsis tinctoria	PLAINS COREOPSIS
0.12	Coreopsis lanceolata	TICKSEED COREOPSIS
0.12	Solidago nemoralis	GRAY GOLDENROD
0.12	Castilleja linariaefolia	INDIAN PAINTBRUSH
0.12	Baptisia australis	BLUE INDIGO
0.12	Amorpha canescens	LEAD PLANT
0.12	Asclepias tuberosa	BUTTERFLY MILKWEED
0.12	Physostegia virginiana	OBEDIENT PLANT
0.12	Chamaecrista fasciculata	PARTRIDGE PEA
0.12	Silene regia	ROYAL CATCHFLY
0.12	Pycnanthemum virginianum	SLENDER MOUNTAIN MINT

GRASSES (RATE = 2oz/1000sf)

QTY (oz)	BOTANICAL NAME	COMMON NAME
0.50	Andropogon virginicus	BROOM SEDGE
0.50	Schizchyrum scoparium	LITTLE BLUESTEM
0.50	Bothriochloa saccharoides	WINTER BEARDGRASS
0.50	Bouteloua curtipendula	SIDEOATS GRAMA

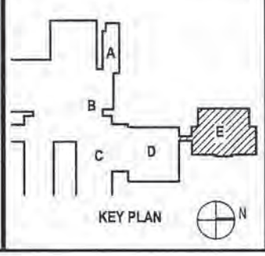
COVER CROP (RATE = 15oz/1000sf)

7.50	Avena sativa	SEED OATS
7.50	Lolium multiflorum	ANNUAL RYE

SEEDING NOTES:

1. MIX GRASSES, FORBS AND COVER CROP WITH A CARRIER OF SAND OR SAWDUST AT A RATE OF 1 PART SEED MIX TO 4 PARTS CARRIER. ADDITIONALY ADD FIVE BULK POUNDS OF GRANULAR MYCORRHIZAE SOIL INOCULANT TO THE MIX. BROADCAST EVENLY IN TWO DIRECTIONS. SEW NATIVE PRAIRIE SEED NO EARLIER THAN DECEMBER 1 AND NO LATER THAN FEBRUARY 15. THE AREA TO RECEIVE NATIVE SEED SHALL BE SPRAYED WITH HERBICIDE TWO TIMES IN THE FALL PRIOR SEEDING AND JUST PRIOR TO THE END OF THE GROWING SEASON. SPRAY ONCE AND ALLOW PLANT MATERIAL TO DIE THEN SPRAY AGAIN. PROTECT OTHER INSTALLED LANDSCAPE PLANTS FROM HERBICIDE.
2. OVERSEED WITH NATIVE SEED MIX 1-YEAR FOLLOWING INITIAL SEEDING. OVERSEED DURING SEEDING PERIOD INDICATED ABOVE.

1 LANDSCAPE PLAN
1" = 20'-0"
5 0 10 20



PB 100 YEARS®

PB PARSONS BRINCKERHOFF
1631 CHESTNUT STREET, ST. LOUIS MO. 63103-2225
T 314.421.1476 F 314.421.1741 | www.pbworld.com

Health Education + Research Associates, Inc.
14 N. HEWSTEAD SUITE 200
ST. LOUIS MO. 63108

HEIDEMAN ASSOCIATES, INC.
13548 Barrett Parkway Drive Suite 200 St. Louis, Missouri 63021
p 314.822.2217 f 314.822.7668

GENESIS ENGINEERING
19141 SWINGLY RIDGE ROAD SUITE 300
ST. LOUIS MISSOURI 63017

REV	DESCRIPTION	DATE

BID PACKAGE 2 - FINAL BID DOCUMENTS
Science Renovations / Addition
PARKWAY CENTRAL HIGH SCHOOL
369 NORTH WOODS MILL ROAD
Chesterfield, Missouri 63017

PARKWAY SCHOOL DISTRICT

STATE OF MISSOURI

Name / Number Date

Lann Miller, Landscape Architect / 2002009610
PB Americas, Inc. / 000044

SHEET CONTENT
LANDSCAPE PLAN

DATE: OCTOBER 27, 2009
SCALE: 1" = 20'-0"
DRAWN BY: LEL
CHECKED BY: HLM
APPROVED BY: HLM

PSD PROJECT NUMBER: PN0008018
PB PROJECT NUMBER: 33998A

SHEET NUMBER: **L1.3**

PLANTING SCHEDULE

NATIVE TREES

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE / CONDITION	REMARKS	AS SHOWN / SPACING
ERB	–	Cercis canadensis	EASTERN REDBUD	2" CALIPER B & B	DECIDUOUS MATURE: 25'hx30's	AS SHOWN
CBP	–	Pyrus calleryana 'Cleaveland Select'	CLEAVELAND PEAR	2" CALIPER B & B	DECIDUOUS MATURE: 35'hx20's	20' ON CENTER
HHB	–	Ostrya virginiana	EASTERN HOP HORNBEAM	3" CALIPER B & B	DECIDUOUS MATURE: 35'hx25's	25' ON CENTER
WHO	–	Quercus alba	WHITE OAK	3" CALIPER B & B	DECIDUOUS MATURE: 60'hx45's	25' ON CENTER
BLD	–	Taxodium distichum	BALD CYPRESS	3" CALIPER B & B	DECIDUOUS MATURE: 60'hx45's	AS SHOWN
AML	–	Tilia americana	AMERICAN LINDEN	3" CALIPER B & B	DECIDUOUS MATURE: 65'hx45's	AS SHOWN
HLT	–	Gleditsia Triacanthos var. inermis	HONEYLOCUST	3" CALIPER B & B	DECIDUOUS MATURE: 45'hx45's	AS SHOWN

SHRUBS

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	PLANT
DSC	–	Rhus copallina v. latifolia 'Morton' PRAIRIE FLAME	DWARF SUMAC	#5 CONTAINER	DECIDUOUS MATURE: 6'hx6's	4' ON CENTER
BTB	–	Cephalanthus occidentalis	BUTTON BUSH	#5 CONTAINER	DECIDUOUS MATURE: 4'hx4's	8' ON CENTER
VWH	–	Hamamelus vernalis	OZARK WITCH HAZEL	#5 CONTAINER	DECIDUOUS MATURE: 12'hx12's	10' ON CENTER
SSJ	–	Hypericum Prolificum	SHRUBBY ST. JOHN'S WORT	#5 CONTAINER	DECIDUOUS MATURE: 4'hx3's	4' ON CENTER
CNB	–	Physocarpus opulifolius	COMMON NINEBARK	#5 CONTAINER	DECIDUOUS MATURE: 5'hx6's	4' ON CENTER
PRW	–	Salix Humilis	PRAIRIE WILLOW	#5 CONTAINER	DECIDUOUS MATURE: 6'hx5's	6' ON CENTER
BVB	–	Viburnum prunifolium	BLACKHAW VIBURNUM	#5 CONTAINER	DECIDUOUS MATURE: 14'hx12's	10' ON CENTER

PERENNIALS : NATIVE GRASSES, SEDGES, RUSHES

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	PLANT SPACING
BRS	–	Andropogon virginicus	BROOMSEDGE	DEEP CELL PLUG	PERENNIAL MATURE: 1.5'hx1.5's	18" ON CENTER
SOG	–	Bouteloua curtipendula	SIDEOATS GRAMA	DEEP CELL PLUG	PERENNIAL MATURE: 1.5'hx1's	18" ON CENTER BMP GRASS
PLS	–	Carex muskingumensis	PALM SEDGE	DEEP CELL PLUG	PERENNIAL MATURE: 3'hx1.5's	18" ON CENTER
FXS	–	Carex vulpinoidea	FOX SEDGE	DEEP CELL PLUG	PERENNIAL MATURE: 3'hx1.5's	18" ON CENTER
RIO	–	Chasmanthium latifolium	RIVER OATS	DEEP CELL PLUG	PERENNIAL MATURE: 3'hx2.5's	18" ON CENTER
PDS	–	Sporobolus heterolepis	PRAIRIE DROPSEED	DEEP CELL PLUG	PERENNIAL MATURE: 3'hx1.5's	18" ON CENTER
LBS	–	Schizachyrium scoparium	LITTLE BLUESTEM	DEEP CELL PLUG	PERENNIAL MATURE: 3'hx1.5's	18" ON CENTER

PERENNIALS: NATIVE FORBS

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE / COND	REMARKS	PLANT SPACING
SBS	–	Amsonia illustris	SHINING BLUE STAR	DEEP CELL PLUG	PERENNIAL MATURE: 4'hx4's	30" ON CENTER
BFM	–	Asclepias Tuberosa	BUTTERFLY MILKWEED	DEEP CELL PLUG	PERENNIAL MATURE: 2'hx2's	18" ON CENTER
NEA	–	Aster novae-angliae	NEW ENGLAND ASTER	DEEP CELL PLUG	PERENNIAL MATURE: 5'hx3's	24" ON CENTER
RTH	–	Chelone obliqua	ROSE TURTLEHEAD	DEEP CELL PLUG	PERENNIAL MATURE: 4'hx1.5's	18" ON CENTER
LLC	–	Coreopsis lanceolata	LANCELEAF COREOPSIS	DEEP CELL PLUG	PERENNIAL MATURE: 1.5'hx1.5's	18" ON CENTER
YGC	–	Echinacea paradoxa	YELLOW CONEFLOWER	DEEP CELL PLUG	PERENNIAL MATURE: 3'hx3's	18" ON CENTER
PCF	–	Echinacea purpurea	PURPLE CONEFLOWER	DEEP CELL PLUG	PERENNIAL MATURE: 2.5'hx1.5's	18" ON CENTER
RSM	–	Eryngium yuccifolium	RATTLESNAKE MASTER	DEEP CELL PLUG	PERENNIAL MATURE: 4.5'hx1.5's	18" ON CENTER
MTF	–	Eupatorium coelestinum	MIST FLOWER	DEEP CELL PLUG	PERENNIAL MATURE: 1.5'hx2's	18" ON CENTER
RSM	–	Hibiscus lasiocarpos	ROSE MALLOW	DEEP CELL PLUG	PERENNIAL MATURE: 5'hx2.5's	18" ON CENTER
BFG	–	Iris virginica	BLUE FLAG IRIS	DEEP CELL PLUG	PERENNIAL MATURE: 3'hx2"s	18" ON CENTER
FRA	–	Isopyrum Biternatum	FALSE RUE ANEMONE	DEEP CELL PLUG	PERENNIAL MATURE: .5'hx1's	18" ON CENTER

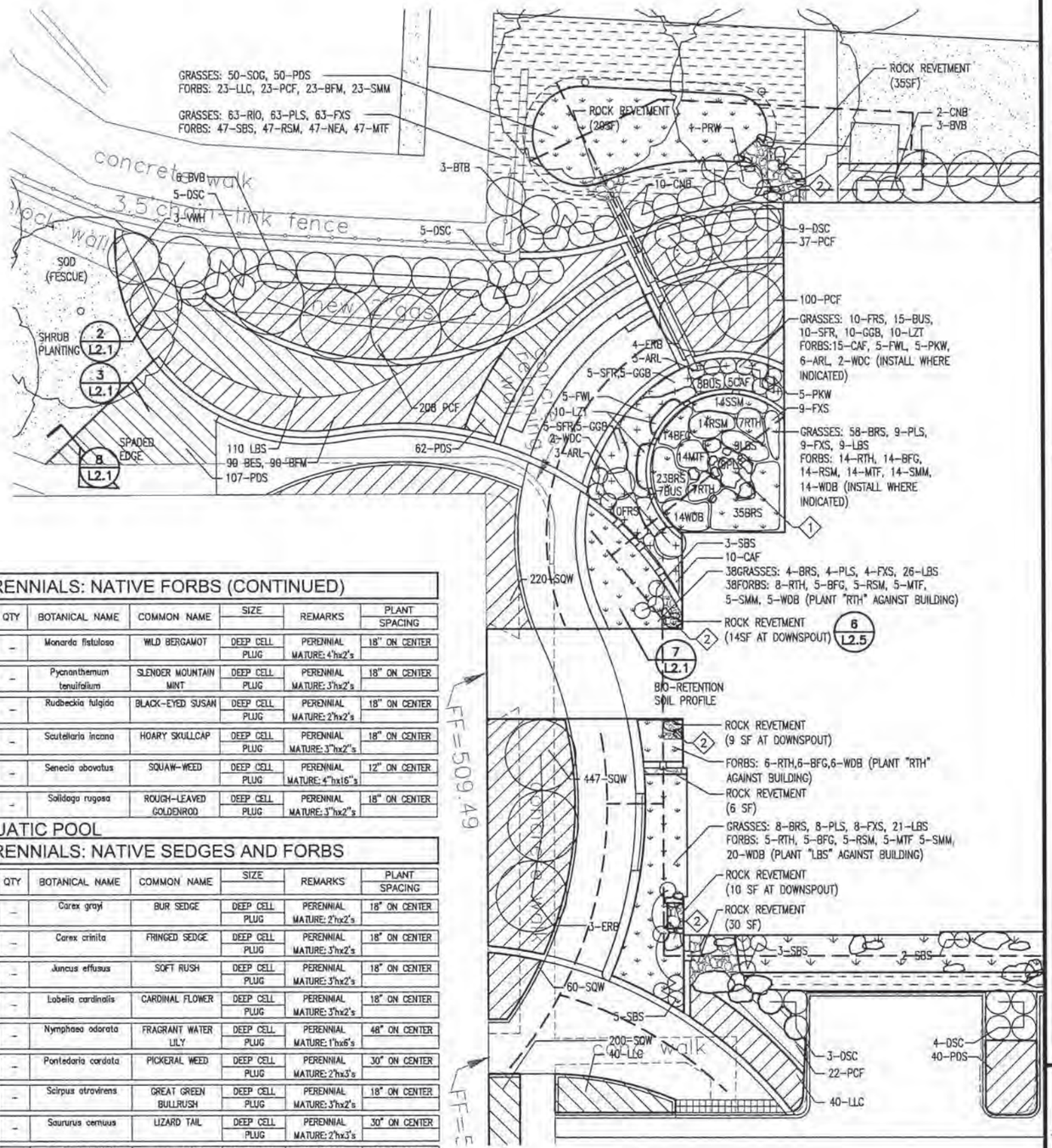
PERENNIALS: NATIVE FORBS (CONTINUED)

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	PLANT SPACING
WDB	–	Monarda fistulosa	WILD BERGAMOT	DEEP CELL PLUG	PERENNIAL MATURE: 4'hx2's	18" ON CENTER
SMM	–	Pycnanthemum tenuifolium	SLENDER MOUNTAIN MINT	DEEP CELL PLUG	PERENNIAL MATURE: 3'hx2's	18" ON CENTER
BES	–	Rudbeckia fulgida	BLACK-EYED SUSAN	DEEP CELL PLUG	PERENNIAL MATURE: 2'hx2's	18" ON CENTER
HSP	–	Scutellaria incana	HOARY SKULLCAP	DEEP CELL PLUG	PERENNIAL MATURE: 3"hx2"s	18" ON CENTER
SQW	–	Senecio obovatus	SQUAW-WEED	DEEP CELL PLUG	PERENNIAL MATURE: 4"hx16"s	12" ON CENTER
RLG	–	Solidago rugosa	ROUGH-LEAVED GOLDENROD	DEEP CELL PLUG	PERENNIAL MATURE: 3"hx2"s	18" ON CENTER

AQUATIC POOL

PERENNIALS: NATIVE SEDGES AND FORBS

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	PLANT SPACING
BUS	–	Carex grayi	BUR SEDGE	DEEP CELL PLUG	PERENNIAL MATURE: 2'hx2's	18" ON CENTER
FRS	–	Carex crinita	FRINGED SEDGE	DEEP CELL PLUG	PERENNIAL MATURE: 3'hx2's	18" ON CENTER
SFR	–	Juncus effusus	SOFT RUSH	DEEP CELL PLUG	PERENNIAL MATURE: 3'hx2's	18" ON CENTER
CAF	–	Lobelia cardinalis	CARDINAL FLOWER	DEEP CELL PLUG	PERENNIAL MATURE: 3'hx2's	18" ON CENTER
FWL	–	Nymphaea odorata	FRAGRANT WATER LILY	DEEP CELL PLUG	PERENNIAL MATURE: 1'hx6's	48" ON CENTER
PKW	–	Pontederia cordata	PICKERAL WEED	DEEP CELL PLUG	PERENNIAL MATURE: 2'hx3's	30" ON CENTER
GCB	–	Scirpus atrovirens	GREAT GREEN BULLRUSH	DEEP CELL PLUG	PERENNIAL MATURE: 3'hx2's	18" ON CENTER
LZT	–	Saururus cernuus	LIZARD TAIL	DEEP CELL PLUG	PERENNIAL MATURE: 2'hx3's	30" ON CENTER
ARL	–	Sagittaria latifolia	ARROWLEAF	DEEP CELL PLUG	PERENNIAL MATURE: 4'hx3's	30" ON CENTER
WDC	–	Thalia dealbata	WILD CANNA	DEEP CELL PLUG	PERENNIAL MATURE: 6'hx5's	60" ON CENTER



1 ENLARGED LANDSCAPE PLAN
1" = 10'-0"

SHEET NOTES

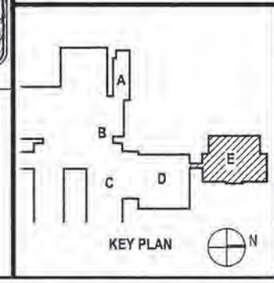
1. CONTAINERS FOR DEEP CELL PLUGS, INDICATED IN THE PLANTING SCHEDULE, SHALL BE A MINIMUM SIZE OF 2" WIDE X 2" LONG X 5" DEEP.
2. THE ROOT MASS OF ALL CONTAINER PLANTS SHALL EXTEND TO THE EDGES OF THE CONTAINER BUT SHALL NOT BE ROOT BOUND.
3. ONE CLEAVELAND PEAR SHALL BE INSTALLED BY THE CONTRACTOR AT LOCATION ON CAMPUS INDICATED BY OWNER.
4. SEE L1.3 FOR OTHER SHEET NOTES.

KEY NOTES

1. ROCK OUTCROP: CENTRAL ROCK SHALL BE 4'-5' X 4'-5' WIDE / LONG MINIMUM X 3'-4' EXPOSED HEIGHT. POSITION CENTER STONE TO INTERCEPT DOWNSPOUT WATER IMPACT, TEST FLOW TRAJECTORY AS REQUIRED. SURROUNDING STONES SHALL VARY IN SIZE FROM 1' TO 2' IN LENGTH / WIDTH WITH VARIED EXPOSED HEIGHTS FROM 0.5' TO 2'. PLANT BETWEEN STONES AS INDICATED. SEE ALSO DETAIL 4/L2.1.
2. ROCK OUTCROP AT DOWNSPOUT OUTFALL, PROVIDE NUMBER OF STONES IN RELATIVE LOCATION SHOWN, VARY SIZES FROM 1' TO 2' IN LENGTH / WIDTH WITH VARIED EXPOSED HEIGHTS FROM 0.5' TO 2'.

PROPOSED LEGEND

- SHADE TREE
- ORNAMENTAL TREE
- SHRUBS
- NATIVE PRAIRIE SEED MIX
- PERENNIALS: BIO-RETENTION AREA (SLOPED HILLSIDES)
- PERENNIALS: BIO-RETENTION AREA (FLAT BOTTOM) AND BIO-RETENTION SOILS
- PERENNIALS
- PERENNIALS
- AQUATIC POOL PERENNIALS
- SOD



PB 100 YEARS®

PB PARSONS BRINCKERHOFF
1831 CHESTNUT STREET, ST. LOUIS MO. 63103-2225
T 314.421.1478 F 314.421.1741 | www.pbworld.com

Health Education + Research Associates, Inc.
14 N. NEWSTEAD SUITE 200
ST. LOUIS MO. 63108

HEIDEMAN ASSOCIATES, INC.
13345 Barrett Parkway Drive Suite 200 St. Louis, Missouri 63021
p 314.822.2217 f 314.822.7958 www.zaicompanies.com

GENESIS ENGINEERING
19141 SWINGLY RIDGE ROAD SUITE 200
ST. LOUIS MISSOURI 63017

REV	DESCRIPTION	DATE

BID PACKAGE 2 - FINAL BID DOCUMENTS
Science Renovations / Addition
PARKWAY CENTRAL HIGH SCHOOL
369 NORTH WOODS MILL ROAD
Chesterfield, Missouri 63017

PARKWAY SCHOOL DISTRICT
STATE OF MISSOURI

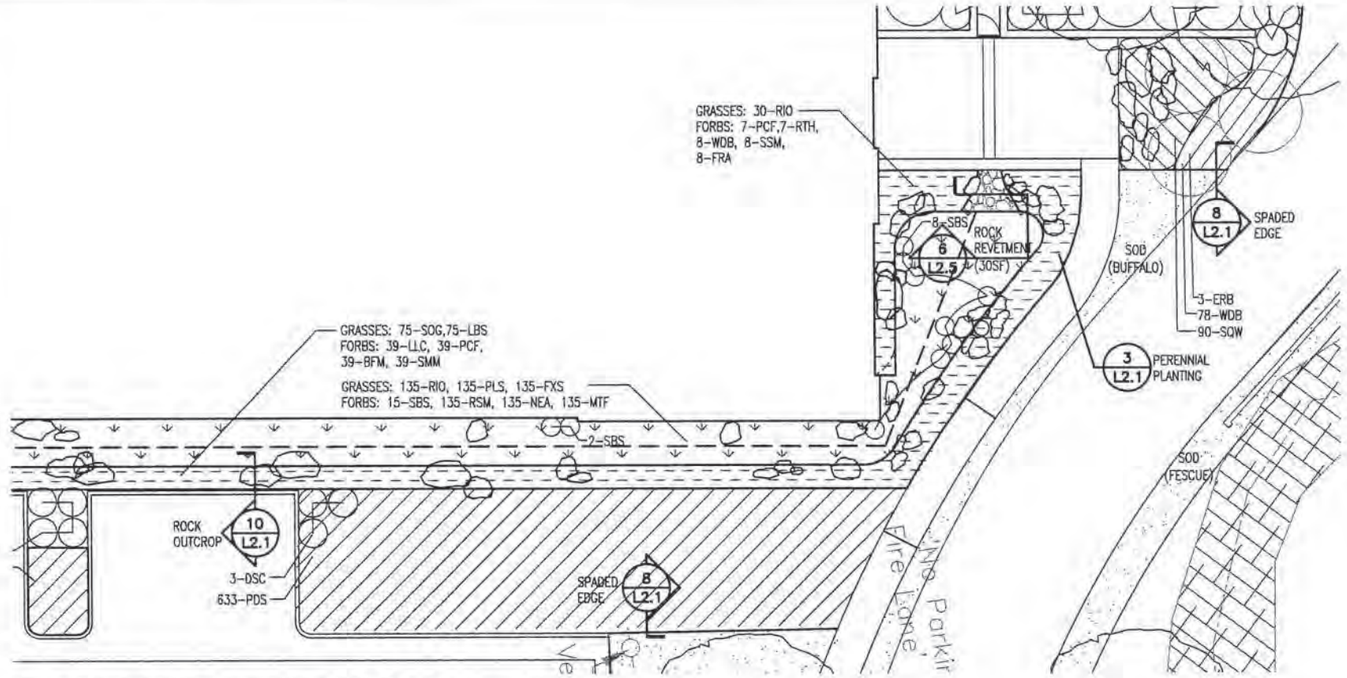
Name / Number Date
Lanni Miller, Landscape Architect / 2002009810
PB Americas, Inc. / 000344

SHEET CONTENT
ENLARGED LANDSCAPE PLANS

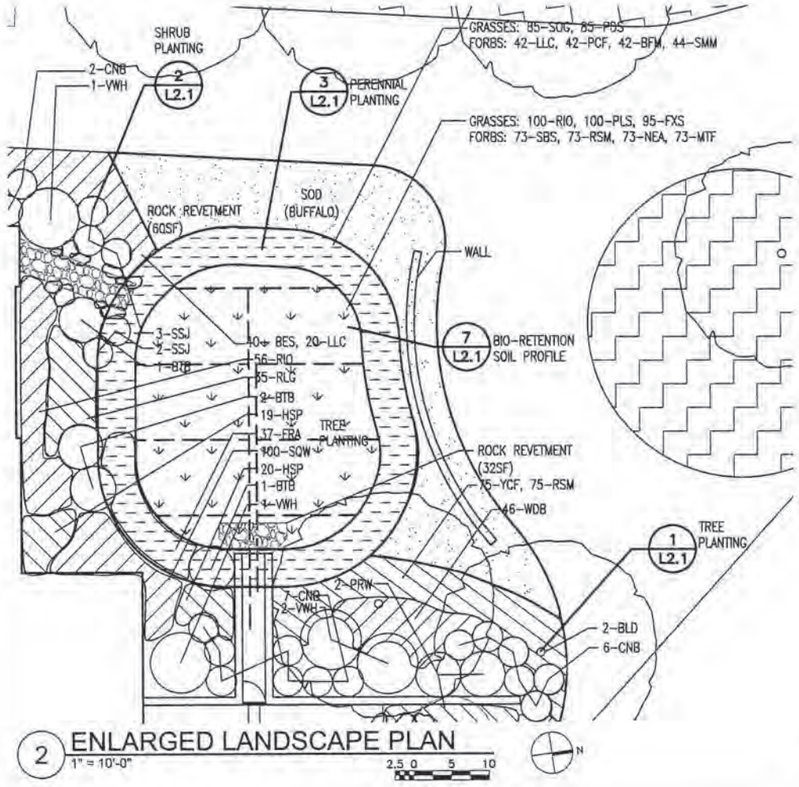
DATE:	OCTOBER 27, 2009
SCALE:	1" = 10'-0"
DRAWN BY:	LEL
CHECKED BY:	HLM
APPROVED BY:	HLM

PSD PROJECT NUMBER: PRK000018
PB PROJECT NUMBER: 33098A

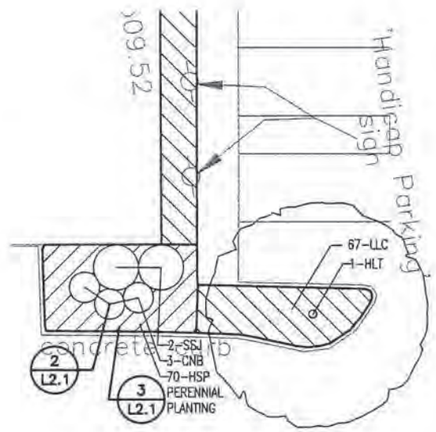
SHEET NUMBER: **L1.4**



1 ENLARGED LANDSCAPE PLAN
1" = 10'-0"
2.5 0 5 10



2 ENLARGED LANDSCAPE PLAN
1" = 10'-0"
2.5 0 5 10



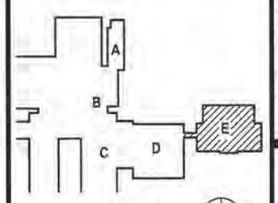
3 ENLARGED LANDSCAPE PLAN
1" = 10'-0"
2.5 0 5 10

SHEET NOTES

1. SEE L1.3 FOR SHEET NOTES.

PROPOSED LEGEND

- SHADE TREE
- ORNAMENTAL TREE
- SHRUBS
- NATIVE PRAIRIE SEED MIX
- PERENNIALS: BIO-RETENTION AREA (SLOPED HILLSIDES)
- PERENNIALS: BIO-RETENTION AREA (FLAT BOTTOM) AND BIO-RETENTION SOILS
- PERENNIALS
- PERENNIALS
- AQUATIC POOL PERENNIALS
- SOD



KEY PLAN

PB 100 YEARS®

PB PARSONS BRINCKERHOFF
1831 CHESTNUT STREET, ST. LOUIS MO. 63103-2225
T 314.421.1476 F 314.421.1741 I www.pbworld.com

Health Education + Research Associates, Inc.
14 N. NEWSTEAD SUITE 200
ST. LOUIS MO. 63108

HEIDEMAN ASSOCIATES, INC.
13545 Barrett Parkway Drive Suite 205 St. Louis, Missouri 63021
p 314.822.3217 f 314.822.7968
www.landscapestlmo.com

GENESIS ENGINEERING
16141 SWINGLY RIDGE ROAD SUITE 300
ST. LOUIS MISSOURI 63017

REV	DESCRIPTION	DATE

BID PACKAGE 2 - FINAL BID DOCUMENTS
Science Renovations / Addition
PARKWAY CENTRAL
HIGH SCHOOL
369 NORTH WOODS MILL ROAD
Chesterfield, Missouri 63017

PARKWAY SCHOOL DISTRICT
STATE OF MISSOURI

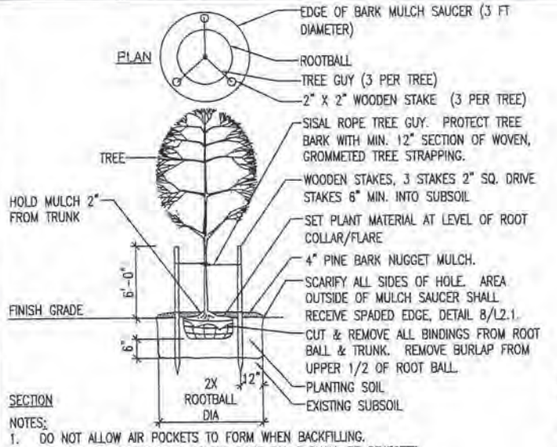
Name / Number	Date
Lenn Miller, Landscape Architect / 2002009610 PB Americas, Inc. / 000044	

SHEET CONTENT
ENLARGED LANDSCAPE PLANS

DATE:	OCTOBER 27, 2009
SCALE:	1" = 10'-0"
DRAWN BY:	LEL
CHECKED BY:	HLM
APPROVED BY:	HLM

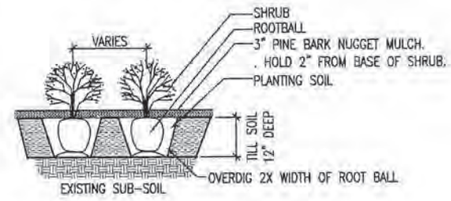
PSD PROJECT NUMBER:	PN5008010
PB PROJECT NUMBER:	35998A

SHEET NUMBER: **L1.5**



NOTES:
1. DO NOT ALLOW AIR POCKETS TO FORM WHEN BACKFILLING.
2. CRACKED OR OTHERWISE DAMAGED ROOT BALLS SHALL BE REJECTED.
3. WATER THOROUGHLY FOLLOWING PLANTING.
4. REMOVE EXCESS DEBRIS FROM AROUND ROOT COLLAR/FLARE PRIOR TO INSTALLATION.
5. TREES SHALL BE PLANTED SO ROOT COLLAR/FLARE IS LEVEL OR SLIGHTLY ABOVE (1" MAX) ADJACENT GRADE.

1 TYPICAL TREE PLANTING
NTS

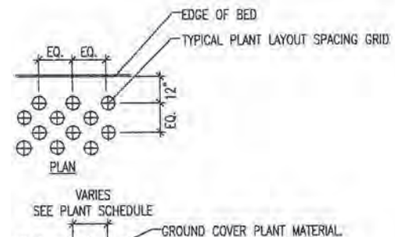


SECTION

NOTES:

1) DO NOT ALLOW AIR POCKETS TO FORM WHEN BACKFILLING.
2) DO NOT DISTURB ROOT BALL WHEN PLANTING.
3) WATER THOROUGHLY FOLLOWING PLANTING.
4) SET PLANT MATERIAL AT ORIGINAL DEPTH.
5) REMOVE CONTAINER OR CUT ALL BURLAP, TWINE & REMOVE FROM UPPER 1/3 OF ROOT BALL

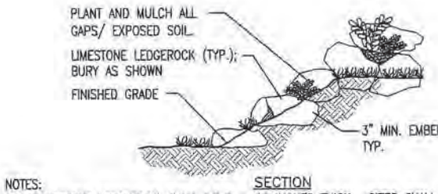
2 TYPICAL SHRUB PLANTING
NTS



NOTES:

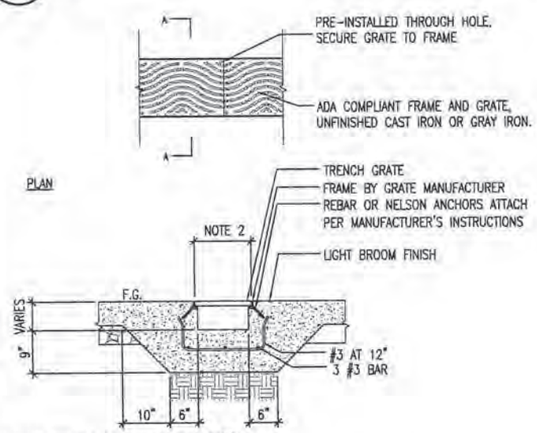
1) WATER THOROUGHLY FOLLOWING PLANTING.
2) SEE PLANT SCHEDULE FOR PLANT SPACING.

3 PERENNIAL PLANTING
NTS



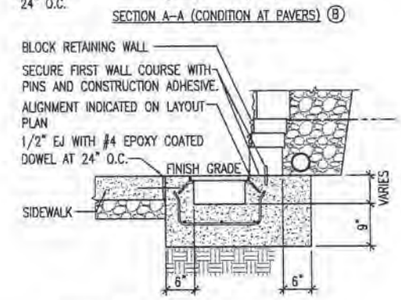
NOTES:
1. LIMESTONE LEDGEROCK SHALL BE 8 - 16 INCHES THICK. SIZES SHALL VARY BETWEEN 3 TO 4 FEET WIDE AND 4 TO 7 FEET LONG. PROVIDE A VARIETY OF SIZES SIMILAR TO SIZES SHOWN ON THE PLANTING PLANS. AT LEAST 15% OF THE ROCKS SHALL BE THE LARGEST SIZE IN THE RANGE AND 30% SHALL BE THE MIDDLE OF THE SIZE RANGE. LEDGEROCK SHALL BE WEATHERED LIMESTONE LIGHT TO DARK GRAY COLORATION. PARTIALLY BURY LEDGEROCK INTO GRADE TO LOOK LIKE A ROCK OUTCROPPING. INSTALL RANDOM LEDGEROCKS SIMILAR TO GROUPINGS SHOWN ON PLAN. GROUPS OF STONES SHALL BE OFFET AND STACKED SIMILAR TO THAT SHOWN ON PLANS.
2. FILL VOIDS WITH COMPACTED PLANTING SOIL, PLANT AND MULCH.
3. PROVIDE MOCK-UP OF ROCK OUTCROP FOR APPROVAL BY THE OWNER'S REPRESENTATIVE.

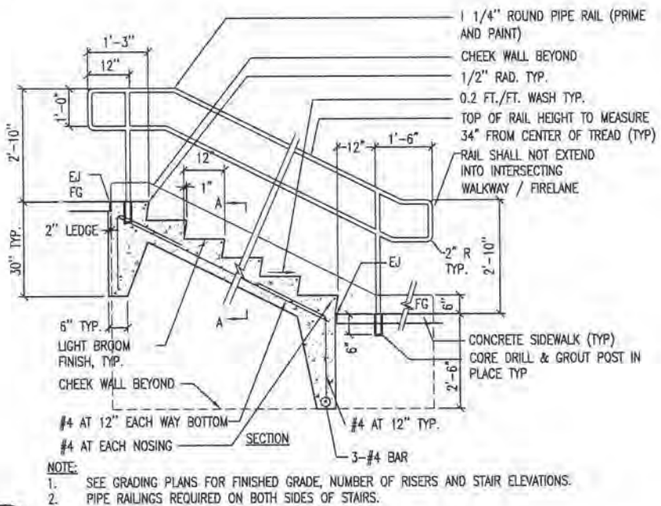
4 ROCK OUTCROP
NTS



NOTES:
1. INSTALL GRATE PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. GRATE WIDTH VARIES, 12" AND 18" SEE LAYOUT PLAN FOR LOCATIONS.
3. GRATE SHALL BE TITLE WAVES MODEL BY URBAN ACCESSORIES OR MARINA MODEL BY IRONSMITH OR APPROVED EQUAL.

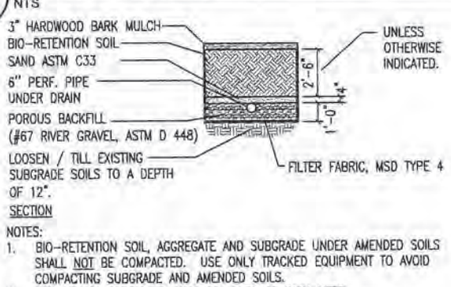
5 TRENCH DRAIN
NTS





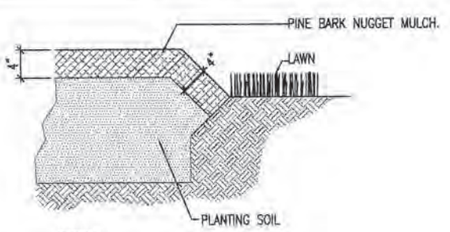
NOTE:
1. SEE GRADING PLANS FOR FINISHED GRADE, NUMBER OF RISERS AND STAIR ELEVATIONS.
2. PIPE RAILINGS REQUIRED ON BOTH SIDES OF STAIRS.

6 STAIRS
NTS



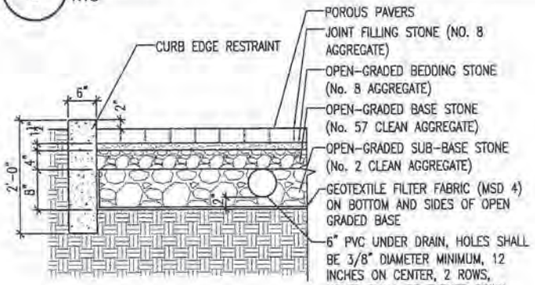
NOTES:
1. BIO-RETENTION SOIL, AGGREGATE AND SUBGRADE UNDER AMENDED SOILS SHALL NOT BE COMPACTED. USE ONLY TRACKED EQUIPMENT TO AVOID COMPACTING SUBGRADE AND AMENDED SOILS.
2. INSTALL BIO-RETENTION SOILS IN 12 TO 18 INCH LIFTS.
3. SOILS UPSTREAM OF AREAS RECEIVING THIS DETAIL SHALL BE STABILIZED PRIOR TO INSTALLING AMENDED SOILS SHOWN ABOVE.
4. UNDER DRAIN SHALL HAVE TWO ROWS OF 3/8" DIAMETER DRILLED HOLES AT 18 INCHES ON CENTER TURNED DOWN TOWARD SUB-GRADE.

7 BIO-RETENTION SOIL PROFILE
NTS



NOTE:
USE THIS DETAIL FOR ALL TREE RINGS AND PLANTINB BED LOCATIONS THAT INTERFACE WITH LAWN AREAS.

8 SPADDED EDGE
NTS



NOTES:
1. STONE GRADATIONS SHALL BE PER ASTM D 448.

9 POROUS PAVERS
NTS

PB 100 YEARS®

PB PARSONS BRINCKERHOFF
1631 CHESTNUT STREET, ST. LOUIS MO. 63103-2225
T 314.421.1478 F 314.421.1741 | www.pbworld.com

Health Education + Research Associates, Inc.
14 N. NEWSTEAD SUITE 200
ST. LOUIS MO. 63108

HEIDEMAN ASSOCIATES, INC.
13543 Dorrell Parkway Drive Suite 200, St. Louis, Missouri 63021
p 314.822.2217 f 314.835.7569 www.zakconcepts.com

GENESIS ENGINEERING
18141 SWINGLY RIDGE ROAD SUITE 300
ST. LOUIS MISSOURI 63017

REV	DESCRIPTION	DATE

BID PACKAGE 2 - FINAL BID DOCUMENTS
Science Renovations / Addition
PARKWAY CENTRAL HIGH SCHOOL
369 NORTH WOODS MILL ROAD
Chesterfield, Missouri 63017

PARKWAY SCHOOL DISTRICT
STATE OF MISSOURI

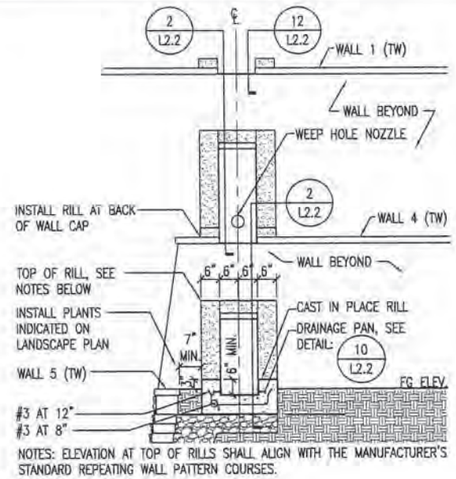
Name / Number	Date
Lenn Miller, Landscape Architect / 2002009610 PB Americas, Inc. / 000044	

SHEET CONTENT
LANDSCAPE DETAILS

DATE:	OCTOBER 27, 2009
SCALE:	AS SHOWN
DRAWN BY:	LEL
CHECKED BY:	HLM
APPROVED BY:	HLM

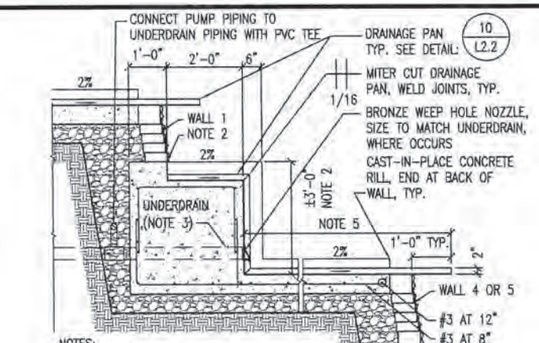
PSD PROJECT NUMBER: [illegible]
PB PROJECT NUMBER: 35868

SHEET NUMBER: **L2.1**



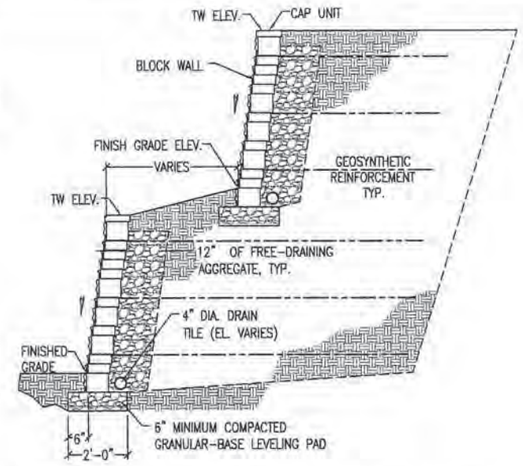
NOTES: ELEVATION AT TOP OF RILLS SHALL ALIGN WITH THE MANUFACTURER'S STANDARD REPEATING WALL PATTERN COURSES.

1 STORM WATER RILL
NTS

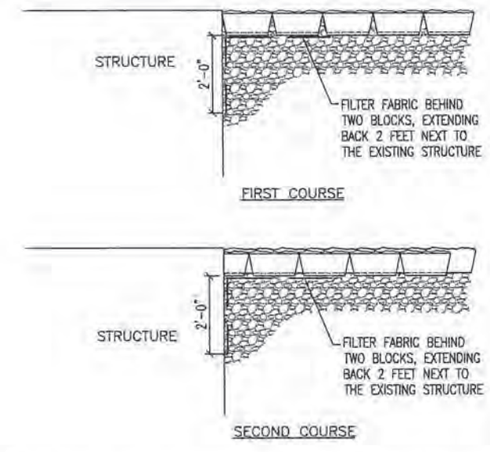


NOTES:
1. THIS DETAIL SHOWS TYPICAL CASCADE FROM RETAINING WALL TW TO TW.
2. ELEVATION AT TOP OF RILLS SHALL ALIGN WITH THE MANUFACTURER'S STANDARD UNIT COURSES / REPEATING WALL PATTERN COURSES.
3. UNDERDRAIN SHALL CONNECT TO RAINGARDEN UNDERDRAIN AT SOUTHWEST CORNER OF SCIENCE ADDITION. PIPING FOR RECIRCULATING PUMP IN AQUATIC POOL SHALL CONNECT TO UNDERDRAIN AS SHOWN IN THIS DETAIL.
4. EXPOSED CONCRETE SURFACES OF RILL TO RECEIVE INTEGRAL COLOR AND RUBBED SMOOTH FORM FINISH.
5. REMAINING STEEL PAN LENGTH = 11'-10" ON WALL 5 AND 7'-9" ON WALL 4 FIELD VERIFY ACTUAL LENGTH, SEE 12/L2.2 FOR WALL 1 PAN LENGTH.

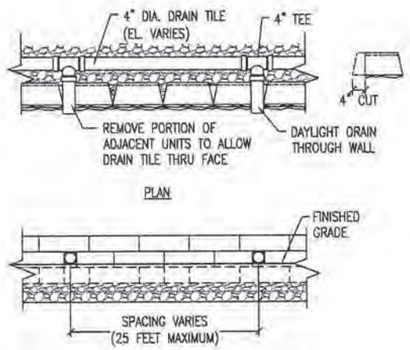
2 STORM WATER RILL
NTS



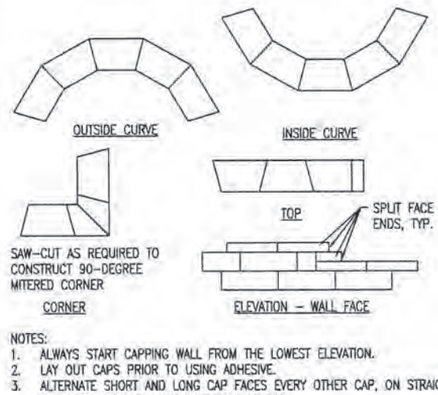
3 TYPICAL BLOCK RETAINING WALL
NTS



4 WALL ABUTTING STRUCTURE
NTS

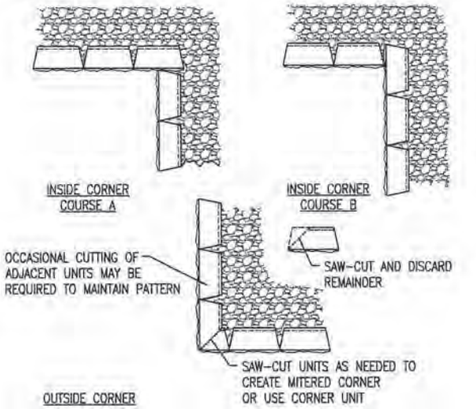


5 WALL DRAIN TILE THROUGH FACE
NTS



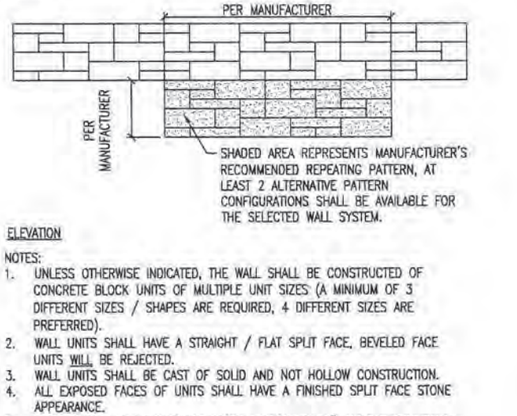
NOTES:
1. ALWAYS START CAPPING WALL FROM THE LOWEST ELEVATION.
2. LAY OUT CAPS PRIOR TO USING ADHESIVE.
3. ALTERNATE SHORT AND LONG CAP FACES EVERY OTHER CAP, ON STRAIGHT RUNS, TO ACHIEVE A STRAIGHT ROW OF CAPS.
4. CUT CAPS TO FIT. VARIOUS COMBINATIONS OF LONG AND SHORT CAP FACES WILL BE NECESSARY FOR RADII GREATER THAN THE MINIMUM.
5. USE EXTERIOR-GRADE CONSTRUCTION ADHESIVE TO SECURE CAPS.

6 WALL CAP UNIT INSTALLATION
NTS



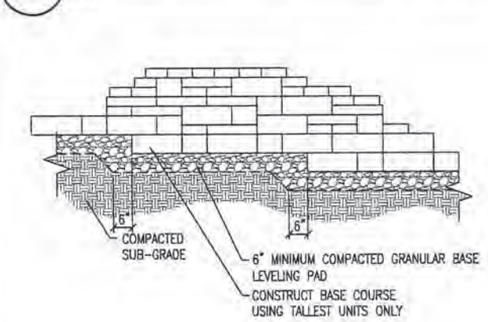
NOTE: AFFIX ALL PARTIAL UNITS TO UNITS BESIDE, ABOVE, AND BELOW USING CONSTRUCTION GRADE ADHESIVE

7 WALL CORNER CONSTRUCTION
NTS

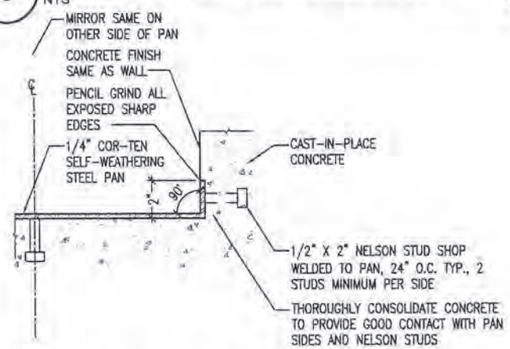


NOTES:
1. UNLESS OTHERWISE INDICATED, THE WALL SHALL BE CONSTRUCTED OF CONCRETE BLOCK UNITS OF MULTIPLE UNIT SIZES (A MINIMUM OF 3 DIFFERENT SIZES / SHAPES ARE REQUIRED, 4 DIFFERENT SIZES ARE PREFERRED).
2. WALL UNITS SHALL HAVE A STRAIGHT / FLAT SPLIT FACE, BEVELED FACE UNITS WILL BE REJECTED.
3. WALL UNITS SHALL BE CAST OF SOLID AND NOT HOLLOW CONSTRUCTION.
4. ALL EXPOSED FACES OF UNITS SHALL HAVE A FINISHED SPLIT FACE STONE APPEARANCE.
5. UNITS SHALL HAVE A MAXIMUM COURSE HEIGHT OF 6", UNLESS OTHERWISE INDICATED.
6. WALLS SHALL COME WITH A MANUFACTURER SUPPLIED CAP UNIT.

8 WALL PATTERN AND UNITS
NTS

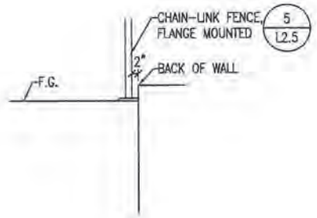


9 WALL LEVELING PAD STEPPING
NTS

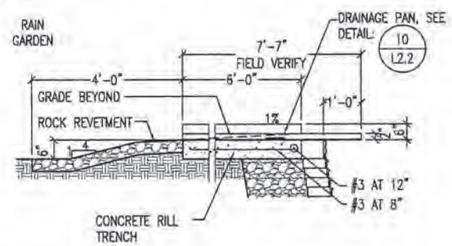


NOTES:
1. PROTECT METAL PAN FROM CONCRETE SPLATTER.
2. PAN BENDS, CUTS AND WELDS SHALL BE SHOP FABRICATED AND DELIVERED TO THE SITE FOR INSTALLATION.
3. COR-TEN SELF-WEATHERING STEEL SHALL BE PER ASTM A588, GRADE B.

10 DRAINAGE PAN
NTS



11 TRENCH / FENCE AT WALL
NTS



NOTES:
1. EXPOSED CONCRETE RILL SURFACES TO RECEIVE INTEGRAL COLOR AND RUBBED SMOOTH FORM FINISH.

12 RILL AT RAIN GARDEN
NTS

PB 100 YEARS®

PB PARSONS BRINCKERHOFF
1831 CHESTNUT STREET, ST. LOUIS MO. 63103-2225
T 314.421.1476 F 314.421.1741 | www.pbworld.com

he|ra Health Education + Research Associates, Inc.
14 N. NEWSTEAD SUITE 200
ST. LOUIS MO. 63108

ZC NEIDIGH ASSOCIATES, INC.
13345 Barrett Parkway Drive p 314.822.2217
Suite 200 f 314.822.7658
St. Louis, Missouri 63021 www.neighassoc.com

GENESIS ENGINEERING
18141 SWINGLY RIDGE ROAD SUITE 200
ST. LOUIS MISSOURI 63017

REV	DESCRIPTION	DATE

BID PACKAGE 2 - FINAL BID DOCUMENTS
Science Renovations / Addition
PARKWAY CENTRAL HIGH SCHOOL
368 NORTH WOODS MILL ROAD
Chesterfield, Missouri 63017

PARKWAY SCHOOL DISTRICT

STATE OF MISSOURI

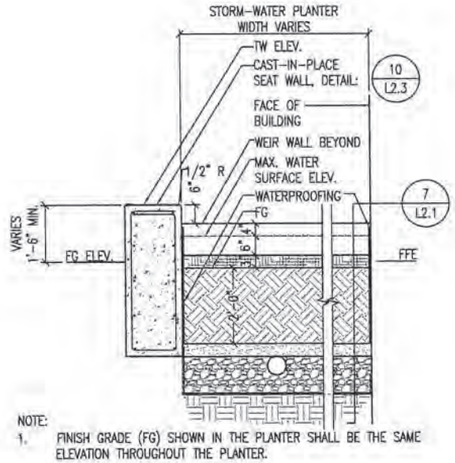
Name / Number | Date
Laura Miller, Landscape Architect / 2002009610
PB Americas, Inc. / 000044

SHEET CONTENT
LANDSCAPE DETAILS

DATE:	OCTOBER 27, 2009
SCALE:	AS SHOWN
DRAWN BY:	LEL
CHECKED BY:	HLM
APPROVED BY:	HLM

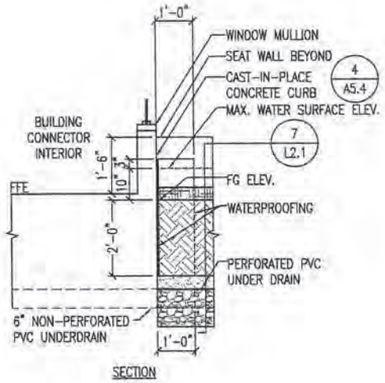
PSD PROJECT NUMBER: P59000018
PB PROJECT NUMBER: 35938A

SHEET NUMBER: **L2.2**



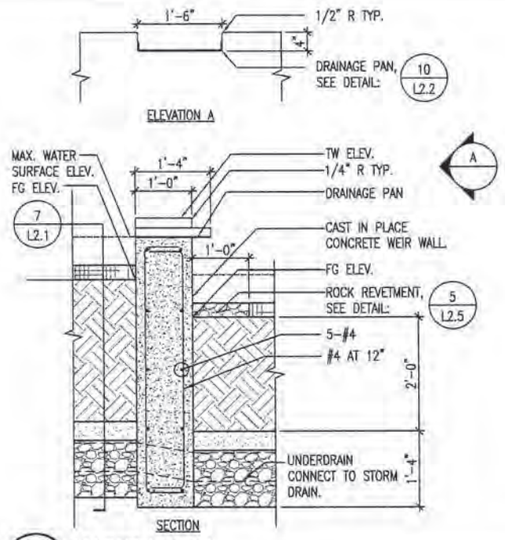
NOTE:
1. FINISH GRADE (FG) SHOWN IN THE PLANTER SHALL BE THE SAME ELEVATION THROUGHOUT THE PLANTER.

1 STORM-WATER PLANTER
NTS



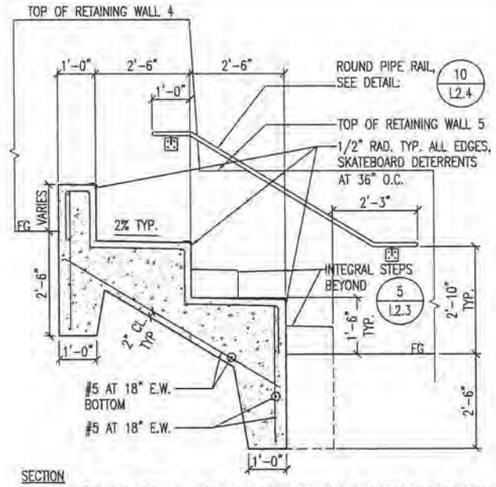
SECTION

2 STORM-WATER PLANTER
NTS



SECTION

3 WEIR WALL
NTS



SECTION

NOTE: ALL EXPOSED VERTICAL FACES ON SEATING RECEIVE A RUBBED SMOOTH FORM FINISH, HORIZONTAL SURFACES RECEIVE A LIGHT BROOM FINISH.

4 OUTDOOR CLASSROOM SEATING
NTS

SECTION

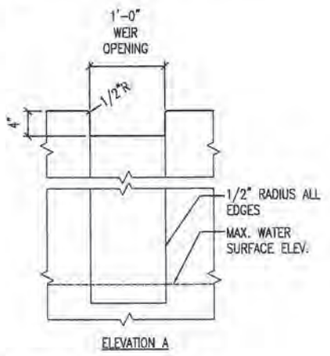
NOTE: ALL EXPOSED VERTICAL FACES ON SEATING RECEIVE A RUBBED SMOOTH FORM FINISH, HORIZONTAL SURFACES RECEIVE A LIGHT BROOM FINISH.

5 OUTDOOR CLASSROOM AT STEPS
NTS

NOTE:
1. ALL EXPOSED SURFACES ON CAST-IN-PLACE CONCRETE WALLS SHALL RECEIVE A RUBBED SMOOTH FORM FINISH.
2. FINISH GRADE (FG) SHOWN IN THE PLANTER SHALL BE THE SAME ELEVATION THROUGHOUT THE PLANTER.

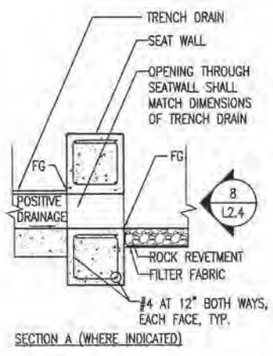
6 AQUATIC POOL
NTS

7 CLASSROOM SEATING TERMINUS
NTS

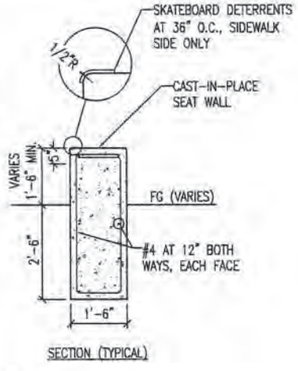


ELEVATION A

9 WEIR AT WALL 6
NTS



SECTION A (WHERE INDICATED)



SECTION (TYPICAL)

10 CONCRETE SEAT WALL
NTS

8 AQUATIC POOL WALL
NTS

PB 100 YEARS®
PB PARSONS BRINCKERHOFF
1831 CHESTNUT STREET, ST. LOUIS MO. 63103-2225
T 314.421.1478 F 314.421.1741 | www.pbworld.com
he r a Health Education + Research Associates, Inc. 14 N. NEWSTEAD SUITE 200 ST. LOUIS MO, 63108
ZC Zeidman Cohen Heideman & Associates, Inc. 13345 Barrett Parkway Drive Suite 205 St. Louis, Missouri 63021 p 314.822.2217 f 314.822.7768 www.zeidmancohen.com
GENESIS ENGINEERING
19141 SWINGLY RIDGE ROAD SUITE 300
ST. LOUIS MISSOURI 63017

REV	DESCRIPTION	DATE

BID PACKAGE 2 - FINAL BID DOCUMENTS
Science Renovations / Addition
PARKWAY CENTRAL HIGH SCHOOL
369 NORTH WOODS MILL ROAD
Chesterfield, Missouri 63017

PARKWAY SCHOOL DISTRICT
STATE OF MISSOURI

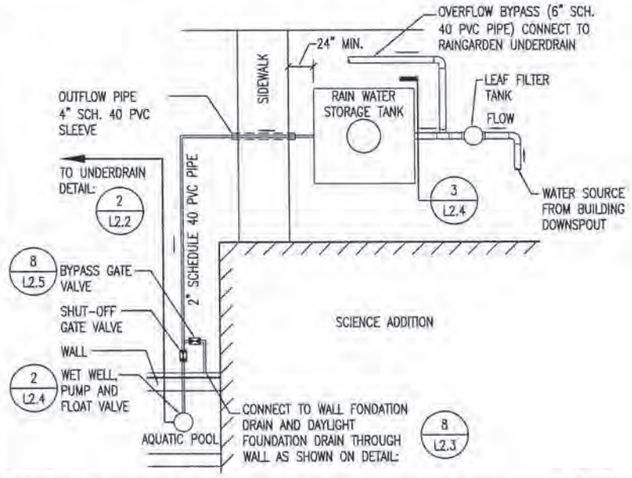
Name / Number — Date
Lenn Miller, Landscape Architect / 2002009810
PB Americas, Inc. / 000044

SHEET CONTENT
LANDSCAPE DETAILS

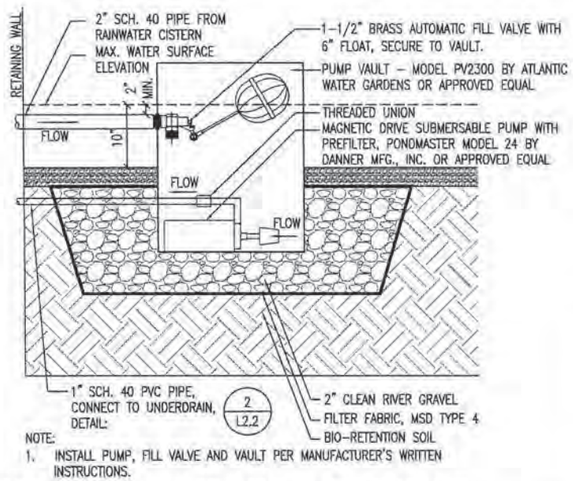
DATE:	OCTOBER 27, 2009
SCALE:	AS SHOWN
DRAWN BY:	LEL
CHECKED BY:	HLM
APPROVED BY:	HLM

PSD PROJECT NUMBER: PR5008018
PB PROJECT NUMBER: 35998A

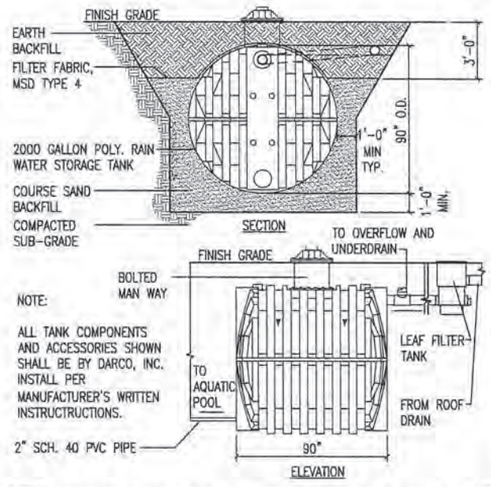
SHEET NUMBER: **L2.3**



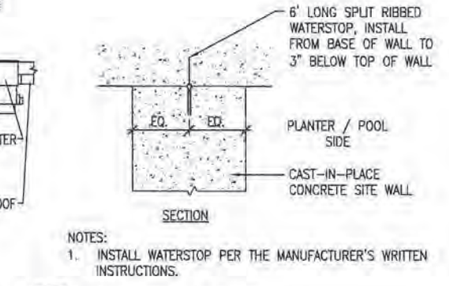
1 RAINWATER STORAGE DIAGRAM
NTS



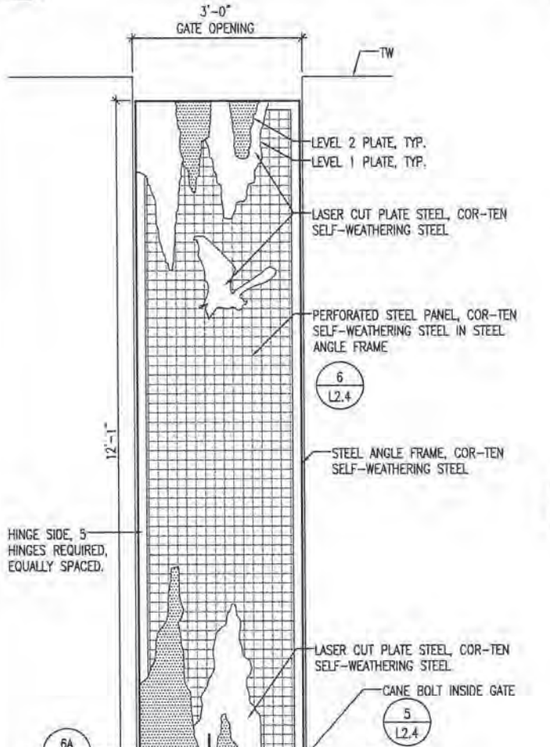
2 WET WELL, PUMP AND FLOAT VALVE
NTS



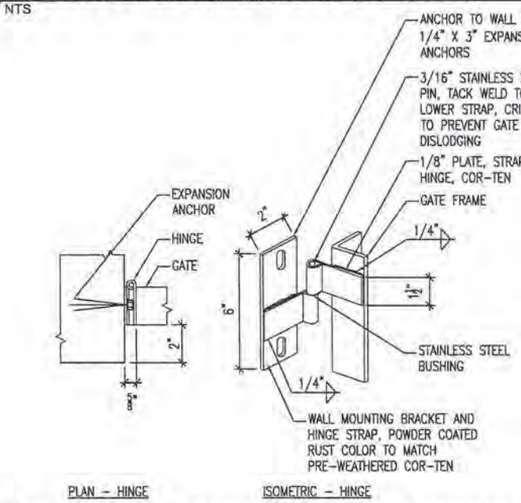
3 RAIN WATER STORAGE TANK
NTS



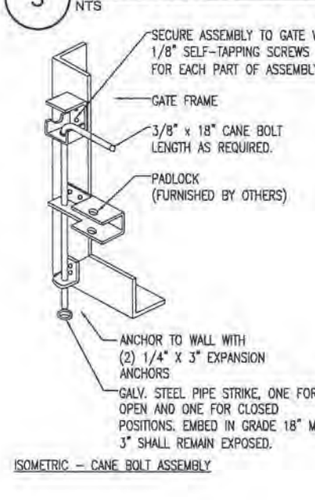
4 WATER STOP
NTS



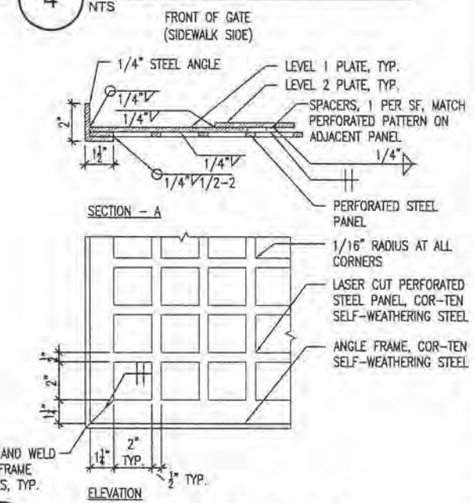
7 SIMULATED SPRING - GATE
NTS



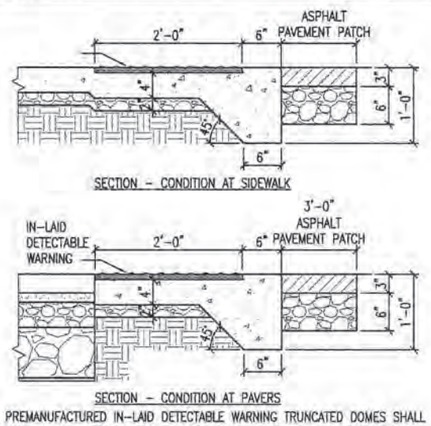
5 SIMULATED SPRING - GATE HARDWARE
NTS



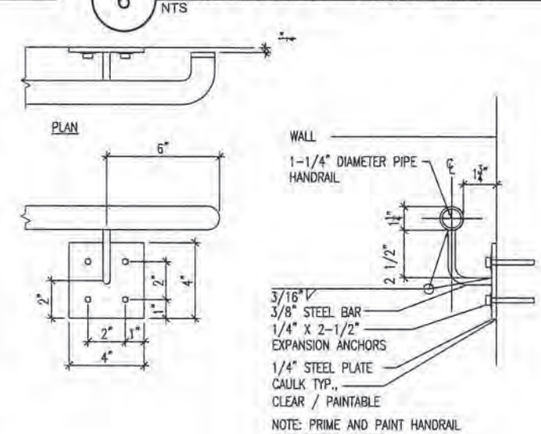
6 SIMULATED SPRING GATE
NTS



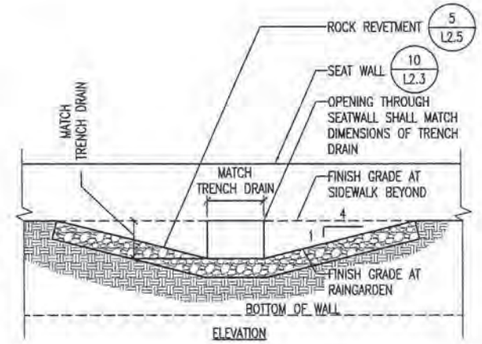
8 SEAT WALL AT TRENCH DRAIN
NTS



9 TACTILE WARNING SURFACE
NTS



10 WALL MOUNTED RAILING
NTS



11 SEAT WALL AT TRENCH DRAIN
NTS

PB 100 YEARS®
PB PARSONS BRINCKERHOFF
1831 CHESTNUT STREET, ST. LOUIS MO. 63103-2225
T 314.421.1478 F 314.421.1741 | www.pbworld.com
Health Education + Research Associates, Inc.
14 N. NEWSTEAD SUITE 200
ST. LOUIS MO. 63108
HEIDEMAN ASSOCIATES, INC.
13543 Barrett Parkway Drive Suite 200
St. Louis, Missouri 63021
p 314.822.2217
f 314.822.7658
GENESIS ENGINEERING
19141 SWINGLY RIDGE ROAD SUITE 300
ST. LOUIS MISSOURI 63017

REV	DESCRIPTION	DATE

BID PACKAGE 2 - FINAL BID DOCUMENTS
Science Renovations / Addition
PARKWAY CENTRAL HIGH SCHOOL
369 NORTH WOODS MILL ROAD
Chesterfield, Missouri 63017

PARKWAY SCHOOL DISTRICT
STATE OF MISSOURI

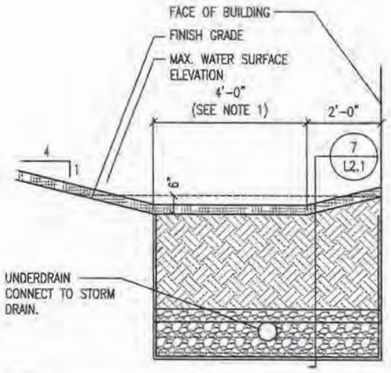
Name / Number	Date
Lann Miller, Landscape Architect / 2002000810 PB Americas, Inc. / 000044	

SHEET CONTENT
LANDSCAPE DETAILS

DATE:	OCTOBER 27, 2009
SCALE:	AS SHOWN
DRAWN BY:	LEL
CHECKED BY:	HLM
APPROVED BY:	HLM

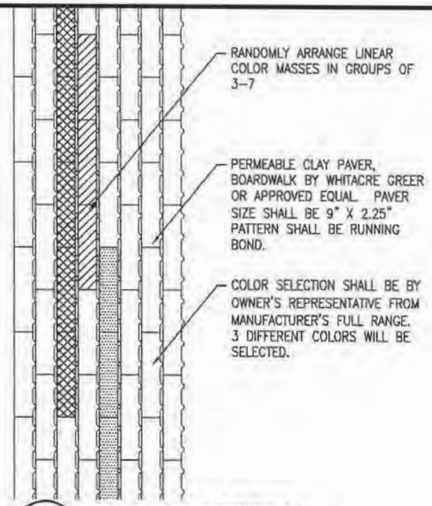
PSD PROJECT NUMBER: P16000013
PB PROJECT NUMBER: 35995A

SHEET NUMBER: **L2.4**

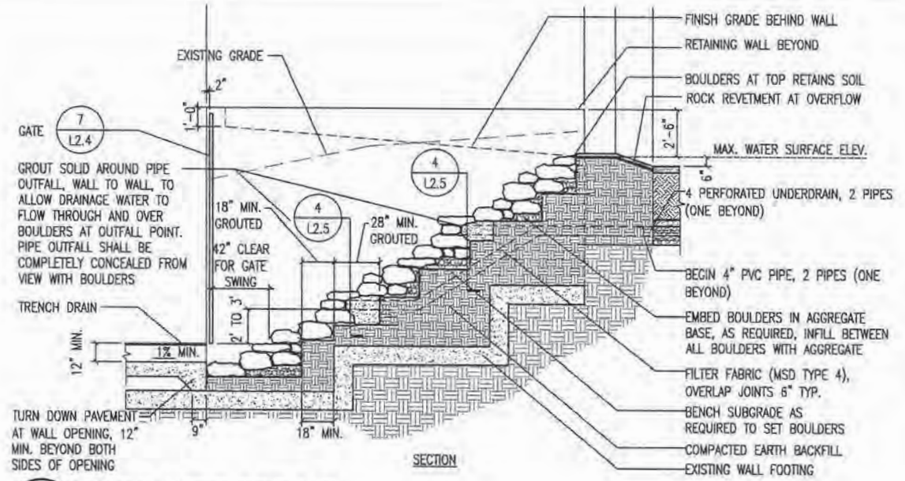


NOTES:
1. BIO-SWALE DRAINS INTO RAINGARDEN AT NORTHEAST CORNER OF BUILDING WIDTH VARIES IN RAIN GARDEN.

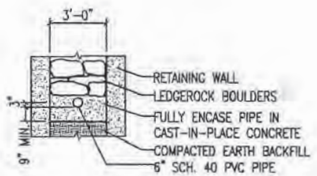
1 BIO-SWALE
NTS



2 PAVER PATTERN
NTS

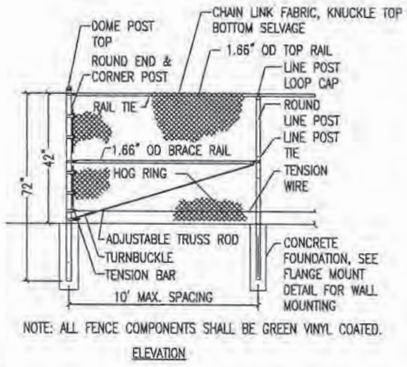


3 SIMULATED SPRING
NTS



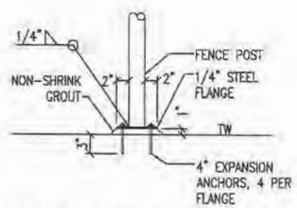
1. SELECT BOULDERS FOR TIGHTEST FIT BETWEEN WALLS AND WITHIN STACKED LAYERS.
2. BOULDERS SHALL VARY IN SIZE FROM 4-12 INCHES IN HEIGHT TO 8-35 INCHES IN WIDTH.
3. BOULDERS SHALL BE WEATHERED LIMESTONE LEDGEROCK, DARK GRAY TO LIGHT BUFF IN COLOR, WITH SURFACE MOSS AND LICHEN INTACT.

4 SIMULATED SPRING
NTS



NOTE: ALL FENCE COMPONENTS SHALL BE GREEN VINYL COATED.

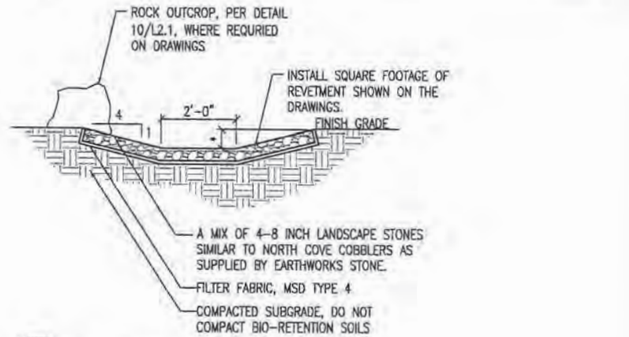
ELEVATION



NOTE: SHOP FABRICATE POSTS WITH FLANGES WELDED TO POST AND FINISHED AS SPECIFIED.

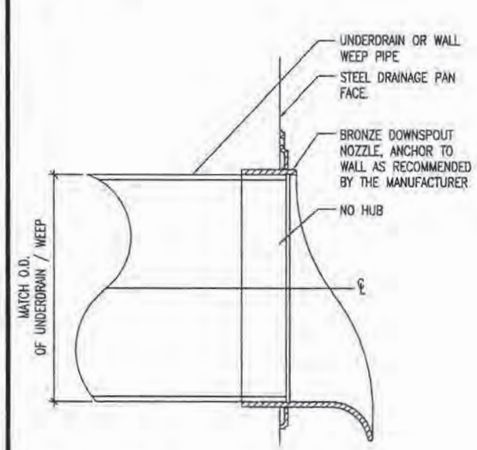
SECTION - FLANGE MOUNT

5 CHAIN-LINK FENCE
NTS

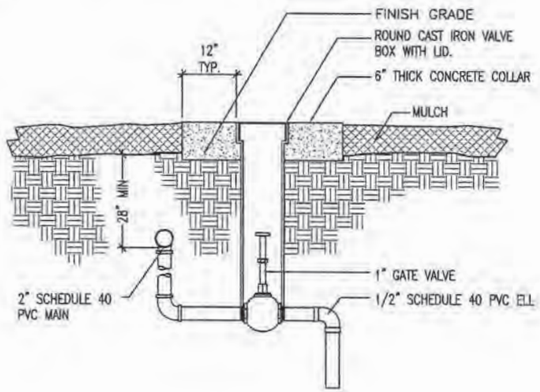


NOTES:
* - 6" DEPTH EXCEPT IN STORMWATER PLANTERS WHICH SHALL BE FLUSH WITH SURROUNDING GRADE.

6 ROCK REVETMENT
NTS



7 WEEP HOLE NOZZEL
NTS



8 GATE VALVE
NTS

PB 100 YEARS®

PB PARSONS BRINCKERHOFF
1631 CHESTNUT STREET, ST. LOUIS MO. 63103-2225
T 314.421.1478 F 314.421.1741 I www.pbworld.com

Health Education + Research Associates, Inc.
14 N. NEWSTEAD SUITE 200
ST. LOUIS MO. 63108

HEISERMAN ASSOCIATES, INC.
13345 Gemini Parkway Drive Suite 200
St. Louis, Missouri 63021
p 314.822.2217
f 314.822.7408

GENESIS ENGINEERING
16141 SWINGLY RIDGE ROAD SUITE 300
ST. LOUIS MISSOURI 63017

REV	DESCRIPTION	DATE

BID PACKAGE 2 - FINAL BID DOCUMENTS
Science Renovations / Addition
PARKWAY CENTRAL HIGH SCHOOL
369 NORTH WOODS MILL ROAD
Chesterfield, Missouri 63017

PARKWAY SCHOOL DISTRICT

STATE OF MISSOURI

Name / Number	Date
Lenn Miller, Landscape Architect / 2002009810 PB Americas, Inc. / 000044	

SHEET CONTENT
LANDSCAPE DETAILS

DATE: OCTOBER 27, 2009
SCALE:
DRAWN BY:
CHECKED BY:
APPROVED BY:

PSD PROJECT NUMBER: PN0009016
PB PROJECT NUMBER: 35994A

SHEET NUMBER: **L2.5**

PARKWAY CENTRAL HIGH SCHOOL

A TRACT OF LAND BEING PART OF KINKEAD ESTATE SUBDIVISION
LOCATED IN US SURVEY 207, TOWNSHIP 45 NORTH, RANGE 5 EAST
OF THE 5TH PRINCIPAL MERIDIAN, CITY OF CHESTERFIELD
ST. LOUIS COUNTY, MISSOURI

PARKWAY SCHOOL DISTRICT
455 North Woods Mill Road Chesterfield, Missouri 63017 (314) 415-8100 (314) 415-8207 Fax

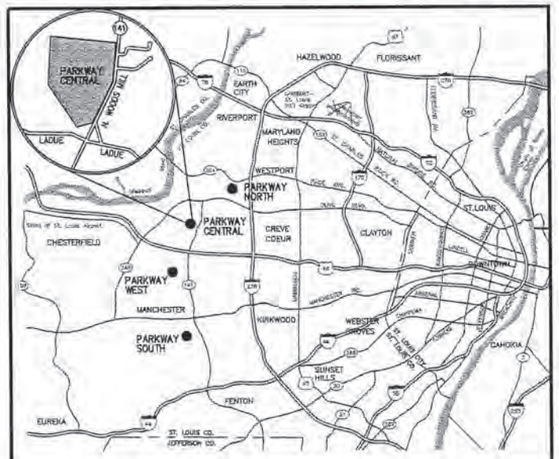
SYNTHETIC TURF FIELD IMPROVEMENTS

LEGEND

ELECTRIC MANHOLE	(E)
EXISTING SANITARY SEWER	
EXISTING STORM SEWER	
EXISTING TREE	14"
EXISTING BUILDING	
EXISTING CONTOUR	533
SPOT ELEVATION	
EXISTING UTILITIES	G — W — T — E
PROPOSED CONTOUR	530
PROPOSED SPOT	x 530.50
PROPOSED STORM SEWER	
PROPOSED SANITARY SEWER	SS
FIRE HYDRANT	
LIGHT STANDARD	
BUSH	
SIGN	
NOTES PARKING SPACES	(18)
GUY WIRE	
POWER POLE	
WATER MANHOLE	(W)
WATER VALVE	
DENOTES RECORD INFORMATION	( )
HANDICAPPED PARKING	
PHONE MANHOLE	(P)
OVERHEAD ELECTRIC	OE
UNDERGROUND TELEPHONE	UT
CONCRETE	CONC
ASPHALT	ASPH
POLYVINYL CHLORIDE	PVC
DENOTES WITH	W/
TRANSFORMER	T
SANITARY	SAN
SWALE	
CHAIN-LINK FENCE	
TRAFFIC FLOW	
SAWCUT	

ABBREVIATIONS

W	– WATER	DB	– DEED BOOK
E	– ELECTRIC	PB	– PLAT BOOK
OE	– OVERHEAD ELECTRIC	PG	– PAGE
UW	– UNDERGROUND ELECTRIC	(_"W)	– RIGHT-OF-WAY WIDTH
G	– GAS	(REC.)	– RECORD INFORMATION
T	– TELEPHONE	FT	– FEET
TBR	– TO BE REMOVED	N/F	– NOW OR FORMERLY
TBR & R	– TO BE REMOVED AND REPLACED	FND	– FOUND
UIP	– USE IN PLACE	SQ	– SQUARE
TBA	– TO BE ADJUSTED	CO	– CLEANOUT
BC	– BACK OF CURB	MH	– MANHOLE
FC	– FACE OF CURB	AI	– AREA INLET
TW	– TOP OF WALL	CI	– CURB INLET
BW	– BOTTOM OF WALL	GI	– GRATE INLET
PVMT	– PAVEMENT	YD	– YARD DRAIN
ASPH	– ASPHALT	PVC	– POLYVINYL CHLORIDE PIPE
CONC	– CONCRETE	RCP	– REINFORCED CONCRETE PIPE
GRND	– GROUND	CMP	– CORRUGATED METAL PIPE
FG	– FINISHED GRADE	VCP	– CLAY PIPE
FF	– FINISHED FLOOR	FL	– FLOWLINE
LL	– LOWER LEVEL	TS	– TAILSTAKE
TT	– TOP OF TURF	ELEV, EL	– ELEVATION
TC	– TOP OF CURB	PROP, PR	– PROPOSED
SG	– SUBGRADE	EXIST, EX	– EXISTING
		TYP	– TYPICAL



LOCATION MAP
(NOT TO SCALE)

INDEX

C1	TITLE SHEET
C2	EXISTING CONDITIONS/DEMO/SWPPP PLAN
C3	SWPPP DETAILS
C4	SITE AND GRADING PLAN
C5	FIELD DETAILS SHEET
C6	SITE GEOMETRIC PLAN/SPECIFICATIONS
C7	STORM SEWER PROFILES/DETAILS/HYDRAULICS
C8	SEWER DETAILS AND PLANTING PLAN
C9	WATER QUALITY PLAN
C10	DRAINAGE AREA MAP

SITE INFORMATION

OWNER	=	PARKWAY SCHOOL DISTRICT
SITE ADDRESS	=	347 NORTH WOODS MILL ROAD CHESTERFIELD, MISSOURI 63017
LOCATOR NUMBER	=	17Q23-0085
EXISTING ZONING	=	"NU" NON-URBAN DISTRICT
FIRE DISTRICT	=	MONARCH FPD
SCHOOL DISTRICT	=	PARKWAY
SEWER DISTRICT	=	METROPOLITAN ST. LOUIS SEWER DIST.
WATER SERVICE	=	MISSOURI AMERICAN WATER
GAS SERVICE	=	LACLEDE GAS
ELECTRIC SERVICE	=	AMEREN UE
PHONE SERVICE	=	SBC/AT&T
FLOOD MAPS	=	29189C0145H
WATERSHED	=	CREVE COUER CREEK
WUNNENBER'S NO.	=	PG. 22, GRID AA-18
MDNR LAND DISTURBANCE PERMIT #	=	MO-R10D713

UTILITY CONTACTS:

CHARTER COMMUNICATION
941 CHARTER COMMONS
TOWN & COUNTRY, MO 63017
ATTN: SARA BISHOP
PHONE: 636.387.6633

AMEREN UE
280 OLD STATE ROAD
ELLISVILLE, MO 63021
ATTN: BRUNO STOPKA
PHONE: 314.992.8902

LACLEDE GAS COMPANY
3950 FOREST PARK AVENUE
ST. LOUIS, MO 63108
ATTN: JIM TRAVIS
PHONE: 314.342.0687

AT&T TELEPHONE COMPANY
402 N. 3RD STREET, 1ST FLOOR
ST. CHARLES, MO 63301
ATTN: KURT MASTERS
PHONE: 636.949.1313

MO. AMERICAN WATER COMPANY
727 CRAIG ROAD
ST. LOUIS, MO 63141
ATTN: MARIANN KLEMME
PHONE: 314.996.2302

PROPERTY OWNER CERTIFICATION

PARKWAY SCHOOL DISTRIC HEREBY CERTIFIES THAT HE IS FAMILIAR WITH THE SWPPP AND ASSUMES FULL RESPONSIBILITY FOR THE PERFORMANCE AND MAINTENANCE OF THE SWPPP AS STATED ON THE APPROVED PLANS. HE WILL ENSURE THAT ALL CONTRACTORS UNDERSTAND AND ARE FAMILIAR WITH THE SWPPP FOR THE SITE AND THAT EACH CONTRACTOR AGREES TO IMPLEMENT AND PROTECT ELEMENTS OF THE SWPPP AS THEY RELATE TO HIS WORK. PARKWAY SCHOOL DISTRICT ONSITE REPRESENTATIVE SHALL BE RESPONSIBLE FOR THE PERFORMANCE AND MAINTENANCE OF THE SWPPP. IN ADDITION, THE UNDERSIGNED PARKWAY SCHOOL DISTRICT ASSURES THAT ALL CITY PROPERTY OR ROADS WILL BE ADEQUATELY PROTECTED.

J. Scott Bennett
J. SCOTT BENNETT
SCOTT BENNETT - MANAGER OF PLANNING AND ENGINEERING

2/22/11
DATE

PERMITTEE NOTE:

THE PERMITTEE SHALL ASSUME COMPLETE RESPONSIBILITY FOR CONTROLLING ALL SILTATION AND EROSION OF THE PROJECT AREA. THE PERMITTEE SHALL USE WHATEVER MEANS NECESSARY TO CONTROL EROSION AND SILTATION INCLUDING, BUT NOT LIMITED TO, STAKED STRAW BALES AND/OR SILTATION FABRIC FENCES (POSSIBLE METHODS OF CONTROL ARE DETAILED IN THE PLAN). CONTROL SHALL COMMENCE WITH GRADING AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY THE CITY OF CHESTERFIELD AND MISSOURI DEPARTMENT OF TRANSPORTATION AS NECESSARY. THE PERMITTEE'S RESPONSIBILITIES INCLUDE ALL DESIGN AND IMPLEMENTATION AS REQUIRED TO PREVENT EROSION AND THE DEPOSITING OF SILT. THE CITY OF CHESTERFIELD AND AS REQUIRED BY (STLCO) MAY AT THEIR OPTION DIRECT THE PERMITTEE IN HIS METHODS AS DEEMED FIT TO PROTECT PROPERTY AND IMPROVEMENTS. ANY DEPOSITING OF SILT OR MUD ON NEW OR EXISTING PAVEMENT SHALL BE REMOVED IMMEDIATELY. ANY DEPOSITING OF SILT OR MUD IN NEW OR EXISTING STORM SEWERS OR SWALES SHALL BE REMOVED AFTER EACH RAIN AND AFFECTED AREAS CLEANED TO THE SATISFACTION OF THE CITY OF CHESTERFIELD AND AS REQUIRED BY (STLCO).

OWNER NOTE:

ONCE THE CONTRACTOR DELIVERS THE PROPERTY TO THE OWNER, THE OWNER SHALL BE RESPONSIBLE TO MAINTAIN ANY CONTROL MEASURE THAT IS TO REMAIN AS A PERMANENT STRUCTURE TO CONTROL SILTATION AND EROSION.

CONTRACTOR'S INSURANCE REQUIREMENTS

PRIOR TO OBTAINING A CONSTRUCTION PERMIT FROM THE METROPOLITAN ST. LOUIS SEWER DISTRICT, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE THE DISTRICT WITH A COPY OF AN EXECUTED CERTIFICATE OF INSURANCE INDICATING THAT THE PERMITTEE HAS OBTAINED AND WILL CONTINUE TO CARRY COMMERCIAL GENERAL LIABILITY AND COMPREHENSIVE AUTO LIABILITY INSURANCE. THE REQUIREMENTS AND LIMITS SHALL BE AS STATED IN THE "RULES AND REGULATIONS AND ENGINEERING DESIGN REQUIREMENTS FOR SANITARY AND STORMWATER DRAINAGE FACILITY", SECTION 10.090 (ADDENDUM).

OWNER

PARKWAY SCHOOL DISTRICT
455 N. WOODS MILL ROAD
CHESTERFIELD, MISSOURI 63017
CONTACT: J. SCOTT BENNETT P.E.
PH: (314) 415-8231

PREPARED FOR:

ATG SPORTS
C/O DON BOLINGER, PRESIDENT
1349 MCNUTT ROAD, SUITE D
HERCULANEUM, MO 63048
PHONE: (636) 524-6135
FAX: (636) 933-4994

MISSOURI ONE CALL SYSTEM, INC. STOP! CALL BEFORE YOU DIG

STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. AND THE UNDERSIGNED ENGINEER HAVE NO RESPONSIBILITY FOR SERVICES PROVIDED BY OTHERS TO IMPLEMENT THE IMPROVEMENTS SHOWN ON THIS PLAN AND ALL OTHER DRAWINGS WHERE THE UNDERSIGNED ENGINEER'S SEAL APPEARS. THE CONSTRUCTION MEANS AND METHODS ARE THE SOLE RESPONSIBILITY OF THE OWNER AND CONTRACTOR. STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. HAS NO RESPONSIBILITY TO VERIFY FINAL IMPROVEMENTS AS SHOWN ON THIS PLAN UNLESS SPECIFICALLY ENGAGED AND AUTHORIZED TO DO SO BY THE OWNER OR CONTRACTOR.

UTILITY NOTE

UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, RECORDS AND INFORMATION, AND , THEREFORE DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NON-EXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE FACILITIES, STRUCTURES AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS. THE UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319 RSMo..

ST. LOUIS COUNTY BENCHMARK

#13-124
ELEV.=501.82
"STANDARD TABLET" STAMPED 30 GEU 1975 SET IN NORTHEAST TOWER LEG OF SOUTHERNMOST POWER LINE ABOUT 120' WEST OF HIGHWAY 141 AT PARKWAY CENTRAL HIGH SCHOOL PARKING LOT.

UTILITY LOCATES

MISSOURI ONE-CALL
1 800 344-7483
CITY OF CHESTERFIELD
PUBLIC WORKS
(636) 537-4000

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY NUMBER: 000996

M.S.D. P# 17328-11
BASE MAP # 17-Q

APR. 4, 2011
100% COMPLETE

3.) REQUIRED SETS TO MSD 04/1/11
2.) REVISED PER MSD AND CITY COMMENTS 03/16/11
1.) REVISED PER MSD AND CITY COMMENTS 02/21/11

PARKWAY CENTRAL HIGH SCHOOL

TITLE SHEET

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
J.M.B.	12/15/10	G.M.S.	12/22/10	210-4672	C1 of 10

GRAPHIC SCALE

(IN FEET)
1 inch = 40 ft.

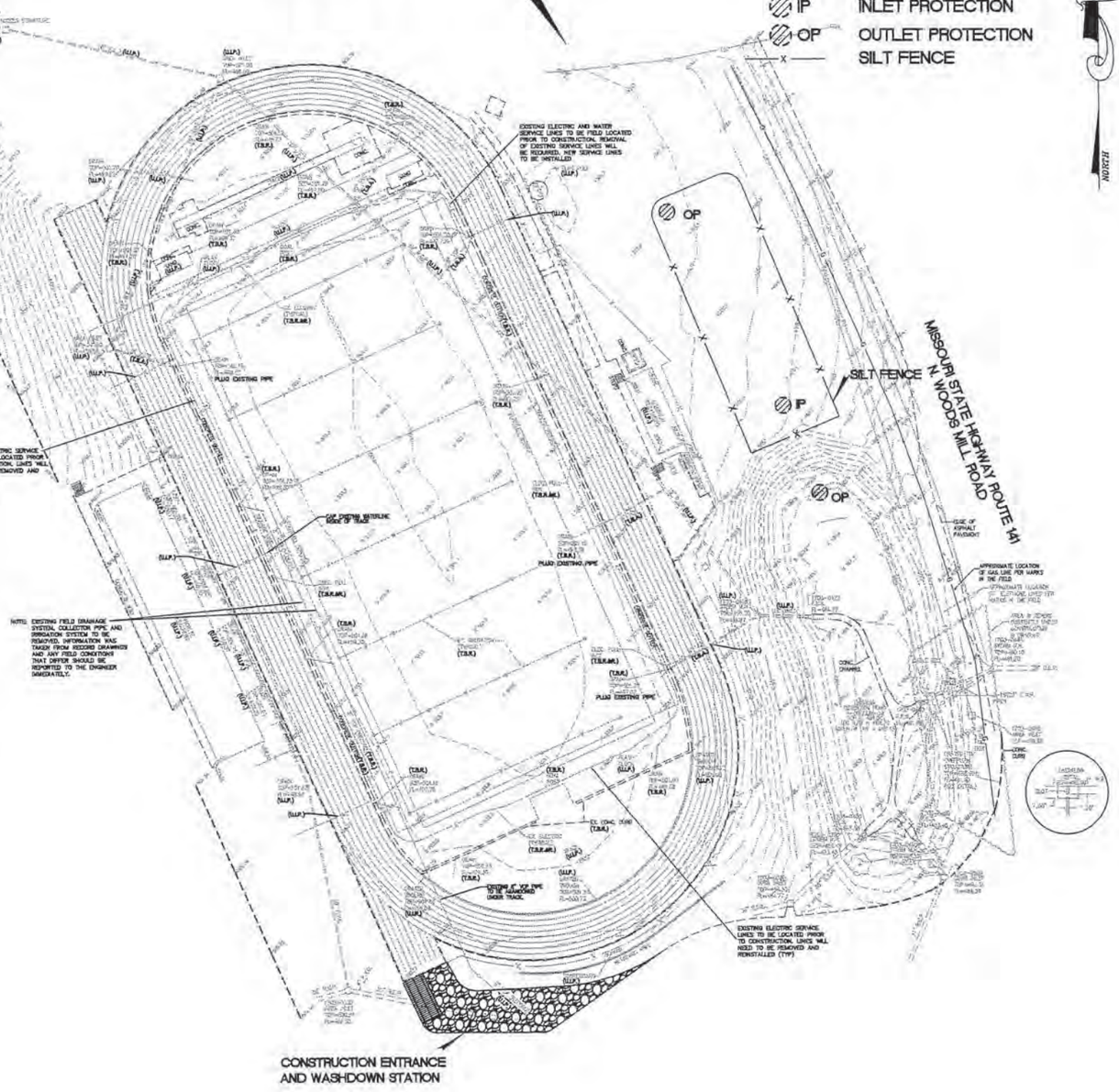
CONSTRUCTION ACCESS FOR EARTHWORK RELATED TO ATHLETIC FIELD TO ENTER FROM THIS DIRECTION. CONSTRUCTION ACCESS DRIVE AND WASHDOWN AREA MUST BE PROVIDED.

SILTATION CONTROL LEGEND

IP INLET PROTECTION

OP OUTLET PROTECTION

SILT FENCE



CONSTRUCTION ENTRANCE AND WASHDOWN STATION

SILTATION NOTES

1. Inspection of siltation control devices shall take place once every seven days and within 24 hours of any 0.5" /24 hour rain event. Any siltation control in need of repair shall occur immediately.
2. Any disturbed areas which will remain unworked for 5 days or more shall be stabilized with seeding and mulching per specifications within 5 days. If seasonal conditions prohibit seeding, mulching or matting shall be used.
3. All slopes or drainage channels, once constructed to final grade, shall be seeded and mulched per specifications within seven (7) days.
4. Straw bales shall be installed immediately around each storm sewer structure once final construction of each individual structure is complete.
5. All siltation control devices shall remain in place until upslope areas have been permanently stabilized.

Siltation Control Schedule Implementation

1. Perimeter siltation control and construction entrances to be installed.
2. Begin placing aggregate base in parking areas once area has reached final grade to prevent erosion.
3. Place silt cotrol around each storm sewer structure as it is completed.
4. Immediately seed areas upon reaching final grade that are to be permanently seeded.

Temporary Access Roads and Parking Areas Specifications

1. Temporary roads shall follow the contour of the natural terrain to the extent possible. Slopes should not exceed 10 percent.
2. Grades should be sufficient to provide drainage, but should not exceed 4 percent.
3. Roadbeds shall be at least 24 feet wide.
4. All cuts and fills shall be 3:1 or flatter to the extent possible.
5. Drainage ditches shall be provided as needed.
6. The roadbed or parking surface shall be cleared of all vegetation, roots and other objectionable material.
7. A 10-inch course of 2" MINUS aggregate shall be applied immediately after grading or the completion of utility installation within the right-of-way. Filter fabric may be applied to the roadbed for additional stability in accordance with fabric manufacturer's specifications.

Vegetation

All roadside ditches, cuts, fills and disturbed areas adjacent to parking areas and roads shall be stabilized with appropriate temporary or permanent vegetation according to the applicable standards and specifications.

Maintenance

Both temporary and permanent roads and parking areas may require periodic top dressing with new gravel. Seeded areas adjacent to the roads and parking areas should be checked periodically to ensure that a vigorous stand of vegetation is maintained. Roadside ditches and other drainage structures should be checked regularly to ensure that they do not become clogged with silt or other debris.

Silt Fence Specifications

1. Silt Fence to be woven geotextile fabric Mirafi 100X or equal.
2. Fabric to be supported by metal tee post with spade base spaced on 5' centers or per approved manufactures recommendations.
3. Fabric shall be entrenched and backfilled. A trench shall be excavated a minimum of 6 inches deep for the length of the fence. The excavated soil shall be backfilled against the fence. See detail this sheet.
4. Fence height shall be a minimum of 2 feet in height, with the fabric installed on the fence on the upstream side.
5. Silt fences shall be used only on sheet flow conditions.
6. Silt fences and inlet protection shall be installed around all storm sewer structures.

Maintenance

1. Silt fence barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall.
2. Close attention shall be paid to the repair of damaged barriers, end runs and undercutting beneath barriers.
3. Necessary repairs to barriers or replacement of fences shall be accomplished promptly.
4. Sediment deposits should be removed after each rainfall. They must be removed when the level of deposition reaches approximately one-half the height of the barrier.
5. Any sediment deposits remaining in place after the silt fence barrier is no longer required shall be dressed to conform to the existing grade, prepared and seeded.

Straw Bale Siltation Control Specifications

Sheet Flow Applications

1. Bales shall be placed in a single row, lengthwise on the contour, with both ends of adjacent bales tightly abutting one another.
2. All bales shall be either wire-bound or string-tied. Straw bales shall be installed so that buildings are oriented around the sides rather than along the tops and bottoms of the bales (in order to prevent deterioration of the bindings). See detail this sheet.
3. The barrier shall be entrenched and backfilled. A trench shall be excavated the width of a bale and the length of the proposed barrier to a minimum depth of 4 inches. After the bales are staked and chinked, the excavated soil shall be backfilled against the barrier. Backfill soil shall conform to the ground level on the downhill and shall be built up to 4 inches against the uphill side of the barrier.
4. Each bale shall be securely anchored by at least two stakes or rebars driven through the bale. The first stake in each bale shall be driven toward the previously laid bale to force the bales together. Stakes or rebars shall be driven deep enough into the ground to securely anchor the bales.
5. The gaps between bales shall be chinked (filled by wedging) with straw to prevent water from escaping between the bales. (Loose straw scattered over the area immediately uphill from a straw bale barrier tends to increase barrier efficiency).
6. Inspection shall be frequent and repair or replacement shall be made promptly as needed.
7. Straw bale barriers shall be removed when they have served their usefulness, but not before the upslope areas have been permanently stabilized.

Channel Flow Applications

1. Bales shall be placed in a single row, lengthwise, oriented perpendicular to the contour, with ends of adjacent bales tightly abutting one another.
2. The barrier shall be extended to such a length that the bottoms of the end bales are higher in elevation than the top of the lowest middle bale to assure that sediment-laden runoff will flow either through or over the barrier but not around it.

Maintenance

1. Straw bale barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall.
2. Close attention shall be paid to the repair of damaged fence, end runs and undercutting beneath fence.
3. Necessary repairs to barriers or replacement of silt fence shall be accomplished promptly.
4. Sediment deposits should be removed after each rainfall. They must be removed when the level of deposition reaches approximately one-half the height of the barrier.
5. Any sediment deposits remaining in place after the straw bale barrier is no longer required shall be dressed to conform to the existing grade, prepared and seeded.

3.) REQUIRED SETS TO MSD 04/1/11
2.) REVISED PER MSD AND CITY COMMENTS 03/16/11
1.) REVISED PER MSD AND CITY COMMENTS 02/21/11

M.S.D. P# 17328-11

BASE MAP # 17-Q

APR. 4, 2011
100% COMPLETE

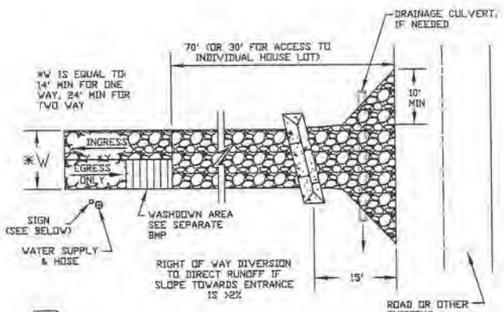
GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

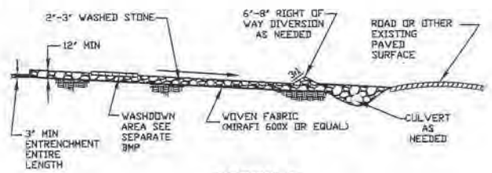
PARKWAY CENTRAL HIGH SCHOOL

EXISTING CONDITIONS/DEMO/SWPPP SHEET

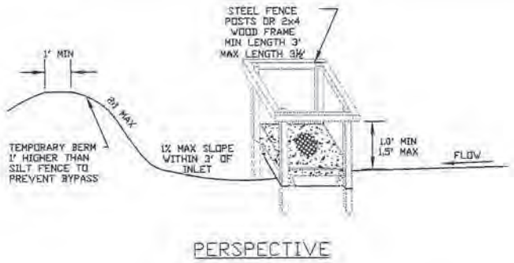
STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

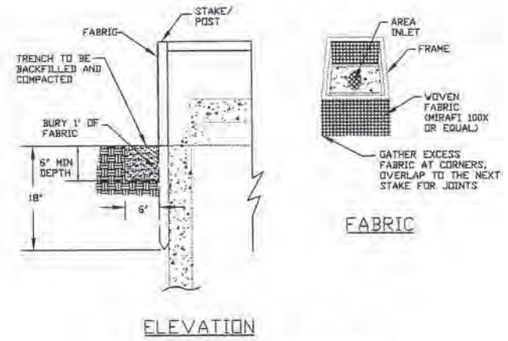
DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
J.M.B.	12/15/10	G.M.S.	12/22/10	210-4672	C2 of 10



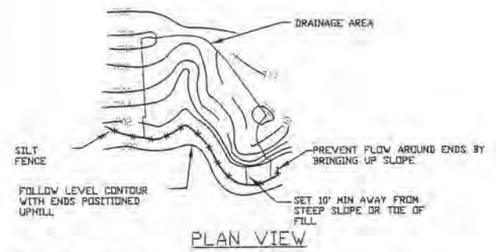


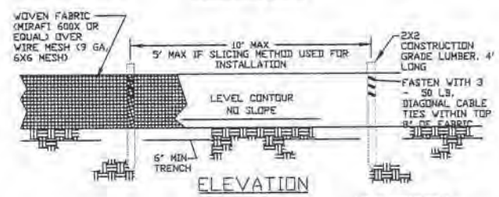
CONSTRUCTION ENTRANCE

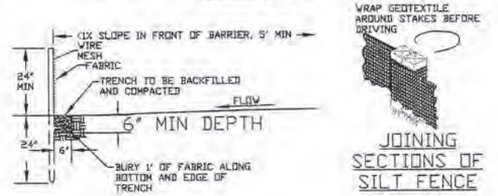




INLET PROTECTION

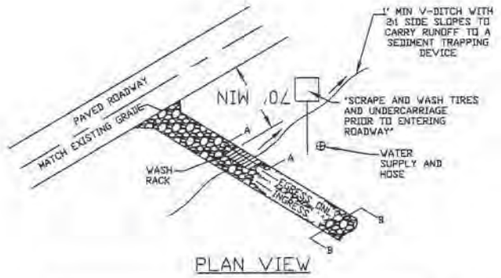


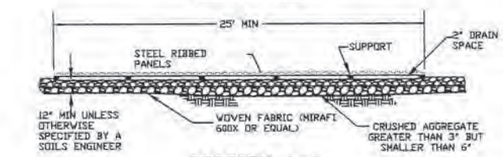


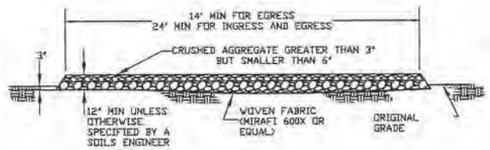


NOTE: IF FABRIC IS INSTALLED BY EQUIPMENT DESIGNED TO SLICE INTO THE GROUND, THE TRENCH IS NOT NEEDED

SILT FENCE







WASHDOWN STATION

Category: SEDIMENT CAPTURE
Use Group: TEMPORARY
ISSUED 6-1-09

SILT FENCE

PHYSICAL DESCRIPTION:

A fence constructed of woven filter fabric and wire mesh stretched between posts and entrenched in the ground designed to pond stormwater runoff and cause sediment to settle out.

WHERE BMP IS TO BE INSTALLED:

Installed along slopes, at base of slopes, and around perimeter of site as final barrier to sediment being carried off site. Spacing of fence along slopes is relative to slope:

CONDITIONS FOR EFFECTIVE USE OF BMP:

Type of Flow: Sheet flow only
Contributing Slope Length: 30 foot maximum for 3:1 slopes
50 foot maximum for slopes between 3:1 and 10:1
100 foot maximum for slopes under 10%

WHEN BMP IS TO BE INSTALLED:

Prior to disturbance of natural vegetation and at intervals during construction of fill slopes

INSTALLATION/CONSTRUCTION PROCEDURES:

- ✓ Drive post for fence line
- ✓ Dig trench to required dimensions in front of posts for fabric burial
- ✓ Attach wire mesh to posts
- ✓ Attach fabric to posts, allowing required length below ground level to run fabric along bottom of trench
- ✓ Backfill and compact soil in trench to protect and anchor fabric

Alternate Construction – Install fence by slicing it into ground with specialized equipment
Install posts at reduced spacing indicated on detail

O&M PROCEDURES:

- ✓ Inspect at least every two weeks and after every storm
- ✓ Remove sediment buildup deeper than ½ the fence height or 12", whichever is less
- ✓ Replace torn of clogged fabric; repair loose fabric
- ✓ Repair unstable or broken posts
- ✓ Stabilize any areas susceptible to undermining
- ✓ Extend fence or add additional row(s) of fence if necessary to provide adequate protection

SITE CONDITIONS FOR REMOVAL:

After permanent vegetation of slope is established. Remove fence, regrade trench area and vegetate.

TYPICAL DETAIL: SC-8

SILT FENCE SC-8

Category: TRACKING CONTROL
Use Group: TEMPORARY
ISSUED 6-1-09

CONSTRUCTION ENTRANCE

PHYSICAL DESCRIPTION:

A stabilized entrance to a construction site designed to minimize the amount of sediment tracked from the site on vehicles and equipment. Stabilization generally consists of aggregate over fabric. Mud and sediment fall off of tires as they travel along the stabilized entrance; however, additional measures in the form of a washdown area should also be included on site. The stabilized entrance also distributes the axle load of vehicles over a larger area; thereby mitigating the rutting impact vehicles normally have on unpaved areas.

WHERE BMP IS TO BE INSTALLED:

At locations where it is safe for construction vehicles and equipment to access existing streets – preferably at location of future streets or drives.

CONDITIONS FOR EFFECTIVE USE OF BMP:

Drainage: Ditches or pipes, if needed, sized for 15 year, 20 minute storm; HGL 6" below surface of entrance

WHEN BMP IS TO BE INSTALLED:

First order of work, along with washdown area, prior to vehicles or equipment accessing unpaved areas.

INSTALLATION/CONSTRUCTION PROCEDURES:

- ✓ Grade and compact area of construction entrance
- ✓ Install culvert under entrance if needed to maintain positive drainage
- ✓ Place fabric and cover with aggregate, forming diversion across entrance if needed to direct runoff away from roadway
- ✓ See Washdown Station BMP for additional steps

O&M PROCEDURES:

- ✓ Immediately remove any mud or debris tracked onto paved surfaces
- ✓ Remove sediment and clods of dirt from construction entrance continuously
- ✓ Replace rock if necessary to maintain clean surface
- ✓ Repair settled areas

SITE CONDITIONS FOR REMOVAL:

Remove when vehicles and equipment will no longer access unpaved areas

TYPICAL DETAIL: TC-1

CONSTRUCTION ENTRANCE TC-1

Category: TRACKING CONTROL
Use Group: TEMPORARY
ISSUED 6-1-09

WASHDOWN STATION

PHYSICAL DESCRIPTION:

An area located at construction entrances designed to wash sediment from the tires and undercarriage of exiting vehicles and prevent sediment from being tracked onto existing roadways.

WHERE BMP IS TO BE INSTALLED:

Across or immediately adjacent to exit paths from unpaved construction sites.

CONDITIONS FOR EFFECTIVE USE OF BMP:

Drainage: Downstream BMP sized to treat dirty runoff from washdown station

WHEN BMP IS TO BE INSTALLED:

First order of work, along with construction entrance, prior to vehicles or equipment accessing unpaved areas.

INSTALLATION/CONSTRUCTION PROCEDURES:

- ✓ Grade and compact area for drainage under washdown pad
- ✓ Install steel-ribbed plate on frame or other support to allow a 2" drain space
- ✓ Grade and vegetate downstream BMP (v-ditch shown on detail)
- ✓ Install water supply and hose
- ✓ Post sign in advance of station indicating that all exiting vehicles and equipment must use station prior to exiting site

O&M PROCEDURES:

- ✓ Remove sediment daily
- ✓ Repair settled areas
- ✓ Replace rock if necessary to maintain clean surface.

SITE CONDITIONS FOR REMOVAL:

Remove when vehicles and equipment will no longer access unpaved areas

TYPICAL DETAIL: TC-4

WASHDOWN STATION TC-4

3.) REQUIRED SETS TO MSD 04/1/11
2.) REVISED PER MSD AND CITY COMMENTS 03/16/11
1.) REVISED PER MSD AND CITY COMMENTS 02/21/11

M.S.D. P# 17328-11
BASE MAP # 17-Q
APR. 4, 2011
100% COMPLETE

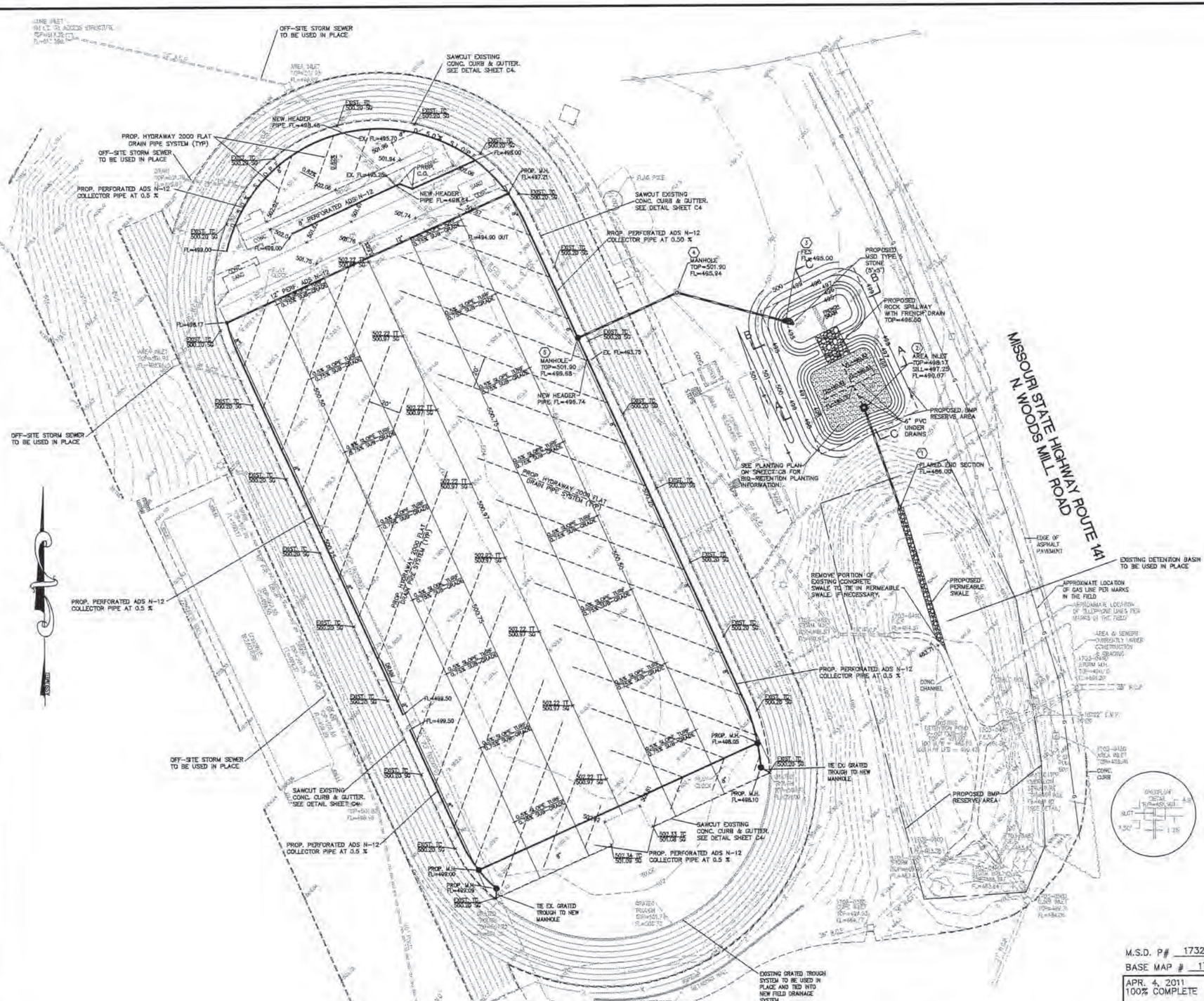
GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY NUMBER: 000996

PARKWAY CENTRAL HIGH SCHOOL

SWPPP DETAILS

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY:	DATE	CHECKED BY:	DATE	JOB NUMBER:	SHEET:
J.M.B.	12/15/10	G.M.S.	12/22/10	210-4672	C3 of 10



HAUL ROUTE

Route:
1. START NORTH ON ROYAL CREST COURT TOWARDS SOUTH OUTER FORTH ROAD.
2. TURN RIGHT ON SOUTH OUTER FORTY ROAD.
3. MERGE ONTO I-64 EAST
4. TAKE MO-141 EXIT 22
5. TURN LEFT ONTO MO-141 NORTH WOODS MILL ROAD. CONTINUE TO FOLLOW MO-141 NORTH.
6. TURN RIGHT ONTO OLIVE BLVD.
7. TAKE THE THIRD LEFT ONTO CREVE COEUR MILL ROAD.
8. STAY STRAIGHT TO GO ONTO MARYLAND HEIGHTS EXPRESSWAY.
9. TURN RIGHT ONTO CREVE COEUR MILL ROAD.
10. END AT FRED WEBER LAND FILL.

CONSTRUCTION SITE RUNOFF SHALL NOT FLOW INTO THE WATER QUALITY BMP(S). ALL STORMWATER FLOW TO THE WATER QUALITY BMP(S) SHALL BE DIVERTED, PLUGGED, OR DISCONNECTED UNTIL THE CONSTRUCTION SITE IS STABLE AND THE MSD DEDICATION INSPECTOR PROVIDES APPROVAL TO PLACE THE BMP(S) ONLINE.

NOTES:
1. PROPOSED FIELD UNDERDRAIN SYSTEM PER MANUFACTURER.
2. GEOTECHNICAL ENGINEER SHALL BE PRESENT TO INSPECT SUBGRADE AND CONFIRM ADEQUACY FOR PLACEMENT OF ROCK FIELD BASE.
3. CONTRACTOR SHALL VERIFY UNDERDRAIN SYSTEM LAYOUT, SPACING, PIPE SIZE AND INSTALLATION PROCEDURE PRIOR TO COMMENCING CONSTRUCTION.
4. CONTOURS SHOWN WITHIN TRACK ARE TO FIELD SUBGRADE.
5. EXISTING LONG JUMP TRACK AND PITS TO BE USED IN PLACE.
6. EXISTING DETENTION BASIN TO BE USED IN PLACE.

EARTHWORK NOTES

Bulk Cut..... 8,391 ..... ± CUBIC YARDS

Bulk Fill..... 0 ..... ± CUBIC YARDS (0% SHRINKAGE)

Net..... 8,391 (CUT) ..... ± CUBIC YARDS

THE ENGINEER HAS CALCULATED THE ABOVE QUANTITIES OF EARTHWORK TO BE REGARDED AS AN ESTIMATE OF THE BULK MOVEMENT OR REDISTRIBUTION OF SOILS ON THIS PROJECT. AS AN ESTIMATE, THESE QUANTITIES ARE INTENDED FOR GENERAL USE, AND THE ENGINEER ASSUMES NO LIABILITY FOR COST OVERRUNS DUE TO EXCESS EXCAVATED MATERIALS OR SHORTAGES OF FILL.

THE QUANTITIES ESTIMATED FOR EACH OF THE IMPROVEMENT ITEMS LISTED ABOVE ARE BASED UPON THE HORIZONTAL AND VERTICAL LOCATION OF THE IMPROVEMENTS AS PROPOSED ON THE SITE ENGINEERING PLANS PREPARED BY STOCK AND ASSOCIATES CONSULTING ENGINEERS.

THE ENGINEER'S EARTHWORK ESTIMATE DOES NOT INCLUDE ANY OF THE FOLLOWING ITEMS REQUIRING EARTHWORK THAT MAY BE NECESSARY FOR COMPLETION OF THE PROJECT: MISCELLANEOUS UNDERGROUND CONDUITS, INCLUDING SEWER LINES AND WATER MAINS LESS THAN TWENTY-FOUR INCHES IN DIAMETER, STANDARD MANHOLES; PROCESS OR TRANSFER PIPING; ELECTRICAL OR TELEPHONE CONDUITS OR DUCT BANKS; BASES FOR LIGHT STANDARDS; BUILDING FOOTINGS AND FOUNDATIONS, RETAINING WALL BACKFILL, ETC.

THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACTUAL SIZE OF THE FIELD EXCAVATIONS MADE FOR THE INSTALLATION OF UNDERGROUND STRUCTURES, AND AS SUCH, THE ACTUAL QUANTITIES OF EARTHWORK FROM SUCH ITEMS MAY VARY FROM THE ESTIMATE SHOWN ABOVE.

THE ENGINEER ASSUMES NO RESPONSIBILITY FOR COSTS INCURRED DUE TO REMOVAL OF UNSUITABLE MATERIAL WHICH MUST BE REMOVED FROM SITE.

THE ENGINEER HAS MADE THE FOLLOWING ASSUMPTIONS IN THE ABOVE STATED QUANTITIES:

PROPOSED GRADING TO THE SUBGRADE ("SG") ELEVATIONS NOTED ON THE PLAN.
PROPOSED CONTOURS REFLECT SUBGRADE ELEVATIONS
EXCAVATION FOR NEW COLLECTOR PIPES RUNNING ALONG INTERIOR OF TRACK IS "NOT" INCLUDED IN CUT NUMBERS.
0% SHRINKAGE
TOPSOIL REMOVAL INCLUDED
EARTHWORK QUANTITIES INCLUDE STORMWATER QUALITY BASIN.

IT IS THE RESPONSIBILITY OF THE GRADING CONTRACTOR TO PERFORM AN INDEPENDENT EARTHWORK ANALYSIS PRIOR TO SUBMISSION OF BID. IN THE EVENT A DISCREPANCY EXISTS THE GRADING CONTRACTOR SHALL NOTIFY ENGINEER OF DISCREPANCY PRIOR TO SUBMISSION OF BID.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO REMOVE AND/OR EXPORT ANY AND ALL MATERIALS NEEDED TO COMPLETE THE FINISHED GRADES AND ELEVATIONS AS SHOWN ON THE "SITE GRADING PLAN" SHEET C4.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN "ALL" GEOTECHNICAL INVESTIGATIONS FROM THE "OWNER". CONTRACTOR SHALL REVIEW AND FAMILIARIZE THEMSELVES WITH RECOMMENDATIONS AS OUTLINED BY THE PROJECT GEOTECHNICAL ENGINEER AND INCORPORATE IT IN THEIR PROPOSED SCOPE OF WORK.

RE-USE OF EXISTING STOCKPILE MATERIALS AND EXCAVATION SPOILS ON-SITE SHALL BE VERIFIED AND COORDINATED WITH THE PROJECT GEOTECHNICAL ENGINEER.

CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ANY ROCK ENCOUNTERED. CONTRACTOR SHOULD FAMILIARIZE THEMSELVES WITH ALL THE GEOTECHNICAL REPORTS AVAILABLE AND REVIEW THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.

AFTER CONTRACTOR RECEIVES AWARD AND NOTICE TO PROCEED (NTP), CONTRACTOR SHALL FIELD VERIFY EXISTING TOPOGRAPHY AND PERFORM EARTHWORK ANALYSIS PRIOR TO COMMENCING GRADING TO RE-CONFIRM BID QUANTITIES.

UTILITY NOTE

UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, RECORDS AND INFORMATION, AND , THEREFORE DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NON-EXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE FACILITIES, STRUCTURES AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS. THE UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319 RSMo.

3.) REQUIRED SETS TO MSD 04/1/11
2.) REVISED PER MSD AND CITY COMMENTS 03/15/11
1.) REVISED PER MSD AND CITY COMMENTS 02/21/11

M.S.D. P# 17328-11
BASE MAP # 17-Q
APR. 4, 2011
100% COMPLETE

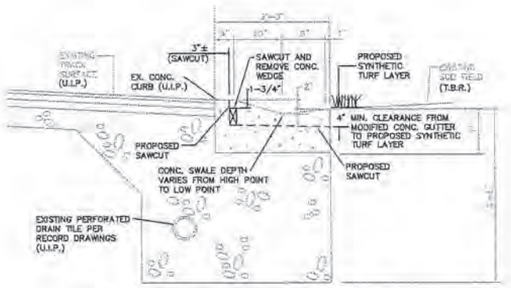
GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

PARKWAY CENTRAL HIGH SCHOOL

SITE AND GRADING PLAN

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

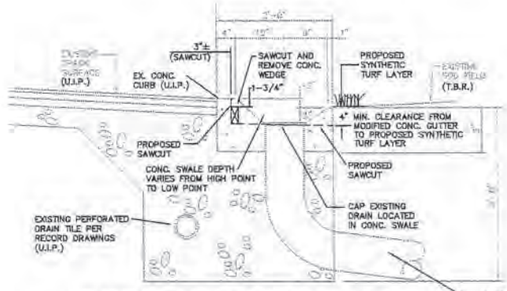
DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
J.M.B.	12/15/10	G.M.S.	12/22/10	210-4672	C4 of 10



NOTE: EXISTING CONCRETE GUTTER SHOWN ABOVE WAS TAKEN FROM THE RECORD DRAWINGS PROVIDED BY PARKWAY.

EXISTING CONCRETE GUTTER MODIFICATION GUTTER HIGH POINT (TYP)

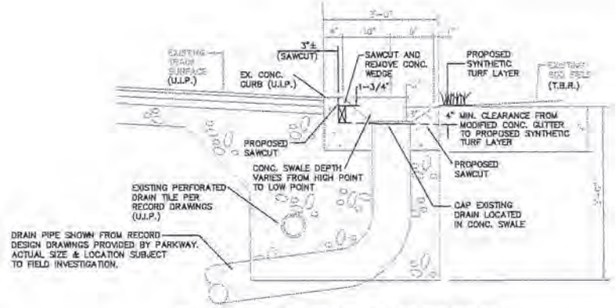
(N.T.S.)



NOTE: EXISTING CONCRETE GUTTER SHOWN ABOVE WAS TAKEN FROM THE RECORD DRAWINGS PROVIDED BY PARKWAY.

EXISTING CONCRETE GUTTER MODIFICATION GUTTER LOW POINT - UNDER FIELD CONNECTION (TYP)

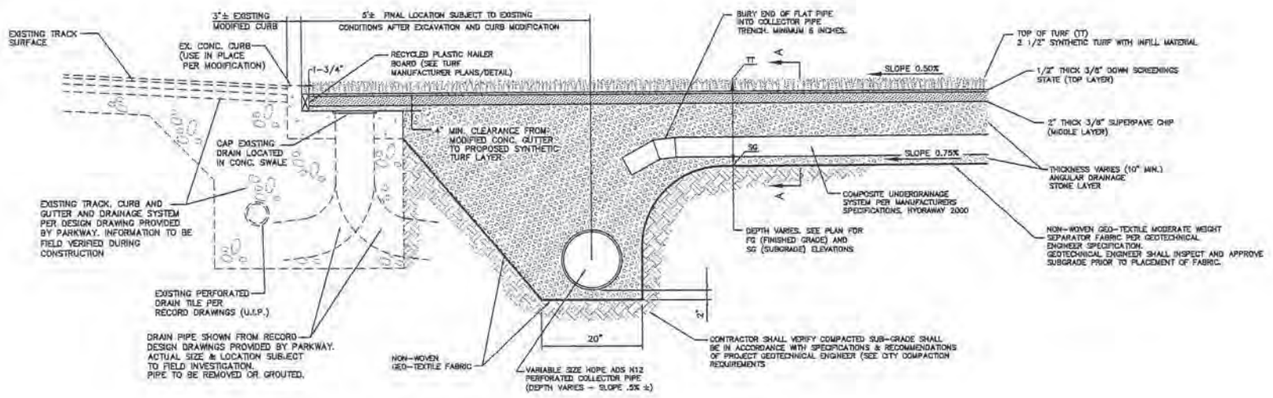
(N.T.S.)



NOTE: EXISTING CONCRETE GUTTER SHOWN ABOVE WAS TAKEN FROM THE RECORD DRAWINGS PROVIDED BY PARKWAY.

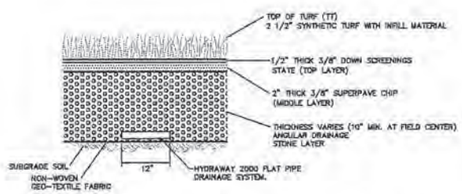
EXISTING CONCRETE GUTTER MODIFICATION GUTTER LOW POINT - UNDER TRACK CONNECTION (TYP)

(N.T.S.)



TYPICAL SECTION THROUGH FIELD

(N.T.S.)



SUBSURFACE DRAINAGE IN FIELD DETAIL A-A

(N.T.S.)

UTILITY NOTE

UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, RECORDS AND INFORMATION, AND , THEREFORE DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NON-EXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE FACILITIES, STRUCTURES AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS. THE UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319 RSMo..

3.) REQUIRED SETS TO MSD 04/1/11
2.) REVISED PER MSD AND CITY COMMENTS 03/16/11
1.) REVISED PER MSD AND CITY COMMENTS 02/21/11

M.S.D. P# 17328-11
BASE MAP # 17-Q

APR. 4, 2011
100% COMPLETE

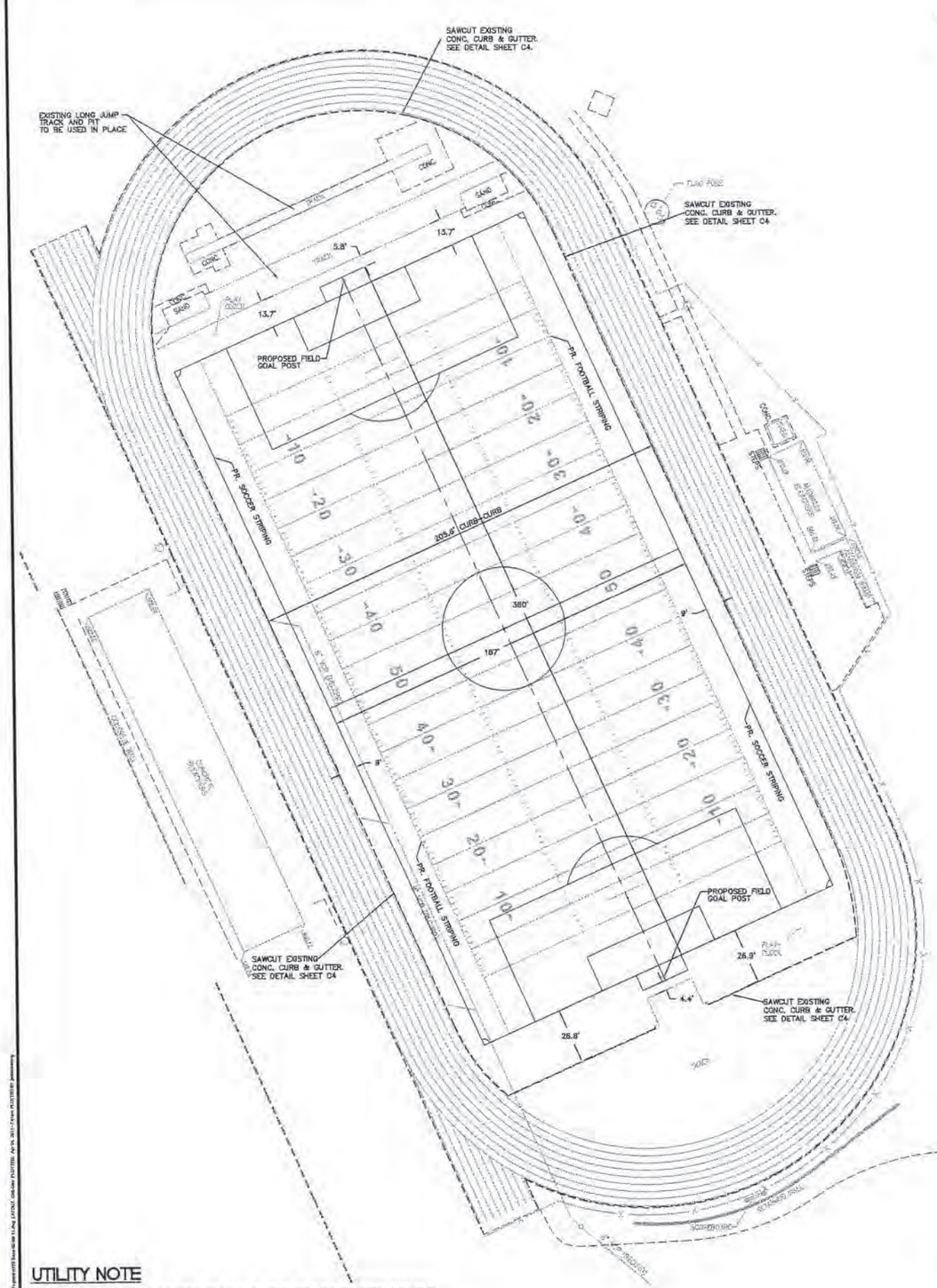
GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

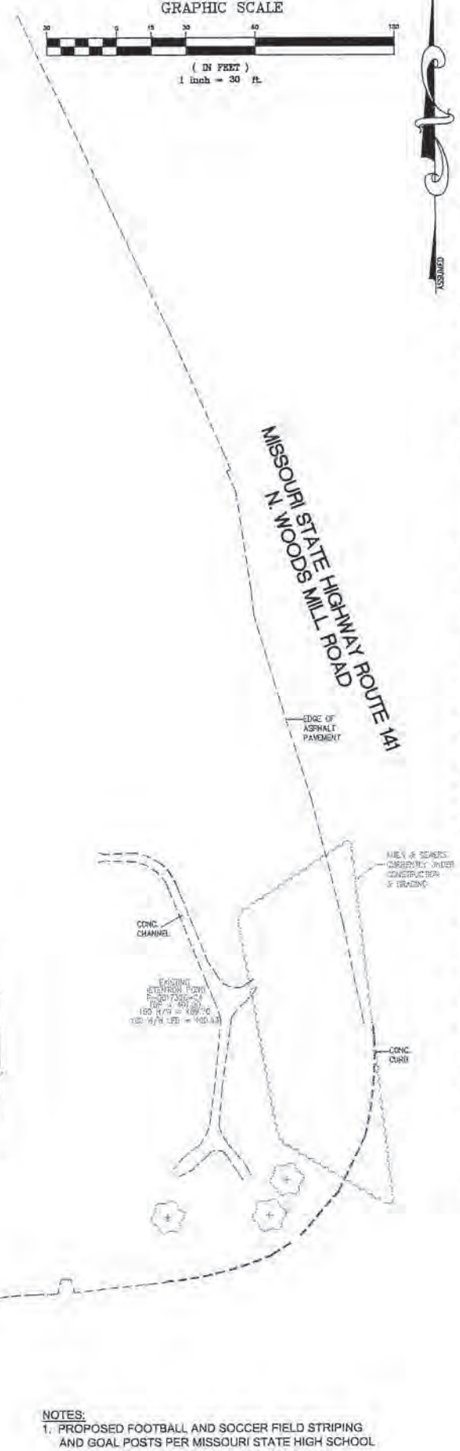
PARKWAY CENTRAL HIGH SCHOOL

FIELD DETAILS SHEET

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
J.M.B.	12/15/10	G.M.S.	12/22/10	210-4672	C5 of 10





GENERAL NOTES:

1.) ALL UTILITIES SHOWN HAVE BEEN LOCATED BY THE ENGINEER FROM AVAILABLE RECORDS. THEIR LOCATION SHOULD BE CONSIDERED APPROXIMATE. THE CONTRACTOR HAS THE RESPONSIBILITY TO NOTIFY ALL UTILITY COMPANIES, PRIOR TO CONSTRUCTION, TO HAVE EXISTING UTILITIES FIELD LOCATED.

2.) GRADING CONTRACTOR SHALL INSTALL SILTATION CONTROL PRIOR TO STARTING THE GRADING. ADDITIONAL SILTATION CONTROL DEVICES SHALL BE INSTALLED AS DIRECTED BY CITY OF CHESTERFIELD.

3.) ALL MATERIALS AND METHODS OF CONSTRUCTION TO MEET THE CURRENT STANDARDS AND SPECIFICATIONS OF CITY OF CHESTERFIELD AND THE METROPOLITAN ST. LOUIS SEWER DISTRICT (MSD).

4.) GRADING & STORM WATER PER 2009 M.S.D. STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS.

5.) ALL GRADED AREAS SHALL BE PROTECTED FROM EROSION BY EROSION CONTROL DEVICES AND/OR SEEDING AND MULCHING.

6.) ALL FILLS AND BACKFILLS SHALL BE MADE OF SELECTED EARTH MATERIALS, FREE FROM BROKEN MASONRY, ROCK, FROZEN EARTH, RUBBISH, ORGANIC MATERIAL AND DEBRIS.

7.) GRADING CONTRACTOR SHALL KEEP EXISTING ROADWAYS CLEAN OF MUD AND DEBRIS AT ALL TIMES.

8.) NO GRADE SHALL EXCEED 3:1 SLOPE, EXCEPT AS NOTED AND APPROVED PER GEOTECHNICAL ENGINEER.

9.) ALL LANDSCAPE AREAS TO BE FILLED WITH A MINIMUM OF 6" OF TOPSOIL.

10.) ALL LANDSCAPED AREAS DISTURBED BY OFF-SITE WORK SHALL BE IMMEDIATELY SEEDED OR SODDED.

11.) ADEQUATE TEMPORARY OFF-STREET PARKING FOR CONSTRUCTION EMPLOYEES SHALL BE PROVIDED. PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEES' VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVEWAY CONDITIONS

12.) ALL PUBLIC SEWER CONSTRUCTION MUST CONFORM TO 2009 M.S.D. "STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS"

13.) THE UNDERGROUND UTILITIES SHOWN HEREIN WERE PLOTTED FROM SURVEY AND AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UTILITIES, SHOWN OR NOT SHOWN, AND SAID UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMO.

14.) CLEARING TECHNIQUES THAT RETAIN EXISTING VEGETATION TO THE MAXIMUM EXTENT PRACTICABLE SHALL BE USED AND THE TIME PERIOD FOR DISTURBED AREAS TO BE WITHOUT VEGETATIVE COVER SHALL BE MINIMIZED TO THE EXTENT PRACTICAL.

15.) THE DEVELOPER IS ADVISED THAT UTILITY COMPANIES WILL REQUIRE COMPENSATION FOR RELOCATION OF THEIR UTILITY FACILITIES WITHIN PUBLIC ROAD RIGHT-OF-WAY. UTILITY RELOCATION COST SHALL BE CONSIDERED THE DEVELOPER'S RESPONSIBILITY.

16.) THE DEVELOPER SHOULD ALSO BE AWARE OF EXTENSIVE DELAYS IN UTILITY COMPANY RELOCATION AND ADJUSTMENTS. SUCH DELAYS WILL NOT CONSTITUTE A CAUSE TO ALLOW OCCUPANCY PRIOR TO COMPLETION OF IMPROVEMENTS.

17.) AREAS SHALL BE SEEDED AFTER CLEARING AND GRUBBING WHEN NO ACTIVITY WILL OCCUR WITHIN THIRTY (30) DAYS.

18.) ALL OFFSITE PROPERTY OWNERS SHALL BE GIVEN 48 HOURS NOTICE IN ADVANCE OF ANY WORK.

19.) ANY DISTURBED OFF SITE PROPERTY (i.e. BUSHES, FENCES, MAILBOXES, etc.) SHALL BE REPLACED IN KIND, AT THE DEVELOPER'S EXPENSE.

20.) ALL PROPOSED UTILITIES TO BE LOCATED UNDERGROUND.

21.) ALL SIDEWALKS TO BE CONSTRUCTED TO ST. LOUIS COUNTY ADA STANDARDS.

22.) DRIVEWAYS AND ENTRANCES PER ST. LOUIS COUNTY STANDARDS.

23.) SITE SIGNAGE SHALL COMPLY WITH CITY OF CHESTERFIELD SIGN ORDINANCE.

24.) STORMWATER SHALL BE DISCHARGED AT AN ADEQUATE NATURAL DISCHARGE POINT. SINKHOLES ARE NOT ADEQUATE NATURAL DISCHARGE POINTS.

25.) IT IS NOT WARRANTED THAT THIS PLAT CONTAINS COMPLETE INFORMATION REGARDING EASEMENTS, RESERVATIONS, RESTRICTIONS, RIGHTS-OF-WAY, BUILDING LINES, AND OTHER ENCUMBRANCES. FOR COMPLETE INFORMATION, A TITLE OPINION OR COMMITMENT FOR TITLE INSURANCE SHOULD BE OBTAINED.

26.) THIS PLAN IS SUBJECT TO ALL LOCAL, STATE AND FEDERAL REGULATIONS. THERE HAS BEEN NO WETLAND DELINEATION, GEOTECHNICAL INVESTIGATION OR ENVIRONMENTAL DATA PROVIDED TO THIS ENGINEER PRIOR TO DESIGNING THIS PLAN..

27.) FOOTBALL AND SOCCER FIELD STRIPING PER MISSOURI STATE HIGH SCHOOL ATHLETIC ASSOCATIONS REGULATIONS.

28.) SOCCER FIELD STRIPING TO BE HELD MINIMUM OF 9 FEET FROM EDGE OF INNER CURBERS INSIDE OF RUNNING TRACK.

29.) INTERNAL (PRIVATE) STORM SEWERS WILL REQUIRE A SEPARATE DRAINLAYER PERMIT FROM ST. LOUIS COUNTY DEPARTMENT OF PUBLIC WORKS.

30.) TRUCKS SHALL NOT EXCEED POSTED WEIGHT LIMITS FOR ST. LOUIS COUNTY BRIDGES DURING HAUL OPERATIONS.

31.) SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASHDOWN STATION PRIOR TO LEAVING SITE. NO TRACKING OF MUD ONTO COUNTY ROADS SHALL BE ALLOWED.

32.) EXISTING INFORMATION SHOWN ON THE PLANS IS A COMBINATION OF RECORD DRAWINGS PROVIDED BY PARKWAY AND AN ACTUAL FIELD SURVEY PERFORMED BY STOCK AND ASSOCIATES. THE TOPOGRAPHIC SURVEY PROVIDED GROUND ELEVATIONS AND LOCATIONS OF EXISTING (VISIBLE) IMPROVEMENTS. RECORD DRAWINGS WERE USED TO SHOW UNDERGROUND UTILITIES AND DRAINAGE SYSTEMS THAT COULD NOT BE VERIFIED FROM THE SURFACE. CONTRACTOR SHOULD USE CAUTION DURING CONSTRUCTION AND REPORT ANY FINDINGS THAT ARE NOT SHOWN ON THE PLAN TO THE ENGINEER IMEDIATELY.

33.) NO GRADING SHALL OCCER ON THE SITE UNTIL A GRADING PERMIT IS ISSUED.

STORM SEWER NOTES

1.) ALL SEWER CONSTRUCTION AND MATERIALS TO BE IN ACCORDANCE WITH THE METROPOLITAN ST. LOUIS SEWER DISTRICT STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES, 2009.

2.) ALL CONCRETE SHALL BE REINFORCED, AND CONFORM TO A.S.T.M. DESIGNATION C76-80 CLASS III UNLESS NOTED.

3.) TYPE "C" BEDDING PER M.S.D. AND ST. LOUIS COUNTY STANDARDS IS REQUIRED FOR PIPES IN ROCK.

4.) ALL TRENCHES UNDER AREAS TO BE PAVED AND UNDER EXISTING PAVING SHALL BE GRANULARLY FILLED WITH 3/4" MINUS CRUSHED LIMESTONE ONLY. BACKFILL SHALL BE PLACED IN ACCORDANCE WITH M.S.D. AND ST. LOUIS COUNTY STANDARDS.

5.) ALL TRENCH BACKFILLS UNDER PAVEMENT WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE GRANULAR BACKFILLED. TRENCH BACKFILLS UNDER PAVED AREAS, OUTSIDE OF PUBLIC RIGHT-OF-WAY SHALL BE GRANULAR BACKFILL IN LIEU OF THE EARTH BACKFILL COMPACTED TO 90 PERCENT OF THE MODIFIED AASHTO T-180 COMPACTION TEST A.S.T.M. D-1557.

6.) JETTING IS NOT AN ACCEPTABLE METHOD OF ACHIEVING BACKFILL COMPACTION. ALL BACKFILL MATERIAL SHALL BE MECHANICALLY COMPACTED TO AT LEAST 95 PERCENT OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM ORY DENSITY.

7.) FOR SEWER PIPE (STORM, SANITARY AND COMBINED) WITH A DESIGN GRADE LESS THAN ONE PERCENT (1%), VERIFICATION OF THE PIPE GRADE WILL BE REQUIRED FOR EACH INSTALLED REACH OF SEWER, PRIOR TO ANY SURFACE RESTORATION OR INSTALLATION OF ANY SURFACE IMPROVEMENTS. THE CONTRACTOR'S FIELD SUPERVISOR WILL BE REQUIRED TO PROVIDE DAILY DOCUMENTATION VERIFYING THAT THE AS-BUILT PIPE GRADE MEETS THE DESIGN GRADE THROUGH THE SUBMITTAL OF SIGNED CUT SHEETS TO THE MSD INSPECTOR UPON REQUEST.

FIELD SURVEYED VERIFICATION MUST BE MADE UNDER THE DIRECTION OF A LICENSED LAND SURVEYOR OR REGISTERED ENGINEER. THE CONTRACTOR WILL BE REQUIRED TO REMOVE AND REPLACE ANY SEWER REACH HAVING AN AS-BUILT GRADE WHICH IS FLATTER THAN THE DESIGN GRADE BY MORE THAN 0.1%. SEWERS WITH GRADE GREATER THAN THE DESIGN SLOPE MAY BE LEFT IN PLACE, PROVIDED NO OTHER SEWER GRADE IS REDUCED BY THIS VARIANCE IN THE AS-BUILT GRADE.

MSD ALSO RESERVES THE RIGHT TO REQUIRE THE CONTRACTOR TO REMOVE AND REPLACE ANY SEWER (AT ANY TIME PRIOR TO CONSTRUCTION APPROVAL) FOR WHICH THE AS-BUILT GRADE DOES NOT COMPLY WITH THE GRADE TOLERANCE STATED IN THE ABOVE PARAGRAPH.

THE SEWER CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COSTS ASSOCIATED WITH THE FIELD VERIFICATION OF THE SEWER GRADE, OR REMOVAL AND REPLACEMENT OF THE SEWER PIPE OR ASSOCIATED APPURTENANCES.

8.) MAINTENANCE OF THE SEWERS DESIGNATED AS "PUBLIC" SHALL BE THE RESPONSIBILITY OF THE METROPOLITAN ST. LOUIS SEWER DISTRICT UPON DEDICATION OF THE SEWERS TO THE DISTRICT.

9.) STRUCTURES NOTED TO BE ADJUSTED TO FINISH GRADE SHALL BE ADJUSTED BY EITHER REMOVAL OR PLACEMENT OF GRADE RINGS, BRICK WORK, OR MORTAR BEDDING BY SUCH METHODS AS APPROVED BY M.S.D. "STANDARD CONSTRUCTION SPECIFICATIONS", 2009. AND ST. LOUIS COUNTY SPECIFICATIONS FOR STORM SEWERS.

10.) SOILS ENGINEER WILL VERIFY THAT ALL COMPRESSIBLE MATERIAL HAS BEEN REMOVED PRIOR TO FILL PLACEMENT AND THAT ALL FILL, UNDER SANITARY AND STORM SEWER LINES CONSTRUCTED ABOVE ORIGINAL GRADE, HAS BEEN COMPACTED TO 90% OF "MODIFIED PROCTOR." FILL IS TO BE PLACED IN A MAXIMUM OF 9" LIFTS. TESTS SHALL BE TAKEN AT A MAXIMUM OF 50 FOOT INTERVALS ALONG THE ROUTE OF THE PIPE, AT A MAXIMUM OF 2 FEET VERTICALLY, AND LATERALLY ON EACH SIDE OF THE PIPE AT A DISTANCE EQUAL TO THE DEPTH OF FILL OVER THE PIPE. A COPY OF THESE RESULTS WILL BE SUBMITTED TO MSD PRIOR TO CONSTRUCTION.

DEMOLITION NOTES

1.) THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY COMPANY PRIOR TO BEGINNING ANY WORK THAT WILL AFFECT AN EXISTING UTILITY.

2.) REMOVAL AND/OR ABANDONEMENT OF EXISTING SEWERS SHALL BE IN ACCORDANCE WITH THE STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWER AND DRAINAGE FACILITIES OF THE METROPOLITAN ST. LOUIS SEWER DISTRICT, LATEST EDITION.

3.) REMOVAL OF PAVEMENT, CURB & GUTTER, SIDEWALKS, ETC. SHALL BE TO THE NEAREST EXISTING JOINT OR SAWCUT AT LIMITS OF REMOVAL.

4.) CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT THE EXISTING TRACK SURFACE DURING EXCAVATION AND REMOVAL OF THE EXISTING CONCRETE CURB AND GUTTER, AND DURING FIELD EXCAVATION AND HAUL OPERATIONS.

5.) CONSTRUCTION DEBRIS, INCLUDING BUT NOT LIMITED TO, CONDUIT, PIPES, FITTINGS, VALVES, WIRES AND OTHER DEBRIS TO BE REMOVED, SHALL BE DISPOSED OF OFF-SITE, AND IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

6.) CONTRACTOR TO PROVIDE ALL NECESSARY FENCING, BARRICADES, SIGNAGE, ETC. FOR PEDESTRIAN SAFETY DURING SITE DEMOLITION ACTIVITIES.

7.) CONTRACTOR TO REMOVE EXISTING 4" UNDERDRAIN SYSTEM LOCATED IN FIELD.

8.) CONTRACTOR TO RECONNECT EXISTING DRAIN LINES UNDER TRACK TO THE PROPOSED STORM SEWER COLLECTOR PIPE.

9.) CONTRACTOR TO REMOVE EXISTING IRRIGATION SYSTEM LOCATED WITHIN THE FIELD.

10.) CONTRACTOR TO CAP IRRIGATION SUPPLY LINE INSIDE TRACK.

11.) CONTRACTOR TO REMOVE EXISTING FIELD GOAL POSTS AND FOUNDATION.

12.) CONTRACTOR TO REMOVE AND REPLACE EXISTING ELECTRICAL CONDUIT, WIRING, JUNCTION BOXES, AND APPURTENANCES AS NEEDED FOR FIELD CONSTRUCTION.

13.) CONTRACTOR TO FULL DEPTH SAWCUT AND REMOVE EXISTING CONCRETE CURB AND GUTTER INSIDE THE TRACK AS SHOWN ON THE PLANS.

14.) CONTRACTOR TO REMOVE DRAINS IN EXISTING INNER CURB AND GUTTER. DRAIN LINES TO BE PLUGGED WITH CONCRETE.

15.) EXISTING TRACKS, SAND TRAPS, FLAGPOLES, GAME CLOCKS, ETC. LOCATED WITHIN THE ENDS OF THE FIELD AREAS TO BE USED IN PLACE. CONTRACTOR TO INSTALL TURF NAILER BOARD TO ACCOMMODATE TURF INSTALLATION.

UTILITY NOTE

UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, RECORDS AND INFORMATION, AND , THEREFORE DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NON-EXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE FACILITIES, STRUCTURES AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS. THE UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319 RSMo..

NOTES:
1. PROPOSED FOOTBALL AND SOCCER FIELD STRIPING AND GOAL POSTS PER MISSOURI STATE HIGH SCHOOL ATHLETIC ASSOCATION STANDARDS (MSHSAA).
2. PROPOSED FIELD LOGO, END ZONE LETTERING AND STRIPING COLORS TO BE COORDINATED WITH PARKWAY SCHOOL DISTRICT.

M.S.D. P# 17328-11
BASE MAP # 17-Q

APR. 4, 2011
100% COMPLETE

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY NUMBER: 000998

3.) REQUIRED SETS TO MSD 04/1/11
2.) REVISED PER MSD AND CITY COMMENTS 03/16/11
1.) REVISED PER MSD AND CITY COMMENTS 02/21/11

PARKWAY CENTRAL HIGH SCHOOL

SITE GEOMETRIC PLAN/SPECIFICATIONS

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
J.M.B.	12/15/10	G.M.S.	12/22/10	210-4672	C6 of 10

Project name:	Parkway Central High School	Calculated By:	J.E.R.
Project number:	210-4672	Checked By:	G.M.S.
Project Location:	Chesterfield, Missouri	Date:	12/23/2010

15 year - 30 minute

Head Coefficients:

5° = 0.06	30° = 0.24	15° = 0.4	50° = 0.50	65° = 0.57	90° = 0.65
10° = 0.11	25° = 0.30	40° = 0.43	55° = 0.52	70° = 0.60	95° = 0.67
15° = 0.18	30° = 0.35	45° = 0.47	60° = 0.55	75° = 0.62	90° = 0.70

Revisions: 2/14/2011
3/14/2011

Structure Number	LINE ELEVATIONS Upper structure	Lower structure	FLOW LINE ELEVATIONS Upper structure	Lower Structure	Length (ft)	Flowline Grade (ft/ft)	Pipe Size (in.)	Full Flow Cap. (cfs)	Total Q (cfs)	Mean Full Flow Vel.(V) (ft/s)	Bend Coef.	Curve Coef.	Velocity Head (Vh) (ft)	QVh (ft^3/s)	Pipe Coef. (n)	HEAD LOSS fk (ft)	Junction (ft)	Bend (ft)	Curve (ft)	Total Htot	Hydraulic Elevations Upper F.L. + Dia.	Lower H.E. +Hr	Lower H.E.	Structure Upper H.E. + Htot	TOP Structure Elevation	Free Board	Structure Number
5	5	4	496.68	495.94	68.06	0.0109	15	6.75	8.04	6.55	0.00	0.00	0.67	5.36	0.013	1.05	0.00	0.00	0.00	0.00	497.93	499.45	498.40	499.45	501.75	2.30	5
4	4	3	495.94	495.00	70.88	0.0133	15	7.46	8.04	6.55	0.45	0.00	0.67	5.36	0.013	1.19	0.00	0.30	0.00	0.30	497.19	498.10	497.00	498.40	501.90	3.50	4
3	3		495.00																		CPV ELEVATION			497.00			3
2	2	1	490.67	488.00	65.70	0.0771	15	17.77	8.04	5.21	0.00	0.00	0.42	3.39	0.013	0.64	0.00	0.00	0.00	0.00	491.92	491.07	490.43	491.92	497.25	5.33	2
1	1		488.00																		100 YR LFB ELEVATION			490.43			1

MEAN FULL FLOW VELOCITY = Q_{ICE}/A_{PIPE}

FRICTION LOSS (H_f): $Hf = 2.37\ n^2\ (L)(V^2)/(d^{1.33})$

VELOCITY HEAD: $V_h = V^2/2g$

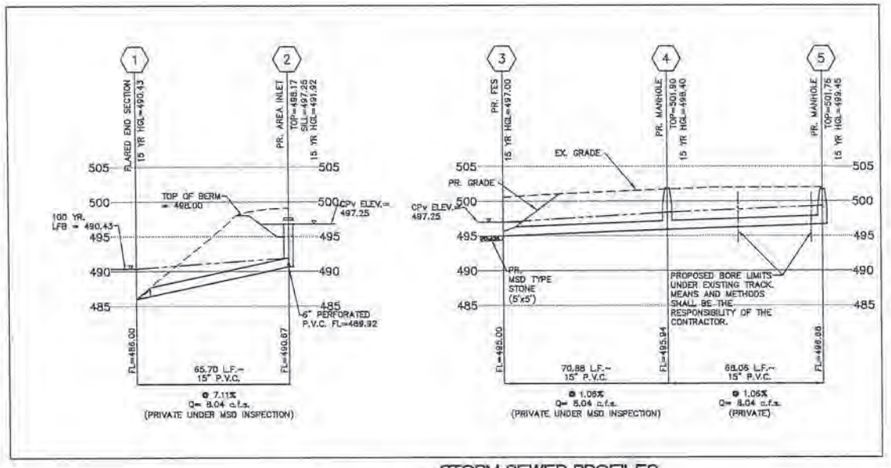
JUNCTION LOSSES (JUNC.) = $(Q_{tot}Vh_{out} - Sum\ (Q_{in}V_{in}))x1.33/(Q_{out})$

BEND LOSSES (BEND) = (V^2) * ANGLE COEFFICIENT

CURVE LOSS=V_h*CURVE COEFFICIENT

Note:
1. IF MORE THAN ONE INCOMING LINE, CALC. EACH BEND LOSS AND ADD TOGETHER.
2. NO STRUCTURE LOSES TO BE CALCULATED AT A DROP
3. IF $QV_{h(in)} > QV_{h(out)}$ NO JUNCTION LOSES TO BE CALCULATED.

Note (s):



STORM SEWER PROFILES

SCALE: 1" = 30' HORIZ
1" = 10' VERT

AREA INLET #2 CAPACITY

$Q = Cd \times A \times \sqrt{(2X(g)X(h)}$

WHERE:
Q = DISCHARGE (c.f.s.)
Cd = COEFFICIENT OF DISCHARGE (Cd=0.61)
A = CROSS-SECTIONAL AREA OF FLOW AT THE ORIFICE ENTRANCE (SQ. FT.) (ONE SIDE)
g = ACCELERATION OF GRAVITY (g=32.2 ft/sec^2)
h = DRIVING HEAD (ft), MEASURED FROM THE CENTROID OF THE ORIFICE AREA TO THE WATER SURFACE.
FOR 5" OF PONDING AT THE INLET, h=0.50'

$Q = Cd \times A \times \sqrt{(2X(g)X(h)}$

$Q = 0.61 \times 5.67\ ft^2 \times \sqrt{(2)(32.2\ ft/sec^2)(0.50')}$

Q = 19.63 c.f.s./ AREA INLET (OPEN 4 SIDES)

Q(100) = (2.2 Ac.) x (3.28) + (1.42 Ac.) x (4.77) = 11.81 CFS
11.81 CFS < 19.63 CFS, THEREFORE INLET HAS SUFFICIENT CAPACITY.

UTILITY CONFLICT NOTE:

CONTRACTOR SHALL VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF EXISTING UTILITIES AND SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY POTENTIAL UNDERGROUND UTILITY CONFLICT AT THE TIME OF EXCAVATION.

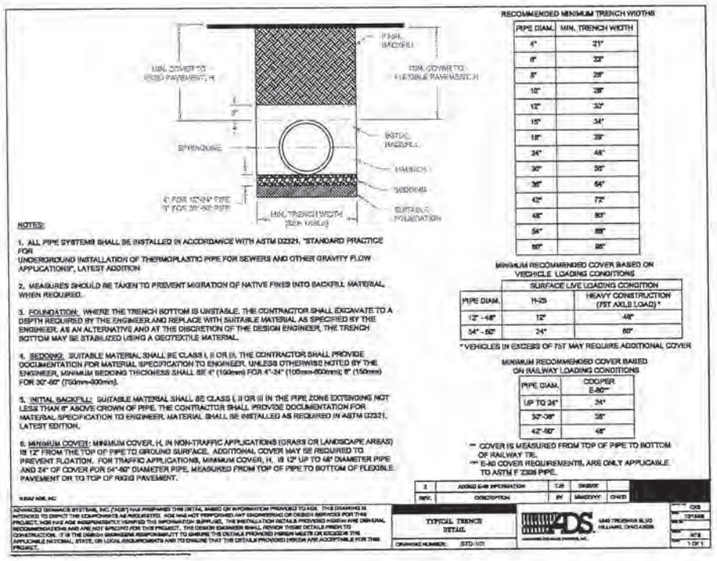
LINETYPE LEGEND

EXISTING GRADE.....
PROPOSED GRADE.....
15 YR HYDRAULIC GRADE.....
100 YR HYDRAULIC GRADE.....
PROPOSED PAVEMENT.....
GRANULAR BACKFILL.....
COMPACTED FILL.....

CONSTRUCTION NOTES:

1. ALL R.C.P. SHALL BE CLASS III UNLESS NOTED OTHERWISE.
2. ALL P.V.C. SHALL BE SDR 35 UNLESS NOTED OTHERWISE.
3. ENGINEER APPROVED SHOP DRAWINGS MUST BE SUBMITTED TO MSD FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION OF SEWER STRUCTURES.

NOTE: ALL SEWERS SHOWN ON THIS SHEET SHALL BE "PRIVATE" UNLESS NOTED OTHERWISE.



NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL WHEN REQUIRED.
3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER, UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-900mm).
5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
4"	21"
6"	22"
8"	28"
10"	28"
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"

MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS

PIPE DIAM.	SURFACE LIVE LOADING CONDITION: HEAVY CONSTRUCTION (75T AXLE LOAD) * H-20	HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" - 48"	12"	48"
54" - 60"	24"	60"

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

MINIMUM RECOMMENDED COVER BASED ON RAILWAY LOADING CONDITIONS

PIPE DIAM.	COOPER E-80**
UP TO 24"	24"
30"-36"	36"
42"-60"	48"

** COVER IS MEASURED FROM TOP OF PIPE TO BOTTOM OF RAILWAY TIE.
*** E-80 COVER REQUIREMENTS, ARE ONLY APPLICABLE TO ASTM F 2306 PIPE.

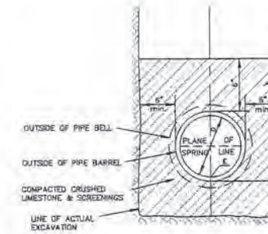
REV.	DESCRIPTION	BY	CHKD
2	ADDED E-80 INFORMATION	TJR	DWB/DWV

TYPICAL TRENCH DETAIL
DRAWING NUMBER: STD-105

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON INFORMATION PROVIDED TO ADS. THIS DRAWING IS INTENDED TO DEPICT THE COMPONENTS AS REQUESTED. ADS HAS NOT PERFORMED ANY ENGINEERING OR CHECKED APPROVED FOR THIS PROJECT. ADS HAS ANY RESPONSIBILITY VERIFIED THIS INFORMATION SUPPLIED, THE INSTALLATION DETAILS PROVIDED HEREIN ARE OMNIVAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION. IT IS THE DESIGN ENGINEERS RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS ALL APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

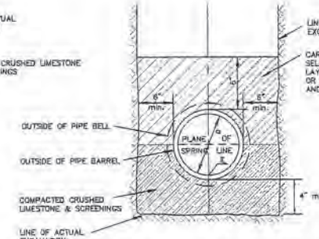
PIPE BEDDING CLASS 'C'

(FOR ALL PIPE EXCEPT REINFORCED CONCRETE PIPE)



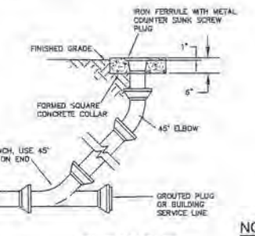
PIPE BEDDING CLASS 'C'

(MODIFIED FOR REINFORCED CONCRETE PIPE)



CLEANOUT

(n.t.s.)



NOTES:

1. THE REMOVAL AND REPLACEMENT, OR REHABILITATION OF EXISTING SEWER STRUCTURES WILL BE DETERMINED BY THE MSD FIELD INSPECTOR. IF THE STRUCTURE IS DETERMINED TO REMAIN IN PLACE THEN THE TOP SHALL BE ADJUSTED TO GRADE IF NECESSARY.

H.D.P.E. STORM SEWER NOTE:

CONTRACTOR SHALL READ AND FOLLOW SPECIFIC INSTALLATION REQUIREMENTS OF H.D.P.E. PIPE MANUFACTURER BASED UPON PIPE TYPE UTILIZED AND FOLLOW ASTM D-2321 INSTALLATION PROCEDURES AS DIRECTED BY THE ON SITE SUPERVISING GEOTECHNICAL ENGINEER. GEOTECHNICAL ENGINEER SHALL INSPECT INSTALLATIONS TO CONFIRM PROPER INSTALLATION (BEDDING, BACKFILL, COVER, etc) AND CONFIRM SAID INSTALLATION PROCEDURE BASED UPON ON-SITE SOIL TYPE AT PIPE INSTALLATION LOCATIONS ON PROJECT.
IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL SAID RECOMMENDATIONS FOR PROPER INSTALLATION OF H.D.P.E. PIPE SYSTEM INSTALLED.

H.D.P.E. STORM SEWER NOTES:
(IF PERMISSIBLE BY LOCAL AUTHORITY)

1.) STORM SEWER PIPE DESIGNATED AS HIGH DENSITY POLYETHYLENE (H.D.P.E.) SHALL HAVE WATER TIGHT GASKETED JOINTS WITH RUBBER O-RING GASKETS MEETING ASTM F477. O-RING GASKET SHALL BE INSTALLED ON THE SPIGOT END OF PIPE.

2.) 12" TO 36" PIPE SHALL CONFORM TO THE AASHTO M294 CLASSIFICATION "TYPE S" AND 42" TO 48" SHALL CONFORM TO AASHTO MP5-95 CLASSIFICATION "TYPE D."

3.) ALL PIPE JOINTS SHALL CONSIST OF BELL AND SPIGOT JOINING SYSTEM WITH THE BELL COVERING TWO PIPE CORRUGATIONS AS RECOMMENDED IN AASHTO M294.

4.) PIPE MANUFACTURED FOR THIS SPECIFICATION SHALL COMPLY WITH THE REQUIREMENTS FOR TEST METHODS, DIMENSIONS AND MARKINGS FOUND IN AASHTO DESIGNATIONS M252 AND M294. PIPE AND FITTINGS SHALL BE MADE FROM VIRGIN PE COMPOUNDS WHICH CONFORM WITH THE REQUIREMENTS OF CELL CLASS 335420C AS DEFINED AND DESCRIBED IN ASTM D3350.

H.D.P.E. STORM SEWER NOTES CONT'D:
(IF PERMISSIBLE BY LOCAL AUTHORITY)

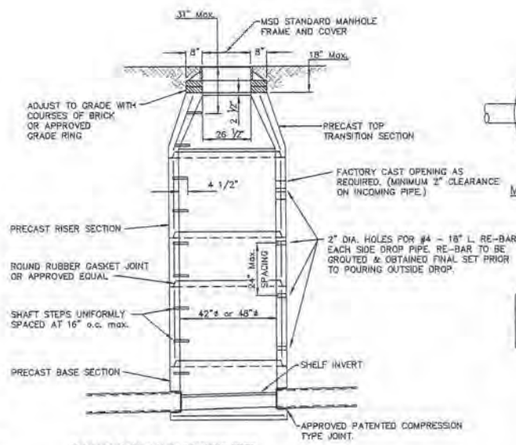
5.) FITTINGS MAY BE EITHER MOLDED OR FABRICATED AND SHALL CONFORM TO THE REQUIREMENTS AASHTO M252 AND M294. THE FITTINGS SHALL NOT REDUCE OR IMPAIR THE OVERALL INTEGRITY OR FUNCTION OF THE PIPE LINE. ONLY FITTINGS SUPPLIED OR RECOMMENDED BY THE PIPE MANUFACTURER SHALL BE USED.

6.) INSTALLATION OF THE PIPE SPECIFIED ABOVE SHALL BE IN ACCORDANCE WITH THE ASTM RECOMMENDED PRACTICE D2321.

7.) BOTH BELL AND SPIGOT (WITH O-RING GASKET) ENDS OF THE PIPE SHALL BE LUBRICATED AS RECOMMENDED BY MANUFACTURER AND INSERTED TO THE HOMING MARK ON THE SPIGOT END OF THE PIPE.

8.) MINIMUM RECOMMENDED TRENCH WIDTH SHALL BE NOT LESS THAN THE GREATER OF EITHER PIPE OUTSIDE DIAMETER PLUS 16 INCHES OR THE PIPE OUTSIDE DIAMETER TIMES 1.25, PLUS 12 INCHES AS OUTLINED HEREIN:

NOMINAL PIPE DIAMETER	MINIMUM TRENCH WIDTH
8" (200mm)	28"
10" (250mm)	28"
12" (300mm)	30"
15" (375mm)	34"
18" (450mm)	39"
24" (600mm)	48"
30" (750mm)	56"
36" (900mm)	64"
42" (1050mm)	72"
48" (1200mm)	80"
54" (1350mm)	88"
60" (1500mm)	96"

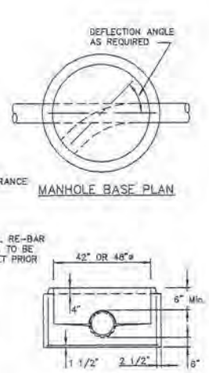


FLOWLINE ELEVATION OF INCOMING PIPES SHALL BE ONE (1) INCH HIGHER THAN THAN THAT OF OUTGOING PIPE.

SEE A.S.T.M. C-478 FOR MIN. STEEL REQUIREMENTS.

PRECAST MANHOLE

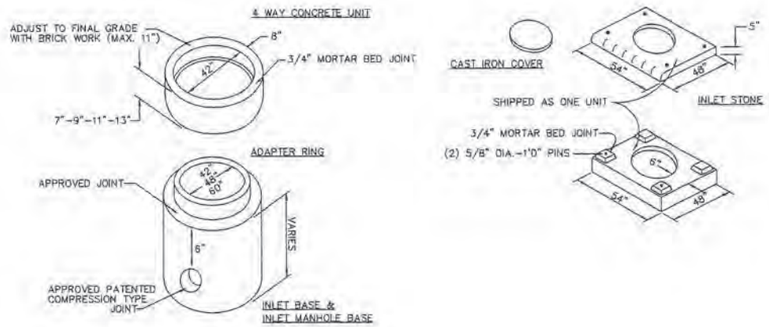
(n.t.s.)



MANHOLE BASE PLAN

BASE SECTION

ALL DETAILS SHOWN ON THIS SHEET ARE FOR THE CONVENIENCE OF THE CONTRACTOR. THE DETAILS ARE TO BE VERIFIED PER MSD'S STANDARD CONSTRUCTION SPECIFICATIONS, 2009. ALL METHODS, MEANS AND MATERIALS SHALL CONFORM TO MSD CURRENT STANDARD CONSTRUCTION SPECIFICATION, 2009.



PRECAST AREA INLET DETAIL

(n.t.s.)

3.) REQUIRED SETS TO MSD 04/1/11
2.) REVISED PER MSD AND CITY COMMENTS 03/16/11
1.) REVISED PER MSD AND CITY COMMENTS 02/21/11

M.S.D. P# 17328-11
BASE MAP # 17-Q

APR. 4, 2011
100% COMPLETE

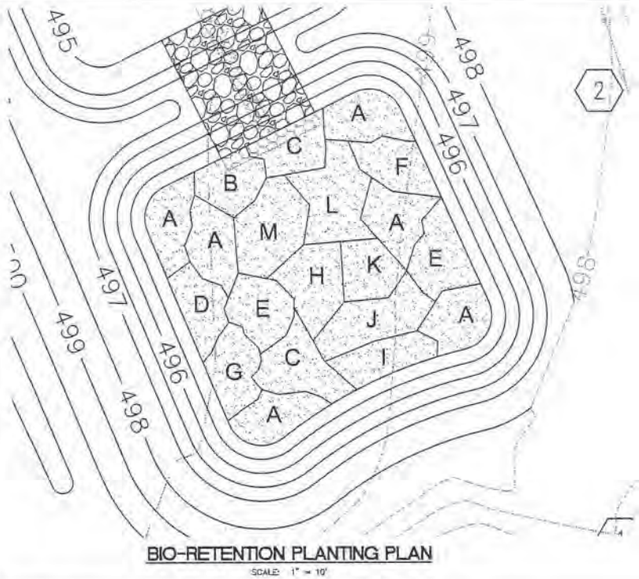
GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY NUMBER: 000996

PARKWAY CENTRAL HIGH SCHOOL

STORM SEWER PROFILES/DETAILS/HYDRAULICS

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

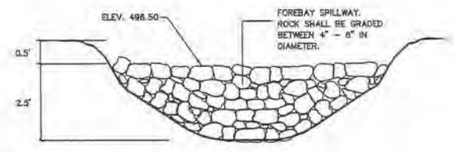
DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
J.M.B.	12/15/10	G.M.S.	12/22/10	210-4672	C7 of 10



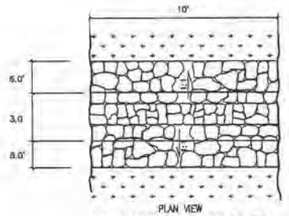
BIO-RETENTION PLANTING PLAN

SCALE: 1" = 10'

PLANTING SCHEDULE						
PLANT DESIGNATOR	QUANTITY	BOTANICAL NAME	COMMON NAME	TYPE	"O" SPACING	SIZE
				GRASSES/SEDGES		
A	166	ANDROPOGON GERARDII	BIG BLUESTEM	GRASSES/SEDGES	1.50	2" PLUG
B	32	CAREX GRAYI	BUR SEDGE	GRASSES/SEDGES	1.50	2" PLUG
C	72	CAREX SHORTIANA	SHORTS SEDGE	GRASSES/SEDGES	1.50	2" PLUG
D	31	CHASMANTHIUM LATIFOLIUM	RIVER OATS	GRASSES/SEDGES	1.50	2" PLUG
E	72	SPOROBOLUS HETEROLEPIS	PRAIRIE DROPSEED	FORBS	1.50	2" PLUG
F	32	COREOPSIS LANCEOLATA	LANCELEAF COREOPSIS	FORBS	1.50	2" PLUG
G	34	ECHINACEA PALLIDA	PALE PURPLE CONEFLOWER	FORBS	1.50	2" PLUG
H	41	ERYNGIUM YUCCIFOLIUM	RATTLESNAKE MASTER	FORBS	1.50	2" PLUG
I	32	PYCNANTHEMUM TENUIFOLIUM	SLENDER MOUNTAIN MINT	FORBS	1.50	2" PLUG
J	47	EUPATORIUM COELESTINUM	MIST FLOW; WILD AGERATUM	FORBS	1.50	2" PLUG
K	30	SOLIDAGO RUGOSA	ROUGH-LEAVED GOLDENROD	FORBS	1.50	2" PLUG
L	53	ZIZIA AUREA	GOLDEN ALEXANDER	FORBS	1.50	2" PLUG
M	51	ECHINACEA PURPUREA	PURPLE CONEFLOWER	FORBS	1.50	2" PLUG



ELEVATION VIEW

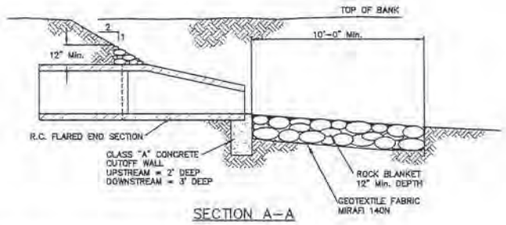


PLAN VIEW

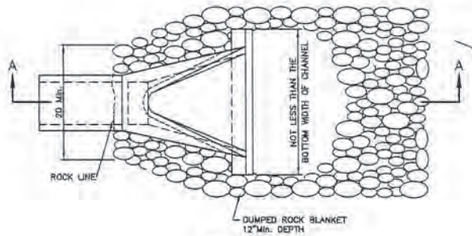
FOREBAY SPILLWAY DETAIL

N.T.S.

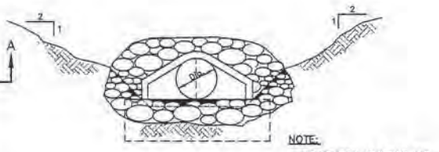
NOTE: FOREBAY SPILLWAY SHALL BE INSPECTED ANNUALLY. ROCKS SHALL BE REMOVED AND REPLACED IF FOULING OCCURS.



SECTION A-A



PLAN VIEW

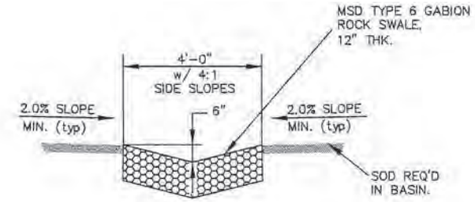


END VIEW

NOTE:
TO BE USED AT INTAKE AND DISCHARGE END OF PIPE. GRADE OF ROCK BLANKET TO BE ADJUSTED ACCORDINGLY.

FLARED END SECTION DETAIL

(n.t.s.)



PERMEABLE SWALE - DETENTION BASIN AREA

(n.t.s.)

Planting, Water and Mulch Requirements for Stormwater BMPs

Table 3: Planting, Water and Mulch Requirements

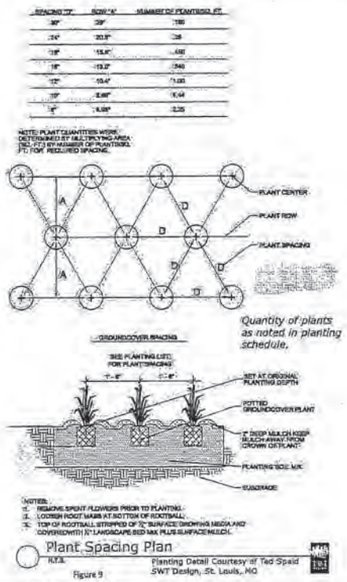
Water Availability	Required Planting Period	Minimum Container Size	Water Requirement First 3 Weeks*	Water Requirement After 3 Weeks*	Maximum Mulch Depth****
No ability to water after	Late Feb. – April only	2.25" x 2.75" or larger	Water each plug immediately		1.5 for plugs
Manual watering with standard sprinkler	Late Feb. – Early June	4.5" x 5" (quart) or larger in summer & fall	1" (60 min) every 4 days	1" (60 min) every 7 days until plants established***	1.5" for plugs
Automatic irrigation (set to water more frequently than normal during first two months after planting)	Late Feb. – Early Oct.	2.25" x 2.75" (plug) or larger in spring 4.5" x 5" (quart) or larger in summer & fall	1" (60 min) every 4 days in spring and fall 1" (60 min) every 3 days in summer	1" (60 min) every 7 days until plants established***	1.5" for plugs 2.5" for quarts

*This water amount includes natural rainfall. If you get a ½ inch of natural rain then you will need to add a ½ inch of water to meet the 1 inch requirement.

**Requires transport of water to the planting site in large containers and pouring enough water onto each plant (after planting) to moisten the entire planting pit.

***Plants are established when roots have grown out of the container soil and into the native soil by 3-5 inches. This normally takes 3-4 months for most perennials and grasses and up to 6-7 months for trees and shrubs.

****Shredded leaf compost is recommended for use with perennials and grasses. Shredded bark mulch is recommended for tree and shrub plantings at a depth of 3 inches.



Quantity of plants as noted in planting schedule.

Plant Spacing Plan

N.T.S.

Planting Detail Courtesy of Ted Speid SWT Design, St. Louis, MO

Figure 9

MSD Landscape Guide for Stormwater Best Management Practices

3.) REQUIRED SETS TO MSD 04/1/11
2.) REVISED PER MSD AND CITY COMMENTS 03/16/11
1.) REVISED PER MSD AND CITY COMMENTS 02/21/11

M.S.D. P# 17328-11
BASE MAP # 17-Q

APR. 4, 2011
100% COMPLETE

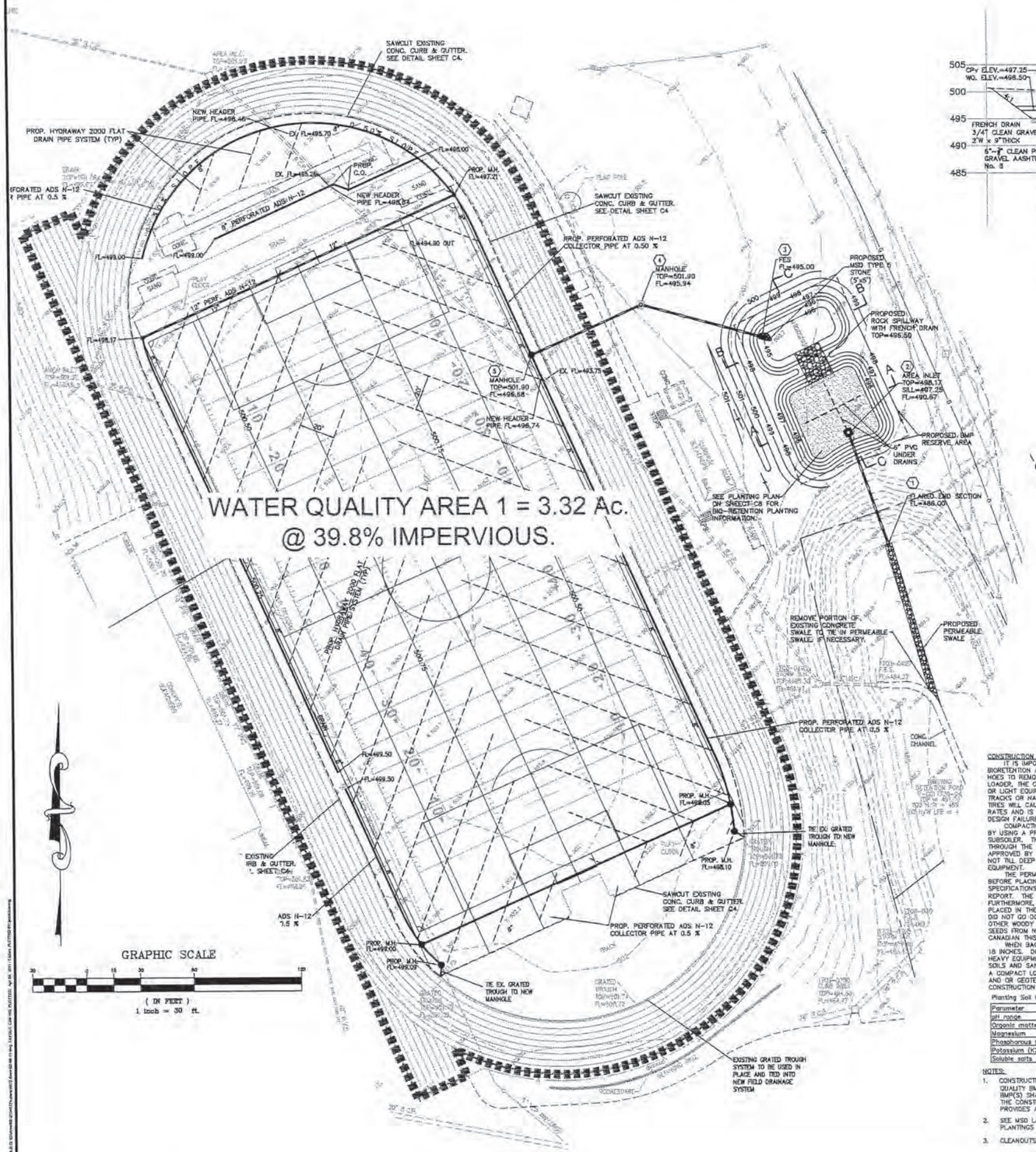
PARKWAY CENTRAL HIGH SCHOOL

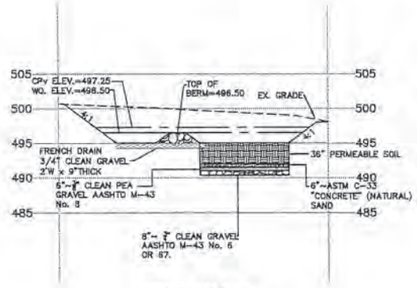
SEWER DETAILS AND PLANTING PLAN

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
J.M.B.	12/15/10	G.M.S.	12/22/10	210-4672	C8 of 10





SECTION C-C

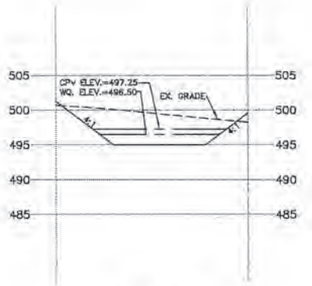
SCALE: 1" = 30' HORIZ.
SCALE: 1" = 10' VERT.

BMP/STORMWATER CREDIT SUMMARY TABLE				
AREA	AREA (Ac.)	BMP	WQv REQUIRED (C.F.)	WQv PROVIDED (C.F.)
1	3.32	BIORETENTION (F-6)	5,603	6,275
TOTAL	3.32			

LAND AREA DISTURBED = 2.11 Ac.
LAND AREA TRIBUTARY TO BIO-RETENTION = 3.32 Ac.

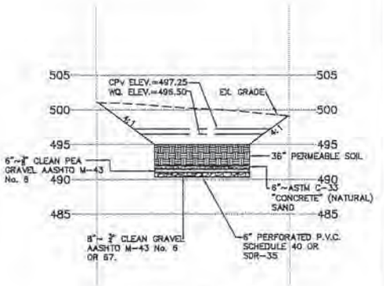
PREVIOUSLY UNTREATED AREA FOR FUTURE CREDIT = 1.21 Ac. @ 100% IMPERVIOUS (TRACK)

ANY FUTURE LAND DISTURBANCE AND/OR INCREASE IN IMPERVIOUS AREA ON THIS SITE PLAN MAY REQUIRE ADDITIONAL STORM WATER MANAGEMENT PER MSD REGULATIONS IN PLACE AT THAT TIME (INCLUDING TOTAL LAND DISTURBANCE AND/OR IMPERVIOUSNESS ADDED ON THIS PLAN P-17328-11)



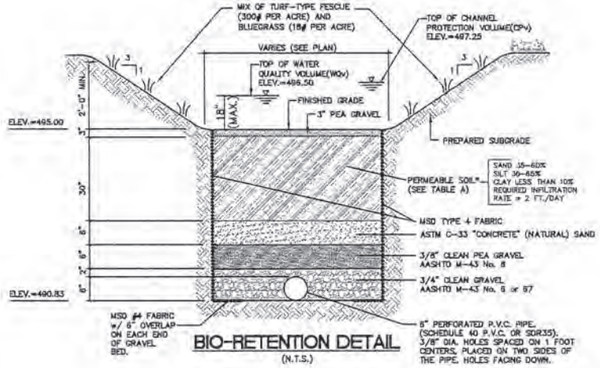
SECTION A-A

SCALE: 1" = 30' HORIZ.
SCALE: 1" = 10' VERT.



SECTION B-B

SCALE: 1" = 30' HORIZ.
SCALE: 1" = 10' VERT.



BIO-RETENTION DETAIL

(N.T.S.)

CONSTRUCTION NOTES:
IT IS IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF THE BIORETENTION AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF BIORETENTION AREAS ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.
COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE DESIGN OR GEOTECHNICAL ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.
THE PERMEABLE SOIL USED IN THE BIORETENTION FACILITY SHOULD BE TESTED BEFORE PLACING IT IN THE FIELD TO ENSURE IT MEETS THE PERFORMANCE SPECIFICATIONS OUTLINED IN THE PLANS AND STORMWATER MANAGEMENT FACILITIES REPORT. THE PERMEABLE SOIL MUST HAVE AN INFILTRATION RATE OF 2 FEET/DAY. FURTHERMORE, AND INFILTRATION TEST MUST BE PERFORMED ONCE THE SOIL IS PLACED IN THE BIORETENTION FACILITY TO CONFIRM THAT THE INFILTRATION RATE DID NOT GO DOWN. THE SOIL SHOULD BE FREE OF STONES, STUMPS, ROOTS OR OTHER WOODY MATERIAL OVER 1 INCH IN DIAMETER. FOR BEST RESULTS, BRUSH OR SEEDS FROM NOXIOUS WEEDS, SUCH AS JOHNSON GRASS, MUGWORT, NUTSEDGE AND CANADIAN THISTLE SHOULD NOT BE PRESENT IN THE SOILS.
WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS OF 12 TO 18 INCHES. DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS. THE LANDSCAPER AND OR GEOTECHNICAL ENGINEER SHOULD BE PRESENT ON SITE DURING THE CONSTRUCTION OF THE BIORETENTION FACILITIES TO ENSURE QUALITY CONTROL.

Planting Soil Characteristics

Parameter	Value
pH range	5.2 to 8.00
Organic matter	1.5 to 5.0%
Magnesium	35 lbs. per acre, minimum
Phosphorous (P2O5)	75 lbs. per acre, minimum
Potassium (K2O)	85 lbs. per acre, minimum
Soluble salts	≤ 500 ppm

NOTES:
1. CONSTRUCTION SITE RUNOFF SHALL NOT FLOW INTO THE WATER QUALITY BMP(S). ALL STORMWATER FLOW TO THE WATER QUALITY BMP(S) SHALL BE DIVERTED, PLUGGED, OR DISCONNECTED UNTIL THE CONSTRUCTION SITE IS STABLE AND THE MSD DEDICATION INSPECTOR PROVIDES APPROVAL TO PLACE THE BMP(S) ONLINE.
2. SEE MSD LANDSCAPE GUIDELINES FOR ADDITIONAL DETAILS ON PLANTINGS IN BIORETENTION AREAS.
3. CLEANOUTS TOP ELEVATION TO BE 6" ABOVE TOP OF FILTER SURFACE.

M.S.D. P# 17328-11
BASE MAP # 17-Q

APR. 4, 2011
100% COMPLETE

3.) REQUIRED SETS TO MSD 04/1/11
2.) REVISED PER MSD AND CITY COMMENTS 03/16/11
1.) REVISED PER MSD AND CITY COMMENTS 02/21/11

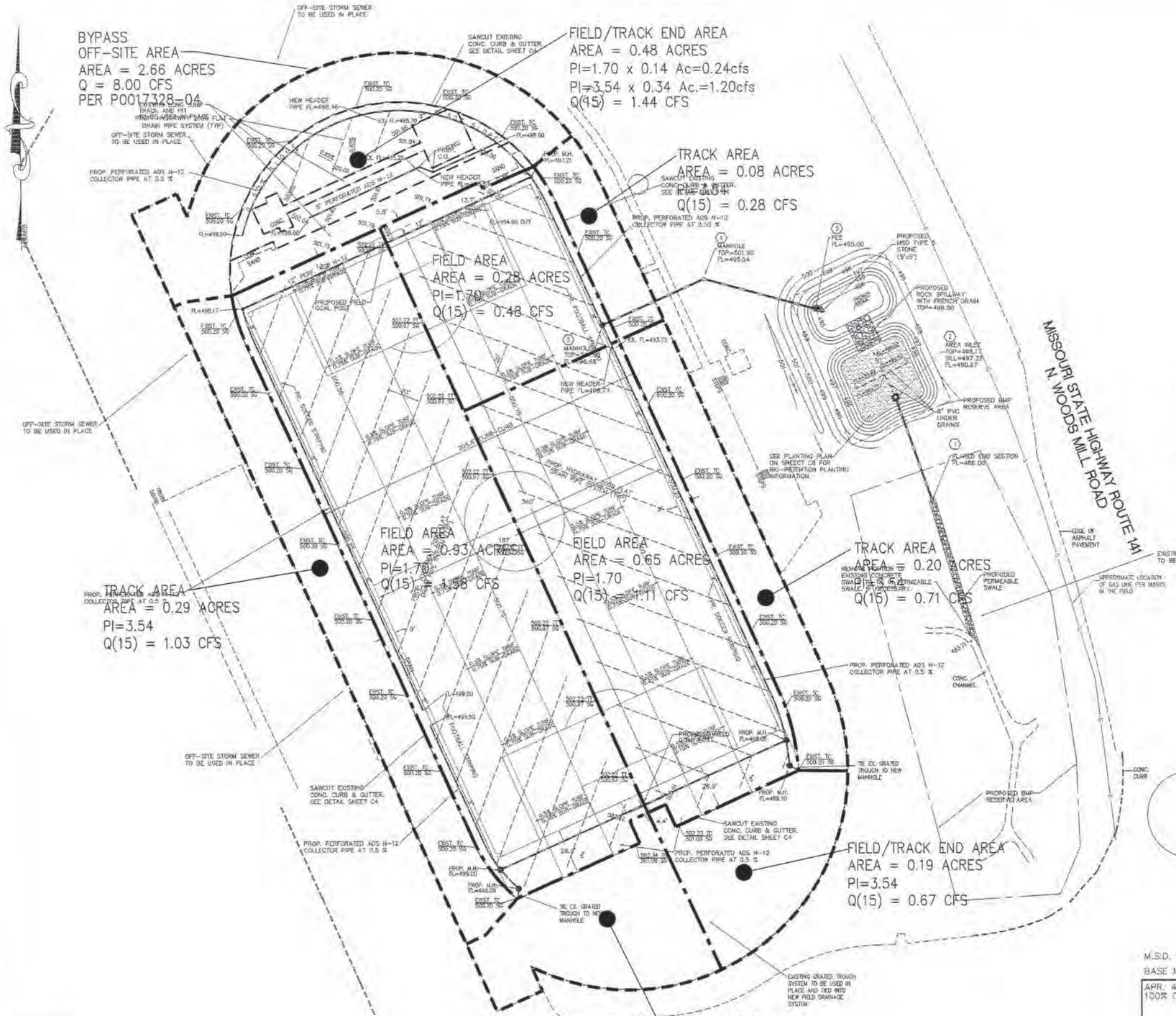
PARKWAY CENTRAL HIGH SCHOOL

WATER QUALITY PLAN

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
J.M.B.	12/15/10	G.M.S.	12/22/10	210-4672	C9 of 10



DIFFERENTIAL RUNOFF CALCULATIONS:

TOTAL DISTURBED AREA	= 2.11 Acres ±
EXISTING RUNOFF	= 2.00 Ac. x 1.70 = 3.40 cfs
	= 0.11 Ac. x 3.54 = 0.39 cfs
	= 3.79 cfs
PROPOSED RUNOFF	= 2.00 Ac. x 1.70 = 3.40 cfs
	= 0.11 Ac. x 3.54 = 0.39 cfs
	= 3.79 cfs
DIFFERENTIAL	= 3.79 - 3.79 = 0 cfs

FOR INFORMATION PURPOSES ONLY.
DRAWING NOT FOR CONSTRUCTION.

UTILITY NOTE

UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, RECORDS AND INFORMATION, AND , THEREFORE DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NON-EXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE FACILITIES, STRUCTURES AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS. THE UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319 RSMo.

3.) REQUIRED SETS TO MSD 04/1/11
2.) REVISED PER MSD AND CITY COMMENTS 03/16/11
1.) REVISED PER MSD AND CITY COMMENTS 02/21/11

M.S.D. P# 17328-11
BASE MAP # 17-Q

APR. 4, 2011
100% COMPLETE

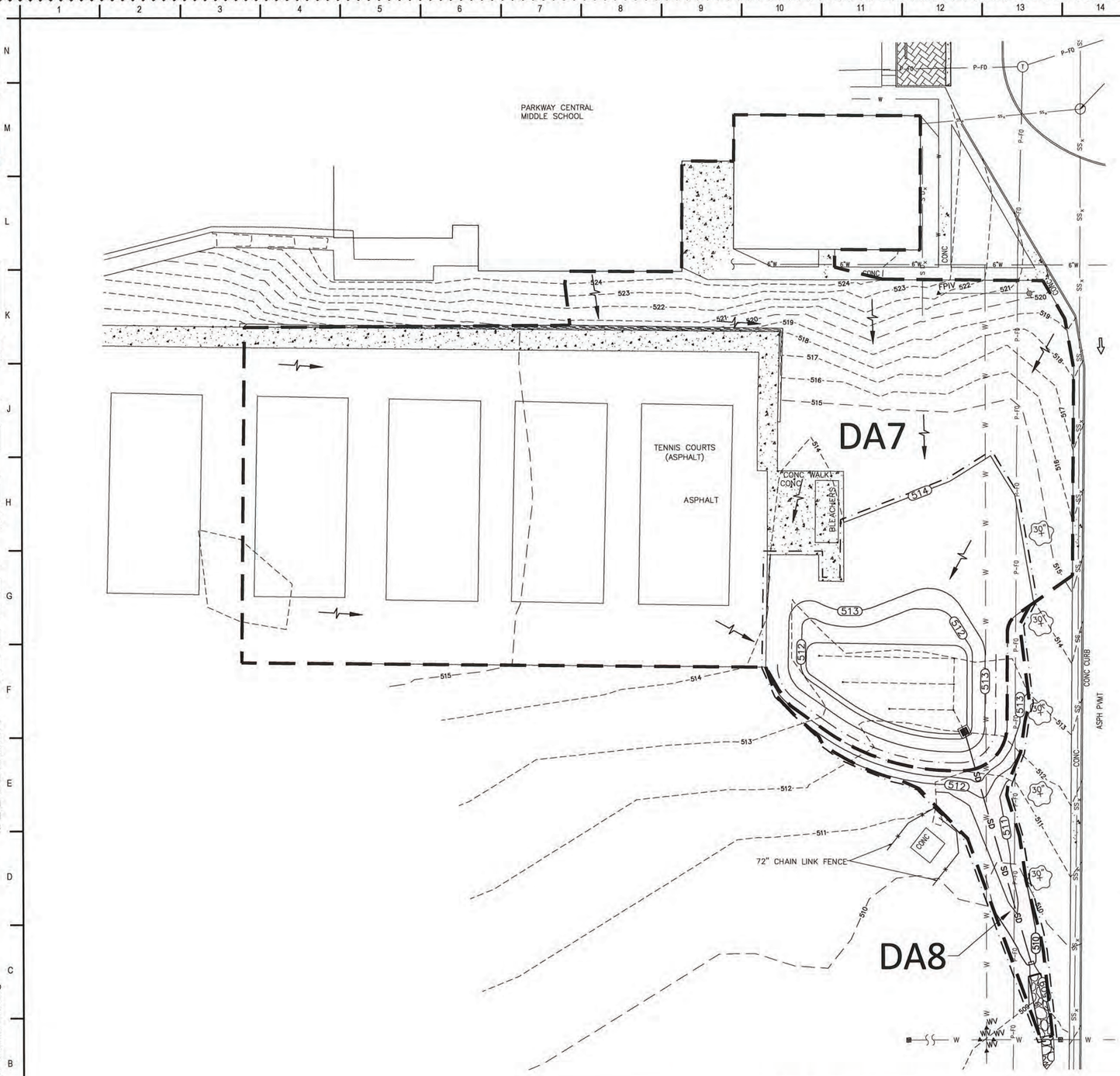
GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

PARKWAY CENTRAL HIGH SCHOOL

DRAINAGE AREA MAP

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
J.M.B.	12/15/10	G.M.S.	12/22/10	210-4672	C10 of 10



Drainage Area Table / Runoff Calculations

Drainage Area	Land Use / Percent Impervious	15yr/20min PI Factor	Post-Development DA (acres)	Post-Dev. 15yr/20min Runoff (cfs)
DA1	Pavement / 100%	3.54	0.050	0.176
	Grass / 5%	1.70	0.055	0.095
			Subtotal	**0.271**
DA2	Pavement / 100%	3.54	0.136	0.481
	Grass / 5%	1.70	0.003	0.006
			Subtotal	**0.487**
DA3	Pavement / 100%	3.54	0.000	0.000
	Grass / 5%	1.70	0.086	0.146
			Subtotal	**0.146**
DA4	Pavement / 100%	3.54	0.006	0.022
	Grass / 5%	1.70	0.009	0.016
			Subtotal	**0.038**
DA5	Pavement / 100%	3.54	0.103	0.364
	Building / 100%	4.20	0.024	0.100
	Grass / 5%	1.70	0.000	0.000
			Subtotal	**0.464**
DA6	Pavement / 100%	3.54	0.066	0.235
	Building / 100%	4.20	0.024	0.102
	Grass / 5%	1.70	0.000	0.000
			Subtotal	**0.337**
DA7 (BMP)	Pavement / 100%	3.54	0.668	2.364
	Building / 100%	4.20	0.087	0.365
	Grass / 5%	1.70	0.470	0.800
			Subtotal	**3.529**
DA8	Grass / 5%	1.70	0.059	0.100
			Subtotal	**0.100**
			Total	**5.372**

NOTE: ALL DRAINAGE AREAS ASSOCIATED WITH THIS PROJECT ARE TRIBUTARY TO EXISTING DETENTION BASIN 1 TO THE EAST OF THE FOOTBALL FIELD AS SHOWN ON SHEET C10.1.1.

Cumulative Site Stormwater Summary

Project Number	Water Quality						Differential Runoff	
	Disturbed Area (Ac)		Treated Area (Ac)		Δ Treated Area (Ac)		Differential Runoff (cfs)	Project Determination
	Pervious	Impervious	Pervious	Impervious	Pervious	Impervious		
20MSD-00057	0.080	0.050	0.000	0.000	0.080	0.050	0.121	Analysis provided to show basin 1 is sized for increase therefore, no additional detention needed.
20MSD-00425	0.029	0.028	0.000	0.000	0.029	0.028	0.034	Per MSD, no detention required due to such a small increase. Differential included in 20MSD-00501.
20MSD-00501	0.322	0.229	0.473	0.755	-0.151	-0.526	0.411	Detention and channel protection provided as part of this project.
				Future Credit	-0.043	-0.448		

DENOTES AREA OF PROJECT MAINTENANCE

DENOTES AREA OF PROJECT DISTURBANCE

0 20' 40'

FOR REFERENCE ONLY - NOT FOR CONSTRUCTION

2 20MSD-00501 BASEMAP: 17Q

NO.	DATE	DESCRIPTION
CD #2	03/26/21	City/MSD Comments. Gas line reloc.

FGM ARCHITECTS
10 S. Broadway, Suite 1150
St. Louis, MO 63102
Phone: 314.439.1601
Fax: 314.439.1602
Missouri State Certificate of Authority #000311

wood.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-200-5100
Fax: 636-402-3005
Discipline: Engineering Corporation
Corporate Certificate Of Authority: #2002000326

PROFESSIONAL SEAL
STATE OF MISSOURI
STUART M. HAW III
NUMBER E-22997
REGISTERED PROFESSIONAL ENGINEER
10/30/2020
Stuart M. Haw III, PE
MO E-22997
EXPIRATION DATE: 12/31/21

DATE	10/30/20	
DRAWN	MJR	
CHECKED	SJM	
APPROVED	SMH	

wood. Corporate Certificate of Authority #2002000326

CENTRAL HIGH SCHOOL
CONCESSION STAND SITE IMPROVEMENTS
PARKWAY SCHOOLS

PROJECT LOCATION:
369 N Woods Mill Rd.
Chesterfield, MO 63017

OWNER:
Administrative Office
369 N. Woods Mill Rd.
Chesterfield, Missouri 63017

BMP DRAINAGE AREA MAP

SHEET NO.
C10.1.0

PSD PROJECT #: PN502002B
FGM JOB #: 20-2857.01
© 2020 FGM Architects Inc.

5/26/2021 11:26 AM
P:\StLouis\2019\325199001 Parkway\10-CAD\325199011 Central High\03-PLAN\FB - Concession Stands\502002B-C10.1.0-Conc.Stands.dwg

EXHIBIT-S

WEST HIGH

BMP ORIGINAL PROJECT INFORMATION

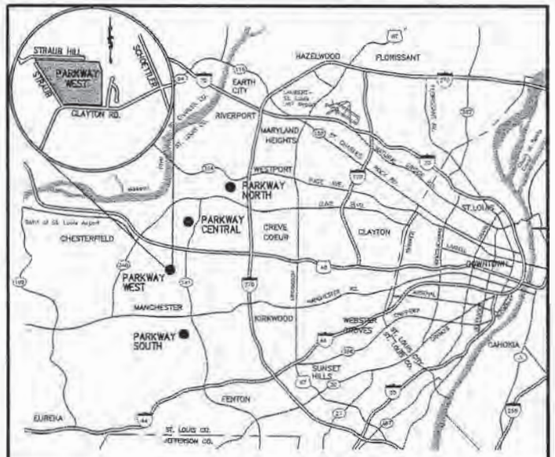
PARKWAY WEST HIGH SCHOOL

15653 CLAYTON ROAD
CHESTERFIELD, MISSOURI

PARKWAY SCHOOL DISTRICT

455 North Woods Mill Road Chesterfield, Missouri 63017 (314) 415-8100 (314) 415-8207 Fax

SYNTHETIC TURF FIELD IMPROVEMENTS



LOCATION MAP
(NOT TO SCALE)

INDEX

C1	TITLE SHEET
C2	EXISTING CONDITIONS/DEMO/SWPPP PLAN
C3	SWPPP DETAILS
C4	SITE AND GRADING PLAN
C5	FIELD DETAILS SHEET
C6	SITE GEOMETRIC PLAN/SPECIFICATIONS
C7	STORM SEWER PROFILES/DETAILS/HYDRAULICS
C8	PLANTING PLAN
C9	WATER QUALITY PLAN
C10	DRAINAGE AREA MAP

LEGEND

ELECTRIC MANHOLE	(E)
EXISTING SANITARY SEWER	
EXISTING STORM SEWER	
EXISTING TREE	12"
EXISTING BUILDING	
EXISTING CONTOUR	535
SPOT ELEVATION	x=545.25
EXISTING UTILITIES	G-W-T-E
PROPOSED CONTOUR	530
PROPOSED SPOT	x 530.50
PROPOSED STORM SEWER	
PROPOSED SANITARY SEWER	SS
FIRE HYDRANT	
LIGHT STANDARD	
BUSH	
SIGN	
NOTES PARKING SPACES	(18)
GUY WIRE	
POWER POLE	
WATER MANHOLE	(W)
WATER VALVE	
DENOTES RECORD INFORMATION	( )
HANDICAPPED PARKING	
PHONE MANHOLE	(P)
OVERHEAD ELECTRIC	OE
UNDERGROUND TELEPHONE	UT
CONCRETE	CONC
ASPHALT	ASPH
POLYVINYL CHLORIDE	PVC
DENOTES WITH	W/
TRANSFORMER	T
SANITARY	SAN
SWALE	
CHAIN-LINK FENCE	
TRAFFIC FLOW	
SAWCUT	

ABBREVIATIONS

W	- WATER	DB	- DEED BOOK
E	- ELECTRIC	PB	- PLAT BOOK
OE	- OVERHEAD ELECTRIC	PG	- PAGE
UW	- UNDERGROUND ELECTRIC	(_'W)	- RIGHT-OF-WAY WIDTH
G	- GAS	(REC)	- RECORD INFORMATION
T	- TELEPHONE	FT	- FEET
TBR	- TO BE REMOVED	N/F	- NOW OR FORMERLY
TBR & R	- TO BE REMOVED AND REPLACED	FND	- FOUND
UIP	- USE IN PLACE	SQ	- SQUARE
TBA	- TO BE ADJUSTED	CO	- CLEANOUT
BC	- BACK OF CURB	MH	- MANHOLE
FC	- FACE OF CURB	AI	- AREA INLET
TW	- TOP OF WALL	CI	- CURB INLET
BW	- BOTTOM OF WALL	GI	- GRATE INLET
PVMT	- PAVEMENT	YD	- YARD DRAIN
ASPH	- ASPHALT	PVC	- POLYVINYL CHLORIDE PIPE
CONC	- CONCRETE	RCP	- REINFORCED CONCRETE PIPE
GRND	- GROUND	CMP	- CORRUGATED METAL PIPE
FG	- FINISHED GRADE	VCP	- CLAY PIPE
FF	- FINISHED FLOOR	FL	- FLOWLINE
LL	- LOWER LEVEL	TS	- TAILSTAKE
TT	- TOP OF TURF	ELEV, EL	- ELEVATION
TC	- TOP OF CURB	PROP, PR	- PROPOSED
SG	- SUBGRADE	EXIST, EX	- EXISTING
		TYP	- TYPICAL

SITE INFORMATION

OWNER	=	PARKWAY SCHOOL DISTRICT
SITE ADDRESS	=	14653 CLAYTON ROAD CHESTERFIELD, MISSOURI 63011
LOCATOR NUMBER	=	20R21-0046
EXISTING ZONING	=	-
FIRE DISTRICT	=	METRO WEST
SCHOOL DISTRICT	=	PARKWAY
SEWER DISTRICT	=	METROPOLITAN ST. LOUIS SEWER DIST.
WATER SERVICE	=	MISSOURI AMERICAN WATER
GAS SERVICE	=	LACLEDE GAS
ELECTRIC SERVICE	=	AMEREN UE
PHONE SERVICE	=	SBC/AT&T
FLOOD MAPS	=	29189C0256H
WATERSHED	=	CREVE COUER CREEK
WUNNENBERG'S	=	PAGE 32 AND 33
MDNR LAND DISTURBANCE PERMIT #	=	MO-R10D714

UTILITY CONTACTS:

CHARTER COMMUNICATION
941 CHARTER COMMONS
TOWN & COUNTRY, MO 63017
ATTN: SARA BISHOP
PHONE: 636.387.6633

AMEREN UE
280 OLD STATE ROAD
ELLISVILLE, MO 63021
ATTN: BRUNO STOPKA
PHONE: 314.992.8902

LACLEDE GAS COMPANY
3950 FOREST PARK AVENUE
ST. LOUIS, MO 63108
ATTN: KELI KRAMER
PHONE: 314.342.0678

AT&T TELEPHONE COMPANY
14760 MANCHESTER ROAD
BALLWIN, MO 63011
ATTN: MARK ADAMS
PHONE: 636.256.1514

MO. AMERICAN WATER COMPANY
727 CRAIG ROAD
ST. LOUIS, MO 63141
ATTN: MARIANN KLEMME
PHONE: 314.996.2302

PROPERTY OWNER CERTIFICATION

PARKWAY SCHOOL DISTRIC HEREBY CERTIFIES THAT HE IS FAMILIAR WITH THE SWPPP AND ASSUMES FULL RESPONSIBILITY FOR THE PERFORMANCE AND MAINTENANCE OF THE SWPPP AS STATED ON THE APPROVED PLANS. HE WILL ENSURE THAT ALL CONTRACTORS UNDERSTAND AND ARE FAMILIAR WITH THE SWPPP FOR THE SITE AND THAT EACH CONTRACTOR AGREES TO IMPLEMENT AND PROTECT ELEMENTS OF THE SWPPP AS THEY RELATE TO HIS WORK. PARKWAY SCHOOL DISTRICT ONSITE REPRESENTATIVE SHALL BE RESPONSIBLE FOR THE PERFORMANCE AND MAINTENANCE OF THE SWPPP. IN ADDITION, THE UNDERSIGNED PARKWAY SCHOOL DISTRICT ASSURES THAT ALL CITY PROPERTY OR ROADS WILL BE ADEQUATELY PROTECTED.

J. Scott Bennett
SCOTT BENNETT - MANAGER OF PLANNING AND ENGINEERING

5/26/11
DATE

PERMITTEE NOTE:

THE PERMITTEE SHALL ASSUME COMPLETE RESPONSIBILITY FOR CONTROLLING ALL SILTATION AND EROSION OF THE PROJECT AREA. THE PERMITTEE SHALL USE WHATEVER MEANS NECESSARY TO CONTROL EROSION AND SILTATION INCLUDING, BUT NOT LIMITED TO, STAKED STRAW BALES AND/OR SILTATION FABRIC FENCES (POSSIBLE METHODS OF CONTROL ARE DETAILED IN THE PLAN). CONTROL SHALL COMMENCE WITH GRADING AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY THE CITY OF CHESTERFIELD AND ST. LOUIS COUNTY HIGHWAY DEPARTMENT AS NECESSARY. THE PERMITTEE'S RESPONSIBILITIES INCLUDE ALL DESIGN AND IMPLEMENTATION AS REQUIRED TO PREVENT EROSION AND THE DEPOSITING OF SILT. THE CITY OF CHESTERFIELD AND AS REQUIRED BY (STLCO) MAY AT THEIR OPTION DIRECT THE PERMITTEE IN HIS METHODS AS DEEMED FIT TO PROTECT PROPERTY AND IMPROVEMENTS. ANY DEPOSITING OF SILT OR MUD ON NEW OR EXISTING PAVEMENT SHALL BE REMOVED IMMEDIATELY. ANY DEPOSITING OF SILT OR MUD IN NEW OR EXISTING STORM SEWERS OR SWALES SHALL BE REMOVED AFTER EACH RAIN AND AFFECTED AREAS CLEANED TO THE SATISFACTION OF THE CITY OF CHESTERFIELD AND AS REQUIRED BY (STLCO).

OWNER NOTE:

ONCE THE CONTRACTOR DELIVERS THE PROPERTY TO THE OWNER, THE OWNER SHALL BE RESPONSIBLE TO MAINTAIN ANY CONTROL MEASURE THAT IS TO REMAIN AS A PERMANENT STRUCTURE TO CONTROL SILTATION AND EROSION.

CONTRACTOR'S INSURANCE REQUIREMENTS

PRIOR TO OBTAINING A CONSTRUCTION PERMIT FROM THE METROPOLITAN ST. LOUIS SEWER DISTRICT, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE THE DISTRICT WITH A COPY OF AN EXECUTED CERTIFICATE OF INSURANCE INDICATING THAT THE PERMITTEE HAS OBTAINED AND WILL CONTINUE TO CARRY COMMERCIAL GENERAL LIABILITY AND COMPREHENSIVE AUTO LIABILITY INSURANCE. THE REQUIREMENTS AND LIMITS SHALL BE AS STATED IN THE "RULES AND REGULATIONS AND ENGINEERING DESIGN REQUIREMENTS FOR SANITARY AND STORMWATER DRAINAGE FACILITY", SECTION 10.090 (ADDENDUM).

OWNER

PARKWAY SCHOOL DISTRICT
455 N. WOODS MILL ROAD
CHESTERFIELD, MISSOURI 63017
CONTACT: J. SCOTT BENNETT P.E.
PH: (314) 415-8231

PREPARED FOR:

ATG SPORTS
C/O DON BOLINGER, PRESIDENT
1349 MCNUTT ROAD, SUITE D
HERCULANEUM, MO 63048
PHONE: (636) 524-8135
FAX: (636) 933-4994

MISSOURI ONE-CALL
1-800-344-7483

ST. LOUIS COUNTY BENCHMARK

#12-84 ELEV.=648.77
"L" ON TOP OF THE NORTH BRICK ENTRANCE MARKER ON THE NORTHWEST CORNER; 40' NORTH OF THE CENTERLINE OF HILL TRAIL DRIVE.

UTILITY NOTE:

UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, RECORDS AND INFORMATION, AND , THEREFORE DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NON-EXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE FACILITIES, STRUCTURES AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS. THE UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319 RSMo.

STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. AND THE UNDERSIGNED ENGINEER HAVE NO RESPONSIBILITY FOR SERVICES PROVIDED BY OTHERS TO IMPLEMENT THE IMPROVEMENTS SHOWN ON THIS PLAN AND ALL OTHER DRAWINGS WHERE THE UNDERSIGNED ENGINEER'S SEAL APPEARS. THE CONSTRUCTION MEANS AND METHODS ARE THE SOLE RESPONSIBILITY OF THE OWNER AND CONTRACTOR. STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. HAS NO RESPONSIBILITY TO VERIFY FINAL IMPROVEMENTS AS SHOWN ON THIS PLAN UNLESS SPECIFICALLY ENGAGED AND AUTHORIZED TO DO SO BY THE OWNER OR CONTRACTOR.

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

3.) REVISED PER MSD COMMENTS 05/05/11
2.) REVISED PER MSD COMMENTS 04/19/11
1.) REVISED PER CITY AND MSD COMMENTS 02/21/11

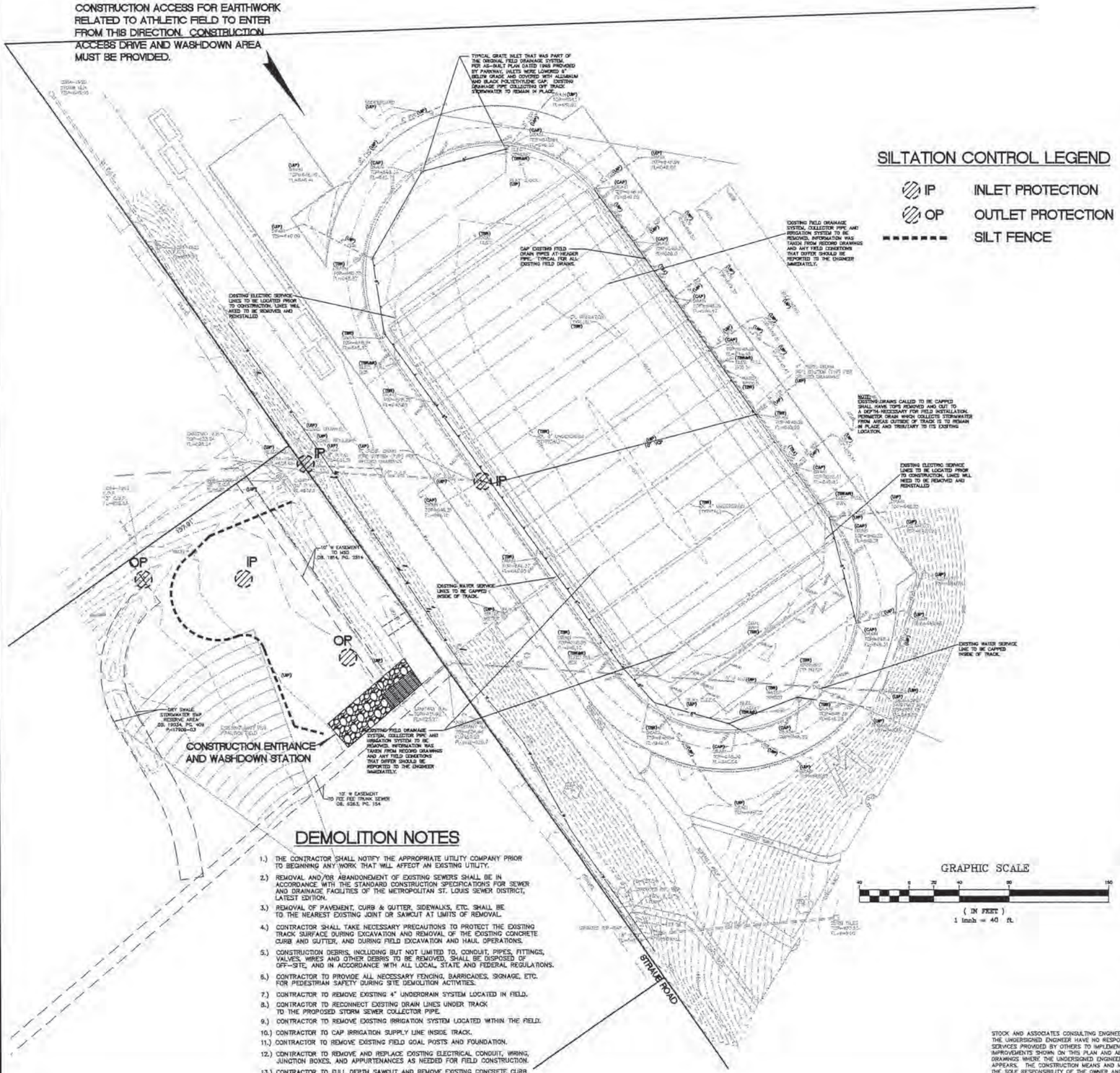
M.S.D. P# 19460-01
BASE MAP # 20-R
MAY. 5, 2011
100% COMPLETE

PARKWAY WEST HIGH SCHOOL

TITLE SHEET

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
T.P.S.	12/22/2010	G.M.S.	12/22/2010	210-4673	C1



SILTATION CONTROL LEGEND

IP	INLET PROTECTION
OP	OUTLET PROTECTION
-------	SILT FENCE

DEMOLITION NOTES

1.) THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY COMPANY PRIOR TO BEGINNING ANY WORK THAT WILL AFFECT AN EXISTING UTILITY.

2.) REMOVAL AND/OR ABANDONEMENT OF EXISTING SEWERS SHALL BE IN ACCORDANCE WITH THE STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWER AND DRAINAGE FACILITIES OF THE METROPOLITAN ST. LOUIS SEWER DISTRICT, LATEST EDITION.

3.) REMOVAL OF PAVEMENT, CURB & GUTTER, SIDEWALKS, ETC. SHALL BE TO THE NEAREST EXISTING JOINT OR SAWCUT AT LIMITS OF REMOVAL.

4.) CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT THE EXISTING TRACK SURFACE DURING EXCAVATION AND REMOVAL OF THE EXISTING CONCRETE CURB AND GUTTER, AND DURING FIELD EXCAVATION AND HAUL OPERATIONS.

5.) CONSTRUCTION DEBRIS, INCLUDING BUT NOT LIMITED TO, CONDUIT, PIPES, FITTINGS, VALVES, WIRES AND OTHER DEBRIS TO BE REMOVED, SHALL BE DISPOSED OF OFF-SITE, AND IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

6.) CONTRACTOR TO PROVIDE ALL NECESSARY FENCING, BARRICADES, SIGNAGE, ETC. FOR PEDESTRIAN SAFETY DURING SITE DEMOLITION ACTIVITIES.

7.) CONTRACTOR TO REMOVE EXISTING 4" UNDERDRAIN SYSTEM LOCATED IN FIELD.

8.) CONTRACTOR TO RECONNECT EXISTING DRAIN LINES UNDER TRACK TO THE PROPOSED STORM SEWER COLLECTOR PIPE.

9.) CONTRACTOR TO REMOVE EXISTING IRRIGATION SYSTEM LOCATED WITHIN THE FIELD.

10.) CONTRACTOR TO CAP IRRIGATION SUPPLY LINE INSIDE TRACK.

11.) CONTRACTOR TO REMOVE EXISTING FIELD GOAL POSTS AND FOUNDATION.

12.) CONTRACTOR TO REMOVE AND REPLACE EXISTING ELECTRICAL CONDUIT, WIRING, JUNCTION BOXES, AND APPURTENANCES AS NEEDED FOR FIELD CONSTRUCTION.

13.) CONTRACTOR TO FULL DEPTH SAWCUT AND REMOVE EXISTING CONCRETE CURB AND GUTTER INSIDE THE TRACK AS SHOWN ON THE PLANS.

14.) CONTRACTOR TO REMOVE DRAINS IN EXISTING INNER CURB AND GUTTER. DRAIN LINES TO BE PLUGGED WITH CONCRETE.

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

1 inch = 40 ft.

SILTATION NOTES

1. Inspection of siltation control devices shall take place once every seven days and within 24 hours of any 0.5"/24 hour rain event. Any siltation control in need of repair shall occur immediately.
2. Any disturbed areas which will remain unworked for 5 days or more shall be stabilized with seeding and mulching per specifications within 5 days. If seasonal conditions prohibit seeding, mulching or matting shall be used.
3. All slopes or drainage channels, once constructed to final grade, shall be seeded and mulched per specifications within seven (7) days.
4. Straw bales shall be installed immediately around each storm sewer structure once final construction of each individual structure is complete.
5. All siltation control devices shall remain in place until upslope areas have been permanently stabilized.

Siltation Control Schedule Implementation

1. Perimeter siltation control and construction entrances to be installed.
2. Begin placing aggregate base in parking areas once area has reached final grade to prevent erosion.
3. Place silt cotrol around each storm sewer structure as it is completed.
4. Immediately seed areas upon reaching final grade that are to be permanently seeded.

Temporary Access Roads and Parking Areas Specifications

1. Temporary roads shall follow the contour of the natural terrain to the extent possible. Slopes should not exceed 10 percent.
2. Grades should be sufficient to provide drainage, but should not exceed 4 percent.
3. Roadbeds shall be at least 24 feet wide.
4. All cuts and fills shall be 3:1 or flatter to the extent possible.
5. Drainage ditches shall be provided as needed.
6. The roadbed or parking surface shall be cleared of all vegetation, roots and other objectionable material.
7. A 10-inch course of 2" MINUS aggregate shall be applied immediately after grading or the completion of utility installation within the right-of-way. Filter fabric may be applied to the roadbed for additional stability in accordance with fabric manufacturer's specifications.

Vegetation

All roadside ditches, cuts, fills and disturbed areas adjacent to parking areas and roads shall be stabilized with appropriate temporary or permanent vegetation according to the applicable standards and specifications.

Maintenance

Both temporary and permanent roads and parking areas may require periodic top dressing with new gravel. Seeded areas adjacent to the roads and parking areas should be checked periodically to ensure that a vigorous stand of vegetation is maintained. Roadside ditches and other drainage structures should be checked regularly to ensure that they do not become clogged with silt or other debris.

Silt Fence Specifications

1. Silt Fence to be woven geotextile fabric Mirafi 100X or equal.
2. Fabric to be supported by metal tee post with spade base spaced on 5' centers or per approved manufactures recommendations.
3. Fabric shall be entrenched and backfilled. A trench shall be excavated a minimum of 8 inches deep for the length of the fence. The excavated soil shall be backfilled against the fence. See detail this sheet.
4. Fence height shall be a minimum of 2 feet in height, with the fabric installed on the fence on the upstream side.
5. Silt fences shall be used only on sheet flow conditions.
6. Silt fences and inlet protection shall be installed around all storm sewer structures.

Maintenance

1. Silt fence barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall.
2. Close attention shall be paid to the repair of damaged barriers, end runs and undercutting beneath barriers.
3. Necessary repairs to barriers or replacement of fences shall be accomplished promptly.
4. Sediment deposits should be removed after each rainfall. They must be removed when the level of deposition reaches approximately one-half the height of the barrier.
5. Any sediment deposits remaining in place after the silt fence barrier is no longer required shall be dressed to conform to the existing grade, prepared and seeded.

Straw Bale Siltation Control Specifications

Sheet Flow Applications

1. Bales shall be placed in a single row, lengthwise on the contour, with both ends of adjacent bales tightly abutting one another.
2. All bales shall be either wire-bound or string-tied. Straw bales shall be installed so that buildings are oriented around the sides rather than along the tops and bottoms of the bales (in order to prevent deterioration of the bindings). See detail this sheet.
3. The barrier shall be entrenched and backfilled. A trench shall be excavated the width of a bale and the length of the proposed barrier to a minimum depth of 4 inches. After the bales are staked and chinked, the excavated soil shall be backfilled against the barrier. Backfill soil shall conform to the ground level on the downhill and shall be built up to 4 inches against the uphill side of the barrier.
4. Each bale shall be securely anchored by at least two stakes or rebars driven through the bale. The first stake in each bale shall be driven toward the previously laid bale to force the bales together. Stakes or rebars shall be driven deep enough into the ground to securely anchor the bales.
5. The gaps between bales shall be chinked (filled by wedging) with straw to prevent water from escaping between the bales. (Loose straw scattered over the area immediately uphill from a straw bale barrier tends to increase barrier efficiency).
6. Inspection shall be frequent and repair or replacement shall be made promptly as needed.
7. Straw bale barriers shall be removed when they have served their usefulness, but not before the upslope areas have been permanently stabilized.

Channel Flow Applications

1. Bales shall be placed in a single row, lengthwise, oriented perpendicular to the contour, with ends of adjacent bales tightly abutting one another.
2. The barrier shall be extended to such a length that the bottoms of the end bales are higher in elevation than the top of the lowest middle bale to assure that sediment-laden runoff will flow either through or over the barrier but not around it.

Maintenance

1. Straw bale barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall.
2. Close attention shall be paid to the repair of damaged fence, end runs and undercutting beneath fence.
3. Necessary repairs to barriers or replacement of silt fence shall be accomplished promptly.
4. Sediment deposits should be removed after each rainfall. They must be removed when the level of deposition reaches approximately one-half the height of the barrier.
5. Any sediment deposits remaining in place after the straw bale barrier is no longer required shall be dressed to conform to the existing grade, prepared and seeded.

STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. AND THE UNDERSIGNED ENGINEER HAVE NO RESPONSIBILITY FOR SERVICES PROVIDED BY OTHERS TO IMPLEMENT THE IMPROVEMENTS SHOWN ON THIS PLAN AND ALL OTHER DRAWINGS WHERE THE UNDERSIGNED ENGINEER'S SEAL APPEARS. THE CONSTRUCTION MEANS AND METHODS ARE THE SOLE RESPONSIBILITY OF THE OWNER AND CONTRACTOR. STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. HAS NO RESPONSIBILITY TO VERIFY FINAL IMPROVEMENTS AS SHOWN ON THIS PLAN UNLESS SPECIFICALLY ENGAGED AND AUTHORIZED TO DO SO BY THE OWNER OR CONTRACTOR.

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY NUMBER: 000996

3.) REVISED PER MSD COMMENTS 05/05/11
2.) REVISED PER MSD AND CITY COMMENTS 04/19/11
1.) REVISED PER MSD AND CITY COMMENTS 02/21/11

M.S.D. P# 19460-01
BASE MAP # 20-R

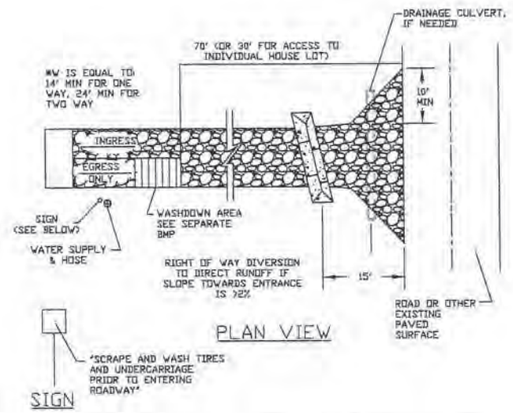
MAY. 05, 2011
100% COMPLETE

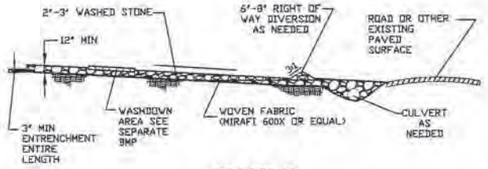
PARKWAY WEST HIGH SCHOOL

EXISITNG CONDITIONS/DEMO/SWPPP

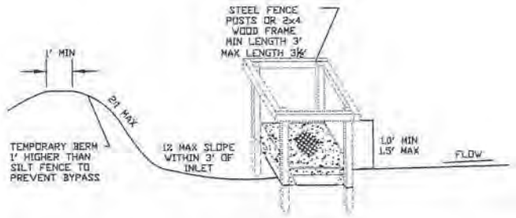
STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

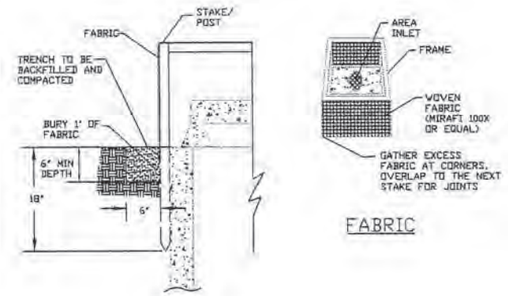
DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
T.P.S.	12/22/2010	G.M.S.	12/22/2010	210-4673	C2



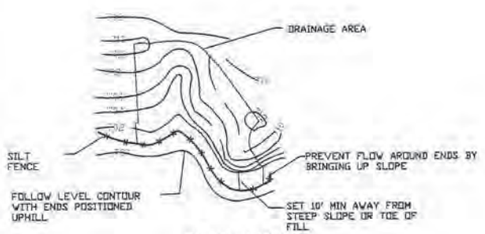


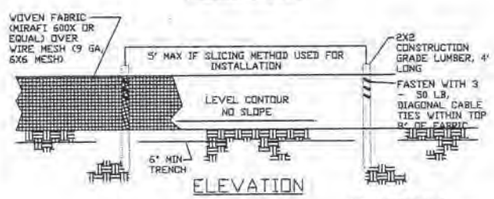
CONSTRUCTION ENTRANCE

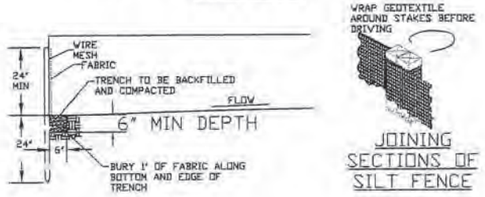




INLET PROTECTION

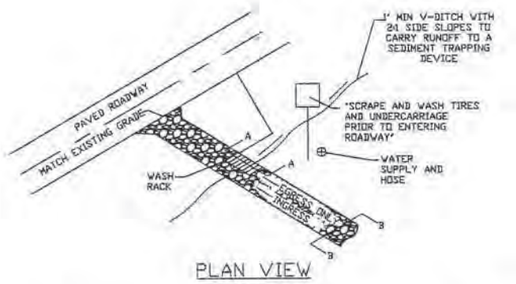


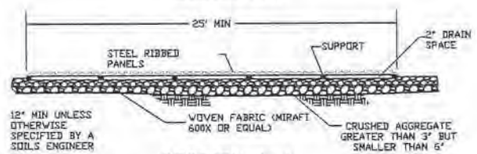


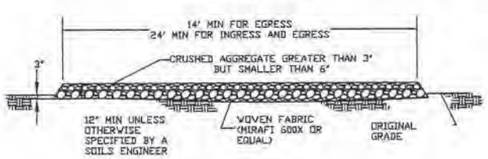


NOTE: IF FABRIC IS INSTALLED BY EQUIPMENT DESIGNED TO SLICE INTO THE GROUND, THE TRENCH IS NOT NEEDED

SILT FENCE







WASHDOWN STATION

Category: SEDIMENT CAPTURE
Use Group: TEMPORARY
ISSUED 6-1-05

SILT FENCE

PHYSICAL DESCRIPTION:

A fence constructed of woven filter fabric and wire mesh stretched between posts and entrenched in the ground designed to pond stormwater runoff and cause sediment to settle-out.

WHERE BMP IS TO BE INSTALLED:

Installed along slopes, at base of slopes, and around perimeter of site as final barrier to sediment being carried off site. Spacing of fence along slopes is relative to slope:

CONDITIONS FOR EFFECTIVE USE OF BMP:

Type of Flow:	Sheet flow only
Contributing Slope Length:	20 foot maximum for 2:1 slopes 50 foot maximum for slopes between 3:1 and 10:1 100 foot maximum for slopes under 10%.

WHEN BMP IS TO BE INSTALLED:

Prior to disturbance of natural vegetation and at intervals during construction of fill slopes

INSTALLATION/CONSTRUCTION PROCEDURES:

- ✓ Drive post for fence line
- ✓ Dig trench to required dimensions in front of posts for fabric burial
- ✓ Attach wire mesh to posts
- ✓ Attach fabric to posts, allowing required length below ground level to run fabric along bottom of trench
- ✓ Backfill and compact soil in trench to protect and anchor fabric

Alternate Construction – Install fence by slicing it into ground with specialized equipment
Install posts at reduced spacing indicated on detail

O&M PROCEDURES:

- ✓ Inspect at least every two weeks and after every storm
- ✓ Remove sediment bulldup deeper than ½ the fence height or 12", whichever is less
- ✓ Replace torn of clogged fabric; repair loose fabric
- ✓ Repair unstable or broken posts
- ✓ Stabilize any areas susceptible to undermining
- ✓ Extend fence or add additional row(s) of fence if necessary to provide adequate protection

SITE CONDITIONS FOR REMOVAL:

After permanent vegetation of slope is established. Remove fence, regrade trench area and vegetate.

TYPICAL DETAIL: SC-8

SILT FENCE SC-8

Category: TRACKING CONTROL
Use Group: TEMPORARY
ISSUED 6-1-05

CONSTRUCTION ENTRANCE

PHYSICAL DESCRIPTION:

A stabilized entrance to a construction site designed to minimize the amount of sediment tracked from the site on vehicles and equipment. Stabilization generally consists of aggregate over fabric. Mud and sediment fall off of tires as they travel along the stabilized entrance; however, additional measures in the form of a washdown area should also be included on site. The stabilized entrance also distributes the axle load of vehicles over a larger area; thereby mitigating the rutting impact vehicles normally have on unpaved areas.

WHERE BMP IS TO BE INSTALLED:

At locations where it is safe for construction vehicles and equipment to access existing streets – preferably at location of future streets or drives.

CONDITIONS FOR EFFECTIVE USE OF BMP:

Drainage: Ditches or pipes, if needed, sized for 15 year, 20 minute storm; HGL 6" below surface of entrance

WHEN BMP IS TO BE INSTALLED:

First order of work, along with washdown area, prior to vehicles or equipment accessing unpaved areas.

INSTALLATION/CONSTRUCTION PROCEDURES:

- ✓ Grade and compact area of construction entrance.
- ✓ Install culvert under entrance if needed to maintain positive drainage
- ✓ Place fabric and cover with aggregate, forming diversion across entrance if needed to direct runoff away from roadway
- ✓ See Washdown Station BMP for additional steps

O&M PROCEDURES:

- ✓ Immediately remove any mud or debris tracked onto paved surfaces
- ✓ Remove sediment and clods of dirt from construction entrance continuously
- ✓ Replace rock if necessary to maintain clean surface
- ✓ Repair settled areas

SITE CONDITIONS FOR REMOVAL:

Remove when vehicles and equipment will no longer access unpaved areas

TYPICAL DETAIL: TC-1

CONSTRUCTION ENTRANCE TC-1

Category: TRACKING CONTROL
Use Group: TEMPORARY
ISSUED 6-1-05

WASHDOWN STATION

PHYSICAL DESCRIPTION:

An area located at construction entrances designed to wash sediment from the tires and undercarriage of exiting vehicles and prevent sediment from being tracked onto existing roadways.

WHERE BMP IS TO BE INSTALLED:

Across or immediately adjacent to exit paths from unpaved construction sites.

CONDITIONS FOR EFFECTIVE USE OF BMP:

Drainage: Downstream BMP sized to treat dirty runoff from washdown station

WHEN BMP IS TO BE INSTALLED:

First order of work, along with construction entrance, prior to vehicles or equipment accessing unpaved areas.

INSTALLATION/CONSTRUCTION PROCEDURES:

- ✓ Grade and compact area for drainage under washdown pad
- ✓ Install steel-ribbed plate on frame or rather support to allow a 2" drain space
- ✓ Grade and vegetate downstream BMP (V-ditch shown on detail)
- ✓ Install water supply and hose
- ✓ Post sign in advance of station indicating that all exiting vehicles and equipment must use station prior to exiting site

O&M PROCEDURES:

- ✓ Remove sediment daily
- ✓ Repair settled areas
- ✓ Replace rock if necessary to maintain clean surface

SITE CONDITIONS FOR REMOVAL:

Remove when vehicles and equipment will no longer access unpaved areas

TYPICAL DETAIL: TC-4

WASHDOWN STATION TC-4

3.) REVISED PER MSD COMMENTS 05/05/11
2.) REVISED PER MSD AND CITY COMMENTS 04/19/11
1.) REVISED PER MSD AND CITY COMMENTS 02/21/11

M.S.D. P# 19460-01
BASE MAP # 20-R

MAY. 05, 2011
100% COMPLETE

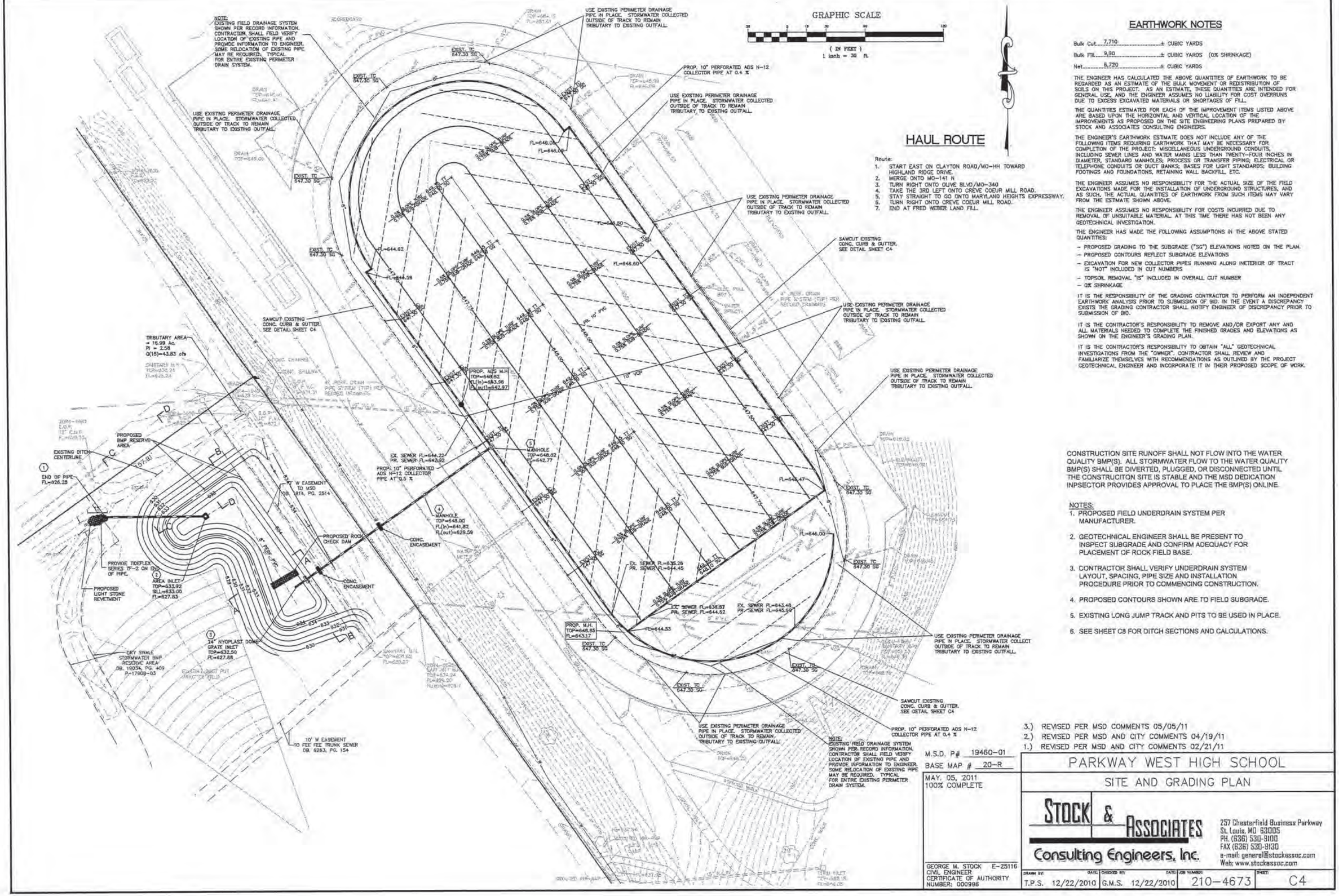
GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000998

PARKWAY WEST HIGH SCHOOL

SWPPP DETAILS

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
T.P.S.	12/22/2010	G.M.S.	12/22/2010	210-4673	C3



GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

HAUL ROUTE

Route:
1. START EAST ON CLAYTON ROAD/MO-HH TOWARD HIGHLAND RIDGE DRIVE.
2. MERGE ONTO MO-141 N
3. TURN RIGHT ONTO OLIVE BLVD/MO-340
4. TAKE THE 3RD LEFT ONTO CREVE COEUR MILL ROAD.
5. STAY STRAIGHT TO GO ONTO MARYLAND HEIGHTS EXPRESSWAY.
6. TURN RIGHT ONTO CREVE COEUR MILL ROAD.
7. END AT FRED WEBER LAND FILL.

EARTHWORK NOTES

Bulk Cut 7,710 ± CUBIC YARDS

Bulk Fill 9,90 ± CUBIC YARDS (0% SHRINKAGE)

Net 6,720 ± CUBIC YARDS

THE ENGINEER HAS CALCULATED THE ABOVE QUANTITIES OF EARTHWORK TO BE REGARDED AS AN ESTIMATE OF THE BULK MOVEMENT OR REDISTRIBUTION OF SOILS ON THIS PROJECT. AS AN ESTIMATE, THESE QUANTITIES ARE INTENDED FOR GENERAL USE, AND THE ENGINEER ASSUMES NO LIABILITY FOR COST OVERRUNS DUE TO EXCESS EXCAVATED MATERIALS OR SHORTAGES OF FILL.

THE QUANTITIES ESTIMATED FOR EACH OF THE IMPROVEMENT ITEMS LISTED ABOVE ARE BASED UPON THE HORIZONTAL AND VERTICAL LOCATION OF THE IMPROVEMENTS AS PROPOSED ON THE SITE ENGINEERING PLANS PREPARED BY STOCK AND ASSOCIATES CONSULTING ENGINEERS.

THE ENGINEER'S EARTHWORK ESTIMATE DOES NOT INCLUDE ANY OF THE FOLLOWING ITEMS REQUIRING EARTHWORK THAT MAY BE NECESSARY FOR COMPLETION OF THE PROJECT: MISCELLANEOUS UNDERGROUND CONDUITS, INCLUDING SEWER LINES AND WATER MAINS LESS THAN TWENTY-FOUR INCHES IN DIAMETER, STANDARD MANHOLES; PROCESS OR TRANSFER PIPING; ELECTRICAL OR TELEPHONE CONDUITS OR DUCT BANKS; BASES FOR LIGHT STANDARDS; BUILDING FOOTINGS AND FOUNDATIONS, RETAINING WALL BACKFILL, ETC.

THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACTUAL SIZE OF THE FIELD EXCAVATIONS MADE FOR THE INSTALLATION OF UNDERGROUND STRUCTURES, AND AS SUCH, THE ACTUAL QUANTITIES OF EARTHWORK FROM SUCH ITEMS MAY VARY FROM THE ESTIMATE SHOWN ABOVE.

THE ENGINEER ASSUMES NO RESPONSIBILITY FOR COSTS INCURRED DUE TO REMOVAL OF UNSUITABLE MATERIAL. AT THIS TIME THERE HAS NOT BEEN ANY GEOTECHNICAL INVESTIGATION.

THE ENGINEER HAS MADE THE FOLLOWING ASSUMPTIONS IN THE ABOVE STATED QUANTITIES:

- PROPOSED GRADING TO THE SUBGRADE ("SG") ELEVATIONS NOTED ON THE PLAN.
- PROPOSED CONTOURS REFLECT SUBGRADE ELEVATIONS
- EXCAVATION FOR NEW COLLECTOR PIPES RUNNING ALONG INETERIOR OF TRACT IS "NOT" INCLUDED IN CUT NUMBERS
- TOPSOIL REMOVAL "IS" INCLUDED IN OVERALL CUT NUMBER
- 0% SHRINKAGE

IT IS THE RESPONSIBILITY OF THE GRADING CONTRACTOR TO PERFORM AN INDEPENDENT EARTHWORK ANALYSIS PRIOR TO SUBMISSION OF BID. IN THE EVENT A DISCREPANCY EXISTS THE GRADING CONTRACTOR SHALL NOTIFY ENGINEER OF DISCREPANCY PRIOR TO SUBMISSION OF BID.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO REMOVE AND/OR EXPORT ANY AND ALL MATERIALS NEEDED TO COMPLETE THE FINISHED GRADES AND ELEVATIONS AS SHOWN ON THE ENGINEER'S GRADING PLAN.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN "ALL" GEOTECHNICAL INVESTIGATIONS FROM THE "OWNER". CONTRACTOR SHALL REVIEW AND FAMILIARIZE THEMSELVES WITH RECOMMENDATIONS AS OUTLINED BY THE PROJECT GEOTECHNICAL ENGINEER AND INCORPORATE IT IN THEIR PROPOSED SCOPE OF WORK.

CONSTRUCTION SITE RUNOFF SHALL NOT FLOW INTO THE WATER QUALITY BMP(S). ALL STORMWATER FLOW TO THE WATER QUALITY BMP(S) SHALL BE DIVERTED, PLUGGED, OR DISCONNECTED UNTIL THE CONSTRUCITON SITE IS STABLE AND THE MSD DEDICATION INPSECTOR PROVIDES APPROVAL TO PLACE THE BMP(S) ONLINE.

NOTES:
1. PROPOSED FIELD UNDERDRAIN SYSTEM PER MANUFACTURER.
2. GEOTECHNICAL ENGINEER SHALL BE PRESENT TO INSPECT SUBGRADE AND CONFIRM ADEQUACY FOR PLACEMENT OF ROCK FIELD BASE.
3. CONTRACTOR SHALL VERIFY UNDERDRAIN SYSTEM LAYOUT, SPACING, PIPE SIZE AND INSTALLATION PROCEDURE PRIOR TO COMMENCING CONSTRUCTION.
4. PROPOSED CONTOURS SHOWN ARE TO FIELD SUBGRADE.
5. EXISTING LONG JUMP TRACK AND PITS TO BE USED IN PLACE.
6. SEE SHEET C8 FOR DITCH SECTIONS AND CALCULATIONS.

3.) REVISED PER MSD COMMENTS 05/05/11
2.) REVISED PER MSD AND CITY COMMENTS 04/19/11
1.) REVISED PER MSD AND CITY COMMENTS 02/21/11

M.S.D. P# 19460-01
BASE MAP # 20-R
MAY. 05, 2011
100% COMPLETE

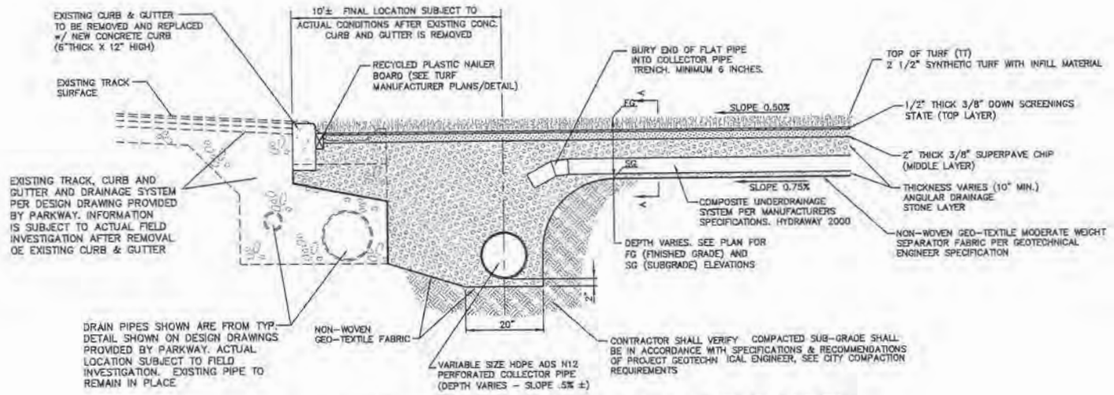
GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY NUMBER: 000996

PARKWAY WEST HIGH SCHOOL

SITE AND GRADING PLAN

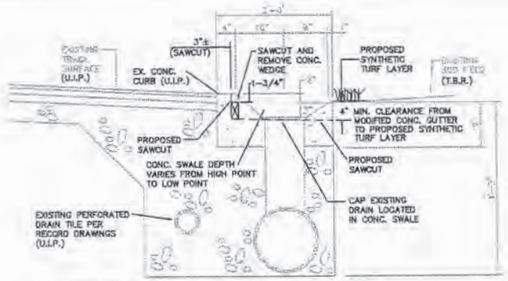
STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
T.P.S.	12/22/2010	G.M.S.	12/22/2010	210-4673	C4



TYPICAL SECTION THROUGH FIELD (EAST SIDE)

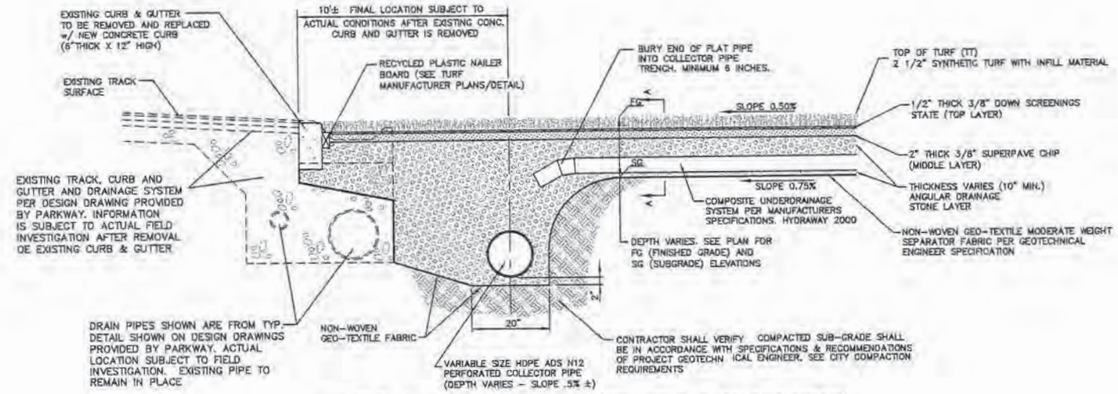
(N.T.S.)



NOTE: EXISTING CONCRETE GUTTER SHOWN ABOVE WAS TAKEN FROM THE RECORD DRAWINGS PROVIDED BY PARKWAY.

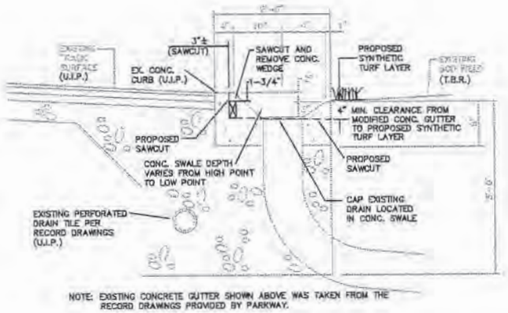
(EAST SIDE OF FIELD) EXISTING CONCRETE GUTTER MODIFICATION GUTTER LOW POINT (TYP)

(N.T.S.)



TYPICAL SECTION THROUGH FIELD (WEST SIDE)

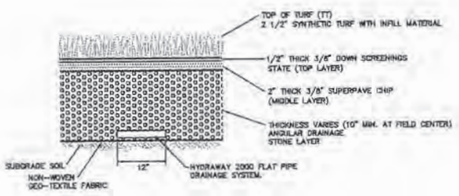
(N.T.S.)



NOTE: EXISTING CONCRETE GUTTER SHOWN ABOVE WAS TAKEN FROM THE RECORD DRAWINGS PROVIDED BY PARKWAY.

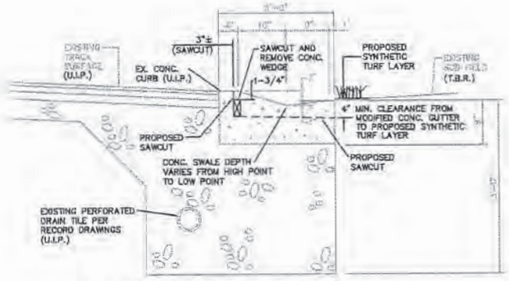
(WEST SIDE OF FIELD) EXISTING CONCRETE GUTTER MODIFICATION GUTTER LOW POINT (TYP)

(N.T.S.)



SUBSURFACE DRAINAGE IN FIELD DETAIL A-A

(N.T.S.)



NOTE: EXISTING CONCRETE GUTTER SHOWN ABOVE WAS TAKEN FROM THE RECORD DRAWINGS PROVIDED BY PARKWAY.

EXISTING CONCRETE GUTTER MODIFICATION GUTTER HIGH POINT (TYP)

(N.T.S.)

3.) REVISED PER MSD COMMENTS 05/05/11
2.) REVISED PER MSD AND CITY COMMENTS 04/19/11
1.) REVISED PER MSD AND CITY COMMENTS 02/21/11

M.S.D. P# 19460-01
BASE MAP # 20-R

MAY. 05, 2011
100% COMPLETE

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY NUMBER: 000996

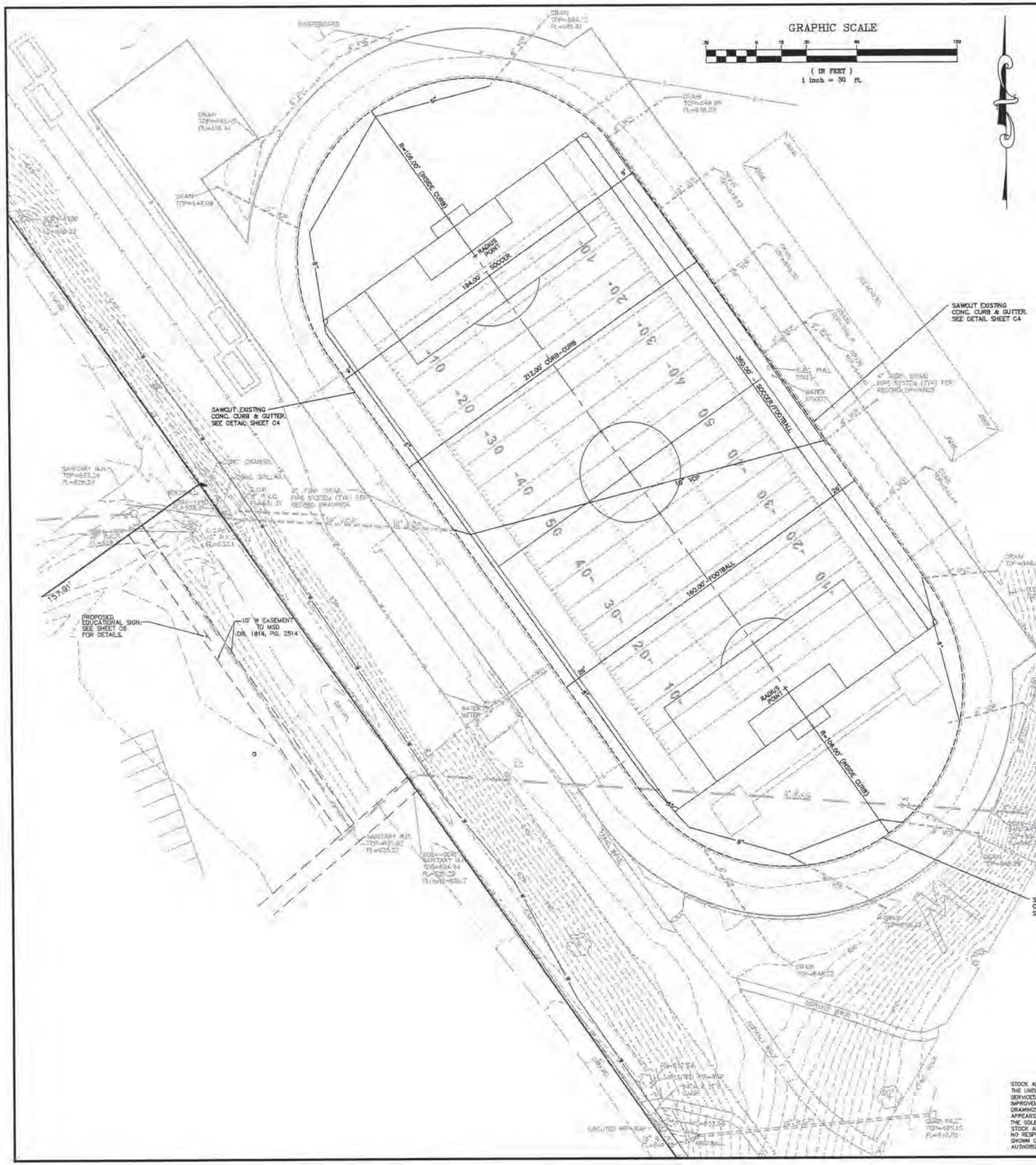
STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. AND THE UNDERSIGNED ENGINEER HAVE NO RESPONSIBILITY FOR SERVICES PROVIDED BY OTHERS TO IMPLEMENT THE IMPROVEMENTS SHOWN ON THIS PLAN AND ALL OTHER DRAWINGS WHERE THE UNDERSIGNED ENGINEER'S SEAL APPEARS. THE CONSTRUCTION MEANS AND METHODS ARE THE SOLE RESPONSIBILITY OF THE OWNER AND CONTRACTOR. STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. HAS NO RESPONSIBILITY TO VERIFY FINAL IMPROVEMENTS AS SHOWN ON THIS PLAN UNLESS SPECIFICALLY ENGAGED AND AUTHORIZED TO DO SO BY THE OWNER OR CONTRACTOR.

PARKWAY WEST HIGH SCHOOL

FIELD DETAILS

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
T.P.S.	12/22/2010	G.M.S.	12/22/2010	210-4673	C5


GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.
8"=106.00' (INSIDE CURB)
RADIUS POINT
194.00' SOCCER
212.00' CURB-CURB
360.00' SOCCER/FOOTBALL
160.00' FOOTBALL
SAWCUT EXISTING CONC. CURB & GUTTER. SEE DETAIL SHEET C4
SAWCUT EXISTING CONC. CURB & GUTTER. SEE DETAIL SHEET C4
SAWCUT EXISTING CONC. CURB & GUTTER. SEE DETAIL SHEET C4
PROPOSED EDUCATIONAL SIGN. SEE SHEET C6 FOR DETAILS.
10' W EASEMENT TO MSD DB. 1814, PG. 2514
157.97'
WATER METER
SANITARY MH
SANITARY MH
SANITARY MH
STORM MH
STORM MH
STORM

Project name:	Parkway West High School	Calculated By:	S.M.S.
Project number:	210-4673	Checked By:	G.M.S.
Project Location:	Chesterfield, Missouri	Date:	12/22/2010

15 year - 2minute

Revisions: 02/2011

4/8/2011

Head Coefficients:

$S^e = 0.06$	$2S^e = 0.24$	$3S^e = 0.4$	$4S^e = 0.54$	$5S^e = 0.57$	$6S^e = 0.65$
$0S^e = 0.11$	$2S^e = 0.30$	$3S^e = 0.43$	$4S^e = 0.52$	$5S^e = 0.60$	$6S^e = 0.67$
$1S^e = 0.18$	$2S^e = 0.35$	$4S^e = 0.47$	$6S^e = 0.55$	$7S^e = 0.62$	$8S^e = 0.70$

Structure Number	Upper structure	Lower structure	FLOW LINE ELEVATIONS Upper structure	Lower Structure	Length (ft)	Rise/Run Grade (ft/ft)	Pipe Size (in.)	Full Flow Cap. (cfs)	HEAD LOSS Total (Q) (cfs)	Mean Full Flow (Vel.(V) (ft/s)	Bend Coef.	Curve Coef.	Velocity Head (Vh) (ft)	Qfull (ft³/s)	Pipe Coef. (n)	Hydraulic Elevations Entr. (he)	Junction (hj)	Bend (hb)	Curve (hc)	Total H_{tot}	Upper H.E. + Dia.	Lower H.E. +hi	Lower H.E.	Structure Upper H.E. + H_{tot}	TOP Structure Elevation	Frame Board	Free	Structure Number
5	5	4	642.77	641.82	63.25	0.0150	15	7.94	7.53	6.14	0.00	0.00	0.58	4.40	0.013	0.00	0.00	0.00	0.00	0.00	644.07	643.95	643.07	643.65	646.82	0.00	3.00	5
4	3	3	629.39	627.88	122.12	0.0069	15	6.45	7.53	6.14	0.00	0.00	0.58	4.40	0.013	1.65	0.00	0.00	0.00	0.00	631.24	631.16	630.39	631.10	634.99	0.00	3.84	4
3	3		627.88																	CPv ELEV. = 633.50				633.50				3
2	2	1	627.83	626.28	80.42	0.0193	15	8.99	7.53	6.14	0.00	0.00	0.58	4.40	0.013	1.09	0.00	0.00	0.00	0.00	629.08	628.21	628.12	629.21	632.25	0.00	3.04	2
1	1		626.28																	15 yr ditch W.S.				630.12				1

MEAN FULL FLOW VELOCITY = Q_{full}/A_{pipe}

FRICTION LOSS (H_f): $Hf = 2.87\ n^2\ (LV^2/d^{1.33})$

VELOCITY HEAD: $V_h = V^2/2g$

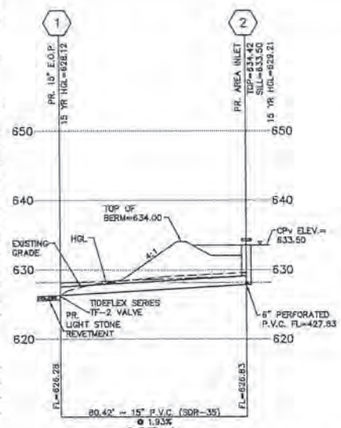
JUNCTION LOSSES (JUNC.) = $(Q_{out}V_{h\,out} - Sum\ (Q_{in}V_{in})x1.33/Q_{out})$

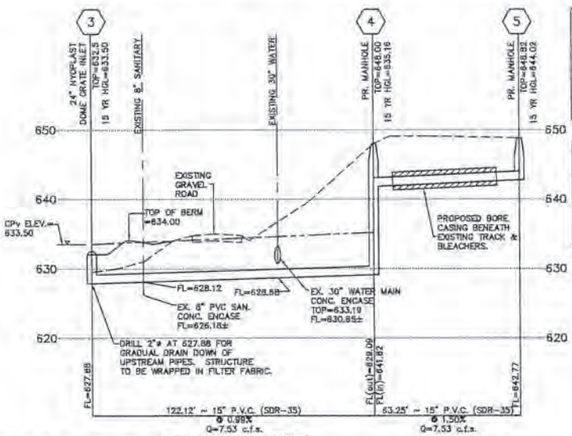
BEND LOSSES (BEND) = (V^2) * ANGLE COEFFICIENT

CURVE LOSS=V_h*CURVE COEFFICIENT

Note:
1. IF MORE THAN ONE INCOMING LINE, CALC. EACH BEND LOSS AND ADD TOGETHER.
2. NO STRUCTURE LOSES TO BE CALCULATED AT A DROP
3. IF $QV_{incoming} > QV_{outgoing}$ NO JUNCTION LOSES TO BE CALCULATED.

Note (s):





STORM SEWER PROFILES

SCALE: 1" = 30' HORIZ.
1" = 10' VERT

UTILITY CONFLICT NOTE:

CONTRACTOR SHALL VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF EXISTING UTILITIES AND SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY POTENTIAL UNDERGROUND UTILITY CONFLICT AT THE TIME OF EXCAVATION.

LINETYPE LEGEND

- EXISTING GRADE.....
- PROPOSED GRADE...
- 15 YR HYDRAULIC GRADE...
- 100 YR HYDRAULIC GRADE...
- PROPOSED PAVEMENT.....
- GRANULAR BACKFILL.....
- COMPACTED FILL.....

AREA INLET #2 CAPACITY

$Q = Cd \times A \times \sqrt{(2)(g)(h')}$

WHERE:
Q = DISCHARGE (c.f.s.)
Cd = COEFFICIENT OF DISCHARGE (Cd=0.61)
A = CROSS-SECTIONAL AREA OF FLOW AT THE ORIFICE ENTRANCE (SQ. FT.) (ONE SIDE)
g = ACCELERATION OF GRAVITY (g=32.2 ft/sec^2)
h = DRIVING HEAD (ft), MEASURED FROM THE CENTROID OF THE ORIFICE AREA TO THE WATER SURFACE.
FOR 6" OF PONDING AT THE INLET, h=0.50'

$Q = Cd \times A \times \sqrt{(2)(g)(h')}$

$Q = 0.61 \times 5.67\ ft^2 \times \sqrt{(2)(32.2\ ft/sec^2)(0.50')}$

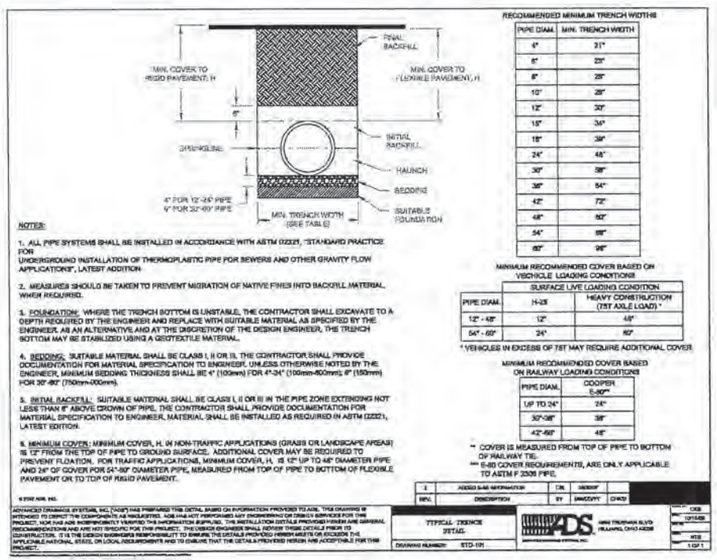
$Q = 19.63$ c.f.s. / AREA INLET (OPEN 4 SIDES)

Q(100) = (2.3 ac.) x (2.29) + (1.02 ac.) x (4.77) = 10.13 CFS
10.13 CFS < 19.63 CFS, THEREFORE INLET HAS SUFFICIENT CAPACITY.

CONSTRUCTION NOTES:

1. ALL R.C.P. SHALL BE CLASS III UNLESS NOTED OTHERWISE.
2. ALL P.V.C. SHALL BE SDR 35 UNLESS NOTED OTHERWISE.
3. ENGINEER APPROVED SHOP DRAWINGS MUST BE SUBMITTED TO MSD FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION OF SEWER STRUCTURES.

NOTE: ALL SEWERS SHOWN ON THIS SHEET SHALL BE "PRIVATE" UNLESS NOTED OTHERWISE.



NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION.
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHERE REQUIRED.
3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER, UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-1200mm).
5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER, MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
4"	21"
6"	23"
8"	25"
10"	28"
12"	30"
15"	34"
18"	36"
24"	48"
30"	58"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"

MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS

PIPE DIAM.	SURFACE LIVE LOADING CONDITION H-25	HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" - 48"	12"	48"
54" - 60"	24"	60"

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

MINIMUM RECOMMENDED COVER BASED ON RAILWAY LOADING CONDITIONS

PIPE DIAM.	COOPER E-80**
UP TO 24"	24"
30"-36"	36"
42"-60"	48"

** COVER IS MEASURED FROM TOP OF PIPE TO BOTTOM OF RAILWAY TIE.
*** E-80 COVER REQUIREMENTS, ARE ONLY APPLICABLE TO ASTM F 2306 PIPE.

NO.	DESCRIPTION	BY	DATE/APP'V	CHK'D
1	ADDED BAR INFORMATION	DK	08/09/07	

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON INFORMATION PROVIDED TO ADS. THIS DRAWING IS INTENDED TO DEPICT THE COMPONENTS AS MANUFACTURED. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT, NOR HAS ADS INDEPENDENTLY VERIFIED THIS INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

TYPICAL TRENCH DETAIL

ADS 4640 TRUEMAN BLVD HILLIARD, OHIO 43026

DRAWING NUMBER: STD-09

CAD: D2154SB
MSB
1 OF 1

H.D.P.E. STORM SEWER NOTE:

CONTRACTOR SHALL READ AND FOLLOW SPECIFIC INSTALLATION REQUIREMENTS OF H.D.P.E. PIPE MANUFACTURER BASED UPON PIPE TYPE UTILIZED AND FOLLOW ASTM D-2321 INSTALLATION PROCEDURES AS DIRECTED BY THE ON SITE SUPERVISING GEOTECHNICAL ENGINEER
GEOTECHNICAL ENGINEER SHALL INSPECT INSTALLATIONS TO CONFIRM PROPER INSTALLATION (BEDDING, BACKFILL, COVER, etc) AND CONFIRM SAID INSTALLATION PROCEDURE BASED UPON ON-SITE SOIL TYPE AT PIPE INSTALLATION LOCATIONS ON PROJECT.
IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL SAID RECOMMENDATIONS FOR PROPER INSTALLATION OF H.D.P.E. PIPE SYSTEM INSTALLED.

H.D.P.E. STORM SEWER NOTES:
(IF PERMISSIBLE BY LOCAL AUTHORITY)

1.) STORM SEWER PIPE DESIGNATED AS HIGH DENSITY POLYETHYLENE (H.D.P.E.) SHALL HAVE WATER TIGHT GASKETED JOINTS WITH RUBBER O-RING GASKETS MEETING ASTM F477. O-RING GASKET SHALL BE INSTALLED ON THE SPIGOT END OF PIPE.

2.) 12" TO 36" PIPE SHALL CONFORM TO THE AASHTO M294 CLASSIFICATION "TYPE S" AND 42" TO 48" SHALL CONFORM TO AASHTO M294-95 CLASSIFICATION "TYPE D."

3.) ALL PIPE JOINTS SHALL CONSIST OF BELL AND SPIGOT JOINING SYSTEM WITH THE BELL COVERING TWO PIPE CORRUGATIONS AS RECOMMENDED IN AASHTO M294.

4.) PIPE MANUFACTURED FOR THIS SPECIFICATION SHALL COMPLY WITH THE REQUIREMENTS FOR TEST METHODS, DIMENSIONS AND MARKINGS FOUND IN AASHTO DESIGNATIONS M252 AND M294. PIPE AND FITTINGS SHALL BE MADE FROM VIRGIN PE COMPOUNDS WHICH CONFORM WITH THE REQUIREMENTS OF CELL CLASS 335420C AS DEFINED AND DESCRIBED IN ASTM D3350.

UTILITY NOTE:

UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, RECORDS AND INFORMATION, AND , THEREFORE DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NON-EXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE FACILITIES, STRUCTURES AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS. THE UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319 RSMo.

NOTES:
1. THE REMOVAL AND REPLACEMENT, OR REHABILITATION OF EXISTING SEWER STRUCTURES WILL BE DETERMINED BY THE MSD FIELD INSPECTOR. IF THE STRUCTURE IS DETERMINED TO REMAIN IN PLACE THEN THE TOP SHALL BE ADJUSTED TO GRADE IF NECESSARY.

H.D.P.E. STORM SEWER NOTES CONT'D:
(IF PERMISSIBLE BY LOCAL AUTHORITY)

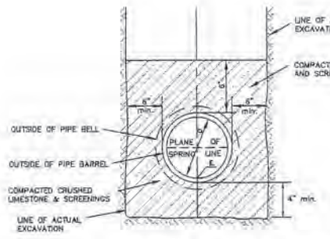
5.) FITTINGS MAY BE EITHER MOLDED OR FABRICATED AND SHALL CONFORM TO THE REQUIREMENTS AASHTO M252 AND M294. THE FITTINGS SHALL NOT REDUCE OR IMPAIR THE OVERALL INTEGRITY OR FUNCTION OF THE PIPE LINE. ONLY FITTINGS SUPPLIED OR RECOMMENDED BY THE PIPE MANUFACTURER SHALL BE USED.

6.) INSTALLATION OF THE PIPE SPECIFIED ABOVE SHALL BE IN ACCORDANCE WITH THE ASTM RECOMMENDED PRACTICE D2321.

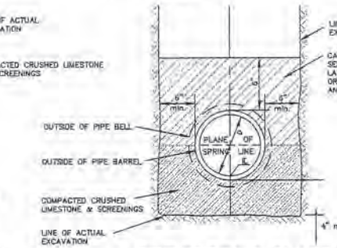
7.) BOTH BELL AND SPIGOT (WITH O-RING GASKET) ENDS OF THE PIPE SHALL BE LUBRICATED AS RECOMMENDED BY MANUFACTURER AND INSERTED TO THE HOMING MARK ON THE SPIGOT END OF THE PIPE.

8.) MINIMUM RECOMMENDED TRENCH WIDTH SHALL BE NOT LESS THAN THE GREATER OF EITHER PIPE OUTSIDE DIAMETER PLUS 16 INCHES OR THE PIPE OUTSIDE DIAMETER TIMES 1.25, PLUS 12 INCHES AS OUTLINED HEREIN:

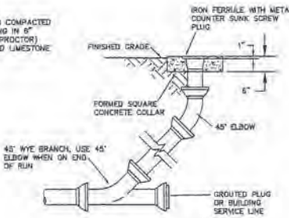
NOMINAL PIPE DIAMETER	MINIMUM TRENCH WIDTH
8" (200mm)	28"
10" (250mm)	28"
12" (300mm)	30"
15" (375mm)	34"
18" (450mm)	39"
24" (600mm)	48"
30" (750mm)	56"
36" (900mm)	64"
42" (1050mm)	72"
48" (1200mm)	80"
54" (1350mm)	88"
60" (1500mm)	96"



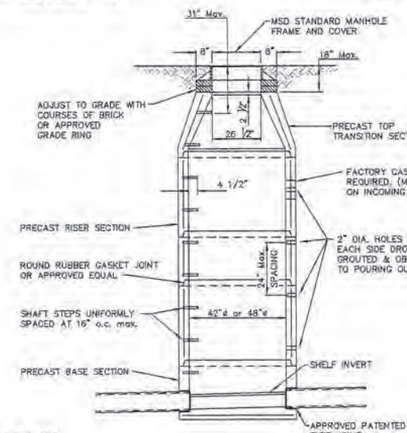
PIPE BEDDING CLASS "C"
(FOR ALL PIPE EXCEPT REINFORCED CONCRETE PIPE)



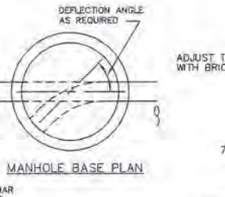
PIPE BEDDING CLASS "C"
(MODIFIED FOR REINFORCED CONCRETE PIPE)



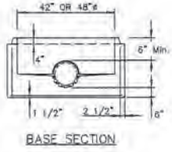
CLEANOUT
(n.t.s.)



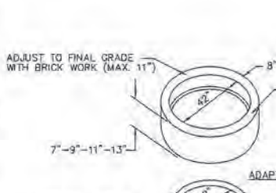
PRECAST MANHOLE
(n.t.s.)



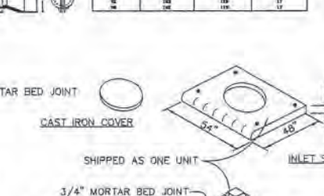
MANHOLE BASE PLAN



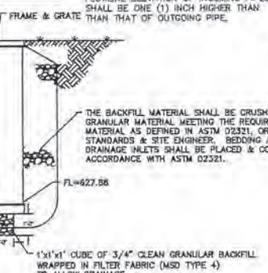
BASE SECTION



PRECAST AREA INLET DETAIL
(n.t.s.)



4 WAY CONCRETE UNIT



DRILL 2"ø AT 627.88 FOR GRADUAL DRAIN DOWN OF UPSTREAM PIPES. STRUCTURE TO BE WRAPPED IN FILTER FABRIC.

STORM STRUCTURE #3 DETAIL

24" DRAIN BASIN

FLOWLINE ELEVATION OF INCOMING PIPES SHALL BE ONE (1) INCH HIGHER THAN THAT OF OUTGOING PIPE.

ALL DETAILS SHOWN ON THIS SHEET ARE FOR THE CONVENIENCE OF THE CONTRACTOR. THE DETAILS ARE TO BE VERIFIED PER MSD'S STANDARD CONSTRUCTION SPECIFICATIONS, 2009. ALL METHODS, MEANS AND MATERIALS SHALL CONFORM TO MSD CURRENT STANDARD CONSTRUCTION SPECIFICATION, 2009.

STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. AND THE UNDERSIGNED ENGINEER HAVE NO RESPONSIBILITY FOR SERVICES PROVIDED BY OTHERS TO IMPLEMENT THE IMPROVEMENTS SHOWN ON THIS PLAN AND ALL OTHER DRAWINGS WHERE THE UNDERSIGNED ENGINEER'S SEAL APPEARS. THE CONSTRUCTION MEANS AND METHODS ARE THE SOLE RESPONSIBILITY OF THE OWNER AND CONTRACTOR. STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. HAS NO RESPONSIBILITY TO VERIFY FINAL IMPROVEMENTS AS SHOWN ON THIS PLAN UNLESS SPECIFICALLY ENGAGED AND AUTHORIZED TO DO SO BY THE OWNER OR CONTRACTOR.

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY NUMBER: 000996

3.) REVISED PER MSD COMMENTS 05/05/11
2.) REVISED PER MSD AND CITY COMMENTS 04/19/11
1.) REVISED PER MSD AND CITY COMMENTS 02/21/11

M.S.D. P# 19460-01
BASE MAP # 20-R
MAY. 05, 2011
100% COMPLETE

PARKWAY WEST HIGH SCHOOL

STORM SEWER PROFILES/DETAILS/HYDRAULICS

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
T.P.S.	12/22/2010	G.M.S.	12/22/2010	210-4673	C7

Series TF-2

- ASTM, discussion commercial
- Pull test only as example
- Pull test none or lesser sizes as cited
- Custom built to customer specifications
- Low working pressure, low headloss
- Stainless backflow

Materials of Construction
Bronze, Duplex , Brass B, EPDM Viton

Mounting Results
3/4 or 1M Elastomeric

The Tide-Flex® Check Valve is a revolutionary design for backflow prevention. It offers low cracking pressure to eliminate standing water and very low headloss that is not affected by rust, corrosion or lack of lubrication. Tide-flex® Check Valves are one of the few backflow flap preventers maintenance or replacement have a two-up-around life span. Tide-flex® operates using line pressure and backpressure to open and close so no outside energy source is required.

Tideflex® valves are overhead replacements for inefficient and flappers valves because they will not warp or freeze and are virtually maintenance free.

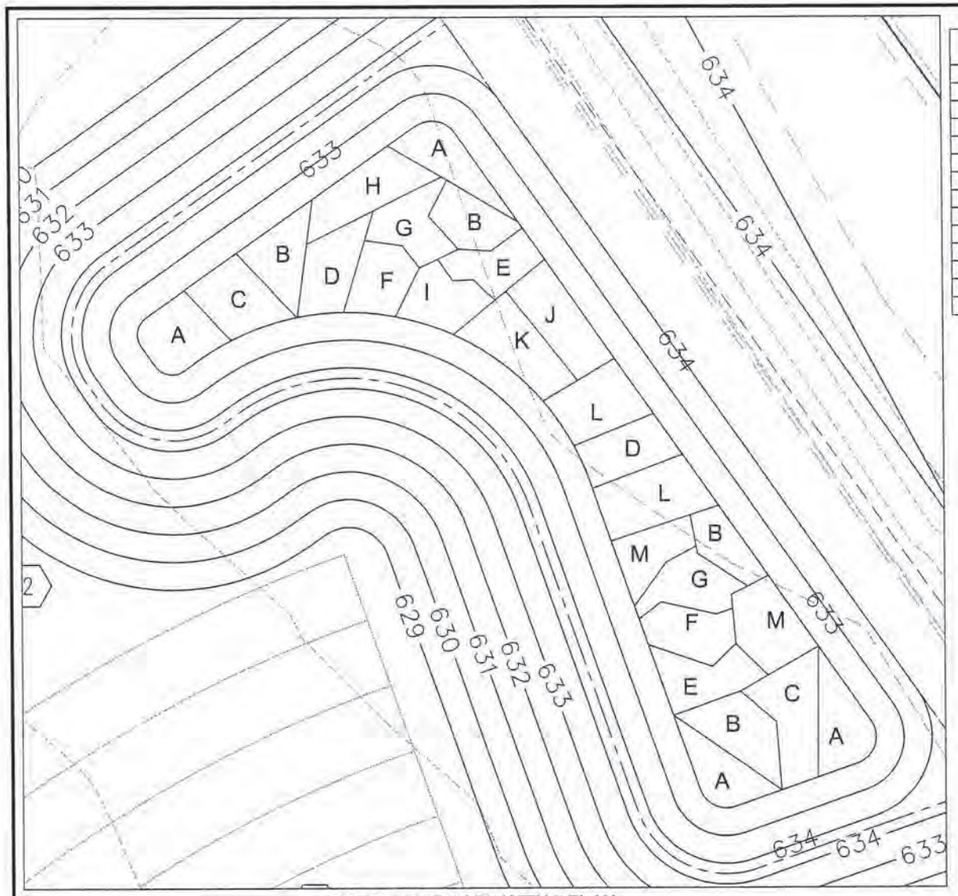
The elastic diameter of the TF-2s will accommodate nearly match the outside diameter of the pipe.

The valve is also more than pipe end held in place with sturdy stainless steel band clamps, eliminating flanging costs. Tideflex® TF-2 valves are manufactured with a raised lip as standard.





Pipe I.D.	Length	Bolt Holes	Bolt Length
1/8"	2	4	1/2
1/4"	2	4	1/2
3/8"	2	4	1/2
1/2"	2	4	1/2
3/4"	2	4	1/2
1"	2	4	1/2
1 1/4"	2	4	1/2
1 1/2"	2	4	1/2
2"	2	4	1/2
2 1/2"	3	4	1/2
3"	3	4	1/2
4"	3	8	1/2
5"	3	8	1/2
6"	3	8	1/2
8"	3	8	5/8
10"	4	12	5/8
12"	4	12	5/8
14"	4	12	5/8
16"	4	16	5/8
18"	4	16	5/8
20"	4	20	5/8
24"	4	20	5/8
30"	4	28	5/8
36"	4	32	5/8
42"	4	36	5/8
48"	4	44	5/8
54"	4	48	5/8
60"	4	52	5/8
72"	4	64	5/8
84"	4	72	5/8
96"	4	80	5/8
108"	4	96	5/8
120"	4	104	5/8
132"	4	116	5/8
144"	4	128	5/8
156"	4	136	5/8
168"	4	148	5/8
180"	4	160	5/8
192"	4	168	5/8
204"	4	180	5/8
216"	4	188	5/8
228"	4	200	5/8
240"	4	208	5/8



BIO-RETENTION PLANTING PLAN

SCALE: 1" = 10'

PLANT DESIGNATOR	QUANTITY	BOTANICAL NAME	COMMON NAME	TYPE	"D" SPACING	SIZE
				GRASSES/SEDGES		
A	161	ANDROPOGON GERARDII	BIG BLUESTEM	GRASSES/SEDGES	1.50	2" PLUG
B	149	CAREX GRAYI	BUR SEDGE	GRASSES/SEDGES	1.50	2" PLUG
C	70	CAREX SHORTIANA	SHORTS SEDGE	GRASSES/SEDGES	1.50	2" PLUG
D	83	CHASMANTHIUM LATIFOLIUM	RIVER OATS	GRASSES/SEDGES	1.50	2" PLUG
E	76	SPOROBOLUS HETEROLEPIS	PRAIRIE DROPSEED	FORBS	1.50	2" PLUG
F	76	COREOPSIS LANCEOLATA	LANCELEAF COREOPSIS	FORBS	1.50	2" PLUG
G	79	ECHINACEA PALLIDA	PALE PURPLE CONEFLOWER	FORBS	1.50	2" PLUG
H	51	ERYNGIUM YUCCIFOLIUM	RATTLESNAKE MASTER	FORBS	1.50	2" PLUG
I	38	PYCNANTHEMUM TENUIFOLIUM	SLENDER MOUNTAIN MINT	FORBS	1.50	2" PLUG
J	52	EUPATORIUM COELESTINUM	MIST FLOW; WILD AGERATUM	FORBS	1.50	2" PLUG
K	52	SOLIDAGO RUGOSA	ROUGH-LEAVED GOLDENROD	FORBS	1.50	2" PLUG
L	193	ZIZIA AUREA	GOLDEN ALEXANDER	FORBS	1.50	2" PLUG
M	82	ECHINACEA PURPUREA	PURPLE CONEFLOWER	FORBS	1.50	2" PLUG

MSD Landscape Guide for Stormwater Best Management Practices

Plantings, Water and Mulch Requirements for Stormwater BMPs

Table 3: Planting, Water and Mulch Requirements

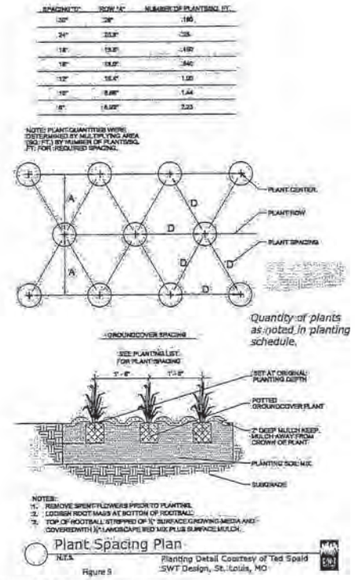
Water Availability	Required Planting Period	Minimum Container Size	Water Requirement First 3 Weeks*	Water Requirement After 3 Weeks*	Minimum Mulch Depth****
No ability to water after	Late Feb. – April only	2.25" x 3.75" or larger	Water each plug immediately		1.5 for plugs
Manual watering with standard sprinkler	Late Feb. – Early June	4.5" x 5" (quart) or larger in summer & fall	1" (60 min) every 4 days	1" (60 min) every 7 days until plants established***	1.5" for plugs
Automatic irrigation (set to water more frequently than normal during first two months after planting)	Late Feb. – Early Oct.	2.25" x 3.75" (plug) or larger in spring 4.5" x 5" (quart) or larger in summer & fall	1" (60 min) every 4 days in spring and fall 1" (60 min) every 3 days in summer	1" (60 min) every 7 days until plants established***	1.5" for plugs 2.5" for quarts

*This water amount includes normal rainfall. If you get a ½ inch of natural rain then you will need to add a ½ inch of water to meet the 1 inch requirement.

**Requires transport of water to the planting site in large containers and pouring enough water onto each plant (after planting) to moisten the entire planting pit.

***Plants are established when roots have grown out of the container soil and into the native soil by 3-5 inches. This normally takes 3-4 months for most perennials and grasses and up to 6-7 months for trees and shrubs.

****Shredded leaf compost is recommended for use with perennials and grasses. Shredded bark mulch is recommended for tree and shrub plantings at a depth of 3 inches.



Quantity of plants as noted in planting schedule.

Plant Spacing Plan

N.T.S. Planting Detail Courtesy of Ted Spaid SWT Design, St. Louis, MO

Figure 5

MSD Landscape Guide for Stormwater Best Management Practices

FIND DEPTH OF WATER AND WIDTH OF THE CHANNEL:

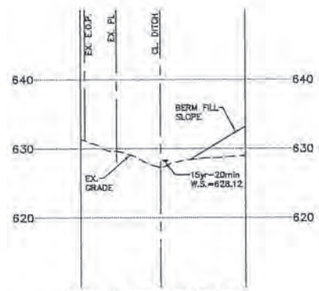
INPUT:

Q =	(cfs)	Top Of bank Elevation =	
Stream Slope=	(ft/ft)	Bot. Elevation =	
n =		Side Slope:	
W (Bottom width) =	(ft)	Horizontal (H) =	
		Vertical (V)=	

OUTPUT:

Depth =	0.86	(ft)	Water Surface Width =	12.27	(ft)
Velocity =	7.17	(ft/sec)	$R^{2/3}$ =	0.62	
Water Surface Elev.=	628.12		Perimeter =	12.41	(ft)
Free Board=	0.92	(ft)	Cross section Area =	6.11	(ft^2)

DITCH SECTION C-C CALCULATIONS



DITCH SECTION C-C

SCALE: 1" = 30'

FIND DEPTH OF WATER AND WIDTH OF THE CHANNEL:

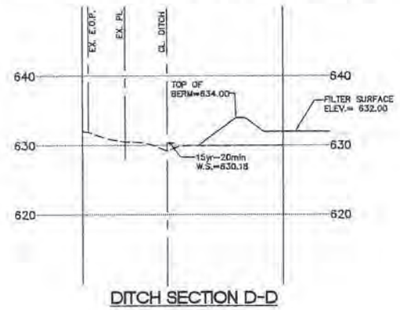
INPUT:

Q =	(cfs)	Top Of bank Elevation =	
Stream Slope=	(ft/ft)	Bot. Elevation =	
n =		Side Slope:	
W (Bottom width) =	(ft)	Horizontal (H) =	
		Vertical (V)=	

OUTPUT:

Depth =	1.00	(ft)	Water Surface Width =	14.00	(ft)
Velocity =	5.45	(ft/sec)	$R^{2/3}$ =	0.68	
Water Surface Elev.=	630.18		Perimeter =	14.17	(ft)
Free Board=	0.46	(ft)	Cross section Area =	8.00	(ft^2)

DITCH SECTION D-D CALCULATIONS



DITCH SECTION D-D

SCALE: 1" = 30'

3.) REVISED PER MSD COMMENTS 05/05/11
2.) REVISED PER MSD AND CITY COMMENTS 04/19/11
1.) REVISED PER MSD AND CITY COMMENTS 02/21/11

M.S.D. P# 19460-01
BASE MAP # 20-R
MAY. 05, 2011
100% COMPLETE

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

PARKWAY WEST HIGH SCHOOL

PLANTING PLAN

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
T.P.S.	12/22/2010	G.M.S.	12/22/2010	210-4673	C8

WATER QUALITY
AREA 1 = 3.32 Ac.
@ 32.5% IMPERVIOUS

TRIBUTARY AREA
= 16.99 Ac.
PI = 2.58
Q(15)=43.83 cfs

PROPOSED BMP RESERVE AREA

PROPOSED ROCK CHECK DAM

PROVIDE TIDEFLEX SERIES TF-2 ON END OF PIPE

PROPOSED LIGHT STONE REVETMENT

DRY SWALE STORMWATER BMP RESERVE AREA DB. 19034, PG. 409 P-17908-03

10' W EASEMENT TO MSD DB. 6816, PG. 2514

10' W EASEMENT TO FEE FEE TRUNK SEWER DB. 5263, PG. 154

CONC. ENCASEMENT

PROP. AGS M.H. TOP=648.82 FL(in)=643.96 FL(out)=642.97

MANHOLE TOP=648.82 FL(in)=642.77

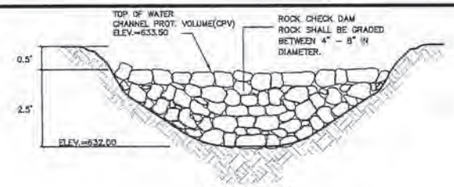
MANHOLE TOP=648.00 FL(in)=641.82 FL(out)=629.59

PROP. M.H. TOP=648.85 FL=643.17

3 24" NYOPLAST DOME GRATE INLET TOP=632.50 FL=627.88

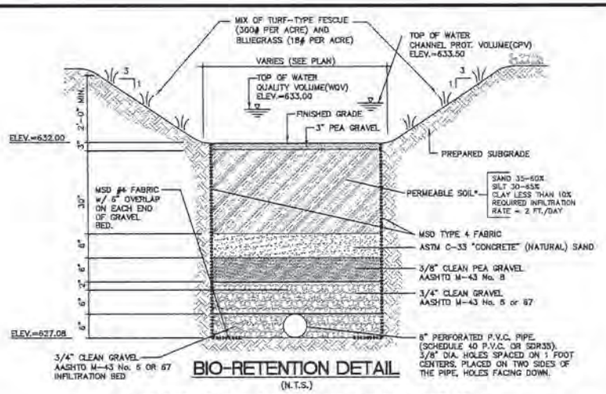
2 AREA INLET TOP=633.92 SILL=633.00 FL=627.83

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.



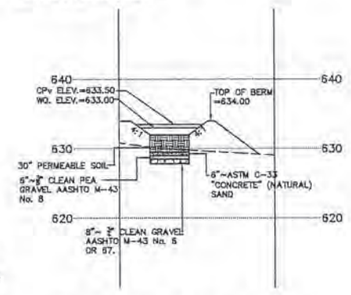
ROCK CHECK DAM DETAIL
N.T.S.

NOTE: ROCK CHECK DAM SHALL BE INSPECTED ANNUALLY. ROCKS SHALL BE REMOVED AND REPLACED IF FOULING OCCURS.

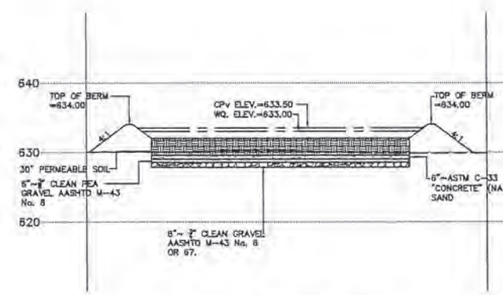


BIO-RETENTION DETAIL
(N.T.S.)

ANY FUTURE LAND DISTURBANCE AND/OR INCREASE IN IMPERVIOUS AREA ON THIS SITE PLAN MAY REQUIRE ADDITIONAL STORM WATER MANAGEMENT PER MSD REGULATIONS IN PLACE AT THAT TIME (INCLUDING TOTAL LAND DISTURBANCE AND/OR IMPERVIOUSNESS ADDED ON THIS PLAN P-19460-01)



BIO-RETENTION SECTION A-A
SCALE: 1" = 30' HORIZ.
SCALE: 1" = 10' VERT.



BIO-RETENTION SECTION B-B
SCALE: 1" = 30' HORIZ.
SCALE: 1" = 10' VERT.

CONSTRUCTION NOTES:

IT IS IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF THE BIORETENTION AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF BIORETENTION AREAS ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE MOE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.

COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE DESIGN OR GEOTECHNICAL ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

THE PERMEABLE SOIL USED IN THE BIORETENTION FACILITY SHOULD BE TESTED BEFORE PLACING IT IN THE FIELD TO ENSURE IT MEETS THE PERFORMANCE SPECIFICATIONS OUTLINED IN THE PLANS AND STORMWATER MANAGEMENT FACILITIES REPORT. THE PERMEABLE SOIL MUST HAVE AN INFILTRATION RATE OF 2 FEET/DAY. FURTHERMORE, AND INFILTRATION TEST MUST BE PERFORMED ONCE THE SOIL IS PLACED IN THE BIORETENTION FACILITY TO CONFIRM THAT THE INFILTRATION RATE DID NOT GO DOWN. THE SOIL SHOULD BE FREE OF STONES, STUMPS, ROOTS OR OTHER WOODY MATERIAL OVER 1 INCH IN DIAMETER. FOR THE BEST RESULTS, BRUSH OR SEEDS FROM NOXIOUS WEEDS, SUCH AS JOHNSON GRASS, MUGWORT, NUTSEDGE AND CANADIAN THISTLE SHOULD NOT BE PRESENT IN THE SOILS.

WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS OF 12 TO 18 INCHES. DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS. THE LANDSCAPER AND OR GEOTECHNICAL ENGINEER SHOULD BE PRESENT ON SITE DURING THE CONSTRUCTION OF THE BIORETENTION FACILITIES TO ENSURE QUALITY CONTROL.

Planting Soil Characteristics

Parameter	Value
pH range	5.2 to 8.00
Organic matter	1.5 to 5.0%
Magnesium	35 lbs. per acre, minimum
Phosphorous (P205)	75 lbs. per acre, minimum
Potassium (K20)	85 lbs. per acre, minimum
Soluble salts	5 - 500 ppm

NOTES:

1. CONSTRUCTION SITE RUNOFF SHALL NOT FLOW INTO THE WATER QUALITY BMP(S). ALL STORMWATER FLOW TO THE WATER QUALITY BMP(S) SHALL BE DIVERTED, PLUGGED, OR DISCONNECTED UNTIL THE CONSTRUCTION SITE IS STABLE AND THE MSD DEDICATION INSPECTOR PROVIDES APPROVAL TO PLACE THE BMP(S) ONLINE.
2. SEE MSD LANDSCAPE GUIDELINES FOR ADDITIONAL DETAILS ON PLANTINGS IN BIORETENTION AREAS.
3. CLEANOUTS: TOP ELEVATION TO BE 5" ABOVE MULCH SURFACE.

BMP/STORMWATER CREDIT SUMMARY TABLE

AREA	AREA (Ac.)	BMP	WQv REQUIRED (C.F.)	WQv PROVIDED (C.F.)
1	3.32	BIORETENTION (F-6)	4,706	5,552
TOTAL	3.32			

LAND AREA DISTURBED = 2.34 Ac.
LAND AREA TRIBUTARY TO BIO-RETENTION = 3.32 Ac.

PREVIOUSLY UNTREATED AREA FOR FUTURE CREDIT
= 0.98 Ac. @ 100% IMPERVIOUS (TRACK)

3.) REVISED PER MSD COMMENTS 05/05/11
2.) REVISED PER MSD AND CITY COMMENTS 04/19/11
1.) REVISED PER MSD AND CITY COMMENTS 02/21/11

M.S.D. P# 19460-01
BASE MAP # 20-R

MAY. 05, 2011
100% COMPLETE

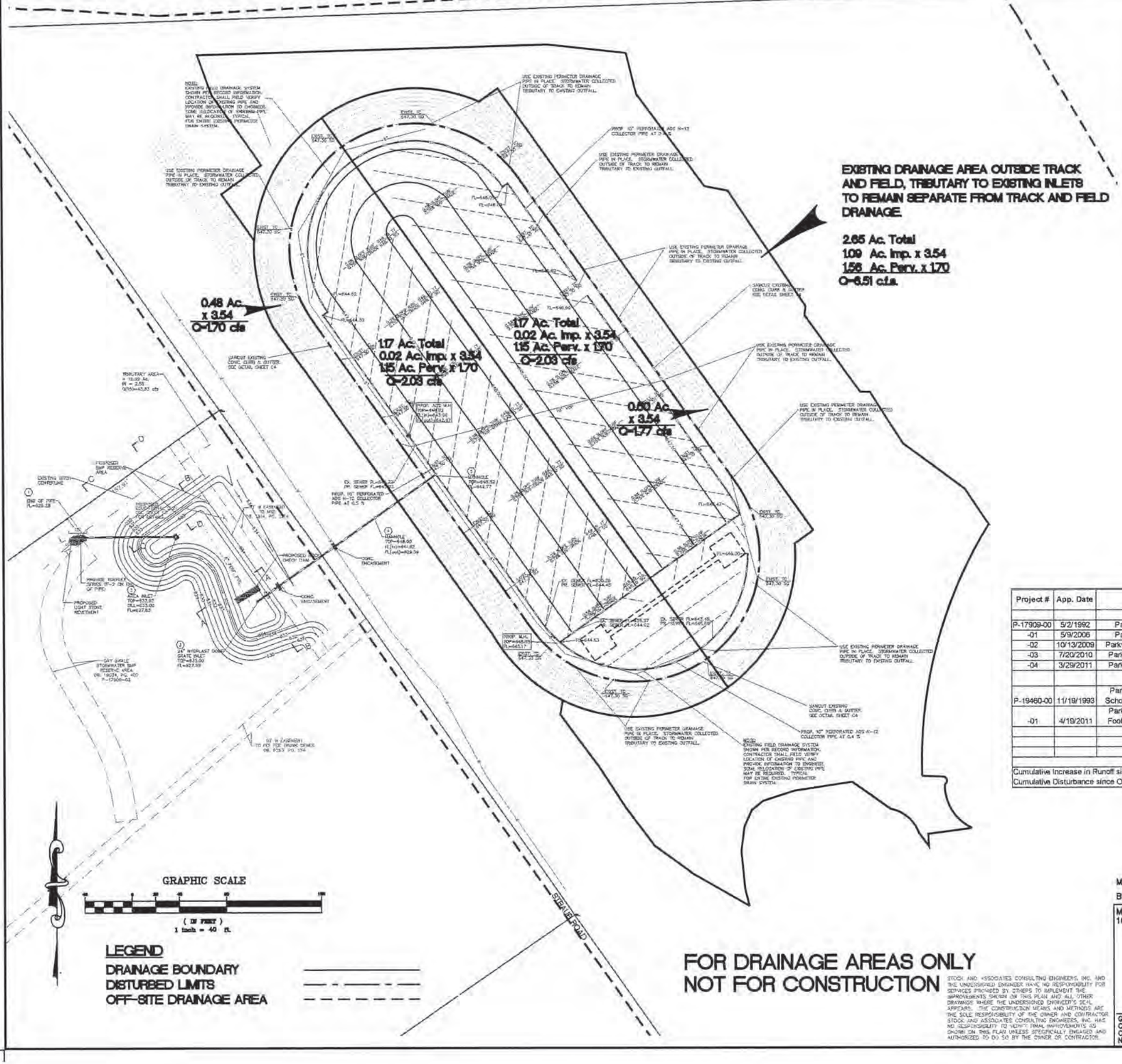
PARKWAY WEST HIGH SCHOOL

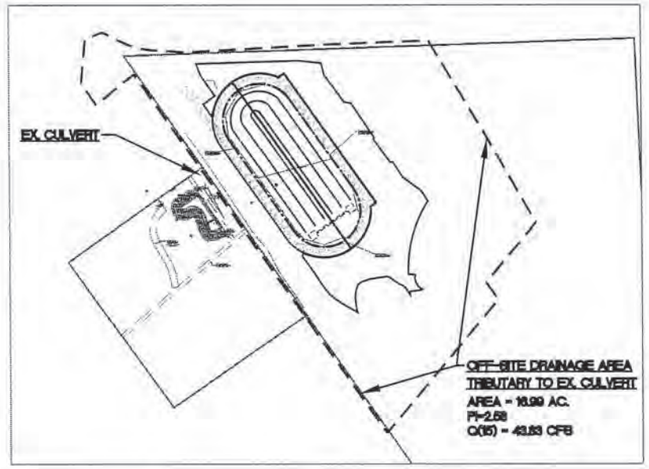
WATER QUALITY PLAN

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
T.P.S.	12/22/2010	G.M.S.	12/22/2010	210-4673	C9





OFF-SITE DRAINAGE AREA

SCALE: 1" = 200'

DIFFERENTIAL RUNOFF CALCULATIONS:

TOTAL DISTURBED AREA = 2.35 Acres ±

EXISTING RUNOFF = 2.12 Ac. x 1.70 = 3.60 cfs
= 0.23 Ac. x 3.54 = 0.81 cfs
= 4.41 cfs

PROPOSED RUNOFF = 2.12 Ac. x 1.70 = 3.60 cfs
= 0.23 Ac. x 3.54 = 0.81 cfs
= 4.41 cfs

DIFFERENTIAL = 4.41 - 4.41 = 0.00 cfs

Stormwater Management Tracking Data

Project #	App. Date	Comments	Add. Imp. Area (Acres)	Diff. Runoff	Qp Provided (Y/N)	Dist. Area (Acres)	WQv Provided (Y/N)	CPv Provided (Y/N)
P-17909-00	5/2/1992	Parkway West Stadium						
-01	5/9/2006	Parkway West Stadium						
-02	10/13/2009	Parkway West Tennis Courts						
-03	7/20/2010	Parkway West High School			N	4.89	Y	Waived
-04	3/29/2011	Parkway West High School						
P-19460-00	11/19/1993	Parkway West Senior High School Stadium Concessions						
-01	4/19/2011	Parkway West High School Football Field Improvements	0.00	0.00	N	2.35	Y	Y
Cumulative Increase in Runoff since January 2000				0.00				
Cumulative Disturbance since October 2006						7.24		

3.) REVISED PER MSD COMMENTS 05/05/11
2.) REVISED PER MSD AND CITY COMMENTS 04/19/11
1.) REVISED PER MSD AND CITY COMMENTS 02/21/11

M.S.D. P# 19460-01
BASE MAP # 20-R
MAY. 05, 2011
100% COMPLETE

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. AND THE UNDERSIGNED ENGINEER HAVE NO RESPONSIBILITY FOR SERVICES PROVIDED BY OTHERS TO IMPLEMENT THE IMPROVEMENTS SHOWN ON THIS PLAN AND ALL OTHER DRAWINGS WHERE THE UNDERSIGNED ENGINEER'S SEAL APPEARS. THE CONSTRUCTION MEANS AND METHODS ARE THE SOLE RESPONSIBILITY OF THE OWNER AND CONTRACTOR. STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. HAS NO RESPONSIBILITY TO VERIFY FINAL IMPROVEMENTS AS SHOWN ON THIS PLAN UNLESS SPECIFICALLY ENGAGED AND AUTHORIZED TO DO SO BY THE OWNER OR CONTRACTOR.

PARKWAY WEST HIGH SCHOOL

DRAINAGE AREA MAP

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY	DATE	CHECKED BY	DATE	JOB NUMBER	SHEET
T.P.S.	12/22/2010	G.M.S.	12/22/2010	210-4673	C10

GENERAL NOTES

1. ALL DISTURBED AREAS SHALL BE RESTORED WITH TOPSOIL AND SOD.
2. THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY FOR CONTROLLING ALL SILTATION AND EROSION OF THE PROJECT AREA. THE CONTRACTOR SHALL USE THE MEANS NECESSARY TO CONTROL SILTATION AND EROSION. CONTROL MEANS AND METHODS SHALL FOLLOW ST. LOUIS COUNTY "SEDIMENT & EROSION CONTROL MANUAL" AND REQUIREMENTS OF THE ORDINARY LAND DISTURBANCE PERMIT. THE OWNER OR ST. LOUIS COUNTY MAY AT THEIR OPTION DIRECT THE CONTRACTOR AS DEEMED FIT TO CONTROL EROSION. CONTROL SHALL COMMENCE WITH LAND DISTURBANCE AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY BOTH ST. LOUIS COUNTY AND THE OWNER. ALL COST ASSOCIATED WITH EROSION CONTROL SHALL BE INCLUDED IN THE CONTRACTOR'S BID.
3. PROPOSED ELEVATIONS ARE SHOWN TO FINISH PAVEMENT OR GRADE.
4. NOTIFY THE ST. LOUIS COUNTY DEPARTMENT OF PUBLIC WORKS 48 HOURS PRIOR TO THE COMMENCEMENT OF GRADING OR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
5. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
6. NO EXCAVATION SHALL BE MADE SO CLOSE TO THE PROPERTY LINE AS TO ENDANGER ANY ADJOINING PROPERTY OF ANY PUBLIC OR PRIVATE STREET WITHOUT SUPPORTING AND PROTECTING SUCH PUBLIC OR PRIVATE STREET OR PROPERTY FROM SETTLING, CRACKING OR OTHER DAMAGE.
7. CONTRACTOR TO PLACE VEHICLE WASHDOWN STATION AT CONSTRUCTION ENTRANCE IN ACCORDANCE WITH ST. LOUIS COUNTY REQUIREMENTS.
8. ANY EXISTING IMPROVEMENTS DAMAGED BY CONSTRUCTION ON THE PROJECT PROPERTY SHALL BE REPLACED IN KIND AT THE CONTRACTORS EXPENSE.
9. DURING CONSTRUCTION THERE SHALL BE NO TRUCK TRAFFIC BETWEEN 7:30 A.M AND 8:40 A.M. AND BETWEEN 2:30 P.M. AND 3:30 P.M.
10. ALL EXISTING IMPROVEMENTS ARE TO REMAIN UNLESS NOTED OTHERWISE.
11. THE UNDERGROUND UTILITIES SHOWN HEREON ARE TAKEN FROM UTILITY LOCATIONS AS MARKED IN THE FIELD BY DIGRITE AND MAPS OBTAINED FROM LACLEDE GAS COMPANY, METROPOLITAN ST. LOUIS SEWER DISTRICT AND MISSOURI-AMERICAN WATER COMPANY AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMO.
12. SITE IS SUBJECT TO PRIVATE UTILITY INSTALLATIONS. PRIVATE UTILITY INSTALLATIONS DO NOT APPEAR ON UTILITY BASE MAPS, NOR DOES DIGRITE LOCATE PRIVATE UTILITIES.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING TOPS AND FLOWLINES OF ALL EXISTING SEWERS PRIOR TO COMMENCING WORK AND NOTIFY THE ENGINEER OF DISCREPANCIES.
14. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH SITE IMPROVEMENT CONSTRUCTION SHALL CONFORM TO THE LATEST STANDARDS AND SPECIFICATIONS OF ST. LOUIS COUNTY.
15. ALL GRADING AND DRAINAGE SHALL CONFORM TO THE LATEST STANDARDS AND SPECIFICATIONS OF ST. LOUIS COUNTY AND THE METROPOLITAN ST. LOUIS SEWER DISTRICT.
16. ALL SEWERS AND STRUCTURES SHALL BE IN ACCORDANCE WITH THE METROPOLITAN ST. LOUIS SEWER DISTRICT STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWER AND DRAINAGE FACILITIES, 2009.
17. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE GAS SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF LACLEDE GAS COMPANY.
18. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE WATER SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF MISSOURI AMERICAN WATER COMPANY.
19. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE PHONE SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF AT&T DISTRIBUTION.
20. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH ELECTRIC SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF AMERENUE.
21. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH CABLE SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF CHARTER COMMUNICATIONS.
22. INSTALLATION OF LANDSCAPING AND ORNAMENTAL ENTRANCE MONUMENT OR IDENTIFICATION SIGNAGE CONSTRUCTION, IF SHOWN ON PLANS, SHALL BE REVIEWED BY THE DEPARTMENT OF HIGHWAYS AND TRAFFIC FOR SIGHT DISTANCE CONSIDERATIONS AND APPROVED PRIOR TO INSTALLATION OR CONSTRUCTION.
23. ALL STORM WATER SHALL BE DISCHARGED AT AN ADEQUATE NATURAL DISCHARGE POINT.
24. INTERIM STORM WATER DRAINAGE CONTROL IN THE FORM OF SILTATION CONTROL MEASURES ARE REQUIRED.
25. THE DEVELOPER IS REQUIRED TO PROVIDE ADEQUATE STORM WATER SYSTEMS IN ACCORDANCE WITH ST. LOUIS COUNTY AND MSD STANDARDS.
26. ADDITIONAL SILTATION CONTROL SHALL BE INSTALLED AS REQUIRED BY ST. LOUIS COUNTY DEPARTMENT OF HIGHWAYS AND TRAFFIC.
27. ALL OFFSITE PROPERTY OWNERS SHALL BE GIVEN NOTICE 48 HOURS IN ADVANCE OF ANY WORK.
28. ANY DISTURBED OFF SITE PROPERTY (I.E. BUSHES, FENCES, MAILBOXES, ETC.) SHALL BE REPLACED, IN LIKE KIND, AT THE DEVELOPERS EXPENSE.
29. PROVIDE ADEQUATE OFF-STREET PARKING FOR CONSTRUCTION EMPLOYEES. PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVEWAY CONDITIONS.
30. ALL EXCAVATIONS, GRADING OR FILLING SHALL HAVE A FINISHED GRADE NOT TO EXCEED A 4:1 SLOPE (25%), UNLESS SPECIFICALLY APPROVED OTHERWISE. NO SLOPE SHALL EXCEED 3:1 MAXIMUM.
31. ALL DISTURBED EARTH AREAS WITHIN ST. LOUIS COUNTY RIGHT-OF-WAY SHALL BE SODDED.
32. INTERNAL (PRIVATE) STORM SEWERS WILL REQUIRE SEPARATE DRAINLAYERS PERMIT FROM ST. LOUIS COUNTY DEPARTMENT OF PUBLIC WORKS.
33. SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASHDOWN STATION PRIOR TO LEAVING SITE. MUD TRACKED ONTO COUNTY ROADS SHALL BE REMOVED AND KEPT CLEAN AT ALL TIMES.

UTILITY CONTACTS

AMEREN UE
1132 LOCUST STREET
ST. LOUIS, MISSOURI 63101
314-878-5787

AT&T DISTRIBUTION
12930 OLIVE STREET ROAD
CREVE COEUR, MO 63141
314-878-5787

MISSOURI-AMERICAN WATER COMPANY
727 CRAIG RD
ST. LOUIS, MO 63131
314-996-2432

CHARTER COMMUNICATIONS
2275 CASSENS DR
FENTON, MO 63026
314-878-5787

LACLEDE GAS COMPANY
3950 FOREST PARK BLVD
ST. LOUIS, MO 63108
314-658-5417

METROPOLITAN ST. LOUIS SEWER DISTRICT
2350 MARKET ST
ST. LOUIS, MO 63103-2555
314-768-6200

CITY OF ST. LOUIS WATER DIVISION
1640 S. KINGSHIGHWAY
ST. LOUIS, MO 63110
314-633-9000

MCI
7000 WESTON PARKWAY
CARY, NC 27513
919-577-9109

LEVEL 3 COMMUNICATIONS
1025 ELDORADO BOULEVARD
BROOMFIELD, CO 80021
800-441-0223

EDWARD JONES
12555 MANCHESTER ROAD
ST. LOUIS, MO 63131
314-515-2000

STORMWATER MANAGEMENT NOTE:

ANY FUTURE LAND DISTURBANCE AND/OR INCREASE IN IMPERVIOUS AREA ON THIS SITE MAY REQUIRE ADDITIONAL STORM WATER MANAGEMENT PER MSD REGULATIONS IN PLACE AT THAT TIME (INCLUDING TOTAL LAND DISTURBANCE AND/OR IMPERVIOUSNESS ADDED ON THIS PLAN P-11600-10).

DETENTION FOR ANY FURTHER DEVELOPMENT SHALL INCLUDE THESE IMPROVEMENTS AS WELL.
BMP PROPOSED UNDER MSD P-11600-09 (SYNTHETIC TURF FIELD IMPROVEMENTS) SHALL ACCOUNT FOR THIS DEVELOPMENT.

STORMWATER MANAGEMENT - WATER QUALITY NOTE
LAND AREA DISTURBED = 0.24 ACRES
ANY FURTHER DEVELOPMENT SHALL INCLUDE THESE IMPROVEMENTS AS WELL

ΔQ = 0.14 cfs

USGS DATUM BENCHMARK

ST. LOUIS COUNTY BENCHMARK #8-164 (ELEVATION 528.81)
ALUMINUM TABLET SET IN SOUTHWEST END ON TOP OF
RETAINING WALL: 335' NORTHEAST OF WILLOWWYCK DRIVE
AND 34' NORTHWEST OF CENTERLINE OF FEE FEE ROAD.

SITE BENCHMARK

T.B.M. "A" (ELEVATION 523.53)
CUT SQUARE SOUTH SIDE OF CONCRETE BASE OF FLAGPOLE AT
THE MAIN ENTRANCE OF PARKWAY NORTH HIGH SCHOOL AND AT
THE NORTHWEST CORNER OF TENNIS COURTS.

REGULATORY JURISDICTIONS

CREVE COEUR PROTECTION DISTRICT
11221 OLIVE BOULEVARD
CREVE COEUR, MO 63141
314-432-6870

ST. LOUIS COUNTY DEPARTMENT OF PUBLIC WORKS
41 S. CENTRAL AVENUE, 6TH FLOOR
CLAYTON, MO 63105
314-615-5184

METROPOLITAN ST. LOUIS SEWER DISTRICT
2350 MARKET STREET
ST. LOUIS, MO 63103-2555
314-768-6200

LEGEND

- CONTROL POINT
- TBM TEMPORARY BENCHMARK
- DRAINAGE ARROW
- EXISTING TREE
- EXISTING BUSH
- EXISTING SIGN
- NEW SIGN
- EDGE OF EXISTING PAVEMENT
- EDGE OF NEW PAVEMENT
- EXISTING CURB
- NEW CURB
- X EXISTING FENCE
- X NEW FENCE
- S F NEW EROSION CONTROL
- LIMITS OF CONSTRUCTION
- T_e EXISTING OVERHEAD TELEPHONE LINE
- E_e EXISTING OVERHEAD ELECTRIC LINE
- TU_e EXISTING UNDERGROUND TELEPHONE LINE
- EU_e EXISTING UNDERGROUND ELECTRIC LINE
- G_e EXISTING GAS LINE
- W_e EXISTING WATER LINE
- SD_e EXISTING STORM SEWER
- SS_e EXISTING SANITARY LINE
- SS PROPOSED SANITARY LINE
- (S) PROPOSED SANITARY MANHOLE
- (S) EXISTING SANITARY MANHOLE
- (D) EXISTING STORM MANHOLE
- (D) EXISTING GRATED MANHOLE
- PB EXISTING ELECTRIC PULLBOX
- UP EXISTING UTILITY POLE
- UP EXISTING UTILITY POLE WITH LIGHT
- (W) EXISTING WATER VALVE
- (G) EXISTING GAS METER
- 624 EXISTING 1' CONTOUR
- 625 EXISTING 5' CONTOUR
- 624 PROPOSED 1' CONTOUR
- 625 PROPOSED 5' CONTOUR
- x 601.92 EXISTING SPOT ELEVATION
- (#) KEYED NOTE IDENTIFIER
- (A) COORDINATE IDENTIFIER
- TP 601.82 PROPOSED SPOT ELEVATION

ABBREVIATIONS

ASPH	ASPHALT	P.B.	PLAT BOOK
ATG	ADJUST TO GRADE	PC	POINT OF CURVATURE
BM	BENCHMARK	PCC	POINT OF COMPOUND CURVATURE
BOC	BACK OF CURB	PGS.	PAGES
CI	CURB INLET	PT	POINT OF TANGENCY
CLR	CLEARANCE	PVMT	PAVEMENT
CONC	CONCRETE	R	RADIUS
ELEV	ELEVATION	RCP	REINFORCED CONCRETE PIPE
EOP	EDGE OF PAVEMENT	T	TOP
EX	EXISTING	TBM	TEMPORARY BENCHMARK
FG	FINISH GRADE	TBR	TO BE REMOVED
FL	FLOWLINE	TBREL	TO BE RELOCATED
FOC	FACE OF CURB	TBR&R	TO BE REMOVED AND REPLACED
G	GUTTER	TC	TOP OF CURB
HC	HANDICAPPED	TP	TOP OF PAVEMENT
LS	LIGHT STANDARD	TR	TO REMAIN
MAX	MAXIMUM	TYP	TYPICAL
ME	MATCH EXISTING	UIP	USE IN PLACE
MH	MANHOLE	UP	UTILITY POLE
MIN	MINIMUM	VCP	VITRIFIED CLAY PIPE
NTS	NOT TO SCALE		
PB	ELECTRIC PULLBOX		

MSD P-11600-XX BASE MAP: 16P

REVISIONS

NO.	DESCRIPTION	BY	DATE

PROJECT:
PARKWAY WEST HIGH SCHOOL
PSD PROJECT: 561201B
FINE ARTS RENOVATIONS

TITLE:
GENERAL NOTES

CLIENT:
PARKWAY SCHOOL DISTRICT
455 North Woods Mill Road
Chesterfield, Missouri 63017
Phone: 314-415-8102 Fax: 314-415-8207

AMEC Earth & Environmental, Inc.
15923 Clayton Road, Suite 215
Ballwin, Missouri 63011
636-386-3900 Fax: 636-386-3904
Corp Cert. of Auth. #2005000326

Date:
Brad P. Loomis - Engineer
MO PE-2006019882

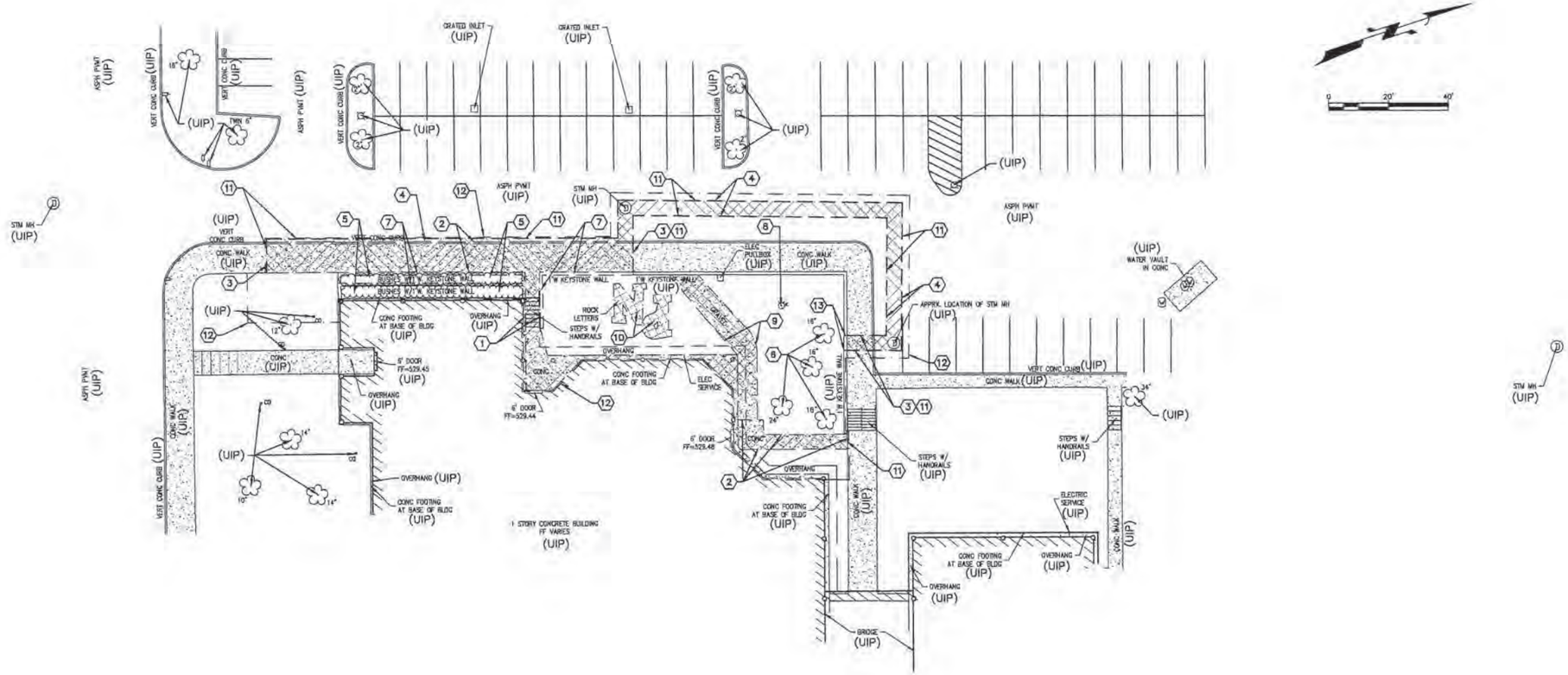
ISSUE FOR BID

Proj. No. 2008006	REV No. 0
DR: MJR	CHK: BPL
DATE: 3/4/13	

C1.0
SHEET NUMBER

PLOT DATE: 3/11/2013 8:34:39 AM

FILE: P:\STLOUIS\2011\08201102 PARKWAYS\10 CAD\XX NORTH HIGH FA SURVEY\DWG\PLAN\86-NORTH HIGH FA-GENERAL.DWG



KEYED NOTES

1. EXISTING CONCRETE STAIRS AND HANDRAILS TO BE REMOVED
2. EXISTING CONCRETE WALK TO BE REMOVED.
3. REMOVE CONCRETE WALK TO NEAREST JOINT.
4. EXISTING ASPHALT PAVEMENT TO BE REMOVED.
5. EXISTING BUSHES TO BE REMOVED.
6. EXISTING TREE TO BE REMOVED.
7. EXISTING KEYSTONE WALL TO BE REMOVED. BLOCKS TO SALVAGED AND USED FOR PROPOSED MODULAR BLOCK WALL.
8. EXISTING FIRE HYDRANT TO BE REMOVED AND RELOCATED. REFER TO SITE PLAN.
9. EXISTING GRAVEL TO BE REMOVED.
10. EXISTING GRAVEL LETTERS (P and N) TO BE REMOVED.
11. SAWCUT LINE.
12. LIMITS OF CONSTRUCTION.
13. CONTRACTOR TO REMOVED AND REPLACED EXISTING KEYSTONE WALL IN THIS AREA TO ORIGINAL CONDITIONS FOR CONSTRUTION OF NEW 6" PVC PIPE.

DENOTES PAVEMENT TO BE REMOVED

MSD P-11600-XX BASE MAP: 16P

REVISIONS

NO.	DESCRIPTION	BY	DATE

PROJECT: PARKWAY WEST HIGH SCHOOL
PSD PROJECT: 561201B
FINE ARTS RENOVATIONS

TITLE: DEMOLITION SHEET

CLIENT: PARKWAY SCHOOL DISTRICT
455 North Woods Mill Road
Chesterfield, Missouri 63017
Phone: 314-415-8100 Fax: 314-415-8207

AMEC Earth & Environmental, Inc.
15433 Dayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-394-3232 Fax: 636-394-3604
Discipline: Engineering Corporation
Corp. Cert. of Auth. #2002000328

Date
Brad P. Loomis - Engineer
MO PE-2008026982

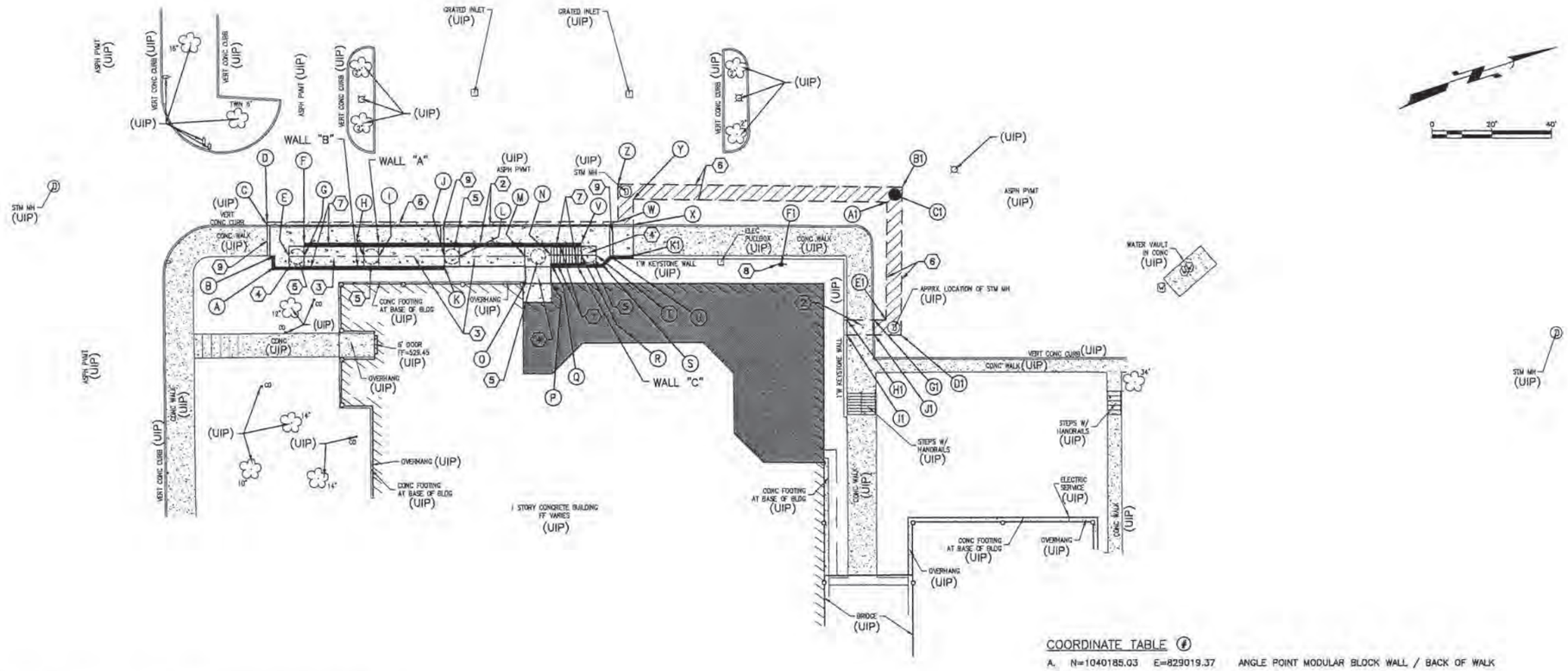
ISSUE FOR BID

Proj. No. 2008008	REV No. 0
DR MJR	CHK BPL
DATE 3/4/13	

C2.0
SHEET NUMBER

PLOT DATE: 3/11/2013 8:34:42 AM

FILE: P:\ST\DWG\2013\08\2013008 PARKWAYS\10 CAD\XX NORTH HIGH EA SURVEY\DWG\PLAN\56-NORTH HIGH (RAMP) - C-SD001.DWG



KEYED NOTES

1. NEW CONCRETE STAIRS AND HANDRAILS. REFER TO DETAILS ON SHTS. C8.0 AND C7.0. REFER TO SHT. C4.0 FOR ℄ PROFILE.
2. NEW CONCRETE WALK WITH INTEGRAL CURB. REFER TO DETAIL ON SHT. C8.0.
3. NEW CONCRETE RAMP AND HANDRAILS. REFER TO DETAIL ON SHT. C8.0 AND C7.0. REFER TO SHT. C4.0 FOR ℄ PROFILE. SEE HANDRAIL INSET SHT. C7.0.
4. NEW CONCRETE WALK. REFER TO DETAIL ON SHT. C8.0.
5. 5' DIA. TURNING CIRCLE.
6. NEW HEAVY DUTY ASPHALT PAVEMENT. REFER TO DETAIL ON SHT. C6.0.
7. NEW MANUFACTURED MODULAR WALL. REFER TO DETAIL ON SHT. C8.0. REFER TO SHT C4.0 FOR PROFILES.
8. RELOCATED FIRE HYDRANT.
9. NEW TRENCH DRAIN SYSTEM (ABT,INC. PolyDrain WITH #2501 DUCTILE IRON COVER) OR EQUAL.

COORDINATE TABLE

A.	N=1040185.03	E=829019.37	ANGLE POINT MODULAR BLOCK WALL / BACK OF WALK
B.	N=1040181.16	E=829015.94	END OF MODULAR BLOCK WALL / EDGE OF WALK
C.	N=1040186.96	E=829005.41	SAWCUT / FACE OF WALK
D.	N=1040187.27	E=829004.46	SAWCUT / EDGE OF ASPHALT
E.	N=1040190.67	E=829017.83	℄ LANDING
F.	N=1040196.80	E=829014.99	END OF MODULAR BLOCK WALL / EDGE OF WALK
G.	N=1040195.42	E=829019.19	℄ RAMP / ℄ LANDING
H.	N=1040214.42	E=829025.43	℄ RAMP / ℄ LANDING
I.	N=1040219.17	E=829026.19	℄ RAMP / ℄ LANDING
J.	N=1040240.07	E=829033.85	℄ RAMP / ℄ LANDING
K.	N=1040239.01	E=829037.10	END OF MODULAR BLOCK WALL
L.	N=1040244.83	E=829035.41	℄ RAMP / ℄ LANDING
M.	N=1040265.73	E=829042.28	℄ RAMP / ℄ LANDING
N.	N=1040274.23	E=829044.63	℄ RAMP / ℄ LANDING / EXPANSION JOINT & EDGE OF TOE WALL
O.	N=1040262.91	E=829050.85	EDGE OF WALK
P.	N=1040271.28	E=829053.60	EDGE OF WALK
Q.	N=1040273.29	E=829047.48	END OF MODULAR BLOCK WALL / EDGE OF WALK
R.	N=1040283.73	E=829047.75	℄ STAIRS / ℄ LANDING / EXPANSION JOINT & EDGE OF TOE WALL
S.	N=1040289.23	E=829052.62	ANGLE POINT MODULAR BLOCK WALL / BACK OF WALK
T.	N=1040288.48	E=829049.31	℄ LANDING
U.	N=1040292.78	E=829050.90	END OF MODULAR BLOCK WALL / BACK OF WALK
V.	N=1040284.98	E=829043.95	END OF MODULAR BLOCK WALL / EDGE OF WALK
W.	N=1040298.89	E=829041.03	SAWCUT / EDGE OF ASPHALT
X.	N=1040303.33	E=829043.53	SAWCUT / FACE OF WALK
Y.	N=1040305.99	E=829035.43	SAWCUT
Z.	N=1040302.76	E=829029.31	SAWCUT
A1.	N=1040386.34	E=829062.71	SAWCUT
B1.	N=1040392.68	E=829059.59	SAWCUT
C1.	N=1040389.51	E=829061.15	NEW MANHOLE
D1.	N=1040376.84	E=829106.25	SAWCUT
E1.	N=1040373.70	E=829099.94	SAWCUT
F1.	N=1040346.25	E=829071.43	RELOCATED FIRE HYDRANT
G1.	N=1040369.90	E=829098.69	SAWCUT / FACE OF WALK
H1.	N=1040361.22	E=829095.82	SAWCUT / BACK OF WALK
I1.	N=1040359.65	E=829100.57	SAWCUT / BACK OF WALK
J1.	N=1040368.44	E=829103.47	SAWCUT / FACE OF WALK
K1.	N=1040300.12	E=829053.30	END OF MODULAR BLOCK WALL / BACK OF WALK

MSD P-11600-XX BASE MAP: 16P

REVISIONS

NO.	DESCRIPTION	BY	DATE

PROJECT: PARKWAY WEST HIGH SCHOOL
PSD PROJECT: 561201B
FINE ARTS RENOVATIONS

TITLE: PLAN SHEET

CLIENT: PARKWAY SCHOOL DISTRICT
455 North Woods Mill Road
Chesterfield, Missouri 63017
Phone: 314-415-8100 Fax: 314-415-8207

AMEC Earth & Environmental, Inc.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-386-3804 Fax: 636-386-3804
Discipline: Engineering Corporation
Corp Cert. of Auth. #2002000328

Date
Brad P. Loomis - Engineer
MO PE-2009018662

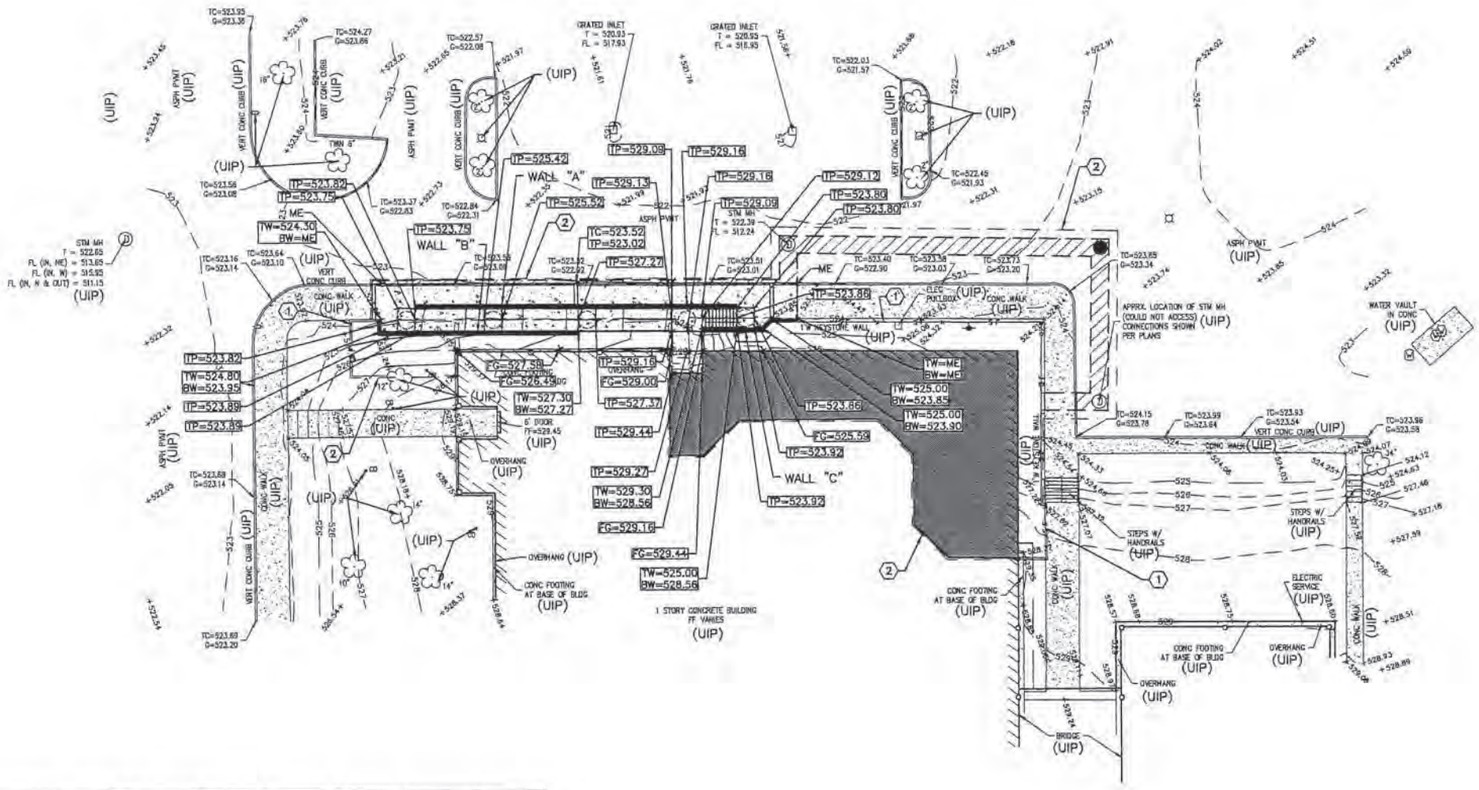
ISSUE FOR BID

Proj. No. 2008008	REV No. 0
DR MJR	CHK BPL
DATE 3/4/13	

C3.0
SHEET NUMBER

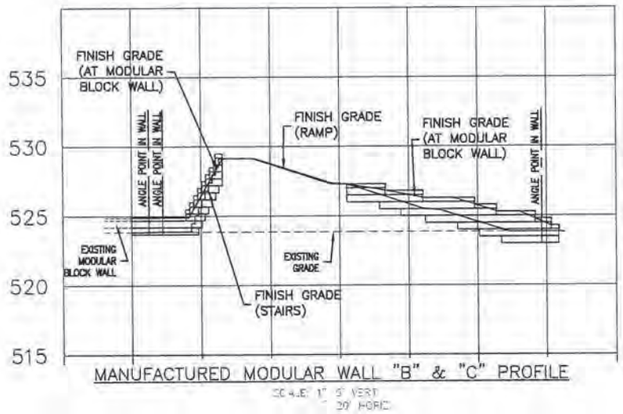
PLOT DATE: 3/11/2013 8:34:45 AM

FILE: P:\STLOUIS\2011\02011002-PARKWAYS\10-CAD\XX-NORTH HIGH FA SURVEY\ONG\PLANS\C-NORTH HIGH (RAMP) - C-SP0001.DWG



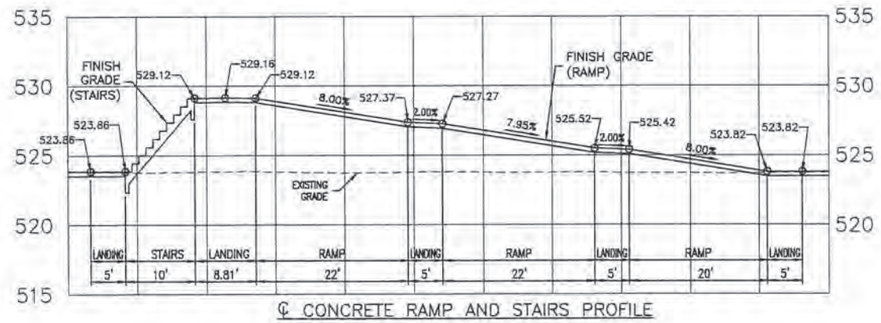
KEYED NOTES ⟨#⟩

1. EROSION CONTROL – FIBER ROLL. REFER TO DETAIL ON THIS SHT.
2. LIMITS OF CONSTRUCTION.



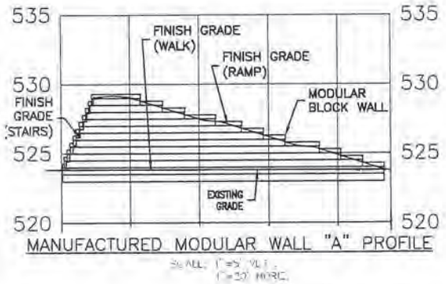
MANUFACTURED MODULAR WALL "B" & "C" PROFILE

SCALE: 1" = 5' VERT.
20' HORIZ.



℄ CONCRETE RAMP AND STAIRS PROFILE

SCALE: 1" = 5' VERT.
1"=10' HORIZ.



MANUFACTURED MODULAR WALL "A" PROFILE

SCALE: 1"=5' VERT.
1"=20' HORIZ.

EROSION CONTROL FILTER ROLL (FILTER SOCK) DETAIL

NTS

MSD P-11600-XX BASE MAP: 16P

PLOT DATE: 3/11/2013 8:34:51 AM

FILE: P:\ST LOUIS\2011\082011002 PARKWAY\10 CAD\XX NORTH HIGH EA SURVEY\DNS\PLAN\SE-NORTH HIGH (RAMP) - C-SP0001.DWG

REVISIONS

NO.	DESCRIPTION	BY	DATE

PROJECT: PARKWAY WEST HIGH SCHOOL
PSD PROJECT: 561201B
FINE ARTS RENOVATIONS
PLAN AND PROFILE

TITLE: GRADING PLAN

CLIENT: PARKWAY SCHOOL DISTRICT
455 North Woods Mill Road
Chesterfield, Missouri 63017
Phone: 314-415-8100 Fax: 314-415-8207

AMEC Earth & Environmental, Inc.
15633 Dayton Road, Suite 215
Ballwin, Missouri 63011-3804
Phone: 636-391-5000 Fax: 636-391-5005
Discipline: Engineering Corporation
Corp Cert. of Auth. #2005030326

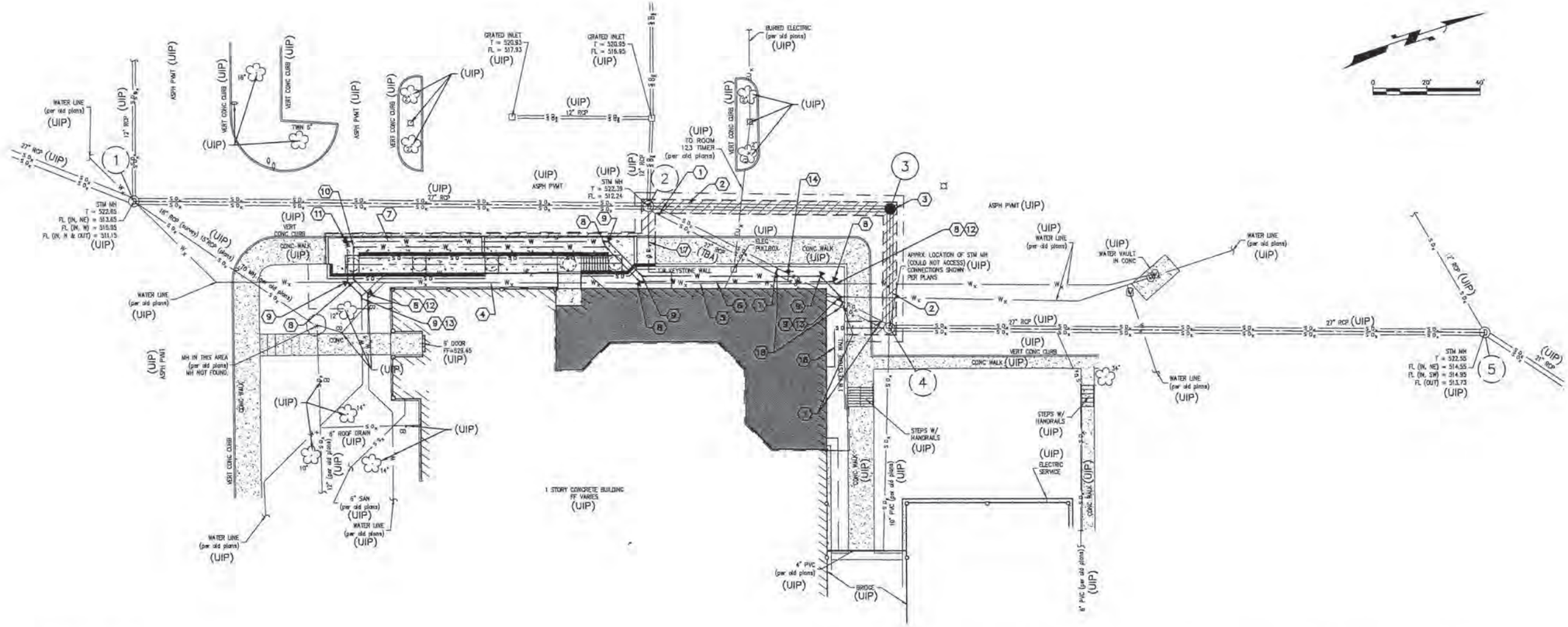
amec

Date: Brad P. Loomis – Engineer
MO PE-2009036662

ISSUE FOR BID

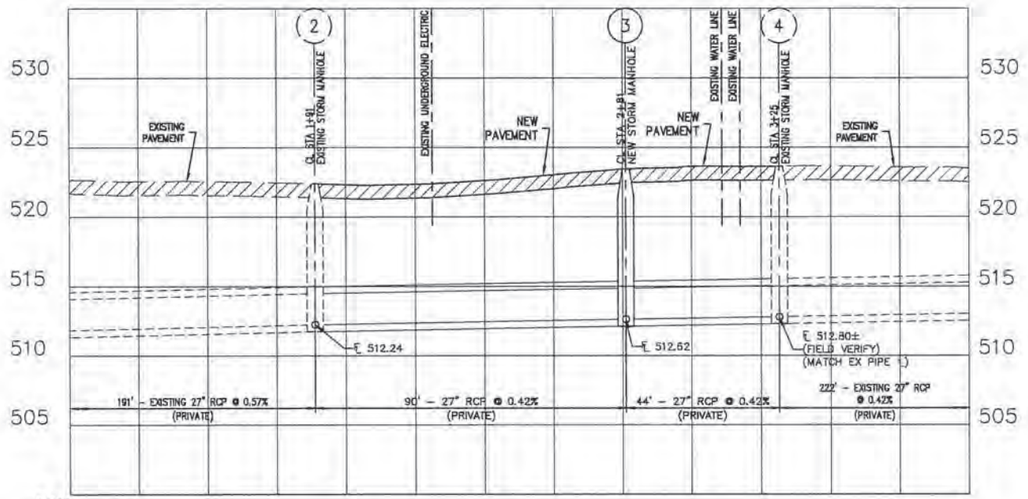
Proj. No. 2008008	REV No. 0
DR: MJR	CHK: BPL
DATE: 3/4/13	

C4.0
SHEET NUMBER



KEYED NOTES

1. EXISTING 27" RCP TO BE PLUGGED AND GROUTED FULL.
2. NEW 27" STORM LINE. CONNECT TO EXISTING MANHOLE.
3. NEW STORM MANHOLE. REFER TO STORM PROFILE THIS SHT.
4. EXISTING 4" WATER LINE TO BE REMOVED.
5. EXISTING 8" WATER LINE TO BE REMOVED.
6. NEW 4" WATER LINE.
7. NEW 8" WATER LINE.
8. NEW 45° BEND – 4". SEE THRUST BLOCK DETAIL ON SHT. C6.0.
9. NEW 45° BEND – 8". SEE THRUST BLOCK DETAIL ON SHT. C6.0.
10. NEW 90° BEND – 4". SEE THRUST BLOCK DETAIL ON SHT. C6.0.
11. NEW 90° BEND – 8". SEE THRUST BLOCK DETAIL ON SHT. C6.0.
12. CONNECT TO EXISTING 4" WATER LIINE. NOTIFY OWNER 48 HOURS PRIOR TO MAKING NEW CONNECTION.
13. CONNECT TO EXISTING 8" WATER LIINE. NOTIFY OWNER 48 HOURS PRIOR TO MAKING NEW CONNECTION.
14. RELOCATED FIRE HYDRANT.
15. LIMITS OF CONSTRUCTION.
16. 36 LF OF NEW 6" PVC @ 2.00% MIN. CONNECT FROM BUILDING TO MANHOLE.
17. 37 LF OF NEW 6" PVC @ 2.00% MIN. CONNECT FROM BUILDING TO MANHOLE.
18. REMOVE 27 LF OF EXISTING 27" RCP. BACKFILL WITH CLEAN SOIL.



NOTE

1. THE REMOVAL AND REPLACEMENT, OR REHABILITATION OF EXISTING MANHOLES 2 AND 4 WILL BE DETERMINED BY THE MSD FIELD INSPECTOR. IF THE STRUCTURE IS DETERMINED TO REMAIN IN PLACE, THEN THE TOP SHALL BE ADJUSTED TO GRADE, IF NEEDED.

STORM PROFILE
SCALE: 1"=5' VERT.
1"=20' HORIZ.

MSD P-11600-XX BASE MAP: 16P

PLOT DATE: 3/11/2013 8:34:55 AM

FILE: P:\SITES\2011\082011002 PARKWAY\10 CAD\XX NORTH HIGH EA SURVEYS\DWGS\PLANS\C-NORTH HIGH (FINAL) — C-SP0002.DWG

REVISIONS

NO.	DESCRIPTION	BY	DATE

PROJECT: PARKWAY WEST HIGH SCHOOL
PSD PROJECT: 561201B
FINE ARTS RENOVATIONS
PLAN AND PROFILE

TITLE: UTILITY PLAN

CLIENT: PARKWAY SCHOOL DISTRICT
455 North Woods Mill Road
Chesterfield, Missouri 63017
Phone: 314-415-8100 Fax: 314-415-8207

amec

AMEC Earth & Environmental, Inc.
15823 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-386-3964
Disciplines: Engineering Corporation
Corp Cert. of Auth. #2007000338

Date
Brad F. Loomis - Engineer
MO PE-2008098692

ISSUE FOR BID

Proj. No. 2008008	REV No. 0
DR MJR	CHK BFL
DATE 3/4/13	

C5.0
SHEET NUMBER

EXHIBIT-T

NORTH HIGH

BMP ORIGINAL PROJECT INFORMATION

--FINE ARTS ADDITION
--SYNTHETIC TURF FIELDS
--STORM SHELTER ADDITION

PARKWAY
SCHOOLS
HIGHER EXPECTATIONS.
BRIGHTER FUTURES.

NORTH HIGH SCHOOL
FINE ARTS RENOVATIONS

12860 Fee Fee Road
Creve Coeur, MO 63146
Project Number: 561201B
for
Parkway Schools
Facilities Department
363 North Woods Mill Road, Chesterfield, MO 63017

CERTIFICATION OF RESPONSIBILITY

I hereby specify, pursuant to RSMo327.411 that the documents intended to be authenticated by my seal are limited to:

Drawings:
A0.0, A0.1, A0.2, D1.0, D1.1, A1.0, A1.1, A2.0, A3.0, A3.1, A3.2, A3.3, A3.4, A3.5, A4.0, A6.0, A6.1, A7.0, A8.0, A9.0
Specifications:
000110, 024100, 031000, 03200, 033000, 035400, 051200, 053100, 054000, 061000, 072100, 072400, 074413, 075213, 076200, 077100, 078100, 078400, 079005, 079513, 081213, 081416, 083100, 084313, 087100, 088000, 092113, 095100, 096500, 096800, 096813, 099000, 102601, 104400, 316329
Therefore, because I did not prepare nor supervise drawings or specifications not listed above, I hereby disclaim any responsibility for all other drawings, specifications, estimates, reports or other documents or instruments relating to and intended to be used for any part or parts of the:

Project: FINE ARTS RENOVATIONS

Location: NORTH HIGH SCHOOL, CREVE COEUR, MO

Professional Seal

Signature and Date

CERTIFICATION OF RESPONSIBILITY

I hereby specify, pursuant to RSMo327.411 that the documents intended to be authenticated by my seal are limited to:

Drawings:
S1.1, S1.2, S1.3, S1.4, S1.5, S2.1, S2.2, S3.1, S3.2, S4.1, S4.2, S5.1

Specifications:
031000, 03200, 033000, 035400, 051200, 053100, 054000

Therefore, because I did not prepare nor supervise drawings or specifications not listed above, I hereby disclaim any responsibility for all other drawings, specifications, estimates, reports or other documents or instruments relating to and intended to be used for any part or parts of the:

Project: FINE ARTS RENOVATIONS

Location: NORTH HIGH SCHOOL, CREVE COEUR, MO

Professional Seal

Signature and Date

CERTIFICATION OF RESPONSIBILITY

I hereby specify, pursuant to RSMo327.411 that the documents intended to be authenticated by my seal are limited to:

Drawings:
P001, P002, P101, P201, M001, M101, M102, M201, M301, E0.1, E1.1, E1.2, E1.3
Specifications:
220548, 220719, 221005, 221008, 230593, 230713, 233100, 233300, 233700, 237413, 260501, 260519, 260529, 260534, 260537, 260553, 262726, 265100, 275117, 283100
Therefore, because I did not prepare nor supervise drawings or specifications not listed above, I hereby disclaim any responsibility for all other drawings, specifications, estimates, reports or other documents or instruments relating to and intended to be used for any part or parts of the:

Project: FINE ARTS RENOVATIONS

Location: NORTH HIGH SCHOOL, CREVE COEUR, MO

Professional Seal

Signature and Date

CERTIFICATION OF RESPONSIBILITY

I hereby specify, pursuant to RSMo327.411 that the documents intended to be authenticated by my seal are limited to:

Drawings:
C-1, C-2, C-3, C-4, C-5, C-6, DA-1, DA-2, SWPPP-1, SUV-1
Specifications:

Therefore, because I did not prepare nor supervise drawings or specifications not listed above, I hereby disclaim any responsibility for all other drawings, specifications, estimates, reports or other documents or instruments relating to and intended to be used for any part or parts of the:

Project: FINE ARTS RENOVATIONS

Location: NORTH HIGH SCHOOL, CREVE COEUR, MO

Professional Seal

Signature and Date

BOZOIAN GROUP ARCHITECTS L.L.C.

PERMIT DOCUMENTS - ISSUED FOR CONSTRUCTION
03/11/2013

A

AB	ACOUSTICAL BOARD
ACM	ASBESTOS CONTAINING MATERIAL
ACT	ACOUSTICAL TILE OR CEILING
ACTR	RATED ACOUSTICAL CEILING
ACWP	ACOUSTICAL WALL PANEL
AD	AREA DRAIN
ADA	AMERICANS W/ DISABILITIES ACT
ADD	ADDENDA
ADJ	ADJUSTABLE OR ADJACENT
AFF	ABOVE FINISH FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
ALT	ALTERNATE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AP	ACOUSTICAL PANEL OR ACCESS PANEL
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL

B

BD	BOARD
BITUM	BITUMINOUS
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM OR BENCH MARK
BO	BOTTOM OF
BOT	BOTTOM
BOW	BOTTOM OF WALL
BRG	BEARING
BSMT	BASEMENT

C

C	COLOR
CAB	CABINET
CC	CENTER TO CENTER
CD	CONSTRUCTION DOCUMENTS
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
CFMF	COLD-FORMED METAL FRAMING
CI	CAST IRON
CJ	CONTROL JOINT
CL	CENTER LINE
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONSTR	CONSTRUCTION
CONTR	CONTRACTOR
CORR	CORRIDOR
CPT	CARPET
CS	COUNTERSINK
CSMT	CASEMENT
CT OR C TILE	CERAMIC TILE
CTR	CENTER
CW	COLD WATER

D

D	DRAIN
DBL	DOUBLE
DEPT	DEPARTMENT
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DISP	DISPENSER
DLO	DAY LIGHT OPENING
DN	DOWN
DO	DOOR OPENING
DR	DOOR
DS	DOWN SPOUT
DTL	DETAIL
DWG(S)	DRAWING(S)
DWL	DOWEL

E

EA	EACH
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMER	EMERGENCY
ENCL	ENCLOSURE
ENGR	ENGINEER
EQ	EQUAL
EQUIP	EQUIPMENT
EWC	ELECTRICAL WATER COOLER
EX OR EXIST	EXISTING
EXH	EXHAUST
EXT	EXTERIOR

F

FA	FIRE ALARM
FAB	FABRIC
FD	FLOOR DRAIN
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FH	FIRE HYDRANT
FIN	FINISH
FIN FL	FINISH FLOOR
FIN GR	FINISH GRADE
FLR	FLOOR
FNDN OR FNDTN	FOUNDATION
FP	FIRE PROTECTION
FR	FIRE RESISTANT OR FIRE RETARDANT
FRMG	FRAMING
FRP	FIBER REINFORCED PLASTIC
FRTP	FIRE RETARDANT TREATED PLYWOOD
FRTW	FIRE RETARDANT TREATED WOOD
FS	FOOD SERVICE OR FULL SIZE
FT	FOOT OR FEET
FTG	FOOTING
FURN	FURNISH
FV	FIELD VERIFY

G

GA	GAUGE
GALV	GALVANIZED
GB	GYPSUM BOARD
GC	GENERAL CONTRACTOR
GFRC	GLASS FIBER REINFORCED CONCRETE
GL	GLASS
GLZ	GLAZED
GR	GRADE
GYP BD	GYPSUM BOARD

H

HAZMAT	HAZARDOUS MATERIALS
HB	HOSE BIB
HC	HANDICAP OR HOLLOW CORE
HDWD	HARDWOOD
HDWR	HARDWARE
HM	HOLLOW METAL
HP	HIGH POINT
HT	HEIGHT
HW	HOT WATER

I

ICC	INTERNATIONAL CODE COUNCIL
ID	INSIDE DIAMETER
IN	INCH
INSUL	INSULATION
INT	INTERIOR

J

JAN	JANITOR
JC	JANITOR'S CLOSET
JST	JOIST
JT	JOINT

K

KIT	KITCHEN

L

LAB	LABORATORY
LAM	LAMINATE
LAV	LAVATORY
LDRY	LAUNDRY
LG	LENGTH
LKR	LOCKER
LP	LOW POINT

M

MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MDF	MEDIUM DENSITY FIBERBOARD
MECH	MECHANICAL
MEP	MECHANICAL ELECTRICAL PLUMBING
MEPFP	MECHANICAL ELECTRICAL PLUMBING FIRE PROTECTION
MFR	MANUFACTURER
MGR	MANAGER
MH	MANHOLE OR MAGNETIC HOLD OPEN
MIN	MINIMUM
MISC	MISCELLANEOUS
MLDG	MOLDING
MO	MASONRY OPENING
MOD	MODIFIED
MTD	MOUNTED
MTL	METAL
MUL	MULLION

N

NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NE	NORTHEAST
NO	NUMBER
NOM	NOMINAL
NRC	NOISE REDUCTION COEFFICIENT
NS	NON-SLIP
NTS	NOT TO SCALE
NW	NORTHWEST

O

OA	OVERALL
OC	ON CENTER
OCC	OCCUPANT
OD	OUTSIDE DIAMETER OR OVERFLOW DRAIN
OF	OUTSIDE FACE OR OVERFLOW
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED OWNER INSTALLED
OG	OBSCURE GLAZING
OH	OVERHEAD
OPNG	OPENING
OPP	OPPOSITE

P

PLAM	PLASTIC LAMINATE
PART BD	PARTICLE BOARD
PARTN	PARTITION
PC	PRECAST
PL	PLATE
PLS OR PLAS	PLASTER
PLY WD	PLYWOOD
PNL	PANEL
PNT	PAINT
PR	PAIR
PREFAB	PREFABRICATED
PREFIN	PREFINISHED
PT	PRESSURE TREATED OR PAINT OR POINT
PTD	PAINTED
PVC	POLYVINYL CHLORIDE

R

R	RADIUS OR RISER OR RATED
RAD	RADIUS
RA	RETURN AIR
RB	RUBBER
RBM	REINFORCED BRICK MASONRY
RCMU	REINFORCED CONCRETE MASONRY UNIT
RCP	REFLECTED CEILING PLAN
RD	ROOD DRAIN
RE OR REF	REFER OR REFER TO
REBAR	REINFORCEMENT BAR
REINF	REINFORCED OR REINFORCING
REQD	REQUIRED
RFG	ROOFING
RLCD	RELOCATED
RM	ROOM
RMN	REMAIN
RMVD	REMOVED
RO	ROUGH OPENING
RP	RESIN PANEL
RPL	REPLACE
RT	RESILIENT TILE

S

S	SPANDREL
SA	SUPPLY AIR
SAB	SOUND ATTENUATION BLANKET
SC	SOLID CORE
SCHED	SCHEDULE
SE	SOUTHEAST
SHR	SHOWER
SHT	SHEET
SIM	SIMILAR
SPEC	SPECIFICATION
SPF	SOLID POLYMER FINISH
SPR	SPRINKLER
SQ	SQUARE
SS	STAINLESS STEEL
SSM	SOLID SURFACE MATERIAL
ST	STAIN
STC	SOUND TRANSMISSION CLASS
STD	STANDARD
STL	STEEL
STOR	STORAGE
STR	STRUCTURAL OR STRUCTURE
STRFRNT	STOREFRONT
SUSP	SUSPENDED
SW	SOUTHWEST
SWC	SOLID WOOD CORE
SYM	SYMMETRICAL

T

T	TREAD OR TEMPERED
T & G	TONGUE & GROOVE
TBD	TO BE DETERMINED
TBS	TO BE SELECTED
TCP	TERRA COTTA PANEL
TEL	TELEPHONE
TEMP	TEMPERED
TH	THICK OR THICKNESS
TO	TOP OF
TOB	TOP OF BEAM
TOC	TOP OF CONCRETE OR TOP OF CURB
TOF	TOP OF FOOTING
TOJ	TOP OF JOIST
TOM	TOP OF MASONRY
TOS	TOP OF STEEL
TOW	TOP OF WALL
TR WD	TREATED WOOD
TR FN	TROWEL FINISHED
TRZ	TERRAZZO
TS	TUBE STEEL
TV	TELEVISION
TYP	TYPICAL

U

UL	UNDERWRITERS LABORATORY
UCR	UNDER COUNTER REFRIGERATOR
UNO	UNLESS NOTED OTHERWISE
UON	UNLESS OTHERWISE NOTED

V

V	VINYL
VAR	VARIES
VAT	VINYL ASBESTOS TILE
VB	VINYL BASE
VERT	VERTICAL
VEST	VESTIBULE
VCT	VINYL COMPOSITION TILE
VIF	VERIFY IN FIELD
VP	VINYL PANEL
VR	VAPOR RETARDER
VWC	VINYL WALL COVERING

W

W/	WITH
WH	WATER HEATER
WC	WATER CLOSET OR WALL COVERING
WD	WOOD
WK	WORK
WNDW	WINDOW
W/O	WITHOUT
WP	WORK POINT OR WATER PROOF OR WATERPROOFING
	WOOD PANEL
WR	WATER RESISTANT
WT	WEIGHT
WV	WOOD VENEER
WWF	WELDED WIRE FABRIC

GRAPHIC SYMBOLS

- ANGLE
- CENTERLINE
- CHANNEL
- PLUS OR MINUS
- DIAMETER
- PERPENDICULAR
- SQUARE INCHES
- ARCHITECTURAL PLAN, ELEVATION, OR SECTION KEYED NOTE
- ARCHITECTURAL REFLECTED CEILING PLAN KEYED NOTE
- DEMOLITION KEYED NOTE (INDICATED BY NUMBER)
- REVISION
- TOILET ACCESSORY
- WINDOW TYPE
- 101 — DOOR NUMBER
- Room name / 101 — ROOM NAME AND NUMBER
- 9'-0" — CEILING HEIGHT AFF
- PARTITION TYPE (INDICATED BY LETTER FOLLOWED BY A NUMBER)
- PLAN NORTH SYMBOL

DETAIL NUMBER / SHEET NUMBER — EXTERIOR ELEVATION

DETAIL NUMBER / SHEET NUMBER — INTERIOR ELEVATION

DETAIL NUMBER / SHEET NUMBER — SIM WALL OR BUILDING SECTION

DETAIL NUMBER / SHEET NUMBER — SIM ENLARGED PLAN OR DETAIL REFERENCE

LINE OF HIDDEN OR OVERHEAD CONSTRUCTION, OR CONSTRUCTION TO BE REMOVED ON DEMO PLAN

CENTERLINE OR FLOOR LINE IN SECTION, ELEVATION, OR PLAN

EXISTING CONSTRUCTION TO REMAIN (UNLESS OTHERWISE NOTED)

EXISTING CONSTRUCTION TO BE REMOVED OR RELOCATED (UNLESS OTHERWISE NOTED)

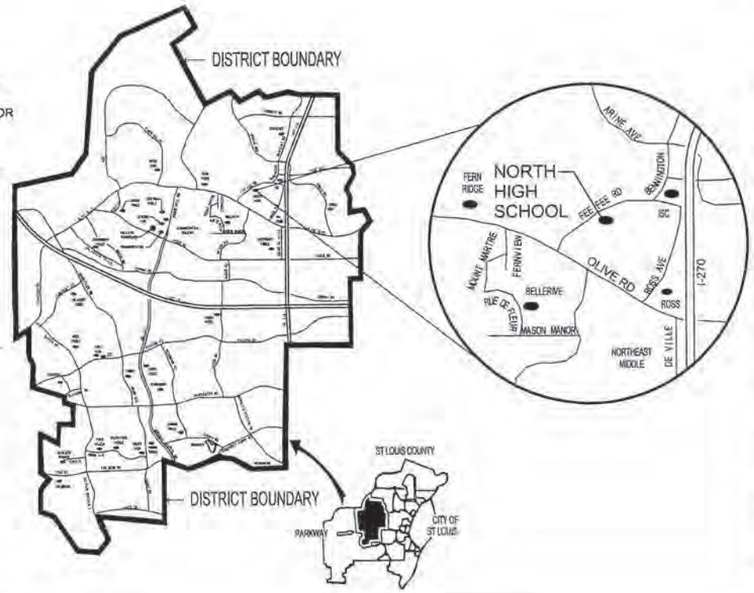
NEW CONSTRUCTION

EL 100'-0" / 2 1/8" — FINISH FLOOR OR FINISH GRADE ELEVATION

1/8" = 1'-0" — GRAPHIC SCALE

FURNITURE OR EQUIPMENT -NOT IN CONTRACT

LOCATION MAP



DRAWING INDEX

-	COVER
A0.0	ABBREVIATIONS, SYMBOLS, INDEX, & LOCATION MAP
C-1	CIVIL ABBREVIATIONS, SYMBOLS, INDEX
C-2	DEMOLITION PLAN
C-3	SITE PLAN
C-4	GRADING PLAN
C-5	UTILITY PLAN
C-6	SITE DETAILS
C-7	SITE DETAILS
C-8.0	DRAINAGE AREA MAP (PRE-PROJECT CONDITIONS)
C-8.1	DRAINAGE AREA MAP (POST PROJECT CONDITIONS)
C-9.0	SWPPP PLAN
SUV-1	TOPOGRAPHIC SURVEY
A0.1	ACCESSIBILITY STANDARD DETAILS
A0.2	LIFE SAFETY PLAN, CODE INFORMATION
D1.0	PARTIAL DEMOLITION PLANS
D1.1	PARTIAL DEMOLITION REFLECTED CEILING PLAN
A1.0	PARTIAL FLOOR PLANS
A1.1	PARTIAL ROOF PLAN
A2.0	EXTERIOR ELEVATIONS & BUILDING SECTION
A3.0	WALL SECTIONS
A3.1	WALL SECTIONS
A3.2	WALL SECTIONS & EXTERIOR DETAILS
A3.3	ROOF DETAILS
A3.4	EXTERIOR DETAILS
A3.5	EXTERIOR DETAILS & PLAN DETAILS
A4.0	PARTIAL REFLECTED CEILING PLAN & CEILING DETAILS
A6.0	PARTITION TYPES
A6.1	PARTITION DETAILS
A7.0	DOOR SCHEDULE & MISCELLANEOUS DETAILS
A8.0	INTERIOR ELEVATIONS
A9.0	ROOM FINISH PLAN AND SCHEDULE
S1.1	GENERAL NOTES
S1.2	SPECIAL INSPECTION TABLES
S1.3	TYPICAL DETAILS
S1.4	TYPICAL DETAILS
S1.5	TYPICAL DETAILS
S2.1	FOUNDATION PLAN
S2.2	ROOF FRAMING PLAN
S3.1	FOUNDATION SECTIONS & DETAILS
S3.2	FOUNDATION SECTIONS & DETAILS
S4.1	FRAMING SECTIONS & DETAILS
S4.2	FRAMING SECTIONS & DETAILS
S5.1	VERTICAL BRACES & DETAILS
P0.1	PLUMBING GENERAL NOTES, SYMBOLS, ABBREV & CODE BLOCK
P1.0	PLUMBING PLAN - NEW WORK
P1.1	PLUMBING ROOF PLAN - NEW WORK
M0.1	MECHANICAL NOTES, SYMBOLS, ABBREVIATIONS, AND CODE BLOCK
M1.0	MECHANICAL PLAN - DEMOLITION
M1.1	MECHANICAL PLANS - NEW WORK
E0.1	ELECTRICAL NOTES, SYMBOLS, ABBREVIATIONS, AND CODE BLOCK
E1.0	ELECTRICAL POWER PLAN - DEMOLITION
E1.1	ELECTRICAL POWER PLANS - NEW WORK
E1.2	ELECTRICAL LIGHTING PLAN - DEMOLITION
E1.3	ELECTRICAL LIGHTING PLAN - NEW WORK
E1.4	ELECTRICAL FIRE ALARM PLAN - DEMOLITION
E1.5	ELECTRICAL FIRE ALARM PLAN - NEW WORK

LIST OF ALTERNATES:

DEDUCTIVE ALTERNATE NUMBER ONE:
REMOVE FROM THE PROJECT SCOPE ALL WORK INSIDE ROOM 1523, INCLUDING THE CREATION OF ROOM 1523A.

PHASING:

ALL SPACES IN THE EXISTING BUILDING SHALL BE APPROVED FOR OCCUPANCY PRIOR TO THE BEGINNING OF THE 2013/2014 SCHOOL YEAR. TEMPORARY DUST PARTITION LOCATIONS SHOWN ON THE PLAN WILL HAVE TO BE ADJUSTED PRIOR TO THE BEGINNING OF THE SCHOOL YEAR TO ALLOW ACCESS TO ALL EXISTING SPACES AND TO CONTROL CONSTRUCTION DUST (COORDINATE WITH OWNER).

PROVIDE TEMPORARY WEATHER PROTECTION AS NEEDED TO PROTECT THE EXISTING CLASSROOM SPACES FROM THE ELEMENTS. THE DRAWINGS INDICATE PROPOSED TEMPORARY EXTERIOR WALL LOCATIONS AND DETAILS.

THE TRANSITION BETWEEN TEMPORARY AND PERMANENT OPENINGS, PARTITIONS, ETC AND ALL REMAINING WORK IN EXISTING SPACES SHALL BE DONE OUTSIDE OF SCHOOL HOURS.

PERMANENT PARTITIONS THAT ALSO SERVE AS TEMPORARY WEATHER PARTITIONS (BORDER BETWEEN ADDITION AND EXISITNG BUILDING) MAY, AT THE CONTRACTOR'S OPTION, EITHER HAVE OPENINGS FRAMED AND INFILLED, OR HAVE OPENINGS CUT OUT OF THE PARTITIONS AND FRAMED DURING THE CONVERSION WHEN THE ADDITION IS ENCLOSED AND DRY.

Katherine R. Bozoian
Architect, 005179
Bozoian Group Architects, LLC
Architectural Corporation, LC 0080372

BOZOIAN GROUP ARCHITECTS, LLC
2201 South Brentwood Blvd.
Suite 105
St. Louis, Missouri 63144
Phone: 314-962-4100
Fax: 314-962-4107

STRUCTURAL:
KPFF Consulting Engineers
1630 Des Peres Road, Suite 100
St Louis, MO 63131
TELEPHONE: (314) 835-0749
FAX: (314) 535-0524

MEPFP
Ritter Berkeley Consulting Engineers
150 Long Road, Suite 200
Chesterfield, MO 63005
TELEPHONE: (636) 532-1778
FAX: (636) 532-2080

CIVIL:
AMEC Earth & Environmental, Inc.
16933 Clayton Road, Suite 215
Ballwin, MO 63011
TELEPHONE: (636) 386-3800
FAX: (636) 386 - 3804

Project Number: 561201B

NORTH HIGH SCHOOL FINE ARTS RENOVATIONS

Parkway School District

12860 Fee Fee Road
St. Louis, MO 63146

PERMIT DOCUMENTS - ISSUED FOR CONSTRUCTION

ABBREVIATIONS, SYMBOLS, INDEX, & LOCATION MAP

REVISIONS		
NO.	DESCRIPTION	DATE

03/11/2013

A0.0

GENERAL NOTES

1. ALL DISTURBED AREAS TO BE LAWN SHALL BE RESTORED WITH TOPSOIL AND SOD.
2. THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY FOR CONTROLLING ALL SILTATION AND EROSION OF THE PROJECT AREA. THE CONTRACTOR SHALL USE THE MEANS NECESSARY TO CONTROL SILTATION AND EROSION. CONTROL MEANS AND METHODS SHALL FOLLOW ST. LOUIS COUNTY "SEDIMENT & EROSION CONTROL MANUAL" AND REQUIREMENTS OF THE ORDINARY LAND DISTURBANCE PERMIT. THE OWNER OR ST. LOUIS COUNTY MAY AT THEIR OPTION DIRECT THE CONTRACTOR AS DEEMED FIT TO CONTROL EROSION. CONTROL SHALL COMMENCE WITH LAND DISTURBANCE AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY BOTH ST. LOUIS COUNTY AND THE OWNER. ALL COST ASSOCIATED WITH EROSION CONTROL SHALL BE INCLUDED IN THE CONTRACTOR'S BID.
3. PROPOSED ELEVATIONS ARE SHOWN TO FINISH PAVEMENT OR GRADE.
4. NOTIFY THE ST. LOUIS COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS 48 HOURS PRIOR TO THE COMMENCEMENT OF GRADING OR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
5. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
6. NO EXCAVATION SHALL BE MADE SO CLOSE TO THE PROPERTY LINE AS TO ENDANGER ANY ADJOINING PROPERTY OR ANY PUBLIC OR PRIVATE STREET WITHOUT SUPPORTING AND PROTECTING SUCH PUBLIC OR PRIVATE STREET OR PROPERTY FROM SETTLING, CRACKING OR OTHER DAMAGE.
7. CONTRACTOR TO PLACE VEHICLE WASHDOWN STATION AT CONSTRUCTION ENTRANCE IN ACCORDANCE WITH ST. LOUIS COUNTY REQUIREMENTS.
8. ANY EXISTING IMPROVEMENTS DAMAGED BY CONSTRUCTION ON THE PROJECT PROPERTY SHALL BE REPLACED IN KIND AT THE CONTRACTORS EXPENSE.
9. ALL EXISTING IMPROVEMENTS ARE TO REMAIN UNLESS NOTED OTHERWISE.
10. THE UNDERGROUND UTILITIES SHOWN HEREON ARE TAKEN FROM UTILITY LOCATIONS AS MARKED IN THE FIELD BY DIGRITE AND MAPS OBTAINED FROM SPIRE, METROPOLITAN ST. LOUIS SEWER DISTRICT AND MISSOURI-AMERICAN WATER COMPANY AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, ALL UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMO.
11. SITE IS SUBJECT TO PRIVATE UTILITY INSTALLATIONS. PRIVATE UTILITY INSTALLATIONS DO NOT APPEAR ON UTILITY BASE MAPS, NOR DOES DIGRITE LOCATE PRIVATE UTILITIES.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING TOPS AND FLOWLINES OF ALL EXISTING SEWERS PRIOR TO COMMENCING WORK AND NOTIFY THE ENGINEER OF DISCREPANCIES.
13. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH SITE IMPROVEMENT CONSTRUCTION SHALL CONFORM TO THE LATEST STANDARDS AND SPECIFICATIONS OF ST. LOUIS COUNTY.
14. ALL GRADING AND DRAINAGE SHALL CONFORM TO THE LATEST STANDARDS AND SPECIFICATIONS OF ST. LOUIS COUNTY AND THE METROPOLITAN ST. LOUIS SEWER DISTRICT (MSD).
15. MSD STANDARD CONSTRUCTION: ALL STORM AND SANITARY SEWER STRUCTURES AND APPURTENANCES TO BE DEDICATED TO MSD, OR TO BE PRIVATE UNDER MSD INSPECTION, SHALL CONFORM TO THE METROPOLITAN ST. LOUIS SEWER DISTRICT, STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWER AND DRAINAGE FACILITIES, 2009, OR MOST RECENT EDITION. THAT WILL INCLUDE STANDARD DETAILS SHOWN THEREIN, AND SHALL INCLUDE ALL SUBSEQUENT CHANGES MADE THERETO.
16. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE GAS SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF SPIRE.
17. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE WATER SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF MISSOURI AMERICAN WATER COMPANY.
18. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE PHONE SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF AT&T DISTRIBUTION.
19. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH ELECTRIC SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF AMEREN MISSOURI.
20. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH CABLE SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF SPECTRUM.
21. INSTALLATION OF LANDSCAPING AND ORNAMENTAL ENTRANCE MONUMENT OR IDENTIFICATION SIGNAGE CONSTRUCTION, IF SHOWN ON PLANS, SHALL BE REVIEWED BY THE DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS FOR SIGHT DISTANCE CONSIDERATIONS AND APPROVED PRIOR TO INSTALLATION OR CONSTRUCTION.
22. ALL STORM WATER SHALL BE DISCHARGED AT AN ADEQUATE NATURAL DISCHARGE POINT. SINKHOLES ARE NOT ADEQUATE DISCHARGE POINTS.
23. INTERIM STORM WATER DRAINAGE CONTROL IN THE FORM OF SILTATION CONTROL MEASURES ARE REQUIRED.
24. ALL ADJACENT PROPERTY OWNERS SHALL BE GIVEN NOTICE 48 HOURS IN ADVANCE OF ANY WORK.
25. ANY DISTURBED OFF SITE PROPERTY (I.E. BUSHES, FENCES, MAILBOXES, ETC.) SHALL BE REPLACED, IN LIKE KIND, AT THE CONTRACTOR'S EXPENSE.
26. PROVIDE ADEQUATE OFF-STREET PARKING FOR CONSTRUCTION EMPLOYEES. PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVEWAY CONDITIONS.
27. ALL EXCAVATIONS, GRADING OR FILLING SHALL HAVE A FINISHED GRADE NOT TO EXCEED A 4:1 SLOPE (25%), UNLESS SPECIFICALLY APPROVED OTHERWISE. NO SLOPE SHALL EXCEED 3:1 MAXIMUM.
28. ALL DISTURBED EARTH AREAS WITHIN ST. LOUIS COUNTY RIGHT-OF-WAY SHALL BE SODDED.
29. INTERNAL (PRIVATE) STORM SEWERS WILL REQUIRE SEPARATE DRAINLAYERS PERMIT FROM ST. LOUIS COUNTY DEPARTMENT OF PUBLIC WORKS.
30. ALL SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASH-DOWN STATION PRIOR TO LEAVING THE SITE SO THAT NO SEDIMENT IS TRACKED ONTO COUNTY ROADS.
31. UTILITIES MUST REMAIN IN CONTINUOUS SERVICE UNLESS WRITTEN PERMISSION IS RECEIVED FROM THE OWNER TO ALLOW INTERRUPTION OF SERVICE.
32. ALL SIDEWALKS TO BE CONSTRUCTED TO CURRENT ST. LOUIS COUNTY AND ADA STANDARDS.
33. ALL PROPOSED IMPROVEMENTS SHALL BE CONSTRUCTED TO ST. LOUIS COUNTY STANDARDS.
34. ANY LAND DISTURBANCE ACTIVITY INVOLVING ONE ACRE OR MORE OF LAND IS A MAJOR LAND DISTURBANCE (MLD) AND A LAND DISTURBANCE PERMIT FOR THE MLD MUST BE OBTAINED FROM THE DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS. ANY LAND DISTURBANCE ACTIVITY INVOLVING LESS THAN ONE ACRE OF LAND IS AN ORDINARY LAND DISTURBANCE AND THE APPROPRIATE PERMIT MUST BE OBTAINED FROM THE DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS.
35. THERE SHALL BE NO STEPS TO ACCESSIBLE ENTRANCE DOORS.
36. THE LANDSCAPING PLAN IS APPROVED PER SECTION 1003.162(2.2.c) OF THE ZONING ORDINANCE.
37. PRIOR TO IMPROVEMENT/CONSTRUCTION PLAN APPROVAL, THE ENGINEER SHALL PROVIDE A SIGNED AND SEALED NOTE ON THE PLANS FOR BOTH RESIDENTIAL AND COMMERCIAL PROJECTS, STATING THAT THE UNIMPROVED EXISTING SIDEWALK IN THE LIMITS OF THE PROJECT MEETS CURRENT ST. LOUIS COUNTY/ADA STANDARDS.
38. THE PERMIT PROCESS REQUIRES A SEPARATE IMPROVEMENT PLAN SUBMITTAL TO THE ST. LOUIS COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS.
39. ALL IMPROVEMENTS WILL CONFORM TO RELATED ST. LOUIS COUNTY CAPITAL IMPROVEMENT PROJECT AR 1468.
40. ANY ENTITY THAT PERFORMS WORK ON ST. LOUIS COUNTY MAINTAINED PROPERTY SHALL PROVIDE THE COUNTY WITH A CERTIFICATE OF INSURANCE EVIDENCING GENERAL LIABILITY COVERAGE (BODY INJURY AND PROPERTY DAMAGE) IN THE AMOUNT SPECIFIED AS THE LIMITS OF LIABILITY SET BY THE STATE FOR PUBLIC ENTITIES. SUCH CERTIFICATES SHALL INCLUDE "ST. LOUIS COUNTY" AS ADDITIONALLY INSURED AND SHALL BE PROVIDED PRIOR TO THE ISSUANCE OF ANY PERMIT. THE CERTIFICATE SHALL PROVIDE FOR A 30 DAY POLICY CANCELLATION NOTICE TO ST. LOUIS COUNTY. UPON REQUEST, THE COUNTY WILL PROVIDE THE SPECIFIC AMOUNTS FOR BOTH PERSON AND PER OCCURRENCE LIMITS.
41. A PERMIT SHALL BE OBTAINED FROM THE ST. LOUIS COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS FOR ROOF DRAIN CONNECTIONS.
42. ALL RIGHT-OF-WAY CONSTRUCTION SHALL BE PER MOST CURRENT DETAILS LOCATED IN THE ST. LOUIS COUNTY DESIGN CRITERIA MANUAL AND/OR THE SEDIMENT AND EROSION CONTROL MANUAL.
43. THE CONTRACTOR SHALL MAINTAIN EXISTING TRAFFIC CONTROL SIGNS (STREET NAME, STOP, NO PARKING, ONE-WAY, TURN, ETC.) UNTIL SUCH A TIME AS THEY NEED TO BE REMOVED / RELOCATED FOR CONSTRUCTION OPERATIONS. TEMPORARY SIGNING SHALL BE IN ACCORDANCE WITH THE CURRENT VERSION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) CHAPTER 6F (TEMPORARY TRAFFIC CONTROL ZONE DEVICES). EXISTING SIGNS SHALL NOT LIE ON THE GROUND FOR ANY PERIOD OF TIME. PORTABLE SUPPORTS SHALL NOT BE LOCATED ON SIDEWALKS OR AREA DESIGNATED FOR PEDESTRIAN TRAFFIC. SIGNS SHALL BE CRASHWORTHY AND PROPERLY MAINTAINED FOR CLEANLINESS, VISIBILITY, AND PROPER POSITIONING, AND SHALL BE COORDINATED WITH THE ST. LOUIS COUNTY SIGN SHOP AT (314) 615-0242.
44. NO SLOPES WITHIN ST. LOUIS COUNTY RIGHT-OF-WAY SHALL EXCEED 3 (HORIZONTAL) TO 1 (VERTICAL).
45. ALL PROPOSED ACCESS TO ST. LOUIS COUNTY ROADS SHALL MEET MINIMUM ST. LOUIS COUNTY SIGHT DISTANCE REQUIREMENTS.
46. PRIOR TO "SPECIAL USE PERMIT" ISSUANCE BY THE ST. LOUIS COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS, A SPECIAL CASH ESCROW OR A SPECIAL ESCROW SUPPORTED BY AN IRREVOCABLE LETTER OF CREDIT, MAY BE REQUIRED TO BE ESTABLISHED WITH THE ST. LOUIS COUNTY DEPARTMENT TRANSPORTATION AND PUBLIC WORKS TO GUARANTEE COMPLETION OF THE REQUIRED ROADWAY IMPROVEMENTS.
47. CONTINUOUS PEDESTRIAN ACCESS SHALL BE PROVIDED DURING THE CONSTRUCTION PROCESS. PRIOR TO THE START OF CONSTRUCTION, ADEQUATE PEDESTRIAN ACCESS AROUND THE SITE SHALL BE PROVIDED AND VERIFIED. NO EXISTING SIDEWALK SHALL BE REMOVED WITHOUT PROVIDING ADEQUATE PEDESTRIAN FACILITIES AND ROUTES DURING CONSTRUCTION ACTIVITIES.
48. SOME RECENT CHANGES CONCERN PLASTIC PIPE MATERIALS AND PIPE FIELD TESTING AND PERFORMANCE, AND INCLUDE THE FOLLOWING:

A. PART 2 – MATERIALS OF CONSTRUCTION

1. HIGH DENSITY POLYETHYLENE (HDPE) PIPE IS NOT ALLOWED FOR GRAVITY SEWERS FOR STORM, COMBINED, OR SANITARY SEWERS THAT ARE "PUBLIC" OR "PRIVATE UNDER MSD INSPECTION".
2. POLYPROPYLENE (PP) PIPE IS ALLOWED AS FOLLOWS FOR GRAVITY SEWERS THAT ARE "PUBLIC" OR "PRIVATE UNDER MSD INSPECTION":
   a. FOR USE IN SANITARY AND COMBINED SEWERS 12 TO 60 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2764 "STANDARD SPECIFICATIONS FOR 6 TO 60 IN. POLYPROPYLENE (PP) CORRUGATED DOUBLE AND TRIPLE WALL PIPE AND FITTINGS FOR NON-PRESSURE SANITARY SEWER APPLICATIONS."
   b. FOR USE IN STORM SEWERS 12 TO 24 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2881 "STANDARD SPECIFICATION FOR 12 TO 60 IN. POLYPROPYLENE (PP) DUAL WALL PIPE AND FITTINGS FOR NON-PRESSURE STORM SEWER APPLICATIONS." OR
   c. FOR USE IN STORM SEWERS 12 TO 60 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2764 "STANDARD SPECIFICATIONS FOR 6 TO 60 IN. POLYPROPYLENE (PP) CORRUGATED DOUBLE AND TRIPLE WALL PIPE AND FITTINGS FOR NON-PRESSURE SANITARY SEWER APPLICATIONS."

B. PART 4 – PIPE SEWER CONSTRUCTION

1. SECTION B, PIPE FIELD TESTS, PARAGRAPH 2, REACH INTEGRITY TESTING – DELETE THE FIRST SENTENCE AND THE FOLLOWING REPLACEMENT APPLIES:
   a. ALL SANITARY AND COMBINED SEWERS SHALL SUSTAIN A MAXIMUM LEAKAGE LIMIT OF 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY, AS REQUIRED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES SPECIFICATIONS.
2. SECTION B, PIPE FIELD TESTS, PARAGRAPH 2, REACH INTEGRITY TESTING, SUBPARAGRAPH c, INFILTRATION/EXFILTRATION TESTING – DELETE THE SIXTH SENTENCE, CONCERNING LEAKAGE LIMITS, AND THE FOLLOWING REPLACEMENT APPLIES:
   a. THE MEASUREMENT OF LEAKAGE SHALL NOT EXCEED 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY, AS REQUIRED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES SPECIFICATIONS.
3. SECTION B, PIPE FIELD TESTS, PARAGRAPH 4, MH TESTING, SUBPARAGRAPH a, VACUUM TESTING – AFTER THE FIRST SENTENCE, THE FOLLOWING ADDITION APPLIES:
   a. THE VACUUM TEST MUST BE PERFORMED PRIOR TO BACKFILLING AROUND THE MH UNLESS THE CONTRACTOR PROVIDES DOCUMENTATION FROM THE PRECAST MH MANUFACTURER STATING THAT THE MH MAY BE VACUUM TESTED AFTER BACKFILLING HAS TAKEN PLACE. THE CONTRACTOR MUST SUBMIT THIS DOCUMENTATION PRIOR TO BACKFILLING AROUND ANY MH.
4. SECTION B, PIPE FIELD TESTS, PARAGRAPH 4, MH TESTING, SUBPARAGRAPH b, EXFILTRATION TESTING – DELETE THE SECOND SENTENCE, CONCERNING LEAKAGE LIMITS, AND THE FOLLOWING ADDITION APPLIES:
   a. FOR EXFILTRATION TESTING, THE ALLOWABLE LEAKAGE LIMIT IS 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY WHEN THE AVERAGE HEAD ON THE TEST SECTION IS THREE FEET (3') OR LESS.
   b. IF REINFORCED CONCRETE PIPE IS USED FOR SANITARY OR COMBINED SEWERS LARGER THAN 27", ALL PIPE AND JOINTS SHALL CONFORM TO ASTM C 361. IN ADDITION, IF THE DIAMETER IS LARGER THAN 48", THE JOINT TYPE MUST INCLUDE A GASKET THAT IS CONFINED IN A GROOVE IN THE SPIGOT OF THE PIPE.
49. ALL STRIPING WITHIN COUNTY RIGHT-OF-WAY SHALL BE INSTALLED BY COUNTY FORCES.
50. THE CONTRACTOR SHALL NOTIFY THE ST. LOUIS COUNTY DIVISION OF OPERATIONS STRIPING PERSONNEL AT (314) 615-0233, 24 HOURS IN ADVANCE OF ANY STRIPING RELATED WORK. ALL GRINDING OF EXISTING STRIPING AND INSTALLATION OF TEMPORARY STRIPING AS REQUIRED BY ST. LOUIS COUNTY SHALL BE PERFORMED BY THE CONTRACTOR. ALL PERMANENT STRIPING WILL BE INSTALLED BY THE ST. LOUIS COUNTY DEPARTMENT OF TRANSPORTATION.
51. ACCESS TO ALL PROPERTIES SHALL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PROCESS.
52. MAXIMUM LEGAL LENGTHS IN THE COUNTY ARE FORTY (40) FEET FOR ANY SINGLE UNIT TRUCK AND FIFTY-FIVE (55) FEET FOR ANY COMBINATION OF VEHICLES, INCLUDING THE LOAD. MAXIMUM LEGAL WIDTH IS EIGHT (8) FEET AND MAXIMUM HEIGHT IS THIRTEEN AND ONE-HALF (13 ½) FEET. LEGAL WEIGHT LIMITS IN THE COUNTY ARE THE SAME AS THOSE REQUIRED BY MISSOURI STATE LAWS, EXCEPT IN CASES WHEN THE COUNTY COUNCIL HAS ESTABLISHED ROADWAY LOAD LIMITS BY ORDINANCE OR WHEN BRIDGES ARE POSTED UNDER STATE REGULATIONS. ANY VEHICLES EXCEEDING THESE LIMITS SHALL REQUIRE A SPECIAL USE PERMIT FOR OVERWEIGHT AND/OR OVER-DIMENSION VEHICLES PRIOR TO DRIVING ON ST. LOUIS COUNTY ROADWAYS. CONTACT TONY BARNETT AT (314) 615-8515 FOR PERMITS.

BENCHMARKS

REFERENCE BENCHMARK (NAVD 88 DATUM)

8-164 ST. LOUIS COUNTY BENCHMARK ELEVATION 528.53

"ALUMINUM TABLET" SET IN SOUTHWEST END ON TOP OF RETAINING WALL; 335' NORTHEAST OF WILLOWYCK DRIVE AND 34' NORTHWEST OF CENTERLINE OF FEE FEE ROAD.

PROJECT BENCHMARK (NAVD 88 DATUM)

TBM "K" ELEVATION: 523.25

FOUND "SQUARE" ON THE SOUTH SIDE OF A CONCRETE BASE FOR THE FLAG POLE AT THE MAIN ENTRANCE TO PARKWAY NORTH HIGH SCHOOL AT THE NORTHEAST CORNER OF THE TENNIS COURTS.

STORMWATER MANAGEMENT NOTES:

$Q_{existing}$ = 20.72 cfs
$Q_{proposed}$ = 5.85 cfs
DIFFERENTIAL RUNOFF = -14.87 cfs

PROJECT DISTURBANCE = 2.820 Ac.
PROJECT MAINTENANCE = 0.509 Ac.
LIMITS OF CONSTRUCTION = 3.329 Ac.

CURRENT TOTAL DISTURBED AREA	= 2.820 Ac.
TOTAL TREATED AREA	= 3.540 Ac.
ADDITIONAL TREATMENT REQUIRED	= 0.000 Ac.

SITE IS SUBJECT TO DETENTION, CHANNEL PROTECTION, AND WATER QUALITY. DETENTION AND CHANNEL PROTECTION AND WATER QUALITY ARE BEING PROVIDED AS PART OF THIS PROJECT.

ANY FUTURE LAND DISTURBANCE AND/OR INCREASE IN IMPERVIOUS AREA ON THIS SITE MAY REQUIRE ADDITIONAL STORM WATER MANAGEMENT PER MSD REGULATIONS IN PLACE AT THAT TIME (INCLUDING TOTAL LAND DISTURBANCE AND/OR IMPERVIOUSNESS ADDED ON THIS PLAN)

REGULATORY JURISDICTIONS

CREVE COEUR FIRE PROTECTION DISTRICT
11221 OLIVE BOULEVARD
CREVE COEUR, MO 63141
314-432-6670

METROPOLITAN ST. LOUIS SEWER DISTRICT
2350 MARKET ST
ST. LOUIS, MO 63103-2555
314-768-6200

ST. LOUIS COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
41 S. CENTRAL AVENUE, 6TH FLOOR
CLAYTON, MO 63105
314-615-5184

UTILITY CONTACTS

AMEREN MISSOURI
1132 LOCUST STREET
ST. LOUIS, MO 63101
800-552-7583

AT&T DISTRIBUTION
12930 OLIVE STREET RD, 2nd FLOOR
CREVE COEUR, MO 63141
800-878-9891

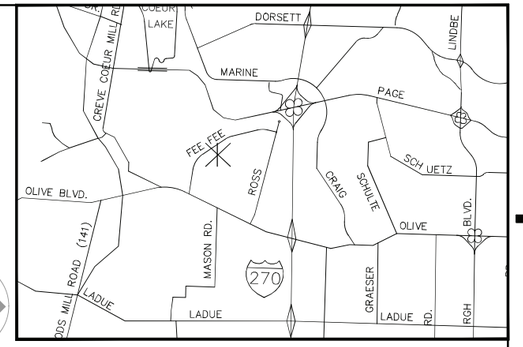
MISSOURI AMERICAN WATER COMPANY
727 CRAIG RD
ST. LOUIS, MO 63131
866-430-0820

SPECTRUM
941 CHARTER COMMONS DRIVE
TOWN AND COUNTRY, MO 63017
833-267-6097

PARKWAY SCHOOL DISTRICT
455 N. WOODS MILL ROAD
CHESTERFIELD, MO 63017
314-415-8100

SPIRE GAS COMPANY
4118 SHREWSBURY AVENUE
ST. LOUIS, MO 63119
314-342-0500

METROPOLITAN ST. LOUIS SEWER DISTRICT
2350 MARKET ST
ST. LOUIS, MO 63103-2555
314-768-6260



LOCATION MAP
NO SCALE

SHEET INDEX

C1.01	CIVIL GENERAL NOTES
C2.01	DEMOLITION PLAN
C2.02	DEMOLITION PLAN
C3.01	SITE PLAN
C3.02	SITE PLAN
C4.01	GRADING & UTILITY PLAN
C4.02	GRADING & UTILITY PLAN
C4.03	SEWER PROFILES
C4.04	SEWER PROFILES
C5.01	BMP PLAN
C5.02	BMP PLAN
C6.01	COORDINATE PLAN
C6.02	COORDINATE PLAN
C7.01	SITE DETAILS
C7.02	SITE DETAILS
C7.03	SITE DETAILS
C7.04	SITE DETAILS
C8.01	SWPPP SHEET
C9.01	EXISTING DRAINAGE AREA MAP
C10.01	PROPOSED DRAINAGE AREA MAP
	TOPOGRAPHIC SURVEY

LEGEND

SP	SPIKE TRAVERSE POINT
SS	CROSS TRAVERSE POINT
LN	LARGE NAIL TRAVERSE POINT
	DRAINAGE ARROW
12"	EXISTING TREE
	EXISTING BUSH
	EXISTING SIGN
	NEW SIGN
	EDGE OF EXISTING PAVEMENT
	EDGE OF NEW PAVEMENT
	EXISTING CURB
	NEW CURB
	NEW EROSION CONTROL
	LIMITS OF CONSTRUCTION
OU	EXISTING OVERHEAD UTILITY LINE
P-FO	EXISTING PARKWAY FIBER OPTIC LINE
FO	EXISTING FIBER OPTIC LINE
UE	EXISTING UNDERGROUND ELECTRIC LINE
W	EXISTING WATER LINE
SD_x	EXISTING STORM SEWER
SS_x	EXISTING SANITARY SEWER
	DOWNSPOUT
	TREE LINE
SD	PROPOSED STORM SEWER
	PROPOSED STORM DRAIN
SS	PROPOSED SANITARY SEWER

PP	POWER POLE
PP	POWER POLE & GUY
	FIRE HYDRANT/WATER FAUCET
	LIGHT STANDARD
	EXISTING STORM / SANITARY MH
	EXISTING GRATE INLET
	PROPOSED CURB INLET
	EXISTING AREA INLET
T	EXISTING TELEPHONE BOX
E	EXISTING ELECTRIC BOX
WV	EXISTING WATER VALVE
GV	EXISTING GAS VALVE
GM	EXISTING GAS METER
624	EXISTING 1' CONTOUR
625	EXISTING 5' CONTOUR
624	PROPOSED 1' CONTOUR
625	PROPOSED 5' CONTOUR
×601.92	EXISTING SPOT ELEVATION
	KEYED NOTE IDENTIFIER
A	COORDINATE IDENTIFIER
TP 601.62	PROPOSED SPOT ELEVATION

ABBREVIATIONS

ASPH	ASPHALT	GND	GROUND ELEVATION	R	RADIUS
ATG	ADJUST TO GRADE	GM	GLASS MAN DOOR	RCP	REINFORCED CONCRETE PIPE
BM	BENCHMARK	HC	HANDICAPPED	SMD	STEEL MAN DOOR
BOC	BACK OF CURB	IP	IRON PIPE	T	TOP
CI	CURB INLET	IR	IRON ROD	TBM	TEMPORARY BENCHMARK
CLR	CLEARANCE	LS	LIGHT STANDARD	TBR	TO BE REMOVED
CONC	CONCRETE	MAX	MAXIMUM	TBREL	TO BE RELOCATED
CPP	CORRUGATED PLASTIC PIPE	ME	MATCH EXISTING	TBR&R	TO BE REMOVED AND REPLACED
DCI	DOUBLE CURB INLET	MH	MH	TC	TOP OF CURB
ELEV	ELEVATION	MIN	MINIMUM	TF	TOP OF FOUNDATION
EOA	EDGE OF ASPHALT	NTS	NOT TO SCALE	TP	TOP OF PAVEMENT
EOC	EDGE OF CONCRETE	PB	ELECTRIC PULLBOX	TR	TO REMAIN
EX	EXISTING	P.B.	PLAT BOOK	TYP	TYPICAL
FG	FINISH GRADE	PC	POINT OF CURVATURE	UIP	USE IN PLACE
FH	FIRE HYDRANT	PCC	POINT OF COMPOUND CURVATURE	UP	UTILITY POLE
FL	FLOWLINE	PGS.	PAGES	VCP	VITRIFIED CLAY PIPE
FOC	FACE OF CURB	PT	POINT OF TANGENCY	WM	WATER METER
GI	GRATE INLET	PVMT	PAVEMENT	WV	WATER VALVE

20MSD-00000 BASEMAP: 15P3, 16P2

LAST EDITED: 1/14/2022 2:51 PM
FILE PATH: P:\StLouis\2019\3251990\1 Parkway\11-CAD\3251990114 North High\03-PLANS\Storm Shelter Addition\5620018cn0000000010.dwg

ISSUE FOR BID/PERMIT

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel.: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com
WSP Architecture, Inc.
Missouri State Certificate of Authority: #2004006234

wood.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-200-5100 Fax: 636-402-3005
Discipline: Engineering Corporation
Corporate Certificate Of Authority: #2002000326

REV	DESCRIPTION	DATE

NORTH HIGH SCHOOL
STORM SHELTER ADDITION
& SITE IMPROVEMENTS
12860 FEE FEE ROAD
ST. LOUIS, MISSOURI 63146

PARKWAY SCHOOL DISTRICT

STATE OF MISSOURI
STUART M. HAW III
NUMBER E-22997
REGISTERED PROFESSIONAL ENGINEER
Date: 1/14/2022
Stuart M. Haw III - Engineer
MO E-22997

PROFESSIONAL SEAL

SHEET NAME
CIVIL GENERAL NOTES

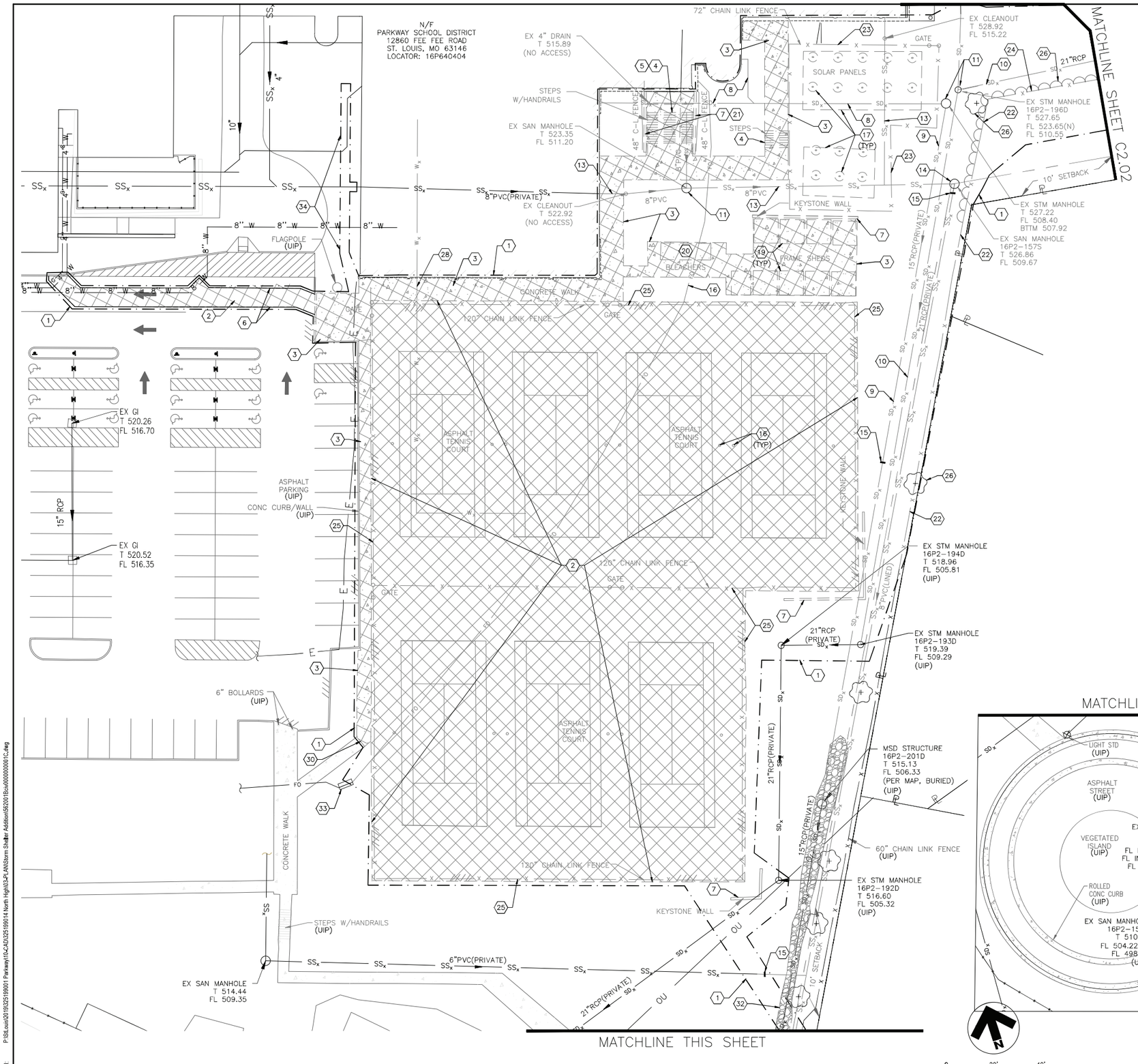
DESIGNED BY:	MLS
DRAWN BY:	MLS
CHECKED BY:	SJM
DATE:	14 January 2022
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 5620018
WSP PROJECT NUMBER: 193463K

SHEET NUMBER
C1.01

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER ANY ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



20MSD-00000 BASEMAP: 15P3, 16P2

LAST EDITED: 1/14/2022 2:51 PM
FILE PATH: P:\Stl.wsi\2019\325199001 Parkway\10-CAD\325199014 North High\13-PL-ANI\Storm Shelter Addition\562001B\ca\000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

GENERAL NOTES:

1. ALL EXISTING IMPROVEMENTS TO BE USED IN PLACE UNLESS OTHERWISE NOTED.

REMARKS:

KEYED NOTES (#)

1. LIMITS OF CONSTRUCTION.
2. EXISTING ASPHALT TO BE REMOVED.
3. EXISTING CONCRETE WALK TO BE REMOVED.
4. EXISTING CONCRETE STAIRS TO BE REMOVED.
5. EXISTING HANDRAILS TO BE REMOVED.
6. PAVEMENT SAWCUT LINE.
7. EXISTING BLOCK RETAINING WALL TO BE REMOVED.
8. EXISTING STORM DRAIN TO BE REMOVED.
9. EXISTING 15" RCP STORM SEWER TO BE REMOVED AND PLUGGED DOWNSTREAM OF REMOVAL.
10. EXISTING 21" RCP STORM SEWER TO BE REMOVED.
11. EXISTING STORM MANHOLE TO BE REMOVED.
12. EXISTING MANHOLE TO BE PROTECTED DURING CONSTRUCTION.
13. EXISTING 8" SANITARY SEWER TO BE REMOVED.
14. EXISTING SANITARY MANHOLE TO BE REMOVED.
15. EXISTING PIPE TO BE FILLED WITH GROUT AND ABANDONED IN PLACE.
16. EXISTING FIBER OPTIC LINE TO BE REMOVED AFTER BUILDING CONTRACTOR HAS REMOVED EXISTING FIBER BY PULLING INTO GYM.
17. CAREFULLY REMOVE EXISTING POLE MOUNTED SOLAR PANEL SYSTEM AND STORE FOR REINSTALLATION. SOLAR PANEL WORK SHALL BE PERFORMED BY BY DISTRICT APPROVED SOLAR PANEL VENDOR UNDER SEPARATE CONTRACT. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING TIME OF WORK OF APPROVED SOLAR PANEL VENDOR. VENDOR: STRAIGHT UP SOLAR, TOM MILLER (314.332.6491). CONCRETE FOUNDATIONS TO BE REMOVED BY CONTRACTOR.
18. EXISTING TENNIS NETS AND POSTS TO BE REMOVED.
19. EXISTING FRAME SHEDS TO BE REMOVED AND STORED FOR REUSE.
20. EXISTING BLEACHERS TO BE REMOVED AND STORED FOR REUSE.
21. EXISTING 48" CHAIN LINK FENCE TO BE REMOVED.
22. EXISTING 60" CHAIN LINK FENCE TO BE REMOVED.
23. EXISTING 72" CHAIN LINK FENCE TO BE REMOVED.
24. EXISTING 96" CHAIN LINK FENCE TO BE REMOVED.
25. EXISTING 120" CHAIN LINK FENCE TO BE REMOVED.
26. EXISTING TREES TO BE REMOVED.
27. EXISTING FIELD GOAL POST TO BE REMOVED AND RELOCATED. COORDINATE WITH OWNER FOR NEW LOCATION.
28. PER PREVIOUS PLANS (PARKWAY PROJECT NO. 56201A), EXISTING 1" DOMESTIC WATER LINE HAS BEEN ABANDONED OR REMOVED. IF PORTIONS REMAIN CONTRACTOR TO REMOVE, CAP, AND ABANDON AS NECESSARY.
29. EXISTING ROLLED CONCRETE CURB TO BE REMOVED.
30. REMOVE CONCRETE TO NEAREST JOINT.
31. EXISTING SIGN TO BE REMOVED.
32. EXISTING RIP RAP TO BE REMOVED.
33. EXISTING COMMUNICATION JUNCTION BOX TO REMAIN. FIBER LINE TO BE CUT AS CLOSE AS POSSIBLE TO EAST CABLE ENTRY TO PROVIDE MAXIMUM SLACK. REMAINING FIBER (ROUTED TO STADIUM) SHALL BE SPLICED WITH NEW FIBER PROVIDED BY BUILDING CONTRACTOR.
34. EXISTING LANDSCAPING AND VEGETATION TO BE REMOVED AS NECESSARY.

DENOTES PAVEMENT TO BE REMOVED

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel.: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com
WSP Architecture, Inc.
Missouri State Certificate of Authority: #2004006234

wood.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-200-5100 Fax: 636-402-3005
Discipline: Engineering Corporation
Corporate Certificate Of Authority: #2002000326

REV	DESCRIPTION	DATE

NORTH HIGH SCHOOL
STORM SHELTER ADDITION & SITE IMPROVEMENTS

12860 FEE FEE ROAD
ST. LOUIS, MISSOURI 63146

PARKWAY SCHOOL DISTRICT

ISSUE FOR BID/PERMIT

STATE OF MISSOURI
STUART M. HAW III
NUMBER E-22997
REGISTERED PROFESSIONAL ENGINEER

1/14/2022
Date:
Stuart M. Haw III - Engineer
MO E-22997

PROFESSIONAL SEAL

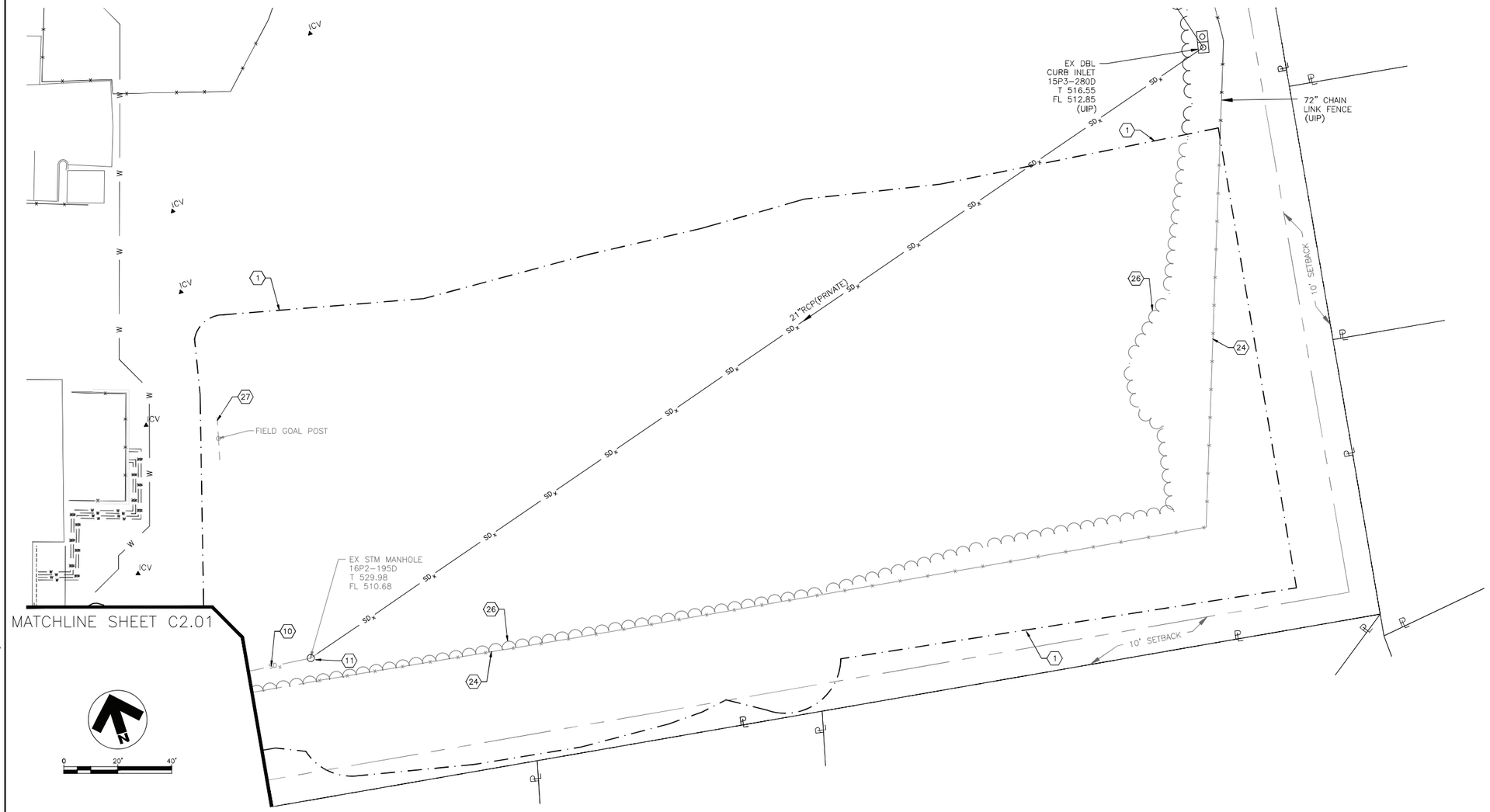
SHEET NAME
DEMOLITION PLAN

DESIGNED BY:	MLS
DRAWN BY:	MLS
CHECKED BY:	SJM
DATE:	14 January 2022
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 562001B
WSP PROJECT NUMBER: 193463K

SHEET NUMBER
C2.01



GENERAL NOTES:

1. ALL EXISTING IMPROVEMENTS TO BE USED IN PLACE UNLESS OTHERWISE NOTED.

REMARKS:

KEYED NOTES (#)

1. LIMITS OF CONSTRUCTION.
2. EXISTING ASPHALT TO BE REMOVED.
3. EXISTING CONCRETE WALK TO BE REMOVED.
4. EXISTING CONCRETE STAIRS TO BE REMOVED.
5. EXISTING HANDRAILS TO BE REMOVED.
6. PAVEMENT SAWCUT LINE.
7. EXISTING BLOCK RETAINING WALL TO BE REMOVED.
8. EXISTING STORM DRAIN TO BE REMOVED.
9. EXISTING 15" RCP STORM SEWER TO BE REMOVED AND PLUGGED DOWNSTREAM OF REMOVAL.
10. EXISTING 21" RCP STORM SEWER TO BE REMOVED.
11. EXISTING STORM MANHOLE TO BE REMOVED.
12. EXISTING MANHOLE TO BE PROTECTED DURING CONSTRUCTION.
13. EXISTING SANITARY SEWER TO BE REMOVED.
14. EXISTING SANITARY MANHOLE TO BE REMOVED.
15. EXISTING PIPE TO BE FILLED WITH GROUT AND ABANDONED IN PLACE.
16. EXISTING FIBER OPTIC LINE TO BE REMOVED AFTER BUILDING CONTRACTOR HAS REMOVED EXISTING FIBER BY PULLING INTO GYM.
17. CAREFULLY REMOVE EXISTING POLE MOUNTED SOLAR PANEL SYSTEM AND STORE FOR REINSTALLATION. SOLAR PANEL WORK SHALL BE PERFORMED BY BY DISTRICT APPROVED SOLAR PANEL VENDOR UNDER SEPARATE CONTRACT. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING TIME OF WORK OF APPROVED SOLAR PANEL VENDOR. VENDOR: STRAIGHT UP SOLAR, TOM MILLER (314.332.6491). CONCRETE FOUNDATIONS TO BE REMOVED BY CONTRACTOR.
18. EXISTING TENNIS NETS AND POSTS TO BE REMOVED.
19. EXISTING FRAME SHEDS TO BE REMOVED AND STORED FOR REUSE.
20. EXISTING BLEACHERS TO BE REMOVED AND STORED FOR REUSE.
21. EXISTING 48" CHAIN LINK FENCE TO BE REMOVED.
22. EXISTING 60" CHAIN LINK FENCE TO BE REMOVED.
23. EXISTING 72" CHAIN LINK FENCE TO BE REMOVED.
24. EXISTING 96" CHAIN LINK FENCE TO BE REMOVED.
25. EXISTING 120" CHAIN LINK FENCE TO BE REMOVED.
26. EXISTING TREES TO BE REMOVED.
27. EXISTING FIELD GOAL POST TO BE REMOVED AND RELOCATED. COORDINATE NEW LOCATION WITH OWNER.
28. PER PREVIOUS PLANS (PARKWAY PROJECT NO. 568201A), EXISTING 1" DOMESTIC WATER LINE HAS BEEN ABANDONED OR REMOVED. IF PORTIONS REMAIN CONTRACTOR TO REMOVE, CAP, AND ABANDON AS NECESSARY.
29. EXISTING ROLLED CONCRETE CURB TO BE REMOVED.
30. REMOVE CONCRETE TO NEAREST JOINT.
31. EXISTING SIGN TO BE REMOVED.
32. EXISTING RIP RAP TO BE REMOVED.
33. EXISTING COMMUNICATION JUNCTION BOX TO REMAIN. FIBER LINE TO BE CUT AS CLOSE AS POSSIBLE TO EAST CABLE ENTRY TO PROVIDE MAXIMUM SLACK. REMAINING FIBER (ROUTED TO STADIUM) SHALL BE SPLICED WITH NEW FIBER PROVIDED BY BUILDING CONTRACTOR.
34. EXISTING LANDSCAPING AND VEGETATION TO BE REMOVED AS NECESSARY.

DENOTES PAVEMENT TO BE REMOVED

20MSD-00000 BASEMAP: 15P3, 16P2

ISSUE FOR BID/PERMIT

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel.: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com
WSP Architecture, Inc.
Missouri State Certificate of Authority: #2004006234

wood.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-200-5100 Fax: 636-402-3005
Discipline: Engineering Corporation
Corporate Certificate Of Authority: #2002000326

REV	DESCRIPTION	DATE

NORTH HIGH SCHOOL
STORM SHELTER ADDITION & SITE IMPROVEMENTS

12860 FEE FEE ROAD
ST. LOUIS, MISSOURI 63146

PARKWAY SCHOOL DISTRICT

STATE OF MISSOURI
STUART M. HAW III
NUMBER E-22997
REGISTERED PROFESSIONAL ENGINEER

Date: 1/14/2022
Stuart M. Haw III - Engineer
MO E-22997

PROFESSIONAL SEAL

SHEET NAME
DEMOLITION PLAN

DESIGNED BY:	MLS
DRAWN BY:	MLS
CHECKED BY:	SJM
DATE:	14 January 2022
SCALE:	

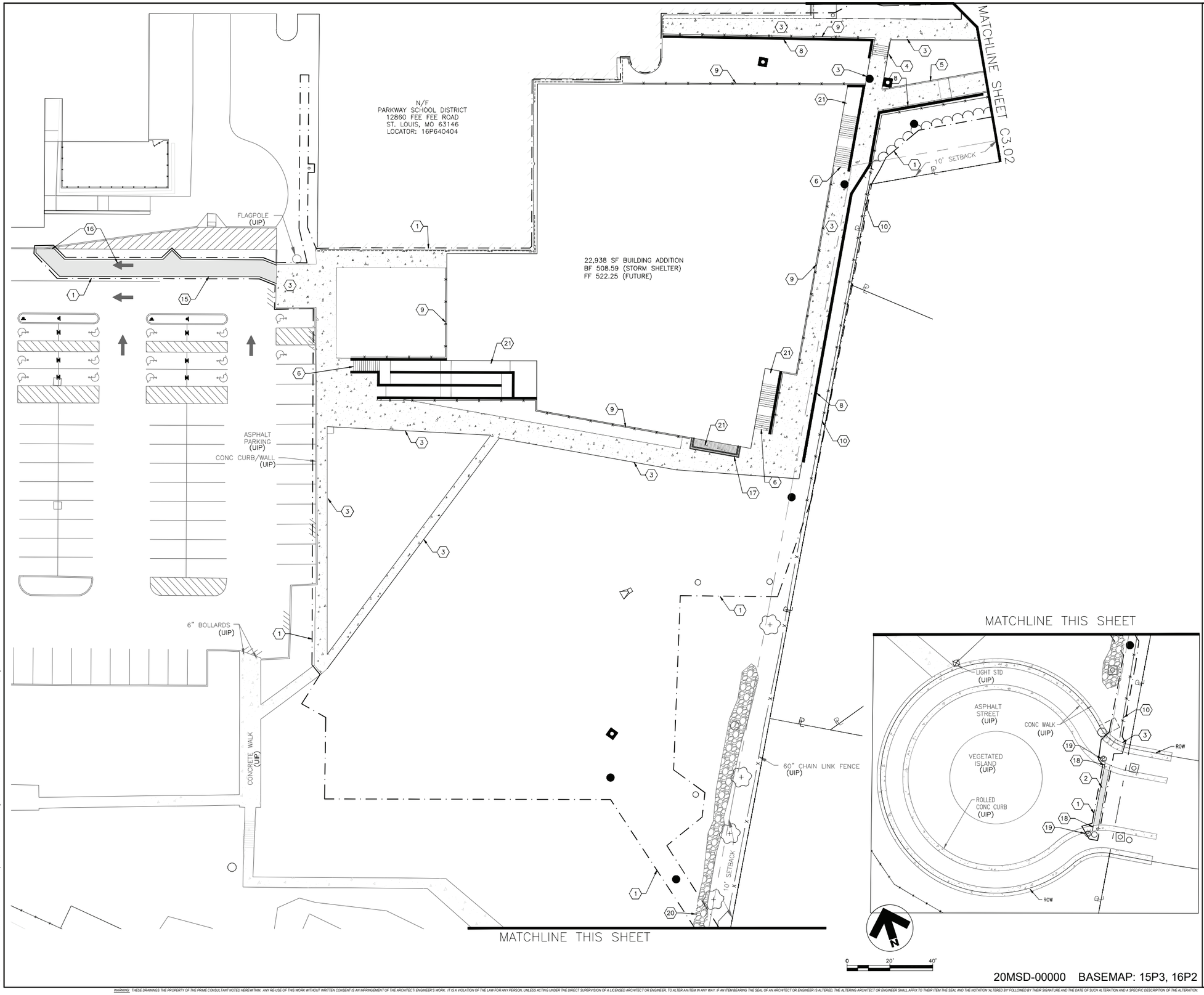
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER:	562001B
WSP PROJECT NUMBER:	193463K

SHEET NUMBER **C2.01**

LAST EDITED: 1/14/2022 2:51 PM
FILE PATH: P:\Stl.civil\301932\5199001 Parkway\10-CAD\325199014 North High\03-PLANS\Storm Shelter Addition\562001Bxx000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



GENERAL NOTES:

REMARKS:

KEYED NOTES (#)

1. LIMITS OF CONSTRUCTION.
2. NEW POST-TENSION CONCRETE PLAY SURFACE. REFER TO DETAIL ON SHT. C7.02. REFER TO COURT LAYOUT ON SHT. C3.02.
3. NEW CONCRETE WALK. REFER TO DETAIL ON SHT. C7.01.
4. NEW CONCRETE STAIRS WITH HANDRAIL. REFER TO DETAIL ON SHT. C7.01.
5. NEW ADA ACCESSIBLE CONCRETE RAMP WITH HANDRAILS. REFER TO DETAIL ON SHEET C6.01.
6. NEW BUILDING STAIRWELL. REFER TO ARCHITECTURAL PLANS FOR DETAILS.
7. NEW CONCRETE SWALE. REFER TO DETAIL ON SHT. C7.01.
8. NEW MODULAR BLOCK RETAINING WALL. REFER TO DETAIL ON SHT. C7.03.
9. NEW FALL PROTECTION HANDRAIL. REFER TO DETAIL ON SHT. C7.01.
10. NEW 60" CHAIN LINK FENCE. REFER TO DETAIL ON SHT. C7.01.
11. NEW 120" CHAIN LINK FENCE WITH GATES AS SHOWN. REFER TO DETAILS ON SHT. C7.01.
12. NEW CONCRETE RETAINING WALL. REFER TO DETAILS ON SHT. C7.03.
13. NEW TENNIS NET AND REMOVABLE POST. REFER TO DETAILS ON SHT. C7.02.
14. NEW SINGLE GATE. REFER TO DETAIL ON SHT. C7.02.
15. NEW HEAVY DUTY ASPHALT PAVEMENT. REFER TO DETAIL ON SHT. C7.01.
16. NEW PAVEMENT MARKINGS TO MATCH EXISTING.
17. NEW GRATED AREA WELL FOR BUILDING LOUVERS. REFER TO ARCHITECTURAL PLANS FOR DETAILS.
18. NEW ROLLED CONCRETE CURN AND GUTTER. REFER TO DETAIL ON SHT. C7.01.
19. NEW "NO PARKING" SIGN. REFER TO DETAIL ON SHT. C7.01.
20. NEW ROCK BLANKET TO MATCH EXISTING SIZE. (MSD TYPE 5 OR EQUAL)
21. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR STAIRWELLS, RAMPS, AND RETAINING WALLS AT BUILDING WELL AREAS.
22. NEW 72" CHAIN LINK FENCE. REFER TO DETAIL ON SHT. C7.01.
23. NEW DOUBLE CHAIN LINK GATE. REFER TO DETAIL ON SHT C7.01.

20MSD-00000 BASEMAP: 15P3, 16P2

ISSUE FOR BID/PERMIT

LAST EDITED: 1/14/2022 2:51 PM
FILE PATH: P:\StLouis\201903\25199001 Parkway\10-CAD\3251990 14 North High\10-3-PL-LAN\Storm Shelter Addition\562001B-s000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel.: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com
WSP Architecture, Inc.
Missouri State Certificate of Authority: #2004006234

wood.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-200-5100 Fax: 636-402-3005
Discipline: Engineering Corporation
Corporate Certificate Of Authority: #2002000326

REV	DESCRIPTION	DATE

NORTH HIGH SCHOOL
STORM SHELTER ADDITION & SITE IMPROVEMENTS

12860 FEE FEE ROAD
ST. LOUIS, MISSOURI 63146

PARKWAY SCHOOL DISTRICT

STATE OF MISSOURI
STUART M. HAW III
NUMBER E-22997
REGISTERED PROFESSIONAL ENGINEER

1/14/2022

Date:
Stuart M. Haw III - Engineer
MO E-22997

PROFESSIONAL SEAL

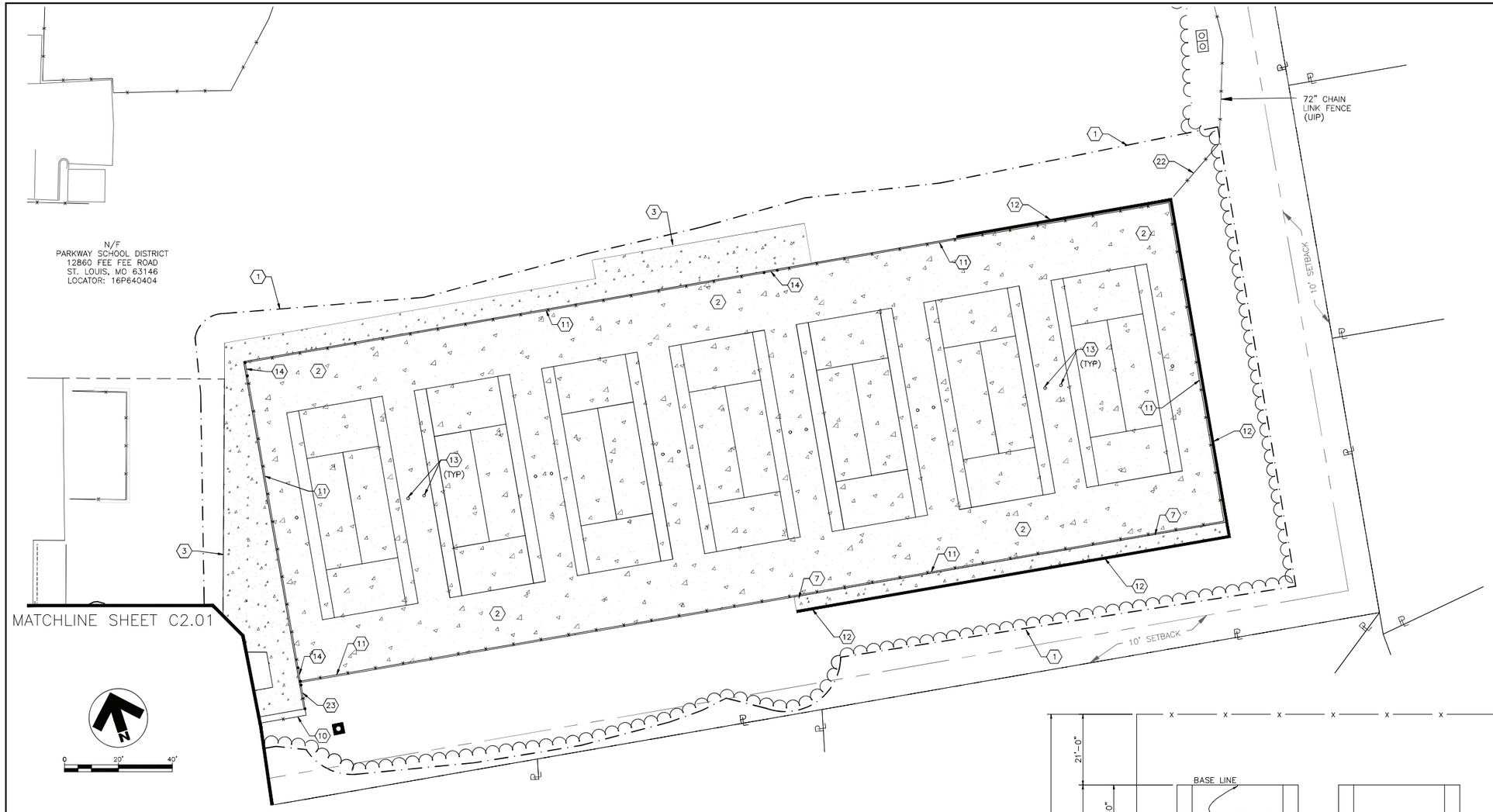
SHEET NAME
SITE PLAN

DESIGNED BY:	MLS
DRAWN BY:	MLS
CHECKED BY:	SJM
DATE:	14 January 2022
SCALE:	

FULL SCALE SHEET SIZE= ARCH. D (24"x 36")

CLIENT PROJECT NUMBER: 562001B
WSP PROJECT NUMBER: 193463K

SHEET NUMBER
C3.01

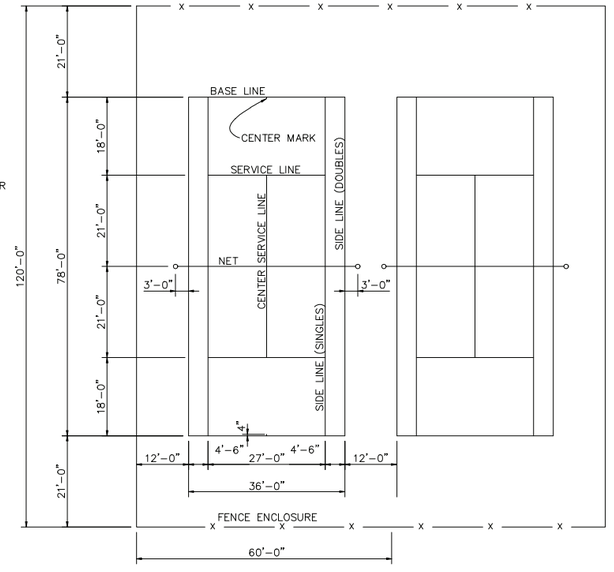


NOTES:
ALL MEASUREMENTS FOR COURT MARKINGS ARE TO THE OUTSIDE OF LINES EXCEPT FOR THOSE INVOLVING THE CENTER SERVICE LINE WHICH IS EQUALLY DIVIDED BETWEEN THE RIGHT AND LEFT SERVICE COURTS.

ALL COURT MARKINGS TO BE 2" WIDE.

MINIMUM DISTANCE BETWEEN SIDES OF PARALLEL COURTS TO BE 12'-0".

ORIENTATION OF LONG AXIS IS TO BE NORTH-SOUTH.



COURT LAYOUT
SCALE: 1"=20'

GENERAL NOTES:

1. ALL EXISTING IMPROVEMENTS TO BE USED IN PLACE UNLESS OTHERWISE NOTED.

REMARKS:

KEYED NOTES (#)

1. LIMITS OF CONSTRUCTION.
2. NEW POST-TENSION CONCRETE PLAY SURFACE. REFER TO DETAIL ON SHT. C7.02. REFER TO COURT LAYOUT ON SHT. C3.02.
3. NEW CONCRETE WALK. REFER TO DETAIL ON SHT. C7.01.
4. NEW CONCRETE STAIRS WITH HANDRAIL. REFER TO DETAIL ON SHT. C7.01.
5. NEW ADA ACCESSIBLE CONCRETE RAMP WITH HANDRAILS. REFER TO DETAIL ON SHEET C6.01.
6. NEW BUILDING STAIRWELL. REFER TO ARCHITECTURAL PLANS FOR DETAILS.
7. NEW CONCRETE SWALE. REFER TO DETAIL ON SHT. C7.01.
8. NEW MODULAR BLOCK RETAINING WALL. REFER TO DETAIL ON SHT. C7.03.
9. NEW FALL PROTECTION HANDRAIL. REFER TO DETAIL ON SHT. C7.01.
10. NEW 60" CHAIN LINK FENCE. REFER TO DETAIL ON SHT. C7.01.
11. NEW 120" CHAIN LINK FENCE WITH GATES AS SHOWN. REFER TO DETAILS ON SHT. C7.01.
12. NEW CONCRETE RETAINING WALL. REFER TO DETAILS ON SHT. C7.03.
13. NEW TENNIS NET AND REMOVABLE POST. REFER TO DETAILS ON SHT. C7.02.
14. NEW SINGLE GATE. REFER TO DETAIL ON SHT. C7.02.
15. NEW HEAVY DUTY ASPHALT PAVEMENT. REFER TO DETAIL ON SHT. C7.01.
16. NEW PAVEMENT MARKINGS TO MATCH EXISTING.
17. NEW GRATED AREA WELL FOR BUILDING LOUVERS. REFER TO ARCHITECTURAL PLANS FOR DETAILS.
18. NEW ROLLED CONCRETE CURN AND GUTTER. REFER TO DETAIL ON SHT. C7.01.
19. NEW "NO PARKING" SIGN. REFER TO DETAIL ON SHT. C7.01.
20. NEW ROCK BLANKET TO MATCH EXISTING SIZE. (MSD TYPE 5 OR EQUAL)
21. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR STAIRWELLS, RAMPS, AND RETAINING WALLS AT BUILDING WELL AREAS.
22. NEW 72" CHAIN LINK FENCE. REFER TO DETAIL ON SHT. C7.01.
23. NEW DOUBLE CHAIN LINK GATE. REFER TO DETAIL ON SHT C7.01.

20MSD-00000 BASEMAP: 15P3, 16P2

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel.: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com
WSP Architecture, Inc.
Missouri State Certificate of Authority: #2004006234

wood.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-200-5100 Fax: 636-402-3005
Discipline: Engineering Corporation
Corporate Certificate Of Authority: #2002000326

REV	DESCRIPTION	DATE

NORTH HIGH SCHOOL
STORM SHELTER ADDITION & SITE IMPROVEMENTS

12860 FEE FEE ROAD
ST. LOUIS, MISSOURI 63146

PARKWAY SCHOOL DISTRICT

ISSUE FOR BID/PERMIT

STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
STUART M. HAW III
NUMBER E-22997

Date: 1/14/2022
Stuart M. Haw III - Engineer
MO E-22997

PROFESSIONAL SEAL

SHEET NAME
SITE PLAN

DESIGNED BY:	MLS
DRAWN BY:	MLS
CHECKED BY:	SJM
DATE:	14 January 2022
SCALE:	

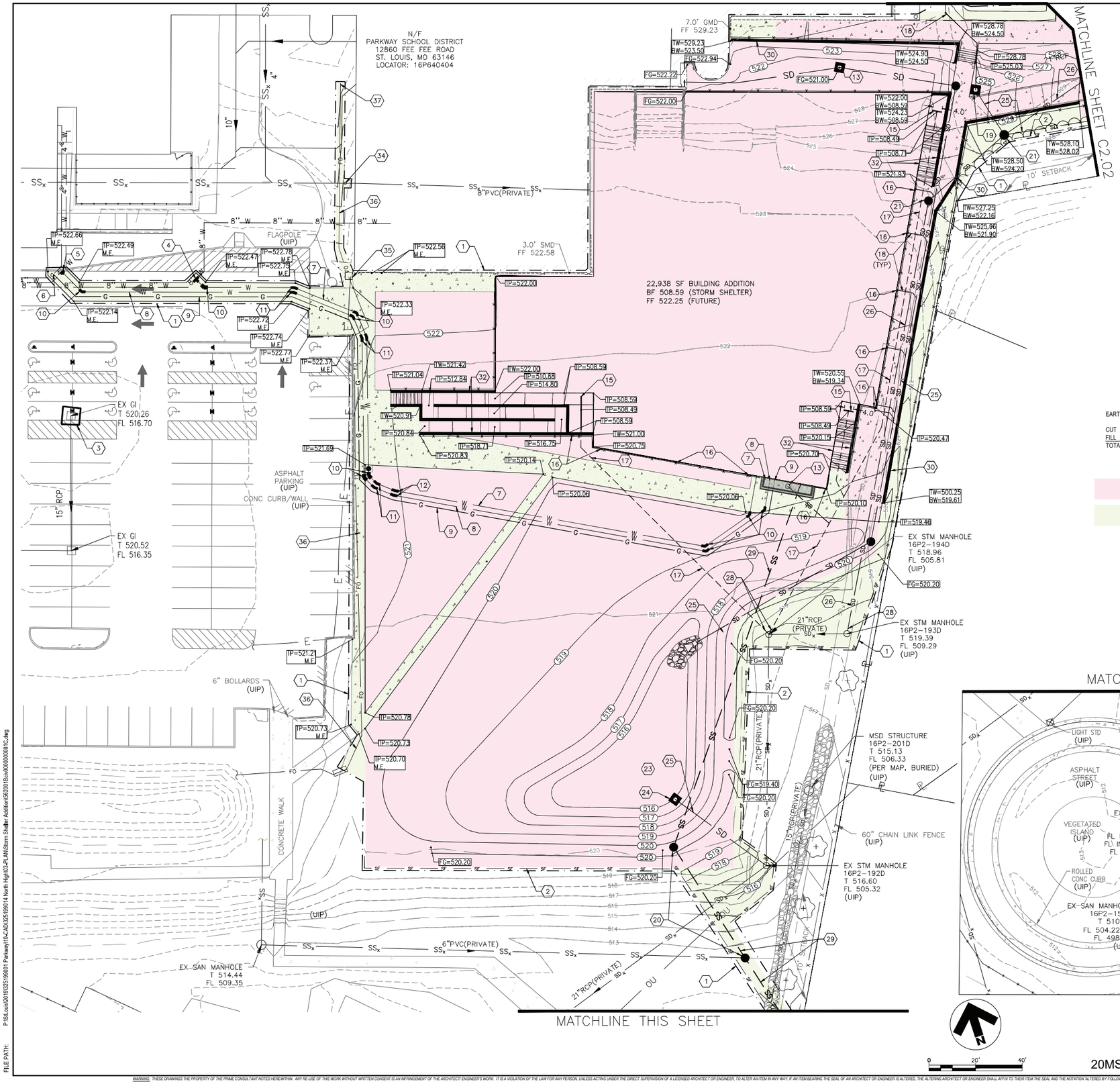
FULL SCALE SHEET SIZE= ARCH. D (24"x 36")

CLIENT PROJECT NUMBER: 562001B
WSP PROJECT NUMBER: 193463K

SHEET NUMBER **C3.01**

LAST EDITED: 1/14/2022 2:51 PM
FILE PATH: P:\StLouis\2019\3251990\01 Parkway\10-CAD\3251990114 North High\03-PL AN\Storm Shelter Addition\562001B=x000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



EARTHWORK QUANTITIES:

CUT	18265 CY
FILL	2790 CY
TOTAL	15474 CY CUT

DENOTES AREA OF DISTURBANCE

DENOTES AREA OF MAINTENANCE

GENERAL NOTES:

REMARKS:

KEYED NOTES (#)

1. LIMITS OF CONSTRUCTION.
2. EROSION CONTROL - SILT FENCE. REFER TO DETAIL ON SHT. C7.04.
3. EROSION CONTROL - INLET PROTECTION. REFER TO DETAIL ON SHT. C7.04.
4. NEW TEE CONNECTION TO EXISTING 8" FIRE SERVICE. REFER TO THRUST BLOCK DETAIL ON SHT. C7.03.
5. NEW TEE CONNECTION TO EXISTING 4" DOMESTIC WATER SERVICE. REFER TO THRUST BLOCK DETAIL ON SHT. C7.03.
6. NEW TEE CONNECTION TO GAS SERVICE.
7. NEW 4" PVC FIRE SERVICE.
8. NEW 2" PVC DOMESTIC WATER SERVICE.
9. NEW 1" DUCTILE IRON GAS SERVICE.
10. NEW 45° BEND, REFER TO THRUST BLOCK DETAIL ON SHT. C7.03.
11. NEW 22.5° BEND, REFER TO THRUST BLOCK DETAIL ON SHT. C7.03.
12. NEW 11.25° BEND, REFER TO THRUST BLOCK DETAIL ON SHT. C7.03.
13. NEW SQUARE 2-GRATE INLET. REFER TO MSD STANDARD DETAILS OF SEWER CONSTRUCTION SHT. 35.
14. NEW 6" NDS SPEE-D (OR EQUAL) ROUND CATCH BASIN WITH 4" OUTLET AND 6" ROUND GRATE TOP.
15. NEW NDS SPEE-D CHANNEL DRAIN (OR EQUAL) WITH 4" OUTLET AND SLOTTED METAL GRATE TOP.
16. NEW BUILDING DOWNSPOUT. REFER TO ARCHITECTURAL PLANS FOR DETAILS.
17. NEW 4" PVC DRAIN PIPE AT 0.5% MIN SLOPE.
18. NEW 6" PVC DRAIN PIPE AT 1% MIN SLOPE.
19. NEW 42" PRECAST CONCRETE AREA INLET. REFER TO MSD STANDARD DETAILS OF SEWER CONSTRUCTION SHT. 34.
20. NEW 42" PRECAST CONCRETE MANHOLE. REFER TO MSD STANDARD DETAILS OF SEWER CONSTRUCTION SHT. 21.
21. NEW 48" PRECAST CONCRETE MANHOLE. REFER TO MSD STANDARD DETAILS OF SEWER CONSTRUCTION SHT. 21.
22. NEW STACKED BIO-RETENTION AND DETENTION BASIN 1. REFER TO SHT. C5.01 FOR DETAILS.
23. NEW STACKED BIO-RETENTION AND DETENTION BASIN 2. REFER TO SHT. C5.01 FOR DETAILS.
24. NEW BASIN OUTLET STRUCTURE. REFER TO SHT. C5.01 FOR DETAILS.
25. NEW 12" PVC STORM SEWER. MSD STANDARD DETAILS OF SEWER CONSTRUCTION SHT. 4.
26. NEW 21" RCP STORM SEWER. MSD STANDARD DETAILS OF SEWER CONSTRUCTION SHT. 5.
27. CONNECT TO EXISTING 21" RCP STORM.
28. CONNECT TO EXISTING MANHOLE.
29. NEW 8" PVC SANITARY SEWER. REFER TO MSD STANDARD DETAILS OF SEWER CONSTRUCTION SHT. 4.
30. NEW MODULAR BLOCK WALL. REFER TO DETAIL ON SHT. C7.03.
31. NEW CONCRETE RETAINING WALL. REFER TO DETAILS ON SHT. C7.03.
32. NEW CONCRETE RAMPS, STAIRWELLS, AND WALLS. REFER TO ARCHITECTURAL PLANS FOR DETAILS.
33. NEW 18" RCP STORM SEWER. REFER TO MSD STANDARD DETAILS OF SEWER CONSTRUCTION SHT. 5.
34. NEW SANITARY CLEANOUT. REFER TO DETAIL ON SHT. C7.03.
35. NEW ELECTRIC HAND HOLE BOX.
36. NEW FIBER OPTIC LINE AND 2" CONDUIT.
37. COORDINATE NEW 2" UNDERGROUND COMMUNICATION CONDUIT INTERFACE WITH BELOW GRADE CONDUIT STUB-OUT PROVIDED BY BUILDING CONTRACTOR.
38. 4"x2-1/2"x2-1/2" FREE STANDING FIRE DEPARTMENT CONNECTION. LOCATED ON 3'x3'x4" CONCRETE PAD. PROVIDE 1 CY CLEAN GRAVEL WITH AUTOMATIC BALL DRIP DRAIN FOR PIPING. PROVIDE ASPHALT WRAP ON 4" PIPE AS REQUIRED BY NFPA-13. PROVIDE SIGN WITH 1" LETTERS INDICATING AREA SERVED. (COORDINATE WITH FIRE DEPARTMENT)

20MSD-00000 BASEMAP: 15P3, 16P2

ISSUE FOR BID/PERMIT

LAST EDITED: 1/14/2022 2:51 PM
FILE PATH: P:\StLouis\20\19325199\01 Parkway\10-CAD\325199014 North High\03-PLANS\Storm Shelter Addition\S20\01Bs\v000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel.: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com
WSP Architecture, Inc.
Missouri State Certificate of Authority: #2004006234

wood.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-200-5100 Fax: 636-402-3005
Discipline: Engineering Corporation
Corporate Certificate Of Authority: #2002000326

REV	DESCRIPTION	DATE

NORTH HIGH SCHOOL
STORM SHELTER ADDITION & SITE IMPROVEMENTS

12860 FEE FEE ROAD
ST. LOUIS, MISSOURI 63146

PARKWAY SCHOOL DISTRICT

STATE OF MISSOURI
STUART M. HAW III
NUMBER E-22997
REGISTERED PROFESSIONAL ENGINEER

1/14/2022

Date:
Stuart M. Haw III - Engineer
MO E-22997

PROFESSIONAL SEAL

SHEET NAME
GRADING & UTILITY PLAN

DESIGNED BY:	MLS
DRAWN BY:	MLS
CHECKED BY:	SJM
DATE:	14 January 2022
SCALE:	

FULL SCALE SHEET SIZE= ARCH. D (24"x 36")

CLIENT PROJECT NUMBER:	562001B
WSP PROJECT NUMBER:	193463K

SHEET NUMBER
C4.01



20MSD-00000 BASEMAP: 15P3, 16P2

GENERAL NOTES:

REMARKS:

KEYED NOTES (#)

1. LIMITS OF CONSTRUCTION.
2. EROSION CONTROL - SILT FENCE. REFER TO DETAIL ON SHT. C7.04.
3. EROSION CONTROL - INLET PROTECTION. REFER TO DETAIL ON SHT. C7.04.
4. NEW TEE CONNECTION TO EXISTING 8" FIRE SERVICE. REFER TO THRUST BLOCK DETAIL ON SHT. C7.03.
5. NEW TEE CONNECTION TO EXISTING 4" DOMESTIC WATER SERVICE. REFER TO THRUST BLOCK DETAIL ON SHT. C7.03.
6. NEW TEE CONNECTION TO GAS SERVICE.
7. NEW 4" PVC FIRE SERVICE.
8. NEW 2" PVC DOMESTIC WATER SERVICE.
9. NEW 1" DUCTILE IRON GAS SERVICE.
10. NEW 45° BEND, REFER TO THRUST BLOCK DETAIL ON SHT. C7.03.
11. NEW 22.5° BEND, REFER TO THRUST BLOCK DETAIL ON SHT. C7.03.
12. NEW 11.25° BEND, REFER TO THRUST BLOCK DETAIL ON SHT. C7.03.
13. NEW SQUARE 2-GRATE INLET. REFER TO MSD STANDARD DETAILS OF SEWER CONSTRUCTION SHT. 35.
14. NEW 6" NDS SPEE-D (OR EQUAL) ROUND CATCH BASIN WITH 4" OUTLET AND 6" ROUND GRATE TOP.
15. NEW NDS SPEE-D CHANNEL DRAIN (OR EQUAL) WITH 4" OUTLET AND SLOTTED METAL GRATE TOP.
16. NEW BUILDING DOWNSPOUT. REFER TO ARCHITECTURAL PLANS FOR DETAILS.
17. NEW 4" PVC DRAIN PIPE AT 0.5% MIN SLOPE.
18. NEW 6" PVC DRAIN PIPE AT 1% MIN SLOPE.
19. NEW 42" PRECAST CONCRETE AREA INLET. REFER TO MSD STANDARD DETAILS OF SEWER CONSTRUCTION SHT. 34.
20. NEW 42" PRECAST CONCRETE MANHOLE. REFER TO MSD STANDARD DETAILS OF SEWER CONSTRUCTION SHT. 21.
21. NEW 48" PRECAST CONCRETE MANHOLE. REFER TO MSD STANDARD DETAILS OF SEWER CONSTRUCTION SHT. 21.
22. NEW STACKED BIO-RETENTION AND DETENTION BASIN 1. REFER TO SHT. C5.01 FOR DETAILS.
23. NEW STACKED BIO-RETENTION AND DETENTION BASIN 2. REFER TO SHT. C5.01 FOR DETAILS.
24. NEW BASIN OUTLET STRUCTURE. REFER TO SHT. C5.01 FOR DETAILS.
25. NEW 12" PVC STORM SEWER. MSD STANDARD DETAILS OF SEWER CONSTRUCTION SHT. 4.
26. NEW 21" RCP STORM SEWER. MSD STANDARD DETAILS OF SEWER CONSTRUCTION SHT. 5.
27. CONNECT TO EXISTING 21" RCP STORM.
28. CONNECT TO EXISTING MANHOLE.
29. NEW 8" PVC SANITARY SEWER. REFER TO MSD STANDARD DETAILS OF SEWER CONSTRUCTION SHT. 4.
30. NEW MODULAR BLOCK WALL. REFER TO DETAIL ON SHT. C7.03.
31. NEW CONCRETE RETAINING WALL. REFER TO DETAILS ON SHT. C7.03.
32. NEW CONCRETE RAMPS, STAIRWELLS, AND WALLS. REFER TO ARCHITECTURAL PLANS FOR DETAILS.
33. NEW 18" RCP STORM SEWER. REFER TO MSD STANDARD DETAILS OF SEWER CONSTRUCTION SHT. 5.
34. NEW SANITARY CLEANOUT. REFER TO DETAIL ON SHT. C7.03.
35. NEW ELECTRIC HAND HOLE BOX.
36. NEW FIBER OPTIC LINE AND 2" CONDUIT.
37. COORDINATE NEW 2" UNDERGROUND COMMUNICATION CONDUIT INTERFACE WITH BELOW GRADE CONDUIT STUB-OUT PROVIDED BY BUILDING CONTRACTOR.
38. 4"x2-1/2"x2-1/2" FREE STANDING FIRE DEPARTMENT CONNECTION. LOCATED ON 3'x3'x4" CONCRETE PAD. PROVIDE 1 CY CLEAN GRAVEL WITH AUTOMATIC BALL DRIP DRAIN FOR PIPING. PROVIDE ASPHALT WRAP ON 4" PIPE AS REQUIRED BY NFPA-13. PROVIDE SIGN WITH 1" LETTERS INDICATING AREA SERVED. (COORDINATE WITH FIRE DEPARTMENT)

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel.: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com
WSP Architecture, Inc.
Missouri State Certificate of Authority: #2004006234

wood.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-200-5100 Fax: 636-402-3005
Discipline: Engineering Corporation
Corporate Certificate Of Authority: #2002000326

REV	DESCRIPTION	DATE

NORTH HIGH SCHOOL
STORM SHELTER ADDITION & SITE IMPROVEMENTS

12860 FEE FEE ROAD
ST. LOUIS, MISSOURI 63146

PARKWAY SCHOOL DISTRICT

STATE OF MISSOURI
STUART M. HAW III
NUMBER E-22997
REGISTERED PROFESSIONAL ENGINEER
11/14/2022
Date:
Stuart M. Haw III - Engineer
MO E-22997

PROFESSIONAL SEAL

SHEET NAME
GRADING & UTILITY PLAN

DESIGNED BY: MLS
DRAWN BY: MLS
CHECKED BY: SJM
DATE: 14 January 2022
SCALE:

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

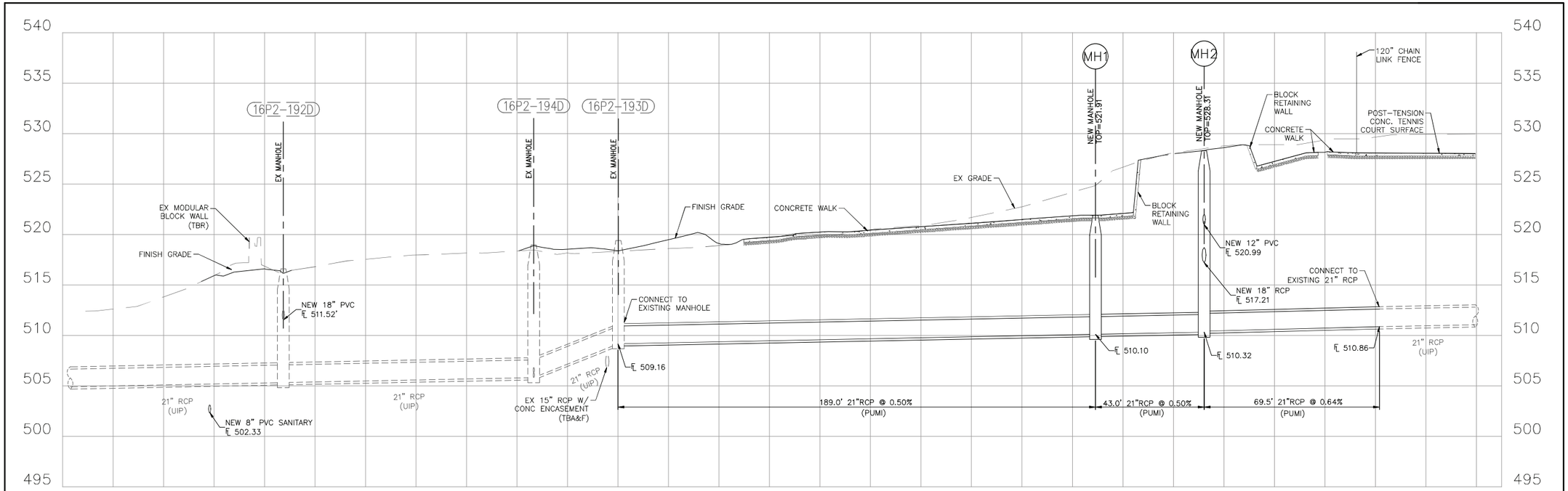
CLIENT PROJECT NUMBER: 562001B
WSP PROJECT NUMBER: 193463K

SHEET NUMBER
C4.02

ISSUE FOR BID/PERMIT

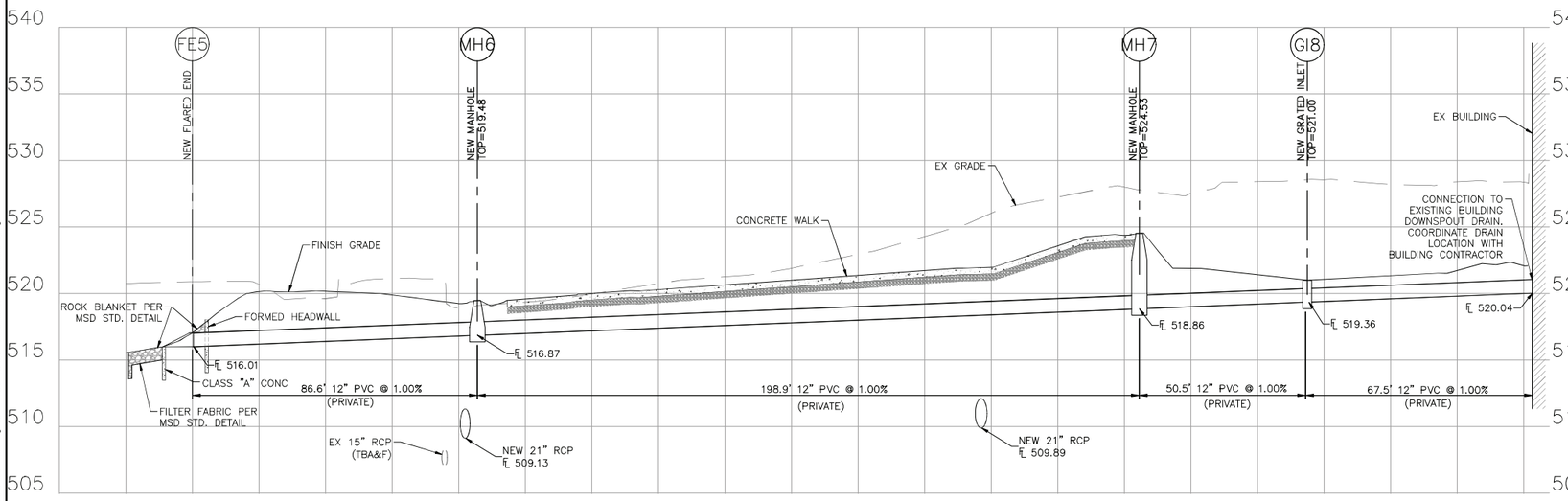
LAST EDITED: 1/14/2022 2:51 PM
FILE PATH: P:\StLouis\201\325199001 Parkway\10-CAD\325199014 North High\03-P-ANS\Storm Shelter Addition\562001B=x0\000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



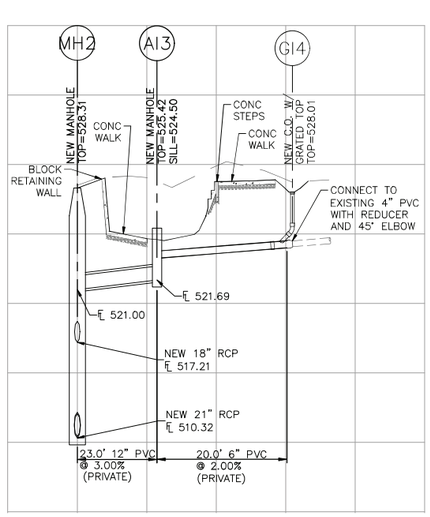
STORM SEWER PROFILE (16P2-192D – MH2)

SCALE: 1"=5' VERT.
1"=20' HORIZ.



STORM SEWER PROFILE (FE5 – EX BLDG)

SCALE: 1"=5' VERT.
1"=20' HORIZ.



STORM SEWER PROFILE (MH2–GI4)

SCALE: 1"=5' VERT.
1"=20' HORIZ.

20MSD-00000 BASEMAP: 15P3, 16P2

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 1/14/2022 2:51 PM
FILE PATH: P:\StLouis\2019\3251990\01 Parkway\10-CAD\3251990\14 North High\03-P-ANS\Storm Shelter Addition\562001Bsw000000001C.dwg

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel.: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com
WSP Architecture, Inc.
Missouri State Certificate of Authority: #2004006234

wood.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-200-5100 Fax: 636-402-3005
Discipline: Engineering Corporation
Corporate Certificate Of Authority: #2002000326

REV	DESCRIPTION	DATE

NORTH HIGH SCHOOL
STORM SHELTER ADDITION & SITE IMPROVEMENTS

12860 FEE FEE ROAD
ST. LOUIS, MISSOURI 63146

PARKWAY SCHOOL DISTRICT

ISSUE FOR BID/PERMIT

STATE OF MISSOURI
STUART M. HAW III
NUMBER E-22997
REGISTERED PROFESSIONAL ENGINEER
1/14/2022
Date:
Stuart M. Haw III - Engineer
MO E-22997

PROFESSIONAL SEAL

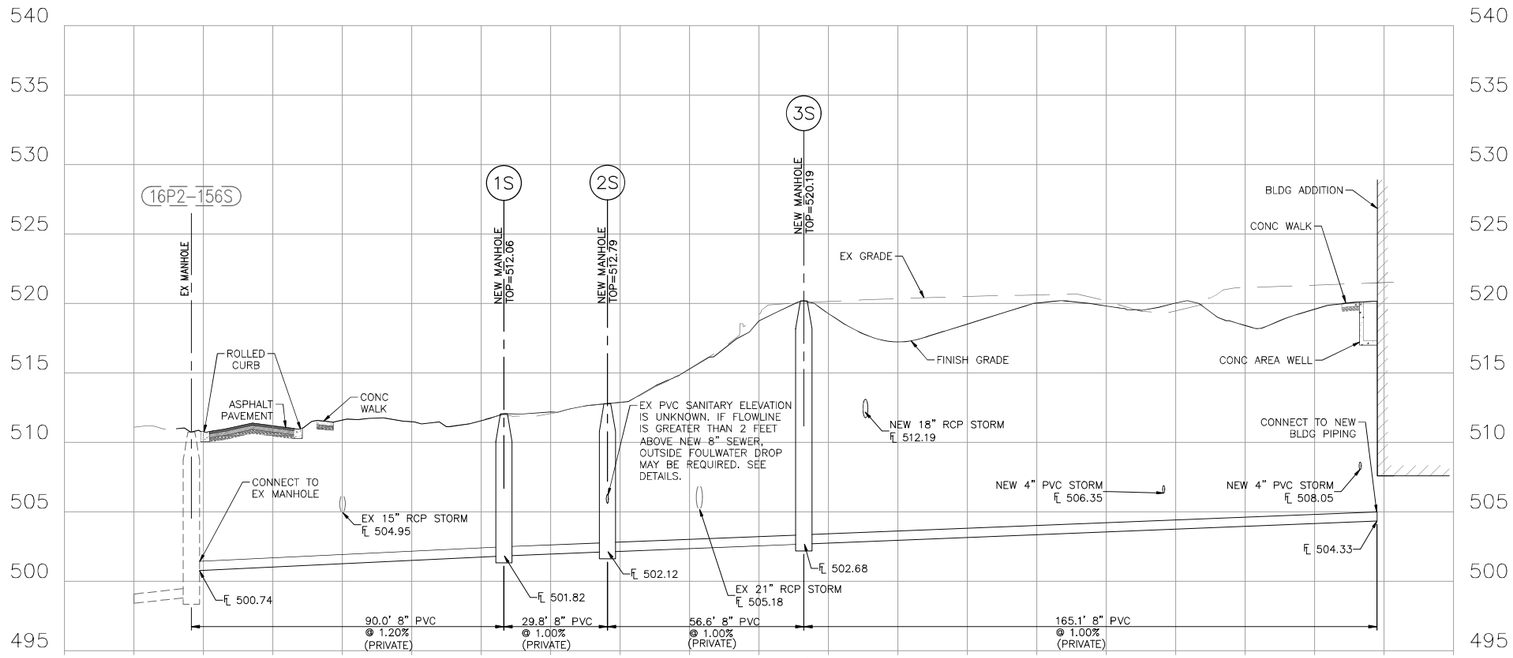
SHEET NAME
SEWER PROFILES

DESIGNED BY:	MLS
DRAWN BY:	MLS
CHECKED BY:	SJM
DATE:	14 January 2022
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER:	562001B
WSP PROJECT NUMBER:	193463K

SHEET NUMBER **C4.03**



SANITARY SEWER PROFILE (16P2-156S - BLDG)

SCALE: 1"=5' VERT.
1"=20' HORIZ.

20MSD-00000 BASEMAP: 15P3, 16P2

LAST EDITED: 1/14/2022 2:51 PM
FILE PATH: P:\StLouis\2019\3251990\01 Parkway\10-CAD\3251990114 North High\03-P_ANS\Storm Shelter Addition\562001B-sht000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel.: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com
WSP Architecture, Inc.
Missouri State Certificate of Authority: #2004006234

wood.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-200-5100 Fax: 636-402-3005
Discipline: Engineering Corporation
Corporate Certificate Of Authority: #2002000326

REV	DESCRIPTION	DATE

NORTH HIGH SCHOOL
STORM SHELTER ADDITION & SITE IMPROVEMENTS

12860 FEE FEE ROAD
ST. LOUIS, MISSOURI 63146

PARKWAY SCHOOL DISTRICT

ISSUE FOR BID/PERMIT

STATE OF MISSOURI
STUART M. HAW III
NUMBER E-22997
REGISTERED PROFESSIONAL ENGINEER

1/14/2022

Date:
Stuart M. Haw III - Engineer
MO E-22997

PROFESSIONAL SEAL

SHEET NAME
SEWER PROFILES

DESIGNED BY:	MLS
DRAWN BY:	MLS
CHECKED BY:	SJM
DATE:	14 January 2022
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 562001B
WSP PROJECT NUMBER: 193463K

SHEET NUMBER **C4.04**

Water Quality Volume Calculations

1) Compute Volumetric runoff Coefficient

Site Area= 1.32 Acres
Impervious Area= 1.08 Acres
I= 0.818 (Percent Impervious)
Rv= 0.786 (Volumetric Runoff Coefficient)
S= 0.130 (Soil Group C)

2) Compute Required WQv

P= 1.14 inches
Rv= 0.786
A= 1.320 Acres
WQv= 0.099 ac-ft = 4,295 cu. ft.

Urban BMP Group 4 Stormwater Filtering Systems shall temporarily hold at least 75% of the WQ prior to filtration
75%= 3,222 cu. ft.
Check Minimum: 0.022 ac-ft = 958 cu. ft.

4) Compute Af (Required filter bed area)

k= 2.0 ft/day (Coefficient of Permeability)
h= 0.40 ft (Average Height of Water above Filter Bed)/2
t= 2 days (Design Filter Bed Drain Time)
d= 2.50 ft (Filter Bed Depth)

Af= 925.7 sq. ft. (Required Filter Bed Area)

Actual Filter Bed Area: AF= 1760.0 sq. ft.
Filter Bed Elevation: 524.50

5) Compute Provided WQv

	Provided	Required
WQv=	3,494 cu. ft.	3,222 cu. ft.

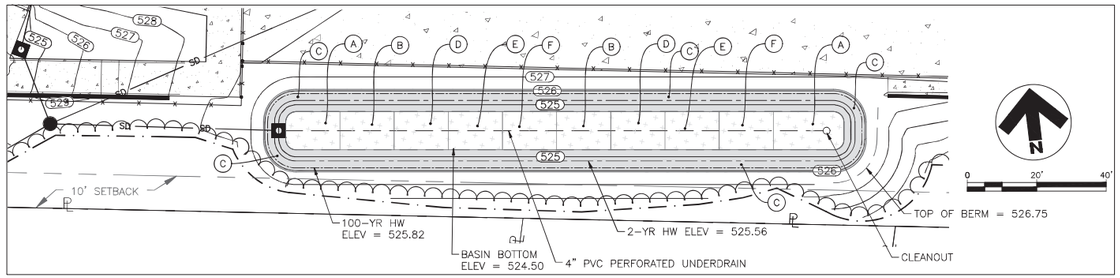
6) WQv Elevation 525.30 (from table below)

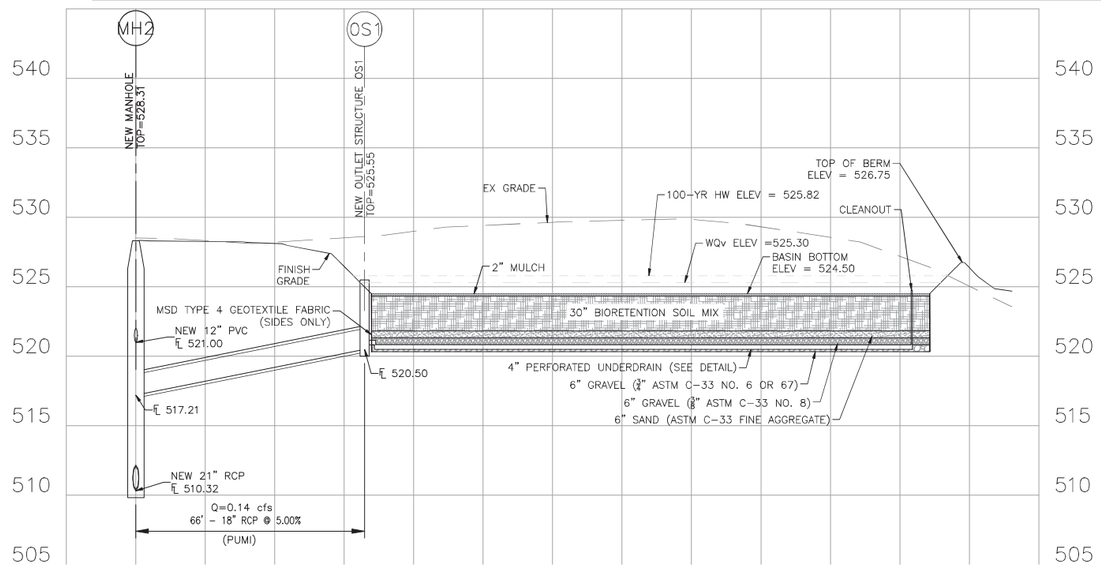
7) Stage-Storage

	Stage	Elevation	Contour Area	Incremental Volume	Cumulative Volume
Bottom BioMedia	-2.67	521.83	1,760	0	0
Bottom Mulch	-0.17	524.33	1,760	1,540	1,540
Basin Surface	0.00	524.50	1,760	103	1,643
	0.10	524.60	1,898	183	1,826
	0.20	524.70	2,036	197	2,023
	0.30	524.80	2,174	210	2,233
	0.40	524.90	2,312	224	2,457
	0.50	525.00	2,450	238	2,695
	0.60	525.10	2,593	252	2,947
	0.70	525.20	2,736	266	3,214
	0.80	525.30	2,878	281	3,494
	0.90	525.40	2,021	295	3,789
	1.00	525.50	3,164	309	4,099
	1.10	525.60	3,374	327	4,426
	1.20	525.70	3,584	349	4,774
	1.30	525.80	3,795	369	5,142
	1.40	525.90	4,005	390	5,532
	1.50	526.00	4,215	411	5,943

Bioretention Basin Planting Schedule

Planting Area	Botanical Name	Common Name	Height (ft)	Spacing D (in)	Row A (in)	Area	Quantity	Plug Size
A	Carex grayii	Bur Sedge	1-2	18	15.8	400	180	3"
B	Carex Shortiana	Short's Sedge	1-2	18	15.8	340	153	3"
C	Carex albicans	Oak Sedge	.83	12	10.4	2294	2294	3"
D	Chasmanthium latifolium	River Oats	2-4	18	15.8	340	153	3"
E	Spigelia marylandica	Indian Pink	1-2	18	15.8	340	153	3"
F	Eupatorium coelestinum	Mist Flower	1-2	18	15.8	340	153	3"



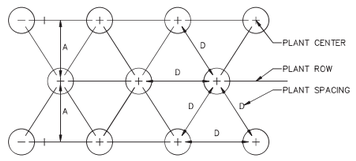


BASIN 1 PROFILE

SCALE: 1"=5' VERT.
1"=20' HORIZ.

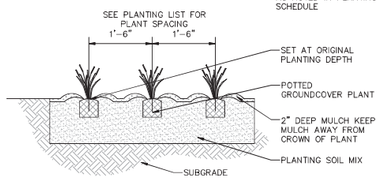
SPACING "D"	ROW "A"	NUMBER OF PLANTS/SQ. FT.
30"	26"	0.160
24"	20.6"	0.25
18"	15.8"	0.450
15"	13.0"	0.640
12"	10.4"	1.00
10"	8.66"	1.44
8"	6.93"	2.25

NOTE: PLANT QUANTITIES WERE DETERMINED BY MULTIPLYING AREA (SQ. FT.) BY NUMBER OF PLANTS/SQ. FT. FOR REQUIRED SPACING.



GROUNDCOVER SPACING

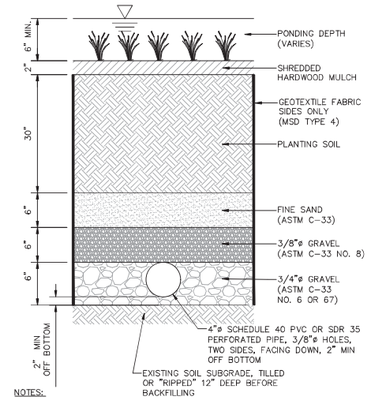
QUANTITY OF PLANTS AS NOTED IN PLANTING SCHEDULE



NOTES:

1. REMOVE SPENT FLOWERS PRIOR TO PLANTING.
2. LOOSEN ROOT MASS AT BOTTOM OF ROOTBALL.
3. TOP OF ROOTBALL STRIPPED OF 1/4" SURFACE GROWING MEDIA AND COVERED WITH 1/4" LANDSCAPE BED MIX PLUS SURFACE MULCH.

DETAIL REPRODUCED FROM MSD LANDSCAPE GUIDE FOR STORMWATER BEST MANAGEMENT PRACTICES.



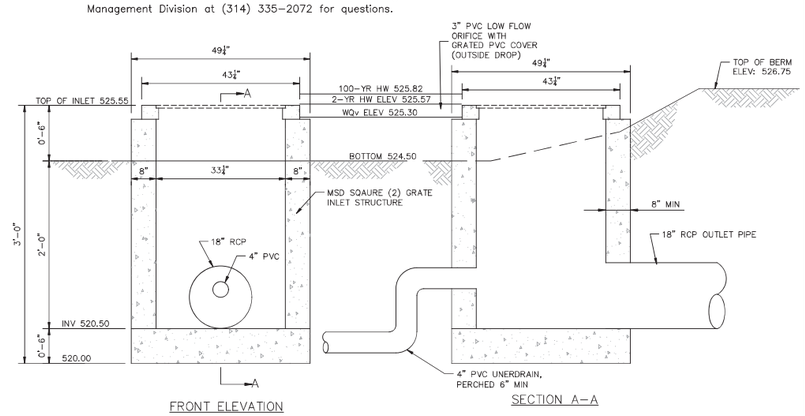
NOTES:

1. CONSTRUCTION SITE RUNOFF SHALL NOT FLOW INTO THE WATER QUALITY BMP(S). ALL STORMWATER FLOW TO THE WATER QUALITY BMP(S) SHALL BE DIVERTED PLUGGED, OR DISCONNECTED UNTIL THE CONSTRUCTION SITE IS STABLE AND THE MSD DEDICATION INSPECTOR PROVIDES APPROVAL TO PLACE THE BMP(S) ONLINE.
2. BIORETENTION BMP(S) SHALL NOT BE INSTALLED UNTIL THE AREA OF CONSTRUCTION SITE IS STABLE.

SHOP DRAWINGS FOR BMPS:

MSD shop drawing submittal required for BMP and its components prior to construction.

MSD Contact: Please contact the District's Construction Management Division at (314) 335-2072 for questions.



OUTLET STRUCURE DETAIL

NTS

20MSD-00000 BASEMAP: 15P3, 16P2

GENERAL NOTES:

REMARKS:

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel.: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com
WSP Architecture, Inc.
Missouri State Certificate of Authority: #2004006234

wood.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-200-5100 Fax: 636-402-3005
Discipline: Engineering Corporation
Corporate Certificate Of Authority: #2002000326

REV	DESCRIPTION	DATE

NORTH HIGH SCHOOL
STORM SHELTER ADDITION
& SITE IMPROVEMENTS
12860 FEE FEE ROAD
ST. LOUIS, MISSOURI 63146

PARKWAY SCHOOL DISTRICT

ISSUE FOR BID/PERMIT

STATE OF MISSOURI REGISTERED PROFESSIONAL ENGINEER
STUART M. HAW III
NUMBER E-22997

Date: 1/14/2022
Stuart M. Haw III - Engineer
MO E-22997

PROFESSIONAL SEAL

SHEET NAME
BMP PLAN

DESIGNED BY:	MLS
DRAWN BY:	MLS
CHECKED BY:	SJM
DATE:	14 January 2022
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 562001B
WSP PROJECT NUMBER: 193463K

SHEET NUMBER **C5.01**

LAST EDITED: 1/14/2022 2:51 PM
FILE PATH: P:\StLouis\2019\03519901 Parkway\15-ADS\03519914 North High\13-PL-ANS\Storm Shelter Addition\562001B\cad\000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

Channel Protection Volume Calculations
Maryland Stormwater Design Manual Appendix D.11

1) Compute Initial Abstraction Ratio (I_a/P)

Drainage Area (A) =	3.61 Acres	0.00564 mi^2
Time of concentration (t_c) =	2 min	0.03 hr
Runoff Curve Number (CN) =	89	
Initial abstractions (I_a) =	0.25	(Ia = (200/CN) -2)
I_a /P =	0.10	(P = one year rainfall depth or 2.50")

2) Compute post-development discharge (q_o)

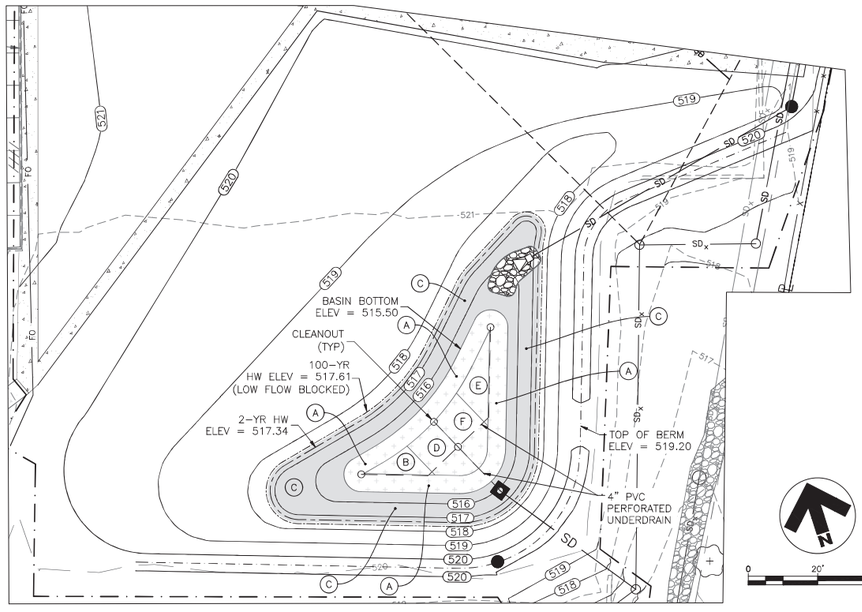
S =	1.236	(1000/CN)-10
Post-developed runoff depth (Q_o) =	1.455 in	(P-0.2(S))^2/(P+0.8(S))
Unit peak discharge (q_u) =	995 csm/in	(Maryland Manual Appendix D-11 Figure D.11.1)
One-year post-developed peak discharge (q_o) =	8.17 cfs	(q_u(A)(Q_o)) (If $q_o \geq 2$ cfs, Cp_v is not required)

3) Compute channel protection volume (Cp_v)(ft^3)

Outflow/inflow ratio (q_o/q_i) =	0.020	(Maryland Manual Appendix D-11, Figure D.11.2, T=24 hr)
Peak outflow discharge (q_o) =	0.163 cfs	($q_o = q_i(q_o/q_i)$)
Storage to runoff volume ratio (V_s/V_r) =	0.655	($Vs/Vr = 0.683-1.43(q_o/q_i)+1.64(q_o/q_i)^2-0.804(q_o/q_i)^3$)
Volume of Storage (V_s) =	4289 ft^3	$V_s = (V_s/V_r)(V_r)$; $V_r = Q_o$
Volume of Voids (V_v) =	1230 ft^3	(Volume of voids from bioretention area)
Channel protection volume required (Cp_v) =	3059 ft^3	(V_s-V_v)

4) Compute required orifice size

Channel protection ponding height (h_o) =	1.5 ft	(From Bioretention Stage-Storage table)
Orifice area (A_o) =	3.98 in^2	($A_o = q_o/(4.81*h_o^{1/2})$; ($h_o$ = pond depth @ channel protection volume)
Orifice diameter (r_o) =	2.251 in	($do = (4Ao/\pi)^{1/2}$ (minimum orifice diameter is 3.0 in)



Water Quality Volume Calculations

1) Compute Volumetric runoff Coefficient

Site Area=	2.22 Acres	
Impervious Area=	1.43 Acres	
I=	0.643 (Percent Impervious)	
Rv=	0.629 (Volumetric Runoff Coefficient)	
S=	0.130 (Soil Group C)	

2) Compute Required WQv

P= 1.14 inches
Rv= 0.629
A= 2.220 Acres
WQv= 0.133 ac-ft = 5,778 cu. ft.
Urban BMP Group 4 Stormwater Filtering Systems shall temporarily hold at least 75% of the WQ prior to filtration
75%= 4,333 cu. ft.
Check Minimum: 0.037 ac-ft = 1,612 cu. ft.

4) Compute Af (Required filter bed area)

k=	2.0 ft/day	(Coefficient of Permeability)
h=	0.75 ft	(Average Height of Water above Filter Bed)/2
t=	2 days	(Design Filter Bed Drain Time)
d=	2.50 ft	(Filter Bed Depth)
Af=	1111.1 sq. ft.	(Required Filter Bed Area)

Actual Filter Bed Area	Filter Bed Elevation
AF= 1318.0 sq. ft.	515.50

5) Compute Provided WQv

Provided	Required
WQv= 4,604 cu. ft.	4,333 cu. ft.

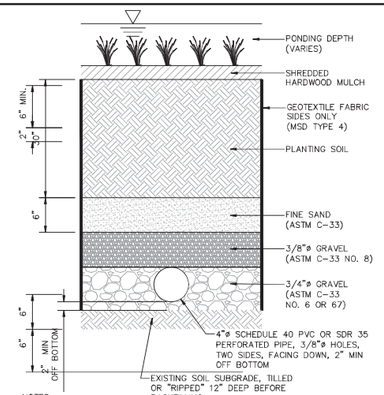
6) WQv Elevation 517.00 (from table below)

7) Stage-Storage

Stage	Elevation	Contour Area	Incremental Volume	Cumulative Volume
Bottom BioMedia	-2.67	512.83	1,318	0	0
Bottom Mulch	-0.17	515.33	1,318	1,153	1,153
Basin Surface	0.00	515.50	1,318	77	1,230
	0.10	515.60	1,455	139	1,369
	0.20	515.70	1,592	152	1,521
	0.30	515.80	1,730	166	1,687
	0.40	515.90	1,867	180	1,867
	0.50	516.00	2,004	194	2,061
	0.60	516.10	2,109	206	2,266
	0.70	516.20	2,214	216	2,482
	0.80	516.30	2,319	227	2,709
	0.90	516.40	2,424	237	2,946
	1.00	516.50	2,529	248	3,194
	1.10	516.60	2,645	259	3,453
	1.20	516.70	2,701	270	3,723
	1.30	516.80	2,878	282	4,005
	1.40	516.90	2,994	294	4,298
	1.50	517.00	3,110	305	4,604
	1.60	517.10	3,219	316	4,920
	1.70	517.20	3,328	327	5,247
	1.80	517.30	3,436	338	5,586
	1.90	517.40	3,545	349	5,935
	2.00	517.50	3,654	360	6,295

Bioretention Basin Planting Schedule

Planting Area	Botanical Name	Common Name	Height (ft)	Spacing D (in)	Row A (in)	Area	Quantity	Plug Size
A	Carex grayii	Bur Sedge	1-2	18	15.8	774	348	3"
B	Carex Shortiana	Short's Sedge	1-2	18	15.8	80	36	3"
C	Carex albicans	Oak Sedge	1-2	12	10.4	2217	2217	3"
D	Chasmanthium latifolium	River Oats	2-4	18	15.8	165	74	3"
E	Spigelia marylandica	Indian Pink	1-2	18	15.8	172	77	3"
F	Eupatorium coelestinum	Mist Flower	1-2	18	15.8	121	54	3"

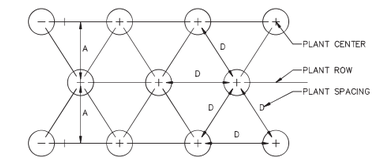


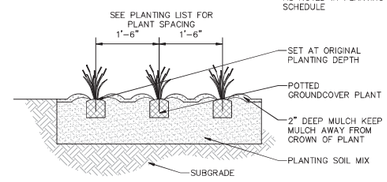
NOTES:

1. CONSTRUCTION SITE RUNOFF SHALL NOT FLOW INTO THE WATER QUALITY BMP(S). ALL STORMWATER FLOW TO THE WATER QUALITY BMP(S) SHALL BE DIVERTED PLUGGED, OR DISCONNECTED UNTIL THE CONSTRUCTION SITE IS STABLE AND THE MSD DEDICATION INSPECTOR PROVIDES APPROVAL TO PLACE THE BMP(S) ONLINE.
2. BIORETENTION BMP(S) SHALL NOT BE INSTALLED UNTIL THE AREA OF CONSTRUCTION SITE IS STABLE.

SPACING "D"	ROW "A"	NUMBER OF PLANTS/SQ. FT.
30"	26"	0.160
24"	20.6"	0.25
18"	15.8"	0.450
15"	13.0"	0.640
12"	10.4"	1.00
10"	8.66"	1.44
8"	6.93"	2.25

NOTE: PLANT QUANTITIES WERE DETERMINED BY MULTIPLYING AREA (SQ. FT.) BY NUMBER OF PLANTS/SQ. FT. FOR REQUIRED SPACING.

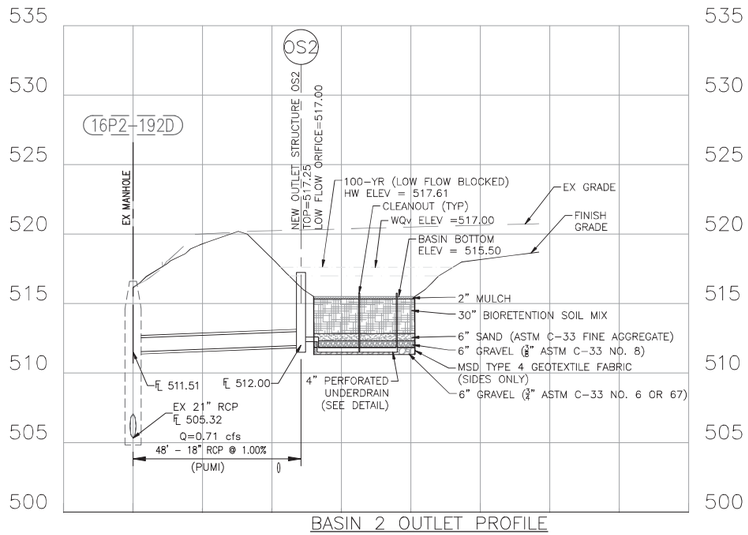




NOTES:

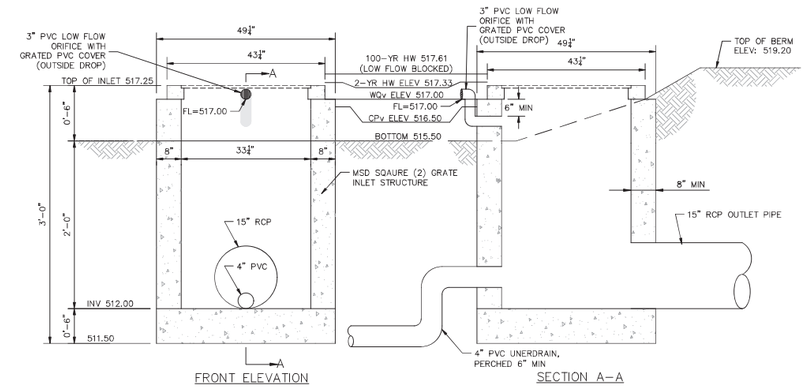
1. REMOVE SPENT FLOWERS PRIOR TO PLANTING.
2. LOOSEN ROOT MASS AT BOTTOM OF ROOTBALL.
3. TOP OF ROOTBALL STRIPPED OF 1/4" SURFACE GROWING MEDIA AND COVERED WITH 1/4" LANDSCAPE BED MIX PLUS SURFACE MULCH.

DETAIL REPRODUCED FROM MSD LANDSCAPE GUIDE FOR STORMWATER BEST MANAGEMENT PRACTICES.



BASIN 2 OUTLET PROFILE

SCALE: 1"=5' VERT.
1"=20' HORIZ.



FRONT ELEVATION

SECTION A-A

OUTLET STRUCURE DETAIL

NTS

20MSD-00000 BASEMAP: 15P3, 16P2

GENERAL NOTES:

REMARKS:

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel.: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com
WSP Architecture, Inc.
Missouri State Certificate of Authority: #2004006234

wood.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-200-5100 Fax: 636-402-3005
Discipline: Engineering Corporation
Corporate Certificate Of Authority: #2002000326

REV	DESCRIPTION	DATE

PARKWAY SCHOOLS

NORTH HIGH SCHOOL
STORM SHELTER ADDITION & SITE IMPROVEMENTS

12860 FEE FEE ROAD
ST. LOUIS, MISSOURI 63146

PARKWAY SCHOOL DISTRICT

ISSUE FOR BID/PERMIT

STATE OF MISSOURI
STUART M. HAW III
NUMBER E-22997
REGISTERED PROFESSIONAL ENGINEER

Date: 1/14/2022
Stuart M. Haw III - Engineer
MO E-22997

PROFESSIONAL SEAL

SHEET NAME
BMP PLAN

DESIGNED BY:	MLS
DRAWN BY:	MLS
CHECKED BY:	SJM
DATE:	14 January 2022
SCALE:	

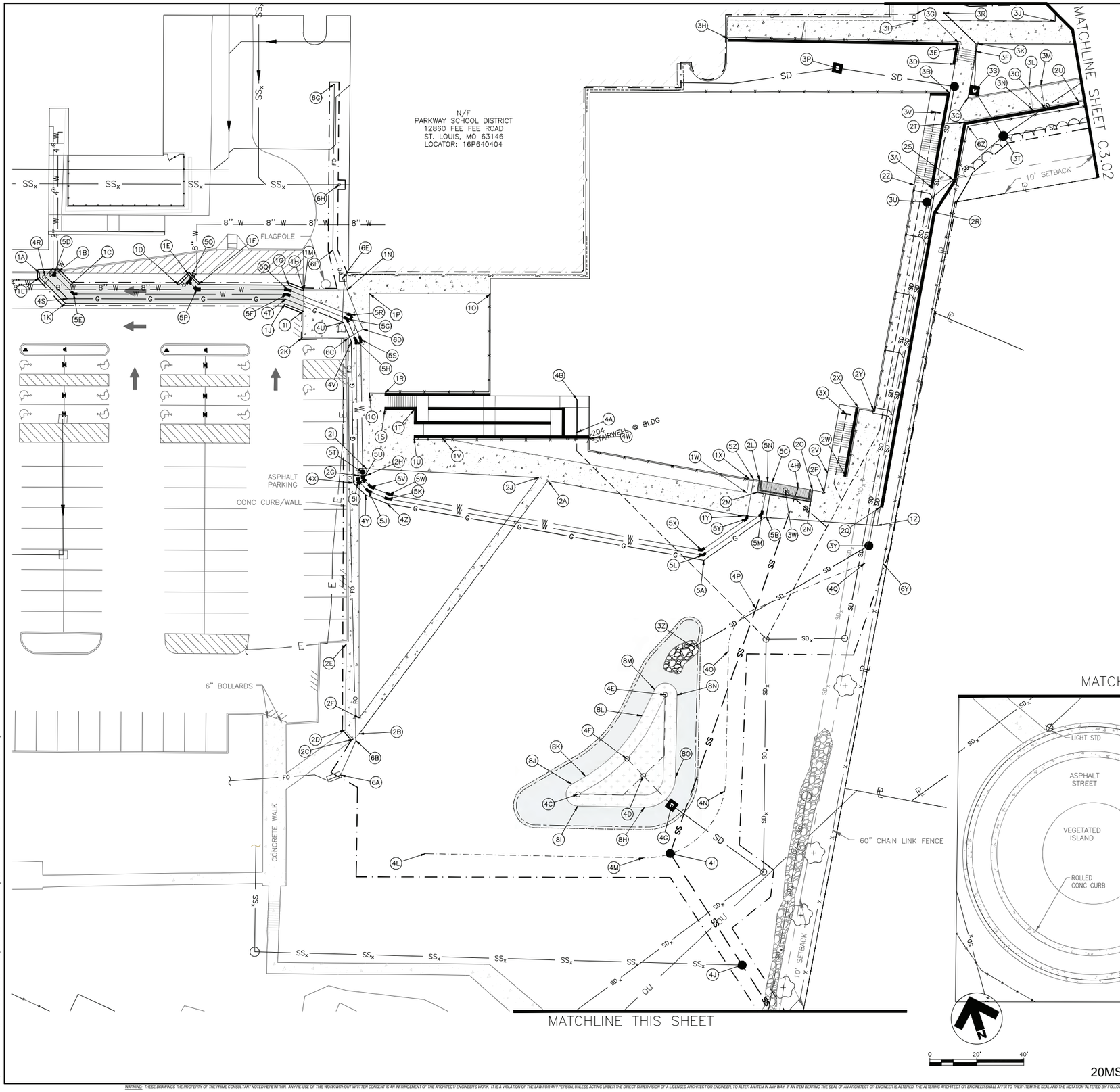
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 562001B
WSP PROJECT NUMBER: 193463K

SHEET NUMBER **C5.02**

LAST EDITED: 1/14/2022 2:51 PM
FILE PATH: P:\StLouis\261902\5199001 Parkway\05-CAD\02519901 North High\03-PLAN\Storm Shelter Addition\562001B\c-000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



20MSD-00000 BASEMAP: 15P3, 16P2

GENERAL NOTES:

REMARKS:

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel.: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com

WSP Architecture, Inc.
Missouri State Certificate of Authority: #2004006234

wood.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-200-5100 Fax: 636-402-3005
Discipline: Engineering Corporation
Corporate Certificate Of Authority: #2002000326

REV	DESCRIPTION	DATE

NORTH HIGH SCHOOL
STORM SHELTER ADDITION & SITE IMPROVEMENTS

12860 FEE FEE ROAD
ST. LOUIS, MISSOURI 63146

PARKWAY SCHOOL DISTRICT

ISSUE FOR BID/PERMIT

STATE OF MISSOURI
STUART M. HAW III
NUMBER E-22997
REGISTERED PROFESSIONAL ENGINEER

1/14/2022

Date:
Stuart M. Haw III - Engineer
MO E-22997

PROFESSIONAL SEAL

SHEET NAME
COORDINATE PLAN

DESIGNED BY:	MLS
DRAWN BY:	MLS
CHECKED BY:	SJM
DATE:	14 January 2022
SCALE:	

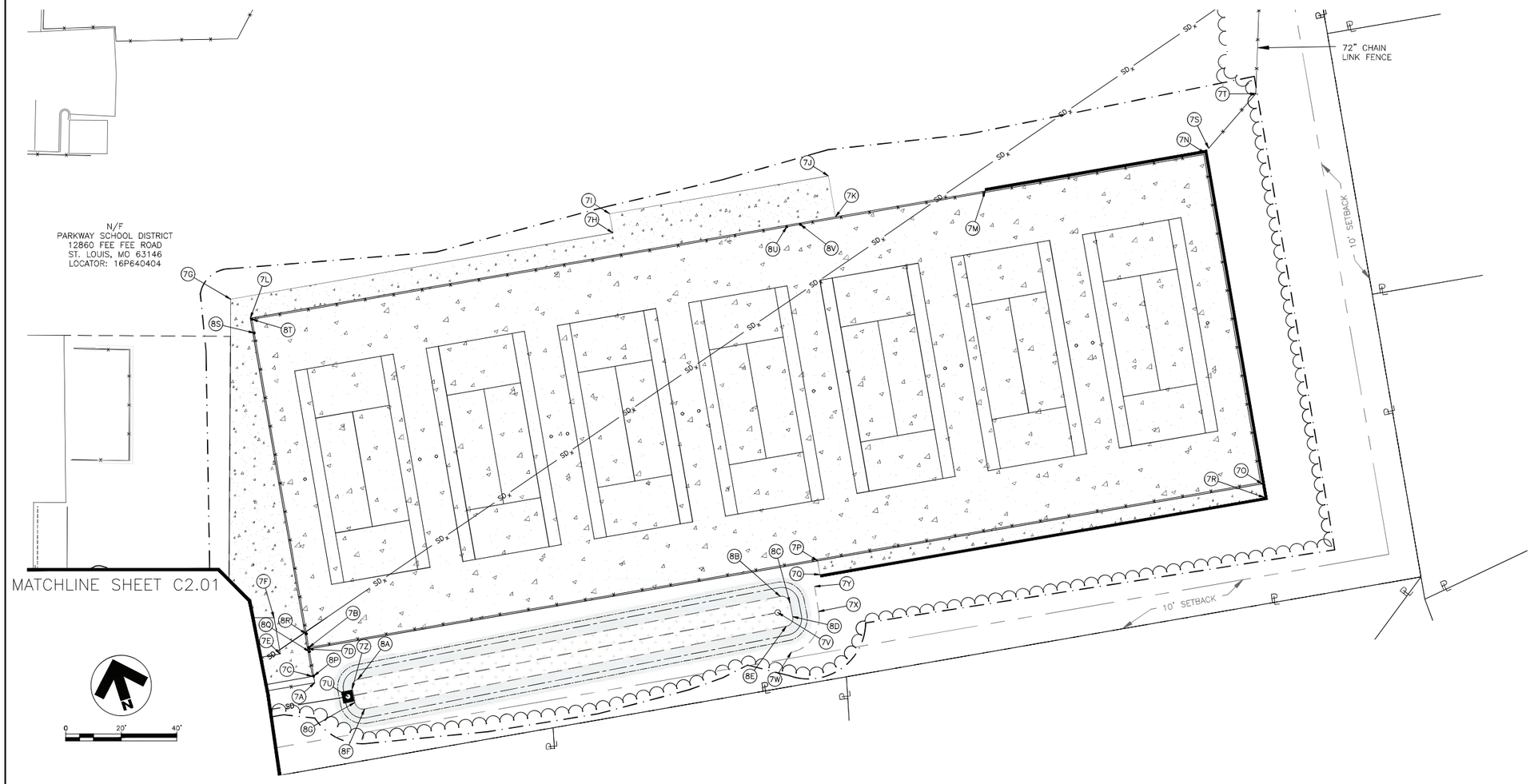
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 562001B
WSP PROJECT NUMBER: 193463K

SHEET NUMBER
C6.01

LAST EDITED: 1/14/2022 2:51 PM
FILE PATH: P:\St.Louis\201\93\25190001 Parkway\10-CAD\325190014 North High\XLP-ANI\Storm Shelter Addition\562001B-s-0000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



Coordinate Table				
	Name	Northing	Easting	Description
1	1A	1039995.75	829098.19	SAWCUT ⊕ CURB
2	1B	1039993.86	829105.91	SAWCUT ⊕ CURB
3	1C	1039986.96	829109.45	SAWCUT
4	1D	1039972.87	829153.09	SAWCUT
5	1E	1039975.63	829158.48	SAWCUT
6	1F	1039970.47	829161.11	SAWCUT
7	1G	1039958.40	829197.75	SAWCUT
8	1H	1039954.10	829202.91	SAWCUT ⊕ EOC
9	1I	1039945.97	829200.17	SAWCUT ⊕ EOC
10	1J	1039951.34	829193.73	SAWCUT
11	1K	1039980.07	829104.76	SAWCUT
12	1L	1039994.02	829097.63	SAWCUT
13	1M	1039954.51	829203.05	EOC ⊕ TIE IN
14	1N	1039948.89	829220.72	EOC
15	1O	1039928.59	829278.30	EOC ⊕ BLDG
16	1P	1039944.46	829229.29	EOC
17	1Q	1039904.28	829216.28	EOC
18	1R	1039902.13	829222.60	EOC ⊕ STAIRWELL
19	1S	1039895.46	829220.45	EOC ⊕ STAIRWELL
20	1T	1039891.61	829232.34	EOC ⊕ STAIRWELL
21	1U	1039880.20	829228.64	EOC ⊕ STAIRWELL
22	1V	1039876.43	829240.01	EOC ⊕ STAIRWELL
23	1W	1039814.72	829356.36	EOC
24	1X	1039820.02	829359.17	EOC ⊕ BLDG
25	1Y	1039805.88	829351.67	EOC
26	1Z	1039784.45	829404.87	EOC
27	2A	1039845.33	829277.30	EOC
28	2B	1039767.30	829167.80	EOC
29	2C	1039765.92	829164.70	EOC ⊕ TIE IN
30	2D	1039770.76	829162.60	EOC ⊕ TIE IN

Coordinate Table				
	Name	Northing	Easting	Description
31	2E	1039805.40	829174.33	EOC ⊕ EX WALL
32	2F	1039773.73	829169.93	EOC
33	2G	1039872.04	829201.44	EOC
34	2H	1039871.13	829204.29	EOC
35	2I	1039873.99	829205.21	EOC
36	2J	1039847.88	829273.98	EOC
37	2K	1039935.30	829196.39	EOC ⊕ TIE IN
38	2L	1039817.97	829363.04	EOC ⊕ AREA WELL
39	2M	1039813.55	829360.69	EOC ⊕ AREA WELL
40	2N	1039802.77	829381.01	EOC ⊕ AREA WELL
41	2O	1039807.19	829383.36	EOC ⊕ AREA WELL
42	2P	1039804.85	829387.77	EOC ⊕ BLDG
43	2Q	1039791.53	829408.62	EOC ⊕ WALL
44	2R	1039904.27	829468.45	EOC ⊕ WALL
45	2S	1039914.56	829480.87	EOC ⊕ WALL
46	2T	1039936.60	829492.56	EOC ⊕ WALL
47	2U	1039929.93	829541.77	EOC ⊕ WALL
48	2V	1039812.15	829391.65	EOC ⊕ STAIRWELL
49	2W	1039808.35	829398.69	EOC ⊕ STAIRWELL
50	2X	1039834.67	829412.65	EOC ⊕ STAIRWELL
51	2Y	1039831.55	829418.54	EOC ⊕ BLDG
52	2Z	1039917.73	829464.27	EOC ⊕ STAIRWELL
53	3A	1039914.00	829471.35	EOC ⊕ STAIRWELL
54	3B	1039950.30	829490.61	EOC ⊕ STAIRWELL
55	3C	1039946.03	829497.40	EOC
56	3D	1039961.42	829496.51	EOC ⊕ WALL
57	3E	1039967.46	829499.72	EOC ⊕ TOP STEP
58	3F	1039963.71	829506.78	EOC ⊕ TOP STEP
59	3G	1039969.52	829500.81	EOC ⊕ WALL
60	3H	1040001.39	829407.74	EOC ⊕ WALL

Coordinate Table				
	Name	Northing	Easting	Description
61	3I	1039984.07	829487.26	EOC ⊕ EX BLDG
62	3J	1039965.77	829542.72	EOC
63	3K	1039966.71	829508.38	EOC
64	3L	1039942.48	829523.63	EOC ⊕ LANDING
65	3M	1039941.81	829528.58	EOC ⊕ LANDING
66	3N	1039932.57	829522.28	EOC ⊕ LANDING
67	3O	1039931.90	829527.25	EOC ⊕ LANDING
68	3P	1039975.11	829448.32	GI8
69	3Q	1039952.39	829493.42	MH7
70	3R	1039983.55	829498.79	GI4
71	3S	1039948.18	829500.97	AI3
72	3T	1039925.98	829506.79	MH2
73	3U	1039909.01	829467.23	MH1
74	3V	1039944.32	829482.34	CL TRENCH DRAIN
75	3W	1039810.81	829372.26	AREA WELL DRAIN
76	3X	1039833.50	829406.93	CL TRENCH DRAIN
77	3Y	1039777.33	829399.00	MH6
78	3Z	1039759.07	829314.63	FE5
79	4A	1039861.23	829295.29	END TRENCH DRAIN
80	4B	1039874.56	829299.61	END TRENCH DRAIN
81	4C	1039714.35	829248.66	CLEANOUT
82	4D	1039713.38	829277.60	CLEANOUT
83	4E	1039743.33	829297.03	CLEANOUT
84	4F	1039722.36	829273.19	CLEANOUT
85	4G	1039697.73	829285.27	OS2
86	4H	1039810.10	829377.87	8" SAN ⊕ BLDG
87	4I	1039678.41	829278.36	SAN MH 3S
88	4J	1039623.78	829293.04	SAN MH 2S
89	4K	1039595.00	829300.78	SAN MH 1S
90	4L	1039710.12	829179.16	CL BERM

Coordinate Table				
	Name	Northing	Easting	Description
91	4M	1039680.09	829266.95	CL BERM
92	4N	1039696.53	829308.57	CL BERM
93	4O	1039752.76	829328.26	CL BERM
94	4P	1039766.51	829344.97	CL BERM
95	4Q	1039770.76	829395.08	CL BERM
96	4R	1039993.74	829100.01	GAS TEE
97	4S	1039981.72	829106.17	1" GAS
98	4T	1039953.12	829194.71	1" GAS
99	4U	1039936.25	829214.97	1" GAS
100	4V	1039927.40	829215.72	1" GAS
101	4X	1039869.73	829198.14	1" GAS
102	4Y	1039863.31	829201.55	1" GAS
103	4Z	1039857.15	829209.00	1" GAS
104	5A	1039792.87	829330.20	1" GAS
105	5B	1039802.50	829361.07	1" GAS
106	5C	1039815.47	829367.95	1" GAS ⊕ BLDG
107	5D	1039993.41	829103.89	4" WATER TEE
108	5E	1039982.80	829109.32	4" DOMESTIC WATER
109	5F	1039954.91	829195.69	4" DOMESTIC WATER
110	5G	1039937.25	829216.89	4" DOMESTIC WATER
111	5H	1039927.18	829217.75	4" DOMESTIC WATER
112	5I	1039869.94	829200.29	4" DOMESTIC WATER
113	5J	1039864.60	829203.13	4" DOMESTIC WATER
114	5K	1039858.82	829210.12	4" DOMESTIC WATER
115	5L	1039795.03	829330.40	4" DOMESTIC WATER
116	5M	1039804.16	829359.69	4" DOMESTIC WATER
117	5N	1039816.41	829366.19	4" DOMESTIC WATER ⊕ BLDG
118	5O	1039972.93	829157.61	FIRE LINE TEE
119	5P	1039968.59	829159.83	4" FIRE LINE
120	5Q	1039956.69	829196.67	4" FIRE LINE

Coordinate Table				
	Name	Northing	Easting	Description
121	5R	1039938.25	829218.81	4" FIRE LINE
122	5S	1039926.97	829219.77	4" FIRE LINE
123	5T	1039873.02	829203.32	FIRE DEPT. CONNECTION
124	5U	1039870.15	829202.45	4" FIRE LINE
125	5V	1039865.89	829204.71	4" FIRE LINE
126	5W	1039860.50	829211.23	4" FIRE LINE
127	5X	1039797.18	829330.60	4" FIRE LINE
128	5Y	1039804.14	829352.89	4" FIRE LINE
129	5Z	1039819.22	829360.89	4" FIRE LINE ⊕ BLDG
130	6A	1039753.06	829154.95	FIBER ⊕ TIE IN
131	6B	1039764.95	829165.62	FIBER OPTIC
132	6C	1039929.17	829214.89	FIBER OPTIC
133	6D	1039930.94	829221.98	FIBER OPTIC
134	6E	1039954.20	829220.26	FIBER OPTIC ⊕ HANDHOLE BOX
135	6F	1039966.87	829220.12	FIBER OPTIC
136	6G	1040034.07	829242.30	FIBER OPTIC
137	6H	1039992.64	829231.19	SAN CLEANOUT
138	6I	1039558.75	829278.90	EOC ⊕ TIE IN
139	6J	1039552.22	829284.25	EOC ⊕ TIE IN
140	6K	1039549.04	829281.82	EOC ⊕ TIE IN
141	6L	1039556.99	829275.31	EOC ⊕ TIE IN
142	6M	1039544.45	829274.86	ROLLED CURB ⊕ TIE IN
143	6N	1039542.19	829273.64	ROLLED CURB ⊕ TIE IN
144	6O	1039543.98	829271.76	ROLLED CURB ⊕ TIE IN
145	6P	1039546.30	829273.02	ROLLED CURB ⊕ TIE IN
146	6Q	1039519.40	829261.31	ROLLED CURB ⊕ TIE IN
147	6R	1039517.14	829260.09	ROLLED CURB ⊕ TIE IN
148	6S	1039517.67	829257.54	ROLLED CURB ⊕ TIE IN
149	6T	1039519.99	829258.79	ROLLED CURB ⊕ TIE IN
150	6U	1039517.08	829255.20	SIGN

Coordinate Table				
	Name	Northing	Easting	Description
151	6V	1039548.17	829272.83	SIGN
152	6W	1039555.27	829283.05	60" CHAIN LINK FENCE
153	6X	1039597.31	829304.91	60" CHAIN LINK FENCE ⊕ TIE IN
154	6Y	1039768.29	829402.44	60" CHAIN LINK FENCE ⊕ TIE IN
155	6Z	1039934.52	829493.59	60" CHAIN LINK FENCE
156	7A	1039924.77	829562.04	60" CHAIN LINK FENCE
157	7B	1039937.51	829563.85	60" FENCE ⊕ 120" FENCE
158	7C	1039927.20	829561.95	EOC
159	7D	1039937.09	829563.29	EOC ⊕ TENNIS COURT
160	7E	1039938.45	829553.38	EOC
161	7F	1039951.55	829555.21	EOC
162	7G	1040065.61	829575.42	EOC
163	7H	1040046.29	829713.80	EOC
164	7I	1040053.22	829714.77	EOC
165	7J	1040042.14	829794.00	EOC
166	7K	1040027.28	829791.92	EOC ⊕ TENNIS COURT
167	7L	1040056.92	829580.05	EOC ⊕ TENNIS COURT
168	7M	1040019.70	829846.12	TENNIS COURT ⊕ WALL
169	7N	1040008.57	829925.69	TENNIS COURT ⊕ WALL
170	7O	1039888.74	829908.92	TENNIS COURT ⊕ WALL
171	7P	1039911.25	829747.95	TENNIS COURT ⊕ CONC SWALE
172	7Q	1039906.30	829747.25	CONC SWALE ⊕ WALL
173	7R	1039883.79	829908.23	CONC SWALE ⊕ WALL
174	7S	1040009.78	829927.47	72" CHAIN LINK FENCE ⊕ WALL
175	7T	1040023.33	829949.69	72" CHAIN LINK FENCE ⊕ TIE IN
176	7U	1039916.34	829571.93	OS1
177	7V	1039897.92	829728.58	CLEANOUT
178	7W	1039882.79	829728.82	CL BERM
179	7X	1039893.74	829742.69	CL BERM
180	7Y	1039902.79	829744.08	CL BERM

Coordinate Table				
	Name	Northing	Easting	Description
181	7Z	1039918.56	829574.20	BASIN BOTTOM
182	8A	1039921.21	829577.18	BASIN BOTTOM
183	8B	1039903.15	829731.21	BASIN BOTTOM
184	8C	1039899.82	829733.84	BASIN BOTTOM
185	8D	1039894.85	829733.25	BASIN BOTTOM
186	8E	1039892.22	829729.92	BASIN BOTTOM
187	8F	1039910.27	829576.25	BASIN BOTTOM
188	8G	1039913.60	829573.62	BASIN BOTTOM
189	8H	1039700.44	829273.90	BASIN BOTTOM
190	8I	1039709.62	829247.04	BASIN BOTTOM
191	8J	1039719.23	829247.58	BASIN BOTTOM
192	8K	1039720.69	829254.14	BASIN BOTTOM
193	8L	1039737.87	829284.80	BASIN BOTTOM
194	8M	1039746.81	829293.43	BASIN BOTTOM
195	8N	1039741.71	829301.76	BASIN BOTTOM
196	8O	1039708.53	829290.41	BASIN BOTTOM
197	8P	1039927.16	829562.38	GATE
198	8Q	1039936.03	829563.64	GATE
199	8R	1039942.47	829564.55	GATE
200	8S	1040051.40	829579.78	GATE
201	8T	1040056.36	829580.48	GATE
202	8U	1040029.27	829774.09	GATE
203	8V	1040028.58	829779.04	GATE
204	4W	1039857.25	829299.52	STAIRWELL ⊕ BLDG

20MSD-00000 BASEMAP: 15P3, 16P2

GENERAL NOTES:

REMARKS:

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel.: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com

WSP Architecture, Inc.
Missouri State Certificate of Authority: #2004006234

wood.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-200-5100 Fax: 636-402-3005
Discipline: Engineering Corporation
Corporate Certificate Of Authority: #2002000326

REV	DESCRIPTION	DATE

NORTH HIGH SCHOOL
STORM SHELTER ADDITION & SITE IMPROVEMENTS

12860 FEE FEE ROAD
ST. LOUIS, MISSOURI 63146

PARKWAY SCHOOL DISTRICT

ISSUE FOR BID/PERMIT

STATE OF MISSOURI
STUART M. HAW III
NUMBER E-22997
REGISTERED PROFESSIONAL ENGINEER

11/14/2022

Date:
Stuart M. Haw III - Engineer
MO E-22997

PROFESSIONAL SEAL

SHEET NAME
COORDINATE PLAN

DESIGNED BY: MLS
DRAWN BY: MLS
CHECKED BY: SJM
DATE: 14 January 2022
SCALE:

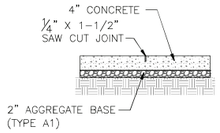
FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 562001B
WSP PROJECT NUMBER: 193463K

SHEET NUMBER
C6.02

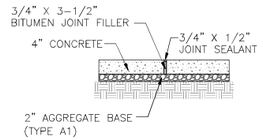
LAST EDITED: 1/14/2022 2:51 PM
FILE PATH: P:\StLouis\2019\3251990\1 Parkway\10-CAD\3251990\4 North High\03-PLANS\Storm Shelter Addition\562001Bxv0\000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



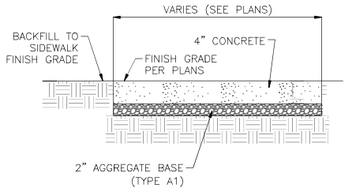
NOTE: MAXIMUM SPACING EQUALS WIDTH OF SIDEWALK OR 10'-0", WHICHEVER IS LESS.

CONTRACTION JOINT



NOTE: MAXIMUM SPACING EQUALS 20'-0" ON CENTER.

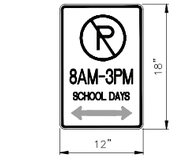
EXPANSION JOINT



CONCRETE WALK SECTION

TYPICAL CONCRETE WALK DETAILS

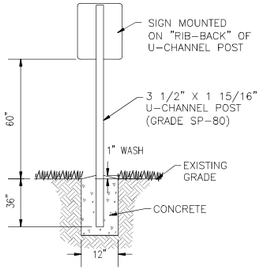
NTS



STREET SIGN

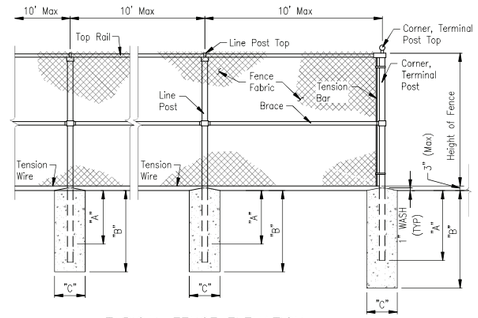
SIGN MOUNTING DETAIL

NTS



Description		Height of Fence
Line Post	Size	48"
	"A"	2.38"ø
	"B" x "C"	24"
Corner & Terminal Post	Size	30" x 10"
	"A"	3.5"ø
	"B" x "C"	30"
Gate Post * (single gate or leaf gate of double width)	Pedestrian	36" x 10"
	Vehicular	3.5"ø
Top Rail and Brace		6.63"ø
Gate Frame	Pedestrian	1.66"ø
	Vehicular	1.66"ø
Fabric		1.9"ø
		2" diamond mesh interwoven wire, 9 gage thick, top selvage knuckle and end closed, bottom selvage twisted tight
Tension Wire		6 gage thick steel, single strand
Tension Band		0.1" thick steel
Tension Bar		0.1" thick steel
Tie Wire		Aluminum alloy steel wire

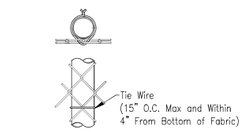
* "A", "B", and "C" are the same as Corner & Terminal Post



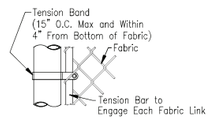
TYPICAL FENCE ELEVATION

48" THRU 96" CHAIN LINK FENCE DETAIL

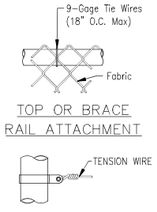
NTS



LINE POST ATTACHMENTS



CORNER, TERMINAL OR GATE POST DETAIL



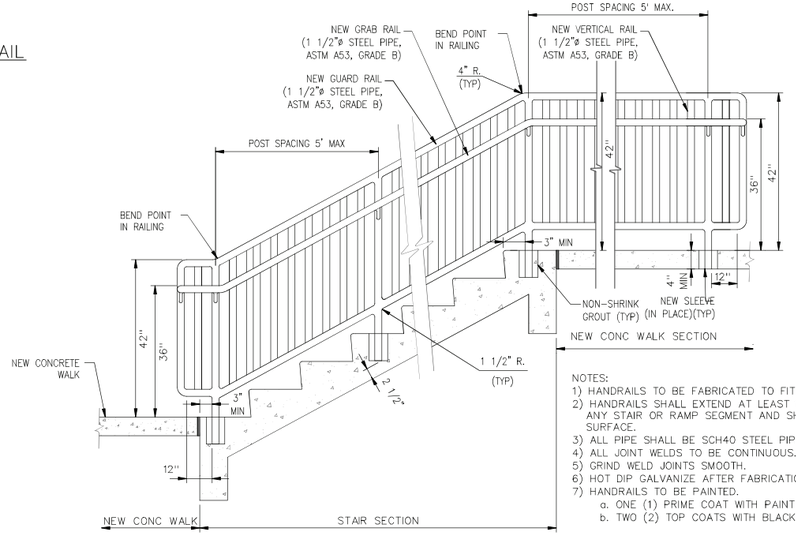
TOP OR BRACE RAIL ATTACHMENT

TENSION BAND DETAIL

FASTENING DETAILS

NTS

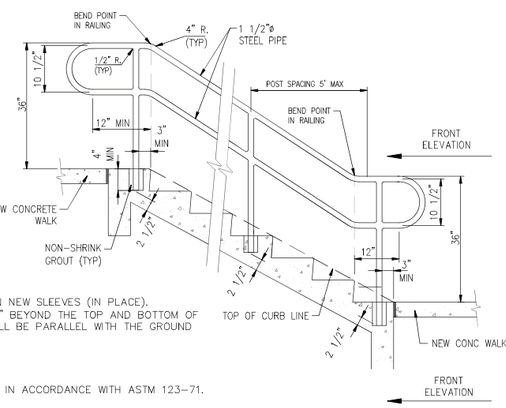
NOTE: ALL DETAILS ARE FOR ON-SITE USE ONLY AN NOT FOR ST. LOUIS COUNTY RIGHT-OF-WAY.



NOTES:
1) HANDRAILS TO BE FABRICATED TO FIT IN NEW SLEEVES (IN PLACE).
2) HANDRAILS SHALL EXTEND AT LEAST 12" BEYOND THE TOP AND BOTTOM OF ANY STAIR OR RAMP SEGMENT AND SHALL BE PARALLEL WITH THE GROUND SURFACE.
3) ALL PIPE SHALL BE SCH40 STEEL PIPE.
4) ALL JOINT WELDS TO BE CONTINUOUS.
5) GRIND WELD JOINTS SMOOTH.
6) HOT DIP GALVANIZE AFTER FABRICATION IN ACCORDANCE WITH ASTM 123-71.
7) HANDRAILS TO BE PAINTED.
   a. ONE (1) PRIME COAT WITH PAINT APPROPRIATE FOR GALVANIZED METAL.
   b. TWO (2) TOP COATS WITH BLACK ALKYD PAINT.

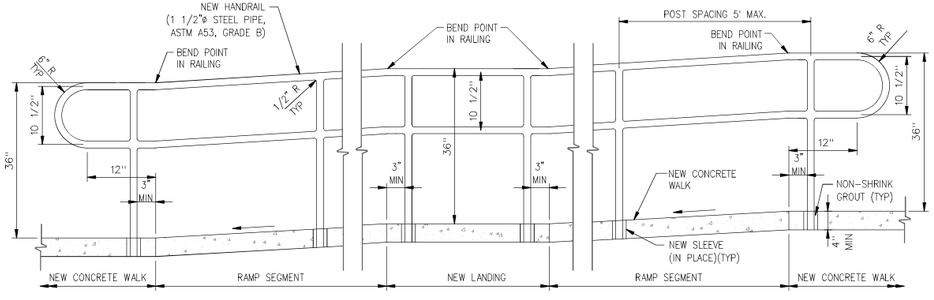
FALL PROTECTION HANDRAIL DETAIL & HANDRAIL SECTION B

NTS



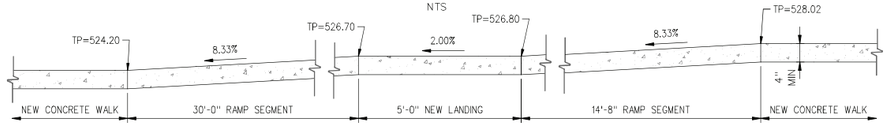
HANDRAIL SECTION "A"

NTS



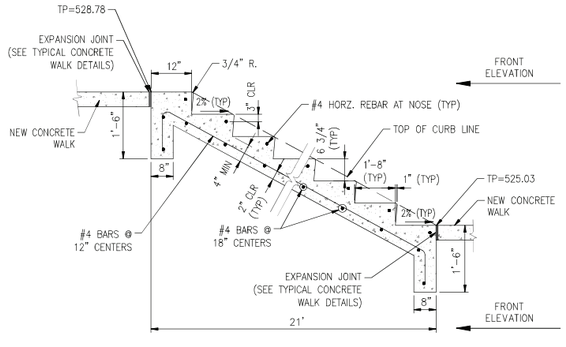
CONCRETE RAMP HANDRAIL DETAIL

NTS

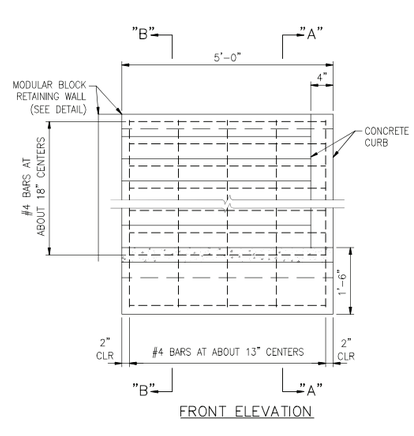


CONCRETE RAMP DETAILS

NTS



STEP SECTION "A"



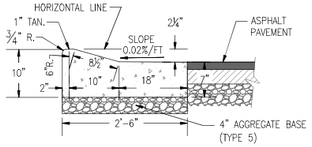
FRONT ELEVATION

CONCRETE STAIR DETAILS

NTS

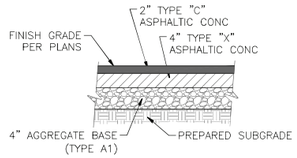
ROLLED CONCRETE CURB AND GUTTER

NTS



6/4/2 ASPHALT PAVEMENT DETAIL (HEAVY DUTY)

NTS



20MSD-00000 BASEMAP: 15P3, 16P2

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel.: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com

WSP Architecture, Inc.
Missouri State Certificate of Authority: #2004006234

wood.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-200-5100 Fax: 636-402-3005
Discipline: Engineering Corporation
Corporate Certificate Of Authority: #2002000326

REV	DESCRIPTION	DATE

NORTH HIGH SCHOOL
STORM SHELTER ADDITION
& SITE IMPROVEMENTS
12860 FEE FEE ROAD
ST. LOUIS, MISSOURI 63146

PARKWAY SCHOOL DISTRICT

ISSUE FOR BID/PERMIT

STATE OF MISSOURI
STUART M. HAW III
NUMBER E-22997
REGISTERED PROFESSIONAL ENGINEER

1/14/2022

Date:
Stuart M. Haw III - Engineer
MO E-22997

PROFESSIONAL SEAL

SHEET NAME
SITE DETAILS

DESIGNED BY:	MLS
DRAWN BY:	MLS
CHECKED BY:	SJM
DATE:	14 January 2022
SCALE:	

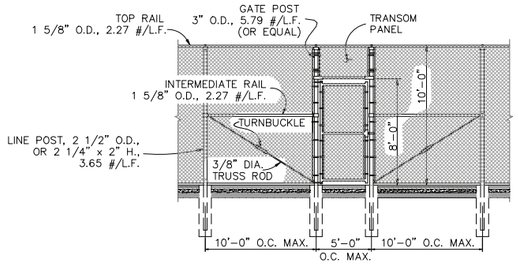
FULL SCALE SHEET SIZE= ARCH. D (24"x 36")

CLIENT PROJECT NUMBER: 562001B
WSP PROJECT NUMBER: 193463K

SHEET NUMBER **C7.01**

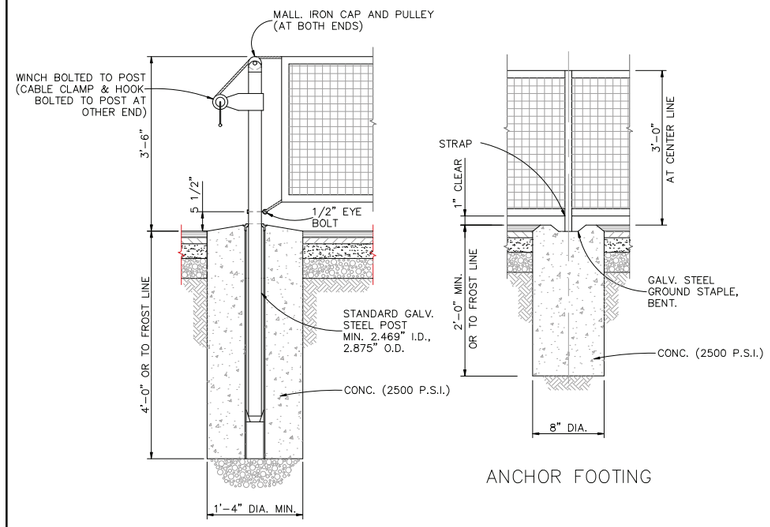
LAST EDITED: 1/14/2022 2:51 PM
FILE PATH: P:\StLouis\2019\3251990\1 Parkway\10-CAD\3251990114 North High\103-PLAN\Storm Shelter Addition\562001B-s0000000010C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



ELEVATION OF SINGLE GATE

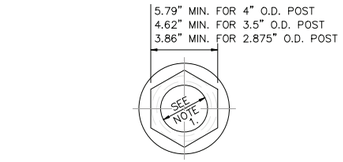
N.T.S.



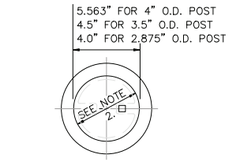
ANCHOR FOOTING

TENNIS NET AND POST DETAILS

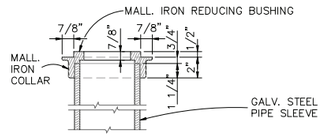
N.T.S.



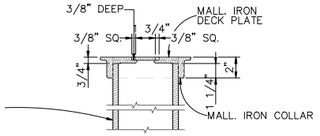
PLAN – REDUCING BUSHING



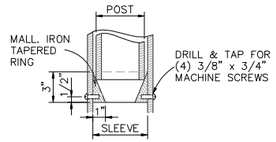
PLAN – DECK PLATE



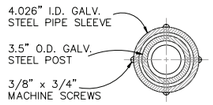
SECTION – REDUCING BUSHING



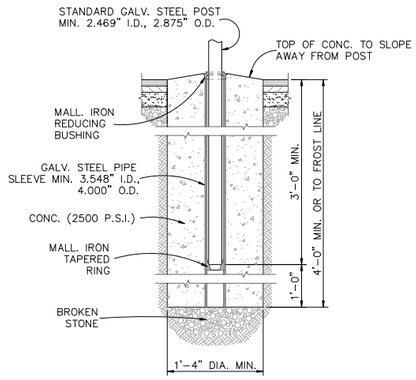
SECTION – DECK PLATE



SECTION – TAPERED RING

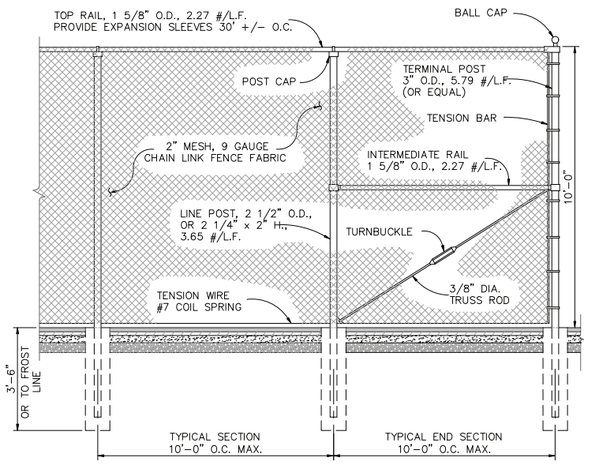


PLAN – TAPERED RING

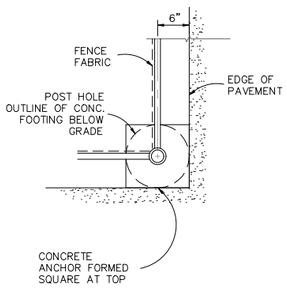


REMOVABLE NET POSTS DETAILS

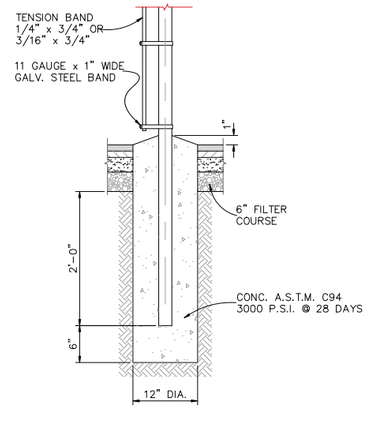
N.T.S.



TYPICAL FENCE ELEVATION



PLAN

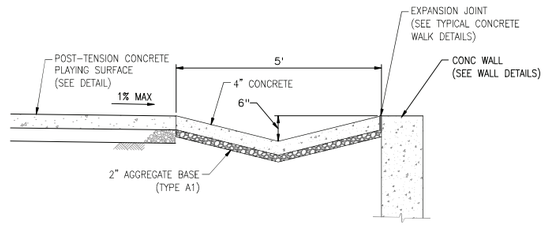


SECTION

CORNER POST AND FOOTING DETAILS

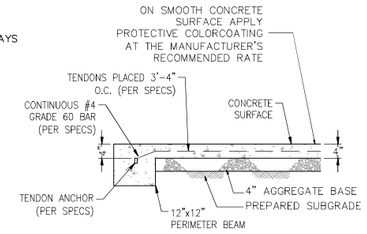
120" TENNIS COURT FENCE ENCLOSURE DETAILS

N.T.S.



CONCRETE SWALE SECTION

N.T.S.



POST-TENSION CONCRETE PLAYING SURFACE DETAIL

N.T.S.

NOTES:
1) THERE SHALL BE A KEYED CONSTRUCTION JOINT BETWEEN EACH COURT OR AT NET LINE, PLUS OR MINUS ONE FOOT
2) A FULL COURT SHALL BE PLACED IN ONE (1) CONTINUOUS OPERATION WITHOUT INTERVENING JOINTS OF ANY KIND.
3) PERFORM TENSIONING APPROXIMATELY ONE WEEK AFTER CONCRETE HAS REACHED 2,000 PSI COMPRESSIVE STRENGTH AND AMBIENT TEMPERATURE IS ABOVE SPECIFIED REQUIREMENTS.
4) REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

20MSD-00000 BASEMAP: 15P3, 16P2

NOTE: ALL DETAILS ARE FOR ON-SITE USE ONLY AN NOT FOR ST. LOUIS COUNTY RIGHT-OF-WAY.

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel.: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com
WSP Architecture, Inc.
Missouri State Certificate of Authority: #2004006234

wood.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-200-5100 Fax: 636-402-3005
Discipline: Engineering Corporation
Corporate Certificate Of Authority: #2002000326

REV	DESCRIPTION	DATE

NORTH HIGH SCHOOL
STORM SHELTER ADDITION
& SITE IMPROVEMENTS
12860 FEE FEE ROAD
ST. LOUIS, MISSOURI 63146
PARKWAY SCHOOL DISTRICT

ISSUE FOR BID/PERMIT

STATE OF MISSOURI
STUART M. HAW III
NUMBER E-22997
REGISTERED PROFESSIONAL ENGINEER
1/14/2022
Date:
Stuart M. Haw III - Engineer
MO E-22997

PROFESSIONAL SEAL

SHEET NAME
SITE DETAILS

DESIGNED BY:	MLS
DRAWN BY:	MLS
CHECKED BY:	SJM
DATE:	14 January 2022
SCALE:	

FULL SCALE SHEET SIZE= ARCH. D (24"x 36")

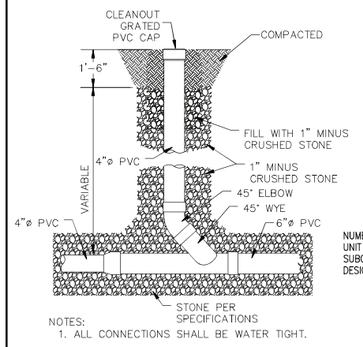
CLIENT PROJECT NUMBER: 562001B
WSP PROJECT NUMBER: 193463K

SHEET NUMBER **C7.02**

LAST EDITED: 1/14/2022 2:51 PM
FILE PATH: P:\StLouis\2019\3925199\01 Parkway\10-CAD\3925199014 North High\03-PLANS\Storm Shelter Addition\5520015\5=\000000001C.dwg

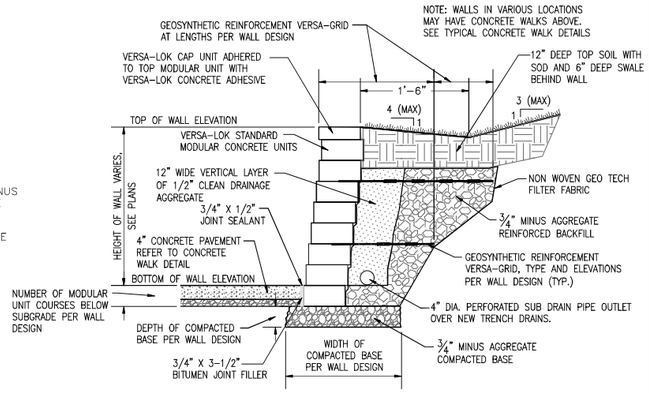
WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

NOTE: ALL DETAILS ARE FOR ON-SITE USE ONLY AN NOT FOR ST. LOUIS COUNTY RIGHT-OF-WAY.



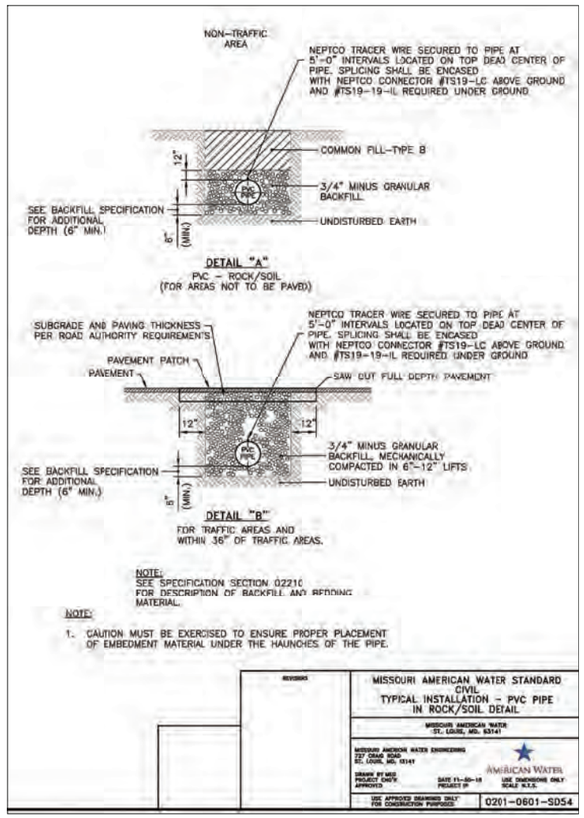
NOTES:
1. ALL CONNECTIONS SHALL BE WATER TIGHT.

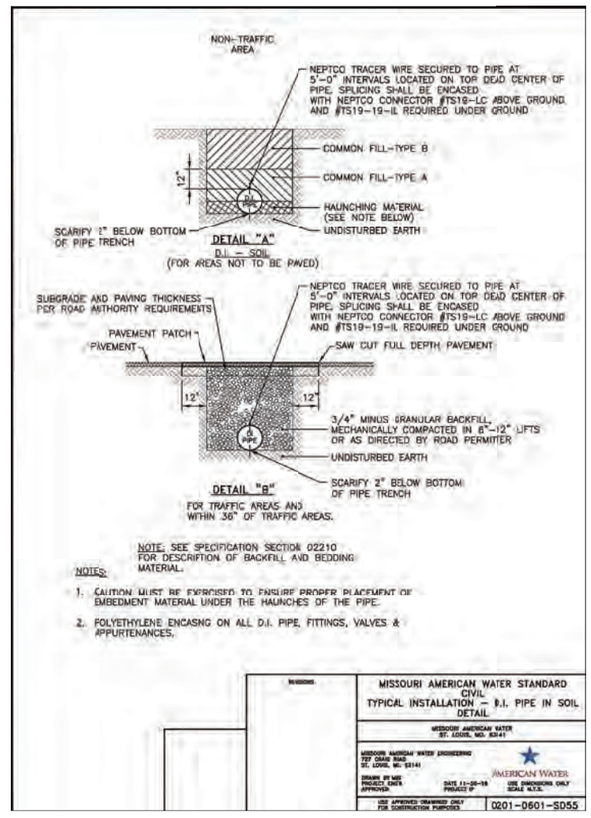
CLEANOUT DETAIL
NTS

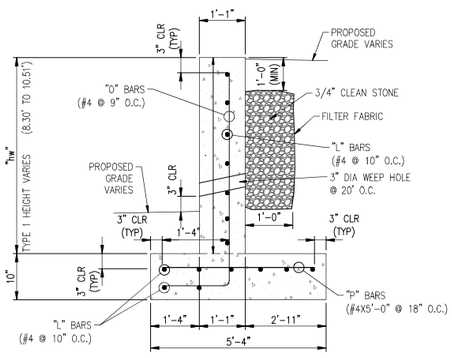


NOTES:
1. COLOR TO CONFORM TO JOB SPECIFICATIONS
2. SEPARATE PERMIT REQUIRED FOR ALL WALLS 48" OR HIGHER.
3. SUB DRAIN PIPE TO OUTLET OVER NEW TRENCH DRAIN.

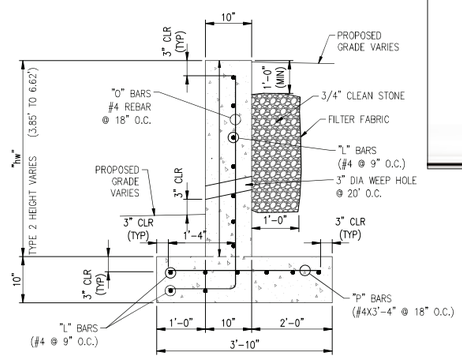
TYPICAL SECTION – MANUFACTURED MODULAR WALL DETAIL
NTS





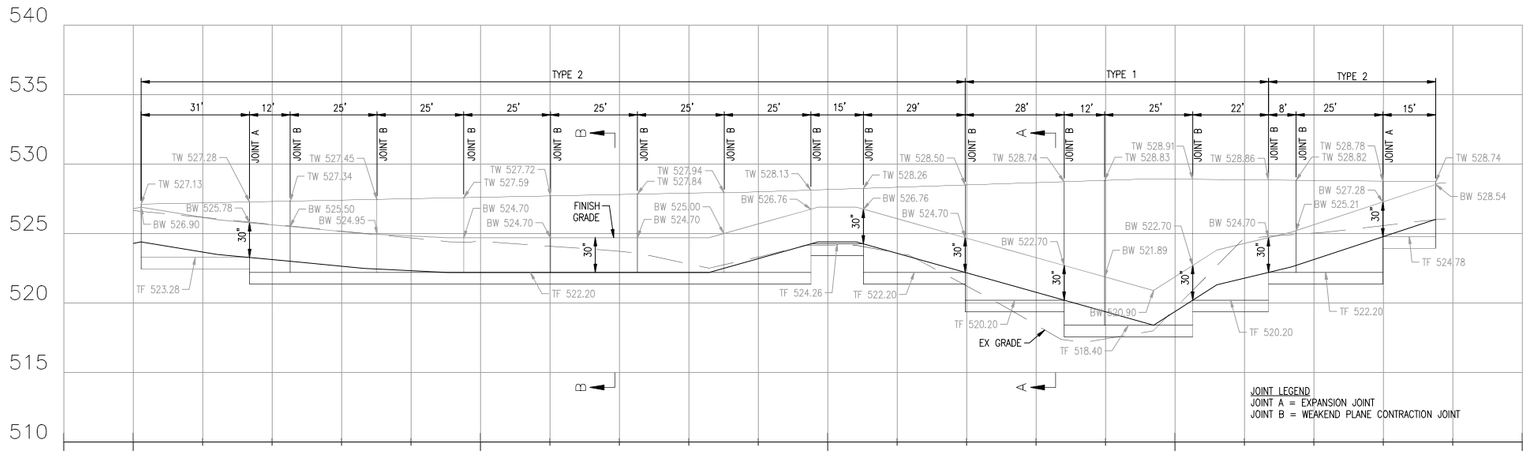


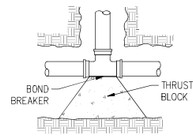
SECTION A-A



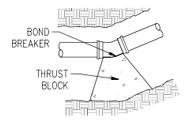
SECTION B-B

CONCRETE RETAINING WALL DETAILS
NTS

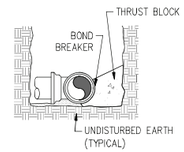




TEE (PLAN)



BEND (PLAN)



ELEVATION
(TYPICAL FOR ALL PLANS)

MINIMUM BEARING SURFACE IN SQUARE FEET						
PIPE SIZE	BENDS (ANGLE IN DEGREES)				TEE	DEADEND
	11.25°	22.5°	45°	90°		
2"	1.0	1.0	2.0	4.0	3.0	3.0
4"	1.0	1.0	2.0	4.0	3.0	3.0
6"	1.0	2.0	4.0	8.0	6.0	6.0
8"	2.0	4.0	7.0	14.0	10.0	10.0
10"	3.0	6.0	11.0	21.0	15.0	15.0
12"	4.0	8.0	16.0	29.0	21.0	21.0
14"	5.0	11.0	21.0	39.0	28.0	28.0
16"	7.0	14.0	27.0	50.0	36.0	36.0
18"	9.0	17.0	34.0	63.0	45.0	45.0
20"	11.0	21.0	42.0	78.0	55.0	55.0
24"	15.0	31.0	60.0	111.0	78.0	78.0
30"	24.0	47.0	92.0	171.0	121.0	121.0
36"	34.0	67.0	132.0	244.0	173.0	173.0

NOTE: AREA BASED UPON WATER PRESSURE OF 150 PSI AND ALLOWABLE SOIL PRESSURE OF 1000 PSF, ENGINEER MAY MODIFY REQUIRED SIZE BASED UPON SITE CONDITIONS.

GENERAL NOTES FOR THRUST BLOCKS
1. MINIMUM THRUST BLOCK THICKNESS 1'-6".
2. MINIMUM THRUST BLOCK HEIGHT 1.5 TIMES PIPE DIAMETER.
3. EXTEND THRUST BLOCKS TO UNDISTURBED SOIL.
4. FORM VERTICAL SURFACES OF POURED CONCRETE THRUST BLOCKS EXCEPT ON THRUST FACE.
5. DO NOT ALLOW CONCRETE TO DIRECTLY CONTACT JOINTS OR FITTING BOLTS, PROTECT JOINTS AND BOLTS WITH POLYETHYLENE ENCASEMENT.

WATER MAIN THRUST BLOCK DETAILS
NTS

20MSD-00000 BASEMAP: 15P3, 16P2

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel.: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com
WSP Architecture, Inc.
Missouri State Certificate of Authority: #2004006234

wood.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-200-5100 Fax: 636-402-3005
Discipline: Engineering Corporation
Corporate Certificate Of Authority: #2002000326

REV	DESCRIPTION	DATE

NORTH HIGH SCHOOL
STORM SHELTER ADDITION
& SITE IMPROVEMENTS
12860 FEE FEE ROAD
ST. LOUIS, MISSOURI 63146
PARKWAY SCHOOL DISTRICT

ISSUE FOR BID/PERMIT

STATE OF MISSOURI
STUART M. HAW III
NUMBER E-22997
REGISTERED PROFESSIONAL ENGINEER
11/14/2022
Date:
Stuart M. Haw III - Engineer
MO E-22997
PROFESSIONAL SEAL

SHEET NAME
SITE DETAILS

DESIGNED BY:	MLS
DRAWN BY:	MLS
CHECKED BY:	SJM
DATE:	14 January 2022
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

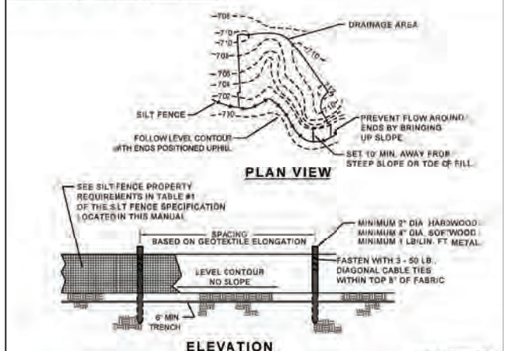
CLIENT PROJECT NUMBER: 562001B
WSP PROJECT NUMBER: 193463K

SHEET NUMBER **C7.03**

LAST EDITED: 1/14/2022 2:51 PM
FILE PATH: P:\StLouis\301932\5199001 Parkway\10-CAD\325199014 North High\03-PL-ANNStorm Shelter Addition\562001Bxx000000000C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

NEW	REVISIONS				
1/16/04	8/2/07	10/10/11	1/1/16		



NOTE: IF FABRIC IS INSTALLED BY EQUIPMENT DESIGNED TO SLICE INTO THE GROUND, THE TRENCH IS NOT NEEDED.

ST. LOUIS COUNTY
DEPARTMENT OF TRANSPORTATION
CREVE COEUR, MISSOURI

TYPICAL BMP DETAIL

SILT FENCE

REVISION DATE: January 1, 2016

DRAWING 806-70.00

NEW	REVISIONS				
10/1/14	1/1/16				

GENERAL NOTES

1) LOCATION, DIAMETER AND LENGTH OF SOCK IS DEPENDENT ON THE INLET/GUTTER BEING PROTECTED (I.E. DOUBLE, TRIPLE INLET, ETC.)

2) GRAVEL FILTER BAGS MAY BE SUBSTITUTED FOR FILTER SOCKS.

3) SOME LOCATIONS WILL NOT HAVE SIDEWALK (AS SHOWN IN THIS DETAIL).

4) IF THE AREA BEHIND THE INLET (AND SIDEWALK) IS NOT STABILIZED, A BMP SHALL BE USED TO PREVENT POLLUTANTS FROM ENTERING THE INLET FROM BEHIND.

5) WHEN A WATTLE IS USED TO PREVENT POLLUTANTS FROM ENTERING AN INLET FROM BEHIND, IT MUST BE PLACED ON A SIDEWALK TO MAINTAIN A MINIMUM 3 FOOT WALKING PATH. THE BMP SHALL BE ANCHORED TO PREVENT SEDIMENT ACCUMULATION ON THE SIDEWALK.

6) SOCKS / BAGS (BMP) SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBANCE ACTIVITY OR EXISTING INLETS AND IMMEDIATELY AFTER INSTALLATION OF PROPOSED INLETS.

7) ACCUMULATED SEDIMENT SHALL BE REMOVED BEFORE IT REACHES ONE HALF THE DIAMETER OF THE SOCK OR BAG HEIGHT AT A WINDROW OR ENCROACHES OVER A TRAVEL LANE.

8) SEE GRAVEL BAG, FILTER SOCK (WATTLE), FIBER ROLL AND INLET PROTECTION SPECIFICATIONS IN THE ILLINOIS AND EROSION CONTROL MANUAL FOR ADDITIONAL INFORMATION. GRAVEL BAGS MUST BE LAYERED AND PACKED TIGHTLY SUCH THAT NO GAPS ARE EVIDENT.

9) LEAVE ONE GRAVEL BAG GAP IN THE TOP LAYER TO PROVIDE A SPILLWAY FOR OVERFLOW.

10) STRAW BALES MAY NOT BE USED AS A BMP. INSTALL A PAIR OF FILTER SOCKS, NEXT TO EACH OTHER, PARALLEL TO THE CURB INLET IF DIRECTED BY THE COUNTY.

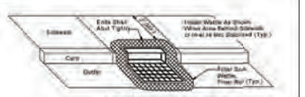
11) BMP's MUST BE INSTALLED TO ALLOW THE INLET / GUTTER TO FUNCTION WITHOUT COMPLETELY BLOCKING FLOWS TO ELIMINATE LOCALIZED FLOODING. CHOOSE THE DIAMETER OF SOCK AND LAYER(S) OF BAGS SUITABLE TO THE INDIVIDUAL APPLICATION.

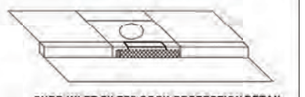
12) INLET PROTECTION IS NOT A STAND ALONE BMP AND SHOULD BE USED IN CONJUNCTION WITH OTHER UP GRADIENT BMP's.

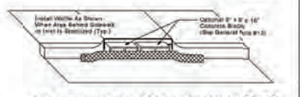
13) SOCKS NEED TO BE WEIGHTED FOR USE AROUND INLETS (INTERNAL ROLL WEIGHT OR BY PLACING A WEIGHT, SUCH AS A CONCRETE BLOCK, ON THE DOWN STREAM SIDE OF THE SOCK) USE ALTERNATE BMP IF LOCALIZED FLOODING IS POSSIBLE.

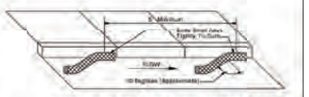
14) AT LOCATIONS WITHOUT CURBS, THE GUTTER PROTECTION MAY BE SHAPED INTO A HORSESHOE WITH THE OPENING FACING OPPOSITE THE DIRECTION OF FLOW. GUTTER PROTECTION CAN HELP PRE-TREAT STORMWATER IF NEEDED.

15) AT LOCATIONS WITHOUT CURBS, PLACE BMP's OF CHOICE COMPLETELY AROUND THE INLET (OVERLAP ENDS IF NEEDED).









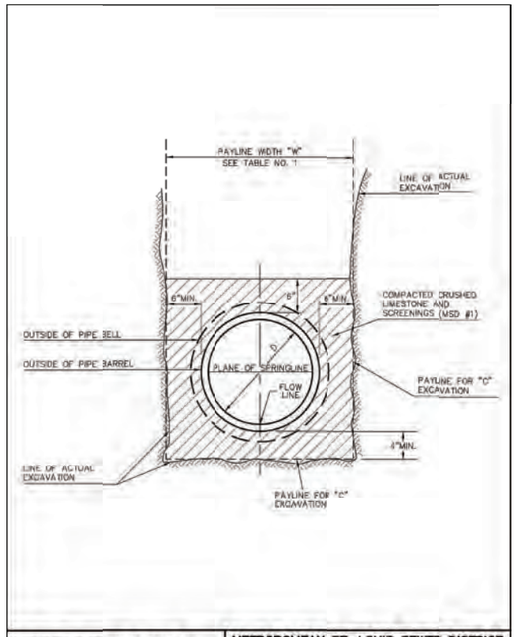
ST. LOUIS COUNTY
DEPARTMENT OF TRANSPORTATION
CREVE COEUR, MISSOURI

TYPICAL BMP DETAIL

GRATED UNIT, INLET AND GUTTER PROTECTION FILTER SOCK AND GRAVEL FILTER BAG

REVISION DATE: January 1, 2016

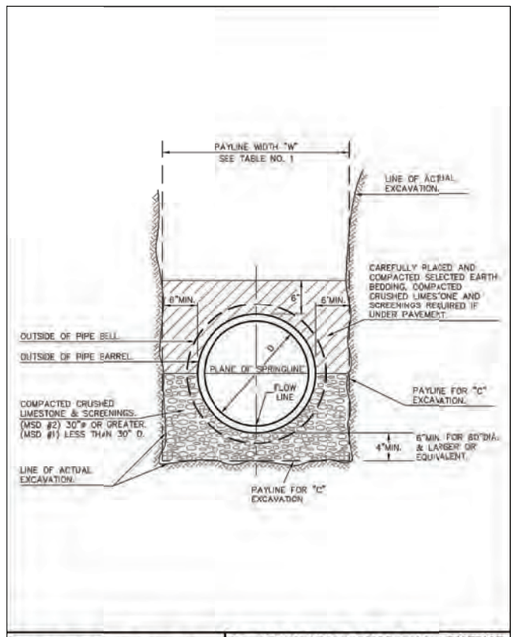
DRAWING 806-45.00



PIPE BEDDING CLASS "C" (FOR ALL 6" to 18" PIPE EXCEPT REINFORCED CONCRETE PIPE)

METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction

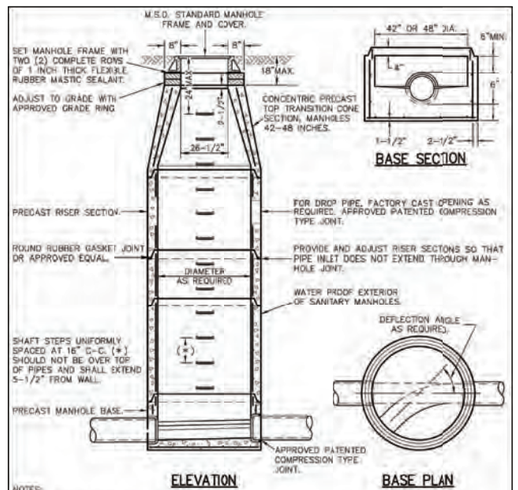
Dr. WSH	Ch. JCK	2009	SHEET 4



PIPE BEDDING CLASS "C" (MODIFIED FOR REINFORCED CONCRETE PIPE)

METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction

Dr. WSH	Ch. JCK	2009	SHEET 5



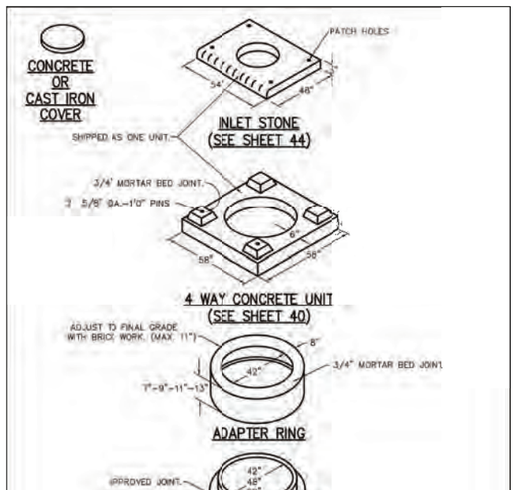
NOTES:

1) THE MINIMUM INSIDE DIAMETER FOR THE BASE AND RISER SECTIONS SHALL BE 42 INCHES FOR 8 INCH DIAMETER SANITARY SEWERS AND ALL STORM SEWERS. THE MINIMUM INSIDE DIAMETER FOR SANITARY SEWERS LARGER THAN 8 INCH DIAMETER IS 48 INCHES. MANHOLE SHALL MEET ASTM C-478 REQUIREMENTS.
2) FLOWLINE ELEVATION OF INCOMING PIPES SHALL BE 1 INCH HIGHER THAN THAT OF OUTGOING PIPE.
3) PIPE SIZES LARGER THAN 24 INCH DIAMETER MAY REQUIRE MANHOLE DIAMETERS OF 60 INCH 72 INCH OR 96 INCH AS DETERMINED BY OUTSIDE DIAMETERS AND ORIENTATIONS OF CONNECTING PIPES.
4) ECCENTRIC CONES SHALL BE USED ON DIAMETERS 60 INCH AND LARGER. STEPS SHALL EXTEND DOWN VERTICAL WALL OF CONE.
5) PRIOR TO FABRICATION, SHOP DRAWINGS SHALL BE SUBMITTED TO THE DISTRICT FOR APPROVAL OF MAN-HOLES ON PIPE DIAMETERS LARGER THAN 24 INCH AND ALSO FOR THOSE STRUCTURES WITH A DROP PIPE CONNECTION.

PRECAST CONCRETE MANHOLE

METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction

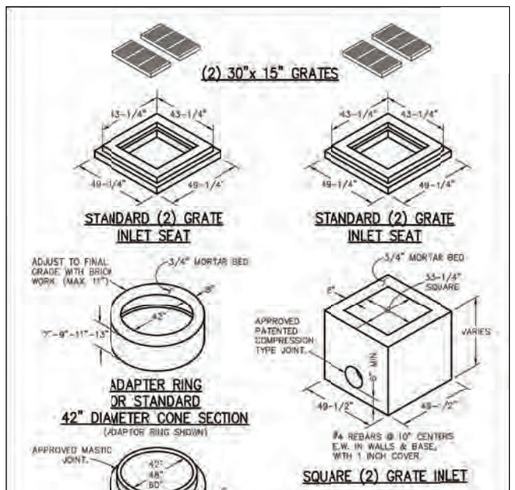
Dr. WSH/SAM	Ch. JCK	2009	SHEET 21



AREA INLET PRECAST CONCRETE

METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction

Dr. JLG/SAM	Ch. JCK	2009	SHEET 34

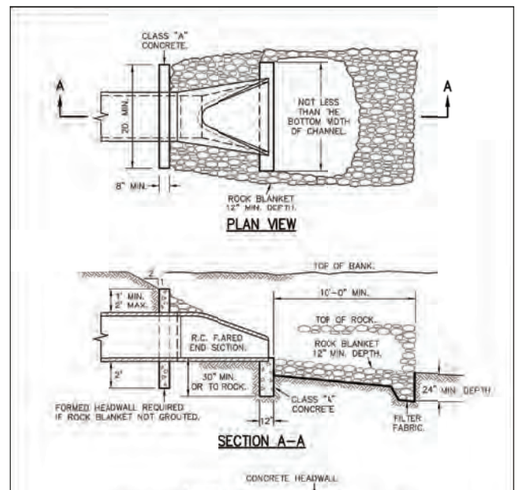


NOTE: INLETS ON THIS SHEET ARE TO BE USED IN LOCATIONS WHERE STANDARD OPEN THROAT INLETS CANNOT BE USED IN PAVED TRAFFIC WAY AND IN LIMITED EASEMENTS.

2 GRATE INLETS PRECAST CONCRETE

METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction

Dr. JLG/SAM	Ch. JCK	2009	SHEET 35



NOTES:

1) TO BE USED AT INTAKE AND DISCHARGE END OF PIPE. GRADE OF ROCK BLANKET TO BE ADJUSTED ACCORDINGLY.
2) GROUTED ROCK BLANKET OR CONC. HEADWALL REQUIRED.

FLARED END SECTION

METROPOLITAN ST. LOUIS SEWER DISTRICT
Standard Details of Sewer Construction

Dr. WSH/SAM	Ch. JCK	2009	SHEET 61

20MSD-00000 BASEMAP: 15P3, 16P2

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LAST EDITED: 1/14/2022 2:51 PM
FILE PATH: P:\StLouis\2019\3251990\1 Parkway\10-CAD\3251990.14 North High\03-PLANS\Storm Shelter Addition\S62001B-sv000000001C.dwg

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel.: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com
WSP Architecture, Inc.
Missouri State Certificate of Authority: #2004006234

wood.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-200-5100 Fax: 636-402-3005
Discipline: Engineering Corporation
Corporate Certificate Of Authority: #2002000326

REV	DESCRIPTION	DATE

NORTH HIGH SCHOOL
STORM SHELTER ADDITION & SITE IMPROVEMENTS

12860 FEE FEE ROAD
ST. LOUIS, MISSOURI 63146

PARKWAY SCHOOL DISTRICT

ISSUE FOR BID/PERMIT

STUART M. HAW III NUMBER E-22997 REGISTERED PROFESSIONAL ENGINEER STATE OF MISSOURI

1/14/2022

Date:
Stuart M. Haw III - Engineer
MO E-22997

PROFESSIONAL SEAL

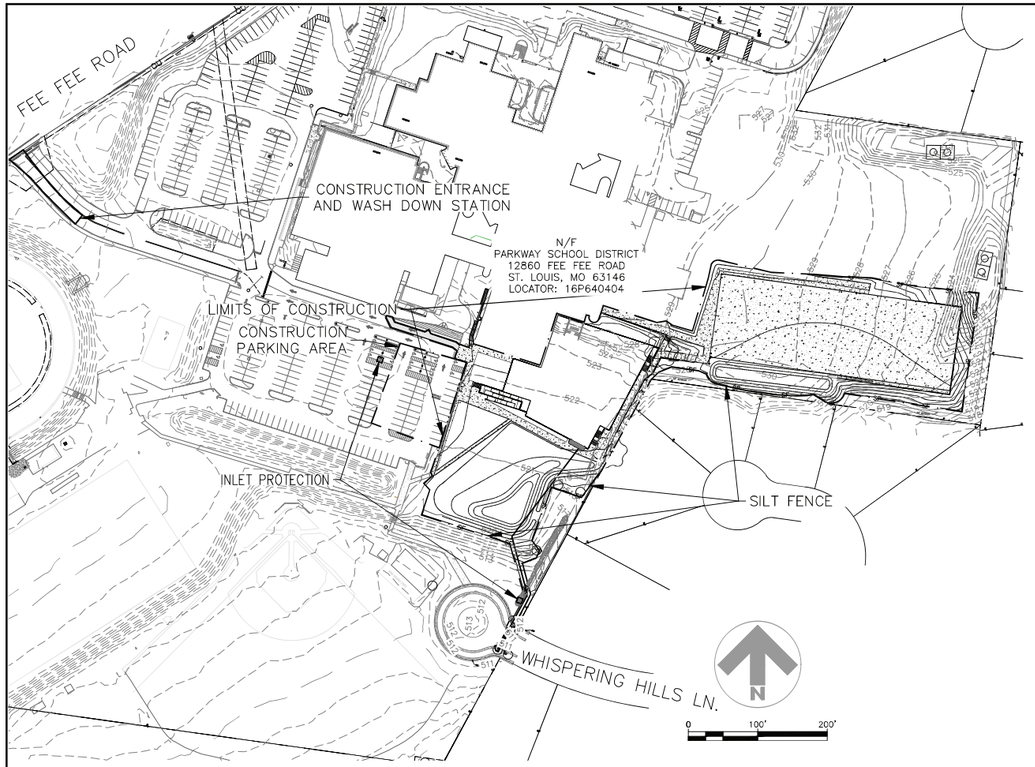
SHEET NAME
SITE DETAILS

DESIGNED BY:	MLS
DRAWN BY:	MLS
CHECKED BY:	SJM
DATE:	14 January 2022
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 562001B
WSP PROJECT NUMBER: 193463K

SHEET NUMBER
C7.04



GENERAL NOTES

1. EROSION AND SILTATION CONTROL SHALL BE INSTALLED PRIOR TO ANY GRADING AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ADEQUATE VEGETATIVE GROWTH INSURES NO FURTHER EROSION OF THE SOIL AND WORK IS ACCEPTABLE TO THE OWNER AND CONTROLLING REGULATORY AGENCY.
2. AT LEAST ONCE EVERY WEEK AND AFTER EVERY RAINFALL EVENT OF 0.25 INCHES OR MORE, EROSION AND SILTATION CONTROL DEVICES SHALL BE INSPECTED FOR DAMAGE AND AMOUNT OF SEDIMENTATION ACCUMULATED AND CORRECTIVE ACTION TAKEN. REPORTS OF THESE INSPECTIONS AND CORRECTIVE ACTIONS SHALL BE PREPARED ON THE FORMS PROVIDED BY THE CITY AND SUBMITTED TO THE DEPARTMENT OF PUBLIC WORKS WITHIN 5 DAYS OF THE DATE OF THE INSPECTION.
3. TEMPORARY SILTATION CONTROL MEASURES (STRUCTURAL) SHALL BE MAINTAINED UNTIL VEGETATIVE COVER IS ESTABLISHED AT A SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL ON THE SITE.
4. WHERE NATURAL VEGETATION IS REMOVED DURING GRADING, VEGETATION SHALL BE REESTABLISHED AS SOON AS POSSIBLE IN SUCH A DENSITY AS TO PREVENT EROSION.
5. WHEN GRADING OPERATIONS ARE COMPLETED OR WILL BE SUSPENDED FOR MORE THAN 5 DAYS IN ANY AREA, THE DISTURBED AREA SHALL BE SEEDED OR OTHERWISE STABILIZED TO SIGNIFICANTLY REDUCE THE ERODIBILITY OF THE SOIL. PROTECTIVE MEASURES MAY INCLUDE A COMBINATION OF SEEDING, SODDING, MULCHING OR OTHER SUITABLE MEANS TO PROTECT THE GROUND SURFACE FROM EROSION.
6. IF CUT AND FILL OPERATIONS OCCUR DURING A SEASON NOT FAVORABLE FOR IMMEDIATE ESTABLISHMENT OF PERMANENT GROUND COVER, A FAST GERMINATING ANNUAL SUCH AS RYE GRASSES OR SUDAN GRASSES SHALL BE UTILIZED TO RETARD EROSION, IF ADEQUATE STORM WATER DETENTION AND EROSION CONTROL DEVICES HAVE NOT BEEN ESTABLISHED.
7. ALL FINISHED GRADES (AREAS NOT TO BE DISTURBED BY FUTURE IMPROVEMENT) IN EXCESS OF 20% SLOPES (5:1) SHALL BE MULCHED AND TACKED AT A RATE OF 100 POUNDS PER 1,000 SQUARE FEET WHEN SEEDED AS SOON AS POSSIBLE AFTER FINAL PLACEMENT.
8. STORM WATER PIPES, OUTLETS AND CHANNELS SHALL BE PROTECTED BY SILT BARRIERS AND KEPT FREE OF WASTE AND SILT AT ALL TIMES PRIOR TO FINAL SURFACE STABILIZATION AND / OR PAVING.
9. A MINIMUM OF 10% SURPLUS EROSION CONTROL MATERIALS SHALL BE KEPT ON-SITE FOR EMERGENCY REPAIRS.
10. NOTIFY THE CITY OF CHESTERFIELD DEPARTMENT OF PLANNING & DEVELOPMENT SERVICES (636-537-4761) 48 HOURS PRIOR TO COMMENCEMENT OF GRADING AND/OR PRIOR TO COMMENCEMENT OF CONSTRUCTION.
11. PARKING ON NON-SURFACED AREAS IS PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVING CONDITIONS.
12. THE STREETS SURROUNDING THIS DEVELOPMENT AND ANY STREET USED FOR CONSTRUCTION ACCESS THERETO SHALL BE KEPT FREE FROM MUD AND CONSTRUCTION DEBRIS AND SHALL BE CLEANED THROUGHOUT THE DAY.
13. ALL FILLS PLACED UNDER PROPOSED STORM AND SANITARY SEWER LINES AND/OR PAVED AREAS, INCLUDING TRENCH BACKFILLS WITHIN AND OFF THE ROAD RIGHT-OF-WAY, SHALL BE COMPACTED TO 90% OF MINIMUM DENSITY AS DETERMINED BY THE "MODIFIED AASHTO T-180 COMPACTION TEST" (ASTM D-1557) FOR THE ENTIRE DEPTH OF THE FILL. COMPACTED GRANULAR BACKFILL IS REQUIRED IN ALL TRENCH EXCAVATION WITHIN THE STREET RIGHT-OF-WAY AND UNDER ALL PAVED AREAS. ALL TESTS SHALL BE PERFORMED UNDER THE DIRECTION OF AND VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACKFILLING OPERATIONS.
14. SOFT SOILS FROM THE BOTTOM AND BANKS OF ANY EXISTING OR FORMER POND SITES OR TRIBUTARIES OR ANY SEDIMENT BASINS OR TRAPS SHALL NOT BE PLACED IN PROPOSED PUBLIC RIGHT-OF-WAY LOCATIONS OR IN ANY STORM SEWER LOCATION.
15. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
16. DEBRIS AND FOUNDATION MATERIAL FROM ANY EXISTING ON-SITE BUILDING OR STRUCTURE WHICH IS SCHEDULED TO BE RAZED FOR THIS DEVELOPMENT MUST BE PROPERLY DISPOSED OF OFF-SITE.
17. ANY WELLS, CISTERNS AND/OR SPRINGS, WHICH MAY EXIST ON THIS PROPERTY, SHOULD BE LOCATED AND SEALED IN A MANNER ACCEPTABLE TO THE CITY OF CHESTERFIELD AND THE MoDNR.
18. ALL EXCAVATIONS, GRADING OR FILLING SHALL HAVE A FINISHED GRADE NOT TO EXCEED A 4:1 SLOPE (25%), UNLESS SPECIFICALLY APPROVED OTHERWISE. NO SLOPE SHALL EXCEED 3:1 MAXIMUM.
19. NO EXCAVATION SHALL BE MADE SO CLOSE TO THE PROPERTY LINE AS TO ENDANGER ANY ADJOINING PROPERTY OF ANY PUBLIC OR PRIVATE STREET WITHOUT SUPPORTING AND PROTECTING SUCH PUBLIC OR PRIVATE STREET OR PROPERTY FROM SETTLING, CRACKING OR OTHER DAMAGE.
20. ALL LOTS SHALL BE SEEDED AND MULCHED OR SODDED BEFORE AN OCCUPANCY PERMIT SHALL BE ISSUED EXCEPT THAT A TEMPORARY OCCUPANCY PERMIT MAY BE ISSUED BY THE CITY OF CHESTERFIELD DEPARTMENT OF PLANNING & DEVELOPMENT SERVICES IN CASES OF UNDUE HARDSHIP BECAUSE OF UNFAVORABLE GROWING CONDITIONS. IF THE LOT IS TO BE SEEDED AND MULCHED, IT SHALL BE DONE IN A MANNER THAT MEETS OR EXCEEDS THE REQUIREMENTS OF THE CITY'S "SEDIMENT AND EROSION CONTROL GUIDELINES".
21. REFER TO SHEET C6.0.0 AND C7.0.0 FOR ADDITIONAL SWPPP PLAN DETAILS (EROSION CONTROL FILTER ROLL (FILTER SOCK) DETAIL, EROSION CONTROL INLET PROTECTION (FABRIC DROP) DETAIL AND SILT FENCE DETAIL).
22. GRADING MUST NOT BEGIN UNTIL ALL PERIMETER SILTATION CONTROL HAS BEEN INSTALLED AND INSPECTED BY THE CITY.
23. A REDLINE SWPPP INDICATING ANY AND ALL CHANGES TO THE ORIGINAL SWPPP MUST BE KEPT ONSITE AND AVAILABLE TO THE CITY INSPECTOR DURING SITE VISITS AND COMPLIANCE INSPECTIONS.

NON-SEDIMENT POLLUTION CONTROL

PHYSICAL DESCRIPTION:
Control measures designed to prohibit chemicals, hazardous materials, solid waste and construction debris from polluting stormwater. Pollutants carried in solution or as surface films on runoff will be carried through most erosion control and sediment capture BMP's. Keeping substances like fuel, oil, asphalt, paint, fertilizer, soil additives, concrete wash water, solid waste and construction debris from polluting runoff can be accomplished to a large extent through good housekeeping on the site and following the manufacture's recommendations for disposal.

WHERE BMP IS TO BE INSTALLED:
Collection, storage and fueling areas should be located onsite in an area that does not receive a substantial amount of runoff from upland areas and does not drain directly to lakes, creeks, streams, rivers, sewers, groundwater, wetlands, or road ditches. Temporary sanitary facilities will be provided within 500' of each work site.

WHEN BMP IS TO BE INSTALLED:
Immediately following installation of construction entrances and wash stations.

INSTALLATION / CONSTRUCTION PROCEDURES:
Place waste receptacles near area of work.
Construct protective berm or other devices around fueling and hazardous materials storage areas.
Install appropriate signage.
Post guidelines for proper handling, storage and disposal of materials, and emergency spill cleanup on site.

O&M PROCEDURES:
Inspect activities on a weekly basis.
Inspect storage areas and control devices at least every two weeks and after every storm. Make necessary corrections and repairs.

SITE CONDITIONS FOR REMOVAL:
Maintain practices until all construction on the site has been completed.

TYPICAL DETAILS:
General pollution prevention notes attached.

POLLUTION PREVENTION PROCEDURES

1. HANDLING AND DISPOSAL OF HAZARDOUS MATERIALS

   DO: Prevent spills.
   Use products up.
   Follow label directions for disposal.
   Remove lids from empty bottles and cans when disposing in trash.
   Recycle wastes whenever possible.

   DON'T: Don't pour waste into sewers, waterways or on the ground.
   Don't pour waste down sink, floor drain or septic tanks.
   Don't bury chemicals or containers, or dispose of them with construction debris.
   Don't mix chemicals together.

2. Containers shall be provided for collection of all waste material including construction debris, trash, petroleum products and any hazardous materials to be used onsite. All waste material shall be disposed of at facilities approved for that material.
3. No waste material shall be buried on-site.
4. Mixing, pumping, transferring or otherwise handling construction chemicals such as fertilizer, lime, asphalt, concrete drying compounds, and all other potentially hazardous materials shall be performed in an area away from any watercourse, ditch or storm drain.
5. Equipment fueling and maintenance, oil changing, etc., shall be preformed only in an area designated for that purpose. The designated area is equipped for recycling oil and catching spills.
6. Concrete wash water shall not be allowed to flow directly to storm sewers, streams, ditches, lakes, etc. without being treated. A sump or pit shall be constructed to contain concrete wash water.
7. If substances such as oil, diesel fuel, hydraulic fluid, antifreeze, etc. are spilled, leaked, or released onto soil, the soil shall be dug up and disposed of at a licensed sanitary landfill (not a construction / demolition debris landfill). Spills on pavement shall be absorbed with sawdust, kitty litter or product designed for that purpose and disposed of at a licensed sanitary landfill. Hazardous or industrial wastes such as most solvents, gasoline, oil-based paints, and cement curing compounds require special handling. Theses materials will be removed from the site and recycled or disposed of in accordance with MoDNR requirements.
8. State law requires the party responsible for petroleum product spill in excess of 50 gallons to report the spill to MoDNR (537-634-2436) as soon as practical after discovery. Federal law requires the responsible party to report any release of oil if it reaches or threatens a sewer, lake, creek, stream, river, groundwater, wetland, or area, like a road ditch, that drains into one of the above.

BMP SEQUENCE

1. Install washdown station.
2. Install filter roll.
3. Remove filter roll.
4. Remove washdown station.

OVERALL WORK SEQUENCING

Site Clearing	Duration: 3 days
Rough Grading	Duration: 8 days
Construction of Improvements	Duration: 25 days
Final Grading	Duration: 3 days
Landscaping	Duration: 3 days

FILTER ROLLS / FILTER SOCKS

WHERE BMP IS TO BE INSTALLED:
As indicated on design plans.

WHEN BMP IS TO BE INSTALLED:
Prior to exposing any soil on site.

INSTALLATION / CONSTRUCTION PROCEDURES:
Follow the manufactures instructions and recommendations for the sizing, installation and maintenance of all filter rolls or filter socks.

O&M PROCEDURES:
Follow the manufactures instructions and recommendations for the sizing, installation and maintenance of all filter rolls or filter socks.

SITE CONDITIONS FOR REMOVAL:
Remove when general note 1 (above) is met.

CONSTRUCTION PARKING

Construction parking to be located on existing asphalt parking lot.

HAUL ROUTE INFORMATION

1. Material is being hauled from, (FORTHCOMING) .
2. The haul route is (FORTHCOMING) .
3. Hauling will be during the hours of 8:40 a.m. and 2:30 p.m.

SEDIMENT HANDLING

Sediment removed during the maintenance of BMP's should be handled and disposed of in accordance with the approved SWPPP procedures for excavation.

LOSS OF SEDIMENT OFFSITE

Sediment lost offsite shall be immediately reclaimed and replaced. The BMP shall be inspected by engineer and a repair plan made to prevent future failure.

WASHDOWN STATION

PHYSICAL DESCRIPTION:
An area located at construction entrances designed to wash sediment from the tires and undercarriage of exiting vehicles and prevent sediment from being tracked onto existing roadways.

WHERE BMP IS TO BE INSTALLED:
Across or immediately adjacent to exit paths from unpaved construction sites.

CONDITIONS FOR EFFECTIVE USE OF BMP:
Drainage: Downstream BMP sized to treat dirty runoff from washdown station.

WHEN BMP IS TO BE INSTALLED:
First order of work, along with construction entrance, prior to vehicles or equipment accessing unpaved areas.

INSTALLATION / CONSTRUCTION PROCEDURES:
Grade and compact area for drainage under washdown pad.
Install steel-ribbed plate on frame or other support to allow a 2" drain space.
Grade and vegetate downstream BMP.
Install water supply and hose.
Post sign in advance of station indicating that all exiting vehicles and equipment must use station prior to exiting site.

O&M PROCEDURES:
Remove sediment daily.
Repair settled areas.
Replace rock if necessary to maintain clean surface.

SITE CONDITIONS FOR REMOVAL:
Remove when vehicles and equipment will no longer access unpaved areas.

SOIL PREPARATION AND REVEGATATION

1. Remove debris, roots, branches, stone, in excess of 1 inch in size. Remove soil contaminated with petroleum products.
2. Where topsoil is to be placed, scarify surface to depth of 3 inches.
3. In areas where vehicles or equipment have compacted soil, scarify surface to depth of 6 inches.
4. Place topsoil in areas where sodding and planting are indicated.
5. Place topsoil where required to level finish grade.
6. Place topsoil during dry weather.
7. Remove roots, weeds, rocks, and foreign material while spreading.
8. Fine grade topsoil to eliminate uneven areas and low spots. Maintain profiles and contour of subgrade.
9. Roll placed topsoil.
10. Moisten prepared surface immediately prior to laying sod.
11. Lay sod within 24 hours after harvesting to prevent deterioration.
12. Lay sod smooth and tight with no open joints visible, and no overlapping; stagger end joints 12 inches minimum.
13. Where new sod adjoins existing grass areas, align top surfaces.
14. Where sod is placed adjacent to hard surfaces, such as curbs, pavements, etc., place top elevation of sod 1/2 inch below top of hard surface.
15. Water sodded areas immediately after installation. Saturate sod to 4 inches of soil.
16. After sod and soil have dried, roll sodded areas to ensure good bond between sod and soil and to remove minor depressions and irregularities.

BMP QUANTITY TABLE

CONSTRUCTION ENTRANCE	1	EACH
WASHDOWN STATION	1	EACH
INLET PROTECTION	2	EACH
FILTER ROLL / SILT FENCE	1300	LF

THE PROPERTY OWNER / DEVELOPER HEREBY CERTIFIES THAT HE IS FAMILIAR WITH THE SWPPP AND ASSUMES FULL RESPONSIBILITY FOR THE PERFORMANCE AND MAINTENANCE OF THE SWPPP AS STATED ON THE APPROVED PLANS. HE WILL ENSURE THAT ALL CONTRACTORS UNDERSTAND AND ARE FAMILIAR WITH THE SWPPP FOR THE SITE AND THAT EACH CONTRACTOR AGREES TO IMPLEMENT AND PROTECT ELEMENTS OF THE SWPPP AS THEY RELATE TO HIS WORK. THE PROPERTY OWNER'S / DEVELOPER'S ONSITE REPRESENTATIVE SHALL BE RESPONSIBLE FOR THE PERFORMANCE AND MAINTENANCE OF THE SWPPP. IN ADDITION, THE UNDERSIGNED OWNER / DEVELOPER ASSURES THAT ALL CITY PROPERTY OR ROADS WILL BE ADEQUATELY PROTECTED.

OWNER'S / DEVELOPER'S CONTACT PERSON AND PHONE * : James Swingle (314) 415-8289

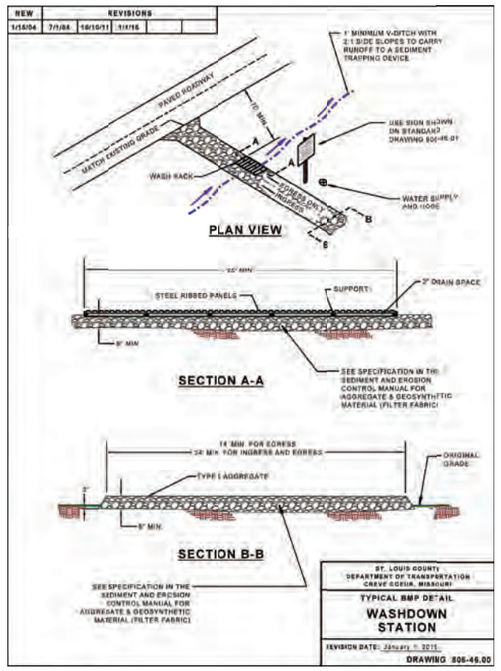
OWNER'S / DEVELOPER'S Signature _____

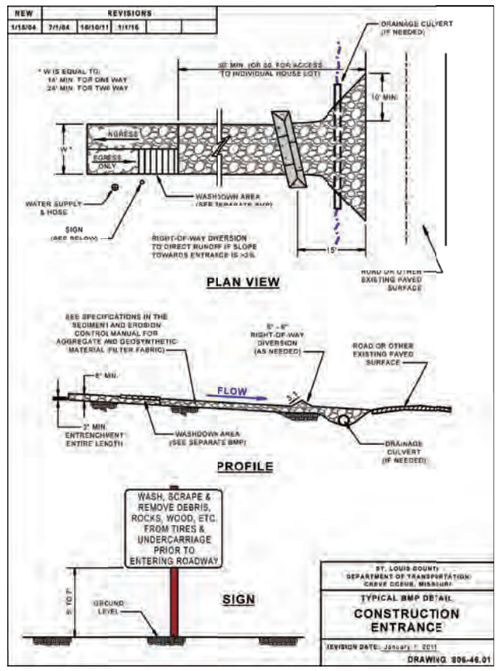
Date _____

EMERGENCY CONTACT AND PHONE * : Bill Freymuth (314) 415-4915

GENERAL NOTES:

REMARKS:





PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel.: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com
WSP Architecture, Inc.
Missouri State Certificate of Authority: #2004006234

wood.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-200-5100 Fax: 636-402-3005
Discipline: Engineering /Corporation
Corporate Certificate Of Authority: #2002000326

REV	DESCRIPTION	DATE

NORTH HIGH SCHOOL
STORM SHELTER ADDITION
& SITE IMPROVEMENTS
12860 FEE FEE ROAD
ST. LOUIS, MISSOURI 63146
PARKWAY SCHOOL DISTRICT

ISSUE FOR BID/PERMIT

STATE OF MISSOURI
STUART M. HAW III
NUMBER E-22997
REGISTERED PROFESSIONAL ENGINEER
Date: 1/14/2022
Stuart M. Haw III - Engineer
MO E-22997

PROFESSIONAL SEAL

SHEET NAME
SWPPP SHEET

DESIGNED BY:	MLS
DRAWN BY:	MLS
CHECKED BY:	SJM
DATE:	14 January 2022
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER:	562001B
WSP PROJECT NUMBER:	193463K
SHEET NUMBER	C8.01

LAST EDITED: 1/14/2022 2:51 PM
FILE PATH: P:\StLouis\201\325\169001 Parkway\11-CAD\325169014 North High\03-PLANS\sm Shelter Addition\562001B\ed000000001C.dwg

20MSD-00000 BASEMAP: 15P3, 16P2

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



Drainage Area Table / Runoff Calculations				
Drainage Area (Outfall)	Land Use / Percent Impervious	15yr/20min I=I Factor	Pre-Development DA (acres)	Pre-Dev. 15yr/20min Runoff (cfs)
DA1 (EX GI) (Parking Lot)	Pavement / 100%	3.54	0.021	0.075
	Grass / 5%	1.70	0.000	0.000
			Subtotal	0.075
DA2 (AI 280D)	Pavement / 100%	3.54	0.000	0.000
	Grass / 5%	1.70	2.429	4.129
			Subtotal	4.129
DA3 (SE Prop)	Pavement / 100%	3.54	0.000	0.000
	Grass / 5%	1.70	0.516	0.877
			Subtotal	0.877
DA4 (MH2)	Pavement / 100%	3.54	0.022	0.077
	Grass / 5%	1.70	0.000	0.000
			Subtotal	0.077
DA5 (Basin 2)	Pavement / 100%	3.54	0.012	0.045
	Building / 100%	4.20	0.694	2.916
	Grass / 5%	1.70	0.000	0.000
			Subtotal	2.961
DA6 (AI 200D)	Pavement / 100%	3.54	1.188	4.208
	Grass / 5%	1.70	0.667	1.134
			Subtotal	5.342
			Total	13.461

NOTE

DRAINAGE AREA CALCULATION ONLY INCLUDES THE AREA WITHIN THE LIMITS OF CONSTRUCTION OR AREAS TRIBUTARY TO AFFECTED STORM SEWERS.

20MSD-00000 BASEMAP: 15P3, 16P2

GENERAL NOTES:

REMARKS:

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel.: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com
WSP Architecture, Inc.
Missouri State Certificate of Authority: #2004006234

wood.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-200-5100 Fax: 636-402-3005
Discipline: Engineering Corporation
Corporate Certificate Of Authority: #2002000326

REV	DESCRIPTION	DATE

NORTH HIGH SCHOOL
STORM SHELTER ADDITION & SITE IMPROVEMENTS

12860 FEE FEE ROAD
ST. LOUIS, MISSOURI 63146

PARKWAY SCHOOL DISTRICT

STATE OF MISSOURI
STUART M. HAW III
NUMBER E-22997
REGISTERED PROFESSIONAL ENGINEER

1/14/2022

Date:
Stuart M. Haw III - Engineer
MO E-22997

PROFESSIONAL SEAL

SHEET NAME
EXISTING DRAINAGE AREA MAP

DESIGNED BY:	MLS
DRAWN BY:	MLS
CHECKED BY:	SJM
DATE:	14 January 2022
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER:	562001B
WSP PROJECT NUMBER:	193463K

SHEET NUMBER **C9.01**

ISSUE FOR BID/PERMIT

LAST EDITED: 1/14/2022 2:51 PM
FILE PATH: P:\StLouis\201\325199001 Parkway\10-CAD\325199014 North High\03-PLANS\Storm Shelter Addition\562001Bxx\000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT/ ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



GENERAL NOTES:

REMARKS:

Drainage Area Table / Runoff Calculations				
Drainage Area (Outfall)	Land Use / Percent Impervious	I5yr/20min PI Factor	Post-Development DA (acres)	Post-Dev. I5yr/20min Runoff (cfs)
DA1 (EX GI) (Parking Lot)	Pavement / 100%	3.54	0.021	0.075
	Grass / 5%	1.70	0.000	0.000
			Subtotal	0.075
DA2 (AI 280D)	Pavement / 100%	3.54	0.000	0.000
	Grass / 5%	1.70	1.370	2.329
			Subtotal	2.329
DA3 (SE Prop)	Pavement / 100%	3.54	0.000	0.000
	Grass / 5%	1.70	0.316	0.538
			Subtotal	0.538
DA4 (MH2)	Pavement / 100%	3.54	0.035	0.123
	Grass / 5%	1.70	0.105	0.180
			Subtotal	0.303
DA5 (Basin 2)	Pavement / 100%	3.54	0.000	0.000
	Building / 100%	4.20	0.694	2.916
	Grass / 5%	1.70	0.000	0.000
			Subtotal	2.916
DA6 (AI 200D)	Pavement / 100%	3.54	0.003	0.010
	Grass / 5%	1.70	0.116	0.197
			Subtotal	0.207
DA7 (Basin 1)	Pavement / 100%	3.54	1.086	3.845
	Grass / 5%	1.70	0.234	0.398
			Subtotal	4.244
DA8 (MH 194D)	Pavement / 100%	3.54	0.046	0.164
	Grass / 5%	1.70	0.002	0.004
			Subtotal	0.168
DA9 (Basin 2)	Pavement / 100%	3.54	0.214	0.757
	Building / 100%	3.54	0.522	1.850
	Grass / 5%	1.70	0.784	1.333
			Subtotal	3.940
			Total	14.720

NOTE

DRAINAGE AREA CALCULATION ONLY INCLUDES THE AREA WITHIN THE LIMITS OF CONSTRUCTION OR AREAS TRIBUTARY TO AFFECTED STORM SEWERS.

20MSD-00000 BASEMAP: 15P3, 16P2

PARKWAY SCHOOLS

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102
Tel.: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com

WSP Architecture, Inc.
Missouri State Certificate of Authority: #2004006234

wood.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-200-5100 Fax: 636-402-3005
Discipline: Engineering Corporation
Corporate Certificate Of Authority: #2002000326

REV	DESCRIPTION	DATE

NORTH HIGH SCHOOL
STORM SHELTER ADDITION & SITE IMPROVEMENTS

12860 FEE FEE ROAD
ST. LOUIS, MISSOURI 63146

PARKWAY SCHOOL DISTRICT

ISSUE FOR BID/PERMIT

STATE OF MISSOURI
STUART M. HAW III
NUMBER E-22997
REGISTERED PROFESSIONAL ENGINEER

1/14/2022

Date:
Stuart M. Haw III - Engineer
MO E-22997

PROFESSIONAL SEAL

SHEET NAME
EXISTING DRAINAGE AREA MAP

DESIGNED BY:	MLS
DRAWN BY:	MLS
CHECKED BY:	SJM
DATE:	14 January 2022
SCALE:	

FULL SCALE SHEET SIZE= ARCH D (24"x 36")

CLIENT PROJECT NUMBER: 562001B
WSP PROJECT NUMBER: 193463K

SHEET NUMBER **C10.01**

LAST EDITED: 1/14/2022 2:51 PM
FILE PATH: P:\StLouis\201\193\25199001 Parkway\110-CAD\32519914 North High\34-PLANS\Storm Shelter Addition\562001B\civil\000000001C.dwg

WARNING: THESE DRAWINGS THE PROPERTY OF THE PRIME CONSULTANT NOTED HEREWITHIN. ANY RE-USE OF THIS WORK WITHOUT WRITTEN CONSENT IS AN INFRINGEMENT OF THE ARCHITECT ENGINEER'S WORK. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT OR ENGINEER IS ALTERED, THE ALTERING ARCHITECT OR ENGINEER SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

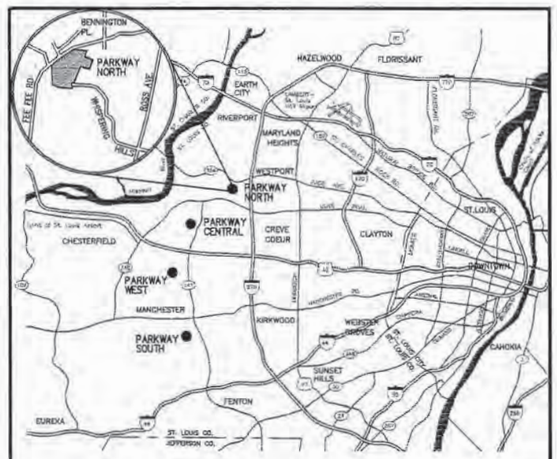
PARKWAY NORTH HIGH SCHOOL

A TRACT OF LAND BEING PART OF US SURVEY NO. 1929
AND FRACTIONAL SECTIONS 32 AND 33
TOWNSHIP 46 NORTH, RANGE 5 EAST
ST. LOUIS COUNTY, MISSOURI

PARKWAY SCHOOL DISTRICT

455 North Woods Mill Road Chesterfield, Missouri 63017 (314) 415-8100 (314) 415-8207 Fax

SYNTHETIC TURF FIELD IMPROVEMENTS



LOCATION MAP
(NOT TO SCALE)

INDEX

C1	TITLE SHEET
C2	EXISTING CONDITIONS/DEMO/SWPPP
C3	SWPPP DETAILS
C4	SWPPP DETAILS
C5	SITE AND GRADING PLAN
C6	FIELD DETAILS
C7	FIELD DETAILS
C8	SITE GEOMETRICS / SPECIFICATIONS
C9	WATER QUALITY PLAN / DETAILS
C10	DRAINAGE AREA MAP

LEGEND

ELECTRIC MANHOLE	(E)
EXISTING SANITARY SEWER	
EXISTING STORM SEWER	
EXISTING TREE	
EXISTING BUILDING	
EXISTING CONTOUR	530
SPOT ELEVATION	530.50
EXISTING UTILITIES	G-W-T-E
PROPOSED CONTOUR	530
PROPOSED SPOT	530.50
PROPOSED STORM SEWER	
PROPOSED SANITARY SEWER	SS
FIRE HYDRANT	
LIGHT STANDARD	
BUSH	
SIGN	
NOTES PARKING SPACES	(18)
GUY WIRE	
POWER POLE	
WATER MANHOLE	(W)
WATER VALVE	
DENOTES RECORD INFORMATION	( )
HANDICAPPED PARKING	
PHONE MANHOLE	(P)
OVERHEAD ELECTRIC	OE
UNDERGROUND TELEPHONE	UT
CONCRETE	CONC
ASPHALT	ASPH
POLYVINYL CHLORIDE	PVC
DENOTES WITH	W/
TRANSFORMER	T
SANITARY	SAN
SWALE	
CHAIN-LINK FENCE	
TRAFFIC FLOW	
SAWCUT	

ABBREVIATIONS

W	- WATER	DB	- DEED BOOK
E	- ELECTRIC	PB	- PLAT BOOK
OE	- OVERHEAD ELECTRIC	PG	- PAGE
UW	- UNDERGROUND ELECTRIC	(_'W)	- RIGHT-OF-WAY WIDTH
G	- GAS	(REC)	- RECORD INFORMATION
T	- TELEPHONE	FT	- FEET
TBR	- TO BE REMOVED	N/F	- NOW OR FORMERLY
TBR & R	- TO BE REMOVED AND REPLACED	FND	- FOUND
UIP	- USE IN PLACE	SQ	- SQUARE
TBA	- TO BE ADJUSTED	CO	- CLEANOUT
BC	- BACK OF CURB	MH	- MANHOLE
FC	- FACE OF CURB	AI	- AREA INLET
TW	- TOP OF WALL	CI	- CURB INLET
BW	- BOTTOM OF WALL	GI	- GRATE INLET
PVMT	- PAVEMENT	YD	- YARD DRAIN
ASPH	- ASPHALT	PVC	- POLYVINYL CHLORIDE PIPE
CONC	- CONCRETE	RCP	- REINFORCED CONCRETE PIPE
GRND	- GROUND	CMP	- CORRUGATED METAL PIPE
FG	- FINISHED GRADE	VCP	- CLAY PIPE
FF	- FINISHED FLOOR	FL	- FLOWLINE
LL	- LOWER LEVEL	TS	- TAILSTAKE
TT	- TOP OF TURF	ELEV, EL	- ELEVATION
TC	- TOP OF CURB	PROP, PR	- PROPOSED
SG	- SUBGRADE	EXIST, EX	- EXISTING
TBM	- TO BE MODIFIED	TYP	- TYPICAL

SITE INFORMATION

OWNER	=	PARKWAY SCHOOL DISTRICT
SITE ADDRESS	=	12860 FEE FEE ROAD ST. LOUIS, MISSOURI 63146
LOCATOR NUMBER	=	16P54-0404
EXISTING ZONING	=	"R-2"
FIRE DISTRICT	=	CREVE COEUR FIRE PROTECTION
SCHOOL DISTRICT	=	PARKWAY
SEWER DISTRICT	=	METROPOLITAN ST. LOUIS SEWER DIST.
WATER SERVICE	=	MISSOURI AMERICAN WATER
GAS SERVICE	=	LACLEDE GAS
ELECTRIC SERVICE	=	AMEREN UE
PHONE SERVICE	=	SBC/AT&T
FLOOD MAPS	=	29189C0153H / 29189C0161H
WATERSHED	=	CREVE COUER CREEK
WUNNENBERG'S	=	PAGE 23 GRID X-16

UTILITY CONTACTS:

CHARTER COMMUNICATION
941 CHARTER COMMONS
TOWN & COUNTRY, MO 63017
ATTN: SARA BISHOP
PHONE: 636.387.8633

AMEREN UE
12121 DORSETT ROAD
MARYLAND HEIGHTS, MO 63043
ATTN: RANDY HUNT
PHONE: 314.344.9504

LACLEDE GAS COMPANY
3950 FOREST PARK AVENUE
ST. LOUIS, MO 63108
ATTN: JIM TRAVIS
PHONE: 314.342.0687

AT&T TELEPHONE COMPANY
402 N 3RD
ST. CHARLES, MO 63301
ATTN: MIKE WRIGHT
PHONE: 314.949.1301

MO. AMERICAN WATER COMPANY
727 CRAIG ROAD
ST. LOUIS, MO 63141
ATTN: MARIANN KELMME
PHONE: 314.569.3972

CREVE COEUR FIRE PROTECTION DISTRICT
ADMINISTRATIVE DISTRICT
11221 OLIVE BLVD
CREVE COEUR, MO 63141-7652
ATTN: ARTHUR OSTEREICH, FIRE MARSHAL
PHONE: 314.432.5570

PERMITTEE NOTE:

THE PERMITTEE SHALL ASSUME COMPLETE RESPONSIBILITY FOR CONTROLLING ALL SILTATION AND EROSION OF THE PROJECT AREA. THE PERMITTEE SHALL USE WHATEVER MEANS NECESSARY TO CONTROL EROSION AND SILTATION INCLUDING, BUT NOT LIMITED TO, STAKED STRAW BALES AND/OR SILTATION FABRIC FENCES (POSSIBLE METHODS OF CONTROL ARE DETAILED IN THE PLAN). CONTROL SHALL COMMENCE WITH GRADING AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY ST. LOUIS COUNTY AND MISSOURI DEPARTMENT OF TRANSPORTATION AS NECESSARY. THE PERMITTEE'S RESPONSIBILITIES INCLUDE ALL DESIGN AND IMPLEMENTATION AS REQUIRED TO PREVENT EROSION AND THE DEPOSITING OF SILT. ST. LOUIS COUNTY AND AS REQUIRED BY (MODOT) MAY AT THOR OPTION DIRECT THE PERMITTEE IN HIS METHODS AS DEEMED FIT TO PROTECT PROPERTY AND IMPROVEMENTS. ANY DEPOSITING OF SILT OR MUD ON NEW OR EXISTING PAVEMENT SHALL BE REMOVED IMMEDIATELY. ANY DEPOSITING OF SILT OR MUD IN NEW OR EXISTING STORM SEWERS OR SWALES SHALL BE REMOVED AFTER EACH RAIN AND AFFECTED AREAS CLEANED TO THE SATISFACTION OF ST. LOUIS COUNTY AND AS REQUIRED BY (MODOT).

OWNER NOTE:

ONCE THE CONTRACTOR DELIVERS THE PROPERTY TO THE OWNER, THE OWNER SHALL BE RESPONSIBLE TO MAINTAIN ANY CONTROL MEASURE THAT IS TO REMAIN AS A PERMANENT STRUCTURE TO CONTROL SILTATION AND EROSION.

CONTRACTOR'S INSURANCE REQUIREMENTS

PRIOR TO OBTAINING A CONSTRUCTION PERMIT FROM THE METROPOLITAN ST. LOUIS SEWER DISTRICT, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE THE DISTRICT WITH A COPY OF AN EXECUTED CERTIFICATE OF INSURANCE INDICATING THAT THE PERMITTEE HAS OBTAINED AND WILL CONTINUE TO CARRY COMMERCIAL GENERAL LIABILITY AND COMPREHENSIVE AUTO LIABILITY INSURANCE. THE REQUIREMENTS AND LIMITS SHALL BE AS STATED IN THE "RULES AND REGULATIONS AND ENGINEERING DESIGN REQUIREMENTS FOR SANITARY AND STORMWATER DRAINAGE FACILITY", SECTION 10.090 (ADDENDUM).

OWNER

PARKWAY SCHOOL DISTRICT
455 N. WOODS MILL ROAD
CHESTERFIELD, MISSOURI 63017
CONTACT: J. SCOTT BENNETT P.E.
PH: (314) 415-8231

PREPARED FOR:

ATG SPORTS
C/O DON BOLINGER, PRESIDENT
1349 MCNUTT ROAD, SUITE D
HERCULANEUM, MO 63048
PHONE: (636) 524-6135
FAX: (636) 933-4994

MISSOURI ONE-CALL
1-800-344-7483

MISSOURI DEPT. OF NATURAL RESOURCES

PERMIT NO. - MO-R10D711
EXPIRATION DATE: FEBRUARY 7, 2012

ST. LOUIS COUNTY BENCHMARK

8-166 ELEV. ELEV.=479.20 — "SQ" ON S.E. CORNER OF HEADWALL OF CREEK CULVERT; 59' EAST OF CENTERLINE OF FEE FEE ROAD AND 470' SOUTH OF SEVEN PINES DRIVE

SITE BENCHMARK

8-166 ELEV. ELEV.=479.20 — "SQ" ON S.E. CORNER OF HEADWALL OF CREEK CULVERT; 59' EAST OF CENTERLINE OF FEE FEE ROAD AND 470' SOUTH OF SEVEN PINES DRIVE

UTILITY NOTE:

UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, RECORDS AND INFORMATION, AND , THEREFORE DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NON-EXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE FACILITIES, STRUCTURES AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS. THE UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319 RSMo.

STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. AND THE UNDERSIGNED ENGINEER HAVE NO RESPONSIBILITY FOR SERVICES PROVIDED BY OTHERS TO IMPLEMENT THE IMPROVEMENTS SHOWN ON THIS PLAN AND ALL OTHER DRAWINGS WHERE THE UNDERSIGNED ENGINEER'S SEAL APPEARS. THE CONSTRUCTION MEANS AND METHODS ARE THE SOLE RESPONSIBILITY OF THE OWNER AND CONTRACTOR. STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. HAS NO RESPONSIBILITY TO VERIFY FINAL IMPROVEMENTS AS SHOWN ON THIS PLAN UNLESS SPECIFICALLY ENGAGED AND AUTHORIZED TO DO SO BY THE OWNER OR CONTRACTOR.

H.T. # 1873
M.S.D. P# 11600-09
BASE MAP # 16-P

March 7, 2011

100% COMPLETE

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

2. 2011-03-04 - REVISED PER MSD AND COUNTY COMMENTS
1. 2011-02-21 - REVISED PER MSD AND COUNTY COMMENTS

PARKWAY NORTH HIGH SCHOOL

TITLE SHEET

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
T.P.S.	12/22/2010	G.M.S.	12/22/2010	210-4670	C1

DEMOLITION NOTES

1.) THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY COMPANY PRIOR TO BEGINNING ANY WORK THAT WILL AFFECT AN EXISTING UTILITY.

2.) REMOVAL AND/OR ABANDONEMENT OF EXISTING SEWERS SHALL BE IN ACCORDANCE WITH THE STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWER AND DRAINAGE FACILITIES OF THE METROPOLITAN ST. LOUIS SEWER DISTRICT, LATEST EDITION.

3.) REMOVAL OF PAVEMENT, CURB & GUTTER, SIDEWALKS, ETC. SHALL BE TO THE NEAREST EXISTING JOINT OR SAWCUT AT LIMITS OF REMOVAL.

4.) CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT THE EXISTING TRACK SURFACE DURING EXCAVATION AND REMOVAL OF THE EXISTING CONCRETE CURB AND GUTTER, AND DURING FIELD EXCAVATION AND HAUL OPERATIONS.

5.) CONSTRUCTION DEBRIS, INCLUDING BUT NOT LIMITED TO, CONDUIT, PIPES, FITTINGS, VALVES, WIRES AND OTHER DEBRIS TO BE REMOVED, SHALL BE DISPOSED OF OFF-SITE, AND IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

6.) CONTRACTOR TO PROVIDE ALL NECESSARY FENCING, BARRICADES, SIGNAGE, ETC. FOR PEDESTRIAN SAFETY DURING SITE DEMOLITION ACTIVITIES.

7.) CONTRACTOR TO REMOVE EXISTING 4" UNDERDRAIN SYSTEM LOCATED IN FIELD.

8.) CONTRACTOR TO RECONNECT EXISTING DRAIN LINES UNDER TRACK TO THE PROPOSED STORM SEWER COLLECTOR PIPE.

9.) CONTRACTOR TO REMOVE EXISTING IRRIGATION SYSTEM LOCATED WITHIN THE FIELD.

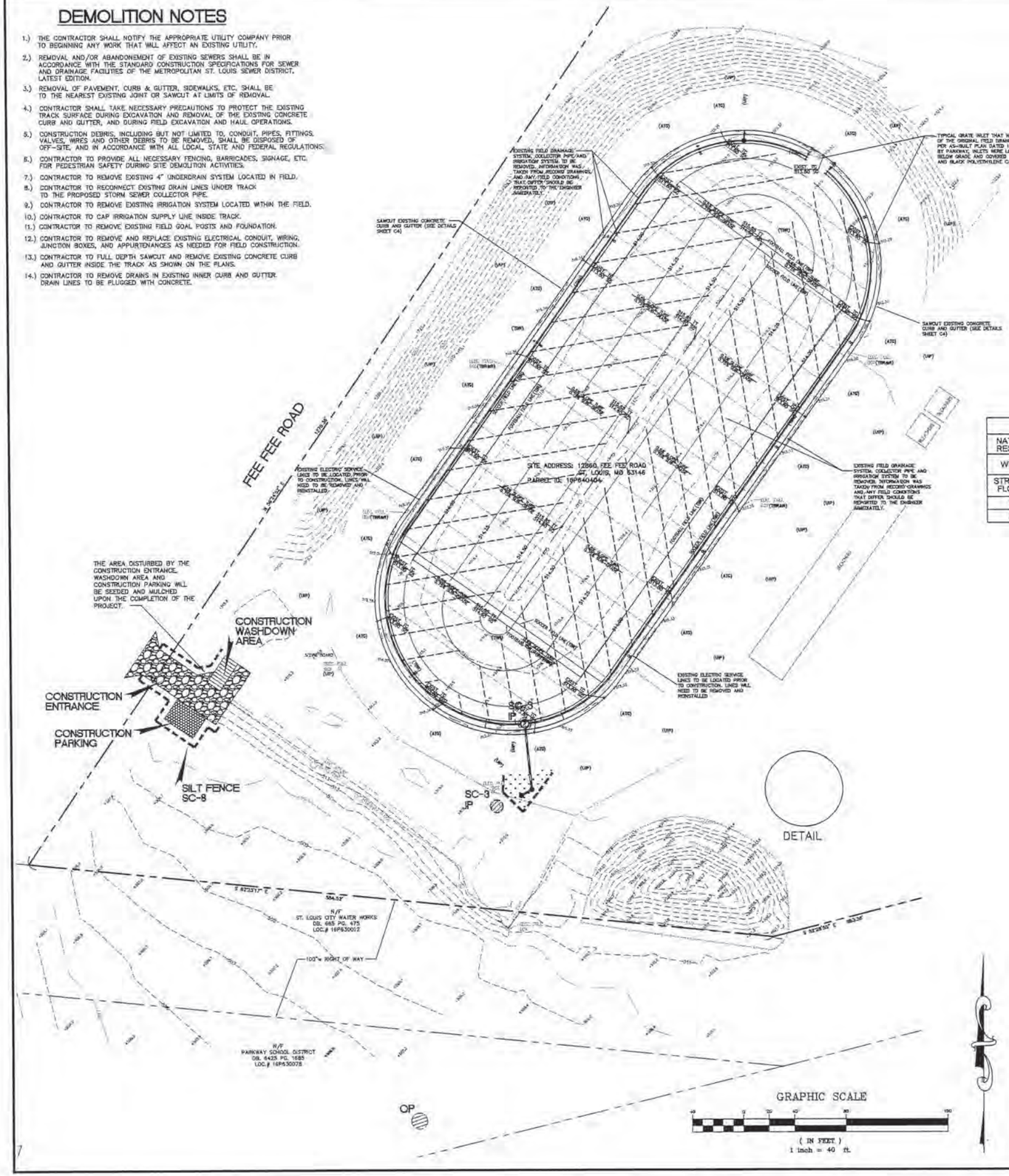
10.) CONTRACTOR TO CAP IRRIGATION SUPPLY LINE INSIDE TRACK.

11.) CONTRACTOR TO REMOVE EXISTING FIELD GOAL POSTS AND FOUNDATION.

12.) CONTRACTOR TO REMOVE AND REPLACE EXISTING ELECTRICAL CONDUIT, WIRING, JUNCTION BOXES, AND APPURTENANCES AS NEEDED FOR FIELD CONSTRUCTION.

13.) CONTRACTOR TO FULL DEPTH SAWCUT AND REMOVE EXISTING CONCRETE CURB AND GUTTER INSIDE THE TRACK AS SHOWN ON THE PLANS.

14.) CONTRACTOR TO REMOVE DRAINS IN EXISTING INNER CURB AND GUTTER. DRAIN LINES TO BE PLUGGED WITH CONCRETE.



HAUL ROUTE

Trucks: = Tandem
Loads Per Day: = 80 loads/day
Days of Operation: = 14 days
Quantity of material = 8,368 c.y. (Excavated material)
Weight: 54,000 lbs.
Destination: Fred Weber Quarry, Maryland Heights

Total mileage = 5.8 miles (one way)
Total mileage on County Streets = 4.3 miles

Route:

1. START NORTHEAST ON FEE FEE ROAD TOWARD BENNINGTON PLACE
2. TURN LEFT AT BENNINGTON PLACE
3. TURN LEFT TO MERGE ONTO MO-364 W
4. TAKE THE EXIT TOWARDS MARYLAND HEIGHTS EXPRESSWAY
5. TURN RIGHT ONTO MARYLAND HEIGHTS EXPRESSWAY
6. TURN RIGHT ONTO RIVERPORT DRIVE.
7. END AT FRED WEBER QUARRY/LAND FILL.

Note: Trucks shall not exceed posted weight limits for St. Louis County bridge during haul operations.

SILTATION CONTROL LEGEND

- OP — OUTLET PROTECTION
- IP — INLET PROTECTION
- SILT FENCE
- CONSTRUCTION ENTRANCE
- CONSTRUCTION WASHDOWN AREA
- CONSTRUCTION PARKING
- SEEDING, FERTILIZING AND MULCHING

B.M.P. SCHEDULE
(APPROX.-CONTRACTOR SHALL VERIFY)

TYPE	BMP	QUANTITY	10% SURPLUS	TOTAL
CONSTRUCTION ENTRANCE (8" TYPE 5 AGGREGATE)	TC-1	296 S.Y.	–	296 S.Y.
WASHDOWN STATION	TC-4	NOTE 1	–	NOTE 1
CONSTRUCTION PARKING (8" TYPE 5 AGGREGATE)	–	57 S.Y.	–	57 S.Y.
INLET PROTECTION	SC-3	2 EA.	–	2 EA.
SILT FENCE	SC-8	265 L.F.	30 L.F.	295 L.F.
SEEDING, FERTILIZING AND MULCHING	N.A.	541 S.Y.	–	541 S.Y.

NOTE 1: WASHDOWN STATION IS INCIDENTAL TO CONSTRUCTION ENTRANCE

PERMANENT SEEDING, FERTILIZING and MULCHING

LOCATION	SEEDING			FERTILIZER NUTRIENT				MULCH
	AREA		QUANTITY	QUANTITY				QUANTITY
	MIXTURE #2 (ACRE)	MIXTURE #2 (SQ. FT.)	MIXTURE #2 (POUND)	NITROGEN (POUND)	PHOSPHATE (POUND)	POTASSIUM (POUND)	LIME-DHM (POUND)	METHOD 1 (TON)
SLOPES LESS THAN 3:1	0.11	4,889	24	5	8	8	56	0.28

NOTE:
Mulch (Method 1): Straw mulch with tacking agent.

EXISTING SITE RESOURCES SUMMARY TABLE

NATURAL RESOURCE	PRESENCE?	ADDITIONAL INFORMATION
WETLANDS	NO	NONE IDENTIFIED ON SITE.
STREAMS AND FLOODPLAIN	NO	NONE IDENTIFIED ON SITE.
KARST	NO	NOT IDENTIFIED ON SITE.
PONDS	NO	NONE IDENTIFIED ON SITE.

B. M. P. INSTALLATION AND CONSTRUCTION SEQUENCE

1. Install construction road & washdown station. (March 2011)
2. Excavate and haul off field and BMP spoils. (March 2011)
3. Construction of turf field and underdrain system. (April 2011)
4. Seeding/mulching of disturbed areas (April 2011)
5. All on going maintenance & inspection shall be in accordance w/ St. Louis County

(Timelines are approximate & to be verified by Contractor, School District & City)

ST. LOUIS COUNTY NOTES

1.) INTERIM STORMWATER DRAINAGE CONTROL IN THE FORM OF SILTATION CONTROL MEASURES ARE REQUIRED.

2.) THE DEVELOPER IS REQUIRED TO PROVIDE ADEQUATE STORMWATER SYSTEMS IN ACCORDANCE WITH ST. LOUIS COUNTY AND MSD STANDARDS.

3.) INTERNAL (PRIVATE) STORM SEWERS WILL REQUIRE A SEPARATE DRAINLAYER PERMIT FROM ST. LOUIS COUNTY DEPARTMENT OF PUBLIC WORKS.

4.) ALL CONSTRUCTION SHALL BE PER MOST CURRENT DETAILS LOCATED IN THE ST. LOUIS COUNTY DESIGN CRITERIA MANUAL AND/OR THE SEDIMENT AND EROSION CONTROL MANUAL.

5.) ANY LAND CLEARING, CONSTRUCTION, OR DEVELOPMENT INVOLVING THE MOVEMENT OF EARTH SHALL BE IN ACCRODANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN, AND THE PERSON ISSUED A LAND DISTURBANCE PERMIT ASSUMES AND ACKNOWLEDGES RESPONSIBILITY FOR COMPLIANCE WITH THE ST. LOUIS COUNTY LAND DISTURBANCE CODE AND THE APPROVED STORMWATER POLLUTION PREVENTION PLAN AT THE SITE OF THE PERMITTED ACTIVITY.

6.) PRIOR TO THE ISSUANCE OF A MAJOR LAND DISTURBANCE PERMIT, AN APPLICATION FOR A MAJOR LAND DISTURBANCE PERMIT MUST BE MAKE THROUGH PAC. A LAND DISTURBANCE ESCROW MUST BE APPROVED BY THE ST. LOUIS COUNTY DEPARTMENT OF PLANNING. A SPECIAL INSPECTOR MUST BE APPROVED BY THE ST. LOUIS COUNTY DEPARTMENT OF PUBLIC WORKS.

7.) PRIOR TO ANY MAJOR LAND DISTURBANCE ACTIVITY, A LAND DISTURBANCE PERMIT FROM THE STATE OF MISSOURI DEPARTMENT OF NATURAL RESOURCES WILL BE REQUIRED.

8.) ALL WORK WITHIN ST. LOUIS COUNTY RIGHT OF WAY SHALL BE TO COUNTY STANDARDS.

9.) INTERIM STORM WATER DRAINAGE CONTROL IN THE FORM OF SILTATION CONTROL MEASURES ARE REQUIRED.

10.) THE DEVELOPER IS REQUIRED TO PROVIDE ADEQUATE STORM WATER SYSTEMS IN ACCORDANCE WITH ST. LOUIS COUNTY AND M.S.D. STANDARDS.

11.) ALL DISTURBED EARTH AREAS WITHIN ST. LOUIS COUNTY RIGHT-OF-WAY SHALL BE SODDED.

12.) ADDITIONAL SILTATION CONTROL SHALL BE INSTALLED AS REQUIRED BY THE ST. LOUIS COUNTY DEPARTMENT OF HIGHWAYS AND TRAFFIC.

13.) ALL CONSTRUCTION SHALL BE PER MOST CURRENT DETAILS LOCATED IN THE ST. LOUIS COUNTY DESIGN CRITERIA MANUAL AND/OR THE SEDIMENT AND EROSION CONTROL MANUAL.

14.) 24-HOUR EMERGENCY CONTACT INFORMATION:
CONTACT: J. SCOTT BENNETT, P.E. – PARKWAY SCHOOL DISTRICT
455 N. WOODS MILL ROAD
CHESTERFIELD, MISSOURI 63017
PH: 314-415-8231 (24-HOUR)

CONTACT: ANDREW DIXON – STOCK & ASSOCIATES
257 CHESTERFIELD BUSINESS PARKWAY
CHESTERFIELD, MISSOURI 63005
PH: 636-530-9100

TOTAL AREA = 2.35 Ac.

TOTAL AREA DISTURBED: BY GRADING: 2.35 Acs.±

EXISTING SITE RUNOFF COEFFICIENT: 0.49
PROPSED SITE RUNOFF COEFFICIENT: 0.49
HYDROLOGIC SOIL GROUP: D

NOTE

SWPPP INSPECTIONS MUST BB SCHEDULED AT LEAST ONCE PER WEEK AND NO LATER THAN 48 HOURS AFTER A RAINFALL THAT CAUSES STORMWATER RUNOFF TO OCCUR ON-SITE.

STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. AND THE UNDERSIGNED ENGINEER HAVE NO RESPONSIBILITY FOR SERVICES PROVIDED BY OTHERS TO IMPLEMENT THE IMPROVEMENTS SHOWN ON THIS PLAN AND ALL OTHER DRAWINGS WHERE THE UNDERSIGNED ENGINEER'S SEAL APPEARS. THE CONSTRUCTION MEANS AND METHODS ARE THE SOLE RESPONSIBILITY OF THE OWNER AND CONTRACTOR. STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. HAS NO RESPONSIBILITY TO VERIFY FINAL IMPROVEMENTS AS SHOWN ON THIS PLAN UNLESS SPECIFICALLY ENGAGED AND AUTHORIZED TO DO SO BY THE OWNER OR CONTRACTOR.

H.T. # 1873
M.S.D. P# 11600-09
BASE MAP # 16-P
March 7, 2011

100% COMPLETE

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY NUMBER: 000996

2. 2011-03-04 – REVISED PER MSD AND COUNTY COMMENTS
1. 2011-02-21 – REVISED PER MSD AND COUNTY COMMENTS

PARKWAY NORTH HIGH SCHOOL

EXISITNG CONDITIONS/DEMO/SWPPP

STOCK & ASSOCIATES Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
T.P.S.	12/22/2010	G.M.S.	12/22/2010	210-4670	C2

NON-SEDIMENT POLLUTION CONTROL

PHYSICAL DESCRIPTION:

Control measures designed to prohibit chemicals, hazardous materials, solid waste and construction debris from polluting stormwater. Pollutants carried in solution or as surface films on runoff will be carried through most erosion control and sediment capture BMP's. Keeping substances like fuel, oil, asphalt, paint, solvents, fertilizer, soil additives, concrete wash water, solid waste and construction debris from polluting runoff can be accomplished to a large extent through good housekeeping on the site and following the manufacturer's recommendations for disposal.

WHERE BMP IS TO BE INSTALLED:

Collection, storage and fueling areas should be located onsite in an area that does not receive a substantial amount of runoff from upland areas and does not drain directly to lakes, creeks, streams, rivers, sewers, groundwater, wetlands, or road ditches.

CONDITIONS FOR EFFECTIVE USE OF BMP:

- ✓ Reduction in pollutants depends heavily on how construction personnel perform their duties. An effective management system requires training and signage to promote proper storage, handling and disposal of materials. Follow up observations of actions and inspection of storage areas by management personnel is also required.
- ✓ Plans should contain notes clearly stating requirements for addressing potential pollutants
- ✓ Fueling areas and storage areas for hazardous materials should be protected by berms or other means of catching leaks or spills.

WHEN BMP IS TO BE INSTALLED:

Immediately following installation of construction entrance and wash station

INSTALLATION/CONSTRUCTION PROCEDURES:

- ✓ Place waste receptacles near area of work
- ✓ Construct protective berm or other devices around fueling and hazardous materials storage areas
- ✓ Install appropriate signage
- ✓ Post guidelines for proper handling, storage and disposal of materials, and emergency spill cleanup on site

O&M PROCEDURES:

- ✓ Inspect activities on regular basis
- ✓ Inspect storage areas and control devices at least every two weeks and after every storm
- ✓ Make necessary corrections and repairs

SEEDING

PHYSICAL DESCRIPTION:

Establishment of vegetation by spreading grass seed designed to protect exposed soil from erosion by eliminating direct impact of precipitation and slowing overland flow rates. Once established, the vegetative cover will also filter pollutants from the runoff.

WHERE BMP IS TO BE INSTALLED:

Exposed soil after a phase of rough or finish grading has been completed, or areas where no activity will occur for 35 days

CONDITIONS FOR EFFECTIVE USE OF BMP:

Type of Flow:	Sheet flow
Contributing Slope Length:	35 foot maximum for 3:1 slopes 50 foot maximum for slope between 3:1 and 10:1 100 foot maximum for slopes under 10%
Minimum Rates:	See attached chart(s)
Acceptable Dates:	See attached chart

WHEN BMP IS TO BE INSTALLED:

Immediately after rough or finished grading is completed

INSTALLATION/CONSTRUCTION PROCEDURES:

- ✓ Install upstream BMP's to protect area to be seeded
- ✓ Rough grade area and remove all debris larger than 1 inch in diameter and concentrated areas of smaller debris
- ✓ Install stabilization grids, if needed
- ✓ Mix soil amendments (lime, fertilizer, etc.) into top 3"-6" of soil as needed
- ✓ Plant seed ¼ - ½ inch deep
- ✓ Roll lightly to firm surface
- ✓ Cover seeded area with mulch unless seeding completed during optimum spring and summer dates
- ✓ Install additional stabilization (netting, bonded fiber matrix, etc.) as required
- ✓ Water immediately – enough to soak 4 inches into soil without causing runoff

SITE CONDITIONS FOR REMOVAL:

Maintain practices until all construction on the site has been completed

TYPICAL DETAILS:

General pollution prevention notes attached

O&M PROCEDURES:

- ✓ Inspect every week and after every storm
- ✓ Protect area from vehicular and foot traffic
- ✓ Reseed areas that have not sprouted within 21 days of planting.
- ✓ Repair damaged or eroded areas and reseed and stabilize as needed
- ✓ Do not mow until 4 inches of growth occurs
- ✓ During the first 4 months, mow no more than 1/3 the grass height
- ✓ Refertilize during 2nd growing season

SITE CONDITIONS FOR REMOVAL:

Does not require removal, but temporary seeding can be removed immediately prior to work resuming to an area

TYPICAL DETAILS:

Minimum seeding rates and acceptable dates for work attached

POLLUTION PREVENTION PROCEDURES

1) **HANDLING AND DISPOSAL OF HAZARDOUS MATERIALS**

DO: Prevent spills
Use products up
Follow label directions for disposal
Remove lids from empty bottles and cans when disposing in trash
Recycle wastes whenever possible

DON'T: Don't pour waste into sewers or waterways on the ground
Don't pour waste down the sink, floor drain or septic tanks
Don't bury chemicals or containers, or dispose of them with construction debris
Don't burn chemicals or containers
Don't mix chemicals together

2) Containers shall be provided for collection of all waste material including construction debris, trash, petroleum products and any hazardous materials to be used onsite. All waste material shall be disposed of at facilities approved for that material.

3) No waste materials shall be buried on-site.

4) Mixing, pumping, transferring or otherwise handling construction chemicals such as fertilizer, lime, asphalt, concrete drying compounds, and all other potentially hazardous materials shall be performed in an area away from any waterbourne, ditch or storm drain.

5) Equipment fueling and maintenance, oil changing, etc., shall be performed only in an area designated for that purpose. The designated area is equipped for recycling oil and catching spills.

6) Concrete wash water shall not be allowed to flow directly to storm sewers, streams, ditches, lakes, etc without being treated. A sump or pit shall be constructed to contain concrete wash water.

7) If substances such as oil, diesel fuel, hydraulic fluid, antifreeze, etc. are spilled, leaked, or released onto soil, the soil shall be dug up and disposed of at a licensed sanitary landfill (not a construction/demolition debris landfill). Spills on pavement shall be absorbed with sawdust, kitty litter or product designed for that purpose and disposed of at a licensed sanitary landfill. Hazardous or industrial wastes such as most solvents, gasoline, oil-based paints, and cement curing compounds require special handling. These materials will be removed from the site and recycled or disposed of in accordance with MoDNR requirements.

8) State law requires the party responsible for a petroleum product spill in excess of 50 gallons to report the spill to Missouri Department of Natural Resources (MoDNR) at (537) 634-2436, as soon as practical after discovery. Federal law requires the responsible party to report any release of oil if it reaches or threatens a sewer, lake, creek, stream, river, groundwater, wetland, or area, like a road ditch, that drains into one of the above

SEEDING REQUIREMENTS

Dates for Seeding

Permanent Seeding	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Tall Fescue			O	O	O			O	O			
Smooth Brome			O	O	O			O	O			
Fescue & Brome			O	O	O	O		O	O			
Fescue, Rye & Bluegrass	A	A	O	O	O	P	P	O	O	P	P	A
Temporary Seeding	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Rye or Sudan	A	A	O	O	O	O	O	O	O	O	A	A
Oats		A	O	O	O	O	O	O	O			

O= Optimum seeding dates
A= Acceptable seeding dates
P= Permitted seeding dates with mowing 2 months later - initially mix 50% of seed and 75% of fertilizer. Reseed with additional 50% seed and remaining fertilizer.

Minimum Fertilizer and Seeding Rates

Permanent Seeding*	Pounds per acre	Pounds per 1000 sq. ft.
Tall Fescue	300	7.0
Smooth Brome	200	4.6
Mixture #1	200	3.7
Mixture #2	215	4.8

Mixture # 1 = Tall Fescue @ 150 pounds per acre and Brome @ 150 pounds per acre.
Mixture # 2 = Tall Fescue @ 100 pounds per acre, Perennial Ryegrass @ 100 pounds per acre, and Kentucky Bluegrass @ 15 pounds per acre.
* = Seeding rate for slopes in excess of 20% (5:1), shall be 10 pounds per 1000 sq. ft.

Temporary Seeding	Pounds per acre	Pounds per 1000 sq. ft.
Rye or Sudan	100	3.5
Oats	200	7.0

Fertilizer	Recommended Rate (lb/ac)	Rate for Checking (pounds per acre)
Nitrogen	45	30
Phosphate	45	30
Potassium	45	30
Lime - Mod	600	600

Mod = Effective neutralizing material per State evaluation of counted rock.

INLET PROTECTION - FABRIC DROP

PHYSICAL DESCRIPTION:

A woven fabric barrier braced around an area inlet designed to prevent sediment from entering the storm sewer. Smallow temporary ponding during and after rainfall should be expected.

WHERE BMP IS TO BE INSTALLED:

At inlets designed to drain a small gently sloping area with maximum grade of 5%. Overflow capacity is limited on standard area inlets.

CONDITIONS FOR EFFECTIVE USE OF BMP:

Type of Flow:	Shallow sheet flow
Contributing Area:	Maximum of 2 cfs flowing to inlet

WHEN BMP IS TO BE INSTALLED:

Immediately after placement of inlet.

INSTALLATION/CONSTRUCTION PROCEDURES:

- ✓ Backfill, compact and uniformly grade area around inlet
- ✓ Construct downstream berm, if required. Rock bags or sand bags may be used to construct berm.
- ✓ Drive posts or wood frame close to inlet sill so overflow will fall directly on the structure and not on unprotected soil
- ✓ Dig trench around inlet for fabric to be buried
- ✓ Cut required length of fabric from one roll to eliminate joints. Fasten fabric tightly around posts/frame to enhance stability.
- ✓ Backfill and compact trench.

O&M PROCEDURES:

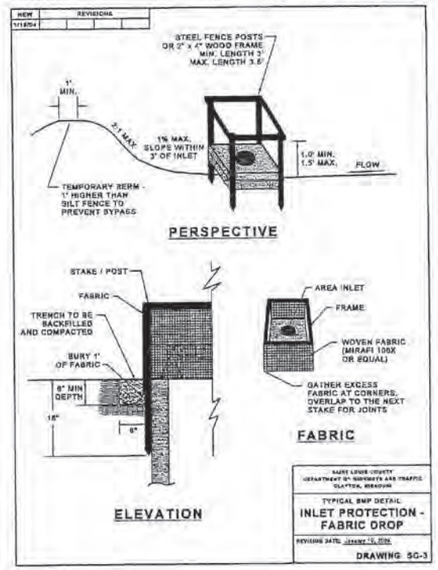
- ✓ Inspect every week and after every storm
- ✓ Remove trash accumulation and sediment once it reaches depth of 6" at inlet.
- ✓ Replace loose, torn or dragged fabric
- ✓ Repair any erosion or settlement of temporary berm downstream of inlet

SITE CONDITIONS FOR REMOVAL:

Remove after contributing drainage areas have been adequately stabilized. Restore area to grade and vegetation.

TYPICAL DETAIL: SC-3

NEW	REVISIONS
1/18/04	



SAINT LOUIS COUNTY
DEPARTMENT OF HIGHWAYS AND TRAFFIC
CLAYTON, MISSOURI

TYPICAL BMP DETAIL:
INLET PROTECTION - FABRIC DROP

REVISION DATE: JANUARY 15, 2004

DRAWING: SC-3



Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — St. Louis County and St. Louis City, Missouri					
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI	
8103	Urban land-Harvester complex, 2 to 9 percent slopes	D	8.4	[illegible]	
Totals for Area of Interest			8.4	[illegible]	

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist mainly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition
Component Percent Cutoff: None Specified
Tie-break Rule: Lower

Natural Resources Conservation Service — Web Soil Survey — National Cooperative Soil Survey

H.T. # 1873
M.S.D. P# 11600-09
BASE MAP # 16-P

March 7, 2011

100% COMPLETE

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. AND THE UNDERSIGNED ENGINEER HAVE NO RESPONSIBILITY FOR SERVICES PROVIDED BY OTHERS TO IMPLEMENT THE IMPROVEMENTS SHOWN ON THIS PLAN AND ALL OTHER DRAWINGS WHERE THE UNDERSIGNED ENGINEER'S SEAL APPEARS. THE CONSTRUCTION MEANS AND METHODS ARE THE SOLE RESPONSIBILITY OF THE OWNER AND CONTRACTOR. STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. HAS NO RESPONSIBILITY TO VERIFY FINAL IMPROVEMENTS AS SHOWN ON THIS PLAN UNLESS SPECIFICALLY ENGAGED AND AUTHORIZED TO DO SO BY THE OWNER OR CONTRACTOR.

2. 2011-03-04 – REVISED PER MSD AND COUNTY COMMENTS
1. 2011-02-21 – REVISED PER MSD AND COUNTY COMMENTS

PARKWAY NORTH HIGH SCHOOL

SWPPP DETAILS

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
T.P.S.	12/22/2010	G.M.S.	12/22/2010	210-4670	C3

SILT FENCE

PHYSICAL DESCRIPTION:

A fence constructed of woven filter fabric and wire mesh stretched between posts and entrenched in the ground designed to pond stormwater runoff and cause sediment to settle out.

WHERE BMP IS TO BE INSTALLED:

Installed along slopes, at base of slopes, and around perimeter of site as final barrier to sediment being carried off site. Spacing of fence along slopes is relative to slope:

CONDITIONS FOR EFFECTIVE USE OF BMP:

Type of Flow:	Sheet flow only
Contributing Slope Length:	30 foot maximum for 3:1 slopes 50 foot maximum for slopes between 3:1 and 10:1 100 foot maximum for slopes under 10%.

WHEN BMP IS TO BE INSTALLED:

Prior to disturbance of natural vegetation and at intervals during construction of fill slopes

INSTALLATION/CONSTRUCTION PROCEDURES:

- ✓ Drive post for fence line
- ✓ Dig trench to required dimensions in front of posts for fabric burial
- ✓ Attach wire mesh to posts
- ✓ Attach fabric to posts, allowing required length below ground level to rim fabric along bottom of trench
- ✓ Backfill and compact soil in trench to protect and anchor fabric

Alternate Construction: Install fence by slicing it into ground with specialized equipment
Install posts at reduced spacing indicated on detail

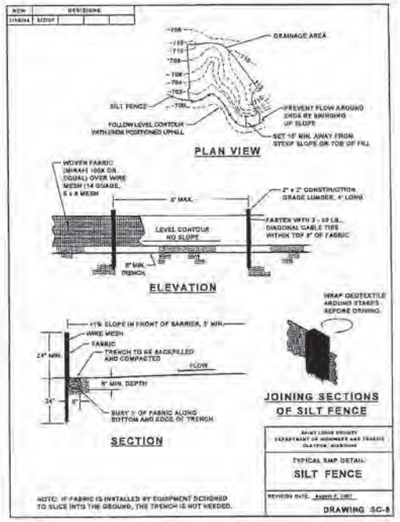
O&M PROCEDURES:

- ✓ Inspect every week and after every storm
- ✓ Remove sediment buildup deeper than ½ the fence height or 12", whichever is less
- ✓ Replace torn of clogged fabric; repair loose fabric
- ✓ Repair unstable or broken posts
- ✓ Stabilize any areas susceptible to undermining
- ✓ Extend fence or add additional row(s) of fence if necessary to provide adequate protection

SITE CONDITIONS FOR REMOVAL:

After permanent vegetation of slope is established. Remove fence, regrade trench area and vegetate.

TYPICAL DETAIL: SC-5



MULCHING

PHYSICAL DESCRIPTION:

A layer of organic material designed to protect exposed soil or freshly seeded areas from erosive by eliminating direct impact of precipitation and slowing overland flow rates. Mulch materials may include, but are not limited to, such things as grass, hay, straw, wood chips, wood fibers, and shredded bark.

WHERE BMP IS TO BE INSTALLED:

Typically installed on seeded areas for temporary use, and in landscaped areas for permanent use

CONDITIONS FOR EFFECTIVE USE OF BMP:

Type of Flow:	Sheet flow only
Slopes:	See attached chart for types of mulch acceptable as a function of slope length and steepness
Mulching Rates:	See attached table

WHEN BMP IS TO BE INSTALLED:

Immediately after grading landscaped areas or seeding other areas

INSTALLATION/CONSTRUCTION PROCEDURES:

- ✓ Install upstream BMP's to protect area to be mulched
- ✓ Rough grade area and remove all debris larger than 1 inch if area is to be vegetated and mowed in the future; larger than 2 inches if area is to be permanently mulched
- ✓ If area is to be seeded, follow requirements of Seeding BMP
- ✓ Spread mulch and anchor by punching it into the ground, using netting, peg and twine, or tacking with liquid binder

O&M PROCEDURES:

- ✓ Inspect every week and after every storm until adequate vegetation is established; annually for permanent mulch
- ✓ Protect from vehicular and foot traffic
- ✓ Repair damaged, degraded or eroded areas – reseed as needed and replace mulch

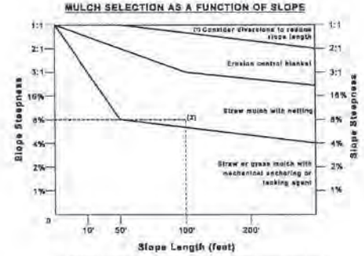
SITE CONDITIONS FOR REMOVAL:

Temporary mulch should be removed when adequate vegetation is established

TYPICAL DETAILS:

Type of mulch required for various slopes and application rates attached

MULCH SELECTION AS A FUNCTION OF SLOPE



(1) For slopes steeper than 1:1, consider building a diversion above slope to divert water.
(2) Example: An 8% slope, 100 feet long, requires straw mulch with tacking

GENERAL MULCH RECOMMENDATIONS TO PROTECT FROM SPLASH AND SHEET FLOW

Material	Rate Per Acre	Requirements	Notes
Straw	2 to 2.5 tons	Dry, unchopped (preferred); avoid weeds.	Spread by hand or machine; must be tacked or tied down
Wood Fiber or Wood Cellulose	0.5 to 1 ton		Use with hydro seeder; may be used in less than 24 hours
Wood Chips	5 to 6 tons	Air dry. Add nitrogen fertilizer at 12 lb per ton	Apply with blower, chip handler, or by hand. Not for thin turf areas.
Sod	36 sq. yds.	Air dry, shredded, or homogenized, or chips	Apply with mulch blower, chip handler or by hand. Do not use netted sod.

CONSTRUCTION ENTRANCE

PHYSICAL DESCRIPTION:

A stabilized entrance to a construction site designed to minimize the amount of sediment tracked from the site on vehicles and equipment. Stabilization generally consists of aggregate over fabric. Mud and sediment fall off of tires as they travel along the stabilized entrance; however, additional measures in the form of a washdown area should also be included on site. The stabilized entrance also distributes the axle load of vehicles over a larger area; thereby mitigating the rutting impact vehicles normally have on unpaved areas.

WHERE BMP IS TO BE INSTALLED:

At locations where it is safe for construction vehicles and equipment to access existing streets – preferably at location of future streets or drives.

CONDITIONS FOR EFFECTIVE USE OF BMP:

Drainage:	Ditches or pipes, if needed, sized for 15 year, 20 minute storm; HGL 6" below surface of entrance

WHEN BMP IS TO BE INSTALLED:

First order of work, along with washdown area, prior to vehicles or equipment accessing unpaved areas.

INSTALLATION/CONSTRUCTION PROCEDURES:

- ✓ Grade and compact area of construction entrance
- ✓ Install culvert under entrance if needed to maintain positive drainage
- ✓ Place fabric and cover with aggregate, forming diversion across entrance if needed to direct runoff away from roadway
- ✓ See Washdown Station BMP for additional steps

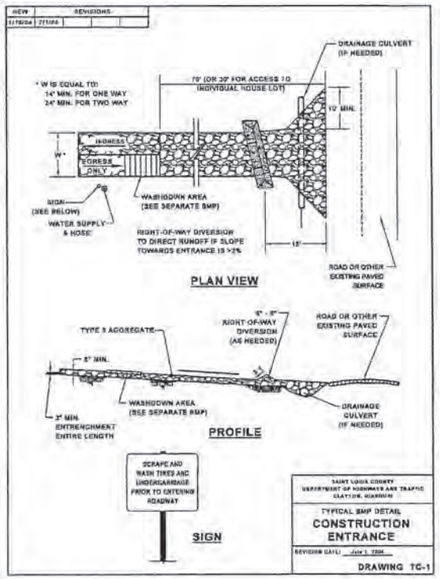
O&M PROCEDURES:

- ✓ Immediately remove any mud or debris tracked onto paved surfaces
- ✓ Remove sediment and clods of dirt from construction entrance continuously
- ✓ Replace rock if necessary to maintain clean surface
- ✓ Repair settled areas

SITE CONDITIONS FOR REMOVAL:

Remove when vehicles and equipment will no longer access unpaved areas

TYPICAL DETAIL: TC-1



WASHDOWN STATION

PHYSICAL DESCRIPTION:

An area located at construction entrances designed to wash sediment from the tires and undercarriage of exiting vehicles and prevent sediment from being tracked onto existing roadways.

WHERE BMP IS TO BE INSTALLED:

Across or immediately adjacent to exit paths from unpaved construction sites.

CONDITIONS FOR EFFECTIVE USE OF BMP:

Drainage:	Downstream BMP sized to treat dirty runoff from washdown station

WHEN BMP IS TO BE INSTALLED:

First order of work, along with construction entrance, prior to vehicles or equipment accessing unpaved areas.

INSTALLATION/CONSTRUCTION PROCEDURES:

- ✓ Grade and compact area for drainage under washdown pad
- ✓ Install steel-ribbed panels on frame or other support to allow a 2" drain space
- ✓ Grade and vegetate downstream BMP (v-ditch shown on detail)
- ✓ Install water supply and hose
- ✓ Post sign in advance of station indicating that all exiting vehicles and equipment must use station prior to exiting site

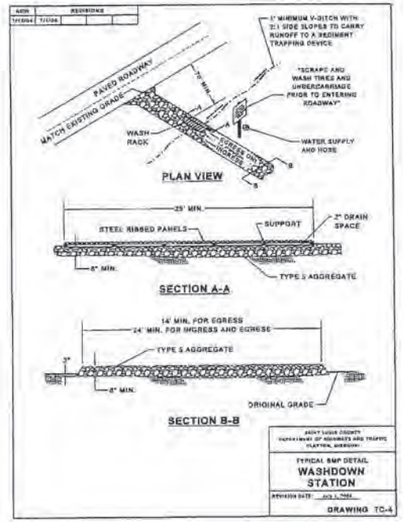
O&M PROCEDURES:

- ✓ Remove sediment daily
- ✓ Repair settled areas
- ✓ Replace rock if necessary to maintain clean surface

SITE CONDITIONS FOR REMOVAL:

Remove when vehicles and equipment will no longer access unpaved areas

TYPICAL DETAIL: TC-4



STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. AND THE UNDERSIGNED ENGINEER HAVE NO RESPONSIBILITY FOR SERVICES PROVIDED BY OTHERS TO IMPLEMENT THE IMPROVEMENTS SHOWN ON THIS PLAN AND ALL OTHER DRAWINGS WHERE THE UNDERSIGNED ENGINEER'S SEAL APPEARS. THE CONSTRUCTION MEANS AND METHODS ARE THE SOLE RESPONSIBILITY OF THE OWNER AND CONTRACTOR. STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. HAS NO RESPONSIBILITY TO VERIFY FINAL IMPROVEMENTS AS SHOWN ON THIS PLAN UNLESS SPECIFICALLY ENGAGED AND AUTHORIZED TO DO SO BY THE OWNER OR CONTRACTOR.

H.T. # 1873
M.S.D. P# 11600-09
BASE MAP # 16-P
March 7, 2011
100% COMPLETE

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

2. 2011-03-04 – REVISED PER MSD AND COUNTY COMMENTS
1. 2011-02-21 – REVISED PER MSD AND COUNTY COMMENTS

PARKWAY NORTH HIGH SCHOOL

SWPPP DETAILS

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: generel@stockassoc.com
Web: www.stockassoc.com

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
T.P.S.	12/22/2010	G.M.S.	12/22/2010	210-4670	C4

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

NOTES:
1. PROPOSED FIELD UNDERDRAIN SYSTEM PER MANUFACTURER.
2. GEOTECHNICAL ENGINEER SHALL BE PRESENT TO INSPECT SUBGRADE AND CONFIRM ADEQUACY FOR PLACEMENT OF ROCK FIELD BASE.
3. CONTRACTOR SHALL VERIFY UNDERDRAIN SYSTEM LAYOUT, SPACING, PIPE SIZE AND INSTALLATION PROCEDURE PRIOR TO COMMENCING CONSTRUCTION.
4. PROPOSED CONTOURS SHOWN ARE TO FIELD SUBGRADE.
5. EXISTING LONG JUMP TRACK AND PITS TO BE USED IN PLACE.

EARTHWORK NOTES

Bulk Cut 8,368 ± CUBIC YARDS

Bulk Fill — ± CUBIC YARDS (0% SHRINKAGE)

Net 8,368 ± CUBIC YARDS

THE ENGINEER HAS CALCULATED THE ABOVE QUANTITIES OF EARTHWORK TO BE REGARDED AS AN ESTIMATE OF THE BULK MOVEMENT OR REDISTRIBUTION OF SOILS ON THIS PROJECT. AS AN ESTIMATE, THESE QUANTITIES ARE INTENDED FOR GENERAL USE, AND THE ENGINEER ASSUMES NO LIABILITY FOR COST OVERRUNS DUE TO EXCESS EXCAVATED MATERIALS OR SHORTAGES OF FILL.

THE QUANTITIES ESTIMATED FOR EACH OF THE IMPROVEMENT ITEMS LISTED ABOVE ARE BASED UPON THE HORIZONTAL AND VERTICAL LOCATION OF THE IMPROVEMENTS AS PROPOSED ON THE SITE ENGINEERING PLANS PREPARED BY STOCK AND ASSOCIATES CONSULTING ENGINEERS.

THE ENGINEER'S EARTHWORK ESTIMATE DOES NOT INCLUDE ANY OF THE FOLLOWING ITEMS REQUIRING EARTHWORK THAT MAY BE NECESSARY FOR COMPLETION OF THE PROJECT: MISCELLANEOUS UNDERGROUND CONDUITS, INCLUDING SEWER LINES AND WATER MAINS LESS THAN TWENTY-FOUR INCHES IN DIAMETER, STANDARD MANHOLES; PROCESS OR TRANSFER PIPING; ELECTRICAL OR TELEPHONE CONDUITS OR DUCT BANKS; BASES FOR LIGHT STANDARDS; BUILDING FOOTINGS AND FOUNDATIONS, RETAINING WALL BACKFILL, ETC.

THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACTUAL SIZE OF THE FIELD EXCAVATIONS MADE FOR THE INSTALLATION OF UNDERGROUND STRUCTURES, AND AS SUCH, THE ACTUAL QUANTITIES OF EARTHWORK FROM SUCH ITEMS MAY VARY FROM THE ESTIMATE SHOWN ABOVE.

THE ENGINEER ASSUMES NO RESPONSIBILITY FOR COSTS INCURRED DUE TO REMOVAL OF UNSUITABLE MATERIAL. AT THIS TIME THERE HAS NOT BEEN ANY GEOTECHNICAL INVESTIGATION.

THE ENGINEER HAS MADE THE FOLLOWING ASSUMPTIONS IN THE ABOVE STATED QUANTITIES:

- PROPOSED GRADING TO THE SUBGRADE ("SG") ELEVATIONS NOTED ON THE PLAN.
- PROPOSED CONTOURS REFLECT SUBGRADE ELEVATIONS
- EXCAVATION FOR NEW COLLECTOR PIPES RUNNING ALONG INETERIOR OF TRACT IS "NOT" INCLUDED IN CUT NUMBERS
- TOPSOIL REMOVAL "IS" INCLUDED IN OVERALL CUT NUMBER
- 0% SHRINKAGE
- EXCAVATION FOR CHANNEL PROTECTION TRENCH "IS" INCLUDED IN OVERALL CUT NUMBER

IT IS THE RESPONSIBILITY OF THE GRADING CONTRACTOR TO PERFORM AN INDEPENDENT EARTHWORK ANALYSIS PRIOR TO SUBMISSION OF BID. IN THE EVENT A DISCREPANCY EXISTS THE GRADING CONTRACTOR SHALL NOTIFY ENGINEER OF DISCREPANCY PRIOR TO SUBMISSION OF BID.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO REMOVE AND/OR EXPORT ANY AND ALL MATERIALS NEEDED TO COMPLETE THE FINISHED GRADES AND ELEVATIONS AS SHOWN ON THE ENGINEER'S GRADING PLAN.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN "ALL" GEOTECHNICAL INVESTIGATIONS FROM THE "OWNER". CONTRACTOR SHALL REVIEW AND FAMILIARIZE THEMSELVES WITH RECOMMENDATIONS AS OUTLINED BY THE PROJECT GEOTECHNICAL ENGINEER AND INCORPORATE IT IN THEIR PROPOSED SCOPE OF WORK.

CONNECT EX. 8" STORM PIPE TO NEW MANHOLE

PROP. M.H. TOP=515.35 FL=511.50

EXIST. TC 513.80 SG

FL=511.70

FL=512.90

SAWCUT EXISTING CONCRETE CURB AND GUTTER (SEE DETAILS SHEET C4)

DRAIN 1 PROP. PERFORATED ADS N-12 COLLECTOR PIPE AT 0.4±% SEE SHEET C5 FOR MORE DETAILS.

DRAIN 2 PROP. PERFORATED ADS N-12 COLLECTOR PIPE AT 0.725 %. SEE SHEET C5 FOR MORE DETAILS.

SAWCUT EXISTING CONCRETE CURB AND GUTTER (SEE DETAILS SHEET C4)

FEE FEE ROAD

S 82°43'50" E 1276.38'

PROP. HYDRAWAY 2000 FLAT DRAIN PIPE SYSTEM (TYP)

CHANNEL PROTECTION AREA 7.00 FT. WIDE THE ENTIRE LENGTH OF THE UNDERDRAIN PIPE. CoV PROVIDED = 8,599 C.F. SEE SHEET C5 FOR MORE DETAILS.

BUILDING

SCORE BOARD

PROP. M.H. TOP=515.35 FL=504.00

WATER QUALITY TREATMENT AREA 7.00 FT. WIDE. WQV PROVIDED = 4,289 C.F. SEE SHEET C5 FOR MORE DETAILS.

PROP. M.H. TOP=515.45 FL=503.30

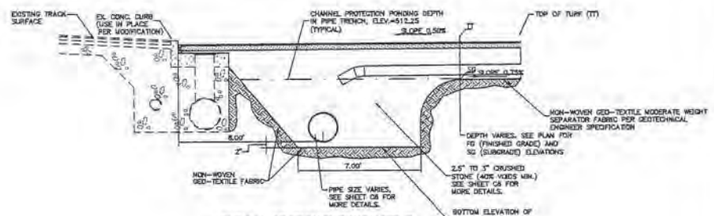
PROP. M.H. TOP=515.45 FL=503.17±

DETAIL

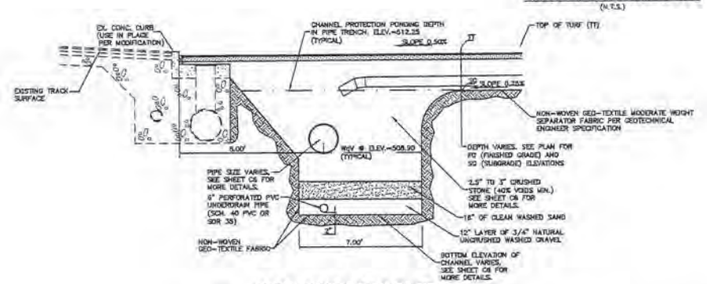
S 82°23'17" E 584.52'

N/F ST. LOUIS CITY WATER WORKS DB. 665 PG. 475 LOC.# 16P630012

S 82°28'55" E 883.56'



TYPICAL SECTION THROUGH FIELD CHANNEL PROTECTION TRENCH
(N.T.S.)



TYPICAL SECTION THROUGH FIELD CHANNEL PROTECTION AND SAND FILTER TRENCH
(N.T.S.)

STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. AND THE UNDERSIGNED ENGINEER HAVE NO RESPONSIBILITY FOR SERVICES PROVIDED BY OTHERS TO IMPLEMENT THE IMPROVEMENTS SHOWN ON THIS PLAN AND ALL OTHER DRAWINGS WHERE THE UNDERSIGNED ENGINEER'S SEAL APPEARS. THE CONSTRUCTION MEANS AND METHODS ARE THE SOLE RESPONSIBILITY OF THE OWNER AND CONTRACTOR. STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. HAS NO RESPONSIBILITY TO VERIFY FINAL IMPROVEMENTS AS SHOWN ON THIS PLAN UNLESS SPECIFICALLY ENGAGED AND AUTHORIZED TO DO SO BY THE OWNER OR CONTRACTOR.

H.T. # 1873
M.S.D. P# 11600-09
BASE MAP # 16-P
March 7, 2011
100% COMPLETE

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY NUMBER: 000996

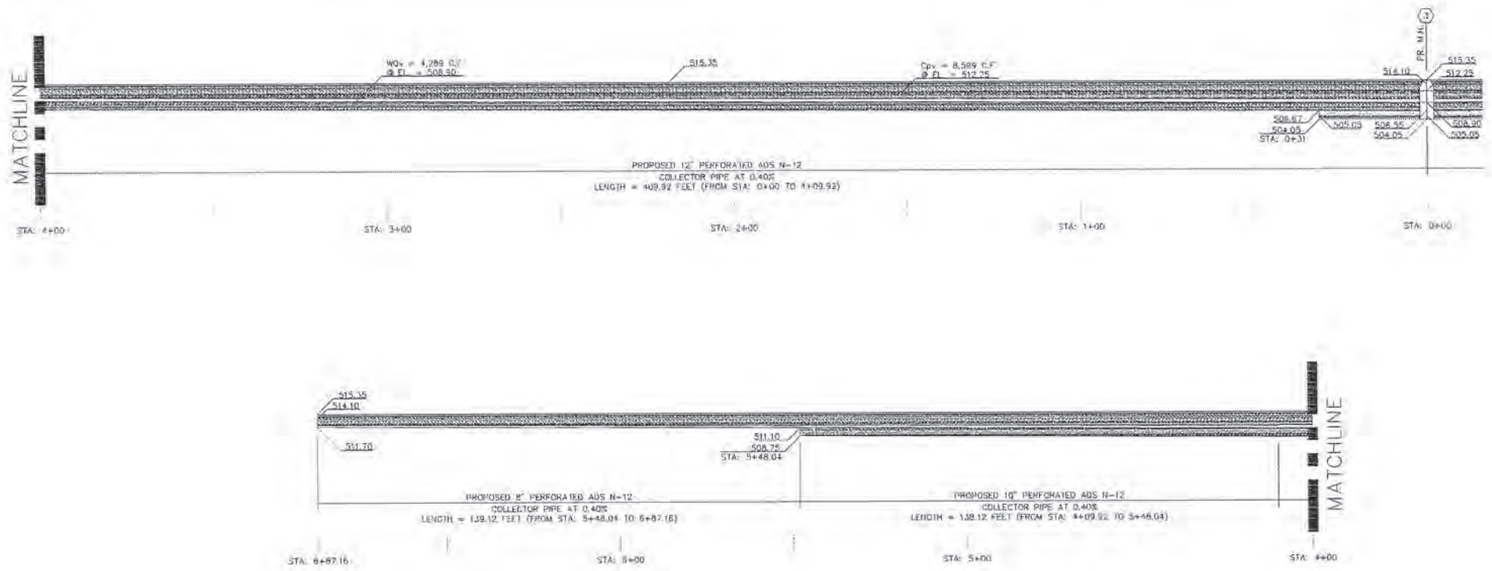
2. 2011-03-04 – REVISED PER MSD AND COUNTY COMMENTS
1. 2011-02-21 – REVISED PER MSD AND COUNTY COMMENTS

PARKWAY NORTH HIGH SCHOOL

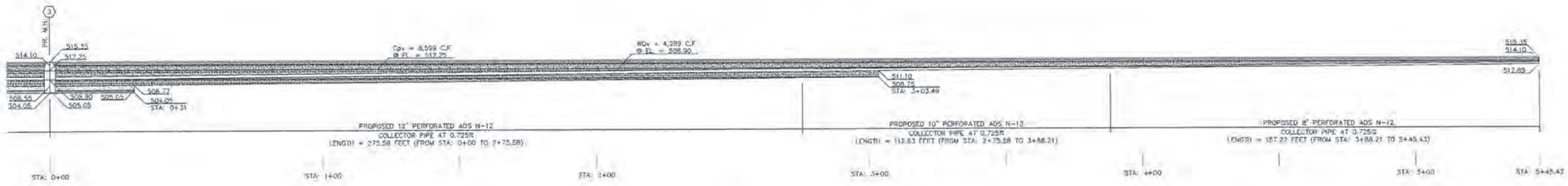
SITE AND GRADING PLAN

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
T.P.S.	12/22/2010	G.M.S.	12/22/2010	210-4670	C5



DRAIN 1 – PROFILE
SCALE: 1"=20' H
1"=20' V



DRAIN 2 – PROFILE
SCALE: 1"=20' H
1"=20' V

H.T. # 1873
M.S.D. P# 11600-09
BASE MAP # 16-P

March 7, 2011

100% COMPLETE

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. AND THE UNDERSIGNED ENGINEER HAVE NO RESPONSIBILITY FOR SERVICES PERFORMED BY OTHERS TO IMPLEMENT THE IMPROVEMENTS SHOWN ON THIS PLAN AND ALL OTHER DRAWINGS WHERE THE UNDERSIGNED ENGINEER'S SEAL APPEARS. THE CONSTRUCTION MEANS AND METHODS ARE THE SOLE RESPONSIBILITY OF THE OWNER AND CONTRACTOR. STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. HAS NO RESPONSIBILITY TO VERIFY FINAL IMPROVEMENTS AS SHOWN ON THIS PLAN UNLESS SPECIFICALLY ENGAGED AND AUTHORIZED TO DO SO BY THE OWNER OR CONTRACTOR

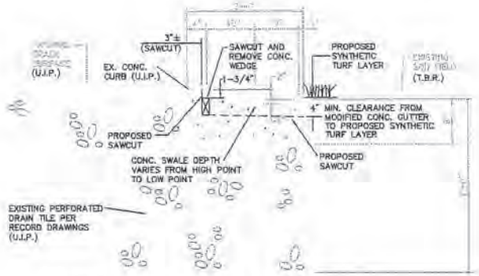
2. 2011-03-04 – REVISED PER MSD AND COUNTY COMMENTS
1. 2011-02-21 – REVISED PER MSD AND COUNTY COMMENTS

PARKWAY NORTH HIGH SCHOOL

FIELD DETAILS

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

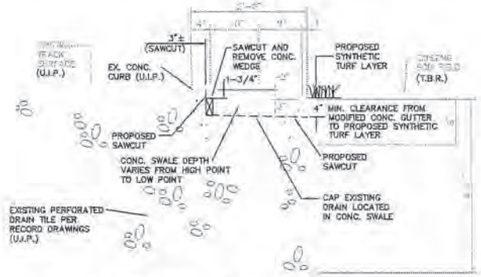
DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
T.P.S.	12/22/2010	G.M.S.	12/22/2010	210-4670	C6



NOTE: EXISTING CONCRETE GUTTER SHOWN ABOVE WAS TAKEN FROM THE RECORD DRAWINGS PROVIDED BY PARKWAY.

EXISTING CONCRETE GUTTER MODIFICATION GUTTER HIGH POINT (TYP)

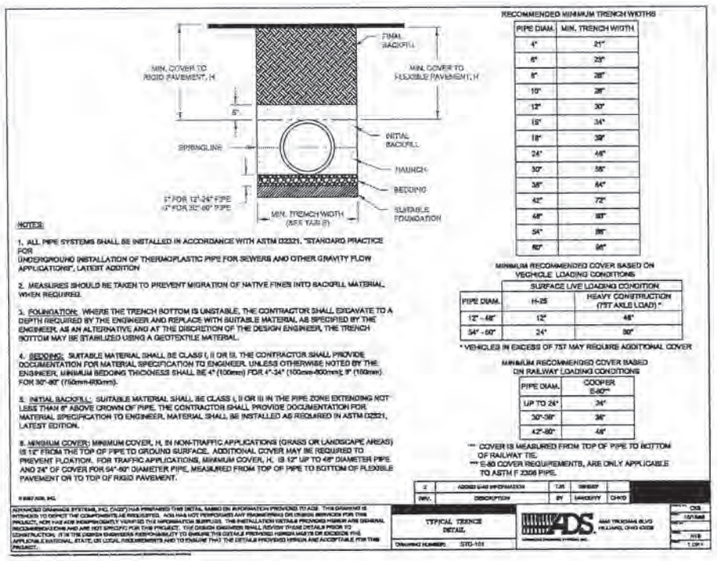
(N.T.S.)



NOTE: EXISTING CONCRETE GUTTER SHOWN ABOVE WAS TAKEN FROM THE RECORD DRAWINGS PROVIDED BY PARKWAY.

EXISTING CONCRETE GUTTER MODIFICATION GUTTER LOW POINT (TYP)

(N.T.S.)



NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm), 6" (150mm) FOR 30"-60" (750mm-1500mm).
5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE, AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
4"	21"
6"	23"
8"	25"
10"	28"
12"	30"
15"	34"
18"	39"
24"	48"
30"	58"
36"	64"
42"	72"
48"	85"
54"	86"
60"	96"

MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS

	SURFACE LIVE LOADING CONDITION	
PIPE DIAM.	H-25	HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" - 48"	12"	48"
54" - 60"	24"	60"

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

MINIMUM RECOMMENDED COVER BASED ON RAILWAY LOADING CONDITIONS

PIPE DIAM.	COOPER E-80**
UP TO 24"	24"
30"-36"	36"
42"-60"	48"

** COVER IS MEASURED FROM TOP OF PIPE TO BOTTOM OF RAILWAY TIE.
*** E-80 COVER REQUIREMENTS, ARE ONLY APPLICABLE TO ASTM F 2306 PIPE.

NO.	ADDED SAID INFORMATION / DESCRIPTION	DR. / BY	CHK'D / BY	DATE
2	ADDED SAID INFORMATION	DR.	CHK'D	

© 2007 ADS, INC.
ADVANCED DRAINAGE SYSTEMS, INC. (ADS) HAS PROVIDED THIS DETAIL BASED ON INFORMATION PROVIDED TO ADS. THIS DRAWING IS INTENDED TO DEPICT THE COMPONENTS AS PRESCRIBED. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT. YOU HAVE FOR INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THIS DETAILS PROVIDED HEREIN MEETS OR EXCEEDS FHA, APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

TYPICAL TRENCH DETAIL — DRAWING NUMBER: STD-103 — ADS

H.D.P.E. STORM SEWER NOTE:

CONTRACTOR SHALL READ AND FOLLOW SPECIFIC INSTALLATION REQUIREMENTS OF H.D.P.E. PIPE MANUFACTURER BASED UPON PIPE TYPE UTILIZED AND FOLLOW ASTM D-2321 INSTALLATION PROCEDURES AS DIRECTED BY THE ON SITE SUPERVISING GEOTECHNICAL ENGINEER
GEOTECHNICAL ENGINEER SHALL INSPECT INSTALLATIONS TO CONFIRM PROPER INSTALLATION (BEDDING, BACKFILL, COVER, etc) AND CONFIRM SAID INSTALLATION PROCEDURE BASED UPON ON-SITE SOIL TYPE AT PIPE INSTALLATION LOCATIONS ON PROJECT.
IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL SAID RECOMMENDATIONS FOR PROPER INSTALLATION OF H.D.P.E. PIPE SYSTEM INSTALLED.

H.D.P.E. STORM SEWER NOTES:
(IF PERMISSIBLE BY LOCAL AUTHORITY)

1.) STORM SEWER PIPE DESIGNATED AS HIGH DENSITY POLYETHYLENE (H.D.P.E.) SHALL HAVE WATER TIGHT GASKETED JOINTS WITH RUBBER O-RING GASKETS MEETING ASTM F477. O-RING GASKET SHALL BE INSTALLED ON THE SPIGOT END OF PIPE.

2.) 12" TO 36" PIPE SHALL CONFORM TO THE AASHTO M294 CLASSIFICATION "TYPE S" AND 42" TO 48" SHALL CONFORM TO AASHTO MP6-93 CLASSIFICATION "TYPE S."

3.) ALL PIPE JOINTS SHALL CONSIST OF BELL AND SPIGOT JOINING SYSTEM WITH THE BELL COVERING TWO PIPE CORRUGATIONS AS RECOMMENDED IN AASHTO M294.

4.) PIPE MANUFACTURED FOR THIS SPECIFICATION SHALL COMPLY WITH THE REQUIREMENTS FOR TEST METHODS, DIMENSIONS AND MARKINGS FOUND IN AASHTO DESIGNATIONS M252 AND M294. PIPE AND FITTINGS SHALL BE MADE FROM VIRGIN PE COMPOUNDS WHICH CONFORM WITH THE REQUIREMENTS OF CELL CLASS 335420C AS DEFINED AND DESCRIBED IN ASTM D3350.

H.D.P.E. STORM SEWER NOTES CONT'D:
(IF PERMISSIBLE BY LOCAL AUTHORITY)

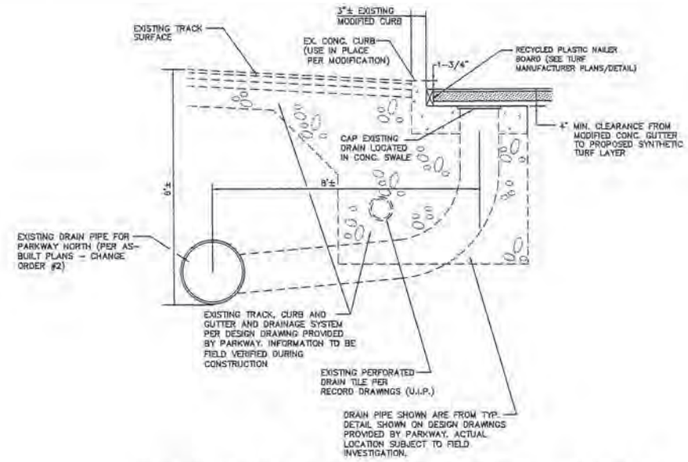
5.) FITTINGS MAY BE EITHER MOLDED OR FABRICATED AND SHALL CONFORM TO THE REQUIREMENTS AASHTO M252 AND M294. THE FITTINGS SHALL NOT REDUCE OR IMPAIR THE OVERALL INTEGRITY OR FUNCTION OF THE PIPE LINE. ONLY FITTINGS SUPPLIED OR RECOMMENDED BY THE PIPE MANUFACTURER SHALL BE USED.

6.) INSTALLATION OF THE PIPE SPECIFIED ABOVE SHALL BE IN ACCORDANCE WITH THE ASTM RECOMMENDED PRACTICE D2321.

7.) BOTH BELL AND SPIGOT (WITH O-RING GASKET) ENDS OF THE PIPE SHALL BE LUBRICATED AS RECOMMENDED BY MANUFACTURER AND INSERTED TO THE HOMING MARK ON THE SPIGOT END OF THE PIPE.

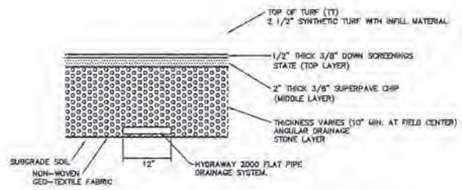
8.) MINIMUM RECOMMENDED TRENCH WIDTH SHALL BE NOT LESS THAN THE GREATER OF EITHER PIPE OUTSIDE DIAMETER PLUS 16 INCHES OR THE PIPE OUTSIDE DIAMETER TIMES 1.25, PLUS 12 INCHES AS OUTLINED HEREIN:

NOMINAL PIPE DIAMETER	MINIMUM TRENCH WIDTH
8" (200mm)	25"
10" (250mm)	28"
12" (300mm)	30"
15" (375mm)	34"
18" (450mm)	39"
24" (600mm)	48"
30" (750mm)	58"
36" (900mm)	64"
42" (1050mm)	72"
48" (1200mm)	80"
54" (1350mm)	88"
60" (1500mm)	96"



TYPICAL SECTION THROUGH FIELD AT TRACK LOCATION

(N.T.S.)



SUBSURFACE DRAINAGE IN FIELD DETAIL A-A

(N.T.S.)

H.T. # 1873
M.S.D. P# 11600-09
BASE MAP # 16-P

March 7, 2011

100% COMPLETE

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY NUMBER: 000996

STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. AND THE UNDERSIGNED ENGINEER HAVE NO RESPONSIBILITY FOR SERVICES PROVIDED BY OTHERS TO IMPLEMENT THE IMPROVEMENTS SHOWN ON THIS PLAN AND ALL OTHER DRAWINGS WHERE THE UNDERSIGNED ENGINEER'S SEAL APPEARS. THE CONSTRUCTION MEANS AND METHODS ARE THE SOLE RESPONSIBILITY OF THE OWNER AND CONTRACTOR. STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. HAS NO RESPONSIBILITY TO VERIFY FINAL IMPROVEMENTS AS SHOWN ON THIS PLAN UNLESS SPECIFICALLY ENGAGED AND AUTHORIZED TO DO SO BY THE OWNER OR CONTRACTOR.

2. 2011-03-04 - REVISED PER MSD AND COUNTY COMMENTS
1. 2011-02-21 - REVISED PER MSD AND COUNTY COMMENTS

PARKWAY NORTH HIGH SCHOOL

FIELD DETAILS

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

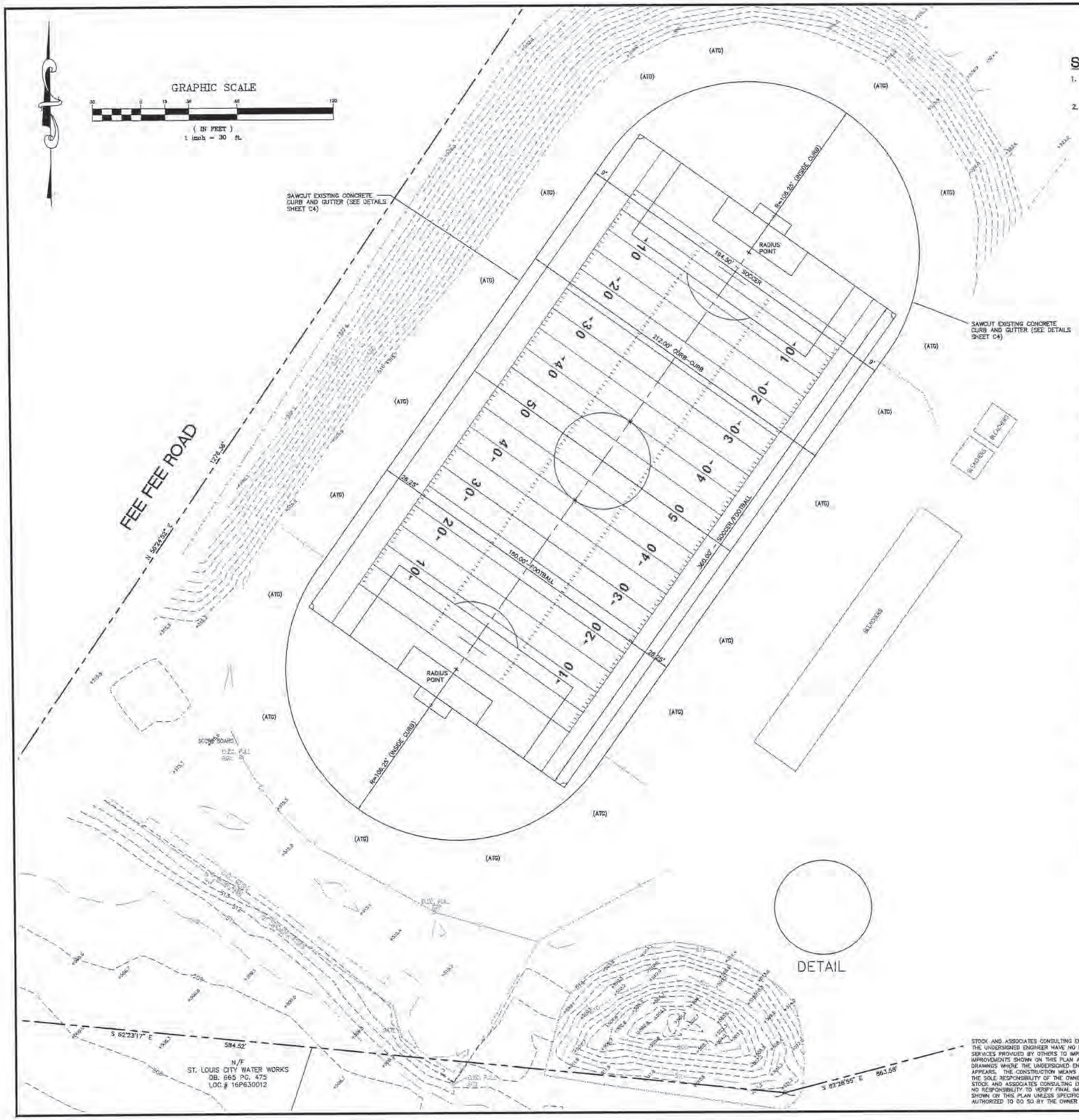
DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
T.P.S.	12/22/2010	G.M.S.	12/22/2010	210-4670	C7

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

1 inch = 30 ft.



SITE NOTES:

1. PROPOSED FOOTBALL AND SOCCER FIELD STRIPING AND GOAL POSTS PER MISSOURI STATE HIGH SCHOOL ATHLETIC ASSOCATION STANDARDS (MSHSAA).
2. PROPOSED FIELD LOGO, END ZONE LETTERING AND STRIPING COLORS TO BE COORDINATED WITH PARKWAY SCHOOL DISTRICT.

STORM SEWER NOTES

1.) ALL MEANS AND METHODS OF CONSTRUCTION FOR STORM SEWERS SHALL BE IN ACCORDANCE WITH M.S.D. "STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES", 2009.

2.) ALL CONCRETE SHALL BE REINFORCED, AND CONFORM TO A.S.T.M. DESIGNATION C76-80 CLASS III UNLESS NOTED.

3.) TYPE "C" BEDDING PER M.S.D. AND ST. LOUIS COUNTY STANDARDS IS REQUIRED FOR PIPES IN ROCK.

4.) ALL TRENCHES UNDER AREAS TO BE PAVED AND UNDER EXISTING PAVING SHALL BE GRANULARLY FILLED WITH 3/4" MINUS CRUSHED LIMESTONE ONLY. BACKFILL SHALL BE PLACED IN ACCORDANCE WITH M.S.D. AND ST. LOUIS COUNTY STANDARDS.

5.) ALL TRENCH BACKFILLS UNDER PAVEMENT WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE GRANULAR BACKFILLED. TRENCH BACKFILLS UNDER PAVED AREAS, OUTSIDE OF PUBLIC RIGHT-OF-WAY SHALL BE GRANULAR BACKFILL IN LIEU OF THE EARTH BACKFILL COMPACTED TO 90 PERCENT OF THE MODIFIED AASHTO T-180 COMPACTION TEST A.S.T.M. D-1557.

6.) JETTING IS NOT AN ACCEPTABLE METHOD OF ACHIEVING BACKFILL COMPACTION. ALL BACKFILL MATERIAL SHALL BE MECHANICALLY COMPACTED TO AT LEAST 95 PERCENT OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY.

7.) FOR SEWER PIPE (STORM, SANITARY AND COMBINED) WITH A DESIGN GRADE LESS THAN ONE PERCENT (1%), VERIFICATION OF THE PIPE GRADE WILL BE REQUIRED FOR EACH INSTALLED REACH OF SEWER, PRIOR TO ANY SURFACE RESTORATION OR INSTALLATION OF ANY SURFACE IMPROVEMENTS. THE CONTRACTOR'S FIELD SUPERVISOR WILL BE REQUIRED TO PROVIDE DAILY DOCUMENTATION VERIFYING THAT THE AS-BUILT PIPE GRADE MEETS THE DESIGN GRADE THROUGH THE SUBMITTAL OF SIGNED CUT SHEETS TO THE MSD INSPECTOR UPON REQUEST.

FIELD SURVEYED VERIFICATION MUST BE MADE UNDER THE DIRECTION OF A LICENSED LAND SURVEYOR OR REGISTERED ENGINEER. THE CONTRACTOR WILL BE REQUIRED TO REMOVE AND REPLACE ANY SEWER REACH HAVING AN AS-BUILT GRADE WHICH IS FLATTER THAN THE DESIGN GRADE BY MORE THAN 0.1%. SEWERS WITH GRADE GREATER THAN THE DESIGN SLOPE MAY BE LEFT IN PLACE, PROVIDED NO OTHER SEWER GRADE IS REDUCED BY THIS VARIANCE IN THE AS-BUILT GRADE.

MSD ALSO RESERVES THE RIGHT TO REQUIRE THE CONTRACTOR TO REMOVE AND REPLACE ANY SEWER (AT ANY TIME PRIOR TO CONSTRUCTION APPROVAL) FOR WHICH THE AS-BUILT GRADE DOES NOT COMPLY WITH THE GRADE TOLERANCE STATED IN THE ABOVE PARAGRAPH.

THE SEWER CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COSTS ASSOCIATED WITH THE FIELD VERIFICATION OF THE SEWER GRADE, OR REMOVAL AND REPLACEMENT OF THE SEWER PIPE OR ASSOCIATED APPURTENANCES.

8.) MAINTENANCE OF THE SEWERS DESIGNATED AS "PUBLIC" SHALL BE THE RESPONSIBILITY OF THE METROPOLITAN ST. LOUIS SEWER DISTRICT UPON DEDICATION OF THE SEWERS TO THE DISTRICT.

9.) STRUCTURES NOTED TO BE ADJUSTED TO FINISH GRADE SHALL BE ADJUSTED BY EITHER REMOVAL OR PLACEMENT OF GRADE RINGS, BRICK WORK, OR MORTAR BEDDING BY SUCH METHODS AS APPROVED BY M.S.D. "STANDARD CONSTRUCTION SPECIFICATIONS", 2009. AND ST. LOUIS COUNTY SPECIFICATIONS FOR STORM SEWERS.

10.) ZOILS ENGINEER WILL VERIFY THAT ALL COMPRESSIBLE MATERIAL HAS BEEN REMOVED PRIOR TO FILL PLACEMENT AND THAT ALL FILL, UNDER SANITARY AND STORM SEWER LINES CONSTRUCTED ABOVE ORIGINAL GRADE, HAS BEEN COMPACTED TO 90% OF "MODIFIED PROCTOR." FILL IS TO BE PLACED IN A MAXIMUM OF 9" LIFTS. TESTS SHALL BE TAKEN AT A MAXIMUM OF 50 FOOT INTERVALS ALONG THE ROUTE OF THE PIPE, AT A MAXIMUM OF 2 FEET VERTICALLY, AND LATERALLY ON EACH SIDE OF THE PIPE AT A DISTANCE EQUAL TO THE DEPTH OF FILL OVER THE PIPE. A COPY OF THESE RESULTS WILL BE SUBMITTED TO MSD PRIOR TO CONSTRUCTION.

GENERAL NOTES:

1.) ALL UTILITIES SHOWN HAVE BEEN LOCATED BY THE ENGINEER FROM AVAILABLE RECORDS. THEIR LOCATION SHOULD BE CONSIDERED APPROXIMATE. THE CONTRACTOR HAS THE RESPONSIBILITY TO NOTIFY ALL UTILITY COMPANIES, PRIOR TO CONSTRUCTION, TO HAVE EXISTING UTILITIES FIELD LOCATED.

2.) GRADING CONTRACTOR SHALL INSTALL SILTATION CONTROL PRIOR TO STARTING THE GRADING. ADDITIONAL SILTATION CONTROL DEVICES SHALL BE INSTALLED AS DIRECTED BY ST. LOUIS COUNTY.

3.) ALL MATERIALS AND METHODS OF CONSTRUCTION TO MEET THE CURRENT STANDARDS AND SPECIFICATIONS OF ST. LOUIS COUNTY AND THE METROPOLITAN ST. LOUIS SEWER DISTRICT (MSD).

4.) GRADING & STORM WATER PER 2009 M.S.D. STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS.

5.) ALL GRADED AREAS SHALL BE PROTECTED FROM EROSION BY EROSION CONTROL DEVICES AND/OR SEEDING AND MULCHING.

6.) ALL FILLS AND BACKFILLS SHALL BE MADE OF SELECTED EARTH MATERIALS FREE FROM BROKEN MASONRY, ROCK, FROZEN EARTH, RUBBISH, ORGANIC MATERIAL AND DEBRIS.

7.) GRADING CONTRACTOR SHALL KEEP EXISTING ROADWAYS CLEAN OF MUD AND DEBRIS AT ALL TIMES.

8.) NO GRADE SHALL EXCEED 3:1 SLOPE, EXCEPT AS NOTED AND APPROVED PER GEOTECHNICAL ENGINEER.

9.) ALL LANDSCAPE AREAS TO BE FILLED WITH A MINIMUM OF 6" OF TOPSOIL.

10.) ALL LANDSCAPED AREAS DISTURBED BY OFF-SITE WORK SHALL BE IMMEDIATELY SEEDED OR SODDED.

11.) ADEQUATE TEMPORARY OFF-STREET PARKING FOR CONSTRUCTION EMPLOYEES SHALL BE PROVIDED. PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEES' VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVEWAY CONDITIONS

12.) ALL PUBLIC SEWER CONSTRUCTION MUST CONFORM TO 2009 M.S.D. "STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS"

13.) THE UNDERGROUND UTILITIES SHOWN HEREIN WERE PLOTTED FROM SURVEY AND AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UTILITIES, SHOWN OR NOT SHOWN, AND SAID UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMO.

14.) CLEARING TECHNIQUES THAT RETAIN EXISTING VEGETATION TO THE MAXIMUM EXTENT PRACTICABLE SHALL BE USED AND THE TIME PERIOD FOR DISTURBED AREAS TO BE WITHOUT VEGETATIVE COVER SHALL BE MINIMIZED TO THE EXTENT PRACTICAL.

15.) THE DEVELOPER IS ADVISED THAT UTILITY COMPANIES WILL REQUIRE COMPENSATION FOR RELOCATION OF THEIR UTILITY FACILITIES WITHIN PUBLIC ROAD RIGHT-OF-WAY. UTILITY RELOCATION COST SHALL BE CONSIDERED THE DEVELOPER'S RESPONSIBILITY.

16.) THE DEVELOPER SHOULD ALSO BE AWARE OF EXTENSIVE DELAYS IN UTILITY COMPANY RELOCATION AND ADJUSTMENTS. SUCH DELAYS WILL NOT CONSTITUTE A CAUSE TO ALLOW OCCUPANCY PRIOR TO COMPLETION OF IMPROVEMENTS.

17.) AREAS SHALL BE SEEDED AFTER CLEARING AND GRUBBING WHEN NO ACTIVITY WILL OCCUR WITHIN THIRTY (30) DAYS.

18.) ALL OFFSITE PROPERTY OWNERS SHALL BE GIVEN 48 HOURS NOTICE IN ADVANCE OF ANY WORK.

19.) ANY DISTURBED OFF SITE PROPERTY (i.e. BUSHES, FENCES, MAILBOXES, etc.) SHALL BE REPLACED IN KIND, AT THE DEVELOPER'S EXPENSE.

20.) ALL PROPOSED UTILITIES TO BE LOCATED UNDERGROUND.

21.) ALL SIDEWALKS TO BE CONSTRUCTED TO ST. LOUIS COUNTY ADA STANDARDS.

22.) DRIVEWAYS AND ENTRANCES PER ST. LOUIS COUNTY STANDARDS.

23.) SITE SIGNAGE SHALL COMPLY WITH ST. LOUIS COUNTY SIGN ORDINANCE.

24.) STORMWATER SHALL BE DISCHARGED AT AN ADEQUATE NATURAL DISCHARGE POINT. SINKHOLES ARE NOT ADEQUATE NATURAL DISCHARGE POINTS.

25.) IT IS NOT WARRANTED THAT THIS PLAT CONTAINS COMPLETE INFORMATION REGARDING EASEMENTS, RESERVATIONS, RESTRICTIONS, RIGHTS-OF-WAY, BUILDING LINES, AND OTHER ENCUMBRANCES. FOR COMPLETE INFORMATION, A TITLE OPINION OR COMMITMENT FOR TITLE INSURANCE SHOULD BE OBTAINED.

26.) THIS PLAN IS SUBJECT TO ALL LOCAL, STATE AND FEDERAL REGULATIONS. THERE HAS BEEN NO WETLAND DELINEATION, GEOTECHNICAL INVESTIGATION OR ENVIRONMENTAL DATA PROVIDED TO THIS ENGINEER PRIOR TO DESIGNING THIS PLAN.

27.) FOOTBALL AND SOCCER FIELD STRIPING PER MISSOURI STATE HIGH SCHOOL ATHLETIC ASSOCATIONS REGULATIONS.

28.) SOCCER FIELD STRIPING TO BE HELD MINIMUM OF 9 FEET FROM EDGE OF INNER CURBERS INSIDE OF RUNNING TRACK.

29.) INTERNAL (PRIVATE) STORM SEWERS WILL REQUIRE A SEPARATE DRAINLAYER PERMIT FROM ST. LOUIS COUNTY DEPARTMENT OF PUBLIC WORKS.

30.) TRUCKS SHALL NOT EXCEED POSTED WEIGHT LIMITS FOR ST. LOUIS COUNTY BRIDGES DURING HAUL OPERATIONS.

31.) SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASHDOWN STATION PRIOR TO LEAVING SITE. NO TRACKING OF MUD ONTO COUNTY ROADS SHALL BE ALLOWED.

32.) EXISTING INFORMATION SHOWN ON THE PLANS IS A COMBINATION OF RECORD DRAWINGS PROVIDED BY PARKWAY AND AN ACTUAL FIELD SURVEY PERFORMED BY STOCK AND ASSOCIATES. THE TOPOGRAPHIC SURVEY PROVIDED GROUND ELEVATIONS AND LOCATIONS OF EXISTING (VISIBLE) IMPROVEMENTS. RECORD DRAWINGS WERE USED TO SHOW UNDERGROUND UTILITIES AND DRAINAGE SYSTEMS THAT COULD NOT BE VERIFIED FROM THE SURFACE. CONTRACTOR SHOULD USE CAUTION DURING CONSTRUCTION AND REPORT ANY FINDINGS THAT ARE NOT SHOWN ON THE PLAN TO THE ENGINEER IMEDIATELY.

33.) NO GRADING SHALL OCCER ON THE SITE UNTIL A GRADING PERMIT IS ISSUED.

STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. AND THE UNDERSIGNED ENGINEER HAVE NO RESPONSIBILITY FOR SERVICES PROVIDED BY OTHERS TO IMPLEMENT THE IMPROVEMENTS SHOWN ON THIS PLAN AND ALL OTHER DRAWINGS WHERE THE UNDERSIGNED ENGINEER'S SEAL APPEARS. THE CONSTRUCTION MEANS AND METHODS ARE THE SOLE RESPONSIBILITY OF THE OWNER AND CONTRACTOR. STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. HAS NO RESPONSIBILITY TO VERIFY FINAL IMPROVEMENTS AS SHOWN ON THIS PLAN UNLESS SPECIFICALLY ENGAGED AND AUTHORIZED TO DO SO BY THE OWNER OR CONTRACTOR.

H.T. # 1873

M.S.D. P# 11600-09

BASE MAP # 16-P

March 7, 2011

100% COMPLETE

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

2. 2011-03-04 - REVISED PER MSD AND COUNTY COMMENTS
1. 2011-02-21 - REVISED PER MSD AND COUNTY COMMENTS

PARKWAY NORTH HIGH SCHOOL

SITE GEOMETRICS / SPECIFICATIONS

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

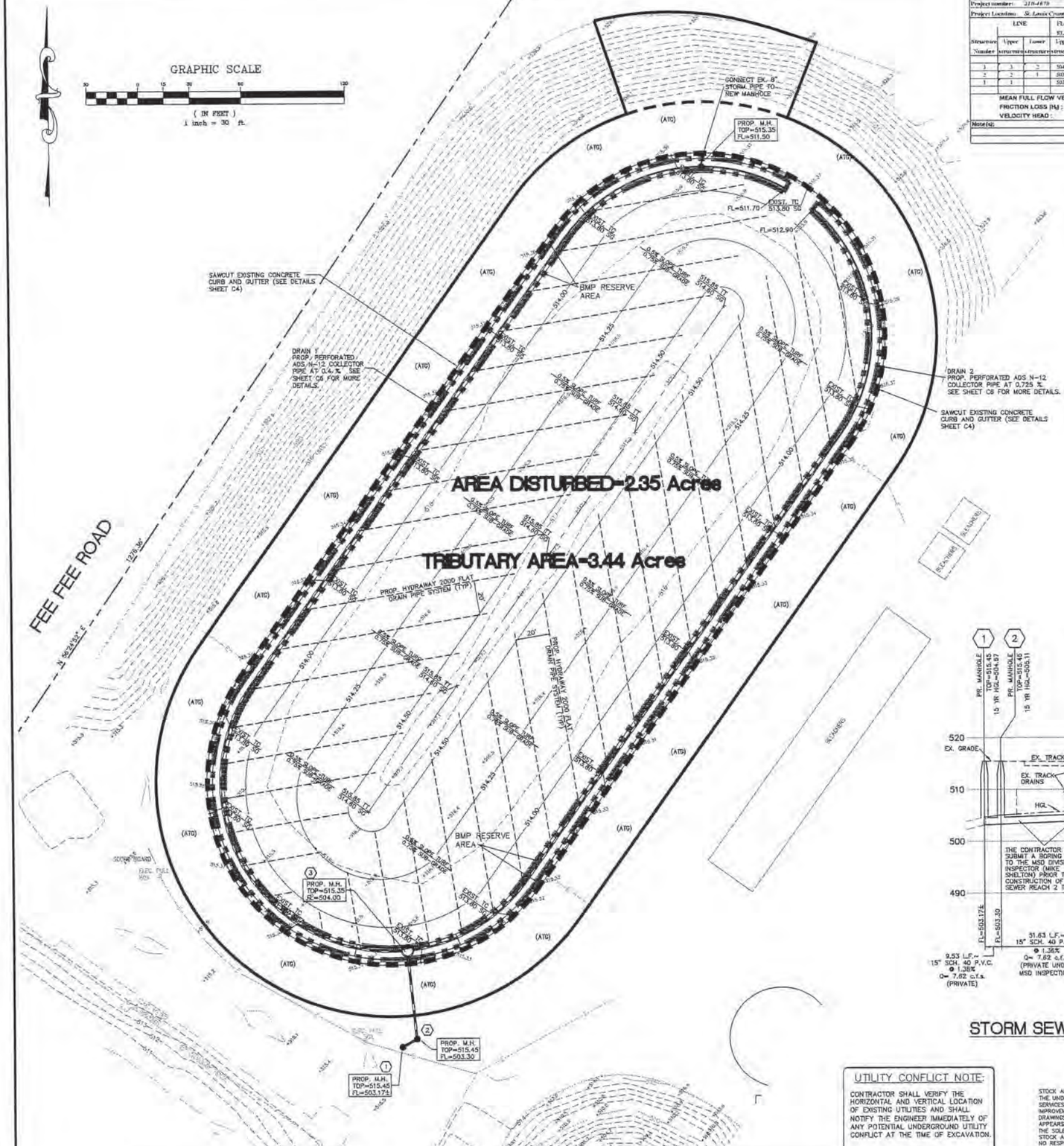
DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
T.P.S.	12/22/2010	G.M.S.	12/22/2010	210-4670	C8

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

1 inch = 30 ft.



Project name:	Parkway North High School	Calculated By:	E.J.F.
Project number:	210-4670	Checked By:	G.M.S.
Project Location:	St. Louis County, Missouri	Date:	2/18/2011

- 15 year - 20 minute Rational Coefficient:

5° = 0.06	20° = 0.24	35° = 0.4	50° = 0.59	65° = 0.77	80° = 0.85
10° = 0.11	25° = 0.30	40° = 0.45	55° = 0.52	70° = 0.60	85° = 0.87
15° = 0.18	30° = 0.35	45° = 0.42	60° = 0.55	75° = 0.63	90° = 0.89

Structure Number	LINE Upper Structure	LINE Lower Structure	FLOW LINE ELEVATIONS Upper Structure	FLOW LINE ELEVATIONS Lower Structure	Length (ft)	Flowline Grade S/S	Pipe Size (in.)	Full Flow Cap. (cfs)	Total (Q) (cfs)	Mean Full Flow Vel.(V) (ft/s)	Bend Coef.	Curve Coef.	Velocity Head (V_h) (ft)	QVh (ft^3/s)	Pipe Coef. (n)	HEAD LOSS Ht (ft)	Junction (ft)	Bend (ft)	Curve (ft)	Total H_{tot}	Hydraulic Elevations Upper H.G. + H_{tot}	Lower H.G. +Ht	Lower H.G.	Structure Upper H.E. + H_{tot}	TOP Structure Elevation	Free Board	Structure Number
3	3	2	504.00	503.30	51.63	0.0136	15	8.91	7.62	6.21	0.00	0.00	0.60	4.56	0.011	0.51	0.60	0.00	0.00	0.60	505.75	503.63	505.11	506.22	515.35	9.13	3
2	2	1	503.30	503.17	4.53	0.0139	15	8.94	7.62	6.21	9.59	0.00	0.60	4.56	0.011	0.09	0.06	0.35	0.00	0.35	504.15	504.76	504.67	505.11	515.45	10.34	2
1			503.17																					ASSUME TOP OF PIPE	506.67		1

MEAN FULL FLOW VELOCITY = Q_{act}/A_{pipe}

FRICTION LOSS (H_f) : $Hf = 2.87\ n^2\ (L/V_f)(d^{-1.33})$

VELOCITY HEAD : $V_h = V^2/2g$

JUNCTION LOSSES (JUNC.) = $[Q_{out}V_{hout} - Sum\ (Q_{in}V_{in})]/[x1.33/(Q_{out})]$

BEND LOSSES (BEND) = (V^2) * ANGLE COEFFICIENT

CURVE LOSS=V_h*CURVE COEFFICIENT

Note(s):

Note: 1. IF MORE THAN ONE INCOMING LINE, CALC. EACH BEND LOSS AND ADD TOGETHER.
2. NO STRUCTURE LOSES TO BE CALCULATED AT A DROP
3. IF $QV_{INSIDE} > QV_{OUTSIDE}$, NO JUNCTION LOSES TO BE CALCULATED.

Revisions:

Stormwater Management Tracking Data

Project #	App. Date	Comments	Add. Imp. Area (Acres)	Dist. Runoff	Op Provided (Y/N)	Dist. Area (Acres)	WQv Provided (Y/N)	CPv Provided (Y/N)
P-1190C40	9/6/1980	Parkway North Sr. High School						
-31	7/31/1985	Parkway North Sr. High School						
-32	10/16/1991	Parkway North Sr. High School						
-33		Dead 02/05/2000						
-34	6/2/2000	Parkway North Sr. High School New Athletic Field/Detention Basin	0.03	0.00	Y			
-35	8/30/2000							
-36	3/30/2001	Challenge Course	0.30	0.00	N			
-37	9/18/2004	Parkway North Sr. High School						
-38	3/17/2010	Parkway North Sr. High School						
-39		Synthetic Turf Field	0.00	0.09	N	2.39	Y	Y
-10	7/18/2011	Sanitary Sewer Replacement	0.00	0.00	N	0.04	N	N
Cumulative Increase in Runoff since January 2000				0.09				
Cumulative Disturbance since October 2006						2.39		

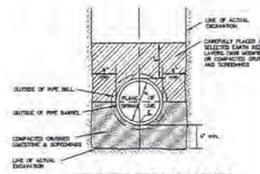
LIMITS OF DISTURBANCE:
THE CONTRACTOR SHALL STAY WITHIN THE LIMITS OF DISTURBANCE AS SHOWN ON THE PLANS AND MINIMIZE DISTURBANCE WITHIN THE WORK AREA WHEREVER POSSIBLE.

STORMWATER MANAGEMENT – WATER QUALITY NOTE
LAND AREA DISTURBED = 2.35 Ac.
LAND AREA TRIBUTARY TO SAND FILTER = 3.44 Ac.
PREVIOUSLY UNTREATED AREA FOR FUTURE CREDIT = 0.96 Ac. @ 100 IMPERVIOUS (TRACK) AND 0.13 Ac. @ 5% IMPERVIOUS (GRASS)

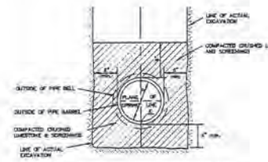
ANY FUTURE LAND DISTURBANCE AND/OR INCREASE IN IMPERVIOUS AREA ON THIS SITE MAY REQUIRE ADDITIONAL STORM WATER MANAGEMENT PER MSD REGULATIONS IN PLACE AT THAT TIME, (INCLUDING TOTAL LAND DISTURBANCE OR IMPERVIOUSNESS ADDED ON THIS PLAN, P-11600-09)

BMP/STORM WATER CREDIT SUMMARY TABLE

Area	Acres	Description of Area	BMP	Stormwater Credit	WQv Reduction Type II of 3 Types	WQv Required (Cu. Ft.)	WQv Provided (Cu. Ft.)
1	3.44	SYNTHETIC TURF & TRACK	SAND FILTER	-	654	4,289	4,289
Total	3.44						



PIPE BEDDING CLASS "C"
(MODIFIED FOR REINFORCED CONCRETE PIPE)



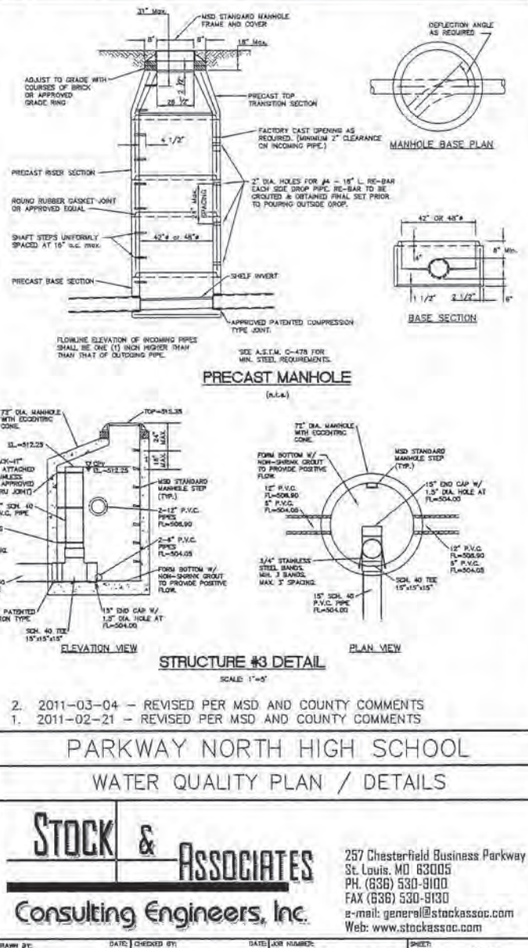
PIPE BEDDING CLASS "C"
(FOR ALL PIPE EXCEPT REINFORCED CONCRETE PIPE)

PIPE BEDDING DETAILS
(n.t.s.)

STORM SEWER PROFILE
SCALE: 1"=30' H
1"=10' V

ENGINEER APPROVED SHOP DRAWINGS WITH SIGNED AND SEALED HGL OR CALCULATIONS MUST BE SUBMITTED TO MSD FOR REVIEW PRIOR TO THE CONSTRUCTION OF STRUCTURE #3. MSD CONTACT: MIKE SHELTON (314) 768-6367.

LINETYPE LEGEND
EXISTING GRADE
PROPOSED GRADE
15 YR HYDRAULIC GRADE
PROPOSED PAVEMENT
GRANULAR BACKFILL
COMPACTED FILL



PRECAST MANHOLE
(n.t.s.)

STRUCTURE #3 DETAIL
SCALE: 1"=5'

UTILITY CONFLICT NOTE:
CONTRACTOR SHALL VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF EXISTING UTILITIES AND SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY POTENTIAL UNDERGROUND UTILITY CONFLICT AT THE TIME OF EXCAVATION.

STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. AND THE UNDERSIGNED ENGINEER HAVE NO RESPONSIBILITY FOR SERVICES PROVIDED BY OTHERS TO IMPLEMENT THE IMPROVEMENTS SHOWN ON THIS PLAN AND ALL OTHER DRAWINGS WHERE THE UNDERSIGNED ENGINEER'S SEAL APPEARS. THE CONSTRUCTION MEANS AND METHODS ARE THE SOLE RESPONSIBILITY OF THE OWNER AND CONTRACTOR. STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. HAS NO RESPONSIBILITY TO VERIFY FINAL IMPROVEMENTS AS SHOWN ON THIS PLAN UNLESS SPECIFICALLY ENGAGED AND AUTHORIZED TO DO SO BY THE OWNER OR CONTRACTOR.

H.T. # 1873
M.S.D. P# 11600-09
BASE MAP # 16-P
March 7, 2011
100% COMPLETE

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY NUMBER: 000996

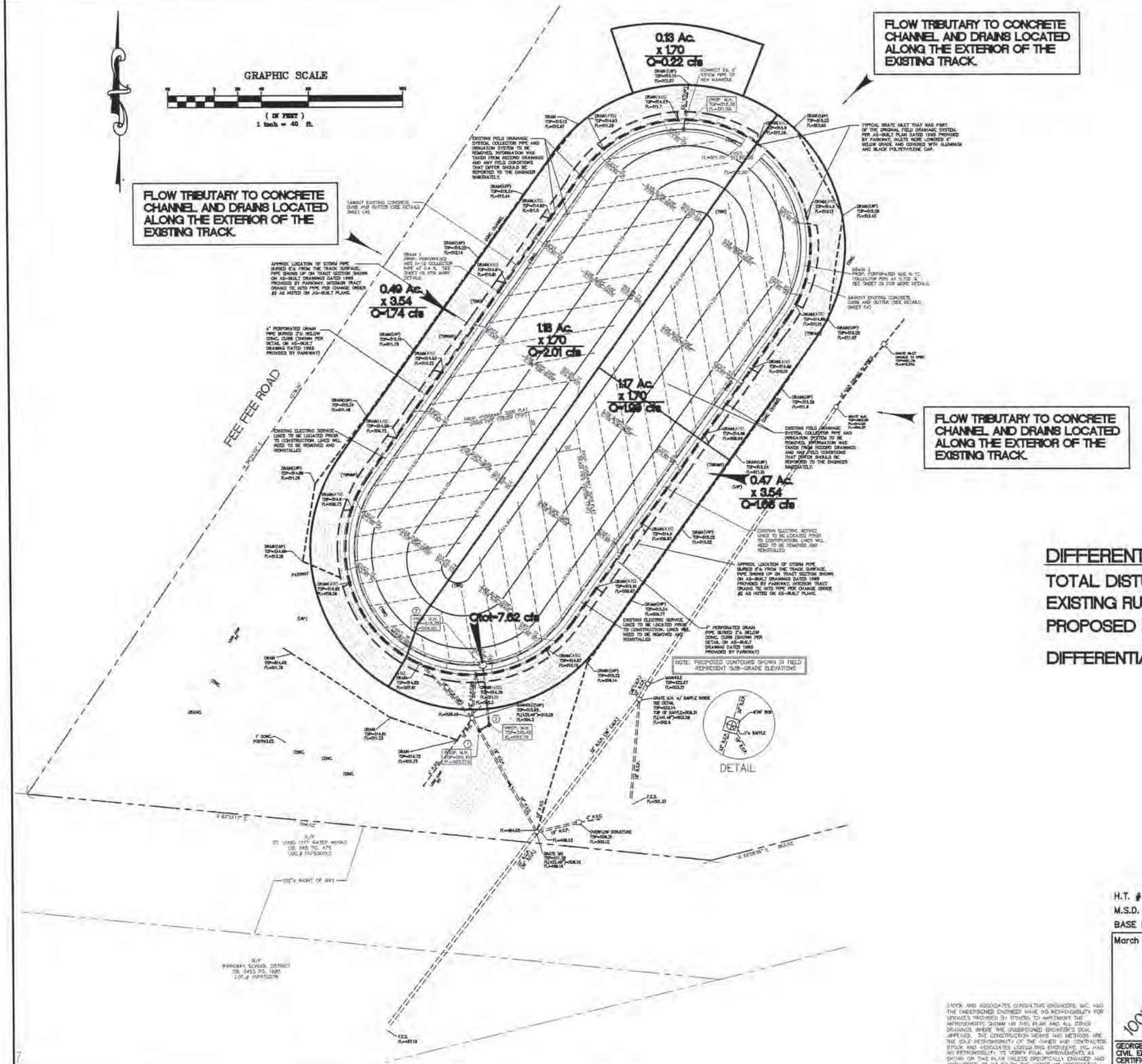
2. 2011-03-04 – REVISED PER MSD AND COUNTY COMMENTS
1. 2011-02-21 – REVISED PER MSD AND COUNTY COMMENTS

PARKWAY NORTH HIGH SCHOOL

WATER QUALITY PLAN / DETAILS

STOCK & ASSOCIATES Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
T.P.S.	12/22/2010	G.M.S.	12/22/2010	210-4670	C9



DIFFERENTIAL RUNOFF CALCULATIONS:

TOTAL DISTURBED AREA	= 2.35 Acres ±
EXISTING RUNOFF	= 2.35 Ac. x 1.70 = 4.00 cfs
PROPOSED RUNOFF	= 2.35 Ac. x 1.70 = 4.00 cfs
DIFFERENTIAL	= 4.00 - 4.00 = 0 cfs

FOR DRAINAGE AREAS ONLY
NOT FOR CONSTRUCTION

H.T. # 1873
M.S.D. P# 11600-09
BASE MAP # 16-P

March 7, 2011

100% COMPLETE

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY NUMBER: 000996

STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. AND THE UNDERSIGNED ENGINEER HAVE NO RESPONSIBILITY FOR SERVICES PROVIDED BY OTHERS TO IMPLEMENT THE IMPROVEMENTS SHOWN ON THIS PLAN AND ALL OTHER DRAWINGS. WHERE THE UNDERSIGNED ENGINEER'S SEAL APPEARS, THE CONSTRUCTION MEANS AND METHODS ARE THE SOLE RESPONSIBILITY OF THE OWNER AND CONTRACTOR. STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. HAS NO RESPONSIBILITY TO VERIFY FINAL IMPROVEMENTS AS SHOWN ON THIS PLAN UNLESS SPECIFICALLY ENGAGED AND AUTHORIZED TO DO SO BY THE OWNER OR CONTRACTOR.

2. 2011-03-04 – REVISED PER MSD AND COUNTY COMMENTS
1. 2011-02-21 – REVISED PER MSD AND COUNTY COMMENTS

PARKWAY NORTH HIGH SCHOOL

DRAINAGE AREA MAP

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY	DATE	CHECKED BY	DATE	JOB NUMBER	SHEET
T.P.S.	12/22/2010	G.M.S.	12/22/2010	210-4670	C10

EXHIBIT-U

SOUTH HIGH

BMP ORIGINAL PROJECT INFORMATION

PARKWAY SOUTH HIGH SCHOOL

A TRACT OF LAND BEING PART OF HAUHART HOME PLACE SUBDIVISION
BEING OF LOTS 17,18 & 23 AND PARTS OF LOTS 19 & 20 & CANARY DRIVE VACATED PART
LOCATED IN SECTION 1, TOWNSHIP 44 NORTH, RANGE 5 EAST
CITY OF MANCHESTER, ST. LOUIS COUNTY, MISSOURI

PARKWAY SCHOOL DISTRICT

455 North Woods Mill Road Chesterfield, Missouri 63017 (314) 415-8100 (314) 415-8207 Fax

SYNTHETIC TURF FIELD IMPROVEMENTS

INDEX

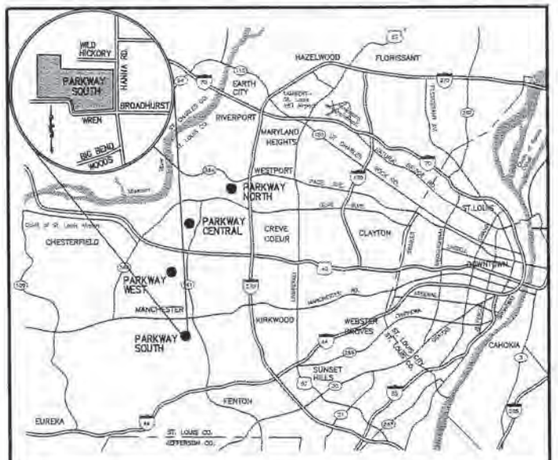
C1	TITLE SHEET
C2	EXISTING CONDITIONS/DEMO/SWPPP
C3	SWPPP DETAILS
C4	SWPPP DETAILS
C5	SITE AND GRADING PLAN
C6	FIELD DETAILS SHEET
C7	SITE GEOMETRIC PLAN / SPECIFICATIONS
C8	STORM SEWER PROFILES/DETAILS/HYDRAULICS
C9	WATER QUALITY DETAILS
C10	BMP PLANTING PLAN
C11	DRAINAGE AREA MAP

LEGEND

ELECTRIC MANHOLE
EXISTING SANITARY SEWER
EXISTING STORM SEWER
EXISTING TREE
EXISTING BUILDING
EXISTING CONTOUR
SPOT ELEVATION
EXISTING UTILITIES — G — W — T — E —
PROPOSED CONTOUR 530
PROPOSED SPOT 530.50
PROPOSED STORM SEWER
PROPOSED SANITARY SEWER SS
FIRE HYDRANT
LIGHT STANDARD
BUSH
SIGN
NOTES PARKING SPACES (18)
GUY WIRE
POWER POLE
WATER MANHOLE (W)
WATER VALVE
DENOTES RECORD INFORMATION ( )
HANDICAPPED PARKING
PHONE MANHOLE (P)
OVERHEAD ELECTRIC OE
UNDERGROUND TELEPHONE UT
CONCRETE CONC
ASPHALT ASPH
POLYVINYL CHLORIDE PVC
DENOTES WITH W/
TRANSFORMER T
SANITARY SAN
SWALE
CHAIN-LINK FENCE
TRAFFIC FLOW
SAWCUT
FLOODWAY

ABBREVIATIONS

W	– WATER	DB	– DEED BOOK
E	– ELECTRIC	PB	– PLAT BOOK
OE	– OVERHEAD ELECTRIC	PG	– PAGE
UW	– UNDERGROUND ELECTRIC	(__'W)	– RIGHT-OF-WAY WIDTH
G	– GAS	(REC)	– RECORD INFORMATION
T	– TELEPHONE	FT	– FEET
TBR	– TO BE REMOVED	N/F	– NOW OR FORMERLY
TBR & R	– TO BE REMOVED AND REPLACED	FND	– FOUND
UIP	– USE IN PLACE	SQ	– SQUARE
TBA	– TO BE ADJUSTED	CO	– CLEANOUT
BC	– BACK OF CURB	MH	– MANHOLE
FC	– FACE OF CURB	AI	– AREA INLET
TW	– TOP OF WALL	CI	– CURB INLET
BW	– BOTTOM OF WALL	GI	– GRATE INLET
PVMT	– PAVEMENT	YD	– YARD DRAIN
ASPH	– ASPHALT	PVC	– POLYVINYL CHLORIDE PIPE
CONC	– CONCRETE	RCP	– REINFORCED CONCRETE PIPE
GRND	– GROUND	CMP	– CORRUGATED METAL PIPE
FG	– FINISHED GRADE	VCP	– CLAY PIPE
FF	– FINISHED FLOOR	FL	– FLOWLINE
LL	– LOWER LEVEL	TS	– TAILSTAKE
TT	– TOP OF TURF	ELEV, EL	– ELEVATION
TC	– TOP OF CURB	PROP, PR	– PROPOSED
SG	– SUBGRADE	EXIST, EX	– EXISTING
		TYP	– TYPICAL



LOCATION MAP
(NOT TO SCALE)

SITE INFORMATION

OWNER = PARKWAY SCHOOL DISTRICT
SITE ADDRESS = 801 HANNA ROAD
MANCHESTER, MISSOURI 63021
LOCATOR NUMBER = 24Q43-0171
EXISTING ZONING = "R-3" RESIDENTIAL
SETBACKS:
FRONT YARD SETBACK = 20 FEET
SIDE YARD SETBACK = 8 FEET
REAR YARD SETBACK = 15 FEET
FIRE DISTRICT = WEST COUNTY EMS
SCHOOL DISTRICT = PARKWAY
SEWER DISTRICT = METROPOLITAN ST. LOUIS SEWER DIST.
WATER SERVICE = MISSOURI AMERICAN WATER
GAS SERVICE = LACLEDE GAS
ELECTRIC SERVICE = AMEREN UE
PHONE SERVICE = SBC/AT&T
FLOOD MAPS = 29189C0259H
WATERSHED = FISHPOT CREEK
WUNNENBERG'S NO. = PG. 33, GRID AA-25

MISSOURI DEPT. OF NATURAL RESOURCES

PERMIT NO. – MO-R10D712
EXPIRATION DATE: FEBRUARY 7, 2012

UTILITY NOTE

UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, RECORDS AND INFORMATION, AND , THEREFORE DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NON-EXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE FACILITIES, STRUCTURES AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS. THE UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319 RSMo..

UTILITY CONTACTS:

CHARTER COMMUNICATION
941 CHARTER COMMONS
TOWN & COUNTRY, MO 63017
ATTN: SARA BISHOP
PHONE: 636.387.8633

AMEREN UE
12121 DORSETT ROAD
MARYLAND HEIGHTS, MO 63043
ATTN: RANDY HUNT
PHONE: 314.344.9504

LACLEDE GAS COMPANY
3950 FOREST PARK AVENUE
ST. LOUIS, MO 63108
ATTN: KELI KRAMER
PHONE: 314.342.0678

AT&T TELEPHONE COMPANY
14780 MANCHESTER ROAD
BALLWIN, MO 63011
ATTN: MARK ADAMS
PHONE: 636.256.1514

MO. AMERICAN WATER COMPANY
727 CRAIG ROAD
ST. LOUIS, MO 63141
ATTN: MARIANN KLEMME
PHONE: 314.569.3972

SITE BENCHMARK

#1
ELEV.=510.27
"CUT CROSS" ON SIDEWALK BETWEEN RUNNING TRACK AND BLEACHERS LOCATED APPROXIMATELY AT 50-YARD LINE OF FIELD.

ST. LOUIS COUNTY BENCHMARK

#17-68
ELEV.=494.87
"L" ON THE NORTH EDGE OF THE CONCRETE DRIVEWAY TO HOUSE #1301 WESTBROOKE LANE, 38' WEST OF THE CENTERLINE OF WESTBROOKE MEADOWS LANE AND 70' SOUTH OF THE CENTERLINE OF BIG BEND ROAD.

UTILITY LOCATES

MISSOURI ONE-CALL
1 800 344-7483
CITY OF MANCHESTER
PUBLIC WORKS
(636) 227-1385

PERMITTEE NOTE:

THE PERMITTEE SHALL ASSUME COMPLETE RESPONSIBILITY FOR CONTROLLING ALL SILTATION AND EROSION OF THE PROJECT AREA. THE PERMITTEE SHALL USE WHATEVER MEANS NECESSARY TO CONTROL EROSION AND SILTATION INCLUDING, BUT NOT LIMITED TO, STAKED STRAW BALES AND/OR SILTATION FABRIC FENCES (POSSIBLE METHODS OF CONTROL ARE DETAILED IN THE PLAN). CONTROL SHALL COMMENCE WITH GRADING AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY THE CITY OF MANCHESTER AND MISSOURI DEPARTMENT OF TRANSPORTATION AS NECESSARY. THE PERMITTEE'S RESPONSIBILITIES INCLUDE ALL DESIGN AND IMPLEMENTATION AS REQUIRED TO PREVENT EROSION AND THE DEPOSITING OF SILT. THE CITY OF MANCHESTER AND AS REQUIRED BY (STLCO) MAY AT THEIR OPTION DIRECT THE PERMITTEE IN HIS METHODS AS DEEMED FIT TO PROTECT PROPERTY AND IMPROVEMENTS. ANY DEPOSITING OF SILT OR MUD ON NEW OR EXISTING PAVEMENT SHALL BE REMOVED IMMEDIATELY. ANY DEPOSITING OF SILT OR MUD IN NEW OR EXISTING STORM SEWERS OR SWALES SHALL BE REMOVED AFTER EACH RAIN AND AFFECTED AREAS CLEANED TO THE SATISFACTION OF THE CITY OF MANCHESTER AND AS REQUIRED BY (STLCO).

OWNER NOTE:

ONCE THE CONTRACTOR DELIVERS THE PROPERTY TO THE OWNER, THE OWNER SHALL BE RESPONSIBLE TO MAINTAIN ANY CONTROL MEASURE THAT IS TO REMAIN AS A PERMANENT STRUCTURE TO CONTROL SILTATION AND EROSION.

CONTRACTOR'S INSURANCE REQUIREMENTS

PRIOR TO OBTAINING A CONSTRUCTION PERMIT FROM THE METROPOLITAN ST. LOUIS SEWER DISTRICT, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE THE DISTRICT WITH A COPY OF AN EXECUTED CERTIFICATE OF INSURANCE INDICATING THAT THE PERMITTEE HAS OBTAINED AND WILL CONTINUE TO CARRY COMMERCIAL GENERAL LIABILITY AND COMPREHENSIVE AUTO LIABILITY INSURANCE. THE REQUIREMENTS AND LIMITS SHALL BE AS STATED IN THE "RULES AND REGULATIONS AND ENGINEERING DESIGN REQUIREMENTS FOR SANITARY AND STORMWATER DRAINAGE FACILITY", SECTION 10.090 (ADDENDUM).

OWNER

PARKWAY SCHOOL DISTRICT
455 N. WOODS MILL ROAD
CHESTERFIELD, MISSOURI 63017
CONTACT: J. SCOTT BENNETT P.E.
PH: (314) 415-8231

PREPARED FOR:

ATG SPORTS
C/O DON BOLINGER, PRESIDENT
1349 MCNUTT ROAD, SUITE D
HERCULANEUM, MO 63048
PHONE: (636) 524-8135
FAX: (636) 933-4994

MISSOURI ONE CALL SYSTEM INC
STOP CALL BEFORE YOU DIG

STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. AND THE UNDERSIGNED ENGINEER HAVE NO RESPONSIBILITY FOR SERVICES PROVIDED BY OTHERS TO IMPLEMENT THE IMPROVEMENTS SHOWN ON THIS PLAN AND ALL OTHER DRAWINGS WHERE THE UNDERSIGNED ENGINEER'S SEAL APPEARS. THE CONSTRUCTION MEANS AND METHODS ARE THE SOLE RESPONSIBILITY OF THE OWNER AND CONTRACTOR. STOCK AND ASSOCIATES CONSULTING ENGINEERS, INC. HAS NO RESPONSIBILITY TO VERIFY FINAL IMPROVEMENTS AS SHOWN ON THIS PLAN UNLESS SPECIFICALLY ENGAGED AND AUTHORIZED TO DO SO BY THE OWNER OR CONTRACTOR.

S.U.P. # 12-295-A1
H.& T. # 1872
M.S.D. P# 11236-15
BASE MAP # 24-Q
MAR. 7, 2011
100% COMPLETE

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

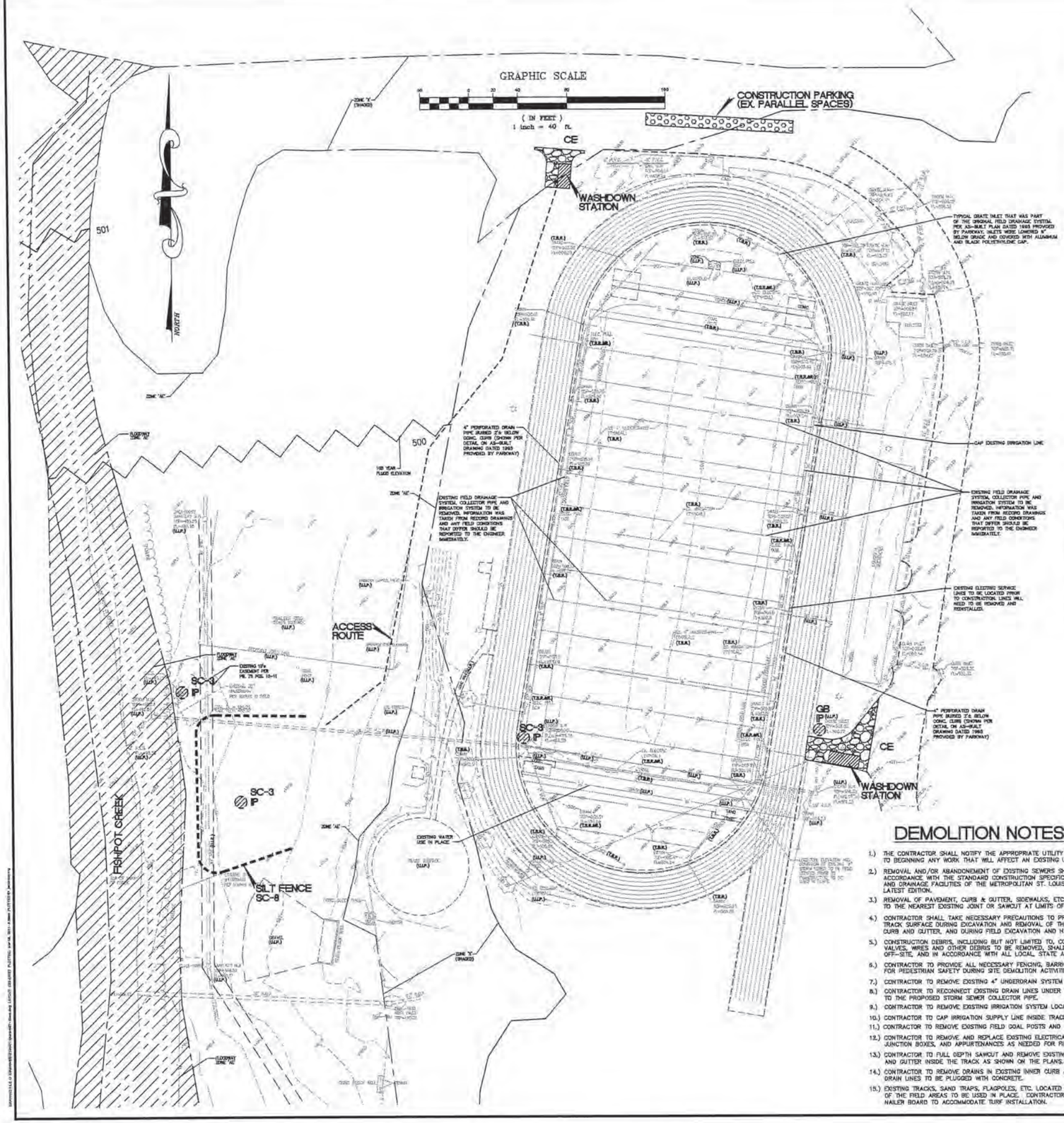
2 2011-03-07 REVISED PER MSD, COUNTY COMMENTS
1 2011-02-21 REVISED PER MSD, COUNTY COMMENTS

PARKWAY SOUTH HIGH SCHOOL
TITLE SHEET

STOCK & ASSOCIATES
Consulting Engineers, Inc.

257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY	DATE	CHECKED BY	DATE	JOB NUMBER	SHEET
J.M.B.	12/17/10	G.M.S.	12/22/10	210-4671	C1 of 11



HAUL ROUTE

Trucks: = Tandem
Loads Per Day: = 60 loads/day
Days of Operation: = 11 days
Quantity of material = 6,250 c.y. (Excavated material)
Weight: 54,000 lbs.
Destination: Fred Weber Quarry, Maryland Heights

Total mileage = 14.0 miles (one way)
Total mileage on County Streets = 5.2 miles

Route:

1. START SOUTH ON HANNA ROAD TOWARDS BIG BEND ROAD.
2. TURN LEFT ON BIG BEND ROAD.
3. MERGE NORTH ON TO HIGHWAY 141 NORTH.
4. TAKE MO-141 NORTH TO OLIVE BLVD.
5. TURN RIGHT ON TO OLIVE BLVD.
6. TURN LEFT ON TO FEE FEE ROAD.
7. TURN LEFT ON TO BENNINGTON PLACE DR.
8. MERGE WEST ON TO HIGHWAY 364 (PAGE AVE.).
9. EXIT HIGHWAY 364 ON TO MARYLAND HEIGHTS EXPRESSWAY.
9. TURN RIGHT ONTO RIVERPORT DRIVE.
10. END AT FRED WEBER QUARRY/LAND FILL.

Note: Trucks shall not exceed posted weight limits for St. Louis County bridge during haul operations.

LEGEND

FLOODWAY

SILTATION CONTROL LEGEND

- IP — INLET PROTECTION
- SILT FENCE
- CONSTRUCTION ENTRANCE
- CONSTRUCTION WASHDOWN AREA
- CONSTRUCTION PARKING

BMP QUANTITIES
(APPROX.--CONTRACTOR SHALL VERIFY)

TYPE	BMP	QUANTITY	10% SURPLUS	TOTAL	UNIT
CONSTRUCTION ENTRANCE	TC-1	2	-	2	EACH
WASHDOWN STATION	TC-4	2	-	2	EACH
INLET PROTECTION	SC-3	3	-	3	EACH
INLET PROTECTION	GB	1	-	1	EACH
SILT FENCE	SC-8	285	30	315	FOOT

B.M.P. INSTALLATION AND CONSTRUCTION SEQUENCE

1. Install construction road & washdown station. (March 2011)
2. Excavate and haul off field and BMP spoils. (March 2011)
3. Construction of turf field and underdrain system. (April 2011)
4. Seeding/mulching of disturbed areas (April 2011)
5. All on going maintenance & inspection shall be in accordance w/ City of Manchester.

(Timelines are approximate & to be verified by Contractor, School District & City)

EXISTING SITE RESOURCES SUMMARY TABLE

NATURAL RESOURCE	PRESENCE?	ADDITIONAL INFORMATION
WETLANDS	NO	NONE IDENTIFIED ON SITE.
STREAMS AND FLOODPLAIN	YES	FISHPOT CREEK. 100-YEAR FLOODPLAIN LOCATED ON SITE. LIMITS SHOWN ON PLAN. EXCAVATION FOR BMP BELOW EXISTING FLOODPLAIN
KARST	NO	NOT IDENTIFIED ON SITE.
PONDS	NO	NONE IDENTIFIED ON SITE.

EXISTING SITE CONSISTS OF NATURAL GRASS FLOODPLAIN AND EXISTING ATHLETIC FIELD OUTSIDE FLOODPLAIN LIMITS

TOTAL AREA : 3.62 Ac.

TOTAL AREA DISTURBED BY GRADING: 2.58 Ac±

EXISTING SITE RUNOFF COEFFICIENT: 0.49
PROPSED SITE RUNOFF COEFFICIENT: 0.49
HYDROLOGIC SOIL GROUP: D

ST. LOUIS COUNTY NOTES

1.) INTERIM STORMWATER DRAINAGE CONTROL IN THE FORM OF SILTATION CONTROL MEASURES ARE REQUIRED.

2.) THE DEVELOPER IS REQUIRED TO PROVIDE ADEQUATE STORMWATER SYSTEMS IN ACCORDANCE WITH ST. LOUIS COUNTY AND MSD STANDARDS.

3.) INTERNAL (PRIVATE) STORM SEWERS WILL REQUIRE A SEPARATE DRAINLAYER PERMIT FROM ST. LOUIS COUNTY DEPARTMENT OF PUBLIC WORKS.

4.) ALL CONSTRUCTION SHALL BE PER MOST CURRENT DETAILS LOCATED IN THE ST. LOUIS COUNTY DESIGN CRITERIA MANUAL AND/OR THE SEDIMENT AND EROSION CONTROL MANUAL.

5.) ANY LAND CLEARING, CONSTRUCTION, OR DEVELOPMENT INVOLVING THE MOVEMENT OF EARTH SHALL BE IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN, AND THE PERSON ISSUED A LAND DISTURBANCE PERMIT ASSUMES AND ACKNOWLEDGES RESPONSIBILITY FOR COMPLIANCE WITH THE ST. LOUIS COUNTY LAND DISTURBANCE CODE AND THE APPROVED STORMWATER POLLUTION PREVENTION PLAN AT THE SITE OF THE PERMITTED ACTIVITY.

6.) PRIOR TO ANY MAJOR LAND DISTURBANCE ACTIVITY, A LAND DISTURBANCE PERMIT FROM THE STATE OF MISSOURI DEPARTMENT OF NATURAL RESOURCES WILL BE REQUIRED.

7.) 24-HOUR EMERGENCY CONTACT INFORMATION:
CONTACT: J. SCOTT BENNETT, P.E. - PARKWAY SCHOOL DISTRICT
455 N. WOODS MILL ROAD
CHESTERFIELD, MISSOURI 63017
PH: 314-415-8231 (24-HOUR)

8.) SPECIAL INSPECTOR
CONTACT: ANDREW DIXON - STOCK & ASSOCIATES
257 CHESTERFIELD BUSINESS PARKWAY
CHESTERFIELD, MISSOURI 63005
PH: 636-530-9100

9.) IN THE EVENT OF SILT RUNOFF FROM SUBJECT PROPERTY ONTO OFFSITE PROPERTY OWNERS: THE CONTRACTOR SHALL NOTIFY OFFSITE PROPERTY OWNER AND OBTAIN CONSENT TO REMOVE SEDIMENT AND RESTORE THE SITE TO ORIGINAL CONDITION.

DEMOLITION NOTES

1.) THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY COMPANY PRIOR TO BEGINNING ANY WORK THAT WILL AFFECT AN EXISTING UTILITY.

2.) REMOVAL AND/OR ABANDONEMENT OF EXISTING SEWERS SHALL BE IN ACCORDANCE WITH THE STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWER AND DRAINAGE FACILITIES OF THE METROPOLITAN ST. LOUIS SEWER DISTRICT, LATEST EDITION.

3.) REMOVAL OF PAVEMENT, CURB & GUTTER, SIDEWALKS, ETC. SHALL BE TO THE NEAREST EXISTING JOINT OR SAWCUT AT LIMITS OF REMOVAL.

4.) CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT THE EXISTING TRACK SURFACE DURING EXCAVATION AND REMOVAL OF THE EXISTING CONCRETE CURB AND GUTTER, AND DURING FIELD EXCAVATION AND HAUL OPERATIONS.

5.) CONSTRUCTION DEBRIS, INCLUDING BUT NOT LIMITED TO, CONDUIT, PIPES, FITTINGS, VALVES, WIRES AND OTHER DEBRIS TO BE REMOVED, SHALL BE DISPOSED OF OFF-SITE, AND IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

6.) CONTRACTOR TO PROVIDE ALL NECESSARY FENCING, BARRICADES, SIGNAGE, ETC. FOR PEDESTRIAN SAFETY DURING SITE DEMOLITION ACTIVITIES.

7.) CONTRACTOR TO REMOVE EXISTING 4" UNDERDRAIN SYSTEM LOCATED IN FIELD.

8.) CONTRACTOR TO RECONNECT EXISTING DRAIN LINES UNDER TRACK TO THE PROPOSED STORM SEWER COLLECTOR PIPE.

9.) CONTRACTOR TO REMOVE EXISTING IRRIGATION SYSTEM LOCATED WITHIN THE FIELD.

10.) CONTRACTOR TO CAP IRRIGATION SUPPLY LINE INSIDE TRACK.

11.) CONTRACTOR TO REMOVE EXISTING FIELD GOAL POSTS AND FOUNDATION.

12.) CONTRACTOR TO REMOVE AND REPLACE EXISTING ELECTRICAL CONDUIT, WIRING, JUNCTION BOXES, AND APPURTENANCES AS NEEDED FOR FIELD CONSTRUCTION.

13.) CONTRACTOR TO FULL DEPTH SAWCUT AND REMOVE EXISTING CONCRETE CURB AND GUTTER INSIDE THE TRACK AS SHOWN ON THE PLANS.

14.) CONTRACTOR TO REMOVE DRAINS IN EXISTING INNER CURB AND GUTTER. DRAIN LINES TO BE PLUGGED WITH CONCRETE.

15.) EXISTING TRACKS, SAND TRAPS, FLAGPOLES, ETC. LOCATED WITHIN THE ENDS OF THE FIELD AREAS TO BE USED IN PLACE. CONTRACTOR TO INSTALL TURF NAILER BOARD TO ACCOMMODATE TURF INSTALLATION.

S.U.P. # 12-295-A1
H.& T. # 1872
M.S.D. P# 11236-16
BASE MAP # 24-Q

MAR. 7, 2011

100% COMPLETE

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY NUMBER: 000996

2 2011-03-07 REVISED PER MSD, COUNTY COMMENTS
1 2011-02-21 REVISED PER MSD, COUNTY COMMENTS

PARKWAY SOUTH HIGH SCHOOL

EXISTING CONDITIONS/DEMO/SWPPP

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
J.M.B.	12/17/10	G.M.S.	12/22/10	210-4671	C2 of 11

NON-SEDIMENT POLLUTION CONTROL

PHYSICAL DESCRIPTION:

Control measures designed to prohibit chemicals, hazardous materials, solid waste and construction debris from polluting stormwater. Pollutants carried in solution or as surface films by runoff will be carried through most erosion control and sediment capture BMP's. Keeping substances like fuel, oil, asphalt, paint, solvents, fertilizer, soil additives, concrete wash water, solid waste and construction debris from polluting runoff can be accomplished to a large extent through good housekeeping on the site and following the manufacturer's recommendations for disposal.

WHERE BMP IS TO BE INSTALLED:

Collection, storage and fueling areas should be located onsite in an area that does not receive a substantial amount of runoff from upland areas and does not drain directly to lakes, creeks, streams, rivers, sewers, groundwater, wetlands, or road ditches.

CONDITIONS FOR EFFECTIVE USE OF BMP:

- ✓ Reduction in pollutants depends heavily on how construction personnel perform their duties. An effective management system requires training and signage to promote proper storage, handling and disposal of materials. Follow up observations of actions and inspection of storage areas by management personnel is also required.
- ✓ Plans should contain notes clearly stating requirements for addressing potential pollutants
- ✓ Fueling areas and storage areas for hazardous materials should be protected by berms or other means of catching leaks or spills.

WHEN BMP IS TO BE INSTALLED:

Immediately following installation of construction entrance and wash station

INSTALLATION/CONSTRUCTION PROCEDURES:

- ✓ Place waste receptacles near area of work
- ✓ Construct protective berm or other devices around fueling and hazardous materials storage areas
- ✓ Install appropriate signage
- ✓ Post guidelines for proper handling, storage and disposal of materials, and emergency spill cleanup on site

O&M PROCEDURES:

- ✓ Inspect activities on regular basis
- ✓ Inspect storage areas and control devices at least every two weeks and after every storm
- ✓ Make necessary corrections and repairs

SITE CONDITIONS FOR REMOVAL:

Maintain practices until all construction on the site has been completed.

TYPICAL DETAILS:

General pollution prevention notes attached

O&M PROCEDURES:

- ✓ Inspect every week and after every storm
- ✓ Protect area from vehicular and foot traffic
- ✓ Reseed areas that have not sprouted within 21 days of planting.
- ✓ Repair damaged or eroded areas and reseed and stabilize as needed
- ✓ Do not mow until 4 inches of growth occurs
- ✓ During the first 4 months, mow no more than 1/3 the grass height
- ✓ Refertilize during 2nd growing season

SITE CONDITIONS FOR REMOVAL:

Does not require removal, but temporary seeding can be removed immediately prior to work returning to an area

TYPICAL DETAILS:

Minimum seeding rates and acceptable dates for work attached

SEEDING

PHYSICAL DESCRIPTION:

Establishment of vegetation by spreading grass seed designed to protect exposed soil from erosion by eliminating direct impact of precipitation and slowing overland flow rates. Once established, the vegetative cover will also filter pollutants from the runoff.

WHERE BMP IS TO BE INSTALLED:

Exposed soil after a phase of rough or finish grading has been completed, or areas where no activity will occur for 30 days

CONDITIONS FOR EFFECTIVE USE OF BMP:

Type of Flow:	Sheet flow
Continuous Slope Length:	30 foot maximum for 3:1 slopes 50 foot maximum for slope between 3:1 and 10:1 100 foot maximum for slopes under 10%
Minimum Rates:	See attached chart(s)
Acceptable Dates:	See attached chart

WHEN BMP IS TO BE INSTALLED:

Immediately after rough or finished grading is completed

INSTALLATION/CONSTRUCTION PROCEDURES:

- ✓ Install upstream BMP's to protect area to be seeded
- ✓ Rough grade area and remove all debris larger than 1 inch in diameter and concentrated areas of smaller debris
- ✓ Install stabilization grids, if needed
- ✓ Mix soil amendments (lime, fertilizer, etc.) into top 3"-6" of soil as needed
- ✓ Plant seed ¼ - ½ inch deep
- ✓ Roll lightly to firm surface
- ✓ Cover seeded area with mulch unless seeding completed during optimum spring and summer dates
- ✓ Install additional stabilization (netting, bonded fiber matrix, etc.) as required
- ✓ Water immediately – enough to soak 4 inches into soil without causing runoff

POLLUTION PREVENTION PROCEDURES

1) **HANDLING AND DISPOSAL OF HAZARDOUS MATERIALS**

DO: Prevent spills
Use products up
Follow label directions for disposal
Remove lids from empty bottles and cans when disposing in trash
Recycle wastes whenever possible

DON'T: Don't pour waste into sewers or waterways on the ground
Don't pour waste down the sink, floor drain or septic tanks
Don't bury chemicals or containers, or dispose of them with construction debris
Don't burn chemicals or containers
Don't mix chemicals together

2) Containers shall be provided for collection of all waste material including construction debris, trash, petroleum products and any hazardous materials to be used onsite. All waste material shall be disposed of at facilities approved for that material.

3) No waste materials shall be buried on-site.

4) Mixing, pumping, transferring or otherwise handling construction chemicals such as fertilizer, lime, asphalt, concrete drying compounds, and all other potentially hazardous materials shall be performed in an area away from any watercourse, ditch or storm drain.

5) Equipment fueling and maintenance, oil changing, etc., shall be performed only in an area designated for that purpose. The designated area is equipped for recycling oil and catching spills.

6) Concrete wash water shall not be allowed to flow directly to storm sewers, streams, ditches, lakes, etc without being treated. A sump or pit shall be constructed to contain concrete wash water.

7) If substances such as oil, diesel fuel, hydraulic fluid, antifreeze, etc. are spilled, leaked, or released onto soil, the soil shall be dug up and disposed of at a licensed sanitary landfill (not a construction/demolition debris landfill). Spills on pavement shall be absorbed with sawdust, kitty litter or product designed for that purpose and disposed of at a licensed sanitary landfill. Hazardous or industrial wastes such as most solvents, gasoline, oil-based paints, and cement curing compounds require special handling. These materials will be removed from the site and recycled or disposed of in accordance with MoDNR requirements.

8) State law requires the party responsible for a petroleum product spill in excess of 50 gallons to report the spill to Missouri Department of Natural Resources (MoDNR) at (573) 634-2436, as soon as practical after discovery. Federal law requires the responsible party to report any release of oil if it reaches or threatens a sewer, lake, creek, stream, river, groundwater, wetland, or area, like a road ditch, that drains into one of the above.

INLET PROTECTION - FABRIC DROP

PHYSICAL DESCRIPTION:

A woven fabric barrier braced around an area inlet designed to prevent sediment from entering the storm sewer. Shallow temporary ponding during and after rainfall should be expected.

WHERE BMP IS TO BE INSTALLED:

At inlets designed to drain a small gently sloping area with maximum grade of 5%. Overflow capacity is limited on standard area inlets.

CONDITIONS FOR EFFECTIVE USE OF BMP:

Type of Flow:	Shallow sheet flow
Contributing Area:	Maximum of 2 cfs flowing to inlet

WHEN BMP IS TO BE INSTALLED:

Immediately after placement of inlet.

INSTALLATION/CONSTRUCTION PROCEDURES:

- ✓ Backfill, compact and uniformly grade area around inlet
- ✓ Construct downstream berm, if required. Rock bags or sand bags may be used to construct berm.
- ✓ Drive posts or wood frame close to inlet sill so overflow will fall directly on the structure and not on unprotected soil
- ✓ Dig trench around inlet for fabric to be buried
- ✓ Cut required length of fabric from one roll to eliminate joints. Fasten fabric tightly around posts/frame to enhance stability.
- ✓ Backfill and compact trench.

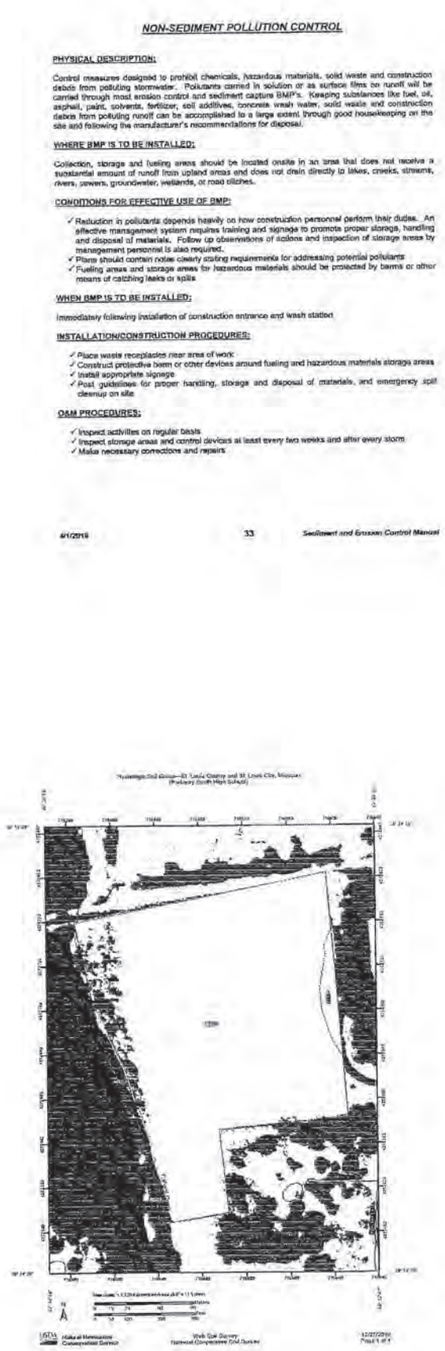
O&M PROCEDURES:

- ✓ Inspect every week and after every storm
- ✓ Remove trash accumulation and sediment once it reaches depth of 6" at inlet.
- ✓ Replace loose, torn or clogged fabric
- ✓ Repair any erosion or settlement of temporary berm downstream of inlet

SITE CONDITIONS FOR REMOVAL:

Remove after contributing drainage areas have been adequately stabilized. Restore area to grade and vegetate.

TYPICAL DETAIL: SC-3



Hydrologic Soil Group—St. Louis County and St. Louis City, Missouri — Parkway South High School

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — St. Louis County and St. Louis City, Missouri				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
60030	Menfro silt loam, 28 to 35 percent slopes	B	10.2	7.6%
60272	Ulin-Urban land-Harvester complex, 9 to 28 percent slopes	D	0.3	2.3%
68003	Fishpot-Urban land complex, 0 to 5 percent slopes, rarely flooded	D	11.9	35.3%
Totals for Area of Interest			13.4	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

USDA Natural Resources Conservation Service — Web Soil Survey, National Cooperative Soil Survey — 12/27/2010 Page 3 of 4

SEEDING REQUIREMENTS

Dates for Seeding

Permanent Seeding	Lbs/ Acre	Kg/M²	Month	Apr/E	May/E	June/E	July	Aug	Sep	Oct	Nov	Dec
Tall Fescue				O	O	O			O	O		
Smooth Brome				O	O	O			O	O		
Fescue & Brome				O	O	O	O		O	O		
Fescue, Rye & Bluegrass	A	A		O	O	P	P	O	O	P	P	A

Temporary Seeding	Lbs/	Kg/M²	Month	Apr/E	May/E	June/E	July/E	Aug	Sep	Oct	Nov	Dec
Rye or Oats	A	A		O	O	O	O	O	O	O	A	A
Oats		A		O	O	O	O	O	O	O		

O= Optimum seeding dates
A= Acceptable seeding dates
P= Permitted seeding dates with mowing. 2 months later - initially use 50% of seed and 75% of fertilizer. Reseed with additional 75% seed and reworking fertilizer.

Minimum Fertilizer and Seeding Rates

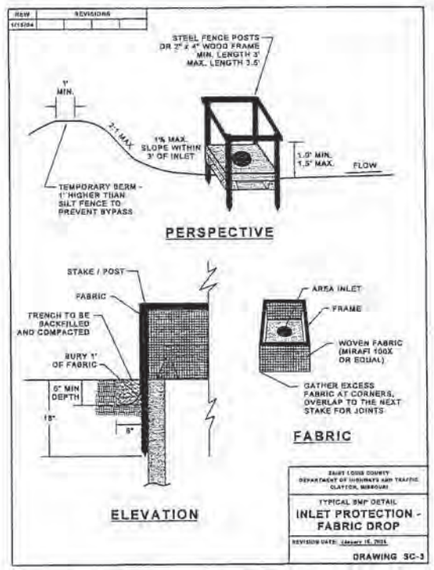
Permanent Seeding*	Pounds per 1000 sq. ft.	Pounds per 43,560 sq. ft. (1 acre)
Tall Fescue	300	7.0
Smooth Brome	350	4.6
Mixture # 1	200	5.7
Mixture # 2	250	4.8

Mixture #1 = Tall Fescue @ 100 pounds per screened biome @ 600 pounds per acre.
Mixture #2 = Tall Fescue @ 100 pounds per acre; Perennial Ryegrass @ 100 pounds per acre; and Kentucky Blue grass @ 11 pounds per acre.
* = Seeding rate for slopes in excess of 33% (3:1), shall be 10 pounds per 1000 sq. ft.

Temporary Seeding	Pounds per 1000 sq. ft.	Pounds Per 43,560 sq. ft. (1 acre)
Rye or Oats	150	3.5
Oats	200	7.0

Fertilizer	Permanent Seeding (pounds per acre)	Temporary Seeding (pounds per acre)
Nitrogen	40	30
Phosphate	80	30
Potassium	80	30
Lime - Ground	600	600

Note: Effective neutralizing material per State evaluation of quarried rock.



S.U.P. # 12-295-A1
H.& T. # 1872
M.S.D. P# 11236-16
BASE MAP # 24-Q

MAR. 7. 2011

100% COMPLETE

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

2 2011-03-07 REVISED PER MSD, COUNTY COMMENTS
1 2011-02-21 REVISED PER MSD, COUNTY COMMENTS

PARKWAY SOUTH HIGH SCHOOL

SWPPP DETAILS

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET
J.M.S.	12/17/10	G.M.S.	12/22/10	210-4671	C3 of 11

ROCK OUTLET

PHYSICAL DESCRIPTION:

A rock apron installed over a geotextile fabric at a point of concentrated discharge, designed to slow the velocity of flow and protect the receiving area from erosion.

WHERE BMP IS TO BE INSTALLED:

Installed at BMP outlets, for example, at the end of pipe slope drains, the emergency overflow or outlet pipe of a sediment basin.

CONDITIONS FOR EFFECTIVE USE OF BMP:

Type of Flow:	Concentrated flow
Flow at Outlet:	Maximum velocity of 10 fps

WHEN BMP IS TO BE INSTALLED:

With the construction of the upstream BMP that creates the concentrated discharge.

INSTALLATION/CONSTRUCTION PROCEDURES:

- ✓ Grade subgrade of rock blanket to required section
- ✓ Place filter fabric, providing enough slack to assure that rock will not tear the fabric when it is placed
- ✓ Install rock with uniform profile and cross section

O&M PROCEDURES:

- ✓ Inspect every week and after every storm during construction
- ✓ Remove sediment and trash accumulation
- ✓ Replace displaced rock - larger rock may be required.
- ✓ Stabilize eroded areas - extend if necessary

SITE CONDITIONS FOR REMOVAL:

Removed concurrently with upstream BMP.

TYPICAL DETAIL: EC-5

SILT FENCE

PHYSICAL DESCRIPTION:

A fence constructed of woven filter fabric and wire mesh stretched between posts and entrenched in the ground designed to pond stormwater runoff and cause sediment to settle out.

WHERE BMP IS TO BE INSTALLED:

Installed along slopes, at base of slopes, and around perimeter of site as final barrier to sediment being carried off site. Spacing of fence along slopes is relative to slope:

CONDITIONS FOR EFFECTIVE USE OF BMP:

Type of Flow:	Sheet flow only
Contributing Slope Length:	30 foot maximum for 3:1 slopes 50 foot maximum for slopes between 3:1 and 10:1 100 foot maximum for slopes under 10%.

WHEN BMP IS TO BE INSTALLED:

Prior to disturbance of natural vegetation and at intervals during construction of fill slopes

INSTALLATION/CONSTRUCTION PROCEDURES:

- ✓ Drive post for fence line
- ✓ Dig trench to required dimensions in front of posts for fabric burial
- ✓ Attach wire mesh to posts.
- ✓ Attach fabric to posts, allowing required length below ground level to run fabric along bottom of trench
- ✓ Backfill and compact soil in trench to protect and anchor fabric

Alternate Construction: Install fence by slicing it into ground with specialized equipment. Install posts at reduced spacing indicated on detail

O&M PROCEDURES:

- ✓ Inspect every week and after every storm
- ✓ Remove sediment buildup deeper than ½ the fence height or 12", whichever is less
- ✓ Replace torn or clogged fabric; repair loose fabric
- ✓ Repair unstable or broken posts
- ✓ Stabilize any areas susceptible to undermining
- ✓ Extend fence or add additional row(s) of fence if necessary to provide adequate protection

CONSTRUCTION ENTRANCE

PHYSICAL DESCRIPTION:

A stabilized entrance to a construction site designed to minimize the amount of sediment tracked from the site on vehicles and equipment. Stabilization generally consists of aggregate over fabric. Mud and sediment fall off of tires as they travel along the stabilized entrance; however, additional measures in the form of a washdown area should also be included on site. The stabilized entrance also distributes the axle load of vehicles over a larger area; thereby mitigating the rutting impact vehicles normally have on unpaved areas.

WHERE BMP IS TO BE INSTALLED:

At locations where it is safe for construction vehicles and equipment to access existing streets – preferably at location of future streets or drives.

CONDITIONS FOR EFFECTIVE USE OF BMP:

Drainage:	Ditches or pipes, if needed, sized for 15 year, 20 minute storm; HGL 0" below surface of entrance

WHEN BMP IS TO BE INSTALLED:

First order of work, along with washdown area, prior to vehicles or equipment accessing unpaved areas.

INSTALLATION/CONSTRUCTION PROCEDURES:

- ✓ Grade and compact area of construction entrance
- ✓ Install culvert under entrance if needed to maintain positive drainage
- ✓ Place fabric and cover with aggregate, forming diversion across entrance if needed to direct runoff away from roadway
- ✓ See Washdown Station BMP for additional steps

O&M PROCEDURES:

- ✓ Immediately remove any mud or debris tracked onto paved surfaces
- ✓ Remove sediment and clods of dirt from construction entrance continuously
- ✓ Replace rock if necessary to maintain clean surface
- ✓ Repair settled areas

SITE CONDITIONS FOR REMOVAL:

Remove when vehicles and equipment will no longer access unpaved areas.

TYPICAL DETAIL: TC-1

WASHDOWN STATION

PHYSICAL DESCRIPTION:

An area located at construction entrances designed to wash sediment from the tires and undercarriage of exiting vehicles and prevent sediment from being tracked onto existing roadways.

WHERE BMP IS TO BE INSTALLED:

Across or immediately adjacent to exit paths from unpaved construction sites.

CONDITIONS FOR EFFECTIVE USE OF BMP:

Drainage:	Downstream BMP sized to treat dirty runoff from washdown station

WHEN BMP IS TO BE INSTALLED:

First order of work, along with construction entrance, prior to vehicles or equipment accessing unpaved areas.

INSTALLATION/CONSTRUCTION PROCEDURES:

- ✓ Grade and compact area for drainage under washdown pad
- ✓ Install steel-ribbed plate on beams or other support to allow a 2" drain space
- ✓ Grade and vegetate downstream BMP (v-ditch shown on detail)
- ✓ Install water supply and hose
- ✓ Post sign in advance of station indicating that all exiting vehicles and equipment must use station prior to exiting site

O&M PROCEDURES:

- ✓ Remove sediment daily
- ✓ Repair settled areas
- ✓ Replace rock if necessary to maintain clean surface

SITE CONDITIONS FOR REMOVAL:

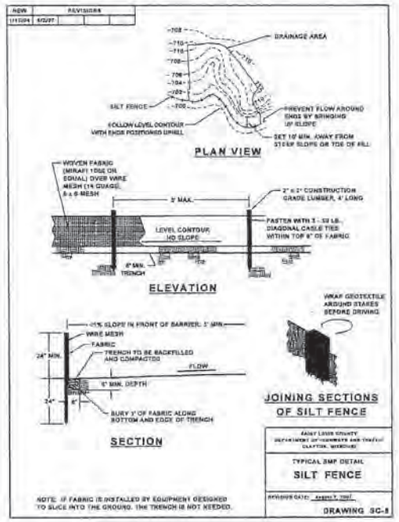
Remove when vehicles and equipment will no longer access unpaved areas

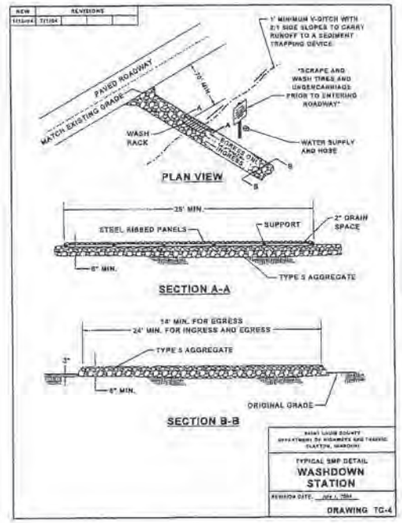
TYPICAL DETAIL: TC-4

SITE CONDITIONS FOR REMOVAL:

After permanent vegetation of slope is established. Remove fence, regrade trench area and vegetate.

TYPICAL DETAIL: SC-8





GUTTERBUDDY® Specification
For Curb Gutter Storm Drains

1.0 Description.

1.1 This work shall consist of furnishing, placing, maintaining and removing the Gutterbuddy® sediment control device as shown on the engineers' and as approved on the contract drawings. The Gutterbuddy® sediment control device shall be utilized on:

ACF Environmental, Inc.
1601 A Wells Road
Richmond, Virginia 23231
Phone: 800-643-4929 Fax: 804-271-3454
www.acfenvironmental.com

2.0 Materials

2.1 GUTTERBUDDY

The Gutterbuddy® shall be a synthetic filter manufactured from recycled synthetic fibers.

2.1.1 The Gutterbuddy® will be manufactured to be 9" in diameter and be available in 2'-0" (2') and 10' lengths with a minimum of twenty-four (24) inches longer than the curb inlet opening. This will allow for sufficient length to cover the inlet with twelve (12") inches beyond the inlet on both ends.

3.0 Construction Sequence

3.1 General

3.1.1 Install the Gutterbuddy® in front of the curb inlet opening. Each end of the Gutterbuddy® should overlap the curb inlet approximately (12").

3.1.2 The Gutterbuddy® should be cleaned if a visual inspection shows silt and debris build up around the Gutterbuddy®.

3.1.3 To remove the Gutterbuddy®, lift out of the opening.

3.1.4 The Gutterbuddy® is reusable, once the construction project is complete, and it is no longer needed for sediment control, remove, clean and store one of the supplied mesh bag and use on the next project.

3.1.5 Flooding is likely if sediment is not removed regularly. Inspection of Gutterbuddy® should be on a regular basis and immediately after a heavy rain storm.

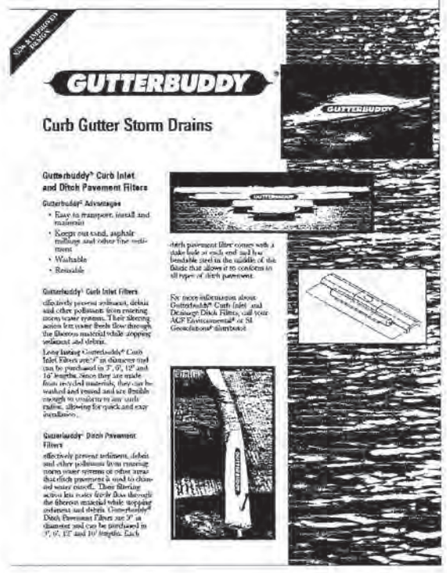
4.0 Basis of Payment.

4.1 No payment for any Gutterbuddy® used during the test duration is to be included in the bid of the overall erosion and sediment control plan and placed by the lump sum.

ACF/SI Combine Forces for Solution Implementation
A Partnership for Water Quality

ACF Environmental Inc.
1601 A Wells Road
Richmond, Virginia 23231
(804) 643-4929 Fax (804) 271-3454
www.acfenvironmental.com

SI Geosolutions
1155 Lys Heaven Lane #B
O'Fallon, MO. 63366
Phone (636) 978-1100 Fax (636) 978-1101
www.sigeosolutions.com



S.U.P. # 12-295-A1
H.& T. # 1872
M.S.D. P# 11236-16
BASE MAP # 24-O

MAR. 7, 2011

100% COMPLETE

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

2 2011-03-07 REVISED PER MSD, COUNTY COMMENTS
1 2011-02-21 REVISED PER MSD, COUNTY COMMENTS

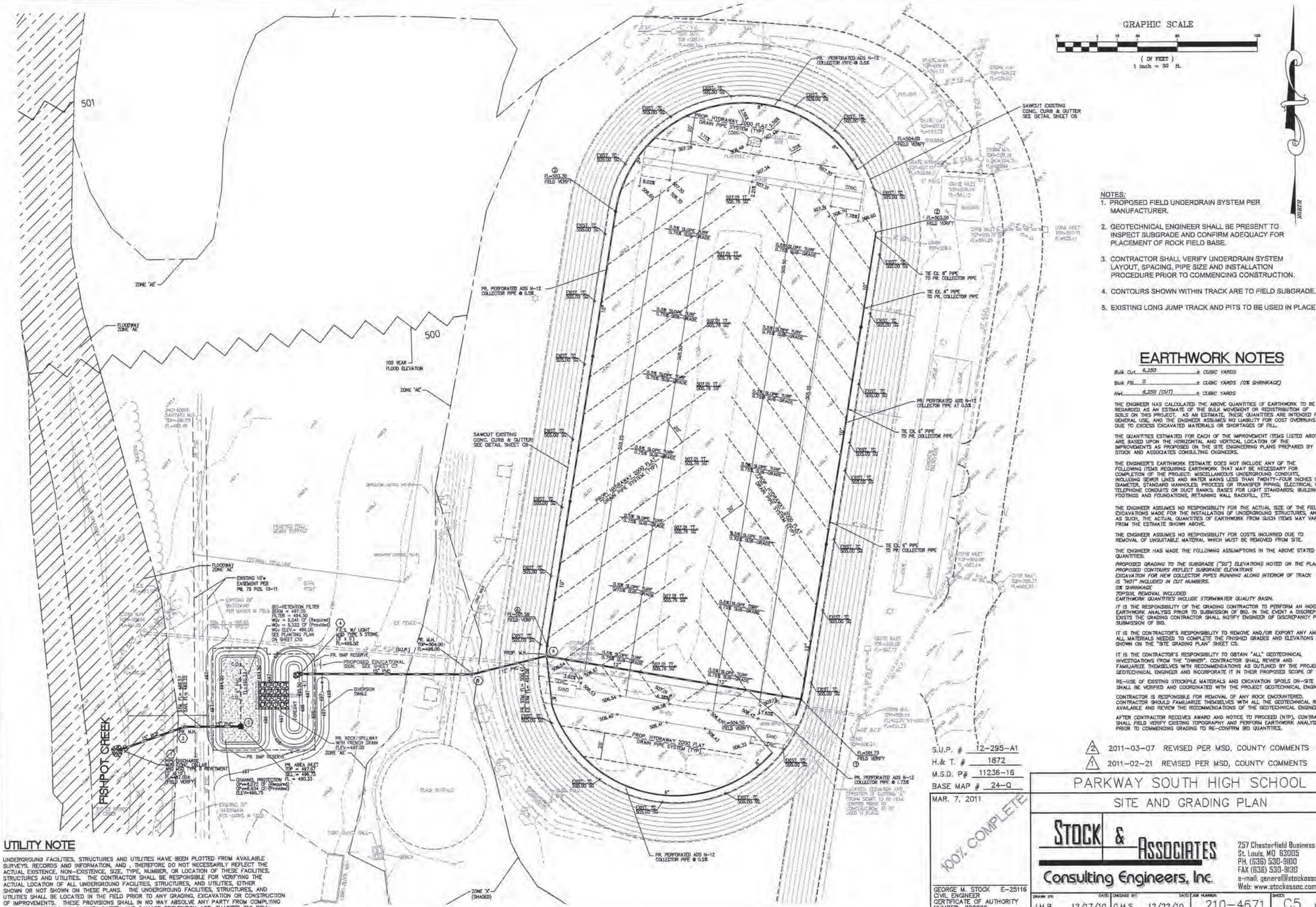
PARKWAY SOUTH HIGH SCHOOL

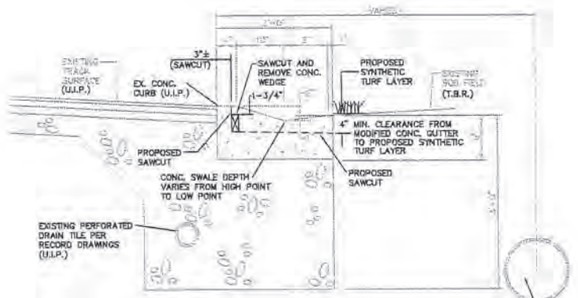
SWPPP DETAILS

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
J.M.B.	12/17/10	G.M.S.	12/22/10	210-4671	C4 of 11

Property of Stock & Associates Consulting Engineers, Inc. Use By Others Without Written Permission Is Prohibited

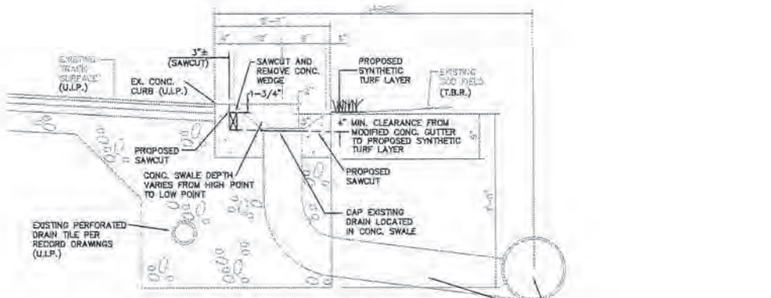

501
500
ZONE 'AE'
FLOODWAY
ZONE 'AE'
100 YEAR
FLOOD ELEVATION
ZONE 'AE'
FLOODWAY
ZONE 'AE'
FISHPOT CREEK
ZONE 'X'
(SHADED)
PROP. HYDRAWAY 2000 FLAT
DRAIN PIPE SYSTEM (TYP)
PR. PERFORATED ADS N-12
COLLECTOR PIPE @ 0.5%
PR. PERFORATED ADS N-12
COLLECTOR PIPE @ 1.73%
SAWCUT EXISTING
CONC. CURB & GUTTER
SEE DETAIL SHEET C9
FL=504.50
FIELD VERIFY
FL=503.30
FIELD VERIFY
FL=503.50
FIELD VERIFY
FL=504.50
FIELD VERIFY
FL=501.58
FIELD VERIFY
FL=501.73
FIELD VERIFY
TIE EX. 6" PIPE
TO PR. COLLECTOR PIPE
TIE EX. 6" PIPE
TO PR. COLLECTOR PIPE
TIE EX. 6" PIPE
TO PR. COLLECTOR PIPE
PR. PERFORATED ADS N-12
COLLECTOR PIPE AT 0.5%
PR. PERFORATED ADS N-12
COLLECTOR PIPE @ 0.5%
PR. PERFORATED ADS N-12
COLLECTOR PIPE @ 1.73%
EXIST. TP
505.00' SU
0.5% SLOPE TURF
0.75% SUB-GRADE
507.01 TF
505.76 SU
PROP. M.H.
TOP=504.00'
FL=498.00'
PR. M.H.
TOP=504.00'
FL=498.00'
PROP. DISCHARGE
HEADWALL
PR. BMP RESERVE
PROPOSED EDUCATIONAL
SIGN. SEE SHEET C7
PR. ROCK SPILLWAY
WITH FRENCH DRAIN
ELEV.=497.00
PR. AREA INLET
TOP = 497.67
SILL = 496.75
CHANNEL PROTECTION FL. = 490.33
DIVERSION
SWALE
EXISTING 10'w
EASEMENT PER
PB. 75 PGS. 10-11
EXISTING 20'
WATERMAIN
PER MARKS IN FIELD
BIO-RETENTION FILTER
BERM = 497.50
FILTER = 494.50
WQv = 5,041 CF (Required)
WQv = 5,522 CF (Provided)
WQv ELEV. = 496.00
SEE PLANTING PLAN
ON SHEET C10
F.E.S. W/ LIGHT
MSD TYPE 5 STONE
@ 1.2%
FL=495.50
PROP. DISCHARGE
HEADWALL
WITH MSD TYPE 3 RIP-RAP
APRON
FL=490.04
(FIELD VERIFY)
CHANNEL PROTECTION
CP=8,072 CF (Required)
CP=8,634 CF (Provided)
ELEV=490.75
EXISTING 20'
WATERMAIN
FOR LOOPS IN FIELD
PROP. HYDRAWAY 2000 FLAT
DRAIN PIPE SYSTEM (TYP)
SAND
CONC.
CURB INLET
TOP=506.77
FL=502.61
CURB INLET
TOP=506.77
FL=502.61
CURB INLET
TOP=506.77
FL=502.61



NOTE: EXISTING CONCRETE GUTTER SHOWN ABOVE WAS TAKEN FROM THE RECORD DRAWINGS PROVIDED BY PARKWAY.

EXISTING CONCRETE GUTTER MODIFICATION GUTTER HIGH POINT (TYP)

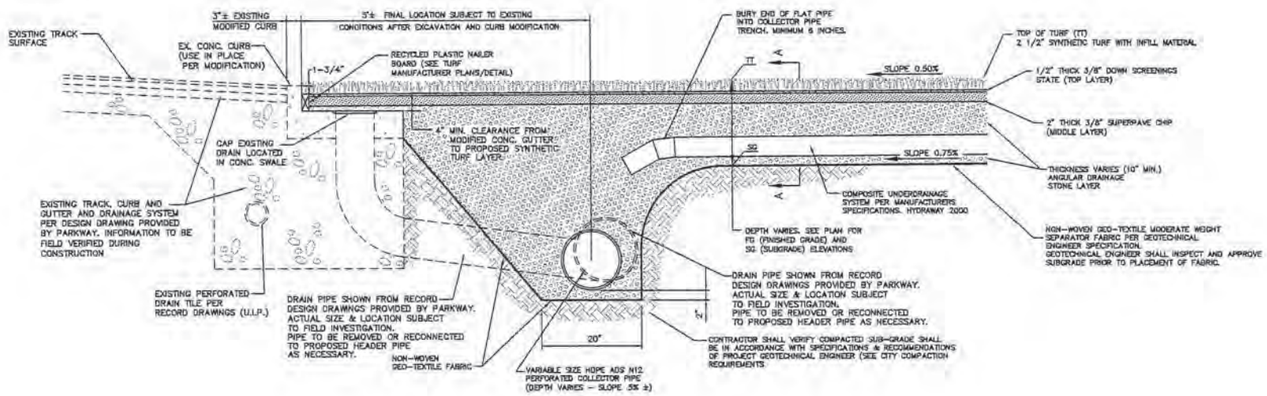
(N.T.S.)



NOTE: EXISTING CONCRETE GUTTER SHOWN ABOVE WAS TAKEN FROM THE RECORD DRAWINGS PROVIDED BY PARKWAY.

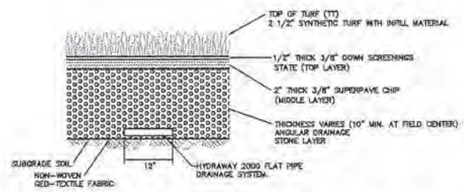
EXISTING CONCRETE GUTTER MODIFICATION GUTTER LOW POINT (TYP)

(N.T.S.)



TYPICAL SECTION THROUGH FIELD

(N.T.S.)



SUBSURFACE DRAINAGE IN FIELD DETAIL A-A

(N.T.S.)

ST. LOUIS COUNTY NOTE:

THIS SHEET NOT INCLUDED WITH ST. LOUIS COUNTY APPROVAL.

UTILITY NOTE

UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, RECORDS AND INFORMATION, AND .. THEREFORE DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NON-EXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE FACILITIES, STRUCTURES AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS. THE UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319 RSMo..

S.U.P. # 12-295-A1
H.& T. # 1872
M.S.D. P# 11238-16
BASE MAP # 24-Q

MAR. 7, 2011

100% COMPLETE

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

2 2011-03-07 REVISED PER MSD, COUNTY COMMENTS
1 2011-02-21 REVISED PER MSD, COUNTY COMMENTS

PARKWAY SOUTH HIGH SCHOOL

FIELD DETAILS

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
J.M.B.	12/17/10	G.M.S.	12/22/10	210-4671	C6 of 11

GENERAL NOTES:

1.) ALL UTILITIES SHOWN HAVE BEEN LOCATED BY THE ENGINEER FROM AVAILABLE RECORDS. THEIR LOCATION SHOULD BE CONSIDERED APPROXIMATE. THE CONTRACTOR HAS THE RESPONSIBILITY TO NOTIFY ALL UTILITY COMPANIES, PRIOR TO CONSTRUCTION, TO HAVE EXISTING UTILITIES FIELD LOCATED.

2.) GRADING CONTRACTOR SHALL INSTALL SILTATION CONTROL PRIOR TO STARTING THE GRADING. ADDITIONAL SILTATION CONTROL DEVICES SHALL BE INSTALLED AS DIRECTED BY CITY OF MANCHESTER AND ST. LOUIS COUNTY DEPARTMENT OF HIGHWAYS AND TRAFFIC.

3.) ALL MATERIALS AND METHODS OF CONSTRUCTION TO MEET THE CURRENT STANDARDS AND SPECIFICATIONS OF CITY OF MANCHESTER AND THE METROPOLITAN ST. LOUIS SEWER DISTRICT (MSD).

4.) GRADING & STORM WATER PER 2009 M.S.D. STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS.

5.) ALL GRADED AREAS SHALL BE PROTECTED FROM EROSION BY EROSION CONTROL DEVICES AND/OR SEEDING AND MULCHING.

6.) ALL FILLS AND BACKFILLS SHALL BE MADE OF SELECTED EARTH MATERIALS, FREE FROM BROKEN MASONRY, ROCK, FROZEN EARTH, RUBBISH, ORGANIC MATERIAL AND DEBRIS.

7.) GRADING CONTRACTOR SHALL KEEP EXISTING ROADWAYS CLEAN OF MUD AND DEBRIS AT ALL TIMES.

8.) NO GRADE SHALL EXCEED 3:1 SLOPE, EXCEPT AS NOTED AND APPROVED PER GEOTECHNICAL ENGINEER.

9.) ALL LANDSCAPE AREAS TO BE FILLED WITH A MINIMUM OF 6" OF TOPSOIL.

10.) ALL LANDSCAPED AREAS DISTURBED BY OFF-SITE WORK SHALL BE IMMEDIATELY SEEDED OR SODDED.

11.) ADEQUATE TEMPORARY OFF-STREET PARKING FOR CONSTRUCTION EMPLOYEES SHALL BE PROVIDED. PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEES' VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVEWAY CONDITIONS

12.) ALL PUBLIC SEWER CONSTRUCTION MUST CONFORM TO 2009 M.S.D. "STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS"

13.) THE UNDERGROUND UTILITIES SHOWN HEREIN WERE PLOTTED FROM SURVEY AND AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UTILITIES, SHOWN OR NOT SHOWN, AND SAID UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMO.

14.) CLEARING TECHNIQUES THAT RETAIN EXISTING VEGETATION TO THE MAXIMUM EXTENT PRACTICABLE SHALL BE USED AND THE TIME PERIOD FOR DISTURBED AREAS TO BE WITHOUT VEGETATIVE COVER SHALL BE MINIMIZED TO THE EXTENT PRACTICAL.

15.) THE DEVELOPER IS ADVISED THAT UTILITY COMPANIES WILL REQUIRE COMPENSATION FOR RELOCATION OF THEIR UTILITY FACILITIES WITHIN PUBLIC ROAD RIGHT-OF-WAY. UTILITY RELOCATION COST SHALL BE CONSIDERED THE DEVELOPER'S RESPONSIBILITY.

16.) THE DEVELOPER SHOULD ALSO BE AWARE OF EXTENSIVE DELAYS IN UTILITY COMPANY RELOCATION AND ADJUSTMENTS. SUCH DELAYS WILL NOT CONSTITUTE A CAUSE TO ALLOW OCCUPANCY PRIOR TO COMPLETION OF IMPROVEMENTS.

17.) AREAS SHALL BE SEEDED AFTER CLEARING AND GRUBBING WHEN NO ACTIVITY WILL OCCUR WITHIN THIRTY (30) DAYS.

18.) ALL OFFSITE PROPERTY OWNERS SHALL BE GIVEN 48 HOURS NOTICE IN ADVANCE OF ANY WORK.

19.) ANY DISTURBED OFF SITE PROPERTY (i.e. BUSHES, FENCES, MAILBOXES, etc.,) SHALL BE REPLACED IN KIND, AT THE DEVELOPER'S EXPENSE.

20.) ALL PROPOSED UTILITIES TO BE LOCATED UNDERGROUND.

21.) ALL SIDEWALKS TO BE CONSTRUCTED TO ST. LOUIS COUNTY ADA STANDARDS.

22.) DRIVEWAYS AND ENTRANCES PER ST. LOUIS COUNTY STANDARDS.

23.) SITE SIGNAGE SHALL COMPLY WITH CITY OF MANCHESTER SIGN ORDINANCE.

24.) STORMWATER SHALL BE DISCHARGED AT AN ADEQUATE NATURAL DISCHARGE POINT. SINKHOLES ARE NOT ADEQUATE NATURAL DISCHARGE POINTS.

25.) IT IS NOT WARRANTED THAT THIS PLAT CONTAINS COMPLETE INFORMATION REGARDING EASEMENTS, RESERVATIONS, RESTRICTIONS, RIGHTS-OF-WAY, BUILDING LINES, AND OTHER ENCUMBRANCES. FOR COMPLETE INFORMATION, A TITLE OPINION OR COMMITMENT FOR TITLE INSURANCE SHOULD BE OBTAINED.

26.) THIS PLAN IS SUBJECT TO ALL LOCAL, STATE AND FEDERAL REGULATIONS. THERE HAS BEEN NO WETLAND DELINEATION, GEOTECHNICAL INVESTIGATION OR ENVIRONMENTAL DATA PROVIDED TO THIS ENGINEER PRIOR TO DESIGNING THIS PLAN.

27.) WATER QUALITY CALCULATIONS BASED UPON FIELD DISTURBED AREA ONLY.

28.) CHANNEL PROTECTION CALCULATIONS BASED UPON FIELD DISTURBED AREA ONLY.

29.) STORMWATER QUALITY SYSTEMS ARE SUBJET TO REVIEW AND APPROVAL BY MSD.

30.) FOOTBALL AND SOCCER FIELD STRIPING PER MISSOURI STATE HIGH SCHOOL ATHLETIC ASSOCATIONS REGULATIONS.

31.) SOCCER FIELD STRIPING TO BE HELD MINIMUM OF 9 FEET FROM EDGE OF INNER CURBERS INSIDE OF RUNNING TRACK.

32.) INTERNAL (PRIVATE) STORM SEWERS WILL REQUIRE A SEPARATE DRAINLAYER PERMIT FROM ST. LOUIS COUNTY DEPARTMENT OF PUBLIC WORKS.

33.) TRUCKS SHALL NOT EXCEED POSTED WEIGHT LIMITS FOR ST. LOUIS COUNTY BRIDGES DURING HAUL OPERATIONS.

34.) SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASHDOWN STATION PRIOR TO LEAVING SITE. NO TRACKING OF MUD ONTO COUNTY ROADS SHALL BE ALLOWED.

35.) EXISTING INFORMATION SHOWN ON THE PLANS IS A COMBINATION OF RECORD DRAWINGS PROVIDED BY PARKWAY AND AN ACTUAL FIELD SURVEY PERFORMED BY STOCK AND ASSOCIATES. THE TOPOGRAPHIC SURVEY PROVIDED GROUND ELEVATIONS AND LOCATIONS OF EXISTING (VISIBLE) IMPROVMENTS. RECORD DRAWINGS WERE USED TO SHOW UNDERGROUND UTILITIES AND DRAINAGE SYSTEMS THAT COULD NOT BE VERIFIED FROM THE SURFACE. CONTRACTOR SHOULD USE CAUTION DURING CONSTRUCTION AND REPORT ANY FINDINGS THAT ARE NOT SHOWN ON THE PLAN TO THE ENGINEER IMMEDIATELY.

36.) NO GRADING SHALL OCCUR ON THE SITE UNTIL A GRADING PERMIT IS ISSUED.

STORM SEWER NOTES

1.) ALL MEANS AND METHODS OF CONSTRUCTION FOR STORM SEWERS SHALL BE IN ACCORDANCE WITH M.S.D. "STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES", 2009.

2.) ALL CONCRETE SHALL BE REINFORCED, AND CONFORM TO A.S.T.M. DESIGNATION C76-80 CLASS III UNLESS NOTED.

3.) TYPE "C" BEDDING PER M.S.D. AND ST. LOUIS COUNTY STANDARDS IS REQUIRED FOR PIPES IN ROCK.

4.) ALL TRENCHES UNDER AREAS TO BE PAVED AND UNDER EXISTING PAVING SHALL BE GRANULARLY FILLED WITH 3/4" MINUS CRUSHED LIMESTONE ONLY. BACKFILL SHALL BE PLACED IN ACCORDANCE WITH M.S.D. AND ST. LOUIS COUNTY STANDARDS.

5.) ALL TRENCH BACKFILLS UNDER PAVEMENT WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE GRANULAR BACKFILLED. TRENCH BACKFILLS UNDER PAVED AREAS, OUTSIDE OF PUBLIC RIGHT-OF-WAY SHALL BE GRANULAR BACKFILL IN LIEU OF THE EARTH BACKFILL COMPACTED TO 90 PERCENT OF THE MODIFIED AASHTO T-180 COMPACTION TEST A.S.T.M. D-1557.

6.) JETTING IS NOT AN ACCEPTABLE METHOD OF ACHIEVING BACKFILL COMPACTION. ALL BACKFILL MATERIAL SHALL BE MECHANICALLY COMPACTED TO AT LEAST 95 PERCENT OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY.

7.) FOR SEWER PIPE (STORM, SANITARY AND COMBINED) WITH A DESIGN GRADE LESS THAN ONE PERCENT (1%), VERIFICATION OF THE PIPE GRADE WILL BE REQUIRED FOR EACH INSTALLED REACH OF SEWER, PRIOR TO ANY SURFACE RESTORATION OR INSTALLATION OF ANY SURFACE IMPROVEMENTS. THE CONTRACTOR'S FIELD SUPERVISOR WILL BE REQUIRED TO PROVIDE DAILY DOCUMENTATION VERIFYING THAT THE AS-BUILT PIPE GRADE MEETS THE DESIGN GRADE THROUGH THE SUBMITTAL OF SIGNED CUT SHEETS TO THE MSD INSPECTOR UPON REQUEST.

FIELD SURVEYED VERIFICATION MUST BE MADE UNDER THE DIRECTION OF A LICENSED LAND SURVEYOR OR REGISTERED ENGINEER. THE CONTRACTOR WILL BE REQUIRED TO REMOVE AND REPLACE ANY SEWER REACH HAVING AN AS-BUILT GRADE WHICH IS FLATTER THAN THE DESIGN GRADE BY MORE THAN 0.1%. SEWERS WITH GRADE GREATER THAN THE DESIGN SLOPE MAY BE LEFT IN PLACE, PROVIDED NO OTHER SEWER GRADE IS REDUCED BY THIS VARIANCE IN THE AS-BUILT GRADE.

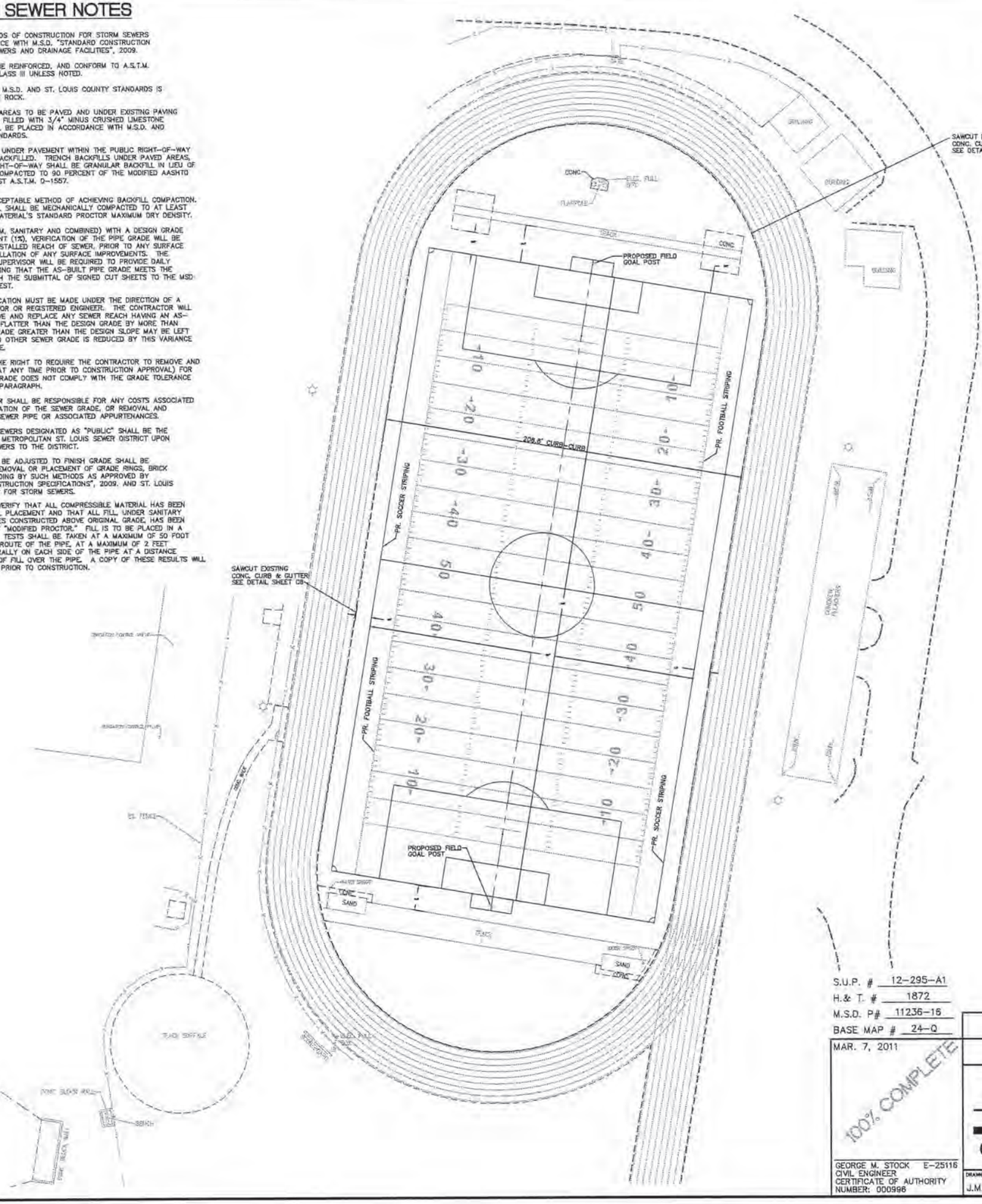
MSD ALSO RESERVES THE RIGHT TO REQUIRE THE CONTRACTOR TO REMOVE AND REPLACE ANY SEWER (AT ANY TIME PRIOR TO CONSTRUCTION APPROVAL) FOR WHICH THE AS-BUILT GRADE DOES NOT COMPLY WITH THE GRADE TOLERANCE STATED IN THE ABOVE PARAGRAPH.

THE SEWER CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COSTS ASSOCIATED WITH THE FIELD VERIFICATION OF THE SEWER GRADE, OR REMOVAL AND REPLACEMENT OF THE SEWER PIPE OR ASSOCIATED APPURTENANCES.

8.) MAINTENANCE OF THE SEWERS DESIGNATED AS "PUBLIC" SHALL BE THE RESPONSIBILITY OF THE METROPOLITAN ST. LOUIS SEWER DISTRICT UPON DEDICATION OF THE SEWERS TO THE DISTRICT.

9.) STRUCTURES NOTED TO BE ADJUSTED TO FINISH GRADE SHALL BE ADJUSTED BY EITHER REMOVAL OR PLACEMENT OF GRADE RINGS, BRICK WORK, OR MORTAR BEDDING BY SUCH METHODS AS APPROVED BY M.S.D. "STANDARD CONSTRUCTION SPECIFICATIONS", 2009, AND ST. LOUIS COUNTY SPECIFICATIONS FOR STORM SEWERS.

10.) SOILS ENGINEER WILL VERIFY THAT ALL COMPRESSIBLE MATERIAL HAS BEEN REMOVED PRIOR TO FILL PLACEMENT AND THAT ALL FILL UNDER SANITARY AND STORM SEWER LINES CONSTRUCTED ABOVE ORIGINAL GRADE, HAS BEEN COMPACTED TO 90% OF "MODIFIED PROCTOR." FILL IS TO BE PLACED IN A MAXIMUM OF 9" LIFTS. TESTS SHALL BE TAKEN AT A MAXIMUM OF 50 FOOT INTERVALS ALONG THE ROUTE OF THE PIPE, AT A MAXIMUM OF 2 FEET VERTICALLY, AND LATERALLY ON EACH SIDE OF THE PIPE AT A DISTANCE EQUAL TO THE DEPTH OF FILL OVER THE PIPE. A COPY OF THESE RESULTS WILL BE SUBMITTED TO MSD PRIOR TO CONSTRUCTION.



NOTES:
1. PROPOSED FOOTBALL AND SOCCER FIELD STRIPING AND GOAL POSTS PER MISSOURI STATE HIGH SCHOOL ATHLETIC ASSOCATION STANDARDS (MSHSAA).
2. PROPOSED FIELD LOGO, END ZONE LETTERING AND STRIPING COLORS TO BE COORDINATED WITH PARKWAY SCHOOL DISTRICT.

2'-0" (Min.)

1'-6" (Min.)

WHAT IS THIS ?

THIS IS A BIO-RETENTION FILTER BASIN. BIO-RETENTION FILTER BASINS ARE DESIGNED TO REMOVE TOXINS THROUGH FILTRATION AND PLANTS DESIGNED TO ABSORB FERTILIZERS, PESTICIDES, OILS AND OTHER WASTE PRIOR TO ENTERING OUR STREAMS.

EDUCATIONAL SIGN DETAIL

NOTE: EDUCATIONAL SIGN TO BE PROVIDED BY OWNER.

UTILITY NOTE

UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, RECORDS AND INFORMATION, AND , THEREFORE DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NON-EXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE FACILITIES, STRUCTURES AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS. THE UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319 RSMo..

S.U.P. # 12-295-A1
H.& T. # 1872
M.S.D. P# 11236-15
BASE MAP # 24-Q

MAR. 7, 2011

100% COMPLETE

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

2 2011-03-07 REVISED PER MSD, COUNTY COMMENTS
1 2011-02-21 REVISED PER MSD, COUNTY COMMENTS

PARKWAY SOUTH HIGH SCHOOL

SITE GEOMETRIC PLAN / SPECIFICATIONS

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
J.M.B.	12/17/10	G.M.S.	12/22/10	210-4671	C7 of 11

Project name:	*Parkway South High School*			Calculated By:	*J.M.B.*		15 year - 20 minute																						
Project number:	*210-4671*			Checked By:	*G.M.S.*		*Bend Coefficient:*																						
Project Location:	*Manchester, Missouri*			Date:	*12/22/2010*		5^0 = 0.06	20^0 = 0.24	35^0 = 0.4	50^0 = 0.50	65^0 = 0.57	80^0 = 0.65																	
							10^0 = 0.11	25^0 = 0.30	40^0 = 0.43	55^0 = 0.52	70^0 = 0.60	85^0 = 0.67																	
							15^0 = 0.18	30^0 = 0.35	45^0 = 0.47	60^0 = 0.55	75^0 = 0.62	90^0 = 0.70																	
	LINE		FLOW LINE ELEVATIONS												HEAD LOSS				Hydraulic Elevations										
Structure	Upper structure	Lower structure	Upper structure	Lower Structure	Length (ft)	Flowline Grade (ft/ft)	Pipe Size (in.)	Full Flow Cap. (cfs)	Total (Q) (cfs)	Mean Full Flow Vel.(V) (ft/s)	Bend Coef.	Curve Coef.	Velocity Head (V_h) (ft)	QVh (ft^3/s)	Pipe Coef. (n)	Hf (ft)	Junction (ft)	Bend (ft)	Curve (ft)	Total H_{tot}	Upper F.L. + Dia.	Lower H.E. +Hf	Lower H.E.	Structure Upper H.E. + H_{tot}	TOP Structure Elevation	Free Board	Structure Number
3	3	2	490.83	489.00	42.39	0.0432	15	13.46	8.77	7.15	0.00	0.00	0.79	6.95	0.013	0.78	0.00	0.00	0.00	0.00	492.08	494.69	497.91	498.69	497.67	-1.02	3
2	2	1	488.00	487.00	52.45	0.0191	15	8.94	8.77	7.15	0.24	0.00	0.79	6.95	0.013	0.97	0.00	0.19	0.00	0.19	489.35	497.72	498.75	497.91	497.00	-0.91	2
1	1		487.00																	15 YR CREEK HGL (FEMA)=				496.75			1
6	6	5	500.76	498.00	57.83	0.0477	12	7.80	8.77	11.17	0.00	0.00	1.94	16.98	0.013	3.50	0.00	0.00	0.00	0.00	501.76	503.02	499.52	503.02	506.30	3.28	6
5	5	4	498.00	495.50	129.20	0.0193	15	9.01	8.77	7.15	0.18	0.00	0.79	6.95	0.013	2.38	0.00	0.14	0.00	0.14	499.25	499.38	497.00	499.52	504.00	4.48	5
4	4		495.50																	City ELEVATION=				497.00			4

MEAN FULL FLOW VELOCV = Q_{ACT}/A_{PIPE}

FRICTION LOSS (H_f) : $Hf = 2.87\ n^2\ (LV^2/d^{1.33})$

VELOCITY HEAD : $V_h = V^2/2g$

JUNCTION LOSES (JUNC.) = $[\ Q_{out}Vh_{out} - Sum\ (Q_{in}V_{in})]/[1.33(Q_{out})]$

BEND LOSSES (BEND) = (V^2) * ANGLE COEFFICIENT

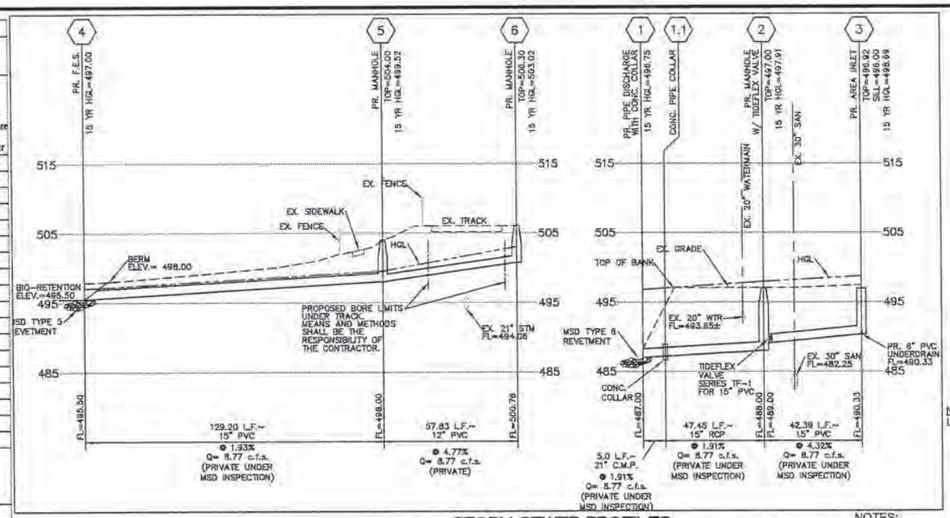
CURVE LOSS=V_h *CURVE COEFFICIENT

Note(s):

Note:

1. IF MORE THAN ONE INCOMING LINE, CALC. EACH BEND LOSS AND ADD TOGETHER.
2. NO STRUCTURE LOSES TO BE CALCULATED AT A DROP
3. IF $QV_{Hte} > QV_{Hout}$, NO JUNCTION LOSES TO BE CALCULATED.

Revisions: *February 14, 2011*



STORM SEWER PROFILES

SCALE: 1" = 30' HORIZ
1" = 10' VERT

UTILITY CONFLICT NOTE:

CONTRACTOR SHALL VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF EXISTING UTILITIES AND SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY POTENTIAL UNDERGROUND UTILITY CONFLICT AT THE TIME OF EXCAVATION.

LINETYPE LEGEND

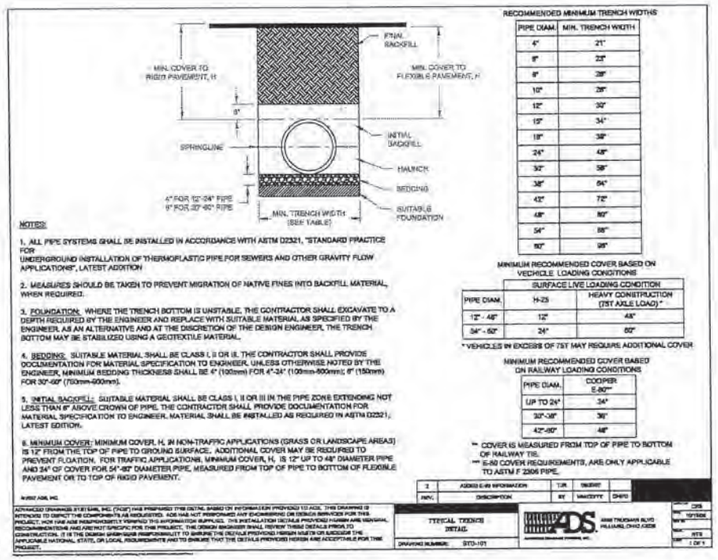
EXISTING GRADE.....
PROPOSED GRADE.....
15 YR HYDRAULIC GRADE...
100 YR HYDRAULIC GRADE...
PROPOSED PAVEMENT....
GRANULAR BACKFILL.....
COMPACTED FILL.....

CONSTRUCTION NOTES:

1. ALL R.C.P. SHALL BE CLASS III UNLESS NOTED OTHERWISE.
2. ALL P.V.C. SHALL BE SDR 35 UNLESS NOTED OTHERWISE.
3. ENGINEER APPROVED SHOP DRAWINGS MUST BE SUBMITTED TO MSD FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION OF SEWER STRUCTURES.

NOTE: ALL SEWERS SHOWN ON THIS SHEET SHALL BE "PRIVATE" UNLESS NOTED OTHERWISE.

NOTES:
1. THE REMOVAL AND REPLACEMENT, OR REHABILITATION OF EXISTING SEWER STRUCTURES WILL BE DETERMINED BY THE MSD FIELD INSPECTOR. IF THE STRUCTURE IS DETERMINED TO REMAIN IN PLACE THEN THE TOP SHALL BE ADJUSTED TO GRADE IF NECESSARY.



NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER, UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-600mm).
5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM	MIN. TRENCH WIDTH
4"	21"
6"	22"
8"	28"
10"	29"
12"	30"
15"	34"
18"	36"
24"	48"
30"	58"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"

MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS

	SURFACE LIVE LOADING CONDITION	
PIPE DIAM.	H-20	HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" - 48"	12"	48"
54" - 60"	24"	60"

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

MINIMUM RECOMMENDED COVER BASED ON RAILWAY LOADING CONDITIONS

PIPE DIAM.	COOPER E-80**
UP TO 24"	24"
30"-36"	36"
42"-60"	48"

** COVER IS MEASURED FROM TOP OF PIPE TO BOTTOM OF RAILWAY TIE.
*** E-80 COVER REQUIREMENTS, ARE ONLY APPLICABLE TO ASTM F 2306 PIPE.

2	ADDED ELAN INFORMATION	TJR	08/09/10
MARK	DESCRIPTION	BY	MM/DD/YY

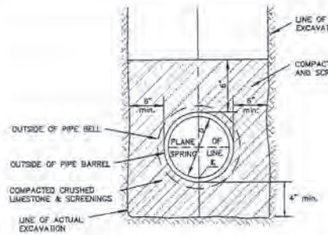
TYPICAL TRENCH DETAIL

DRAWING NUMBER: STD-101

DRAWN | CHKD | DATE | SCALE | SHEET

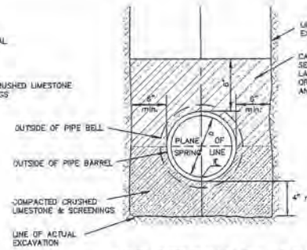
PIPE BEDDING CLASS "C"

(FOR ALL PIPE EXCEPT REINFORCED CONCRETE PIPE)



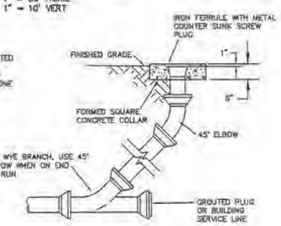
PIPE BEDDING CLASS "C"

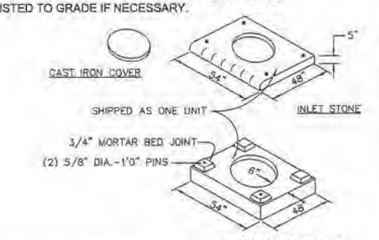
(MODIFIED FOR REINFORCED CONCRETE PIPE)



CLEANOUT

(n.t.s.)





H.D.P.E. STORM SEWER NOTE:

CONTRACTOR SHALL READ AND FOLLOW SPECIFIC INSTALLATION REQUIREMENTS OF H.D.P.E. PIPE MANUFACTURER BASED UPON PIPE TYPE UTILIZED AND FOLLOW ASTM D-2321 INSTALLATION PROCEDURES AS DIRECTED BY THE ON SITE SUPERVISING GEOTECHNICAL ENGINEER.
GEOTECHNICAL ENGINEER SHALL INSPECT INSTALLATIONS TO CONFIRM PROPER INSTALLATION (BEDDING, BACKFILL, COVER, etc) AND CONFIRM SAID INSTALLATION PROCEDURE BASED UPON ON-SITE SOIL TYPE AT PIPE INSTALLATION LOCATIONS ON PROJECT.
IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL SAID RECOMMENDATIONS FOR PROPER INSTALLATION OF H.D.P.E. PIPE SYSTEM INSTALLED.

H.D.P.E. STORM SEWER NOTES:
(IF PERMISSIBLE BY LOCAL AUTHORITY)

1.) STORM SEWER PIPE DESIGNATED AS HIGH DENSITY POLYETHYLENE (H.D.P.E.) SHALL HAVE WATER TIGHT GASKETED JOINTS WITH RUBBER O-RING GASKETS MEETING ASTM F477. O-RING GASKET SHALL BE INSTALLED ON THE SPIGOT END OF PIPE.

2.) 12" TO 36" PIPE SHALL CONFORM TO THE AASHTO M294 CLASSIFICATION "TYPE S" AND 42" TO 48" SHALL CONFORM TO AASHTO MP6-95 CLASSIFICATION "TYPE D."

3.) ALL PIPE JOINTS SHALL CONSIST OF BELL AND SPIGOT JOINING SYSTEM WITH THE BELL COVERING TWO PIPE CORRUGATIONS AS RECOMMENDED IN AASHTO M294.

4.) PIPE MANUFACTURED FOR THIS SPECIFICATION SHALL COMPLY WITH THE REQUIREMENTS FOR TEST METHODS, DIMENSIONS AND MARKINGS FOUND IN AASHTO DESIGNATIONS M252 AND M294. PIPE AND FITTINGS SHALL BE MADE FROM VIRGIN PE COMPOUNDS WHICH CONFORM WITH THE REQUIREMENTS OF CELL CLASS 335420C AS DEFINED AND DESCRIBED IN ASTM D3350.

H.D.P.E. STORM SEWER NOTES CONT'D:
(IF PERMISSIBLE BY LOCAL AUTHORITY)

5.) FITTINGS MAY BE EITHER MOLDED OR FABRICATED AND SHALL CONFORM TO THE REQUIREMENTS AASHTO M252 AND M294. THE FITTINGS SHALL NOT REDUCE OR IMPAIR THE OVERALL INTEGRITY OR FUNCTION OF THE PIPE LINE. ONLY FITTINGS SUPPLIED OR RECOMMENDED BY THE PIPE MANUFACTURER SHALL BE USED.

6.) INSTALLATION OF THE PIPE SPECIFIED ABOVE SHALL BE IN ACCORDANCE WITH THE ASTM RECOMMENDED PRACTICE D2321.

7.) BOTH BELL AND SPIGOT (WITH O-RING GASKET) ENDS OF THE PIPE SHALL BE LUBRICATED AS RECOMMENDED BY MANUFACTURER AND INSERTED TO THE HOMING MARK ON THE SPIGOT END OF THE PIPE.

8.) MINIMUM RECOMMENDED TRENCH WIDTH SHALL BE NOT LESS THAN THE GREATER OF EITHER PIPE OUTSIDE DIAMETER PLUS 16 INCHES OR THE PIPE OUTSIDE DIAMETER TIMES 1.25, PLUS 12 INCHES AS OUTLINED HEREIN:

NOMINAL PIPE DIAMETER	MINIMUM TRENCH WIDTH
8" (200mm)	28"
10" (250mm)	28"
12" (300mm)	30"
15" (375mm)	34"
18" (450mm)	39"
24" (600mm)	48"
30" (750mm)	58"
36" (900mm)	64"
42" (1050mm)	72"
48" (1200mm)	80"
54" (1350mm)	88"
60" (1500mm)	96"

Tideflex Technologies

Technical Data

Series TF-1—Tideflex® Check Valve

Features & Benefits
- Ideal for manhole installations
- Lightweight, all-elastomer design
- Seals around entrapped solids
- Cost-effective, maintenance-free design

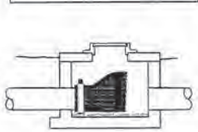
Materials of Construction
- Elastomers available in Pure Gum Rubber, Neoprene, Hypalon®, Chlorobutyl, Buna-N, EPDM, and Viton®

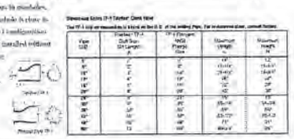


We are pleased to announce the introduction of the evolutionary TF-1 Check Valve. It functions and operates under the same simple principles of operation as the original TF-1 Tideflex

This design is ideal for existing manhole installations where the outlet of the pipe is close to the floor of the tank. There are many check valves on the market, stainless steel units. These units are designed so that there would be a minimum gap or head from the lowest point in the valve to the floor or manhole. The TF-1 allows installations in such applications.

The "Tideflex" Technologies Series TF-1 "Tideflex" Check Valve is designed for applications in manholes, where the bottom of the manhole is close to the lowest of the pipe. The TF-1 configuration allows the valve to be properly installed without manhole modifications, maximize positive backflow prevention and a lifetime of maintenance-free performance.



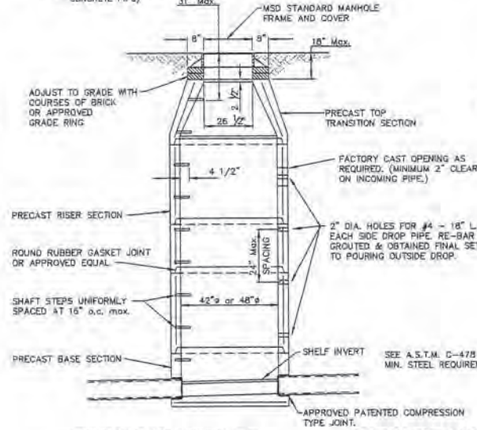


Tideflex Technologies, Inc. • 348 Oliver St., Pittsburgh, PA 15213 USA • 412-369-9999 • Fax 412-369-9984 / www.tideflex.com

ALL DETAILS SHOWN ON THIS SHEET ARE FOR THE CONVENIENCE OF THE CONTRACTOR. THE DETAILS ARE TO BE VERIFIED PER MSD'S STANDARD CONSTRUCTION SPECIFICATIONS, 2009. ALL METHODS, MEANS AND MATERIALS SHALL CONFORM TO MSD CURRENT STANDARD CONSTRUCTION SPECIFICATION, 2009.

PRECAST MANHOLE

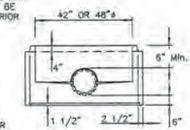
(n.t.s.)



FLOWLINE ELEVATION OF INCOMING PIPES SHALL BE ONE (1) INCH HIGHER THAN THAN THAT OF OUTGOING PIPE.



MANHOLE BASE PLAN



BASE SECTION

SEE A.S.T.M. C-478 FOR MIN. STEEL REQUIREMENTS.

AREA INLET #3 CAPACITY

$Q = Cd \times A \times \sqrt{(2(g)(h))}$

WHERE:
Q = DISCHARGE (c.f.s.)
Cd = COEFFICIENT OF DISCHARGE (Cd=0.61)
A = CROSS-SECTIONAL AREA OF FLOW AT THE ORIFICE ENTRANCE (SQ. FT.) (ONE SIDE)
g = ACCELERATION OF GRAVITY ($g=32.2\ ft/sec^2$)
h = DRIVING HEAD (ft), MEASURED FROM THE CENTROID OF THE ORIFICE AREA TO THE WATER SURFACE.
FOR 6" OF PONDING AT THE INLET, h=0.50'

$Q = Cd \times A \times \sqrt{(2(g)(h))}$

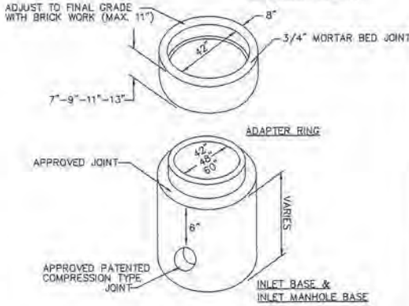
$Q = 0.61 \times 5.67\ ft^2 \times \sqrt{(2(32.2\ ft/sec^2)(0.50'))}$

$Q = 19.63$ c.f.s. / AREA INLET (OPEN 4 SIDES)

Q(100) = (2.2 Ac.) x (2.29) = (1.42 Ac.) x (4.77) = 11.81 CFS
11.81 CFS < 19.63 CFS, THEREFORE INLET HAS SUFFICIENT CAPACITY.

PRECAST AREA INLET DETAIL

(n.t.s.)



ST. LOUIS COUNTY NOTE:

THIS SHEET NOT INCLUDED WITH ST. LOUIS COUNTY APPROVAL.

2	2011-03-07 REVISED PER MSD, COUNTY COMMENTS
1	2011-02-21 REVISED PER MSD, COUNTY COMMENTS

S.U.P. # 12-295-A1
H.& T. # 1872
M.S.D. P# 11236-16
BASE MAP # 24-Q

MAR. 7, 2011

100% COMPLETE

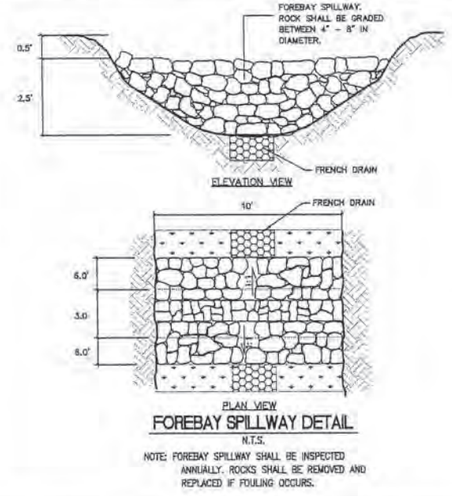
GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

PARKWAY SOUTH HIGH SCHOOL

STORM SEWER PROFILES, DETAILS & HYDRAULICS

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

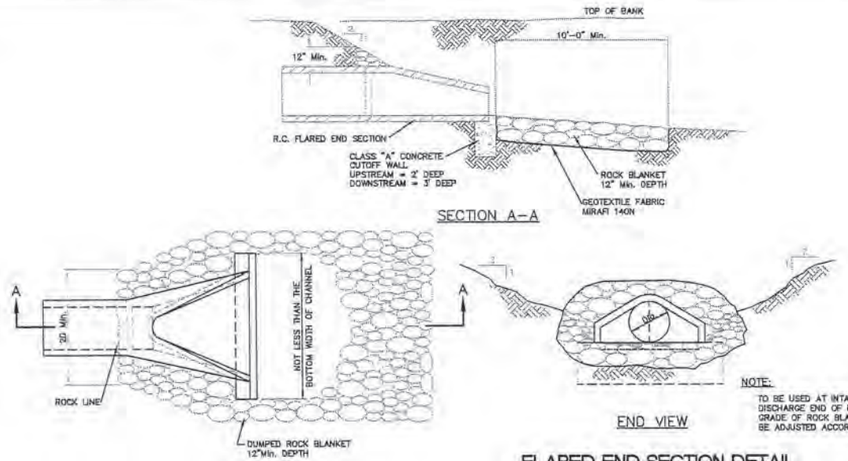
DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
J.M.B.	12/17/10	G.M.S.	12/22/10	210-4671	C8 of 11



FOREBAY SPILLWAY DETAIL

N.T.S.

NOTE: FOREBAY SPILLWAY SHALL BE INSPECTED ANNUALLY. ROCKS SHALL BE REMOVED AND REPLACED IF FOULING OCCURS.



FLARED END SECTION DETAIL

(n.t.s.)

CONSTRUCTION NOTES:

IT IS IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF THE BIORETENTION AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF BIORETENTION AREAS ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.

COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO FRACTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE DESIGN OR GEOTECHNICAL ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

THE IN-PLACE PERMEABILITY OF THE PLANTING SOIL SHALL BE 2.0 TO 3.5 FT/DAY, AND VERIFIED BY AN INFILTRATION TEST PERFORMED PER THE MARYLAND STORMWATER MANUAL, APPENDIX D.1, "INFILTRATION TESTING REQUIREMENTS (FIELD TESTING REQUIRED)". A MINIMUM OF ONE PERCOLATION TEST SHALL BE PERFORMED PER FACILITY. THE MSD FIELD INSPECTOR SHALL BE ALLOWED TO SELECT THE LOCATION OF PERCOLATION TESTS. THE MSD FIELD INSPECTOR SHALL BE PROVIDED A COPY OF ALL TEST RESULTS, SIGNED AND SEALED BY A MISSOURI PROFESSIONAL ENGINEER. TEST RESULTS SHALL REPORT IN UNITS OF FT/DAY. RESULTS SHALL DEMONSTRATE ACCEPTABLE PERMEABILITY PRIOR TO CONSTRUCTION APPROVAL.

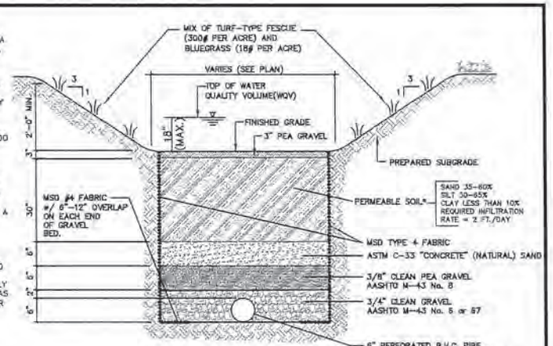
WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS OF 12 TO 18 INCHES. DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS. THE LANDSCAPER AND OR GEOTECHNICAL ENGINEER SHOULD BE PRESENT ON SITE DURING THE CONSTRUCTION OF THE BIORETENTION FACILITIES TO ENSURE QUALITY CONTROL.

Planting Soil Characteristics

Parameter	Value
pH range	5.2 to 8.00
Organic matter	1.5 to 5.0%
Magnesium	35 lbs. per acre, minimum
Phosphorous (P2O5)	75 lbs. per acre, minimum
Potassium (K2O)	85 lbs. per acre, minimum
Soluble salts	≤ 500 ppm

NOTES:

1. DURING CONSTRUCTION SITE RUNOFF SHALL NOT FLOW INTO BIORETENTION AND/OR SAND FILTER AREAS. ALL STORMWATER FLOW TO SAND FILTER AND BIORETENTIONAREAS SHALL BE DIVERTED, PLUGGED, OR DISCONNECTED UNTIL THE CONSTRUCTION SITE IS STABLE AND THE MSD INSPECTOR PROVIDE APPROVAL TO PLACE THE BMPS ONLINE.
2. SEE LANDSCAPE PLAN (SHEET C10) FOR ADDITIONAL DETAILS ON PLANTINGS IN BIORETENTION AREAS.
3. CLEANOUTS TOP ELEVATION TO BE 6" ABOVE PEA GRAVEL SURFACE.

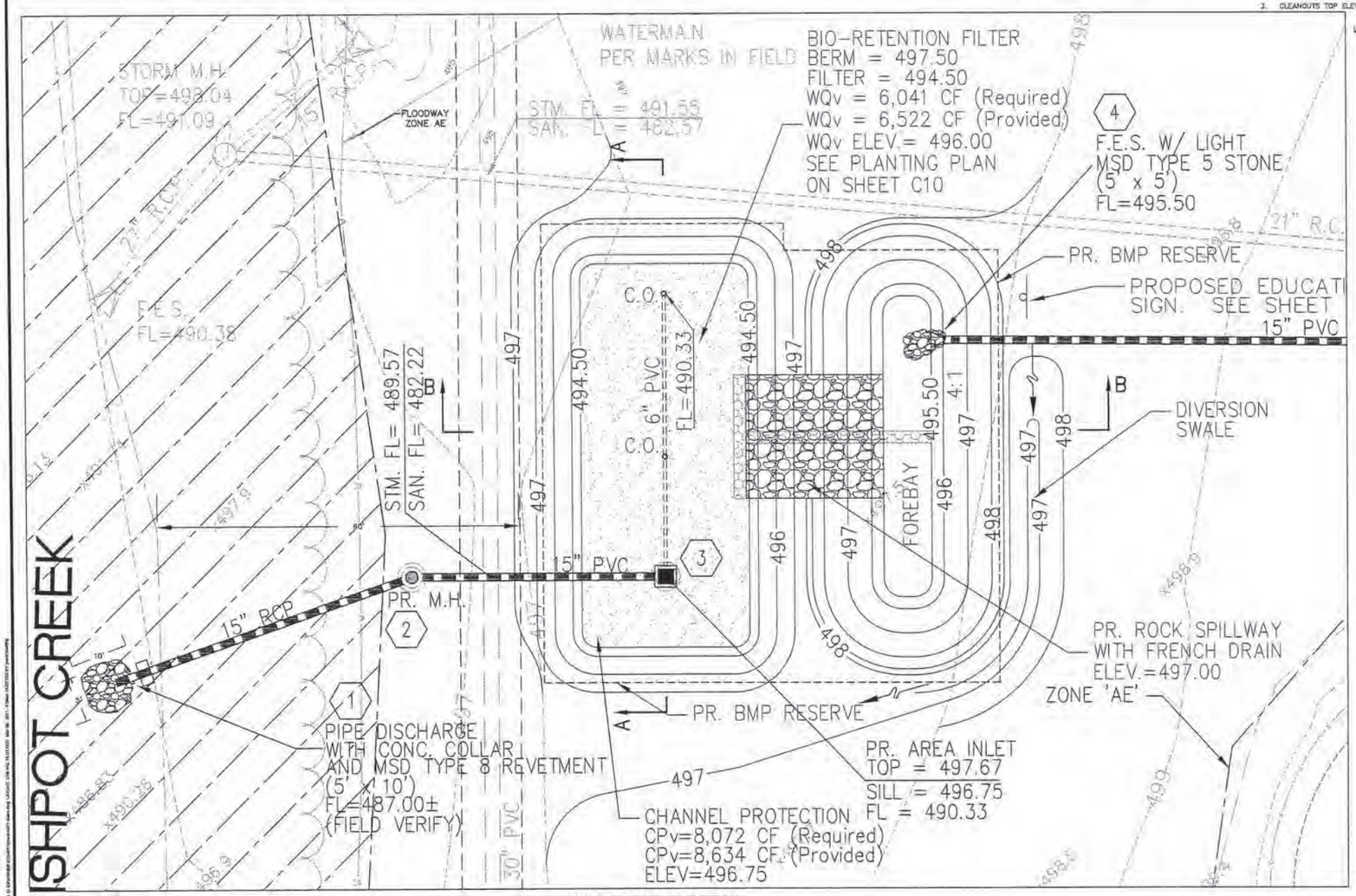


BIO-RETENTION DETAIL

(N.T.S.)

ANY FUTURE LAND DISTURBANCE AND/OR INCREASE IN IMPERVIOUS AREA ON THIS SITE PLAN MAY REQUIRE ADDITIONAL STORM WATER MANAGEMENT PER MSD REGULATIONS IN PLACE AT THAT TIME (INCLUDING TOTAL LAND DISTURBANCE AND/OR IMPERVIOUSNESS ADDED ON THIS PLAN, P-11236-16)

STORMWATER MANAGEMENT – WATER QUALITY NOTE
LAND AREA DISTURBED = 2.56 ACRES
ANY FURTHER DEVELOPMENT SHALL INCLUDE THESE IMPROVEMENTS AS WELL

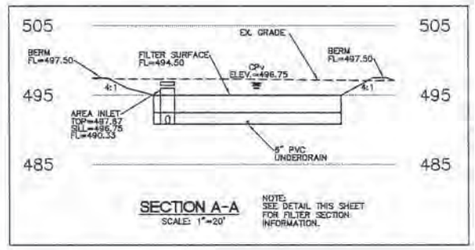


BIO-RETENTION DETAIL

SCALE: 1" = 10'

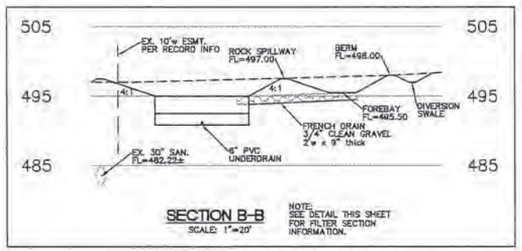
LIMITS OF DISTURBANCE

THE CONTRACTOR SHALL STAY WITHIN THE LIMITS OF DISTURBANCE AS SHOWN ON THE PLANS AND MINIMIZE DISTURBANCE WITHIN THE WORK AREA WHEREVER POSSIBLE.



SECTION A-A

SCALE: 1"=20'



SECTION B-B

SCALE: 1"=20'

BIO-RETENTION SECTIONS

SCALE: 1" = 20' HORIZ.
SCALE: 1" = 10' VERT.

ST. LOUIS COUNTY NOTE:

THIS SHEET NOT INCLUDED WITH ST. LOUIS COUNTY APPROVAL.

S.U.P. # 12-295-A1
H.& T. # 1872
M.S.D. P# 11236-16
BASE MAP # 24-0

MAR. 7, 2011

100% COMPLETE

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY NUMBER: 000996

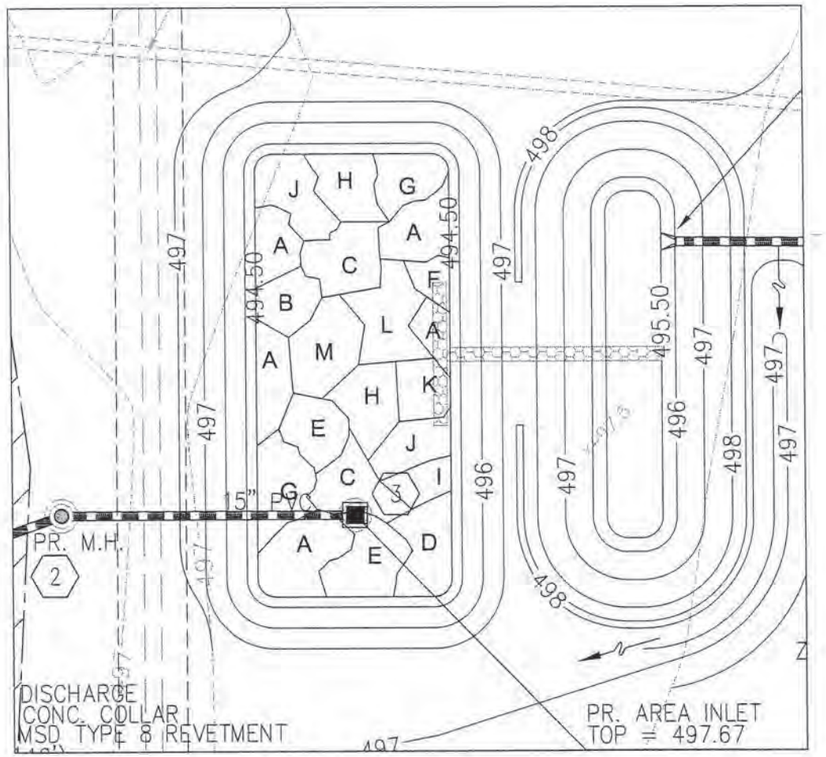
2 2011-03-07 REVISED PER MSD, COUNTY COMMENTS
1 2011-02-21 REVISED PER MSD, COUNTY COMMENTS

PARKWAY SOUTH HIGH SCHOOL

WATER QUALITY DETAILS

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
J.M.B.	12/17/10	G.M.S.	12/22/10	210-4671	C9 of 11

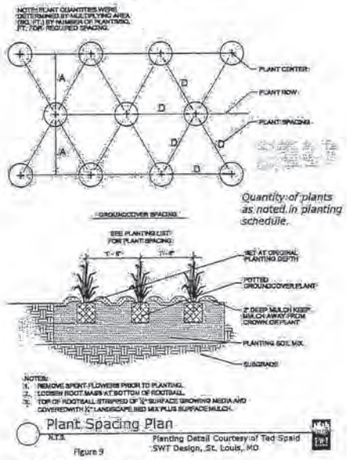


BIO-RETENTION PLANTING PLAN

SCALE: 1" = 10'

PLANTING SCHEDULE						
PLANT DESIGNATOR	QUANTITY	BOTANICAL NAME	COMMON NAME	TYPE	"D" SPACING	SIZE
				GRASSES/SEDGES		
A	166	ANDROPOGON GERARDII	BIG BLUESTEM	GRASSES/SEDGES	1.50	2" PLUG
B	32	CAREX GRAYI	BUR SEDGE	GRASSES/SEDGES	1.50	2" PLUG
C	72	CAREX SHORTIANA	SHORTS SEDGE	GRASSES/SEDGES	1.50	2" PLUG
D	31	CHASMANTHIUM LATIFOLIUM	RIVER OATS	GRASSES/SEDGES	1.50	2" PLUG
E	72	SPOROBOLUS HETEROLEPIS	PRAIRIE DROPSEED	FORBS	1.50	2" PLUG
F	32	COREOPSIS LANCEOLATA	LANCELEAF COREOPSIS	FORBS	1.50	2" PLUG
G	34	ECHINACEA PALLIDA	PALE PURPLE CONEFLOWER	FORBS	1.50	2" PLUG
H	41	ERYNGIUM YUCCIFOLIUM	RATTLESNAKE MASTER	FORBS	1.50	2" PLUG
I	32	PYCNANTHEMUM TENUIFOLIUM	SLENDER MOUNTAIN MINT	FORBS	1.50	2" PLUG
J	47	EUPATORIUM COELESTINUM	MIST FLOW; WILD AGERATUM	FORBS	1.50	2" PLUG
K	30	SOLIDAGO RUGOSA	ROUGH-LEAVED GOLDENROD	FORBS	1.50	2" PLUG
L	53	ZIZIA AUREA	GOLDEN ALEXANDER	FORBS	1.50	2" PLUG
M	51	ECHINACEA PURPUREA	PURPLE CONEFLOWER	FORBS	1.50	2" PLUG

SPACING "D"	ROW "A"	NUMBER OF PLANTINGS PER
30"	26"	705
24"	20.8"	26
18"	13.8"	452
15"	13.0"	540
12"	10.4"	1,220
10"	8.66"	1,44
9"	8.66"	2,220



NOTES:
1. REMOVE SPENT FLOWERS PRIOR TO PLANTING.
2. LOOSEN ROOT MASS AT BOTTOM OF ROOTBALL.
3. TOP OF ROOTBALL STRIPPED OF ½" SURFACE GROWING MEDIA AND COVERED WITH 3" LANDSCAPE BED MIX PLUS SURFACE MULCH.

Plant Spacing Plan
N.T.S.

Figure 9

Planting Detail Courtesy of Ted Spaid SWT Design, St. Louis, MO

Planting, Water and Mulch Requirements for Stormwater BMPs

Table 3: Planting, Water and Mulch Requirements

Water Availability	Required Planting Period	Minimum Container Size	Water Requirement First 3 Weeks*	Water Requirement After 3 Weeks*	Maximum Mulch Depth****
No ability to water after	Late Feb. – April only	2.25" x 3.75" or larger	Water each plug immediately		1.5 for plugs
Manual watering with standard sprinkler	Late Feb. – Early June	4.5" x 5" (quart) or larger in summer & fall	1" (60 min) every 4 days	1" (60 min) every 7 days until plants established***	1.5" for plugs
Automatic irrigation (set to water more frequently than normal during first two months after planting)	Late Feb. – Early Oct.	2.25" x 3.75" (plug) or larger in spring 4.5" x 5" (quart) or larger in summer & fall	1" (60 min) every 4 days in spring and fall 1" (60 min) every 3 days in summer	1" (60 min) every 7 days until plants established***	1.5" for plugs 2.5" for quarts

*This water amount includes natural rainfall. If you get a ½ inch of natural rain then you will need to add a ½ inch of water to meet the 1 inch requirement.

**Requires transport of water to the planting site in large containers and pouring enough water onto each plant (after planting) to moisten the entire planting pit.

***Plants are established when roots have grown out of the container soil and into the native soil by 1-3 inches. This normally takes 3-4 months for most perennials and grasses and up to 6-7 months for trees and shrubs.

****Shredded leaf compost is recommended for use with perennials and grasses. Shredded bark mulch is recommended for tree and shrub plantings at a depth of 3 inches.

ST. LOUIS COUNTY NOTE:

THIS SHEET NOT INCLUDED WITH ST. LOUIS COUNTY APPROVAL.

S.U.P. # 12-295-A1
H.& T. # 1872
M.S.D. P# 11236-16
BASE MAP # 24-Q

MAR. 7, 2011

100% COMPLETE

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY
NUMBER: 000996

2 2011-03-07 REVISED PER MSD, COUNTY COMMENTS
1 2011-02-21 REVISED PER MSD, COUNTY COMMENTS

PARKWAY SOUTH HIGH SCHOOL

BMP PLANTING PLAN

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
J.M.B.	12/17/10	G.M.S.	12/22/10	210-4671	C10 of 11

BMP/STORM WATER CREDIT SUMMARY TABLE

Area	Acres	Description of Area	BMP	Stormwater Credit	WQv Reduction Type (1 of 3 Types)	WQv Required (Cu. Ft.)	WQv Provided (Cu. Ft.)
1	3.62	SYNTHETIC TURF & TRACK	BIO-RETENTION FILTER	-	4,240	6,041	6,522
Total	3.62						

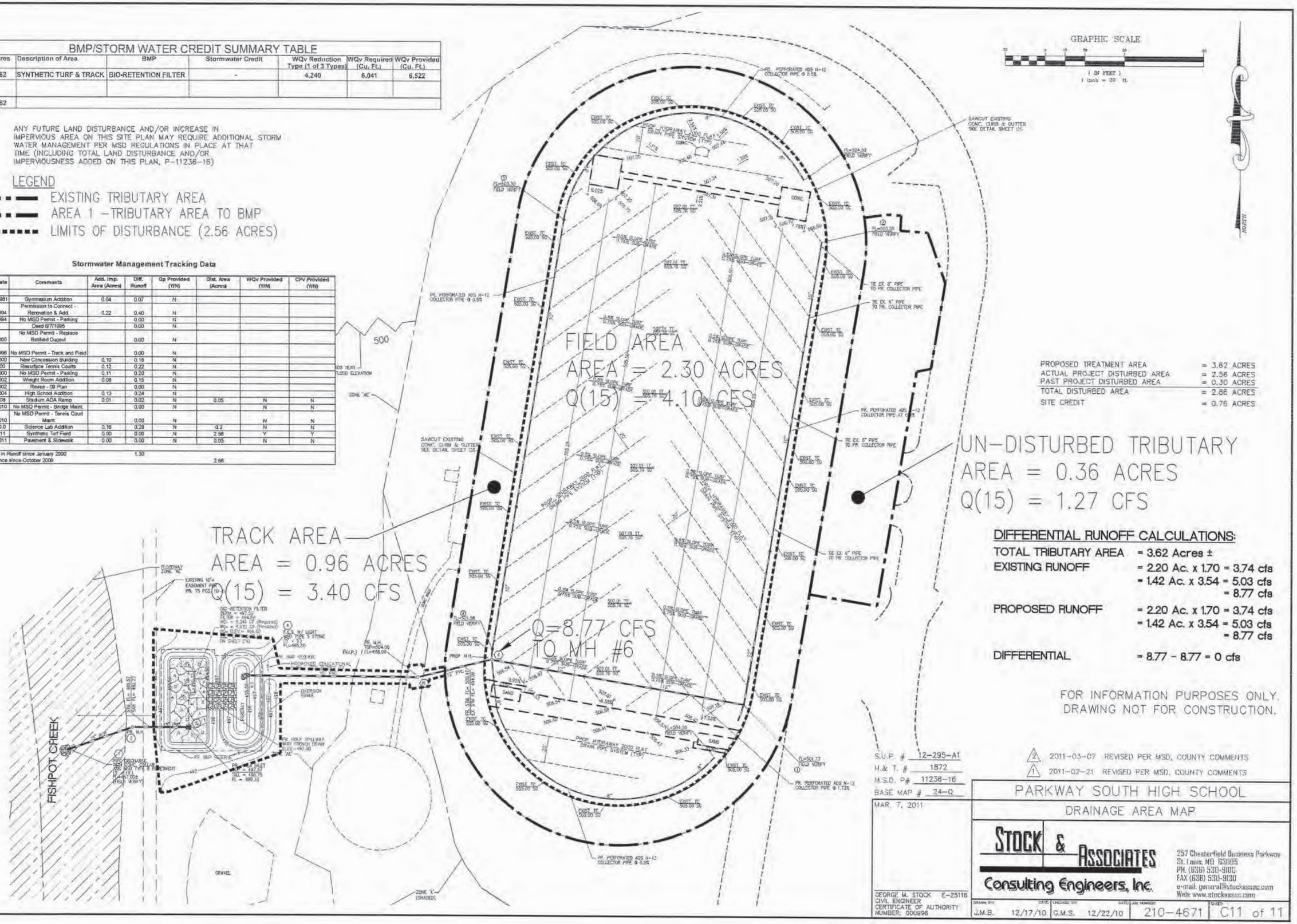
ANY FUTURE LAND DISTURBANCE AND/OR INCREASE IN IMPERVIOUS AREA ON THIS SITE PLAN MAY REQUIRE ADDITIONAL STORM WATER MANAGEMENT PER MSD REGULATIONS IN PLACE AT THAT TIME (INCLUDING TOTAL LAND DISTURBANCE AND/OR IMPERVIOUSNESS ADDED ON THIS PLAN, P-11236-16)

LEGEND

- EXISTING TRIBUTARY AREA
- AREA 1 – TRIBUTARY AREA TO BMP
- LIMITS OF DISTURBANCE (2.56 ACRES)

Stormwater Management Tracking Data

Project #	App. Date	Comments	Add. Imp. Area (Acres)	Diff. Runoff	Qp Provided (Y/N)	Dist. Area (Acres)	WQv Provided (Y/N)	CPV Provided (Y/N)
P-11236-00	12/31/1981	Gymnasium Addition	0.04	0.07	N			
-01	5/27/1994	Permission to Connect - Renovation & Add.	0.22	0.40	N			
-02	7/22/1994	No MSD Permit - Parking		0.00	N			
-03		Dead 6/7/1995		0.00	N			
-04	7/12/2000	No MSD Permit - Replace Ballfield Dugout		0.00	N			
-05	7/24/1998	No MSD Permit - Track and Field		0.00	N			
-06	5/19/2000	New Concession Building	0.10	0.18	N			
-07	7/3/2000	Resurface Tennis Courts	0.12	0.22	N			
-08	7/12/2000	No MSD Permit - Parking	0.11	0.20	N			
-09	3/14/2002	Weight Room Addition	0.08	0.15	N			
-10	9/11/2002	Revise - 09 Plan		0.00	N			
-11	8/12/2004	High School Addition	0.13	0.24	N			
-12	5/1/2008	Stadium ADA Ramp	0.01	0.02	N	0.05	N	N
-13	2/25/2010	No MSD Permit - Bridge Maint.		0.00	N		N	N
-14	3/17/2010	No MSD Permit - Tennis Court Maint.		0.00	N		N	N
-15	Per CD.0	Science Lab Addition	0.16	0.29	N	0.2	N	N
-16	1/3/2011	Synthetic Turf Field	0.00	0.00	N	2.56	Y	Y
-17	1/21/2011	Pavement & Sidewalk	0.00	0.00	N	0.05	N	N
Cumulative Increase in Runoff since January 2000				1.30				
Cumulative Disturbance since October 2006						2.66		



FOR INFORMATION PURPOSES ONLY. DRAWING NOT FOR CONSTRUCTION.

S.U.P. # 12-295-A1
H.& T. # 1872
M.S.D. P# 11236-16
BASE MAP # 24-Q

MAR. 7, 2011

GEORGE M. STOCK E-25116
CIVIL ENGINEER
CERTIFICATE OF AUTHORITY NUMBER: 000996

2 2011-03-07 REVISED PER MSD, COUNTY COMMENTS
1 2011-02-21 REVISED PER MSD, COUNTY COMMENTS

PARKWAY SOUTH HIGH SCHOOL

DRAINAGE AREA MAP

STOCK & ASSOCIATES
Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY	DATE	CHECKED BY	DATE	JOB NUMBER	SHEET
J.M.B.	12/17/10	G.M.S.	12/22/10	210-4671	C11 of 11

EXHIBIT-V

EARLY CHILDHOOD CENTER WEST

BMP ORIGINAL PROJECT INFORMATION

#7

Exhibit "A"

169501Alan0000000001.dgn

1. Grading Contractor shall obtain all necessary state and local permits required for hauling excess demolition and unsuitable materials from the project site. Hauling methods and conditions of the permit shall be strictly adhered to.
2. Timber, rubbish, debris, pipes, sewers, large pieces of concrete and other objectionable material exposed during grading operation shall be properly disposed offsite in an approved manner.
3. Material Borrow - As part of the Contractor's grading permit application, the following information must be relative to the borrow of earth material as part of the site grading operation. Additional plans may be required for haul or borrow of earthwork.
   a. Cubic yards of material to be hauled
   b. Number of trucks to be used and trips per day
   c. Hours per day and days of operation
   d. Location of entering and exiting the site.
4. Anti-siltation devices shown on the plans shall be installed prior to grading operations and shall be installed downslope of every location where the original ground is to be disturbed. Siltation basins shall be constructed and maintained as required in the specifications. Anti-siltation devices may be added as directed by the Director of St. Louis County, Department of Highways and Traffic, and the City of Chesterfield.
5. All disturbed areas shall be graded to match proposed sections and contours shown on the plans with no slopes steeper than 3 to 1, and meeting all standards and methods of construction in accord with St. Louis County Department of Highways and Traffic, Standard Specifications for Highway Construction, June 1980 or the latest revision thereto, and the City of Chesterfield.
6. Sewer can be trenched or bored under the pavement. If bored, traffic will be using the road. If trenched, Contractor must leave 20 feet of pavement passable at all times, for two (2) way traffic. The Owner must be notified 72 hours in advance of any work on or under the roadway.
7. All disturbed areas shall be sodded if the slope is steeper than 5 to 1; if less than 5 to 1 the areas shall be seeded and mulched.
8. All sanitary and storm sewer construction shall conform to Standard Construction Specifications for Sewers and Drainage Facilities and Standard Construction Details prepared by the Metropolitan St. Louis Sewer District, dated 1992, and as amended by the District, and the City of Chesterfield.
9. The Contractor is responsible for keeping roads clear of mud and debris.

PANELBOARD

TIMECLOCK & CONTACTOR

CONDUIT CONCEALED UNDERGROUND

EXPOSED CONDUIT

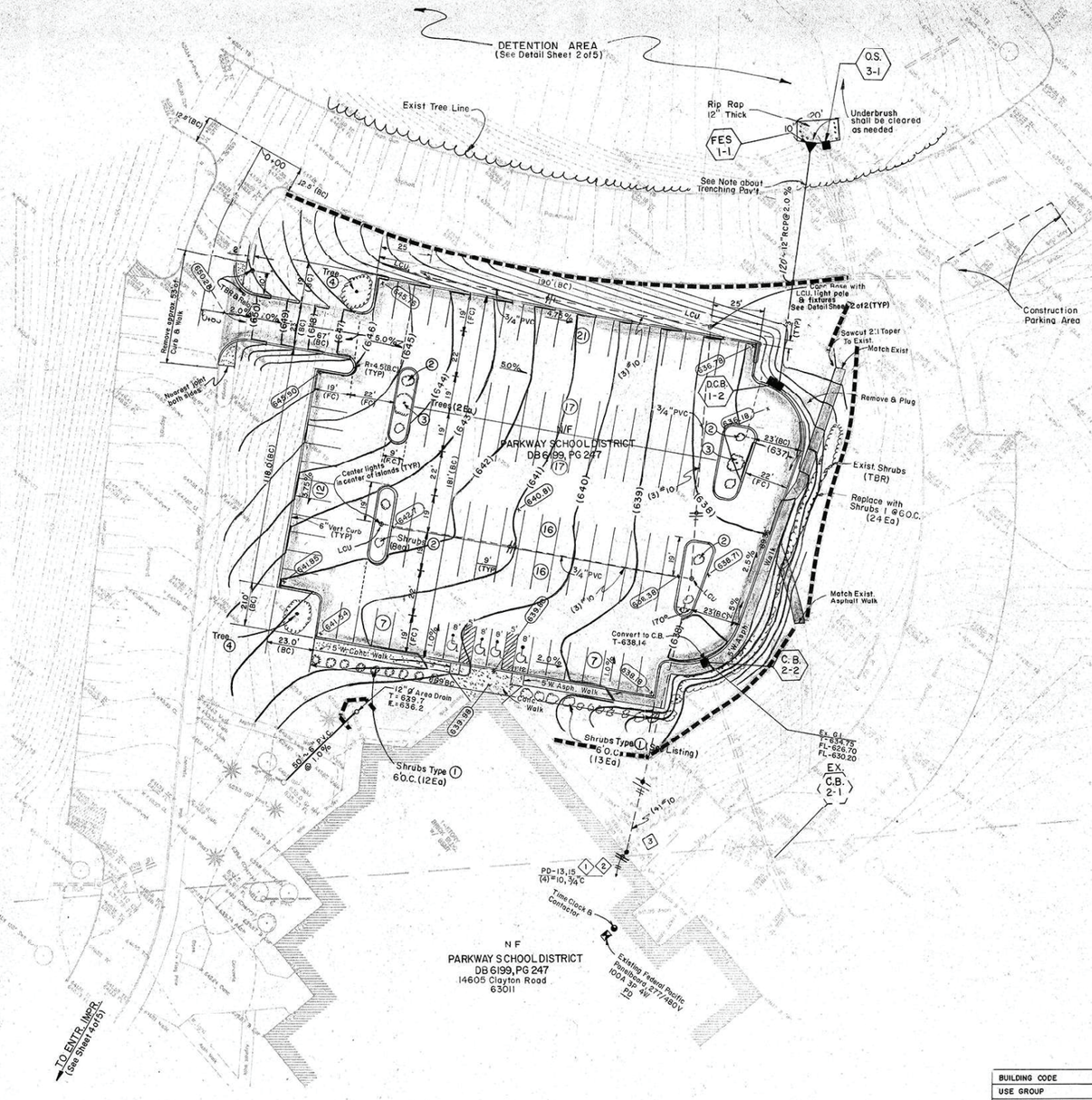
HOMERUN (Hot, Ground, Neutral)

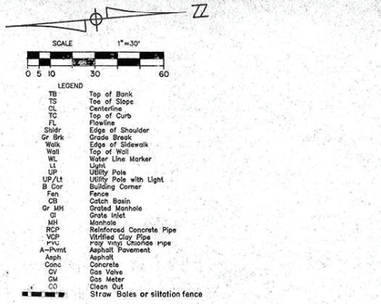
LIGHTING NOTES

1. Provide (2) 20A - IP Circuit Breaker in panel board "PD".
2. Verify exact location where the homerun penetrates the building wall with owner priop to rough-in. Use EMT Conduit inside the building.
3. Core drill through retaining wall run conduit exposed down face of wall.

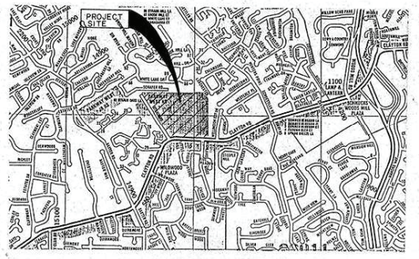
PLANT MATERIAL LISTING

I.D. No.	Common Name	Scientific Name	Mature Height	Size	Total Number
1	Forsythia	Forsythia Intermedia	N/A	2-1/2 Gal.	49
2	Burning Bush			5 Gal.	8
3	Crab Apple	Malus Sugar Tyme	16'-20'	2" Cal.	2
4	Crimson King			2" Cal.	2





BENCH MARK: MSD 12-35 664.64 – Standard Tablet stamped 14-74 S.L.C. set 4" below ground at the entrance to Oak Tree Farm Subd., 10' North of East end of brick subdivision entrance marker; 38' East and 32' South of Intersection of Clayton Road and Hilgs Land Ridge Drive.



LOCATION MAP

N

ASPHALT PAVING

6" Type "2" Aggregate, Gradation A
4" Type "X" Asphaltic Base
2" Type "C" Asphalt

5' WIDE SIDEWALK

4" Type "C" Asphalt
- or -
4" Conc. on Compacted Subgrade as noted on plan

EARTHWORK QUANTITIES

Embankment In Place	8550 C.Y.
Excavation	0 C.Y.

NOTE: Earthwork quantities are estimated for plan review and submittal to Agencies only; bidding and actual quantities are to be determined by the Contractor.

BUILDING CODE	
USE GROUP	
TYPE OF CONSTRUCTION	
BUILDING AREA	
FIRE SUPPRESSION	
OCCUPANCY (CALCULATED/ACTUAL)	MSD P NUMBER 20017

REVISIONS

NO.	DESCRIPTION	BY	NO.	DESCRIPTION	BY

SCALE 1" = 30'

DESIGNED	G.M.S.	DATE 3/2/95
DRAWN	D.J.M.	DATE
CHECKED	R.F.K.	DATE
APPROVED		DATE

PROFESSIONAL SEAL

DESIGNED BY
PARKWAY FACILITIES DIVISION
PARKWAY SCHOOL DISTRICT
455 NORTH WOODS MILL ROAD TEL 314-851-8178
CHESTERFIELD, MISSOURI 63017 FAX 314-576-8510

DRAWING TITLE
SITE & GRADE PLAN

PROJECT NAME
EARLY CHILDHOOD CENTER
PARKING
14605 CLAYTON ROAD
63011

DRAWING NO. 1 of 5

PROJECT NO. 169401

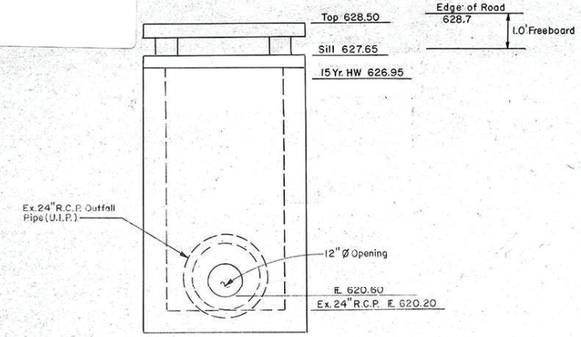
OF

93263.8

BASE MAP-20-R

Exhibit "A"

169501Aarc0000000002.dgn

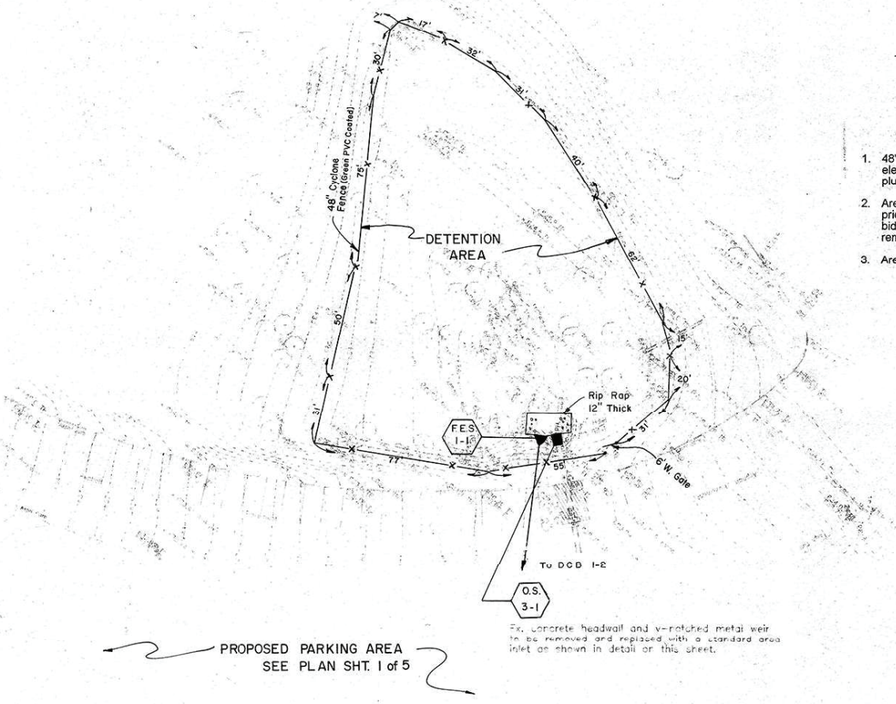


DETAIL

WEST FACE OF PRECAST STANDARD M.S.D. AREA INLET

SCALE 1"=2'

N/F
PARKWAY SCHOOL DISTRICT
DB 5313, PG 201



Scale 1" = 30'

0 5 10 30 60

GENERAL NOTES

1. 48" Cyclone Fence layout to be placed outside of highwater elevation of 628.70. For bidding purposes, length equals 573' plus gate.
2. Area inside fence to be cleared of underbrush. Contact owner prior to clearing. Owner will flag all trees to be removed. For bidding purposes assume no trees 2" caliper and over will be removed.
3. Area cleared shall be sodded.

REVISIONS						SCALE	1" = 30'		PROFESSIONAL SEAL
NO.	DESCRIPTION	BY	NO.	DESCRIPTION	BY	DESIGNED	G.M.S.	DATE 3/2/95	
						DRAWN	C.A.D.	DATE	
						CHECKED	R.F.K.	DATE	
						APPROVED		DATE	

DESIGNED BY
PARKWAY FACILITIES DIVISION
PARKWAY SCHOOL DISTRICT
455 NORTH WOODS MILL ROAD TEL 314-851-8178
CHESTERFIELD, MISSOURI 63017 FAX 314-530-8510

DRAWING TITLE
SITE PLAN

BUILDING CODE	
USE GROUP	
TYPE OF CONSTRUCTION	
BUILDING AREA	
FIRE SUPPRESSION	
OCCUPANCY (CALCULATED/ACTUAL)	

PROJECT NAME
EARLY CHILDHOOD CENTER
PARKING
14605 CLAYTON ROAD
63011

MSD P NUMBER 20017

DRAWING NO.
2 of 5

PROJECT NO.
169401

OF

BASE MAP 20-R

9326381.DWG

EXHIBIT-W

EARLY CHILDHOOD CENTER

SOUTH MASON

MSD BMP MAP

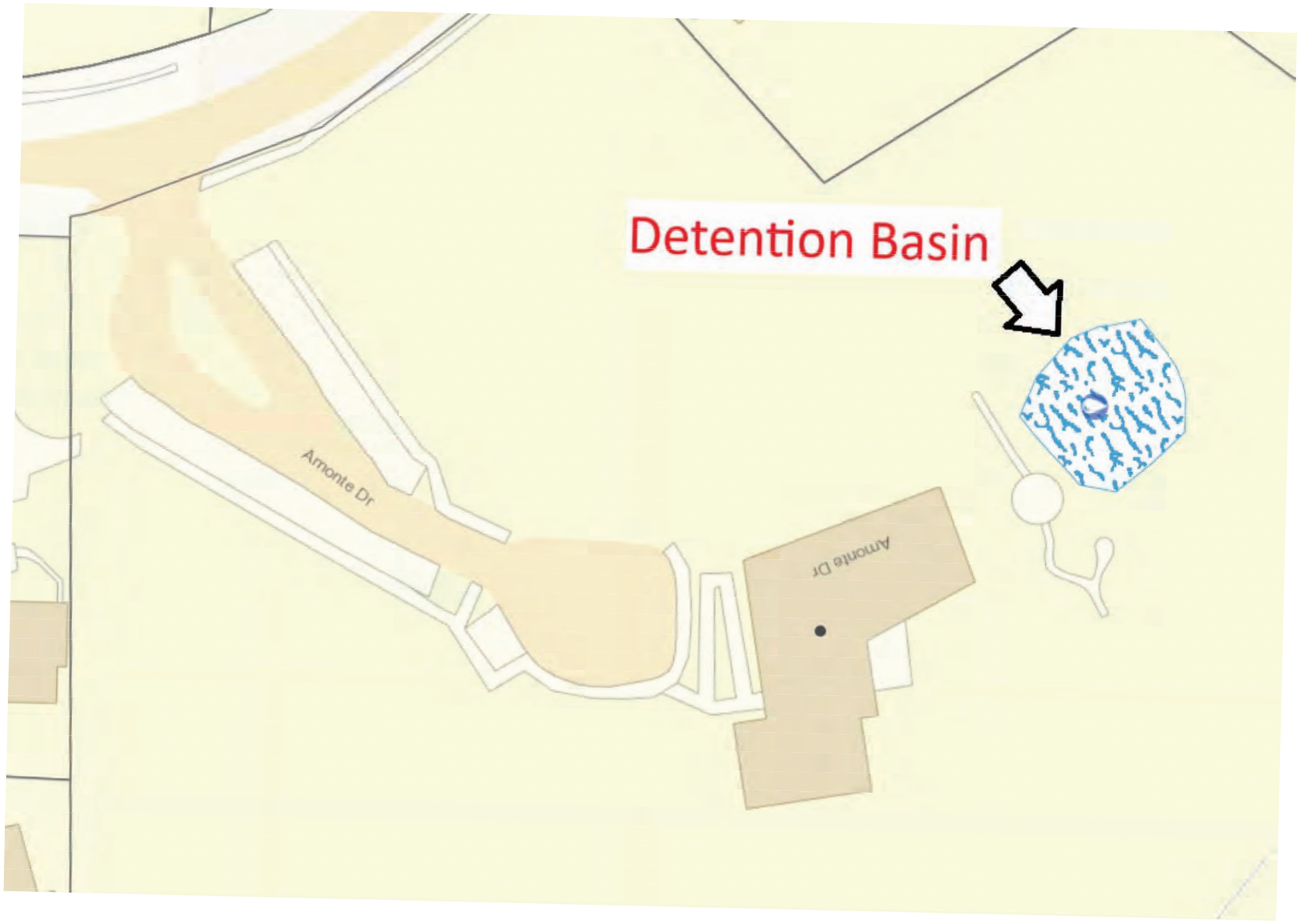

Detention Basin
Amonte Dr
Amonte Dr

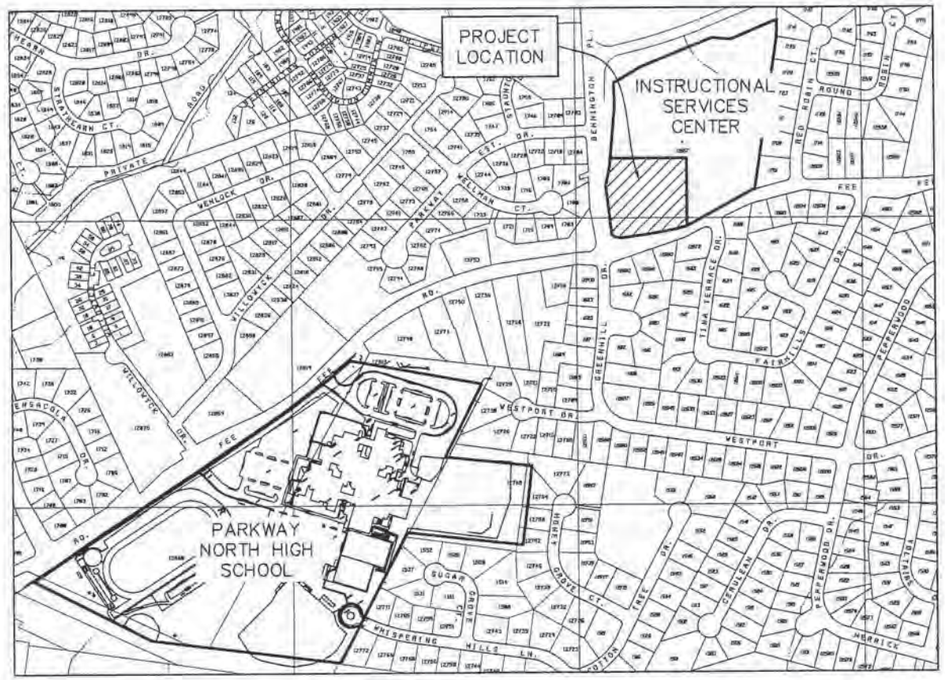
EXHIBIT-X

MCKELVEY PRIMARY (ISC)

BMP ORIGINAL PROJECT INFORMATION

INSTRUCTIONAL SERVICES CENTER
PSD PROJECT: 750902B
SOFTBALL FIELD IMPROVEMENTS

12657 FEE FEE ROAD
UNINCORPORATED ST. LOUIS COUNTY, MISSOURI 63146



GENERAL NOTES

1. ALL DISTURBED AREAS SHALL BE RESTORED WITH TOPSOIL AND SOD.
2. THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY FOR CONTROLLING ALL SILTATION AND EROSION OF THE PROJECT AREA. THE CONTRACTOR SHALL USE THE MEANS NECESSARY TO CONTROL SILTATION AND EROSION. CONTROL MEANS AND METHODS SHALL FOLLOW ST. LOUIS COUNTY'S "SEDIMENT & EROSION CONTROL MANUAL" AND REQUIREMENTS OF THE ORDINARY LAND DISTURBANCE PERMIT. THE OWNER OR ST. LOUIS COUNTY MAY AT THEIR OPTION DIRECT THE CONTRACTOR AS DEEMED FIT TO CONTROL EROSION. CONTROL SHALL COMMENCE WITH LAND DISTURBANCE AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY BOTH ST. LOUIS COUNTY AND THE OWNER. ALL COST ASSOCIATED WITH EROSION CONTROL SHALL BE INCLUDED IN THE CONTRACTOR'S BID.
3. PROPOSED ELEVATIONS ARE SHOWN TO FINISH PAVEMENT OR GRADE.
4. NOTIFY THE ST. LOUIS COUNTY DEPARTMENT OF PUBLIC WORKS 48 HOURS PRIOR TO THE COMMENCEMENT OF GRADING OR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
5. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
6. NO EXCAVATION SHALL BE MADE SO CLOSE TO THE PROPERTY LINE AS TO ENDANGER ANY ADJOINING PROPERTY OF ANY PUBLIC OR PRIVATE STREET WITHOUT SUPPORTING AND PROTECTING SUCH PUBLIC OR PRIVATE STREET OR PROPERTY FROM SETTLING, CRACKING OR OTHER DAMAGE.
7. CONTRACTOR TO PLACE VEHICLE WASHDOWN STATION AT CONSTRUCTION ENTRANCE IN ACCORDANCE WITH ST. LOUIS COUNTY REQUIREMENTS.
8. ANY EXISTING IMPROVEMENTS DAMAGED BY CONSTRUCTION ON THE PROJECT PROPERTY SHALL BE REPLACED IN KIND AT THE CONTRACTORS EXPENSE.
9. EXISTING ASPHALT PAVEMENT SHALL BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
10. ALL EXISTING IMPROVEMENTS ARE TO REMAIN UNLESS NOTED OTHERWISE.
11. THE UNDERGROUND UTILITIES SHOWN HEREON ARE TAKEN FROM UTILITY LOCATIONS AS MARKED IN THE FIELD BY DIGRITE AND MAPS OBTAINED FROM LACLEDE GAS COMPANY, METROPOLITAN ST. LOUIS SEWER DISTRICT AND MISSOURI-AMERICAN WATER COMPANY AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMO.
12. SITE IS SUBJECT TO PRIVATE UTILITY INSTALLATIONS. PRIVATE UTILITY INSTALLATIONS DO NOT APPEAR ON UTILITY BASE MAPS, NOR DOES DIGRITE LOCATE PRIVATE UTILITIES.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING TOPS AND FLOWLINES OF ALL EXISTING SEWERS PRIOR TO COMMENCING WORK AND NOTIFY THE ENGINEER OF DISCREPANCIES.
14. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH SITE IMPROVEMENT CONSTRUCTION SHALL CONFORM TO THE LATEST STANDARDS AND SPECIFICATIONS OF ST. LOUIS COUNTY.
15. ALL GRADING AND DRAINAGE SHALL CONFORM TO THE LATEST STANDARDS AND SPECIFICATIONS OF ST. LOUIS COUNTY AND THE METROPOLITAN ST. LOUIS SEWER DISTRICT.
16. ALL SEWERS AND STRUCTURES SHALL BE IN ACCORDANCE WITH THE METROPOLITAN ST. LOUIS SEWER DISTRICT STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWER AND DRAINAGE FACILITIES, 2009.
17. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE GAS SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF LACLEDE GAS COMPANY.
18. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE WATER SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF MISSOURI AMERICAN WATER COMPANY.
19. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH THE PHONE SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF AT&T DISTRIBUTION.
20. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH ELECTRIC SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF AMERENUE.
21. ALL MATERIALS AND WORKMANSHIP ASSOCIATED WITH CABLE SERVICE SHALL COMPLY WITH THE LATEST STANDARDS AND SPECIFICATIONS OF CHARTER COMMUNICATIONS.
22. INSTALLATION OF LANDSCAPING AND ORNAMENTAL ENTRANCE MONUMENT OR IDENTIFICATION SIGNAGE CONSTRUCTION, IF SHOWN ON PLANS, SHALL BE REVIEWED BY THE DEPARTMENT OF HIGHWAYS AND TRAFFIC FOR SIGHT DISTANCE CONSIDERATIONS AND APPROVED PRIOR TO INSTALLATION OR CONSTRUCTION.
23. ALL STORM WATER SHALL BE DISCHARGED AT AN ADEQUATE NATURAL DISCHARGE POINT.
24. INTERIM STORM WATER DRAINAGE CONTROL IN THE FORM OF SILTATION CONTROL MEASURES ARE REQUIRED.
25. THE DEVELOPER IS REQUIRED TO PROVIDE ADEQUATE STORM WATER SYSTEMS IN ACCORDANCE WITH ST. LOUIS COUNTY AND MSD STANDARDS.
26. ADDITIONAL SILTATION CONTROL SHALL BE INSTALLED AS REQUIRED BY ST. LOUIS COUNTY DEPARTMENT OF HIGHWAYS AND TRAFFIC.
27. ALL OFFSITE PROPERTY OWNERS SHALL BE GIVEN NOTICE 48 HOURS IN ADVANCE OF ANY WORK.
28. ANY DISTURBED OFF SITE PROPERTY (I.E. BUSHES, FENCES, MAILBOXES, ETC.) SHALL BE REPLACED, IN LIKE KIND, AT THE DEVELOPERS EXPENSE.
29. PROVIDE ADEQUATE OFF-STREET PARKING FOR CONSTRUCTION EMPLOYEES. PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVEWAY CONDITIONS.
30. ALL EXCAVATIONS, GRADING OR FILLING SHALL HAVE A FINISHED GRADE NOT TO EXCEED A 4:1 SLOPE (25%), UNLESS SPECIFICALLY APPROVED OTHERWISE. NO SLOPE SHALL EXCEED 3:1 MAXIMUM.
31. ALL DISTURBED EARTH AREAS WITHIN ST. LOUIS COUNTY RIGHT-OF-WAY SHALL BE SODDED.
32. INTERNAL (PRIVATE) STORM SEWERS WILL REQUIRE SEPARATE DRAINLAYERS PERMIT FROM ST. LOUIS COUNTY DEPARTMENT OF PUBLIC WORKS.
33. SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASHDOWN STATION PRIOR TO LEAVING SITE. MUD TRACKED ONTO COUNTY ROADS SHALL BE REMOVED AND KEPT CLEAN AT ALL TIMES.
34. ANY LAND CLEARING, CONSTRUCTION, OR DEVELOPMENT INVOLVING THE MOVEMENT OF EARTH SHALL BE IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN, AND THE PERSON ISSUED A LAND DISTURBANCE PERMIT ASSUMES AND ACKNOWLEDGES RESPONSIBILITY FOR COMPLIANCE WITH THE ST. LOUIS COUNTY LAND DISTURBANCE CODE AND THE APPROVED STORM WATER POLLUTION PREVENTION PLAN AT THE SITE OF THE PERMITTED ACTIVITY.
35. CLEARING TECHNIQUES THAT RETAIN EXISTING VEGETATION TO THE MAXIMUM EXTENT PRACTICABLE SHALL BE USED AND THE TIME PERIOD FOR DISTURBED AREAS TO BE WITHOUT VEGETATIVE COVER SHALL BE MINIMIZED TO THE EXTENT PRACTICAL.
36. ADDITIONAL SILTATION CONTROL SHALL BE INSTALLED AS REQUIRED BY ST. LOUIS COUNTY DEPARTMENT OF PUBLIC WORKS AND/OR HIGHWAYS AND TRAFFIC.
37. AREAS SHALL BE SEEDED WHEN NO ACTIVITY WILL OCCUR WITHIN THIRTY DAYS.

UTILITY CONTACTS

AMEREN UE
1132 LOCUST ST.
ST. LOUIS, MO 63101
314-878-5787

MISSOURI AMERICAN WATER CO.
727 CRAIG RD.
ST. LOUIS, MO 63131
314-996-2432

CHARTER COMMUNICATIONS
2275 CASSENS DR.
FENTON, MO 63026
314-878-5787

ENBRIDGE ENERGY
3000 FIFTH AVENUE PLACE
425 1ST STREET S.W.
CALGARY, ALBERTA
T2P 3L8 CANADA
1-800-858-5253

EDWARD JONES
12555 MANCHESTER ROAD
ST. LOUIS, MO 63131
314-515-2000

CABLE AMERICA
11422 SCHENK DRIVE
MARYLAND HEIGHTS, MO 63043
314-995-4800

AT&T DISTRIBUTION
12930 OLIVE STREET RD.
CREVE COEUR, MO 63141
314-878-5787

LACLEDE GAS
3950 FOREST PARK BLVD.
ST. LOUIS, MO 63108
314-658-5417

METROPOLITAN ST. LOUIS
SEWER DISTRICT
2350 MARKET ST.
ST. LOUIS, MO 63103-2555
314-768-6252

PARKWAY SCHOOL DISTRICT
455 N. WOODS MILL RD.
CHESTERFIELD, MO 63017
314-415-8100

MODOT
1590 WOODLAKE DRIVE
CHESTERFIELD, MO 63017
314-340-4100

LEVEL 3 COMMUNICATIONS
1025 ELDORADO BOULEVARD
BROOMFIELD, COLORADO 80021
1-800-441-0223

CODE REVIEW FOR DUGOUTS

BUILDING TYPE:	GROUP U-UTILITY AND MISCELANEOUS
CONSTRUCTION TYPE:	TYPE IIB
APPLICABLE CODE:	INTERNATIONAL BUILDING CODE 2003

REGULATORY JURISDICTIONS

CREVE COEUR PROTECTION DISTRICT
11221 OLIVE BOULEVARD
CREVE COEUR, MO 63141
314-432-6670

ST. LOUIS COUNTY DEPARTMENT OF PUBLIC WORKS
41 S. CENTRAL AVENUE, 6TH FLOOR
CLAYTON, MO 63105
314-615-5184

METROPOLITAN ST. LOUIS SEWER DISTRICT
2350 MARKET STREET
ST. LOUIS, MO 63103-2555
314-768-6200

LOCATOR NUMBER: 150130381
ZONING OF TRACT: INSTITUTIONAL

SHEET INDEX

C-1	COVER SHEET
C-2	DEMOLITION PLAN
C-3	SITE PLAN
C-4	GRADING PLAN, UTILITY PLAN AND SWPPP
C-5	SITE DETAILS
C-6	SITE DETAILS
1of3	TOPOGRAPHIC SURVEY
2of3	TOPOGRAPHIC SURVEY
3of3	TOPOGRAPHIC SURVEY
A 1.1	DUGOUT 1 - FLOOR PLAN AND ELEVATIONS
A 1.2	DUGOUT 2 - FLOOR PLAN AND ELEVATIONS
A 2.1	SECTIONS AND DETAILS
S 0.0	GENERAL NOTES
S 0.1	SYMBOLS, ABBREVIATIONS AND TESTING
S 1.0	FOUNDATION AND ROOF FRAMING PLANS
S 2.0	FOUNDATION DETAILS
S 2.1	MASONRY AND STEEL DETAILS

USGS DATUM BENCHMARK

ST. LOUIS COUNTY BENCHMARK #8-164 (ELEVATION 528.81)
ALUMINUM TABLET SET IN SOUTHWEST END ON TOP OF RETAINING WALL; 335' NORTHEAST OF WILLOWWYCK DRIVE AND 34' NORTHWEST OF CENTERLINE OF FEE FEE ROAD.

SITE BENCHMARK

T.B.M. "A" (ELEVATION 545.44)
CUT CROSS ON NORTHERN EDGE OF SIDEWALK LOCATED AT THE NORTHEAST QUADRANT OF THE INTERSECTION OF FEE FEE ROAD AND BENNINGTON PLACE; APPROXIMATELY 38.0 FEET FROM A POWER POLE AND 51.9 FEET FROM A YIELD SIGN.

LEGEND

△	CONTROL POINT
TBM	TEMPORARY BENCHMARK
	DRAINAGE ARROW
	EXISTING LIGHT STANDARD
	EXISTING TREE
CO	EXISTING CLEANOUT
Ⓢ	EXISTING SANITARY MANHOLE
Ⓢ	EXISTING SANITARY MANHOLE
	EXISTING CURB INLET
	EXISTING DOUBLE CURB INLET
	EXISTING GRATE INLET
	EXISTING FLARED END
Ⓖ	EXISTING GAS VALVE
Ⓦ	EXISTING WATER METER
Ⓦ	EXISTING WATER VALVE
	EXISTING SIGN
	EXISTING UTILITY POLE
	EXISTING UTILITY POLE WITH GUYWIRE
	NEW EDGE OF PAVEMENT
	EXISTING EDGE OF PAVEMENT
	EXISTING CURB
-X-X-X-	EXISTING FENCE
-X-X-X-	NEW FENCE
SF	NEW EROSION CONTROL
SD$_x$	EXISTING STORM SEWER
G$_x$	EXISTING GAS LINE
EU$_x$	EXISTING UNDERGROUND ELECTRIC CONDUIT
PKWY FO	EXISTING PARKWAY FIBER OPTIC LINE
SS$_x$	EXISTING SANITARY SEWER
CATV	EXISTING CABLE TELEVISION LINE
TU$_x$	EXISTING UNDERGROUND TELEPHONE
STLC	EXISTING ST. LOUIS COUNTY UNDERGROUND CABLE
FO$_x$	EXISTING FIBER OPTIC
624	EXISTING 1' CONTOUR
625	EXISTING 5' CONTOUR
624	PROPOSED 1' CONTOUR
625	PROPOSED 5' CONTOUR
¥ 601.92	EXISTING SPOT ELEVATION
TP 601.62	PROPOSED SPOT ELEVATION
1	KEYED NOTE IDENTIFIER
	PROPOSED BASE, PITCHERS RUBBER AND HOME PLATE
	PROPOSED SPRINKLER HEADS
	PROPOSED HOSE BIB

ABBREVIATIONS

AC	AIR CONDITIONER
ASPH	ASPHALT
ATG	ADJUST TO GRADE
BLDG	BUILDING
BM	BENCHMARK
CLR	CLEARANCE
CO	CLEANOUT
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
DIA	DIAMETER
EX	EXISTING
ELEV	ELEVATION
FF	FINISH FLOOR
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOWLINE
G	GUTTER
HC	HANDICAPPED
IRR	IRRIGATION
LS	LIGHT STANDARD
MAX	MAXIMUM
ME	MATCH EXISTING
MH	MANHOLE
MIN	MINIMUM
NTS	NOT TO SCALE
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
SAN	SANITARY
S.D.	SCHOOL DISTRICT
STM	STORM
T	TOP
TBM	TEMPORARY BENCHMARK
TC	TOP OF CURB
TP	TOP OF PAVEMENT
TYP	TYPICAL
UIP	USE IN PLACE
W/	WITH

MSD P-XXXXX-XX BASE MAP: 150

REVISIONS

NO.	DESCRIPTION	BY	DATE

PROJECT: INSTRUCTIONAL SERVICES CENTER
PSD PROJECT: 750902B
SOFTBALL FIELD IMPROVEMENTS

TITLE: COVER SHEET

CLIENT: PARKWAY SCHOOL DISTRICT
455 North Woods Mill Road
Chesterfield, Missouri 63017
Phone: 314-415-8100 Fax: 314-415-8207

amec

AMEC Earth & Environmental, Inc.
13924 Dayton Road, Suite 215
Ballwin, Missouri 63011-3361
Phone: 636-386-3600 Fax: 636-386-3604
Discipline: Engineering Corporation
Corp Cert. of Auth. #2002000328

Date:
Brad P. Loomis - Engineer
MO PE-2006019682

ISSUE FOR BID

Proj. No. 2008008	REV No. 0
DR MJR	CHK BPL
DATE: 04/13/2010	

C-1
SHEET NUMBER

KEYED NOTES

1. EXISTING WOOD DUGOUT TO BE REMOVED.
2. EXISTING CONCRETE TO BE REMOVED.
3. EXISTING ASPHALT PAVEMENT TO BE REMOVED.
4. EXISTING METAL BLEACHER TO BE REMOVED AND RELOCATED AS DIRECTED ON SITE PLAN.
5. EXISTING CHAIN LINK FENCE TO BE REMOVED.
6. EXISTING CHAIN LINK BACKSTOP TO BE REMOVED.
7. EXISTING TIE WALL TO BE REMOVED.
8. EXISTING TREE TO BE PROTECTED DURING CONSTRUCTION.
9. EXISTING GATE TO BE REMOVED.
10. SAWCUT LINE.
11. LIMITS OF CONSTRUCTION.

0 20' 40'

BENNINGTON (WIDTH VARIES) PLACE

FEE FEE (WIDTH VARIES) ROAD

MSD P-XXXXX-XX BASE MAP: 150

REVISIONS

NO.	DESCRIPTION	BY	DATE

PROJECT: INSTRUCTIONAL SERVICES CENTER
PSD PROJECT: 750902B
SOFTBALL FIELD IMPROVEMENTS

TITLE: DEMOLITION PLAN

CLIENT: PARKWAY SCHOOL DISTRICT
455 North Woods Mill Road
Chesterfield, Missouri 63017
Phone: 314-415-8100 Fax: 314-415-8207

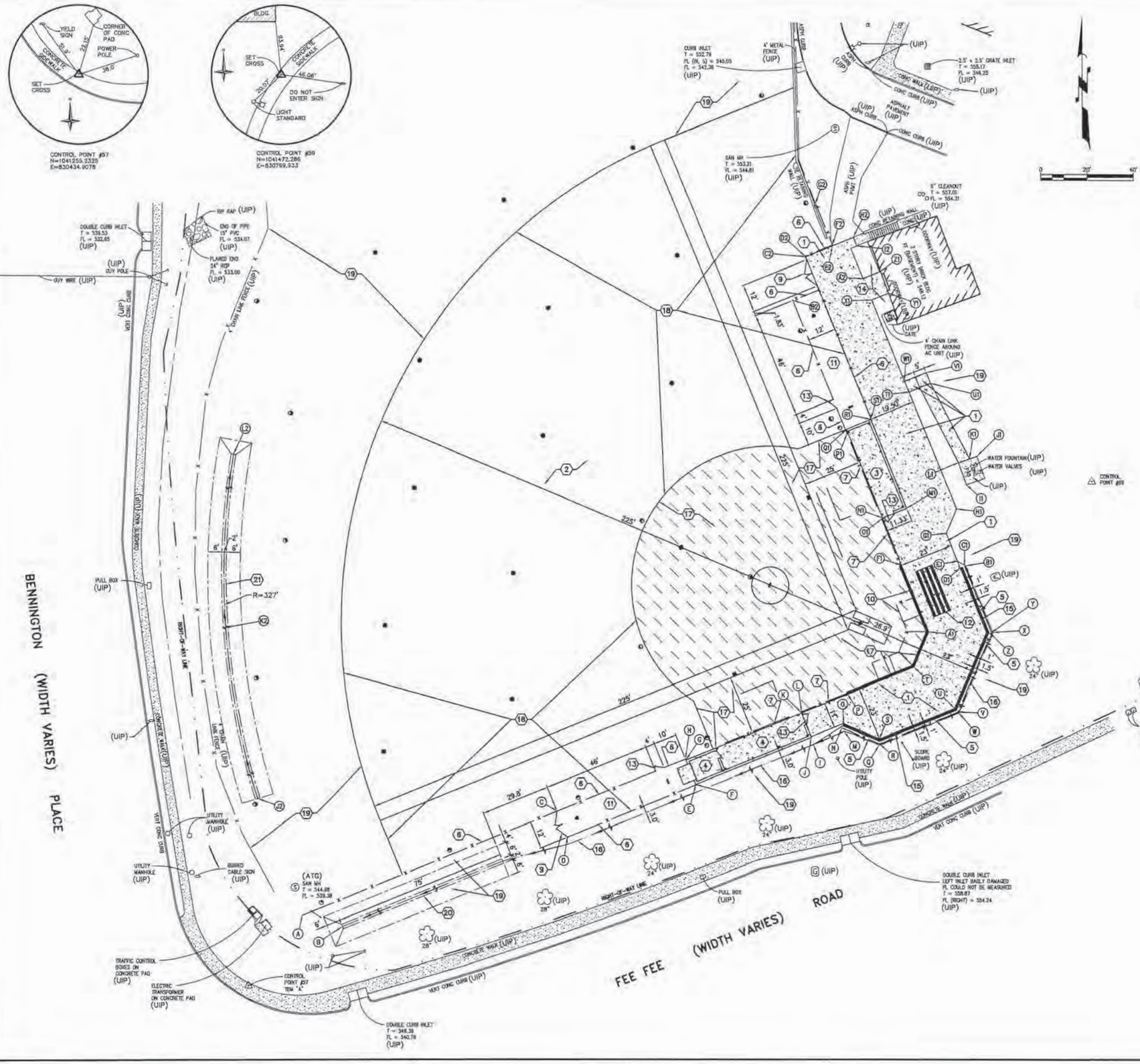
AMEC Earth & Environmental, Inc.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011
Phone: 636-256-3000 Fax: 636-256-3604
Discipline: Engineering Corporation
Corp. Cert. of Auth. #2002000326

Date: _____
Brad P. Loomis – Engineer
MO PE-2006019682

ISSUE FOR BID

Proj. No. 2006008	REV No. 0
DR: MJR	CHK: BPL
DATE: 04/13/2010	

C-2
SHEET NUMBER



KEYED NOTES

1. NEW CONCRETE WALK. REFER TO DETAIL ON SHT. C-5.
2. NEW SOFTBALL FIELD LAYOUT. REFER TO DETAIL ON SHT. C-5.
3. NEW DUGOUT. REFER TO DUGOUT-1 DETAIL ON ARCHITECTURAL SHEETS.
4. NEW DUGOUT. REFER TO DUGOUT-2 DETAIL ON ARCHITECTURAL SHEETS.
5. NEW 4' HIGH BLACK VINYL COATED CHAIN LINK FENCE. REFER TO DETAIL ON SHT. C-5.
6. NEW 6' HIGH CHAIN LINK FENCE. REFER DETAIL ON SHT. C-5.
7. NEW 8' HIGH CHAIN LINK FENCE. REFER TO DETAIL ON SHT. C-5.
8. NEW 12' HIGH CHAIN LINK FENCE. REFER TO DETAIL ON SHT. C-5.
9. NEW 12' WIDE DOUBLE SWING GATE. REFER TO DETAIL ON SHT. C-5.
10. NEW BACKSTOP. REFER TO DETAIL ON SHT. C-6.
11. NEW BULLPEN.
12. RELOCATED EXISTING BLEACHERS.
13. NEW MAN GATE. REFER TO DETAIL ON SHT. C-5.
14. NEW LANDSCAPE AREA. PLANTINGS PROVIDED AND INSTALLED BY OWNER.
15. NEW MANUFACTURED MODULAR WALL. REFER TO DETAIL ON SHT. C-5.
16. NEW GRASS SWALE. REFER TO DETAIL ON SHT. C-5.
17. NEW ATHLETIC FIELD TOP DRESSING.
18. NEW ATHLETIC FIELD SOD.
19. NEW SOD.
20. DRY SWALE #1. REFER TO DETAIL ON SHT C-5.
21. DRY SWALE #2. REFER TO DETAIL ON SHT C-5.

COORDINATE TABLE

A.	N=1041285.41	E=830458.42	END OF FENCE
B.	N=1041280.51	E=830475.60	END DRY SWALE
C.	N=1041330.08	E=830568.63	FENCE CORNER
D.	N=1041318.96	E=830573.13	FENCE CORNER
E.	N=1041341.50	E=830628.74	FENCE CORNER
F.	N=1041341.65	E=830628.68	STORAGE CORNER
G.	N=1041352.16	E=830624.42	STORAGE CORNER
H.	N=1041352.62	E=830624.23	END OF FENCE
I.	N=1041358.88	E=830679.60	DITCH
J.	N=1041361.94	E=830678.72	DUGOUT CORNER
K.	N=1041372.44	E=830674.46	DUGOUT CORNER
L.	N=1041373.00	E=830674.51	END OF FENCE
M.	N=1041364.57	E=830692.95	DITCH
N.	N=10413666.01	E=830691.96	END OF FENCE
O.	N=1041367.85	E=830692.74	END OF WALL
P.	N=1041380.53	E=830694.41	END OF BACKSTOP
Q.	N=1041358.60	E=830708.19	DITCH
R.	N=1041359.14	E=830708.19	FENCE CORNER
S.	N=1041361.30	E=830708.21	ANGLE IN WALL
T.	N=1041392.19	E=830723.18	ANGLE IN BACKSTOP
U.	N=1041374.45	E=830740.64	ANGLE IN WALL
V.	N=1041372.91	E=830742.16	FENCE CORNER
W.	N=1041372.52	E=830742.54	DITCH
X.	N=1041407.09	E=830757.17	DITCH
Y.	N=1041407.10	E=830756.63	FENCE CORNER
Z.	N=1041407.11	E=830755.55	ANGLE IN WALL
A1.	N=1041407.30	E=830729.57	ANGLE IN BACKSTOP
B1.	N=1041435.88	E=830745.50	DITCH
C1.	N=1041435.67	E=830745.05	END OF FENCE
D1.	N=1041434.92	E=830743.20	END OF WALL
E1.	N=1041437.85	E=830742.01	DITCH
F1.	N=1041436.07	E=830717.91	END OF BACKSTOP
G1.	N=1041449.76	E=830737.18	WALK CORNER
H1.	N=1041460.34	E=830741.66	WALK CORNER
I1.	N=1041470.88	E=830745.86	WALK CORNER
J1.	N=1041483.08	E=830750.53	WALK CORNER
K1.	N=1041481.96	E=830747.28	WALK CORNER
L1.	N=1041480.29	E=830742.50	WALK CORNER
M1.	N=1041460.58	E=830720.21	DUGOUT CORNER
N1.	N=1041456.32	E=830709.70	DUGOUT CORNER
O1.	N=1041455.90	E=830709.33	END OF FENCE
P1.	N=1041492.59	E=830694.46	END OF FENCE
Q1.	N=1041494.63	E=830694.18	DUGOUT CORNER
R1.	N=1041498.89	E=830704.68	DUGOUT CORNER
S1.	N=1041499.07	E=830704.78	FENCE CORNER
T1.	N=1041510.65	E=830721.26	WALK CORNER
U1.	N=1041514.40	E=830730.54	WALK CORNER
V1.	N=1041519.04	E=830728.66	WALK CORNER
W1.	N=1041515.28	E=830719.39	WALK CORNER
X1.	N=1041550.22	E=830705.23	WALK CORNER
Y1.	N=1041553.18	E=830712.53	WALK CORNER
Z1.	N=1041562.57	E=830709.07	WALK CORNER
A2.	N=1041559.49	E=830701.47	WALK CORNER
B2.	N=1041550.05	E=830671.17	FENCE CORNER
C2.	N=1041568.83	E=830676.68	WALK CORNER
D2.	N=1041569.08	E=830676.43	FENCE CORNER
E2.	N=1041573.56	E=830688.37	WALK CORNER
F2.	N=1041573.89	E=830688.30	FENCE CORNER
G2.	N=1041591.84	E=830681.10	FENCE TIE TO EX
H2.	N=1041577.23	E=830697.40	WALK CORNER
I2.	N=1041573.48	E=830698.87	WALK CORNER
J2.	N=1041335.70	E=830439.21	BEGIN DRY SWALE
K2.	N=1041409.34	E=830425.91	MID POINT DRY SWALE
L2.	N=1041484.08	E=830429.72	END DRY SWALE

MSD P-XXXXX-XX BASE MAP: 150

REVISIONS			
NO.	DESCRIPTION	BY	DATE

PROJECT: INSTRUCTIONAL SERVICES CENTER
PSD PROJECT: 750902B
SOFTBALL FIELD IMPROVEMENTS

TITLE: SITE PLAN

CLIENT: PARKWAY SCHOOL DISTRICT
455 North Woods Mill Road
Chesterfield, Missouri 63017
Phone: 314-415-8100 Fax: 314-415-8207

amec

AMEC Earth & Environmental, Inc.
11933 Clayton Road, Suite 215
Bridgeton, Missouri 63131-366-3064
Phone: 636-530-3064 Fax: 636-530-3065
Distributed Engineering Corporation
Corp. Cert. of Auth. #2002000328

Date:
Brad P. Loomis - Engineer
MO PE-2006019662

ISSUE FOR BID

Proj. No. 2008008	REV No. 0
DR: MJR	CHK: BPL
DATE: 04/13/2010	

C-3
SHEET NUMBER

KEYED NOTES (#)

1. EROSION CONTROL – FILTER ROLL. REFER TO DETAIL ON SHT C-5.
2. LIMITS OF CONSTRUCTION.
3. NEW PVC IRRIGATION PIPE.
4. NEW SPRINKLER HEAD.
5. NEW HOSE BIB.
6. CONNECT NEW SPRINKLER SYSTEM TO NEW BACKFLOW PREVENTER INSIDE EXISTING BUILDING.
7. CONTRACTOR TO ROUGH GRADE INFIELD AREA 6" BELOW FINISHED GRADE FOR INSTALLATION OF NEW INFIELD SURFACE.

NOTE

1. STORM AND SANITARY SEWER PLOTTED FROM SURVEY AND AVAILABLE AS-BUILT INFORMATION.

BMP NOTES

1. FILTER ROLL: 620 LF
2. DRY SWALE #1: 75 LF.
2. DRY SWALE #2: 150 LF.

0 20' 40'

MSD P-XXXXX-XX BASE MAP: 150

NO.	DESCRIPTION	BY	DATE

REVISIONS

PROJECT:
INSTRUCTIONAL SERVICES CENTER
PSD PROJECT: 7509028
SOFTBALL FIELD IMPROVEMENTS

TITLE:
GRADING PLAN, UTILITY PLAN AND SWPPP

CLIENT:
PARKWAY SCHOOL DISTRICT
455 North Woods Mill Road
Chesterfield, Missouri 63017
Phone: 314-415-8100 Fax: 314-415-8207

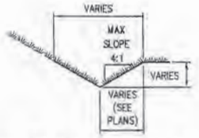
AMEC Earth & Environmental, Inc.
15933 Clayton Road, Suite 215
Ballwin, Missouri 63011-3364
Discipline: Engineering Corporation
Phone: 636-386-3500 Fax: 636-386-3504
Corp Cert. of Auth. #2003000328

Date: _____
Brad P. Loomis - Engineer
MO PE-2006019642

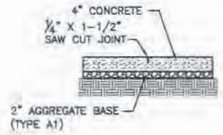
ISSUE FOR BID

Proj. No. 2008008	REV No. 0
DR: MJR	CHK: BPL
DATE: 04/13/2010	

C-4
SHEET NUMBER

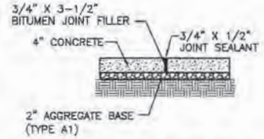


GRASS SWALE DETAIL
NTS



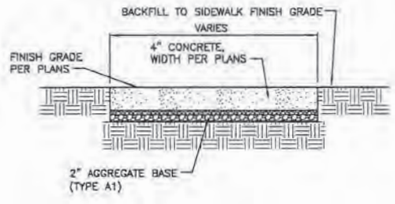
NOTE: SPACING EQUALS WIDTH OF SIDEWALK OR 15'-0" MAXIMUM.

CONTRACTION JOINT



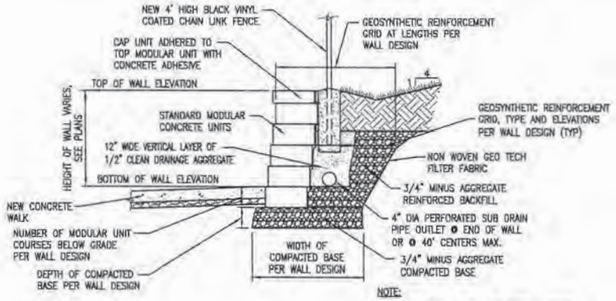
NOTE: MAXIMUM SPACING EQUALS 45'-0" ON CENTER.

EXPANSION JOINT



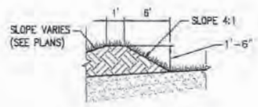
CONCRETE WALK SECTION

TYPICAL CONCRETE WALK DETAILS
NTS

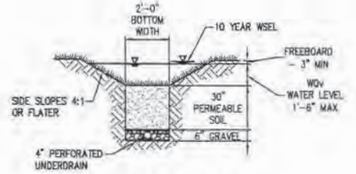


NOTE:
COLOR TO CONFORM TO JOB SPECIFICATIONS.
SEPARATE PERMIT REQUIRED FOR ALL WALLS 48" OR HIGHER.

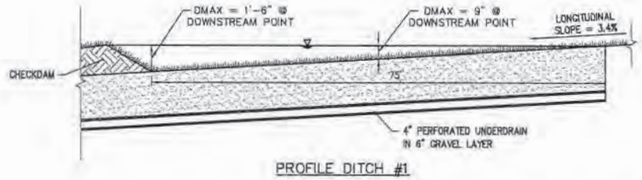
TYPICAL SECTION – MANUFACTURED MODULAR WALL
NTS



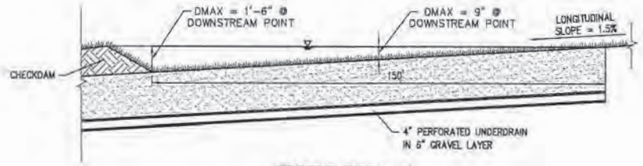
CHECKDAM DETAIL
NTS



CROSS SECTION

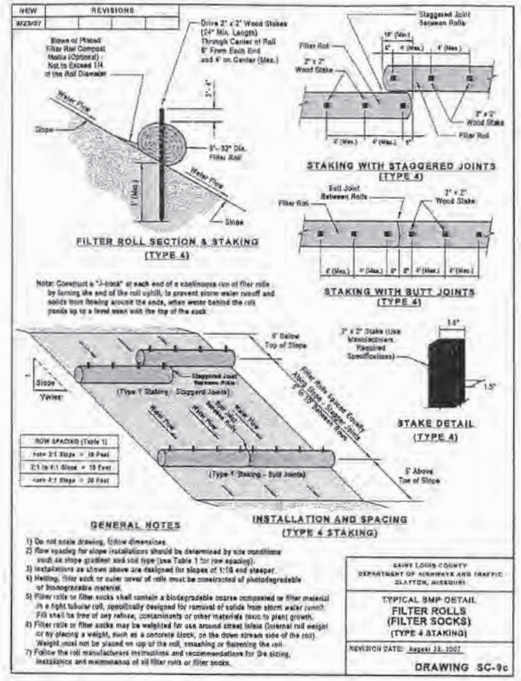


PROFILE DITCH #1

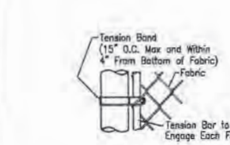


PROFILE DITCH #2

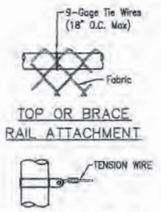
DRY SWALE DETAIL
NTS



EROSION CONTROL FILTER ROLL (FILTER SOCK) DETAIL
NTS



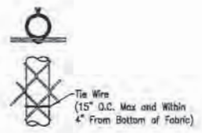
CORNER, TERMINAL OR GATE POST DETAIL



TOP OR BRACE RAIL ATTACHMENT

TENSION BAND DETAIL

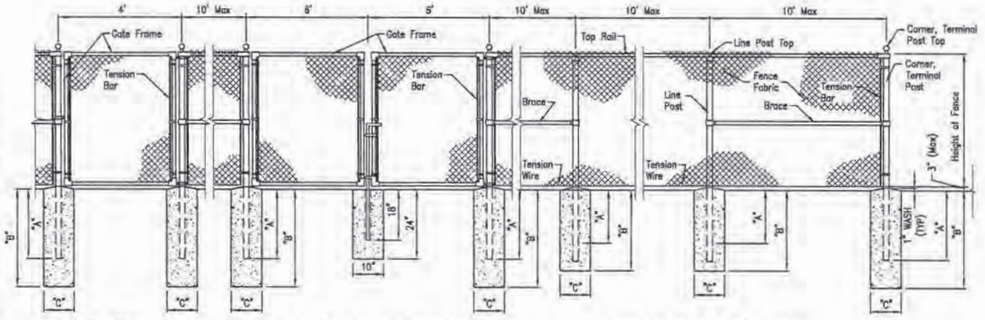
FASTENING DETAILS
NTS



LINE POST ATTACHMENTS

Description		Height of Fence			
		48"	72"	96"	144"
Line Post	Size	2.38"ø	2.38"ø	2.38"ø	2.88"ø
	"A"	24"	36"	36"	36"
	"B" x "C"	30" x 10"	42" x 10"	48" x 12"	48" x 12"
Corner & Terminal Post	Size	3.5"ø	3.5"ø	3.5"ø	4.0"ø
	"A"	30"	36"	42"	42"
	"B" x "C"	38" x 10"	42" x 12"	48" x 12"	48" x 12"
Gate Post + (single gate or leaf gate of double width)	Pedestrian	3.5"ø	3.5"ø	3.5"ø	3.5"ø
	Vehicular	6.63"ø	6.63"ø	6.63"ø	6.63"ø
Top Rail and Brace		1.66"ø	1.66"ø	1.66"ø	1.66"ø
Gate Frame	Pedestrian	1.66"ø	1.66"ø	1.66"ø	1.66"ø
	Vehicular	1.9"ø	1.9"ø	1.9"ø	1.9"ø
Fabric	2" diamond mesh interwoven wire, 9 gage thick, top selvage knuckle and and closed, bottom selvage twisted tight				
Tension Wire	6 gage thick steel, single strand				
Tension Band	0.1" thick steel				
Tension Bar	0.1" thick steel				
Tie Wire	Aluminum alloy steel wire				

+ "A", "B", and "C" are the same as Corner & Terminal Post

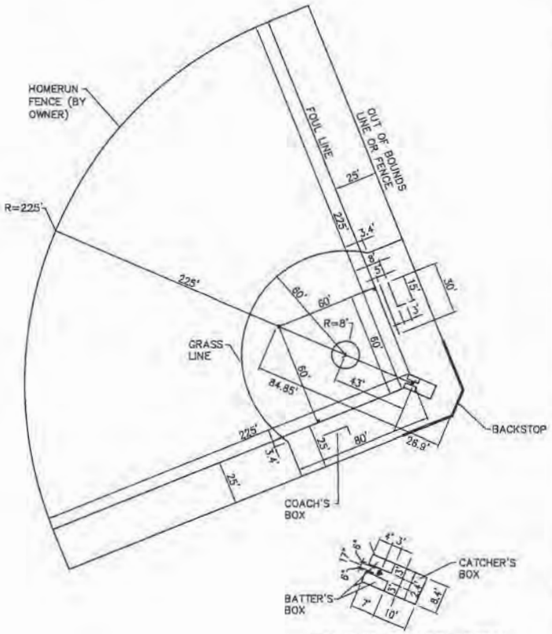


TYPICAL MAN GATE ELEVATION

TYPICAL DOUBLE SWING GATE ELEVATION

TYPICAL FENCE ELEVATION

CHAIN LINK FENCE DETAIL
NTS



HOME PLATE AREA DETAIL

SOFTBALL FIELD LAYOUT
NTS

MSD P-XXXXX-XX BASE MAP: 150

REVISIONS

NO.	DESCRIPTION	BY	DATE

PROJECT: INSTRUCTIONAL SERVICES CENTER
PSD PROJECT: 7509028
SOFTBALL FIELD IMPROVEMENTS

TITLE: SITE DETAILS

CLIENT: PARKWAY SCHOOL DISTRICT
455 North Woods Mill Road
Chesterfield, Missouri 63017
Phone: 314-415-8100 Fax: 314-415-8207

amec

AMEC Earth & Environmental, Inc.
13933 Clayton Road, Suite 215
Ballwin, Missouri 63021
Phone: 636-394-3600 Fax: 636-394-3604
Disciplined Engineering Corporation
Corp Cert. of Auth. #2005030328

Date: Brad P. Loomis – Engineer
MO PE-2006019682

ISSUE FOR BID

Proj. No. 2008008	REV No. 0
DR MJR	CHK BPL
DATE: 04/13/2010	

C-5
SHEET NUMBER

EXHIBIT-Y

District Operations

BMP ORIGINAL PROJECT INFORMATION

Facilities Storage Building

479 N. Woods Mill Rd, Chesterfield, MO 63017

Parkway PN #85B2301B

New Pre-Engineered Building

100% CONSTRUCTION DOCUMENTS
05/09/2023

Architect

Bond Architects, Inc.

MO State Cert. of Authority #2009027409
222 South Central Avenue, Suite 501
St. Louis, MO 63105
(314) 863.4994 tel
(314) 863.4996 fax

Contact: Rebecca Kleba
Email: rkleba@bondarchitectsinc.com

Structural Engineer

CASE Engineering, Inc.

Consultant Project #BDA-MO-03-23
Certificate of Authority #001498
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel
Contact: Ardie Mansouri
Email: amansouri@caseengineeringinc.com

MEP & Fire Protection Engineer

RTM Engineering Consultants

Consultant Project #22.BOND.BR005-001
Certificate of Authority #201403582
3701 S. Lindbergh Blvd. Suite 204
St. Louis, MO 63127
314.725.5889 tel
Contact: Michael Mitchell
Email: michael.mitchell@rtmec.com

Civil Engineer

CEDC

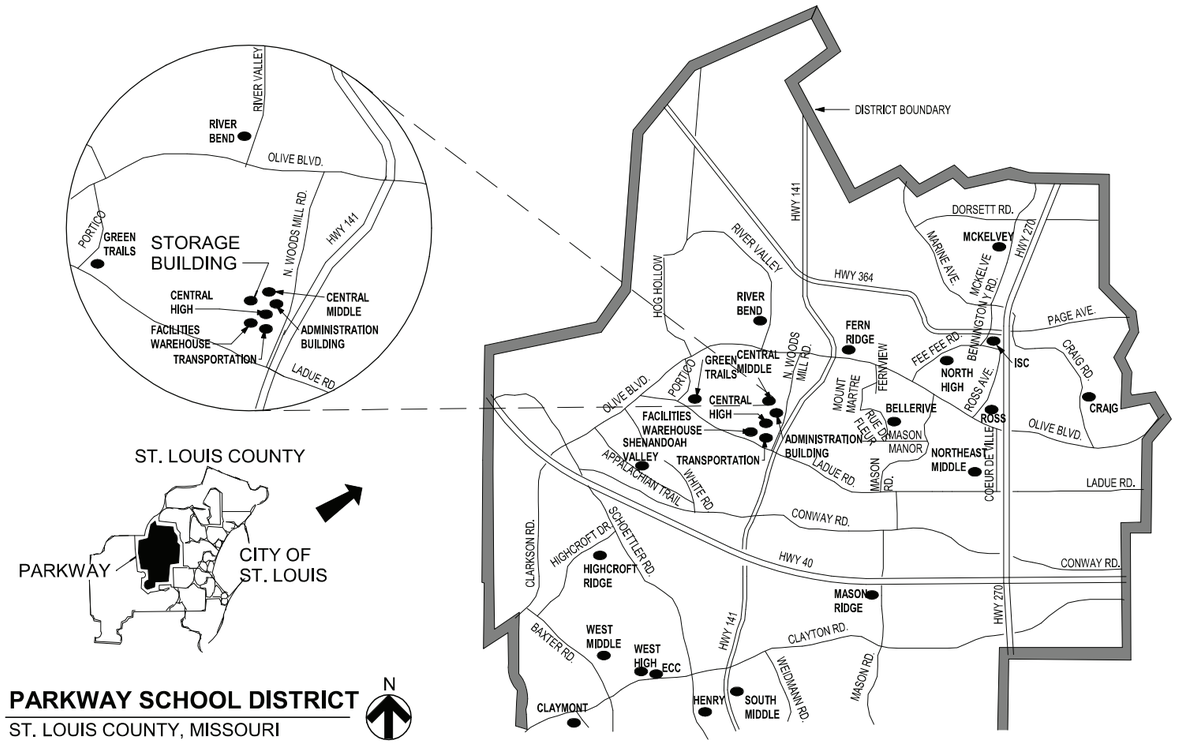
Consultant Project #2388
Certificate of Authority #2003004674
10820 Sunset Office Dr, Suite 200
St. Louis, MO 63127
314.729.1400 tel
Contact: Paul Boyer
Email: pboyer@cedc.net

Construction Manager

Poettker Construction Company

Consultant Project #01-23024-000
400 S. Germantown Rd.
Breese, IL 62230
618-526-7213 tel
618-526-7654 fax
Ben Evelsizer
BEvelsizer@poettkerconstruction.com

Project Site



PARKWAY SCHOOL DISTRICT
ST. LOUIS COUNTY, MISSOURI

Sheet Index

Sheet List	
Sheet Number	Sheet Name
Architectural	
A0.0	COVER SHEET
Civil	
C1	TITLE SHEET
C2	SPECIFICATION SHEET
C3	OVERALL SITE PLAN
C4	EXISTING CONDITIONS AND FACILITIES REMOVAL PLAN
C5.0	SITE AND GRADING PLAN
C5.1	ENLARGED SITE PLAN
C6	SITE GEOMETRY AND UTILITY PLAN
C7.0	SEWER DETAILS
C7.1	SITE DETAILS
C8.0	BEST MANAGEMENT PRACTICE PLAN
C8.1	BEST MANAGEMENT PRACTICE PLAN DETAILS
C9.0	DRAINAGE AREA PLAN
C10.0	STORMWATER POLLUTION PREVENTION PLAN
C10.1	STORMWATER POLLUTION PREVENTION DETAILS
Architectural	
A0.1	LIFE SAFETY PLAN
A0.2	GENERAL NOTES & LEGENDS
A1.0	SITE PLAN
A2.0	FLOOR PLAN
A2.1	ROOF PLAN
A4.0	REFLECTED CEILING PLAN
A5.0	EXTERIOR ELEVATIONS
A6.0	BUILDING SECTIONS
A8.0	WALL SECTIONS
A9.0	EXTERIOR DETAILS
A9.1	EXTERIOR DETAILS
A10.0	INTERIOR ELEVATIONS
A12.1	DOOR TYPES
Consultant	
N/A	PEMB DRAWINGS FOR REFERENCE ONLY
Structural	
S1.1	GENERAL NOTES

Sheet List	
Sheet Number	Sheet Name
S1.2	GENERAL NOTES
S1.3	TYPICAL DETAILS
S2.1	FOUNDATION PLAN
Mechanical	
M0.0	SEISMIC CODE BLOCK-MECHANICAL
M0.1	LEGEND, SYMBOLS, & NOTES- MECHANICAL
M2.0	MECHANICAL FLOOR PLAN
M5.0	DETAILS & SCHEDULES MECHANICAL
M6.0	MECHANICAL CONTROLS
Electrical	
E0.0	SEISMIC CODE BLOCK - ELEC. & TECH COM
E0.1	LEGEND, SYMBOLS, & NOTES-ELECTRICAL
E1.0	ELECTRICAL SITE PLAN
E2.0	ELECTRICAL FLOOR PLAN
E5.0	DETAILS-ELECTRICAL
E6.0	SCHEDULES-ELECTRICAL
Technology	
T0.0	LEGEND, SYMBOLS, & NOTES - TECH. COMM.
T2.0	TECHNOLOGY FLOOR PLAN
T5.0	DETAILS-TECHNOLOGY COMMUNICATION

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #BDA-MO-03-23
Certificate of Authority #001498
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #22.BOND.BR005-001
Certificate of Authority #201403582
3701 S. Lindbergh Blvd. Suite 204
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project #2388
Certificate of Authority #2003004674
10820 Sunset Office Dr, Suite 200
St. Louis, MO 63127
314.729.1400 tel

Ben Evelsizer
Construction Manager
Consultant Project #01-23024-000
400 S. Germantown Rd.
Breese, IL 62230
618-526-7213 tel
618-526-7654 fax

Facilities Storage Building
479 N. Woods Mill Rd, Chesterfield, MO 63017
Parkway PN #85B2301B
New Pre-Engineered Building

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 22064

Revisions

Description	Date

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect. Copyright © 2023 by Bond Architects, Inc.

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

DATE: 05/09/2023

COVER SHEET

A0.0

100% BID/FOR CONSTRUCTION SET

5/9/2023 3:38:00 PM

SITE IMPROVEMENT PLANS

for a

FACILITIES STORAGE BUILDING

A TRACT OF LAND IN U.S. SURVEYS 109 AND 207, TOWNSHIP 45 NORTH, RANGE 5 EAST, PER DEED BOOK 3477 PAGE 630
OF THE ST. LOUIS COUNTY RECORDERS OFFICE IN THE CITY OF CHESTERFIELD
IN ST. LOUIS COUNTY, MISSOURI

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- RIGHT-OF-WAY
- EASEMENT
- CENTERLINE
- EXISTING TREE
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- SWALE
- TO BE REMOVED — T.B.R.
- TO BE REMOVED & RELOCATED — T.B.R.& R.
- TO BE USED IN PLACE — U.I.P.
- ADJUST TO GRADE — A.T.G.
- BACK OF CURB — B.C.
- FACE OF CURB — F.C.
- WATER MAIN
- GAS MAIN
- UNDERGROUND TELEPHONE
- OVERHEAD WIRE
- UNDERGROUND ELECTRIC
- SILTATION CONTROL
- FIRE HYDRANT
- POWER POLE
- WATER VALVE
- LIGHT STANDARD

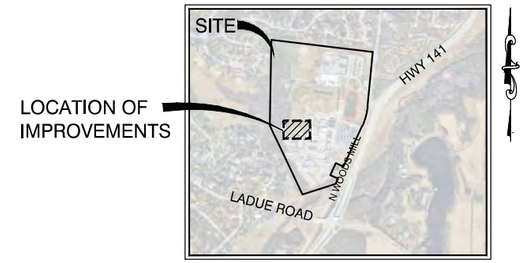
ABBREVIATIONS

N	NORTH
S	SOUTH
E	EAST
W	WEST
EX.	EXISTING
PR.	PROPOSED
CONC	CONCRETE
ASPH	ASPHALT
PB	PLAT BOOK
DB	DEED BOOK
PG	PAGE
SF	SQUARE FEET
AC	ACRES
ELEV	ELEVATION
FF	FINISH FLOOR
FL	FLOWLINE
PVC	POLYVINYL CHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
STM	STORM
SAN	SANITARY
(S)	SAVE
(R)	REMOVE
(T.B.R.)	TO BE REMOVED
(U.I.P.)	USE IN PLACE

- WATER MANHOLE — WMH
- TELEPHONE MANHOLE — TMH
- BRUSH & SHRUB LINE
- BOLLARD
- SIGN
- ELECTRIC YARD LIGHT
- BORING LOCATION
- MAIL BOX — MB
- ELECTRIC BOX — EB
- CLEAN OUT — CO
- GAS VALVE — GV
- GAS METER — GM
- GAS DRIP — GD

PREPARED FOR:
BOND ARCHITECTS
222 South Central Avenue, Ste. 501
St. Louis, Missouri 63105
Tel: 314.863.4994
Fax: 314.863.4996

PREPARED BY:
CEDC CIVIL ENGINEERING DESIGN CONSULTANTS
10820 Sunset Office Drive
Suite 200
St. Louis, Missouri 63127
314.729.1400
Fax: 314.729.1404
www.cedc.net



LOCATION MAP
(N.T.S.)

PARCEL DATA

OWNER	= PARKWAY C-2 SCHOOL DISTRICT
SITE ADDRESS	= 479 N. WOODS MILL ROAD
LOC NO.	= 17Q230085
ACREAGE	= 95.39± ACRES
ZONING	= NU (NON-URBAN)
FIRE DISTRICT	= MONARCH
SCHOOL DISTRICT	= PARKWAY
SEWER DISTRICT	= METROPOLITAN ST. LOUIS SEWER DISTRICT
WATER SHED	= CREVE COEUR CREEK
FEMA MAP	= 29189C0170K

UTILITIES AND REVIEW AGENCIES

ELECTRIC COMPANY	= AMEREN UE-DORSETT DISTRICT 12121 DORSETT ROAD MARYLAND HEIGHTS, MO 63043 PH: (314) 344-6575 ATTENTION: ENGINEERING
PHONE COMPANY ENGINEERING	= AT&T-ROW-CONSTRUCTION & 12851 MANCHESTER ROAD DES PERES, MO 63131 PH: (314) 288-1278 ATTENTION: ENGINEERING
GAS COMPANY	= SPIRE 4118 SHREWSBURY AVENUE SHREWSBURY, MO 63119 PH: (314) 768-7767 CONTACT: BRIAN LANGENBACHER, P.E.
WATER COMPANY	= MISSOURI AMERICAN WATER COMPANY 727 CRAIG ROAD ST. LOUIS, MO 63141 PH: (314) 996- CONTACT:
CABLE	= CHARTER/SPECTRUM 101 NORTHWEST PLAZA DRIVE ST. ANN, MO 63074 ATTENTION: ENGINEERING
FIRE DISTRICT	= MONARCH FIRE PROTECTION DISTRICT 13725 OLIVE BLVD. CHESTERFIELD, MO 63017 CONTACT: FIRE MARSHAL JIM McKAY
SEWER DISTRICT DISTRICT	= METROPOLITAN ST. LOUIS SEWER 2350 MARKET STREET ST. LOUIS, MO 63103 PH: (314) 768-6200

STORMWATER MANAGEMENT NOTE

CURRENT DEVELOPMENT:
PROJECT DISTURBANCE = 0.33 ACRES
PROJECT RUNOFF DIFFERENTIAL = 0.24 CFS
(ANY FUTURE PROJECT AT THIS SITE WILL NEED TO INCLUDE 0.24 CFS ADDED DIFFERENTIAL WHEN CONSIDERING THE REQUIREMENTS OF FLOOD CONTROL)

REFER TO SHEET C8.0 FOR STORM WATER MANAGEMENT TABLE

ANY FUTURE LAND DISTURBANCE AND/OR INCREASE IN IMPERVIOUS AREA ON THIS SITE MAY REQUIRE ADDITIONAL STORM WATER MANAGEMENT PER MSD REGULATIONS IN PLACE AT THAT TIME (INCLUDING TOTAL LAND DISTURBANCE AND/OR IMPERVIOUSNESS ADDED ON THIS PLAN 23MSD-00099).

AREA CALCULATIONS

TOTAL SITE AREA	=95.39± ac.	
TOTAL SITE COVERAGE		
BUILDINGS	=11.54± ac.	(12.10%)
PAVEMENT:	=32.24± ac.	(33.80%)
TOTAL COVERAGE:	43.78±	(45.90%)
OPEN SPACE	= 51.61± ac.	(54.10%)

LAND DISTURBANCE NOTE

TOTAL SITE AREA:	± 98.52 Acres
DISTURBED AREA:	± 0.30 Acres

SITE BENCHMARK

DATUM: NAVD88
ELEVATION: 504.65 FTUS
DESCRIPTION: CUT CROSS '+' IN CONCRETE SIDEWALK WEST OF EXISTING BUILDING (SEE C5)

SHEET INDEX

C1	TITLE SHEET
C2	SPECIFICATION SHEET
C3	OVERALL SITE PLAN
C4	EXISTING CONDITIONS AND FACILITIES REMOVAL PLAN
C5.0	SITE AND GRADING PLAN
C5.1	ENLARGED SITE PLAN
C6	SITE GEOMETRY AND UTILITY PLAN
C7.0	SEWER DETAILS
C7.1	SITE DETAILS
C8.0	BEST MANAGEMENT PRACTICE PLAN
C8.1	BEST MANAGEMENT PRACTICE PLAN DETAILS
C9.0	DRAINAGE AREA PLAN
C10.0	STORMWATER POLLUTION PREVENTION PLAN
C10.1	STORMWATER POLLUTION PREVENTION PLAN DETAILS

NOTE:
CIVIL ENGINEERING DESIGN CONSULTANTS, INC. AND THE UNDERSIGNED ENGINEER HAVE NO RESPONSIBILITY FOR SERVICES PROVIDED BY OTHERS TO IMPLEMENT THE IMPROVEMENTS SHOWN ON THIS PLAN AND ALL OTHER DRAWINGS WHERE THE UNDERSIGNED ENGINEER'S SEAL APPEARS. THE CONSTRUCTION MEANS, METHODS & MATERIALS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. CIVIL ENGINEERING DESIGN CONSULTANTS, INC. HAS NO RESPONSIBILITY TO VERIFY FINAL IMPROVEMENTS AS SHOWN ON THIS PLAN UNLESS SPECIFICALLY ENGAGED AND AUTHORIZED TO DO SO BY THE OWNER OR CONTRACTOR.

UTILITY NOTE:
UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, RECORDS AND INFORMATION, AND , THEREFORE DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NON-EXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE FACILITIES, STRUCTURES AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS. THE UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319 RSMo.

NOTES TO CONTRACTOR:
1. CONTRACTOR/SUBCONTRACTOR SHALL INVESTIGATE, ASCERTAIN AND CONFORM TO ANY AND ALL PERMIT REQUIREMENTS OF THE (ANY) VARIOUS AFFECTED UTILITY COMPANIES AND/OR REGULATORY AGENCIES WITH REGARDS TO MAKING CONNECTIONS TO, OR CROSSINGS OF THEIR FACILITIES; WORKING WITHIN THEIR RIGHT-OF-WAY OR EASEMENTS; INSPECTIONS AND ASSOCIATED MONETARY CHARGES; AND/OR SPECIAL BACKFILL REQUIREMENTS. SUCH INVESTIGATION TO INCLUDE BUT NOT LIMITED TO THE MAKING OF NECESSARY APPLICATIONS AND PAYMENTS OF ALL REQUIRED FEES.
2. THE LOCATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS OR PROFILES ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR/SUBCONTRACTOR TO VERIFY THE FIELD LOCATIONS, ANTICIPATED CLEARANCES AND THE EXISTENCE OF ANY FACILITIES NOT SHOWN HEREON, AS PART OF THE INVESTIGATIONS IN THE PARAGRAPH ABOVE.
3. THE DEMOLITION PLAN IS FOR ILLUSTRATION OF THE GENERAL DEMOLITION ANTICIPATED FOR THIS PARTICULAR SITE. THE DEMOLITION PLAN DOES NOT REPRESENT ALL CONDITIONS THAT MAY BE ENCOUNTERED DURING DEMOLITION/CONSTRUCTION. THE CONTRACTOR SHALL MAKE THEMSELVES THOROUGHLY FAMILIAR WITH THE SITE AND THE DEMOLITION/CONSTRUCTION REQUIREMENTS PRIOR TO BIDDING. THE INTENT OF THE DEMOLITION IS TO PROVIDE A CLEAN STABLE SITE, READY FOR CONSTRUCTION OF THE PROJECT IN CONFORMANCE WITH THE CONSTRUCTION PLANS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR CONDITIONS THAT ARE IN KEEPING WITH THIS INTENT.
4. PRIOR TO OBTAINING A CONSTRUCTION PERMIT FROM THE METROPOLITAN ST. LOUIS SEWER DISTRICT, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE THE DISTRICT WITH A COPY OF AN EXECUTED CERTIFICATE OF INSURANCE INDICATING THAT THE PERMITTEE HAS OBTAINED AND WILL CONTINUE TO CARRY COMMERCIAL GENERAL LIABILITY AND COMPREHENSIVE AUTO LIABILITY INSURANCE. THE REQUIREMENTS AND LIMITS SHALL BE AS STATED IN THE "RULES AND REGULATIONS AND ENGINEERING DESIGN REQUIREMENTS FOR SANITARY AND STORMWATER DRAINAGE FACILITY", SECTION 10.090 (ADDENDUM).
5. THE CONTRACTOR SHALL STAY WITHIN THE LIMITS OF DISTURBANCE AS SHOWN ON THE PLANS AND MINIMIZE DISTURBANCE WITHIN THE WORK AREA WHEREVER POSSIBLE.

NOTE:

THE UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SOURCES AND THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE ACTUAL LOCATIONS OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THIS DRAWING, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE LOCATED PRIOR TO GRADING OR CONSTRUCTION OF IMPROVEMENTS.

UTILITIES CONTACTED BY MISSOURI ONE CALL WERE:

ATT TRANSMISSION	MCI
AMEREN MISSOURI ELECTRIC	SPIRE MO EAST
ATT DISTRIBUTION	PARKWAY SCHOOL DISTRICT
CHARTER COMMUNICATIONS	ST LOUIS METROPOLITAN SEWER
EDWARD JONES	ST LOUIS COUNTY TRANSPORTATION
MISSOURI AMERICAN WATER CO	

MISSOURI ONE CALL TICKET NUMBER 230111627

Call BEFORE you DIG
TOLL FREE
1-800-DIG-RITE
MISSOURI ONE-CALL SYSTEM, INC.

MSD Base Map: 17Q4
MSD Project: 23MSD-00099

100%BID/FOR CONSTRUCTION SET

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #_____
Certificate of Authority #001497
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #_____
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project # 2388
Certificate of Authority #2003004674
10820 Sunset Office Dr. Suite 200
St. Louis, MO 63127
314.729.1400 tel

Poettker Construction Company
Construction Manager
Consultant Project # - N/A
400 S. Germantown Rd.
Breese, IL 62230
618-526-7213 tel
618-526-7654 fax

Facilities Storage Building
479 N. Woods Mill Road, Chesterfield, MO 63017
Parkway PN #85B2301B
New Pre-Engineered Building
Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 2388

Revisions

Description	Date
MSD revisions	04/26/2023

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2023 by Bond Architects, Inc.

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

DATE: 05/09/23

TITLE SHEET

C1

SCALE: 3" = 1'-0"

SCALE: 1 1/2" = 1'-0"

SCALE: 1" = 1'-0"

SCALE: 3/4" = 1'-0"

SCALE: 1/2" = 1'-0"

SCALE: 1/4" = 1'-0"

SCALE: 1/8" = 1'-0"

SCALE: 1/16" = 1'-0"

GENERAL NOTES

1. ALL UTILITIES SHOWN HAVE BEEN LOCATED FROM AVAILABLE RECORDS. THEIR LOCATION SHOULD BE CONSIDERED APPROXIMATE. THE CONTRACTOR HAS THE RESPONSIBILITY TO NOTIFY ALL UTILITY COMPANIES, PRIOR TO CONSTRUCTION, TO HAVE EXISTING UTILITIES FIELD LOCATED. THE CONTRACTOR SHALL BE ON RECORD WITH THE MISSOURI ONE CALL SYSTEM.
2. ALL ELEVATIONS ARE BASED ON BENCHMARK SHOWN.
3. PARTIAL BOUNDARY AND LOCATION OF IMPROVEMENTS SURVEY BY MARLER SURVEYING COMPANY.
4. ALL ON-SITE MATERIALS AND METHODS OF CONSTRUCTION TO MEET THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF CHESTERFIELD.
5. ALL GRADED AREAS SHALL BE PROTECTED FROM EROSION BY EROSION CONTROL DEVICES AND/OR SEEDING AND MULCHING AS REQUIRED BY THE CITY OF CHESTERFIELD.
6. PRIOR TO BEGINNING ANY WORK ON THE SITE, THE SUBCONTRACTOR SHALL CONTACT THE GENERAL CONTRACTOR FOR SPECIFIC INSTRUCTIONS RELEVANT TO THE SEQUENCING OF WORK.
7. GRADING CONTRACTOR SHALL INSTALL SILTATION CONTROL PRIOR TO STARTING THE GRADING. ADDITIONAL SILTATION CONTROL DEVICES SHALL BE INSTALLED AS DIRECTED BY THE CITY OF CHESTERFIELD.
8. ALL FILLS AND BACKFILLS SHALL BE MADE OF SELECTED EARTH MATERIALS, FREE FROM BROKEN MASONRY, ROCK, FROZEN EARTH, RUBBISH, ORGANIC MATERIAL AND DEBRIS.
9. GRADING CONTRACTOR SHALL KEEP EXISTING ROADWAYS CLEAN OF MUD AND DEBRIS AT ALL TIMES.
10. PROPOSED CONTOURS SHOWN ARE FINISHED ELEVATIONS ON PAVED AREAS.
11. ALL GRADING AND DRAINAGE TO BE IN CONFORMANCE WITH THE CITY OF CHESTERFIELD AND M.S.D.
12. SIDEWALKS ALONG THE ACCESSIBLE ROUTE SHALL NOT HAVE A SLOPE EXCEEDING 1'V:20'H. SLOPES GREATER THAN 1'V:20'H MUST BE DESIGNED AS A RAMP. SIDEWALKS TO BE CONSTRUCTED TO ADA STANDARDS.
13. SIDEWALKS, CURB RAMPS, RAMPS AND ACCESSIBLE PARKING SPACES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT APPROVED "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES" (ADAAG) ALONG WITH THE REQUIRED GRADES, CONSTRUCTION MATERIALS, SPECIFICATIONS AND SIGNAGE. IF ANY CONFLICT OCCURS BETWEEN THE ADAA GUIDELINES AND THE INFORMATION ON THE PLANS, THE ADAA GUIDELINES SHALL TAKE PRECEDENCE AND THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER PRIOR TO ANY CONSTRUCTION.
14. NO GRADE SHALL EXCEED 3(H):1(V) UNLESS JUSTIFIED BY GEOTECHNICAL REPORT THAT HAS BEEN APPROVED BY THE CITY OF CHESTERFIELD.
15. STORM WATER SHALL BE DISCHARGED AT AN ADEQUATE NATURAL DISCHARGE POINT. SINKHOLES ARE NOT ADEQUATE NATURAL DISCHARGE POINTS.
16. ALL LANDSCAPED AREAS TO BE FILLED WITH A MINIMUM OF 6" OF TOPSOIL.
17. ALL LANDSCAPED AREAS DISTURBED BY OFF-SITE WORK SHALL BE IMMEDIATELY SEEDED OR SODDED, AS DIRECTED BY THE CITY OF CHESTERFIELD UPON COMPLETION OF WORK IN THE AREA AFFECTED.
18. ADEQUATE TEMPORARY OFF-STREET PARKING FOR CONSTRUCTION EMPLOYEES SHALL BE PROVIDED. PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEES' VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVEWAY CONDITIONS.
19. ALL SEWER CONSTRUCTION AND MATERIALS TO BE IN ACCORDANCE WITH THE METROPOLITAN ST. LOUIS SEWER DISTRICT STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWER AND DRAINAGE FACILITIES, (LATEST EDITION).
20. NO ON-SITE ILLUMINATION SOURCE SHALL BE SO SITUATED THAT LIGHT IS CAST DIRECTLY ON ADJOINING PROPERTIES OR ROADWAYS. ILLUMINATION LEVELS SHALL COMPLY WITH THE PROVISIONS OF ARTICLE IV OF CITY OF CHESTERFIELD UNIFIED DEVELOPMENT CODE. LIGHT STANDARDS SHALL BE SHIELDED AND MAINTAIN A CUT OFF ANGLE OF NOT MORE THAN 85 DEGREES.
21. A LAND DISTURBANCE PERMIT WILL BE REQUIRED. SITE PLAN/PLAT APPROVAL IS NOT TO BE CONSTRUED AS APPROVAL OF A LAND DISTURBANCE PERMIT.
22. THE PERMIT PROCESS REQUIRES IMPROVEMENT PLAN SUBMITTAL TO THE CITY OF CHESTERFIELD.
23. ALL PROPOSED IMPROVEMENTS SHALL BE CONSTRUCTED TO THE CITY OF CHESTERFIELD STANDARDS.
24. ANY LAND DISTURBANCE ACTIVITY INVOLVING ONE (1) ACRE OR MORE OF LAND IS A MAJOR LAND DISTURBANCE (MLD) AND A LAND DISTURBANCE PERMIT FOR THE MLD MUST BE OBTAINED FROM THE DEPARTMENT OF PUBLIC WORKS. ANY LAND DISTURBANCE ACTIVITY INVOLVING LESS THAN ONE ACRE OF LAND IS AN ORDINARY LAND DISTURBANCE AND THE APPROPRIATE PERMITS MUST BE OBTAINED FROM THE DEPARTMENT OF PUBLIC WORKS. SITE PLAN/PLAT APPROVAL IS NOT TO BE CONSTRUED AS APPROVAL OF A LAND DISTURBANCE PERMIT.
25. NO STEP AT ACCESSIBLE ENTRANCE DOORS.
    FLOOD ZONE NOTES: AREA OF PROPOSED IMPROVEMENTS LIES WITHIN UNSHADED FLOOD ZONE "X" (AREAS DETERMINED TO BE OUTSIDE THE 500 YEAR FLOOD PLAIN) ACCORDING TO THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP FOR CHESTERFIELD, MISSOURI. THE MAP IS IDENTIFIED AS PANEL 29189C0170 K WITH AN EFFECTIVE DATE OF 02/04/2015.
26. SETBACKS PER SEC. 1003.105(7)(3)
    BUILDING
    FRONT = 50'
    SIDE/REAR = 20'
27. PARKING CALCULATIONS PER SEC. 405.04.040

    A. CENTRAL HIGH SCHOOL: 1.5 SPACES PER CLASSROOM + 1 FOR EVERY 4 DRIVING AGE STUDENTS
    31 CLASSROOMS x 1.5 = 47 SPACES
    1,278 STUDENTS/4 = 320 SPACES
    TOTAL 367 SPACES

    PARKING PROVIDED = 806 SPACES (INCLUDES 14 ADA)

    B. CENTRAL MIDDLE SCHOOL: 1.5 SPACES PER CLASSROOM
    72 CLASSROOMS x 1.5 = 108 SPACES

    PARKING PROVIDED = 254 SPACES (INCLUDES 9 ADA)

    C. ADMINISTRATIVE BUILDING: 3.3 SPACES PER 1,000 S.F. GROSS FLOOR AREA
    GFA = 11,920 S.F.
    PARKING = 11,920 / 1,000 x 3.3 = 40 SPACES

    PARKING PROVIDED = 49 SPACES (INCLUDES 3 ADA)

    D. TRANSPORTATION FACILITIES: 3.3 SPACES PER 1,000 S.F. GROSS FLOOR AREA
    GFA = 41,845 S.F.
    PARKING = 41,845 / 1,000 X 3.3 = 138 SPACES

    PARKING PROVIDED = 152 SPACES

28. FLOOR AREA RATIO (F.A.R. CALCULATION)

    F.A.R. = 491,004 S.F. / 4,155,188± S.F.

    = 0.118

CITY NOTES

1. NOTIFY THE CITY OF CHESTERFIELD DEPARTMENT OF PLANNING AND DEVELOPMENT SERVICES (636-537-4761) 48 HOURS PRIOR TO THE COMMENCEMENT OF GRADING AND/OR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
2. PARKING ON NON-SURFACED AREAS IS PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT.
3. THE STREETS SURROUNDING THIS DEVELOPMENT AND ANY STREET USED FOR CONSTRUCTION ACCESS THERETO SHALL BE KEPT FREE FROM MUD AND CONSTRUCTION DEBRIS AND SHALL BE CLEANED THROUGHOUT THE DAY.
4. ALL FILLS PLACED UNDER PROPOSED STORM AND SANITARY SEWER LINES AND/OR PAVED AREAS, INCLUDING TRENCH BACKFILLS WITHIN AND OFF THE ROAD RIGHT-OF- WAY, SHALL BE COMPACTED TO 90% OF MAXIMUM DENSITY AS DETERMINED BY THE "MODIFIED AASHTO T-180 COMPACTION TEST" (ASTM D-1557) FOR THE ENTIRE DEPTH OF THE FILL. COMPACTED GRANULAR BACKFILL IS REQUIRED IN ALL TRENCH EXCAVATION WITHIN THE STREET RIGHT-OF-WAY AND UNDER ALL PAVED AREAS. ALL TESTS SHALL BE PERFORMED UNDER THE DIRECTION AND VERIFIED BY A LICENSED ENGINEER CONCURRENT WITH GRADING AND BACKFILL OPERATIONS.
5. SOFT SOILS OR SEDIMENT FROM EXISTING OR FORMER POND SITES OR TRIBUTARIES, OR ANY SEDIMENT BASINS OR TRAPS SHALL NOT BE PLACED IN PROPOSED PUBLIC RIGHT-OF-WAY LOCATIONS OR IN ANY STORM SEWER LOCATION.
6. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION, SHALL BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
7. DEBRIS AND FOUNDATION MATERIAL FROM ANY STRUCTURE WHICH IS SCHEDULED TO BE RAZED SHALL BE PROPERLY DISPOSED OF OFF-SITE.
8. ANY WELLS OR CISTERNS SHALL BE LOCATED AND SEALED IN A MANNER ACCEPTABLE TO THE CITY OF CHESTERFIELD AND THE MISSOURI DEPARTMENT OF NATURAL RESOURCES.
9. ALL EXCAVATIONS, CUTS OR FILLS SHALL HAVE A FINISHED GRADE NOT TO EXCEED A 3:1 SLOPE (33%), UNLESS SPECIFICALLY APPROVED OTHERWISE.
10. NO EXCAVATION SHALL BE MADE IN A MANOR THAT MAY ENDANGER ANY ADJOINING PROPERTY OR ANY PUBLIC OR PRIVATE STREET, OR UTILITY.
11. ALL DEVELOPED LOTS SHALL BE SEEDED AND MULCHED OR SODDED BEFORE OCCUPANCY AND IN A MANOR THAT IT MEETS OR EXCEEDS THE REQUIREMENTS OF THE CITY OF CHESTERFIELD'S "SEDIMENT & EROSION CONTROL GUIDELINES."

STORM SEWER NOTES

1. ALL CONCRETE PIPE SHALL BE REINFORCED, AND CONFORM TO A.S.T.M. DESIGNATION C76-80 CLASS III UNLESS NOTED.
2. ALL SEWER CONSTRUCTION AND MATERIALS TO BE IN ACCORDANCE WITH THE METROPOLITAN ST. LOUIS SEWER DISTRICT STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES, 2009.
3. TYPE "C" BEDDING PER MSD STANDARDS IS REQUIRED FOR PIPES IN ROCK.
4. ALL TRENCHES UNDER AREAS TO BE PAVED AND UNDER EXISTING PAVING SHALL BE GRANULARLY FILLED WITH 3/4" MINUS CRUSHED LIMESTONE ONLY. BACKFILL SHALL BE PLACED IN ACCORDANCE WITH MSD STANDARDS.
5. ALL TRENCH BACKFILLS UNDER PAVEMENT WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE GRANULAR BACKFILLED. TRENCH BACKFILLS UNDER PAVED AREAS, OUTSIDE OF PUBLIC RIGHT-OF-WAY SHALL BE GRANULAR BACKFILL IN LIEU OF THE EARTH BACKFILL COMPACTED TO 95 PERCENT OF THE STANDARD AASHTO T-99 COMPACTION TEST A.S.T.M. D-698.
6. JETTING IS NOT AN ACCEPTABLE METHOD OF ACHIEVING BACKFILL COMPACTION. ALL BACKFILL MATERIAL SHALL BE MECHANICALLY COMPACTED TO AT LEAST 95 PERCENT OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY.
7. FOR SEWER PIPE (STORM, SANITARY AND COMBINED) WITH A DESIGN GRADE LESS THAN ONE PERCENT (1%), VERIFICATION OF THE PIPE GRADE WILL BE REQUIRED FOR EACH INSTALLED REACH OF SEWER, PRIOR TO ANY SURFACE RESTORATION OR INSTALLATION OF ANY SURFACE IMPROVEMENTS. THE CONTRACTOR'S FIELD SUPERVISOR WILL BE REQUIRED TO PROVIDE DAILY DOCUMENTATION VERIFYING THAT THE AS-BUILT PIPE GRADE MEETS THE DESIGN GRADE THROUGH THE SUBMITTAL OF SIGNED CUT SHEETS TO THE MSD INSPECTOR UPON REQUEST.

   FIELD SURVEYED VERIFICATION MUST BE MADE UNDER THE DIRECTION OF A LICENSED LAND SURVEYOR OR REGISTERED ENGINEER. THE CONTRACTOR WILL BE REQUIRED TO REMOVE AND REPLACE ANY SEWER REACH HAVING AN AS-BUILT GRADE WHICH IS FLATTER THAN THE DESIGN GRADE BY MORE THAN 0.1%. SEWERS WITH GRADES GREATER THAN THE DESIGN SLOPE MAY BE LEFT IN PLACE, PROVIDED NO OTHER SEWER GRADE IS REDUCED BY THIS VARIANCE IN THE AS-BUILT GRADE.

   MSD ALSO RESERVES THE RIGHT TO REQUIRE THE CONTRACTOR TO REMOVE AND REPLACE ANY SEWER (AT ANY TIME PRIOR TO CONSTRUCTION APPROVAL) FOR WHICH THE AS-BUILT GRADE DOES NOT COMPLY WITH THE GRADE TOLERANCE STATED IN THE ABOVE PARAGRAPH.

   THE SEWER CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COSTS ASSOCIATED WITH THE FIELD VERIFICATION OF THE SEWER GRADE, OR REMOVAL AND REPLACEMENT OF THE SEWER PIPE OR ASSOCIATED APPURTENANCES.
8. ADJUSTMENT OF MANHOLE TO GRADE:
   IF A MANHOLE IS TO BE RAISED: MANHOLES MAY BE RAISED USING COURSES OF BRICK OR APPROVED GRADE RING(S), PROVIDED THE TOTAL ADJUSTMENT OF THE MANHOLE DOES NOT EXCEED 12-INCHES (INCLUDING THE EXISTING RINGS OR COURSES OF BRICK). FOR MANHOLES WHICH WILL EXCEED THE MAXIMUM OF 12-INCHES, THE TRANSITION SECTION OF THE STRUCTURE SHALL BE REMOVED AND THE BOTTOM SECTION RAISED USING THE SAME MATERIAL AS THE EXISTING STRUCTURE.

   IF A MANHOLE IS TO BE LOWERED:
   MANHOLES MAY BE LOWERED BY REMOVING THE TRANSITION SECTION, AND LOWERING THE EXISTING BOTTOM SECTION BY SAWCUTTING THE EXISTING CAST-IN-PLACE CONCRETE, REMOVING THE REQUIRED COURSES OF BRICK, OR REMOVING THE PRECAST RISER SECTION AS APPROPRIATE.

MSD NOTES

STANDARD CONSTRUCTION:

ALL STORM AND SANITARY SEWER STRUCTURES AND APPURTENANCES TO BE DEDICATED TO MSD OR TO BE PRIVATE UNDER MSD INSPECTION, SHALL CONFORM TO THE METROPOLITAN ST. LOUIS SEWER DISTRICT, STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES, 2009. THAT WILL INCLUDE STANDARD DETAILS SHOWN THEREIN, AND SHALL INCLUDE ALL SUBSEQUENT CHANGES MADE THERETO.

SOME RECENT CHANGES CONCERN PLASTIC PIPE MATERIALS AND PIPE FIELD TESTING AND PERFORMANCE, AND INCLUDE THE FOLLOWING:

PART 2 – MATERIALS OF CONSTRUCTION

HIGH DENSITY POLYETHYLENE (HDPE) PIPE IS NOT ALLOWED FOR GRAVITY SEWERS FOR STORM, COMBINED, OR SANITARY SEWERS THAT ARE "PUBLIC" OR "PRIVATE UNDER MSD INSPECTION".

CORRUGATED POLYPROPYLENE (PP) PIPE IS ALLOWED AS FOLLOWS FOR GRAVITY SEWERS THAT ARE "PUBLIC" OR "PRIVATE UNDER MSD INSPECTION:

a. FOR USE IN SANITARY AND COMBINED SEWERS 12 TO 60 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2764 "STANDARD SPECIFICATION FOR 6 TO 60 IN. POLYPROPYLENE (PP) CORRUGATED DOUBLE AND TRIPLE WALL PIPE AND FITTINGS FOR NON-PRESSURE SANITARY SEWER APPLICATIONS." PIPE SHALL HAVE A MINIMUM STIFFNESS OF 46 PSI WHEN TESTED IN ACCORDANCE WITH ASTM D2412.

b. FOR USE IN STORM SEWERS 12 TO 30 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2881 "STANDARD SPECIFICATION FOR 12 TO 60 IN. POLYPROPYLENE (PP) DUAL WALL PIPE AND FITTINGS FOR NON-PRESSURE STORM SEWER APPLICATIONS;" OR ASTM F2764 "STANDARD SPECIFICATION FOR 6 TO 60 IN. POLYPROPYLENE (PP) CORRUGATED DOUBLE AND TRIPLE WALL PIPE AND FITTINGS FOR NON-PRESSURE SANITARY SEWER APPLICATIONS;" OR FOR USE IN STORM SEWERS 36 TO 60 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2764 STANDARD SPECIFICATION FOR 6 TO 60 IN. POLYPROPYLENE (PP) CORRUGATED DOUBLE AND TRIPLE WALL PIPE AND FITTINGS FOR NON-PRESSURE SANITARY SEWER APPLICATIONS." PIPE SHALL HAVE A MINIMUM STIFFNESS OF 46 PSI WHEN TESTED IN ACCORDANCE WITH ASTM D2412.

c. PIPE FOR GRAVITY SEWER INSTALLATIONS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321 WITH THE EXCEPTION THAT INITIAL BACKFILL SHALL BE A MINIMUM OF 6 INCHES ABOVE THE TOP OF PIPE AS SHOWN IN THE STANDARD DETAILS OF SEWER CONSTRUCTION. CONSOLIDATION BY WATER (JETTING OR PUDDLING) SHALL NOT BE USED. CONSOLIDATION SHALL BE IN ACCORDANCE WITH MSD STANDARD CONSTRUCTION SPECIFICATIONS FOR TRENCH BACKFILL. PRICE FOR COMPACTED BACKFILL SHALL BE INCLUDED IN PIPE UNIT COST.

1. A REPRESENTATIVE FROM THE PIPE MANUFACTURER SHALL VISIT THE SITE WITHIN THE FIRST 100 FEET OF PIPE INSTALLATION. COORDINATION OF THIS SITE VISIT SHALL BE ARRANGED BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE THE MSD INSPECTOR AT LEAST 24 HOURS' NOTICE OF THE PLANNED DATE AND TIME OF THE MANUFACTURER'S SITE VISIT.

2. FOLLOWING THE SITE VISIT, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE A LETTER FROM THE PIPING MANUFACTURER SUMMARIZING THEIR OBSERVATIONS. AT A MINIMUM, THE LETTER SHALL:

a) INDICATE THE DATE THE INITIAL SECTION OF PIPE WAS INSTALLED; AND
b) VERIFY THAT THE INSTALLATION OCCURRED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED PROCEDURES.

D. TRENCH WIDTH SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION RECOMMENDATIONS. DISTRICT STANDARD PAYLINE WIDTHS BASED ON THE NOMINAL INSIDE PIPE DIAMETER SHALL APPLY.

PART 4 – PIPE SEWER CONSTRUCTION

SECTION B, PIPE FIELD TESTS, PARAGRAPH 2, REACH INTEGRITY TESTING – DELETE THE FIRST SENTENCE AND THE FOLLOWING REPLACEMENT APPLIES:

ALL SANITARY AND COMBINED SEWERS SHALL SUSTAIN A MAXIMUM LEAKAGE LIMIT OF 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY, AS REQUIRED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES SPECIFICATIONS.

SECTION B, PIPE FIELD TESTS, PARAGRAPH 2, REACH INTEGRITY TESTING, SUBPARAGRAPH C, INFILTRATION/EXFILTRATION TESTING – DELETE THE SIXTH SENTENCE, CONCERNING LEAKAGE LIMITS, AND THE FOLLOWING REPLACEMENT APPLIES:

THE MEASUREMENT OF LEAKAGE SHALL NOT EXCEED 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY, AS REQUIRED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES SPECIFICATIONS.

SECTION B, PIPE FIELD TESTS, PARAGRAPH 4, MANHOLE TESTING, SUBPARAGRAPH A, VACUUM TESTING – AFTER THE FIRST SENTENCE, THE FOLLOWING ADDITION APPLIES:

THE VACUUM TEST MUST BE PERFORMED PRIOR TO BACKFILLING AROUND THE MANHOLE UNLESS THE CONTRACTOR PROVIDES DOCUMENTATION FROM THE PRECAST MANHOLE MANUFACTURER STATING THAT THE MANHOLE MAY BE VACUUM TESTED AFTER BACKFILLING HAS TAKEN PLACE. THE CONTRACTOR MUST SUBMIT THIS DOCUMENTATION PRIOR TO BACKFILLING AROUND ANY MANHOLE.

SECTION B, PIPE FIELD TESTS, PARAGRAPH 4, MANHOLE TESTING, SUBPARAGRAPH B, EXFILTRATION TESTING – DELETE THE SECOND SENTENCE, CONCERNING LEAKAGE LIMITS, AND THE FOLLOWING ADDITION APPLIES:

FOR EXFILTRATION TESTING, THE ALLOWABLE LEAKAGE LIMIT IS 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY WHEN THE AVERAGE HEAD ON THE TEST SECTION IS THREE FEET (3') OR LESS.

IF REINFORCED CONCRETE PIPE IS USED FOR SANITARY OR COMBINED SEWERS LARGER THAN 27", ALL PIPE AND JOINTS SHALL CONFORM TO ASTM C 361. IN ADDITION, IF THE DIAMETER IS LARGER THAN 48", THE JOINT TYPE MUST INCLUDE A GASKET THAT IS CONFINED IN A GROOVE IN THE SPIGOT OF THE PIPE.

ABANDONMENT/PERMITS:
MSD permits are required prior to the abandonment or removal of existing sewers. To receive MSD permits the project must have MSD Plan Approval. Notify MSD 48 hours prior to sewer abandonment and/or removal.

BACKWATER VALVE NOTE:
A Backwater Valve shall be required on all building laterals per local plumbing code.

COMPACTED FILL REQUIREMENTS:
A registered professional geotechnical engineer will verify that all compressible material has been removed prior to fill placement and that all fill, and filled areas, including trench backfills, under buildings and under sanitary and storm sewer lines constructed above the original ground surface, has been compacted to 90% Modified Proctor. Fill is to be placed in a maximum of nine-inch (9') lifts. Tests shall be taken at a maximum of fifty-feet (50') wide intervals along the route of the pipe, at a maximum interval, of two feet (2'), vertically and laterally on each side of the pipe, at a distance equal to the depth of fill over the pipe. A copy of these results will be submitted to MSD prior to placement of the sewer pipe.

DETAIL DRAWINGS:
The detail drawings shown here are only for private construction that is NOT under MSD permits. Refer to MSD specifications and standard details for public sewer construction or private construction under MSD permits.

LIMITS OF DISTURBANCE:
The contractor shall stay within the limits of disturbance as shown on the plans and minimize disturbance within the work area wherever possible.

PUBLIC SEWER MAINTENANCE:
Maintenance of the sewers designated "public" shall be the responsibility of the Metropolitan St. Louis Sewer District upon dedication of the sewers to the District.

SANITARY LATERALS:
Laterals to be 6-inch PVC and constructed at 2.0% minimum slope.

CONSTRUCTION SITE RUNOFF:
Construction site runoff shall not flow into BMP areas. All stormwater flow to BMP areas shall be diverted, plugged or disconnected until the construction site is stable AND the MSD inspector provides approval to place the BMP on-line

DETAIL DRAWINGS:
The detail drawings shown here are only for private construction that is NOT under MSD permits. Refer to MSD specifications and standard details for public sewer construction or private construction under MSD permits.

FILL OR REMOVE ABANDONED SEWER:
Abandoned sewers shall be removed or completely filled with grout

INFILTRATION BED:
To prevent construction sediment from clogging infiltration bed, at no time may construction sediment enter these facilities. Additionally, these facilities shall not be constructed until all surrounding area that drains to them is fully stable/established.

INFILTRATION TESTING – FOR WHEN UTILIZING ONSITE SOILS AND/OR MIXING ONSITE FOR PLANTING SOIL:
The in-place permeability of the planting soil shall be 2.0 to 3.5 ft/day, and verified by and infiltration test performed per the Maryland Stormwater Manual, Appendix D.1, "Infiltration Testing Requirements (Field Testing Required)". A minimum of one percolation test shall be performed per facility. The MSD Field Inspector shall be allowed to select the location of percolation tests. The MSD Field Inspector shall be provided a copy of all test results, signed and sealed by a Missouri Professional Engineer. Test results shall report in units of ft/day. Results shall demonstrate acceptable permeability prior to construction approval. Note these tests are not required if utilizing premixed planting soil supplied by a local MSD approved soils supplier.

LIMITS OF DISTURBANCE:
The contractor shall stay within the limits of disturbance as shown on the plans and minimize disturbance within the work area wherever possible.

PIPE JOINTS WITH ADAPTERS AND COUPLINGS NOTE:

Note – Pipe joints with adapters and couplings shall be supplied and installed with 316 Stainless Steel nut and bolt clamps (T-Bolt) configuration; and with Stainless Steel shear bands, being a minimum of twelve (12) mils (MSD Std. Const. Specs. Pt. 2, subsection H_11). Worm drive hose clamps and concrete backfilling (causticity) will no longer be allowed at those joints. Granular backfill should be used. If flowable fill is required, the contractor shall wrap and tape the adapters and couplings with a six (6) mil polyethylene sheet.

REMOVE REPLACE OR REHAB NOTE:
The removal and replacement, or rehabilitation of the existing structure will be determined by the MSD field inspector. If the structure is determined to remain in place, then the top shall be adjusted to grade, if needed.

SANITARY AND STORM SEWERS IN SAME TRENCH:
If storm and sanitary sewers are parallel and in the same trench, the upper pipe shall be placed on a shelf and the lower pipe shall be bedded in compacted granular fill to the flowline of the upper pipe.

SANITARY LATERALS:
Laterals to be 6-inch PVC and constructed at 2.0% minimum slope.

SEDIMENTATION BASIN – TEMPORARY:
During construction; if site runoff flows into a temporary sediment basin that will be converted to a permanent BMP area, then after the tributary area is completely stable the sediment basin will need to be cleaned of all silt, sediment, and trash that has accumulated within it. Over excavate as needed to allow full depth of the BMP section. BMP planting, if applicable, can be installed only after this has been done AND the MSD inspector provides approval to place the plantings.

SHOP DRAWINGS:
The project engineer shall provide shop drawings signed and sealed by a Professional Engineer licensed in Missouri for approval to MSD prior to construction of these structures. Structures shall be designed to sustain HS-20 loads. Please contact the District's Construction Management Division at (314) 335-2072 for questions.

MSD Base Map: 17Q4
MSD Project: 23MSD-00099

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #_____
Certificate of Authority #001497
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #_____
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project # 2388
Certificate of Authority #2003004674
10820 Sunset Office Dr. Suite 200
St. Louis, MO 63127
314.729.1400 tel

Poettker Construction Company
Construction Manager
Consultant Project # - N/A
400 S. Germantown Rd.
Breese, IL 62230
618-526-7213 tel
618-526-7654 fax

Facilities Storage Building
479 N. Woods Mill Road, Chesterfield, MO 63017
Parkway PN #85B2301B
New Pre-Engineered Building
Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 2388

Revisions

Description	Date
MSD revisions	04/26/2023

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project, without the written consent of the Architect.
Copyright © 2023 by Bond Architects, Inc.

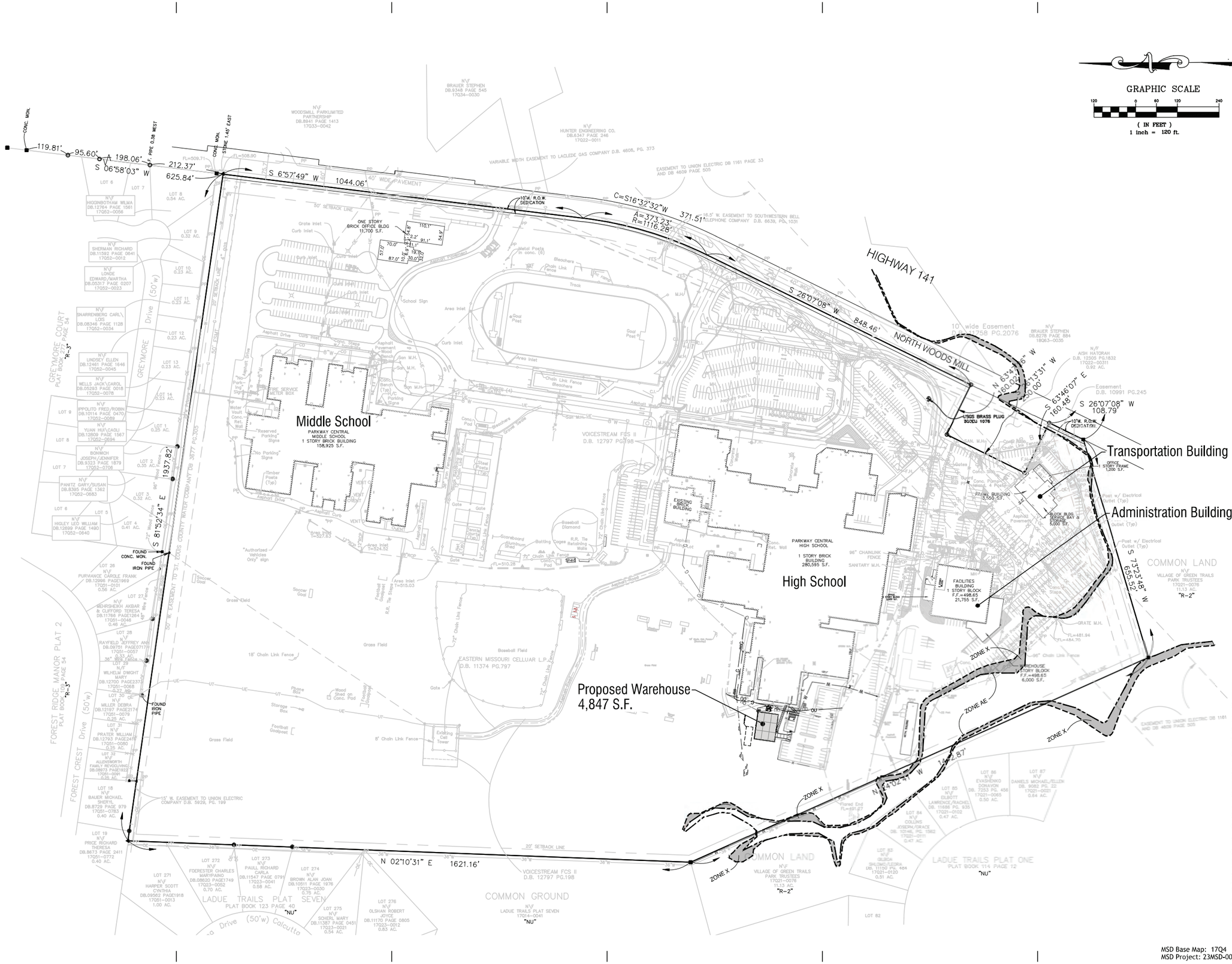
The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

DATE: 05/09/23

100%BID/FOR CONSTRUCTION SET

SPECIFICATION SHEET

C2



bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #_____
Certificate of Authority #001497
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #_____
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project # 2388
Certificate of Authority #2003004674
10820 Sunset Office Dr. Suite 200
St. Louis, MO 63127
314.729.1400 tel

Poettker Construction Company
Construction Manager
Consultant Project # - N/A
400 S. Germantown Rd.
Breese, IL 62230
618-526-7213 tel
618-526-7654 fax

Facilities Storage Building

479 N. Woods Mill Road, Chesterfield, MO 63017
Parkway PN #85B2301B
New Pre-Engineered Building

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 2388

Revisions

Description	Date
MSD revisions	04/26/2023

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect. Copyright © 2023 by Bond Architects, Inc.

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

DATE: 05/09/23

100% BID/FOR CONSTRUCTION SET

OVERALL SITE PLAN

C3

MSD Base Map: 17Q4
MSD Project: 23MSD-00099

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)

1 inch = 20 ft.

DEMOLITION LEGEND

PAVEMENT TO BE REMOVED

SITE BENCHMARK
"+" CUT CROSS IN CONCRETE SIDEWALK
ELEV. 504.65'

UTILITY POLE & OVERHEAD LINES (T.B.R.& RELOCATED BY AMEREN)

96"H. CHAIN-LINK FENCING (U.I.P.)

REMOVE CONC. INFILL FOR FIRE HYDRANT

EX. GATES TO BE RAISED AS COORDINATED WITH FINISH GRADES

EX. GATE (U.I.P.)

REMOVE & REPLACE PAVEMENT FOR ACCESSIBLE PARKING SPACES & CURB RAMP (SEE C5.1)

FULL-DEPTH SAWCUT FOR CONC. DRIVE

CHAIN-LINK FENCING (U.I.P.)

REMOVE & REPLACE PAVEMENT FOR WATERLINE

FULL-DEPTH SAWCUT

REMOVE AT NEAREST JOINT FOR WATERLINE

MSD Base Map: 17Q4
MSD Project: 23MSD-00099

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #_____
Certificate of Authority #001497
796 Menus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #_____
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project # 2388
Certificate of Authority #2003004674
10820 Sunset Office Dr. Suite 200
St. Louis, MO 63127
314.729.1400 tel

Poettker Construction Company
Construction Manager
Consultant Project # - N/A
400 S. Germantown Rd.
Breese, IL 62230
618-526-7213 tel
618-526-7654 fax

Facilities Storage Building

479 N. Woods Mill Road, Chesterfield, MO 63017
Parkway PN #85B2301B
New Pre-Engineered Building

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 2388

Revisions

Description	Date
MSD revisions	04/26/2023

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project, without the written consent of the Architect.
Copyright © 2023 by Bond Architects, Inc.

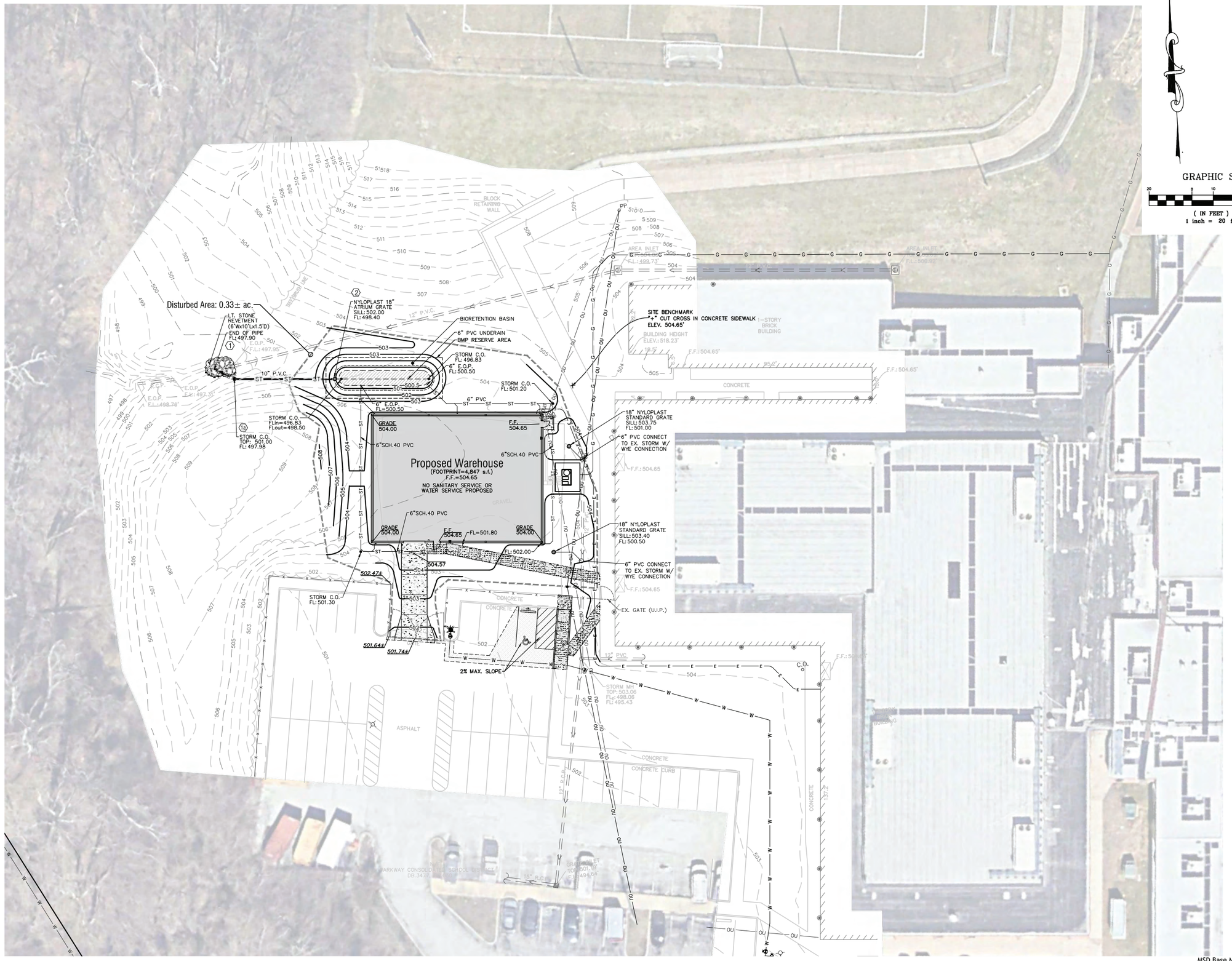
The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

DATE: 05/09/23

100%BID/FOR CONSTRUCTION SET

EXISTING CONDITIONS AND FACILITIES REMOVAL PLAN

C4



GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 inch = 20 ft.

SCALE: 3" = 1'-0" 0 0.25 0.5 1'

SCALE: 1 1/2" = 1'-0" 0 0.5 1' 2'

SCALE: 1" = 1'-0" 0 0.5 1' 2'

SCALE: 3/4" = 1'-0" 0 1' 2' 3'

SCALE: 1/2" = 1'-0" 0 2' 4' 6'

SCALE: 1/4" = 1'-0" 0 2' 4' 8'

SCALE: 1/8" = 1'-0" 0 4' 8' 16'

SCALE: 1/16" = 1'-0" 0 8' 16' 32'

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #_____
Certificate of Authority #001497
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #_____
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project # 2388
Certificate of Authority #2003004674
10820 Sunset Office Dr. Suite 200
St. Louis, MO 63127
314.729.1400 tel

Poettker Construction Company
Construction Manager
Consultant Project # - N/A
400 S. Germantown Rd.
Breese, IL 62230
618-526-7213 tel
618-526-7654 fax

Facilities Storage Building

479 N. Woods Mill Road, Chesterfield, MO 63017
Parkway PN #85B2301B
New Pre-Engineered Building

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 2388

Revisions

Description	Date
MSD revisions	04/26/2023

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2023 by Bond Architects, Inc.

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

DATE: 05/09/23

SITE AND GRADING PLAN

C5

100%BID/FOR CONSTRUCTION SET

MSD Base Map: 17Q4
MSD Project: 23MSD-00099

Proposed Warehouse
(FOOTPRINT=4,847 s.f.)
F.F.=504.65

NO SANITARY SERVICE OR
WATER SERVICE PROPOSED

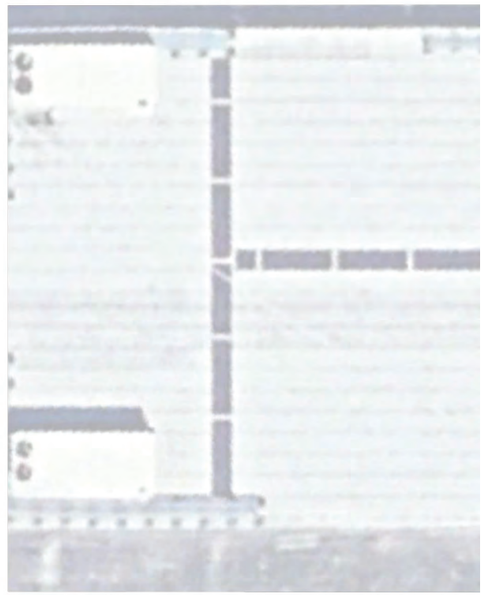
BUILDING HEIGHT
ELEV.: 518.23'

1-STOR
BRICK
BUILDIN

F.F.: 504.65

CONCRETE

GRAPHIC SCALE
10 0 5 10 20
(IN FEET)
1 inch = 10 ft.



5' LEVEL LANDING
2% MAX. SLOPE
F.F.
504.65

F.F.
504.65

5'W. CONC. WALK
2.0% MAX. CROSS-SLOPE

504.52

504.57

503.60

503.60

503.55

503.55

504.37±

504.33±

F.F.: 504.65

504.25±

EX. GATE (U.I.P.)

504.18±

CONCRETE

503.0±
502.50

2% MAX. SLOPE
ANY DIRECTION

503.45
502.80

502.75

502.70

502.02±

GATE

503.20
502.70

503.30

502.40

5'W. CONC. WALK
17' @ 4.75%

503.35

503.35

12" PVC

C.O.

ASPHALT

CONCRETE

MSD Base Map: 17Q4
MSD Project: 23MSD-00099

bond
architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority #
2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #_____
Certificate of Authority #001497
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #_____
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project # 2388
Certificate of Authority #2003004674
10820 Sunset Office Dr. Suite 200
St. Louis, MO 63127
314.729.1400 tel

Poettker Construction Company
Construction Manager
Consultant Project # - N/A
400 S. Germantown Rd.
Breese, IL 62230
618-526-7213 tel
618-526-7654 fax

Facilities Storage Building

479 N. Woods Mill Road, Chesterfield, MO 63017
Parkway PN #85B2301B
New Pre-Engineered Building

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 2388

Revisions

Description	Date
MSD revisions	04/26/2023

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2023 by Bond Architects, Inc.

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

DATE: 05/09/23

100%BID/FOR CONSTRUCTION SET

ENLARGED SITE PLAN

C5.1

PAVEMENT LEGEND

- HEAVY DUTY CONCRETE
- LIGHT DUTY CONCRETE
- ASPHALT PAVEMENT

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 inch = 20 ft.

SCALE: 3" = 1'-0" (1" 0.5" 0)
SCALE: 1 1/2" = 1'-0" (2' 1' 0.5' 0)
SCALE: 1" = 1'-0" (2' 1' 0.5' 0)
SCALE: 3/4" = 1'-0" (3' 2' 1' 0)
SCALE: 1/2" = 1'-0" (4' 2' 1' 0)
SCALE: 1/4" = 1'-0" (8' 4' 2' 0)
SCALE: 1/8" = 1'-0" (16' 8' 4' 0)
SCALE: 1/16" = 1'-0" (32' 16' 8' 0)

Proposed Warehouse
(FOOTPRINT=4,847 s.f.)
F.F.=504.65
NO SANITARY SERVICE OR
WATER SERVICE PROPOSED

80.33'
60.33'
10'W. DRIVE-IN DOOR
5'W. CONC. WALK
14.00'
12.00'
22.30'
ADA SIGN
WHEEL STOP
HEAVY DUTY CONCRETE PAVEMENT
FIRE HYDRANT & VALVE
CURB RAMP
9.00'
18.67'
ADJUST HEIGHT OF EX. GATES AS COORD. WITH FINISH GRADE
217.28'
PROPERTY LINE
SITE BENCHMARK
+" CUT CROSS IN CONCRETE SIDEWALK
ELEV. 504.65'
NEW GAS SERVICE TO BE BORED UNDER EXISTING CONC. WALK
10.15'
33.57'
UTILITY POLE & OVERHEAD LINES (T.B.R.& RELOCATED BY AMEREN)
MECHANICAL EQUIPMENT
PANELBOARD FEEDER (SEE ELEC. DWGS.)
NEW UTILITY POLE BY AMEREN (COORD. LOCATION WITH OWNER)
EX. GATE (U.I.P.)
5'W. CONC. WALK
96.1'
12" PVC
6" WATER EXTENSION DR18 C900 P.V.C.
NEW TAP TO EXISTING 2 1/2" NATURAL GAS LINE. LOCATION AND CONDITION OF LINE TO BE VERIFIED BY CONTRACTOR (SEE MEP DWGS.)
1-STORY BRICK BUILDING
BUILDING HEIGHT ELEV.=518.23'
F.F.:504.65'
123.8'
88.0'
95.3'
120.2'
137.1'
135.0'
6" WATER DR18 C900 P.V.C.
8" WATER DR18 C900 P.V.C.
EX. FIRE HYDRANT
FIELD LOCATE & EXTEND 6" WATER SERVICE WITH CHECK VALVE & RECONNECT TO HYDRANT
8" WATER EXTENSION DR18 C900 P.V.C.
APPROX. LOCATION 8" WATER SERVICE FROM RECORD DWGS. (CONTRACTOR TO FIELD VERIFY LOCATION)
EX. HYDRANT FEED ASSUMED TO BE 6" (CONTRACTOR TO FIELD VERIFY) (CAP AND ABANDON FOR NEW 8" SERVICE EXTENSION)
8"W
ASPHALT
CONCRETE
CONCRETE CURB
GRAVEL
Conc. Walk
PARKWAY CONSOLIDATED SCHOOL DB.347
RETAINING WALL
INV. TRAINS IN GROUND PIPE (TYP.)
SAN. M.H.
STORM M.H.
6" VCP

MSD Base Map: 17Q4
MSD Project: 23MSD-00099

100%BID/FOR CONSTRUCTION SET

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #_____
Certificate of Authority #001497
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #_____
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project # 2388
Certificate of Authority #2003004674
10820 Sunset Office Dr. Suite 200
St. Louis, MO 63127
314.729.1400 tel

Poettker Construction Company
Construction Manager
Consultant Project # - N/A
400 S. Germantown Rd.
Breese, IL 62230
618-526-7213 tel
618-526-7654 fax

Facilities Storage Building

479 N. Woods Mill Road, Chesterfield, MO 63017
Parkway PN #85B2301B
New Pre-Engineered Building

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 2388

Revisions

Description	Date
MSD revisions	04/26/2023

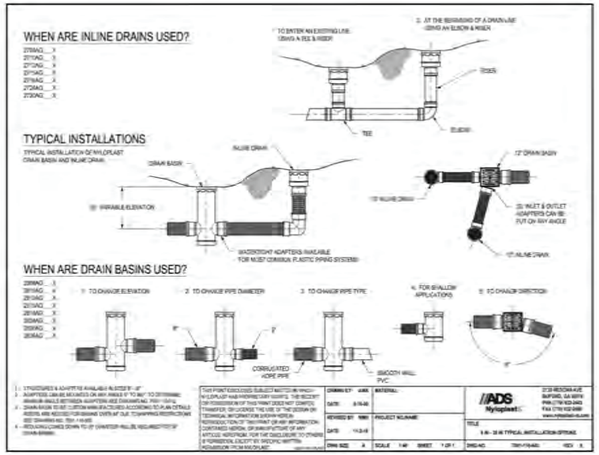
This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2023 by Bond Architects, Inc.

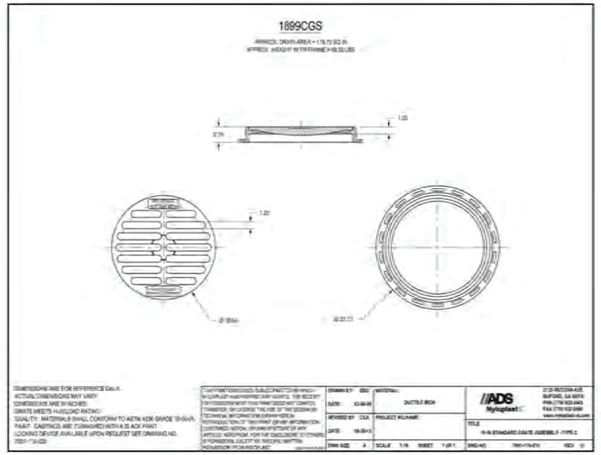
The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

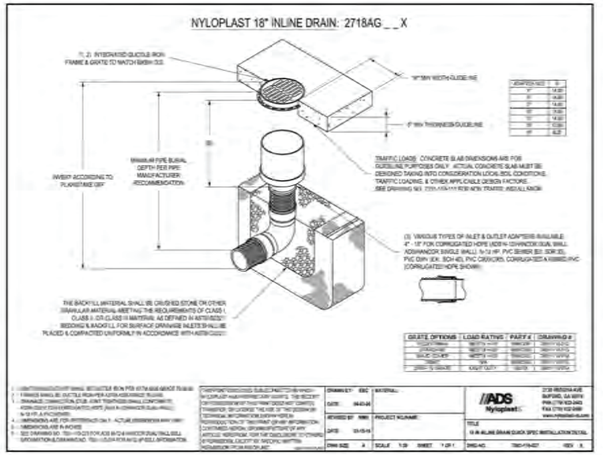
DATE: 05/09/23

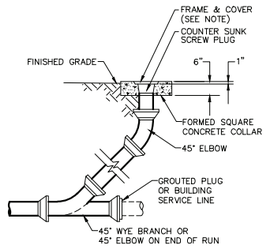
SITE GEOMETRY AND UTILITY PLAN

C6



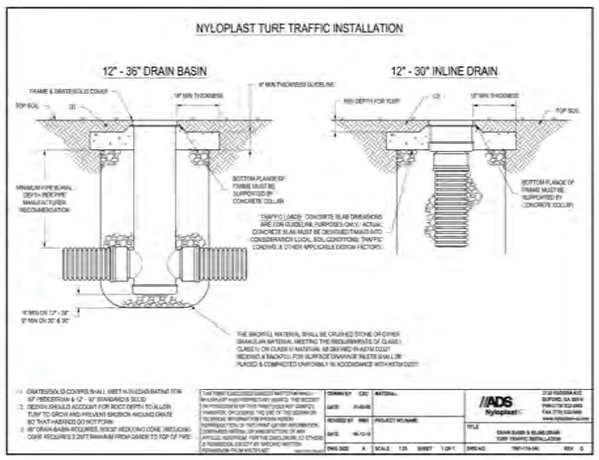


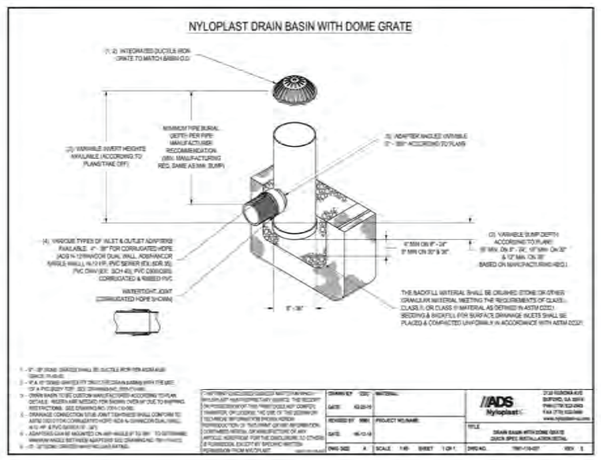


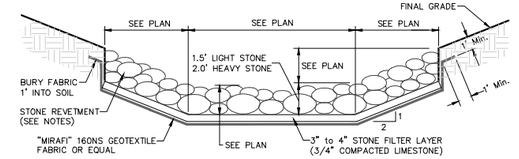


DETAIL OF SEWER CLEANOUT

NOTE TO CONTRACTOR: THE TYPE OF LID/COVER FOR THE CLEANOUT IS DEPENDENT ON THEIR LOCATION--CONTRACTOR TO CONTACT ENGINEER WITH ANY QUESTIONS.
ASPHALT OR CONCRETE PAVEMENT: *CAST IRON*
LAWN OR LANDSCAPE AREAS: *PLASTIC*





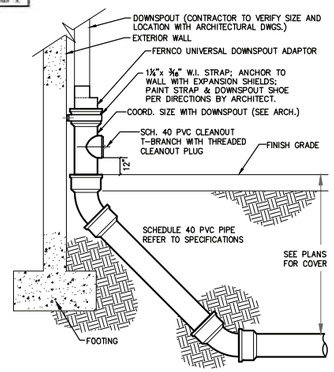


ROCK BLANKET NOTES

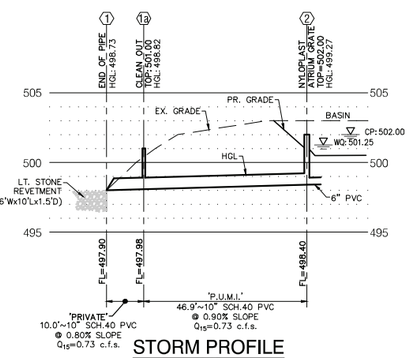
1. STONE FOR HEAVY STONE REVETMENT SHALL BE SOUND, DURABLE, AND FREE FROM CRACKS AND OTHER STRUCTURAL DEFECTS THAT WOULD CAUSE IT TO DETERIORATE. IT SHALL NOT CONTAIN ANY SOAPSTONE, SHALE, OR OTHER MATERIAL EASILY DISINTEGRATED. THE STONE SHALL BE AT LEAST 12 INCH TO 18 INCH DIAMETER ØM 15 INCH.
2. STONE FOR LIGHT STONE REVETMENT SHALL BE AT LEAST 7 INCHES IN SIZE AND WEIGH NOT LESS THAN 25 POUNDS. 75 PERCENT SHALL NOT WEIGH LESS THAN 50 POUNDS.
3. STONE SHOULD BE PLACED TO MATCH PROFILE OF ADJACENT GRADE AND **NOT** 'DUMPED' ON TOP OF GRADE

REVETMENT DETAIL

(FOR LOCATIONS SEE PLANS)



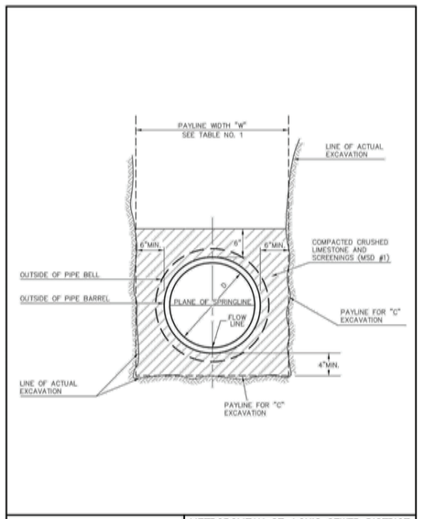
PVC DOWNSPOUT SHOE DETAIL



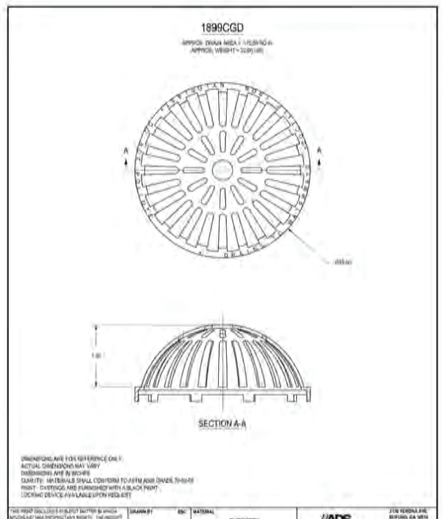
STORM PROFILE

SCALE:
HORIZONTAL: 1"=20'
VERTICAL: 1"= 5'

'P.U.M.I.' = PRIVATE UNDER MSD INSPECTION



PIPE BEDDING CLASS "C" (FOR ALL 6" to 18" PIPE EXCEPT REINFORCED CONCRETE PIPE)	METROPOLITAN ST. LOUIS SEWER DISTRICT *Standard Details of Sewer Construction*		
	Dr. W.S.H. Ch. J.C.K.	2009	SHEET 4



15 YR 20 MIN

HYDRAULIC CALCULATION SHEET (SEE DRAINAGE AREA PLAN FOR P.I. AND Q (inflow) FOR EACH STRUCTURE)

Project name:	*23MSD-00099*	**Calculated By:**	*MFV*
Project number:	*2388*	**Checked By:**	*PKB*
Project Location:	*479 N. Woods Mill*	**Date:**	*04/24/2023*

Bend Coefficients :

5° = 0.06	20° = 0.24	35° = 0.40	50° = 0.50	65° = 0.57	80° = 0.65
10° = 0.11	25° = 0.30	40° = 0.43	55° = 0.52	70° = 0.60	85° = 0.67
15° = 0.18	30° = 0.35	45° = 0.47	60° = 0.55	75° = 0.62	90° = 0.70

LINE			FLOW LINE ELEVATIONS									HEAD LOSS				Hydraulic Elevations						
Structure Number	Upper structure	Lower structure	Upper structure	Lower Structure	Length (ft)	Flowline Grade ft/ft	Pipe Size (in.)	Full Flow Cap. (cfs)	Total (Q) (cfs)	Mean Full Flow Vel.(V) (ft/s)	Bend Coef.	Velocity Head (V_h) (ft)	QV_h (ft^4/s)	Pipe Coef. (n)	H_L (ft)	Junction (ft)	Bend (ft)	Total H_{tot}	Upper F.L + Dia.	Lower H.E. $+H_T$	Lower H.E.	Structure Upper H.E. + H_{tot}	TOP/SILL Structure Elevation	Free Board	Structure Number
2	2	1a	498.40	497.98	46.90	0.0090	10	2.70	0.73	1.34	0.00	0.03	0.02	0.01	0.03	0.04	0.00	0.04	499.23	498.85	498.82	499.27	502.00	2.73	2
1a	1a	1	497.98	497.90	10.00	0.0080	10	2.55	0.73	1.34	0.35	0.03	0.02	0.01	0.01	0.00	0.01	0.01	498.81	498.74	498.73	498.82	501.00	2.18	1a
1	1		497.9																						

FORMULAS:

MEAN FULL FLOW VELOCITY = Q_{ACT}/A_{PIPE}
FRICTION LOSS (H_f) : $Hf = 2.87\ n^2\ (LV^2/d^{1.33})$
VELOCITY HEAD : $V_h = V^2/2g$

JUNCTION LOSSES (JUNC.) = [$Q_{out}Vh_{out}$ - Sum ($Q_{in}V_{in}$)]x1.33/Q_{out}
BEND LOSSES (BEND) = ($V^2_{out}/2g$) * ANGLE COEFFICIENT

Note:
1. IF MORE THAN ONE INCOMING LINE, CALCULATE EACH BEND LOSS AND ADD TOGETHER.
2. NO STRUCTURE LOSSES TO BE CALCULATED AT A DROP.
3. IF $QV_{hOUT} > QV_{hIN(S)}$, NO JUNCTION LOSSES TO BE CALCULATED.

MSD Base Map: 17Q4
MSD Project: 23MSD-00099

100%BID/FOR CONSTRUCTION SET

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #_____
Certificate of Authority #001497
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #_____
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project # 2388
Certificate of Authority #2003004674
10820 Sunset Office Dr. Suite 200
St. Louis, MO 63127
314.729.1400 tel

Poettker Construction Company
Construction Manager
Consultant Project # - N/A
400 S. Germantown Rd.
Breese, IL 62230
618-526-7213 tel
618-526-7654 fax

Facilities Storage Building

479 N. Woods Mill Road, Chesterfield, MO 63017
Parkway PN #85B2301B
New Pre-Engineered Building

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 2388

Revisions

Description	Date
MSD revisions	04/26/2023

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It is not to be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect. Copyright © 2023 by Bond Architects, Inc.

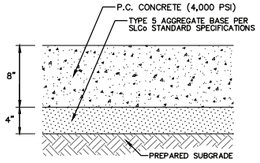
The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

DATE: 05/09/23

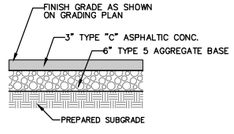
SEWER DETAILS

C7.0

NOTE:
PAVEMENT SECTIONS REFERENCED IN THESE PLANS HAVE NOT BEEN DESIGNED BY CEDC, INC. THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR PAVEMENT RECOMMENDATIONS AND SUBGRADE PREPARATION.

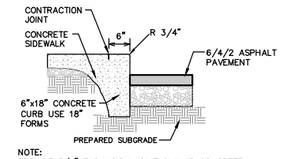


HEAVY DUTY CONCRETE PAVEMENT DETAIL
(DRIVE ACCESS TO DOCK)



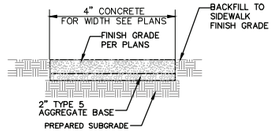
6/3 ASPHALT PAVEMENT SECTION

LIGHT DUTY ASPHALT PAVEMENT DETAIL
(NOT FOR USE IN RIGHT-OF-WAY)
(ON-SITE PARKING STALL AREAS)

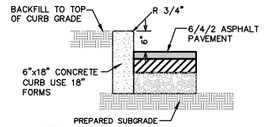


NOTE:
PROVIDE 3/4" EXPANSION JOINT SIMILAR CONCRETE EXPANSION JOINT, FULL DEPTH OF CURB, MAXIMUM SPACING AT 20' ON CENTER OR PER PLANS.

MONOLITHIC SIDEWALK DETAIL
(ADJACENT TO LIGHT DUTY ASPHALT PAVEMENT)
N.T.S.

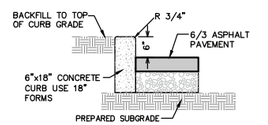


CONCRETE SIDEWALK
N.T.S.



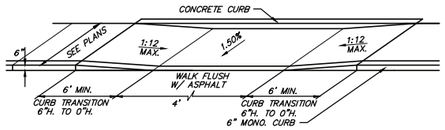
NOTE:
PROVIDE 3/4" EXPANSION JOINT SIMILAR CONCRETE EXPANSION JOINT, FULL DEPTH OF CURB, MAXIMUM SPACING AT 20' ON CENTER OR PER PLAN.

CONCRETE CURB DETAIL
(ADJACENT TO HEAVY DUTY ASPHALT PAVEMENT)
N.T.S.

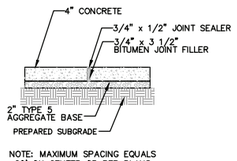


NOTE:
PROVIDE 3/4" EXPANSION JOINT SIMILAR CONCRETE EXPANSION JOINT, FULL DEPTH OF CURB, MAXIMUM SPACING AT 20' ON CENTER OR PER PLAN.

CONCRETE CURB DETAIL
(ADJACENT TO LIGHT DUTY ASPHALT PAVEMENT)
N.T.S.

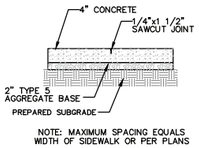


INLINE CURB RAMP



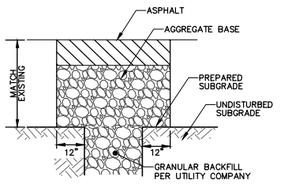
NOTE: MAXIMUM SPACING EQUALS 20' ON CENTER OR PER PLANS

CONCRETE EXPANSION JOINT
N.T.S.



NOTE: MAXIMUM SPACING EQUALS WIDTH OF SIDEWALK OR PER PLANS

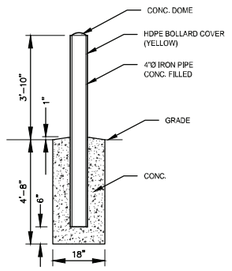
CONCRETE CONTRACTION JOINT
N.T.S.



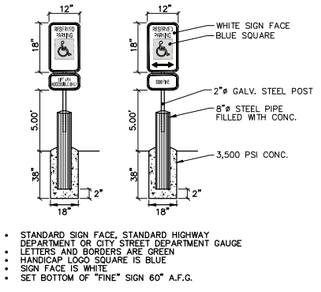
NOTE:
SAW CUT PERIMETER OF PATCH AND EXCAVATE EXISTING PAVEMENT SECTION TO SOUND BASE. EXCAVATE RECTANGULAR OR TRAPEZOIDAL PATCHES, EXTENDING 12 INCHES INTO ADJACENT SOUND PAVEMENT, UNLESS OTHERWISE INDICATED. CUT EXCAVATION FACES VERTICALLY AND REMOVE EXCAVATED MATERIAL. RECOMPACT EXISTING UNBOUND AGGREGATE BASE COURSE TO FORM NEW SUBGRADE.

NEW PAVEMENT SHALL MATCH THE EXISTING PAVEMENT TYPE AND THICKNESS

PATCHING ASPHALT TRENCH/PAVEMENT
(N.T.S.)

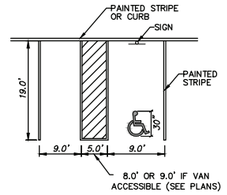


PIPE BOLLARD DETAIL



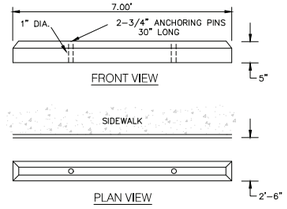
- STANDARD SIGN FACE, STANDARD HIGHWAY DEPARTMENT OR CITY STREET DEPARTMENT GAUGE
- LETTERS AND BORDERS ARE GREEN
- HANDICAP LOGO SQUARE IS BLUE
- SIGN FACE IS WHITE
- SET BOTTOM OF "FINE" SIGN 60" A.F.G.

ACCESSIBLE PARKING SIGN



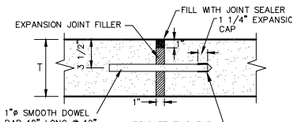
NOTE:
ADA STRIPING & GRAPHIC SHALL BE WHITE OR PER LOCAL CODE

TYPICAL PARKING STALLS

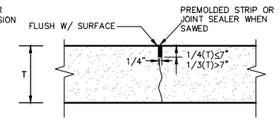


PRE-CAST WHEEL STOP
(n.t.s.)

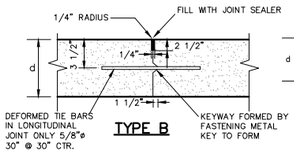
NOTES:
1. CONSTRUCTION JOINTS ARE REQUIRED BETWEEN ALL POURS SEPARATED BY MORE THAN 30 MINUTES TIME.
2. PLACE LONGITUDINAL CONSTRUCTION JOINT AT CENTERLINE OF ROADWAYS WHEN PAVEMENT IS WIDER THAN 12'.
3. MAXIMUM OF EIGHT FEET (8') SPACING BETWEEN CONTROL JOINTS FOR 5" THICK PAVEMENT; FOURTEEN FEET (14') FOR 7" THICK PAVEMENT; SIXTEEN FEET (16') FOR 8" THICK PAVEMENT.
4. FILL JOINTS TO WITHIN 1/8" OF SURFACE WITH JOINT SEALER.
5. JOINTS TO BE SEALED WITH LIMESTONE COLORED SEALANT.
6. WHEN A JOINT FALLS WITHIN 5' OF A MANHOLE, LIGHT POLE BASE, OR OTHER STRUCTURE, SHORTEN ONE OR MORE PANELS ON EITHER SIDE OF STRUCTURE TO ALLOW CONTROL JOINTS TO FALL AT STRUCTURE.
7. CONTRACTOR MAY SUBMIT ALTERNATE JOINTING PLAN TO ENGINEER FOR REVIEW.



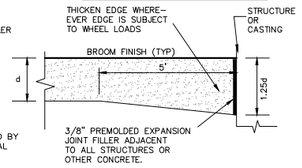
TYPE AA EXPANSION JOINT



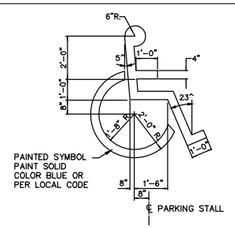
TYPE C CONTRACTION JOINT



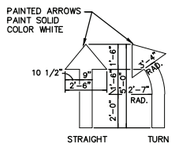
TYPE B CONSTRUCTION JOINT



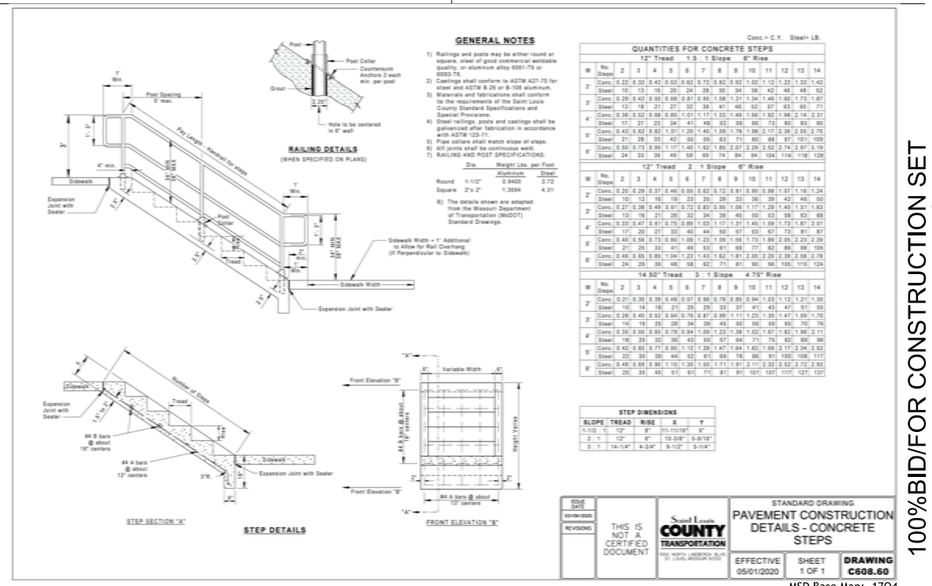
ISOLATION JOINT



PAINTED ADA SIGN
N.T.S.



PAINTED DIRECTIONAL ARROWS
N.T.S.



SCALE	DATE
	03/09/2020
REVISIONS	

THIS IS NOT A CERTIFIED DOCUMENT

Saint Louis COUNTY TRANSPORTATION
1050 NORTH LINDBERGH BLVD.
ST. LOUIS, MISSOURI 63132

STANDARD DRAWING
PAVEMENT CONSTRUCTION DETAILS - CONCRETE STEPS

EFFECTIVE	SHEET	DRAWING
05/01/2020	1 OF 1	C608.60

MSD Base Map: 17Q4
MSD Project: 23MSD-00099

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #_____
Certificate of Authority #001497
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #_____
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project # 2388
Certificate of Authority #2003004674
10820 Sunset Office Dr. Suite 200
St. Louis, MO 63127
314.729.1400 tel

Poettker Construction Company
Construction Manager
Consultant Project # - N/A
400 S. Germantown Rd.
Breese, IL 62230
618-526-7213 tel
618-526-7654 fax

Facilities Storage Building

479 N. Woods Mill Road, Chesterfield, MO 63017
Parkway PN #85B2301B
New Pre-Engineered Building

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 2388

Revisions

Description	Date
MSD revisions	04/26/2023

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It is not to be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect. Copyright © 2023 by Bond Architects, Inc.

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

DATE: 05/09/23

SITE DETAILS

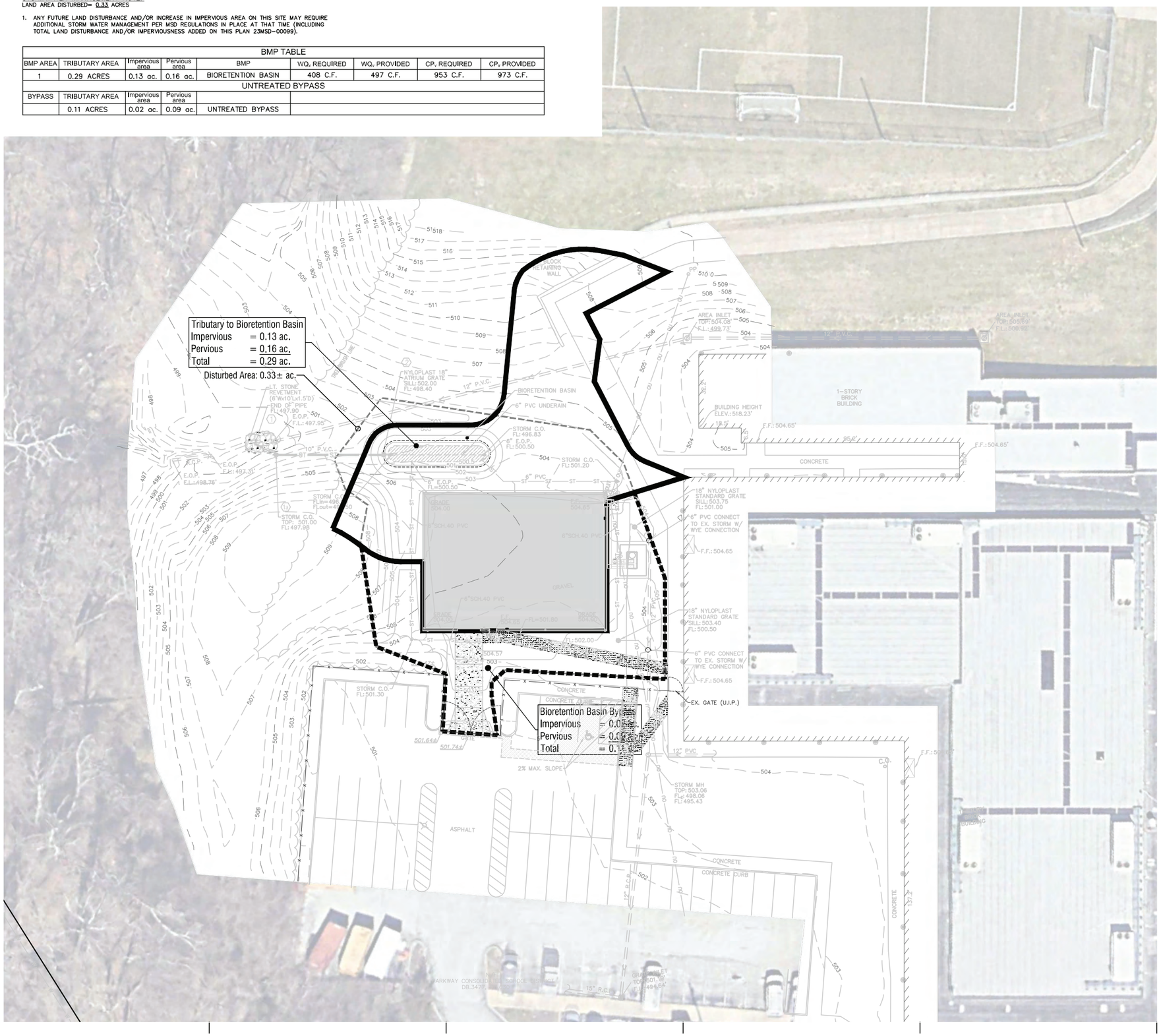
100%BID/FOR CONSTRUCTION SET

C7.1

STORMWATER MANAGEMENT NOTE:
LAND AREA DISTURBED= 0.33 ACRES

1. ANY FUTURE LAND DISTURBANCE AND/OR INCREASE IN IMPERVIOUS AREA ON THIS SITE MAY REQUIRE ADDITIONAL STORM WATER MANAGEMENT PER MSD REGULATIONS IN PLACE AT THAT TIME (INCLUDING TOTAL LAND DISTURBANCE AND/OR IMPERVIOUSNESS ADDED ON THIS PLAN 23MSD-00099).

BMP TABLE								
BMP AREA	TRIBUTARY AREA	Impervious area	Pervious area	BMP	WQ, REQUIRED	WQ, PROVIDED	CP, REQUIRED	CP, PROVIDED
1	0.29 ACRES	0.13 ac.	0.16 ac.	BIORETENTION BASIN	408 C.F.	497 C.F.	953 C.F.	973 C.F.
UNTREATED BYPASS								
BYPASS	TRIBUTARY AREA	Impervious area	Pervious area					
	0.11 ACRES	0.02 ac.	0.09 ac.	UNTREATED BYPASS				



GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 inch = 20 ft.

STORMWATER MANAGEMENT TRACKING TABLE		
Project	Disturbed Area	Differential
20MSD-00057	0.13 acres	0.11 cfs
20MSD-00425	0.057 acres	0.034 cfs
20MSD-00501	0.551 acres	0.411 cfs
21MSD-00409	0.025 acres	0.021 cfs
23MSD-00099	0.33 acres	0.24 cfs

1. Storm Water Management Facilities Report (SWMFR) from 21MSD-00409 indicates that 20MSD-00501 created storm water credits of 0.49 acres (including the deficit from 20MSD-00057)
2. 21MSD-00409 disturbance of 0.025 acres reduces the credit to 0.465 acres for future projects
3. 23MSD-00099 creates 0.02 acres of "untreated" impervious disturbed area to be applied to the credit
4. Water Quality credit: 0.465-0.02=0.445 acres remaining

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #_____
Certificate of Authority #001497
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #_____
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project # 2388
Certificate of Authority #2003004674
10820 Sunset Office Dr. Suite 200
St. Louis, MO 63127
314.729.1400 tel

Poettker Construction Company
Construction Manager
Consultant Project # - N/A
400 S. Germantown Rd.
Breese, IL 62230
618-526-7213 tel
618-526-7654 fax

Facilities Storage Building

479 N. Woods Mill Road, Chesterfield, MO 63017
Parkway PN #85B2301B
New Pre-Engineered Building

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 2388

Revisions

Description	Date
MSD revisions	04/26/2023

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect.
Copyright © 2023 by Bond Architects, Inc.

100%BID/FOR CONSTRUCTION SET

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

DATE: 05/09/23

BEST MANAGEMENT PRACTICE PLAN

C8.0

MSD Base Map: 17Q4
MSD Project: 23MSD-00099

BIORETENTION NOTES

1. MATERIAL SPECIFICATIONS

THE ALLOWABLE MATERIALS TO BE USED IN BIORETENTION AREA ARE DETAILED IN THE MSD LANDSCAPE GUIDE FOR STORMWATER BEST MANAGEMENT PRACTICES.

2. PLANTING SOIL

THE PLANTING SOIL SHOULD BE SANDY LOAM OR LOAMY SAND (SHOULD CONTAIN A MINIMUM OF 60 PERCENT SAND, BY VOLUME). THE CLAY CONTENT FOR THESE SOILS SHOULD BE LESS THAN 10 PERCENT BY VOLUME. A SATURATED HYDRAULIC CONDUCTIVITY OF AT LEAST 2.0 FEET PER DAY IS REQUIRED.

THE SOIL SHOULD BE FREE OF STONES, STUMPS, ROOTS OR OTHER WOODY MATERIAL OVER 1 INCH IN DIAMETER. FOR BEST RESULTS, BRUSH OR SEEDS FROM NOXIOUS WEEDS SUCH AS JOHNSON GRASS, MUGWORT, NUTSEDGE AND CANADIAN THISTLE SHOULD NOT BE PRESENT IN THE SOILS. PLACEMENT OF THE PLANTING SOIL SHOULD BE IN LIFTS OF 12 TO 18 INCHES, LOOSELY COMPACTED (RUBBER WHEELED HEAVY EQUIPMENT AND MECHANICAL TAMPING DEVICES ARE NOT RECOMMENDED FOR COMPACTION).

THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:

PHRANGE	5.2–8.0
ORGANIC MATTER	1.5 – 5 PERCENT (BY WEIGHT)
MAGNESIUM	35 LB./AC
PHOSPHORUS (PHOSPHATE – P205	75 LB./AC
POTASSIUM (POTASH – K20)	85 IB./AC
SOLUBLE SALTS	NOT TO EXCEED 500 PPM

ALL BIORETENTION AREAS SHALL HAVE A MINIMUM OF ONE TEST. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, PHOSPHORUS, AND POTASSIUM AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOP SOIL WAS EXCAVATED.

SINCE DIFFERENT LABS CALIBRATE THEIR TESTING EQUIPMENT DIFFERENTLY, ALL TESTING RESULTS SHALL COME FROM THE SAME TESTING FACILITY.

SHOULD THE PH FALL OUT OF THE ACCEPTABLE RANGE, IT MAY BE MODIFIED (HIGHER) WITH LIME OR (LOWER) WITH IRON SULFATE PLUS SULFUR.

3. COMPACTION

IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF THE BIORETENTION AREA AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF BIORETENTION AREAS ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.

COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

ROTOTIL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE.

WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE.

WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12 IN. TO 18 IN. DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

4. PLANT MATERIAL

RECOMMENDED PLANT MATERIAL FOR BIORETENTION AREAS CAN BE FOUND IN MSD LANDSCAPE GUIDE FOR STORMWATER BEST MANAGEMENT PRACTICES.

5. PLANT INSTALLATION

MULCH SHOULD BE PLACED TO A UNIFORM THICKNESS OF 2 IN. TO 3 IN. SHREDDED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.

ROOT STOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON–SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION.

TREES SHALL BE BRACED USING 2 IN. BY 2 IN. STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL.

GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON–GRASS GROUND COVER PLANTING SPECIFICATIONS.

THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS DEFEATS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.

6. MISCELLANEOUS

THE BIORETENTION FACILITY MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

7. BMP CONSTRUCTION NOTES:

- ALL STORM WATER FLOW TO THE BMP AREAS SHALL BE DIVERTED, PLUGGED OR DISCONNECTED UNTIL THE CONSTRUCTION SITE IS STABLE AND THE MSD INSPECTOR PROVIDES APPROVAL TO PLACE THE BMP ONLINE.
- CONSTRUCTION SITE RUNOFF SHALL NOT FLOW INTO BMP AREAS.
- AREAS NOT SUBJECT TO IMMEDIATE CONSTRUCTION ACTIVITY SHALL REMAIN VEGETATED AND UNDISTURBED AS LONG AS POSSIBLE.
- CONTRACTOR SHALL PROVIDE TO THE PROJECT ENGINEER (CEDC) SHOP DRAWINGS OF THE FOLLOWING FOR APPROVAL:
  a. BIORETENTION SOIL MEDIA
  b. GEOTEXTILE FABRIC
  c. SAND
  d. GRAVEL
  e. PERFORATED PIPE

ONCE THE CONTRACTOR HAS SUBMITTED THE ABOVE ITEMS FOR APPROVAL, THE PROJECT ENGINEER (CEDC) WILL FORWARD SIGNED AND SEALED SHOP DRAWINGS TO MSD FOR APPROVAL PRIOR TO CONSTRUCTION OF THE BMP. THE MSD CONTACT IS BRIAN DUNN AT (314) 335–2072.

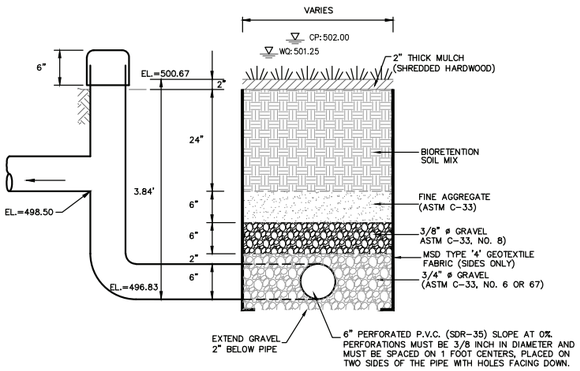
NOTES:

1. STANDARD 18"X12"X0.080" ALUMINUM SIGN FACE WITH BLACK 0.625" SERIES 2000 STANDARD ALPHABET ON WHITE BACKGROUND.
2. GALVANIZED STEEL POST 9'–6" LONG.
3. SET BOTTOM OF SIGN 5'–0" ABOVE GRADE.
4. SET BOTTOM OF POST 3'–0" BELOW GRADE.

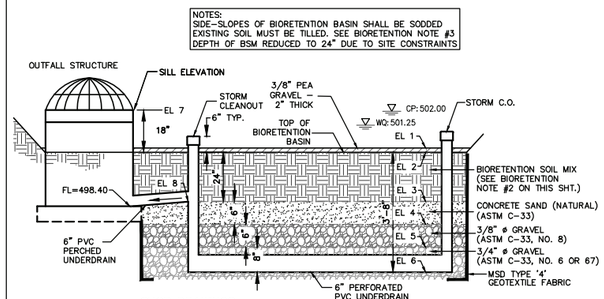
THE RAIN GARDEN IS DESIGNED TO HOLD STORM WATER RUNOFF SO IT CAN FILTER POLLUTANTS. THERE ARE MISSOURI NATIVE PLANTS IN THE BEDS WHICH ASSIST IN THE PROCESS OF ABSORBING THE POLLUTANTS. THE PLANTS ARE ALSO USED TO FEED AND ATTRACT BIRDS AND BUTTERFLIES.

RAIN GARDEN SIGN DETAIL

(n.t.s.)



TYPICAL SECTION AT BIORETENTION BASIN

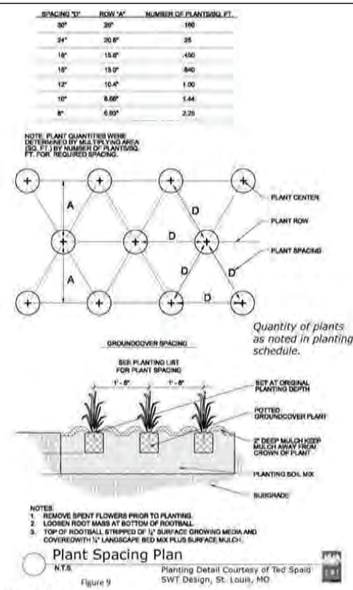


BIORETENTION BASIN ELEV TABLE	
	BIORETENTION BASIN
EL 1	500.67
EL 2	500.50
EL 3	498.50
EL 4	498.00
EL 5	497.50
EL 6	496.83
EL 7	502.00
EL 8	498.50

SHOP DRAWINGS
CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO MSD PRIOR TO CONSTRUCTION FOR THE BIORETENTION SOIL AND OTHER MATERIALS.
MSD CONTACT: BRIAN DUNN (314) 335–2072

TYPICAL SECTION FOR BIORETENTION/DETENTION BASINS WITH PERCHED UNDERDRAIN

THE IN–PLACE PERMEABILITY OF THE PLANTING SOIL SHALL BE 2.0 TO 3.5 FT/DAY, AND VERIFIED BY AND INFILTRATION TEST PERFORMED PER THE MARYLAND STORMWATER MANUAL, APPENDIX D.1, "INFILTRATION TESTING REQUIREMENTS (FIELD TESTING REQUIRED)". A MINIMUM OF ONE PERCOLATION TEST SHALL BE PERFORMED PER FACILITY. THE MSD FIELD INSPECTOR SHALL BE ALLOWED TO SELECT THE LOCATION OF PERCOLATION TESTS. THE MSD FIELD INSPECTOR SHALL BE PROVIDED A COPY OF ALL TEST RESULTS, SIGNED AND SEALED BY A MISSOURI PROFESSIONAL ENGINEER. TEST RESULTS SHALL REPORT IN UNITS OF FT/DAY. RESULTS SHALL DEMONSTRATE ACCEPTABLE PERMEABILITY PRIOR TO CONSTRUCTION APPROVAL. NOTE THESE TESTS ARE NOT REQUIRED IF UTILIZING PREMIXED PLANTING SOIL SUPPLIED BY A LOCAL MSD APPROVED SOILS SUPPLIER.



Plant Spacing Plan

N.T.S.

Planting Detail Courtesy of Ted Spaid SWT Design, St. Louis, MO

Figure 9

Planting, Water and Mulch Requirements for Stormwater BMPs

Table 3: Planting, Water and Mulch Requirements

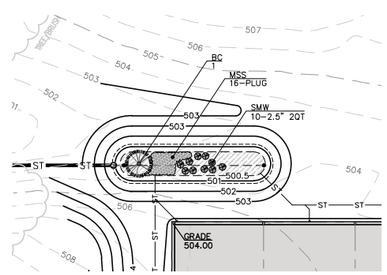
Water Availability	Required Planting Period	Minimum Container Size	Water Requirement First 3 Weeks*	Water Requirement After 3 Weeks*	Maximum Mulch Depth****
No ability to water after	Late Feb. – April only	2.25" x 3.75" or larger	Water each plug immediately		1.5 for plugs
Manual watering with standard sprinkler	Late Feb. – Early June	4.5" x 5" (quart) or larger in summer & fall	1" (60 min) every 4 days	1" (60 min) every 7 days until plants established***	1.5" for plugs
Automatic irrigation (set to water more frequently than normal during first two months after planting)	Late Feb. – Early Oct.	2.25" x 3.75" (plug) or larger in spring 4.5" x 5" (quart) or larger in summer & fall	1" (60 min) every 4 days in spring and fall 1" (60 min) every 3 days in summer	1" (60 min) every 7 days until plants established***	1.5" for plugs 2.5" for quarts

*This water amount includes natural rainfall. If you get a ½ inch of natural rain then you will need to add a ½ inch of water to meet the 1 inch requirement.

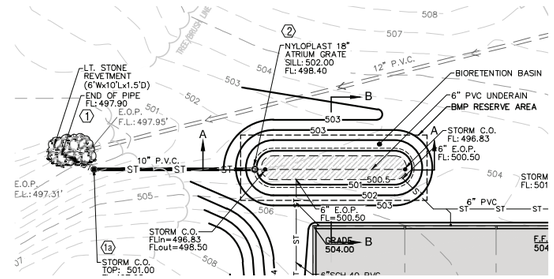
**Requires transport of water to the planting site in large containers and pouring enough water onto each plant (after planting) to moisten the entire planting pit.

***Plants are established when roots have grown out of the container soil and into the native soil by 3-5 inches. This normally takes 3-4 months for most perennials and grasses and up to 6-7 months for trees and shrubs.

****Shredded leaf compost is recommended for use with perennials and grasses. Shredded bark mulch is recommended for tree and shrub plantings at a depth of 3 inches.

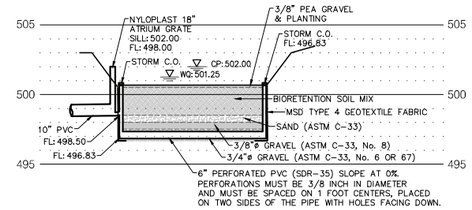


PLANT SCHEDULE (REFER TO DRAWING FOR PLANT LOCATION)				
	QTY	BOTANICAL NAME / COMMON NAME	SIZE	SPACING
BC	1	Taxodium distichum / Bald Cypress	2.5" cal.	20' O.C. (MIN.)
SMW	10	Asclepios/Swamp Milkweed	2 Qt.	24" O.C. (MIN.)
MSS	16	Carex grayi / Morning Star Sedge	plug	18" O.C. (MIN.)



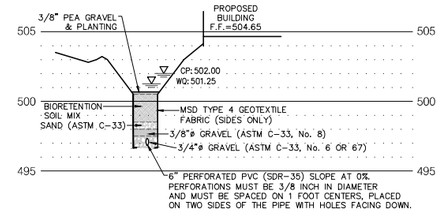
BIORETENTION BASIN

SCALE: 1"= 20'



BASIN SECTION A-A

SCALE:
HORIZONTAL: 1"=20'
VERTICAL: 1"= 5'



BASIN SECTION B-B

SCALE:
HORIZONTAL: 1"=20'
VERTICAL: 1"= 5'

MSD Base Map: 17Q4
MSD Project: 23MSD-00099

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #_____
Certificate of Authority #001497
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #_____
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project # 2388
Certificate of Authority #2003004674
10820 Sunset Office Dr. Suite 200
St. Louis, MO 63127
314.729.1400 tel

Poettker Construction Company
Construction Manager
Consultant Project # - N/A
400 S. Germantown Rd.
Breese, IL 62230
618-526-7213 tel
618-526-7654 fax

Facilities Storage Building
479 N. Woods Mill Road, Chesterfield, MO 63017
Parkway PN #85B2301B
New Pre-Engineered Building
Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 2388

Revisions

Description	Date
MSD revisions	04/26/2023

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It is not to be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect. Copyright © 2023 by Bond Architects, Inc.

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

DATE: 05/09/23

100%BID/FOR CONSTRUCTION SET

BEST MANAGEMENT PRACTICE PLAN DETAILS

C8.1

Differential Runoff Calculations

(15 Year, 20 Minute Storm ~ Based on Disturbed Area=0.33 ac.)

EXISTING CONDITION

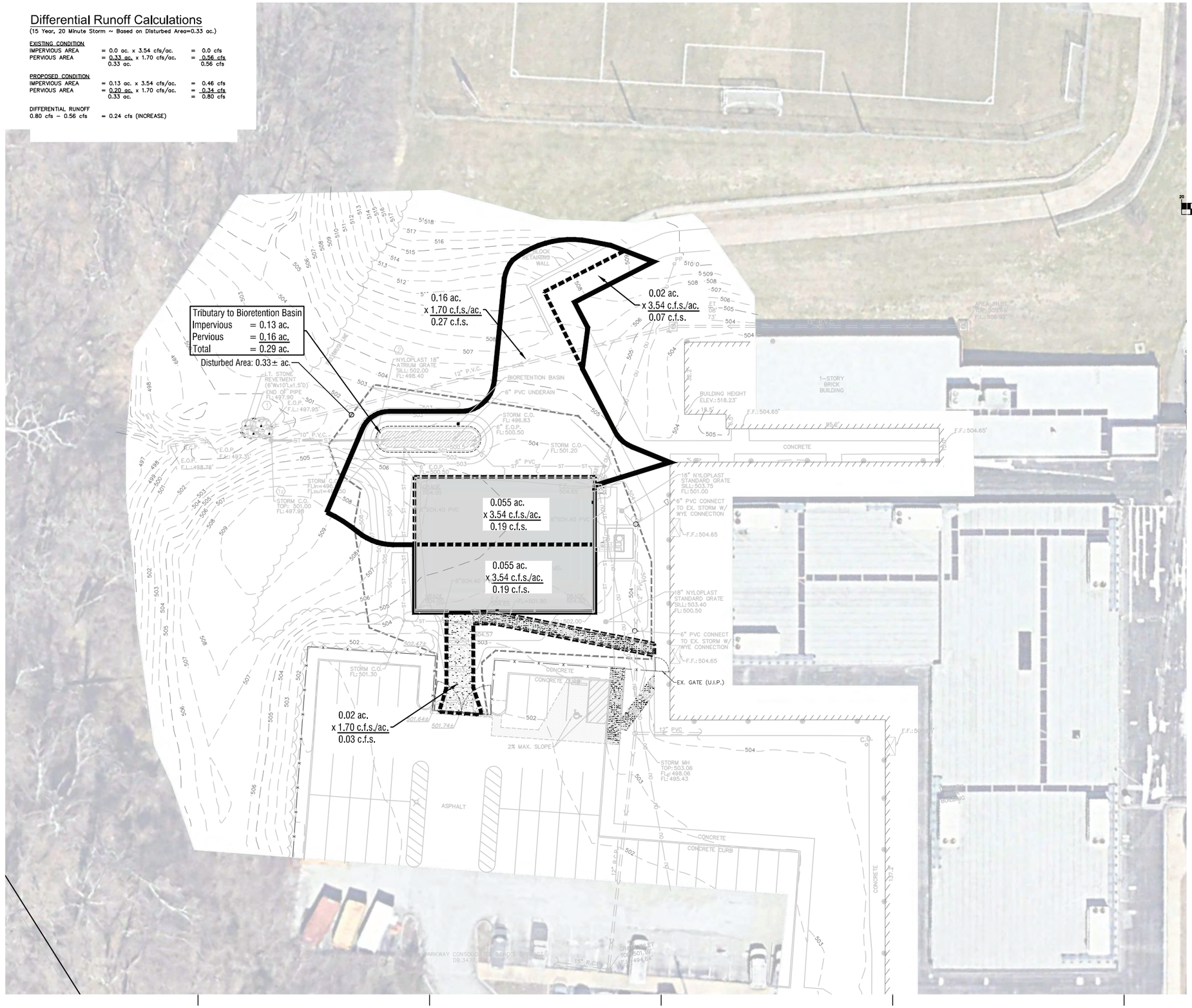
IMPERVIOUS AREA	= 0.0 ac. x 3.54 cfs/ac.	= 0.0 cfs
PERVIOUS AREA	= 0.33 ac. x 1.70 cfs/ac.	= 0.56 cfs
	0.33 ac.	0.56 cfs

PROPOSED CONDITION

IMPERVIOUS AREA	= 0.13 ac. x 3.54 cfs/ac.	= 0.46 cfs
PERVIOUS AREA	= 0.20 ac. x 1.70 cfs/ac.	= 0.34 cfs
	0.33 ac.	= 0.80 cfs

DIFFERENTIAL RUNOFF

0.80 cfs – 0.56 cfs = 0.24 cfs (INCREASE)



GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 inch = 20 ft.

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #
Certificate of Authority #001497
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project # 2388
Certificate of Authority #2003004674
10820 Sunset Office Dr. Suite 200
St. Louis, MO 63127
314.729.1400 tel

Poettker Construction Company
Construction Manager
Consultant Project # - N/A
400 S. Germantown Rd.
Breese, IL 62230
618-526-7213 tel
618-526-7654 fax

Facilities Storage Building

479 N. Woods Mill Road, Chesterfield, MO 63017
Parkway PN #85B2301B
New Pre-Engineered Building

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 2388

Revisions

Description	Date
MSD revisions	04/26/2023

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It shall not be loaned, copied or reproduced, in whole or in part, or for any other purpose or project, without the written consent of the Architect.
Copyright © 2023 by Bond Architects, Inc.

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

DATE: 05/09/23

100%BID/FOR CONSTRUCTION SET

DRAINAGE AREA PLAN

C9.0

MSD Base Map: 17Q4
MSD Project: 23MSD-00099

EROSION CONTROL LEGEND

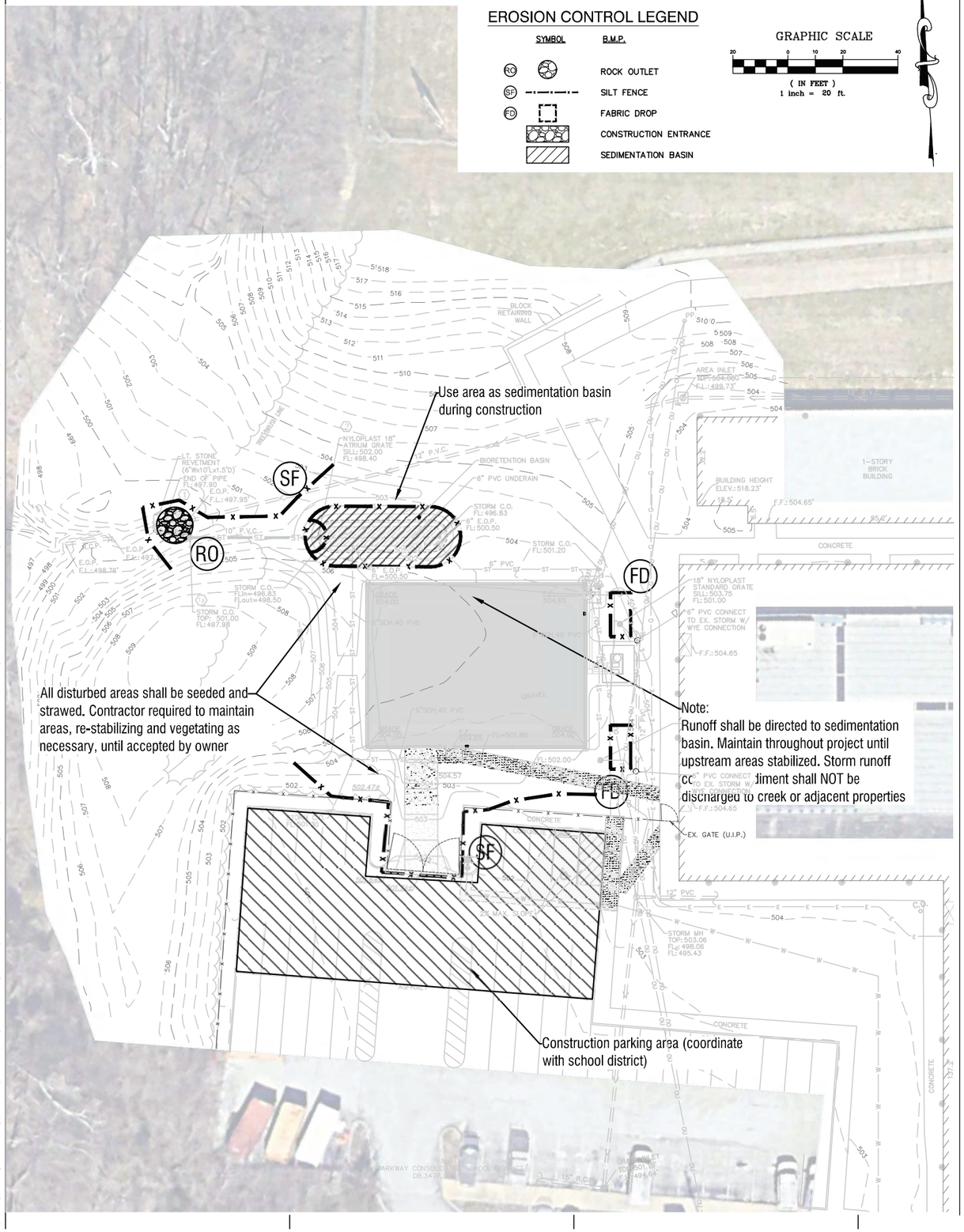
SYMBOL	B.M.P.
RO	ROCK OUTLET
SF	SILT FENCE
FD	FABRIC DROP
	CONSTRUCTION ENTRANCE
	SEDIMENTATION BASIN

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 inch = 20 ft.

SCALE: 3" = 1'-0" / SCALE: 1 1/2" = 1'-0" / SCALE: 1" = 1'-0" / SCALE: 3/4" = 1'-0" / SCALE: 1/2" = 1'-0" / SCALE: 1/4" = 1'-0" / SCALE: 1/8" = 1'-0" / SCALE: 1/16" = 1'-0"



STORM WATER POLLUTION PREVENTION NOTES

1.) SITE OWNER: PARKWAY CONSOLIDATED SCHOOL DISTRICT

EMERGENCY CONTACT T.B.D.

2.) ALL FILL OR BACKFILL OPERATIONS SHALL BE EXECUTED UNDER THE DIRECT SUPERVISION OF THE GEOTECHNICAL ENGINEER. THE GEOTECHNICAL ENGINEER SHALL DETERMINE THE SUITABILITY AND ASCERTAIN COMPLIANCE WITH SPECIFICATION REQUIREMENTS OF ALL MATERIALS TO BE USED AS FILLS.

3.) TOTAL LAND ESTIMATED TO BE DISTURBED = 0.33 ac. ±

4.) THE PERMIT HOLDER SHALL PROVIDE A QUALIFIED PROFESSIONAL TO CONDUCT REGULAR INSPECTIONS OF LAND DISTURBANCE SITES, INCLUDING ALL EROSION AND SEDIMENT AND OTHER POLLUTANT CONTROL MEASURES, OUTFALL AND OFF-SITE RECEIVING WATERS IN ACCORDANCE WITH THE INSPECTION SCHEDULE OUTLINED IN THE APPROVED SWPPP.

REGULAR INSPECTIONS MUST BE CONDUCTED AND REPORTED AT LEAST ONCE PER WEEK. IN ADDITION, SPECIAL INSPECTIONS MUST BE CONDUCTED AND REPORTED WITHIN 48 HOURS OF A RAINFALL EVENT THAT CAUSES STORM WATER RUNOFF ON SITE, AND AS RELATED TO OTHER SPECIAL LAND DISTURBANCE CONCERNS. **NOTE: GENERAL CONTRACTOR SHALL NOTIFY INSPECTOR ON THE SAME DAY (DURING BUSINESS HOURS) WHEN STORMWATER RUNOFF OCCURS ON CONSTRUCTION SITE. IF STORMWATER RUNOFF OCCURS AFTER BUSINESS HOURS, THE GENERAL CONTRACTOR SHALL NOTIFY THE INSPECTOR ON THE NEXT BUSINESS DAY.**

ALL INSPECTIONS SHALL BE DOCUMENTED IN WRITTEN FORM ON WEEKLY REPORTS WITH COPIES AVAILABLE TO BE SUBMITTED TO THE DEPARTMENT(S) OF PUBLIC WORKS UPON REQUEST. PERMIT-HOLDER INSPECTION REPORTS MUST INCLUDE THE FOLLOWING MINIMUM INFORMATION:

1. INSPECTOR'S NAME AND SIGNATURE
2. DATE OF INSPECTION
3. OBSERVATIONS RELATIVE TO THE EFFECTIVENESS OF THE BMP'S
4. ACTIONS TAKEN OR NECESSARY TO CORRECT DEFICIENCIES
5. A LISTING OF AREAS WHERE LAND DISTURBANCE OPERATIONS HAVE PERMANENTLY OR TEMPORARILY STOPPED

THE PERMIT HOLDER SHALL NOTIFY THE SITE CONTRACTOR(S) RESPONSIBLE FOR ANY DEFICIENCIES IDENTIFIED SO THAT DEFICIENCIES CAN BE CORRECTED WITHIN SEVEN CALENDAR DAYS OF THE WEEKLY INSPECTION REPORT. IF WEATHER CONDITIONS MAKE IT IMPOSSIBLE TO CORRECT THE PROBLEM WITHIN SEVEN CALENDAR DAYS, A DETAILED REPORT OF THE PROBLEM (INCLUDING PICTURES) SHALL BE FILED WITH THE REGULAR INSPECTION REPORTS.

THE INSPECTOR SHOULD HAVE A COPY OF THE CURRENT SWPPP WITH DRAWINGS AND SPECIFICATIONS FOR ALL PRACTICES WHILE ON SITE AND DURING ALL INSPECTIONS. INSPECTIONS SHALL INCLUDE EXAMINING ALL EROSION AND SEDIMENT AND OTHER POLLUTANT CONTROL MEASURES, OUTFALLS, AND OFF-SITE RECEIVING WATERS IN ACCORDANCE WITH THE INSPECTION SCHEDULE OUTLINED IN THE APPROVED STORM WATER POLLUTION PREVENTION PLAN (SWPPP). REMEMBER TO INSPECT ALL ASPECTS OF COMPLIANCE WITH THE CITY, COUNTY OR STATE LAND DISTURBANCE PERMIT TO WHICH THE SITE MIGHT BE SUBJECT TO. THIS WILL INCLUDE ALL PAPERWORK, UPDATES AND MAINTENANCE OF THE SWPPP OR EROSION AND SEDIMENT CONTROL DOCUMENTS, PUBLIC POSTING, SIGNAGE AND BMP's. DO NOT FORGET THE GOOD HOUSEKEEPING PRACTICES REQUIRED FOR TRASH DUMPSTERS, DESIGNATED CONCRETE WASHOUT AREAS, PORTABLE TOILETS, PETROLEUM AND OTHER CHEMICAL STORAGE AREAS, ETC. WHENEVER AN INSPECTION NOTES A DEFICIENCY, VERIFY DURING THE NEXT INSPECTION THAT CORRECTIONS WERE MADE AND NOTE WHEN EACH PREVIOUSLY NOTED DEFICIENCY WAS REPAIRED.

INSPECTIONS MUST BE SCHEDULED AT LEAST ONCE PER WEEK. WHEN RAINFALL CAUSES STORM WATER RUNOFF TO LEAVE THE SITE, THE BMP MUST BE INSPECTED WITHIN 48 HOURS AFTER THE RAIN EVENT HAS CEASED DURING A NORMAL WORKDAY AND WITHIN 72 HOURS ON THE NEXT BUSINESS DAY IF THE RAIN EVENT CEASES DURING A NON-WORKDAY SUCH AS ON WEEKENDS DAY HOLIDAYS. THE TOTAL RAINFALL MEASURED FOR THAT DAY MUST BE RECORDED ON THE INSPECTION REPORT. A PROPERLY MAINTAINED RAIN GAUGE MUST BE KEPT ON SITE OR THE STORM EVENT INFORMATION MUST BE OBTAINED FROM A WEATHER STATION THAT IS REPRESENTATIVE OF THE SITE LOCATION. THE PURPOSE OF SUCH INSPECTIONS WILL BE TO ENSURE PROPER INSTALLATION, OPERATION AND MAINTENANCE OF BEST MANAGEMENT PRACTICES (BMPs) AND TO DETERMINE THE OVERALL EFFECTIVENESS OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND THE NEED FOR ADDITIONAL CONTROL MEASURES. ALL INSPECTIONS SHALL BE DOCUMENTED IN WRITTEN FORM ON WEEKLY AND AFTER-RAIN REPORTS WITH COPIES AVAILBLE FOR SUBMISSION WEEKLY TO THE DEPARTMENT OF PUBLIC WORKS UPON REQUEST.

5.) THE PURPOSE OF THE SWPPP INSPECTOR IS TO ENSURE PROPER INSTALLATION, OPERATION AND MAINTENANCE OF BMP'S AND TO DETERMINE THE OVERALL EFFECTIVENESS OF THE SWPPP AS WELL AS THE NEED FOR ADDITIONAL CONTROL MEASURES. THE PERMIT HOLDER AND HIS SPECIAL INSPECTOR SHALL ALSO BE RESPONSIBLE TO:

a. NOTIFY THE SITE CONTRACTOR(S) RESPONSIBLE FOR ANY DEFICIENCIES IDENTIFIED SO THAT DEFICIENCIES CAN BE CORRECTED WITHIN SEVEN CALENDAR DAYS OF THE WEEKLY INSPECTION REPORT. SUCH WEEKLY INSPECTION REPORTS SHALL IDENTIFY DEFICIENCIES AS WELL AS PROGRESS IN CORRECTING DEFICIENCIES.
b. NOTIFY ALL CONTRACTORS AND OTHER ENTITIES (INCLUDING UTILITY CREWS, COUNTY EMPLOYEES, OR THEIR AGENTS) THAT WILL PERFORM WORK AT THE SITE, OF THE EXISTENCE OF THE SWPP AND WHAT ACTIONS OR PRECAUTIONS SHALL BE TAKEN WHILE ON SITE TO MINIMIZE THE POTENTIAL FOR EROSION AND THE POTENTIAL FOR DAMAGING ANY BMP'S.
c. DETERMINE THE NEED FOR AND ESTABLISH TRAINING PROGRAMS TO ENSURE THAT ALL SITE WORKERS HAVE BEEN TRAINED, AT A MINIMUM, IN EROSION CONTROL, MATERIAL HANDLING AND STORAGE, AND HOUSEKEEPING.
d. PROVIDE COPIES OF THE SWPPP TO ALL PARTIES WHO ARE RESPONSIBLE FOR INSTALLATION, OPERATION OR MAINTENANCE OF ANY BMP'S.
e. MAINTAIN A CURRENT COPY OF THE SWPPP AND PERMIT INSPECTIONS ON THE SITE AT ALL TIMES AND MADE AVAILABLE UPON REQUEST. IF CONDITIONS ARE NOT FAVORABLE TO MAINTAIN A CURRENT COPY OF THE SWPPP ON SITE, INSTALL A SIGN AT THE ENTRANCE TO THE SITE, PLAINLY VISIBLE TO THE TRAVELING PUBLIC, LISTING INFORMATION PERTINENT TO THE SWPPP'S LOCATION AND THE 24 HOURS A DAY / 7 DAYS PER WEEK PHONE NUMBER OF THE PERSON IN CHARGE OF THE SWPPP.

6.) **DESCRIPTION OF B.M.P.'s (INTERIM & PERMANENT STABILIZATION PRACTICES/SCHEDULE)**

a. CONTRACTOR SHALL ESTABLISH PERIMETER SILTATION CONTROL PRIOR TO ANY CONSTRUCTION ACTIVITIES. AREAS REQUIRING MINOR CLEARING &/OR GRADING PRIOR TO INSTALLATION OF SILTATION CONTROL SHALL BE COMPLETED IN A TIMELY MANNER AND SILTATION CONTROL ESTABLISHED IMMEDIATELY FOLLOWING
b. TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED WHERE THE ACCESS AREAS INTERSECT WITH PUBLIC ACCESS WAYS. DURING MUDDY CONDITIONS, DRIVERS OF VEHICLES WILL BE REQUIRED TO WASH THEIR WHEELS BEFORE TRAVELING THROUGH THE CAMPUS AND ENTERING THE STREET. WHERE SEDIMENT IS TRANSPORTED ONTO PUBLIC ACCESS WAYS, THE ROAD SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROAD BY SHOVELING OR SWEEPING. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.
c. UPON COMMENCEMENT OF INITIAL CLEARING AND GRUBBING OPERATIONS, AS WELL AS FUTURE GRADING OPERATIONS, TOPSOIL MUST BE STRIPPED FROM GRADED AREAS AND STOCKPILED FOR USE IN FINAL GRADING AND/OR EXCESS REMOVAL. THE STOCKPILES WILL BE KEPT ON SITE BUT MUST STAY CLEAR OF ALL CONSTRUCTION ACTIVITY. THE STOCKPILE WILL BE STABILIZED WITH TEMPORARY VEGETATION TO PREVENT SOIL LOSS AND SEDIMENT TRANSPORT FROM THE STOCKPILE ITSELF UNTIL NEEDED.
d. TEMPORARY ROADS SHALL FOLLOW THE CONTOUR OF THE NATURAL TERRAIN TO THE EXTENT POSSIBLE. SLOPES SHALL NOT EXCEED 10 PERCENT SLOPE.
e. CONTRACTOR SHALL CLEAR AND GRUB THOSE AREAS OF THE SITE SCHEDULED FOR CONSTRUCTION. AREAS NOT SCHEDULED FOR IMMEDIATE CONSTRUCTION SHALL NOT BE CLEARED OF ESTABLISHED VEGETATION UNTIL REQUIRED. REMAINDER OF SITE SHALL BE GRADED, AS REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF SILTATION CONTROL THROUGHOUT THE DURATION OF THE PROJECT.
f. STORM DRAINS SHALL BE INSTALLED AS EARLY AS POSSIBLE, PROVIDED THE INSTALLATION DOES NOT CONFLICT WITH OTHER CONSTRUCTION ACTIVITIES. SILT FENCE SHALL BE STAKED AROUND EACH INLET IMMEDIATELY UPON COMPLETION OF CONSTRUCTION OF EACH INLET. INLETS MAY BE UTILIZED FOR STORMWATER CONTROL DURING CONSTRUCTION WITH THE SILT FENCE AND EROSION CONTROL MEASURES IN PLACE.
g. ALL PROPOSED TURF AREAS, ONCE CONSTRUCTED TO FINAL GRADE SHALL BE SEEDED/ SODDED WITHIN 5 DAYS AFER FINAL GRADING OF THE SITE WHERE SHOWN ON THE PLAN. SHOULD WEATHER CAUSE DELAYS IN EARTHWORK OPERATIONS, ADDITIONAL SILTATION CONTROL MEASURES MAY BE REQUIRED.
h. TEMPORARY STABILIZATION SHALL TAKE PLACE WHERE SOIL DISTURBING ACTIVITIES WILL CEASE ON ANY PORTION OF THE SITE AND ARE NOT PLANNED TO RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. TEMPORARY STABILIZATION MUST BE INITIATED IMMEDIATELY UPON KNOWING THE DURATION IS MORE THAN 14 DAYS. TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN 7 CALENDAR DAYS. IF SLOPES IN AN AREA ARE GREATER THAN 3:1 (3 FT. HORIZONTAL TO 1 FT. VERTICAL) OR IF THE SLOPE IS GREATER THAN 3% AND GREATER THAN 150 FEET IN LENGTH, THEN THE PERMITTEE MUST ESTABLISH TEMPORARY STABILIZATION WITHIN 7 DAYS OF CEASING OPERATION ON THAT PART OF THE SITE. FINAL STABILIZATION OF DISTURBED AREAS MUST BE INITIATED IMMEDIATELY AND COMPLETED WITHIN 7 CALENDAR DAYS WHENEVER ANY CLEARING, GRADING, EXCAVATING OR OTHER EARTH DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE SITE. ALLOWANCES TO THE 7 DAY COMPLETION PERIOD FOR TEMPORARY AND FINAL STABILIZATION MAY BE MADE DUE TO WEATHER OR EQUIPMENT MALFUNCTIONS. THE USE OF ALLOWANCES SHALL BE DOCUMENTED.
i. ANY DISTURBED AREAS WHICH WILL REMAIN UNWORKED FOR 30 DAYS OR MORE SHALL BE STABILIZED WITH SEEDING AND MULCHING PER SPECIFICATIONS WITHIN 5 DAYS. IF SEASONAL CONDITIONS PROHIBIT SEEDING, MULCHING OR MATTING SHALL BE USED.
j. INSPECTION OF SILTATION CONTROL DEVICES SHALL TAKE PLACE ONCE EVERY SEVEN DAYS AND WITHIN 24 HOURS OF ANY HEAVY RAIN EVENT. ANY SILTATION CONTROL IN NEED OF REPAIR SHALL OCCUR IMMEDIATELY.
k. ALL GRADING OPERATIONS ARE SUBJECT TO THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEERING REPORT IF ONE HAS BEEN PREPARED FOR THIS PROJECT.
l. SEDIMENTATION CONTROLS SHALL ONLY BE REMOVED AFTER THE SITE IS COMPLETELY STABILIZED, VEGETATION IS WELL ESTABLISHED, AND ALL PAVEMENT AREAS ARE INSTALLED.

7.) **PLANNED RESPONSE TO LOSS OF CONTAINED SEDIMENT**

a. B.M.P.'s SHALL BE REPAIRED AND/OR REPLACED IMMEDIATELY, AS REQUIRED, TO STABILIZE SITE AND CONTAIN SEDIMENT LADEN RUNOFF. OFFSITE AREAS SHALL BE REVIEWED FOR EXTENT OF IMPACT FROM B.M.P. FAILURE. PERMIT HOLDER SHALL BE REQUIRED TO PROVIDE DOCUMENTATION OF THE B.M.P. MEASURES INSTALLED AND SCHEDULED MAINTENANCE AND REPAIRS.
b. CONTRACTOR IS RESPONSIBLE FOR INSTALLING ADDITIONAL B.M.P. MEASURES BEYOND THOSE SHOWN IF CONDITIONS DICTATE OR CURRENT MEASURES ARE INSUFFICIENT.

8.) **DESCRIPTION OF PERMANENT B.M.P.'s TO REMAIN AFTER CONSTRUCTION**

a. STORM DRAINS – THE DEVELOPMENT WILL BE SERVED BY A STORMWATER SYSTEM CONSISTING OF REINFORCED CONCRETE PIPE (RCP) AND STORM INLETS. THE STORM SYSTEM WILL CONVEY STORMWATER TO A TRIBUTARY TO CREVE COEUR CREEK WATERSHED. THE STORM DRAINAGE SYSTEM DESIGNATED AS "PRIVATE" SHALL BE OPERATED AND MAINTAINED BY THE OWNER.
b. TURF AREAS – TURF AREAS SHALL BE MAINTAINED TO INSURE SITE AREAS REMAIN STABILIZED UPON COMPLETION OF CONSTRUCTION ACTIVITIES.
c. PAVED AREAS AND WALKWAYS – AREAS SUBJECT TO FOOT AND VEHICLE TRAFFIC SHALL BE PAVED AND KEPT IN GOOD REPAIR FOLLOWING COMPLETION OF CONSTRUCTION ACTIVITIES. MAINTENANCE SHALL BE THE OWNER'S RESPONSIBILITY.

9.) **NON-STORMWATER DISCHARGES**

NON-STORMWATER DISCHARGES INCLUDE CONSTRUCTION WASHDOWN AREAS AND CONCRETE WASHOUT AREAS. CONTRACTOR SHALL USE EVERY EFFORT TO MINIMMIZE UPSTREAM RUNOFF FROM ENTERING THESE AREAS. TEMPORARY BERMS SHALL BE USED TO ASSIST IN CONTAINING RUNOFF.

10.) TEMPORARY BMP'S TO RE REMOVED ONLY AFTER ALL UPSTREAM TRIBUTARY AREAS HAVE BEEN COMPLETELY STABILIZED.

11.) ANY LAND CLEARING, CONSTRUCTION, OR DEVELOPMENT INVOLVING THE MOVEMENT OF EARTH SHALL BE IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN, AND THE PERSON ISSUED A LAND DISTURBANCE PERMIT ASSUMES AND ACKNOWLEDGES RESPONSIBILITY FOR COMPLIANCE WITH THE ST. LOUIS COUNTY LAND DISTURBANCE CODE AND THE APPROVED STORM WATER POLLUTION PLAN AT THE SITE OF THE PERMITTED ACTIVITY.

12.) **DESCRIPTION OF B.M.P.'s TO PREVENT POTENTIAL POLLUTANTS**

(CONSTRUCTION WASTES, TOXIC OR HAZARDOUS SUBSTANCES, PETROLEUM PRODUCTS, PESTICIDES, HERBICIDES, SITE LITTER, SANITARY WASTES, ETC.)

a. SOLID NON-HAZARDOUS CONSTRUCTION WASTE – DISPOSE OF IN TRASH DUMPSTERS OR APPROVED EQUIVALENT IN A LOCATION APPROVED BY THE OWNER. POTENTIALLY SOLUBLE OR LEACHABLE SOLID WASTE SHALL BE STORED OFF THE GROUND AND IN COVERED LEAK-PROOF CONTAINERS. SOLID WASTE SHALL BE PROPERLY DISPOSED OF OFF-SITE ON A REGULAR BASIS.
b. HAZARDOUS WASTE – HAZARDOUS WASTE SHALL BE SEGREGATED FROM NON-HAZARDOUS CONSTRUCTION SITE DEBRIS. LIQUID OR SEMI-LIQUID HAZARDOUS WASTE SHALL BE STORED IN APPROPRIATE CONTAINERS (CLOSED DRUMS OR SIMILAR) AND SHALL BE KEPT UNDER COVER. GRANULAR, SOLUBLE OR LEACHABLE HAZARDOUS WASTE MATERIALS SHALL BE STORED OFF THE GROUND AND IN COVERED LEAK-PROOF CONTAINERS. THE OWNER SHALL PROPERLY APPROVE ANY HAZARDOUS WASTE STORAGE AREA LOCATIONS.
c. HAZARDOUS WASTE SHALL BE PROPERLY DISPOSED OF OFF-SITE ON A REGULAR BASIS BY A REPUTABLE, LICENSED HAZARDOUS WASTE HAULER.
d. IT IS NOT THE INTENT OF THIS SWPPP TO SUPERSEDE OR REPLACE NORMAL SITE ASSESSMENT AND REMEDIATION PROCEDURES CONCERNING HAZARDOUS MATERIALS. SIGNIFICANT SPILLS AND/OR CONTAMINATION WARRANT AN IMMEDIATE RESPONSE BY TRAINED PROFESSIONALS. SUSPECTED JOB SITE CONTAMINATION SHOULD IMMEDIATELY BE REPORTED TO REGULATORY AUTHORITIES AND PROTECTIVE MEASURES TAKEN.
e. FRESH CONCRETE WASTE AND CONCRETE EQUIPMENT WASHDOWNS SHALL BE CONTAINED AND SHALL BE STORED AWAY FROM DRAINAGE DITCHES, SWALES AND DRAINAGE STRUCTURES. WHERE APPROPRIATE, CONTAINMENT BERMS SHALL BE PLACED AROUND WASTE STORAGE AREAS.
f. ON-SITE FUELING FACILITIES ARE REQUIRED TO ADHERE TO ALL APPLICABLE FEDERAL AND STATE REGULATIONS CONCERNING STORAGE AND DISPENSERS.
g. THE CONTRACTOR/PERMITEE IS RESPONSIBLE FOR PROVIDING SANITARY FACILITIES APPROPRIATE TO THE NUMBER OF EMPLOYEES ON THE SITE. SANITARY/SEPTIC WASTE MANAGEMENT PRACTICES ARE TO BE IMPLEMENTED ON ALL CONSTRUCTION SITES THAT USE TEMPORARY OR PORTABLE SANITARY/SEPTIC WASTE SYSTEMS. SANITARY WASTE MAY ONLY BE DISPOSED OF IN ACCORDANCE WITH THE MISSOURI CLEAN WATER LAW. WASTEWATER SHALL NOT BE DISCHARGED ONTO OR BURIED WITHIN THE CONSTRUCTION SITE.

NO TEMPORARY TOILET FACILITIES SHALL BE PLACED WITHIN 50 FEET OF A WATER COURSE (WET OR DRY) OR A STORM SEWER INLET. AVOID LOCATING SANITARY FACILITIES ON AN IMPERVIOUS SURFACE. SECONDARY CONTAINMENT MAY BE REQUIRED FOR SANITARY FACILITIES LOCATED ON IMPERVIOUS SURFACES. THE TEMPORARY TOILET FACILITIES SHALL BE MONITORED TO PREVENT LEAKAGE. IF THE TEMPORARY TOILET FACILITY TIPS OVER DUE TO VANDALISM OR STORMS, ETC., IT SHALL BE SET UPRIGHT IMMEDIATELY UPON DISCOVERY AND ANY MATERIAL THAT LEAKED OR SPILLED SHALL BE CONTAINED AND CLEANED UP. REPEATED TIP OVER'S MAY BE CAUSE TO STAKE OR TIE THE TEMPORARY TOILET FACILITIES IN THE UPRIGHT POSITION.

A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR SHALL COLLECT ALL SANITARY WASTE FROM THE TEMPORARY TOILET FACILITY ON A REGULAR BASIS. INSPECT ALL SANITARY WASTE MANAGEMENT DEVICES WEEKLY AND AFTER EACH RAINFALL EVENT THAT RESULTS IN STORMWATER RUNOFF. ANTICIPATE FLUCTUATIONS IN FACILITY USAGE BASED ON THE NUMBER AND LOCATION OF CONCURRENT CONSTRUCTION ACTIVITIES AS WELL AS VARIATIONS IN THE TOTAL NUMBER OF WORKERS PRESENT ON THE SITE. RE-LOCATE FACILITIES, ADD UNITS, OR INCREASE THE FREQUENCY OF MAINTENANCE CALLS TO WASTE HAULERS AS NECESSARY TO MAKE SURE THE UNITS ARE CONVENIENT FOR USE AND DO NOT OVERFILL.

13.) SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASH DOWN STATION PRIOR TO LEAVING THE SITE. NO TRACKING OF MUD ONTO ROADS SHALL BE ALLOWED.

14.) THE CONTRACTOR SHALL PROVIDE, INSTALL, MAINTAIN, AND REMOVE A PUBLIC NOTIFICATION SIGN, PER PAGES 42-43 OF THE ST. LOUIS SEDIMENT AND EROSION CONTROL MANUAL.

15.) LIST OF EPA ALLOWABLE NON-STORM WATER DISCHARGES (JAN. 2011). THE FOLLOWING NON-STORM WATER DISCHARGES ARE AUTHORIZED BY THE EPA PROVIDED IT HAS BEEN DETERMINED BY THE PERMITTEE THAT THEY ARE NOT SIGNIFICANT CONTRIBUTORS OF POLLUTANTS TO THE MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4). IMPLEMENTATION OF POLLUTION PREVENTION MEASURES FOR NON-STORM WATER DISCHARGES IS REQUIRED FOR SIGNIFICANT CONTRIBUTORS.

a.) WATER LINE FLUSHING
b.) LANDSCAPE IRRIGATION
c.) DIVERTED STREAM FLOWS
d.) RISING GROUND WATERS
e.) UNCONTAMINATED GROUND WATER INFILTRATION TO WETLANDS (AS DEFINED AT 40 CFR 35.2005(20))
f.) UNCONTAMINATED PUMPED GROUND WATER
g.) DISCHARGE FROM POTABLE WATER SOURCES
h.) FOUNDATION DRAINS
i.) AIR CONDITIONING CONDENSATION
j.) IRRIGATION WATER, SPRINGS
k.) WATER FROM CRAWL SPACE PUMPS
l.) FOOTING DRAINS
m.) LAWN WATERING
n.) INDIVIDUAL RESIDENT CAR WASHING
o.) FLOW FROM RIPARIAN HABITATS & WETLANDS
p.) DECHLORINATED SWIMMING POOL DISCHARGE
q.) STREET WASH WATER
r.) RESIDENTIAL BUILDING WASH WATERS (WITHOUT DETERGENTS)

16.) ANTICIPATED DEWATERING METHODS (SUBJECT TO CONTRACTOR'S ANTICIPATED MEANS & METHODS)

a.) CONTRACTOR TO USE CARE WHEN PUMPING WATER FROM CONSTRUCTION EXCAVATIONS AND ATTENTION MUST BE PAID TO THE FINAL DESTINATION OF THIS WATER. SEDIMENT CONTAINED IN THE WATER MUST FIRST BE REMOVED. ONCE IT IS PUMPED OUT OF THE EXCAVATION, THIS WATER MUST THEN BE PREVENTED FROM ERODING SOIL.
b.) AN OIL/WATER SEPARATOR OR OTHER SUITABLE FILTRATION METHOD WILL BE REQUIRED PRIOR TO DISCHARGE IF THE COLLECTED WATER HAS BEEN CONTAMINATED WITH PETROLEUM PRODUCTS, OIL OR GREASE. A LICENSED TRANSPORTER WILL BE REQUIRED TO BOTH CONTAIN AND TO TRANSPORT THE COLLECTED WATER AWAY FROM THE CONSTRUCTION SITE IF IT HAS BEEN CONTAMINATED BY HAZARDOUS OR TOXIC CHEMICALS. IN THE CASE OF CONTAMINATED WATER BEING TRUCKED FROM THE CONSTRUCTION SITE, THE REQUIREMENTS OF FEDERAL, STATE AND LOCAL AGENCIES MUST BE ADHERED TO.
c.) THE DEWATERING METHODS OF EXCAVATED AREAS ANTICIPATED TO BE USED TO REMOVE WATER FROM THE CONSTRUCTION SITE ARE THE FOLLOWING:
   1. BUCKET CONNECTED TO SPECIFIC PIECES OF CONSTRUCTION EQUIPMENT TO MECHANICALLY SCOOP THE WATER FROM THE EXCAVATIONS
   2. PUMPING OR SIPHONING WATER FROM THE COLLECTION SITES
   3. THE USE OF A GRAVITY DRAIN THROUGH CHANNELS

MSD Base Map: 17Q4
MSD Project: 23MSD-00099

100%BID/FOR CONSTRUCTION SET

bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #_____
Certificate of Authority #001497
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #_____
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project # 2388
Certificate of Authority #2003004674
10820 Sunset Office Dr. Suite 200
St. Louis, MO 63127
314.729.1400 tel

Poettker Construction Company
Construction Manager
Consultant Project # - N/A
400 S. Germantown Rd.
Breese, IL 62230
618-526-7213 tel
618-526-7654 fax

Facilities Storage Building
479 N. Woods Mill Road, Chesterfield, MO 63017
Parkway PN #85B2301B
New Pre-Engineered Building
Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 2388

Revisions

Description	Date
MSD revisions	04/26/2023

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It is not to be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect. Copyright © 2023 by Bond Architects, Inc.

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

DATE: 05/09/23

STORMWATER POLLUTION PREVENTION PLAN

C10.0

CONSTRUCTION ENTRANCE

PHYSICAL DESCRIPTION - A stabilized entrance to a construction site designed to minimize the amount of sediment tracked from the site on vehicles and equipment. Stabilization generally consists of aggregate over geogrid and geosynthetic material. Mud and sediment fall off of tires as they travel along the stabilized entrance; however, additional measures in the form of a washdown area should also be included on site. The stabilized entrance also distributes the axle load of vehicles over a larger area, thereby mitigating the rutting impact vehicles normally have on unpaved areas. See additional information in the "Construction Site Access Requirements" section of this manual.

WHERE BMP IS TO BE INSTALLED - At locations where it is safe for construction vehicles and equipment to access existing streets – preferably at location of future streets or drives.

CONDITIONS FOR EFFECTIVE USE OF BMPs

Drainage: Ditches or pipes, if needed, sized for 15 year, 20 minute storm; HGL 6" below surface of entrance

WHEN BMP IS TO BE INSTALLED - First order of work, along with washdown area, prior to vehicles or equipment accessing unpaved areas.

INSTALLATION / CONSTRUCTION PROCEDURES

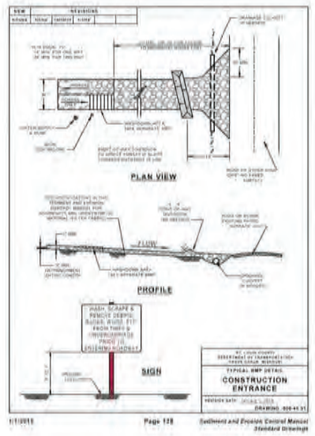
- ✓ Grade and compact area of construction entrance.
- ✓ Install culvert under entrance if needed to maintain positive drainage.
- ✓ Place geosynthetic material next to compacted soil, lay geogrid on top of this, and cover with aggregate, forming diversion across entrance if needed to direct runoff away from roadway.
- ✓ See Washdown Station BMP for additional steps.

O&M PROCEDURES:

- ✓ Immediately remove any mud or debris tracked onto paved surfaces.
- ✓ Remove sediment and clods of dirt from construction entrance continuously.
- ✓ Replace rock if necessary to maintain clean surface.
- ✓ Repair settled areas.

SITE CONDITIONS FOR REMOVAL - Remove when vehicles and equipment will no longer access unpaved areas.

TYPICAL DETAIL - 806-46.01



WASHDOWN STATION

PHYSICAL DESCRIPTION - An area located at construction entrances designed to wash sediment from the tires and undercarriage of exiting vehicles and prevent sediment from being tracked onto existing roadways.

WHERE BMP IS TO BE INSTALLED - Across or immediately adjacent to exit paths from unpaved construction sites.

CONDITIONS FOR EFFECTIVE USE OF BMPs

Drainage: Downstream BMPs sized to treat dirty runoff from washdown station

WHEN BMP IS TO BE INSTALLED - First order of work, along with construction entrance, prior to vehicles or equipment accessing unpaved areas.

INSTALLATION/CONSTRUCTION PROCEDURES

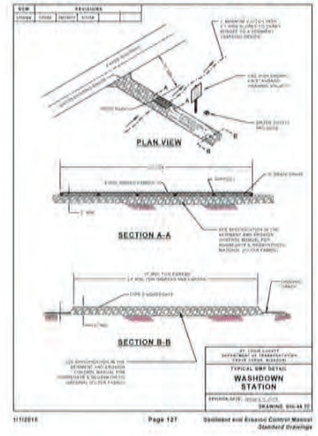
- ✓ Grade and compact area for drainage under washdown pad.
- ✓ Install steel-ribbed plate on frame or other support to allow a 2" drain space.
- ✓ Grade and vegetate downstream BMPs (V-ditch shown on detail).
- ✓ Install water supply and hose.
- ✓ Post sign in advance of station indicating that all exiting vehicles and equipment must use station prior to exiting site.

O&M PROCEDURES:

- ✓ Remove sediment daily.
- ✓ Repair settled areas.
- ✓ Replace rock if necessary to maintain clean surface.

SITE CONDITIONS FOR REMOVAL - Remove when vehicles and equipment will no longer access unpaved areas.

TYPICAL DETAIL - 806-46.00



INLET PROTECTION - FABRIC DROP AND DROP IN FILTER

PHYSICAL DESCRIPTION - A woven fabric barrier braced around an area inlet or drop in type filter designed to prevent sediment from entering the storm sewer. Shallow temporary ponding during and after rainfall should be expected. Use an alternate method if flooding of driving lanes, adjacent property, etc. is possible.

WHERE BMP IS TO BE INSTALLED - At inlets designed to drain a small gently sloping area with maximum grade of 5%. Overflow capacity is limited on standard area inlets.

CONDITIONS FOR EFFECTIVE USE OF BMPs

Type of Flow: Shallow sheet flow.
Contributing Area: Maximum of 2 c.f.s flowing to inlet.

WHEN BMP IS TO BE INSTALLED - Immediately after placement of inlet and before construction starts on existing inlets.

INSTALLATION / CONSTRUCTION PROCEDURES

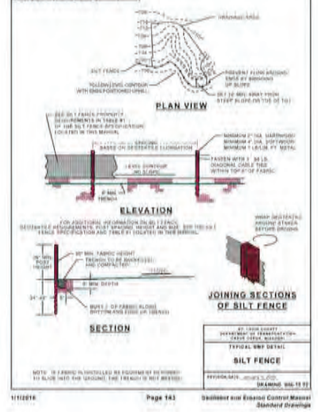
- ✓ Backfill, compact and uniformly grade area around inlet.
- ✓ Construct downstream berm, if required. Rock bags or sand bags may be used to construct berm.
- ✓ Drive posts or wood frame close to inlet sill so overflow will fall directly on the structure and not on unprotected soil.
- ✓ Dig trench around inlet for fabric to be buried.
- ✓ Cut required length of fabric from one roll to eliminate joints. Fasten fabric tightly around posts / frame to enhance stability.
- ✓ Backfill and compact trench.
- ✓ Install drop in type filter per manufacturer specifications.

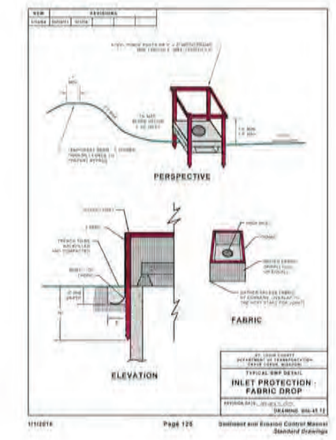
O&M PROCEDURES

- ✓ Inspect every week and after every storm.
- ✓ Remove trash accumulation and sediment once it reaches depth of 6" at inlet.
- ✓ Replace loose, torn or clogged fabric.
- ✓ Repair any erosion or settlement of temporary berm downstream of inlet.
- ✓ Maintain drop in type filter per manufacturer specifications.

SITE CONDITIONS FOR REMOVAL - Remove after contributing drainage areas have been adequately stabilized. Restore area to grade and vegetate.

TYPICAL DETAIL - 806-45.12 (Single Unit)
806-45.13 (Double Unit)





SILT FENCE

PHYSICAL DESCRIPTION - Silt fences are used as temporary perimeter controls, appropriate to the BMP, at sites where construction activities will disturb the soil. They can also be used on the interior of the site. A silt fence consists of a length of filter fabric stretched between anchoring posts spaced at regular intervals along the site at low and down slope areas. The filter fabric should be entrenched in the ground. When installed correctly and inspected frequently, silt fence can be an effective barrier to silt leaving the site in storm water runoff.

WHERE BMP IS TO BE INSTALLED - Silt fences apply to construction sites with relatively small drainage areas. They are appropriate in areas where runoff will occur as low-level flow, not exceeding 0.5 c.f.s. The drainage area for silt fences should not exceed 0.25 acre per 100-foot fence length (100 square feet per foot of fence). The slope length above the fence should not exceed 100 feet (NAHB, 1995). The fence should be designed to withstand the runoff from a 10-year peak storm event.

CONDITIONS FOR EFFECTIVE USE OF BMPs - Spacing of parallel lengths of silt fence along slopes is relative to slope steepness as follows:

Type of Flow: Sheet flow only.
Contributing Slope Length: 30-foot maximum for 3:1 slopes.
50 foot maximum for slopes between 3:1 and 10:1.
100 foot maximum for slopes under 10%.

For additional information see Section 806.70 of St. Louis County's Standard Specification for Road and Bridge Construction.

WHEN BMP IS TO BE INSTALLED - Prior to disturbance of natural vegetation and at intervals during construction of fill slopes. Install on the perimeter of the site (where storm water exits the site) prior to disturbance of natural vegetation, around material stockpiles and interior to the site along slopes, at the base of slopes and at intervals during construction of slopes.

INSTALLATION / CONSTRUCTION PROCEDURES

- ✓ Drive post for fence line.
- ✓ Dig trench to required dimensions in front of posts for fabric burial.
- ✓ Attach wire mesh to posts.
- ✓ Attach fabric to posts, allowing required length below ground level to run fabric along bottom of trench
- ✓ Backfill and compact soil in trench to protect and anchor fabric.

If a standard-strength fabric is used, it can be reinforced with wire mesh behind the filter fabric. This increases the effective life of the fence. The maximum life expectancy for synthetic fabric silt fences is about 6 months, depending on the amount of rainfall and runoff.

The stakes used to anchor the filter fabric should be wood or metal. Wooden stakes should have minimum dimensions of 2 by 2 inches if a hardwood like oak is used. Stakes from soft woods like No. 2 Southern Pine, should have minimum dimensions of 4 by 4 inches. When using steel (standard U, T, L or C shape sections) posts in place of wooden stakes, they should weigh no less than 1.0 lb/linear foot. If metal posts are used, attachment points are needed for fastening the filter fabric with wire ties. Posts should be least 5 feet long and driven or placed at a slight upstream angle into the ground to a minimum depth of 18 inches. Depth shall be increased to a minimum of 22 inches if fence is placed on a slope of 3:1 or greater. When the post embedment depth is impossible to obtain, the posts shall be adequately secured to prevent overturning of the fence due to sediment loading.

Erect silt fence in a continuous fashion from a single roll of fabric to eliminate gaps in the fence. If a continuous roll of fabric is not available, overlap the fabric from both directions only at stakes or posts. Overlap at least 6 inches.

The Geosynthetic filter fabric and wire mesh (when applicable) shall be no less than 30 inches above ground and are stapled or wired to the upslope side of the post. Staples should be a 17-gauge wire and ½ inch long. Excavate a trench to bury the bottom of the fabric fence in a "J" configuration at least 6 inches below the ground surface. The trench shall be backfilled with native soil and the soil compacted over the geotextile. This helps to prevent gaps from forming near the ground surface. Gaps would make the fencing useless as a sediment barrier.

The height of the fence posts should be 36 inches (22-inch embedment) to 42 inches (18-inch embedment) above the original ground surface. If standard-strength fabric is used with 14-gauge steel wire with a mesh spacing of 6 inches by 6 inches (or a prefabricated polymeric mesh of equivalent strength), space the posts no more than 4 feet apart. If extra-strength fabric is used without wire mesh reinforcement, space the posts no more than 4 feet apart with woven or 6 feet apart with non-woven geosynthetic.

Alternate Construction: Install fence by slicing it into ground with specialized equipment.
Install posts at reduced spacing indicated on detail.

LIMITATIONS - Do not install silt fences along areas where rocks or other hard surfaces will prevent you from uniformly anchoring the fence posts and entrenching the filter fabric. Installing fences in such an area greatly reduces their effectiveness and can create runoff channels leading offsite. Silt fences are not suitable for areas where large amounts of concentrated runoff are likely. Fence shall not be used when slope is 1:1 or greater and water flow rates exceed 2 cubic feet per minute. Open, windy areas present a maintenance challenge, too, because high winds can make the filter fabric deteriorate faster. Do not install silt fences across streams, ditches, or waterways (Smolen et al., 1988).

When the pores of the fence fabric become clogged with sediment, pools of water are likely to form on the uphill side of the fence. Setting and design of the silt fence should account for this. Take care to avoid unnecessarily diverting stormwater from these pools, causing further erosion damage.

MAINTENANCE CONSIDERATIONS - Inspect silt fences regularly and frequently, as well as after each rainfall event, to make sure that they are intact and that there are no gaps where the fence meets the ground or tears along the length of the fence. If you find gaps or tears, repair or replace the fabric immediately. Remove accumulated sediments from the fence base when the sediment reaches one-third to one-half the fence height. Remove sediment more frequently if accumulated sediment is creating noticeable strain on the fabric and the fence might fail from a sudden storm event. When you remove the silt fence, remove the accumulated sediment, dress the area disturbed to give it a pleasing appearance and vegetate all bare areas as well.

O&M PROCEDURES

- ✓ Inspect every week and after every storm.
- ✓ Remove sediment buildup deeper than ½ the fence height or 12", whichever is less.
- ✓ Replace torn of clogged fabric; repair loose fabric.

- ✓ Repair unstable or broken posts.
- ✓ Stabilize any areas susceptible to undermining.
- ✓ Extend fence or add additional row(s) of fence if necessary to provide adequate protection.

SILTING AND DESIGN CONSIDERATIONS - The material for silt fences should be a pervious sheet of synthetic fabric such as polypropylene, nylon, and polyester or polyethylene yarn. Choose the material based on the minimum synthetic fabric requirements shown in **Table 1** below.

Table 1- Temporary Silt Fence Property Requirements

Physical Property	Test Method	Units	MARV Geotextile Requirements		
			Unsupported Silt Fence		
			Supported Silt Fence [1]	Woven Elongation ≤ 50%	Non-Woven Elongation ≤ 50%
Post Spacing (Maximum)		feet	4	4	6
Height of Wire / Polymer Fence (Minimum)		inches	30	---	---
Grab Strength (Minimum): Machine Direction / Cross Machine Direction	ASTM D 4632	pounds	90 / 90	125 / 100	125 / 100
Permittivity (Minimum)	ASTM D 4491	sec^{-1}	0.05	0.05	0.05
Apparent Opening Size (AOS) [3]	ASTM D 4751	Sieve Number	30	30	30
Ultraviolet Stability (Minimum) (retained strength)	ASTM D 4355		70% after 500 h of exposure		

Notes:

MARV Minimum Average Roll Value

[1] Elongation measured in accordance with ASTM D 4632

[2] **Silt Fence Support** - 14-gauge steel wire with a mesh spacing of 6 inches by 6 inches (or a prefabricated polymeric mesh of equivalent strength)

[3] Maximum Average Roll Value

SITE CONDITIONS FOR REMOVAL - After permanent vegetation of slope is established. Remove fence and post, re-grade trench area and vegetate.

TYPICAL DETAIL - 806-70.0

SEEDING

PHYSICAL DESCRIPTION - Establishment of vegetation by spreading grass seed designed to protect exposed soil from erosion by eliminating direct impact of precipitation and slowing overland flow rates. Once established, the vegetative cover will also filter pollutants from the runoff. Use only perennial vegetation for final stabilization.

WHERE BMP IS TO BE INSTALLED - To exposed soil after a phase of rough or finish grading has been completed, or areas where no activity will occur for 30 days.

CONDITIONS FOR EFFECTIVE USE OF BMPs

Type of Flow: Sheet flow
Contributing Slope Length: 30 foot maximum for 3:1 slopes
50 foot maximum for slope between 3:1 and 10:1
100 foot maximum for slopes under 10%
Minimum Rates: See attached chart(s)
Acceptable Dates: See attached chart

WHEN BMP IS TO BE INSTALLED - Immediately after rough or finished grading is completed.

INSTALLATION / CONSTRUCTION PROCEDURES

- ✓ Install upstream BMPs to protect area to be seeded.
- ✓ Rough grade area and remove all debris larger than 1-inch in diameter and concentrated areas of smaller debris.
- ✓ Install stabilization grids, if needed.
- ✓ Mix soil amendments (lime, fertilizer, etc.) into top 3 to 6 inches of soil as needed.
- ✓ Plant seed ¼ to ½ inch deep.
- ✓ Roll lightly to firm surface.
- ✓ Cover seeded area with mulch unless seeding completed during optimum spring and summer dates.
- ✓ Install additional stabilization (netting, bonded fiber matrix, etc.) as required.
- ✓ Water immediately - enough to soak 4 inches into soil without causing runoff.
- ✓ If contract / permit allows seeding to be used for final stabilization, only perennial vegetation seeds shall be used.
- ✓ For additional information see Sections 805 and 806.50 of St. Louis County's Standard Specification for Road and Bridge Construction.

O&M PROCEDURES:

- ✓ Inspect every week and after every storm
- ✓ Protect area from vehicular and foot traffic
- ✓ Reseed areas that have not sprouted within 21 days of planting.
- ✓ Repair damaged or eroded areas and reseed and stabilize as needed
- ✓ Do not mow until 4 inches of growth occurs
- ✓ During the first 4 months, mow no more than ⅓ the grass height
- ✓ Re-fertilize during 2nd growing season

SITE CONDITIONS FOR REMOVAL - Does not require removal, but temporary seeding can be removed immediately prior to work returning to an area

SEEDING REQUIREMENTS

Dates for Seeding

Permanent Seeding	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Tall Fescue			O	O	O				O	O		
Smooth Brome			O	O	O				O	O		
Bluestem I			O	O	O				O	O		
Bluestem II			O	O	O				O	O		
Timothy, Red & Bluegrass	P	A	O	O	O				O	O	P	A
Temporary Seeding	**Jan**	**Feb**	**March**	**April**	**May**	**June**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**
Rye or Sudex	A	A	O	O	O	O	O	O	O	O	A	A
Oats		A	O	O	O	O	O	O	O			

O = Optimum seeding dates.
A = Acceptable seeding dates.
P = Permitted seeding dates with mowing 3 months later - Initially use 50% rate and 75% of fertilizer. Reseed with additional 75% seed and remaining fertilizer.

Minimum Fertilizer and Seeding Rates

Permanent Seeding	Pounds per acre	Pounds Per 1000 sq. ft.
Tall Fescue	400	7.0
Smooth Brome	250	4.5
Bluestem I [1]	250	5.7
Bluestem II [2]	(+)	4.6

Mixture # 1 = Tall Fescue @ 150 pounds per acre and Brome @ 150 pounds per acre.
Mixture # 2 = Tall Fescue @ 100 pounds per acre, Perennial Rye grass @ 100 pounds per acre, and Kentucky Blue grass @ 10 pounds per acre.
[1] + Seeding rate for slopes in excess of 20% (3:1), shall be 10 pounds per 1000 sq. ft.

Temporary Seeding	Pounds per acre	Pounds Per 1000 sq. ft.
Rye or Sudex	150	3.5
Oats	200	5.0

Fertilizer:	Permanent Seeding (Amounts per acre)	Temporary Seeding (Amounts per acre)
Nitrogen	40	30
Phosphate	80	30
Potassium	80	30
Lime - GNA*	500	500

* GNA = Effective neutralizing material per State Aggregate Quality Code.

SODDING

PHYSICAL DESCRIPTION - A ½ inch to 1-inch thick mat of vigorous turf, free of disease, insects and weeds. Sod prevents raindrops from disrupting the soil structure and causing erosion. Sod slows water runoff and acts as a filter when sediment-laden runoff crosses over the sodded area.

WHERE BMP IS TO BE INSTALLED - Typically installed in areas requiring immediate erosion protection, such as swales or detention ponds and as filter strips, around inlets, and adjacent to curbs. Also installed in areas requiring immediate aesthetic appearance or function such as entrances to new subdivision and off site construction areas.

CONDITIONS FOR EFFECTIVE USE OF BMPs - Type of Flow: Sheet flow and low concentrated flows with velocities less than 5 fps.

WHEN BMP IS TO BE INSTALLED - Immediately after finish grading, installation of area inlets, and installation of underground services and foundations of new homes.

INSTALLATION / CONSTRUCTION PROCEDURES

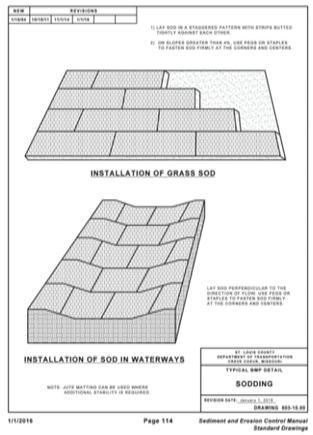
- ✓ Finish grade area and remove all debris larger than ½ inch in diameter and concentrated areas of smaller debris.
- ✓ Soil preparation of area to be sodded shall be determined by tests to determine lime and fertilizer requirements. Soil amendments shall be mixed into top 3 to 6 inches of soil by disking or other means.
- ✓ Level and roll soil lightly to provide an even grade and firm the surface. Soil should not be excessively wet or dry.
- ✓ Lay first row of sod perpendicular to the slope or direction of flow. Butt subsequent rows tight against previous rows with strips staggered in brick-like pattern. Fill minor gaps with good soil and roll entire surface to ensure contact.
- ✓ Stake, staple and / or net corners and centers of sod strips as required.
- ✓ Water immediately after installation enough to soak 4 inches into soil without causing runoff.
- ✓ For additional information see Section 803 of St. Louis County's Standard Specification for Road and Bridge Construction.
- ✓ Type of sod shall be as specified in the contract or on the approved plans.

O&M PROCEDURES:

- ✓ Water sod daily for 3 weeks - enough to soak 4-inches into soil without causing runoff.
- ✓ Reposition areas of sod that has moved along the slope.
- ✓ Remove sediment accumulations - replace sod if necessary.
- ✓ Repair any eroded areas, replace sod, and stabilize as needed.
- ✓ Do not mow until 3-inches of new growth occur. During the first 4 months, mow no more than ⅓ the grass height.

SITE CONDITIONS FOR REMOVAL - Not applicable.

TYPICAL DETAIL - 803-10.00



bond architects
222 SOUTH CENTRAL AVE.
SUITE# 501
ST. LOUIS, MO 63105
TEL: 314.863.4994
FAX: 314.863.4996
www.bondarchitectsinc.com
Bond Architects, Inc.
Missouri State Certificate of Authority # 2009027409

CASE Engineering, Inc.
Structural Engineer
Consultant Project #_____
Certificate of Authority #001497
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel

RTM Engineering Consultants
MEP & Fire Protection Engineer
Consultant Project #_____
Certificate of Authority #2002028690
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel

CEDC
Civil Engineer
Consultant Project # 2388
Certificate of Authority #2003004674
10820 Sunset Office Dr. Suite 200
St. Louis, MO 63127
314.729.1400 tel

Poettker Construction Company
Construction Manager
Consultant Project # - N/A
400 S. Germantown Rd.
Breese, IL 62230
618-526-7213 tel
618-526-7654 fax

Facilities Storage Building
479 N. Woods Mill Road, Chesterfield, MO 63017
Parkway PN #85B2301B
New Pre-Engineered Building
Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017

Project No: 2388

Revisions

Description	Date
MSD revisions	04/26/2023

This drawing and the details on it are the sole property of the architect and may be used for this specific project only. It is not to be loaned, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the Architect. Copyright © 2020 by Bond Architects, Inc.

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

DATE: 05/09/23

STORMWATER POLLUTION PREVENTION PLAN DETAILS

100% BID/FOR CONSTRUCTION SET

C10.1

MSD Base Map: 17Q4
MSD Project: 23MSD-00099

SCALE: 3" = 1'-0" 0 0.25 0.5 1'
SCALE: 1 1/2" = 1'-0" 0 0.5 1' 2'
SCALE: 1" = 1'-0" 0 0.5 1' 2'
SCALE: 3/4" = 1'-0" 0 1' 2' 3'
SCALE: 1/2" = 1'-0" 0 1' 2' 4'
SCALE: 1/4" = 1'-0" 0 2' 4' 8'
SCALE: 1/8" = 1'-0" 0 4' 8' 16'
SCALE: 1/32" = 1'-0" 0 8' 16' 32'