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# WASS ELEMENTARY SCHOOL PLAYGROUND

## TROY SCHOOL DISTRICT - TROY, MICHIGAN

**2022 BOND PROGRAM - BID PACKAGE NO 01B**

**PROJECT NUMBER 22096B**

**CONSTRUCTION DOCUMENTS**

CONSULTANTS:

CIVIL ENGINEER

**PEA GROUP**  
**CONSULTING ENGINEERS**  
1849 POND RUN  
AUBURN HILLS, MICHIGAN 48326  
PHONE: (248) 689-9090

## PLAYGROUND CONSULTANT

**OCBA LANDSCAPE ARCHITECTS  
CONSULTING ENGINEERS**  
141 E. MICHIGAN AVE., SUITE 500  
KALAMAZOO, MICHIGAN 49007  
PHONE: (269) 381-3357

## LIST OF DRAWINGS

## GENERAL INFORMATION

TS.1	COVER SHEET
TG.1	GENERAL INFORMATION

## CIVIL

C1.0	DEMOLITION PLAN
C2.0	OVERALL PLAYGROUND LAYOUT PLAN
C2.1	PLAYGROUND LAYOUT ENLARGEMENT PLANS
C2.2	PLAYGROUND LAYOUT ENLARGEMENT PLANS
C3.0	OVERALL PLAYGROUND DRAINAGE PLAN
C3.1	PLAYGROUND DRAINAGE ENLARGEMENT PLAN
C3.2	PLAYGROUND DRAINAGE ENLARGEMENT PLAN
C4.0	DETAILS

## CIVIL

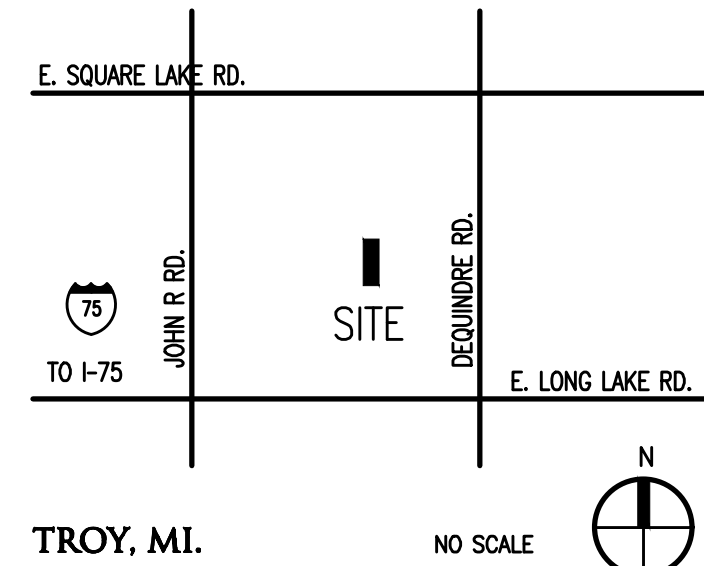
CE-5.1.0 TOPOGRAPHIC SURVEY  
CE-5.2.0 DIMENSION & PAVING PLAN  
CE-5.3.0 GRADING, UTILITY & SOIL EROSION CONTROL PLAN  
CE-5.4.0 NOTES & DETAILS

## LANDSCAPE

L1.0 SITE LANDSCAPE PLAN

PROJECT DATA:

### LOCATION MAP



## BUILDING: \_\_\_\_\_

BUILDING AREA(S) = NOT APPLICABLE

CODE: \_\_\_\_\_

**GOVERNING CODES:**

- 2016 MICHIGAN FIRE SAFETY RULES  
(2012 Life Safety Code, plus amendments)
- 2015 MICHIGAN BUILDING CODE
- 2015 MICHIGAN REHABILITATION CODE FOR EXISTING BUILDINGS
- 2018 MICHIGAN PLUMBING CODE
- 2015 MICHIGAN MECHANICAL CODE
- 2015 MICHIGAN ELECTRICAL ENERGY CODE
- CONSULS/IVES Standard 90.1-2013
- 2017 MICHIGAN ELECTRICAL CODE (2017 NEC, plus Part 8)
- 2010 MICHIGAN ELEVATOR RULES  
(ASME A17.1-2010, ASME A18.1-2011)
- MICHIGAN BARRIER FREE CODE  
(Michigan Building Code 2015 and ICC A117.1-2009)
- 2013 MICHIGAN BOILER CODE RULES  
(ASME Boiler and Pressure Vessel Code, 2019 edition)  
(National Board Inspection Code [NBIC], 2019 edition)

**CONSTRUCTION CLASSIFICATION: B-(M)BC/11(000)N/PA**

**USE GROUP CLASSIFICATION: E-Education**

LICENSEE'S STATEMENT:

This Document has been prepared under the supervision of the Architect, as the person in Responsible Charge with the firm of **TMP ARCHITECTURE, INC.** An original embossed or rubber stamp seal and original signature of the Architect is required and shall be affixed to any copy of this Document submitted to a governmental agency for approval or record. This is in conformance with the State of Michigan's PA 299, Article 20 and the General Rules of the Board of Architects.

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## REGISTRATION SEALS

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## PROJECT TITLE

# Wass Elementary School

PROJECT NO.

**22096B**

DRAWING NO.

## TS.1

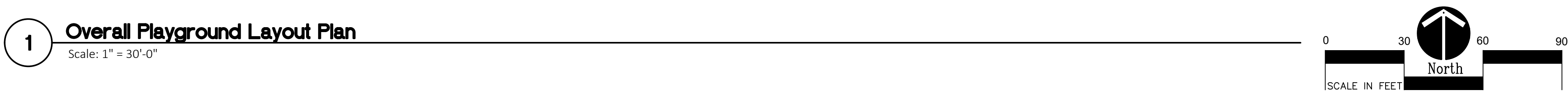








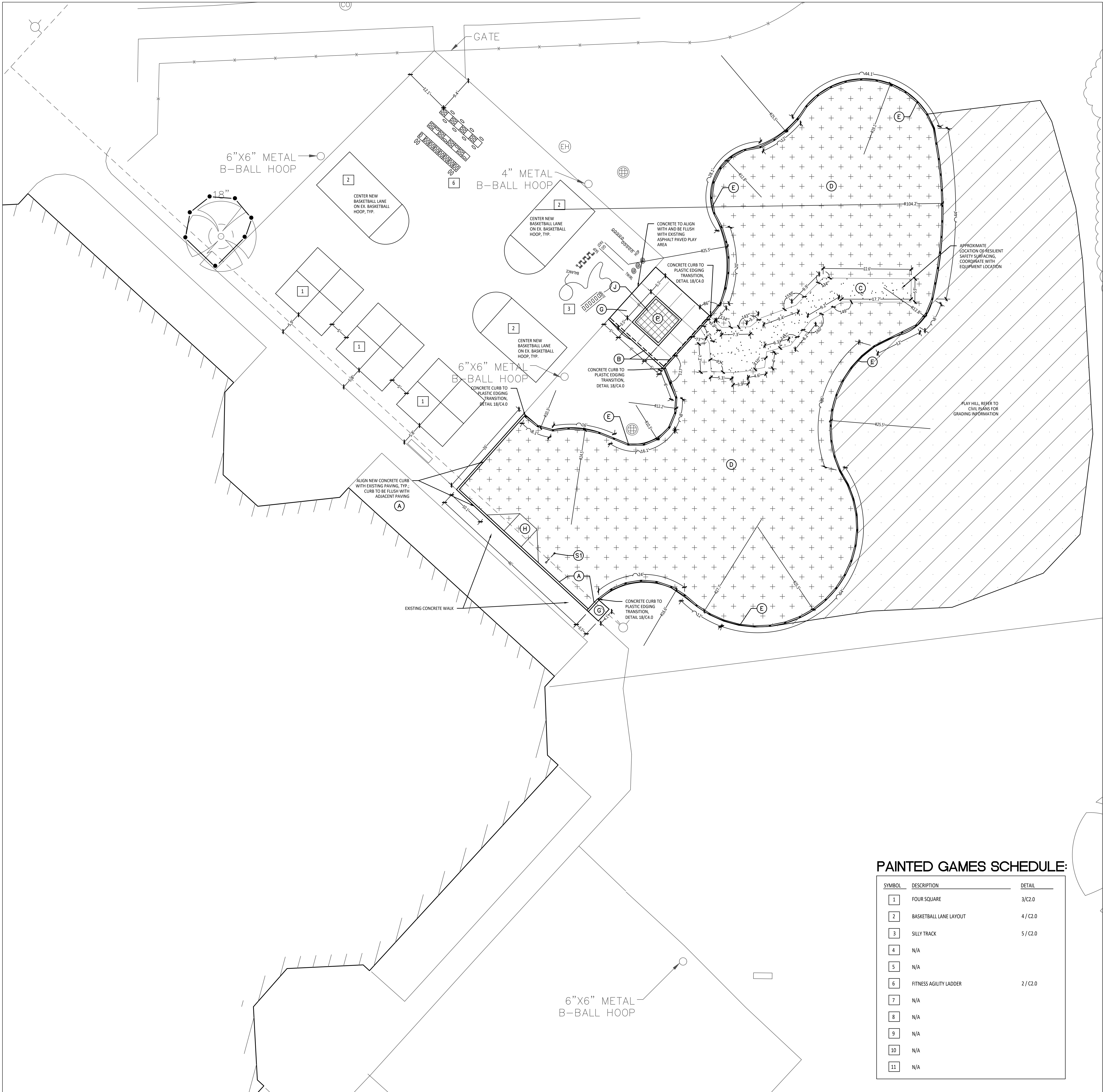




## 5 Silly Track Layout Detail

## C2.0





LAYOUT NOTES:

1. SURVEY OF EXISTING CONDITIONS PROVIDED BY PEA GROUP, 1849 POND RUN, AUBURN HILLS, MICHIGAN 48326, (248)689-9090.
2. PAVEMENT DIMENSIONS AND RADII ARE TO EDGE OF PAVEMENT OR BACK OF CURB. PLASTIC EDGING IS MEASURED TO FROM CENTER OF FIN.
3. DISCREPANCIES BETWEEN SITE AND PLANS SHOULD BE REPORTED TO THE PROJECT MANAGER IMMEDIATELY.
4. VERIFY LOCATIONS OF ALL BELOW GRADE UTILITIES PRIOR TO BEGINNING WORK. 72 HOURS BEFORE YOU DIG CALL "MISS DIG" AT 1-800-482-7171.
5. PROVIDE BARRIER FREE PARKING SIGNS FOR ALL BARRIER FREE PARKING SPACES. ALL SIGNS TO COMPLY WITH THE MDOT MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
6. SITE LAYOUT POINTS SHOULD BE ESTABLISHED AND PROTECTED FOR FUTURE SITE WORK.

BARRIER-FREE NOTES

BARRIER-FREE PARKING AND ACCESSIBLE ROUTE(S) MUST COMPLY WITH THE AMERICANS WITH DISABILITIES ACT AND MICHIGAN BARRIER-FREE CODE REQUIREMENTS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

- 1.50 (2%) MAXIMUM CROSS-SLOPE ON ACCESSIBLE ROUTE.
- NO CHANGES IN LEVEL GREATER THAN 1/2" ALONG ACCESSIBLE ROUTE.
- 1.20 (5%) MAXIMUM LONGITUDINAL SLOPE ON ACCESSIBLE ROUTE (EXCEPT WHERE RAMPS ARE PROVIDED).
- 1.50 (2%) MAXIMUM SLOPE (IN ANY DIRECTION) IN B.F. PARKING AND ACCESS AISLES.

NOTE: VERIFY LOCATION OF NEW PLAYGROUND EQUIPMENT PRIOR TO INSTALLATION OF ANY CONCRETE CURB. CONCRETE CURB TO BE INSTALLED OUTSIDE OF FALL SAFETY ZONE OF EACH PIECE OF EQUIPMENT PER ASTM 1487-05 AND MANUFACTURER'S WRITTEN RECOMMENDATIONS.

NOTE: PLAYGROUND EQUIPMENT AND SURFACING PURCHASE AND INSTALLATION IS UNDER SEPARATE CONTRACT AND IS NOT INCLUDED IN THIS BID PACKAGE. CONTRACTOR IS REQUIRED TO COORDINATE INSTALLATION OF PLAYGROUND EQUIPMENT AND SURFACING WITH PLAYGROUND INSTALLER PRIOR TO ANY EXCAVATION AND CONCRETE CURBING OR PAVING INSTALLATION.

PROPOSED FEATURES LEGEND:

SYMBOL	DESCRIPTION
	RESILIENT SURFACING (BY OTHERS)
	LOOSE FILL SAFETY SURFACING (BY OTHERS)
	N/A
	N/A
	N/A
	PLAY HILL, REFER TO CIVIL DRAWINGS
	PLASTIC PLAY EDGING, BY OTHERS REFER TO PLAYGROUND CONTRACTOR'S DRAWINGS AND SPECS
	STRAIGHT FACE CONCRETE CURB
	THICKENED EDGE CONCRETE
	INTEGRAL WALK AND CURB
	BARRIER-FREE PLAY AREA ENTRANCE RAMP
	ENLARGEMENT LIMIT LINE

KEY	DESCRIPTION	DETAIL
(A)	STRAIGHT FACE CONCRETE CURB	6 / C4.0
(B)	THICKENED EDGE CONCRETE	11 / C4.0
(C)	RESILIENT SURFACING (BY OTHERS)	7 / C4.0
(D)	LOOSE FILL SAFETY SURFACING (BY OTHERS)	3 & 9 / C4.0
(E)	PLASTIC PLAY EDGING (BY OTHERS)	12, 13, & 18 / C4.0
(F)	N/A	
(G)	CONCRETE WALK	2 / C4.0
(H)	PLAY AREA ENTRANCE RAMP	16 / C4.0
(J)	CONCRETE SAND BOX	15 / C4.0
(K)	BASKETBALL HOOP POLE (BY OTHERS)	17 / C4.0
(L)	N/A	
(M)	N/A	
(N)	N/A	
(P)	N/A	

SIGNS		
(S1)	COMMUNICATION BOARD; PURCHASED BY OWNER, INSTALLED BY SITE CONTRACTOR	SEE SPECS.

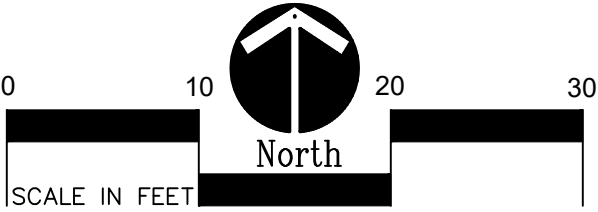
CONTRACTOR COORDINATION NOTES:

SITE CONTRACTOR AND PLAYGROUND CONTRACTOR ARE REQUIRED TO COORDINATE BOTH WITH EACH OTHER AND WITH CONSTRUCTION MANAGER. THE INSTALLATION PROCESS FOR THE PLAYGROUND SAFETY SURFACING SHOULD BE AS FOLLOWS:

- \* SITE CONTRACTOR TO EXCAVATE AREA AS SHOWN ON CONSTRUCTION DOCUMENTS.
- \* SITE CONTRACTOR TO INSTALL UNDERDRAINS AS SHOWN ON CONSTRUCTION DOCUMENTS. SITE CONTRACTOR TO USE LAYOUT SERVICES FROM CADD FILES FOR INSTALLATION TO ENSURE THAT THE UNDERDRAINS ARE INSTALLED IN THE CORRECT LOCATIONS.
- \* THE PLAYGROUND CONTRACTOR WILL THEN INSTALL THE POSTS AND FOOTINGS FOR ALL EQUIPMENT.
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- \* THE PLAYGROUND CONTRACTOR WILL INSTALL THE GEOTEXTILE FABRIC, PLAYGROUND EQUIPMENT, AND SAFETY SURFACING.

PAINTED GAMES SCHEDULE:

SYMBOL	DESCRIPTION	DETAIL
1	FOUR SQUARE	3 / C2.0
2	BASKETBALL LANE LAYOUT	4 / C2.0
3	SILLY TRACK	5 / C2.0
4	N/A	
5	N/A	
6	FITNESS AGILITY LADDER	2 / C2.0
7	N/A	
8	N/A	
9	N/A	
10	N/A	
11	N/A	



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Landscape Architecture  
Urban Planning  
Parks & Recreation  
Campus & Institutional Planning  
Camp Planning & Design

PROJECT TITLE

Wass  
Elementary School  
Playground Remodel  
Bld Package No.01B

Troy School District  
Troy, Michigan

DRAWING TITLE

Playground Layout  
Enlargement Plans

ISSUE DATES

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10-03-2024 CONSTRUCTION DOCUMENTS

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APPROVED: DID

PROJECT NO.

22096B

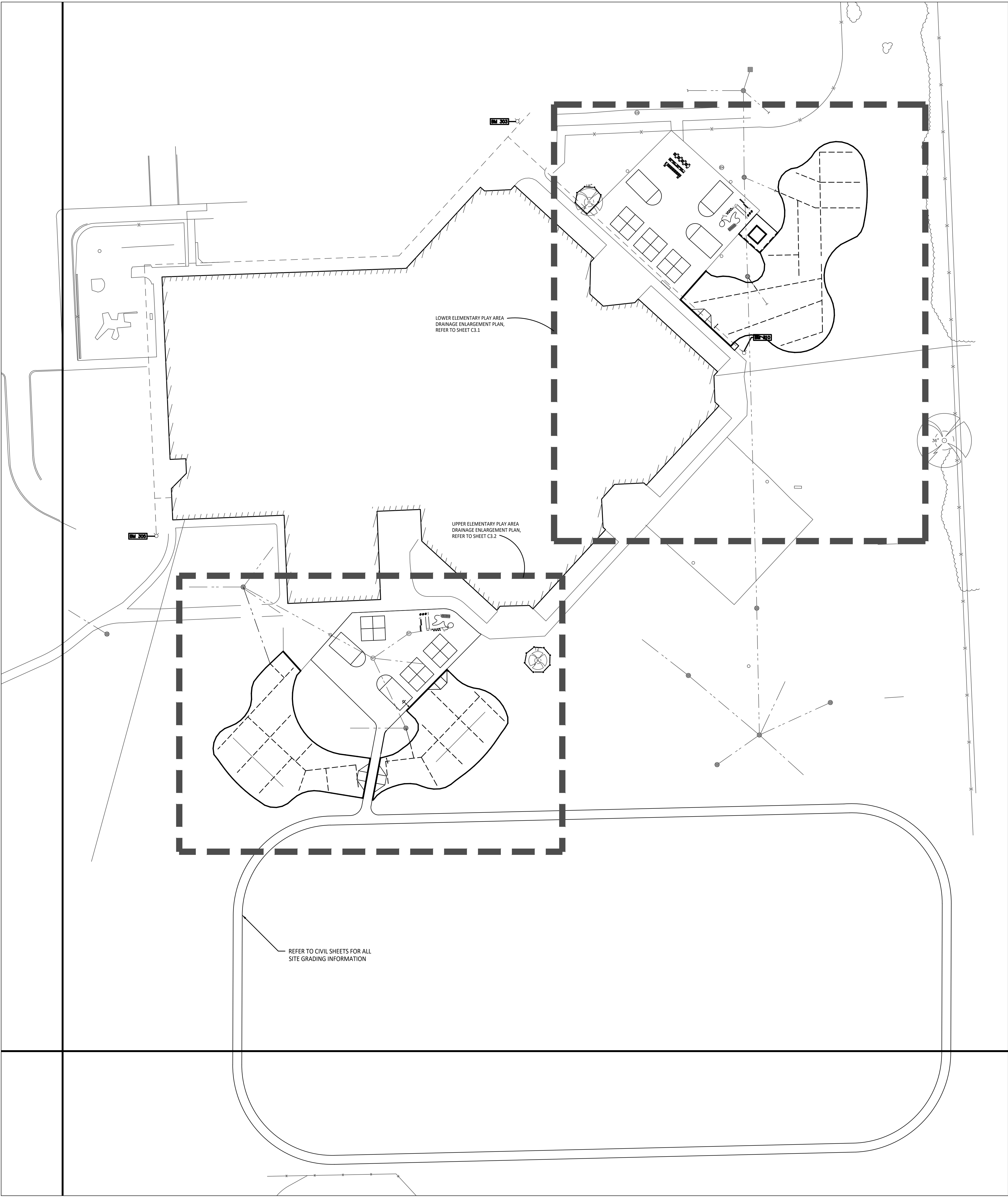
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## C2.2

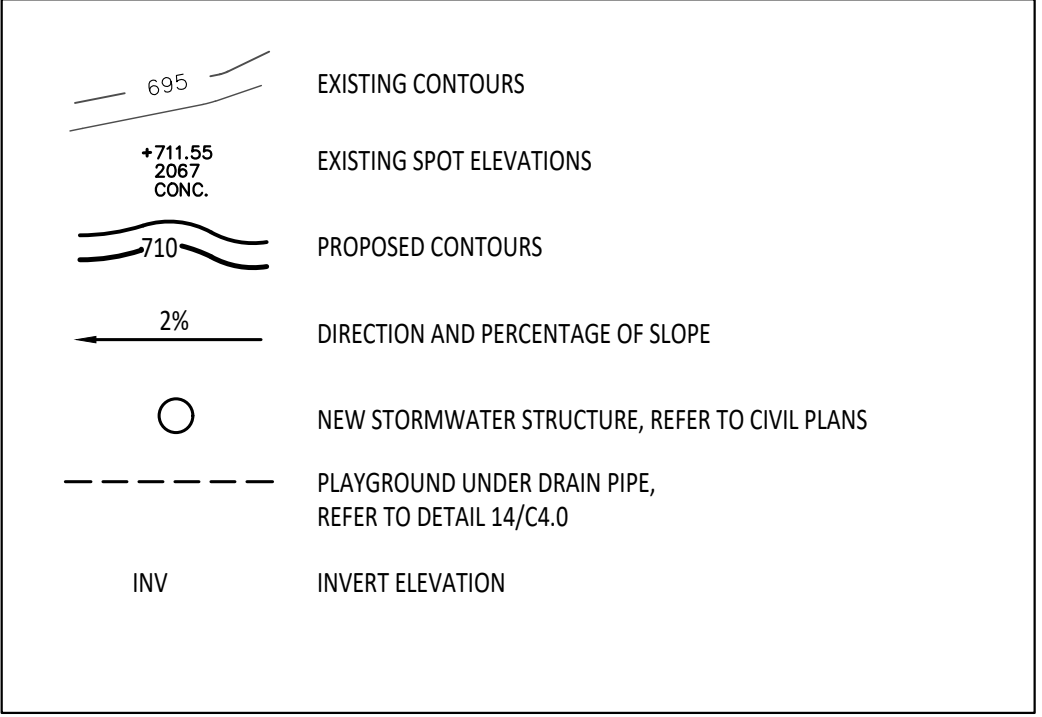




GRADING NOTES:

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4. ALL NEW PAVEMENT ELEVATIONS AT EXTERIOR DOORS SHALL MATCH EXISTING FINISH FLOOR ELEVATIONS, TYPICAL.
5. ADJUST TOP OF EXISTING MANHOLES, CATCH BASINS, VAULT COVERS, ETC. TO NEW FINISH GRADE AS REQUIRED.
6. SEE SITE CIVIL PLANS FOR ALL ADDITIONAL SITE UTILITY DEMOLITION AND CONSTRUCTION.
7. ALL TOPSOIL AND EXCESS FILL MATERIAL SHALL BE STOCKPILED ON SITE SEPARATELY FOR LATER RE-USE. LOCATE STOCKPILES IN AREAS AS DIRECTED BY CONSTRUCTION MANAGER AND PROTECT FROM EFFECTS OF EROSION.

PROPOSED FEATURES LEGEND:



IMPORTANT NOTE

GENERAL EARTHWORK NOTE:

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Landscape Architecture  
Urban Planning  
Parks & Recreation  
Campus & Institutional Planning  
Camp Planning & Design

PROJECT TITLE

**Wass  
Elementary School  
Playground Remodel  
Bld Package No.01B**

**Troy School District  
Troy, Michigan**

DRAWING TITLE

**Overall Playground  
Drainage Plan**

ISSUE DATES

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10-03-2024 CONSTRUCTION DOCUMENTS

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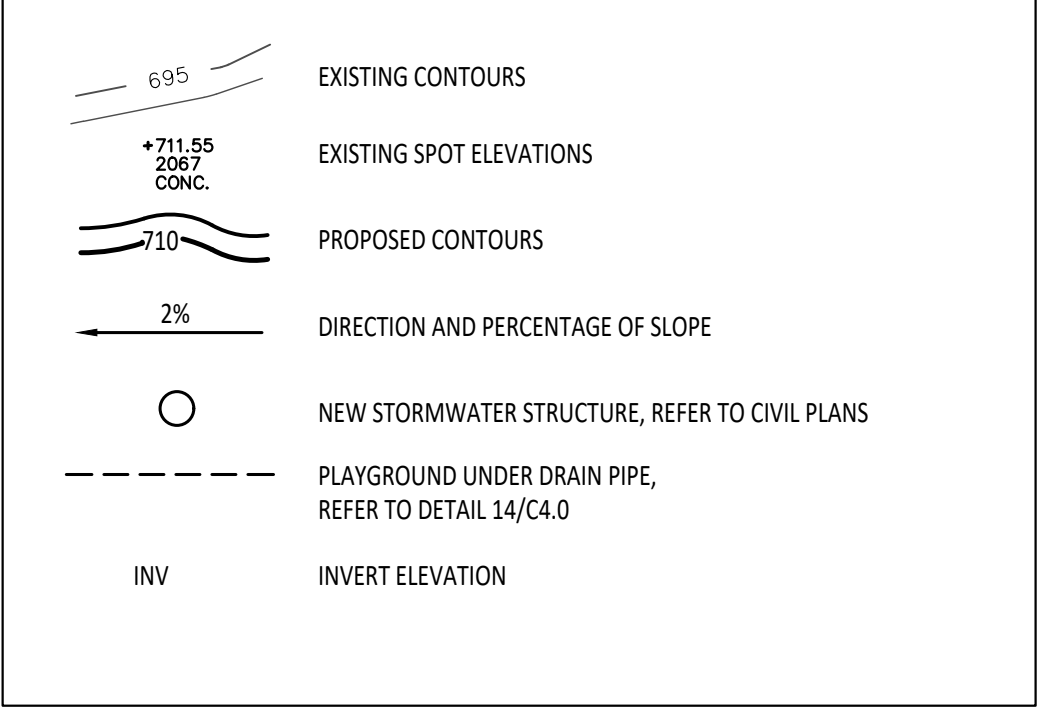
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PROPOSED FEATURES LEGEND:



IMPORTANT NOTE

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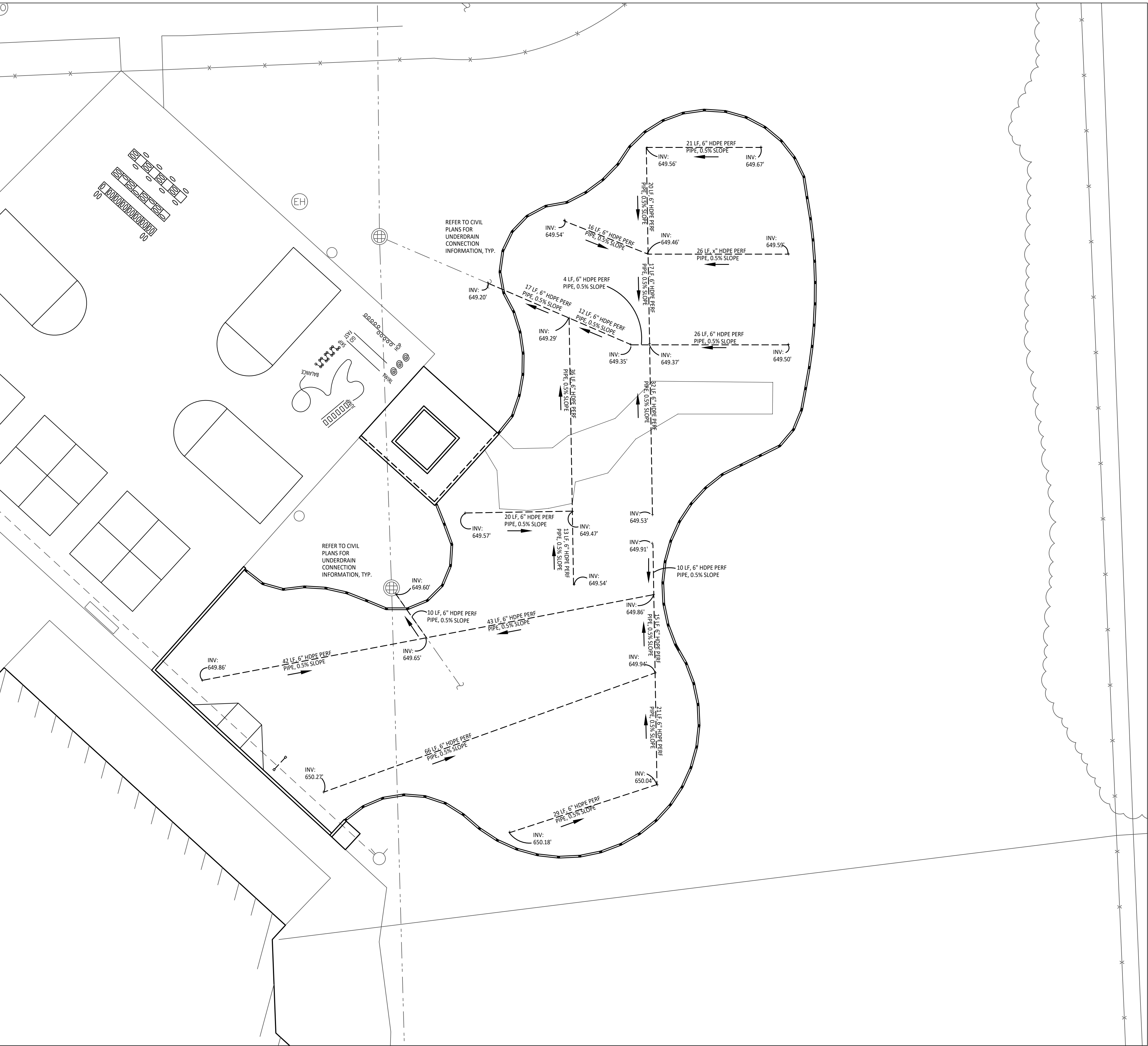
IMPORTANT NOTE

BARRIER-FREE NOTES

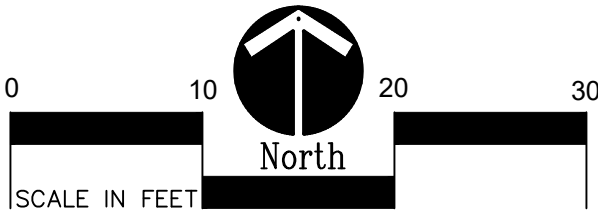
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CONTRACTOR COORDINATION NOTES:

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1 Playground Drainage Enlargement Plan - Lower Elementary Play Area  
1" = 10'-0"



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PROJECT TITLE

**Wass  
Elementary School  
Playground Remodel  
Bld Package No.01B**

**Troy School District  
Troy, Michigan**

**DRAWING TITLE  
Playground Drainage  
Enlargement Plan**

ISSUE DATES

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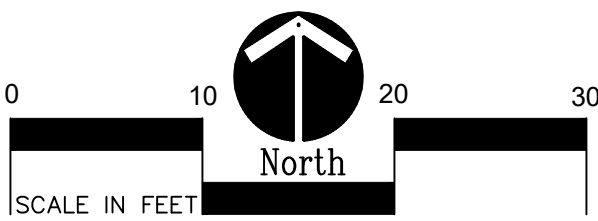
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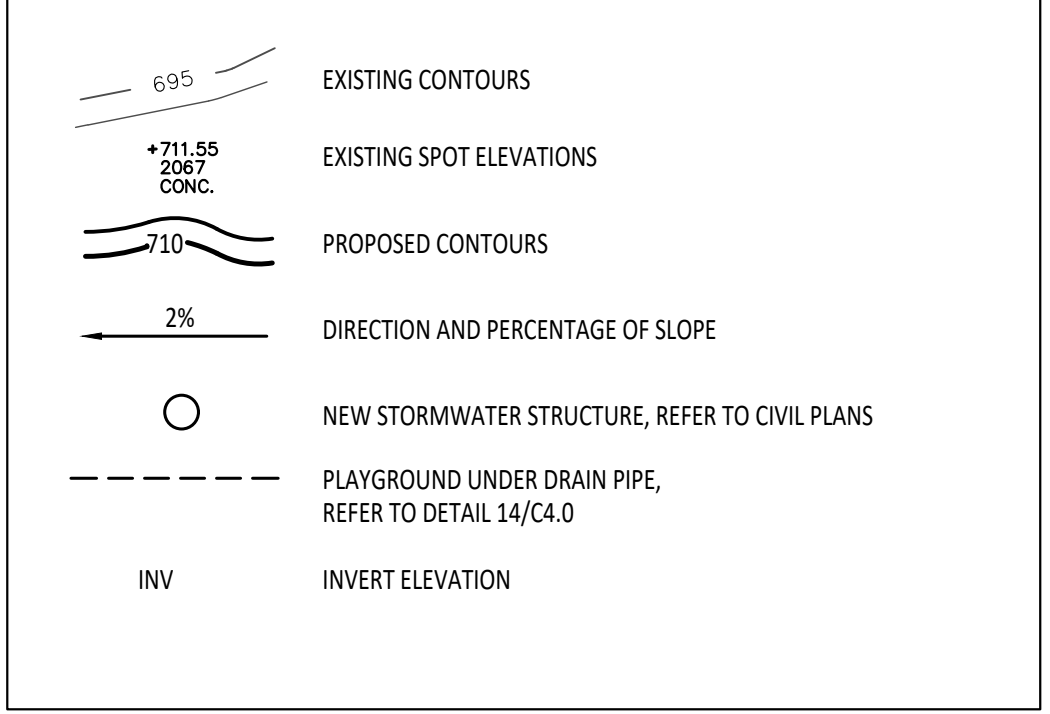
1 Playground Drainage Enlargement Plan - Upper Elementary Play Area  
1" = 10'-0"



GRADING NOTES:

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PROPOSED FEATURES LEGEND:



IMPORTANT NOTE

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SITE CONTRACTOR AND PLAYGROUND CONTRACTOR ARE REQUIRED TO COORDINATE BOTH WITH EACH OTHER AND WITH CONSTRUCTION MANAGER. THE INSTALLATION PROCESS FOR THE PLAYGROUND SAFETY SURFACING SHOULD BE AS FOLLOWS:

- \* SITE CONTRACTOR TO EXCAVATE AREA AS SHOWN ON CONSTRUCTION DOCUMENTS.
- \* SITE CONTRACTOR TO INSTALL UNDERDRAINS AS SHOWN ON CONSTRUCTION DOCUMENTS. SITE CONTRACTOR TO USE LAYOUT SERVICES FROM CADD FILES FOR INSTALLATION TO ENSURE THAT THE UNDERDRAINS ARE INSTALLED IN THE CORRECT LOCATIONS.
- \* THE PLAYGROUND CONTRACTOR WILL THEN INSTALL THE POSTS AND FOOTINGS FOR ALL EQUIPMENT.
- \* THE SITE CONTRACTOR WILL THEN INSTALL THE DRAINAGE AGGREGATE, TAKING CARE TO NOT DAMAGE THE POSTS OR POWDERCOATING OF THE PLAY EQUIPMENT. THE SITE CONTRACTOR WILL ALSO INSTALL THE ADDITIONAL ENGINEERED FILL FOR THE RESILIENT SURFACING AREAS. THE SITE CONTRACTOR MUST COORDINATE THE DEPTHS WITH THE PLAYGROUND CONTRACTOR PRIOR TO INSTALLATION AS THE DEPTHS VARY BETWEEN PLAYGROUND CONTRACTORS.
- \* THE PLAYGROUND CONTRACTOR WILL INSTALL THE GEOTEXTILE FABRIC, PLAYGROUND EQUIPMENT, AND SAFETY SURFACING.



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EM • INFO@TMP-ARCHITECTURE.COM

REGISTRATION SEAL

CONSULTANT



141 E. Michigan Avenue, Suite 500  
Kalamazoo Michigan 49007  
Phone (269) 381-3357  
Fax (269) 381-2944

Landscape Architecture  
Urban Planning  
Parks & Recreation  
Campus & Institutional Planning  
Camp Planning & Design

PROJECT TITLE

**Wass  
Elementary School  
Playground Remodel  
Bld Package No.01B**

**Troy School District  
Troy, Michigan**

DRAWING TITLE

**Playground Drainage  
Enlargement Plan**

ISSUE DATES

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10-03-2024 CONSTRUCTION DOCUMENTS

DATE: ISSUED FOR:

DRAWN: DID

CHECKED: DID

APPROVED: DID

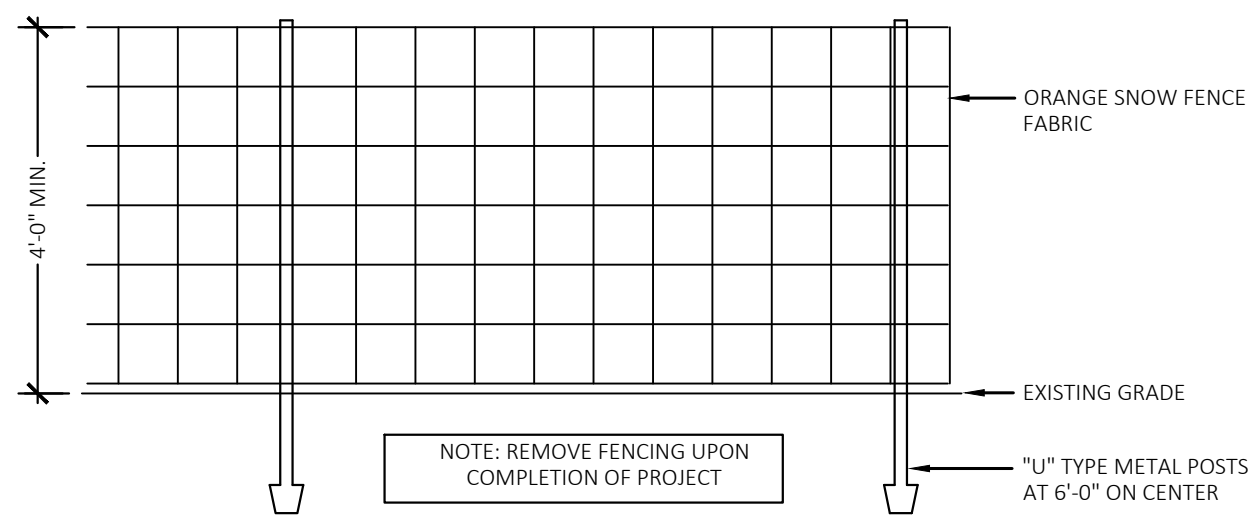
PROJECT NO.

**22096B**

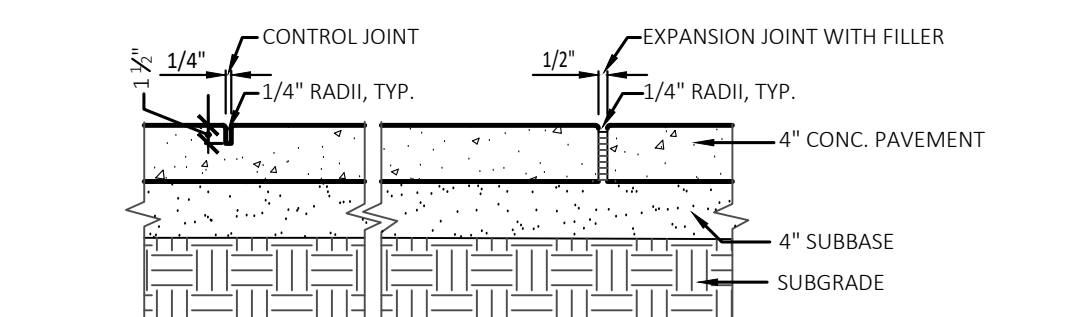
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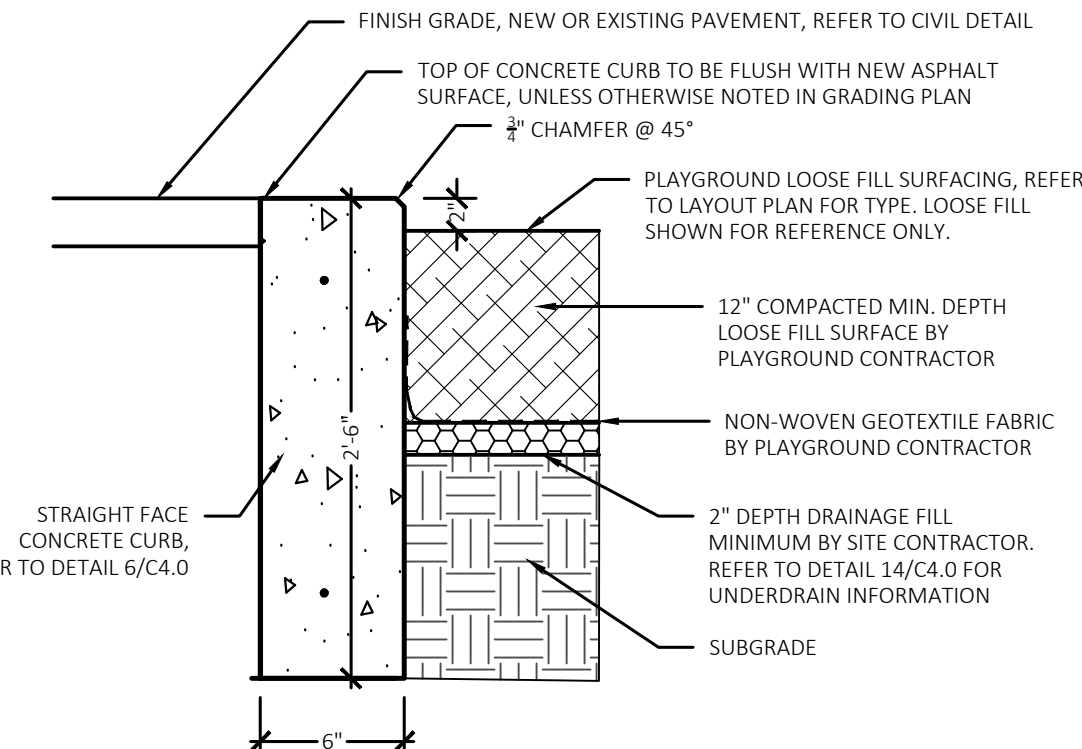




1 Tree Protection Fencing Detail  
NOT TO SCALE



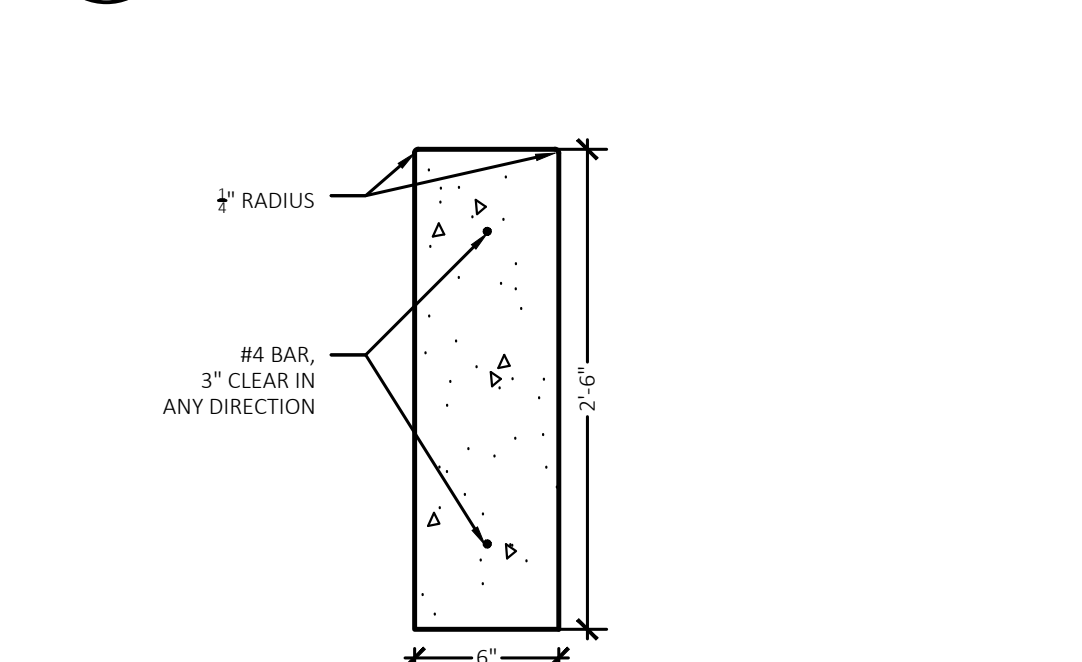
2 Section-Conc. Paving + Jointing  
NOT TO SCALE



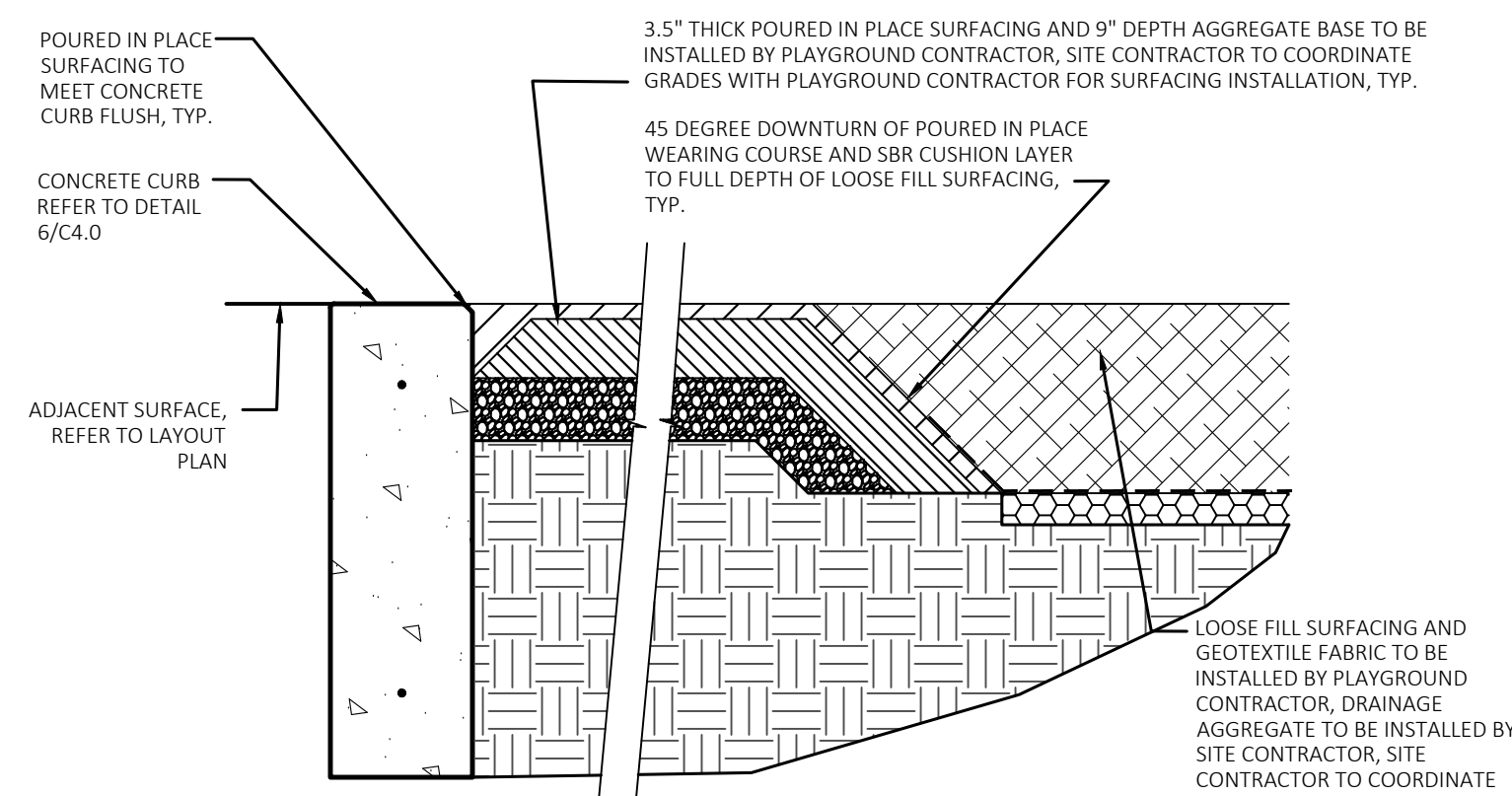
3 New Concrete Curb to Paving Loose Fill Play Surfacing Detail  
Not to Scale

4 N/A

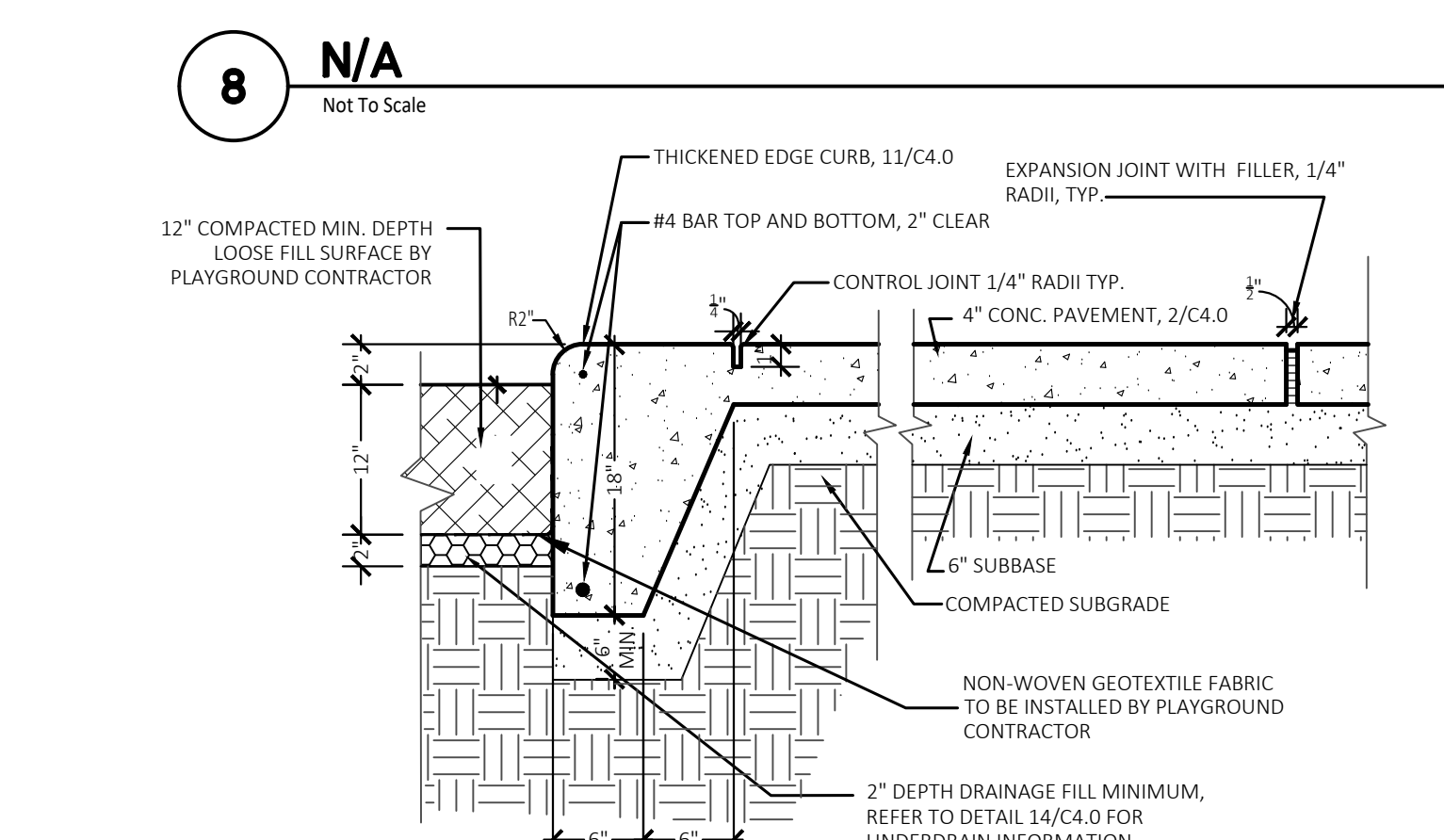
5 N/A



6 Straight Face Concrete Curb Detail  
NOT TO SCALE



7 Poured in Place Surfacing Transition to Loose Fill Surfacing and Concrete Curb Detail  
NOT TO SCALE

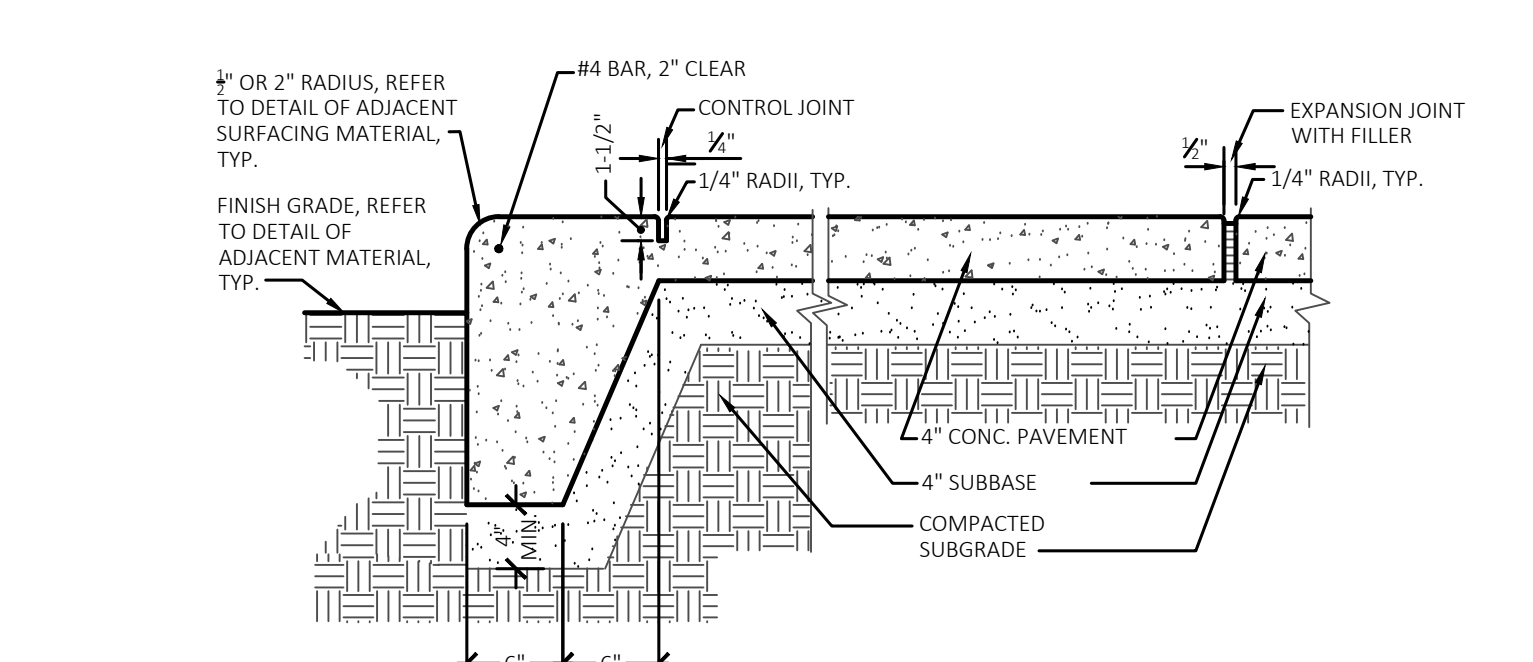


8 N/A  
NOT TO SCALE

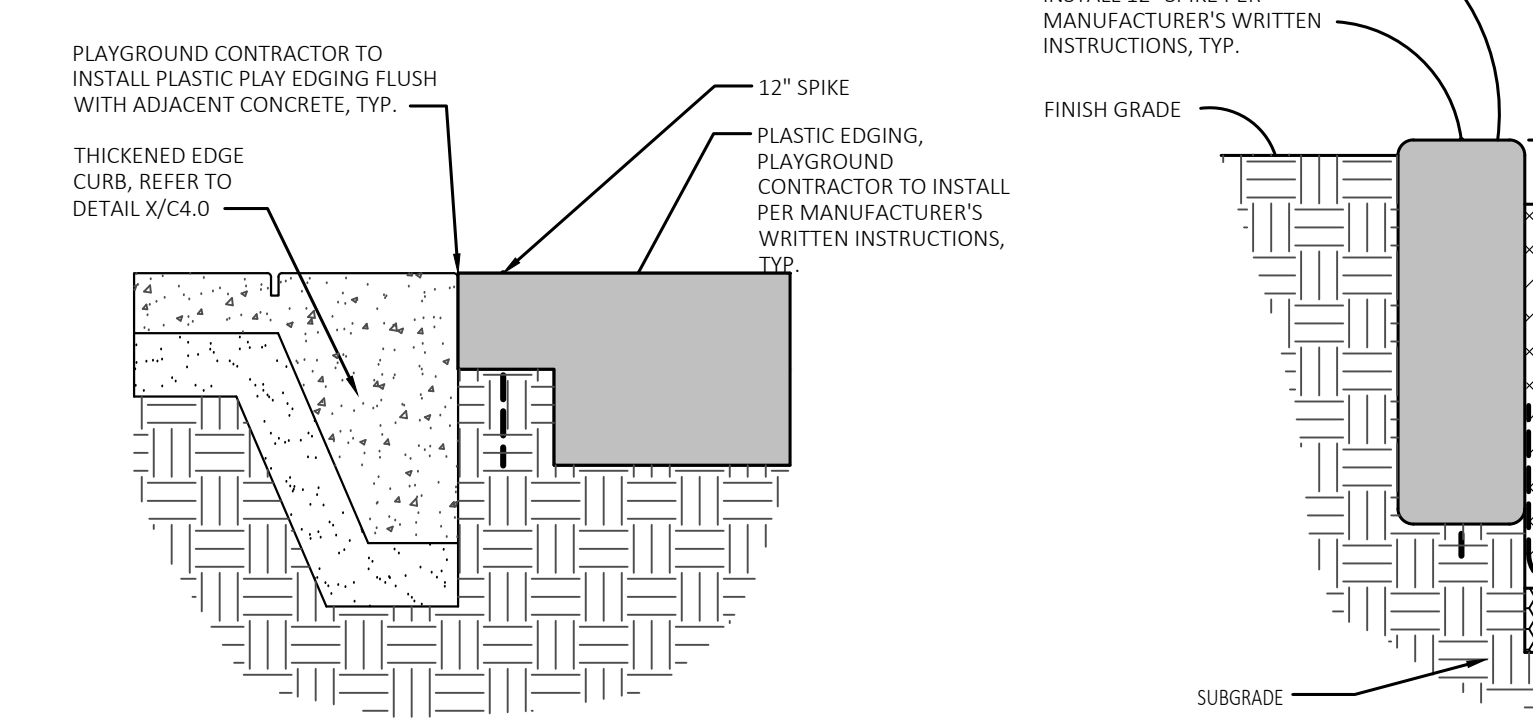
9 Loose Fill Surfacing to Thickened Edge Concrete Detail  
NOT TO SCALE



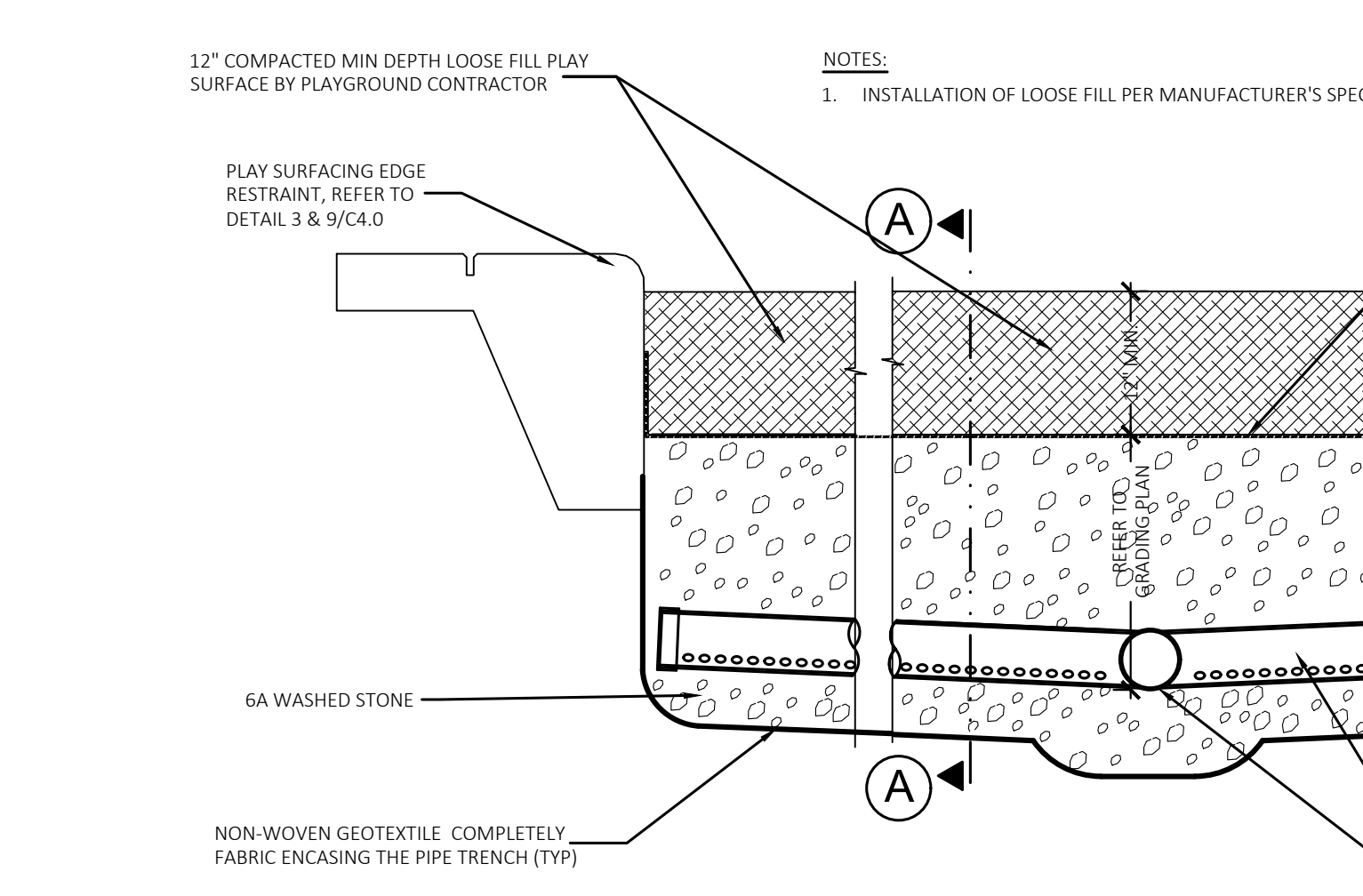
10 Communication Board Detail  
Not to Scale



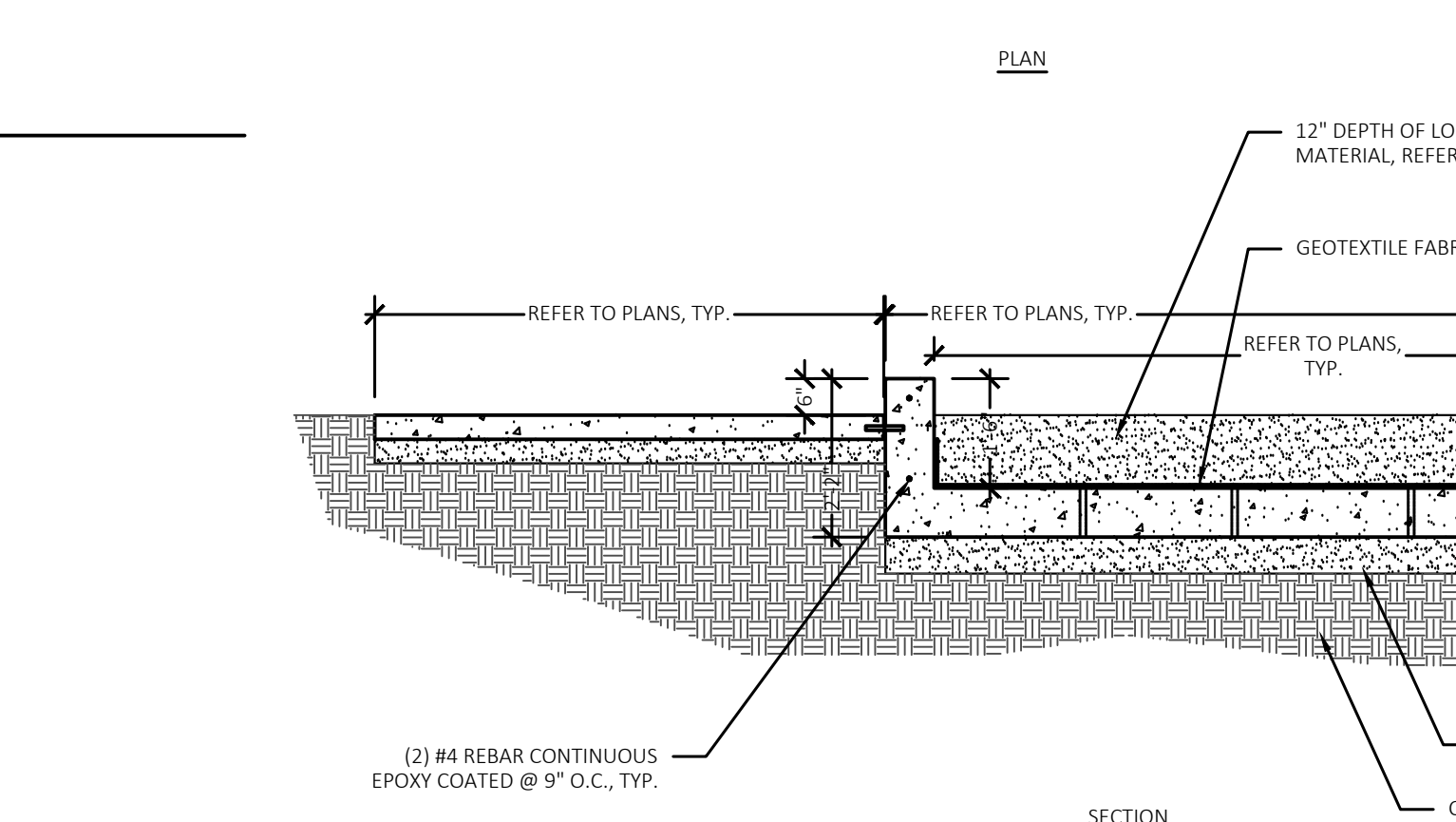
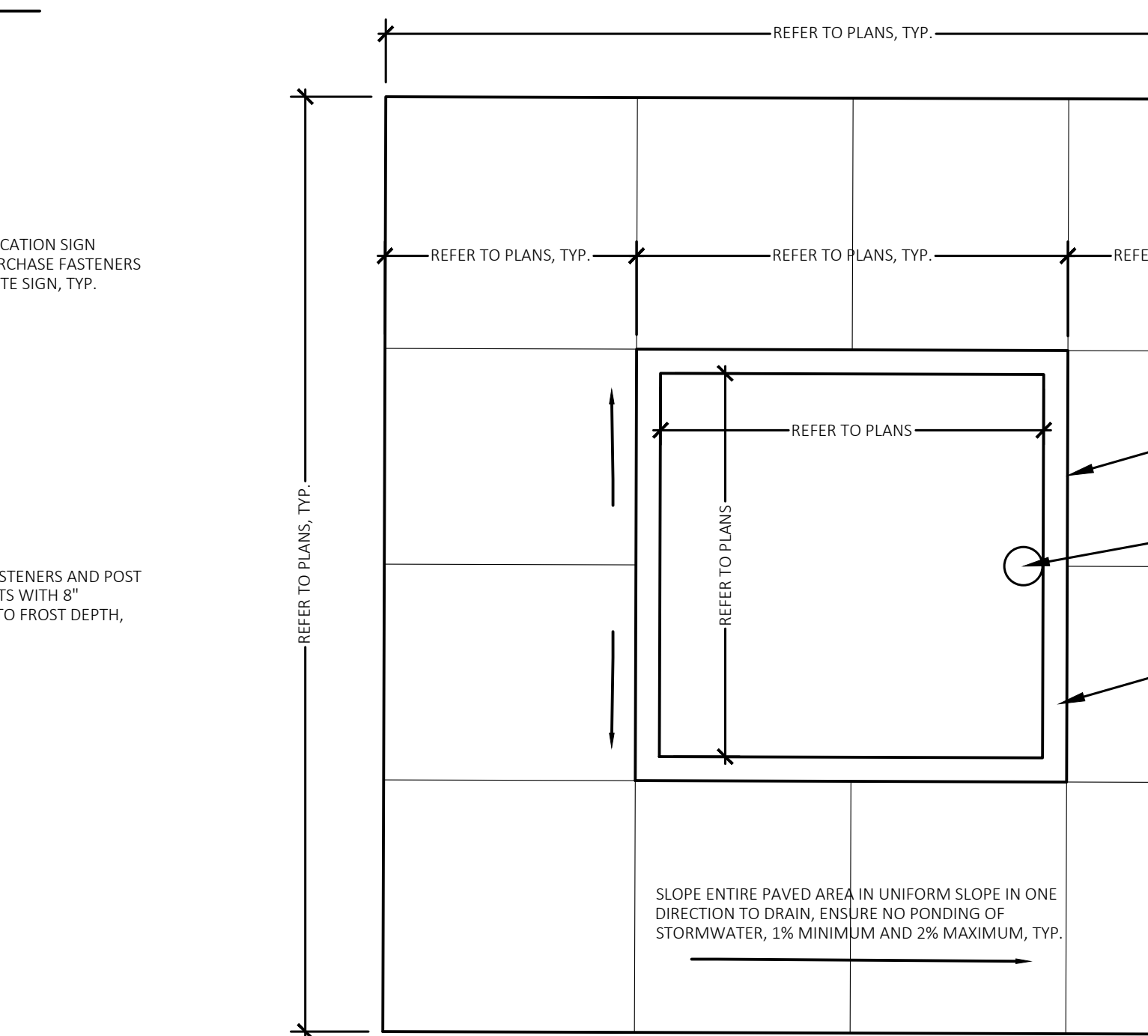
11 Thickened Edge Curb Detail  
Not to Scale



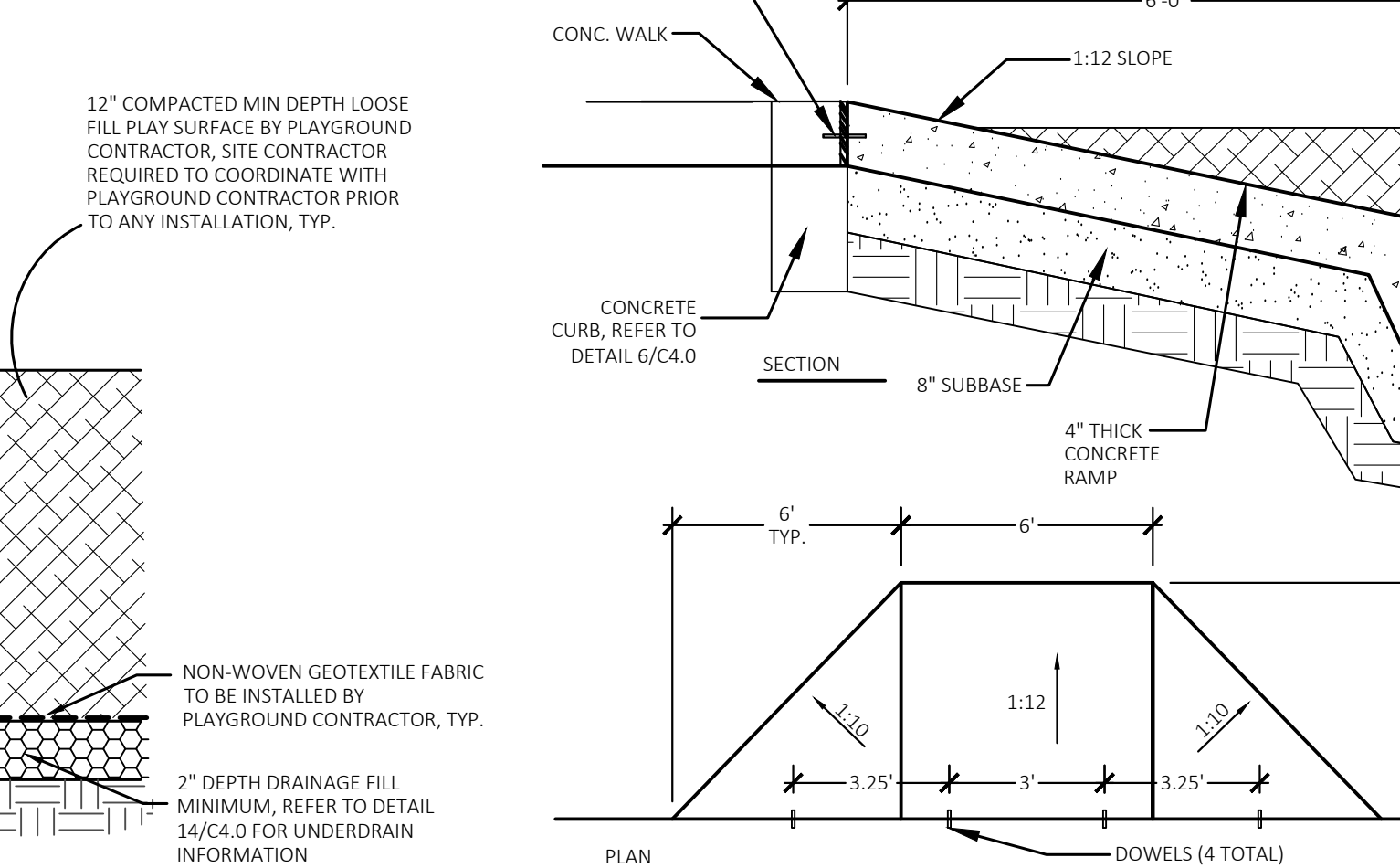
12 Thickened Edge Curb to Plastic Edging Transition Detail  
Not to Scale



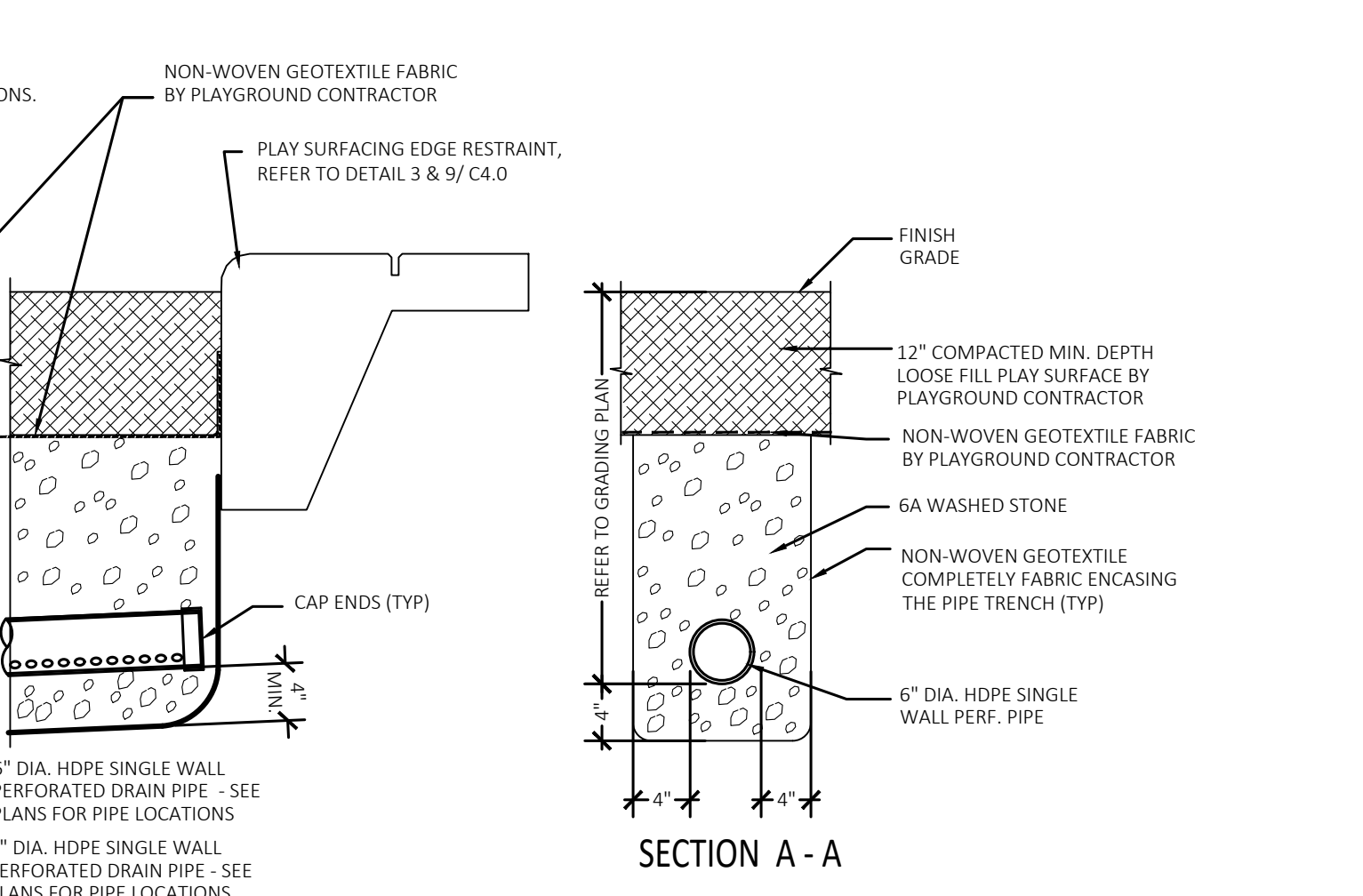
14 Playground Drainage Detail  
NOT TO SCALE



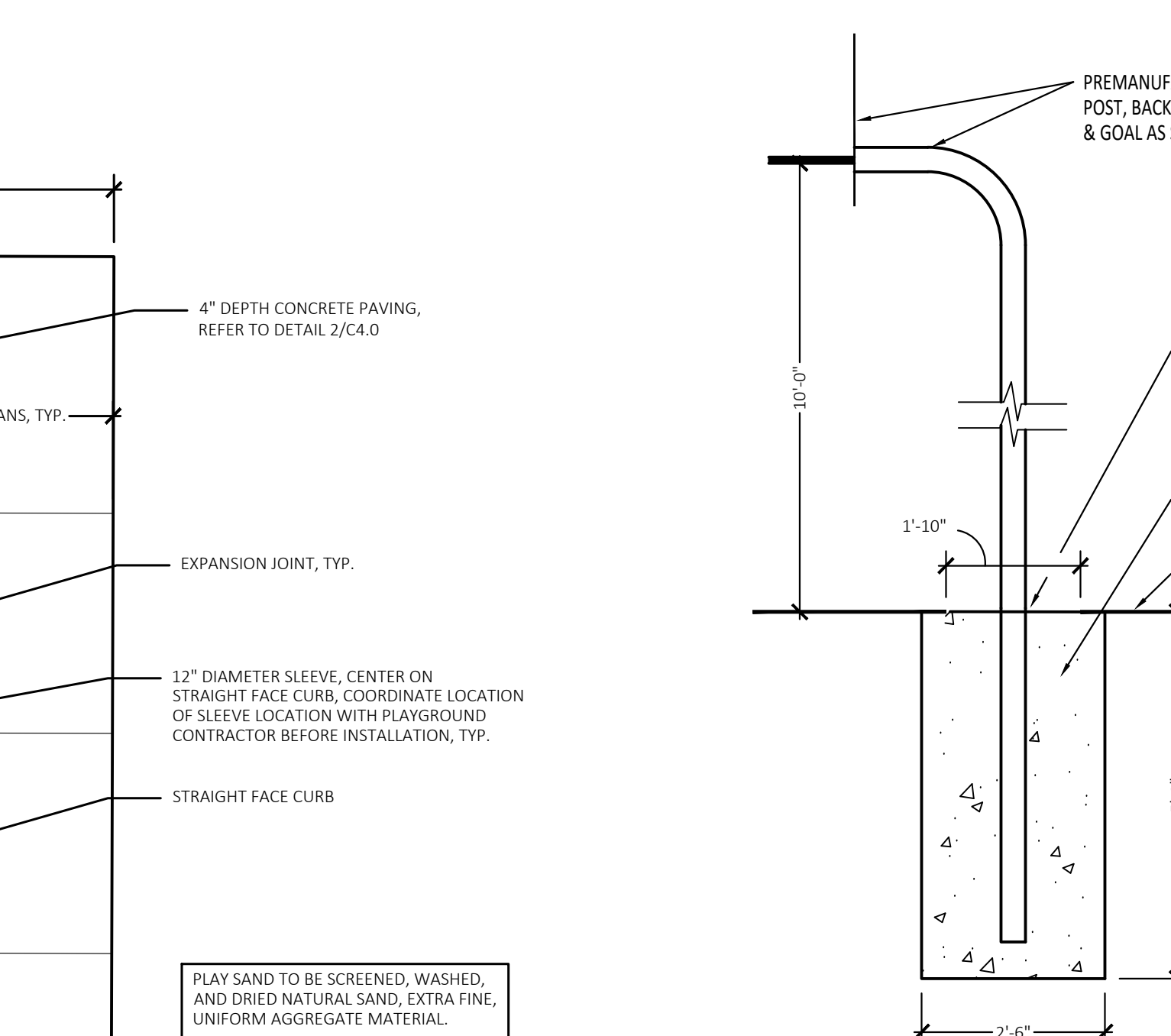
15 Concrete Sand Box Detail  
Not to Scale



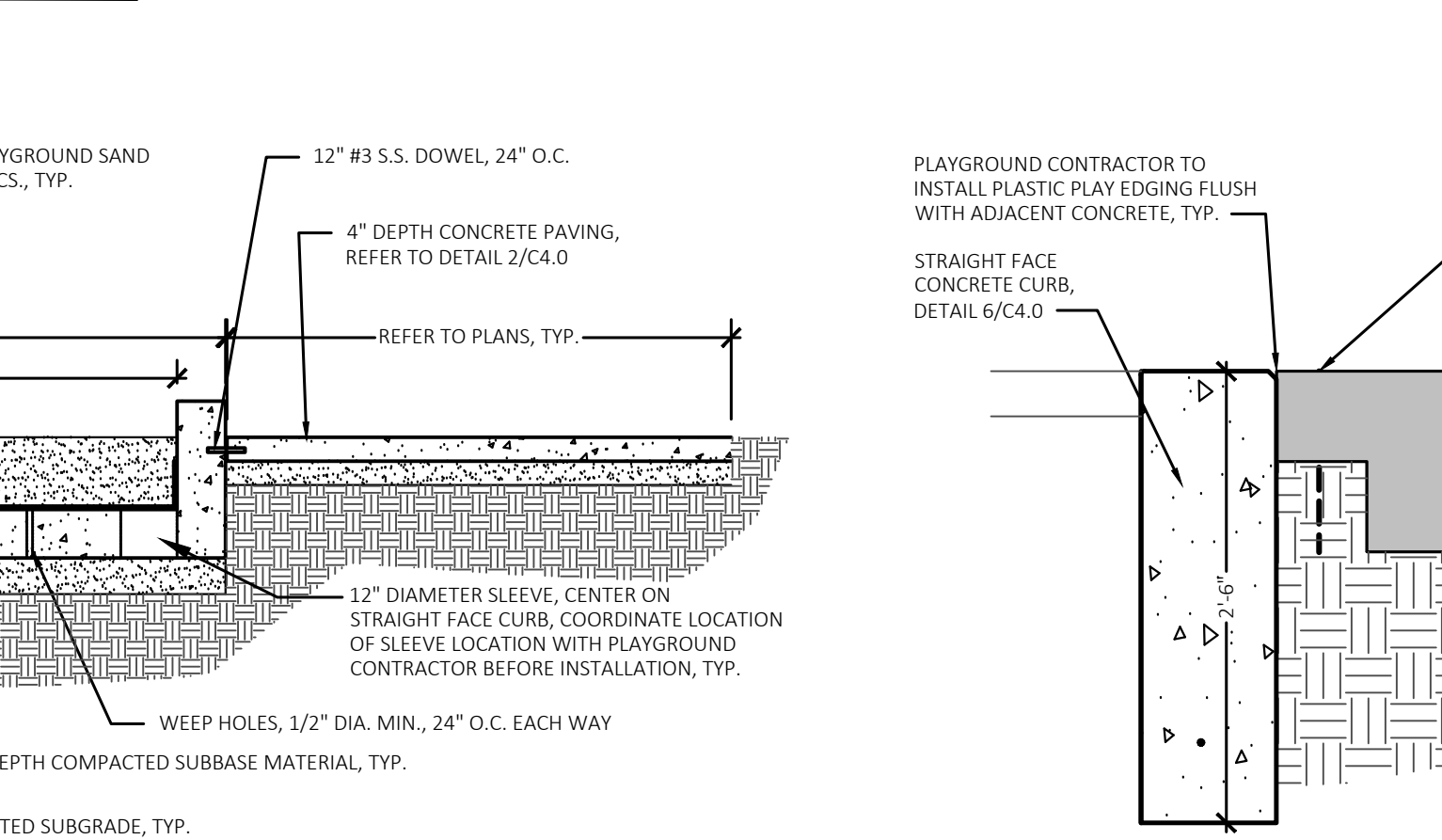
13 Plastic Edging Detail  
Not to Scale



16 Access Ramp to Play Areas Detail  
NOT TO SCALE



17 'For Reference' Basketball Post Footing Detail  
Not to Scale



18 Concrete Curb to Plastic Edging Transition Detail  
Not to Scale



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Campus & Institutional Planning  
Camp Planning & Design

PROJECT TITLE  
**Wass  
Elementary School  
Playground Remodel  
Bld Package No.01B**

**Troy School District  
Troy, Michigan**

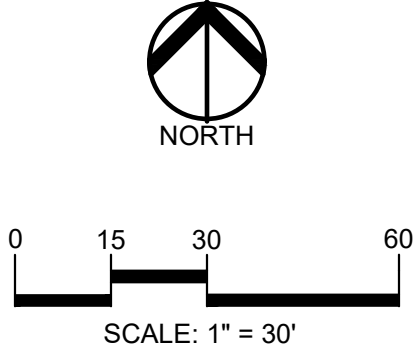
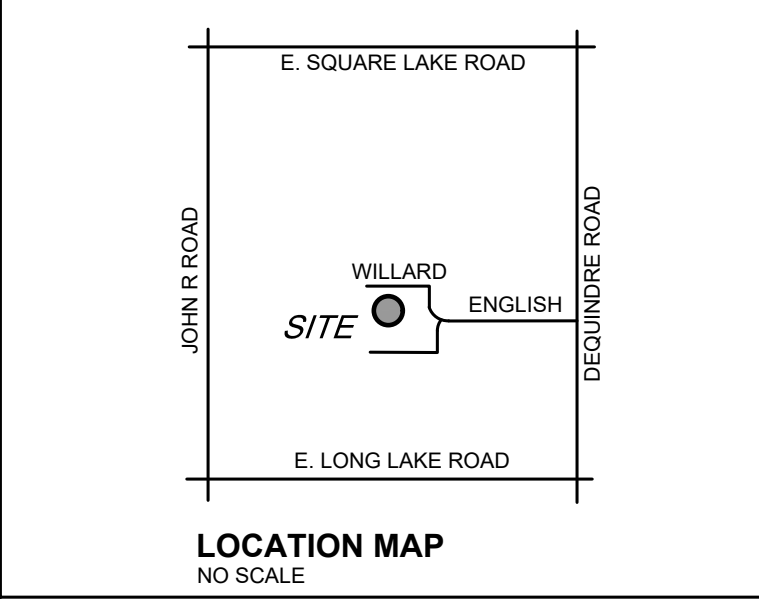
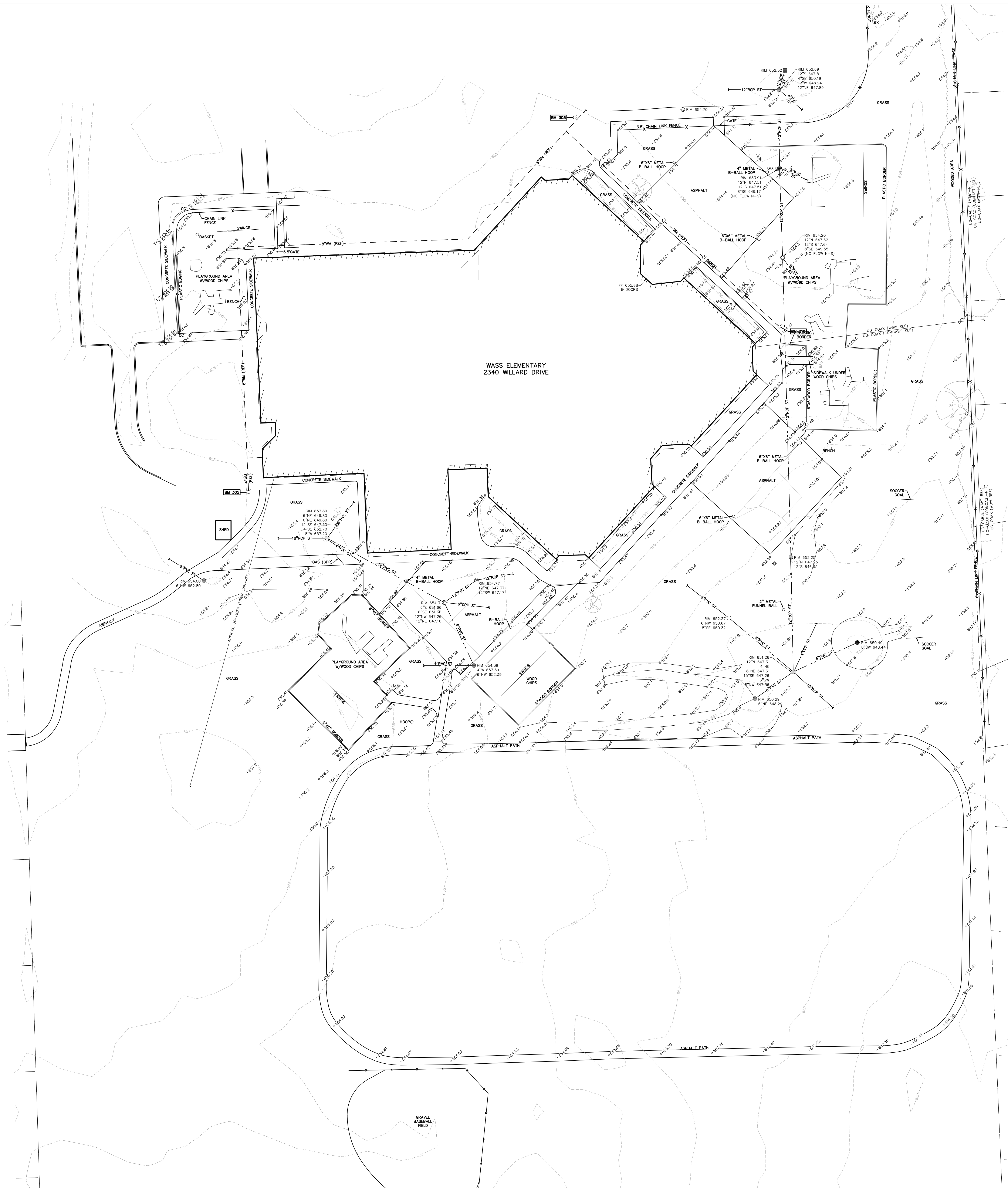
DRAWING TITLE  
**Details**

ISSUE DATES

DATE:	ISSUED FOR:
10-03-2024	CONSTRUCTION DOCUMENTS
DRAWN	DID
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PROJECT NO.  
**22096B**  
DRAWING NO.  
**C4.0**





- LEGEND:**
- OH-ELEC-W-O EX. OH. ELEC. POLE & GUY WIRE
  - UG-CATV EX. U.G. CABLE TV & PEDESTAL
  - UG-COMM EX. U.G. COMMUNICATION LINE, PEDESTAL & MANHOLE
  - UG-ELEC-EX EX. U.G. ELEC. MANHOLE, METER & HANDHOLE
  - EX. GAS LINE
  - EX. GAS VALVE & GAS LINE MARKER
  - EX. TRANSFORMER & IRRIGATION VALVE
  - EX. WATER MAIN
  - EX. HYDRANT, GATE VALVE & POST INDICATOR VALVE
  - EX. WATER VALVE BOX & SHUTOFF
  - EX. SANITARY SEWER
  - EX. SANITARY CLEANOUT & MANHOLE
  - EX. COMBINED SEWER MANHOLE
  - EX. STORM SEWER
  - EX. CLEANOUT & MANHOLE
  - EX. SQUARE, ROUND, & BEEHIVE CATCH BASIN
  - EX. YARD DRAIN & ROOF DRAIN
  - EX. UNIDENTIFIED STRUCTURE
  - EX. MAILBOX, SIGN & LIGHTPOLE
  - EX. FENCE
  - EX. GUARD RAIL
  - EX. SPOT ELEVATION
  - EX. CONTOUR
  - EX. WETLAND
  - IRON FOUND / SET
  - NAIL FOUND / NAIL & CAP SET
  - BRASS PLUG SET
  - MONUMENT FOUND / SET
  - SECTION CORNER FOUND
  - RECORDED / MEASURED / CALCULATED

**REFERENCE DRAWINGS:**

CABLE AT&T MAP A1, DATED 03/7/2023  
COMCAST CABLE MAP, EMAIL DATED 03/29/2023  
WOW CABLE MAP, EMAIL DATED 03/24/2023

FIBER OPTIC FIBER LINK MAP, EMAIL DATED 03/24/2023

WATER MAIN GIS MAP, CITY OF TROY EMAIL DATED 03/24/2023

**BENCHMARKS:**  
(GPS DERIVED - NAVD83)

BM #303  
DUMPLE ON A HYDRANT LOCATED APPROX. 43' NORTH OF THE SCHOOL BUILDING NEAR THE BUS DROP OFF.  
ELEV. - 657.36

BM #302  
DUMPLE ON A HYDRANT LOCATED APPROX. 15' SOUTHWEST FROM THE SOUTHWEST BUILDING CORNER OF THE SCHOOL.  
ELEV. - 657.48

BM #310  
ARROW ON A HYDRANT LOCATED ON THE EAST SIDE OF THE SCHOOL, APPROX. 21' NORTHEAST FROM THE NORTHEAST BUILDING CORNER.  
ELEV. - 657.81

**LEGAL DESCRIPTION:**

PARCEL ID 20-12-401-002

T2N, R11E, SEC 12 PART OF S 1/2 OF SEC BEG AT PT DIST E 2521.75 FT & N 00-07-48 E 1226.47 FT FROM SW SEC COR, TH N 00-07-48 E 1305.79 FT, TH N 87-40-29 E 705.16 FT, TH S 00-07-43 E 1332.85 FT, TH W 71-0-02 FT TO BEG EXC THAT PART PLATTED INTO "HIGHBURY WOODS" 20.14 A

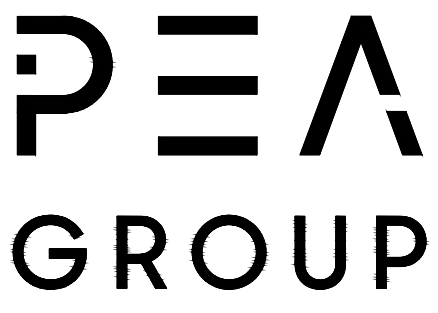
**FLOODPLAIN NOTE:**  
BY GRAPHICAL PLOTTING, SITE IS WITHIN ZONE "X", AN AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN, PER FLOOD INSURANCE RATE MAP NUMBER 26125C0534F, DATED SEPTEMBER 29, 2006.



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REGISTRATION SEAL

CONSULTANT



t: 844.813.2949  
www.peagroup.com

PROJECT TITLE

**Wass  
Elementary School**  
2340 WILLARD DRIVE

**Playground Remodel  
Bid Package No.01B**

**Troy School District  
Troy, Michigan**

DRAWING TITLE

**Topographic Survey**

ISSUE DATES

10-03-2024	CONSTRUCTION DOCUMENTS
09-10-2024	OWNER REVIEW
08-21-2024	INTERNAL COORDINATION
07-24-2024	DESIGN DEVELOPMENT

DATE ISSUED FOR:

DRAWN JG

CHECKED JW

APPROVED TD

PROJECT NO.

**22096B**

DRAWING NO.

**CE-5.1.0**





REGISTRATION SEAL

CONSULTANT

PEA  
GROUP

t: 844.813.2949  
www.peagroup.com

PROJECT TITLE

**Wass  
Elementary School**  
2340 WILLARD DRIVE

## Playground Remodel Bid Package No.01B

**Troy School District**  
**Troy, Michigan**

DRAWING TITLE  
**Dimension & Paving Plan**

## ISSUE DATES

10-03-2024	CONSTRUCTION DOCUMENTS
09-10-2024	OWNER REVIEW
08-21-2024	INTERNAL COORDINATION
07-24-2024	DESIGN DEVELOPMENT

DATE: ISSUED FOR:

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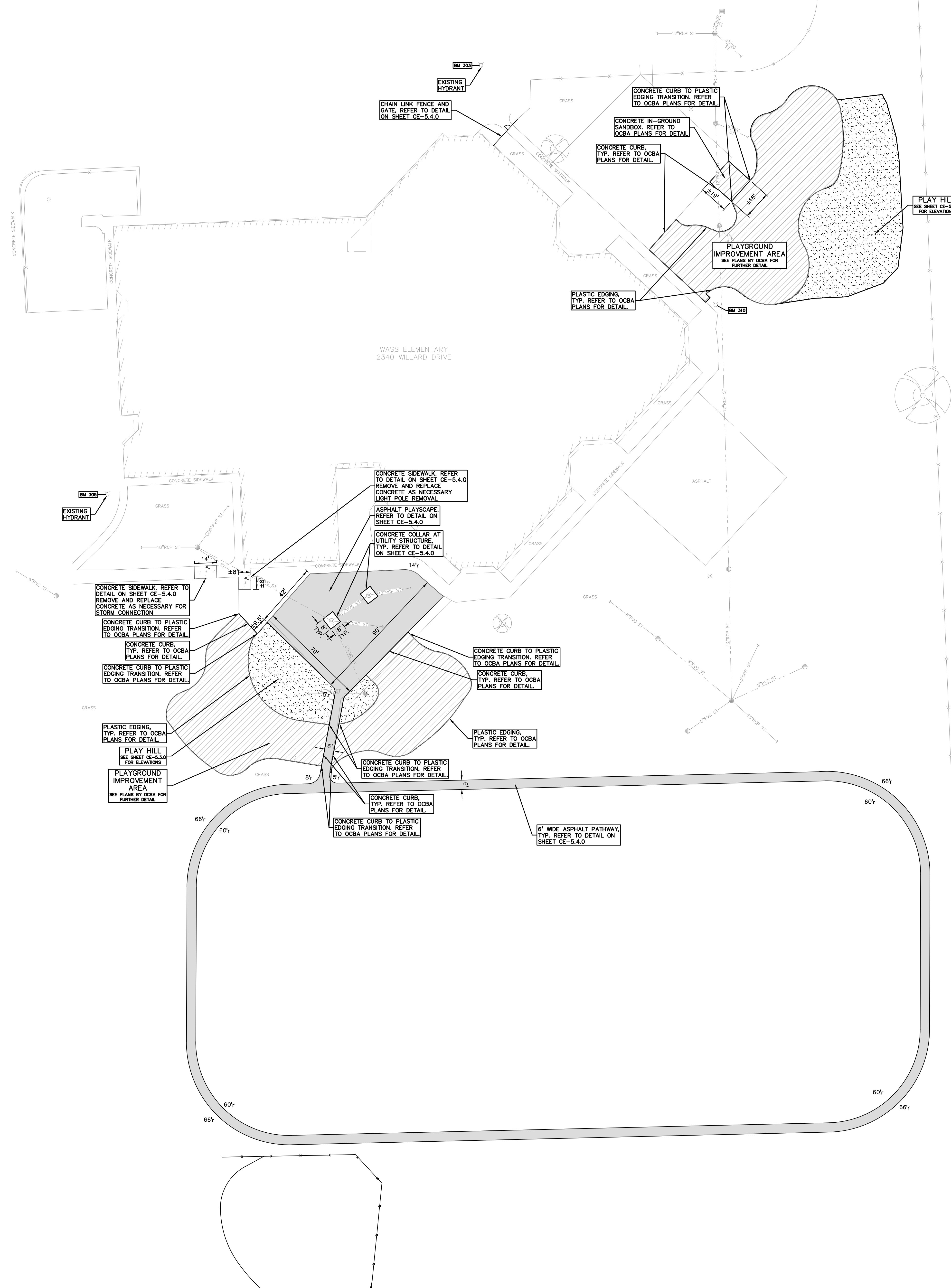
**APPROVED**

PROJECT NO.

**22096B**

DRAWING NO.

**CE-5.2.0**



**LEGEND:**

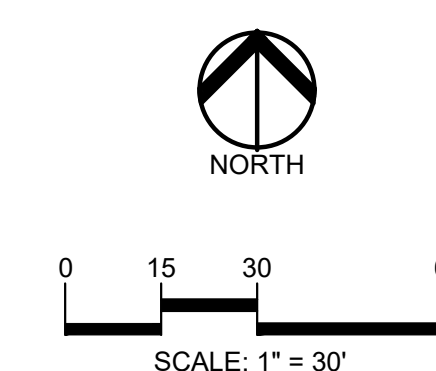
	CONCRETE PAVEMENT
	HEAVY DUTY
	LIGHT DUTY
	1ST DUTY
	2ND COAT
	PLAYGROUND
	WETLAND
	CONCRETE CURB AND GUTTER
	REVERSE GUTTER PAVEMENT
	SETBACK LINE
	SIGN
	LIGHT POLE
	FENCE
	GUARD RAIL

NOTES:

1. CONTRACTOR TO VERIFY ALL QUANTITIES SHOWN ON THE PLANS, ANY DEVIATIONS TO THE PLAN QUANTITIES SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY BY E-MAIL, FAX AND PEA GROUP, IN WRITING PER THE BID PACKAGE, FOR VERIFICATION PRIOR TO BIDDING.
2. ALL DIMENSIONS SHOWN ARE TO/BACK OF CURB, FACE OF SIDEWALK, CENTERLINE OF MANHOLE/CATCH BASIN UNLESS OTHERWISE NOTED.
3. DOWEL INTO EXISTING CURB AND GUTTER #4 WITH EPOXY COATED #4 BAR CONTINUOUS BETWEEN EXISTING AND PROPOSED CURBING.
4. REFER TO NOTES AND DETAILS SHEET FOR PAVING DETAILS.
5. CONTRACTOR TO FIELD VERIFY ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION INCLUDING BUT NOT LIMITED TO: WATER, SEWING, FIBER OPTIC, ETC.
6. CONTRACTOR TO REMOVE AND REPLACE SIGNS AND POSTS PER DETAILS ON SHEET C-4.0. ALL SIGNS AND ANY POSTS IN POOR CONDITION SHALL BE REPLACED WITH NEW SIGNS. ALL POSTS DAMAGED OR OTHERWISE NOT IN USABLE CONDITION, SHALL BE DISPOSED OF AT NO ADDITIONAL COST TO THE OWNER.
7. FOR THE TWO (2) CATCH BASINS, LOCATED IN THE WORK AREA, BIDDERS ARE TO INCLUDE RECONSTRUCTION OF THESE STRUCTURES (GREATER THAN 12-INCHES IN DEPTH WITH 12-INCH ELEVATION) AND THE BID PACKAGE AND THE BID. THE SUCCESSFUL BIDDER WILL BE PAID FOR REPAIRING EACH STRUCTURE BASED ON THE ACTUAL DEPTH OF REPAIR WITH STRUCTURAL ADJUSTMENT (WITHIN TOP 12-INCHES OF RIM ELEVATION) OR STRUCTURAL RECONSTRUCTION (GREATER THAN 12-INCHES IN DEPTH) TO MEET THE MINIMUM REQUIREMENTS IN THE BID PACKAGE AND THE SCOPE OF WORK DETERMINED AND APPROVED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE REPAIR OR RECONSTRUCTION SHALL BE INCLUDED IN THE UNIT PRICE FOR BOTH STRUCTURAL ADJUSTMENT AND STRUCTURAL RECONSTRUCTION.

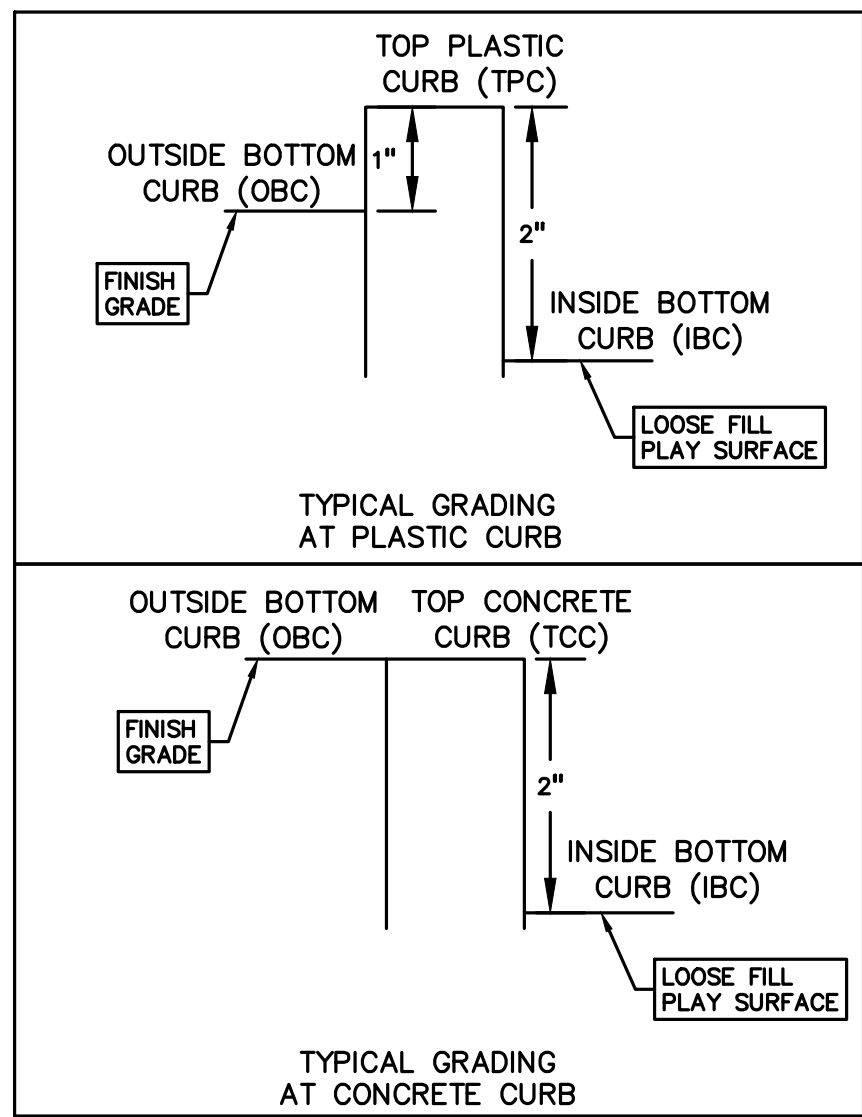
## SUBGRADE UNDERCUTTING NOTES:

1. TO MINIMIZE SURGE INSTABILITY AND UNDERCUTS, THE SURGEBANK SHALL NOT BE LEFT EXPOSED TO PRECIPITATION AND WIND EROSION. THEREFORE, THE SURGEBANK SHALL BE PROTECTED DURING THE SUMMER MONTHS TO ENSURE DRY, WARM, WATER. ADDITIONALLY, THE SURGEBANK MAY BECOME UNSTABLE UNDER REPEATED FLOODING OF THE SURGEBANK. THEREFORE, CONSTRUCTION EQUIPMENT SHOULD BE LIMITED ON THE EXPOSED SURGEBANK.
2. SURGEBANK UNDERCUT SHALL BE EVALUATED BY A QUALIFIED GEOTECHNICAL ENGINEER TO DETERMINE IF SURGEBANK STABILIZATION IS NECESSARY. UNDERCUT EXCAVATIONS SHALL BE COMPLETED WITHIN 14 DAYS OF THE DATE OF IDENTIFICATION IN AN ENGINEERED MANNER. LIFT THICKNESS SHALL NOT EXCEED 9 INCHES. THE USE OF TRI-AXIAL GEOTEXTILE MAY BE USED TO STABILIZE UNDERCUTS. THE CONTRACTOR SHALL NOTIFY THE DISTRICT AND PER THE UNIT PRICE PROVIDED WITH THE DISTRICT'S BID.
3. THE QUANTITY FOR SURGEBANK UNDERCUT FOR EACH SITE SHALL BE INCLUDED IN THE BASE BID. THIS ITEM IS CONSIDERED AN ALLOWANCE AND FINAL PAYMENT WILL BE BASED ON THE ACTUAL FOOTAGE OF UNDERCUTS. THE UNIT PRICE STONE PER THE UNIT PRICE PROVIDED IN THE BID PACKAGE.
4. ALL ENGINEERED FILL SHALL BE COMPACTED TO A DENSITY OF AT LEAST 95 PERCENT OF THE MAXIMUM DENSITY DETERMINED BY STANDARD PROCEEDURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ENGINEERED FILL MATERIAL SHALL BE PLACED AND COMPACTED AT APPROXIMATELY THE OPTIMUM MOISTURE. CONTRACTOR SHALL PROTECT FROZEN MATERIAL WITH AN ICE FILL, NOR SHOULD FILL BE PLACED ON A FROZEN SURGEBANK.
5. SURGEBANK UNDERCUT DRAIN TILE SHALL BE EVALUATED BY A QUALIFIED ENGINEERING TECHNICIAN TO DETERMINE IF SURGEBANK STABILIZATION IS NECESSARY. DRAIN TILE SHALL BE PLACED WITHIN ANY UNDERCUT AREA AND CONNECTED TO THE CLOSEST COLLECTION TO PREVENT FLOODING. THE CONTRACTOR SHALL MAINTAIN THE GRANULAR SOLIDS IN UNDERCUTS AND CREATING "BATHTUBS" IN THE COHESIVE SOILS.
6. THE QUANTITY FOR SURGEBANK UNDERCUT DRAIN TILE (4") FOR EACH SITE SHALL BE INCLUDED IN THE BASE BID. THIS ITEM IS CONSIDERED AN ALLOWANCE AND FINAL PAYMENT WILL BE BASED ON THE ACTUAL FOOTAGE OF COMPACTED IN PLACE. THE UNIT PRICE PER THE BID PACKAGE SHALL BE USED.



Working File: S:\PROJECTS\2023\23-0301 TROY SCHOOLS 2022 BOND\DMC\3\_CONSTRUCTION\PLAYGROUNDS PH 2\WASS\((C-5.2) LAYOUT WASS 23-0301.dwg





REFER TO OCBA SHEET C4.0 FOR DETAILS OF CURB SECTIONS

**NOTE:**  
CONTRACTOR TO VERIFY ALL QUANTITIES. ANY DEVIATIONS OF THE PLAN QUANTITIES SHALL BE BROUGHT TO THE ATTENTION OF PE A GROUP FOR VERIFICATION PRIOR TO BIDDING.

**STORM SEWER QUANTITIES:**

6" PVC CONNECT TO EXISTING MANHOLE 64 LF  
2 EA.

**EROSION CONTROL QUANTITIES:**

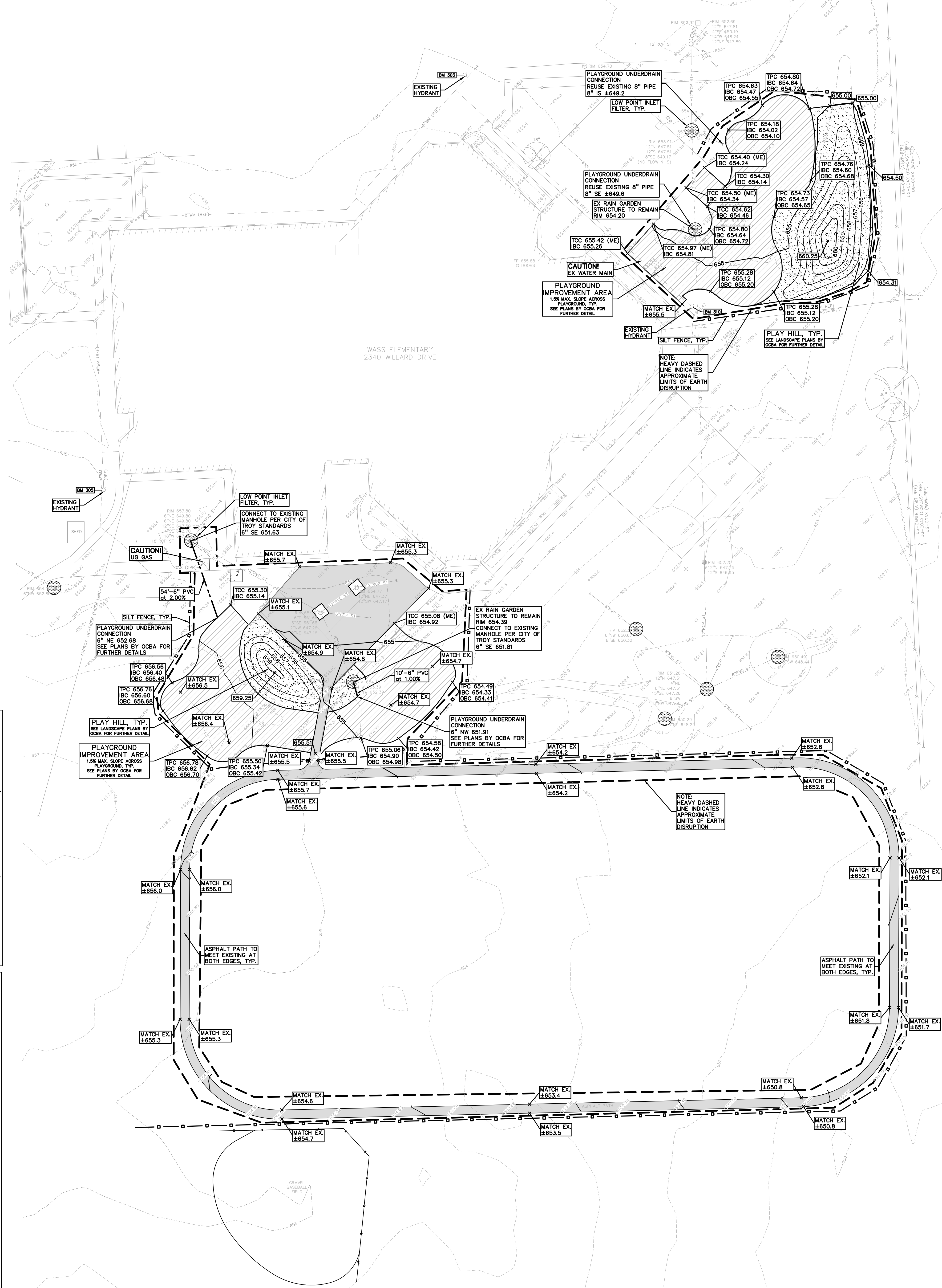
SILT FENCE 1,798 LF  
INLET FILTERS 9 EA.

**SOIL EROSION MAINTENANCE SCHEDULE AND NOTES:**

1. THE SOIL EROSION CONTROLS WILL BE MAINTAINED WEEKLY AND AFTER EVERY STORM EVENT BY:  
ROB CARSON  
TROY SCHOOL DISTRICT  
1140 RANKIN  
TROY, OAKLAND COUNTY, MICHIGAN  
248-823-4067
2. IF ANY DAMAGE HAS OCCURRED AS A RESULT OF STORM WATER DISCHARGE FROM THE SITE, THE FOLLOWING STEPS SHALL BE IMPLEMENTED.
3. ANY DEBRIS OR DIRT ON ANY PAVED AREA RESULTING FROM CONSTRUCTION TRAFFIC SHALL BE CLEANED IN A PROMPT MANNER BY THE CONTRACTOR. THE CONSTRUCTION DRIVE SHALL BE CLEANED AT THE END OF EACH DAY.
4. ALL DIRT AND MUD TRACKED ONTO PAVED AREAS SHALL BE REMOVED BY THE CONTRACTOR DAILY BY SCRAPING. STREET SWEEPING IS REQUIRED WEEKLY.
5. SILT FENCE MAINTENANCE SHALL INCLUDE THE REMOVAL OF ANY BUILT UP SEDIMENT WHEN THE SEDIMENT HEIGHT ACCUMULATES TO 1/3 TO 1/2 OF THE HEIGHT OF THE FENCE. THE CONTRACTOR IS RESPONSIBLE TO REMOVE, REPLACE, RETRENCH OR REGRADUATE. THE SILTATION FENCE SHOULD IT FALL OR BE DAMAGED DURING CONSTRUCTION.
6. INLET FILTER MAINTENANCE SHALL INCLUDE THE REMOVAL OF ANY ACCUMULATED SILT OR OTHER DEBRIS. THE REMOVAL OF SILT SHOULD BE WITH THE USE OF A STIFF BRISTLE BROOM OR SQUARE POINT SHOVEL. IF INLET FILTERS CAN NOT BE CLEANED OR ARE DAMAGED, THEN THE FABRIC MUST BE REPLACED.
7. CONTRACTOR TO PROVIDE WATER TRUCK TO WATER DOWN THE SITE ON A DAILY BASIS AS REQUIRED TO MAINTAIN DUST CONTROL.
8. IF HIGH GROUNDWATER IS ANTICIPATED OR ENCOUNTERED DURING CONSTRUCTION A DEWATERING PLAN MUST BE SUBMITTED TO THE CITY ENGINEERING DIVISION FOR REVIEW.

**SOIL EROSION AND SEDIMENTATION CONTROL SEQUENCE OF CONSTRUCTION**

1. SEE OAKLAND COUNTY W.R.C. SOIL EROSION AND SEDIMENTATION CONTROL DETAILS SHEET FOR ALL SOIL EROSION CONTROL RELATED DETAILS.
2. PLACE SILT FENCE & INSTALL INLET FILTERS ON EXISTING STORM SEWER STRUCTURES, ACCORDING TO PLANS.
3. INSTALL TEMPORARY CRUSHED CONCRETE ACCESS DRIVE AT ALL CONSTRUCTION ENTRANCES. (80"x24"x8" W/MINIMUM OF 1"-3" CRUSHED CONCRETE - NO FINES).
4. REMOVE CURB, PAVEMENT, TREES, ETC. AS DIRECTED ON THE DEMOLITION PLAN.
5. STRIP AND STOCKPILE TOPSOIL FOR RESTORATION REQUIREMENTS.
6. DISPOSE OF ALL EXCESS UNSUITABLE MATERIALS OFF SITE IN A LEGAL MANNER. NO BURN OR BURY PITS ALLOWED.
7. UNSUITABLE MATERIALS CONSIST OF, BUT ARE NOT NECESSARILY LIMITED TO THE FOLLOWING: CONCRETE, ASPHALT, TREES, BRUSH, STUMPS, ROOTS, OR OTHER MISCELLANEOUS DEBRIS OR TRASH.
8. MASS GRADE THE SITE IN ACCORDANCE WITH THE PLANS.
9. INSTALL HYDROSEED AS SHOWN ON THE PLAN WITHIN 5 DAYS OF COMPLETION OF MASS GRADING OR WHENEVER DISTURBED AREAS WILL REMAIN UNCHANGED FOR 30 DAYS OR GREATER. MINIMUM 3"-4" TOPSOIL WILL BE USED WHERE VEGETATION IS REQUIRED.
10. COMPLETE ROUGH GRADING OF SITE. PLACE INLET FILTERS AT ALL INLETS AND CATCH BASINS, AS SHOWN.
11. FINISH GRADE AND PAVE SITE AS PROPOSED TO DRAIN TO STORM SEWER SYSTEM. REPAIR INLET FILTERS AS REQUIRED.
12. APPLY TOPSOIL, HYDROSEED TO ALL DISTURBED AREAS UPON COMPLETION OF GRADING. THE CONTRACTOR SHALL STAGE CONSTRUCTION ACTIVITIES IN ORDER TO MINIMIZE THE EXPOSURE OF UNSTABILIZED AREAS.
13. CLEAN PAVEMENT AND STORM SEWERS. REMOVE SILT FENCE AND TREE PROTECTION FENCE, AND INLET FILTERS ONCE VEGETATION HAS BEEN ESTABLISHED.
14. ALL DIRT AND MUD TRACKED ONTO PUBLIC ROADS SHALL BE REMOVED DAILY.
15. STREET CATCH BASINS TO BE PERIODICALLY CLEANED AND FILTER CLOTH CHANGED AND MAINTAINED.



**SYMBOLS: EROSION CONTROL:**

- (SP-2) SILT FENCE
- (SI-2A) LOW POINT INLET FILTER
- (SI-3) RYOB INLET FILTER
- (E-8) EROSION CONTROL BLANKET
- LAWN RESTORATION
- LIMITS OF DISRUPTION

REFER TO CITY OF TROY SOIL EROSION AND SEDIMENTATION CONTROL DETAILS SHEET FOR ALL DEVICE DETAILS.



SCALE: 1" = 30'

**UTILITY LEGEND:**

- EX. OH. ELEC. POLE & GUY WIRE
- EX. U.G. CABLE TV & PEDESTAL
- EX. U.G. COMMUNICATION LINE, PEDESTAL & MANHOLE
- EX. U.G. ELEC. MANHOLE, METER & HANDHOLE
- EX. GAS VALVE & GAS LINE MARKER
- EX. TRANSFORMER & IRRIGATION VALVE
- EX. WATER MAIN
- EX. HYDRANT, GATE VALVE & POST INDICATOR VALVE
- EX. WATER VALVE BOX & SHUTOFF
- EX. SANITARY SEWER
- EX. SANITARY CLEANOUT & MANHOLE
- EX. COMBINED SEWER MANHOLE
- EX. STORM SEWER
- EX. CLEANOUT & MANHOLE
- EX. SQUARE, ROUND, A BEEHIVE CATCH BASIN
- EX. YARD DRAIN & ROOF DRAIN
- EX. UNIDENTIFIED STRUCTURE
- PROPOSED WATER MAIN
- PROPOSED HYDRANT AND GATE VALVE
- PROPOSED TAPPING SLEEVE, VALVE & WELL
- PROPOSED POST INDICATOR VALVE
- PROPOSED SANITARY SEWER
- PROPOSED SANITARY CLEANOUT & MANHOLE
- PROPOSED STORM SEWER
- PROPOSED STORM SEWER CLEANOUT & MANHOLE
- PROPOSED CATCH BASIN, INLET & YARD DRAIN

**EARTHWORK BALANCING NOTE:**

THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPORTING OR EXPORTING ALL MATERIALS AS REQUIRED TO PROPERLY GRADE THIS PROJECT TO THE FINISHED ELEVATIONS SHOWN ON THE APPROVED PLANS. THE CONTRACTOR SHALL MAKE THEIR OWN DETERMINATION OF CUT AND FILL QUANTITIES AND ALLOW FOR REMOVAL OF EXCESS OR IMPORTATION OF ADDITIONAL MATERIAL AT NO ADDITIONAL COST TO THE OWNER.

**GRADING LEGEND:**

- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED REVERSE GUTTER PAN
- PROPOSED RIDGE LINE
- PROPOSED SWALE/DITCH

**ABBREVIATIONS**

- TIC = TOP OF CURB
- TOP = TOP OF PAVEMENT
- T/S = TOP OF SIDEWALK
- TWC = TOP OF CONCRETE CURB
- IBC = INSIDE OF BOTTOM OF CURB
- OBC = OUTSIDE BOTTOM OF CURB
- G = GUTTER GRADE
- F.G. = FINISH GRADE
- RM = RIM ELEVATION
- B.W. = BOTTOM OF WALL

REFER TO GRADING NOTES ON SHEET CE-5.4.0

**BENCHMARKS:**

- (GPS DERIVED - NAVD83)
- BM #303  
DIMPLE ON A HYDRANT LOCATED APPROX. 43' NORTH OF THE SCHOOL BUILDING NEAR THE BUS DROP OFF.  
ELEV. - 657.36
- BM #305  
DIMPLE ON A HYDRANT LOCATED APPROX. 15' SOUTHWEST FROM THE SOUTHWEST BUILDING CORNER OF THE SCHOOL.  
ELEV. - 657.48
- BM #310  
ARROW ON A HYDRANT LOCATED ON THE EAST SIDE OF THE SCHOOL, APPROX. 21' NORTHEAST FROM THE NORTHEAST BUILDING CORNER.  
ELEV. - 657.81

**NOTE:**

1. PER THE 'SOIL EROSION AND SEDIMENTATION CONTROL SEQUENCE OF CONSTRUCTION' NOTES THE SUCCESSFUL BIDDER TO THE CLEAN THE STORM SEWER. THIS CLEANING SHALL INCLUDE CLEANING OUT THE STRUCTURES AND ENTIRE SEWER RUNS BETWEEN STRUCTURES USING HYDRAULICALLY PROPELLED, HIGH-VELOCITY JET, OR MECHANICALLY POWERED EQUIPMENT. SELECTION OF THE EQUIPMENT USED SHALL BE BASED ON THE CONDITIONS OF LINES AT THE TIME THE WORK COMMENCES. THE EQUIPMENT AND METHODS SELECTED SHALL BE SATISFACTORY TO THE SCHOOL DISTRICT'S REPRESENTATIVE. THE EQUIPMENT SHALL BE CAPABLE OF REMOVING DIRT, GREASE, ROCKS, SAND, AND OTHER MATERIALS AND OBSTRUCTIONS FROM THE SEWER LINES AND MANHOLES. IF CLEANING OF AN ENTIRE SECTION CANNOT BE SUCCESSFULLY PERFORMED FROM ONE MANHOLE, THE EQUIPMENT SHALL BE SET UP ON THE OTHER MANHOLE AND CLEANING AGAIN ATTEMPTED. IF, AGAIN, SUCCESSFUL CLEANING CANNOT BE PERFORMED OR THE EQUIPMENT FAILS TO TRAVERSE THE ENTIRE MANHOLE SECTION, IT WILL BE ASSUMED THAT A MAJOR BLOCKAGE EXISTS AND THE CLEANING EFFORT SHALL BE ABANDONED.
2. PER THE PROJECT SPECIFICATIONS, PRIOR TO THE PLACEMENT OF TOPSOIL THE SUCCESSFUL BIDDER TO SCHEDULE AN INSPECTION BY THE SCHOOL DISTRICT OR PE A GROUP TO CONFIRM THAT THE GRADE IS AT THE PROPER ELEVATION WHERE THE MINIMUM DEPTH OF TOPSOIL CAN BE PLACED THROUGHOUT THE AREA.
3. CONTRACTOR TO FIELD VERIFY ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION INCLUDING BUT NOT LIMITED TO: SITE LIGHTING, FIBER LINES, ETC.

**GENERAL SITE CONDITIONS:**

1. ACCORDING TO THE USDA NRCS WEB SOIL SURVEY, THE SITE CONSISTS OF THE FOLLOWING SOIL TYPES:  
12 BROOKSTON AND COLWOOD LOAMS  
52A SELFRED LOAMY SAND, 0 TO 3 PERCENT SLOPES  
53A TEDROW LOAMY SAND, 0 TO 3 PERCENT SLOPES  
63A URBAN LAND-THEYFORD COMPLEX, 0 TO 3 PERCENT SLOPES  
145A BLOUNT LOAM, ERIE-HURON LAKE PLAIN, 0-2 PERCENT SLOPES
2. TOTAL DISTURBED AREA = ±1.41 ACRES

**SEQUENCE OF CONSTRUCTION:**

START DAY	END DAY	DESCRIPTION
1	2	INSTALL TEMPORARY SOIL EROSION CONTROL MEASURES, SILT FENCES, INLET PROTECTION, ETC. AS NECESSARY.
1	90	MAINTAIN A 25' BUFFER OF VEGETATION AROUND PERIMETER OF SITE WHERE POSSIBLE.
1	5	STRIP AND STOCKPILE TOPSOIL AS REQUIRED RESTORATION. ALL STOCKPILES MUST BE GRADED AND SEED.
5	15	REMOVE ALL PAVEMENT, CURB, UTILITIES, ETC. AS REQUIRED TO INSTALL THE PROPOSED WORK AS SHOWN ON THE TOPOGRAPHIC SURVEY AND DEMOLITION PLAN.
10	15	DISPOSE OF ALL EXCESS/UNSUITABLE MATERIALS OFF SITE IN A LEGAL MANNER. NO ON-SITE BURN OR BURY PITS ALLOWED.
30	40	ROUGH GRADE SITE. SEED AND MULCH BLANKETS MUST BE INSTALLED AS SHOWN WITHIN 5 DAYS OF FINAL GRADE. REPAIR AND/OR RE-INSTALL ANY TEMPORARY SOIL EROSION CONTROL MEASURES THAT WERE DAMAGED DURING GRADING OPERATIONS.
15	90	TEMPORARY SEEDING MUST BE PROVIDED IN AREAS NOT TO BE WORKED ON FOR 15 DAYS OR LONGER.
40	50	FINE GRADE SITE AND PREPARE FOR SITE PAVING OPERATIONS.
50	80	INSTALL ALL PAVEMENT, SIDEWALKS, CURBING AS PROPOSED. IF PERMANENT LANDSCAPING IS NOT TO BE INSTALLED SOON AFTER PAVING IS COMPLETE, ALL AREAS WITHIN 20 FEET OF BACK OF CURB MUST BE TEMPORARILY SEED. REPAIR INLET PROTECTION, SILT FENCE AND ANY OTHER DAMAGED SOIL EROSION CONTROL MEASURES AS NECESSARY.
80	89	FINAL GRADE, REDISTRIBUTE STOCKPILED TOPSOIL, ESTABLISH VEGETATION AND INSTALL ALL PERMANENT LANDSCAPING IN ALL DISTURBED AREAS NOT BUILT.
88	90	CLEAN PAVEMENT AND REMOVE ALL TEMPORARY SOIL EROSION CONTROL MEASURES. RE-ESTABLISH VEGETATION AS REQUIRED.
90	90	REMOVE SEDIMENTATION CONTROLS ONCE ENTIRE SITE HAS BEEN PERMANENTLY STABILIZED.

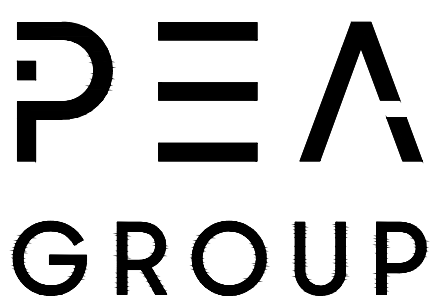


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REGISTRATION SEAL

CONSULTANT



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PROJECT TITLE

**Wass  
Elementary School**  
2340 WILLARD DRIVE

**Playground Remodel  
Bid Package No.01B**

**Troy School District  
Troy, Michigan**

DRAWING TITLE

**Grading, Utility & Soil  
Erosion Control Plan**

ISSUE DATAS

10-03-2024	CONSTRUCTION DOCUMENTS
09-10-2024	OWNER REVIEW
08-21-2024	INTERNAL COORDINATION
07-24-2024	DESIGN DEVELOPMENT

DATE ISSUED FOR:

DRAWN JG

CHECKED JW

APPROVED TD

PROJECT NO.

**22096B**

DRAWING NO.

**CE-5.3.0**



GENERAL NOTES:

THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT.

1. ALL CONSTRUCTION, WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT OSHA, MDOT AND MUNICIPALITY STANDARDS AND REGULATIONS.
2. THE CONTRACTOR SHALL NOTIFY THE CITY OF TROY ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
3. THE CONTRACTOR MUST CONTACT THE ENGINEER SHOULD THEY ENCOUNTER ANY DESIGN ISSUES DURING CONSTRUCTION. IF THE CONTRACTOR MAKES DESIGN MODIFICATIONS WITHOUT THE WRITTEN DIRECTION OF THE DESIGN ENGINEER, THE CONTRACTOR DOES SO AT HIS OWN RISK.
4. ALL NECESSARY PERMITS, TESTING, BONDS AND INSURANCES ETC., SHALL BE PAID FOR BY THE CONTRACTOR. THE OWNER SHALL PAY FOR ALL CITY INSPECTION FEES.
5. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE 811/ONE CALL UTILITY LOCATING CENTER, THE CITY ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION. IF NO NOTIFICATION IS GIVEN AND DAMAGE RESULTS, SAID DAMAGE WILL BE REPAIRED AT SOLE EXPENSE OF THE CONTRACTOR. IF EXISTING UTILITY LINES ARE ENCOUNTERED THAT CONFLICT IN LOCATION WITH NEW CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER SO THAT THE CONFLICT MAY BE RESOLVED.
6. CONTRACTOR TO VERIFY THAT THE PLANS AND SPECIFICATIONS ARE THE VERY LATEST PLANS AND SPECIFICATIONS AND FURTHERMORE, VERIFY THAT THESE PLANS AND SPECIFICATIONS HAVE BEEN APPROVED. ALL ITEMS CONSTRUCTED BY THE CONTRACTOR PRIOR TO RECEIVING FINAL APPROVAL, HAVING TO BE UPDATED OR RE-DONE, SHALL BE AT THE CONTRACTORS EXPENSE. SHOULD THE CONTRACTOR ENCOUNTER A CONFLICT BETWEEN THESE PLANS AND SPECIFICATIONS, THEY SHALL SEEK CLARIFICATION IN WRITING FROM THE ENGINEER BEFORE COMMENCEMENT OF CONSTRUCTION. FAILURE TO DO SO SHALL BE AT SOLE EXPENSE TO THE CONTRACTOR.
7. ANY WORK WITHIN THE STREET OR HIGHWAY RIGHTS-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AGENCIES HAVING JURISDICTION AND SHALL NOT BEGIN UNTIL ALL NECESSARY PERMITS HAVE BEEN ISSUED FOR THE WORK.
8. ALL PROPERTIES OR FACILITIES IN THE SURROUNDING AREAS, PUBLIC OR PRIVATE, DESTROYED OR OTHERWISE DISTURBED DUE TO CONSTRUCTION, SHALL BE REPLACED AND/OR RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR.
9. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BARRICADE, SIGNAGE, LIGHTS AND TRAFFIC CONTROL DEVICES TO PROTECT THE WORK AND SAFELY MAINTAIN TRAFFIC IN ACCORDANCE WITH LOCAL REQUIREMENTS AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION) AS THE DESIGN ENGINEER, OWNER, CITY OF TROY AND STATE SHALL NOT BE HELD LIABLE FOR ANY CLAIMS RESULTING FROM ACCIDENTS OR DAMAGES CAUSED BY THE CONTRACTORS FAILURE TO COMPLY WITH TRAFFIC AND PUBLIC SAFETY REGULATIONS DURING THE CONSTRUCTION PERIOD.
10. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ADJUST THE TOP OF ALL EXISTING AND PROPOSED STRUCTURES (MANHOLES, CATCH BASINS, INLETS, GUTTERS, ETC.) WITHIN GRADED AND/OR PAVED AREAS TO THE FINAL GRADE SHOWN ON THE PLANS. ALL SUCH ADJUSTMENTS SHALL BE INCIDENTAL TO THE JOB AND WILL NOT BE PAID FOR SEPARATELY.

PAVING NOTES:

1. IN AREAS WHERE NEW PAVEMENTS ARE BEING CONSTRUCTED, THE TOPSOIL AND SOIL CONTAINING ORGANIC MATTER SHALL BE REMOVED PRIOR TO PAVEMENT CONSTRUCTION.
2. REFER TO ARCHITECTURAL PLANS FOR DETAILS OF FROST SLAB AT EXTERIOR BUILDING DOORS.
3. CONSTRUCTION TRAFFIC SHOULD BE MINIMIZED ON THE PAVEMENT STRUCTURE. THE INITIAL LIFT SHOULD NOT BE INCREASED AND PLACEMENT OF THE FINAL LIFT COULD BE DELAYED UNTIL THE MAJORITY OF THE CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED. THIS ACTION WILL ALLOW REPAIR OF LOCALIZED FAILURE, IF ANY DOES OCCUR, AS WELL AS REDUCE LOAD DAMAGE ON THE PAVEMENT SYSTEM.
4. ALL EXPANSION JOINTS AND CONCRETE PAVEMENT JOINTS TO BE SEALED.
5. CONCRETE PAVEMENT JOINTING - UNLESS SHOWN OTHERWISE IN THE PLANS OR REQUIRED BY THE AUTHORITY HAVING JURISDICTION:
  - 5.1. WHERE PROPOSED CONCRETE ABUTS TO STRUCTURE, PROVIDE A MINIMUM 1/2" EXPANSION JOINT. THE JOINT FILLER BOARD MUST BE AT LEAST THE FULL DEPTH OF THE CONCRETE AND HOLD DOWN A 1/2" TO ALLOW FOR SEALING.
  - 5.2. WHERE PROPOSED CONCRETE ABUTS EXISTING CONCRETE OR IN BETWEEN POURS OF PROPOSED CONCRETE (CONSTRUCTION JOINT), PROVIDE 5/8" DOWELS EVERY 12" CENTER TO AND 1/2" HALF WAY ALONG THE THICKNESS OF THE PROPOSED PAVEMENT. ALTERNATE DOWELS SIZES AND SPACING MUST BE APPROVED BY THE ENGINEER PRIOR TO COMMENCING WORK AND VIA THE SUBMITTAL PROCESS.
  - 5.3. WHERE PROPOSED CONCRETE ABUTS EXISTING OR PROPOSED SIDEWALK OR CURBING, PROVIDE A MINIMUM 1/2" EXPANSION JOINT.
  - 5.4. CONTROL, LONGITUDINAL AND/OR TRANSVERSE JOINTS SHALL BE PLACED TO PROVIDE PANELS WITHIN THE PAVEMENT AS SQUARE AS POSSIBLE WITH THE FOLLOWING MAXIMUM SPACING PARAMETERS:
    - 5.4.1. 6-INCH THICK CONCRETE PAVEMENT: 12' X 12'
    - 5.4.2. 6-INCH THICK CONCRETE PAVEMENT: 15' X 15'
  - 5.5. IRREGULAR-SHAPED PANELS MAY REQUIRE THE USE OF REINFORCING MESH OR FIBER MESH AS DETERMINED BY THE ENGINEER. THE USE OF MESH MUST BE APPROVED BY THE ENGINEER PRIOR TO COMMENCING WORK AND VIA THE SUBMITTAL PROCESS.
  - 5.6. IF A JOINT PLANE IS NOT PROVIDED IN THE PLANS, THE CONTRACTOR SHALL SUBMIT ONE TO THE ENGINEER FOR REVIEW PRIOR TO COMMENCING WORK AND VIA THE SUBMITTAL PROCESS.
6. CONCRETE CURBING JOINTING - UNLESS SHOWN OTHERWISE IN THE PLANS OR REQUIRED BY THE AUTHORITY HAVING JURISDICTION:
  - 6.1. JOINTS WHEN ADJACENT TO ASPHALT PAVEMENT
    - 6.1.1. PLACE CONTRACTION JOINTS AT 10' INTERVALS
    - 6.1.2. PLACE 1/2" EXPANSION JOINT AT CATCH BASINS, EXISTING AND PROPOSED SIDEWALK OR EXISTING CURBING.
  - 6.1.3. PLACE 1" EXPANSION JOINT:
    - 6.1.3.1. AT SPRING POINTS OF INTERSECTIONS OR ONE OF THE END OF RADIUS LOCATIONS IN A CURVE.
    - 6.1.3.2. AT 400' MAXIMUM INTERVALS ON STRAIGHT RUNS
    - 6.1.3.3. AT THE END OF RADIUS AT OPPOSITE ENDS IN A CURBED LANDSCAPE ISLAND
  - 6.2. JOINTS WHEN TIED TO CONCRETE PAVEMENT
    - 6.2.1. PLACE CONTRACTION JOINTS OPPOSITE ALL TRANSVERSE CONTRACTION JOINTS IN PAVEMENT
    - 6.2.2. PLACE 1/2" EXPANSION JOINT AT CATCH BASINS, EXISTING AND PROPOSED SIDEWALK OR EXISTING CURBING.
    - 6.2.3. PLACE 1" EXPANSION JOINT OPPOSITE ALL TRANSVERSE EXPANSION JOINTS IN PAVEMENT
    - 6.2.4. CURB AND GUTTER AND CONCRETE SHALL BE TIED TOGETHER SIMILAR TO A LONGITUDINAL LANE TIE JOINT (MDOT BY JOINT)
  - 6.3. IN BETWEEN POURS OF PROPOSED CONCRETE CURBING (CONSTRUCTION JOINTS)
    - 6.3.1. CARRY THE REBAR CONTINUOUSLY BETWEEN POURS
    - 6.3.2. IF THE REBAR IS NOT LONG ENOUGH TO CARRY CONTINUOUSLY, THEN TIE TWO PIECES OF REBAR PER THE LATEST MDOT SPECIFICATIONS
7. CONCRETE SIDEWALK JOINTING - UNLESS SHOWN OTHERWISE IN THE PLANS OR REQUIRED BY THE AUTHORITY HAVING JURISDICTION:
  - 7.1. PLACE TRANSVERSE CONTRACTION JOINTS EQUAL TO THE WIDTH OF THE WALK WHEN WIDTH IS LESS THAN 8'
  - 7.2. PLACE TRANSVERSE AND LONGITUDINAL CONTRACTION JOINTS EQUAL TO 1/2 THE WIDTH OF THE WALK WHEN WIDTH IS EQUAL TO OR GREATER THAN 8'
  - 7.3. PLACE 1" EXPANSION JOINT WHERE ABUTTING SIDEWALK RAMP AND/OR RADIUS IN INTERSECTION
  - 7.4. PLACE TRANSVERSE 1/2" EXPANSION JOINT AT MAXIMUM OF 100' SPACING
  - 7.5. PLACE 1/2" EXPANSION JOINT WHEN ABUTTING A FIXED STRUCTURE, OTHER PAVEMENT (CONCRETE PAVEMENT AND DRIVE APPROACHES), UTILITY STRUCTURES, LIGHT POLE BASES AND COLUMNS.
  - 7.6. WHEN ALONG A CURVE, JOINTS MUST BE PERPENDICULAR TO THE CURVE WITH A MINIMUM LENGTH OF 1 FOOT BEFORE INTERSECTING ANOTHER JOINT(S) IN ANY DIRECTION. NO JOINTS ARE ALLOWED TO BE CUT AT AN ANGLE OTHER THAN 90° AT THE CURBLINE.

GENERAL GRADING AND EARTHWORK NOTES:

THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT

1. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING TREES AND BRUSH AND REMOVE ALL THAT ARE NECESSARY TO GRADE SITE.
2. ALL GRADES ARE TO TOP OF PAVEMENT UNLESS OTHERWISE NOTED.
3. THE STAGING OF CONSTRUCTION ACTIVITIES SHALL OCCUR ONLY WITHIN THE SITE BOUNDARIES. ANY CONSTRUCTION ACTIVITIES OUTSIDE OF THE WORK AREA BOUNDARIES SHALL BE AT THE SOLE RESPONSIBILITY AND RISK OF THE CONTRACTOR.
4. ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES IS SHALL MEET THE REQUIREMENTS OF THE AUTHORIZED PUBLIC AGENCY OF JURISDICTION.
5. ALL EARTHWORK AND GRADING OPERATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
6. REFER TO SOIL EROSION CONTROL PLAN FOR ADDITIONAL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AND NOTES.
7. ALL LANDSCAPING IS TO BE COMPLETED BY STALLANTS.
8. THE CONTRACTOR SHALL NOTE EXISTING UNDERGROUND UTILITIES WITHIN AND ADJACENT TO THE SITE. BACKFILL FOR EXISTING UTILITY TRENCHES SHALL BE EXAMINED CRITICALLY. ANY TRENCHES FOUND TO HAVE SOFT, UNSTABLE OR UNSUITABLE BACKFILL MATERIAL IN THE OPINION OF THE THIRD PARTY TESTING COMPANY, THAT ARE TO BE WITHIN THE ZONE OF INFLUENCE OF PROPOSED BUILDINGS OR PAVEMENT SHALL BE COMPLETELY EXCAVATED AND BACKFILLED WITH SUITABLE MATERIAL.
9. ON-SITE FILL CAN BE USED IF THE SPECIFIED COMPACTION REQUIREMENTS CAN BE ACHIEVED. IF ON-SITE SOIL IS USED, IT SHOULD BE CLEAN AND FREE OF FROZEN SOIL, ORGANICS, OR OTHER DELETERIOUS MATERIALS.
10. THE FINAL SUBGRADE/EXISTING AGGREGATE BASE SHOULD BE THOROUGHLY PROFF-ROLLED USING A FULLY LOADED TANDUM AXLE TRUCK OR FRONT END LOADER UNDER THE OBSERVATION OF A GEOTECHNICAL/PAVEMENT ENGINEER. LOOSE OR YIELDING AREAS THAT CANNOT BE MECHANICALLY STABILIZED SHOULD BE REINFORCED USING GEOTEXTILES OR REMOVED AND REPLACED WITH ENGINEERED FILL OR AS DICTATED BY FIELD CONDITIONS.
11. THE REMOVAL OF EXISTING SOIL TO GET TO FINAL SUBGRADE ELEVATION SHALL NOT BE CONSIDERED SUBGRADE UNDERCUTTING. IT IS PART OF THE EARTHWORKS TO BALANCE THE SITE AND ESTABLISH THE ELEVATIONS FOR THE PLACEMENT OF THE PROPOSED PAVEMENT ELEVATIONS. THIS SHALL NOT BE PAID FOR SEPARATELY, BUT INCLUDED IN THE EARTHWORKS FOR THE PROJECT.
12. SUBGRADE UNDERCUTTING, INCLUDING BACKFILLING SHALL BE PERFORMED TO REPLACE MATERIALS SUSCEPTIBLE TO FROST HEAVING AND UNSTABLE SOIL CONDITIONS. ANY EXCAVATIONS THAT MAY BE REQUIRED BELOW THE TOPSOIL IN FILL AREAS OR BELOW SUBGRADE IN OUT AREAS WILL BE CLASSIFIED AS SUBGRADE UNDERCUTTING.
13. SUBGRADE UNDERCUTTING SHALL BE PERFORMED WHERE NECESSARY AND THE EXCAVATED MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR. ANY SUBGRADE UNDERCUTTING SHALL BE BACKFILLED AS RECOMMENDED IN THE GEOTECHNICAL ENGINEERING REPORT FOR THE PROJECT.
14. ANY SUB-GRADE WATERING REQUIRED TO ACHIEVE REQUIRED DENSITY SHALL BE CONSIDERED INCIDENTAL TO THE JOB.

CONSTRUCTION MATERIAL SUBMITTALS

- UNLESS REQUIRED OTHERWISE IN THE PROJECT SPECIFICATIONS, THE CONTRACTOR SHALL ONLY SUBMIT THE FOLLOWING CONSTRUCTION MATERIAL SUBMITTALS, AS APPLICABLE TO THE PLANS, FOR REVIEW BY THE ENGINEER. UNLESS APPROVED IN ADVANCE AND IN WRITING BY THE ENGINEER, ANY MATERIAL SUBMITTALS PROVIDED TO THE ENGINEER FOR REVIEW IN ADDITION TO THIS LIST SHALL BE RETURNED TO THE CONTRACTOR WITHOUT A REVIEW BEING PERFORMED.
1. SOIL EROSION AND SEDIMENTATION CONTROL MEASURES
  2. UTILITY TRENCH BACKFILL MATERIAL WITH ALL MATERIAL DATA INCLUDED IN THE SUBMITTAL BEING DATED WITHIN 60 DAYS OF THE SUBMITTAL UNLESS APPROVED OTHERWISE BY THE ENGINEER
  3. STORM SEWER STRUCTURES
  4. STORM SEWER STRUCTURE FRAME AND COVERS INCLUDING CLEAN OUTS
  5. PAVEMENT AGGREGATE BASE MATERIAL WITH ALL MATERIAL DATA INCLUDED IN THE SUBMITTAL BEING DATED WITHIN 60 DAYS OF THE SUBMITTAL UNLESS APPROVED OTHERWISE BY THE ENGINEER
  6. PAVEMENT UNDERDRAIN MATERIAL AND BACKFILL WITH ALL BACKFILL MATERIAL DATA INCLUDED IN THE SUBMITTAL BEING DATED WITHIN 60 DAYS OF THE SUBMITTAL UNLESS APPROVED OTHERWISE BY THE ENGINEER
    - \*B.1. CONCRETE MIX DESIGN REVIEW CHECKLIST (FORM 2000)
    - \*B.2. SUPERPAVE MIX DESIGN CHECKLIST (FORM 1862)
    - \*B.3. MARSHALL MIX DESIGN CHECKLIST (FORM 1848)
  8. SITE FENCING AND GATES
  9. ANY ITEMS SHOWN IN THE PLANS OR DETAIL SHEETS THAT SPECIFICALLY STATE FOR THE CONTRACTOR TO SUBMIT A SHOP DRAWING TO THE ENGINEER FOR REVIEW. THESE ITEMS INCLUDE, BUT ARE NOT LIMITED TO:
    - \*\* ANY SPECIALTY ITEMS SHOWN IN THE PLANS OR DETAIL SHEETS THAT SPECIFICALLY DO NOT STATE FOR THE CONTRACTOR SHALL SUBMIT A SHOP DRAWING TO THE ENGINEER FOR REVIEW BUT THE CONTRACTOR REQUESTS TO BE REVIEWED. THE CONTRACTOR'S REQUEST FOR REVIEW MUST BE IN WRITING AND APPROVED BY THE ENGINEER PRIOR TO SUBMITTING THE INFORMATION.

GENERAL UTILITY NOTES:

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE CITY OF TROY.
2. ALL TRENCHES UNDER OR WITHIN THREE (3) FEET OR THE FORTY-FIVE (45) DEGREE ZONE OF INFLUENCE LINE OF EXISTING AND/OR PROPOSED PAVEMENT, BUILDING PAD OR DRIVE APPROACH SHALL BE BACKFILLED WITH SAND COMPACTED TO AT LEAST NINETY-FIVE (95) PERCENT OF MAXIMUM UNIT WEIGHT (ASTM D-1557). ALL OTHER TRENCHES TO BE COMPACTED TO 90% OR BETTER.
3. WHERE EXISTING MANHOLES OR SEWER PIPE ARE TO BE TAPPED, DRILL HOLES 4" CENTER TO CENTER, AROUND PERIPHERY OF OPENING TO CREATE A PLANE OF WEAKNESS JOINT BEFORE BREAKING SECTION OUT.
4. THE LOCATIONS AND DIMENSIONS SHOWN ON THE PLANS FOR EXISTING UTILITIES ARE IN ACCORDANCE WITH AVAILABLE INFORMATION WITHOUT UNCOVERING AND MEASURING. THE DESIGN ENGINEER DOES NOT GUARANTEE THE ACCURACY OF THIS INFORMATION OR THAT ALL EXISTING UNDERGROUND FACILITIES ARE SHOWN. CONTRACTOR SHALL FIELD VERIFY UTILITIES.
5. THE CONTRACTOR SHALL COORDINATE TO ENSURE ALL REQUIRED PIPES, CONDUITS, CABLES AND SLEEVES ARE PROPERLY PLACED FOR THE INSTALLATION OF GAS, ELECTRIC, PHONE, CABLE, IRRIGATION, ETC. IN SUCH A MANNER THAT WILL FACILITATE THEIR PROPER INSTALLATION PRIOR TO THE PLACEMENT OF THE PROPOSED PAVEMENT AND LANDSCAPING.
6. PIPE LENGTHS INDICATED ARE FROM CENTER OF STRUCTURE AND TO END OF SECTION UNLESS NOTED OTHERWISE.
7. CONTRACTOR SHALL INSPECT ALL EXISTING PUBLIC STORM SEWER, SANITARY SEWER AND WATER MAIN STRUCTURES WITHIN THE LIMITS OF CONSTRUCTION AND WITH THE GOVERNING AGENCY INSPECTOR PRIOR TO ESTABLISHING FINAL GRADE. NOTIFY THE ENGINEER, OWNER/DEVELOPER, AND GOVERNING AGENCY IF STRUCTURE IS DEEMED TO BE STRUCTURALLY UNSOUND AND/OR IN NEED OF REPAIR.

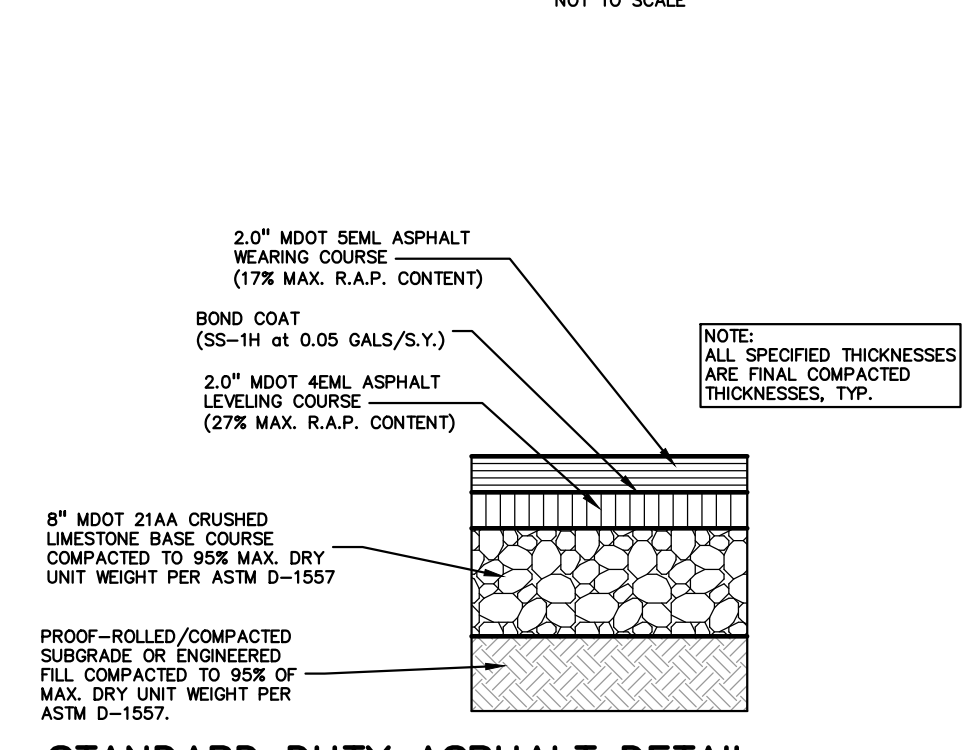
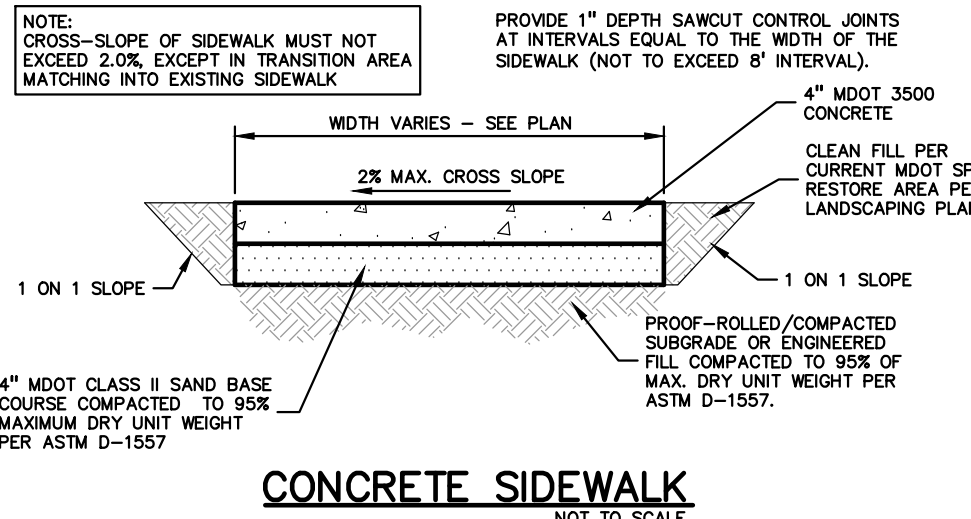
STORM SEWER NOTES:

1. ALL STORM SEWER LEADS SHALL BE CONSTRUCTED AT 1.00% MINIMUM SLOPE.
2. ALL STORM SEWER 10" OR LESS AND/OR LEADS SHALL BE SDR 28.
3. JOINTS FOR P.V.C. PIPE SHALL BE ELASTOMERIC (RUBBER GASKET) AS SPECIFIED IN A.S.T.M. DESIGNATION D-3212.

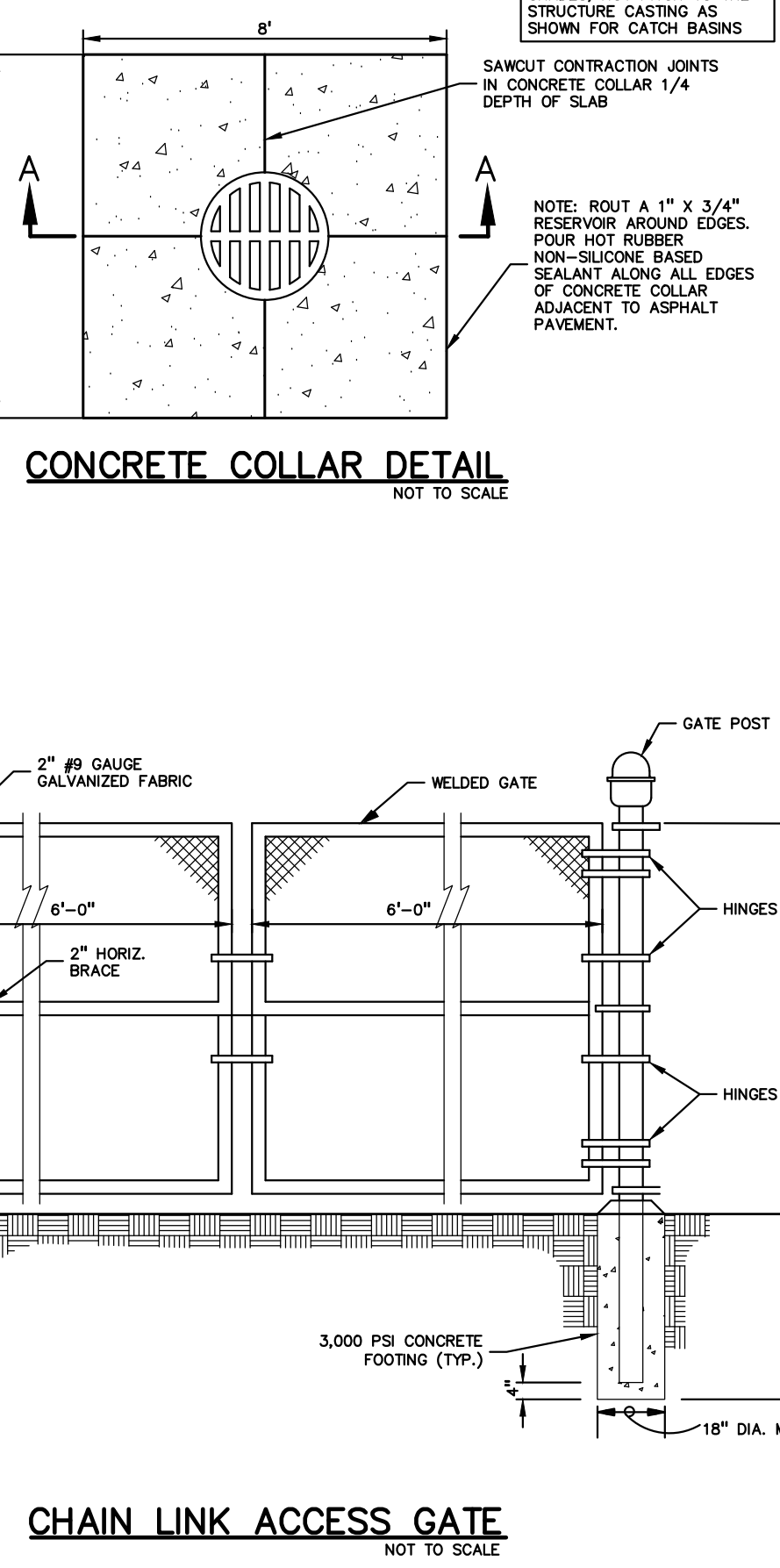
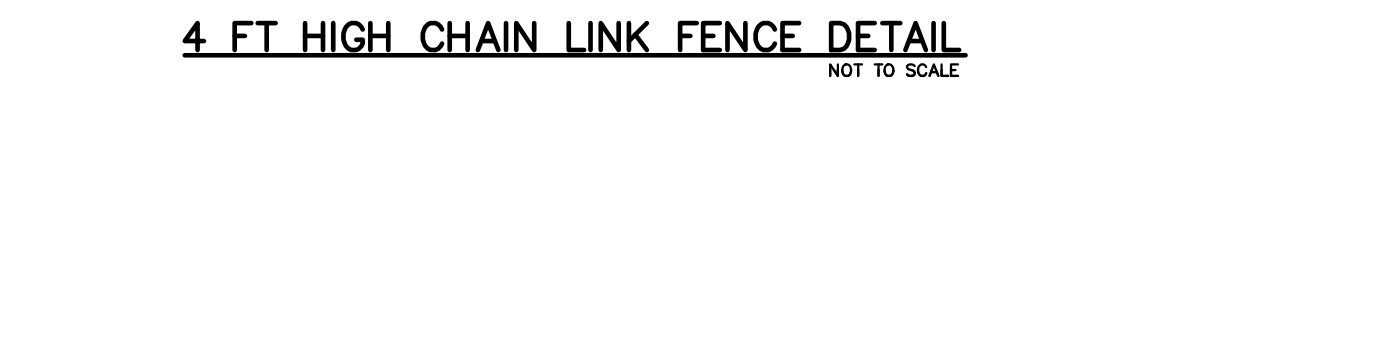
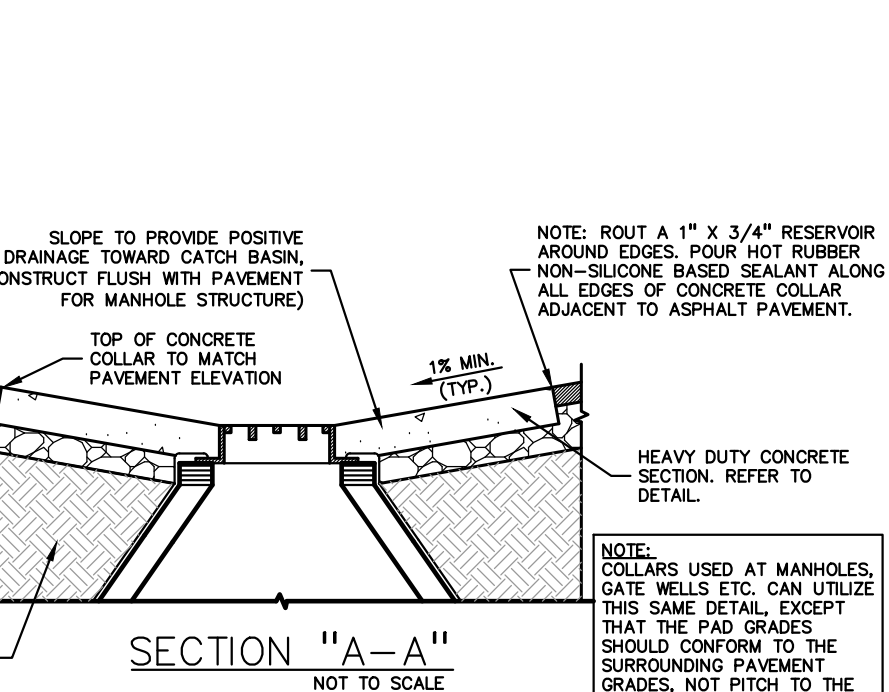
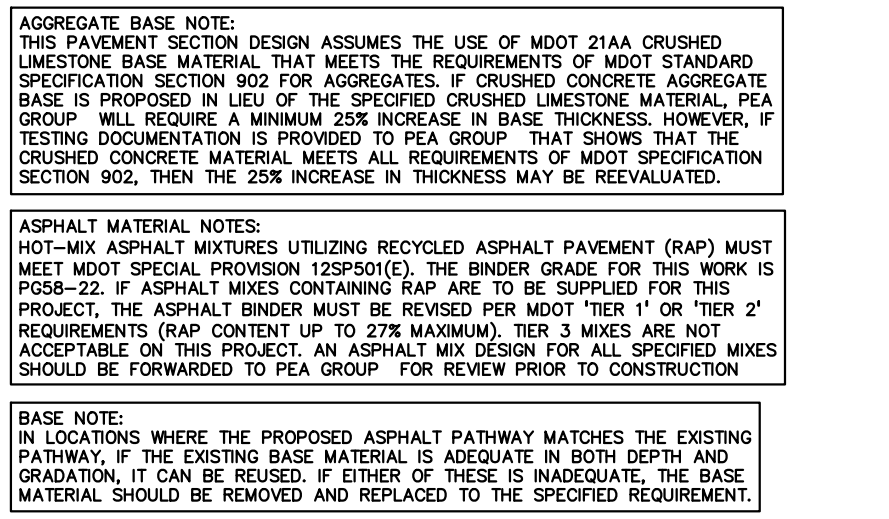
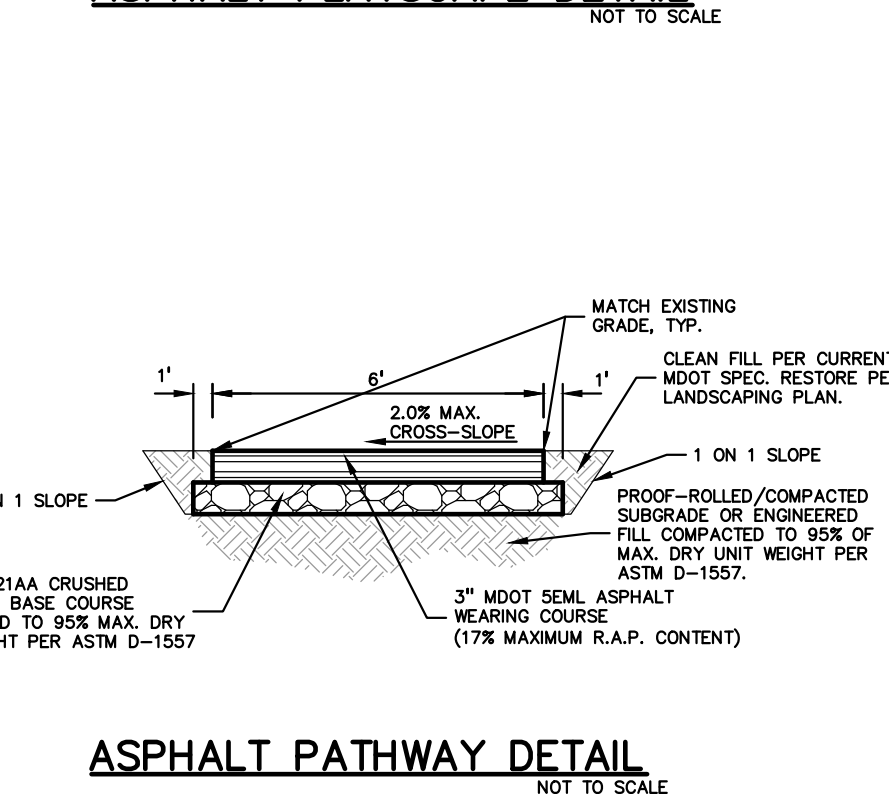
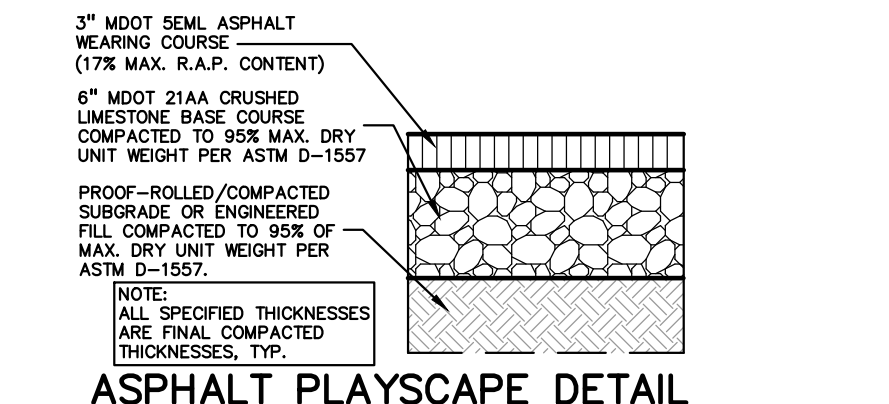
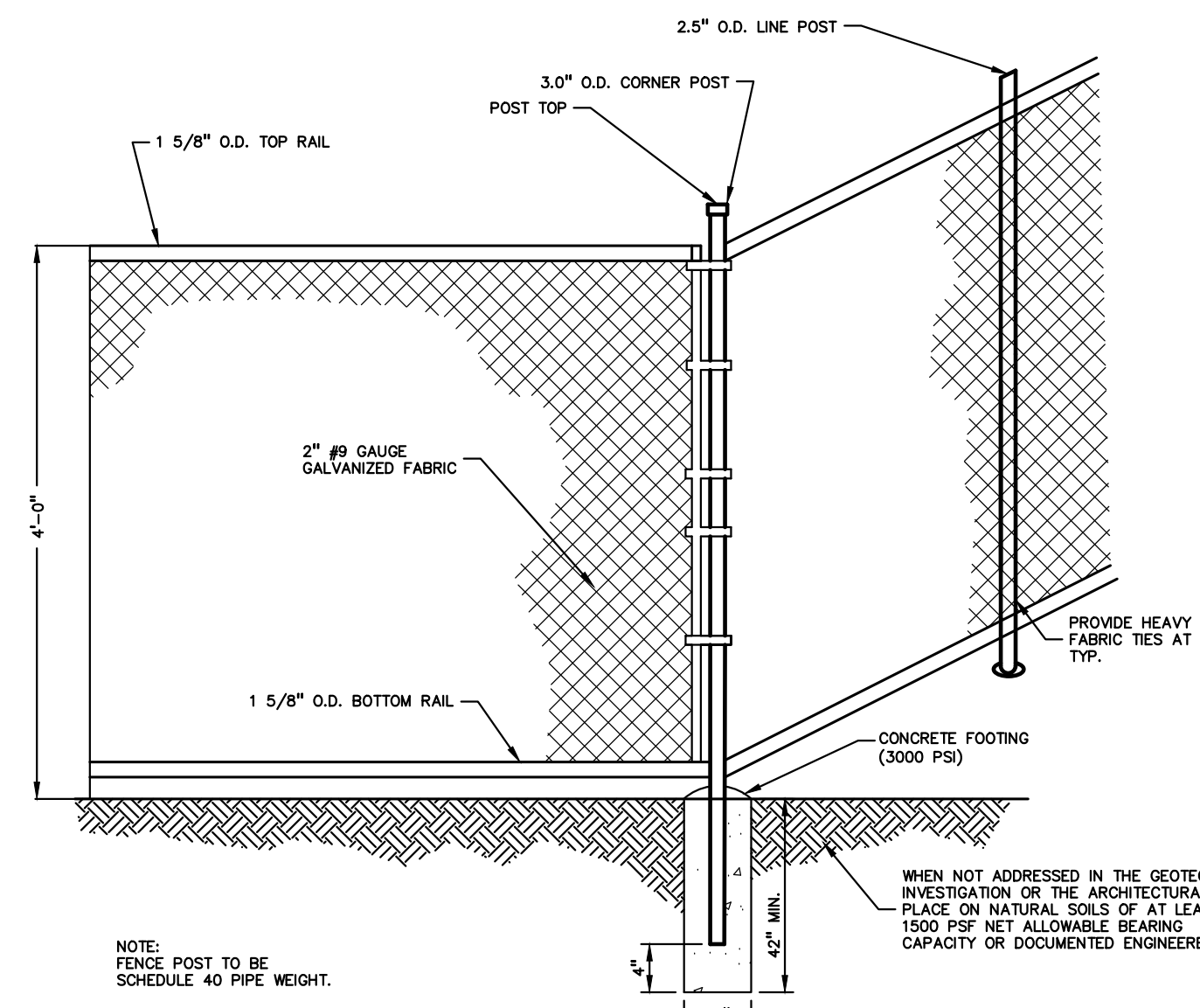
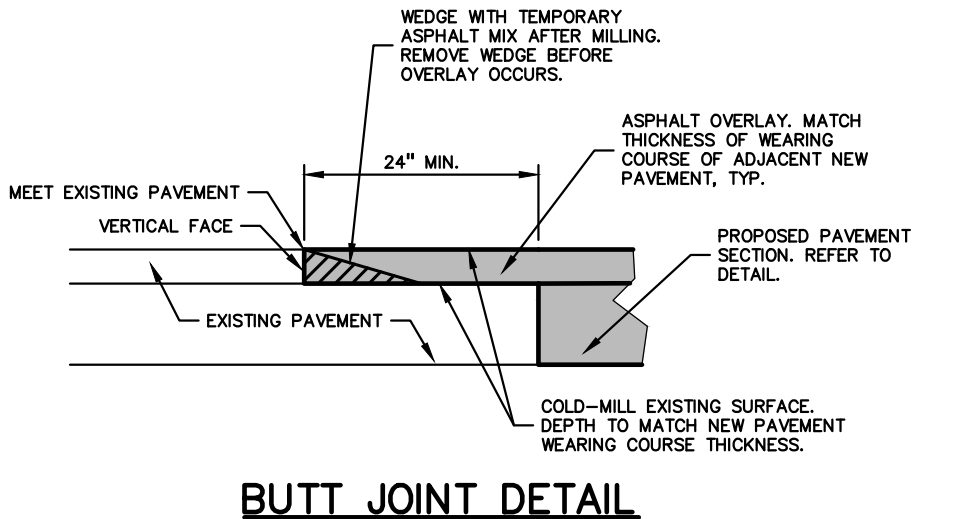
GENERAL BARRIER FREE NOTES:

THE FOLLOWING NOTES PROVIDE AN OUTLINE OF SOME OF THE REQUIREMENTS CONTAINED WITHIN THE "STANDARDS FOR ACCESSIBLE DESIGN - AMERICANS WITH DISABILITIES ACT 2010", AND "ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES" (ADA/ANSI 11711-2008). THE CONTRACTOR IS RESPONSIBLE FOR ALL OF THE REQUIREMENTS PRESENTED WITHIN THESE DOCUMENTS, WHICH ARE AVAILABLE IN FULL UPON REQUEST.

1. AN ACCESSIBLE ROUTE CONSISTS OF WALK SURFACES, CURB RAMPS AND RAMPS. AT LEAST ONE ACCESSIBLE ROUTE SHALL BE PROVIDED WITHIN THE SITE FROM ACCESSIBLE PARKING SPACES, ACCESSIBLE PASSENGER LOADING ZONES, PUBLIC STREETS AND SIDEWALKS, AND PUBLIC TRANSPORTATION STOPS TO THE BUILDING OR FACILITY ENTRANCE THEY SERVE.
2. THE RUNNING SLOPE OF ALL WALKING SURFACES SHALL NOT EXCEED 5% (1:20) AND THE CROSS-SLOPE SHALL NOT EXCEED 2% (1:48).
3. WALKING SURFACES MUST BE LEVEL WITH PERMITTED VERTICAL CHANGES IN LEVEL NOT TO EXCEED 1/4", OR BEVELED CHANGES IN LEVEL NOT TO EXCEED 1/2". REFER TO DETAIL DET-8 ON THIS SHEET. ANY CHANGE IN LEVEL GREATER THAN 1/2" MUST BE RAMPED.
4. TURNING SPACES ALONG ACCESSIBLE ROUTES MUST BE AT LEAST 5 FEET WIDE IN ALL DIRECTIONS AND NOT EXCEED 2% SLOPE (1:48) IN ANY DIRECTION.
5. ACCESSIBLE ROUTES WILL BE DESIGNED TO BE A MINIMUM OF 5 FEET WIDE. THE MINIMUM CLEAR WIDTH IS 3 FEET.
6. RAMPS ALONG ACCESSIBLE ROUTES WILL HAVE A RUNNING SLOPE GREATER THAN 5% (1:20) AND LESS THAN 8.3% (1:12).
7. THE CROSS-SLOPE OF RAMP RUNS SHALL NOT EXCEED 2% (1:48).
8. THE MINIMUM CLEAR WIDTH OF ANY RAMP IS 36 INCHES.
9. THE MAXIMUM RISE FOR ANY RAMP (NOT INCLUDING CURB RAMPS) SHALL NOT EXCEED 30 INCHES. LANDINGS ARE REQUIRED AT THE TOP AND BOTTOM OF EACH RAMP. LANDINGS SHALL HAVE A CROSS-SLOPE NOT EXCEEDING 2% (1:48). SHALL BE 5 FEET LONG AND AT LEAST AS WIDE AS THE RAMP CLEAR WIDTH. IF THERE IS A CHANGE OF DIRECTION AT A LANDING, THEN THE LANDING MUST BE AT LEAST 5 FEET WIDE AND 5 FEET LONG.
10. CURB RAMPS ALONG ACCESSIBLE ROUTES SHALL NOT RISE MORE THAN 6 INCHES, NOR BE STEEPER THAN 8.3% (1:12). APPROACHING SLOPES TO THE RAMP CANNOT EXCEED 5%, WHICH INCLUDES SIDEWALKS, PAVEMENT, GUTTERS, ETC.
11. IF CURB RAMP SIDES ARE FLARED, THE FLARES SHALL NOT BE STEEPER THAN 10% (1:10).
12. LANDINGS ARE REQUIRED AT THE TOP OF ALL CURB RAMPS. THE CLEAR LENGTH OF THE LANDING SHALL BE A MINIMUM OF 36" AND WILL BE AS WIDE AS THE CURB RAMP.
13. CURB RAMPS SHALL BE LOCATED OR PROTECTED TO PREVENT THEIR OBSTRUCTION BY PARKED VEHICLES.
14. HANDRAILS ARE NOT REQUIRED ON CURB RAMPS.
15. WHERE DETECTABLE WARNING IS REQUIRED AT CURB RAMPS, THE DETECTABLE WARNING SHALL BE 24" MINIMUM IN DEPTH AND SHALL EXTEND THE FULL WIDTH OF THE RAMP. THE DETECTABLE WARNING SHALL BE LOCATED SO THE EDGE NEAREST THE CURB IS 6 INCHES MINIMUM AND 8 INCHES MAXIMUM FROM THE CURB LINE.
16. ACCESSIBLE PARKING SPACES ON SITE SHALL BE PROVIDED AS REQUIRED IN SECTION 502 OF THE A.D.A. IF THE SITE HAS MORE THAN ONE PARKING FACILITY, EACH FACILITY IS REQUIRED TO MEET THESE REQUIREMENTS SEPARATELY. THE REQUIRED NUMBER OF SPACES SHALL BE BASED ON THE TOTAL NUMBER OF PARKING SPACES IN EACH PARKING FACILITY ON SITE.
17. FOR EVERY SIX OR FRACTION OF SIX ACCESSIBLE PARKING SPACES, ONE VAN ACCESSIBLE SPACE SHALL BE PROVIDED.
18. ACCESSIBLE PARKING SPACES SHALL BE LOCATED ON THE SHORTEST ACCESSIBLE ROUTE FROM PARKING TO A BUILDING ENTRANCE. IF THERE IS MORE THAN ONE ACCESSIBLE ENTRANCE, PARKING SHALL BE DISPERSED ALONG THE SHORTEST ACCESSIBLE ROUTE TO THE ACCESSIBLE ENTRANCES.
19. BARRIER FREE CAR PARKING SPACES SHALL BE A MINIMUM OF 8 FEET WIDE WITH AN ACCESS AISLE 5 FEET WIDE MINIMUM. VAN ACCESSIBLE PARKING SPACES SHALL BE AT LEAST 11 FEET WIDE WITH A 5' WIDE ACCESS AISLE. VAN ACCESSIBLE SPACES ARE ALSO ACCEPTABLE WITH AN 8 FOOT WIDTH AND 8 FOOT WIDE ACCESS AISLE. THE ACCESS AISLE IN ALL CASES MUST EXTEND THE FULL LENGTH OF THE PARKING SPACE.
20. SURFACE SLOPES WITHIN THE PARKING SPACES AND AISLES SHALL NOT EXCEED 2% (1:48).
21. ACCESSIBLE AREAS INCLUDING PARKING SPACES, AISLES AND PATHWAYS, REQUIRE A MINIMUM VERTICAL CLEARANCE OF 98 INCHES.
22. ACCESSIBLE PARKING SPACES ARE REQUIRED TO BE IDENTIFIED BY SIGNS. THE SIGNS SHALL INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY. VAN PARKING SPACES ARE REQUIRED TO BE DESIGNATED AS "VAN ACCESSIBLE". REFER TO DETAILS ON THIS SHEET.



ASPHALT MIX DESIGN CHART					
COMMERCIAL ADT 0-300	COMMERCIAL ADT 351-1000	COMMERCIAL ADT 1001-2400	COMMERCIAL ADT 2401-4300	APPLICATION RATE (LB/PG.)	MINIMUM - MAXIMUM
4E4L	4E4M	4E4H	4E4H	220-275	
DEL	5E4M	5E4H	SMA OR 5E4H	165-220	
PG 58-28	PG 64-28	PG 64-28	PG 70-28P		



REGISTRATION SEAL

CONSULTANT



PROJECT TITLE  
**Wass Elementary School**  
2340 WILLARD DRIVE  
**Playground Remodel**  
**Bid Package No.01B**

**Troy School District**  
**Troy, Michigan**

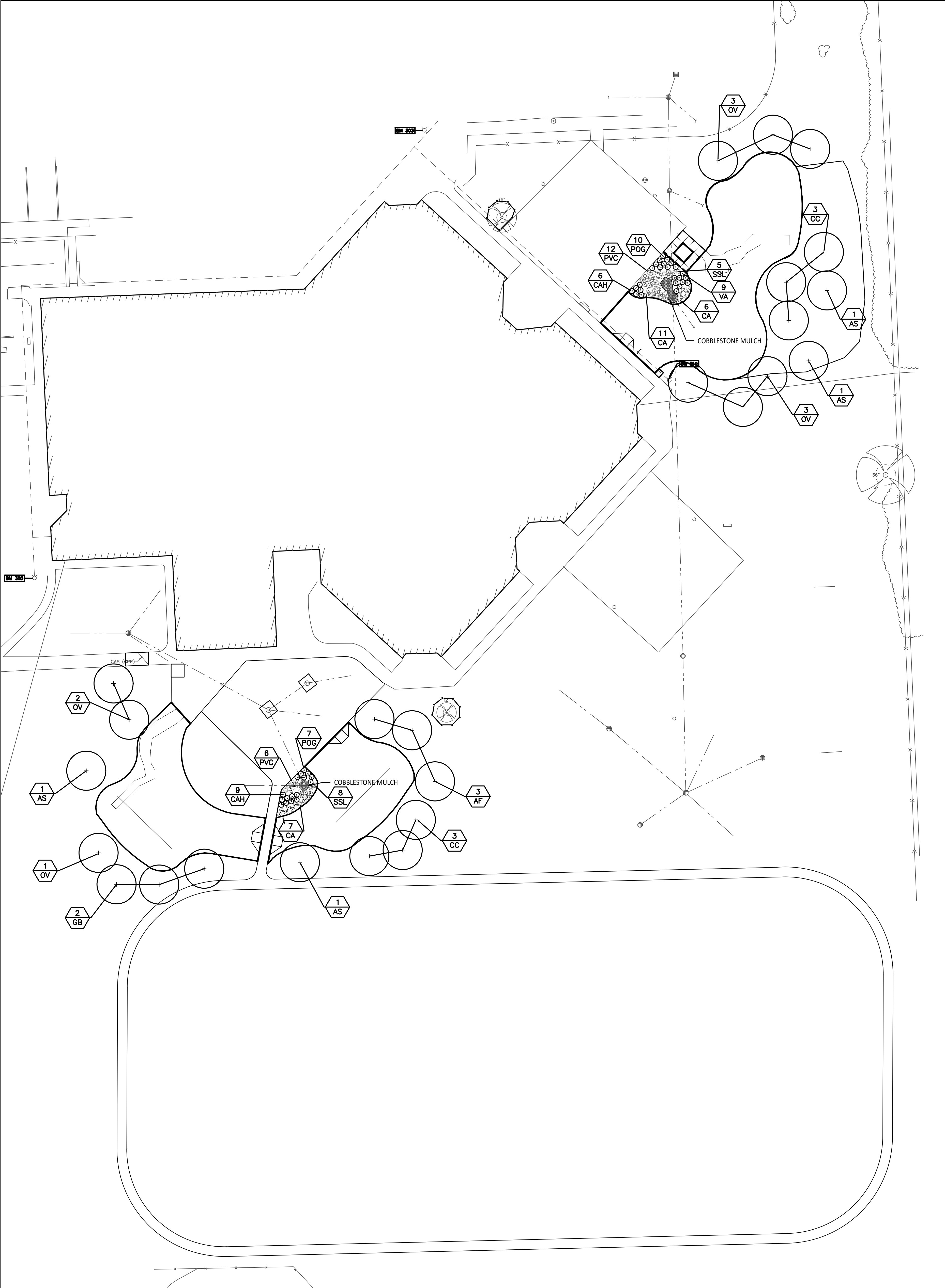
DRAWING TITLE  
**Notes & Details**

ISSUE DATES

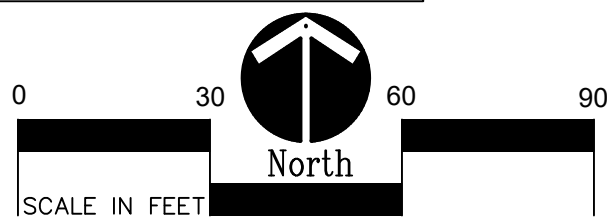
10-03-2024	CONSTRUCTION DOCUMENTS
09-10-2024	OWNER REVIEW
08-21-2024	INTERNAL COORDINATION
07-24-2024	DESIGN DEVELOPMENT
DATE	ISSUED FOR:
DRAWN	JG
CHECKED	JW
APPROVED	TD

PROJECT NO.  
**22096B**  
DRAWING NO.  
**CE-5.4.0**





1 Site Landscape Plan  
1" = 30'-0"



PROPOSED FEATURES LEGEND:

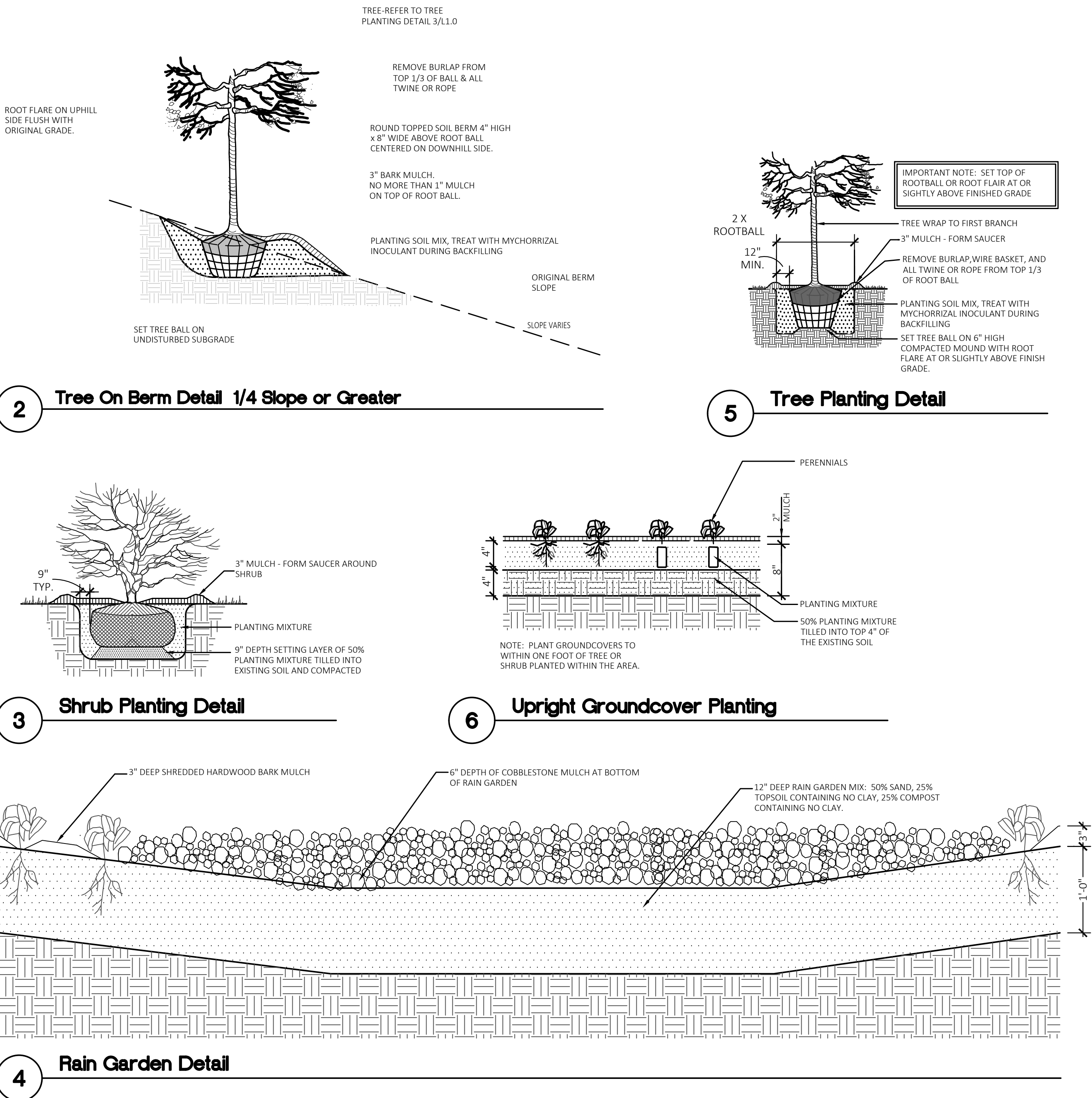
SYMBOL	DESCRIPTION	DETAIL
	DECIDUOUS TREE	2 & 5/L1.0
	SHRUB	3/L1.0
	GRASSES	6/L1.0
	STONE MULCH	4/L1.0
	PLANT TAG- REFERS TO TYPE AND NUMBER OF PLANTINGS TO BE PROVIDED AND MAINTAINED BY CONTRACTOR.	

LANDSCAPE NOTES:

1. SURVEY OF EXISTING CONDITIONS PROVIDED BY PEA GROUP, 1849 POND RUN, AUBURN HILLS, MICHIGAN, 48326, (248)689-9090.
2. CALL "MISS DIG" AND VERIFY ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING WORK. 72 HOURS BEFORE YOU DIG CALL "MISS DIG" AT 1-800-482-7171. ANY UTILITIES DISTURBED BY CONSTRUCTION SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE.
3. ANY DISCREPANCIES BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS SHOULD BE REPORTED TO THE CONSTRUCTION MANAGER IMMEDIATELY FOR RESOLUTION.
4. IN AREAS OF NEW TURF PLACE 4" MINIMUM TOPSOIL, FINE GRADE & ESTABLISH TURF WITHIN SEED LIMIT LINES.
5. PLACE SHREDDED HARDWOOD MULCH TO A 3" DEPTH IN ALL TREE & SHRUB BEDS & TO A 2" DEPTH IN ALL GROUND COVER BEDS.
6. UNLESS OTHERWISE NOTED, TOPSOIL, FINE GRADE AND SEED ALL DISTURBED AREAS WITHIN THE SEEDING LIMIT SHOWN AND AREAS DISTURBED BY CONSTRUCTION.
7. REPAIR AND RESTORE ANY DAMAGE OUTSIDE OF LIMIT OF WORK LINE TO ORIGINAL CONDITION.
8. PROTECT ALL TREES AND EXISTING FEATURES TO REMAIN AS SPECIFIED.
9. ALL TOPSOIL AND EXCESS FILL MATERIAL SHALL BE STOCKPILED ON SITE SEPARATELY FOR LATER RE-USE. LOCATE STOCKPILES IN AREAS AS DIRECTED BY CONSTRUCTION MANAGER AND PROTECT FROM EFFECTS OF EROSION.
10. ALL NURSERY STOCK SHALL BE TRUE TO TYPE AND NAME. ALL STOCK SHALL BE FIRST CLASS QUALITY WITH WELL DEVELOPED BRANCH SYSTEMS AND VIGOROUS HEALTHY ROOT SYSTEMS. ALL STOCK SHALL BE WELL FORMED AND THE TRUNKS OF TREES SHALL BE UNIFORM AND STRAIGHT.
11. CONTRACTOR RESPONSIBLE TO LOCATE SITE LIGHTING SERVICES. CONTRACTOR RESPONSIBLE TO NOTIFY CONSTRUCTION MANAGER IF DAMAGE TO LIGHTING ELECTRICAL DISTRIBUTION OCCURS.
12. ALL AREAS OF TREE CLEARING SHALL BE STAKED FOR ARCHITECTS APPROVAL PRIOR TO CLEARING.
13. UNLESS OTHERWISE SPECIFIED, ALL PERENNIALS, GRASSES AND GROUNDCOVERS SHALL BE GROWN IN THEIR CONTAINER FOR ONE YEAR PRIOR TO INSTALLATION.

PLANT LIST:

	SYM.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	STATUS
TREES	AF	Acer x freemantii 'Marmo'	Marmo Freeman Maple	2" CAL	B&B	PER PLANS	NATVAR
	AS	Acer saccharum 'Commemorator'	Commemorator Sugar Maple	2" CAL	B&B	PER PLANS	NATIVE
	CC	Carpinus caroliniana	Hornbeam	2" CAL	B&B	PER PLANS	NATIVE
	GB	Ginkgo biloba 'Autumn Gold'	Autumn Gold Ginkgo Tree (no female)	2" CAL	B&B	PER PLANS	NON NATIVE
	OV	Ostrya virginiana	Hophornbeam	2" CAL	B&B	PER PLANS	NATIVE
SHRUBS	CAH	Cedrea alvifolia 'Hummingbird'	Sweet Pepperbush	#3	CONT.	3' O.C.	NON NATIVE
	POG	Physocarpus opulifolius 'Ginger Wine'	Ginger Wine Ninebark	#3	CONT.	5' O.C.	NATVAR
	VA	Viburnum acerifolium	Mapleleaf Viburnum	#3	CONT.	5' O.C.	NATVAR
GRASSES	CA	Carex appalachica	Appalachian Sedge	#1	CONT.	18" O.C.	NATIVE
	PVC	Panicum virgatum 'Cape Breeze'	Cape Breeze Switchgrass	#1	CONT.	36" O.C.	NATVAR
	SSL	Schoenochloa nigropurpurea 'Little Arrow'	Little Arrow Little Bluestem	#1	CONT.	24" O.C.	NATVAR



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REGISTRATION SEAL

CONSULTANT



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Phone (269) 381-3357  
Fax (269) 381-2944

Landscape Architecture  
Urban Planning  
Parks & Recreation  
Campus & Institutional Planning  
Camp Planning & Design

PROJECT TITLE

**Wass  
Elementary School  
Playground Remodel  
Bld Package No.01B**

**Troy School District  
Troy, Michigan**

DRAWING TITLE

**Site Landscape Plan**

ISSUE DATES

1	10-03-2024	CONSTRUCTION DOCUMENTS
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DATE: ISSUED FOR:

DRAWN DID

CHECKED DID

APPROVED DID

PROJECT NO.

**22096B**

DRAWING NO.

**L1.0**