WEST MIDDLE SCHOOL

2312 Baxter Road, Chesterfield, MO 63017

Parkway Project #: PN432501B

Cooling Tower & Chillers Replacement

BID/ PERMIT SET

Issue Date: June 22, 2026

Architect

Bond Architects, Inc.
MO State Cert. of Authority #2009027409
222 South Central Avenue, Suite 501
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Structural Engineer

CASE ENGINEERING, Inc.
Project Number: BDA-MO-02-26
Certificate of Authority #001498
796 Merus Ct.
Fenton, MO 63026
636.349.1600 tel
Contact: Ardie Mansouri
Email: a.mansouri@caseengineeringinc.com

MEP / FP Engineer

RTM Engineering Consultants
Project Number: 25.B20200.6797
Certificate of Authority #
3701 S. Lindbergh Blvd.
St. Louis, MO 63127
314.725.5889 tel
Contact: Margaret Bailey
Email: margaret.bailey@rtmec.com

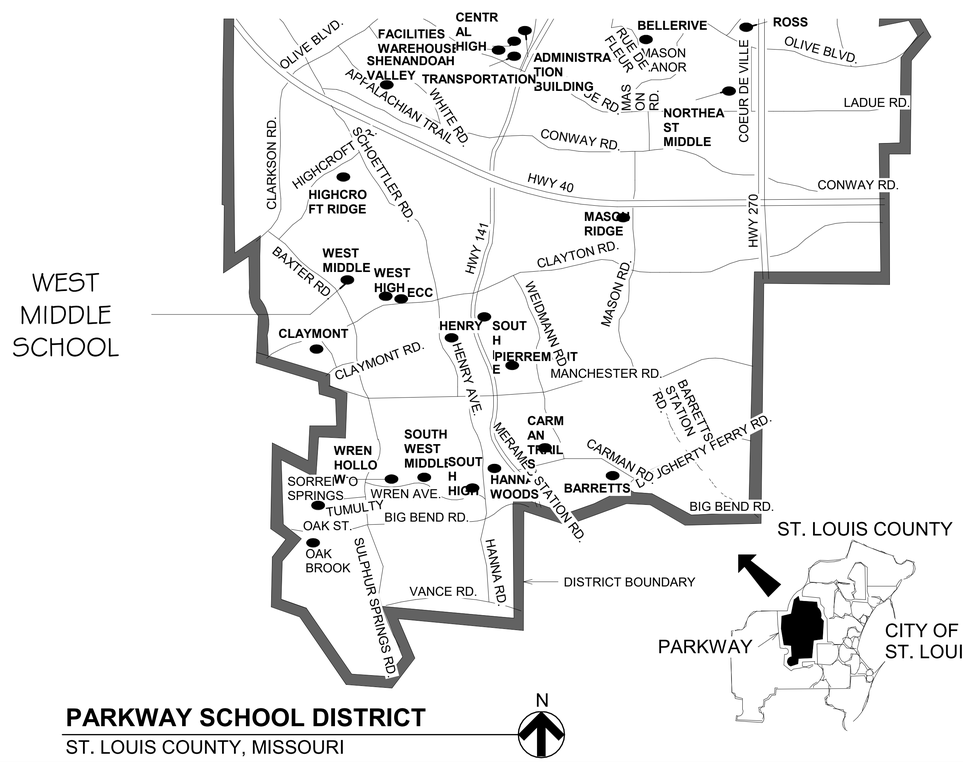
Civil Engineer

COLE & Associates, Inc.
Project Number: 26-0048
Certificate of Authority #001165
401 S. 18th Street, Suite 200, Suite 200
St Louis, MO 63103
314.984.9887
Contact: Jared Wilson
Email: jwilson@colestl.com

Asbestos Abatement Design

PINCHIN, LLC
Project Number : R262.00457.000
Certificate of Authority #
2 Cityplace Drive, Suite 195,
St. Louis, Missouri 63141
314.230.0182 tel
Contact: Megan Kienker
Email: Megan.Kienker@pinchin.com

PROJECT SITE



PARKWAY SCHOOL DISTRICT
ST. LOUIS COUNTY, MISSOURI

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M600	MECHANICAL SCHEDULES

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WEST MIDDLE SCHOOL
2312 Baxter Road, Chesterfield, MO 63017
Parkway Project #: PN432501B
Cooling Tower & Chillers Replacement

Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314.415.8231 tel

Project No: 25091

Revisions

Description	Date

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STATE OF MISSOURI
MICHELLE R. WELLS
A-2021031961
ARCHITECT
6/22/26

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DATE: 2026-06-22

BID/ PERMIT SET

COVER

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6/22/2026 4:01:27 PM

SITE IMPROVEMENT PLANS

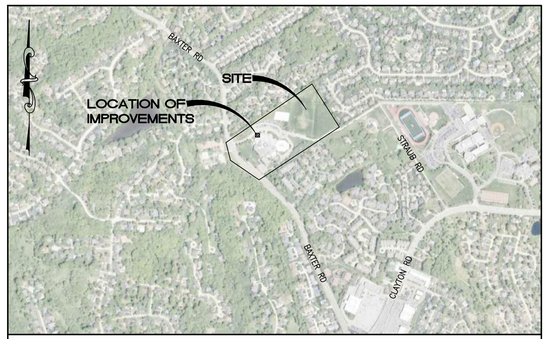
for

PARKWAY SCHOOL DISTRICT - WEST MIDDLE SCHOOL COOLING TOWER & CHILLERS REPLACEMENT

PART OF LOT 9 OF THE SUBDIVISION IN PARTITION OF THE GREENBERRY BAXTER ESTATE IN U.S. SURVEY 2011, TOWNSHIP 45 NORTH, RANGE 4 EAST, BEING CAUSE NO. 107 OF THE FEBRUARY TERM 1860 OF THE CIRCUIT COURT OF THE CITY (FORMER COUNTY) OF ST. LOUIS, MO, ACCORDING TO THE PLAT THEREOF FILED WITH SHERIFF'S REPORT OF SALE IN SAID CAUSE.

LEGEND

EXISTING		PROPOSED
460 / 459	CONTOURS	460 / 459
+620.15	SPOT GRADE	621.25 (TOP OF CURB) (FINISH PAVEMENT)
	TREE LINE	
	TREE	
	BUSH	
	STORM MANHOLE	
	AREA INLET	
	CURB INLET	
	GRATED INLET	
	FLARED END SECTION	
12" RCP	STORM SEWER	
	GRATED MANHOLE	
69	STORM DESIGNATOR	22
DS	DOWNSPOUT	
DP	DRAINAGE PIPE	
	SWALE/SLOPE INDICATOR	
S	SANITARY MANHOLE	
8"VCP	SANITARY SEWER	SS
	CLEAN OUT	CO
A	SANITARY DESIGNATOR	A
	UTILITY POLE	
	GUIDE WIRE	
OU	OVERHEAD UTILITY	OU
UE / UE	UNDERGROUND ELECTRIC	UE / UE
	ELECTRIC MARKER	
	ELECTRIC METER	
	ELECTRIC BOX	
EPB	ELECTRIC PULL BOX	
	ELECTRIC TRANSFORMER	
E	ELECTRIC MANHOLE	
UT	UNDERGROUND TELEPHONE	UT
	FIBER OPTIC MARKER	
	CABLE MARKER	
G	GAS LINE	G
	GAS VALVE	GV
	GAS METER	GM
	GAS MARKER	
W	WATER LINE	W
	WATER VALVE	WV
	WATER METER	
	FIRE HYDRANT	
	SIGN	
	MAIL BOX	
B-1 405.5	TEST HOLE	
	LIGHT STANDARD	
X X X X	FENCE	X X
B	BOLLARD	
	RETAINING WALL	
	CONCRETE PAVEMENT	
	SILTATION FENCE	
AC	AIR CONDITIONER	
	FLAG POLE	
	MONITORING WELL	
PM	PARKING METER	
	PLANTER	
SCB	SPRINKLER CONTROL BOX	
SHD	SPRINKLER	
SVLV	SPRINKLER VALVE	
	TRAFFIC CONTROL BOX	
	TRAFFIC POLE	
	YARD LIGHT	
	GUARD RAIL	
	PROPERTY LINE	
	EASEMENT	
	SETBACK	
	INLET PROTECTION	
	WATTLE	
	CHECK DAM	
	USE IN PLACE	(UIP)
	TO BE REMOVED	(TBR)
	ADJUST TO GRADE	(ATG)
	TO BE REMOVED & RELOCATED	(TBR&R)
	TYPICAL	(TYP)
	NOT TO SCALE	N.T.S.
	HIGH POINT IN GRADE	HP
	LOW POINT IN GRADE	LP
	TOP OF WALL	TW
	BOTTOM OF WALL	BW
	NOT IN CONTRACT	(NIC)



LOCATION MAP

(NOT TO SCALE)

PERTINENT DATA

OWNER	=	PARKWAY SCHOOL DISTRICT
SITE ADDRESS	=	2312 BAXTER RD CHESTERFIELD, MO 63017
SITE ACREAGE	=	±23.18 AC
DISTURBED LAND	=	±0.04 AC
EXISTING ZONING	=	"NU" NON-URBAN DISTRICT
PROPOSED ZONING	=	"NU" NON-URBAN DISTRICT
LOCATOR NUMBER	=	20R111202
WATERSHED	=	CREVE COEUR CREEK
FEMA MAP PANEL	=	29189C0281K, DATE: FEBRUARY 4, 2015

UTILITIES

SEWER SERVICE	=	METROPOLITAN ST. LOUIS SEWER DISTRICT 2350 MARKET ST. ST. LOUIS, MO 63103 PH. (314) 768-6272
FIRE DISTRICT	=	METRO WEST FIRE PROTECTION DISTRICT P.O. BOX 310 WILDWOOD, MO 63040 PH. (636) 458-2100
WATER SERVICE	=	MISSOURI AMERICAN WATER COMPANY 727 CRAIG RD. CREVE COEUR, MO 63141 PH. (688) 430-0820
CABLE SERVICE	=	CHARTER COMMUNICATIONS 815 CHARTER COMMONS TOWN & COUNTRY, MO 63107 PH. (314) 275-0025
GAS SERVICE	=	SPIRE 4118 SHREWSBURY AVE SHREWSBURY, MO 63119 PH: (314) 768-7767
ELECTRIC SERVICE	=	AMEREN-UE ELECTRIC COMPANY DORSETT DISTRICT 12121 DORSETT RD. MARYLAND HEIGHTS, MO 63043 PH. (314) 344-9575
PHONE SERVICE	=	AT & T 1030 WOODS MILL DR. TOWN AND COUNTRY, MO 63017 PH. (314) 720-8484

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C7.1	PRE-POST DRAINAGE AREA MAP									

UTILITY INFORMATION:

UTILITIES SHOWN HAVE BEEN TAKEN FROM AVAILABLE SURVEYS, UTILITY COMPANY MAPS AND PHYSICAL PROPERTY INSPECTION. THE LOCATIONS AND FACILITIES SHALL BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE ADDITIONAL UTILITIES THAT HAVE NOT BEEN SHOWN ON THIS SURVEY. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE LOCATIONS OF ALL UTILITIES PRIOR TO EXCAVATION OR CONSTRUCTION.

MISSOURI ONE CALL SYSTEM, INC. 1-800-344-7483 STOP-CALL BEFORE YOU DIG!

CALL 1-800-DIG-RITE (MISSOURI ONE CALL) TO HAVE LOCATIONS MARKED IN THE FIELD (SUBSCRIBING UTILITIES REQUIRE 48 HOURS NOTICE PRIOR TO CONSTRUCTION).

BENCHMARK INFORMATION

NAVD88 (ALC2011A) ELEV=574.06 FTUS (OR) 174.974 METER
NGVD29 ELEV=574.29 FTUS
ALUMINUM TABLET STAMPED "12-253" SET IN THE NORTHWEST END OF THE NORTHEAST HEADWALL OF A SOUBLE 6' X 8' BOS CULVERT UNDER BASTER ROAD IN FRINT IF PARKWAY WEST MIDDLE SCHOOL AT #2312 BAXTER ROAD, ROUGHLY 310 FEET SOUTHEAST OF THE ENTRANCE DRIVE TO THE SCHOOL, 45 FEET NORTHEAST OF THE CENTER OF BAXTER ROAD, 27 FEET EAST OF THE CENTER TOP OF AN AREA INLET, AND VERTICALLY OVER THE NORTHERN WALL OF THE NORTHERN BARREL OF DOUBLE BOX CULVERT.
SP MO EAST N=309501+/- E=246066+/- METER-ESTIMATED
ROUGH NAD83 LAT=38.622161°+/-(N/+) LONG=90.545177°(W/-)

SITE BENCHMARK INFORMATION

BM #1 - ELEV=604.12
SOUTHWEST CORNER OF OF RUNOFF PAD, LOCATED NORTHEAST 68.3 FEET FROM MH IN FIELD, NORTHWEST 27.8 FEET FROM A LIGHT POLE NEAR CURB, SOUTHEAST 5.3 FEET FROM THE SOUTHWEST CORNER OF FENCE SURROUNDING DUMPSTER ENCLOSURE.

BM #2 - ELEV=611.14
NORTHWEST CORNER OF MODULAR BLOCK RETAINING WALL, LOCATED 8.1 FEET FROM THE NORTH EDGE OF A BIKE RACK, SOUTHEAST 58.7 FEET FROM A LIGHT POLE IN THE MIDDLE OF THE WESTERNMOST ISLAND IN PARKING LOT, NORTHEAST 53.2 FEET FROM AN ELECTRICAL TRANSFORM NEAR BRICK ENCLOSURE.

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2312 Baxter Road, Chesterfield, MO 63017
Parkway PN # 432501B
Building Renovation

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017
314.415.8231 tel

Project No: 26-0048

Revisions

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STATE OF MISSOURI STANLEY EARL FOWLER JR. NUMBER PE-2020000037 PROFESSIONAL ENGINEER
06/22/2026

CIVIL ENGINEERS
CORPORATE ENGINEERING CERTIFICATE #001165
STANLEY EARL FOWLER, JR.
CIVIL ENGINEER
PE NO: PE-2020000037

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DATE: 06/22/26

Bid / Permit Set

COVER SHEET

C1.0

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STATE OF MISSOURI
STANLEY EARL FOWLER JR.
NUMBER PE-2020000037
PROFESSIONAL ENGINEER

CIVIL ENGINEERS
CORPORATE ENGINEERING CERTIFICATE #001165

STANLEY EARL FOWLER, JR.
CIVIL ENGINEER
PE NO: PE--2020000037

06/22/2026

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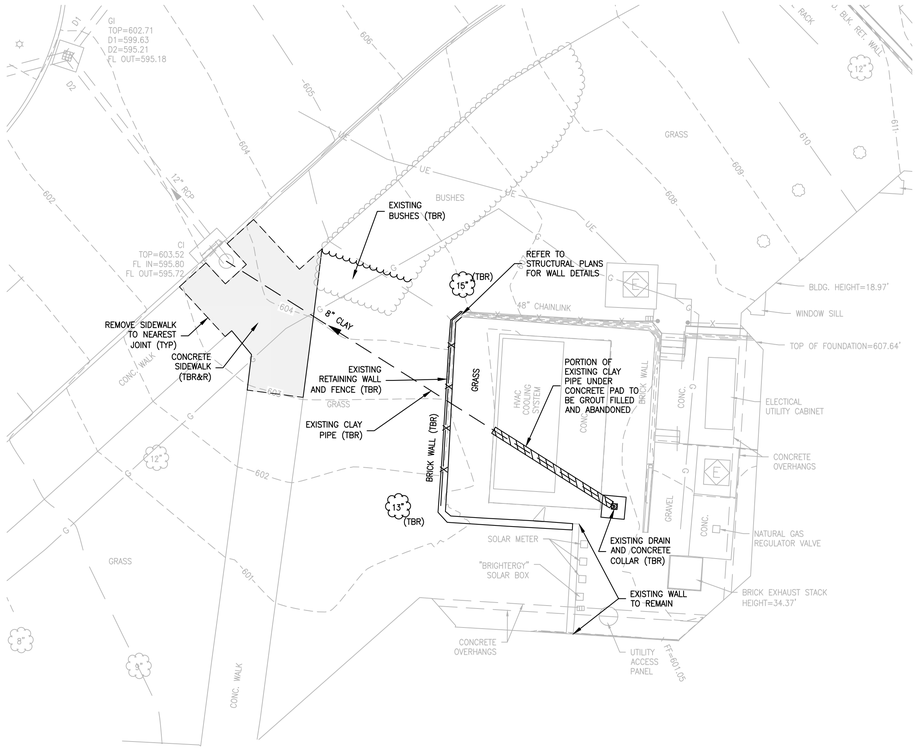
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Bid / Permit Set

OVERALL EXISTING CONDITIONS

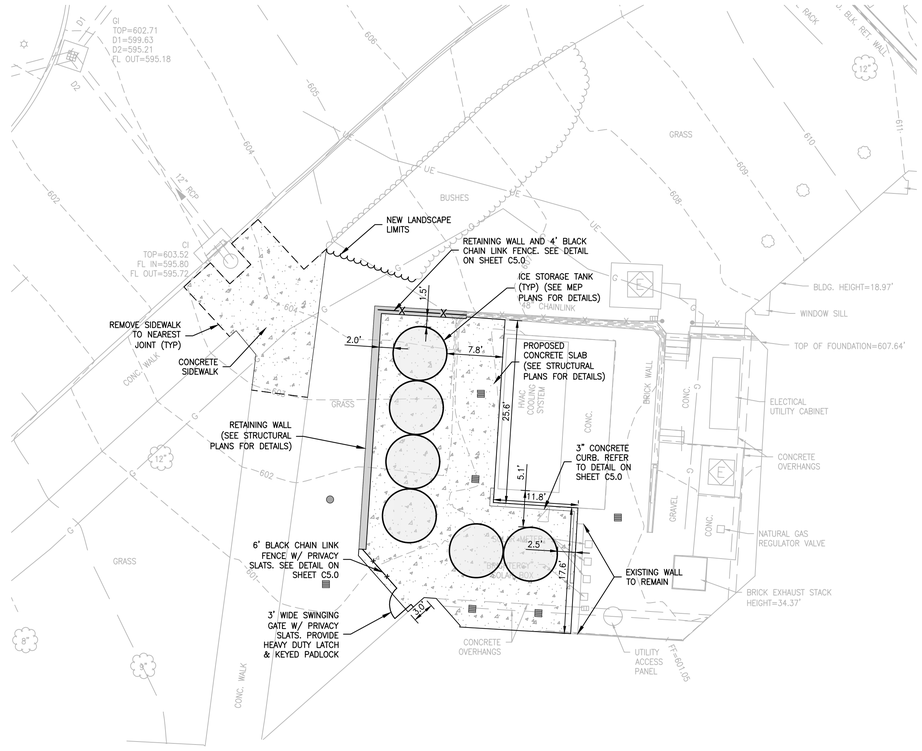
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1 DEMOLITION PLAN

SCALE: 1"=10' **REF. DWG.**



2 SITE & GEOMETRY PLAN

SCALE: 1"=10' **REF. DWG.**

10' 0' 10' 20'

SCALE: 1" = 10'

GENERAL NOTES

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE EXACT HORIZONTAL AND VERTICAL LOCATIONS AND SIZES OF ALL EXISTING UTILITIES, WHETHER SHOWN OR NOT SHOWN ON THIS PLAN, PRIOR TO THE START OF ANY CONSTRUCTION. THE ENGINEER HAS NOT FIELD VERIFIED THE EXISTING UTILITIES. THE UTILITIES SHOWN ON THIS PLAN HAVE BEEN TAKEN FROM RECORDS AND UTILITY MAPS MADE AVAILABLE TO THE ENGINEER AND THE LOCATIONS AND SIZES SHALL BE CONSIDERED APPROXIMATE ONLY. OTHER UTILITIES, NOT SHOWN ON THIS PLAN, MAY EXIST ON OR NEAR THE SITE.
2. PROPERTY BOUNDARY AND TOPOGRAPHIC SURVEY BY COLE AND ASSOCIATES INC.
3. ALL MATERIALS AND METHODS OF CONSTRUCTION TO MEET THE CURRENT STANDARDS AND SPECIFICATIONS AS REQUIRED BY THE CITY OF CHESTERFIELD, MO.
4. ALL GRADED AREAS SHALL BE PROTECTED FROM EROSION BY EROSION CONTROL DEVICES AND/OR SEEDING AND MULCHING. EROSION CONTROL SHALL NOT BE LIMITED TO WHAT IS SHOWN ON THE PLAN. WHATEVER MEANS NECESSARY SHALL BE TAKEN TO PREVENT SILTATION AND EROSION FROM FROM ENTERING NATURAL STREAMS AND ADJACENT ROADWAYS, PROPERTIES, AND DITCHES.
5. PRIOR TO BEGINNING ANY WORK ON THE SITE, THE CONTRACTOR SHALL CONTACT THE OFFICE OF THE DEVELOPER FOR SPECIFIC INSTRUCTIONS RELEVANT TO THE SEQUENCING OF WORK.
6. GRADING CONTRACTOR SHALL INSTALL SILTATION CONTROL PRIOR TO STARTING THE GRADING. ADDITIONAL SILTATION CONTROL DEVICES MAY BE REQUIRED AS DIRECTED BY THE CITY OF CHESTERFIELD OR THE DEVELOPER.
7. ALL FILLS AND BACKFILLS SHALL BE MADE OF SELECTED EARTH MATERIALS, FREE FROM BROKEN MASONRY, ROCK, FROZEN EARTH, RUBBISH, ORGANIC MATERIAL AND DEBRIS.
8. PROPOSED CONTOURS SHOWN ARE FINISHED ELEVATIONS ON PAVED AREAS. CONTRACTOR TO GRADE ALL AREAS TO REQUIRED SUBGRADE.
9. ALL FILL PLACED FOR PROPOSED STORM AND SANITARY SEWER LINES AND/OR PAVED AREAS, AND FOR DRAINAGE BERMS SHALL BE COMPACTED TO 90% OF MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED AASHTO T-180 COMPACTION TEST OR 95% OF MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST AASHTO T-99. ALL TEST SHALL BE VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACKFILLING OPERATIONS.
10. A GRADING PERMIT IS REQUIRED PRIOR TO ANY GRADING ON THE SITE.
11. THE DEVELOPER IS REQUIRED TO PROVIDE ADEQUATE STORM-WATER SYSTEMS IN ACCORDANCE WITH THE CITY OF CHESTERFIELD AND M.S.D. 2023 STANDARDS.
12. ALL STORM-WATER SHALL BE DISCHARGED AT AN ADEQUATE NATURAL DISCHARGE POINT.
13. THE CONTRACTOR MUST BE ON FILE WITH THE MISSOURI ONE CALL SYSTEM 1-800-344-7483.
14. ALL PROPOSED UTILITIES ON THIS SITE MUST BE LOCATED UNDERGROUND.
15. SAFETY NOTICE TO CONTRACTOR: IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION 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 LIMITED TO NORMAL WORKING HOURS.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RAISING AND REMOVAL OF THE EXISTING STRUCTURES, INCLUDING FOUNDATIONS, RELATED UTILITIES, PAVING, UNDERGROUND FACILITIES AND ANY OTHER EXISTING IMPROVEMENTS.
17. CONTRACTOR IS TO REMOVE AND DISPOSE OF, OFF SITE, ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM DEMOLITION OPERATIONS.
18. THE SITE IMPROVEMENT PLANS APPROVED BY THE CITY OF CHESTERFIELD DOES NOT ALLOW THE REMOVAL OR CONSTRUCTION OF ANY SANITARY OR STORM SEWER LINES WITHOUT THE PRIOR APPROVAL OR CONSENT OF MSD.
19. ALL EXCAVATIONS, GRADING, OR FILLING SHALL HAVE A FINISHED GRADE NOT TO EXCEED A 4:1 SLOPE (25 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 BOCA CODES AND MUST BE APPROVED BY THE CITY BUILDING DEPARTMENT. PERMANENT SAFETY GUARDS WILL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROPRIATE SECTION(S) OF THE ADOPTED BOCA CODES.
20. 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.
21. WHERE NATURAL VEGETATION IS REMOVED DURING GRADING, VEGETATION SHALL BE REESTABLISHED IN SUCH A DENSITY AS TO PREVENT EROSION. PERMANENT SOD SHALL BE ESTABLISHED AS SOON AS POSSIBLE.
22. 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.
23. RUNOFF WATER FROM DEVELOPED AREAS (PARKING LOTS, PAVED SITES, AND BUILDINGS) ABOVE THE AREA TO DEVELOP 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.
24. ALL CONSTRUCTION METHODS AND PRACTICES TO CONFORM WITH OSHA STANDARDS.
25. ANY RETAINING WALLS REFERRED TO IN THESE PLANS ARE SHOWN FOR REFERENCE ONLY ARE NOT TO BE INTERPRETED AS DESIGN OF THE WALL SYSTEM.
26. CONTRACTOR SHALL BID THESE PLANS AND SPECIFICATIONS IN THEIR ENTIRETY (COMPLETE SETS).
27. OMISSIONS FROM THE DRAWINGS OR SPECIFICATIONS OR THE MISDESCRIPTION OF DETAILS OF WORK THAT ARE MANIFESTLY NECESSARY TO CARRY OUT THE INTENT OF THE DRAWINGS AND SPECIFICATIONS, OR THAT ARE CUSTOMARILY PERFORMED, SHALL NOT RELIEVE THE CONTRACTOR FROM PERFORMING SUCH OMITTED OR MISDESCRIBED DETAILS OF THE WORK. THE CONTRACTOR SHALL PERFORM SUCH DETAILS AS IF FULLY AND CORRECTLY SET FORTH AND DESCRIBED IN THE DRAWINGS AND SPECIFICATIONS.

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St Louis, MO 63103
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WEST MIDDLE SCHOOL
2312 Baxter Road, Chesterfield, MO 63017
Parkway PN # 432501B
Building Renovation

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017
314.415.8231 tel

Project No: 26-0048

Revisions

Description	Date

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CIVIL ENGINEERS
CORPORATE ENGINEERING CERTIFICATE #001165

STATE OF MISSOURI · STANLEY EARL FOWLER JR. · NUMBER PE-2020000037 · PROFESSIONAL ENGINEER
06/22/2026

STANLEY EARL FOWLER, JR.
CIVIL ENGINEER
PE NO: PE-2020000037

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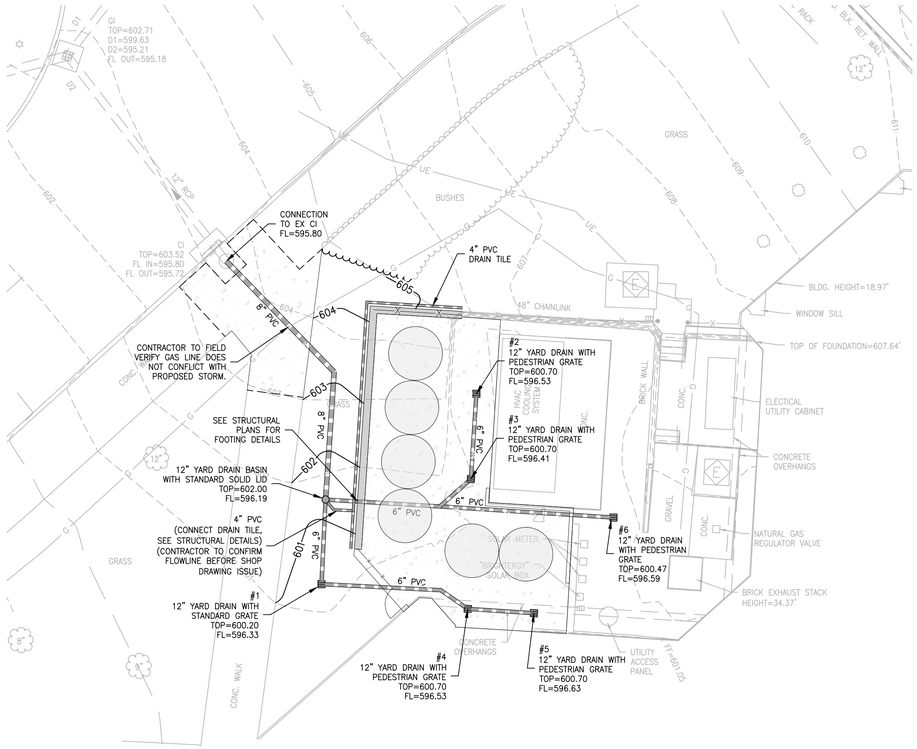
DATE: 06/22/26

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DEMOLITION & SITE PLAN

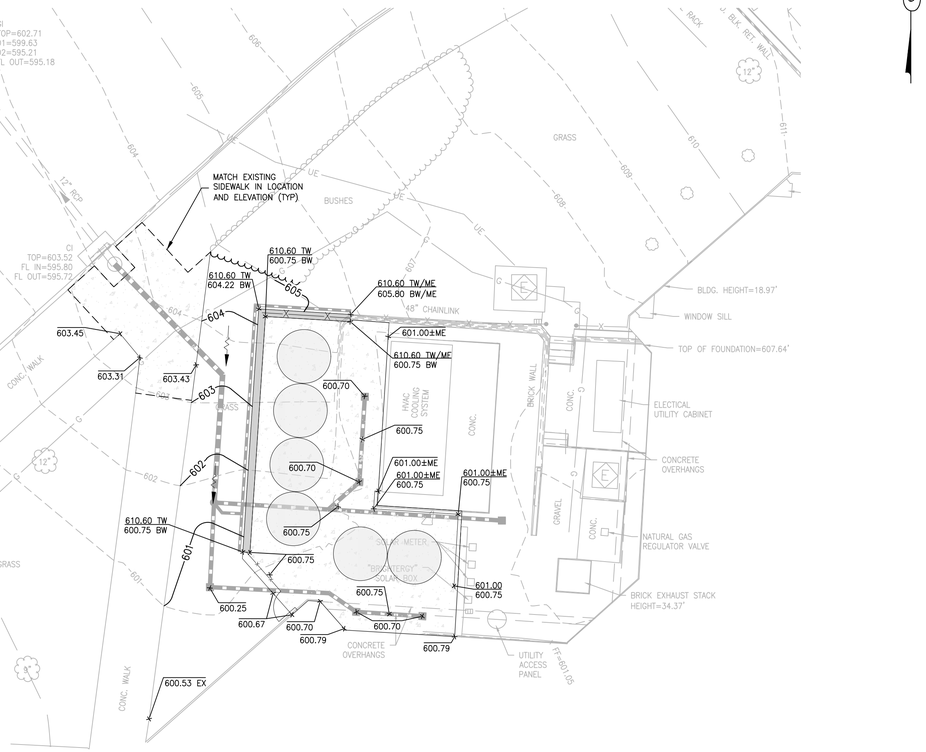
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USER: Austin Fetterhoff TAB, Perry, & Site
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1 UTILITY PLAN

SCALE: 1"=10' **REF. DWG.**



2 GRADING PLAN

SCALE: 1"=10' **REF. DWG.**

10' 0' 10' 20'

SCALE: 1" = 10'

STORM SEWER NOTES

1. 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, AND SHALL INCLUDE ALL SUBSEQUENT CHANGES MADE THERETO.
2. FOR SEWER PIPE (STORM, SANITARY, OR 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%. SEWER 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.
3. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE EXACT HORIZONTAL AND VERTICAL LOCATIONS AND SIZES OF ALL EXISTING UTILITIES, WHETHER SHOWN OR NOT SHOWN ON THIS PLAN, PRIOR TO THE START OF ANY CONSTRUCTION. THE ENGINEER HAS NOT FIELD VERIFIED THE EXISTING UTILITIES. THE UTILITIES SHOWN ON THIS PLAN HAVE BEEN TAKEN FROM RECORDS AND UTILITY MAPS MADE AVAILABLE TO THE ENGINEER AND THE LOCATIONS AND SIZES SHALL BE CONSIDERED APPROXIMATE ONLY. OTHER UTILITIES, NOT SHOWN ON THIS PLAN, MAY EXIST ON OR NEAR THE SITE
4. ALL FILL 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 WILL BE SUBMITTED TO MSD PRIOR TO CONSTRUCTION APPROVAL.
5. TYPE "C" BEDDING PER M.S.D. STANDARDS IS REQUIRED FOR ALL PIPES IN ROCK EXCEPT AS NOTED.
6. ALL TRENCHES IN AREAS TO BE PAVED AND UNDER EXISTING PAVEMENT OR WITHIN PUBLIC R.O.W. SHALL BE GRANULARLY BACKFILLED WITH 3/4-INCH MINUS CRUSHED LIMESTONE IN ACCORDANCE WITH 2023 M.S.D. STANDARDS.
7. THE SOILS ENGINEER WILL VERIFY THAT ALL COMPRESSIBLE MATERIAL HAS BEEN REMOVED PRIOR TO FILL PLACEMENT AND THAT ALL FILL UNDER STORM AND SANITARY SEWER LINES CONSTRUCTED ABOVE ORIGINAL GRADE, HAS BEEN COMPACTED TO 90% OF "MODIFIED PROCTOR". FILL IS TO BE PLACED IN A MAXIMUM 9" LIFTS. TESTS SHALL BE TAKEN AT A MAXIMUM OF 50' INTERVALS ALONG THE ROUTE OF THE PIPE, AT A MAXIMUM OF 2' VERTICAL, 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 M.S.D. PRIOR TO CONSTRUCTION.
8. ANY ABANDONED SEWERS SHALL BE REMOVED OR COMPLETELY GROUT FILLED.
9. 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.
10. STORMWATER SHALL BE DISCHARGED AT AN ADEQUATE NATURAL DISCHARGE POINT. SINKHOLES ARE NOT DISCHARGE POINTS.
11. 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).
12. 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 H11). 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.
13. TRENCH BACKFILL COMPACTION AND TESTING REQUIREMENTS: THE CONTRACTOR IS TO REFER TO PART 4, SECTION H OF THE METROPOLITAN ST. LOUIS SEWER DISTRICT, STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES, 2023 EDITION, TO ESTABLISH THE REQUIREMENTS FOR THE SPECIFIC TYPE OF BACKFILL BEING USED.

GRADING NOTES

1. ALL GRADES ARE TO FINISH GRADE OR FINISH PAVEMENT. THE CONTRACTOR SHALL DEDUCT PAVEMENT THICKNESS IN BUILDING AREAS TO OBTAIN SUBGRADE ELEVATIONS.
2. SILTATION CONTROL SHALL BE UTILIZED DURING CONSTRUCTION TO PREVENT SILTATION FROM RUNNING ONTO THE ADJACENT STREETS & PROPERTIES. NO STORM WATER SHALL DRAIN ONTO CITY STREETS, STATE ROADS, OR PRIVATE PROPERTY.
3. MAXIMUM SLOPE SHALL BE 4 HORIZ. TO 1 VERT. (4:1) THE CIVIL ENGINEER ASSUMES NO LIABILITY FOR SLOPES EXCEEDING THOSE RECOMMENDED BY GEOTECH. REPORT.
4. ALL GRADING AND DRAINAGE SHALL MEET THE CITY OF CHESTERFIELD SPECIFICATIONS AND AS SPECIFIED IN SOILS REPORT.
5. ADDITIONAL SILTATION CONTROL DEVICES MAY BE REQUIRED BY CITY OF CHESTERFIELD.
6. THE GRADING CONTRACTOR SHALL ESTABLISH THE SILTATION CONTROL AND BE INSPECTED BY THE CITY OF CHESTERFIELD PRIOR TO BEGINNING THE GRADING.
7. THE GRADING CONTRACTOR SHALL MAINTAIN THE SILTATION CONTROL DEVICES SO AS TO PREVENT SILT FROM BYPASSING THEM.
8. THE CITY OF CHESTERFIELD CITY ENGINEER SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO THE COMMENCEMENT OF THE GRADING TO VERIFY SILT CONTROL INSTALLATION, (GRADING PERMIT REQUIRED).
9. DURING THE GRADING OPERATION ADDITIONAL SILTATION CONTROL MEASURES MAY BE REQUIRED AS DIRECTED BY THE CITY OF CHESTERFIELD.
10. ALL CONSTRUCTION METHODS AND MATERIAL SHALL CONFORM TO CURRENT CITY OF CHESTERFIELD STANDARDS.
11. IF CUT AND FILL OPERATIONS OCCUR DURING A SEASON NOT FAVORABLE FOR IMMEDIATE ESTABLISHMENT OF A PERMANENT GROUND COVER. SEE VEGETATION NOTES.
12. INSTALL SILTATION CONTROL FENCING AS SOON AS SITE IS BROUGHT TO FINAL GRADE.
13. EXISTING AREAS OF SOFT SOILS AND ORGANIC DEBRIS SHALL BE COMPLETELY REMOVED. INTERIM STORM WATER DRAINAGE CONTROL IN THE FORM OF SILTATION CONTROL MEASURES ARE REQUIRED AS APPROVED BY M.S.D.

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NUMBER PE-2020000037
PROFESSIONAL ENGINEER
06/22/2026

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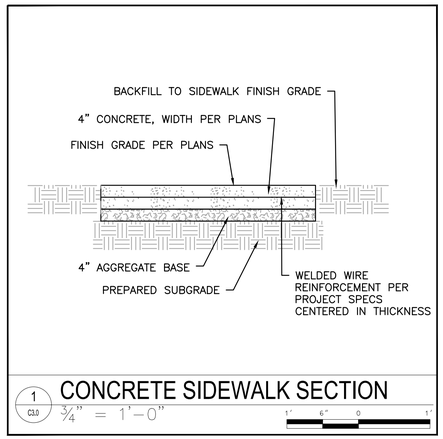
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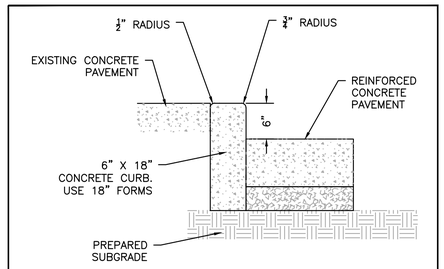
UTILITY & GRADING PLAN

C4.0

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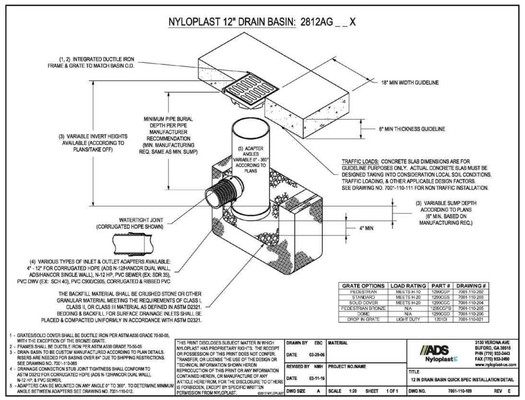


1 C3.0 — **CONCRETE SIDEWALK SECTION**
¾" = 1'–0"

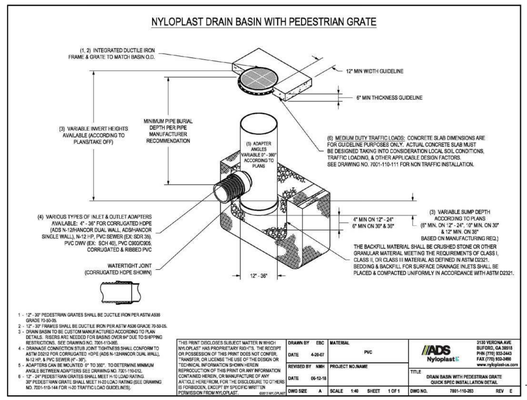


NOTES:
1. PROVIDE ½" EXPANSION JOINT SIMILAR CONCRETE EXPANSION JOINT, FULL DEPTH OF CURB, MAXIMUM SPACING AT 20'–0" ON CENTER OR PER PLAN.
2. CONTRACTOR TO REFERENCE 3" HIGH CURB AS DESIGNED AND COORDINATE AS NEEDED.

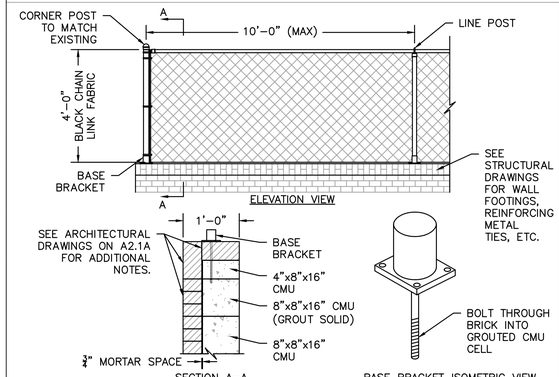
2 C3.0 — **CONCRETE CURB SECTION**
¾" = 1'–0"



3 — **12" DRAIN BASIN DETAIL**
SCALE: N.T.S. REF. DWG. C4.0

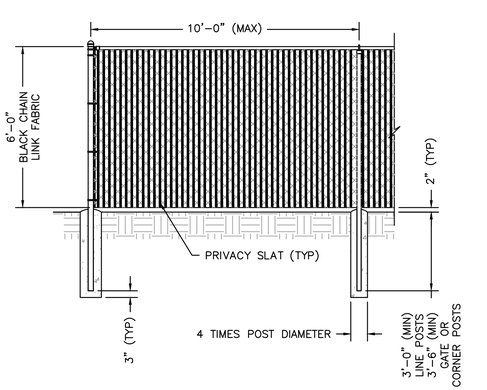


4 — **DRAIN BASIN WITH PEDESTRIAN GRATE DETAIL**
SCALE: N.T.S. REF. DWG. C4.0



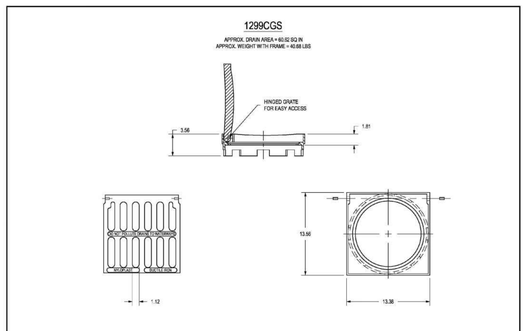
DETAIL NOTES:
1. SEE THE SITEWORK SPECIFICATIONS FOR THE SIZE, TYPE, AND GAUGE OF MATERIALS THAT WILL BE USED FOR CONSTRUCTION OF A CHAIN LINK FENCE.
2. NEW BRICK TO MATCH EXISTING. SUBMIT BRICK SAMPLES FOR APPROVAL BY OWNER & ARCHITECT.

5 — **FENCE ON RETAINING WALL DETAIL**
SCALE: N.T.S. REF. DWG. C3.0

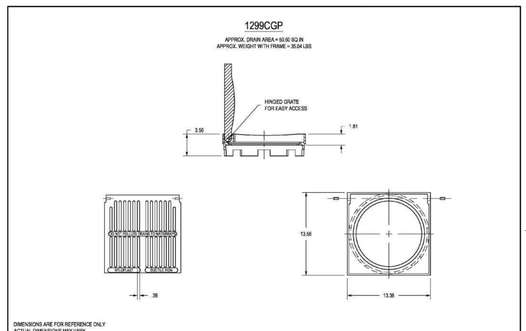


DETAIL NOTES:
SEE THE SITEWORK SPECIFICATIONS FOR THE SIZE, TYPE, AND GAUGE OF MATERIALS THAT WILL BE USED FOR CONSTRUCTION OF A CHAIN LINK FENCE.

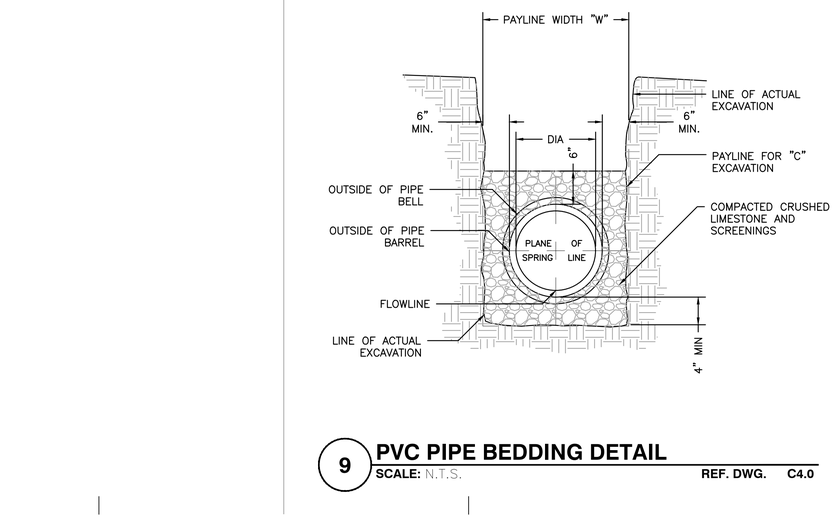
6 — **CHAINLINK FENCE DETAIL**
SCALE: N.T.S. REF. DWG. C3.0



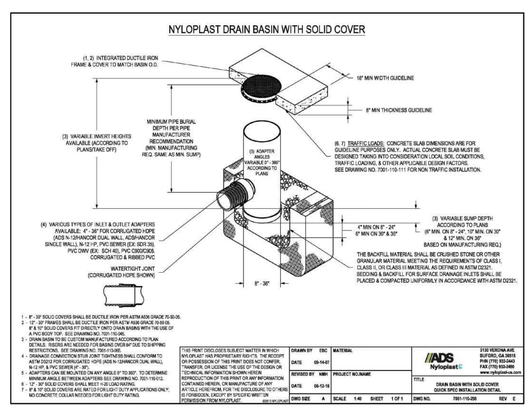
7 — **12" STANDARD GRATE DETAIL**
SCALE: N.T.S. REF. DWG. C4.0



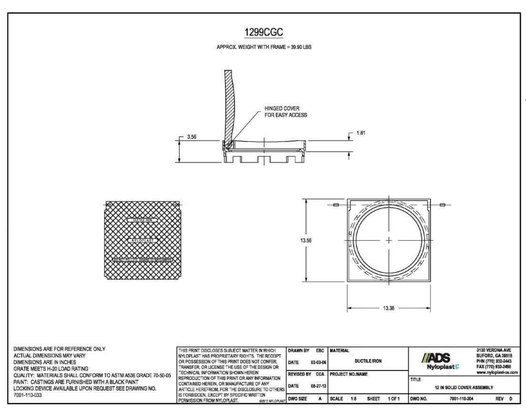
8 — **12" PEDESTRIAN GRATE DETAIL**
SCALE: N.T.S. REF. DWG. C4.0



9 — **PVC PIPE BEDDING DETAIL**
SCALE: N.T.S. REF. DWG. C4.0



10 — **DRAIN BASIN WITH SOLID COVER DETAIL**
SCALE: N.T.S. REF. DWG. C4.0



11 — **12" SOLID COVER DETAIL**
SCALE: N.T.S. REF. DWG. C4.0

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DATE: 06/22/26

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SITE DETAILS

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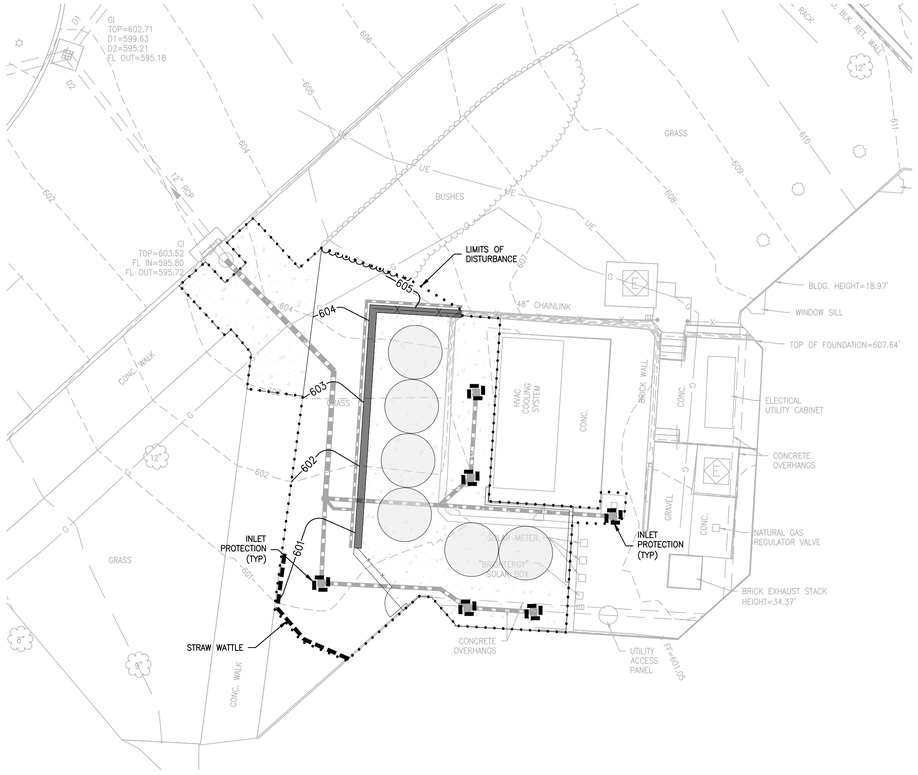
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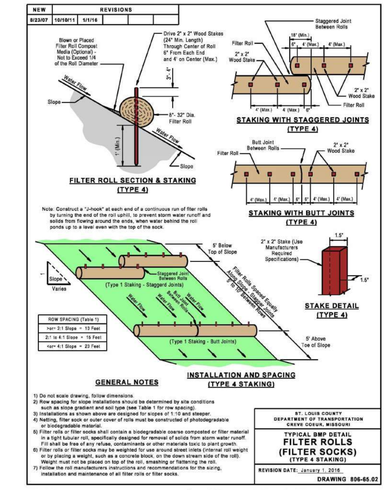
SWPPP NOTES

SITE OWNER: PARKWAY SCHOOL DISTRICT
SITE ADDRESS: 2312 BAXTER RD
CHESTERFIELD RD, 63017

SITE CONTACT/
SPECIAL INSPECTOR: TBD

1. REFER TO IMPROVEMENT PLANS FOR PERTINENT SITE MAP INFO.
2. REFER TO IMPROVEMENT PLANS FOR PERTINENT TOPOGRAPHICAL INFO.
3. TOTAL LAND ESTIMATED TO BE DISTURBED – APPROXIMATELY 0.04 AC
4. REFER TO DRAINAGE AREA MAP IN IMPROVEMENT PLANS FOR DRAINAGE PATTERNS.
5. REFER TO SWPPP PLAN FOR LOCATION OF ACCESS TO CONSTRUCTION SITE.
6. DESCRIPTION OF B.M.P.'S TO CONTROL EROSION AND SEDIMENTATION (INTERIM AND PERMANENT STABILIZATION PRACTICES)
   - 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 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 IN FINAL GRADING AND / OR EXCESS REMOVAL. THE STOCKPILES WILL BE KEPT ON SITE BUT MUST STAY CLEAR OF ALL CONSTRUCTION ACTIVITY. THE STOCKPILE MUST BE STABILIZED WITH TEMPORARY VEGETATION, OR COVERED AT THE END OF EACH WORKDAY, OR PERIMETER CONTROLS MUST BE IN PLACE TO PREVENT SOIL LOSS AND SEDIMENT TRANSPORT FROM THE STOCKPILE ITSELF UNTIL NEEDED.
   - D. 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.
   - E. STORM DRAINS SHALL BE INSTALLED AS EARLY AS POSSIBLE, PROVIDED THE INSTALLATION DOES NOT CONFLICT WITH OTHER CONSTRUCTION ACTIVITIES. INLET PROTECTION SHALL BE PLACED AROUND EACH INLET, IMMEDIATELY, UPON COMPLETION OF CONSTRUCTION OF EACH INLET. INLETS MAY BE UTILIZED FOR STORM WATER CONTROL DURING CONSTRUCTION, WITH THE SILT FENCE AND EROSION CONTROL MEASURES IN PLACE. CONTRACTOR SHALL TAKE PRECAUTIONS TO LIMIT SILT FROM ENTERING STORM PIPE, PRIOR TO INSTALLATION OF STORM STRUCTURES.
   - F. IF SEEDING OR ANOTHER VEGETATIVE EROSION CONTROL METHOD IS USED, IT SHALL BECOME ESTABLISHED WITHIN TWO WEEKS OR THE SITE SHALL BE RE-SEEDED OR A NON-VEGETATIVE OPTION EMPLOYED.
   - G. TECHNIQUES SHALL BE EMPLOYED TO ENSURE STABILIZATION ON STEEP SLOPES AND IN DRAINAGE WAYS.
   - H. THE ENTIRE SITE MUST BE STABILIZED, USING HEAVY MULCH LAYER OR ANOTHER METHOD THAT DOES NOT REQUIRE GERMINATION TO CONTROL EROSION, AT THE CLOSE OF THE CONSTRUCTION SEASON. REFER TO TABLE ON THIS SHEET FOR MULCHING RATES.
   - I. TECHNIQUES SHALL BE EMPLOYED TO PREVENT THE BLOWING OF DUST OR SEDIMENT FROM THE SITE.
   - J. ALL PROPOSED TURF AREAS ARE TO BE REPLACED WITH SOD ONCE CONSTRUCTION IS COMPLETED WITHIN FIVE 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.
   - K. 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.
   - L. SEDIMENTATION CONTROLS SHALL ONLY BE REMOVED WITH CITY APPROVAL AFTER THE SITE IS COMPLETELY STABILIZED, VEGETATION IS WELL ESTABLISHED, AND ALL PAVEMENT AREAS ARE INSTALLED.
   - M. SOIL STABILIZATION SHALL BE COMPLETED WITHIN FIVE (5) DAYS OF CLEARING OR INACTIVITY IN CONSTRUCTION.
7. 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 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 WASH DOWNS 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.
   - H. PROVISIONS SHALL BE MADE FOR LITTER CONTROL.
8. DESCRIPTION OF B.M.P.'S TO REMAIN AFTER CONSTRUCTION
   - A. STORM DRAINS – THE DEVELOPMENT WILL BE SERVED BY A STORM WATER SYSTEM CONSISTING OF PIPE AND INLETS. ANY STORM DRAINAGE SYSTEM DESIGNATED AS "PRIVATE" SHALL BE OPERATED AND MAINTAINED BY THE OWNER. ANY STORM DRAINAGE SYSTEM DESIGNATED AS "PUBLIC" SHALL BE MAINTAINED BY 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.
9. CONTRACTOR TO COORDINATE WITH THE CITY AND DEVELOPER FOR OFF STREET PARKING AREA..
10. HAUL ROUTE OF EXCESS SPOILS TO BE DETERMINED BY SITE CONTRACTOR.
11. REFER TO B.M.P.'S DESCRIPTIONS (#6, #7, #8) AND THE SWPP PLAN TO REFERENCE ALL EROSION AND SEDIMENT CONTROL MEASURES REQUIRED FOR THIS SITE.
12. REFER TO SEEDING RATES/MIXTURES ON THIS SHEET.
13. PLANNED RESPONSE TO LOSS OF CONTAINED SEDIMENT:
    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 TO THE ST. CHARLES DEPARTMENT OF PUBLIC WORKS OF THE B.M.P. MEASURES, INSTALLED AND SCHEDULED MAINTENANCE, AND REPAIRS.
14. PERMIT HOLDER
    - A. PERMIT HOLDER SHALL NOTIFY ALL CONTRACTORS AND OTHER ENTITIES (INCLUDING UTILITY CREWS, CITY 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. PROVIDE COPIES OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) TO ALL PARTIES WHO ARE RESPONSIBLE FOR INSTALLATION, OPERATION, OR MAINTENANCE FOR ANY BEST MANAGEMENT PRACTICES (BMP'S).
    - D. MAINTAIN A CURRENT COPY OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) ON THE SITE AT ALL TIMES. A COPY OF THE SWPPP WILL BE LOCATED AT THE CONSTRUCTION TRAILER AND BE AVAILABLE FOR VIEWING AT ALL TIMES.
15. PRIOR TO ANY MAJOR LAND DISTURBANCE ACTIVITY, A LAND DISTURBANCE PERMIT FROM THE STATE OF MISSOURI DEPARTMENT OF NATURAL RESOURCES AND COUNTY, WILL BE REQUIRED.
16. ANY LAND CLEARING, CONSTRUCTION, OR DEVELOPMENT INVOLVING THE MOVEMENT OF EARTH SHALL BE IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN.



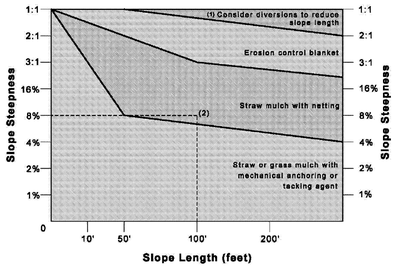


STRAW WATTLE AND INLET PROTECTION DETAIL

1 SCALE: N.T.S. REF. DWG. C6.0

EROSION CONTROL TEMPORARY

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 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 unweathered; 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 to tack straw. 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 fine turf areas.
Bark	35 cu. yds.	Air dry, shredded, or hammermilled; or chips	Apply with blower, chip handler or by hand. Do not use asphalt tack.

EROSION CONTROL TEMPORARY

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, Rye & Bluegrass	A	A	O	O	O	P	P	O	O	P	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 reseeding 2 months later - Initially 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 1000 sq. 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 @ 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 20% (5:1), shall be 10 pounds per 1000 sq. ft.

Temporary Seeding	Pounds per acre	Pounds Per 1000 sq. ft.
Rye or Sudan	150	3.5
Oats	200	2.5

Fertilizer	Permanent Seeding (pounds per acre)	Temporary Seeding (pounds per acre)
Nitrogen	45	30
Phosphate	65	30
Potassium	65	30
Lime - ENM	600	600

ENM = Effective neutralizing material per State evaluation of quarried rock.

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 filter 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 prefabricated.

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 rolls 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 roll material along the upside of rolls as shown on detail drawings, not to exceed ¼ 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

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Parkway PN # 432501B
Building Renovation

Parkway School District
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Chesterfield, MO 63017
314.415.8231 tel

Project No: 26-0048

Revisions

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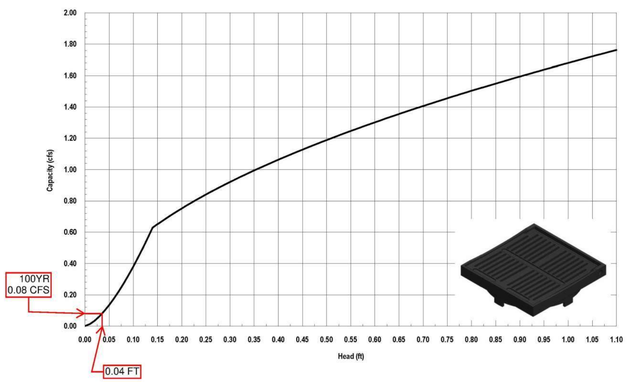
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STORMWATER POLLUTION PREVENTION PLAN

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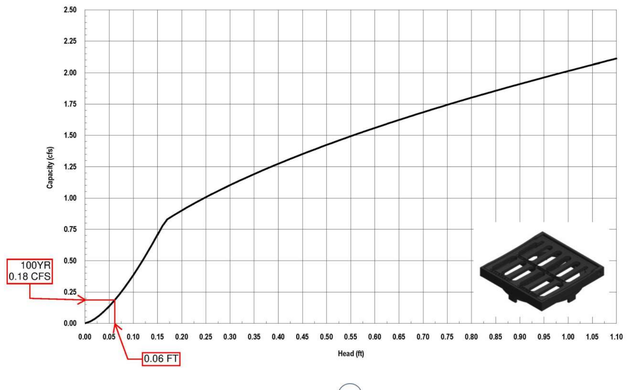
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1 PEDESTRIAN GRATE CAPACITY

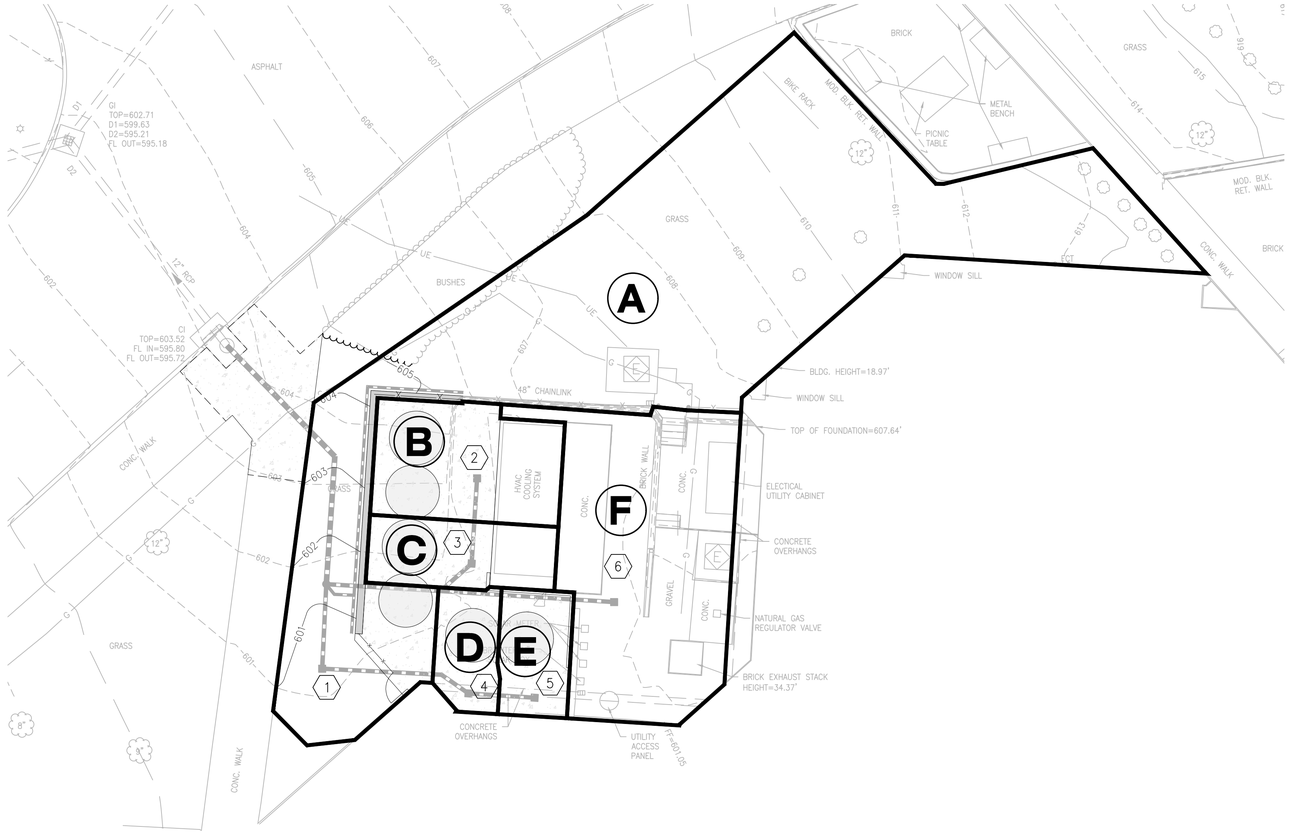
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2 STANDARD GRATE CAPACITY

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STORMWATER MANAGEMENT NOTE:

LAND AREA DISTURBED = ±0.04 ACRES

NOTE:

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.

INLET DRAINAGE AREA TABLE

Designation	Pervious (sf)	Impervious (sf)	Total Area (sf)	Pervious (ac)	Impervious (ac)	TOTAL AREA (ACRES)	IMPERV %	PI (100 yr, 20 min)	PI (15 yr, 20 min)	Q100 (cfs)	Q15 (cfs)	DRAINAGE AREA TRIBUTARY STRUCTURE
A	2,957	268	3,225	0.07	0.01	0.07	8.3%	2.39	1.77	0.18	0.13	1
B	-	417	417	-	0.01	0.01	100.0%	4.77	3.54	0.05	0.03	2
C	-	246	246	-	0.01	0.01	100.0%	4.77	3.54	0.03	0.02	3
D	-	149	149	-	0.00	0.00	100.0%	4.77	3.54	0.02	0.01	4
E	-	176	176	-	0.00	0.00	100.0%	4.77	3.54	0.02	0.01	5
F	539	479	1,018	0.01	0.01	0.02	47.0%	3.39	2.52	0.08	0.06	6

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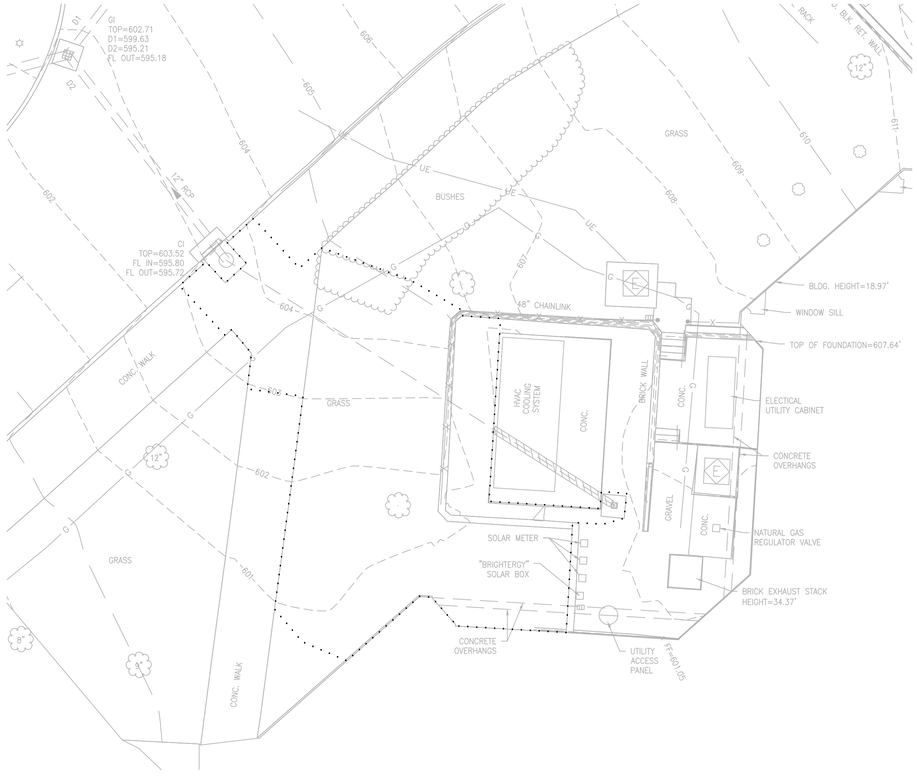
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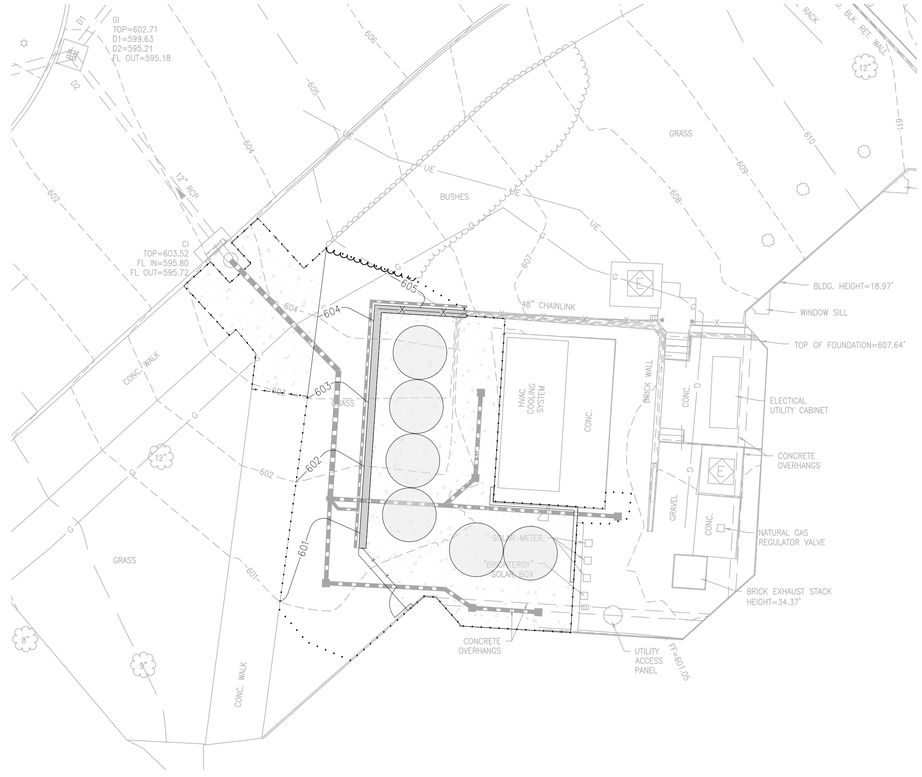
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INLET DRAINAGE AREA MAP

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

SCALE: 3/4" = 1'-0" 0 0.25' 0.5' 1'
SCALE: 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'
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'

PRE DEVELOPED CONDITIONS (0.04 AC)

PERVIOUS AREA = 0.03 AC.
x PI=1.70 (15 YR)
TOTAL PERVIOUS AREA CFS = 0.06 CFS

IMPERVIOUS AREA = 0.01 AC.
x PI=3.54 (15 YR)
TOTAL IMPERVIOUS AREA CFS = 0.03 CFS

TOTAL=0.09 CFS

POST DEVELOPED CONDITIONS (0.04 AC)

PERVIOUS AREA = 0.01 AC.
x PI=1.70 (15 YR)
TOTAL PERVIOUS AREA CFS = 0.02 CFS

IMPERVIOUS AREA = 0.03 AC.
x PI=3.54 (15 YR)
TOTAL IMPERVIOUS AREA CFS = 0.10 CFS

TOTAL=0.12 CFS

DIFFERENTIAL RUNOFF CALCULATIONS (15YR)

PRE DEVELOPED CONDITIONS	**0.09 CFS**
POST DEVELOPED CONDITIONS	**0.12 CFS**
DIFFERENTIAL RUNOFF RATE	**+0.03 CFS**

IMPERVIOUS AREA INCREASE = 0.02 ACRES
DISTURBED AREA = 0.04 ACRES

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06/22/2026

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PRE-POST DRAINAGE AREA MAP

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SCALE: 1 1/2" = 1'-0"

SCALE: 1" = 1'-0"

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SCALE: 1/4" = 1'-0"

SCALE: 1/8" = 1'-0"

SCALE: 1/16" = 1'-0"

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PARKWAY WEST MIDDLE CHILLER CODE REVIEW

ZONING - MUNICIPAL, CHESTERFIELD
LOCATOR# 20R111202, LAND USE 681, MUNICODE 105
AHJ: CITY OF CHESTERFIELD, ST LOUIS COUNTY,
METRO WEST FIRE PROTECTION DISTRICT

ST LOUIS COUNTY APPLICABLE CODES:
2015 - INTERNATIONAL BUILDING CODE (IBC)
2015 - INTERNATIONAL EXISTING BUILDING CODE (IEBC)
2014 - NATIONAL ELECTRICAL CODE (NEC)
2015 - UNIFORM PLUMBING CODE (UPC)
2015 - INTERNATIONAL MECHANICAL CODE (IMC)
2015 - INTERNATIONAL ENERGY CONSERVATION CODE
2015 - INTERNATIONAL FUEL GAS CODE (IFGC)

METRO WEST FIRE PROTECTION DISTRICT APPLICABLE CODES:
2021 - INTERNATIONAL FIRE CODE (IFC) & LOCAL ORDINANCES
2021 - INTERNATIONAL BUILDING CODE (IBC)
2021 - INTERNATIONAL EXISTING BUILDING CODE (IEBC)
2021 - INTERNATIONAL MECHANICAL CODE (IMC)
2021 - INTERNATIONAL PROPERTY MAINTENANCE CODE (IPMC)
ORDINANCE NO. 121

GENERAL SCOPE OF WORK: THIS PROJECT CONSISTS OF: REPLACEMENT OF COOLING TOWER CTW-001, CHILLERS CHR-001 & CHR-002, INSTALLATION OF 6 NEW ICE STORAGE TANKS AND INTEGRATE INTO COOLING SYSTEM, AND SITE GRADING, STORM WATER SITE IMPROVEMENTS AND ANY MECHANICAL , ELECTRICAL AND PLUMBING ADJUSTMENTS AS REQUIRED FOR THE INSTALLATION OF THE NEW EQUIPMENT. ANY ASBESTOS ABATEMENT AS REQUIRED FOR IMPLEMENTATION OF THE ABOVE WORK.

WORK IS LIMITED TO MINOR ALTERATIONS TO AN EXISTING FACILITY

RENOVATION, SPRINKLERED - NO
EXISTING BUILDING USE GROUP (305): EDUCATIONAL GROUP E
EXISTING BUILDING CONSTRUCTION TYPE (602.2): II-B
(NOTE: ASSEMBLY SPACES SUCH AS CAFETERIA , AUDITORIUMS, GYMS, LIBRARIES AND SIMILAR SPACES ARE ANCILLARY TO EDUCATION OCCUPANCY, DO NOT CONSTITUTE SEPARATE OCCUPANCIES FOR THE PURPOSE OF MIXED USE CALCULATIONS.)

ACTUAL EXISTING BUILDING HEIGHT & NEW (NO CHANGE)

ACTUAL EXISTING BUILDING AREA (NO CHANGE)
(NOTE: INSTALLATION OF COMPLETE FIRE SUPPRESSION SYSTEM IS SCHEDULED IN UPCOMING WEST MIDDLE SCHOOL RENOVATION PROJECT.)

EXISTING FIRE-RESISTANCE RQMTS. FOR BUILDING ELEMENTS:
(PER 2015 IBC TABLE 601)

PRIMARY STRUCTURAL FRAME	0
BEARING WALLS	
EXTERIOR	0
INTERIOR	0
NONBEARING WALLS & PARTITIONS	
EXTERIOR (IBC 2015 T 602, 2021 T 705.5)	0
INTERIOR	0
FLOOR CONSTRUCTION & SECONDARY MEMBERS	0
ROOF CONSTRUCTION & SECONDARY MEMBERS	0

CORRIDOR (>30) OCC SEPARATION (TABLE 1020.1)
(NS) 1 HR.

NUMBER OF EXITS - (NO CHANGE)

EGRESS WIDTH - (NO CHANGE)

CONFIGURATION OF EMERGENCY EGRESS ROUTES - (NO CHANGE)

LEGEND

1 HOUR FIRE BARRIER
2 HOUR FIREWALL

STORM SHELTER AREA

EGRESS ACTUAL
MAX CAPACITY
EGRESS CAPACITY OF DOOR & DIRECTION

EGRESS ACTUAL
MAX CAPACITY
EGRESS CAPACITY OF STAIR & DIRECTION

FEC
FIRE EXTINGUISHER CABINET

NAME OF SPACE
FUNCTION
PER TABLE 1004.1.1
AREA (SF)
AREA OF SPACE

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WEST MIDDLE SCHOOL

2312 Baxter Road, Chesterfield, MO 63017
Parkway Project #: PN432501B
Cooling Tower & Chillers Replacement

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017
314.415.8231 tel

Project No: 25091

Revisions

Description	Date

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DATE: 2026-06-15

BID/ PERMIT SET

CODE BLOCK

A0.1

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"

STANDARD ABBREVIATIONS

&	And
@	At
ABV	Above
ACT	Acoustic Ceiling Tile
ADA	American with Disabilities Act
ADJ	Adjacent
AFF	Above Finish Floor
ALUM	Aluminum
APROX	Approximate
BLDG	Building
BLK	Block
BLKG	Blocking
BM	Beam
BO	Bottom Of
CAB	Cabinetry
CB	Chalk Board
CJ	Construction/Control Joint
CL	Center Line
CLG	Ceiling
CLR	Clear
CMU	Concrete Masonry Unit
CO	Clean Out
COL	Column
CONC	Concrete
CONST	Construction
CONT	Continuous
CPT	Carpet
CPCI	Contractor Provided Contractor Installed
CPOI	Contractor Provided Owner Installed
CSDO	Cased Opening
CT	Ceramic Tile
DF	Drinking Fountain
DIA	Diameter
DR	Door
DS	Downspout
DTL	Detail
DWG	Drawing
EJ	Expansion Joint
EL	Elevation
ELEC	Electrical
ELEV	Elevator
EQ	Equal
EQIV	Equivalent
EWC	Electric Water Cooler
EXIST	Existing
EXP	Exposed
EXT	Exterior
FD	Floor Drain
FEC	Fire Extinguisher Cabinet
FIN	Finish
FLR	Floor
FO	Face Of
FT	Feet
FRT	Fire Retardant Treated
FTG	Footing
GC	General Contractor
GFI	Ground Fault Interrupter
GYP	Gypsum Board
HDR	Header
HM	Hollow Metal
HORZ	Horizontal
HR	Hour
HVAC	Heating Ventilating and Air Conditioning
ID	Inside Diameter
INSUL	Insulation
INT	Interior
JAN	Janitor
LAV	Lavatory (Sink)
MB	Marker Board
MDF	Medium Density Fiberboard
MECH	Mechanical
MFR	Manufacturer
MIN	Minimum
MISC	Miscellaneous
MO	Masonry Opening
MTL	Metal
NIC	Not In Contract
NTS	Not To Scale
OC	On Center
OD	Outside Diameter
OH	Opposite Hand
OPCI	Owner Provided Contractor Installed
OPNG	Opening
OPP	Opposite
OPOI	Owner Provided Owner Installed
OSB	Oriented Strand Board
PL	Plate
PLAM	Plastic Laminate
PLAS	Plaster
PLUM	Plumbing
PLYWD	Plywood
PNT	Paint
PRLAM	Parallam
PT	Porcelain Tile
PVC	Polyvinyl Chloride
QT	Quarry Tile
QTY	Quantity
R	Riser
RB	Rubber Base
RD	Roof Drain
REINF	Reinforcing
REQD	Required
RM	Room
RO	Rough Opening
SC	Solid Core
SECT	Section
SHT	Sheet
SIM	Similar
SPEC	Specification
SSTL	Stainless Steel
STD	Standard
STL	Steel
STOR	Storage
STRUC	Structural
SV	Sheet Vinyl
T	Tread
TB	Tack Board
TNG	Tongue & Groove
TO	Top Of
TYP	Typical
UNO	Unless Noted Otherwise
VB	Vinyl Base
VCT	Vinyl Composition Tile
VERT	Vertical
VIF	Verify In Field
VWC	Vinyl Wall Covering
w/	With
w/o	Without
WC	Water Closet (Toilet)
WD	Wood
WDW	Window
WPR	Waterproofing
WWF	Welded Wire Fabric

GENERAL NOTES

1. VERIFY AND COORDINATE ALL DIMENSIONS AT JOB SITE FOR COMPARISON WITH DRAWINGS AND SPECIFICATIONS PRIOR TO BIDDING AND START OF AND DURING CONSTRUCTION. IF ANY DISCREPANCIES, INCONSISTENCIES OR OMISSIONS ARE FOUND, THE ARCHITECT SHALL BE NOTIFIED, IN WRITING, FOR CLARIFICATION PRIOR TO PROCEEDING WITH WORK.
2. IF DISCREPANCIES ARE FOUND WITHIN CONTRACT DOCUMENTS AND PROJECT MANUAL, OR IN THE CASE OF CONFLICT BETWEEN THE DRAWINGS AND THE SPECIFICATIONS, THE MOST DEMANDING AND/OR COST INTENSIVE REQUIREMENT SHALL TAKE PRECEDENCE UNLESS OTHERWISE AGREED BY THE ARCHITECT IN WRITING. NOTIFY THE ARCHITECT & GENERAL CONTRACTOR OF ANY CONFLICT AND GET CLARIFICATION FROM ARCHITECT BEFORE PROCEEDING WITH THE WORK.
3. DO NOT SCALE DRAWINGS. RELY ON WRITTEN DIMENSIONS GIVEN. NOTIFY THE ARCHITECT FOR CLARIFICATIONS. ALL DIMENSIONS SHALL BE FIELD VERIFIED AND COORDINATED WITH ALL OF THE WORK OF ALL TRADES. IF DISCREPANCIES ARE FOUND, NOTIFY THE ARCHITECT IN WRITING FOR CLARIFICATION BEFORE THE COMMENCEMENT OR RESUMPTION OF WORK.
4. VERIFY ALL COLUMN COORDINATES AND CHECK AGAINST DIMENSIONS SHOWN ON PLANS AND DETAILS.
5. IN THE CASE OF CONFLICT BETWEEN THE DRAWINGS AND THE SPECIFICATIONS, NOTIFY THE ARCHITECT IN WRITING. NOTIFY THE CONSTRUCTION MANAGER/GENERAL CONTRACTOR OF ANY CONFLICT AND GET CLARIFICATION FROM ARCHITECT BEFORE PROCEEDING WITH THE WORK.
6. ABBREVIATIONS THROUGHOUT THE PLANS ARE THOSE IN COMMON USE. NOTIFY THE ARCHITECT OF ANY ABBREVIATIONS IN QUESTION.
7. DIMENSIONS SHOWN ON FLOOR PLANS, SECTIONS, ELEVATIONS, AND DETAILS ARE TO FINISH FACE OF PARTITIONS, MASONRY, OR COLUMN GRID LINES, UNLESS OTHERWISE NOTED.
8. COORDINATE THE INSTALLATION OF THE VARIOUS TRADE ITEMS WITHIN THE SPACE ABOVE ALL CEILINGS (INCLUDING, BUT NOT LIMITED TO: STRUCTURAL MEMBERS, MECHANICAL DUCTS AND INSULATION, CONDUITS, RACEWAYS, SPRINKLER SYSTEM, LIGHT FIXTURES,CEILING SYSTEMS, AND ANY SPECIAL STRUCTURAL SUPPORTS REQUIRED) AND MAINTAIN THE FINISH CEILING HEIGHT ABOVE THE FINISH FLOOR INDICATED IN THE DRAWINGS AND THE FINISH SCHEDULE. (CEILING HEIGHT DIMENSIONS ARE TO THE FINISH SURFACE OF CEILING).
9. PROVIDE AND INSTALL ACCESS PANELS WHERE SHOWN ON THE REFLECTED CEILING PLANS AND AS REQUIRED BY BUILDING CODE OR FOR THE PROPER OPERATION OR MAINTENANCE OF MECHANICAL OR ELECTRICAL EQUIPMENT, WHETHER OR NOT INDICATED ON THE DRAWINGS. COORDINATE SIZE, LOCATION, AND TYPE OF ACCESS PANEL WITH OTHER WORK AND RECEIVE APPROVAL OF THE ARCHITECT. ACCESS PANEL SHALL BE AS SPECIFIED.
10. FOR ALL METAL STUD PARTITIONS, INSTALL DOUBLE STUDS (MIN) AT DOOR FRAME JAMBS. INSTALL STUD TRACKS AT EACH SIDE OF OPENING, AT FRAME HEAD HEIGHT AND BETWEEN STUDS AND ADJACENT STUDS.
11. INSTALL ALL WORK PLUMB, LEVEL, TRUE, SQUARE, STRAIGHT AND IN PROPER ALIGNMENT WITH NO DISTORTIONS, PROVIDE SHIMS AS REQUIRED.
12. INTERIOR METAL STUD PARTITIONS SHALL BE FACED WITH 5/8 INCH TYPE X GYPSUM WALL BOARD UNLESS NOTED OTHERWISE.
13. WHERE INDICATED ON THE DRAWINGS, PROVIDE ACOUSTIC BLANKETS IN PARTITIONS TIGHT WITHIN SPACE, AROUND CUT OPENINGS, BEHIND AND AROUND ELECTRICAL AND MECHANICAL ITEMS WITHIN OR BEHIND PARTITIONS, AND TIGHT TO ITEMS PASSING THROUGH PARTITIONS.
14. ALL STAIRS AND SHAFTS TO BE RATED 1HR UNLESS NOTED OTHERWISE. SEAL ALL PENETRATIONS PER UL STANDARD ASSEMBLIES OR EQUAL BY APPROVED AGENCY
15. ALL CONCEALED WOOD (PLYWOOD SHEATHING, BLOCKING, ETC.) TO BE FIRE TREATED.
16. WHERE FIRE EXTINGUISHER CABINETS AND OTHER EQUIPMENT ARE RECESSED IN FIRE RATED PARTITIONS, MODIFY PARTITIONS AS REQUIRED TO PROVIDE CONTINUOUS ENCLOSURE TO ENSURE UNINTERRUPTED FIRE RATING.
17. PROVIDE AND INSTALL ALL STIFFENERS, BRACING, BACK-UP PLATES AND SUPPORTING BRACKETS REQUIRED FOR THE INSTALLATION OF ALL CASEWORK, TOILET ACCESSORIES AND OF ALL FLOOR-MOUNTED OR SUSPENDED MECHANICAL AND ELECTRICAL EQUIPMENT.
18. PROVIDE FIRE SAFING INSULATION PER UL LISTED REQ'D AT ALL PIPE, DUCT, ELECTRICAL, ETC., PENETRATIONS THROUGH CONCRETE FLOOR SLABS AND AT FIRE AND SMOKE WALLS.
19. ALL DUCT PENETRATIONS THROUGH PARTITIONS AND CEILING SHALL BE PROVIDED WITH NECESSARY FRAMES AND BRACING AROUND THE OPENING AND SHALL BE PROVIDED WITH AUTOMATIC FIRE DAMPERS AS REQUIRED BY THE BUILDING DEPARTMENT FOR FIRE-RATED PARTITIONS.
20. ALL EXPOSED STEEL ANGLES, PLATES, ETC., SHALL BE GALVANIZED FOR CORROSION RESISTANCE UNLESS NOTED OTHERWISE.
21. NOTIFY ARCHITECT OF DISCREPANCIES BETWEEN TYPICAL ELEVATION MOUNTING HEIGHTS/LOCATIONS AND MANUFACTURER'S RECOMMENDATIONS FOR ADA COMPLIANCE PRIOR TO INSTALLATION.
22. CONTRACTOR TO RETAIN FLOATABLE WIND BLOWN MATERIALS ON SITE BY STORING ALL TRASH AND BUILDING MATERIAL WASTE IN ENCLOSURES UNTIL PROPER DISPOSAL AT AN OFF-SITE FACILITY. CONTRACTOR TO CHECK ADJACENT AREAS DAILY AND PICK UP CONSTRUCTION WASTE MATERIAL AND DEBRIS THAT HAVE BLOWN OR WASHED OFF-SITE.
23. ALIGN FINISH FACE OF NEW PARTITION WITH FINISH FACE OF FURRED OUT PARTITION, UON.
24. CONTRACTOR TO VERIFY FLOOR FLATNESS AFTER DEMO AND PARTITIONS AND STOREFRONTS ARE MARKED ON FLOOR. IF FLOOR IS OUT OF FLATNESS BY MORE THAN SPECIFIED IN 03 30 00, APPLY HYDRAULIC CEMENT UNDERLAYMENT SPECIFIED IN 03 54 16 TO CORRECT FLOOR PRIOR TO CONSTRUCTION OF ALL PARTITIONS AND STOREFRONTS. PROVIDE UNIT COST.
25. CONTRACTOR IS RESPONSIBLE FOR PROVIDING TEMPORARY PROTECTION, FENCING AND PARTITIONS AS NECESSARY
26. IF HAZARDOUS MATERIAL IS ENCOUNTERED NOTIFY ARCHITECT & OWNER IMMEDIATELY.
27. UNLESS SPECIFICALLY INDICATED OTHERWISE, THE SAME WALL TYPE NEXT TO A DOOR OR OPENING SHALL CONTINUE OVER THE DOOR, OPENING OR STOREFRONT.
28. IN THE ABSENCE OF A WRITTEN DIMENSION, OR IN CASE OF DOUBT AS TO THE PROPER MEASUREMENT, CONSULT THE ARCHITECT FOR CLARIFICATION.
29. TYPICAL DETAILS THROUGHOUT THE DRAWING SET SHALL APPLY FOR ALL APPLICABLE CONDITIONS EVEN IF NOT SPECIFICALLY SHOWN OR REFERENCED.
30. PROVIDE CONTINUOUS CONTROL JOINT IN EXTERIOR CLADDING MATERIAL AT CONDITIONS WHERE STRUCTURAL WALL BACK UP CHANGES CONSTRUCTION TYPE.

ELEVATION SYMBOL LEGEND

- WINDOW TYPE
- DOOR NUMBER
- REFER TO KEYNOTE LEGEND
- CONCRETE MASONRY
- BRICK MASONRY
- PRECAST STONE

PLAN SYMBOLS LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- EXISTING CONSTRUCTION TO BE REMOVED
- NEW CONSTRUCTION

SYMBOL LEGEND

- SECTION NUMBER / SHEET NAME (1 / A1.0)
- ELEVATION NUMBER / SHEET NAME (1 / A1.0)
- REVISION CLOUD & NUMBER
- BREAKLINE
- PLAN MATCHLINE (1/A102 / 1/A101)
- OUTLINE OF HIDDEN OBJECTS, NIC ITEMS, REMOVED MATERIALS
- CENTER LINE OR FLOOR LINE
- COLUMN GRID LINE
- TRUE NORTH
- ROOM TAG (ROOM NAME / 101)
- DOOR TAG
- WINDOW TAG
- KEYNOTE
- CEILING HEIGHT TAG (9'-0")
- WALL PARTITION TYPE (2a)
- ELEVATION (LEVEL NAME / ELEVATION)

6/22/2026 4:01:27 PM

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Cooling Tower & Chillers Replacement

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Revisions

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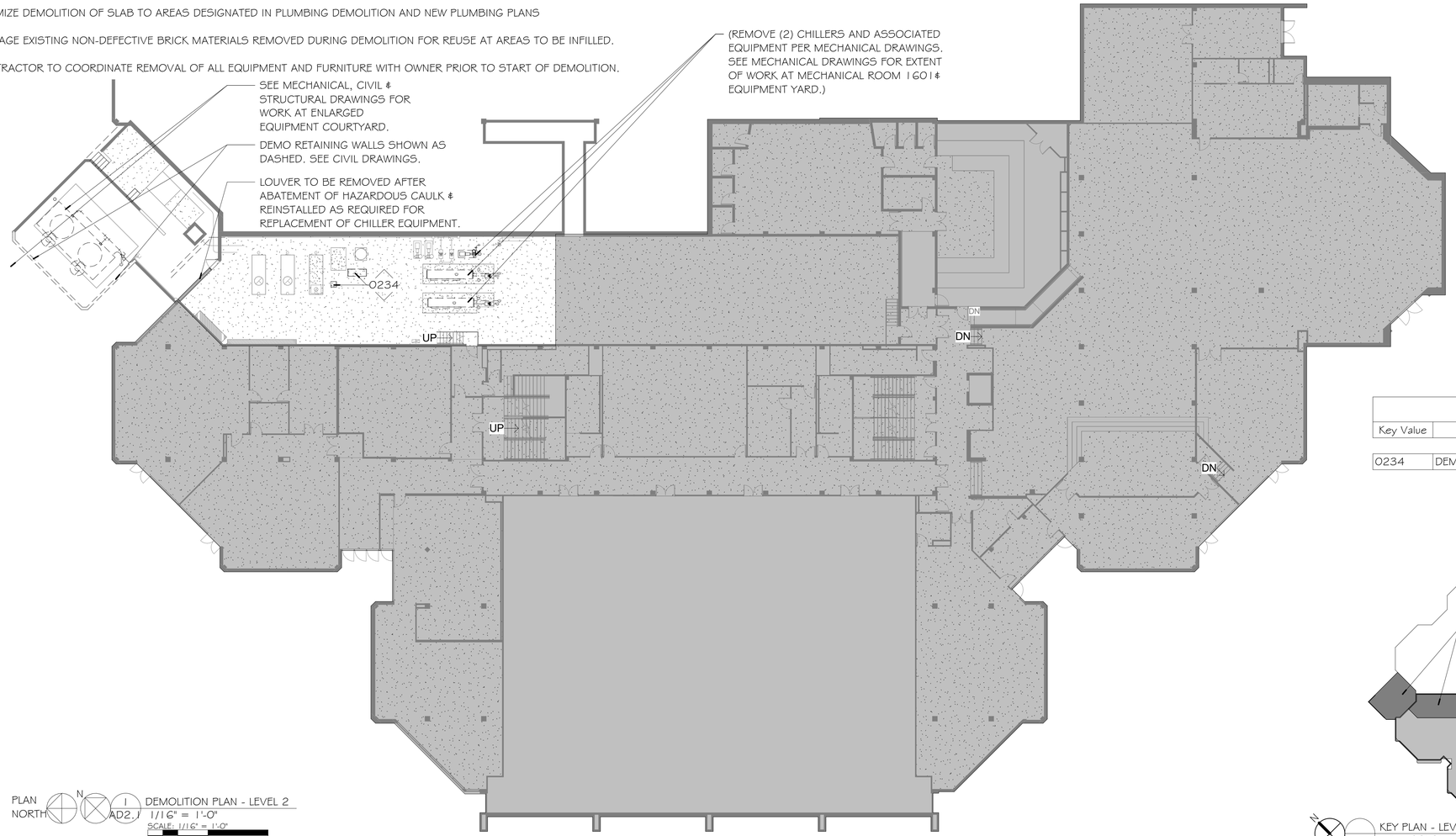
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GENERAL NOTES & SYMBOLS

A0.5

GENERAL DEMOLITION NOTES

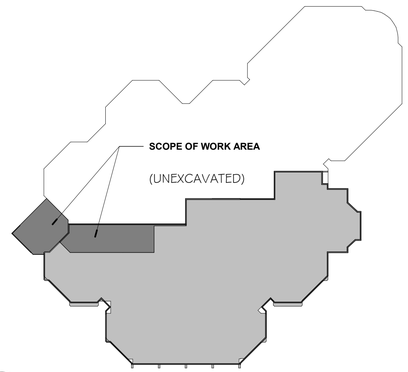
1. THE SCOPE OF DEMOLITION WORK IS NOT LIMITED EXCLUSIVELY TO THE WORK INDICATED ON THE DEMOLITION SHEETS. THE CONSTRUCTION DOCUMENTS ARE PROVIDED AS A GENERAL GUIDE FOR DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ADDITIONAL DEMOLITION THAT MAY BE REQUIRED FOR DEMOLITION AND PROPER INSTALLATION OF NEW WORK PRIOR TO BID. REFER TO ALL CONSTRUCTION DOCUMENTS FOR ADDITIONAL DEMOLITION INFORMATION AND COORDINATION.
2. ALL EXISTING PIPING, DUCTS, ETC THAT HAVE BEEN ABANDONED ARE TO BE REMOVED. ABANDONED PIPING BELOW CONCRETE SLABS ON GRADE ARE TO BE CAPPED BELOW FLOOR LEVEL. COORDINATE WITH MEP.
3. REMOVE ALL WALL MOUNTED ACCESSORIES, HANGERS, WIRE MOLD & HARDWARE AS NEEDED. SALVAGE ACCESSORIES FOR POSSIBLE REUSE.
4. OWNER TO HAVE SALVAGE RIGHTS ON ALL ITEMS WHETHER NOTED ON THE PLANS OR NOT. GENERAL CONTRACTOR TO DISPOSE OF ALL ITEMS NOT REUSED IN THE PROPOSED WORK.
5. COORDINATE DEMOLITION WORK WITH THE NEW CONSTRUCTION SHOWN IN THE DRAWINGS. DUE CARE IS TO BE TAKEN TO AVOID UNDUE DAMAGE TO ADJACENT AREAS, OCCUPIED AND UNOCCUPIED. ADJACENT SURFACES DAMAGED DUE TO DEMOLITION SHALL BE REPAIRED IN ORDER TO ACHIEVE A SEAMLESS APPEARANCE.
6. WHEREVER DEMOLITION OCCURS, THE REMAINING FLOOR, WALLS, AND CEILINGS ARE TO BE PATCHED TO MATCH THE ADJACENT WITH CONTINUOUS SURFACE MATERIAL, TEXTURE, COLOR & FINISH.
7. AREAS IMMEDIATELY ADJACENT TO THE AREA OF THIS WORK MAY BE OCCUPIED BY THE OWNER DURING THE DEMOLITION AND NEW CONSTRUCTION WORK. CONTRACTOR SHALL PROVIDE PROTECTIONS FOR OWNER'S PERSONNEL AND ALL OTHER USERS OF THE SURROUNDING AREAS. CONTRACTOR SHALL PROVIDE PROTECTION FROM THE SPREAD OF DUST AND DIRT DURING THE ENTIRE DEMOLITION AND NEW CONSTRUCTION PERIOD.
8. UNLESS NOTED OTHERWISE, ALL PARTITIONS INDICATED FOR REMOVAL SHALL BE REMOVED TO THE UNDERSIDE OF STRUCTURE ABOVE.
9. IF HAZARDOUS MATERIALS ARE ENCOUNTERED THE ARCHITECT & OWNER ARE TO BE NOTIFIED IMMEDIATELY.
10. CONTRACTOR TO VERIFY EXISTING CONDITION OF ALL ITEMS TO BE DEMOLISHED IN THE FIELD.
11. PATCH/REPAIR ALL AREAS DAMAGED DURING SELECTIVE DEMOLITION.
12. PROVIDE TEMPORARY SHORING AT ALL CEILINGS/WALLS WHERE DEMOLITION MAY COMPROMISE THE STABILITY AND/OR STRUCTURAL INTEGRITY OF THE SYSTEM.
13. MINIMIZE DEMOLITION OF SLAB TO AREAS DESIGNATED IN PLUMBING DEMOLITION AND NEW PLUMBING PLANS
14. SALVAGE EXISTING NON-DEFECTIVE BRICK MATERIALS REMOVED DURING DEMOLITION FOR REUSE AT AREAS TO BE INFILLED.
15. CONTRACTOR TO COORDINATE REMOVAL OF ALL EQUIPMENT AND FURNITURE WITH OWNER PRIOR TO START OF DEMOLITION.
16. REMOVE AND STORE ALL FIRE EXTINGUISHERS AS REQUIRED, WHICH HAVE NOT EXPIRED, FOR REUSE.
17. ALL SPRINKLER PIPE & HEADS TO REMAIN IN PLACE THROUGHOUT CONSTRUCTION, PROTECT AS REQUIRED UNLESS NOTED OTHERWISE.
18. CONTRACTOR TO COORDINATE REMOVAL OF ALL EQUIPMENT AND FURNITURE WITH OWNER PRIOR TO START OF DEMOLITION.
19. WHERE DOOR(S) INDICATED TO BE REMOVED, REMOVE FRAME(S) AND ALL ASSOCIATED HARDWARE, UNLESS NOTED OTHERWISE.
20. WHERE LOUVER(S) INDICATED TO BE REMOVED, REMOVE FRAME(S) AND ALL ASSOCIATED HARDWARE, STORE FOR REINSTALLATION IN SAME LOCATION.
21. CONTRACTOR TO VERIFY WALL CONSTRUCTION OF ALL WALLS RELATED TO WORK.
22. CONTRACTOR TO IDENTIFY MEP/S SYSTEMS TO BE REMOVED FOR ONSITE REVIEW WITH ARCHITECT & ENGINEERS
23. SALVAGE AND RELOCATE DONATED FURNITURE, PLAQUES, SIGNS, ETC. COORDINATE WITH OWNER.
24. CONSTRUCT NEW PARTITIONS TIGHT TO EXISTING STRUCTURE AS REQUIRED.
25. CONTRACTOR TO COORDINATE REMOVAL OF ALL EQUIPMENT AND FURNITURE WITH OWNER PRIOR TO START OF DEMOLITION.
26. EXISTING BLOCKING UNCOVERED THROUGH DEMOLITION TO BE REPLACED WITH FRT BLOCKING - SEE SPECIFICATIONS.
27. REPLACE ALL EXISTING FIREPROOFING WHERE DISTURBED W/ EQUIVALENT MATERIAL & RATING TO MAINTAIN RATED ASSEMBLY.
28. RELOCATE CONTROLS, DEVICES, AND OUTLETS NOT DEMO'D TO THE FINISH FACE OF NEW PARTITION.
29. WHERE EXISTING WALLS MUST BE CUT FOR NEW WORK, WALLS ARE TO BE PATCHED AND PAINTED TO MATCH EXISTING CONDITIONS. PAINT ENTIRE WALL/CEILING TO NEAREST CORNER.
30. ANY EXISTING MATERIALS DAMAGED BY WORK SHOULD BE REPAIRED TO MATCH EXISTING.
31. PATCH AND REPAIR WALLS, FLOORS, CEILINGS WHERE DEVICES WERE REMOVED.



PLAN NORTH

1 / AD2.1 DEMOLITION PLAN - LEVEL 2
1/16" = 1'-0"
SCALE: 1/16" = 1'-0"
0 8' 16' 32'

Keynote Legend	
Key Value	Keynote Text
0234	DEMOLISH EXISTING CONCRETE PAD



KEY PLAN - LEVEL 2
1" = 80'-0"

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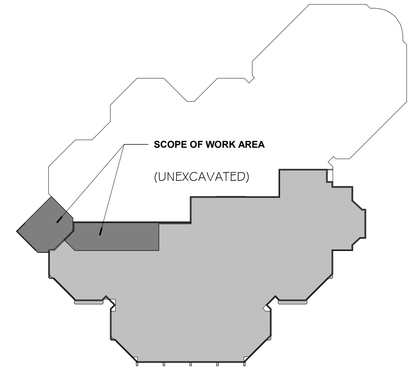
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DEMOLITION PLAN - LEVEL 2

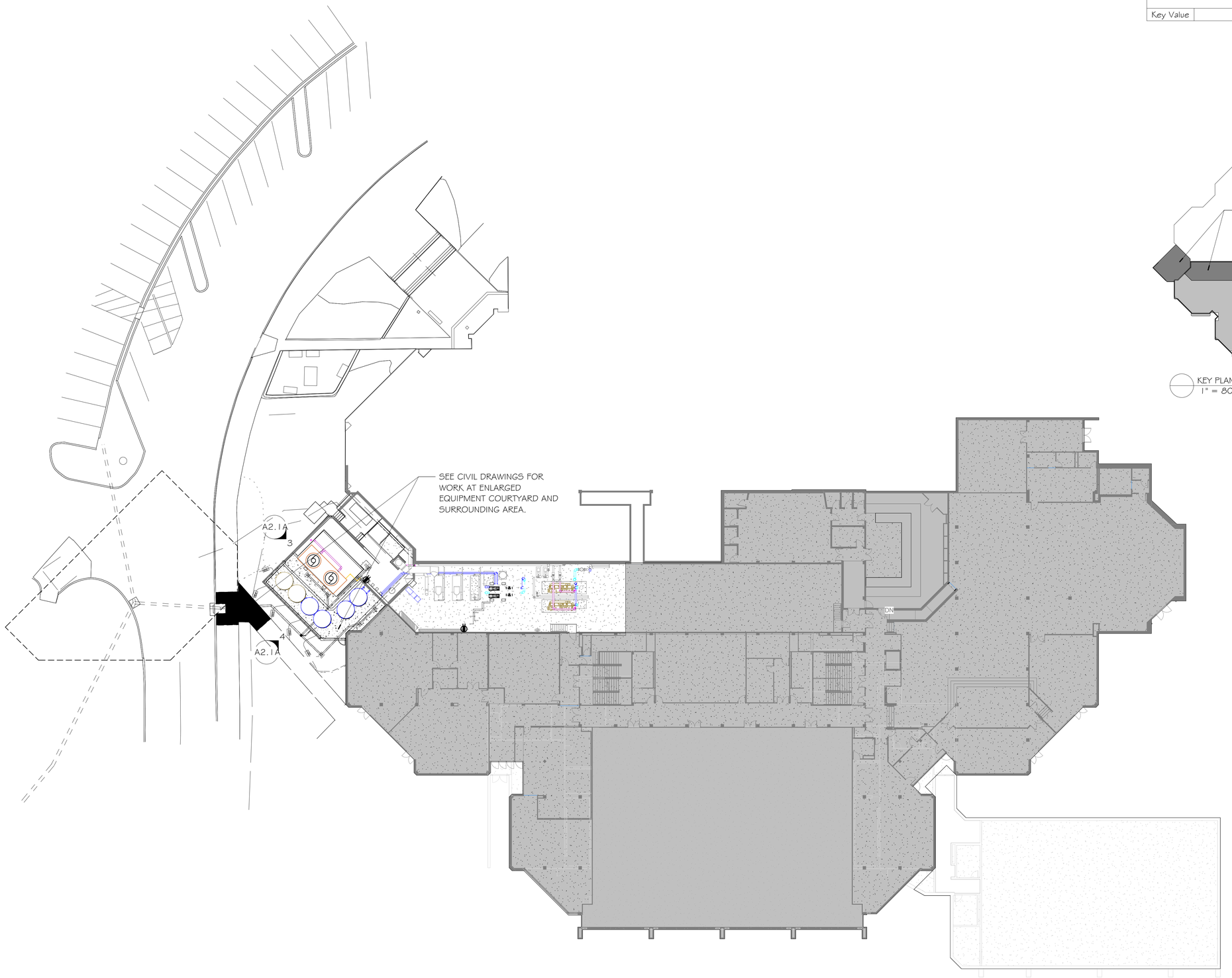
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Keynote Legend	
Key Value	Keynote Text



KEY PLAN - LEVEL 2
1" = 80'-0"



1 SITE PLAN
A1.0 1" = 20'-0"

SCALE: 3/32" = 1'-0"
SCALE: 1/16" = 1'-0"
SCALE: 1/8" = 1'-0"
SCALE: 1/4" = 1'-0"
SCALE: 1/2" = 1'-0"
SCALE: 3/4" = 1'-0"
SCALE: 1" = 1'-0"

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WEST MIDDLE SCHOOL
2312 Baxter Road, Chesterfield, MO 63017
Parkway Project #: PN432501B
Cooling Tower & Chillers Replacement

Parkway School District
363 N. Woods Mill Rd.
Chesterfield, MO 63017
314.415.8231 tel

Project No: 25091

Revisions

Description	Date

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A-2021031961
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6/22/26

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DATE: 2026-05-15

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SITE PLAN

A1.0

Keynote Legend	
Key Value	Keynote Text

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

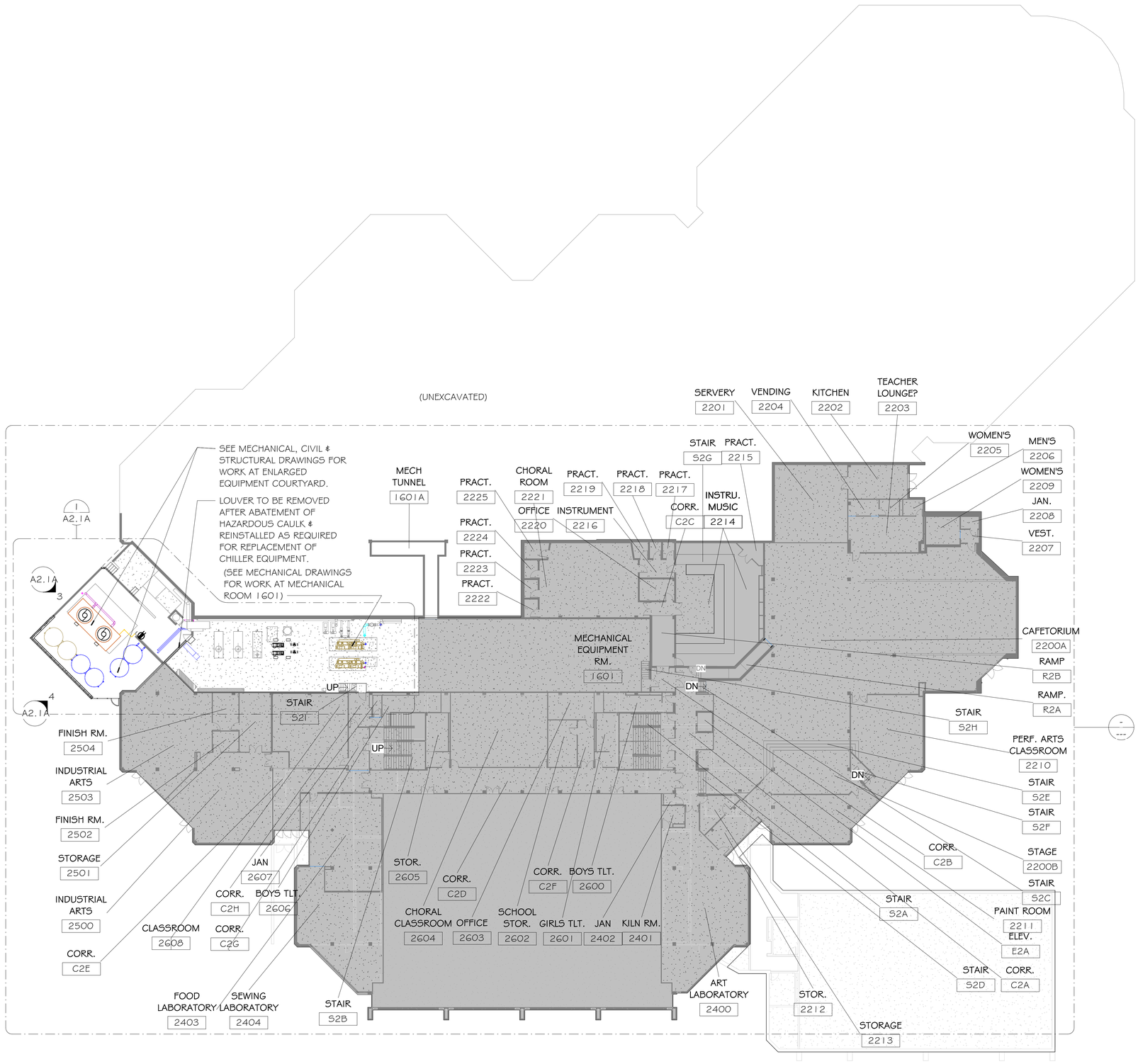
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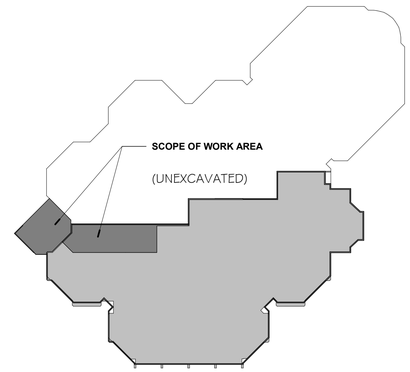
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SCALE: 1/8" = 1'-0" 0 4 8 16

SCALE: 1/16" = 1'-0" 0 8 16 32



PLAN NORTH — N — 1 A2.1 LEVEL 2 FLOOR PLAN
1" = 20'-0"



PLAN NORTH — N — KEY PLAN - LEVEL 2
1" = 80'-0"

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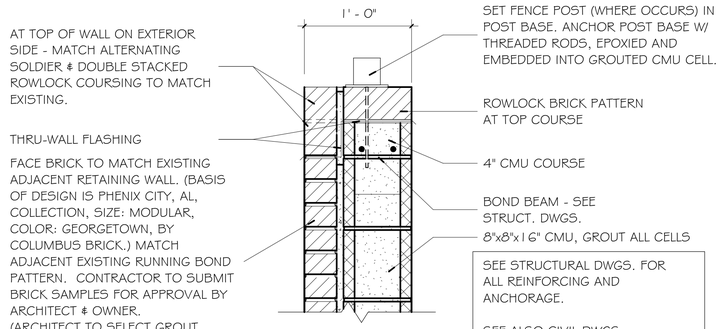
DATE: 2026-05-15

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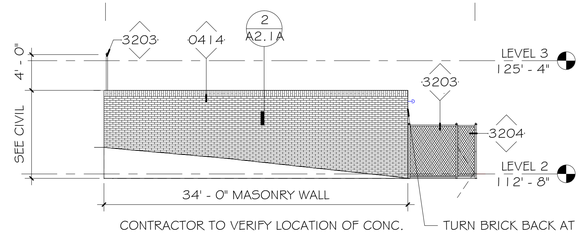
LEVEL 2 FLOOR PLAN

A2.1

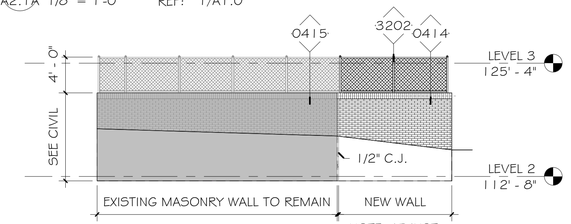
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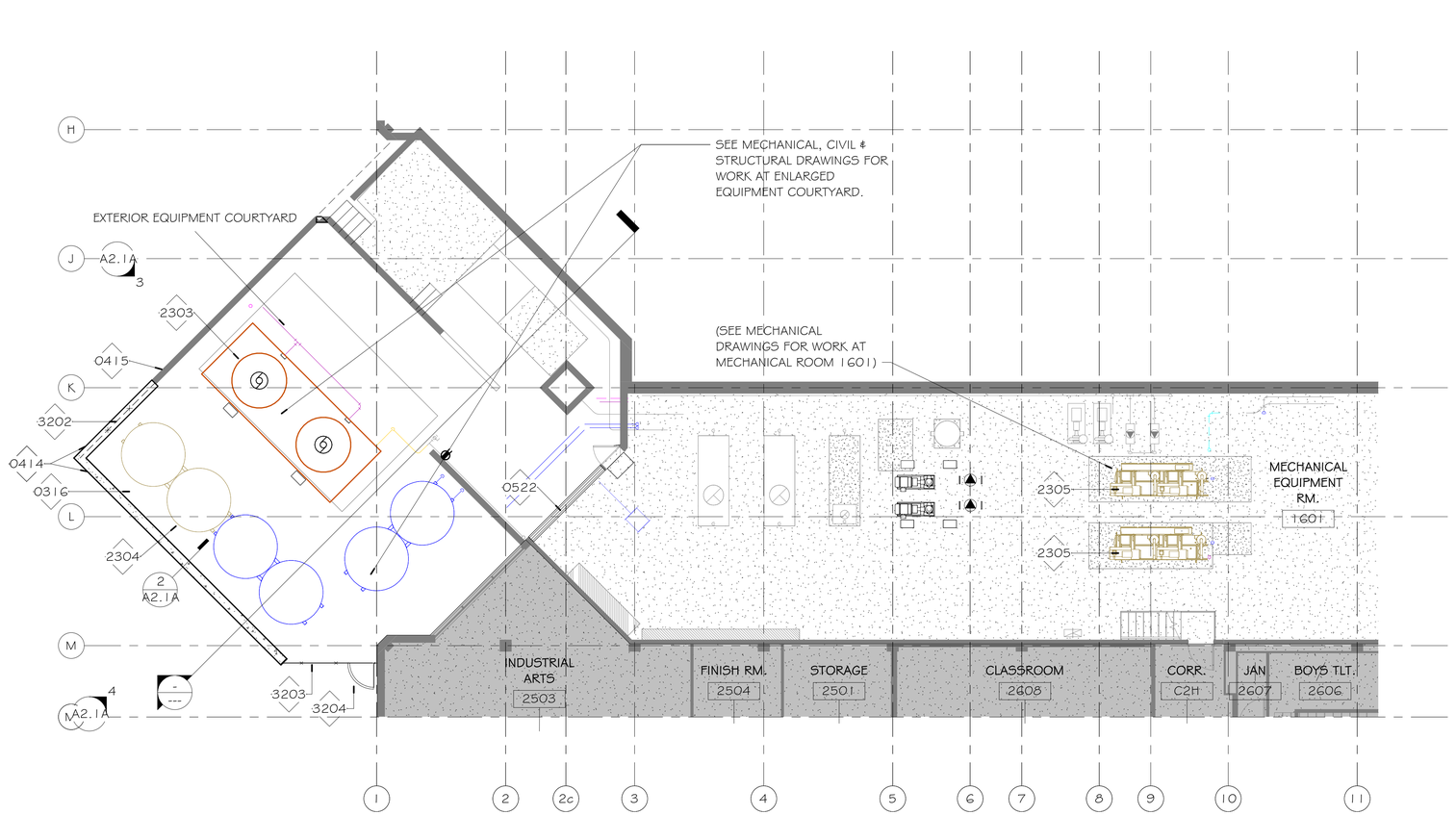
2 TOP OF CMU RETAINING WALL
A2.1A 1 1/2" = 1'-0" REF: 1/A2.1A



4 EXTERIOR ELEVATION COURTYARD WALL - WEST
A2.1A 1/8" = 1'-0" REF: 1/A1.0

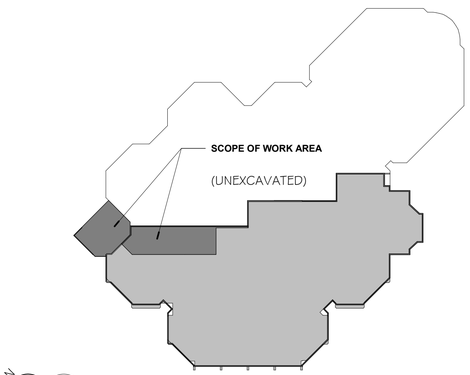


3 EXTERIOR ELEVATION COURTYARD WALL - NORTH
A2.1A 1/8" = 1'-0" REF: 1/A1.0



PLAN NORTH

1 ENLARGED MECH. EQUIP. ROOM 1601 - NEW PLAN
A2.1A 1/8" = 1'-0" REF: 1/A2.1



KEY PLAN - LEVEL 2
1" = 80'-0"

Keynote Legend	
Key Value	Keynote Text
0316	CAST IN PLACE CONCRETE SLAB. SEE CIVIL & STRUCTURAL DRAWINGS
0414	CMU RETAINING WALL WITH EXTERIOR SIDE BRICK VENEER & BRICK TOP COURSE. BRICK TO MATCH EXISTING BRICK BASIS OF DESIGN = PHENIX CITY, AL, COLLECTION, SIZE: MODULAR, COLOR: GEORGETOWN, BY COLUMBUS BRICK.) SUBMIT SAMPLE FOR APPROVAL BY ARCHITECT AND OWNER. SEE ALSO CIVIL AND STRUCTURAL DRAWINGS
0415	CLEAN EXISTING BRICK WALL AT COURTYARD
0522	EXISTING LOUVER TO BE REMOVED AFTER ABATEMENT OF HAZARDOUS CAULK & REINSTALLED IN SAME LOCATION AS REQUIRED FOR REMOVAL AND REPLACEMENT OF CHILLER EQUIPMENT. CAULK ENTIRE PERIMETER OF LOUVER IN FULL BED OF CAULK
2303	COOLING TOWER – SEE MECHANICAL & ELECTRICAL DRAWINGS
2304	ICE STORAGE TANKS – SEE MECHANICAL & ELECTRICAL DRAWINGS
2305	REMOVE (2) CHILLERS AND ASSOCIATED EQUIPMENT PER MECHANICAL DRAWINGS. SEE MECHANICAL DRAWINGS FOR EXTENT OF WORK AT MECHANICAL ROOM 1601 & EQUIPMENT YARD
3202	4' HIGH ALUMINUM CHAINLINK FENCE (COLOR: BLACK) POSTS, RAILINGS AND CHAINLINK TO MATCH EXISTING. (FENCE MOUNTED ON TOP OF CMU & BRICK RETAINING WALL.) SEE CIVIL & STRUCTURAL DRAWINGS. SEE SPECIFICATIONS
3203	6' HIGH BLACK ALUMINUM CHAINLINK FENCE (COLOR: BLACK) POSTS, RAILINGS, AND CHAINLINK TO MATCH EXISTING (W/ PRIVACY SLATS). SEE SPECIFICATIONS
3204	3'-0" WIDE SWINGING GATE – 6' HEIGHT (COLOR: BLACK) (W/ PRIVACY SLATS). PROVIDE HEAVY DUTY LATCH & KEYED PADLOCK. SEE SPECIFICATIONS

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DATE: 2026-05-15

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MECH. EQUIP. ROOM 1601 - NEW PLAN

A2.1A

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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"

STRUCTURAL ABBREVIATIONS

#	POUND(S), NUMBER
&	AND
(E)	EXISTING
@	AT
AB	ANCHOR BOLT (S)
ADDL	ADDITIONAL
ALT	ALTERNATE
ARCH	ARCHITECT(URAL)
B/FTG	BOTTOM OF FOOTING
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM
BMD	BOTTOM OF METAL DECK
BN	BOUNDARY NAIL
BOT	BOTTOM
BP	BASE PLATE
BRG	BEARING
BS	BOUNDARY SCREW
BTWN	BETWEEN
CANT	CANTILEVER(ED)
CFS	COLD-FORMED STEEL
CIP	CAST-IN-PLACE
CJ	CONTROL OR CONST JOINT
CL	CENTER LINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CTR	CENTER
DBL	DOUBLE
DC	DEMAND CRITICAL (WELD)
deg	DEGREE
DET	DETAIL(S)
DF	DOUGLAS FIR
DFL	DOUGLAS FIR LARCH
dia	DIAMETER
DIM	DIMENSION
DWG	DRAWING
DWL	DOWEL
EA	EACH
EE	EACH END
EF	EACH FACE
EL	ELEVATION
ELEV	ELEVATOR
EMB	EMBEDMENT
EN	EDGE NAIL
EOJ	END OF JOIST
EOR	ENGINEER OF RECORD
EOS	EDGE OF SLAB
EQ	EQUAL
ES	EDGE SCREW
ETC	ET CETERA
EW	EACH WAY
EXP	EXPANSION
EXT	EXTERIOR
FDN	FOUNDATION
FF	FINISH FLOOR
FIN FLR	FINISH FLOOR
FLR	FLOOR
FN	FIELD NAILING
FRMG	FRAMING
FRT	FIRE-RETARDENT TREATED
FS	FAR SIDE
FS	FIELD SCREW
FTG	FOOTING
FV	FIELD VERIFY
ga	GAUGE
GALV	GALVANIZE(D)
GLB	GLULAM BEAM
HDR	HEADER
HGR	HANGER

STRUCTURAL ABBREVIATIONS

HK	HOOK
HORIZ	HORIZONTAL
HSS	HOLLOW STRUCTURAL SECTION
INT	INTERIOR
ISF	INSIDE FACE
J/BRG	JOIST BEARING
JG	JOIST GIRDER
JG/BRG	JOIST GIRDER BEARING
JST	JOIST
JT	JOINT
kip	1,000 POUNDS
ksi	kips PER SQUARE INCH
LB	POUND
LG	LONG
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
MAX	MAXIMUM
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MTL	METAL
NIC	NOT IN CONTRACT
NS	NEAR SIDE
NTS	NOT TO SCALE
oc	ON CENTER
OH	OPPOSITE HAND
OPNG	OPENING
OSF	OUTSIDE FACE
PAF	POWER-ACTUATED FASTENER
PARA	PARAPET
PEMB	PRE-ENGINEERED METAL BUILDING (MANUFACTURER)
PIL	PILASTER
PL	PLATE
PLBG	PLUMBING
PLYWD	PLYWOOD
psf	POUNDS PER SQUARE FOOT
psi	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
QT	QUANTITY
REINF	REINFORCED, REINFORCING
REQD	REQUIRED
RTU	ROOF TOP UNIT
SCHED	SCHEDULE
SD	SNOW DRIFT
SHTG	SHEATHING
SIM	SIMILAR
SL	SNOW LOAD
SOG	SLAB ON GRADE
SPF	SPRUCE PINE FIR
STD	STANDARD
STL	STEEL
STRUC	STRUCTURAL
SYP	SOUTHERN YELLOW PINE
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
T/BRG	TRUSS BEARING
T/CONC	TOP OF CONCRETE
T/FTG	TOP OF FOOTING
T/PARA	TOP OF PARAPET
T/PIL	TOP OF PILASTER
T/STL	TOP OF STEEL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
USGS	US GEOLOGICAL SURVEY
VAR	VARIES
VERT	VERTICAL
w/	WITH
WHS	WELDED HEADED STUD(S)
WP	WORK POINT
WWR	WELDED WIRE REINFORCEMENT

BUILDING CODES AND STANDARDS USED FOR DESIGN

1. INTERNATIONAL BUILDING CODE 2015 EDITION
   ASCE 7-10
   RISK CATEGORY: I

DESIGN LOADS

1. DESIGN LOADS:
   ICE STORAGE TANKS — 34,000 LBS (OPERATING WEIGHT)
2. SNOW LOAD DESIGN CRITERIA
3. WIND LOAD DESIGN CRITERIA
   ULTIMATE WIND SPEED: — 115 MPH (3 SEC GUST)
   EXPOSURE CATEGORY: — C
4. SEISMIC LOAD DESIGN CRITERIA
   IMPORTANCE FACTOR, I: — 1.25
   SITE CLASS: — D
   SPECTRAL RESPONSE ACCELERATIONS: — Ss=0.380g, S1=0.154g; Sds=0.379g, Sd1=0.224g
   SEISMIC DESIGN CATEGORY: — D

COMPONENT & CLADDING (C & C) DESIGN WIND PRESSURES

1. SURFACE PRESSURES ARE GIVEN IN THE TABLE BELOW IN PSF AND ARE BASED ON THE TRIBUTARY AREA IN SQUARE FEET (SF) OF THE MEMBER BEING DESIGNED. LINEAR INTERPOLATION BETWEEN VALUES SHOWN IS ACCEPTABLE. EXTRAPOLATION OF VALUES ABOVE LARGEST TRIBUTARY AREA IS NOT ACCEPTABLE.
2. REFER TO ASCE 7 DIAGRAMS FOR THE LOCATION OF WIND PRESSURE ZONES BASED ON ADOPTED CODE YEAR.
3. POSITIVE PRESSURES ACT TOWARD THE BUILDING, NEGATIVE & OVERHANG PRESSURES ACT AWAY FROM THE BUILDING AND ARE APPLIED NORMAL TO THE C &C SURFACE.
4. DELEGATED DESIGNERS ARE RESPONSIBLE FOR DESIGNING EACH C & C FOR THE MAXIMUM POSITIVE AND NEGATIVE WIND PRESSURES BASED ON ASCE 7 LOAD COMBINATIONS.
5. NO C & C SHALL BE DESIGNED FOR A NET PRESSURE OF LESS THAN 16 PSF ULTIMATE ACTING IN EITHER DIRECTION.
6. PRESSURES SHOWN ARE ULTIMATE PRESSURES AND SHOULD BE MULTIPLIED BY 0.6 FOR NOMINAL (ASD) PRESSURES. USE A PERMANENT DEAD LOAD OF **6 PSF** FOR MEMBER NET UPLIFT DESIGN.

GENERAL STRUCTURAL NOTES

1. THIS DRAWING SET IS TO BE VIEWED AS A WHOLE AND COORDINATED WITH ARCHITECTURAL, MECHANICAL, CIVIL, AND OTHER DISCIPLINES. ALL WORK PERTAINING TO A SPECIFIC CONTRACTOR MAY OR MAY NOT BE SHOWN ON SPECIFIC DRAWING SECTIONS. IT IS EACH SUBCONTRACTOR'S RESPONSIBILITY TO PREPARE HIS BID FROM A COMPLETE SET OF PLANS.
2. THE CONTRACTOR SHALL FOLLOW WRITTEN DIMENSIONS ONLY. DO NOT SCALE DRAWINGS. DIMENSIONS NOT SHOWN ON PLAN TO BE COORDINATED WITH ARCHITECTURAL PLANS.
3. ALL DETAILS AND SECTIONS SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY AT ANY SIMILAR SITUATION ELSEWHERE ON THE JOB, EXCEPT WHERE A DIFFERENT DETAIL OR SECTION IS SHOWN.
4. THE STRUCTURE SHALL BE ADEQUATELY BRACED AND SHORED DURING ERECTION AGAINST WIND AND ERECTION LOADS. STRUCTURAL MEMBERS ARE DESIGNED FOR "IN-PLACE" LOADS ONLY.
5. BRACE ALL BELOW GRADE WALLS UNTIL FLOOR STRUCTURE IS IN PLACE & CONCRETE OR PLYWOOD FLOOR DIAPHRAGM IS IN PLACE. UNBRACED WALLS SHALL NOT BE BACKFILLED MORE THAN 1/3 WALL HEIGHT UNTIL SOG, FLOOR FRAMING, AND DIAPHRAGM ARE IN PLACE.
6. THE GENERAL CONTRACTOR SHALL COORDINATE ALL OPENING SIZES, PAD SIZES, AND LOCATIONS WITH THE RESPECTIVE CONTRACTORS.
7. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND ENGINEER IMMEDIATELY OF ANY DISCREPANCIES BETWEEN CONSTRUCTION DOCUMENTS AND ACTUAL FIELD CONDITIONS.
8. THE VARIOUS SUBCONTRACTORS ARE RESPONSIBLE FOR PLACING SLEEVES, OUTLET BOXES, ANCHORS, VENT OPENINGS, ETC. THAT MAY BE REQUIRED IN FOUNDATION WALLS. CONSTRUCTION MANAGER SHALL COORDINATE ALL PLACEMENT OF ITEMS IN FOUNDATION WALLS.
9. SEE ARCHITECTURAL PLANS FOR ADDITIONAL DETAILS AND INFORMATION.
10. ALL ELEVATIONS GIVEN ARE REFERENCED TO FINISHED FLOOR ELEVATIONS AT 100'-0" OR 0'-0", UNLESS SHOWN AS USGS ELEVATIONS.
11. WHERE GENERAL NOTES OR TYPICAL DETAILS CONTRADICT INFORMATION PROVIDED IN BUILDING SECTIONS, THE BUILDING SECTIONS TAKE PRECEDENCE.
12. ALL HOLES THROUGH CONSTRUCTION SHALL BE CORE DRILLED OR SAWCUT.
13. WHERE INFORMATION PROVIDED IN THESE STRUCTURAL DRAWINGS CONTRADICTS INFORMATION PROVIDED IN PROJECT SPECIFICATIONS, THE SPECIFICATIONS SHALL TAKE PRECEDENCE.
14. FOR ARCHITECTURAL, MEP, & STRUCTURAL COORDINATION: MODELED ELEMENTS SHOWN ON STRUCTURAL DRAWINGS SUCH AS TRUSSES, OPEN-WEB JOISTS, AND JOIST GIRDERS, ARE NOT THE FINAL CONFIGURATION. ALL COORDINATION SHALL BE PERFORMED BETWEEN THE VARIOUS TRADES AND THE SUPPLIERS OF THESE ELEMENTS FOR THE STRUCTURE, NOT WITH THE STRUCTURAL MODEL.
15. THIS DRAWING SET IS TO BE VIEWED AS A WHOLE, ALL TYPICAL DETAILS AND GENERAL NOTES SHOWN IN THESE DRAWINGS ARE APPLICABLE TO THE PROJECT EVEN IF THEY ARE NOT SHOWN ON PLANS OR SECTIONS.
16. DESIRED ALTERATIONS TO ANY DETAIL, MEMBER SIZE, MEMBER TYPE, OR ANY OTHER STRUCTURAL COMPONENT SHOWN ON THE DRAWINGS, SHALL BE SUBMITTED AS A REQUEST IN WRITING TO CASE ENGINEERING. CASE ENGINEERING WILL NOT BE RESPONSIBLE FOR CHANGES TO THE DESIGN OR DETAILS MADE DURING SHOP DRAWINGS DEVELOPMENT, DURING CONSTRUCTION, OR AT ANY OTHER TIME WITHOUT WRITTEN CONSENT.

SHOP DRAWING AND SUBMITTAL NOTES

1. SHOP DRAWINGS AND/OR SUBMITTALS SHALL BE FURNISHED FOR ALL STRUCTURAL COMPONENTS. UNLESS OTHERWISE NOTED, THESE SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION IN ACCORDANCE WITH THESE CONTRACT DRAWINGS AND PROJECT SPECIFICATIONS (IF APPLICABLE). CONTRACTOR SHALL ALLOW A MINIMUM OF 2 WEEKS FROM RECEIPT OF SHOP DRAWINGS FOR CASE ENGINEERING INC. TO PROVIDE RESPONSE.
2. PRIOR TO SUBMITTAL TO CASE ENGINEERING, THE CONTRACTOR AND ARCHITECT SHALL HAVE REVIEWED THE SHOP DRAWINGS AND MADE ANY CORRECTIONS REQUIRED. THE CONTRACTOR AND ARCHITECT SHALL STAMP THE DRAWINGS, INDICATING THE SUBMITTAL HAS BEEN REVIEWED.
3. STRUCTURAL DRAWINGS ARE THE SOLE PROPERTY OF CASE ENGINEERING. REPRODUCTION OF STRUCTURAL DRAWINGS FOR USE IN SHOP DRAWING SUBMITTALS IS NOT ACCEPTABLE WITHOUT OUR WRITTEN AGREEMENT.
4. SHOP DRAWING REVIEW IS FOR GENERAL CONFORMANCE WITH THE CONTRACT DOCUMENTS. THE RESPONSIBILITY FOR FINAL COMPLETENESS AND CORRECTNESS SHALL RESIDE WITH THE PREPARER OF THE SHOP DRAWINGS.

EXCAVATION AND EARTHWORK NOTES

1. THE NET ALLOWABLE SOIL BEARING VALUE AND LATERAL EARTH PRESSURES USED IN THE FOUNDATION DESIGN IS BASED ON IBC CONSERVATIVE ENGINEERING VALUES:
   - SPREAD FOOTINGS — 1,500 psf
   - CONT. WALL FOOTINGS — 1,500 psf
   - ACTIVE PRESSURE — 60 psf/ft
   - AT-REST PRESSURE — 100 psf/ft
   - PASSIVE PRESSURE — 100 psf/ft (CONSERVATIVE PER IBC)
   - FRICTION COEFFICIENT — 0.25
2. ALL FOOTING EXCAVATIONS SHALL BE INSPECTED, PRIOR TO CONCRETE PLACEMENT, BY A SOILS ENGINEER TO VERIFY SUITABLE BEARING MATERIAL OF CAPACITY AS SPECIFIED.
3. NOTIFY THE OWNER'S REPRESENTATIVE WHEN ADDITIONAL EXCAVATION IS REQUIRED TO REACH SUITABLE BEARING MATERIAL.
4. THE SOILS ENGINEER SHALL CERTIFY IN WRITING THAT ALL FOUNDATIONS WERE PLACED ON SOIL WITH THE BEARING VALUE AS SPECIFIED.
5. WITHIN THE EXCAVATION AREA OF FOUNDATIONS, ALL VEGETATION, TOPSOIL, PREVIOUSLY PLACED FILL AND UNSUITABLE SOILS SHALL BE REMOVED. ALL FOOTINGS TO BEAR ON VIRGIN SOIL OR PROPERLY PLACED AND COMPACTED ENGINEERED FILL.
6. FOUNDATION DESIGN DOES NOT ACCOUNT FOR WINTER CONSTRUCTION. ANY UNENCLOSED / UNHEATED SPACES SHALL BE ADEQUATELY PROTECTED AGAINST FROST DURING WINTER CONSTRUCTION BY THE CONTRACTOR.
7. IF ANY SOFT SPOTS, OR AREAS QUESTIONABLE FOR ANY REASONS ARE ENCOUNTERED BY THE CONTRACTOR, ARCHITECT/ENGINEER SHALL BE NOTIFIED IMMEDIATELY SO THAT ANY REQUIRED ACTION MAY BE TAKEN PRIOR TO CONTINUATION OF CONSTRUCTION IN THAT AREA.

POST-INSTALLED ANCHOR NOTES

POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM CASE ENGINEERING PRIOR TO INSTALLING POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS. CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REBAR. HOLES SHALL BE DRILLED AND CLEANED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS. SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE SPECIFIED ON THESE DRAWINGS SHALL BE SUBMITTED BY THE CONTRACTOR TO CASE ENGINEERING ALONG WITH CALCULATIONS THAT ARE PREPARED & SEALED BY A REGISTERED PROFESSIONAL ENGINEER. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING, AT A MINIMUM, THE PERTINENT EQUIVALENT PERFORMANCE VALUES OF THE SPECIFIED PRODUCT USING THE BUILDING CODE.

1. TYPICAL POST-INSTALLED ANCHORS IN CONCRETE AND CMU SHALL COMPLY WITH THE LATEST OF THEIR RESPECTIVE ICC EVALUATION REPORTS.
2. WHEN INSTALLING ANCHORS IN CONCRETE AND CMU, CONTRACTOR SHALL LOCATE EXISTING REINFORCING STEEL, CONDUITS, ETC, PRIOR TO DRILLING FOR ANCHORS. CONTRACTOR SHALL USE CARE AND CAUTION TO PREVENT DAMAGE TO EXISTING REINFORCING BARS.
3. CONTRACTOR SHALL PROVIDE 1" MINIMUM CLEARANCE BETWEEN EDGES OF ANY HOLES FOR POST-INSTALLED ANCHORS AND EXISTING REINFORCING STEEL.
4. CONTRACTOR SHALL PROVIDE INSPECTION AND TESTING AS REQUIRED PER THE "SPECIAL INSPECTIONS" SECTION OF THESE GENERAL STRUCTURAL NOTES.
5. CONTRACTOR SHALL USE A HOLLOW DRILL BIT AND VACUUM SYSTEM WHEN DRILLING INTO CEMENTITIOUS MATERIALS.

EXISTING CONSTRUCTION NOTES

1. ALL DIMENSIONS AND ELEVATIONS TO EXISTING CONSTRUCTION ARE FOR REFERENCE ONLY. FIELD VERIFY DIMENSIONS AND ELEVATIONS PRIOR TO PREPARING SHOP DRAWINGS, FABRICATING MEMBERS (STRUCTURAL ITEMS), AND INSTALLATION.
2. ALL HOLES THROUGH EXISTING CONSTRUCTION SHALL BE CORE-DRILLED OR SAWCUT. DO NOT CUT ANY REINFORCING STEEL WHILE DRILLING INTO EXISTING CONCRETE. DO NOT TORCH CUT.
3. PRIOR TO SUBMITTING ANY SHOP DRAWINGS, DIMENSIONS BETWEEN NEW CONSTRUCTION AND EXISTING CONSTRUCTION SHALL BE SURVEYED BY THE GC AND PROVIDED TO THE SHOP DRAWING DETAILERS.
4. NOTIFY CASE ENGINEERING IMMEDIATELY OF ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND STRUCTURAL DRAWINGS.
5. FOR ALL EXISTING CONSTRUCTION: DUE TO LIMITED OBSERVATION, OR NOT BEING ABLE TO VISIT THE EXISTING BUILDING DURING THE PREPARATION OF THESE DOCUMENTS, CASE ENGINEERING HAS ASSUMED THE EXISTING STRUCTURE IS IN LIKE-NEW CONDITION WITH NO CORROSION, DETERIORATION, OR DAMAGE, AND WAS CONSTRUCTED PER ANY ORIGINAL CONSTRUCTION DOCUMENTS PROVIDED (IF ANY EXIST). CONTRACTOR SHALL VERIFY THESE ASSUMPTIONS TO THE BEST OF THEIR ABILITY AND NOTIFY CASE ENGINEERING OF ANY CONCERNS, ISSUES, OR DISCREPANCIES.
6. CONTRACTOR TO VERIFY TOP OF ROOF SLOPE IS AT LEAST 1/4 INCH PER FOOT AFTER PLACEMENT OF ANY NEW LOADS APPLIED TO ROOF OR HUNG FROM ROOF FRAMING. LOADS FROM NEW OR REPLACED ITEMS MAY INCLUDE, BUT ARE NOT LIMITED TO, ROOF TOP MECHANICAL UNITS (RTU'S) AND ASSOCIATED DUCTWORK, HUNG HOODS, MAKE-UP AIR UNITS, CONDENSERS, COMPRESSORS, EXHAUST FANS, HUNG TRANSFORMERS, ROOFTOP GENERATOR(S), RE-ROOF MATERIALS, NEW CEILINGS, HUNG SIGNAGE, HUNG SPRINKLER PIPING, ETC. ALSO VERIFY THAT ALL ROOF DRAINS AND ANY WALL SCUPPERS ARE CLEAR AND FREE-DRAINING. REPORT RESULTS IN WRITING TO ARCHITECT AND STRUCTURAL ENGINEER AS SOON AS PRACTICAL DURING THE CONSTRUCTION PROCESS.

CONCRETE NOTES

1. ALL CONCRETE WORK INCLUDING FORMING, REINFORCING, MIXING, PLACING, FINISHING AND CURING SHALL BE DONE IN ACCORDANCE WITH THE ACI MANUAL OF CONCRETE PRACTICE INCLUDING "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE", ACI 318, AND "SPECIFICATIONS FOR STRUCTURAL CONCRETE", ACI 301 LATEST EDITIONS.
2. IT SHALL BE THE RESPONSIBILITY OF THE MIX DESIGN SUPPLIER TO PROPORTION MIXES APPROPRIATELY TO REACH THE REQUIRED PROPERTIES NOTED, AND SHALL BE APPROPRIATE FOR THEIR INTENDED USE. ADMIXTURES MEETING ASTM C494 ARE OPTIONAL. HOWEVER, AIR-ENTRAINING ADMIXTURES MEETING ASTM C260 SHALL BE USED FOR CONCRETE EXPOSED TO THE EXTERIOR OR FREEZE-THAW CYCLES.
3. CONTRACTOR SHALL SUBMIT CONCRETE MIX DESIGNS FOR EACH INTENDED USE ON THE PROJECT FOR REVIEW AND APPROVAL BY CASE ENGINEERING. CONTENTS OF THE MIX DESIGN SHALL COMPLY WITH, AND INCLUDE ALL INFORMATION REQUIRED BY, ACI 318, CHAPTER 5 (FOR 2011 AND EARLIER CODE EDITIONS), & CHAPTER 26 (FOR 2014 CODE EDITION). THIS INCLUDES, BUT IS NOT LIMITED TO NUMBER OF TESTS AND AGE OF TESTS INCLUDED IN THE MIX DESIGN REPORT.
4. ALL CONCRETE DENSITY SHALL BE NORMAL WEIGHT (145 pcf +/- 5) UNLESS OTHERWISE INDICATED. LIGHT WEIGHT CONCRETE SHALL BE 110 pcf +/- 5, UNO.
5. FLY ASH ALLOWANCES:
   - 20% MAXIMUM BY WEIGHT OF CEMENTITIOUS IN FOOTINGS
   - 15% MAXIMUM BY WEIGHT OF CEMENTITIOUS MATERIAL IN SLABS
   - 0% (NONE) IN SLABS TO RECEIVE SHAKE ON HARDENERS
6. COORDINATE CONCRETE WORK WITH THAT OF OTHER TRADES TO ALLOW FOR SETTING OF SLEEVES, ACCESSORIES, ETC.
7. ALL REINFORCING STEEL, ANCHOR RODS, DOWELS, AND INSERTS SHALL BE WELL-SECURED IN POSITION PRIOR TO PLACING CONCRETE. DO NOT "WET SET" OR "FLOAT" INTO CONCRETE.
8. TEST CYLINDERS WILL BE REQUIRED, AND RECORDS OF RESULTS SHALL BE SUBMITTED TO CASE ENGINEERING. PROVIDE A MINIMUM OF (4) 6"x12" OR (5) 4"x8" CYLINDERS OF EACH MIX DESIGN FOR TESTING AT THE FREQUENCIES LISTED BELOW. TEST 1 AT 7 DAYS, 2 AT 28 DAYS FOR 6"x12" CYLINDERS, OR 3 AT 28 DAYS FOR 4"x8" CYLINDERS. KEEP 1 SPARE FOR FURTHER TESTING IF NEEDED. CYLINDERS SHALL BE TAKEN AND TESTED NO LESS THAN THE FOLLOWING: (SLUMP TESTS ARE RECOMMENDED)
   A. ONCE A DAY
   B. FOR EACH 150 CUBIC YARDS POURED
   C. FOR EACH 5,000 SQ. FT. OF SURFACE AREA POURED
9. CONSTRUCTION JOINTS IN CONCRETE INDICATED WITH A ROUGH, CLEAN SURFACE SHALL HAVE A 1/4" AVERAGE AMPLITUDE.
10. ALL COLD JOINTS SHALL BE ROUGHENED AND CLEANED PRIOR TO PLACING CONCRETE.
11. SLUMP: CONCRETE MIXES SHALL BE PROPORTIONED TO ACHIEVE A MAXIMUM SLUMP OF 8" FOR CONCRETE CONTAINING HIGH RANGE WATER REDUCING ADMIXTURE. 6" FOR CONCRETE CONTAINING A MID-RANGE WATER REDUCING ADMIXTURE. MIXES SHALL HAVE A WATER SLUMP OF 2"-3" PRE-ADDITIVE (3" TO 4" FOR CONCRETE RECEIVING A "DRY-SHAKE" HARDENER). MAXIMUM 4" WATER SLUMP FOR ALL OTHER CONCRETE NOT CONTAINING A WATER REDUCER.
12. DEPOSIT AND CONSOLIDATE CONCRETE FOR FLOORS AND SLABS IN A CONTINUOUS OPERATION, WITHIN LIMITS OF CONSTRUCTION JOINTS, UNTIL PLACEMENT OF A PANEL OR SECTION IS COMPLETE.
    A. CONSOLIDATE CONCRETE DURING PLACEMENT OPERATIONS, SO CONCRETE IS THOROUGHLY WORKED AROUND REINFORCEMENT AND OTHER EMBEDDED ITEMS AND INTO CORNERS.
    B. MAINTAIN REINFORCEMENT IN POSITION ON CHAIRS DURING CONCRETE PLACEMENT.
    C. SCREED SLAB SURFACES WITH A STRAIGHT EDGE AND STRIKE OFF TO CORRECT ELEVATIONS.
    D. UTILIZE A VIBRATORY SCREED FOR CONCRETE THAT WILL RECEIVE DIAMOND POLISH FINISH. KEEP VIBRATING SCREED MOVING CONTINUOUSLY ACROSS SURFACE. DO NOT STOP SCREED IN ANY ONE PLACE WHILE VIBRATING.
    E. SLOPE SURFACES UNIFORMLY TO DRAINS WHERE REQUIRED.
    F. BEGIN INITIAL FLOATING USING BULL FLOATS OR DARBIES TO FORM A UNIFORM AND OPEN-TEXTURED SURFACE PLANE BEFORE EXCESS BLEED WATER APPEARS ON THE SURFACE. DO NOT FURTHER DISTURB SLAB SURFACES BEFORE STARTING FINISHING OPERATIONS.
    G. THE USE OF HIGHWAY STRAIGHT EDGES OR "BUMP CUTTERS" ON CONCRETE SLABS TO BE POLISHED IS PROHIBITED.
13. ALL CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH IN ACCORDANCE WITH THE FOLLOWING:
    A. AIR ENTRAINMENT IS NOT RECOMMENDED FOR SURFACES TO BE GIVEN A SMOOTH, DENSE, HARD-TROWELED FINISH. COORDINATE FINISH REQUIREMENTS WITH ARCHITECTURAL DRAWINGS AND/ OR SPECIFICATIONS.

CONCRETE TABLE

INTENDED USE	EXPOSURE CLASS	MIN 28 DAY STRENGTH (psi)	MAX WATER-CEMENT RATIO	% TOTAL AIR LIMITS	% MAX SHRINKAGE @ 28 DAYS
FOOTING & FOUNDATION WALLS	F2	4,500	0.45	4.5 TO 7.5	0.05

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Revisions

Description	Date

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NUMBER PE-2010036255
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06/18/26

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DATE: 2026-06-22

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GENERAL NOTES

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REINFORCING STEEL NOTES

1. MINIMUM CONCRETE COVER FOR REINFORCING STEEL IN CAST-IN-PLACE (NON-PRESTRESSED) CONCRETE SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED ON THE DRAWINGS:
   A. CONCRETE CAST AGAINST EARTH = 3"
   B. CONCRETE EXPOSED TO EARTH OR WEATHER:
      - #6 BAR AND LARGER = 2"
      - #5 BAR AND SMALLER = 1 1/2"
   C. CONCRETE NOT EXPOSED TO EARTH OR WEATHER (SLABS, WALLS, & JOISTS):
      - #14 BARS AND LARGER = 1 1/2"
      - #11 BARS AND SMALLER = 3/4"
   D. CONCRETE NOT EXPOSED TO EARTH OR WEATHER (BEAMS & COLUMNS):
      - PRIMARY REINFORCEMENT, TIES, STIRRUPS, & SPIRALS = 1 1/2"
2. ALL DETAILING, FABRICATION, AND ERECTION OF REINFORCING STEEL SHALL CONFORM TO THE LATEST EDITION OF ACI 315 (SP-66), DETAILS AND DETAILING OF CONCRETE REINFORCEMENT.
3. LAP SPLICE LENGTHS FOR BARS INSTALLED IN CONCRETE AND CMU SHALL BE IN ACCORDANCE WITH THE TABLE(S).

DEVELOPMENT LENGTH OF STANDARD HOOKS IN CONCRETE NOTES

1. VALUES IN TABLE ARE BASED ON 60ksi REBAR. FOR OTHER REBAR YIELD STRENGTHS, MULTIPLY VALUES IN THE TABLE BY THE SPECIFIED YIELD STRENGTH DIVIDED BY 60.
2. REBAR IN ALL CONCRETE MEMBERS SHALL HAVE STANDARD HOOKS WHERE SHOWN ON SECTIONS IN ACCORDANCE WITH "DEVELOPMENT LENGTH OF STANDARD HOOKS IN TENSION" TABLE, UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS.

DEVELOPMENT LENGTH OF STANDARD HOOKS IN CONCRETE - 60 ksi...

BAR SIZE	f'c = 4,000 psi	f'c = 4,500 psi	f'c = 5,000 psi
#3	8	7	7
#4	10	9	9
#5	12	12	11
#6	15	14	13
#7	17	16	15
#8	19	18	17
#9	22	21	20
#10	25	23	22
#11	27	26	24

TENSION LAP SPLICE LENGTH IN CONCRETE NOTES

1. FOR HORIZONTAL BARS, VALUES IN THE TABLE SHALL BE MULTIPLIED BY 1.3 WHERE MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST BELOW THE BAR.
2. VALUES IN THE TABLE SHALL BE MULTIPLIED BY 1.5 FOR EPOXY COATED BARS WITH CLEAR COVER LESS THAN 3 BAR DIAMETERS OR CLEAR SPACING LESS THAN 6 BAR DIAMETERS. MULTIPLY VALUES IN TABLE BY 1.2 FOR ALL OTHER EPOXY COATED BARS.
3. VALUES IN TABLE NEED NOT TO BE MULTIPLIED BY MORE THAN 1.7 DUE TO THE INCREASE FROM NOTES 1 AND 2.
4. VALUES IN THE TABLE SHALL BE MULTIPLIED BY 1.33 WHERE LIGHT WEIGHT CONCRETE IS USED.
5. LAP SPLICES IN TENSION ARE NOT PERMITTED FOR BAR LARGER THAN #11. A FULL MECHANICAL OR FULL WELDED SPLICE SHALL DEVELOP AT LEAST 1.25fy OF THE BAR.
6. WHERE CLEAR SPACING OF BARS BEING SPLICED IS AT LEAST 2 BAR DIAMETERS AND CLEAR COVER AT LEAST 1 BAR DIAMETER, USE CASE 1. FOR ALL OTHER BAR ARRANGEMENTS, USE CASE 2.
7. VALUES IN THE TABLE ARE BASED ON 60ksi REBAR. FOR OTHER REBAR YIELD STRENGTHS, MULTIPLY VALUES IN THE TABLE BY THE SPECIFIED YIELD STRENGTH DIVIDED BY 60.
8. WHERE BARS OF DIFFERENT SIZES ARE SPLICED, PROVIDE THE LAP LENGTH OF THE LARGER BAR.
9. REBAR IN ALL CONCRETE MEMBERS SHALL BE SPLICED IN ACCORDANCE WITH "TENSION LAP SPLICE LENGTH" TABLE, UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS.

TENSION LAP SPLICE LENGTH IN CONCRETE - 60 KSI REBAR TABLE (INCHES)

f'c =	3,500psi	3,500psi	4,000psi	4,000psi	4,500psi	4,500psi	5,000psi	5,000psi
BAR SIZE	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2
#3	20	30	19	28	18	27	17	25
#4	27	40	25	37	24	35	23	34
#5	33	50	31	47	30	44	28	42
#6	40	60	37	56	35	53	34	50
#7	58	87	54	81	51	77	49	73
#8	66	99	62	93	59	88	56	83
#9	75	112	70	105	66	99	63	94
#10	84	126	79	118	74	111	71	106
#11	93	140	87	131	82	123	78	117

REINFORCED MASONRY NOTES

1. MASONRY CONSTRUCTION SHALL CONFORM TO THE APPLICABLE PORTIONS OF TMS 602, "SPECIFICATIONS FOR MASONRY STRUCTURES". CONCRETE MASONRY UNITS SHALL BE CLASSIFIED AS [NORMAL WEIGHT] DENSITY AND CONFORM TO ASTM C90. THE MASONRY ASSEMBLY SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH, [(f'm) = 2,500 psi]
2. GROUT IN ACCORDANCE WITH ASTM C476 MAY BE FINE OR COARSE, SELF-CONSOLIDATING OR CONVENTIONAL (AT CONTRACTOR'S OPTION), AND SHALL BE PROPORTIONED TO ACHIEVE THE MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF MASONRY. GROUT SHALL HAVE A DRY DENSITY OF 135 +/- 3pcf. NORMAL WEIGHT AGGREGATES IN GROUT SHALL COMPLY WITH ASTM C404. MORTAR SHALL COMPLY WITH PROPORTION SPECIFICATION REQUIREMENTS OF ASTM C270.
3. ALL MASONRY WALLS SHALL HAVE CONTINUOUS HORIZONTAL BOND BEAMS WITH SIZE AND SPACING PER MASONRY WALL ELEVATIONS. VERTICAL REINFORCEMENT IS PER FOUNDATION PLAN.
4. SUPPLY VERTICAL REINFORCING IN MINIMUM LENGTHS EQUAL TO 4'-0" PLUS LAP SPLICE LENGTH PER TABLE.
5. WALL CONSTRUCTION LIFTS FOR REINFORCING BARS AND INSULATION FILL SHALL BE PER ACI 530.
6. PORTLAND CEMENT AND LIME TYPE "S" MORTAR IS REQUIRED FOR ALL MASONRY UNLESS NOTED OTHERWISE.
7. SEE ARCHITECTURAL PLANS FOR LOCATION AND DETAIL OF CONTROL JOINTS AND EXPANSION JOINTS. SEE TYPICAL CONTROL JOINT DETAIL FOR GUIDANCE.
8. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS AND DETAILS OF DOOR AND WINDOW OPENINGS FOR SPECIAL COURSING AND OTHER MASONRY DETAILS. THE INFORMATION SHOWN ON THE STRUCTURAL DRAWINGS IS INTENDED TO DEFINE THE STRUCTURAL REQUIREMENTS ONLY.
9. ALL BOLTS, ANCHORS, ETC., INSERTED IN THE WALLS SHALL BE GROUTED SOLID INTO POSITION WITH MINIMUM EDGE DISTANCE FROM ANCHOR TO EDGE OF GROUTED PORTION OF CMU IN ALL DIRECTIONS AS NOTED ON DRAWINGS.
10. REINFORCING SHALL CONFORM TO ASTM A615, GRADE 60, UNLESS NOTED ON DRAWINGS. REINFORCING TO BE WELDED SHALL CONFORM TO ASTM A706.
11. WHEN A FOUNDATION DOWEL DOES NOT LINE UP WITH A VERTICAL BLOCK CORE, IT SHALL NOT BE SLOPED MORE THAN (ONE HORIZONTAL IN 6 VERTICAL), OR 10 DEGREES. DOWEL MAY BE GROUTED INTO CELL IN VERTICAL ALIGNMENT, EVEN THOUGH IT IS IN AN ADJACENT CELL TO THE VERTICAL WALL REINFORCING, AS LONG AS THE CENTER-TO-CENTER SPACE BETWEEN THE WALL REINFORCING AND THE DOWEL DOES NOT EXCEED 8 INCHES. DOWELS SHALL NOT BE BENT INTO ALIGNMENT AFTER CONCRETE HAS BEEN CAST.
12. SPLICED REINFORCING SHALL BE LAPPED ACCORDING TO "MASONRY LAP SPLICE LENGTH" TABLE. SPLICED BARS SHALL BE WIRED TOGETHER. CONTRACTOR MAY OPT TO STAGGER SPLICES.
13. VERTICAL BARS SHALL BE HELD IN POSITION AT TOP AND BOTTOM AND AT INTERVALS NOT EXCEEDING 192 DIAMETERS OF THE REINFORCING OR 10'-0"
14. REINFORCING STEEL SHALL BE SECURELY TIED IN PLACE AND INSPECTED BEFORE GROUTING STARTS.
15. VERTICAL GROUTING MAY BE EITHER "LOW LIFT" OR "HIGH LIFT" AT THE CONTRACTOR'S OPTION.
16. VERTICAL CELLS THAT WILL BE GROUTED SHALL HAVE VERTICAL ALIGNMENT TO MAINTAIN A CONTINUOUS UNOBSTRUCTED CELL AREA NOT LESS THAN 2"x3".
17. GROUTING OF MASONRY BEAMS OVER OPENINGS SHALL BE DONE IN ONE CONTINUOUS OPERATION.
18. VERTICAL REINFORCING BARS SHALL MAINTAIN MINIMUM CLEARANCES AS FOLLOWS UNLESS NOTED OTHERWISE ON DRAWINGS:
    1. INSIDE FACE OF MASONRY = 3/4"
    2. ADJACENT BARS NOT SPLICED = 1" OR 1 BAR DIAMETER, WHICHEVER IS GREATER.
19. INSULATION INSERTS ARE NOT PERMITTED IN GROUTED CELLS.
20. PRISM TESTS IN ACCORDANCE WITH ASTM C1314 AND ASTM C140 SHALL BE PERFORMED WITH TEST REPORTS SENT TO ARCHITECT AND EOR FOR RECORD. REFER TO SPECIAL INSPECTIONS TABLE ITEM "EVALUATION OF STRENGTH" FOR ADDITIONAL INFORMATION.

MASONRY LAP SPLICE LENGTH NOTES

1. CONTRACTOR SHALL PROVIDE DEVELOPMENT AND REBAR SPLICE LENGTHS SHOWN IN THE TABLES AS A MINIMUM UNLESS INDICATED OTHERWISE IN STRUCTURAL DETAILS OR NOTES.
2. "SINGLE" INDICATES ONE BAR PER CELL. "DOUBLE" INDICATES TWO BARS PER CELL. SEE PLAN..

f'm = 2,500 psi - MASONRY LAP SPLICE LENGTH TABLE (INCHES)

	CMU SIZE	8"	10"	10"	12"	12"
BAR SIZE	STD HOOK DEVELOPMENT LENGTH (IN)		SINGLE	DOUBLE	SINGLE	DOUBLE
#3	5	12	12	12	12	12
#4	6	12	12	18	12	18
#5	8	18	14	28	12	28
#6	9	34	26	54	21	54
#7	10	47	36	76	36	76
#8	12	71	48	96	47	96

SPECIAL INSPECTIONS

1. REFER TO THE SPECIAL INSPECTION TABLES FOR THE LIST OF ELEMENTS OF CONSTRUCTION THAT SHALL REQUIRE SPECIAL INSPECTION. THIS SHALL BE CONSIDERED A GUIDE, AND THE CONTRACTOR AND INSPECTOR SHALL REFER TO THE IBC FOR COMPLETE REQUIREMENTS, QUALIFICATIONS, EXCEPTIONS, AND SUBMITTALS. REFER TO IBC CHAPTER 17. THE OWNER SHALL BE RESPONSIBLE FOR EMPLOYING THE SPECIAL INSPECTION AGENCY. ANY "OBSERVATIONS" BY CASE ENGINEERING WILL NOT BE TO PERFORM SPECIAL INSPECTIONS AND SHALL NOT BE INTERPRETED AS SUCH.
2. COPIES OF ALL INSPECTION REPORTS THAT REPORT COMPLIANCE SHALL BE SUBMITTED TO THE ARCHITECT OF RECORD, CASE ENGINEERING, AND BUILDING INSPECTOR WITHIN 7 CALENDAR DAYS OF COMPLETION OF THAT PORTION OF WORK. A MINIMUM OF ONE (1) PROGRESS REPORT PER MONTH FOR EACH TYPE OF CONSTRUCTION REQUIRING SPECIAL INSPECTION SHALL BE SUBMITTED TO CASE ENGINEERING.
3. SPECIAL INSPECTOR SHALL INFORM CASE ENGINEERING IMMEDIATELY OF NON-COMPLIANCE WITH CONSTRUCTION DOCUMENTS OR APPROVED SUBMITTALS. CONTACT CASE ENGINEERING THE SAME DAY NON-COMPLIANCE IS DISCOVERED AND FOLLOW UP WITH AN OFFICIAL REPORT WITHIN 2 BUSINESS DAYS.
4. THE SPECIAL INSPECTIONS IDENTIFIED ON THE PLANS ARE IN ADDITION TO, AND NOT A SUBSTITUTE FOR THOSE INSPECTIONS REQUIRED TO BE PERFORMED BY A BUILDING INSPECTOR.
5. SPECIAL INSPECTIONS ARE NOTED AS EITHER "CONTINUOUS" OR "PERIODIC". A "CONTINUOUS" INSPECTION REQUIRES THE PRESENCE OF A QUALIFIED INSPECTOR IN THE VICINITY OF THE WORK BEING PERFORMED FOR 100% OF THAT WORK. A "PERIODIC" INSPECTION REQUIRES PART-TIME OBSERVATION OF THE WORK BEING PERFORMED. THE INSPECTOR SHALL ALSO OBSERVE THE FINAL CONDITION OF THE WORK BEFORE IT IS CLOSED FROM VIEW.
6. WHEN WORK IN MORE THAN ONE CATEGORY OF WORK REQUIRING SPECIAL INSPECTION IS TO BE PERFORMED SIMULTANEOUSLY, OR THE GEOGRAPHIC LOCATION OF THE WORK IS SUCH THAT IT CANNOT BE CONTINUOUSLY OBSERVED, IT SHALL BE THE RESPONSIBILITY OF THE AGENT TO EMPLOY A SUFFICIENT NUMBER OF SPECIAL INSPECTORS TO ASSURE THAT ALL WORK IS CONTINUOUSLY INSPECTED IN ACCORDANCE WITH THOSE PROVISIONS.

SPECIAL INSPECTIONS - CONCRETE TABLE

ITEM	INSPECTION FREQUENCY	SCOPE
REINFORCEMENT	PERIODIC	INSPECT REINFORCEMENT AND PLACEMENT; VERIFY CONFORMANCE WITH CONSTRUCTION DOCUMENTS, AND THAT BARS ARE FREE FROM MATERIALS THAT COULD PREVENT BOND, ARE ADEQUATELY LAPPED, SPLICED, TIED, AND SUPPORTED
MIX DESIGN	PERIODIC	VERIFY USE OF APPROVED MIX DESIGN
SAMPLING AND TESTING	CONTINUOUS	PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTING; PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE TEMPERATURE OF THE CONCRETE
CONCRETE PLACEMENT	PERIODIC	VERIFY MAINTENANCE OF CURING TEMPERATURE AND TECHNIQUES
CONCRETE PLACEMENT	PERIODIC	INSPECT FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF CONCRETE MEMBER BEING FORMED
CONCRETE PLACEMENT	CONTINUOUS	CONCRETE PLACEMENT

SPECIAL INSPECTIONS - MASONRY - LEVEL 2 INSPECTION (LEVEL B QUALITY ASSURANCE) FOR OCCUPANCY CATEGORY I, II, III STRUCTURES

ITEM	INSPECTION FREQUENCY	SCOPE
REINFORCEMENT	PERIODIC	LAPPING AND SPLICING OF REBAR; LOCATION, PLACEMENT, GRADE, SIZE, AND TYPE OF REINFORCEMENT AND CONNECTORS
INSTALLATION OF MASONRY, GROUT, AND MORTAR	PERIODIC	CONSTRUCTION OF MORTAR JOINTS; SIZE AND LOCATION OF STRUCTURAL ELEMENTS; PROTECTION OF MASONRY IN COLD WEATHER (BELOW 40˚F) OR HOT WEATHER (ABOVE 90˚F); CLEAN GROUT SPACE
MIXING OF MORTAR AND GROUT	PERIODIC	PROPORTIONS OF SITE-PREPARED MORTAR AND GROUT
MIXING OF MORTAR AND GROUT	PERIODIC	PROPORTIONS OF SITE-PREPARED PRESTRESSING GROUT FOR BONDED TENDONS
ANCHORS	PERIODIC	GROUT PLACEMENT IN CELLS WITH STEEL REINFORCEMENT OR PRESTRESSING BONDED TENDONS
ANCHORS	PERIODIC	TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION
EVALUATION OF STRENGTH	CONTINUOUS	PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/ OR PRISMS; VERIFY f'm PRIOR TO CONSTRUCTION. A "SET" IS HEREBY DEFINED AS A MINIMUM OF 4 PRISM SPECIMENS. A MINIMUM OF 1 SET SHALL BE PREPARED AND TESTED FOR EACH DAY MASONRY IS INSTALLED. TEST 1 PRIS
MISCELLANEOUS	PERIODIC	COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTALS SHALL BE VERIFIED
SAMPLE PANEL	PERIODIC	USING MATERIALS AND PROCEDURES ACCEPTED FOR THE WORK, CONSTRUCT MIN. 4'-0"x4'-0" SAMPLE PANEL

SPECIAL INSPECTIONS - SOILS AND FOUNDATIONS TABLE

ITEM	INSPECTION FREQUENCY	SCOPE
SOILS	PERIODIC	VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY; VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL; PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS; PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY
SOILS	CONTINUOUS	VERIFY USE OF PROPER MATERIALS, DENSITIES, LIFT THICKNESSES, AND COMPACTION OF FILL; VERIFY MATERIALS AND PROCEDURES COMPLY WITH THE GEOTECHNICAL REPORT / SOILS ENGINEER

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Parkway PN #
Building Renovation

Parkway School District
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314.415.8231 tel

Project No: 25091

Revisions

Description	Date

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KYLE JINGNFELSER
NUMBER PE-2010036255
PROFESSIONAL ENGINEER
06/18/26

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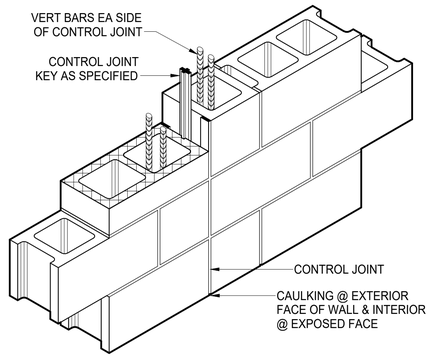
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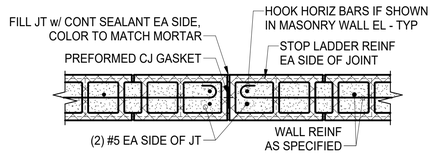
BID/ PERMIT SET

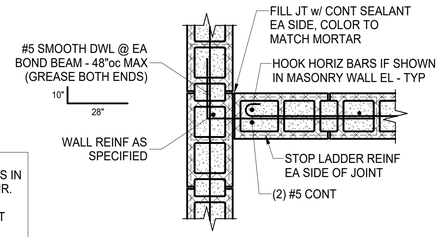
GENERAL NOTES

S1.2

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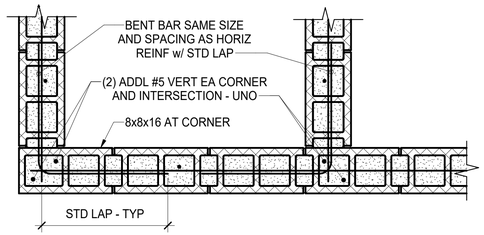




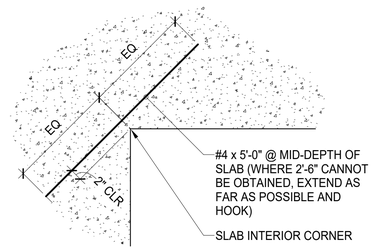


NOTES:
1. FIGURE ABOVE IS APPLICABLE TO THE CONSTRUCTION OF ALL CONTROL JOINTS IN HOLLOW BLOCK WALLS EXCEPT WHERE STEEL OR CONCRETE COLUMNS OCCUR.
2. SEE SPEC. & ARCH. DRAWINGS FOR JOINT SPACING/LOCATIONS
   - A. SPACE CJ'S NO MORE THAN 1.5 x THE WALL HEIGHT. DO NOT EXCEED 25FT (LIMIT TO 20F WHEN BRICK VENEER IS USED)
   - B. LOCATE A CJ WITHIN 10FT OF ALL EXTERIOR CORNERS
   - C. LOCATE A CJ AT STEPS IN WALL HEIGHT,T-INTERSECTIONS, AND CHANGES IN MASONRY THICKNESS

A S1.3 TYP CMU WALL CONTROL JOINT DETAILS
N.T.S.

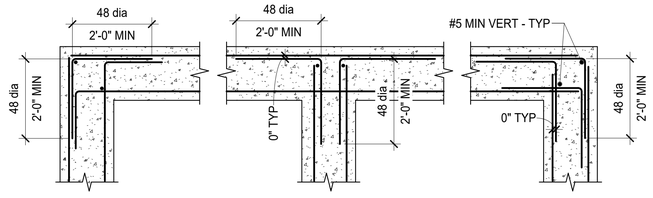


B S1.3 TYP CMU WALL CORNER AND INTERSECTION DETAIL
N.T.S.



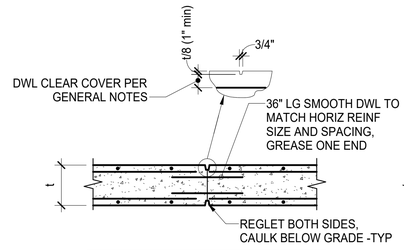
C S1.3 TYP REINF AT INTERIOR SOG CORNER DETAIL
N.T.S.

NOTES:
1. WHERE SINGLE CURTAIN OF REINFORCING OCCURS, BEND BARS AS SHOWN FOR OUTSIDE BARS.
2. FOR MORE THAN 2 BARS PER LAYER, EXTEND INNER BARS 12" INTO PERPENDICULAR FOOTING. OUTER BARS SHALL BE PLACED AS INDICATED.
3. CORNER BARS TO MATCH WALL REINFORCEMENT.



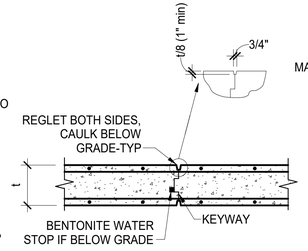
PLAN OF TYPICAL CORNER | PLAN OF INTERSECTION | PLAN OF ALTERNATE CORNER

D S1.3 TYP CONCRETE FOOTING, FOUNDATION, & WALL REINFORCEMENT DETAIL
N.T.S.



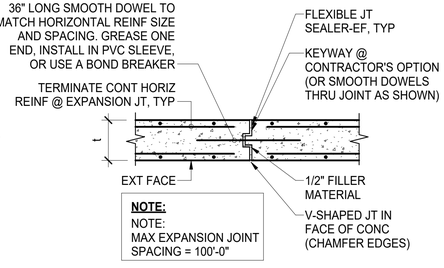
NOTE:
25'-0"oc MAX. SPACING OR AS APPROVED BY OWNER/ARCHITECT/ENGINEER

CONTROL JOINT



NOTE:
LOCATION TO BE BY CONTRACTOR.

CONSTRUCTION JOINT



NOTE:
NOTE:
MAX EXPANSION JOINT SPACING = 100'-0"

EXPANSION JOINT

E S1.3 TYP CONCRETE WALL CONTROL, CONSTRUCTION, AND EXPANSION JOINT DETAILS
N.T.S.

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Parkway PN #
Building Renovation

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Chesterfield, MO 63017
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Project No: 25091

Revisions

Description	Date

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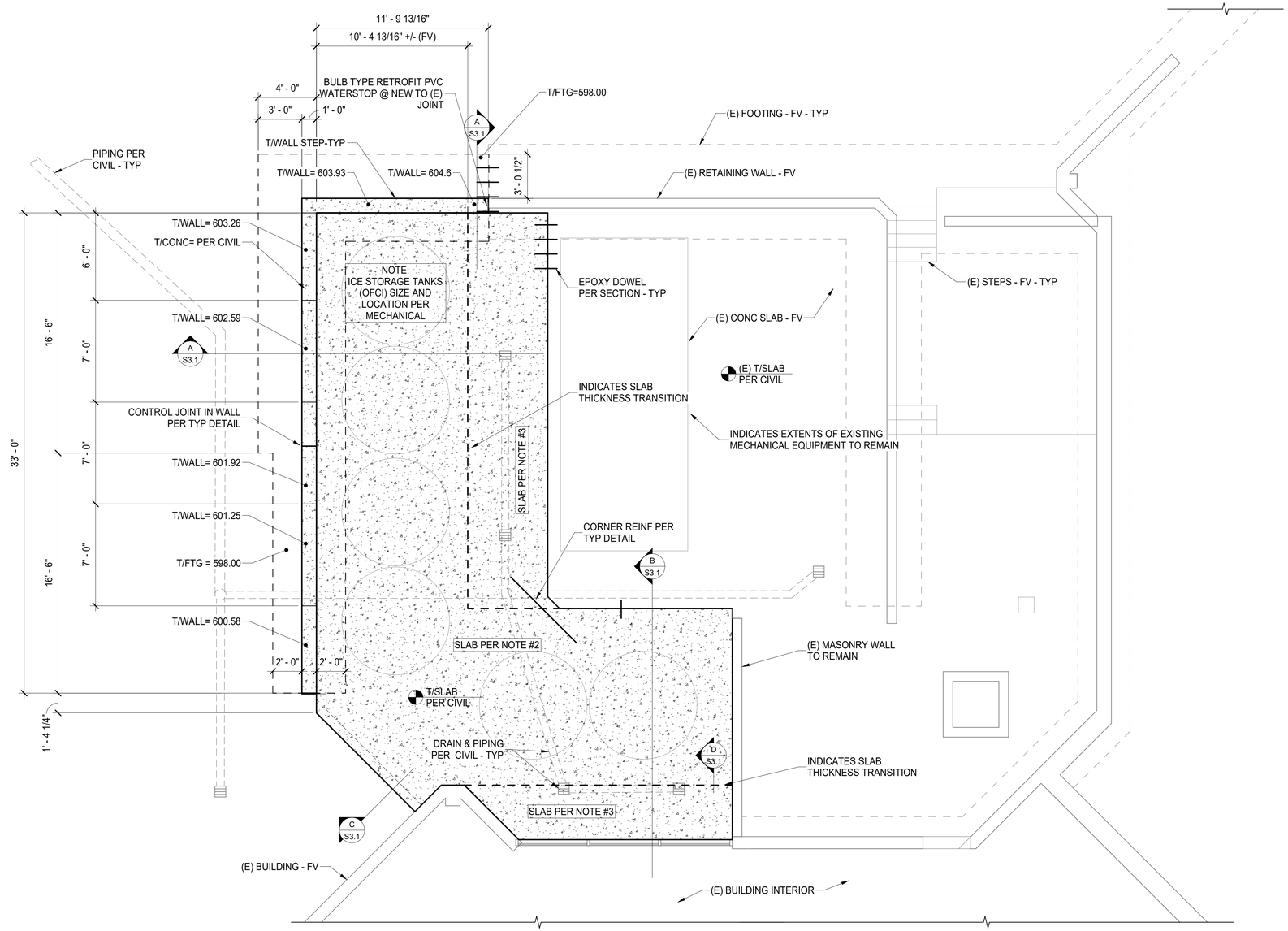
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TYPICAL DETAILS

S1.3



FOUNDATION PLAN

SCALE: 1/4" = 1'-0"

PLAN NOTES

1. SEE SHEETS S1.1 - S1.2 FOR GENERAL NOTES AND TYPICAL DETAILS.
2. 8" CONCRETE SLAB REINFORCED WITH #6 @ 12"oc. REINFORCEMENT TO BE LOCATED IN THE TOP & BOTTOM FACE IN EA DIRECTION.
3. 4" CONCRETE SLAB REINFORCED WITH #6 @ 12" O.C. MID DEPTH OF SLAB OVER COMPACTED FREE-DRAINING GRANULAR FILL.
4. SEE ARCHITECTURAL DRAWINGS FOR ELEVATIONS NOT SHOWN HEREON. SEE CIVIL DRAWINGS FOR DIMENSIONS AND GRADES NOT SHOWN HEREON.
5. ALL ELEVATIONS ARE REFERENCED FROM CIVIL ELEVATIONS
   - T/FTG = TOP OF FOOTING = PER PLAN
   - T/CONC = TOP OF CONCRETE = PER PLAN
6. ALL HORIZONTAL CONCRETE SURFACES SHALL RECEIVE A "WOOD FLOAT" FINISH SAVE FOR THE ICE TANK FOOTPRINT PLUS A 6" RADIUS BEYOND THE EXTENTS OF FOOTPRINT, WHICH SHALL HAVE A FLAT (NOT SLOPING) TROWEL FINISH.

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"

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Parkway PN #
Building Renovation

Parkway School District
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Project No: 25091

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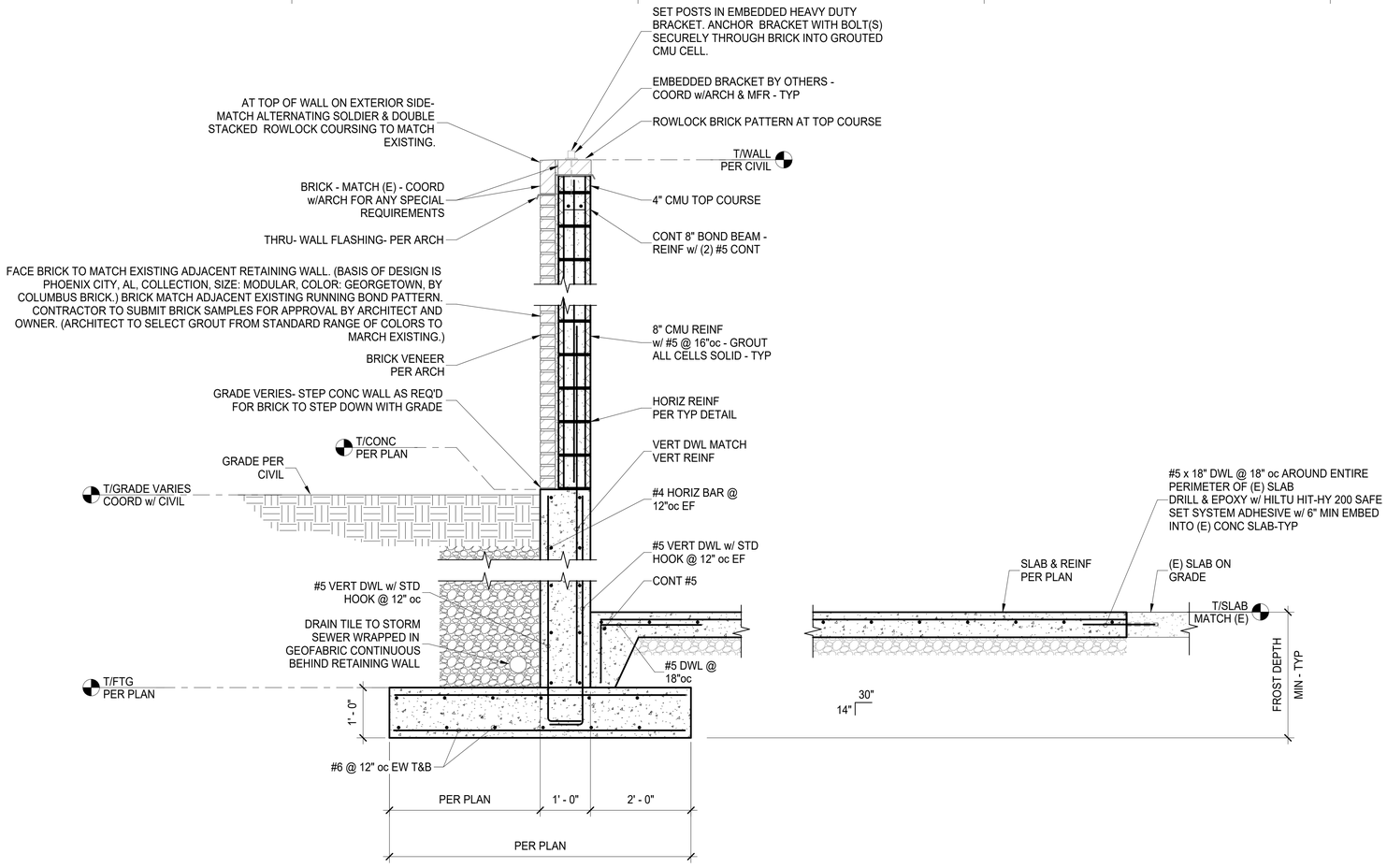
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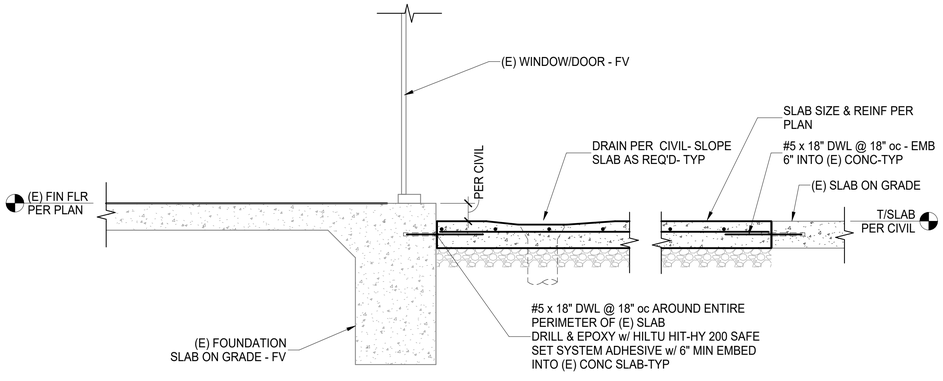
PARTIAL FOUNDATION PLAN

S2.1



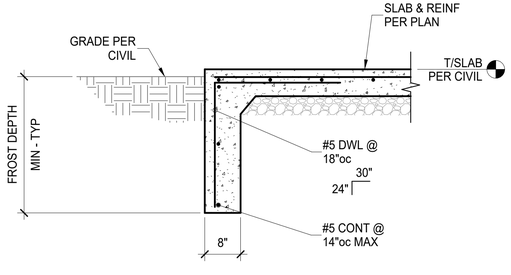
A S3.1 FOUNDATION SECTION

3/4" = 1'-0"



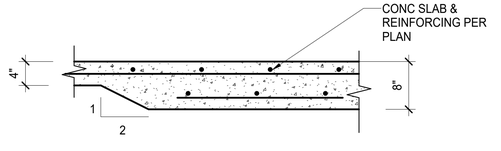
B S3.1 FOUNDATION SECTION

3/4" = 1'-0"



C S3.1 FOUNDATION SECTION

3/4" = 1'-0"



D S3.1 TYP DEPRESSED SLAB DETAIL

N.T.S.

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FOUNDATION SECTIONS

S3.1

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ELECTRICAL & TECHNOLOGY COMMUNICATION SYSTEM COMPONENTS
EARTHQUAKE LOAD RESISTANCE

OCCUPANCY CATEGORY: III — SEISMIC DESIGN CATEGORY: D

LISTING OF EQUIPMENT AND SYSTEM COMPONENTS	ANCHORAGE TO FLOORS, ROOFS, ETC.		SWAY BRACING		LOCATION OF PROFESSIONALLY SEALED ANCHORAGE AND SWAY BRACING DETAILS.				COMMENTS
	NOT PROVIDED	PROVIDED	NOT PROVIDED	PROVIDED	ON CONST. DOCUMENTS		SUBSEQUENT SUBMITTAL		
					DWG. NO.	SPEC SECT.	SHOP DWGS	SEP. PERMIT	
FIRE PROTECTION, DETECTION & ALARM EQUIPMENT & SYSTEM COMPONENTS: N/A	X								NOTE #3
EMERGENCY OR STANDBY EQUIP. AND SYSTEM COMPONENTS	X								N/A
OTHER EQUIPMENT AND SYSTEM COMPONENTS NEEDED FOR CONTINUED OPERATION OF SEISMIC GROUP III FACILITIES OR WHOSE FAILURE COULD IMPAIR THEIR CONTINUED OPERATION:	X								N/A
OTHER GENERAL EQUIPMENT AND SYSTEM COMPONENTS: LIGHT FIXTURES: FEEDER CONDUITS: DISCONNECT SWITCHES: VARIABLE FREQUENCY DRIVES:	X	 X X X							 NOTE #4 NOTE #2 NOTE #2 NOTE #2

NOTES:

1. IT IS THE BASIC INTENT OF THIS CODE BLOCK TO DECLARE WHETHER OR NOT ANCHORAGE AND SWAY BRACING IS BEING PROVIDED ON THE PROJECT. IF SO, TO DECLARE WHETHER OR NOT THE DETAILS ARE SHOWN ON THE PLANS OR WILL BE SHOWN ON A SUBSEQUENT SUBMISSION. IF SEISMIC RESTRAINT OF A COMPONENT IS NOT REQUIRED BY CODE THIS SHOULD BE STATED IN COMMENTS. IF SEISMIC RESTRAINT, WHICH IS NOT REQUIRED BY CODE, IS BEING PROVIDED DUE TO OWNER/DESIGNER REQUIREMENTS, THIS SHOULD ALSO BE STATED IN THE COMMENTS.
2. SHOP DRAWINGS NEED TO BE SUBMITTED TO THE COUNTY A MINIMUM OF TWO WEEKS PRIOR TO THE PLANNED INSTALLATION TO ALLOW FOR PLAN REVIEW AND DISTRIBUTION TO THE INSPECTOR. ADDITIONAL TIME MAY BE NEEDED IF SUCH SUBMISSIONS ARE DEFICIENT.
3. FIRE ALARM SYSTEMS ARE EXISTING.
4. LIGHT FIXTURES ARE EXISTING.

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WEST MIDDLE SCHOOL CHILLER
2312 Baxter Road, Chesterfield, MO 63017
Parkway Project #: PN432501B
Cooling Tower & Chillers Replacement

Parkway School District
363 N Woods Mill Rd., Chesterfield, MO 63017
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Project No: 25091

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MICHAEL D. MITCHELL
NUMBER PE-2010019777
PROFESSIONAL ENGINEER
09/22/2025

MICHAEL D. MITCHELL
IL Licensed ARCHITECT 001013025
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ELECTRICAL AND TECHNOLOGY SEISMIC CODE BLOCK

E000

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ELECTRICAL LEGEND AND ABBREVIATIONS (SEE SPECIFICATIONS & SCHEDULES)

NOTES:
1. NOT ALL SYMBOLS AND ABBREVIATIONS ARE USED ON THESE PLANS.
2. ALL MOUNTING HEIGHTS ARE TO CENTERLINE OF DEVICES AND EQUIPMENT UNLESS NOTED OTHERWISE.
3. IN GENERAL, SYMBOLS SHOWN WITH LIGHT LINES DENOTE EXISTING WORK. SYMBOLS SHOWN WITH HEAVY LINES DENOTE PROPOSED WORK.

JUNCTION AND PULL BOXES

- J — JUNCTION BOX (4"x4"x1/2" MINIMUM)
- P — PULL BOX

WIRING PLANS

- CONDUIT RUN CONCEALED IN CEILING OR WALL CONSTRUCTION
- CONDUIT RUN IN FLOOR CONSTRUCTION OR UNDERGROUND
- CONDUIT RUN EXPOSED
- CONDUIT TURNING UP
- CONDUIT TURNING DOWN
- CONDUIT CAPPED FOR FUTURE.
- HOMERUN TO PANEL OR DESTINATION NOTED
- HACHURES INDICATE NUMBER OF CONDUCTORS IN CONDUIT NOTE:
  - LONG HACHURE - NEUTRAL CONDUCTOR SHORT HACHURE - HOT OR SWITCHED CONDUCTORS
  - LONG HACHURE WITH DOT - GROUND CONDUCTOR
  - LONG HACHURE WITH DOT & RETURN LINE - ISOLATED GROUND CONDUCTOR.
  - WHEN HACHURES ARE NOT SHOWN AND WIRING IS FOR POWER OR LIGHTING CIRCUITS, PROVIDE HOT, NEUTRAL, AND GROUND. WHEN FOR MULTIPLE CIRCUITS, PROVIDE NO. OF PHASE CONDUCTORS, NEUTRAL CONDUCTORS AND A GROUND CONDUCTOR. HACHURES ARE SHOWN AS A GUIDE AND MAY NOT BE EXACT COUNTS IN ALL CASES. PROVIDE WIRING REQUIRED BY THE CIRCUITING AND SWITCHING REQUIREMENTS FOR THE PARTICULAR CIRCUITS INVOLVED.

ONE-LINE DIAGRAM SYMBOLS

- FUSIBLE SWITCH (SIZE/FUSE)
- XX/XX — DRAWOUT CIRCUIT BREAKER
- XX/XX — CIRCUIT BREAKER (FRAME/TRIP)
  (3 POLE UNITS U.O.N.)
- MOTOR STARTER
- CONTACTOR
  (3 POLE UNITS U.O.N.)
- GEN — GENERATOR
- 1 — FEEDER NUMBER
- CURRENT TRANSFORMER
- VOLTAGE TRANSFORMER
- POWER TRANSFORMER
- G — GROUND BUS
- N — NEUTRAL BUS
- GROUND
- K — KEY-INTERLOCK
- CAPACITOR
- M — MOTOR OPERATED MEDIUM VOLTAGE LOAD INTERRUPTER SWITCH
- GAP TYPE SURGE ARRESTOR
- TVSS — TRANSIENT VOLTAGE SURGE SUPPRESSOR
- M — ELECTRICAL SERVICE METER

POWER EQUIPMENT

- MOTOR - SEE EQUIPMENT DATA SCHEDULE FOR HORSEPOWER
- STARTERS (MANUAL, MAGNETIC & COMB. MAGNETIC WITH DISC.)
- 1LP1 — PANELBOARD SEQUENCE NUMBER
  - TYPE
    - P - POWER
    - U - UPS
    - D - DISTRIBUTION
  - VOLTAGE
    - H - 480V
    - L - 240V OR 208/120V
  - FLOOR
- TRANSFORMER
- F N — DISCONNECT SWITCH. FUSED OR UNFUSED AS NOTED
- M — ELECTRICAL SERVICE METER

WIRING DEVICES, RECEPTACLES - MISC.

TYPICAL MOUNTING HEIGHT - 18" AFF

- SINGLE RECEPTACLE OUTLET
- DUPLEX RECEPTACLE OUTLET
- DUPLEX RECEPTACLE OUTLET - GROUND FAULT TYPE
- USB — COMBINATION DUPLEX RECEPTACLE AND USB OUTLET
- IG — DUPLEX RECEPTACLE OUTLET WITH ISOLATED GROUND
- DOUBLE DUPLEX RECEPTACLE OUTLET
- DOUBLE DUPLEX RECEPTACLE OUTLET - GROUND FAULT TYPE
- OC — DUPLEX RECEPTACLE OUTLET MOUNTED +8" ABOVE COUNTER
- OC — DUPLEX RECEPTACLE OUTLET MOUNTED +8" ABOVE COUNTER - GROUND FAULT TYPE
- FLOOR BOX - SYMBOL DESIGNATES TYPE OF SERVICE
- SPECIAL PURPOSE OUTLET AS NOTED

DRAWING REFERENCES

- 1 / E101 — DETAIL NUMBER; PLAN DETAIL REFERENCE TITLE; DRAWING NUMBER
- 3 — KEYED NOTE DESIGNATION
- 1 / E101 — SECTION NUMBER; SECTION REFERENCE TITLE; DRAWING NUMBER
- 1 / 2 / 3 / 4 / E101 — ELEVATION NUMBER (TYPICAL OF 4); ELEVATION REFERENCE TITLE; DRAWING NUMBER

ABBREVIATIONS

A.C.S.	-	ACCESS CONTROL SYSTEM
A.F.F.	-	ABOVE FINISHED FLOOR
ATS	-	AUTOMATIC TRANSFER SWITCH
B.C.	-	BELOW CEILING
C	-	CONDUIT
CAM	-	CAMERA
CB	-	CIRCUIT BREAKER
CC	-	CONTROL CONTACTOR
CCTV	-	CLOSED CIRCUIT TELEVISION
CCW	-	COUNTER CLOCKWISE
CW	-	CLOCKWISE
DCU	-	DISTRIBUTED CONTROLLER UNIT
DN	-	DOWN
DP	-	DISTRIBUTION PANEL
DT	-	DUSTTIGHT
DWG	-	DRAWING
E.C.	-	ELECTRICAL CONTRACTOR
ELEC	-	ELECTRIC OR ELECTRICAL
EMT	-	ELECTRICAL METALLIC TUBING
ER	-	EXISTING RELOCATED
ETR	-	EXISTING TO REMAIN
EWC	-	ELECTRIC WATER COOLER
FA	-	FIRE ALARM
FM	-	F/O MODEM
F/O	-	FIBER OPTIC
FS	-	FUSIBLE SWITCH
G.C.	-	GENERAL CONTRACTOR
GF	-	GROUND FAULT
GFCI	-	GROUND FAULT CIRCUIT INTERRUPTER
GRD	-	GROUND
GRS	-	GALVANIZED RIGID STEEL
HH	-	HANDHOLE
ILSM	-	INTERIM LIFE SAFETY MEASURES
IMC	-	INTERMEDIATE METAL CONDUIT
I/O	-	INPUT/OUTPUT
LAN	-	LOCAL AREA NETWORK
LP	-	LIGHTING PANEL
MATV	-	MASTER ANTENNA TELEVISION
MC	-	METAL CLAD
MCC	-	MOTOR CONTROL CENTER
MCP	-	MOTOR CONTROL PANEL
MH	-	MANHOLE
MT	-	EMPTY CONDUIT
NC	-	NURSE CALL
NL	-	NIGHT LIGHT
PA	-	PUBLIC ADDRESS
PI	-	PORTABLE INTERFACE
P.I.R.	-	PASSIVE INFRA RED
PP	-	POWER PANEL
PR.	-	PAIR
PVC	-	POLYVINYL CHLORIDE CONDUIT
R	-	RECESSED
RF	-	RADIO FREQUENCY
RGS	-	RIGID GALVANISED STEEL
RT	-	RAINTIGHT
SHLD	-	SHIELDED (AS IN CABLE)
SWBD	-	SWITCHBOARD
T	-	TELEPHONE
TYP.	-	TYPICAL
UNG	-	UNGROUNDED
UPS	-	UNINTERUPTIBLE POWER SUPPLY
U.O.N.	-	UNLESS OTHERWISE NOTED
VFD	-	VARIABLE FREQUENCY DRIVE
VT	-	VAPORTIGHT
WT	-	WATERTIGHT
XP	-	EXPLOSION PROOF
WP	-	WEATHER-PROOF

GENERAL NOTES

A. THE ELECTRICAL DRAWINGS HAVE BEEN PREPARED UTILIZING EXISTING DRAWINGS AND BUILDING OBSERVATIONS AND MAY NOT SHOW ALL CONDITIONS. CONTRACTOR SHALL VISIT THE BUILDING PRIOR TO BID SUBMISSION AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS. CONTRACTOR WILL NOT BE ALLOWED ADDITIONAL FUNDS OR TIME DUE TO THE CONTRACTOR'S FAILURE TO BECOME FAMILIAR WITH ALL EXISTING CONDITIONS.
B. ACCEPTANCE OF CONTRACT MEANS INSTALLER ACCEPTS EXISTING CONDITIONS.
C. COORDINATE INSTALLATION WITH EXISTING CONDITIONS. FIELD VERIFY EXISTING CONDITIONS.
D. CONTRACTOR SHALL SCHEDULE ALL ELECTRICAL SYSTEM POWER OUTAGES WITH THE OWNER'S REPRESENTATIVE AT LEAST 14 CALENDAR DAYS IN ADVANCE OF A SHUTDOWN. DOWNTIME ON BRANCH CIRCUIT PANELBOARDS, SWITCHBOARDS, DISTRIBUTION PANELBOARDS, MOTOR CONTROL CENTERS, ETC., WHICH SERVE LOADS OUTSIDE OF THE CONSTRUCTION AREAS SHALL BE LIMITED TO A (1) HOUR (MAXIMUM) OUTAGE. MORE THAN (1) SCHEDULED OUTAGE MAY OCCUR ON EACH PIECE OF EQUIPMENT, BUT THE MAXIMUM OUTAGE TIME MUST BE MAINTAINED.
E. ALL PENETRATIONS THROUGH CONCRETE OR MASONRY WALLS AND FLOOR SLABS SHALL BE CORE DRILLED. AFTER CONDUITS HAVE BEEN INSTALLED, SEAL WALL AROUND CONDUIT TO MAINTAIN 2-HOUR FIRE RATING USING UL LISTED METHODS AND MATERIALS. EXTERIOR WALLS SHALL BE SEALED WATERTIGHT.
F. CONTRACTOR SHALL UPDATE EXISTING PANELBOARD CIRCUIT DIRECTORIES TO REFLECT ALL CHANGES MADE TO EXISTING PANELBOARDS DURING THIS PROJECT.
G. WHEN INSTALLING CIRCUIT BREAKERS IN EXISTING PANELBOARDS, MATCH EXISTING CIRCUIT BREAKER TYPES AND INTERRUPTING RATINGS.
H. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING EXISTING DIVISION 26 RELATED ITEMS TO REMAIN IN PLACE WITH THE INSTALLATION OF GENERAL CONSTRUCTION WORK, DUCTWORK, PIPING, ETC. ALL ATTEMPTS SHALL BE MADE PRIOR TO THE START OF CONSTRUCTION TO AVOID THE REMOVAL AND RELOCATION OF EXISTING DIVISION 26 RELATED ITEMS WHICH ARE NOT AFFECTED BY WORK OF THIS CONTRACT.
I. CONTRACTOR SHALL PROVIDE A SET OF HAND MARKED RECORD DRAWINGS TO THE ENGINEER AT THE COMPLETION OF THE PROJECT INDICATING ACTUAL INSTALLED CONDITIONS. THE HAND MARKING SHALL BE CLEARLY LEGIBLE AND SHALL BE MARKED IN RED. MARKS SHALL INCLUDE ITEMS SUCH AS CIRCUITING CHANGES, DEVICE AND EQUIPMENT LOCATION CHANGES, MAJOR FEEDER AND CABLING ROUTING CHANGES, ETC.
J. CONTRACTOR SHALL LOCATE ALL EXISTING UNDERGROUND UTILITIES PRIOR TO THE START OF EXCAVATION. DAMAGE TO EXISTING UNDERGROUND UTILITIES RESULTING FROM A FAILURE TO LOCATE UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
K. WHERE CIRCUIT NUMBERS ONLY ARE SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL PROVIDE CONDUIT AND CONDUCTORS AND SHALL MAKE FINAL CONNECTIONS FOR A COMPLETE INSTALLATION.
L. PROVIDE #10 CONDUCTORS FOR ALL 120V, 20A CIRCUITS EXCEEDING 75'-0" IN LENGTH. PROVIDE #8 CONDUCTORS FOR ALL 120V, 20A CIRCUITS EXCEEDING 150'-0" IN LENGTH.
M. PROVIDE FIRE CAULKING AT ALL RECESSED ELECTRICAL DEVICES INSTALLED IN FIRE RATED ASSEMBLIES. SEE ARCHITECTURAL DRAWINGS FOR LOCATION OF FIRE RATED ASSEMBLIES.
N. PROVIDE A SEPARATE INSULATED NEUTRAL CONDUCTOR FOR EACH UNGROUNDED CONDUCTOR IN A MULTI-WIRE BRANCH CIRCUIT SERVING LINE-TO-NEUTRAL LOADS PER NEC ARTICLE 210.4(B). DO NOT USE HANDLE TIES TO SATISFY THIS REQUIREMENT.

GENERAL DEMOLITION NOTES

A. THE ELECTRICAL CONTRACTOR SHALL REMOVE, CAP AND/OR RELOCATE EQUIPMENT, OUTLETS, CONDUIT, WIRE, ETC., [AS SHOWN AND SPECIFIED ON THE DRAWINGS] [WHETHER INDICATED ON THE DRAWINGS OR NOT], AND AS MAY BECOME NECESSARY BECAUSE OF EXISTING FIELD CONDITIONS. IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO VISIBLY EXAMINE ALL EXISTING WALLS DESIGNATED FOR REMOVAL OR MODIFICATION TO DETERMINE THE CONDUIT AND THE WIRING THAT WILL REQUIRE CAPPING AND/OR REMOVAL. THE CONTRACTOR SHALL BE HELD TO HAVING VISITED THE SITE AND TAKEN ALL EXISTING CONDITIONS INTO CONSIDERATION.
B. PROTECT ADJACENT MATERIALS INDICATED TO REMAIN. INSTALL AND MAINTAIN DUST AND NOISE BARRIERS TO KEEP DIRT, DUST, AND NOISE FROM BEING TRANSMITTED TO ADJACENT AREAS. REMOVE PROTECTION AND BARRIERS AFTER DEMOLITION OPERATIONS ARE COMPLETE.
C. LOCATE, IDENTIFY, AND PROTECT ELECTRICAL SERVICES PASSING THROUGH DEMOLITION AREA AND SERVING OTHER AREAS OUTSIDE THE DEMOLITION LIMITS. MAINTAIN SERVICES TO AREAS OUTSIDE DEMOLITION LIMITS. WHEN SERVICES MUST BE INTERRUPTED, INSTALL TEMPORARY SERVICES FOR AFFECTED AREAS.
D. MAINTAIN AND PROTECT EXISTING BUILDING SERVICES WHICH TRANSIT THE AREA AFFECTED BY SELECTIVE DEMOLITION.
E. MAINTAIN CIRCUIT CONTINUITY TO ALL EXISTING FIXTURES, EQUIPMENT, OUTLETS, ETC., TO REMAIN IN USE WHETHER NOTED ON THE PLANS OR NOT. FIELD VERIFY EXISTING ITEMS TO REMAIN IN USE. WIRING FOR EXISTING CIRCUITS WHICH MUST BE RE-ROUTED OR WHICH ARE PARTIALLY ABANDONED, SHALL BE RECONNECTED TO SERVICE THE REMAINING OUTLETS ON THE CIRCUIT.
F. IN THE DEMOLITION WORK, REMOVE ALL UNUSED WIRING AND CABLES AND UNUSED CONDUIT THAT IS EXPOSED OR WITHIN ACCESSIBLE CEILINGS WHICH IS AFFECTED BY AND IS IN THE AREA OF THE WORK OF THIS CONTRACT.
G. THE INTENTION OF THE ELECTRICAL DEMOLITION IS TO DISCONNECT AND REMOVE ALL ELECTRICAL WORK MADE VOID BY THE SCOPE OF THE CONSTRUCTION AND ALTERATION. FIELD VERIFY EXACT MATERIAL QUANTITIES REQUIRED TO BE REMOVED.
H. WHERE ELECTRICAL EQUIPMENT, CONDUIT, BOXES, AND SUPPORTING HARDWARE ARE REMOVED, PATCH, AND FINISH THE SURFACE AS REQUIRED TO MATCH THE EXISTING, UNLESS OTHERWISE NOTED.
I. WHERE BURIED CONDUITS EXTENDING OUT OF A CONCRETE SLAB BECOME ABANDONED, CUT AND GRIND THE CONDUITS OFF FLUSH WITH TOP OF SLAB AND PLUG WITH NON-SHRINK WATERPROOF GROUT FILL.
J. ALL REMOVED MATERIALS, OTHER THAN REMOVED MATERIALS TO BE RELOCATED, OR STORED, OR TURNED OVER TO THE OWNER, SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT SITE.
K. ACCEPTANCE OF CONTRACT MEANS INSTALLER ACCEPTS EXISTING CONDITIONS.
L. CONTRACTOR SHALL COORDINATE ALL DEMOLITION WORK WITH ALL OTHER TRADES.
M. IN WALLS OR FLOORS WHERE A FLUSH DEVICE IS BEING REMOVED, BUT THE WALL OR FLOOR REMAINS OR FOR ANY OUTLET WHICH MUST REMAIN, BUT HAS A DEVICE REMOVED, PROVIDE A BLANK COVER OVER THE OUTLET. MATCH THE COLOR AND MATERIAL OF EXISTING REMAINING COVERS IN THE ROOM OR SPACE.
N. LEGALLY DISPOSE OF HAZARDOUS MATERIALS AND BALLASTS OR OTHER EQUIPMENT CONTAINING PCB'S AND LAMPS CONTAINING MERCURY. COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS.
O. MODIFY EXISTING PANEL DIRECTORIES (OR REPLACE) FOR PANELS WHICH HAVE HAD ALTERATIONS TO THE CIRCUITS ORIGINATING THEREIN. DESCRIBE THE LOAD AND LOCATION.
P. WHERE WORK IS TO BE PERFORMED ABOVE EXISTING ACCESSIBLE CEILINGS, CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING CEILING TILES AND GRID WITHOUT DAMAGE; STORAGE OF EXISTING TILES AND GRID WHILE WORK IS BEING PERFORMED, AND INSTALLATION OF EXISTING GRID AND TILES AFTER DIVISION 26 WORK IS COMPLETED.
Q. ALL EXISTING ELECTRICAL WORK AND ASSOCIATED RACEWAY AND WIRING WHICH HAS BEEN MADE OBSOLETE BY THE WORK AND/OR IS SHOWN DASHED ON THE ELECTRICAL DEMOLITION DRAWINGS, SHALL BE DISCONNECTED AND REMOVED, UNLESS OTHERWISE NOTED. ALTHOUGH AN ATTEMPT HAS BEEN MADE TO INDICATE ALL OF THIS WORK, TOTAL ACCURACY IS NOT GUARANTEED. CONTRACTOR SHALL VISIBLY EXAMINE ALL AREAS AND WALLS AND CEILINGS SCHEDULED FOR REMOVAL TO DETERMINE EXISTING ELECTRICAL ITEMS TO REMAIN.

ELECTRICAL SHEET INDEX:

SHEET NO.	SHEET NAME
E000	ELECTRICAL AND TECHNOLOGY SEISMIC CODE BLOCK
E001	ELECTRICAL LEGEND AND NOTES
ED101	MECHANICAL ROOM 1601 - DEMO PLAN
ED102	MECHANICAL YARD - DEMO PLAN
E101	MECHANICAL ROOM 1601 - NEW WORK
E102	MECHANICAL YARD - NEW WORK
E600	ELECTRICAL - SCHEDULES

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Cooling Tower & Chillers Replacement

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Project No: 25091

Revisions

No.	Description	Date

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DATE: 2026-06-22

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ELECTRICAL LEGEND AND NOTES

E001

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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

A. INFORMATION ON DRAWINGS WAS OBTAINED FROM AS-BUILT DRAWINGS AND CASUAL FIELD OBSERVATION. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO BID.

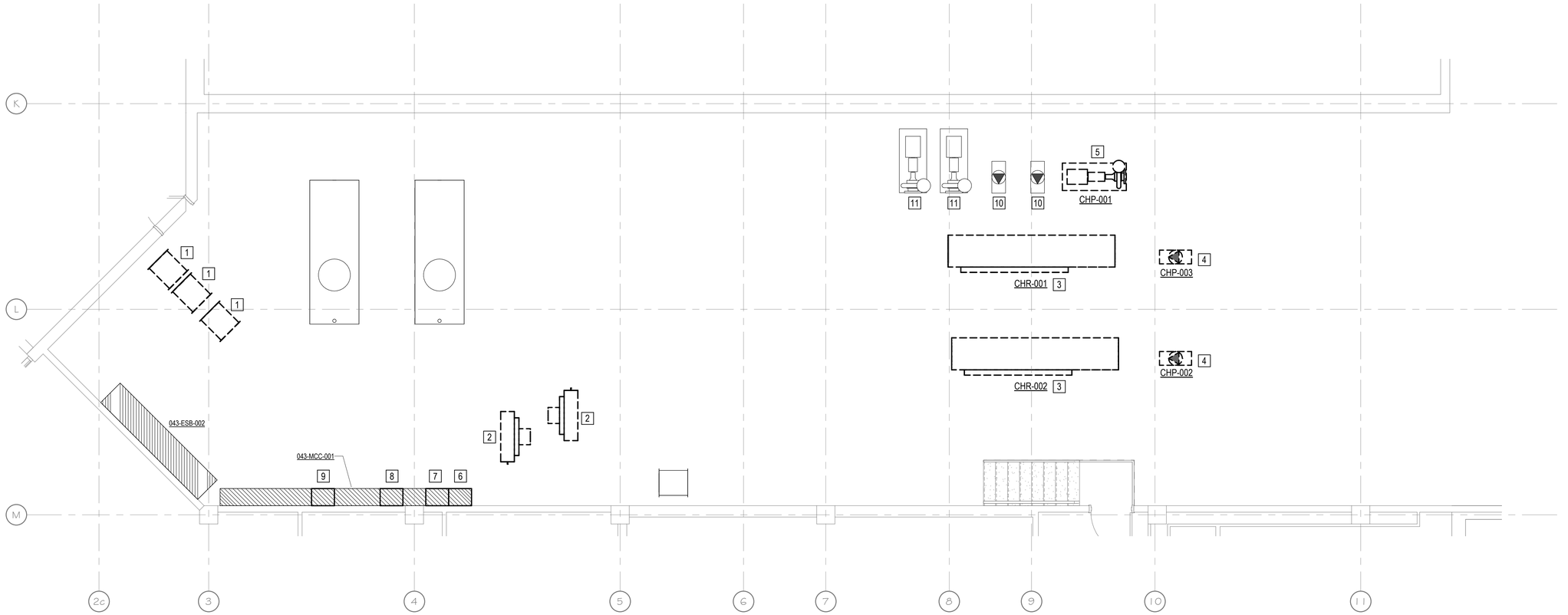
B. UNLESS NOTED OTHERWISE, DEMOLITION SHALL INCLUDE REMOVAL OF FEEDER CONDUCTORS AND CONDUITS TO THE SOURCE.

C. CONTRACTOR SHALL REPAIR AND/OR REROUTE EXISTING CIRCUITS TO REMAIN THAT ARE DISRUPTED BY DEMOLITION.

D. CONTRACTOR SHALL PROVIDE ALL CUTTING AND PATCHING AS REQUIRED FOR EXECUTION OF DEMOLITION WORK.

KEYED NOTES

1. DISCONNECT EXISTING INLINE FAN. REMOVE EXISTING CIRCUIT AS REQUIRED TO ALLOW REPLACEMENT OF LARGE EQUIPMENT. RETAIN THE EXISTING CIRCUIT FOR REUSE.
2. DISCONNECT EXISTING UNIT HEATER. REMOVE EXISTING CIRCUIT AS REQUIRED TO ALLOW REPLACEMENT OF LARGE EQUIPMENT. RETAIN THE EXISTING CIRCUIT FOR REUSE.
3. DISCONNECT EXISTING CHILLER. RETAIN FEEDER CONDUITS AND REMOVE CONDUCTORS FROM MOTOR CONTROL CENTER 043-MCC-001.
4. DISCONNECT EXISTING INLINE PUMP AND REMOVE FEEDER FROM 043-MCC-001.
5. DISCONNECT EXISTING BASE MOUNTED PUMP AND REMOVE FEEDER FROM 043-MCC-001.
6. EXISTING MOTOR CENTER SECTION CONTAINS THE FOLLOWING BUCKETS FOR EXISTING EQUIPMENT RELATED TO THIS PROJECT:
   - CHP-002
   - CHILLER CHR-001 (CCH-001), 800A/3P CB
7. EXISTING MOTOR CENTER SECTION CONTAINS THE FOLLOWING BUCKETS FOR EXISTING EQUIPMENT RELATED TO THIS PROJECT:
   - CHP-003
   - CHILLER CHR-002 (CCH-002), 800A/3P CB
8. EXISTING MOTOR CENTER SECTION CONTAINS THE FOLLOWING BUCKET FOR EXISTING EQUIPMENT RELATED TO THIS PROJECT:
   - CTW-001 (FAN 1), CTW-001 (FAN 2)
9. EXISTING MOTOR CENTER SECTION CONTAINS THE FOLLOWING BUCKET FOR EXISTING EQUIPMENT RELATED TO THIS PROJECT:
   - CHP-001
10. EXISTING BASE MOUNTED CONDENSATE PUMP TO REMAIN.
11. EXISTING HEATING WATER PUMP TO REMAIN.



N — ED101 — ENLARGED MECHANICAL ROOM PLAN - ELECTRICAL DEMOLITION
1/4" = 1'-0"

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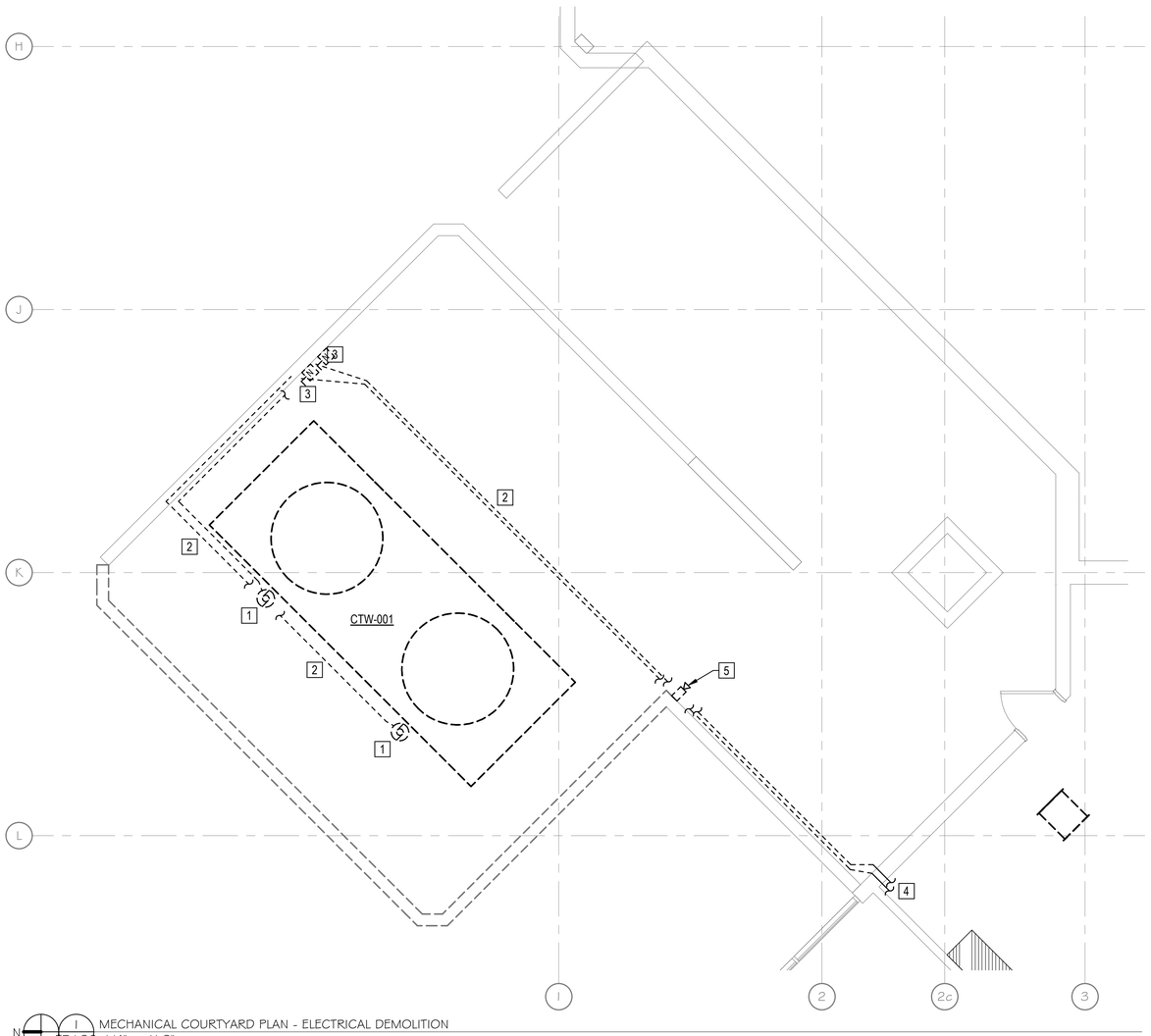
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DATE: 2026-06-22

BID / PERMIT SET

MECHANICAL ROOM 1601 - DEMO PLAN

ED101



N — 1 / ED102 — MECHANICAL COURTYARD PLAN - ELECTRICAL DEMOLITION
1/4" = 1'-0"

GENERAL NOTES

A. INFORMATION ON DRAWINGS WAS OBTAINED FROM AS-BUILT DRAWINGS AND CASUAL FIELD OBSERVATION. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO BID.

B. UNLESS NOTED OTHERWISE, DEMOLITION SHALL INCLUDE REMOVAL OF FEEDER CONDUCTORS AND CONDUITS TO THE SOURCE.

C. CONTRACTOR SHALL REPAIR AND/OR REROUTE EXISTING CIRCUITS TO REMAIN THAT ARE DISRUPTED BY DEMOLITION.

D. CONTRACTOR SHALL PROVIDE ALL CUTTING AND PATCHING AS REQUIRED FOR EXECUTION OF DEMOLITION WORK.

KEYED NOTES

1. DISCONNENCT EXISTING COOLING TOWER MOTOR. REMOVE FEEDER CONDUCTORS FROM 043-MCC-001.
2. DEMO EXISTING FEEDER CONDUITS TO POINT OF EXIT FROM THE BUILDING.
3. DEMO TWO (2) EXISTING DISCONNECT SWITCHES FOR COOLING TOWER.
4. RETAIN EXISTING COOLING TOWER FEEDER CONDUITS FROM 043-MCC-001 TO THE POINT OF EXIT FROM THE BUILDING FOR REUSE.
5. DISCONNECT AND REMOVE EXISTING VIDEO SURVEILLANCE CAMERA AND ASSOCIATED MOUNTING BRACKET. CABLE INFRASTRUCTURE AND ASSOCIATED PATHWAY SHALL BE MAINTAINED AND PROTECTED DURING DEMOLITION. CABLE SHALL BE PROTECTED FROM THE ELEMENTS. REFER TO NEW WORK FOR RE-INSTALLATION.

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MECHANICAL YARD - DEMO PLAN

ED102

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SCALE: 1/8" = 1'-0"
SCALE: 1/16" = 1'-0"

GENERAL NOTES

A. SEE EQUIPMENT DATA SCHEDULE ON SHEET E600 FOR MORE INFORMATION.

B. COORDINATE ELECTRICAL INSTALLATION WITH INSTALLATION OF MECHANICAL SYSTEMS.

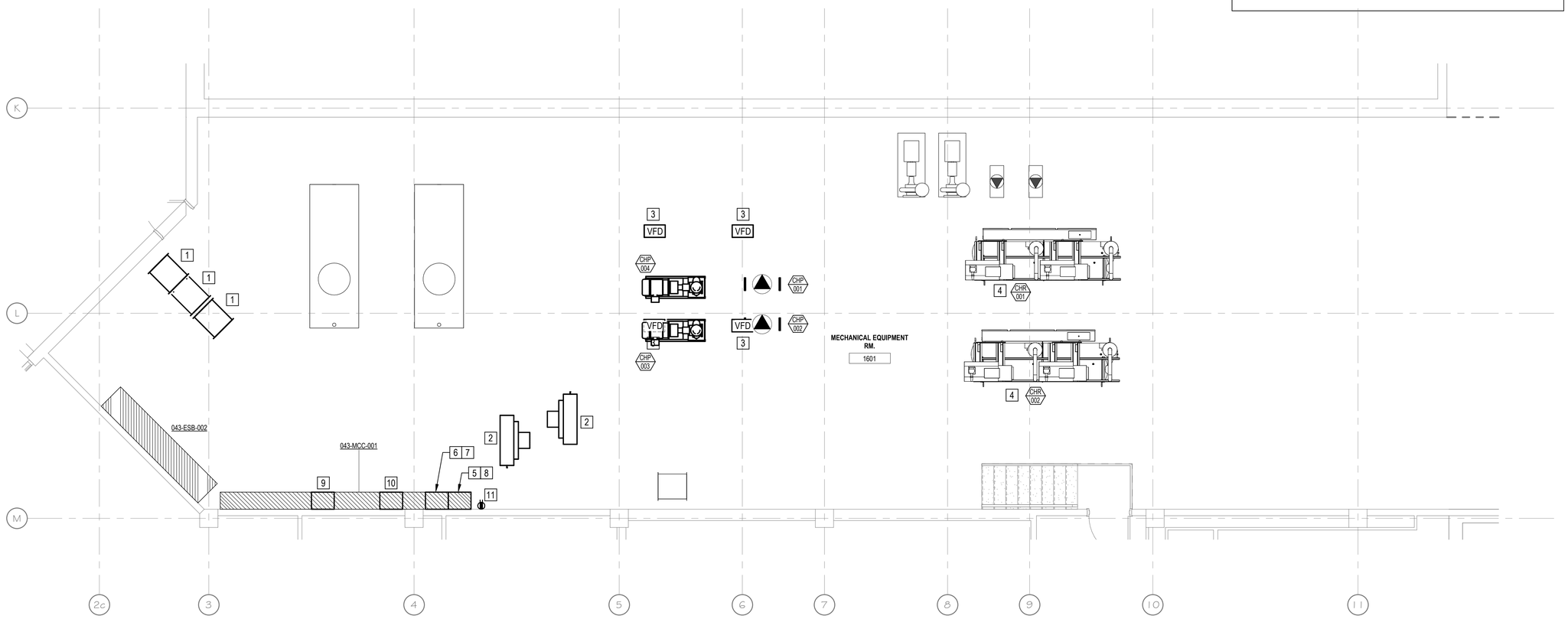
C. CONTRACTOR SHALL PROVIDE ALL CUTTING AND PATCHING AS REQUIRED FOR EXECUTION OF NEW INSTALLATION WORK.

D. ELECTRICAL CONTRACTOR SHALL REVIEW AND COORDINATE THE INSTALLATION OF ELECTRICAL WORK WITH APPROVED MECHANICAL SHOP DRAWINGS.

E. PROVIDE NEW ENGRAVED NAMEPLATES FOR EACH EXISTING MOTOR CONTROL CENTER BUCKET UTILIZED FOR THIS PROJECT.

KEYED NOTES

1. RECONNECT EXISTING INLINE FAN. EXTEND EXISTING CIRCUIT AS REQUIRED.
2. RECONNECT EXISTING UNIT HEATER. EXTEND EXISTING CIRCUIT AS REQUIRED.
3. INSTALL VFD FOR CHILLED WATER PUMP, FURNISHED BY MECHANICAL CONTRACTOR. PROVIDE INDEPENDENT STEEL STRUT SUPPORT STRUCTURE ANCHORED TO CONCRETE PAD. PROVIDE FEEDER FROM MOTOR CONTROL CENTER 043-MCC-001 AND FINAL CONNECTIONS TO PUMP PER MANUFACTURER'S REQUIREMENTS.
4. EXTEND EXISTING FEEDER CONDUITS TO NEW CHILLER AND PROVIDE NEW CONDUCTORS FROM MOTOR CONTROL CENTER 043-MCC-001. MAKE FINAL CONNECTIONS PER MANUFACTURER'S REQUIREMENTS.
5. UTILIZE EXISTING 800A/3P CIRCUIT BREAKER IN MOTOR CONTROL CENTER SECTION TO TERMINATE NEW FEEDER CONDUCTORS FOR CHR-001.
6. UTILIZE EXISTING 800A/3P CIRCUIT BREAKER IN MOTOR CONTROL CENTER SECTION TO TERMINATE NEW FEEDER CONDUCTORS FOR CHR-002.
7. UTILIZE EXISTING BUCKET (CURRENTLY USED FOR CHP-003) IN MOTOR CONTROL CENTER SECTION TO TERMINATE NEW FEEDER FOR CHP-001. SEE EQUIPMENT DATA SCHEDULE ON SHEET E600 FOR REQUIREMENTS TO MODIFY EXISTING BUCKET.
8. UTILIZE EXISTING BUCKET (CURRENTLY USED FOR CHP-002) IN MOTOR CONTROL CENTER SECTION TO TERMINATE NEW FEEDER FOR CHP-002. SEE EQUIPMENT DATA SCHEDULE ON SHEET E600 FOR REQUIREMENTS TO MODIFY EXISTING BUCKET.
9. REMOVE EXISTING BUCKET IN MOTOR CENTER (CURRENTLY MARKED CHILLER, SPARE) AND RETROFIT WITH TWO (2) NEW BUCKETS TO SERVE FEEDERS FOR CHP-003 AND CHP-004. SEE EQUIPMENT DATA SCHEDULE ON SHEET E600 FOR MORE INFORMATION.
10. UTILIZE EXISTING BUCKET IN MOTOR CONTROL CENTER SECTION WITH TWIN DISCONNECT SWITCHES TO TERMINATE NEW FEEDERS FOR CTW-001 FANS #1 AND #2. SEE EQUIPMENT DATA SCHEDULE ON SHEET E600 FOR MORE INFORMATION.
11. REPLACE EXISTING DUPLEX RECEPTACLE WITH GFCI RECEPTACLE. EXTEND CIRCUIT TO NEW WEATHERPROOF GFCI RECEPTACLE AT EXTERIOR WALL. SEE SHEET E102 FOR LOCATION.



N E I0I ENLARGED MECHANICAL ROOM PLAN - ELECTRICAL NEW
1/4" = 1'-0"

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314.415.8231 tel

Project No: 25091

Revisions

No.	Description	Date

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PROFESSIONAL ENGINEER
06/22/2026

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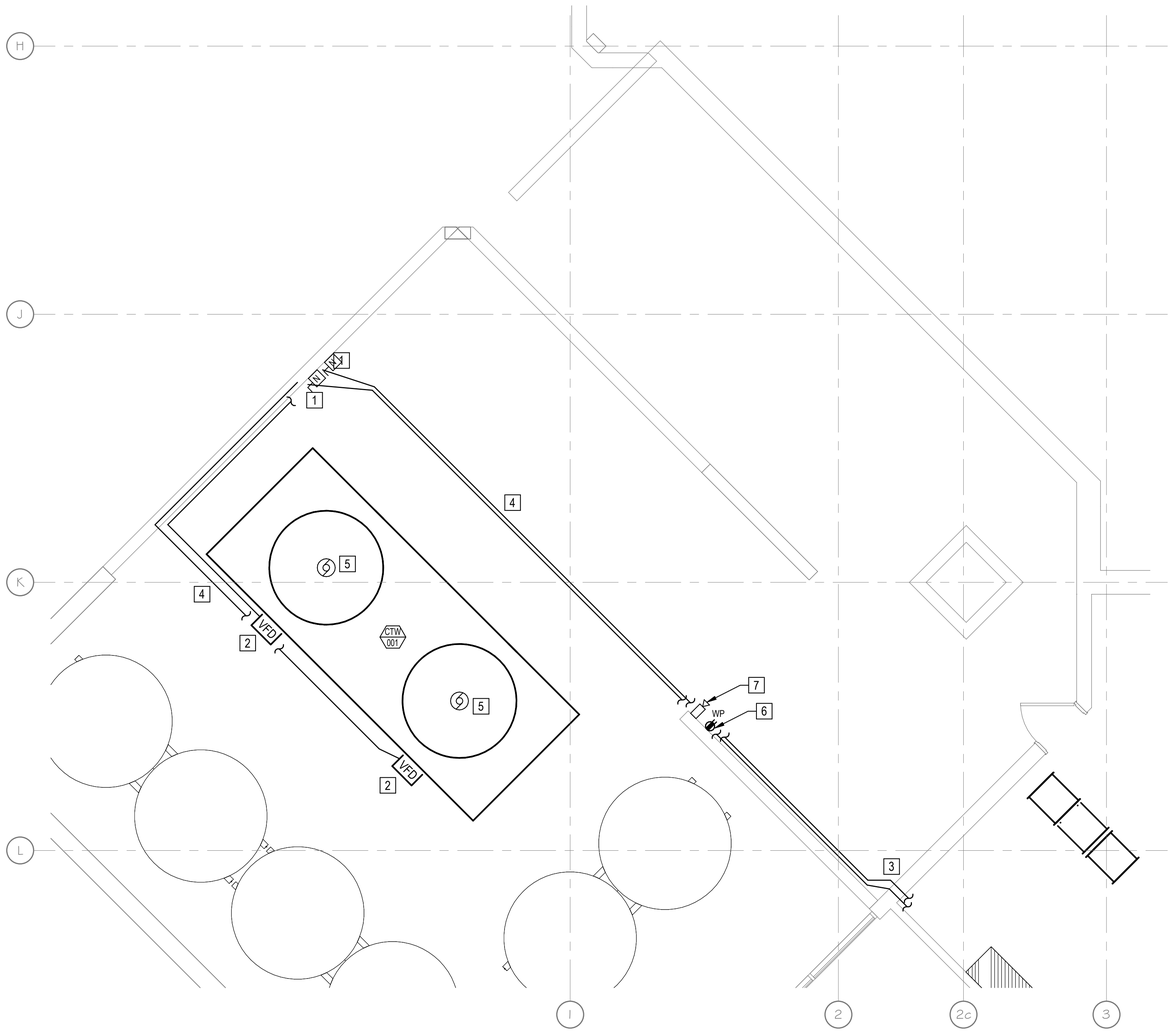
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DATE: 2026-06-22

BID / PERMIT SET

MECHANICAL ROOM 1601 - NEW WORK

E101



MECHANICAL COURTYARD PLAN - ELECTRICAL NEW
1/4" = 1'-0"

GENERAL NOTES

A. SEE EQUIPMENT DATA SCHEDULE ON SHEET E600 FOR MORE INFORMATION.

B. COORDINATE ELECTRICAL INSTALLATION WITH INSTALLATION OF MECHANICAL SYSTEMS.

C. CONTRACTOR SHALL PROVIDE ALL CUTTING AND PATCHING AS REQUIRED FOR EXECUTION OF NEW INSTALLATION WORK.

D. ELECTRICAL CONTRACTOR SHALL REVIEW AND COORDINATE THE INSTALLATION OF ELECTRICAL WORK WITH APPROVED MECHANICAL SHOP DRAWINGS.

KEYED NOTES

1. PROVIDE DISCONNECT SWITCH FOR COOLING TOWER FAN MOTOR.
2. INSTALL VFD FURNISHED BY MECHANICAL CONTRACTOR. PROVIDE INDEPENDENT STEEL STRUT SUPPORT STRUCTURE ANCHORED TO CONCRETE PAD.
3. UTILIZE EXISTING FEEDER CONDUITS FROM 043-MCC-001 TO THE BUILDING EXTERIOR PENETRATION. EXTEND TO THE NEW COOLING TOWER EQUIPMENT.
4. EXTEND EXISTING FEEDER TO NEW COOLING TOWER EQUIPMENT.
5. PROVIDE CONNECTION FROM VFD TO COOLING TOWER FAN PER MANUFACTURER'S REQUIREMENTS.
6. PROVIDE NEW WEATHERPROOF GFCI RECEPTACLE WITH EXTRA-DUTY RATED COVER. EXTEND EXISTING 120V CIRCUIT FROM RECEPTACLE ADJACENT TO 043-MCC-001. SEE SHEET E101 FOR MORE INFORMATION.
7. RE-INSTALL EXISTING VIDEO SURVEILLANCE CAMERA UTILIZING EXISTING MOUNTING BRACKET, HARDWARE AND CABLE INFRASTRUCTURE. CAMERA SHALL BE RE-AIMED. FINAL VIEWING ANGLE SHALL BE COORDINATED WITH AND APPROVED BY PARKWAY SCHOOL DISTRICT IT AND SECURITY.

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WEST MIDDLE SCHOOL CHILLER

2312 Baxter Road, Chesterfield, MO 63017
Parkway Project #: PN432501B
Cooling Tower & Chillers Replacement

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DATE: 2026-06-22

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MECHANICAL YARD - NEW WORK

E102

6/22/2026 12:47:28 PM

EQUIPMENT DATA SCHEDULE

PLAN MARK	EQUIPMENT	LOCATION	FURNISH BY (1)	MOTOR OR EQUIPMENT DATA			FED FROM	BRANCH CIRCUIT (3)	DISCONNECT SWITCH AT EQUIPMENT					STARTER								KEYED NOTES & REMARKS [#]
				HP/KW/A (2)	VOLTS/ PHASE	INST.BY/ CONN.BY (1)			TYPE (4)	NEMA ENCLOS. TYPE	SWITCH/ FUSE SIZE	FURNISH. BY (1)	INST.BY/ CONN.BY (1)	NEMA SIZE	TYPE (5)	NEMA ENCLOS. TYPE	SWITCH/ FUSE SIZE	ACCESS. (6)	FURNISH. BY (1)	CONN. BY (1)	CONTROL WIRING BY (1)	
CHR-001	CHILLER	MECHANICAL EQUIP. RM. 1601	23	MCA 637 MOCP 800	208/3	23/26	043-MCC-001	2 SETS: 3#500MCM, 1#1/0 GRD, 3"C.	-	-	-	23	23/26	-	VFD	-	-	-	23	26	23	[1] PROVIDE SINGLE POINT CONNECTION.
CHR-002	CHILLER	MECHANICAL EQUIP. RM. 1601	23	MCA 637 MOCP 800	208/3	23/26	043-MCC-001	2 SETS: 3#500MCM, 1#1/0 GRD, 3"C.	-	-	-	23	23/26	-	VFD	-	-	-	23	26	23	[1] PROVIDE SINGLE POINT CONNECTION.
CHP-001	CHILLED WATER PUMP	MECHANICAL EQUIP. RM. 1601	23	5 HP	208/3	23/26	043-MCC-001	3#10, #10 GRD, 3/4"C.	-	-	-	23	23/26	-	VFD	-	-	-	23	26	23	[2]
CHP-002	CHILLED WATER PUMP	MECHANICAL EQUIP. RM. 1601	23	5 HP	208/3	23/26	043-MCC-001	3#10, #10 GRD, 3/4"C.	-	-	-	23	23/26	-	VFD	-	-	-	23	26	23	[2]
CHP-003	CHILLED WATER PUMP	MECHANICAL EQUIP. RM. 1601	23	25 HP	208/3	23/26	043-MCC-001	3#3, #8 GRD, 1-1/4"C.	-	-	-	23	23/26	-	VFD	-	-	-	23	26	23	[3]
CHP-004	CHILLED WATER PUMP	MECHANICAL EQUIP. RM. 1601	23	25 HP	208/3	23/26	043-MCC-001	3#3, #8 GRD, 1-1/4"C.	-	-	-	23	23/26	-	VFD	-	-	-	23	26	23	[3]
CTW-001	COOLING TOWER - FAN #1	MECHANICAL YARD - EXTERIOR	23	15 HP	208/3	23/26	043-MCC-001	3#6, #10 GRD, 3/4"C.	NF	3R	60A / --	23	23/26	-	VFD	-	-	-	23	26	23	[4]
	COOLING TOWER - FAN #2	MECHANICAL YARD - EXTERIOR	23	15 HP	208/3	23/26	043-MCC-001	3#6, #10 GRD, 3/4"C.	NF	3R	60A / --	23	23/26	-	VFD	-	-	-	23	26	23	[4]

(1) SPECIFICATION DIVISION NUMBER:
DIVISION 22 - PLUMBING
DIVISION 23 - MECHANICAL
DIVISION 26 - ELECTRICAL
GC - GENERAL CONTRACTOR

(2) HORSEPOWER (HP) IS SHOWN UNLESS AMPS(A) OR KILOWATTS (KW) ARE CALLED OUT.

(3) REFER TO FEEDER SCHEDULE WHEN THIS COLUMN CONTAINS A FEEDER DESIGNATION INSTEAD OF CONDUCTOR SIZE.

(4) CB - CIRCUIT BREAKR ENCL.
NF - NON FUSED
F- FUSED
TOG - TOGGLE

(5) STARTER TYPE:
COMB1 - COMBINATION FULL VOLTAGE NON-REVERSING MAGNETIC STARTER WITH NON-FUSED DISCONNECT
COMB2 - SWITCH. COMBINATION FULL VOLTAGE NON-REVERSING
COMB3 - MAGNETIC STARTER WITH FUSED DISCONNECT SWITCH. COMBINATION FULL VOLTAGE NON-REVERSING MAGNETIC STARTER WITH THERMAL MAGNETIC MOLDED
COMB4 - CASE CIRCUIT BREAKER DISCONNECT. COMBINATION FULL VOLTAGE NON-REVERSING MAGNETIC STARTER WITH MAGNETIC ONLY MOLDED CASE CIRCUIT BREAKER DISCONNECT.
-
FVNR - FULL VOLTAGE NON-REVERSING MAGNETIC STARTER WITHOUT DISCONNECT.
MAN - MANUAL STARTER WITH PILOT LIGHT.
SDS - STAR DELTA STARTER.
PWCP - PREWIRED CONTROL PANEL.
VFD - VARIABLE FREQUENCY DRIVE.
2S2W - 2 SPEED, 2 WINDING
2S1W - 2 SPEED, SINGLE WINDING
SC - SPEED CONTROLLER

(6) ACCESSORIES:
HOAP - HOA WITH PILOT LIGHT
PB - START/STOP PUSH BUTTON (MOMENTARY CONTACT)

ALL MAGNETIC AND SOLID STATE STARTERS ARE TO BE EQUIPPED WITH AUXILIARY CONTACTS, PILOT LIGHTS AND FUSED CONTROL POWER TRANSFORMERS. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

KEYED NOTES

[1] UTILIZE EXISTING 800A/3P CIRCUIT BREAKER IN 043-MCC-001.

[2] UTILIZE EXISTING BUCKET IN 043-MCC-001. REPLACE EXISTING 30A/3P CIRCUIT BREAKER (SIEMENS TYPE ED6-ETI, CAT. NO. ED63A030) WITH NEW 25A/3P BREAKER. REWIRE BUCKET TO BYPASS EXISTING STARTER AND CONTROLS TO UTILIZE CIRCUIT BREAKER ONLY FOR PROVIDE OVERCURRENT PROTECTION. DEMOLISH EXISTING STARTER AND CONTROLS FROM BUCKET. REMOVE EXISTING H/O/A AND RUN LIGHT PLATE ASSEMBLY AND PROVIDE CODE GAUGE METAL BLANK PLATE.

[3] REMOVE EXISTING BUCKET ASSEMBLY WITH ONE (1) 400A/3P BREAKER FROM EXISTING SECTION OF 043-MCC-001 AND RETROFIT WITH TWO (2) NEW BUCKETS WITH 100A/3P BREAKERS TO SERVE CHP-003 AND CHP-004.

[4] UTILIZE EXISTING TWIN DISCONNECT SECTION IN 043-MCC-001 TO TERMINATE BOTH FEEDERS SERVING CTW-001 FAN MOTORS TO EXISTING FUSE BLOCKS. PROVIDE NEW 60A FUSES FOR EACH FEEDER.

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DATE: 10/27/25

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ELECTRICAL - SCHEDULES

E600

6/22/2026 12:47:29 PM

MECHANICAL SEISMIC DESIGN CODE SCHEDULE

OCCUPANCY CATEGORY: III — SEISMIC DESIGN CATEGORY: D

LISTING OF EQUIPMENT AND SYSTEM COMPONENTS	ANCHORAGE TO FLOORS, ROOFS, ETC.		SWAY BRACING		LOCATION OF PROFESSIONALLY SEALED ANCHORAGE AND SWAY BRACING DETAILS.				COMMENTS
	NOT PROVIDED	PROVIDED	NOT PROVIDED	PROVIDED	ON CONST. DOCUMENTS		SUBSEQUENT SUBMITTAL		
					DWG. NO.	SPEC SECT.	SHOP DWGS	SEP. PERMIT	
FIRE PROTECTION, DETECTION & ALARM EQUIPMENT & SYSTEM COMPONENTS: N/A									NOTE #
HAZARDOUS EQUIPMENT AND SYSTEM COMPONENTS: N/A									NOTE #
OTHER EQUIPMENT AND SYSTEM COMPONENTS NEEDED FOR CONTINUED OPERATION OF SEISMIC GROUP IV FACILITIES OR WHOSE FAILURE COULD IMPAIR THEIR CONTINUED OPERATION: Ip=1.5									NOTE #
GRADE-MOUNTED EQUIPMENT > 400 POUNDS COOLING TOWER CHILLERS PUMPS Ip=1.5		X			2/M500				NOTE #
ROOF-MOUNTED EQUIPMENT < 400 POUNDS N/A Ip=1.5									NOTE #
EQUIPMENT SUSPENDED FROM STRUCTURE N/A									NOTE #
HVAC DUCTWORK < 6 S.F.	X								NOTE #4.2
HVAC DUCTWORK > 6 S.F. N/A									NOTE #
LAY-IN AIR DEVICES < 20 POUNDS N/A									NOTE #

TYPICAL NOTES:

1. TABLE 4.4, GENERAL EXEMPTION - SEISMIC BRACING NOT REQUIRED FOR ALL MEP COMPONENTS IN SEISMIC DESIGN CATEGORY A OR B.
2. TABLE 4.4, GENERAL EXEMPTION - SEISMIC BRACING NOT REQUIRED FOR ALL MEP COMPONENTS IN SEISMIC DESIGN CATEGORY C AND THE COMPONENT IMPORTANCE FACTOR = 1.0.
3. TABLE 4.4, GENERAL EXEMPTION - SEISMIC BRACING NOT REQUIRED FOR ALL MEP COMPONENTS IN SEISMIC DESIGN CATEGORY D, E OR F, AND THE COMPONENT IMPORTANCE FACTOR = 1.0, AND COMPONENTS HAVE APPROVED FLEXIBLE CONNECTIONS NO LESS THAN 3 FEET IN LENGTH TO THE ASSOCIATED DUCTWORK, PIPING AND CONDUIT, AND THE COMPONENTS ARE EITHER:
   1. MOUNTED 4 FEET OR LESS ABOVE THE FLOOR LEVEL AND WEIGH 400 POUNDS OR LESS.
   2. WEIGH 20 POUNDS OR LESS, OR FOR DISTRIBUTION SYSTEMS WEIGHING 5 LB/FT OR LESS.
4. TABLE 4.4, DUCT EXEMPTION - SEISMIC BRACING NOT REQUIRED FOR DUCTS NOT PART OF HAZARDOUS EXHAUST SYSTEMS OR FIRE PROTECTION SYSTEMS SUCH AS SMOKE CONTROL OR EVACUATION SYSTEMS WHEN EITHER:
   1. HVAC DUCTS SUSPENDED FROM HANGERS 12 INCHES OR LESS IN LENGTH: HANGERS SHALL BE DETAILED TO AVOID SIGNIFICANT BENDING OF THE HANGERS AND THEIR ATTACHMENTS.
   2. HVAC DUCTS HAVING A CROSS-SECTIONAL AREA OF LESS THAN 6 SQUARE FEET.
5. TABLE 4.4, PIPING SYSTEM EXEMPTIONS - SEISMIC BRACING NOT REQUIRED FOR PIPING THAT IS SUPPORTED BY ROD HANGERS: HANGERS IN THE PIPE RUN ARE 12 INCHES OR LESS IN LENGTH FROM THE TOP OF THE PIPE TO THE SUPPORTING STRUCTURE; HANGERS ARE DETAILED TO AVOID BENDING OF THE HANGERS AND THEIR ATTACHMENTS; AND PROVISIONS ARE MADE FOR PIPING TO ACCOMMODATE EXPECTED
6. DEFLECTIONS.

   TABLE 4.4, PIPING SYSTEM EXEMPTIONS - SEISMIC BRACING NOT REQUIRED FOR HIGH DEFORMABILITY PIPING; PROVISIONS ARE MADE TO AVOID IMPACT WITH LARGER PIPING OR MECHANICAL COMPONENTS OR TO PROTECT THE PIPING IN THE EVENT OF SUCH IMPACT; AND THE NOMINAL PIPE SIZES ARE LIMITED TO:
   1. 1 INCH OR LESS FOR SEISMIC DESIGN CATEGORY D, E OR F, AND IMPORTANCE FACTOR > 1.0.
   2. 2 INCHES OR LESS FOR SEISMIC DESIGN CATEGORY C, AND IMPORTANCE FACTOR > 1.0.
   3. 3 INCHES OR LESS FOR SEISMIC DESIGN CATEGORY D, E OR F, AND IMPORTANCE FACTOR = 1.0.
7. TABLE 4.4, GAS PIPING SYSTEM EXEMPTIONS - SEISMIC BRACING NOT REQUIRED FOR ALL TYPES OF EXTERIOR GAS PIPING INSTALLED ON ROOFS IN SEISMIC DESIGN CATEGORY C, D, E OR F, WHEN SUCH PIPING WILL SUPPLY GAS UNDER NO MORE THAN 2 PSI AND IS PROTECTED BY ONE OF THE TWO FOLLOWING METHODS:
   1. AN APPROVED SEISMIC SHUT-OFF VALVE IS INSTALLED WITHIN 5 FEET OF THE BEGINNING OF THE RUN OF GAS PIPE ON THE ROOF, OR OTHER APPROVED LOCATION.
   2. APPROVED FLEXIBLE PIPING NO LESS THAN 3 FEET IN LENGTH IS INSTALLED WITHIN 3 FEET OF THE BEGINNING OF THE RUN OF GAS PIPE ON THE ROOF AND AT THE CONNECTION TO THE EQUIPMENT SERVED
8. BY THE PIPE
   AND AT INTERVALS ALONG THE RUN OF NO MORE THAN 42 FEET.
9. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO SUBMITTAL TO THE PLAN REVIEWER.
10. REFER TO ROOFTOP UNIT CURB DETAIL FOR ADDITIONAL INSTALLATION REQUIREMENTS.
11. COMPONENTS THAT ARE INSTALLED IN-LINE WITH THE DUCT SYSTEM AND HAVE AN OPERATING WEIGHT GREATER THAN 75 LBS. SHALL BE SUPPORTED AND LATERALLY BRACED INDEPENDENT OF THE DUCT SYSTEM.
12. UNBRACED PIPING ATTACHED TO IN-LINE EQUIPMENT SHALL BE PROVIDED WITH ADEQUATE FLEXIBILITY TO ACCOMMODATE DIFFERENTIAL DISPLACEMENTS.

    APPURTENANCES SUCH AS DAMPERS, LOUVERS AND DIFFUSERS SHALL BE POSITIVELY ATTACHED WITH MECHANICAL FASTENERS.

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DATE: 2026-06-22

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MECHANICAL SEISMIC CODE BLOCK

M000

7/22/2026 9:15:46 AM

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: 1/16" = 1'-0" 0 8' 16' 32'

GENERAL NOTES

1. THESE PLANS ARE DIAGRAMMATIC IN NATURE SINCE THEY REFLECT ONLY THE AVAILABLE INFORMATION OBTAINED FROM EXISTING PLANS, SPECIFICATIONS, AND FIELD SURVEYS. THE EXACT LOCATION OF EXISTING DUCTWORK, PIPING, AND EQUIPMENT MAY DEVIATE FROM THE LOCATION INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL BE PREPARED TO MAKE SOME ALTERATIONS TO NEW AND/OR EXISTING SERVICES TO FIT ACTUAL JOB CONDITIONS.
2. THE SPACE ALLOWED FOR MECHANICAL (HVAC, PLUMBING, FIRE PROTECTION) AND ELECTRICAL WORK ABOVE THE SUSPENDED CEILING IS CRITICAL AND REQUIRES COORDINATION BETWEEN TRADES. CONTRACTORS SHALL THOROUGHLY FAMILIARIZE THEMSELVES WITH THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS PRIOR TO FABRICATION OR INSTALLATION OF ANY MATERIALS. DUCTWORK SHALL BE HUNG AS CLOSE AS POSSIBLE TO THE STRUCTURE ABOVE UNLESS INDICATED OTHERWISE. REWORK OF PIPING, DUCTWORK, EQUIPMENT LOCATION, CONDUIT, ETC. AS A RESULT OF POOR PLANNING, COORDINATION, OR SCHEDULING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. ANY HOLES LEFT IN EXISTING WALL CONSTRUCTION DUE TO DEMOLITION OR NEW WORK SHALL BE PATCHED TO MATCH EXISTING CONDITIONS.
4. PIPES/DUCTS/ETC. PENETRATING EXTERIOR WALLS AND ROOFS SHALL BE SEALED WEATHER PROOF.
5. CONTRACTOR TO FIRESTOP ALL PENETRATIONS THROUGH FIRE-RATED FLOORS AND WALLS CREATED BY DEMOLITION OR NEW WORK WITH "SPECSEAL SSS" OR EQUAL.
6. THERMOSTATS & ROOM TEMPERATURE SENSORS SHALL BE MOUNTED AT 48" A.F.F. TO THE TOP OF THERMOSTAT UNLESS NOTED OTHERWISE. DO NOT MOUNT IN DIRECT SUNLIGHT OR NEAR HEAT PRODUCING EQUIPMENT.
7. INSTALL H.V.A.C. SYSTEM IN ACCORDANCE WITH ALL STATE AND LOCAL CODES.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ANY FRAMING REVISIONS, EQUIPMENT LOCATIONS, ADDITION OF CONTROLS, ELECTRICAL CIRCUITING REVISIONS, ETC. THAT RESULT FROM USING EQUIPMENT OTHER THAN INDICATED ON THE DRAWINGS. APPROVAL OF THE SHOP DRAWINGS BY THE ENGINEER WILL NOT WAIVE THE CONTRACTOR OF THIS RESPONSIBILITY.
9. THE CONTRACTOR SHALL HAVE THE FINAL RESPONSIBILITY FOR SYSTEM START UP AND TURN OVER TO THE OWNER.
10. ALL ITEMS INCLUDED ON THESE DRAWINGS AND THE SPECIFICATIONS SHALL BE INCLUDED IN THE CONTRACTOR'S BID. IF THE CONTRACTOR DOES NOT CLEARLY UNDERSTAND THESE PLANS OR IS NOT SURE OF THEIR MEANING, THE CONTRACTOR SHOULD OBTAIN THE ENGINEER'S WRITTEN EXPLANATION AND INTERPRETATION PRIOR TO BID TIME. THE CONTRACTOR WILL BE HELD TO THE INTERPRETATION OF THE ENGINEER.
11. FIRE CAULK ALL PENETRATIONS THRU FIRE RATED PARTITIONS TO MAINTAIN FIRE RATING OF PARTITION.
12. CAULK ALL PENETRATIONS THRU WALLS TO MINIMIZE SOUND PENETRATION THRU WALLS.
13. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL TEMPERATURE CONTROL SYSTEM REQUIREMENTS.
14. ANY DAMAGE TO THE SITE (SIDEWALKS, CURBS, ETC) OR TO THE BUILDING AS A RESULT OF WORK PERFORMED UNDER THIS CONTRACT SHALL BE FIXED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
15. CONTRACTOR WILL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING OF ROOFS/WALLS/FLOORS AND CORE DRILLS REQUIRED TO COMPLETE THEIR RESPECTIVE WORK.
16. THE OWNER SHALL HAVE FIRST SALVAGE RIGHTS OF EQUIPMENT AND MATERIALS REMOVED. ALL EQUIPMENT AND MATERIALS NOT CLAIMED BY THE OWNER SHALL BE REMOVED FROM THE PREMISES BY THE CONTRACTORS.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY TEMPORARY FENCING AROUND THE LIFT SITE DURING LIFTS.
18. OWNER SHALL BE RESPONSIBLE FOR REMOVING ALL ASBESTOS-CONTAINING MATERIAL ASSOCIATED WITH THIS PROJECT.
19. PROVIDE FLEXIBLE CONNECTIONS ON ALL PIPING PENETRATIONS BACK TO BACK 2 HOUR RATED FIRE WALLS TO ALLOW FOR EXPANSION BETWEEN THE WALLS.
20. ALL EXISTING MECHANICAL EQUIPMENT, DUCTWORK, ETC. THAT SERVES SPACES ON OTHER FLOORS SHALL REMAIN AS IS. DO NOT DISCONNECT OR REMOVE ANY EQUIPMENT NOT SHOWN IN THESE PLANS.
21. REMOVE AND RE-INSTALL EXISTING LAY-IN CEILING AS REQUIRED TO COMPLETE ALL DEMOLITION AND NEW WORK. REPLACE CEILING TILES DAMAGED DURING CONSTRUCTION WITH NEW TILES MATCHING EXISTING.

GENERAL NOTES (AIR SIDE)

1. NOTE, ALL DUCTWORK OFFSETS ARE NOT SHOWN. THE CONTRACTOR SHALL MODIFY DUCTS AND OFFSETS TO COORDINATE WITH THE BUILDING STRUCTURE AND ALL TRADE REQUIREMENTS.
2. ALL DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED PER THE LATEST VERSION OF THE S.M.A.C.N.A. H.V.A.C. DUCT CONSTRUCTION STANDARDS, UNLESS SPECIFIED MORE STRINGENTLY IN THESE CONSTRUCTION DOCUMENTS. MINIMUM DUCT GAUGE SHALL BE 24.
3. 90° DUCT ELBOWS SHALL BE EQUIPPED WITH SINGLE THICKNESS TURNING VANES MOUNTED TO A PREFABRICATED VANE RAIL.
4. ALL ELBOWS SHALL BE SUPPLIED WITH TURNING VANES, WHETHER SHOWN ON DOCUMENTS OR NOT.
5. ALL 90° AND 45° RECTANGULAR RADIUS ELBOWS TO BE FABRICATED WITH AN INSIDE RADIUS NO LESS THAN 1/2 OF THE WIDTH OF THE DUCT - WHERE THE WIDTH OF THE DUCT IS DEFINED AS THE DIMENSION OF THE DUCT IN THE PLANE IN WHICH THE DUCT IS TURNING.
6. RECTANGULAR DUCTWORK SHALL BE SUPPORTED PER THE S.M.A.C.N.A STANDARDS AND AT EACH CHANGE IN DIRECTION.
7. PROVIDE MANUAL, SINGLE BLADE, BALANCING DAMPERS WITH LOCKING QUADRANT AND INTEGRAL POSITION INDICATOR ON ALL RUNOUTS TO SUPPLY AND EXHAUST AIR DEVICES - EXCEPT THOSE LOCATED IN AREAS WITH PLASTER CEILINGS AND ARE NOT ACCESSIBLE (DAMPER SHALL BE INTEGRAL WITH THE AIR DEVICE IN THESE CASES.)
8. PROVIDE MANUAL OPPOSED BLADE DAMPERS WITH LOCKING QUADRANT AND INTEGRAL POSITION INDICATOR ON ALL RECTANGULAR BRANCH DUCTS AND AIR DEVICE RUNOUTS THAT EXCEED 12" IN HEIGHT.
9. MANUAL SPLITTER DAMPERS ARE NOT ACCEPTABLE.
10. NOT ALL OF THE ACCESS DOORS IN THE DUCT SYSTEMS OR PLENUMS ARE SHOWN. PROVIDE ACCESS DOORS IN ALL DUCT SYSTEMS OR PLENUMS WHERE REQUIRED TO ACCESS AND MAINTAIN MOTORIZED OR AUTOMATIC DAMPER BLADES AND LINKAGES.
11. ALL DUCTWORK SHALL BE SUPPORTED FROM ROOF OR FLOOR STRUCTURE ABOVE. DUCTWORK SHALL NOT LAY ON TOP OF CEILING OR LIGHT FIXTURES.
12. FLEXIBLE DUCT RUNOUTS TO AIR DEVICES SHALL NOT EXCEED 5'-0" IN LENGTH. FLEXIBLE RUNOUTS SHALL BE TRIMMED TO THE MINIMUM LENGTH NECESSARY TO MAKE THE CONNECTION.
13. WHERE DAMPER ACTUATORS ARE MOUNTED TO DUCTWORK OR PLENUMS PROVIDE A HEAVY GAGE BASE PLATE, ANGLE STIFFENERS, OR MOUNTING AS REQUIRED TO ELIMINATE DEFLECTION OF DUCTWORK DURING ACTUATOR OPERATION.
14. FLEXIBLE DUCT CONNECTIONS TO EQUIPMENT ARE NOT SHOWN ON THE DRAWINGS. PROVIDE EXTRA WIDE FLEXIBLE CONNECTIONS ON THE SUPPLY DUCT AND THE RETURN DUCT OF EACH MAKE-UP AIR UNIT, ROOFTOP UNIT, AND EACH AIR HANDLING UNIT. PROVIDE STANDARD FLEXIBLE CONNECTIONS ON ALL BLOWER COILS, EXHAUST FANS, SUPPLY FANS, AND DUST COLLECTOR.
15. PROVIDE 45° FLARED TAKEOFFS FOR ALL RECTANGULAR BRANCH CONNECTIONS TO THE MAIN DUCT.
16. ALL DAMPER ACTUATORS FOR DUCT SYSTEMS OR EQUIPMENT THAT COMMUNICATES DIRECTLY WITH THE OUTDOORS SHALL BE SPRING RETURN TYPE TO CLOSE IN THE EVENT OF A POWER FAILURE.
17. PROVIDE 1-1/2 HOUR RATED FIRE DAMPERS IN THE DUCTWORK WHERE INDICATED ON THE PLANS AND REQUIRED BY CODE. FIRE DAMPERS SHALL BE PROVIDED WITH AN ACCESS PANEL LARGE ENOUGH TO PERMIT INSPECTION AND MAINTENANCE OF THE DAMPER. ACCESS PANELS TO FIRE DAMPERS SHALL BE PERMANENTLY IDENTIFIED ON THE EXTERIOR BY A NAMEPLATE WITH THE WORDS "FIRE DAMPER". THE LETTERS ON THE FIRE DAMPER LABELS SHALL NOT BE LESS THAN 1/2 INCH IN HEIGHT.
18. THE SPACE ABOVE THE SUSPENDED CEILINGS SHALL BE USED AS A RETURN AIR PLENUM. IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO COORDINATE THE WORK OF OTHER TRADES TO PROVIDE ADEQUATE SPACE FOR THE FLOW OF RETURN AIR (250 FPM MAXIMUM VELOCITY). WHERE PARTITIONS EXTEND TO THE CONSTRUCTION ABOVE, OPENINGS SHALL BE PROVIDED IN THE PARTITION ABOVE THE CEILING.
19. DUCT DIMENSIONS NOTED ON THE DRAWINGS ARE NET FREE AREA. WHERE ACOUSTIC LINER IS INDICATED OR SPECIFIED THE SHEET METAL SIZE MUST BE INCREASED TO ACCOMMODATE THE LINER.
20. AREAS ABOVE THE CEILING SERVE AS A RETURN AIR PLENUM. ALL MATERIALS EXPOSED IN THE PLENUM SHALL HAVE A 25/50 SMOKE/FLAME SPREAD RATING.
21. ALL DUCT RUNOUTS TO AIR DEVICES ARE TO BE THE SAME SIZE AS THE NECK OF THE AIR DEVICE UNLESS NOTED OTHERWISE.
22. CONTRACTOR SHALL BALANCE EACH AREA OF COMPLETED WORK. THE CONTRACTOR SHALL BALANCE SUPPLY, RETURN, AND EXHAUST AIR FLOWS AT EACH AIR DEVICE AFFECTED BY RENOVATION TO QUANTITY INDICATED ON THE DRAWINGS.
23. ALL NEW DUCT CONNECTIONS TO EXISTING DUCTWORK SHALL BE SEALED AIRTIGHT.
24. EXPOSED GALVANIZED DUCTWORK SHALL BE PAINTABLE. GENERAL CONTRACTOR TO PAINT ALL EXPOSED DUCTWORK. FINAL COLOR TO BE APPROVED BY THE ARCHITECT.

HEATING AND VENTILATION SYMBOLS

- SA SOUND ATTENUATOR
- FC FLEXIBLE CONNECTION
- SPLITTER DAMPER
- VD MANUAL VOLUME DAMPER
- BD GRAVITY BACKDRAFT DAMPER
- MD MOTORIZED VOLUME DAMPER
- FD FIRE DAMPER
- SD SMOKE DAMPER
- FD FIRE DAMPER
- TV TURNING VANES
- RETURN/TRANSFER/COMBUSTION AIR DISCHARGE DUCT UP
- RETURN/TRANSFER/COMBUSTION AIR DISCHARGE DUCT DOWN
- SUPPLY AIR/COMBUSTION AIR INTAKE UP
- SUPPLY AIR/COMBUSTION AIR INTAKE DOWN
- EXHAUST AIR DUCT UP
- EXHAUST AIR DUCT DOWN
- ROUND DUCT DOWN
- ROUND DUCT UP
- INCLINED DROP IN THE DIRECTION OF AIR FLOW
- INCLINED RISE IN THE DIRECTION OF AIR FLOW
- ECCENTRIC DUCT TRANSITION
- CONCENTRIC DUCT TRANSITION
- RECTANGULAR DUCT TO ROUND DUCT TRANSITION
- FXD FLEXIBLE DUCT
- CEILING AIR DEVICE
- AIR DEVICE THROW DESIGNATION: (HATCHING DESIGNATES ZERO THROW)
- SIDEWALL AIR DEVICE
- DAMPERED SHOE DUCT TAP FROM RECT. MAIN
- SHOE DUCT TAP FROM RECT. MAIN
- 45° DAMPERED DUCT TAP
- 45° DUCT TAP
- SADDLE TAP
- STRAIGHT RECT. DUCT TAP FROM RECT. MAIN
- STRAIGHT RECT. DUCT TAP FROM ROUND MAIN

S-1 / 1000 — (AIR DEVICE TYPE) - (SCHEDULE NUMBER) (AIR FLOW IN CFM)

AIR DEVICE TYPE:
S - SUPPLY DIFFUSER
R - RETURN GRILLE
E - EXHAUST GRILLE
T - TRANSFER GRILLE

24" x 12" RA — DUCT SIZE DESIGNATION: 1ST FIGURE SIDE SHOWN. (SIZE SHOWN IS FREE AREA SIZE, ALLOWANCE HAS NOT BEEN MADE DUCT SYSTEM TYPE DESIGNATION: SPECIFIED.)

24"/12" FLAT OVAL DUCT

DUCT SYSTEM TYPE:
SA - SUPPLY AIR
RA - RETURN AIR
EA - EXHAUST AIR
TA - TRANSFER AIR
OA - OUTDOOR AIR

NOTE: NOT ALL SYMBOLS OR ABBREVIATIONS MAY BE USED.

- CWS CONDENSING WATER SUPPLY
- CWR CONDENSING WATER RETURN
- H/C S HOT/CHILLED WATER SUPPLY
- H/C R HOT/CHILLED WATER RETURN
- FOS FUEL OIL SUPPLY
- FOR FUEL OIL RETURN
- FOV FUEL OIL VENT
- MU MAKE - UP WATER LINE
- D DRAIN LINE (OTHER THAN PLUMBING)
- VL VENT LINE (OTHER THAN PLUMBING)
- RD REFRIGERANT DISCHARGE
- RL REFRIGERANT LIQUID
- RS REFRIGERANT SUCTION
- G GAS
- CHWS CHILLED WATER SUPPLY
- CHWR CHILLED WATER RETURN
- CA COMPRESSED AIR
- LPS LOW PRESSURE STEAM
- MPS MEDIUM PRESSURE STEAM
- LPC LOW PRESSURE CONDENSATE
- MPC MEDIUM PRESSURE CONDENSATE
- HPS HIGH PRESSURE STEAM
- HPC HIGH PRESSURE CONDENSATE
- CPD CONDENSATE PUMP DISCHARGE
- HWS HEATING WATER SUPPLY
- HWR HEATING WATER RETURN

- NOS NITROGEN OXIDE SENSOR
- T THERMOSTAT / TEMPERATURE SENSOR
- S TEMPERATURE SENSOR
- CO CARBON MONOXIDE SENSOR
- H HUMIDISTAT

MISCELLANEOUS SYMBOLS

- EQUIPMENT OR PLUMBING FIXTURE DESIGNATION
- (RISER INDICATION P=PLUMBING, K=KITCHEN, A=ACID) RISER DESIGNATION (RISER NUMBER)
- (DETAIL NUMBER) DETAIL DESIGNATION (SHEET NUMBER WHERE DETAIL IS FOUND)
- (SECTION NUMBER) SECTION DESIGNATION (SHEET NUMBER WHERE SECTION IS FOUND)
- KEYED NOTES
- REVISIONS
- AP ACCESS PANEL
- NEW CONNECTION
- AFMS AIR FLOW MEASURING STATION
- CVR CONSTANT VOLUME REGULATOR

PIPING SPECIALTIES

- SV SHUTOFF VALVE
- CV CHECK VALVE
- STR STRAINER
- U UNION
- BC BALANCING COCK
- SOC SHUT-OFF COCK
- SLV SOLENOID VALVE
- FS FLOW SWITCH
- VALVE W/ SUPERVISORY SWITCH
- FCV FLOW CONTROL VALVE (GPM INDICATED)
- T&PR TEMPERATURE AND PRESSURE RELIEF VALVE
- PG PRESSURE GAUGE
- TH THERMOMETER (TUBE OR DIAL AS INDICATED)
- PRV PRESSURE REDUCING VALVE
- DIRECTION OF FLOW
- ANCHORS
- PIPE GUIDES
- MV MOTORIZED VALVE
- DV DIAPHRAGM VALVE
- LPV LUBRICATED VALVE
- HEV HOSE END VALVE
- SWV STOP AND WASTE VALVE
- TWV 3 - WAY VALVE (MIXING OR BY-PASS AS INDICATED)
- PETES PLUG
- RV RELIEF VALVE
- FC FLEXIBLE PIPE CONNECTION
- AVM AIR VENT (MANUAL)
- AVA AIR VENT (AUTOMATIC)
- EX EXPANSION JOINT
- CCR CONCENTRIC REDUCER
- TEE (SIDE OUTLET UP)
- TEE (SIDE OUTLET DOWN)
- ELBOW (TURNED UP)
- ELBOW (TURNED DOWN)
- BMD COMBINATION BALANCING & MEASURING DEVICE
- ECR ECCENTRIC REDUCER
- FMD FLOW MEASURING DEVICE
- STEAM TRAP
- BALANCING VALVE
- FLEXIBLE CONNECTION
- ELBOW
- TEE

ABBREVIATIONS

FFE	FINISH FLOOR ELEVATION
AFF	ABOVE FINISH FLOOR
TE	TOP ELEVATION
BE	BOTTOM ELEVATION
FL	FLOW LINE
INV	INVERT ELEVATION
℄	CENTER LINE
GC	GENERAL CONSTRUCTION CONTRACTOR
HAC	HEATING & AIR CONDITIONING CONTRACTOR
PC	PLUMBING CONTRACTOR
EC	ELECTRICAL CONTRACTOR
ACS	AUTOMATIC CONTROL SUB-CONTRACTOR
FPC	FIRE PROTECTION CONTRACTOR
HSC	HALON SUB-CONTRACTOR
KEC	KITCHEN EQUIPMENT CONTRACTOR
MC	MECHANICAL CONTRACTOR
TCC	TEMPERATURE CONTROL CONTRACTOR

GENERAL NOTES (ROOF PROTECTION)

1. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE A MINIMUM OF SEVEN DAYS PRIOR TO THE BEGINNING OF WORK THAT INVOLVES ACTIVITY ON THE ROOF.
2. TRAFFIC OVER THE EXISTING ROOF SURFACES SHALL BE KEPT TO AN ABSOLUTE MINIMUM.
3. THE CONTRACTOR AND THE OWNER'S REPRESENTATIVE SHALL INSPECT THE EXPOSED ROOFING MEMBRANE SYSTEM PRIOR TO THE START OF CONSTRUCTION. ANY PREVIOUS DAMAGE OR DEFECTS OF THE ROOFING SYSTEM SHALL BE DOCUMENTED BY WRITING AND/OR PHOTOGRAPHS.
4. THE CONTRACTOR SHALL PLACE MINIMUM OF 48" WIDE, 1/2" THICK APPROVED PROTECTION BOARDS (1 LAYER) MADE OF CONSTRUCTION GRADE PLYWOOD (ORIENTED STRAND BOARD WILL BE ACCEPTABLE) OVER ALL MEMBRANE ROOFING THAT WILL HAVE CONSTRUCTION TRAFFIC. THIS ROOF PROTECTION SHALL BE PROVIDED FOR THE ENTIRE AREA WITHIN THE LIMITS OF THE WORK (SEE DRAWINGS THIS SHEET). SUCH PROTECTION SHALL ALSO BE PROVIDED IN THE FORM OF A WALKWAY FROM THE ROOF ACCESS DOOR TO THE PROTECTED CONSTRUCTION AREA.
5. STORAGE OF MATERIALS ON EXISTING ROOF WILL NOT BE ALLOWED.
6. THE CONTRACTOR SHALL REMOVED DAILY ALL PROJECT DEBRIS FROM ALL ROOFING SURFACES.
7. THE CONTRACTOR SHALL ADVISE THE OWNER'S REPRESENTATIVE WHEN WORK ON THE ROOF IS COMPLETE AND THE PROTECTION BOARDS HAVE BEEN REMOVED. THE CONTRACTOR AND THE OWNER'S REPRESENTATIVE SHALL EXAMINE ALL ROOF SURFACES WHERE WORK HAS OCCURED AND WILL REPAIR ALL DEFECTS NOT PREVIOUSLY DOCUMENTED.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE BUILDING, ROOF, STRUCTURAL FRAMING, ETC. INCURRED DURING CONSTRUCTION.
9. CONTRACTOR SHALL UTILIZED A LICENSED APPLICATOR OF THE EXISTING ROOFING SYSTEM TO REPAIR ANY AND ALL DAMAGE INCURRED DURING THE COURSE OF CONSTRUCTION.
10. THE CONTRACTOR SHALL VERIFY WARRANTY OF THE EXISTING MEMBRANE ROOFING SYSTEM. THE CONTRACTOR SHALL UTILIZE A LICENSED APPLICATOR OF THE EXISTING ROOFING SYSTEM TO PERFORM ALL ROOFING WORK AND TO REPAIR ANY AND ALL DAMAGE. UPON COMPLETION, THE CONTRACTOR SHALL OBTAIN A LETTER FROM THE ROOF MANUFACTURER STATING THAT THE EXISTING WARRANTY REMAINS IN FULL FORCE AND EFFECT.

GENERAL NOTES (HYDRONIC)

1. THE CONTRACTOR SHALL COORDINATE SYSTEM SHUT-DOWNS, INCLUDING CHILLED WATER AND HEATING WATER SYSTEM SHUT-DOWNS, WITH THE OWNER. PROVIDE A MINIMUM TWO DAY NOTICE PRIOR TO ANY SYSTEM SHUT-DOWN.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DRAINING, FILLING, AND VENTING OF ALL HYDRONIC SYSTEMS IMPACTED BY THIS PROJECT.

MECHANICAL SHEET INDEX:

SHEET NO.	SHEET NAME
M001	MECHANICAL LEGEND AND NOTES
M000	MECHANICAL SEISMIC CODE BLOCK
MD101	MECHANICAL ROOM 1601 - DEMO PLAN
MD102	MECHANICAL YARD - DEMO PLAN
M102	MECHANICAL YARD - NEW WORK
M101	MECHANICAL ROOM 1601 - NEW WORK
M500	MECHANICAL - DETAILS
M600	MECHANICAL - SCHEDULES
M501	MECHANICAL - DETAILS
M502	MECHANICAL - DETAILS
M503	MECHANICAL - DETAILS

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WEST MIDDLE SCHOOL CHILLER
2312 Baxter Road, Chesterfield, MO 63017
Parkway Project #: PN432501B
Cooling Tower & Chillers Replacement

Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314.415.8231 tel

Project No: 25091

Revisions

No.	Description	Date

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MECHANICAL LEGEND AND NOTES

M001

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GENERAL NOTES

A. .THESE PLANS ARE DIAGRAMMATIC IN NATURE. SINCE THEY REFLECT ONLY THE AVAILABLE INFORMATION OBTAINED FROM EXISTING PLANS, SPECIFICATIONS, AND FIELD SURVEYS. THE EXACT LOCATION OF EXISTING DUCTWORK, PIPING, AND EQUIPMENT MAY DEVIATE FROM THE LOCATION INDICATED ON THESE DRAWINGS. THE CONTRACTOR SHALL BE PREPARED TO MAKE SOME ALTERATIONS TO NEW AND/OR EXISTING SERVICES TO FIT ACTUAL JOB CONDITIONS.

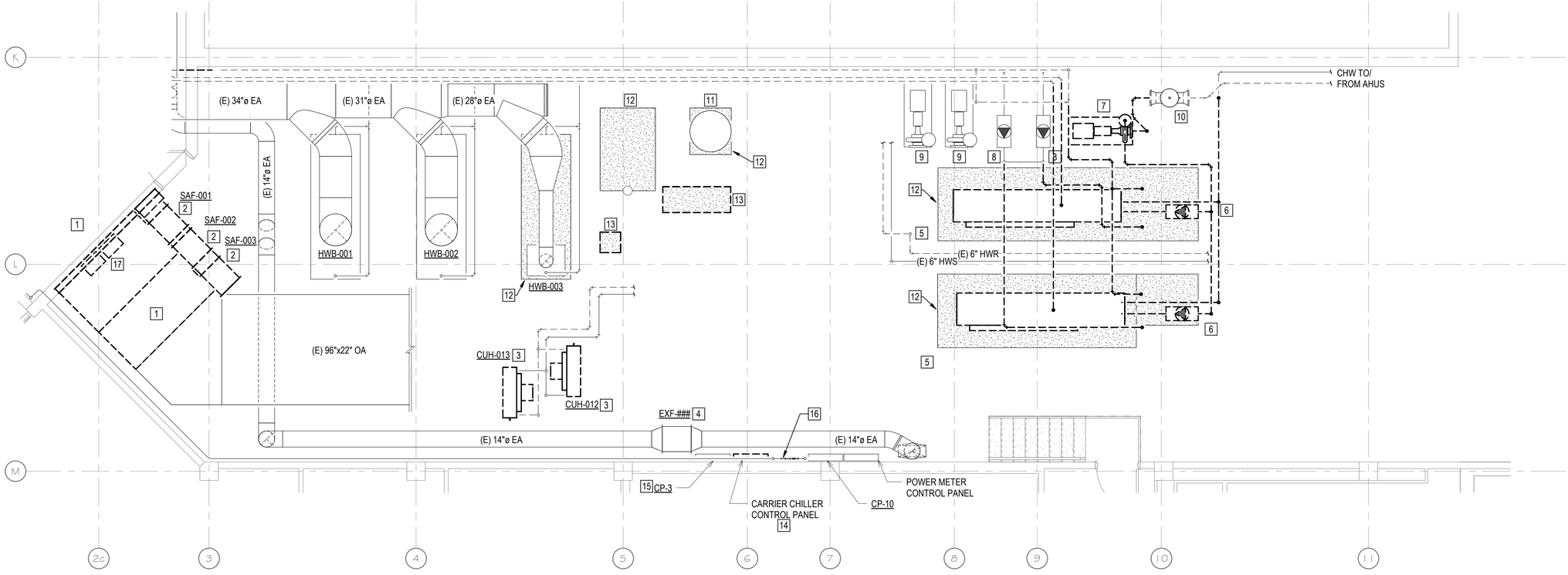
B. ITEMS SHOWN BOLD AND/OR DASHED ON THE DEMOLITION SHEETS INDICATE ITEMS TO BE REMOVED.

C. CROSS HATCHING INDICATES ITEMS TO BE REMOVED.

D. OWNER HAS FIRST RIGHT OF REFUSAL FOR ALL EQUIPMENT BEING REMOVED. CONTRACTOR TO DISPOSE OF EQUIPMENT BEING REMOVED BUT NOT RETAINED BY OWNER.

KEYED NOTES

1. UN-INSTALL EXISTING INTAKE LOUVER AND DUCTWORK AS REQUIRED FOR REPLACEMENT OF LARGE EQUIPMENT. PROTECT AND STORE LOUVER UNTIL RE-INSTALLATION.
2. UN-INSTALL EXISTING INLINE FAN AND ASSOCIATED DUCTWORK. PROTECT AND STORE EQUIPMENT AND DUCTWORK UNTIL RE-INSTALLATION.
3. UN-INSTALL EXISTING UNIT HEATER AS REQUIRED FOR REPLACEMENT OF LARGE EQUIPMENT. PROTECT AND STORE EQUIPMENT UNTIL RE-INSTALLATION.
4. EXISTING EMERGENCY REFRIGERANT PURGE FAN AND DUCTWORK TO REMAIN.
5. REMOVE EXISTING CHILLER AND ASSOCIATED CONTROLS, ACCESSORIES, SUPPORTS, ETC.
6. REMOVE EXISTING INLINE PUMP AND ASSOCIATED PIPING SHOWN DASHED.
7. REMOVE EXISTING BASE MOUNTED PUMP AND ASSOCIATED PIPING SHOWN DASHED.
8. EXISTING BASE CONDENSATE PUMPS TO REMAIN.
9. EXISTING HEATING WATER PUMPS TO REMAIN.
10. EXISTING AIR DIRT SEPARATOR TO REMAIN.
11. EXISTING HOT WATER EXPANSION TANK TO REMAIN.
12. EXISTING CONCRETE PAD TO REMAIN.
13. DEMOLISH EXISTING CONCRETE PAD AS SHOWN.
14. REMOVE CARRIER CHILLER CONTROL PANEL AND ALL ASSOCIATED ACCESSORIES, BRACKETS, WIRING, ETC.
15. REMOVE CONTROLLERS AS REQUIRED FOR REPLACEMENT OF CHILLERS AND CHILLED WATER PUMPS. WORK TO BE COMPLETED BY CONTROLS CONTRACTOR.
16. EXISTING COOLING TOWER BACKFLOW PREVENTER AND MAKEUP WATER LINE TO REMAIN.
17. REMOVE EXISTING COOLING TOWER VARIABLE FREQUENCY DRIVES AND ALL ASSOCIATED ACCESSORIES AND WIRING BACK TO UNIT.



N MD101 1/4" = 1'-0"

MECHANICAL ROOM 1601 MECHANICAL DEMOLITION PLAN

5CALE: 3" = 1'-0" 1' 0.5' 0 0.25'
5CALE: 1-1/2" = 1'-0" 2' 1' 0.5' 0
5CALE: 1" = 1'-0" 2' 1' 0.5' 0
5CALE: 3/4" = 1'-0" 3' 2' 1' 0
5CALE: 1/2" = 1'-0" 4' 2' 1' 0
5CALE: 1/4" = 1'-0" 8' 4' 2' 0
5CALE: 1/8" = 1'-0" 16' 8' 4' 0
5CALE: 1/16" = 1'-0" 32' 16' 8' 0

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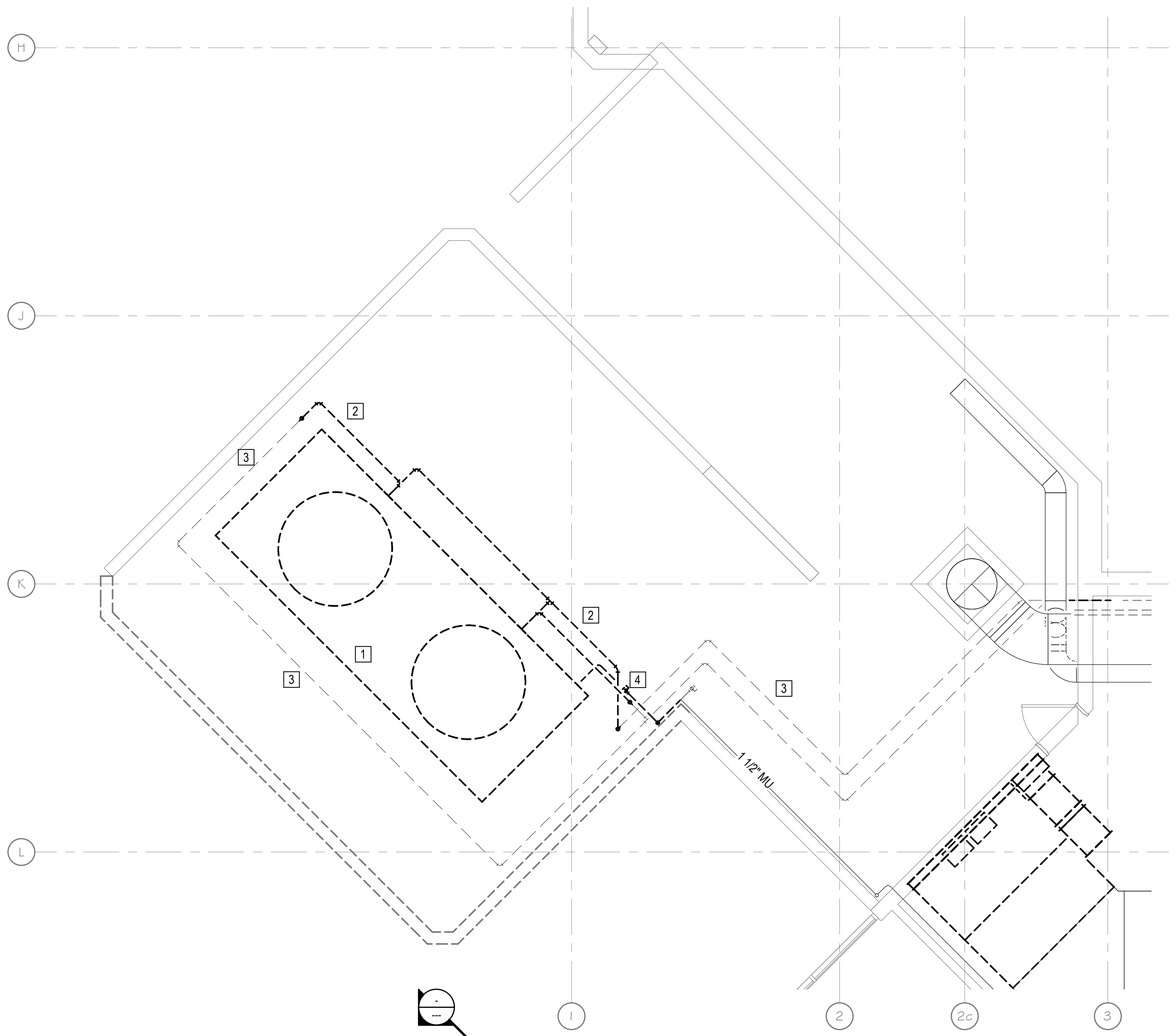
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MECHANICAL ROOM 1601 - DEMO PLAN

MD101



MECHANICAL COURTYARD DEMOLITION PLAN
MD102 1/4" = 1'-0"

GENERAL NOTES

A. .THESE PLANS ARE DIAGRAMMATIC IN NATURE. SINCE THEY REFLECT ONLY THE AVAILABLE INFORMATION OBTAINED FROM EXISTING PLANS, SPECIFICATIONS, AND FIELD SURVEYS. THE EXACT LOCATION OF EXISTING DUCTWORK, PIPING, AND EQUIPMENT MAY DEVIATE FROM THE LOCATION INDICATED ON THESE DRAWINGS. THE CONTRACTOR SHALL BE PREPARED TO MAKE SOME ALTERATIONS TO NEW AND/OR EXISTING SERVICES TO FIT ACTUAL JOB CONDITIONS.

B. ITEMS SHOWN BOLD AND/OR DASHED ON THE DEMOLITION SHEETS INDICATE ITEMS TO BE REMOVED.

C. CROSS HATCHING INDICATES ITEMS TO BE REMOVED.

D. OWNER HAS FIRST RIGHT OF REFUSAL FOR ALL EQUIPMENT BEING REMOVED. CONTRACTOR TO DISPOSE OF EQUIPMENT BEING REMOVED BUT NOT RETAINED BY OWNER.

KEYED NOTES

1. REMOVE EXISTING COOLING TOWER AND ALL ASSOCIATED ACCESSORIES HANGERS BRACKETS, ETC.
2. REMOVE ALL EXISTING CONDENSER WATER PIPING AS INDICATED.
3. REMOVE ALL EXISTING UNDERGROUND CONDENSER WATER PIPING SHOWN DASHED.
4. REMOVE EXISTING MAKE-UP WATER LINE AS REQUIRED FOR PARTIAL WALL REMOVAL.

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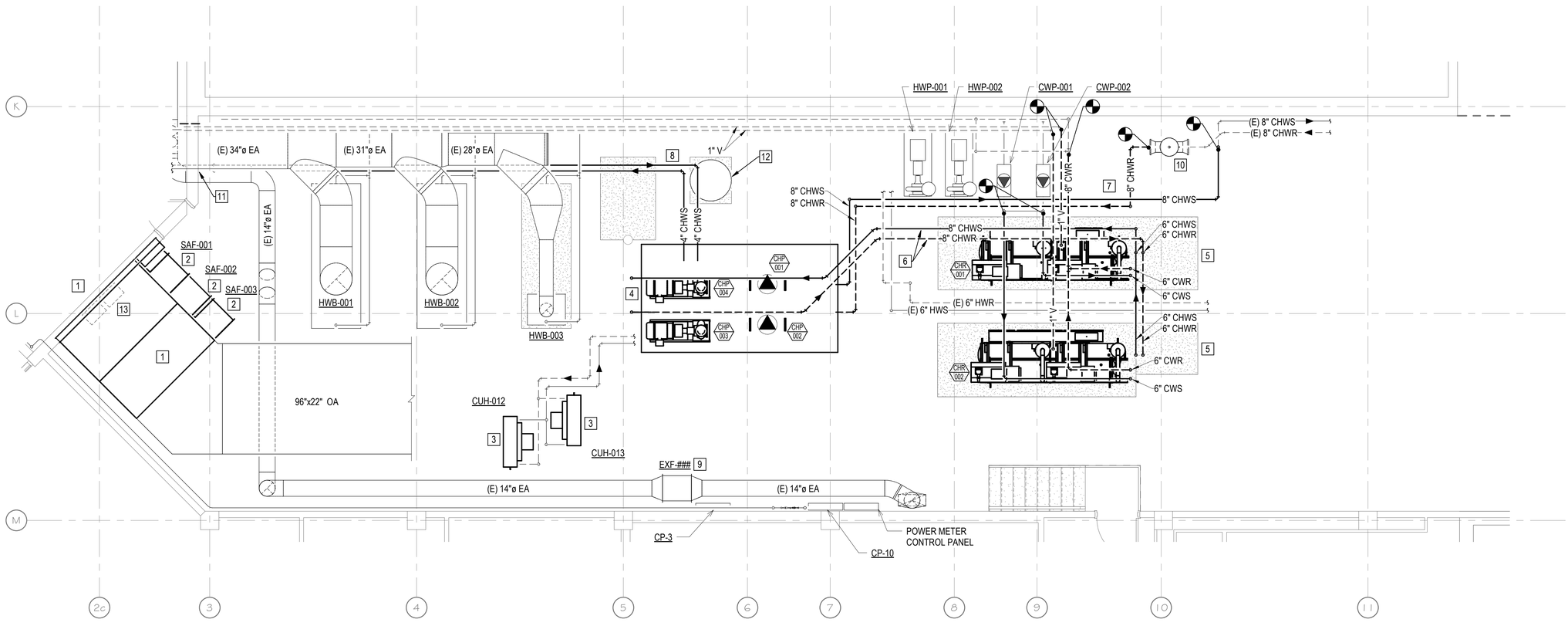
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MECHANICAL YARD - DEMO PLAN

MD102

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KEYED NOTES	
1	RE-INSTALL EXISTING INTAKE LOUVER AND DUCTWORK.
2	RE-INSTALL EXISTING INLINE FANS AND ASSOCIATED DUCTWORK.
3	RE-INSTALL EXISTING UNIT HEATERS. PROVIDE NEW PIPING AND VALVE ASSEMBLIES.
4	INSTALL NEW SKID-MOUNTED CHILLED WATER/THERMAL ENERGY STORAGE PUMP AND CONTROL MODULE. SEE SCHEDULES AND DIAGRAMS FOR FURTHER INFORMATION. FINAL COORDINATION OF PIPING CONNECTIONS TO SKID TO HAPPEN ONCE SHOP DRAWINGS ARE SENT IN FROM SKID MANUFACTURER.
5	INSTALL NEW CHILLER ON EXISTING HOUSEKEEPING PAD.
6	NEW 8" CHILLED WATER SUPPLY AND RETURN PIPES FOR CHILLERS
7	NEW 8" CHILLED WATER SUPPLY AND RETURN PIPES FOR BUILDING LOOP.
8	NEW 6" CHILLED WATER SUPPLY AND RETURN PIPES FOR ICE STORAGE LOOP.
9	EXISTING EMERGENCY REFRIGERANT PURGE FAN AND DUCTWORK TO REMAIN.
10	EXISTING AIR DIRT SEPARATOR TO REMAIN.
11	CHILLED WATER PIPING OUT TO THERMAL STORAGE TANKS TO EXIT MECHANICAL ROOM AT SIMILAR ELEVATION TO EXISTING CONDENSER WATER PIPING, RESULTING IN BURIED PIPING IN THE COOLING TOWER YARD. SEE SHEET M102 FOR CONTINUATION.
12	EXISTING HOT WATER EXPANSION TANK TO REMAIN.
13	INSTALL NEW FACTORY PROVIDED COOLING TOWER VFDS ON EXISTING UNISTRUT SUPPORT.



N — MECHANICAL ROOM 1601 MECHANICAL CONSTRUCTION PLAN
1/4" = 1'-0"

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WEST MIDDLE SCHOOL CHILLER

2312 Baxter Road, Chesterfield, MO 63017
Parkway Project #: PN432501B
Cooling Tower & Chillers Replacement

Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314.415.5231 tel

Project No: 25091

Revisions

No.	Description	Date

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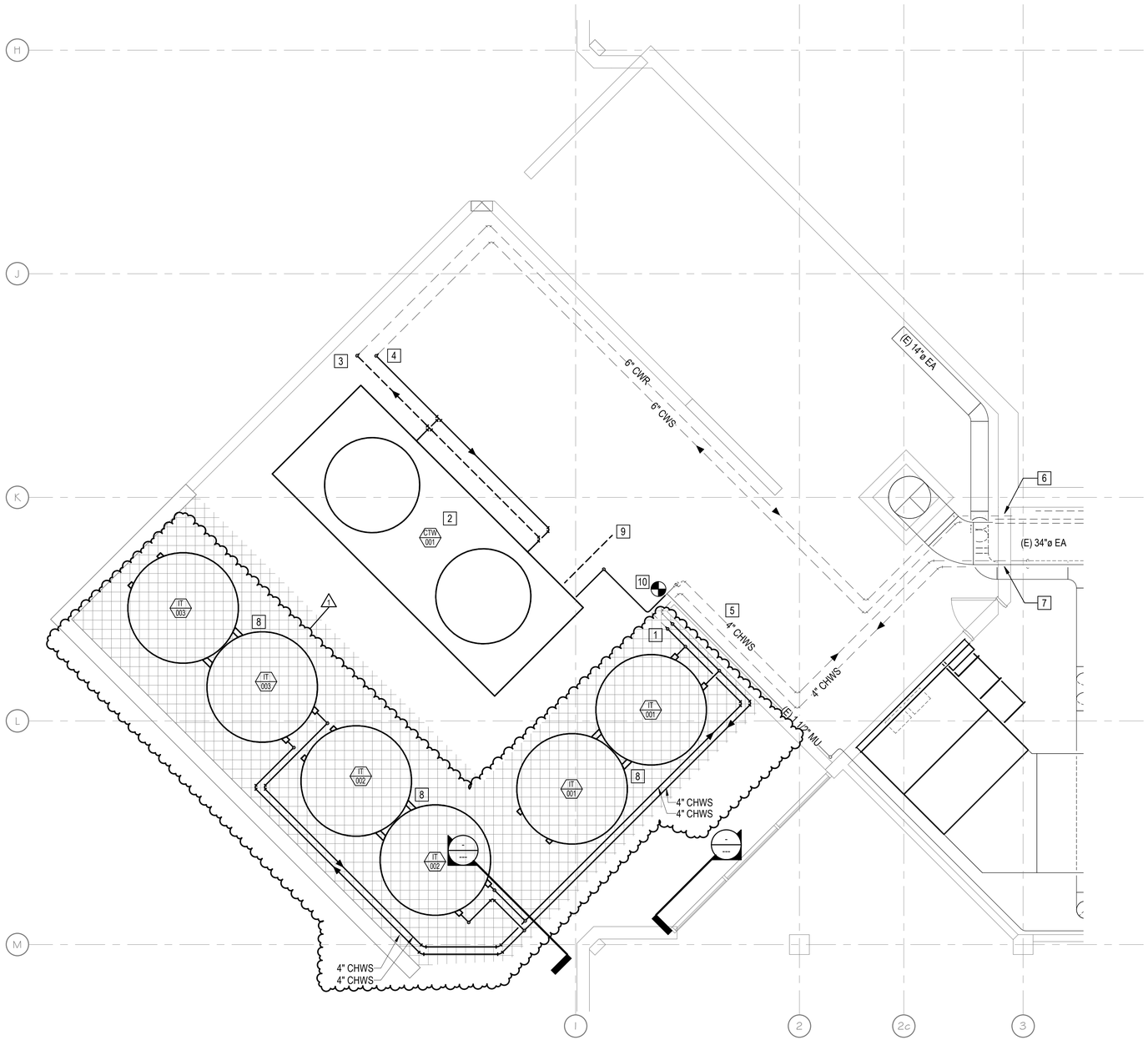
DATE: 2026-06-22

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MECHANICAL ROOM 1601 - NEW WORK

M101

7/22/2026 9:15:50 AM



N I MECHANICAL COURTYARD CONSTRUCTION PLAN
M102 1/4" = 1'-0"

SCALE: 3" = 1'-0" 1' 0.5' 0.25' 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

7/22/2026 9:15:50 AM

GENERAL NOTES

A. REFER TO PIPING SCHEMATIC LAYOUTS FOR SPECIFIC EQUIPMENT AND PIPING SYSTEM VALVE REQUIREMENTS.

KEYED NOTES

1. ROUTE (2) 4" CHILLED WATER SUPPLY PIPES UP FROM BELOW GRADE AND ROUTE ALONG HOUSEKEEPING PAD AS SHOWN. PROVIDE MECHANICAL PIPE SLEEVE THROUGH SLAB.
2. INSTALL NEW COOLING TOWER ON EXISTING STRUCTURAL PAD.
3. ROUTE 6" CONDENSER WATER RETURN PIPING FROM COOLING TOWER DOWN BELOW GRADE.
4. ROUTE 6" CONDENSER WATER SUPPLY PIPING UP FROM BELOW GRADE AND CONNECT TO COOLING TOWER.
5. ROUTE 6" CONDENSER WATER SUPPLY AND RETURN AND (2) 4" CHILLED WATER SUPPLY BELOW GRADE AS SHOWN.
6. CONNECT NEW 6" CONDENSER WATER SUPPLY AND RETURN LINES TO EXISTING PIPING AT WALL BELOW GRADE.
7. ROUTE (2) 6" CHILLED WATER SUPPLY PIPING THROUGH WALL BELOW GRADE.
8. INSTALL NEW ICE STORAGE TANKS ON NEW STRUCTURAL CONCRETE PADS. SEE STRUCTURAL DRAWINGS FOR PAD DETAILS.
9. INSTALL NEW 3" DRAIN LINE AND TERMINATE OVER YARD DRAIN GRATE.
10. CONNECT NEW 1 1/2" MAKEUP WATER LINE TO EXISTING 1 1/2" MAKE UP WATER LINE.

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1	Rev 1	2026-07-22

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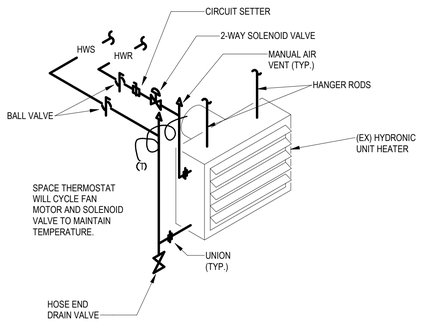
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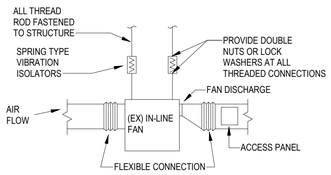
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MECHANICAL YARD - NEW WORK

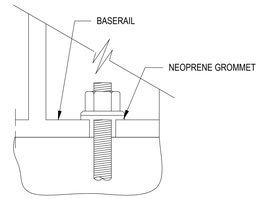
M102



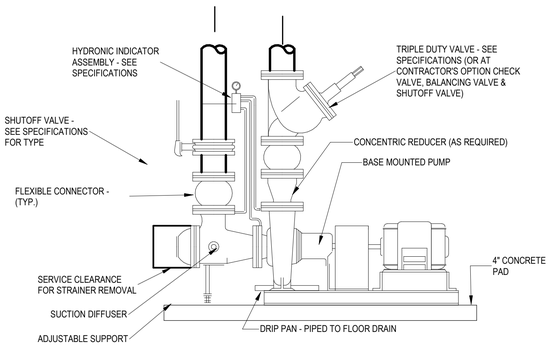
4 M500 HYDRONIC UNIT HEATER PIPING DETAIL
NOT TO SCALE



3 M500 FAN - INLINE DETAIL
NOT TO SCALE



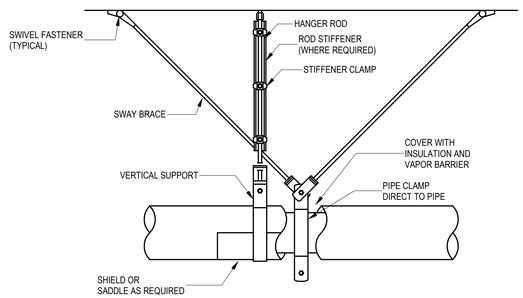
2 M500 EQUIPMENT - Grade Slab Mounting
NOT TO SCALE



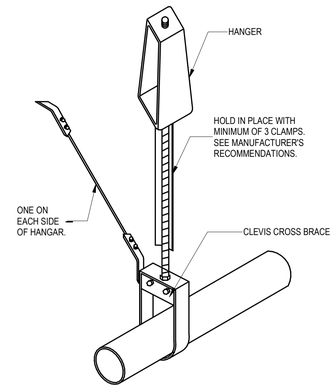
1 M500 END SUCTION PUMP PIPING DETAIL
NOT TO SCALE

ABOVE GROUND PIPE MATERIALS

SYSTEM	COPPER - TYPE K	COPPER - TYPE L	COPPER - TYPE M	STEEL - SCH 40	STEEL - SCH 80	PVC - SCH 40
CHILLED WATER	N/A	2" AND SMALLER	N/A	2-1/2" AND LARGER	N/A	N/A
HEATING WATER	N/A	2" AND SMALLER	N/A	2-1/2" AND LARGER	N/A	N/A
CONDENSER WATER	N/A	2" AND SMALLER	N/A	2-1/2" AND LARGER	N/A	N/A
CONDENSATE DRAIN	N/A	N/A	ANY SIZE	N/A	N/A	ANY SIZE
MAKEUP WATER	ANY SIZE	N/A	N/A	N/A	N/A	N/A
AIR VENT	ANY SIZE	N/A	N/A	N/A	N/A	N/A
NOTES:						



6 M500 LONGITUDINAL PIPING RESTRAINT
NOT TO SCALE



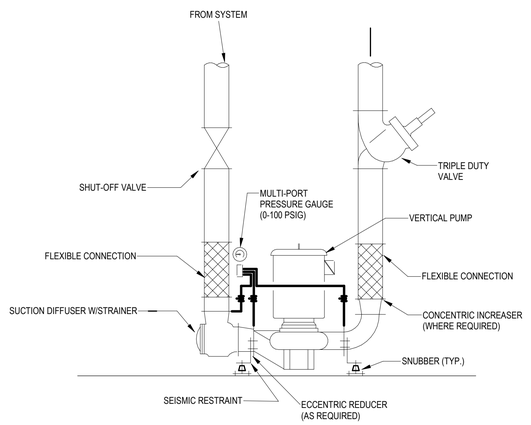
5 M500 LATERAL PIPING RESTRAINT
NOT TO SCALE

MINIMUM PIPE INSULATION THICKNESS (INCHES) (PIPING NPS 12 AND SMALLER)

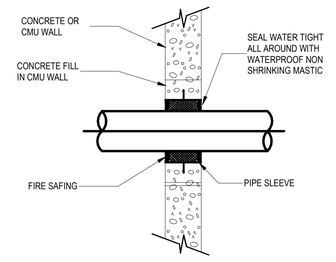
SYSTEM	LOCATION	CELLULAR GLASS	FLEXIBLE ELASTOMERIC	MINERAL FIBER - PREFORMED	PVC OR ALUMINUM JACKET
CHILLED WATER (< 40°F)	INDOOR	1-1/2	1	1-1/2	-
	OUTDOOR	3	3	3	YES
CHILLED WATER (≥ 40°F)	INDOOR	1-1/2	1	1	-
	OUTDOOR	3	3	3	YES
HEATING WATER (≤ 200°F)	INDOOR	2-1/2	N/A	2	-
	OUTDOOR	3	N/A	2	YES
HEATING WATER (> 200°F)	INDOOR	3	N/A	3	-
	OUTDOOR	3	N/A	3	YES
CONDENSER WATER	INDOOR	1-1/2	1	1	-
	OUTDOOR	2	2	2	YES
STEAM AND STEAM CONDENSATE (≤ 350°F)	INDOOR	3	N/A	3	-
	OUTDOOR	4	N/A	3	YES
STEAM AND STEAM CONDENSATE (> 350°F)	INDOOR	3	N/A	3	-
	OUTDOOR	5	N/A	4	YES
REFRIGERANT LIQUID	INDOOR	1-1/2	1	1	-
	OUTDOOR	2	2	2	YES
REFRIGERANT SUCTION AND HOT GAS	INDOOR	1-1/2	1	1	-
	OUTDOOR	2	2	2	YES
CONDENSATE AND EQUIPMENT DRAIN WATER (≤ 60°F)	INDOOR	1-1/2	3/4	1/2	-

NOTES:
1. ENTIRE PIPING SYSTEM INCLUDING VALVES AND FITTINGS TO BE INSULATED.

9 M500 PIPE INSULATION TABLE
NOT TO SCALE



8 M500 VERTICAL PUMP PIPING DETAIL
NOT TO SCALE



7 M500 PIPE PENETRATION THRU WALL
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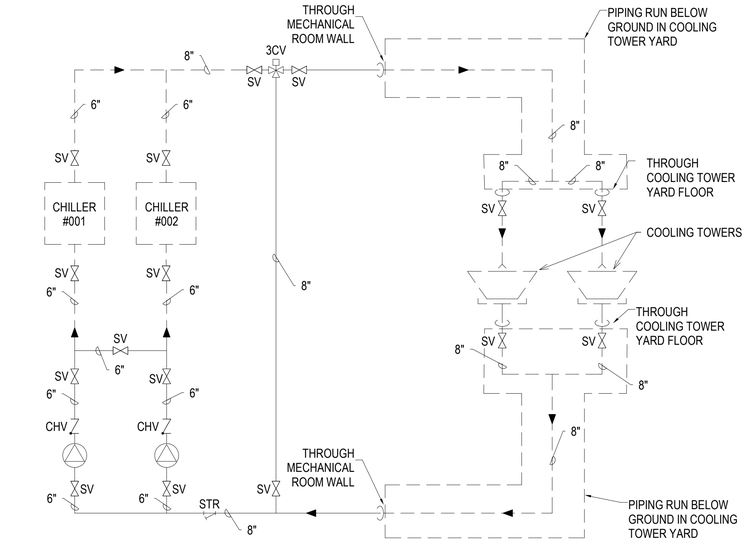
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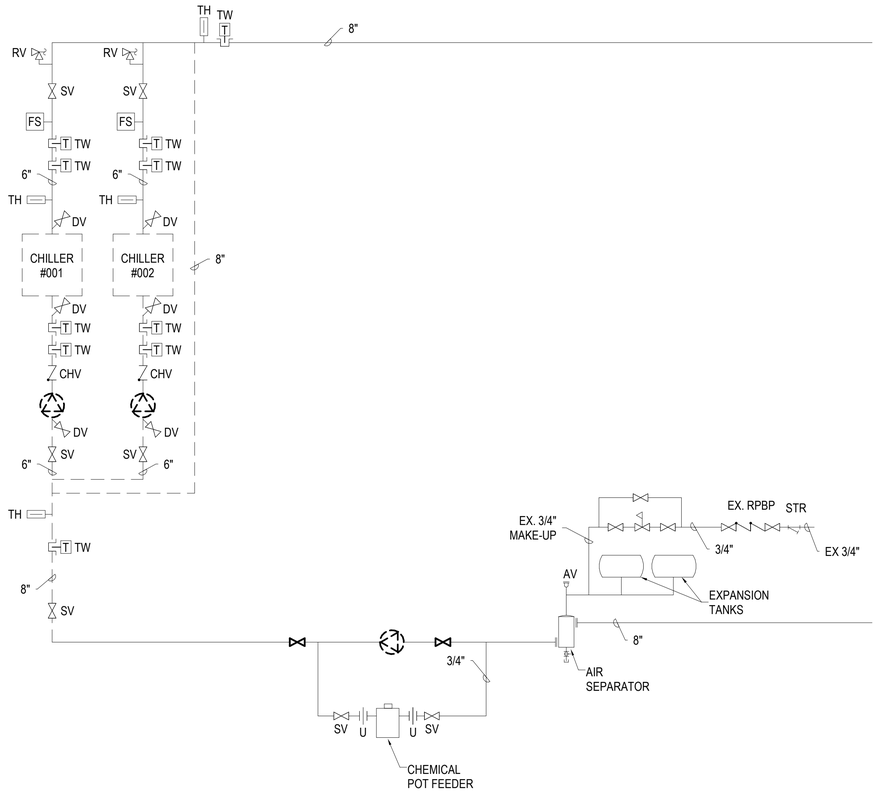
MECHANICAL - DETAILS

M500

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2 M50 CONDENSER WATER SCHEMATIC - DEMO
NOT TO SCALE



1 M50 CHILLED WATER SCHEMATIC - DEMO
NOT TO SCALE

5CALE: 3" = 1'-0" 0 0.25' 0.5' 1'
5CALE: 1-1/2" = 1'-0" 0 0.5' 1' 2'
5CALE: 1" = 1'-0" 0 0.5' 1' 2'
5CALE: 3/4" = 1'-0" 0 1' 2' 3'
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5CALE: 1/8" = 1'-0" 0 4' 8' 16'
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MECHANICAL - DETAILS

M501

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'

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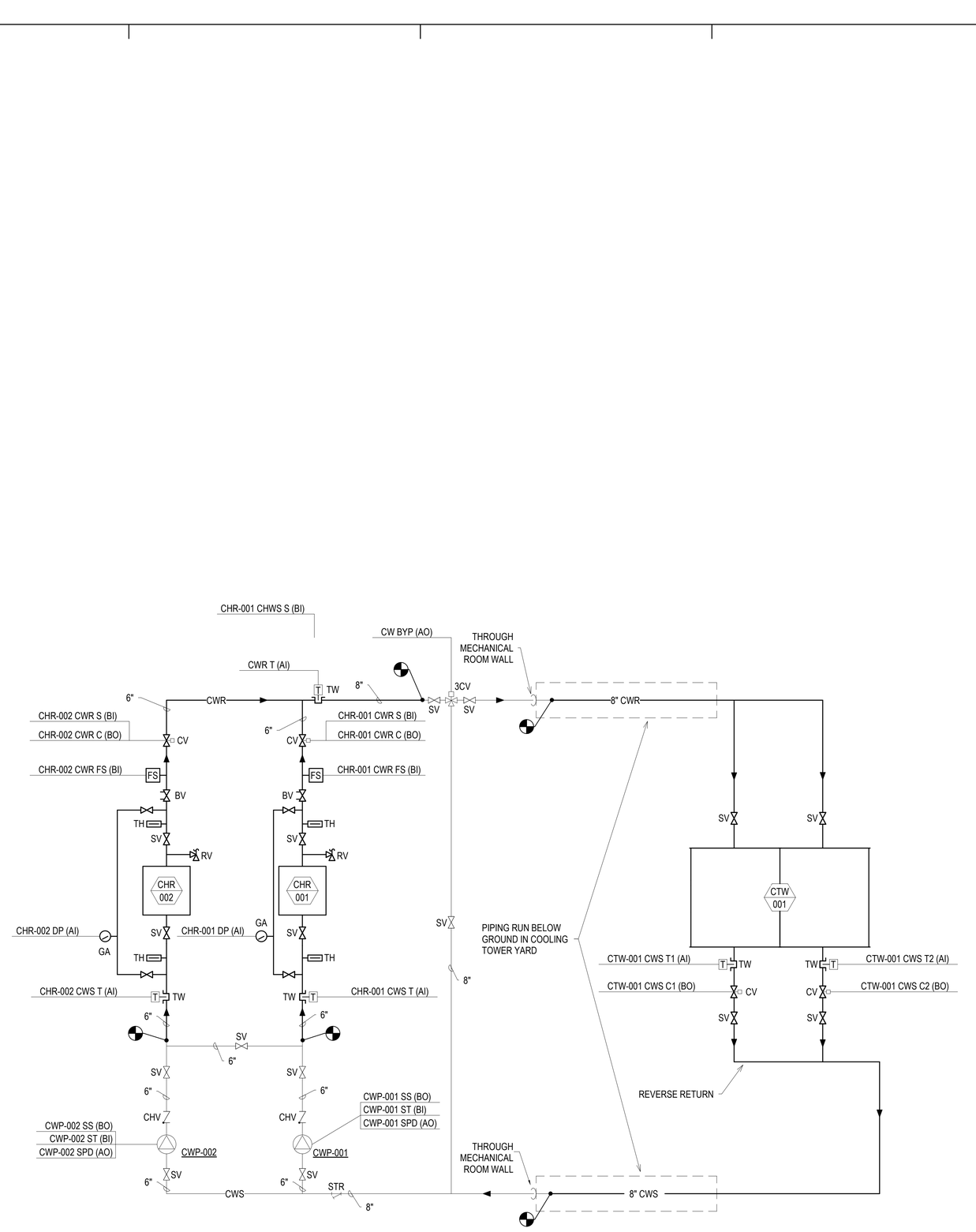
SCALE: 1/8" = 1'-0" 0 4' 8' 16'

SCALE: 1/16" = 1'-0" 0 8' 16' 32'

CHILLER INTERFACE CONTROL POINT LIST - CONDENSER WATER

ABRIDGED POINT NAME	POINT NAME	HARDWARE POINTS				SOFTWARE POINTS						SHOWN ON GRAPHIC
		AI	AO	BI	BO	AV	BV	LOOP	SCHED	TREND	ALARM	
CHR-001 CW DP	CHILLER 1 CONDENSER WATER DIFFERENTIAL PRESSURE	•									•	•
CHR-002 CW DP	CHILLER 2 CONDENSER WATER DIFFERENTIAL PRESSURE	•									•	•
	CONDENSER WATER SYSTEM DIFFERENTIAL PRESSURE	•									•	•
CHR-001 CWS T	CHILLER 1 CONDENSER WATER SYSTEM TEMPERATURE	•									•	•
CWR T	CONDENSER WATER RETURN SYSTEM TEMPERATURE	•										•
	TOWER 1 SUMP LEVEL INDICATION	•									•	•
	TOWER 1 SUMP WATER TEMPERATURE	•									•	•
CTW-001 CWS T1	TOWER 1 LEAVING WATER TEMPERATURE	•									•	•
	TOWER 2 SUMP LEVEL INDICATION	•									•	•
	TOWER 2 SUMP WATER TEMPERATURE	•									•	•
CTW-002 CWS T2	TOWER 2 LEAVING WATER TEMPERATURE	•									•	•
CHR-002 CWS T	CHILLER 2 CONDENSER WATER SYSTEM TEMPERATURE	•									•	•
CWP-001 SPD	CONDENSER WATER PUMP 1 SPEED		•									•
CWP-002 SPD	CONDENSER WATER PUMP 2 SPEED		•									•
	TOWER 1 FAN SPEED		•									•
	TOWER 2 FAN SPEED		•									•
CW BYP C	TOWER BYPASS VALVE OUTPUT		•									•
CHR-001 CWR FS	CHILLER 1 CONDENSER WATER FLOW STATUS			•								•
CHR-001 CWR S	CHILLER 1 CONDENSER WATER ISO VALVE STATUS			•								•
	CHILLER 1 CONDENSER WATER PUMP REQUEST FROM CHILLER			•								•
CHR-002 CWR FS	CHILLER 2 CONDENSER WATER FLOW STATUS			•								•
CHR-002 CWR S	CHILLER 2 CONDENSER WATER ISO VALVE STATUS			•								•
	CHILLER 2 CONDENSER WATER PUMP REQUEST FROM CHILLER			•								•
CWP-001 ST	CONDENSER WATER PUMP 1 STATUS			•								•
CWP-002 ST	CONDENSER WATER PUMP 2 STATUS			•								•
	TOWER 1 FAN VIBRATION ALARM			•							•	•
	TOWER 1 FAN STATUS			•								•
	TOWER 2 FAN VIBRATION ALARM			•							•	•
	TOWER 2 FAN STATUS			•								•
	CONDENSER WATER PUMP START REQUEST TO SYSTEM				•							
CHR-001 CWR C	CHILLER 1 CONDENSER WATER ISO VALVE OUTPUT				•							•
CHR-002 CWR C	CHILLER 2 CONDENSER WATER ISO VALVE OUTPUT				•							•
CWP-001 SS	CONDENSER WATER PUMP 1 START STOP				•							•
CWP-002 SS	CONDENSER WATER PUMP 2 START STOP				•							•
	TOWER 1 FAN START STOP				•							•
CTW-001 CWS C1	TOWER 1 WATER ISOLATION VALVE(S) OUTPUT				•							•
	TOWER 1 SUMP HEATER START STOP				•							•
	TOWER 2 FAN START STOP				•							•
CTW-001 CWS C2	TOWER 2 WATER ISOLATION VALVE(S) OUTPUT				•							•
	TOWER 2 SUMP HEATER START STOP				•							•
	CONDENSER LEAVING WATER TEMPERATURE					•						
	CONDENSER ENTERING WATER TEMPERATURE					•						
	CONDENSER REFRIGERANT PRESSURE (PER CIRCUIT)					•						
	CONDENSER WATER PUMP 1 FAILURE						•				•	•
	CONDENSER WATER SUPPLY TEMP SETPOINT					•						
	CONDENSER WATER PUMP 2 FAILURE						•				•	•
	TOWER 1 FAN FAILURE						•				•	•
	TOWER 2 FAN FAILURE						•				•	•

NOTE: NOT ALL SEQUENCE OF OPERATION POINTS APPEAR ON ASSOCIATED SCHEMATIC.



1 M502 CONDENSER WATER SCHEMATIC - NEW WORK
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Revisions

No.	Description	Date

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MICHAEL D. MITCHELL
NUMBER PE-2010019577
PROFESSIONAL ENGINEER

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DATE: 2026-06-22

BID / PERMIT SET

MECHANICAL - DETAILS

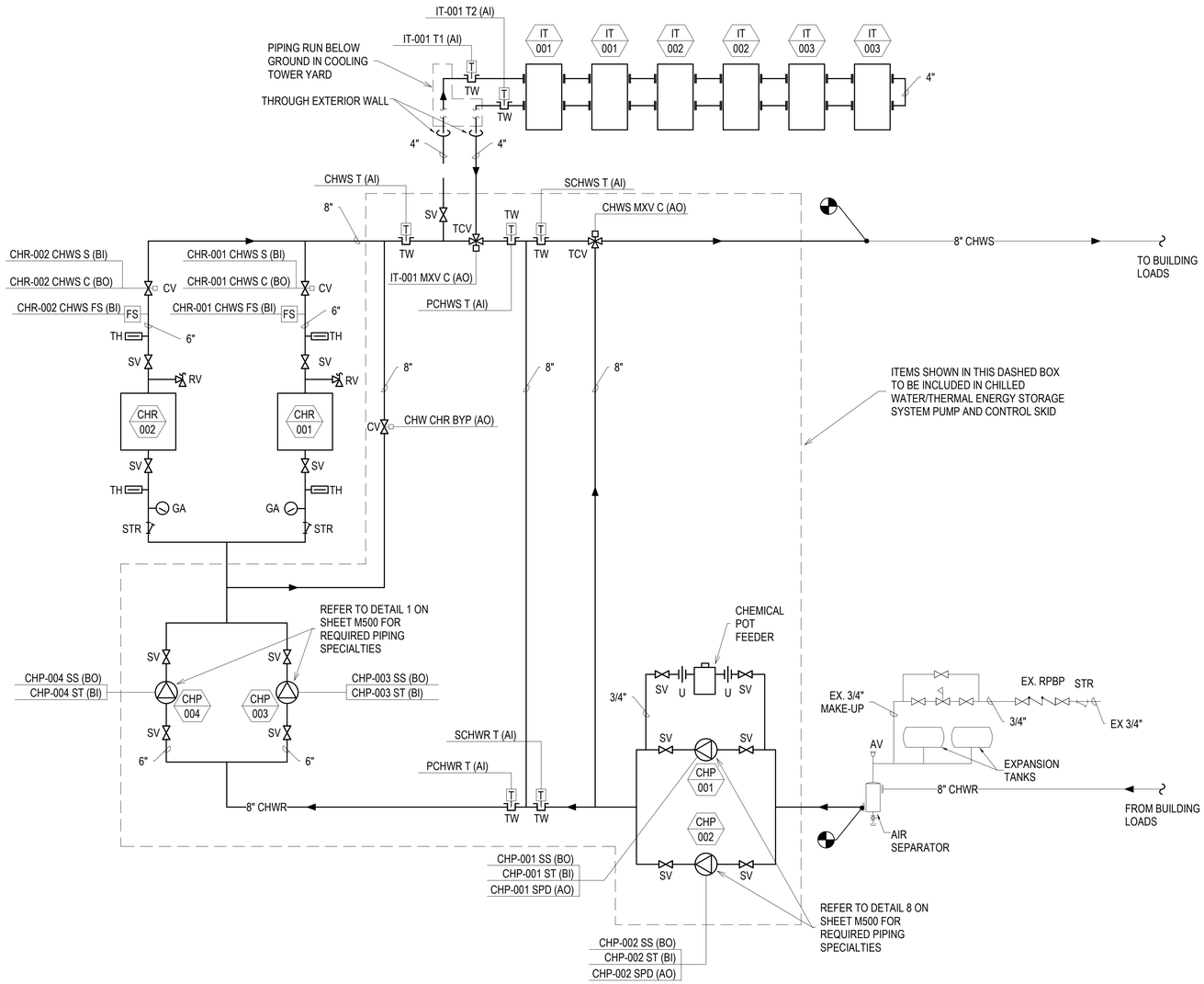
M502

CHILLER INTERFACE CONTROL POINT LIST - CHILLED WATER

ABRIDGED POINT NAME	POINT NAME	HARDWARE POINTS				SOFTWARE POINTS						SHOWN ON GRAPHIC
		AI	AO	BI	BO	AV	BV	LOOP	SCHED	TREND	ALARM	
CHWS T	CHILLER CHILLED WATER LEAVING TEMPERATURE	•									•	•
	ICE STORAGE LEVEL (INVENTORY)	•									•	•
	ICE STORAGE MIX VALVE LEAVING TEMPERATURE	•									•	•
IT-001 T2	ICE STORAGE TANK LEAVING TEMPERATURE	•									•	•
IT-001 T1	ICE STORAGE TANK ENTERING TEMPERATURE	•									•	•
	SECONDARY CHILLED WATER SYSTEM DIFFERENTIAL PRESSURE	•									•	•
SCHWR T	SECONDARY CHILLED WATER RETURN TEMPERATURE	•									•	•
SCHWS T	PRIMARY CHILLED WATER RETURN TEMPERATURE	•									•	•
PCHWS T	PRIMARY CHILLED WATER SUPPLY TEMPERATURE	•									•	•
SCHWR T	SECONDARY CHILLED WATER SUPPLY TEMPERATURE	•									•	•
IT-001 MXV C	ICE STORAGE MIXING VALVE OUTPUT		•									•
CHWS MXV C	ICE STORAGE MODE CONTROL VALVE		•									•
CHP-001 SPD	SECONDARY CHILLED WATER PUMP 1 SPEED		•									•
CHP-002 SPD	SECONDARY CHILLED WATER PUMP 2 SPEED		•									•
CHR-001 CHWS FS	CHILLER 1 CHILLED WATER FLOW STATUS			•								•
	CHILLER 1 CHILLED WATER PUMP REQUEST FROM CHILLER			•								•
CHR-001 CHWS S	CHILLER 1 CHILLED WATER ISO VALVE OPEN STATUS			•								•
CHR-002 CHWS FS	CHILLER 2 CHILLED WATER FLOW STATUS			•								•
	CHILLER 2 CHILLED WATER PUMP REQUEST FROM CHILLER			•								•
CHR-002 CHWS S	CHILLER 2 CHILLED WATER ISO VALVE OPEN STATUS			•								•
CHP-003 ST	PRIMARY CHILLED WATER PUMP 1 STATUS			•								•
CHP-001 ST	SECONDARY CHILLED WATER PUMP 1 STATUS			•								•
CHP-004 ST	PRIMARY CHILLED WATER PUMP 2 STATUS			•								•
CHP-002 ST	SECONDARY CHILLED WATER PUMP 2 STATUS			•								•
	CHILLED WATER PUMP START REQUEST TO SYSTEM				•							
CHR-001 CHWS C	CHILLER 1 CHILLED WATER ISO VALVE OUTPUT				•							•
CHR-002 CHWS C	CHILLER 2 CHILLED WATER ISO VALVE OUTPUT				•							•
CHW CHR BYP	CHILLER CHILLED WATER BYPASS VALVE				•							•
CHP-003 SS	PRIMARY CHILLED WATER PUMP 1 START STOP				•							•
CHP-001 SS	SECONDARY CHILLED WATER PUMP 1 START STOP				•							•
CHP-004 SS	PRIMARY CHILLED WATER PUMP 2 START STOP				•							•
CHP-002 SS	SECONDARY CHILLED WATER PUMP 2 START STOP				•							•
	CHILLED WATER SETPOINT					•						
	CHILLER AUTO/STOP COMMAND						•					
	EVAPORATOR ENTERING WATER TEMPERATURE					•						
	EVAPORATOR REFRIGERANT PRESSURE (PER CIRCUIT)					•						
	EVAPORATOR LEAVING WATER TEMPERATURE					•						
	HEAD RELIEF REQUEST						•					
	HEAD PRESSURE CONTROL OUTPUT					•						
	CHILLED WATER SUPPLY TEMPERATURE SETPOINT					•						
	CHILLER PLANT ENABLE						•					
	PRIMARY CHILLED WATER PUMP 1 FAILURE						•				•	•
	PRIMARY CHILLED WATER PUMP 2 FAILURE						•				•	•
	SECONDARY CHILLED WATER PUMP 1 FAILURE						•				•	•
	SECONDARY CHILLED WATER PUMP 2 FAILURE						•				•	•

NOTE:
1. NOT ALL SEQUENCE OF OPERATION POINTS APPEAR ON ASSOCIATED SCHEMATIC.
2. EQUIPMENT AND VALVE CONTROLS PROVIDED BY TRANE, CHILLED WATER SYSTEM CONTROLS TO BE INTERFACED VIA BACNET TO EXISTING ACES BAS.

1



1 / M503 CHILLED WATER SCHEMATIC - NEW WORK
NOT TO SCALE

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: 1/16" = 1'-0" 0 8' 16' 32'

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MEP / FP Engineer
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WEST MIDDLE SCHOOL CHILLER
2312 Baxter Road, Chesterfield, MO 63017
Parkway Project #: PN432501B
Cooling Tower & Chillers Replacement

Parkway School District
363 N. Woods Mill Rd., Chesterfield, MO 63017
314.415.8231 tel

Project No: 25091

Revisions

No.	Description	Date
1	Rev 1	2026-07-22

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DATE: 2026-06-22

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MECHANICAL - DETAILS

M503

ALL SCHEDULES FOR REFERENCE ONLY. EQUIPMENT TO BE OWNER FURNISHED, CONTRACTOR INSTALLED. 1

WATER COOLED CHILLER SCHEDULE

PLAN MARK	MANUFACTURER	MODEL	NOMINAL CAPACITY (TON)	FULL LOAD EFF. (kW/TON)	IPLV (kW/TON)	NPLV (RATED EER)	ELECTRICAL DATA			EVAPORATOR						CONDENSER						COMPRESSOR								
							VOLTAGE	PHASE	DESIGN TOTAL POWER (KW)	EWT (°F)	LWT (°F)	ACUTAL FLOW (GPM)	EQUIPMENT DESIGN FLOW (GPM)	WPD (FT WG.)	NUMBER OF PASSES	EWT (°F)	LWT (°F)	FLOW (GPM)	WPD (FT WG.)	NUMBER OF PASSES	TYPE	QTY.	REFRIG.	REFRIG. CHARGE (LB/CIRCUIT)	LENGTH	WIDTH	HEIGHT	SHIPPING WEIGHT (LBS)	OPERATING WEIGHT (LBS)	NOTES
CHR - 001	TRANE	RTWD	250	0.8306	0.5406	22	208	3	155.5	56.8	44.0	351.5	370	7.21	2	85.0	94.3	607	11.30	2	HELICAL ROTARY SCREW	2	R513A	180.80	136.06"	47.75"	76.96"	9478.00	10071.00	ALL
CHR - 002	TRANE	RTWD	250	0.8306	0.5406	22	208	3	155.5	56.8	44.0	351.5	370	7.21	2	85.0	94.3	607	11.30	2	HELICAL ROTARY SCREW	2	R513A	180.80	136.06"	47.75"	76.96"	9478.00	10071.00	ALL

NOTES:
1. REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL REQUIREMENTS.
2. PROVIDE FACTORY SINGLE POINT POWER CONNECTION.
3. PERFORMANCE BASED ON 30% PROPYLENE GLYCOL.
4. PROVIDE BACNET CARD FOR INTERFACE WITH EXISTING BUILDING AUTOMATION SYSTEM.
5. START-UP SHALL BE COMPLETED BY CHILLER MANUFACTURER
6. PROVIDE FACTORY FURNISHED SOLE PLATES. CHILLERS TO BE INSTALLED ON EXISTING INERTIA BASE PADS.
7. CONTRACTOR SHALL FIELD PROVIDE AND INSTALL A STRAINER ON THE INLET PIPING OF COOLER AND CONDENSER FOR EACH CHILLER.
8. PROVIDE FACTORY CHARGED REFRIGERANT.
9. PROVIDE FACTORY INSTALLED FLOW SWITCHES WITH CONTROL LOGIC ENABLE/DISABLE
10. PROVIDE FACTORY MOUNTED VFD WITH HARMONIC FILTER AND DISCONNECT

1

COOLING TOWER SCHEDULE

PLAN MARK	MANUFACTURER	MODEL	LOCATION	FLOW RATE (GPM)	EWT (°F)	LWT (°F)	AMBIENT WB (°F)	WPD (PSI)	FANS		SHIPPING WEIGHT (LBS)	OPERATING WEIGHT (LBS)	NOTES
									QUANTITY	POWER (HP/MOTOR)			
CTW - 001	EVAPCO	AT 29-4J21	UTILITY YARD	1641	95.0	85.0	78	2.2	2	15	10870	17810	ALL

NOTES:
1. REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL REQUIREMENTS
2. PROVIDE FACTORY STAINLESS STEEL WELDED COLD WATER BASIN
3. PROVIDE FACTORY EXTERNAL SERVICE PLATFORM WITH LADDER
4. PROVIDE (2) ELECTRIC BASIN HEATERS (208V/3PH) AT 12KW A HEATER AND FACTORY MOUNTED CONTROLLER.
5. PROVIDE 3-PROBE ELECTRONIC WATER LEVEL CONTROL PACKAGE
6. PROVIDE INVERTER CAPABLE, PREMIUM EFFICIENT FAN MOTORS WITH MOTOR DAVIT WITH BASE
7. PROVIDE FACTORY VIBRATION SWITCH
8. PROVIDE FACTORY VFD

MECHANICAL TANK SCHEDULE

PLAN MARK	MANUFACTURER	MODEL	LOCATION	SERVICE	TYPE	TANK QUANTITY	PER TANK					ASME PRESSURE RATING	NOTES
							NET-USABLE CAPACITY (TON-HRS)	VOLUME (GAL)	DIAMETER	HEIGHT	WEIGHT		
IT-001	TRANE	1320C	UTILITY YARD	ICE LOOP	ICEBANK	2	162	1655	89"	102"	17000	90	1
IT-002	TRANE	1320C	UTILITY YARD	ICE LOOP	ICEBANK	2	162	1655	89"	102"	17000	90	1
IT-003	TRANE	1320C	UTILITY YARD	ICE LOOP	ICEBANK	2	162	1655	89"	102"	17000	90	1

NOTES:
1. DATA IS SHOWN FOR INDIVIDUAL TANKS. CAN BE MANIFOLDED TOGETHER.

PUMP SCHEDULE

PLAN MARK	MANUFACTURER	MODEL	SYSTEM	TYPE	FLOW (GPM)	HEAD (FT)	PUMP (RPM)	MOTOR POWER (HP)	WEIGHT (LBS)	NOTES
CHP-001	Taco	6009D	CHILLER LOOP	VERTICLE INLINE	600	22	1160	5.00	398	1
CHP-002	Taco	6009D	CHILLER LOOP	VERTICLE INLINE	600	22	1160	5.00	398	1
CHP-003	Taco	5009D	CHILLED WATER BUILDING LOOP	BASE MOUNTED	1051	61	1760	25.01	875	1
CHP-004	Taco	5009D	CHILLED WATER BUILDING LOOP	BASE MOUNTED	1051	61	1760	25.01	875	1

NOTES:
1. PROVIDE FACTORY SKID MOUNTED VFD FOR EACH PUMP.

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MECHANICAL - SCHEDULES

M600

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