



OWNER
 ARLINGTON COUNTY
 DEPARTMENT OF
 ENVIRONMENTAL SERVICES
 WATER POLLUTION CONTROL BUREAU
 3402 S. GLEBE ROAD
 ARLINGTON, VA 22202
 PHONE: 703-228-6820
 WWW.ARLINGTONVA.US

ENGINEER
 CDM Smith Inc.

CONTRACTOR
 TO BE DETERMINED

LOCATION MAP



**CONSTRUCTION DRAWINGS FOR:
 PRELIMINARY TREATMENT UPGRADES (WPB2) - PHASE 9B**

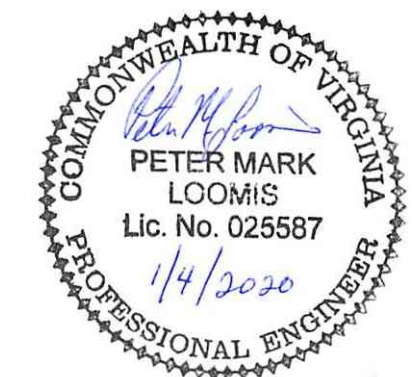
DECEMBER 2020
 Project Number: 21-DES-ITB-477



DEPARTMENT OF
 ENVIRONMENTAL SERVICES
 WATER POLLUTION CONTROL BUREAU
 3402 S. GLEBE ROAD
 ARLINGTON, VA 22202
 PHONE: 703.228.6820

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SEAL



APPROVALS DATE

100% BID SET

Revisions Date

GENERAL NOTES:

GENERAL CONSTRUCTION NOTES

- ALL CONSTRUCTION WORK FOR THIS PROJECT SHALL CONFORM TO THE ARLINGTON COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES, CONSTRUCTION STANDARDS AND SPECIFICATIONS, THE WATER POLLUTION CONTROL BUREAU STANDARDS, AND WHERE APPLICABLE THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) ROAD AND BRIDGE SPECIFICATIONS, AND ROAD AND BRIDGE STANDARDS. THE LATEST EDITIONS OF EACH RELEVANT MANUAL SHALL BE USED.
- ALL CONSTRUCTION AND WORK ACTIVITIES SHALL COMPLY WITH THE VIRGINIA WORK AREA PROTECTION MANUAL AND ALL OTHER RELEVANT WORK SAFETY REQUIREMENTS, LATEST EDITIONS.
- THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARLINGTON COUNTY PROJECT OFFICER OF ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THE APPROVED PLANS.
- THE CONTRACTOR SHALL CONTACT "MISS UTILITY" AT 811 FOR MARKING THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES (i.e. WATER, SEWER, GAS, TELEPHONE, ELECTRIC, AND CABLE TV) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION OR CONSTRUCTION. THE CONTRACTOR IS REQUIRED TO IDENTIFY AND PROTECT ALL OTHER UTILITY LINES FOUND IN THE WORK SITE AREA BELONGING TO OTHER OWNERS THAT ARE NOT MEMBERS OF "MISS UTILITY". PRIVATE WATER, SEWER AND GAS LATERALS WILL NOT BE MARKED BY MISS UTILITY OR THE COUNTY. THE CONTRACTOR SHALL LOCATE AND PROTECT THESE SERVICES DURING CONSTRUCTION.
- THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS ARE FROM BEST AVAILABLE RECORDS AND SHALL BE CONSIDERED TO BE APPROXIMATE. WHEN CONSTRUCTION ACTIVITY REACHES IN PROXIMITY TO EXISTING UTILITIES, THE TRENCH(ES) SHALL BE OPENED A SUFFICIENT DISTANCE AHEAD OF THE WORK OR TEST PITS SHALL BE MADE TO VERIFY THE EXACT LOCATION AND INVERTS OF THE UTILITY TO ALLOW FOR POSSIBLE CHANGES IN THE LINE OR GRADE AS DIRECTED BY THE PROJECT OFFICER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING UTILITIES AND THE RELATED STRUCTURES. ALL EXISTING UTILITY SYSTEMS SHALL BE PROTECTED TO PREVENT DAMAGE DURING THE CONTRACTOR'S OPERATIONS. ANY SYSTEM DAMAGED SHALL BE PROMPTLY REPAIRED AT NO COST TO THE OWNER.
- THE CONTRACTOR SHALL PROVIDE ACCESS THROUGH OR AROUND THE SITE AT ALL TIMES AND SHALL ENSURE THE SAFETY OF ALL THOSE PASSING THROUGH OR ADJACENT TO THE SITE.
- ALL ELEVATIONS ARE BASED ON ARLINGTON COUNTY DATUM (U.S.C & G.S., 1929 MLS).
- CONTRACTOR TO DEVELOP WORK SAFETY PLAN IN ACCORDANCE WITH NFPA AND OSHA LIMITS FOR EXPLOSIVE GASSES, H2S AND ANY OTHER POTENTIAL OSHA IDENTIFIED WORK PLACE HAZARDS.
- COUNTY COMBUSTIBLE GAS DETECTION (CGD) MONITORING EQUIPMENT MUST BE MAINTAINED THROUGHOUT CONSTRUCTION FOR WORK INSIDE CLASS 1 DIVISION 1 AREAS. ANY CONDITION WITHIN 10% OF LEL WILL REQUIRE THE CONTRACTOR TO PROVIDE TEMPORARY VENTILATION SYSTEMS SUCH THAT THE CONDITION NO LONGER EXISTS.
- ANY WELDING OR HOT WORK INSIDE CLASSIFIED AREAS MUST COMPLY WITH NFPA 820 SECTION 10.11.3 AND WPCB CONTRACTOR SAFETY STANDARDS.

STORMWATER AND ENVIRONMENTAL PROTECTION

- THE CONTRACTOR SHALL CONFINE ALL ACTIVITIES AT THE SITE ASSOCIATED WITH CONSTRUCTION ACTIVITIES, TO INCLUDE STORAGE OF EQUIPMENT AND OR MATERIALS, ACCESS TO THE WORK, FORMWORK, ETC. TO WITHIN THE DESIGNATED LIMITS OF DISTURBANCE (LOD).

Project Name and Location

Water Pollution Control Plant
 Preliminary Treatment Upgrades (WPB2)
 Phase 9B
 COVER

Designed: A. LUTHRA
 Drawn: J. SOSA
 Checked: E. SPARGIMINO
 Miss Utility Transmittal #:

Filename: GSC00000.dwg
 Path: C:\pw_p11\johnsonec\1254956
 Plotted: December 16, 2020
 Plotted by: Johnsonec

Scale: AS NOTED



10560 Arrowhead Drive, Suite 500
 FAIRFAX, VA 22030

Sht. 1 of 97

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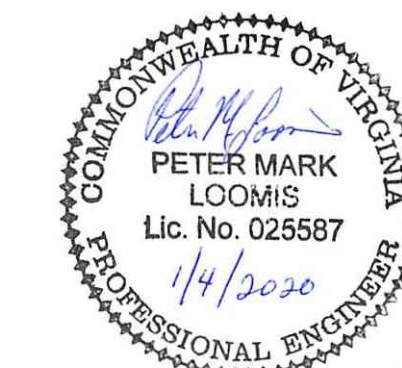
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DEPARTMENT OF ENVIRONMENTAL SERVICES
WATER POLLUTION CONTROL BUREAU
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SEAL



APPROVALS DATE

100% BID SET

Revisions Date

Revisions	Date

Project Name and Location

Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
DRAWING INDEX

Designed: A. LUTHRA
Drawn: J. SOSA
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

Filename: G002NFX.dwg
Path: C:\pw_pt1\sosajj\1254956
Plotted: December 31, 2020
Plotted by: SosaJJ

Scale: AS NOTED



10560 Arrowhead Drive, Suite 500
FAIRFAX, VA 22030

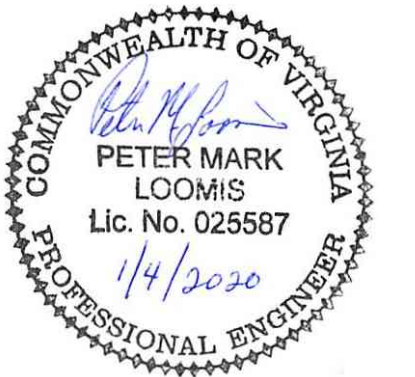
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APPROVALS _____ DATE _____

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Revisions _____ Date _____

Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PROCESS FLOW DIAGRAM AND DESIGN CRITERIA

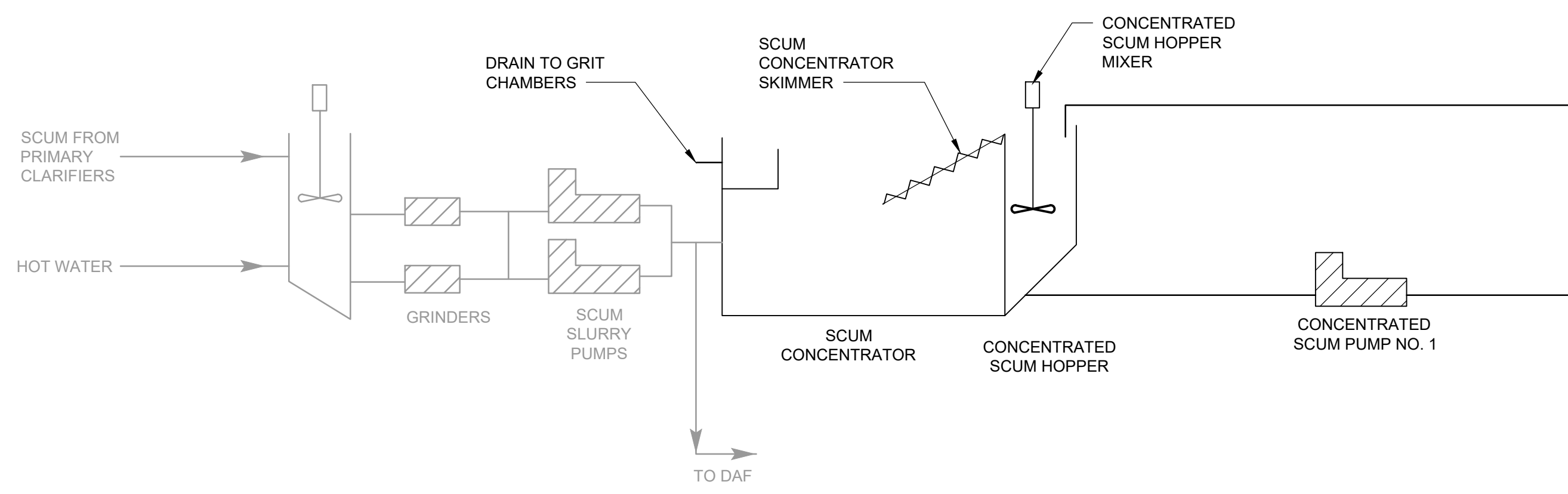
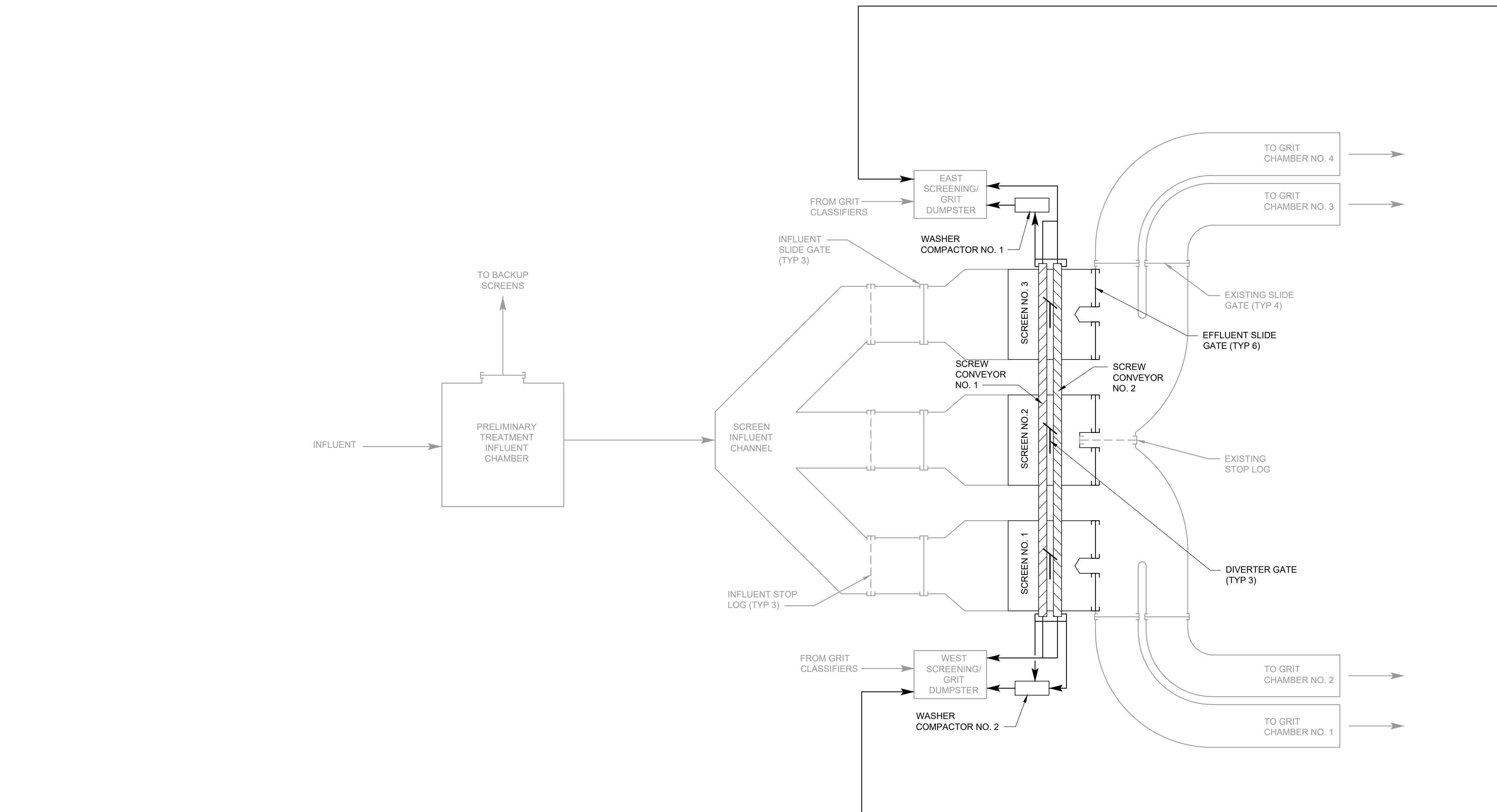
Designed: A. LUTHRA
Drawn: J. SOSA
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

Filename: G003FLDI.dwg
Path: C:\pw_p11\johnson\cd1254956
Plotted: December 16, 2020
Plotted by: Johnsonec

Scale: AS NOTED



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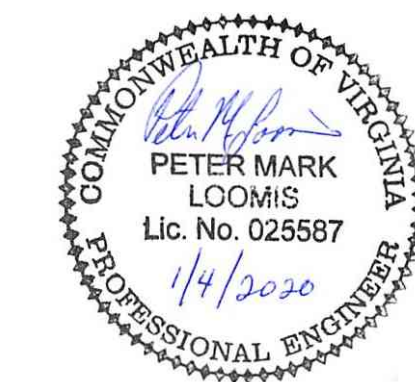
DESIGN CRITERIA	
DESIGN YEAR INFLUENT FLOWS (PHASE II B)	
AVERAGE DAILY	40 MGD
PEAK HOURLY	88 MGD
MAX-NONSURCHARGED	127 MGD
2016-2018 INFLUENT FLOWS	
AVERAGE DAILY	26 MGD
MAX DAILY	57 MGD
PEAK INSTANTANEOUS	124 MGD

PRELIMINARY TREATMENT	
INFLUENT SCREENING	
TYPE	BAR SCREEN
NUMBER OF UNITS	3 (2 DUTY)
SPACING	0.5 IN
UNIT CAPACITY	50 MGD
ESTIMATED AVERAGE SCREENINGS PRODUCTION	260 CU FT/DAY
ESTIMATED MAXIMUM SCREENINGS PRODUCTION	970 CU FT/DAY

NOTE: FOR EQUIPMENT SIZING CRITERIA, REFER TO SPECIFICATION.

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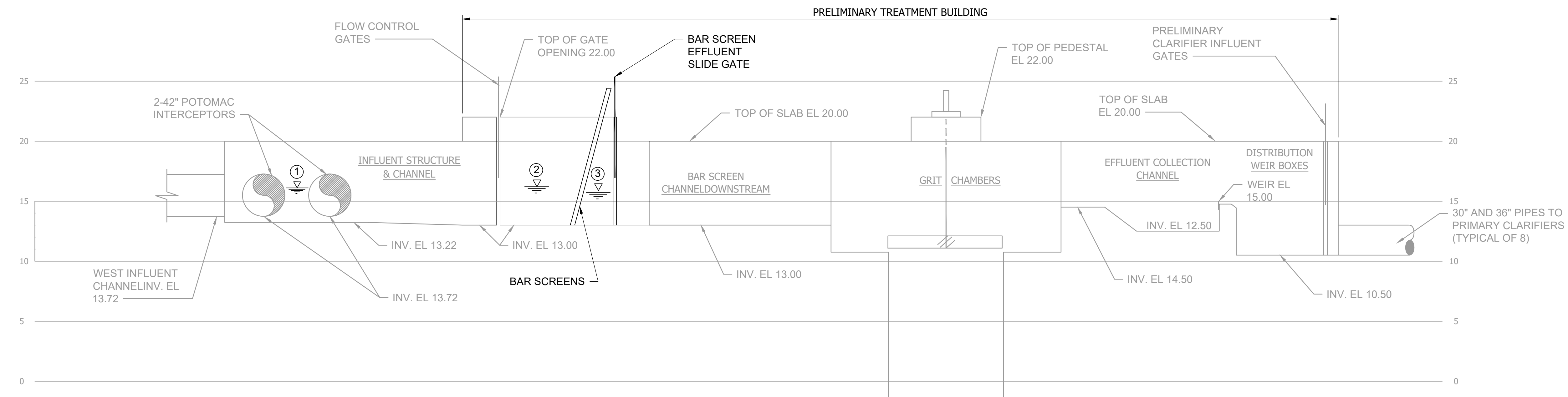
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100% BID SET

Revisions	Date



WATER SURFACE ELEVATION TABLE

WATER SURFACE CONDITION	LOCATION ID NUMBER		
	1	2	3
AVERAGE DAILY FLOW Q=40 MGD 2 BAR SCREENS ONLINE	EL. 16.09	EL. 16.20	EL. 15.89
PEAK HOURLY FLOW Q=88 MGD 2 BAR SCREENS ONLINE	EL. 17.17	EL. 16.99	EL. 16.63

- NOTES:**
1. WATER LEVELS SHOWN IN THE PROFILE ARE FOR AVERAGE DAILY DESIGN FLOWS (Q=40 MGD). SEE WATER SURFACE ELEVATION TABLE FOR OTHER FLOW CONDITIONS.
 2. HYDRAULIC PROFILE ASSUMES 25% BAR SCREEN BLINDING FOR ALL CONDITIONS.

Project Name and Location

Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B

HYDRAULIC PROFILE

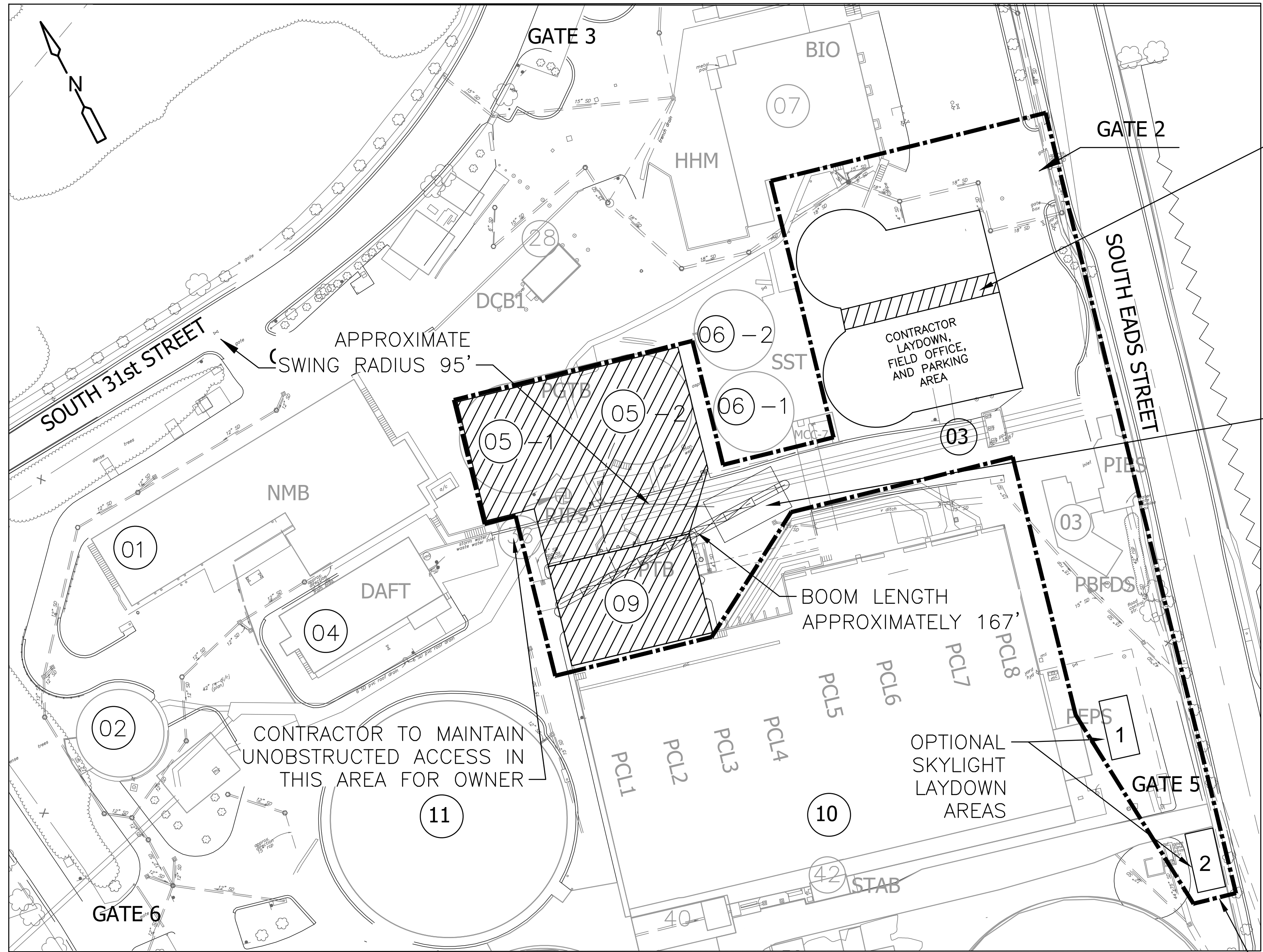
Designed: A. LUTHRA
Drawn: J. SOSA
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

Filename: G004HYD1.dwg
Path: C:\pw_pl1\johnson\el1254956
Plotted: December 16, 2020
Plotted by: Johnsonec

Scale: AS NOTED



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CONTRACTOR TO MAINTAIN UNOBSTRUCTED ACCESS TO BUILDING FOR OWNER

POTENTIAL CRANE LOCATION (50'x30') SEE NOTE 1

BOOM LENGTH APPROXIMATELY 167'

CONTRACTOR TO MAINTAIN UNOBSTRUCTED ACCESS IN THIS AREA FOR OWNER

LIMIT OF DISTURBANCE

FACILITY INDEX:

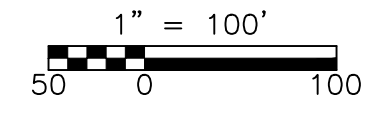
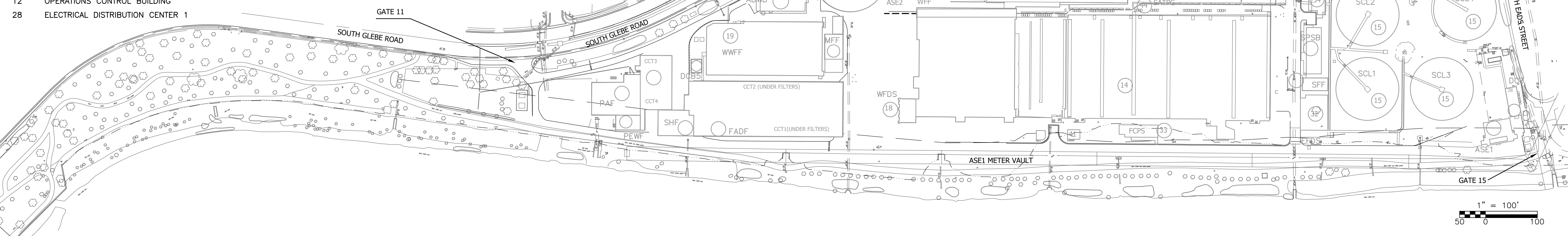
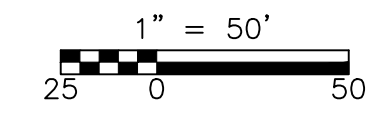
- 01 NEW MAINTENANCE BUILDING - NMB
- 02 FOUR MILE RUN LIFT STATION - FMRLS
- 03 PTB BYPASS FLOW DISTRIBUTION STRUCTURE - PBFDS
- 04 DISSOLVED AIR FLOTATION THICKENER BUILDING - DAFT
- 05 PRIMARY GRAVITY THICKENER BUILDING - PGTB
- 06 SLUDGE STORAGE TANKS - SST
- 07 BIOLOGICAL SOLIDS PROCESSING BUILDING - BIO
- 08 HOUSEHOLD HAZARDOUS MATERIAL DROP OFF - HHM
- 09 DEWATERING BUILDING - DWB
- 10 PRELIMINARY TREATMENT BUILDING - PTB
- 11 PRIMARY CLARIFIERS - PCL1 thru PCL8
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- 28 OPERATIONS CONTROL BUILDING
- 28 ELECTRICAL DISTRIBUTION CENTER 1

LEGEND:

- WORK AREA
- LIMITS OF DISTURBANCE

NOTE:

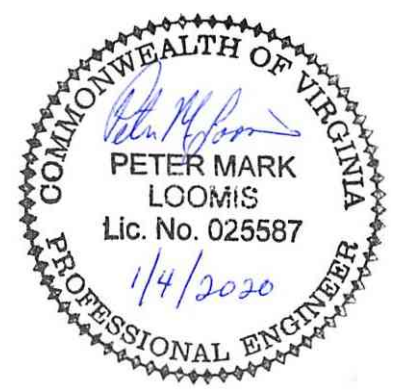
CRANE USE MUST BE COORDINATED WITH OWNER ONE WEEK IN ADVANCE. CRANE CAN REMAIN IN PLACE FOR UP TO 72 HOURS BEFORE HAVING TO BE RELOCATED OFF-SITE OR TO THE STAGING AREA. EVERY EFFORT MUST BE TAKEN TO MAXIMIZE OWNER ACCESS TO PTB FOR HAUL BIN REMOVAL AND GENERAL OPERATIONS.



DEPARTMENT OF ENVIRONMENTAL SERVICES
WATER POLLUTION CONTROL BUREAU
3402 S. GLEBE ROAD
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SEAL



APPROVALS DATE

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Revisions Date

Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
OVERVIEW PLAN

Designed: A. LUTHRA
Drawn: J. SOSA
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

Filename: C001STPL.dwg
Path: C:\pwworking\cdm\johnson\41254972
Plotted: December 16, 2020
Plotted by: Johnson

Scale: AS NOTED



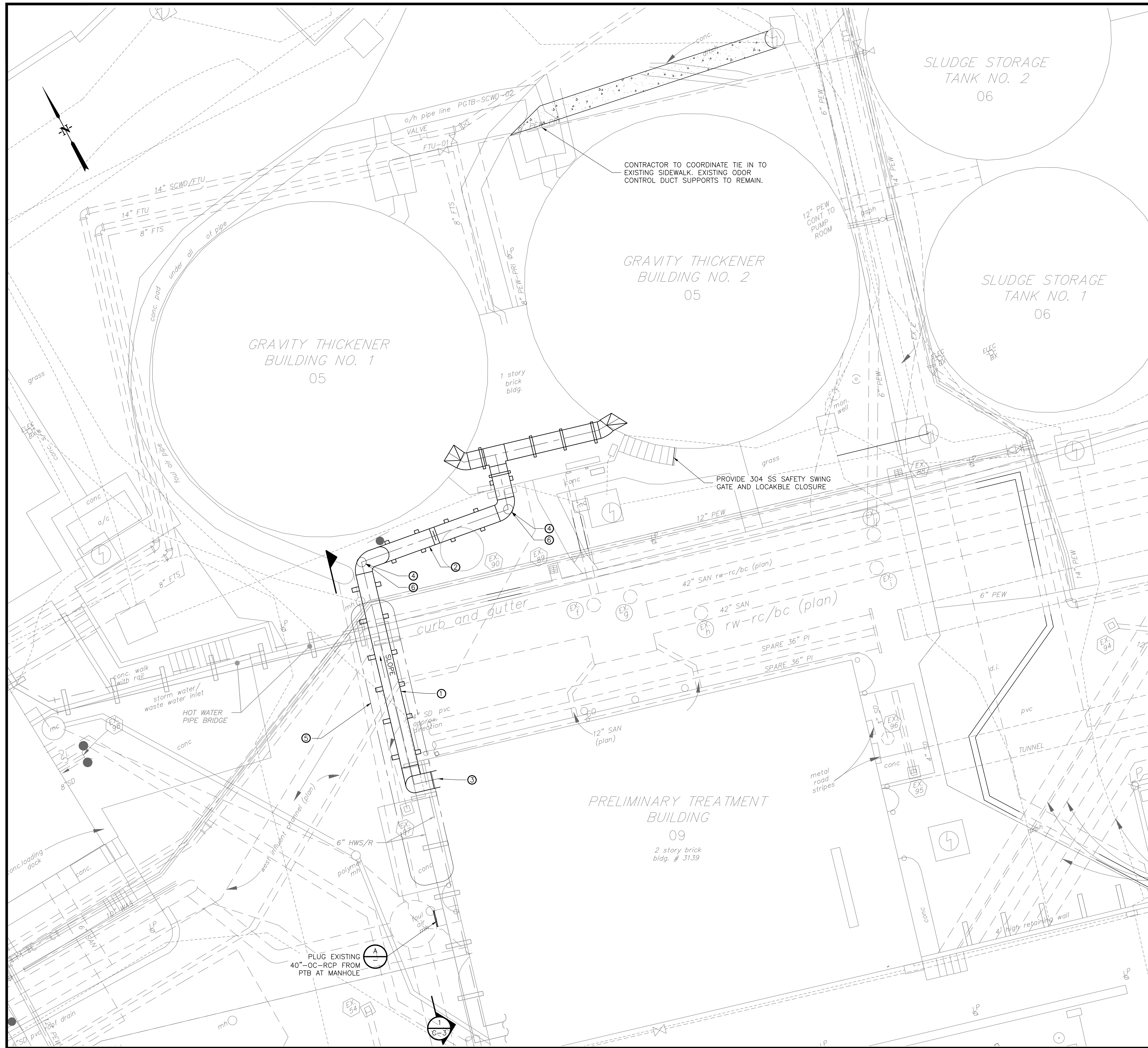
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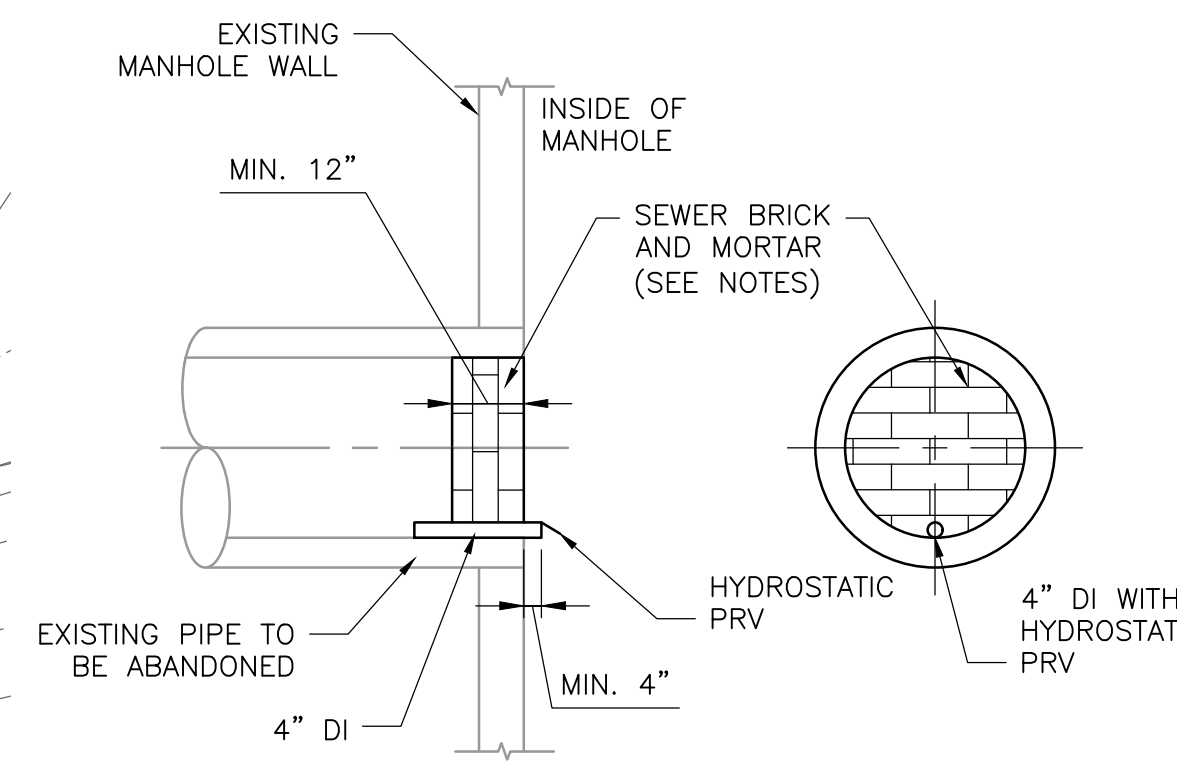
PRELIMINARY TREATMENT UPGRADES

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KEYED NOTES:

- ① 44" FRP DUCTWORK MOUNTED ON STRUCTURAL BRIDGE. PROVIDE 1/8" PER FOOT SLOPE.
- ② 44" FRP DUCTWORK SEE SHEET H-10 FOR ENLARGED PLAN AT GRAVITY THICKENERS.
- ③ 44" FRP DUCTWORK SEE SHEET H-9 FOR CONTINUATION.
- ④ STRUCTURAL SUPPORT COLUMN
- ⑤ NEW BRIDGE AND PIPING SHALL BE PROVIDED AND COORDINATED WITH EXISTING BRIDGE. REFER TO STRUCTURAL DRAWINGS AND HVAC DRAWINGS FOR ADDITIONAL DETAILS.
- ⑥ CONTRACTOR TO COORDINATE ODOR CONTROL DUCT PILE LOCATION WITH EXISTING UTILITIES AND UNDERGROUND DUCTWORK.



PIPE PLUG AT MANHOLE

DETAIL A
NTS

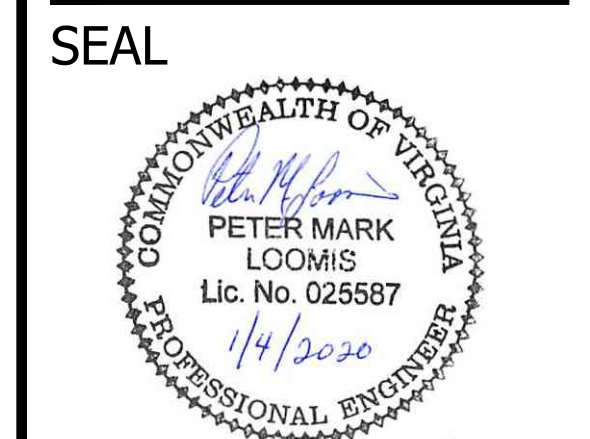
DETAIL A NOTES:

- 1. ALL WORK SHALL CONFORM WITH OSHA STANDARDS.
- 2. BRICK SHALL BE SOUND, HARD, UNIFORMLY BURNED, REGULAR AND UNIFORM IN SHAPE AND SIZE. UNDERBURNED OR SALMON BRICK SHALL NOT BE ACCEPTABLE. ONLY WHOLE BRICK SHALL BE USED.
- 3. BRICK FOR PIPE PLUG SHALL CONFORM TO ASTM C32, GRADE SS EXCEPT THAT THE MEAN OF FIVE TESTS FOR ABSORPTION SHALL NOT EXCEED 8 PERCENT AND NO INDIVIDUAL BRICK EXCEED 11 PERCENT.
- 4. MORTAR SHALL BE COMPOSED OF 1 PART PORTLAND CEMENT, 2 PARTS SAND, AND HYDRATED LIME NOT TO EXCEED 10-LBS TO EACH BAG OF CEMENT. PORTLAND CEMENT SHALL BE ASTM C150, TYPE II; HYDRATED LIME SHALL CONFORM TO ASTM C207. SAND SHALL BE WASHED, CLEANED, SCREENED, WELL GRADED WITH ALL PARTICLES PASSING A NO. 4 SIEVE AND CONFORM TO ASTM C33.
- 5. MIX MORTAR ONLY IN SUCH QUANTITY AS MAY BE REQUIRED FOR IMMEDIATE USE. USE MORTAR BEFORE INITIAL SET HAS TAKEN PLACE. MORTAR SHALL BE USED WITHIN 1-1/2 HOURS AND SHALL BE CONSTANTLY WORKED WITH HOE OR SHOVEL UNTIL USED. ANTI-FREEZE MIXTURES SHALL NOT BE INCLUDED IN THE MORTAR. INSTALL MASONRY WHEN THE OUTSIDE TEMPERATURE IS ABOVE 40 DEGREES F UNLESS PROVISIONS ARE MADE TO PROTECT THE MORTAR, BRICKS AND FINISHED WORK FROM FROST BY HEATING AND ENCLOSING THE WORK WITH TARPULINS OR OTHER SUITABLE MATERIAL.
- 6. CONSTRUCT PLUG OF BRICK AND MORTAR AS SHOWN IN DETAIL. PERIMETER OF BRICK PLUG SHALL CORRESPOND IN SHAPE WITH THE PIPE. CONSTRUCT BRICK SURFACES EXPOSED TO FLOW PATH WITH NOMINAL 2-IN BY 8-IN FACE EXPOSED.



DEPARTMENT OF ENVIRONMENTAL SERVICES
WATER POLLUTION CONTROL BUREAU
3402 S. GLEBE ROAD
ARLINGTON, VA 22202
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APPROVALS DATE

100% BID SET

Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PARTIAL PIPING PLAN

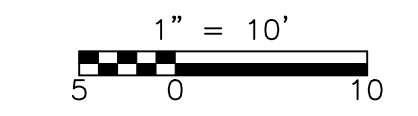
Designed: A. LUTHRA
Drawn: J. SOSA
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

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Plotted: December 23, 2020
Plotted by: Johnsonec

Scale: AS NOTED

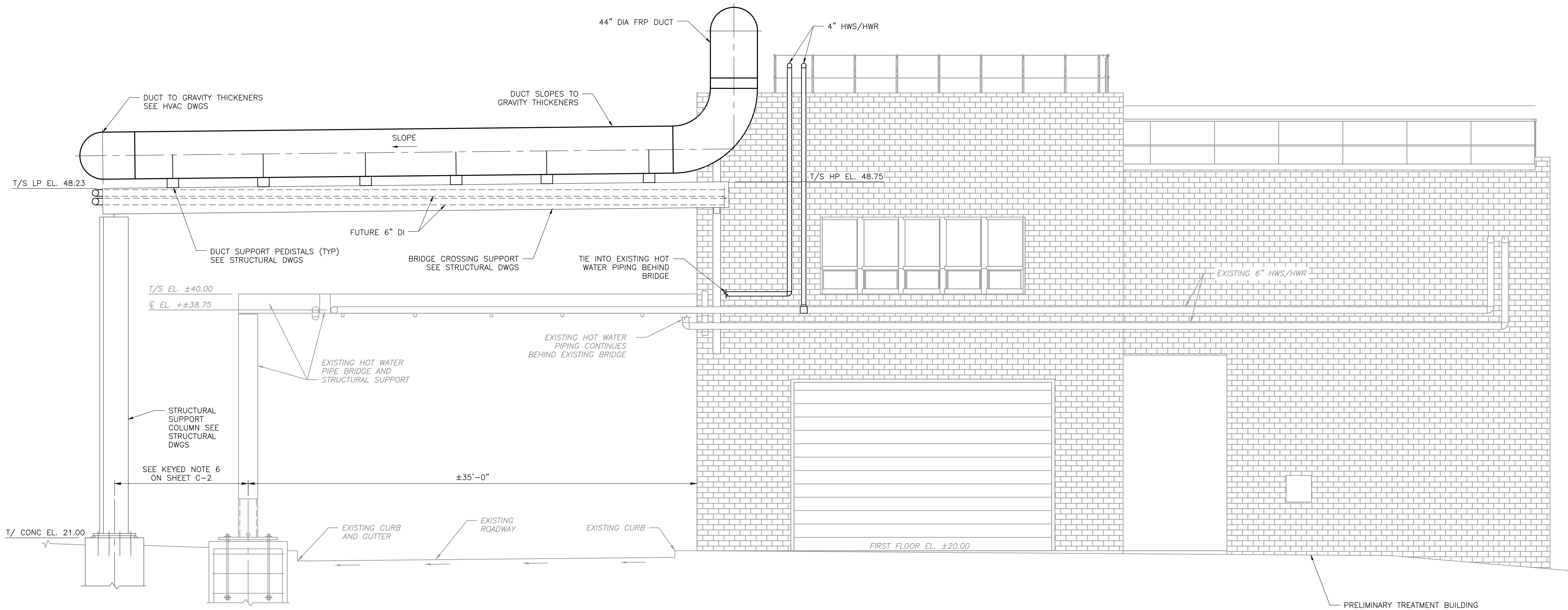


Sht. 6 of 97
C-2

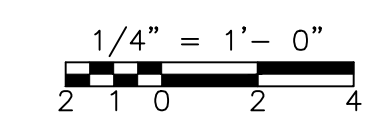


PRELIMINARY TREATMENT UPGRADES

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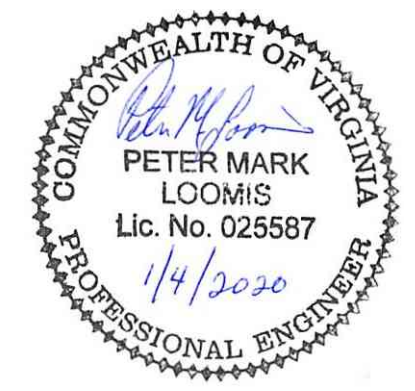
ODOR CONTROL DUCT BRIDGE
SECTION 1
1/4" = 1'-0" C-2



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APPROVALS DATE

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Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
ODOR CONTROL DUCT BRIDGE SECTION

Designed: A. LUTHRA
Drawn: M. RUSH
Checked: E. SPARGIMINO
Miss Utility Transmittal #:
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Path: C:\pw_pl1\johnson\c\1254972
Plotted: December 18, 2020
Plotted by: Johnsonec
Scale: AS NOTED

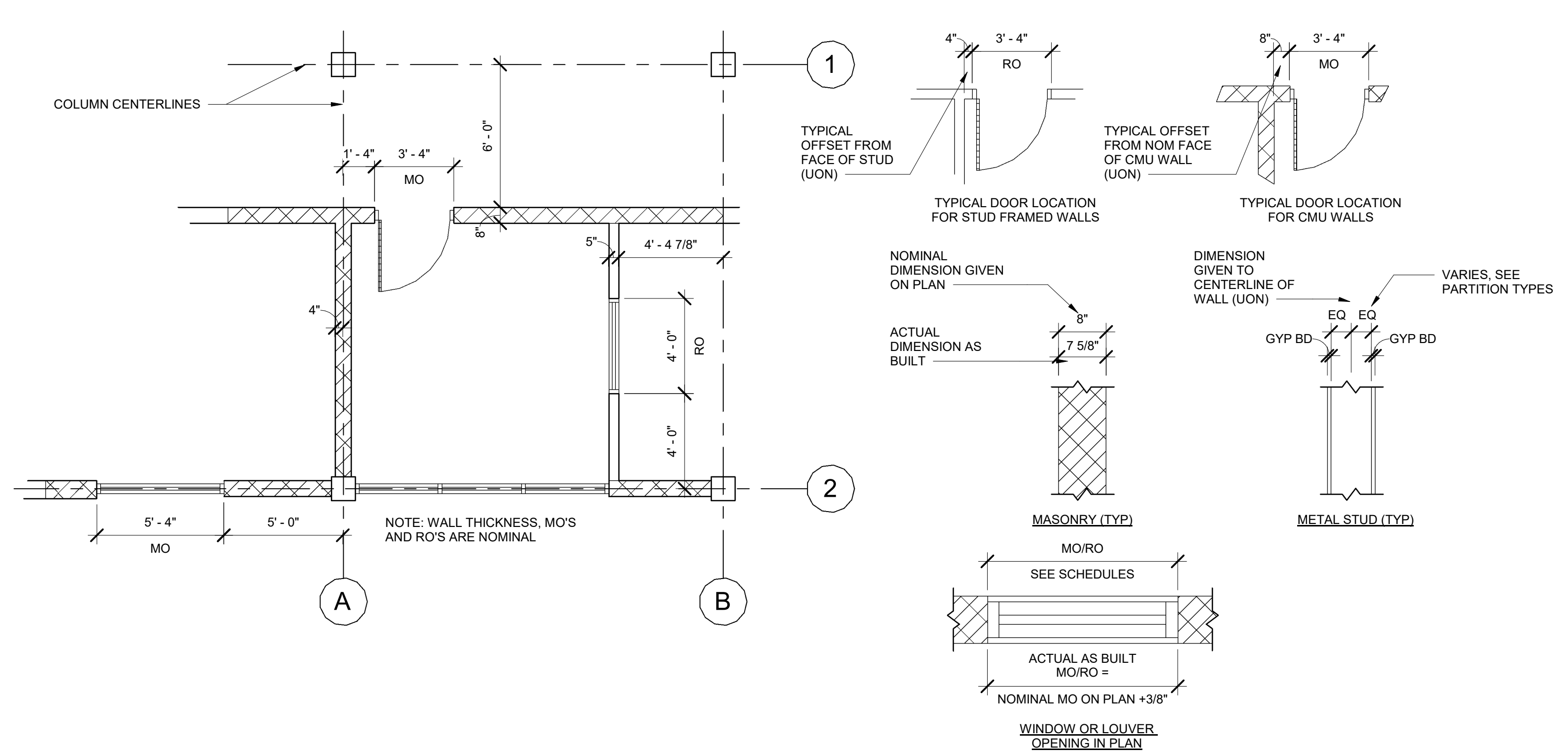


Sht. 7 of 97
C-3

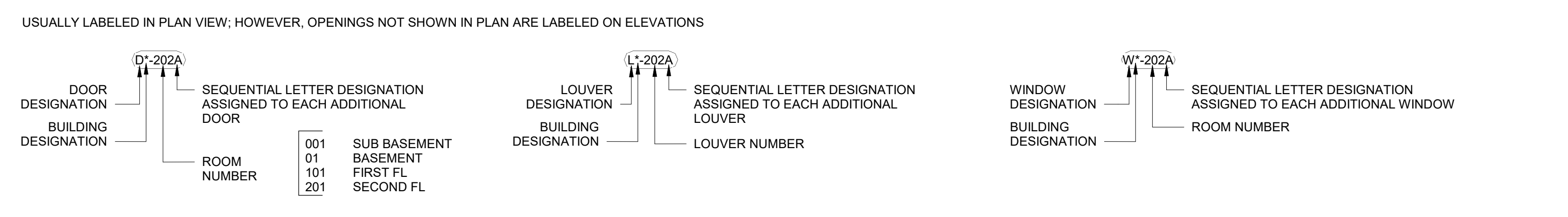
ABBREVIATIONS

&	AND	GB	GLASS BLOCK	REF	ROOF EXHAUST FAN
@	ANGLE	GRT	GRATING	REINF	REINFORCE (D, ING)
AB	ANCHOR BOLT	GYP	GYPSON	REQ'D	REQUIRED
ABV	ABOVE	GWB	GYPSON WALL BOARD	REV	REVISED
ACMU	ACOUSTICAL CONCRETE MASONRY UNIT	HD	HARDENER	RF	ROOF FAN
AF	ABOVE FINISHED FLOOR	HDW	HEAVY DUTY HARDWOOD	RFNG	ROOFING
AFG	ABOVE FINISHED GRADE	HDWR	HARDWARE	RGH	ROUGH
AL, ALUM	ALUMINUM	HGR	HANGER	RJ	REVEAL/RUSTICATION JOINT
AMP	ACOUSTICAL METAL PANELS	HGT	HEIGHT	RL	RAILING
ANOD	ANODIZED	HM	HOLLOW METAL	RM	ROOM
ASSY	ASSEMBLY	HOR	HORIZONTAL	RO	ROUGH OPENING
BBT	BIODEGRADABLE TILE	HP	HIGH POINT	RT	RUBBER TILE
BD	BOARD	HR	HANDRAIL	RWL	RAIN WATER LEADER
BEV	BEVEL(ED)	IN	INCH	S	STEEL S-SHAPED DESIGNATION
BLDG	BUILDING	INST	INSTRUMENTATION	SAT	SUSPENDED ACOUSTICAL TILE
BLK	BLOCK	INSUL	INSULATION	SB	SEAMLESS BASE
BLKG	BLOCKING	JC	JANITOR'S CLOSET	SCHD	SCHEDULE
BRG	BEARING	JT	JOINT	SCRN	SCREEN(ED, ING)
BRK	BRICK	JT FLR	JOINT FILLER	SECT	SECTION
BRS	BRASS	L	LINE OF STRUCTURAL ANGLE DESIGNATION	SF	SEAMLESS FLOORING
BRZ	BRONZE	LAB	LABORATORY	SIGFT	STRUCTURAL GLAZED FACING TILE
BTM	BOTTOM	LAD	LADDER	SHT	SHEET
C TO C	CENTER TO CENTER	LAM	LAMINATED	SIM	SIMILAR
CAB	CABINET	LAV	LAVATORY	SK	SINK
CEM	CEMENT	LG	LAMINATED GLASS	SL	SLOPE
CF	COMPRESSIBLE FILLER	LINO	LINOLEUM	SLNT	SEALANT
CGFB	CEMENTITIOUS GLASS FIBER BOARD	LKR	LOCKER	SPEC	SPECIFICATION, SPECIFIED
CH	CONCRETE HARDENER	LNTL	LINTEL	SST	STAINLESS STEEL
CHAM	CHAMFER	LP	LOW POINT	STD	STANDARD
CHAN	CHANNEL	LT	LIGHT(S)	STL	STEEL
CIP	CAST IN PLACE	MATL	MASONRY	STR	STRUCTURE(S, URAL)
CJ	CONTROL JOINT	MATL	MATERIAL	STRU	STRUCTURE
CL	CENTERLINE	MAX	MAXIMUM	STWY	STAIRWAY
CLG	CEILING	MEMB	MEMBRANE	SUPT	SUPERINTENDENT
CLKG	CAULKING	MFR	MANUFACTURER	SUSP	SUSPENDED
CMU	CONCRETE MASONRY UNIT	MIN	MINIMUM	T	TREAD(S)
COL	COLUMN	MISC	MISCELLANEOUS	TBM	TRAFFIC BEARING MEMBRANE
COMP	COMPRESSIBLE	MO	MASONRY OPENING	T&G	TONGUE AND GROOVE
CONC	CONCRETE	MR	MOISTURE RESISTANT	TEMP	TEMPERATURE
CONT	CONTINUOUS	MRAT	MOISTURE RESISTANT ACOUSTICAL TILE	TEMP	TEMPERED
CRPT	CARPET, CARPET TILE	MTD	MOUNTED	TEMP	TEMPORARY
CRS	COURSE(S)	MTG	MOUNTING	TER	TERRAZZO
CT	CERAMIC TILE	MTL	METAL	TERB	TERRAZZO BASE
CET	DETAIL	NIC	NOT IN CONTRACT	THK	THICK(NESS)
DF	DRINKING FOUNTAIN	NOM	MONINAL	THR	THRESHOLD
DIA	DIAMETER	NTS	NOT TO SCALE	TKBD	TACKBOARD
DIAG	DIAGONAL	OC	ON CENTER	TGB	TOP OF BRICK
DIM	DIMENSION	OH	OVERHANG	TOC	TOP OF CONCRETE
DISP	DISPENSER	OPNG	OPENING	TOIL	TOILET
DN	DOWN	OPP HD	OPPOSITE HAND	TOM	TOP OF MASONRY
DP	DAMP PROOFING	ORD	OVERFLOW ROOF DRAIN	TOPG	TOPPING
DR	DRAIN	OSB	ORIENTED STRAND BOARD	TOS	TOP OF STEEL
DWG	DRAWING(S)	OV	OVER	TS	STRUCTURAL TUBING (STEEL UNLESS NOTED)
ELEC	ELECTRICAL	OVHD	OVERHEAD	TSL	TOP OF SLAB
ELEV	ELEVATION	PERIM	PERIMETER	TWF	THROUGH WALL FLASHING
EQ	EQUAL(LY)	PL	PLATE	TYP	TYPICAL
EQPT	EQUIPMENT	PL	PROPERTY LINE	UC	UNDERCUT
EWC	ELECTRICAL WATER COOLER	PLAS	PLASTER	UON	UNLESS OTHERWISE NOTED
EXP	EXPOSED	PLK	PLANK	UR	URINAL
EJ	EXPANSION JOINT	PLYWD	PLYWOOD	VB	VAPOR BARRIER
EXIST. (E)	EXISTING	PM	PRESSED METAL	VCT	VINYL COMPOSITE TILE
FD	FLOOR DRAIN	PR	PAIR	VERT	VERTICAL
FE	FIRE EXTINGUISHER	PRD	PROMENADE ROOF DRAIN	VEST	VESTIBULE
FF	FACTORY FINISH	PRCST	PRECAST	VIF	VERIFY IN FIELD
FGL	FIBERGLASS	PREFAB	PRE-FABRICATED	VTR	VENT THRU ROOF
FIN	FINISH(ED)	PT	PRESSURE TREATED	W	WITH
FLG	FLASHING	PRMLD	PREMULDED	WI	WHERE APPLICABLE
FL	FLOORING(S)	PSF	POUNDS PER SQUARE FOOT	W/O	WITHOUT
FLR	FLOOR	PTD	PAINTED	WC	WATER CLOSET
FR	FRAME	QT	QUARRY TILE	WD	WOOD
FRP	FIBERGLASS REINFORCED PLASTIC	QTB	QUARRY TILE BASE	WDW	WINDOW
FRM	FRAME OPENING	R	RISER(S)	WF	WIDE FLANGE
FV	FIELD VERIFY	R+S	BACKER ROD & SEALANT	WPG	WATERPROOFING
FXD	FIXED	RB	RUBBER BASE	WT	STEEL TEE-SHAPE DESIGNATION
GA	GAGE, GAUGE	RD	ROOF DRAIN	WWF	WELDED WIRE FABRIC
GALV	GALVANIZED	RECT	RECEPTACLE		
GL	GLASS				

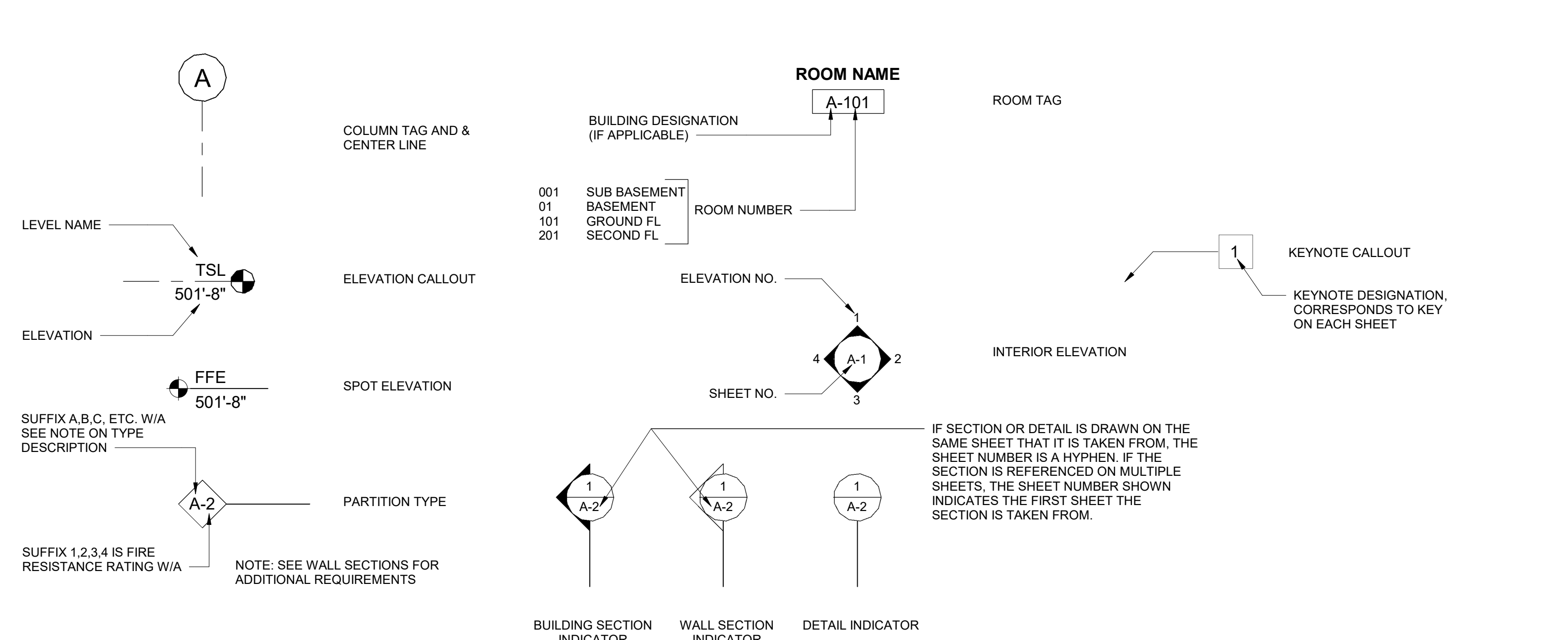
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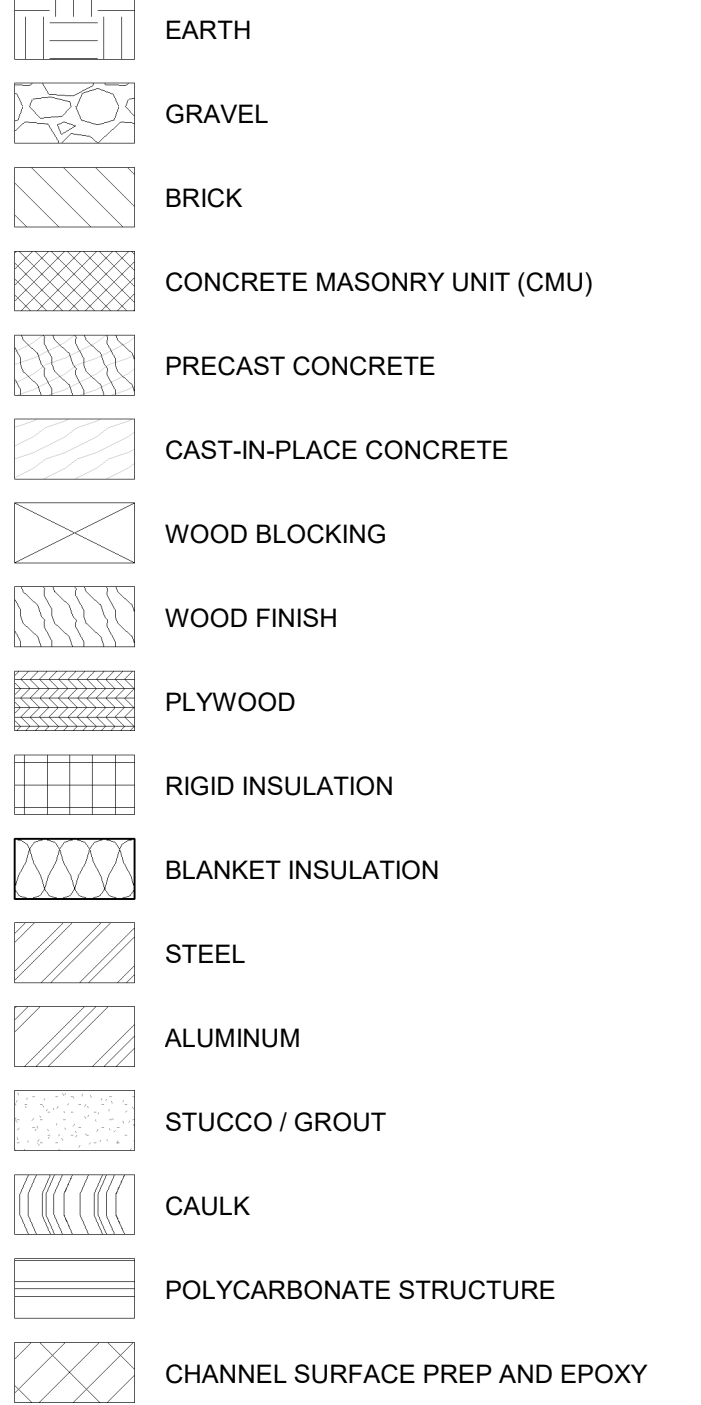
OPENINGS



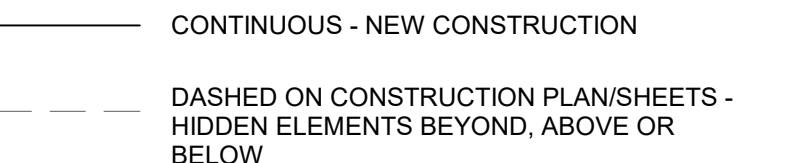
SYMBOLS



MATERIAL SYMBOLS



LINE TYPES



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APPROVALS DATE

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Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
ARCHITECTURAL ABBREVIATIONS AND SYMBOLS

Designed: S. BRADFORD
Drawn: R. MARSHALL
Checked: E. SPARGIMINO

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Path: R:\d1295020\AEZ000PT.rvt
Plotted: DECEMBER 18, 2020
Plotted by: R. MARSHALL

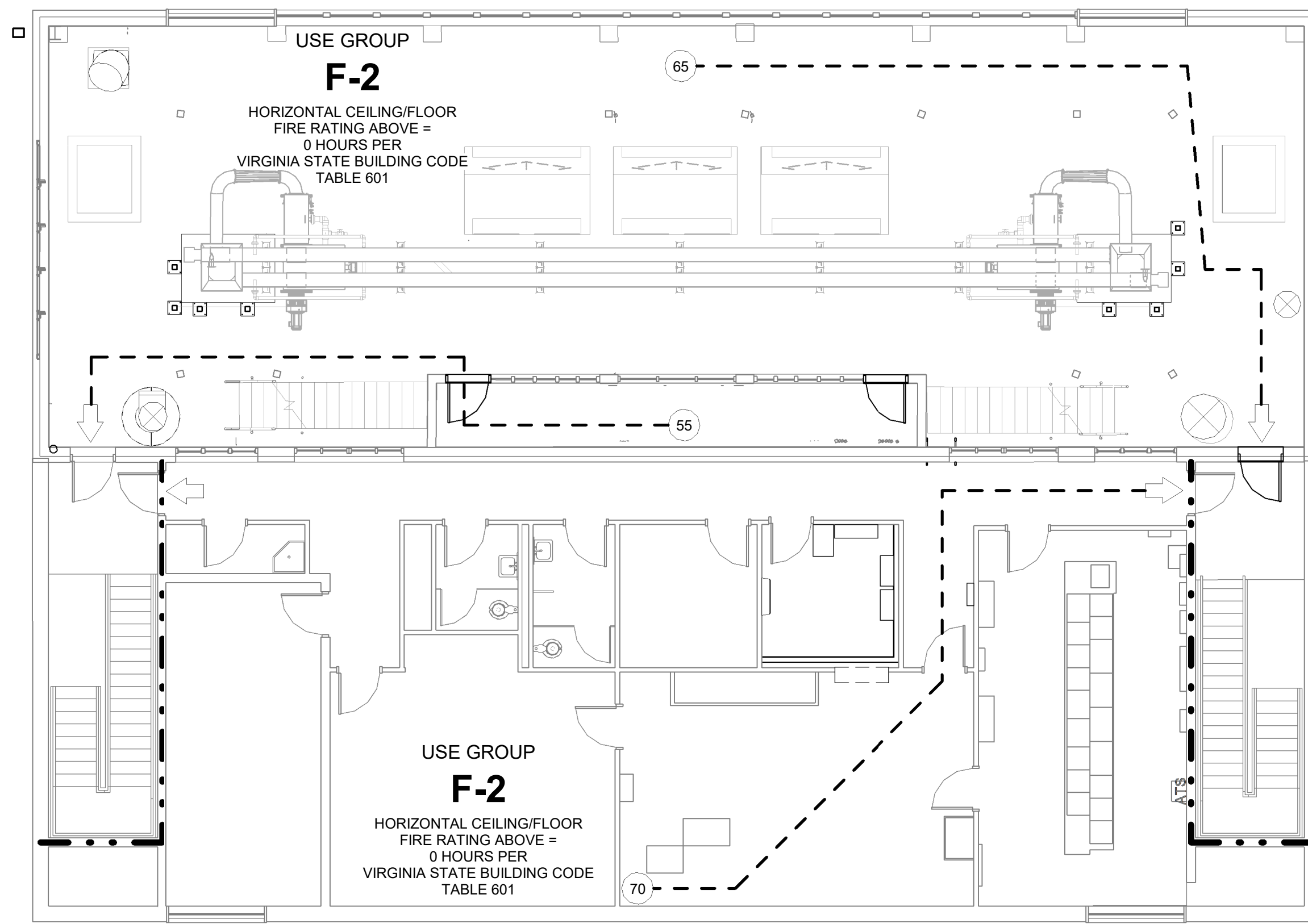
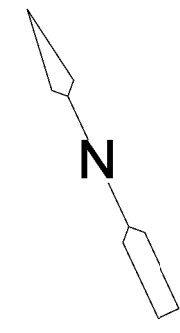
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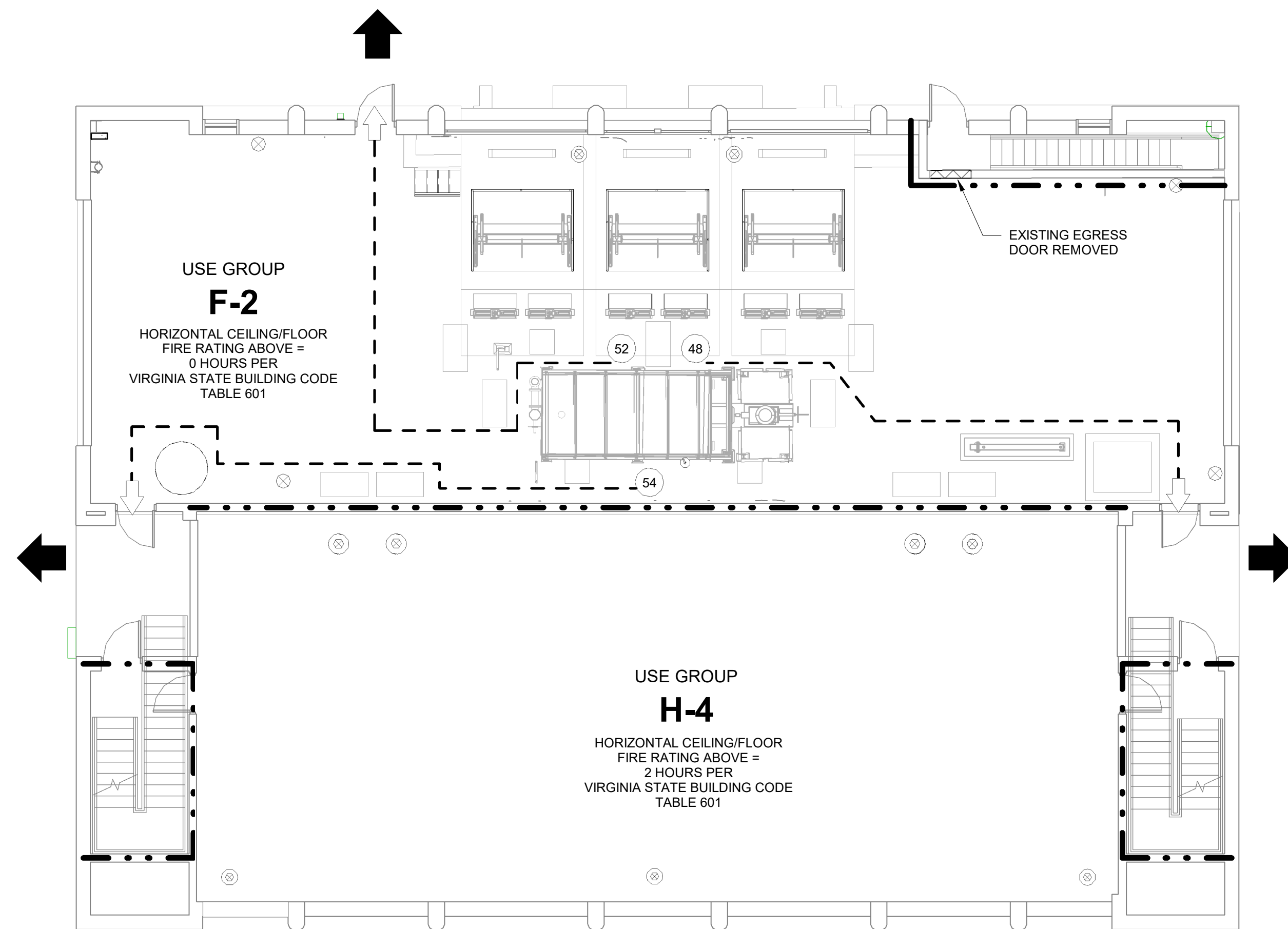
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LIFE SAFETY SECOND FLOOR PLAN
1/8" = 1'-0"



LIFE SAFETY FIRST FLOOR PLAN
1/8" = 1'-0"

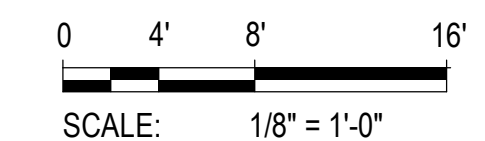
Building Code Summary			
Owner:	Arlington County Department of Environmental Services (DES), Water Pollution Control Bureau 3402 S Glebe Road, Arlington, VA 22202	Date:	12/18/2020
Project Name:	Preliminary Treatment Upgrades (WPB2) Phase 9B	Location:	3139 S. Fern St. Arlington, VA 22202
		Architect of Record:	Steven J Bradford (Lic. No. 012635)
Project Description:	Equipment Replacement		
	Upgrades will include replacement of three automatic bar screens, two shaftless screw conveyors, two washer/compactors, one scum concentration system, six effluent slide gates, three influent slide gate motor actuators, improvements to the panel room. Demolition, HVAC, Electrical, Odor Control and Instrumentation and Controls; minor roof repairs; combustible gas detection systems; restoration and installations of flooring and wall finishes, elimination of one door; modifications to an existing room to permit installation of control equipment; and patching materials and substrates associated with the wastewater treatment equipment.		
Applicable Ordinances, Codes, and Standards			
	Base Code	Local	
Building Code	IEBC 2015	2015 Virginia Existing Building Code	
Fire Code	IFC 2015	2015 Virginia Statewide Fire Prevention Code	
2015 Virginia Existing Building Code			
202 Definitions	Work is an Alteration		
302.2 New and Replacement Materials	All alteration materials comply with materials or new construction requirements and do not create hazards to life, health or property.		
Section 307 Reroofing and Roof Repair			
Chapter 4 - Accessibility			
Section 404 - Alterations	The existing facility does not require accessibility under ADAAG and the alterations do not require additional accessibility under Chapter 11 of VCC.		
Chapter 6 - Alterations			
601.2.2 Level 2	Level 2 applies since a door is eliminated.		
602 - Level 1 Alterations	602.3 Building elements and materials	Interior finishes, floor finishes, materials and methods when installed new comply with the requirements of Chapter 8 of the VCC.	
603 - Level 2 Alterations	603.4.1 Vertical openings	Existing vertical openings within the Work Areas comply with requirements.	
603.5 Fire protection	603.5.2 Automatic sprinkler system	The Preliminary Treatment Building is a fully sprinklered building with a wet-pipe sprinkler system. A 6-inch service supplies a building riser located in the basement level pump room. A 6-inch backflow preventer is provided at the riser. The wet system riser consists of a supervised control valve, a flow switch, and a test and drain valve. A 4-inch floor control valve assembly is provided at each floor to serve each wet sprinkler zone. The floor control valve assemblies consist of a supervised control valve, a check valve, a flow switch, and a test and drain valve. Sprinkler valve tamper switches and flow switch devices are connected to the building fire alarm system. A Simplex Grinnell #4002 fire alarm system is provided for the building. MCC Room 206 is not protected with sprinklers. Smoke detectors are provided at the ceiling. Room enclosure walls are 4-inch gypsum wallboard wall assemblies. Walls are indicated as 1-hour fire rated on the original record drawings. Door assemblies are hollow metal doors installed within steel frames with a 20-minute fire rating. Penetrations through walls were observed to be generally firestopped, however, it was observed many penetrations were not sealed and multiple openings were in need of repair.	
603.6 Means of Egress	603.6.2 Number of exits 603.6.3 Egress doorways	The blocking of the door at the ground level does not diminish the required number of exits; does not reduce the egress doors to less than 2 that are required, and meets the occupant load and travel distance requirements of new construction. The elimination of this door is made to comply with the requirements of "NFPA 820 - Standard for Fire Protection in Wastewater Treatment and Collection Facilities."	

LIFE SAFETY LEGEND

- 2 HOUR FIRE RATING
- ➡ EXIT DISCHARGE
- ➡ AREA OR SPACE EXIT
- ⊙ EXIT SIGN
- FE FIRE EXTINGUISHER
- - - EGRESS PATH
- ⊗ TRAVEL DISTANCE (FEET)

GENERAL NOTES:

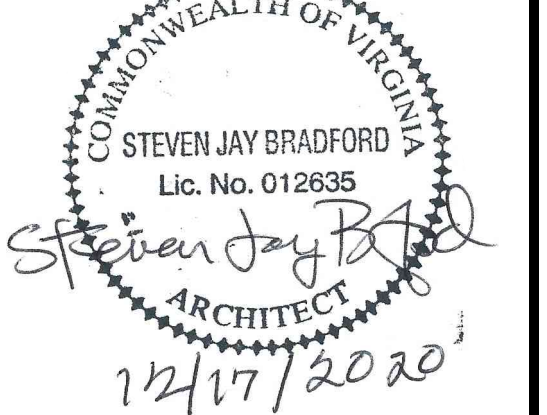
- REFER TO SPECIFICATION 078413 "PENETRATION FIRESTOPPING" FOR FIRESTOPPING SYSTEMS.
- PROVIDE FIRESTOPPING ACCORDING TO THE SCHEDULE WHEN NEW PENETRATIONS ARE INSTALLED AT FIRE RATED PARTITIONS INDICATED ON LIFE SAFETY PLANS SHEET OR BETWEEN FLOORS.



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APPROVALS DATE

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Revisions Date

Revisions	Date

Project Name and Location

Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2) Phase 9B
PRELIMINARY TREATMENT BUILDING LIFE SAFETY PLANS

Designed: S. BRADFORD
Drawn: R. MARSHALL
Checked: E. SPARGIMINO

Filename: AEZ000PT.rvt
Path: R:\d1295020\AEZ000PT.rvt
Plotted: DECEMBER 18, 2020
Plotted by: R. MARSHALL

Scale: AS NOTED

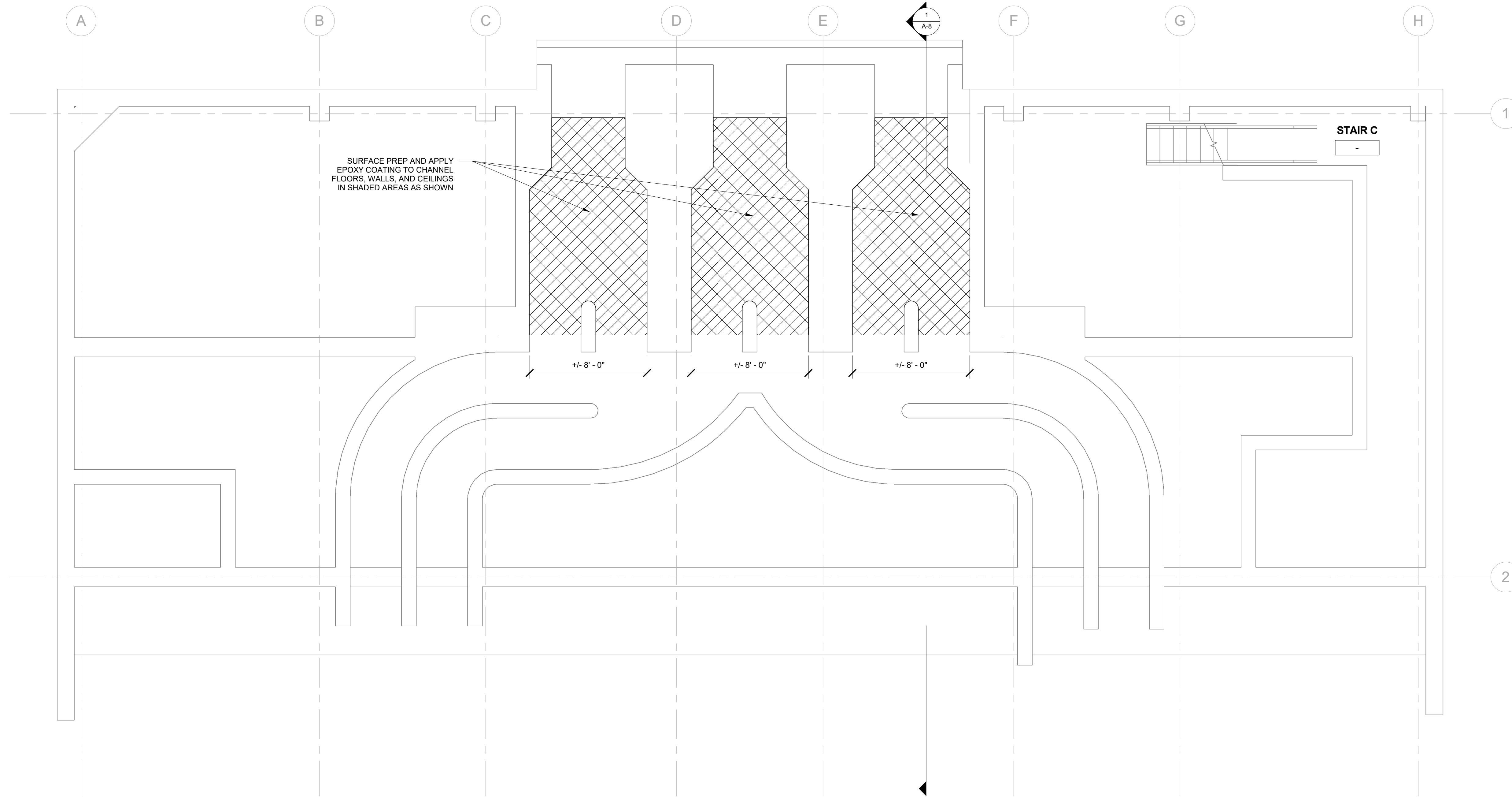
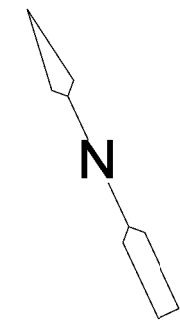


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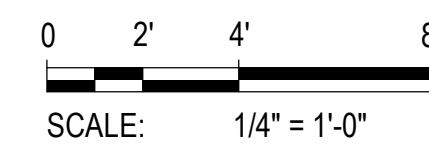
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BELOW FIRST FLOOR PARTIAL
PLAN
1/4" = 1'-0"

GENERAL NOTES:

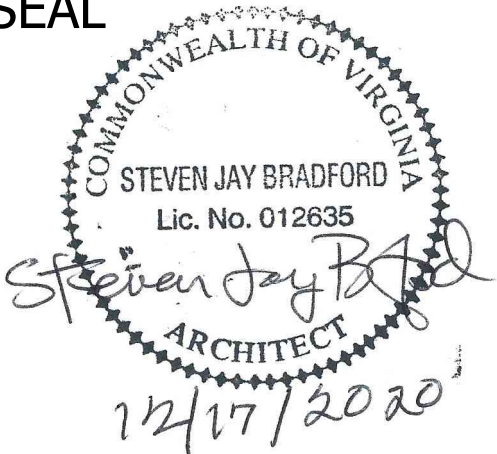
1. REFER TO SPECIFICATION 078413 "PENETRATION FIRESTOPPING" FOR FIRESTOPPING SYSTEMS.
2. PROVIDE FIRESTOPPING ACCORDING TO THE SCHEDULE WHEN NEW PENETRATIONS ARE INSTALLED AT FIRE RATED PARTITIONS INDICATED ON LIFE SAFETY PLANS SHEET OR BETWEEN FLOORS.



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APPROVALS DATE

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Revisions Date

Revisions	Date

Project Name and Location

Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
BELOW FIRST FLOOR PLAN

Designed: S. BRADFORD
Drawn: R. MARSHALL
Checked: E. SPARGIMINO

Filename: AEZ000PT.rvt
Path: R:\d1295020\AEZ000PT.rvt
Plotted: DECEMBER 18, 2020
Plotted by: R. MARSHALL

Scale: AS NOTED

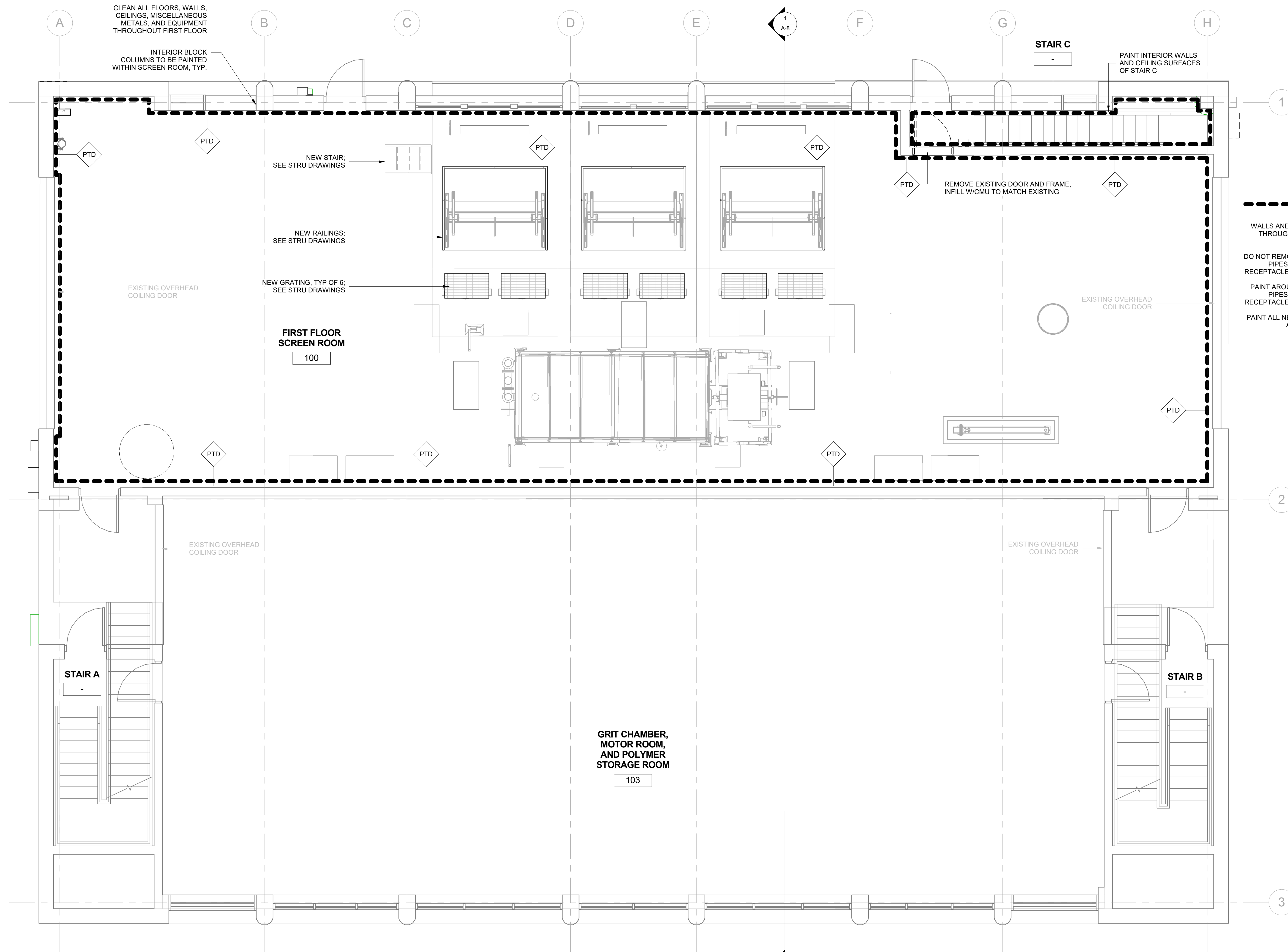
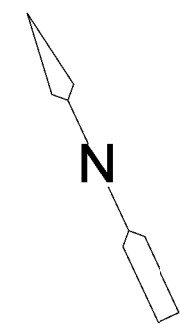


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CLEAN ALL FLOORS, WALLS, CEILINGS, MISCELLANEOUS METALS, AND EQUIPMENT THROUGHOUT FIRST FLOOR

INTERIOR BLOCK COLUMNS TO BE PAINTED WITHIN SCREEN ROOM, TYP.

NEW STAIR: SEE STRU DRAWINGS

NEW RAILINGS: SEE STRU DRAWINGS

NEW GRATING, TYP OF B; SEE STRU DRAWINGS

FIRST FLOOR SCREEN ROOM
100

GRIT CHAMBER, MOTOR ROOM, AND POLYMER STORAGE ROOM
103

FIRST FLOOR PLAN
1/4" = 1'-0"

STAIR C

PAINT INTERIOR WALLS AND CEILING SURFACES OF STAIR C

REMOVE EXISTING DOOR AND FRAME, INFILL W/CMU TO MATCH EXISTING

EXISTING OVERHEAD COILING DOOR

EXISTING OVERHEAD COILING DOOR

EXISTING OVERHEAD COILING DOOR

PAINTING LEGEND

PTD
REFER TO SPECIFICATION; WALLS AND BLOCK COLUMNS TO BE PAINTED THROUGHOUT INTERIOR OF SCREEN ROOM AS SHOWN.

DO NOT REMOVE EXISTING CONDUIT, FIXTURES, PIPES, DUCTS, PANELS, SWITCH PLATES, RECEPTACLE PLATES, AND SIMILAR MATERIALS.

PAINT AROUND EXISTING CONDUIT, FIXTURES, PIPES, DUCTS, PANELS, SWITCH PLATES, RECEPTACLE PLATES, AND SIMILAR MATERIALS.

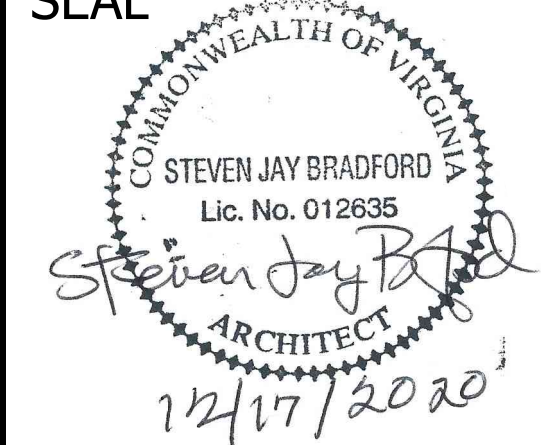
PAINT ALL NEW WORK INDICATED WITH LABELS AND COLOR CODING AS SPECIFIED.



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APPROVALS DATE

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Revisions Date

Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2) Phase 9B
PRELIMINARY TREATMENT BUILDING FIRST FLOOR PLAN

Designed: S. BRADFORD
Drawn: R. MARSHALL
Checked: E. SPARGIMINO

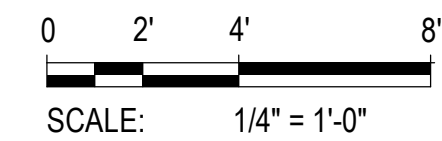
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Plotted: DECEMBER 18, 2020
Plotted by: R. MARSHALL

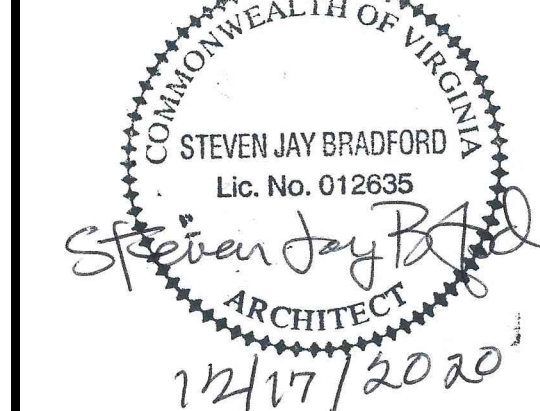
Scale: AS NOTED



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A-4

GENERAL NOTES:
1. REFER TO SPECIFICATION 078413 "PENETRATION FIRESTOPPING" FOR FIRESTOPPING SYSTEMS.
2. PROVIDE FIRESTOPPING ACCORDING TO THE SCHEDULE WHEN NEW PENETRATIONS ARE INSTALLED AT FIRE RATED PARTITIONS ARE INDICATED ON LIFE SAFETY PLANS SHEET OR BETWEEN FLOORS.





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SET**

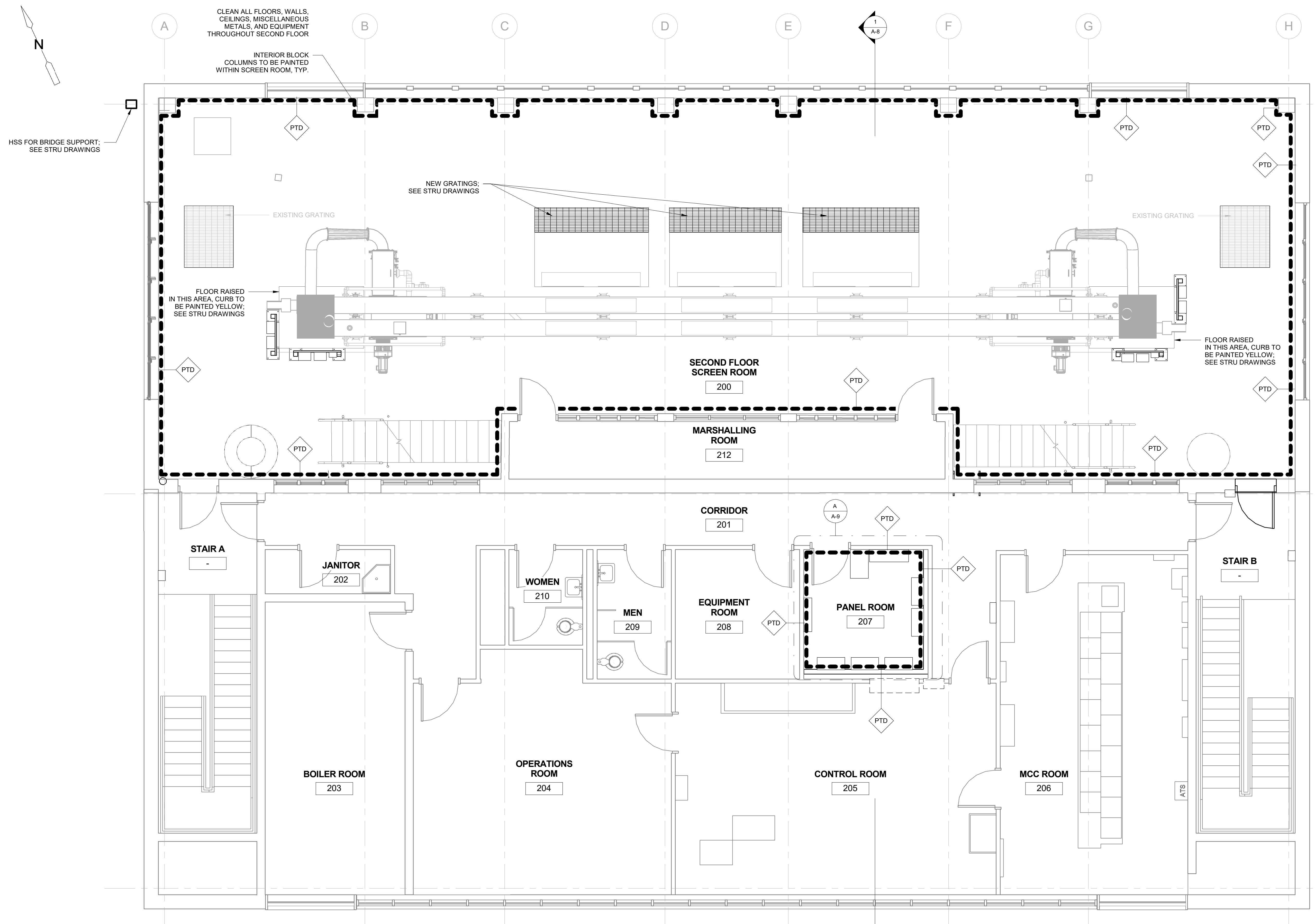
Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
SECOND FLOOR PLAN

Designed: S. BRADFORD
Drawn: R. MARSHALL
Checked: E. SPARGIMINO

Filename: AEZ000PT.rvt
Path: R:\d1295020\AEZ000PT.rvt
Plotted: DECEMBER 18, 2020
Plotted by: R. MARSHALL

Scale: AS NOTED



CLEAN ALL FLOORS, WALLS,
CEILINGS, MISCELLANEOUS
METALS, AND EQUIPMENT
THROUGHOUT SECOND FLOOR

INTERIOR BLOCK
COLUMNS TO BE PAINTED
WITHIN SCREEN ROOM, TYP.

NEW GRATINGS:
SEE STRU DRAWINGS

EXISTING GRATING

FLOOR RAISED
IN THIS AREA, CURB TO
BE PAINTED YELLOW;
SEE STRU DRAWINGS

SECOND FLOOR
SCREEN ROOM
200

MARSHALLING
ROOM
212

CORRIDOR
201

STAIR A

JANITOR
202

WOMEN
210

MEN
209

EQUIPMENT
ROOM
208

PANEL ROOM
207

STAIR B

BOILER ROOM
203

OPERATIONS
ROOM
204

CONTROL ROOM
205

MCC ROOM
206

**SECOND FLOOR
PLAN**
1/4" = 1'-0"

GENERAL NOTES:
1. REFER TO SPECIFICATION 078413
"PENETRATION FIRESTOPPING"
FOR FIRESTOPPING SYSTEMS.
2. PROVIDE FIRESTOPPING ACCORDING TO THE
SCHEDULE WHEN NEW PENETRATIONS ARE
INSTALLED AT FIRE RATED PARTITIONS ARE
INDICATED ON LIFE SAFETY PLANS SHEET
OR BETWEEN FLOORS.



HSS FOR BRIDGE SUPPORT;
SEE STRU DRAWINGS

PAINTING LEGEND

REFER TO SPECIFICATION;
WALLS AND BLOCK COLUMNS TO BE PAINTED
THROUGHOUT INTERIOR OF SCREEN ROOM
AS SHOWN.

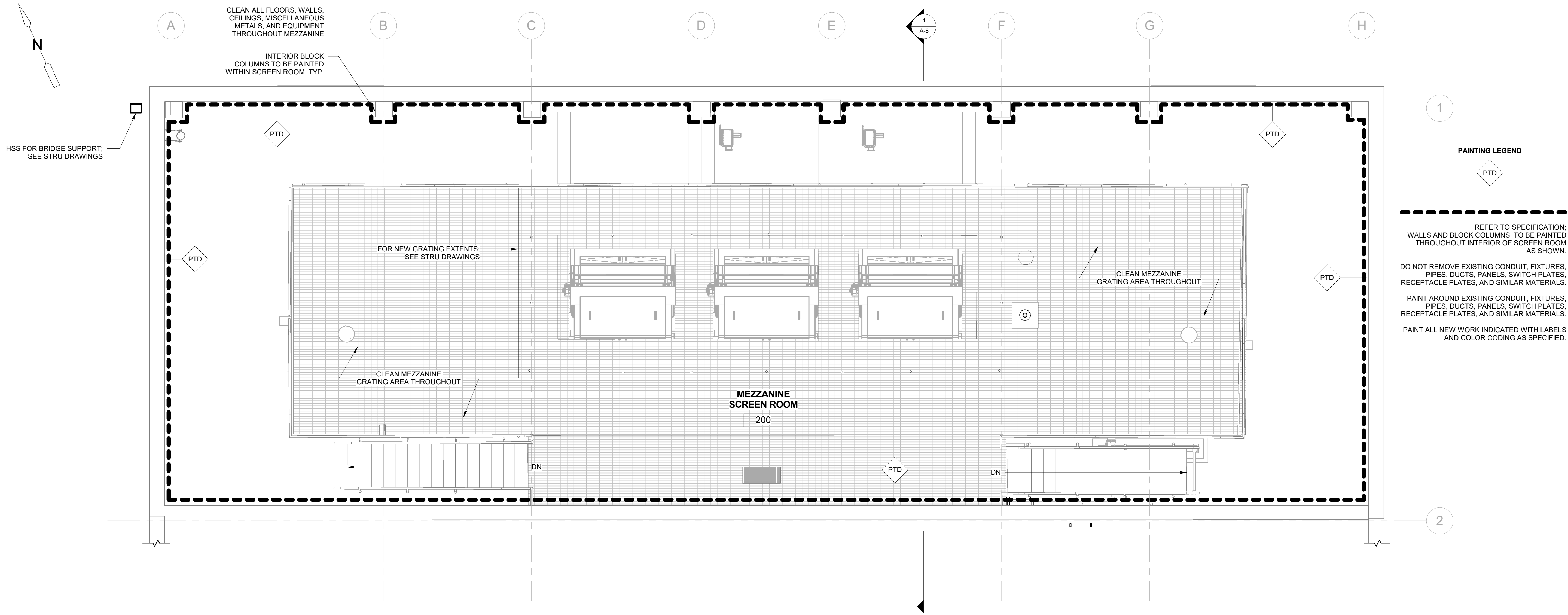
DO NOT REMOVE EXISTING CONDUIT, FIXTURES,
PIPES, DUCTS, PANELS, SWITCH PLATES,
RECEPTACLE PLATES, AND SIMILAR MATERIALS.

PAINT AROUND EXISTING CONDUIT, FIXTURES,
PIPES, DUCTS, PANELS, SWITCH PLATES,
RECEPTACLE PLATES, AND SIMILAR MATERIALS.

PAINT ALL NEW WORK INDICATED WITH LABELS
AND COLOR CODING AS SPECIFIED.

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MEZZANINE PLAN
1/4" = 1'-0"

PAINTING LEGEND

PTD

REFER TO SPECIFICATION; WALLS AND BLOCK COLUMNS TO BE PAINTED THROUGHOUT INTERIOR OF SCREEN ROOM AS SHOWN.

DO NOT REMOVE EXISTING CONDUIT, FIXTURES, PIPES, DUCTS, PANELS, SWITCH PLATES, RECEPTACLE PLATES, AND SIMILAR MATERIALS.

PAINT AROUND EXISTING CONDUIT, FIXTURES, PIPES, DUCTS, PANELS, SWITCH PLATES, RECEPTACLE PLATES, AND SIMILAR MATERIALS.

PAINT ALL NEW WORK INDICATED WITH LABELS AND COLOR CODING AS SPECIFIED.

ARLINGTON VIRGINIA

DEPARTMENT OF ENVIRONMENTAL SERVICES
WATER POLLUTION CONTROL BUREAU
3402 S. GLEBE ROAD
ARLINGTON, VA 22202
PHONE: 703.228.6820

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SEAL

COMMONWEALTH OF VIRGINIA
STEVEN JAY BRADFORD
Lic. No. 012635
Steven Jay Bradford
ARCHITECT
12/17/2020

APPROVALS DATE

100% BID SET

Revisions	Date

Project Name and Location

Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING MEZZANINE PLAN

Designed: S. BRADFORD
Drawn: R. MARSHALL
Checked: E. SPARGIMINO

Filename: AEZ000PT.rvt
Path: R:\d1295020\AEZ000PT.rvt
Plotted: DECEMBER 18, 2020
Plotted by: R. MARSHALL

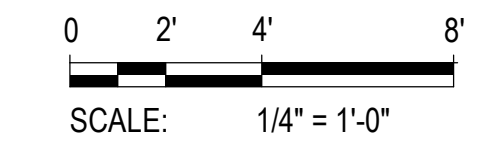
Scale: AS NOTED

CDM Smith
10560 Arrowhead Drive, Suite 500
FAIRFAX, VA 22030

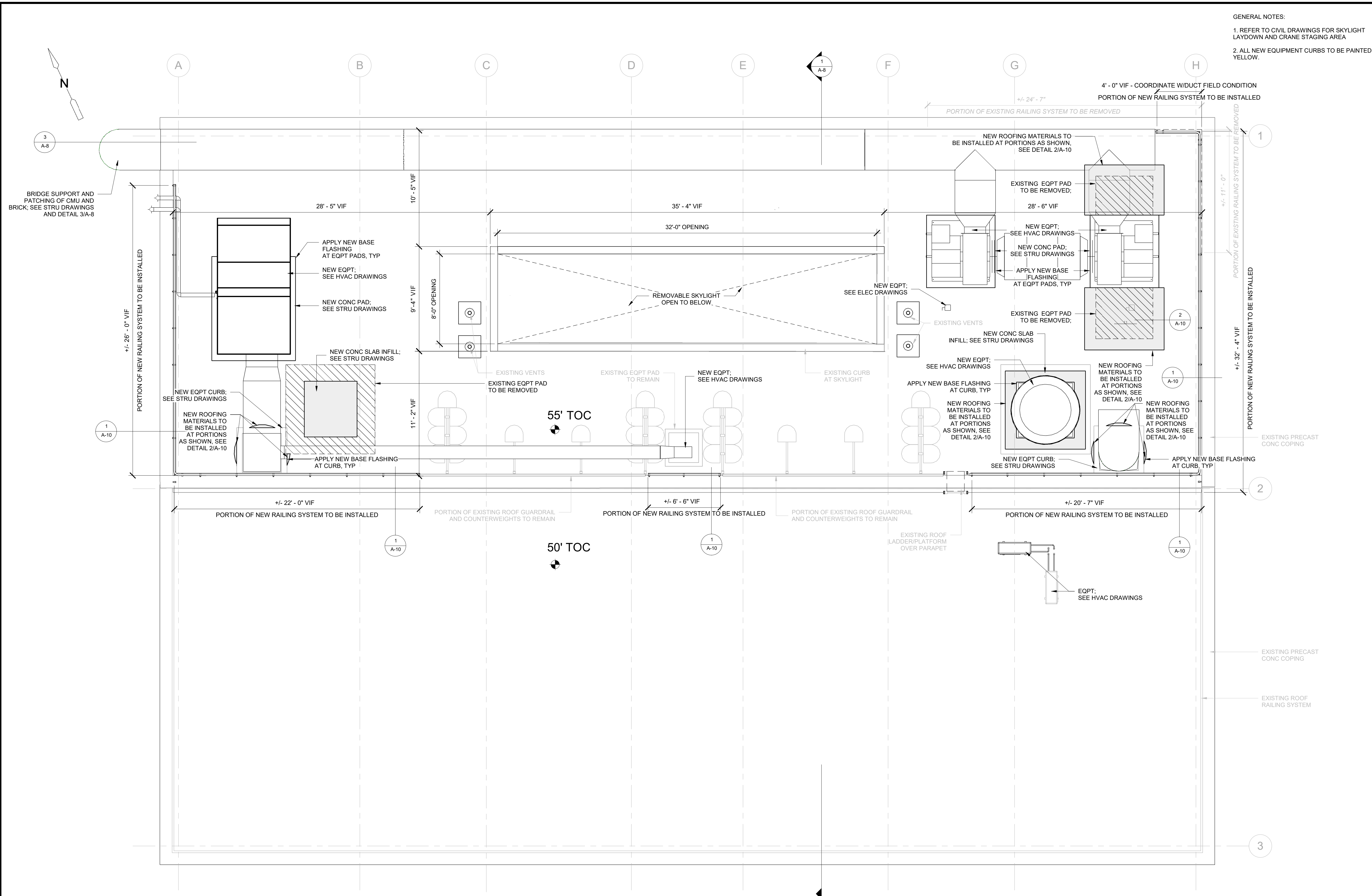
Sht. 13 of 97
A-6

GENERAL NOTES:

- REFER TO SPECIFICATION 078413 "PENETRATION FIRESTOPPING" FOR FIRESTOPPING SYSTEMS.
- PROVIDE FIRESTOPPING ACCORDING TO THE SCHEDULE WHEN NEW PENETRATIONS ARE INSTALLED AT FIRE RATED PARTITIONS INDICATED ON LIFE SAFETY PLANS SHEET OR BETWEEN FLOORS.



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GENERAL NOTES:
 1. REFER TO CIVIL DRAWINGS FOR SKYLIGHT LAYDOWN AND CRANE STAGING AREA
 2. ALL NEW EQUIPMENT CURBS TO BE PAINTED YELLOW.



DEPARTMENT OF ENVIRONMENTAL SERVICES
 WATER POLLUTION CONTROL BUREAU
 3402 S. GLEBE ROAD
 ARLINGTON, VA 22202
 PHONE: 703.228.6820

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SEAL
 COMMONWEALTH OF VIRGINIA
 STEVEN JAY BRADFORD
 Lic. No. 012635
 Steven Jay Bradford
 ARCHITECT
 12/17/2020

APPROVALS DATE

100% BID SET

Revisions	Date

Project Name and Location
Water Pollution Control Plant
 Preliminary Treatment Upgrades (WPB2)
 Phase 9B
 PRELIMINARY TREATMENT BUILDING
 ROOF PLAN

Designed: S. BRADFORD
 Drawn: R. MARSHALL
 Checked: E. SPARGIMINO

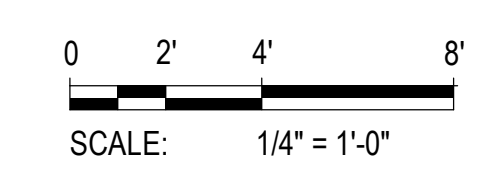
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 Plotted: DECEMBER 18, 2020
 Plotted by: R. MARSHALL

Scale: AS NOTED

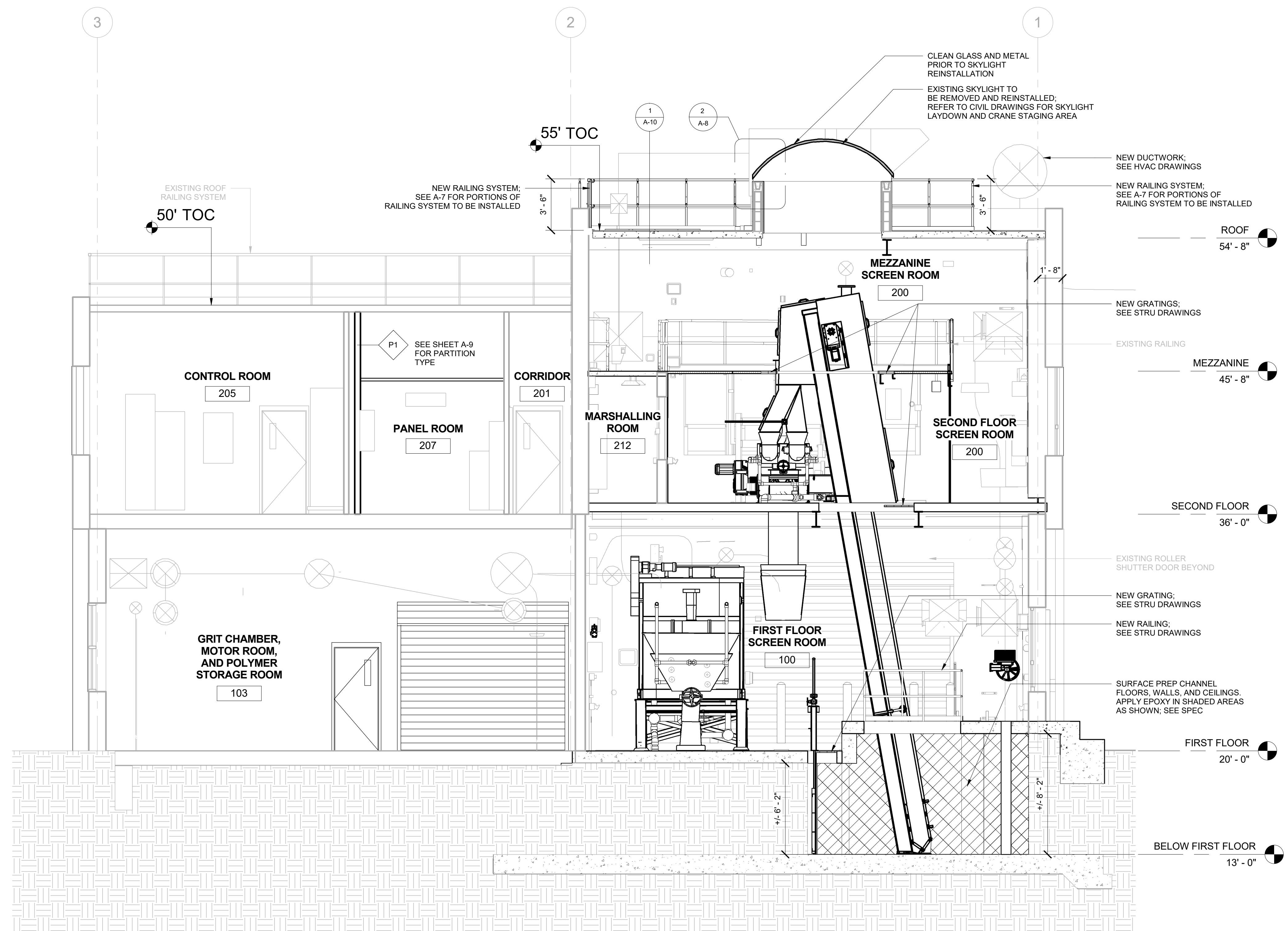


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 Sht. 14 of 97
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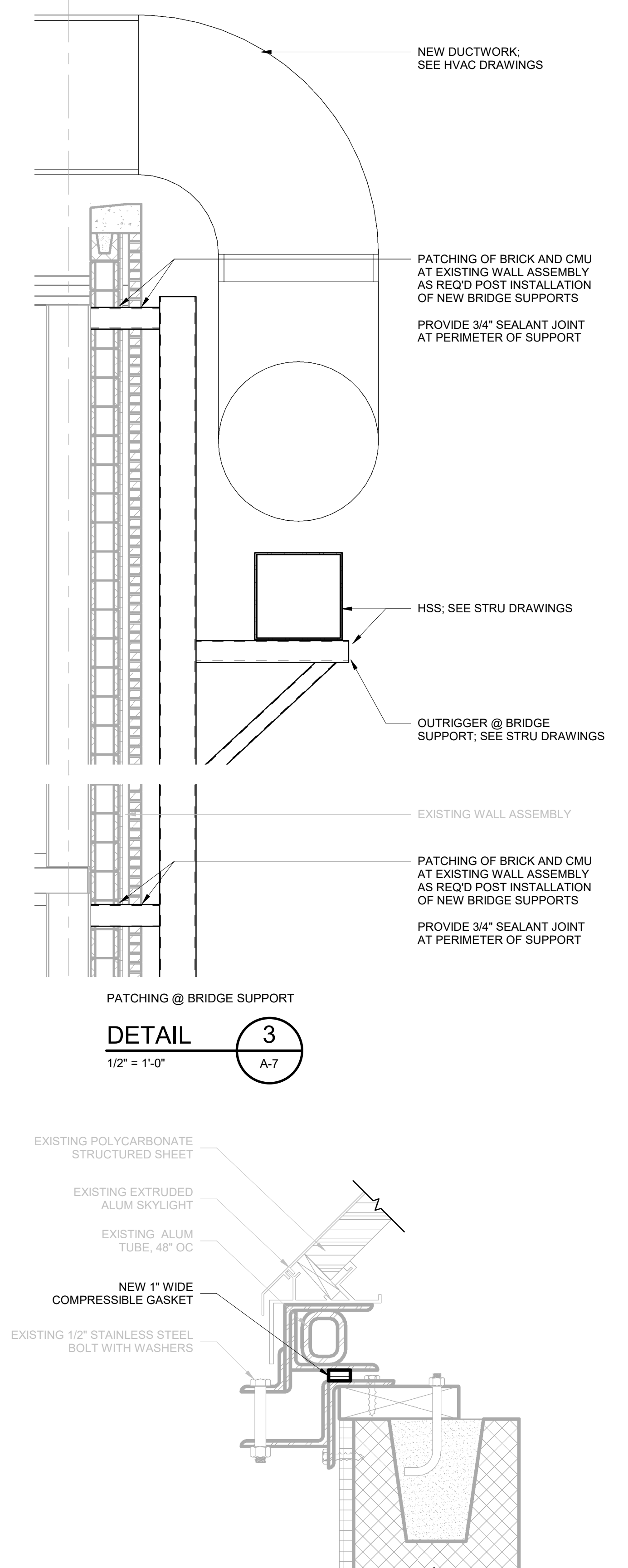
ROOF PLAN
 1/4" = 1'-0"



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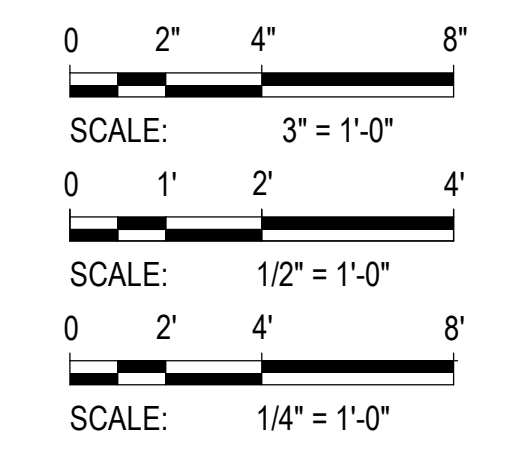


BUILDING SECTION 1 1
1/4" = 1'-0" A-4



DETAIL 3
1/2" = 1'-0" A-7

DETAIL 2
3" = 1'-0" A-7



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WATER POLLUTION CONTROL BUREAU
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ARLINGTON, VA 22202
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APPROVALS _____ DATE _____

100% BID SET

Revisions	Date

Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
BUILDING SECTIONS AND DETAILS

Designed: S. BRADFORD
Drawn: R. MARSHALL
Checked: E. SPARGIMINO

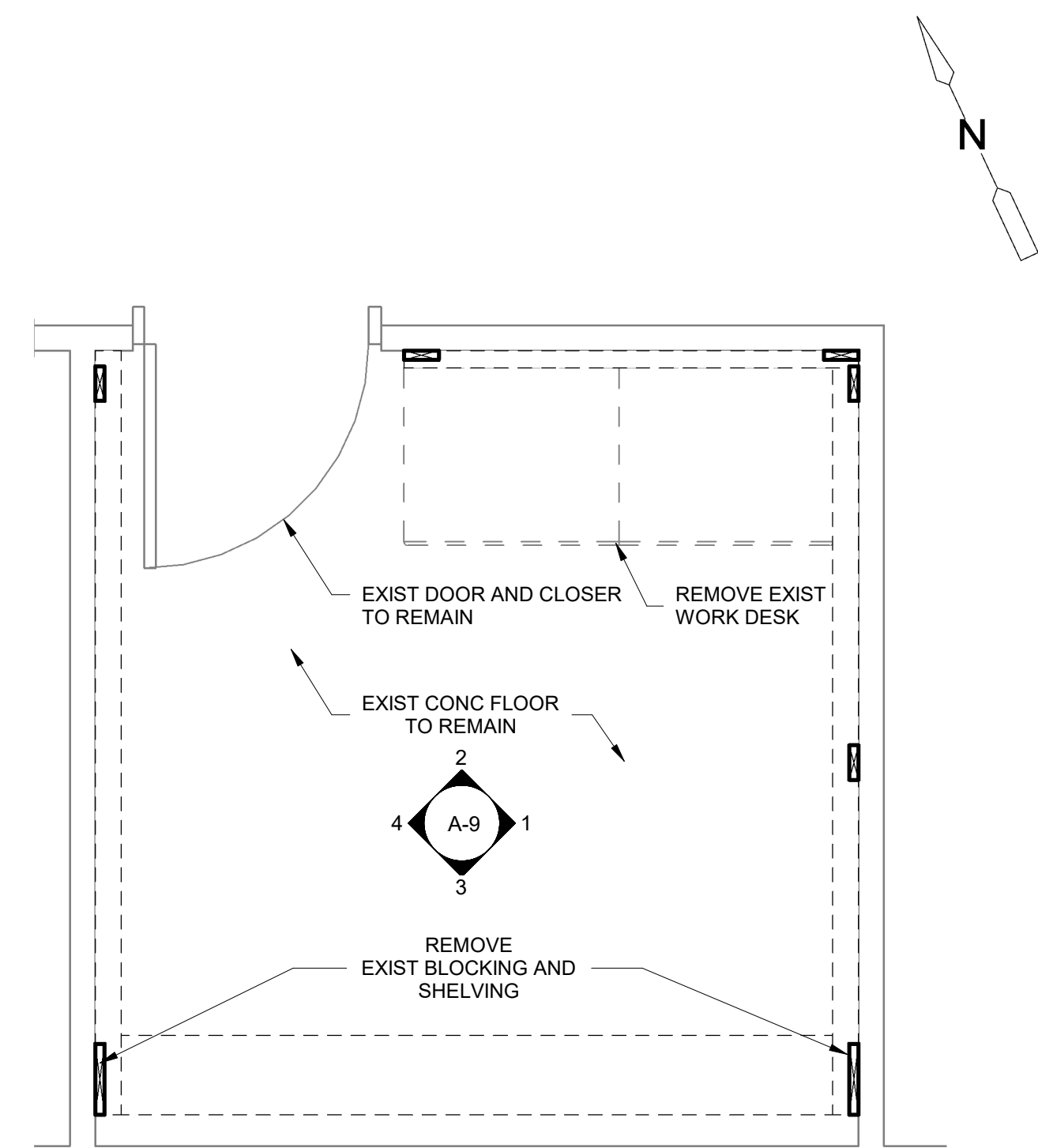
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Plotted: DECEMBER 18, 2020
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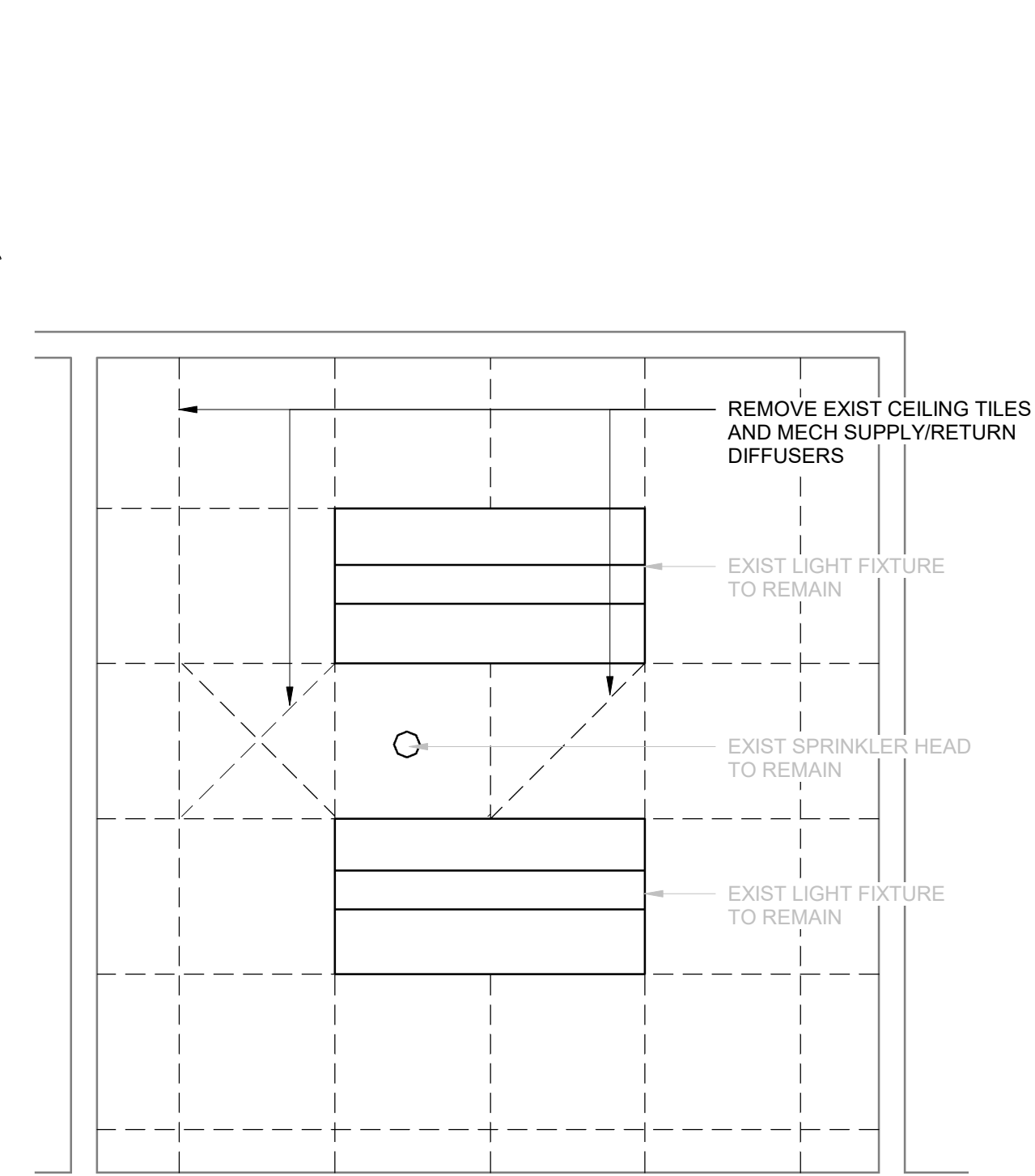


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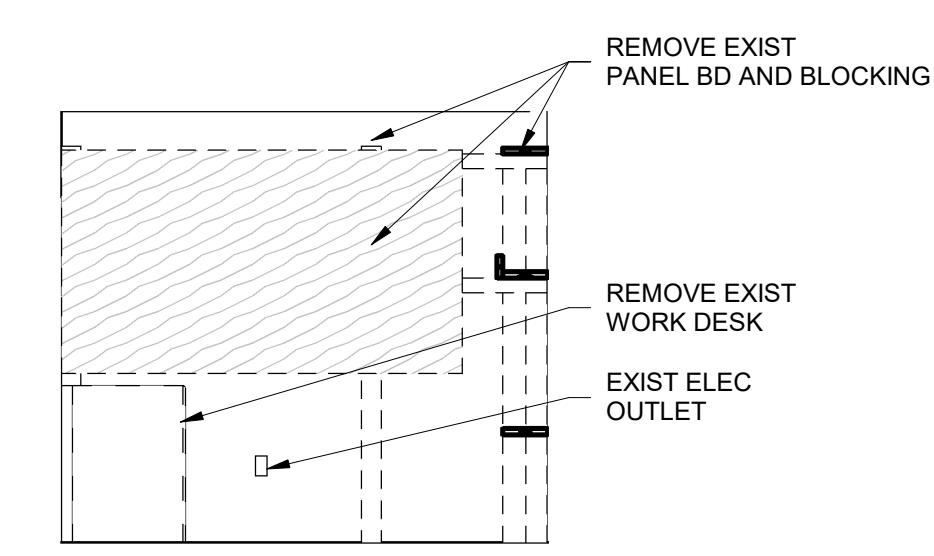
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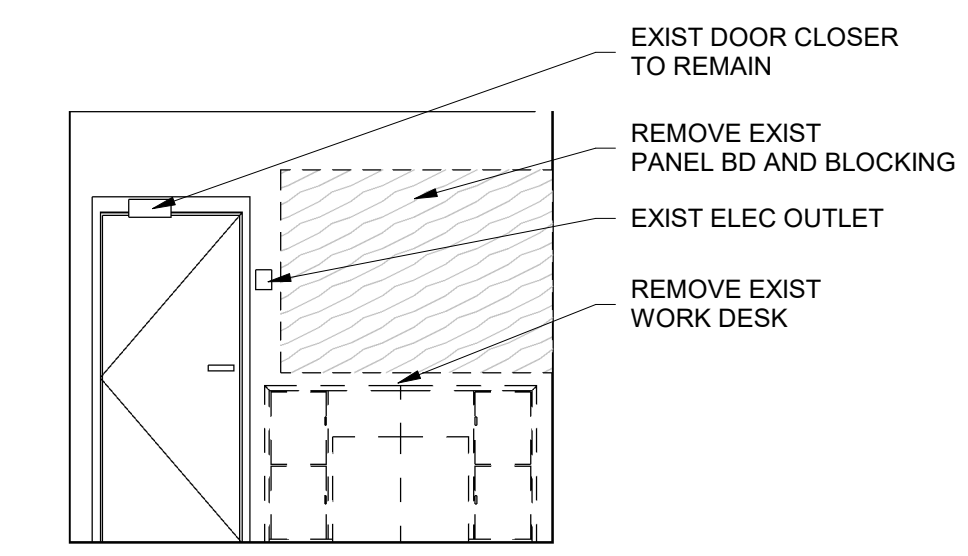
SECOND FLOOR - DEMO ENLARGED PLAN
PLAN
1/2" = 1'-0"



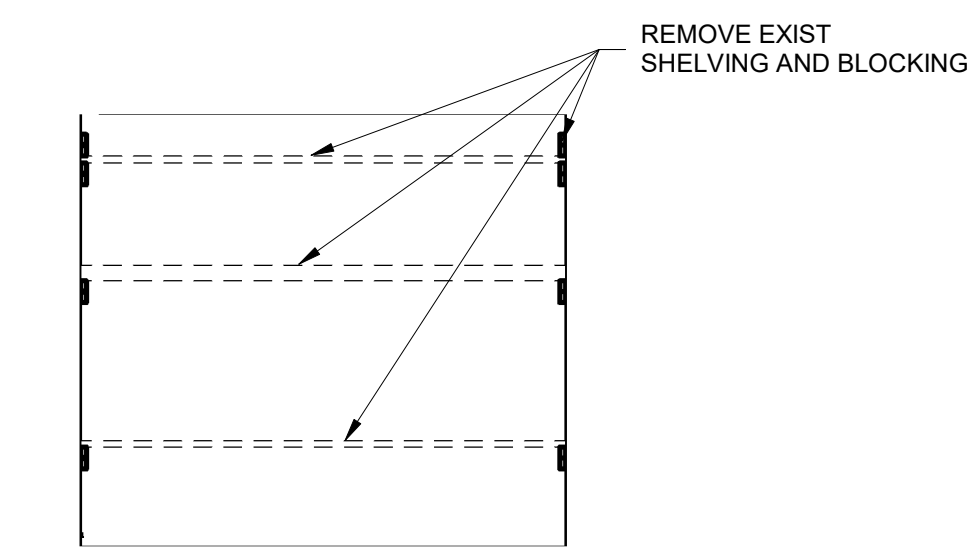
SECOND FLOOR - DEMO ENLARGED RCP
PLAN
1/2" = 1'-0"



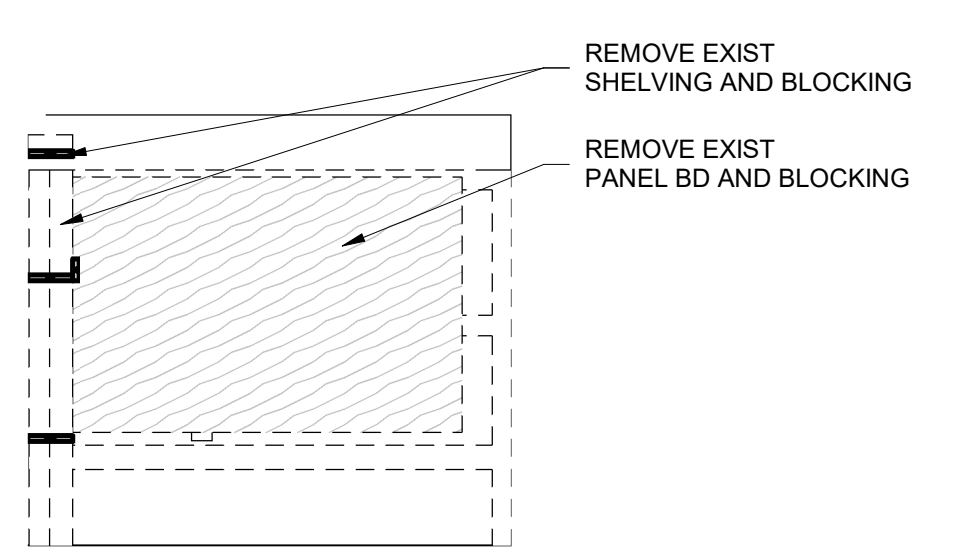
DEMO PANEL ROOM 207 - EAST
ELEVATION 1
1/4" = 1'-0"



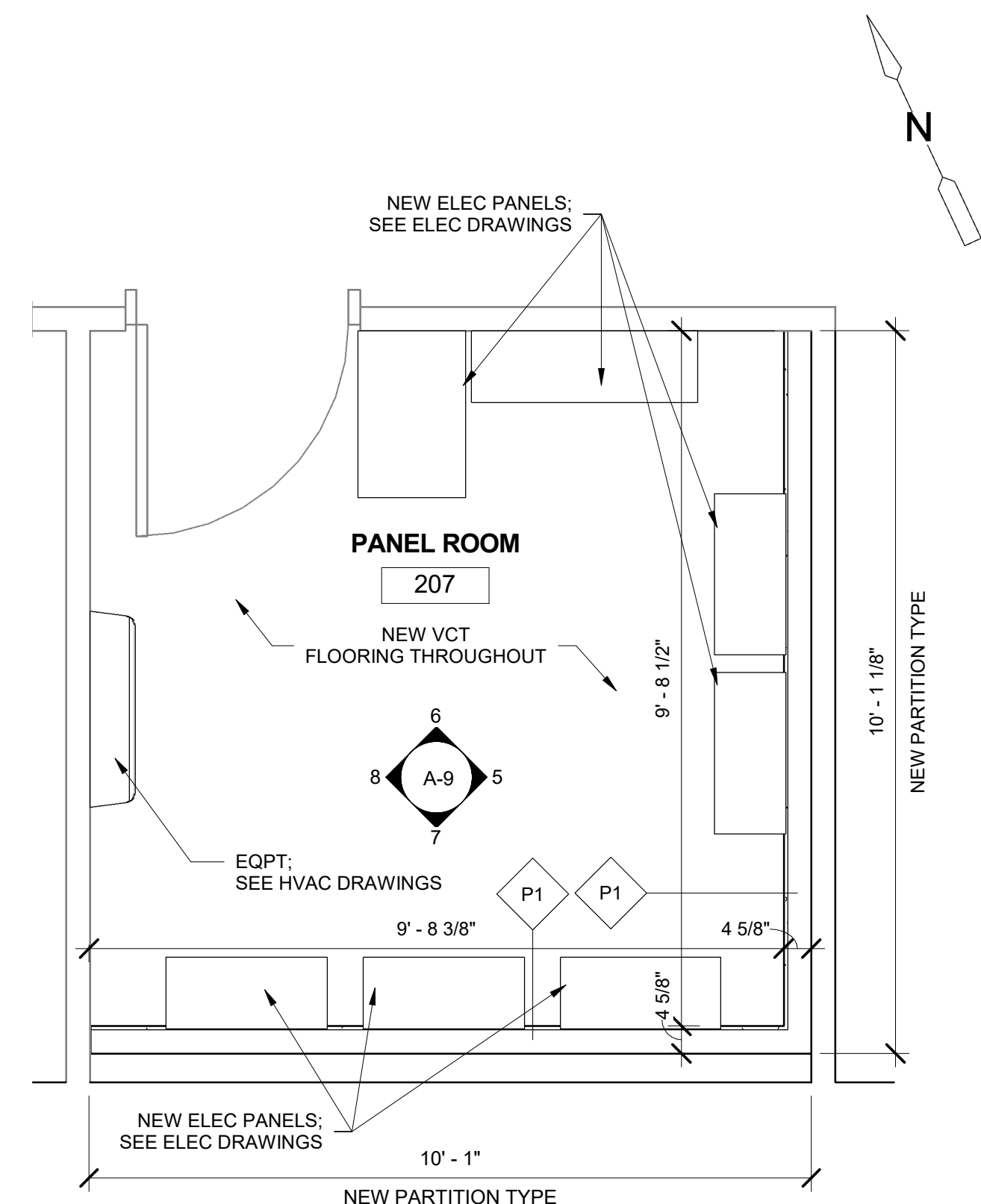
DEMO PANEL ROOM 207 - NORTH
ELEVATION 2
1/4" = 1'-0"



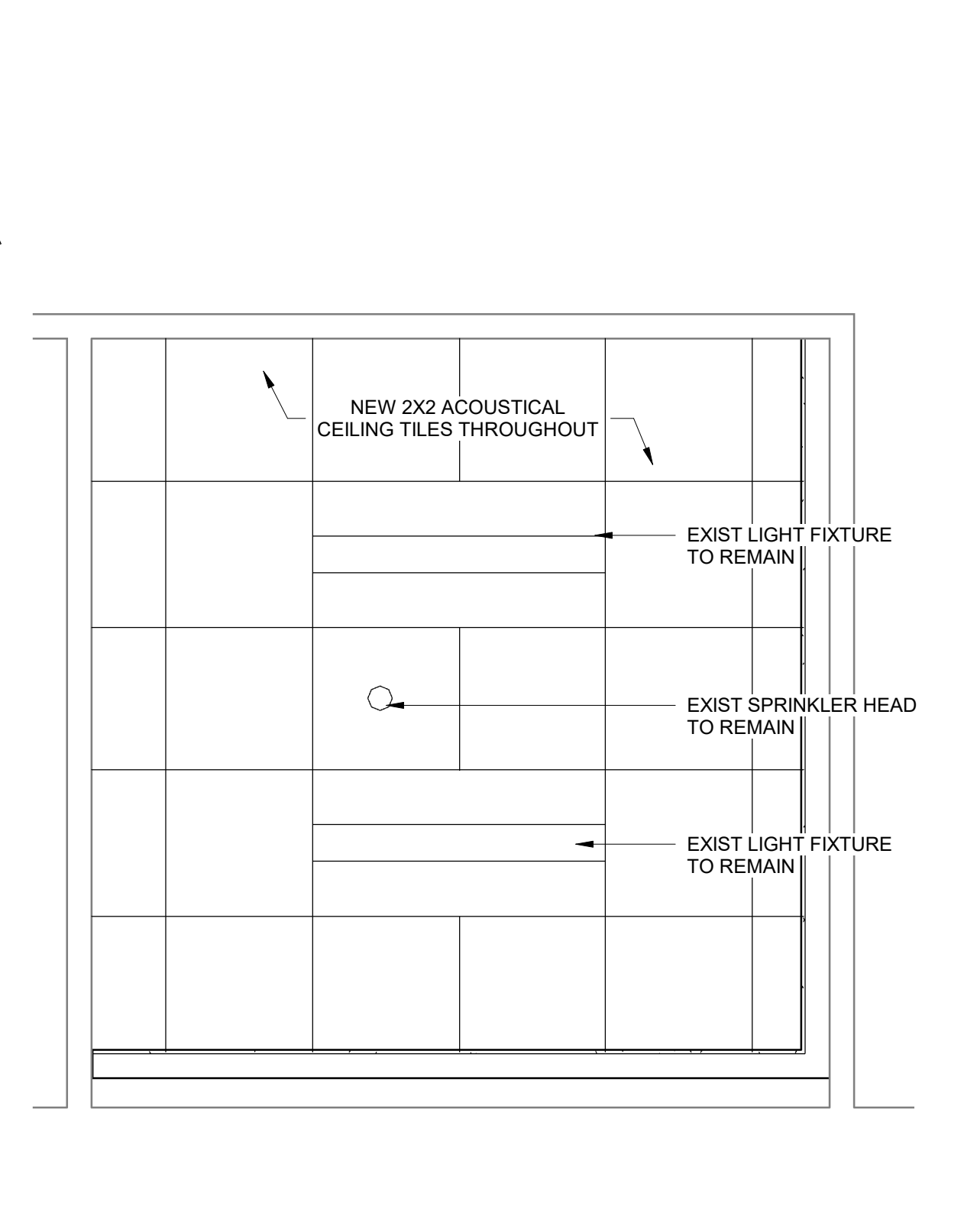
DEMO PANEL ROOM 207 - SOUTH
ELEVATION 3
1/4" = 1'-0"



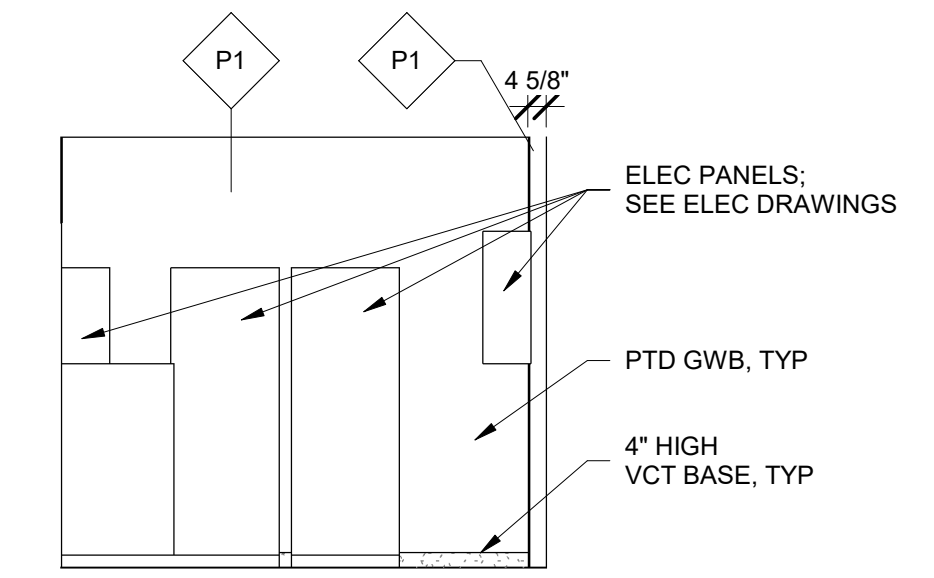
DEMO PANEL ROOM 207 - WEST
ELEVATION 4
1/4" = 1'-0"



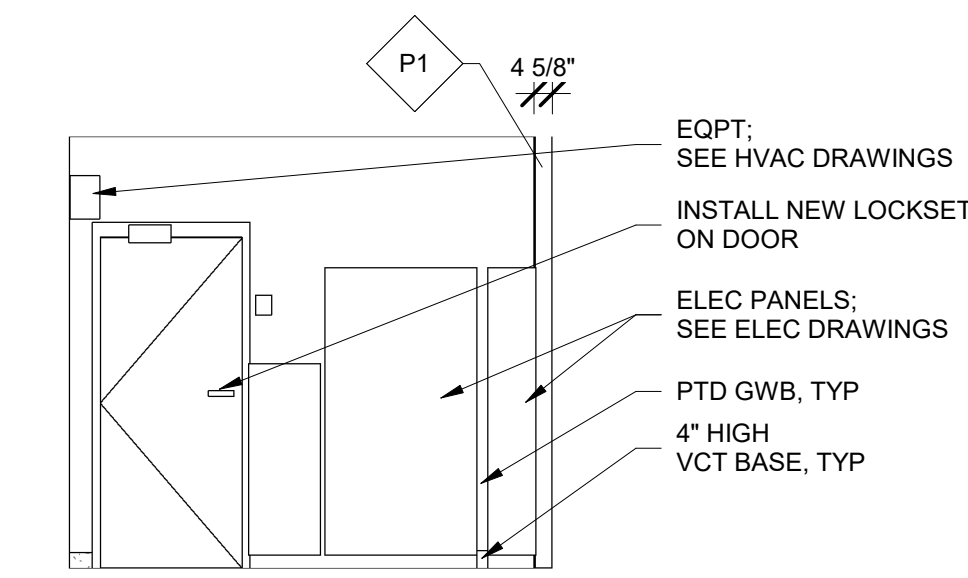
SECOND FLOOR - ENLARGED PLAN A
PLAN
1/2" = 1'-0"



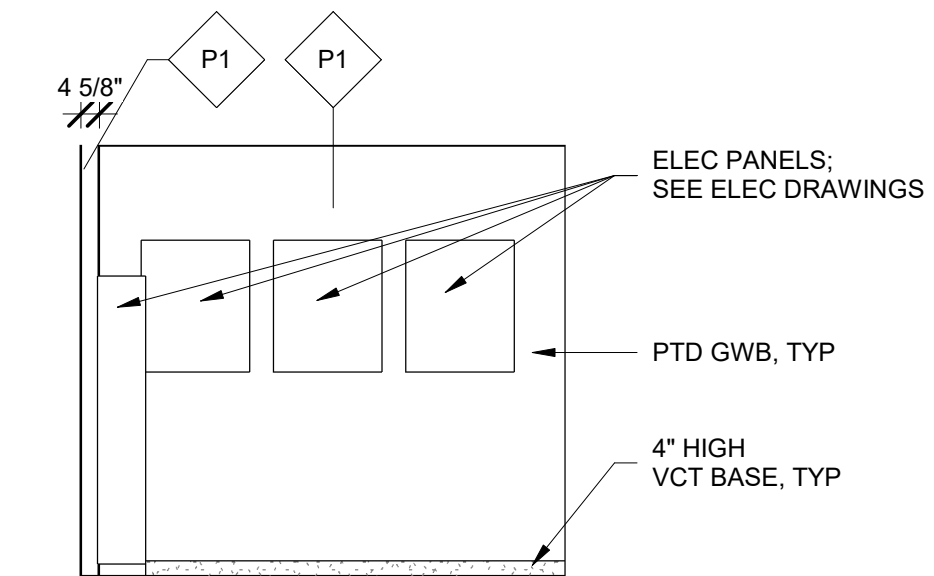
SECOND FLOOR - ENLARGED RCP
PLAN
1/2" = 1'-0"



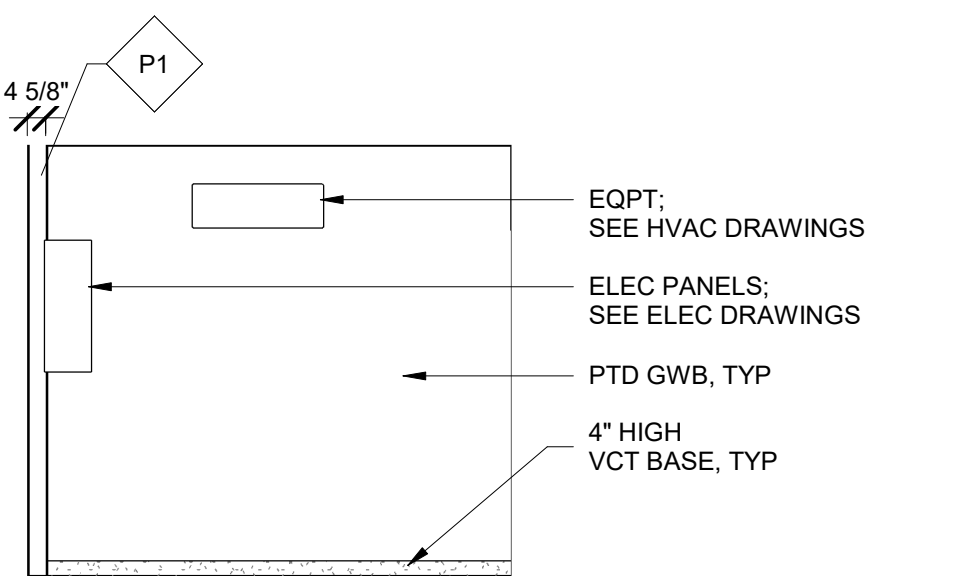
PANEL ROOM 207 - EAST
ELEVATION 5
1/4" = 1'-0"



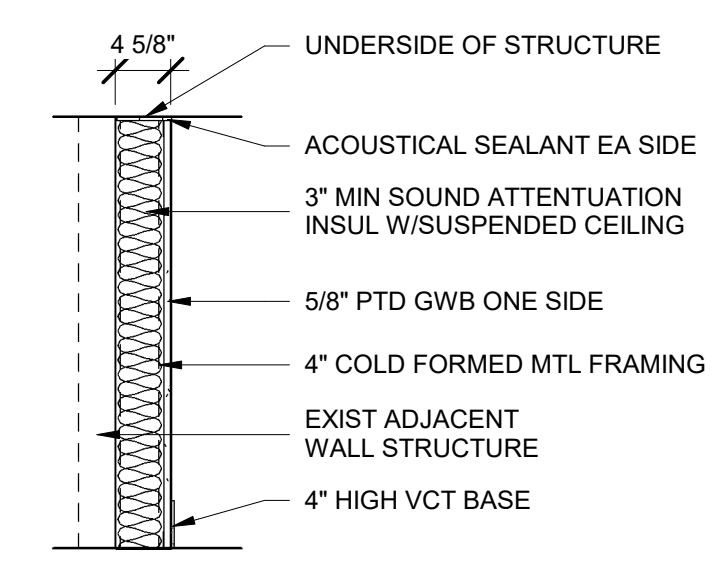
PANEL ROOM 207 - NORTH
ELEVATION 6
1/4" = 1'-0"



PANEL ROOM 207 - SOUTH
ELEVATION 7
1/4" = 1'-0"



PANEL ROOM 207 - WEST
ELEVATION 8
1/4" = 1'-0"



PARTITION TYPES

NOTES:
1. FILL HOLES AND PATCH EXISTING GYPSUM WALL BOARD AS NEEDED.
2. ALL FINISH GYPSUM WALL BOARD TO BE PAINTED.



DEPARTMENT OF ENVIRONMENTAL SERVICES
WATER POLLUTION CONTROL BUREAU
3402 S. GLEBE ROAD
ARLINGTON, VA 22202
PHONE: 703.228.6820

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APPROVALS _____ DATE _____

100% BID SET

Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PANEL ROOM
ENLARGED PLAN, CEILING PLAN
AND INTERIOR ELEVATIONS

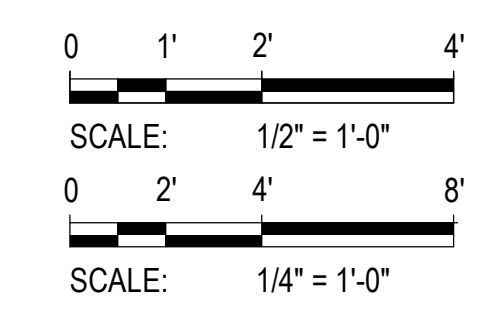
Designed: S. BRADFORD
Drawn: R. MARSHALL
Checked: E. SPARGIMINO

Filename: AEZ000PT.rvt
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Plotted by: R. MARSHALL

Scale: AS NOTED

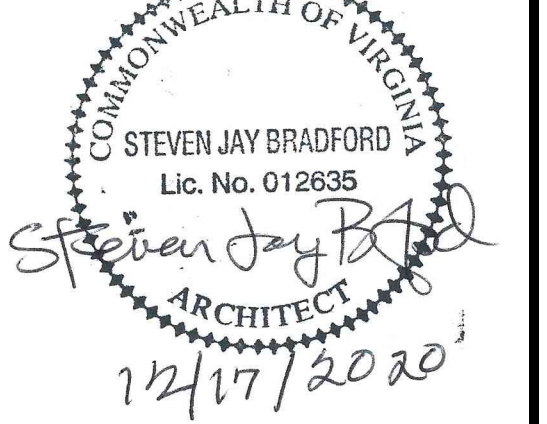


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SEAL



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Revisions _____ Date _____

Revisions	Date

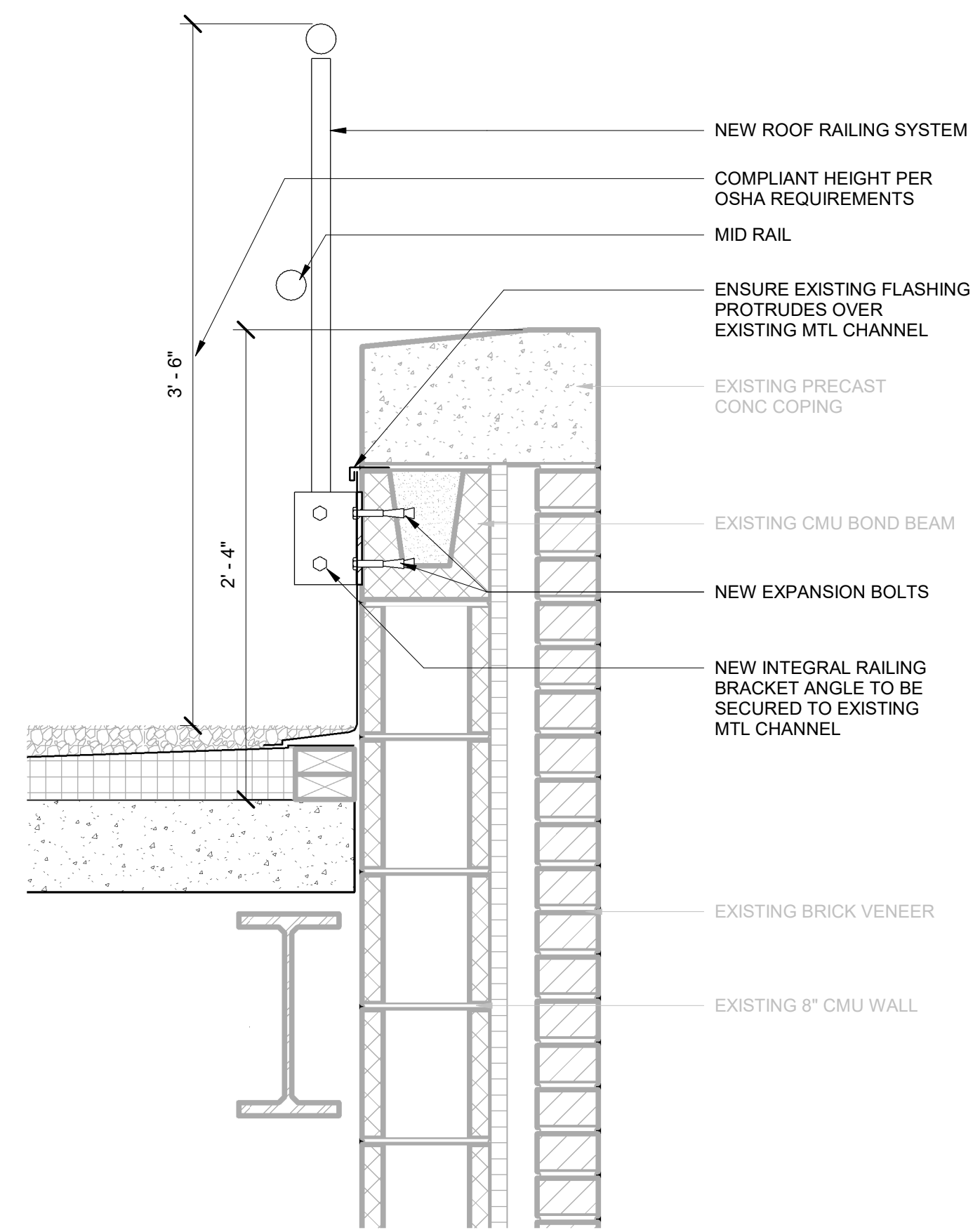
Project Name and Location

Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
MISCELLANEOUS DETAILS

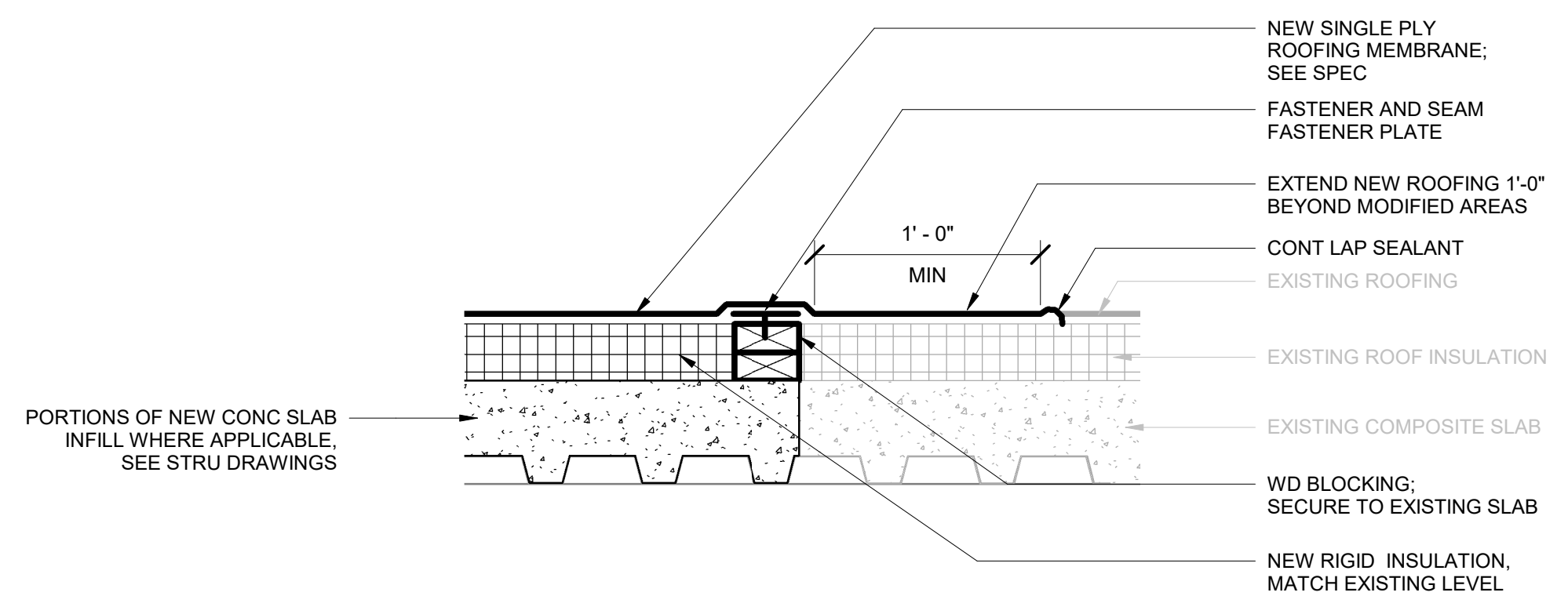
Designed: S. BRADFORD
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Plotted: DECEMBER 18, 2020
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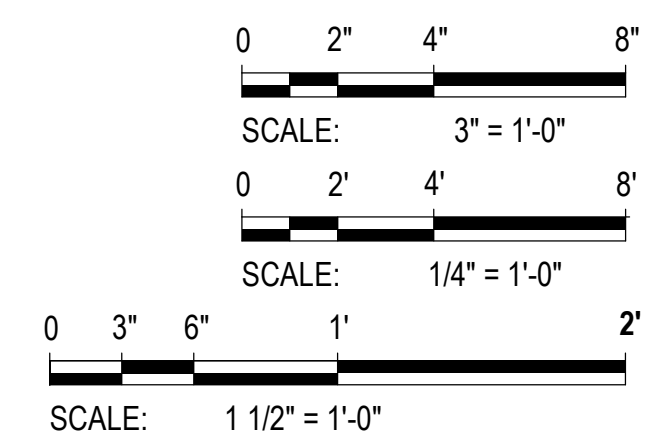
Scale: AS NOTED



PARAPET RAILING SYSTEM
DETAIL 1
1 1/2" = 1'-0" A-7



REROOFING
DETAIL 2
1 1/2" = 1'-0" A-7



STRUCTURAL NOTES

- A. DESIGN CRITERIA**
- 1. CODES:**
 - 2015 VIRGINIA UNIFORM STATEWIDE BUILDING CODE: IBC 2015
 - ACI 350-06 "CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES"
 - AISC STEEL CONSTRUCTION MANUAL 14TH EDITION (ASD PROVISIONS)
 - FOR ORIGINAL DESIGN LOADS SEE RECORD DRAWINGS TITLED: ARLINGTON COUNTY, VIRGINIA, WATER POLLUTION CONTROL PLANT UPGRADE AND EXPANSION - PHASE IIB DATED: SEPTEMBER 1991 PREPARED BY: CAMP, DRESSER & MCKEE, ANNANDALE, VIRGINIA
 - LIVE LOADS FOR ELEMENTS DESIGNED UNDER THIS PROJECT:**
 - FIRST FLOOR: 200 PSF
 - SECOND FLOOR: 200 PSF
 - MEZZANINE: 150 PSF
 - ROOF: 100 PSF

- B. GENERAL CONDITIONS**
- ALL STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL, CIVIL, HVAC, AND ELECTRICAL DRAWINGS, SHOP DRAWINGS, AND SPECIFICATIONS.
 - SLANTED AND SCREENED TEXT, AND SCREENED INFORMATION INDICATE EXISTING INFORMATION.
 - ALL EXISTING INFORMATION SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO FABRICATION, CONSTRUCTION, AND SUBMISSION OF SHOP DRAWINGS.
 - CONTRACTOR TO FIELD VERIFY THAT BURIED UTILITIES DO NOT CONFLICT WITH THE DRILLED SHAFT FOUNDATIONS FOR THE NEW DUCT BRIDGE.
 - THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING TO OBTAIN CLARIFICATION OF ANY DISCREPANCIES BEFORE COMMENCING WITH THE WORK.
 - THE WORK OCCURS WITHIN AN OPERATING FACILITY. COORDINATE ALL CONSTRUCTION ACCESS AND OPERATIONS WITH THE OWNER TO AVOID DISRUPTION TO ONGOING OPERATIONS.
 - THE CONTRACTOR SHALL PROTECT EXISTING STRUCTURES AND EQUIPMENT FROM DAMAGE.
 - STANDARD DETAILS APPLY TO ALL SIMILAR SITUATIONS ON THE PROJECT, EXCEPT WHERE A DIFFERENT DETAIL IS SHOWN.

- C. CAST-IN-PLACE CONCRETE**
- ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 350 REQUIREMENTS.
 - MINIMUM CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS: STRUCTURAL CONCRETE: $f_c = 4000$ PSI
 - REINFORCEMENT SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A615, GRADE 60 REQUIREMENTS.
 - REINFORCING STEEL FABRICATION SHALL BE IN COMPLIANCE WITH THE CRSI MANUAL OF STANDARD PRACTICE.
 - REINFORCING STEEL SHALL HAVE THE FOLLOWING CLEAR COVER UNLESS OTHERWISE NOTED:
 - CONCRETE SURFACES CAST AGAINST SOIL: 3"
 - FORMED SURFACES IN CONTACT WITH SOIL, SEWAGE, WATER, SLUDGE, OR EXPOSED TO WEATHER: 2"
 - SPLICED BARS SHALL HAVE A MINIMUM LAP OF CLASS B TENSION LAP SPLICE PER NOTE 7. U.O.N.

CLASS B TENSION LAP SPLICE LENGTHS IN WALLS AND SLABS (INCHES)			TENSION DEVELOPMENT LENGTHS IN WALLS AND SLABS (INCHES)		
$f_c = 4000$ PSI			$f_c = 4000$ PSI		
BAR SIZE	TOP BARS	OTHER BARS	BAR SIZE	TOP BARS	OTHER BARS
3	16	16	3	12	12
4	20	16	4	15	12
5	25	19	5	19	15
6	29	23	6	23	18
7	47	36	7	36	28
8	61	47	8	47	36

- NOTES:**
- A HORIZONTAL BAR IS CONSIDERED A TOP BAR IF MORE THAN 12" OF FRESH CONCRETE IS CAST DIRECTLY BELOW THE BAR.
 - MINIMUM CONCRETE COVER = 2".
- ALL EXPOSED CORNERS OF CONCRETE SHALL HAVE A MINIMUM CHAMFER OF 3/4" UNLESS OTHERWISE NOTED.
 - THE CONTRACTOR SHALL OBTAIN ENGINEER'S APPROVAL FOR THE LOCATION OF CONSTRUCTION JOINTS THAT ARE NOT SHOWN ON THE DRAWING.
 - SIZE AND LOCATION OF EQUIPMENT PADS AND ANCHOR BOLTS SHALL BE PER EQUIPMENT MANUFACTURER'S REQUIREMENTS.
 - SEE SPECIFICATION SECTION 033000 FOR ADDITIONAL REQUIREMENTS

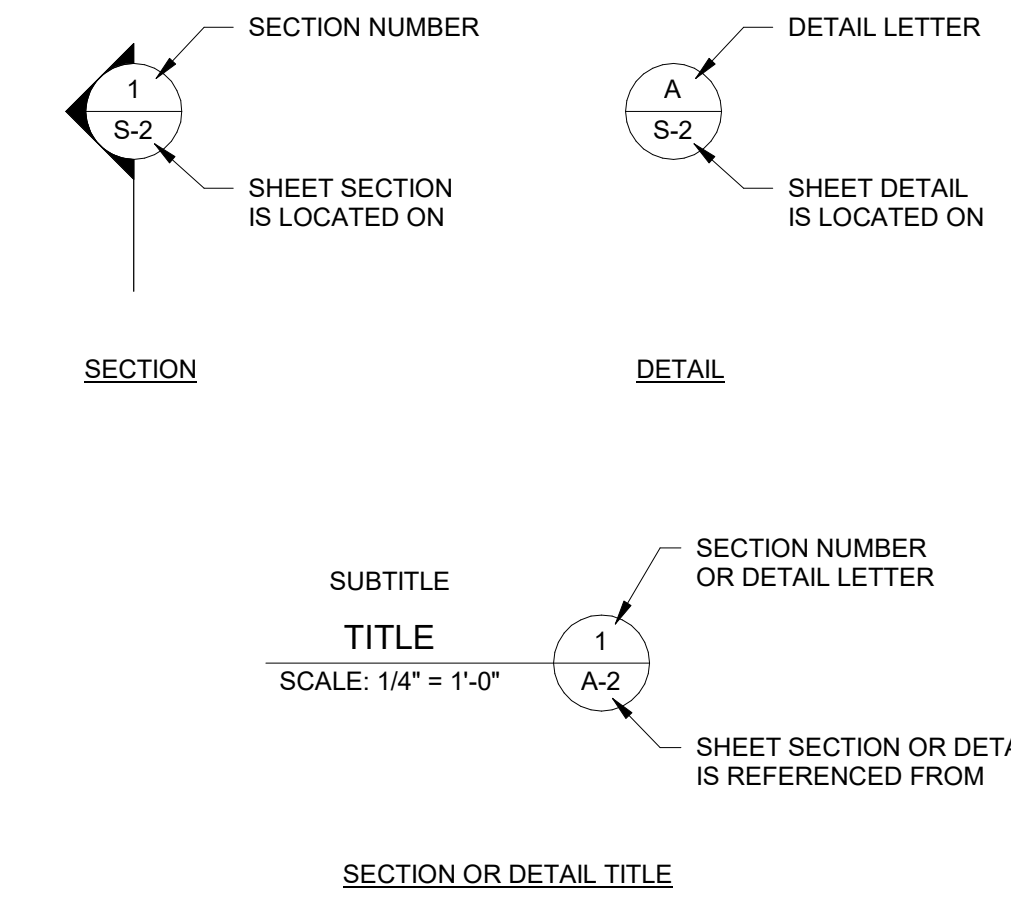
- D. STRUCTURAL STEEL**
- STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, ERECTED AND CONNECTED IN ACCORDANCE WITH THE 14TH EDITION OF THE "AISC STEEL CONSTRUCTION MANUAL" (ASD).
 - MATERIALS**
 - W SHAPES - ASTM A992
 - CHANNELS AND ANGLES - ASTM A36
 - PLATES - ASTM A36
 - HOLLOW STRUCTURAL SECTIONS (HSS) - ASTM A500 GR B
 - CONNECTIONS:**
 - WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1 "STRUCTURAL WELDING CODE-STEEL". WELDING FILLER METAL SHALL BE AWS A5.1 OR A5.5 E70XX LOW HYDROGEN ELECTRODES. WELDERS SHALL BE AWS CERTIFIED. SUBMIT COPY OF ALL CERTIFICATIONS TO THE ENGINEER. SURFACES TO BE WELDED SHALL BE WIRE BRUSHED CLEAN BEFORE WELDING.
 - ALL BOLTS SHALL BE ASTM A-325 BOLTS. SEE DRAWINGS FOR BOLT & HOLE SIZE
 - ALL BOLTS SHALL BE SNUG TIGHT, UON.
 - ALL BOLTED CONNECTIONS 2 BOLTS MINIMUM, UONO AND BOLTED CONNECTIONS SHALL BE BEARING TYPE WITH THREADS INCLUDED IN SHEAR PLANE
 - FABRICATE AND ERECT ALL STRUCTURAL STEEL WITH RESIDUAL MILL CAMBER UPWARDS.
 - CONTRACTOR TO PROVIDE ADDL BOLTS OR BOLTED SEAT ANGLE AS REQD BY OSHA FOR ERECTION. ALL ABANDONED HOLES SHALL BE FILLED WITH A 3/25 BOLTS OF THE SAME SIZE.
 - ALL FIELD WELDS TO GALVANIZED STEEL SHALL BE REPAIRED PER ASTM A-780/A-780M. SPRAY.
 - FOR HOT-DIPPED GALVANIZED MEMBERS, PROVIDE VENTING AND DRAINING HOLES. HOLE SIZE AND QUANTITY PER GALVANIZING REQUIREMENTS. ALL HOLES THAT WILL BE EXPOSED AFTER ERECTION MUST BE PLUGGED IN ACCORDANCE WITH THE GALVANIZER'S RECOMMENDATIONS.
 - ANCHOR RODS SHALL BE ASTM F1554 GR 55, UONO. ANCHOR RODS SHALL BE GALVANIZED.

- E. FOUNDATION NOTES**
- FOUNDATION DESIGN SHOWN ARE PRELIMINARY AND ARE BASED ON ASSUMED SOIL PROPERTIES.
 - THE CONTRACTOR SHALL CONDUCT A GEOTECHNICAL INVESTIGATION AND SUBMIT A GEOTECHNICAL REPORT, SEALED, SIGNED AND DATED BY A PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF VIRGINIA, FOR REVIEW AND APPROVAL. REFER TO SECTION 316329 FOR MINIMUM REQUIREMENT OF GEOTECHNICAL INVESTIGATION AND GEOTECHNICAL DESIGN REPORT.
 - THE CONTRACTOR SHALL SUBMIT FINAL FOUNDATION DESIGN DRAWINGS AND CALCULATIONS, SEALED, SIGNED AND DATED BY A PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF VIRGINIA, FOR REVIEW AND APPROVAL. REFER TO SECTION 316329 FOR MINIMUM REQUIREMENT FOR DRILLED PIER DESIGN AND CONSTRUCTION.
 - AFTER REVIEW AND APPROVAL, THE CONTRACTOR SHALL SUBMIT THE GEOTECHNICAL REPORT AND FINAL FOUNDATION DESIGN DRAWING TO ARLINGTON COUNTY, VIRGINIA FOR PERMITTING REVIEW.
- F. MODIFICATION AND REPAIR TO EXISTING CONCRETE**
- SEE SPECIFICATION SECTION 030130.71 FOR MODIFICATIONS TO EXISTING CONCRETE.
 - SEE SPECIFICATION SECTION 030100.61 FOR CONCRETE REPAIRS
- CONNECTION METHODS:**
- METHOD 'A' - BONDING TO SATURATED SURFACE USING CEMENT PASTE
 METHOD 'B' - BONDING BY USING EPOXY BONDING AGENT
 METHOD 'C' - DRILLED DOWELS OR BOLTS USING ADHESIVE ANCHOR SYSTEM
 METHOD 'D' - COMBINATION OF METHODS 'B' AND 'C'

- G. METAL GRATING**
- ALL METAL GRATING SHALL BE ALUMINUM.
 - SEE SPECIFICATION SECTION 055313 FOR ADDITIONAL REQUIREMENTS.
 - ALL ALUMINUM IN CONTACT WITH CONCRETE TO BE COVERED WITH A HEAVY COAT OF BITUMINOUS PAINT.
- H. METAL RAILING**
- ALL GUARDRAIL SHALL CONFORM TO OSHA REQUIREMENTS.
 - ALL ALUMINUM CONSTRUCTION, EXCEPT FASTENERS SHALL BE TYPE 316 STAINLESS STEEL.
 - SEE SPECIFICATION SECTION 055200 FOR ADDITIONAL REQUIREMENTS.

- I. SPECIAL INSPECTION REQUIREMENTS:**
- SPECIAL INSPECTIONS WILL BE CONDUCTED IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE (IBC).
 - IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE, THE OWNER WILL PROVIDE A SPECIAL INSPECTOR (AN APPROVED AGENCY OR AGENCIES, INDEPENDENT FROM THE CONTRACTOR AND EMPLOYING QUALIFIED PERSONNEL) TO PERFORM SPECIAL INSPECTIONS IDENTIFIED IN THE STATEMENT OF SPECIAL INSPECTIONS. THE SPECIAL INSPECTOR WILL FURNISH INSPECTION REPORTS TO THE ENGINEER AND BUILDING OFFICIAL.
 - SPECIAL INSPECTIONS SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR QUALITY CONTROL OF THE WORK OR FOR CONFORMANCE TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. DETECTION, OR FAILURE TO DETECT, DEFECTS IN THE WORK SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO CORRECT ALL DEFECTS IN THE WORK, WHETHER DETECTED OR NOT, AND RESPONSIBILITY FOR CONFORMANCE TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
 - REMOVE AND REPLACE, OR REPAIR, DEFECTS IN THE WORK AND WORK NOT IN CONFORMANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL BEAR THE COSTS FOR THE INSPECTION OF ANY REPLACED OR REPAIRED PORTIONS OF THE WORK.
 - CONTRACTOR SHALL COOPERATE WITH SPECIAL INSPECTIONS BY PROVIDING SUFFICIENT NOTICE FOR THE SCHEDULING OF PERSONNEL AND BY ALLOWING FREE AND SAFE ACCESS TO THE WORK FOR OBSERVATION, VERIFICATION, SAMPLING AND INSPECTION. PROVIDE AND PERMIT HE USE OF LADDERS, SCAFFOLDING, INCIDENTAL EQUIPMENT, AND SAFETY EQUIPMENT AS MAY BE REQUIRED TO CONDUCT SPECIAL INSPECTIONS. ALL SUCH PROVISIONS FOR FREE AND SAFE ACCESS AND EQUIPMENT SHALL BE SAFE, AND IN GOOD WORKING CONDITION, AND ERECTED, MAINTAINED, AND HANDLED BY QUALIFIED PERSONNEL.
 - SPECIAL INSPECTIONS DO NOT APPLY TO CONTRACTOR'S EQUIPMENT, TEMPORARY STRUCTURES USED FOR CONSTRUCTION, MEANS AND METHODS OF CONSTRUCTION, OR SITE SAFETY. CONTRACTOR SHALL REMAIN RESPONSIBLE FOR ADEQUACY AND SAFETY OF EQUIPMENT, TEMPORARY STRUCTURES USED FOR CONSTRUCTION, MEANS AND METHODS OF CONSTRUCTION AND SITE SAFETY.
 - SEE SHEET S-13 FOR SCHEDULE OF SPECIAL INSPECTIONS.

STRUCTURAL SECTION & DETAIL



- SECTION AND DETAIL NOTES:**
- WHEN A SECTION OR DETAIL IS ON THE SAME SHEET FROM WHICH IT IS TAKEN, THE SHEET NUMBER IS REPLACED WITH A HYPHEN.
 - WHEN A SECTION OR DETAIL IS REFERENCED IN A NOTE, THE CALLOUT IS FORMATTED AS A/S-2.

STRUCTURAL ABBREVIATIONS

#	NUMBER	INT	INTERIOR
&	AND	INV	INVERT
@	AT	JT	JOINT
AB	ANCHOR BOLT	KO	KNOCKOUT
ABV	ABOVE	LG	LENGTH
ACC	ACCELERATION	LLH	LONG LEG HORIZONTAL
ADDL	ADDITIONAL	LLV	LONG LEG VERTICAL
ALUM/AL	ALUMINUM	LNTL	LINTEL
ALT	ALTERNATE (ING)	LOC(S)	LOCATION(S) LOCATED
APPROX	APPROXIMATELY	LONG.	LONGITUDINAL
B TO B	BACK TO BACK	LP	LOW POINT
BEV	BEL (ED)	LT	LEFT
BLK	BLOCKING	LW	LIGHTWEIGHT
BOT	BOTTOM	MAS	MASONRY
BRG	BEARING	MAX	MAXIMUM
B/W	BETWEEN	MB	MACHINE BOLTS
CIRC	CIRCUMFERENTIAL	MCI	MASONRY CONTROL JOINT
CJ	CONSTRUCTION JOINT	MFR	MANUFACTURER
CL	CENTERLINE	MIN	MINIMUM
CLJ	CONTROL JOINT	MO	MASONRY OPENING
CLR	CLEAR	MTD	MOUNTED
CMU	CONCRETE MASONRY UNITS	NF	NEAR FACE
COL	COLUMN	NS	NON-SHRINK
CONC	CONCRETE	NTS	NOT TO SCALE
CONN	CONNECTION	OC	ON CENTER
CONT	CONTINUOUS	OD	OUTSIDE DIAMETER
CPLG	COUPLING	OF	OUTSIDE FACE
CRS	COURSE (S)	OPNG	OPENING
CSK	COUNTERSINK	OPP	OPPOSITE
CTR	CENTER(ED)	OPT	OPTIONAL
d	PENNY	PCJ	PARTIAL CONTRACTION JOINT
DET	DETAIL	PJF	PREMOLDED JOINT FILLER
DIA	DIAMETER	PLYWD	PLYWOOD
DIAG	DIAGONAL	PREFAB	PREFABRICATED
DIR	DIRECTION	PROJ	PROJECTION
DL	DEAD LOAD	PVMT	PAVEMENT
DO	DITTO	RISER(S)	RISER(S)
DWG	DRAWING	RAD	RADIUS
DWL	DOWEL	RC	REINFORCED CONCRETE
EA	EACH	REF	REFERENCE/REFER
EB	EXPANSION BOLT	REINF	REINFORCE (D, ING)
EF	EACH FACE	REQD	REQUIRED
EL	ELEVATION	REV	REVISION
EMBED	EMBEDMENT	RLG	RAILING
EQ	EQUAL (LY)	RO	ROUGH OPENING
EQUIP	EQUIPMENT	RT	RIGHT
ES	EACH SIDE	SCJ	SLAB CONTROL JOINT
EW	EACH WAY	SECT	SECTION
EXST	EXISTING	SIM	SIMILAR
EXP JT	EXPANSION JOINT	SP	SPACE (S, ED)
EXT	EXTERIOR	SQ	SQUARE
f_c	CONCRETE COMPRESSION STRESS	SS	STAINLESS STEEL
f_m	MASONRY PRISM STRESS	STD	STANDARD
FAB	FABRICATE (OR, ED)	STIF	STIFFENER
FDN	FOUNDATION	STIR	STIRRUP (S)
FF	FAR FACE	STL	STEEL
FHMS	FLATHEAD MACHINE SCREW	SYM	SYMMETRICAL
FHWS	FLATHEAD WOOD SCREW	T	TREAD(S)
FL	FLOOR	T/	TOP OF
FRP	FIBERGLASS REINFORCED PLASTIC	T&B	TOP AND BOTTOM
FTG	FOOTING	TF	TOP FACE
FV	FIELD VERIFY	THD	THREADED
GALV	GALVANIZED	TCC	TOP OF CONCRETE
GBT	GRAVITY BELT THICKENER	TRNSV	TRANSVERSE
GLB	GLASS BLOCK	TYP	TYPICAL
GR	GRADE	UON	UNLESS OTHERWISE NOTED
GRGT	GRATING	VB	VAPOR BARRIER
H	HIGH	VIF	VERIFY IN FIELD
HAS	HEADED ANCHOR STUD	W	WIDE
HDR	HEADER	W/	WITH
HOR	HORIZONTAL	W/O	WITHOUT
HP	HIGH POINT	WD	DRIFT WIDTH
ID	INSIDE	WP	WORKING POINT
I.E.	INVERT ELEVATION	WSP	WATERSTOP
IF.	INSIDE FACE	WWF	WELDED WIRE FABRIC

- ABBREVIATION NOTES:**
- ABBREVIATIONS AND DESIGNATIONS FOR STEEL MEMBERS MAY BE FOUND IN THE CURRENT MANUAL OF STEEL CONSTRUCTION BY AISC.
 - ABBREVIATIONS OF TECHNICAL SOCIETIES AND TRADE ASSOCIATIONS MAY BE FOUND IN THE SPECIFICATIONS.
 - WELDING SYMBOLS AND ABBREVIATIONS MAY BE FOUND IN AWS 2.4.

STRUCTURAL LEGENDS AND SYMBOLS

	GRATING SPAN DIRECTION		ALUMINUM
	STEEL		GRATING
	UNDISTURBED EARTH		DEMOLITION
	CONCRETE		GROUT
	CONCRETE MASONRY		



DEPARTMENT OF ENVIRONMENTAL SERVICES
 WATER POLLUTION CONTROL BUREAU
 3402 S. GLEBE ROAD
 ARLINGTON, VA 22202
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APPROVALS DATE

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Revisions	Date

Project Name and Location
Water Pollution Control Plant
 Preliminary Treatment Upgrades (WPB2) Phase 9B
STRUCTURAL NOTES, ABBREVIATIONS, AND LEGEND

Designed: K. BASILI
 Drawn: B. BENNETT
 Checked: M. CALVINO

Filename: SEZ000PT.rvt
 Path: R:\d1295026\SEZ000PT.rvt
 Plotted: DECEMBER 18, 2020
 Plotted by: B. BENNETT

Scale: AS NOTED

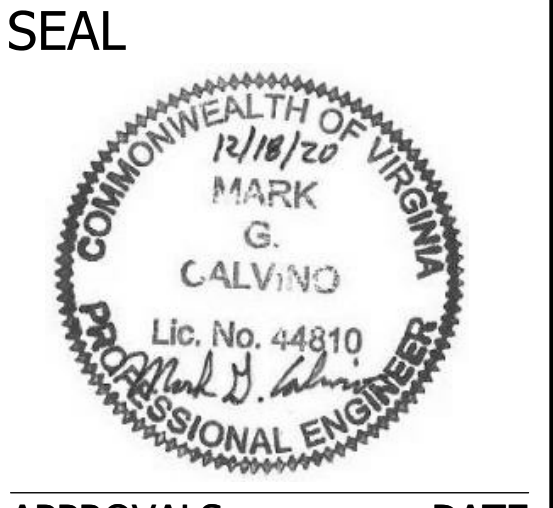
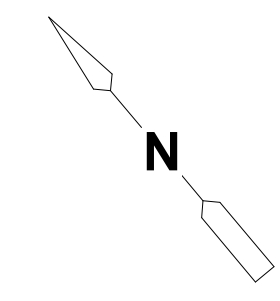


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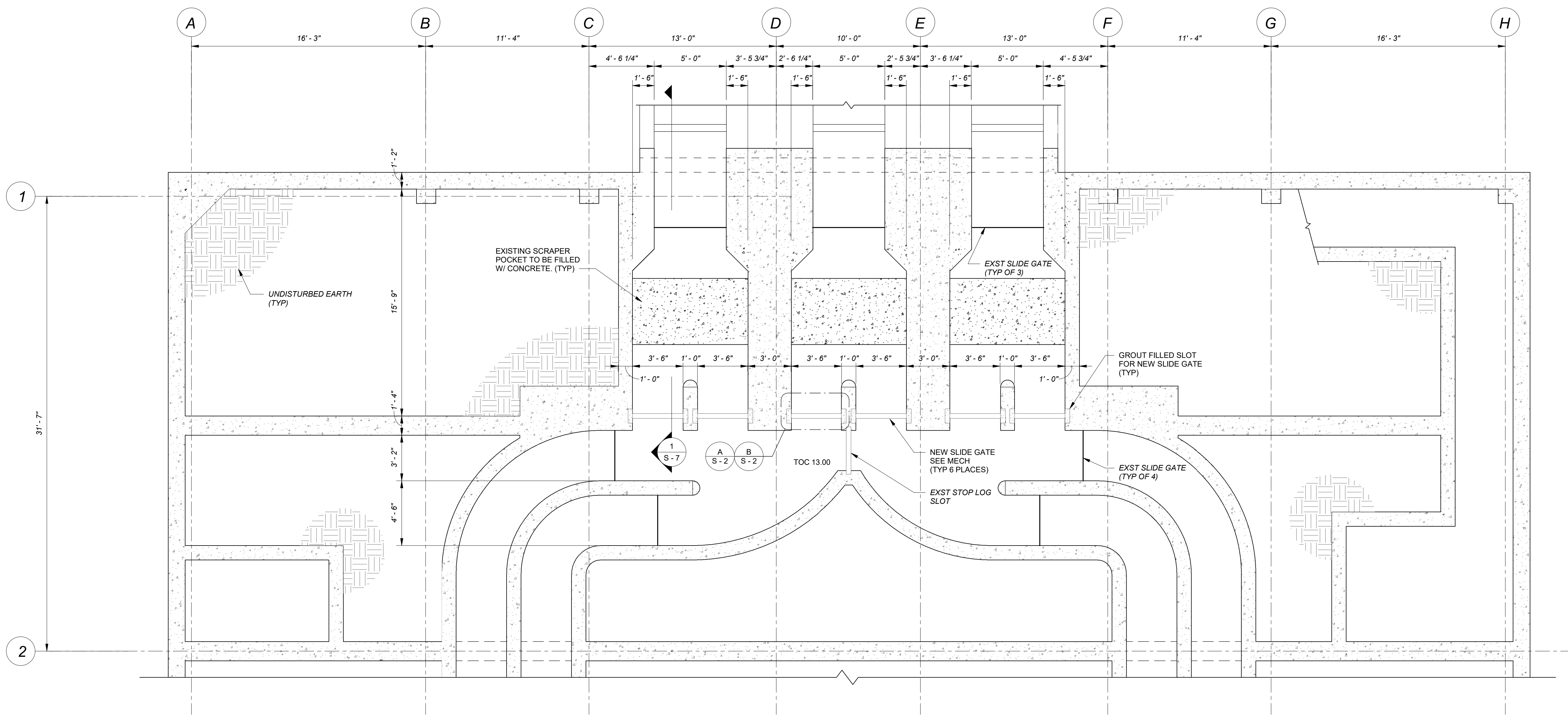
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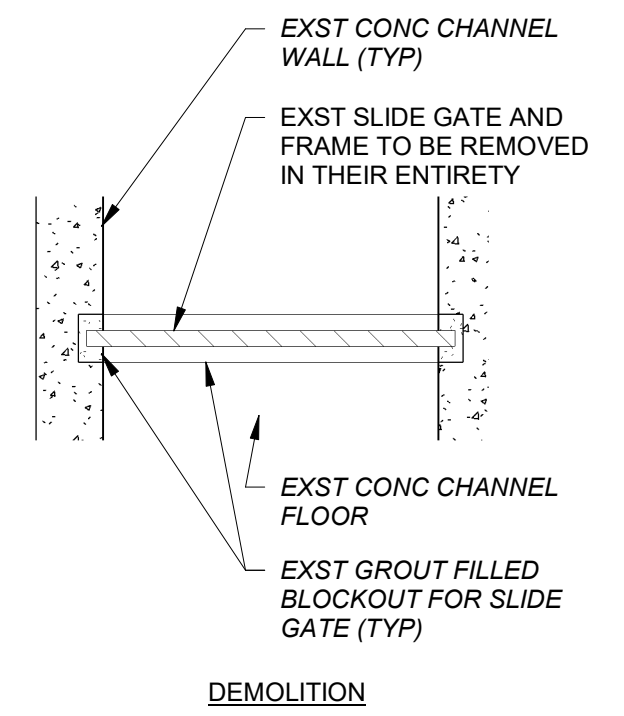
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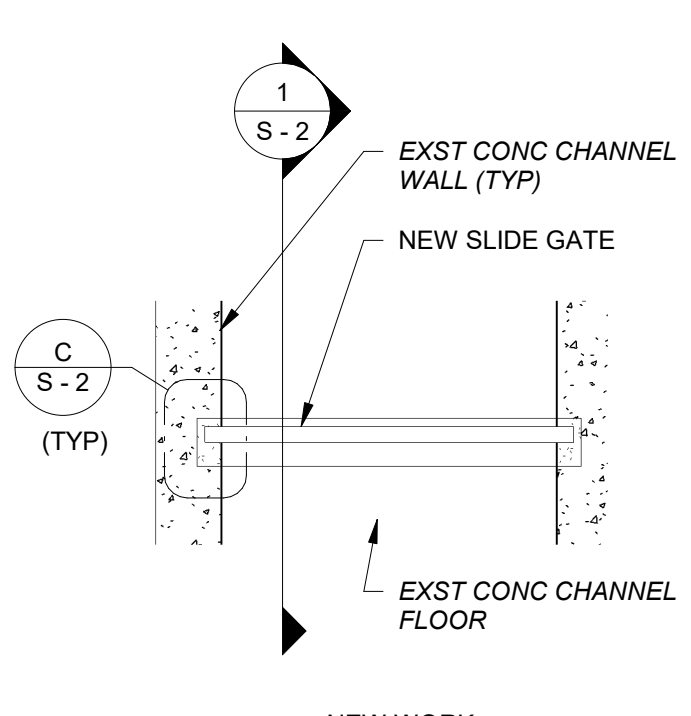
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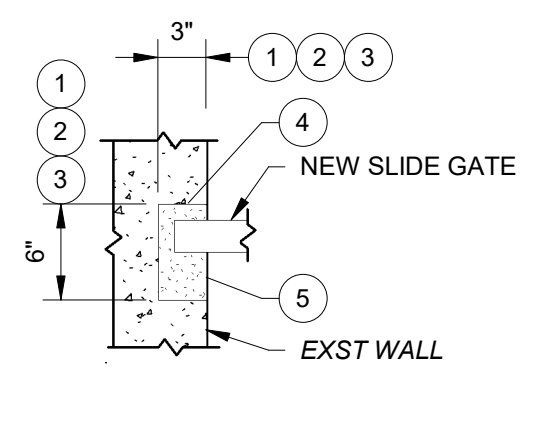
BELOW FIRST FLOOR PARTIAL
PLAN
1/4" = 1'-0"



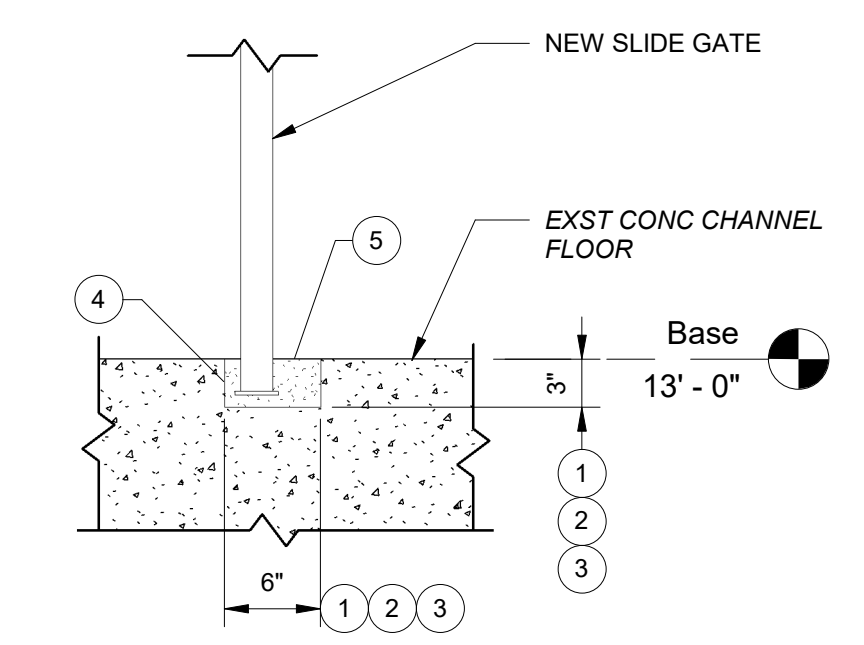
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DETAIL B
SCALE: 1/2" = 1'-0"



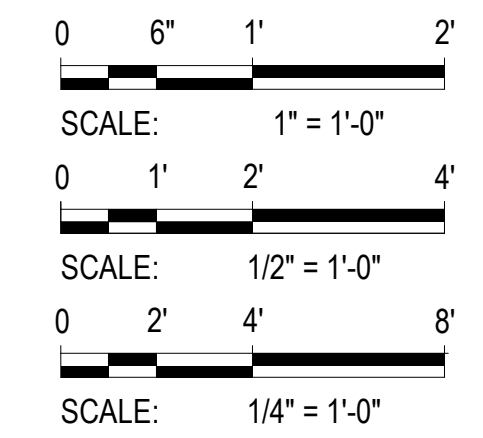
DETAIL C
SCALE: 1" = 1'-0"



SECTION 1
SCALE: 1" = 1'-0"

KEYED NOTES:

1. PROVIDE NEW SLOTS IN EXISTING CONCRETE. USE SAWCUTS WHERE ACCESS ALLOWS. REMOVE REMAINING CONCRETE BY CHIPPING. WHERE SAWCUTS ARE NOT PRACTICAL SUBMIT METHODOLOGY FOR CREATING STRAIGHT LINES FOR NEW GATE SLOT.
2. NEW SLOTS WILL BE INSTALLED IN A LOCATION OF PREVIOUS BOXOUT AND FILL FOR EXISTING GATE. REMOVE ANY LOOSE OR CRACKED FILL REMAINING AFTER SIZING NEW SLOTS.
3. COORDINATE AND VERIFY NEW SLOT DIMENSIONS WITH SLIDE GATE MANUFACTURER.
4. COAT ALL EXPOSED AND CUT STEEL REBAR WITH A 1/4" MAX LAYER OF EPOXY PASTE.
5. INSTALL CEMENTITIOUS GROUT IN ACCORDANCE WITH THE INSTALLATION REQUIREMENTS OF THE SLIDE GATE MANUFACTURER.



Project Name and Location

Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
BELOW FIRST FLOOR
STRUCTURAL PLAN & DETAILS

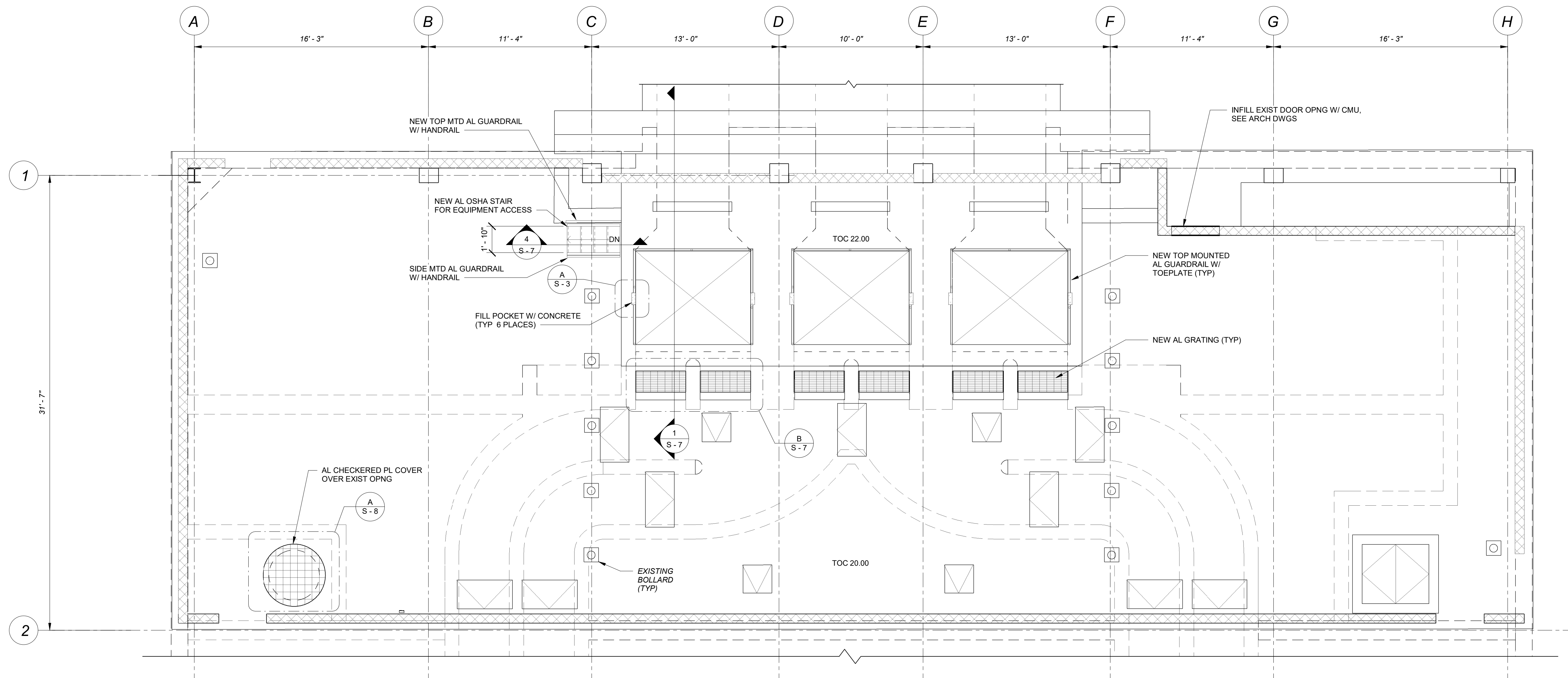
Designed: K. BASILI
Drawn: B. BENNETT
Checked: M. CALVINO

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Path: R:\d1295026\SEZ000PT.rvt
Plotted: DECEMBER 18, 2020
Plotted by: B. BENNETT

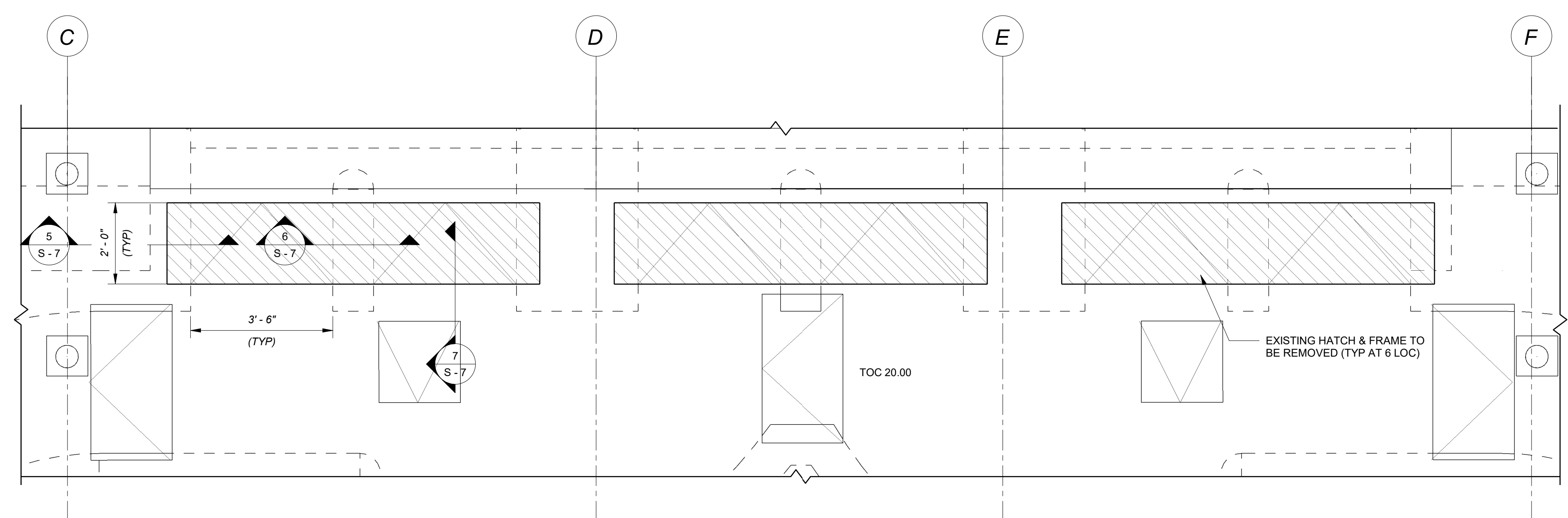
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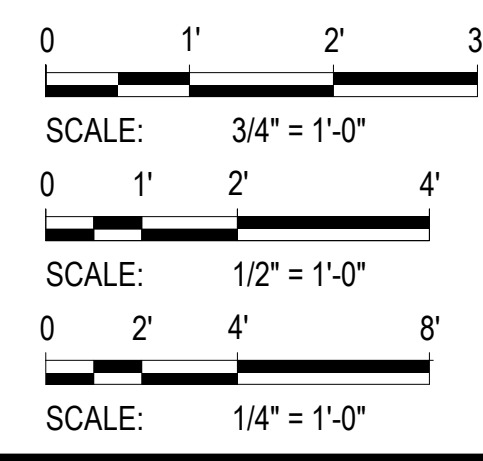
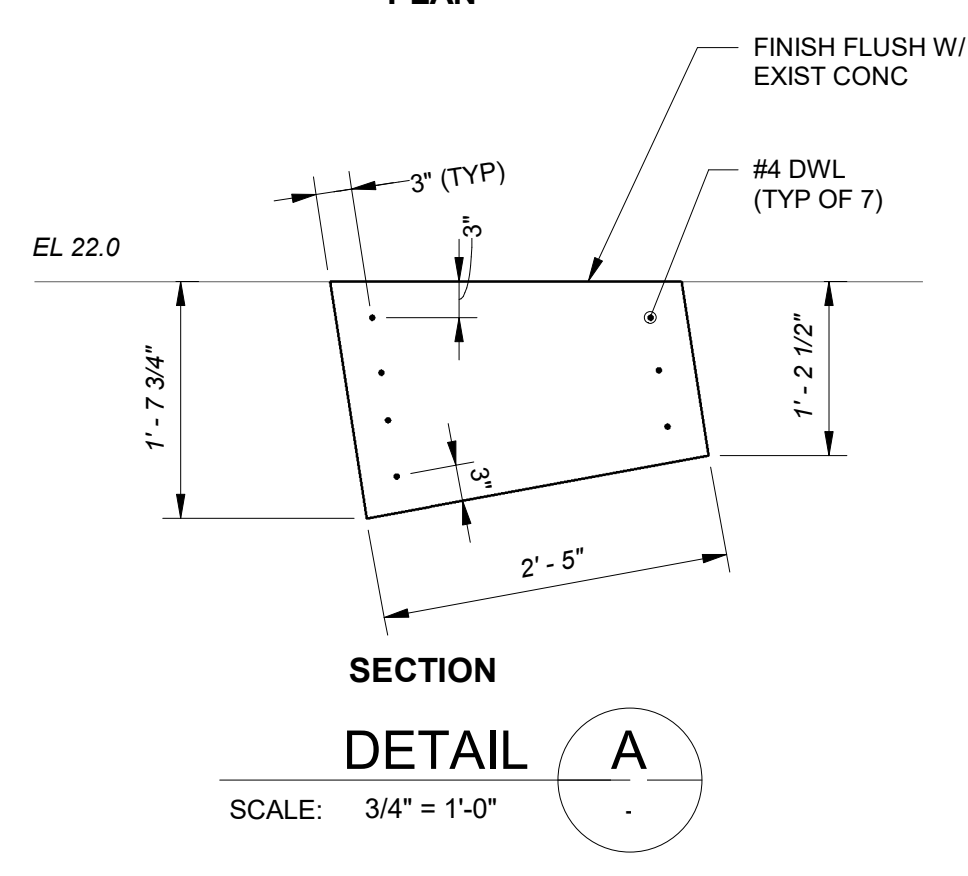
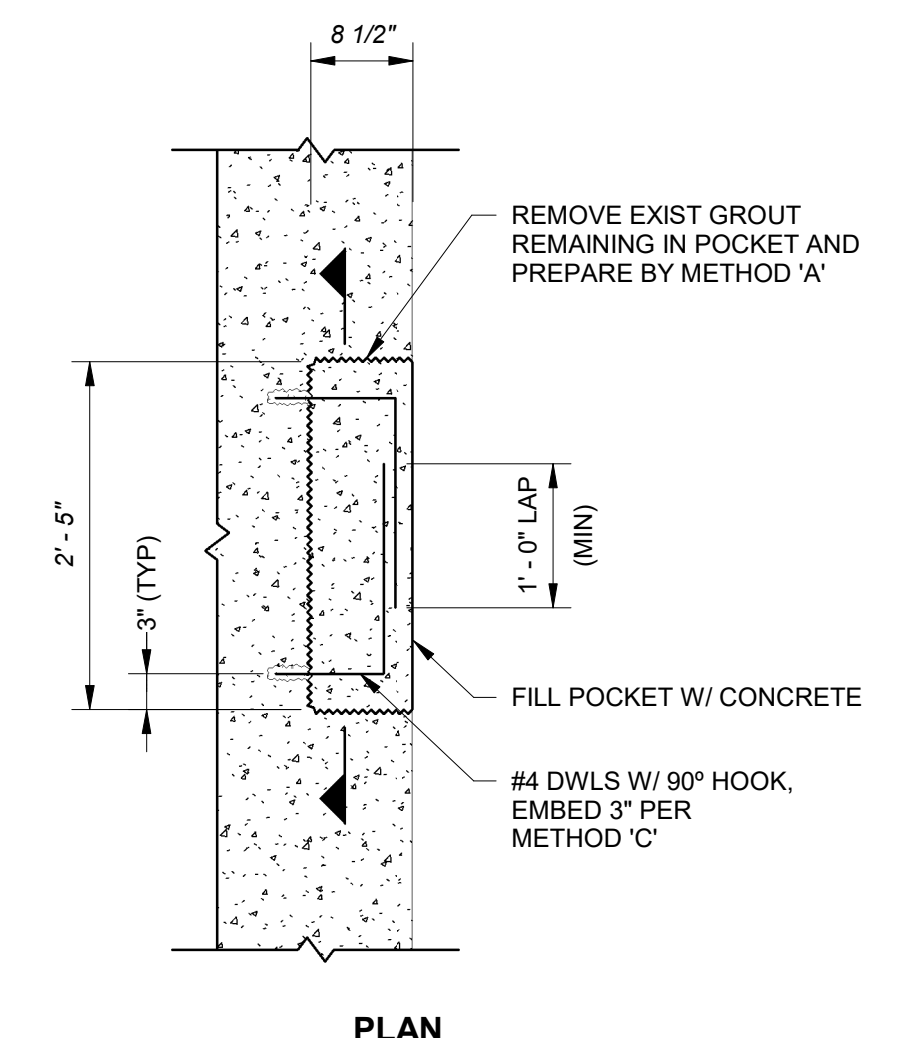
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FIRST FLOOR PROPOSED PARTIAL
PLAN
1/4" = 1'-0"



FIRST FLOOR DEMOLITION PARTIAL
PLAN
1/2" = 1'-0"



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APPROVALS DATE

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Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
FIRST FLOOR
STRUCTURAL PLANS & DETAILS

Designed: K. BASILI
Drawn: B. BENNETT
Checked: M. CALVINO

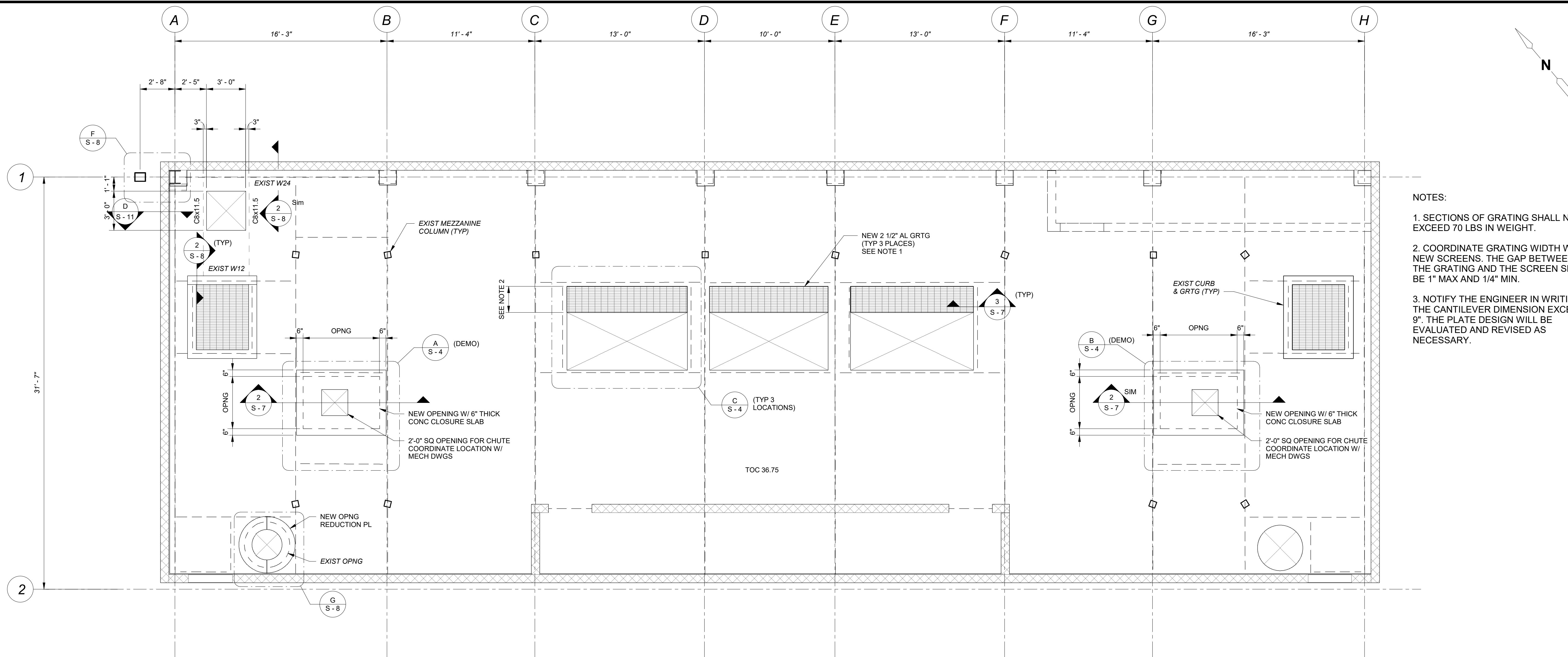
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SECOND FLOOR PROPOSED PARTIAL
PLAN
1/4" = 1'-0"

NOTES:

1. SECTIONS OF GRATING SHALL NOT EXCEED 70 LBS IN WEIGHT.
2. COORDINATE GRATING WIDTH WITH NEW SCREENS. THE GAP BETWEEN THE GRATING AND THE SCREEN SHALL BE 1" MAX AND 1/4" MIN.
3. NOTIFY THE ENGINEER IN WRITING IF THE CANTILEVER DIMENSION EXCEEDS 9". THE PLATE DESIGN WILL BE EVALUATED AND REVISED AS NECESSARY.

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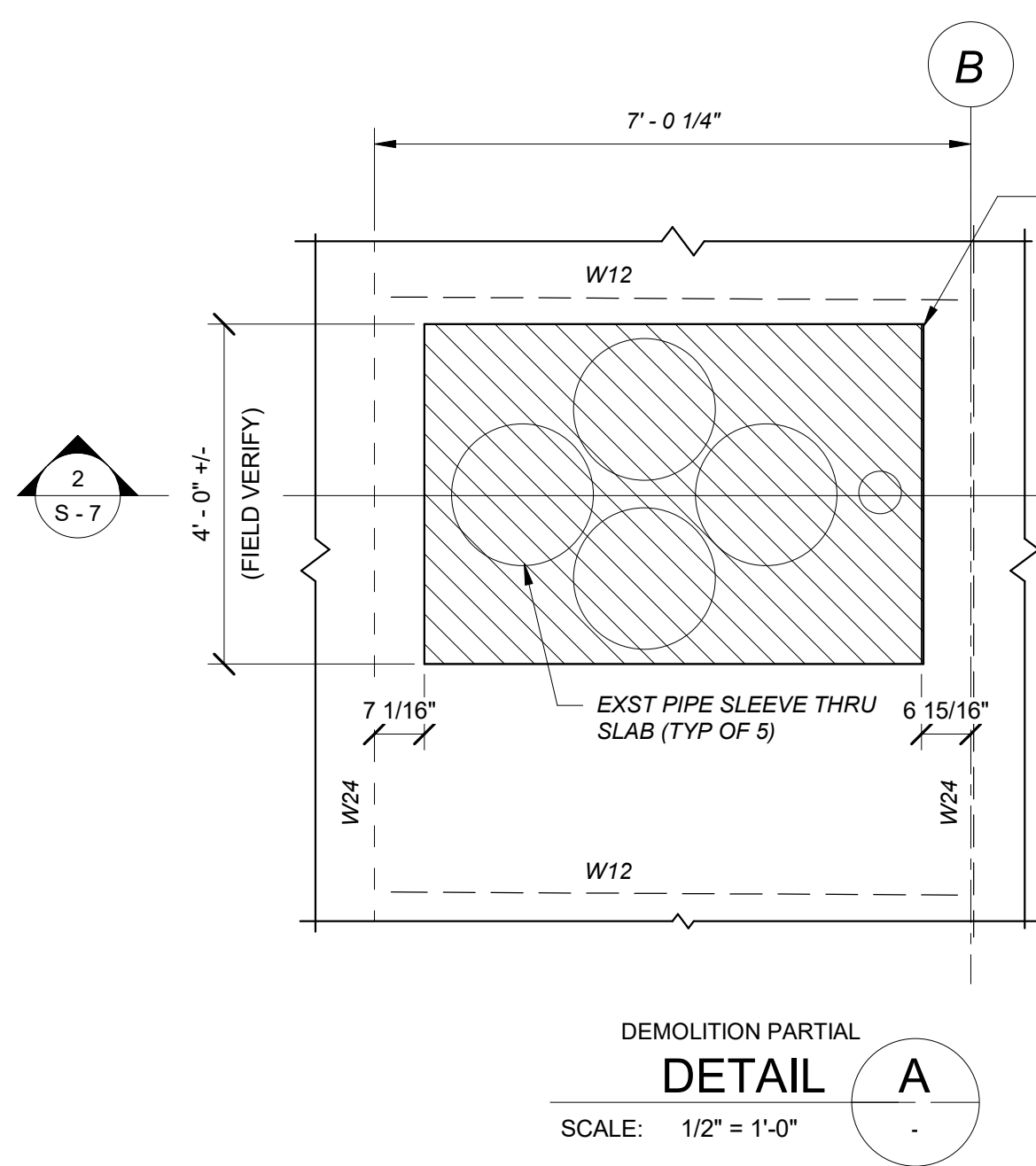
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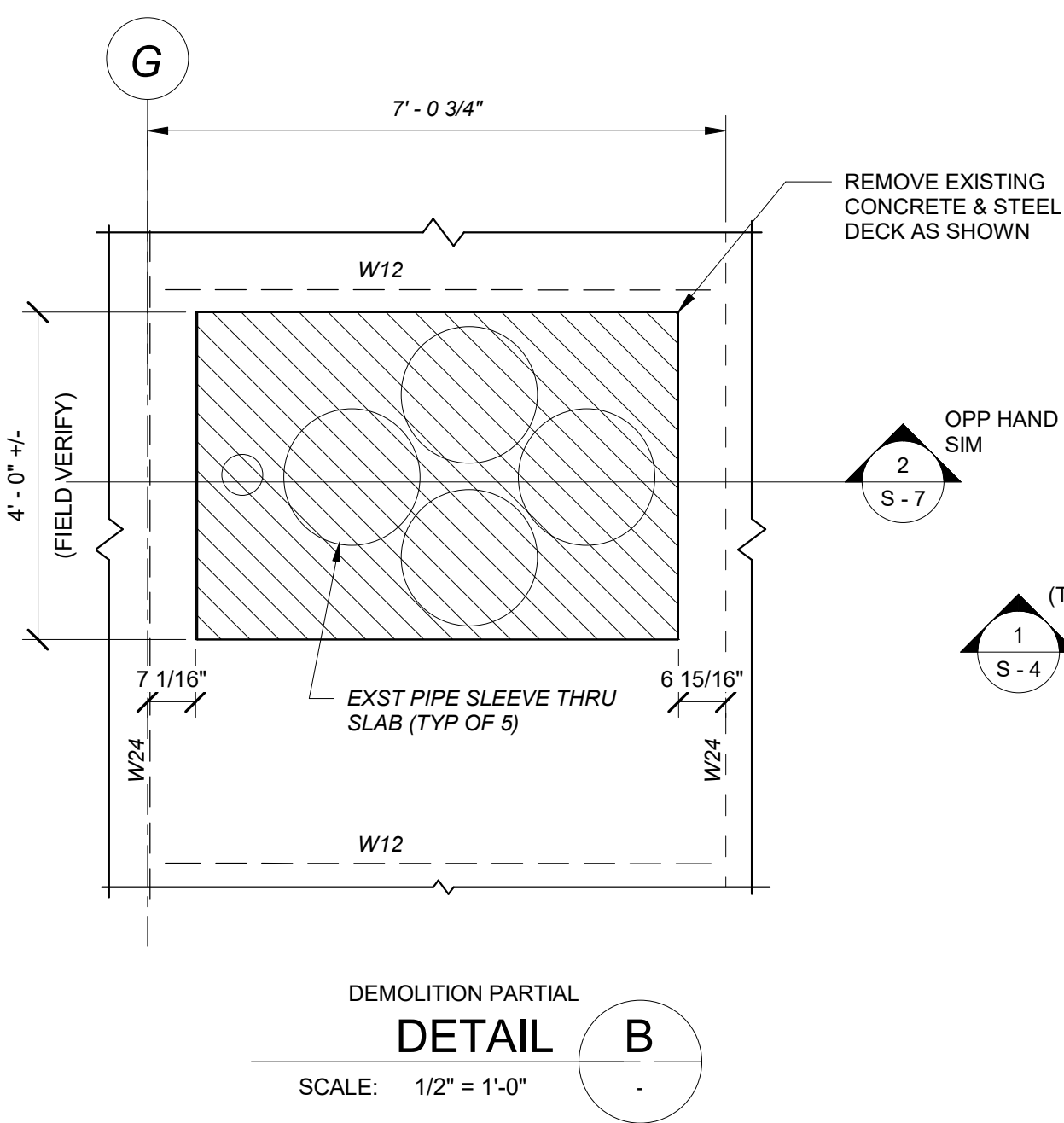
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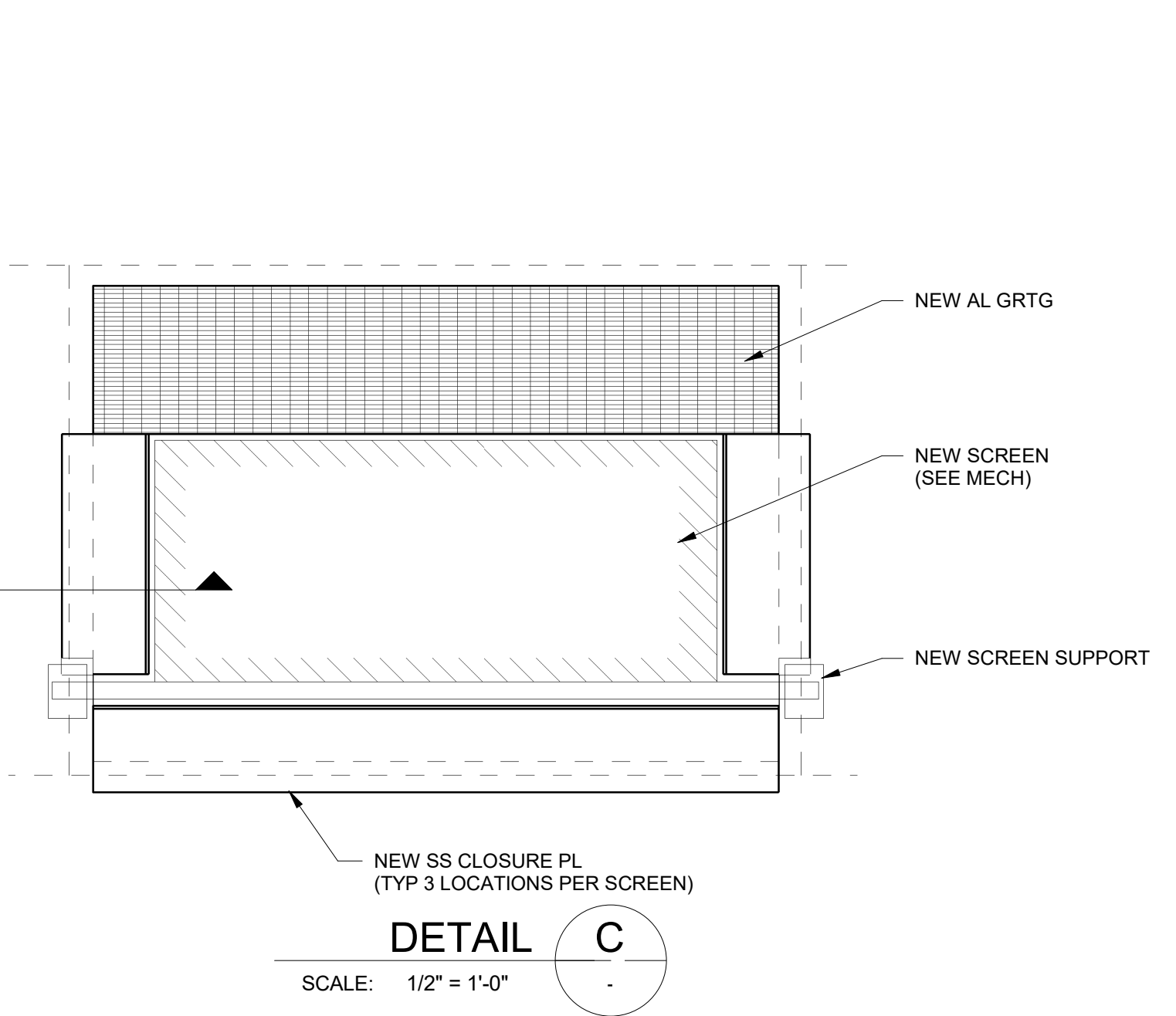
Revisions	Date



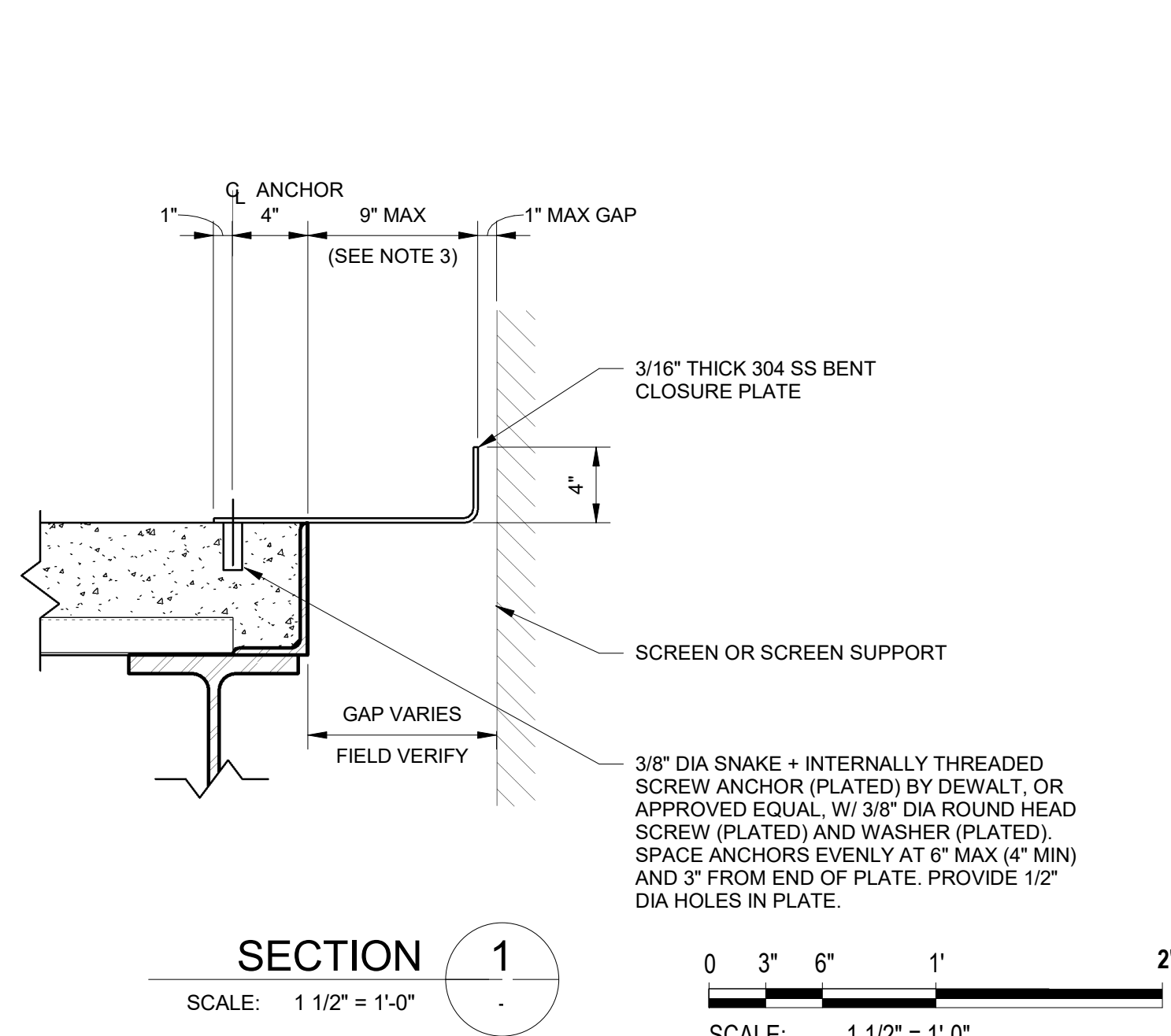
DEMOLITION PARTIAL
DETAIL A
SCALE: 1/2" = 1'-0"



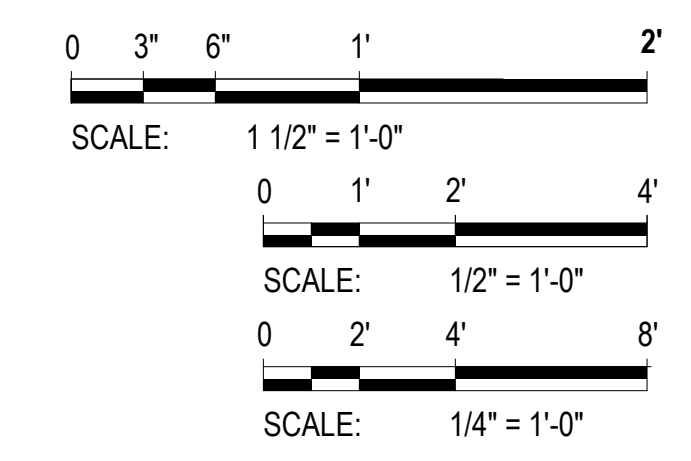
DEMOLITION PARTIAL
DETAIL B
SCALE: 1/2" = 1'-0"



DEMOLITION PARTIAL
DETAIL C
SCALE: 1/2" = 1'-0"



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



Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
SECOND FLOOR
STRUCTURAL PLAN & DETAILS

Designed: K. BASILI
Drawn: B. BENNETT
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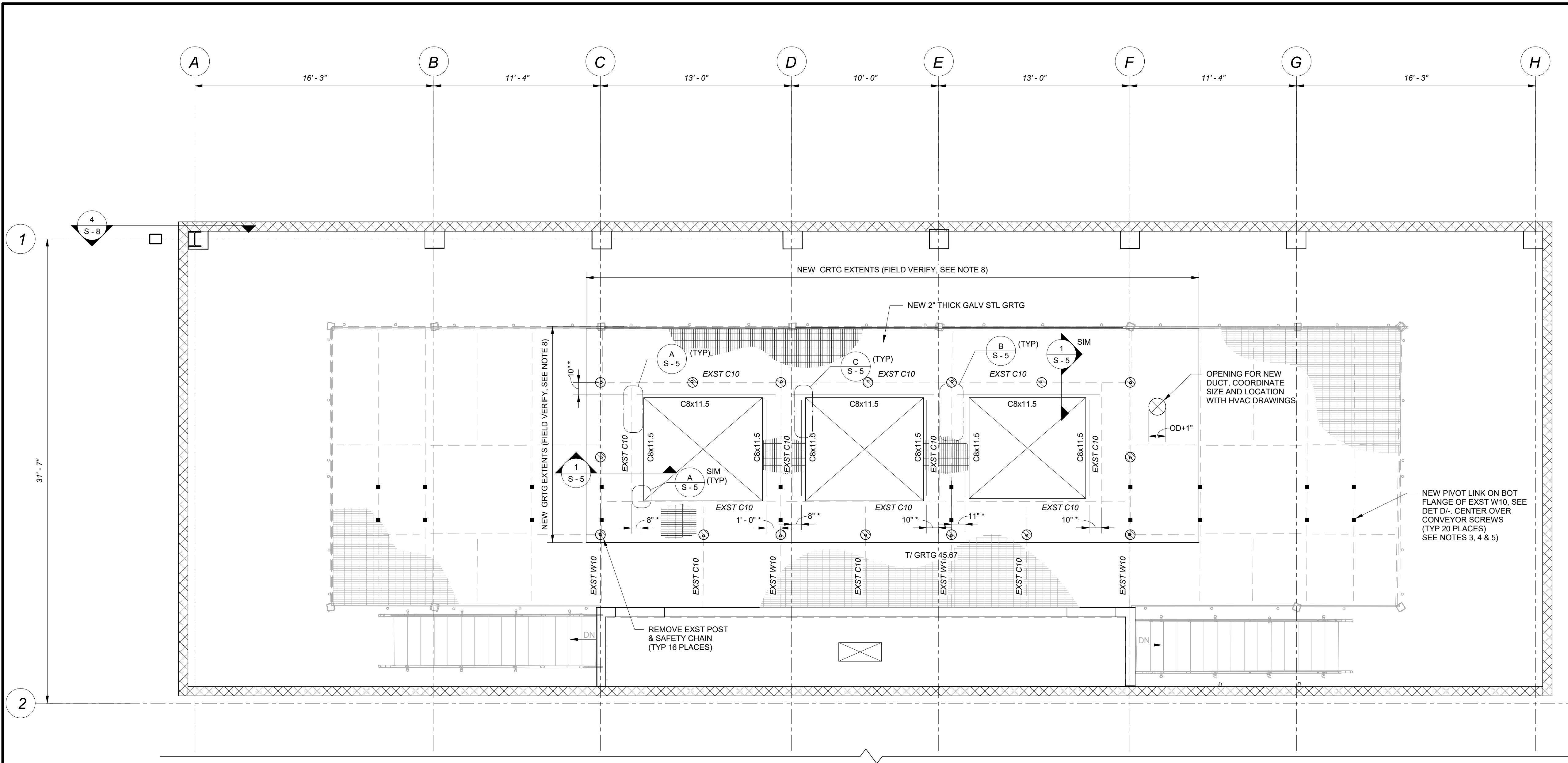
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10560 Arrowhead Drive, Suite 500
FAIRFAX, VA 22030

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NOTES:

1. NEW C-8'S TO BE GALVANIZED STEEL.
2. * - COORDINATE FINAL DIMENSION W/ THE APPROVED SCREENS. SEE SECT 1/-.
3. LIFTING LOAD ON PIVOT LINK SHALL NOT EXCEED 300 LBS PER LINK.
4. MAXIMUM LOAD PER NOTE 3 SHALL BE LABELED ON EACH BEAM.
5. LABEL BEAMS "PIVOT LINKS ON THE SAME BEAM SHALL NOT BE USED SIMULTANEOUSLY."
6. LETTERS FOR THE LABELS IN NOTES 4 AND 5 SHALL BE 3" TALL WITH A MINIMUM LINE THICKNESS OF 1/4".
7. TOUCH UP GALVANIZING ON STEEL AFTER COMPLETION OF WELDING.
8. REMOVE ALL EXISTING GRATING WITHIN THE EXTENTS OF THE NEW GRATING. FIELD COORDINATE THE EXTENTS OF THE NEW GRATING WITH THE PANEL JOINTS IN THE EXISTING GRATING.



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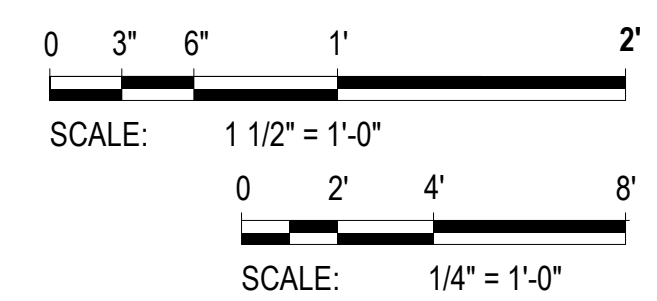
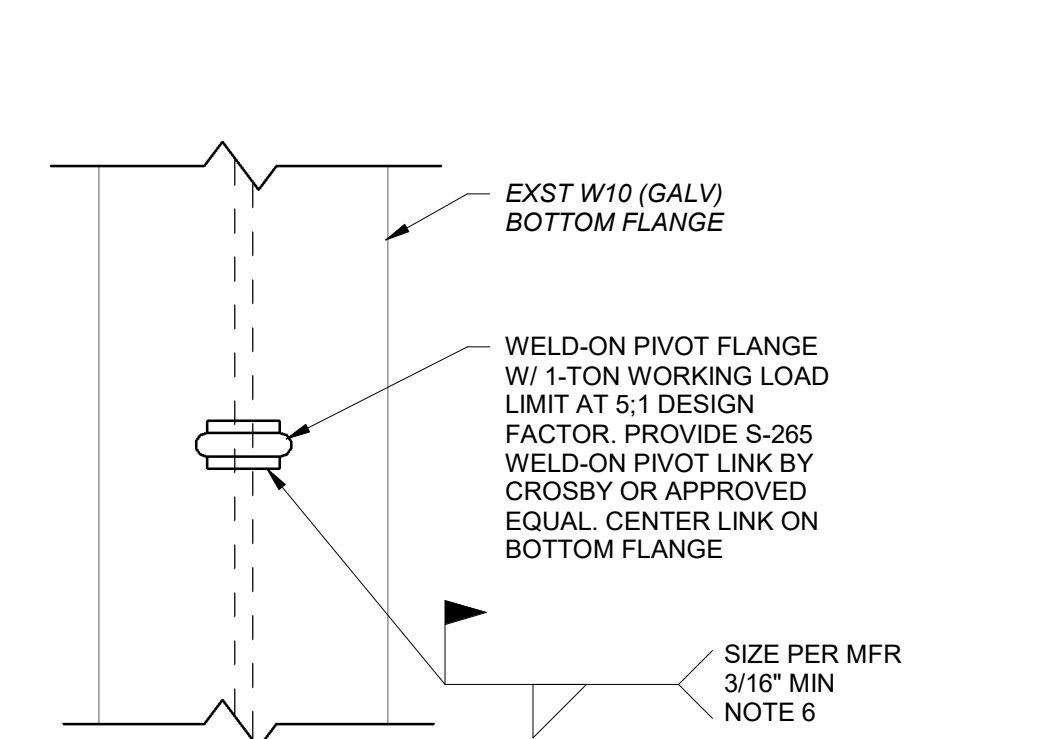
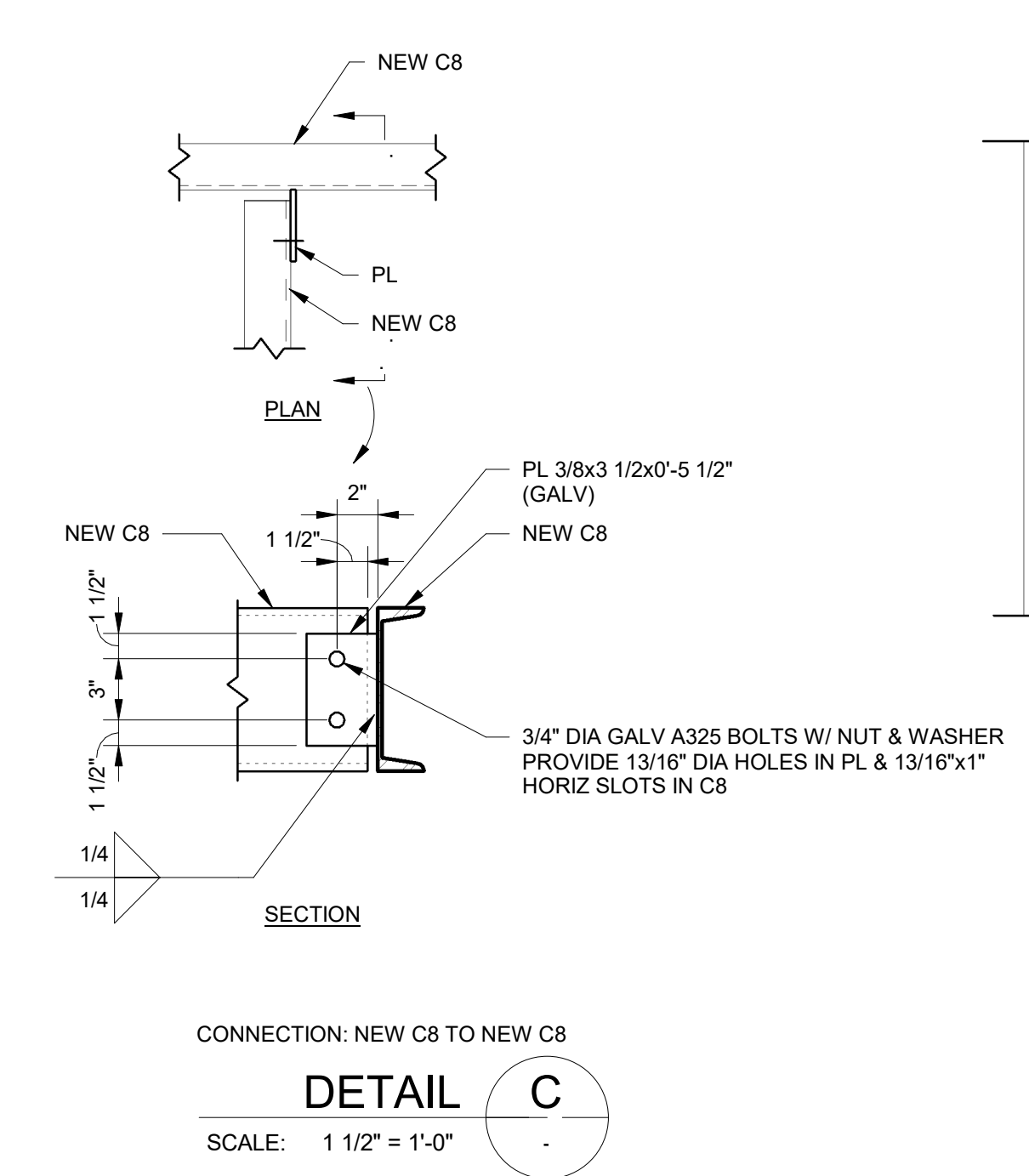
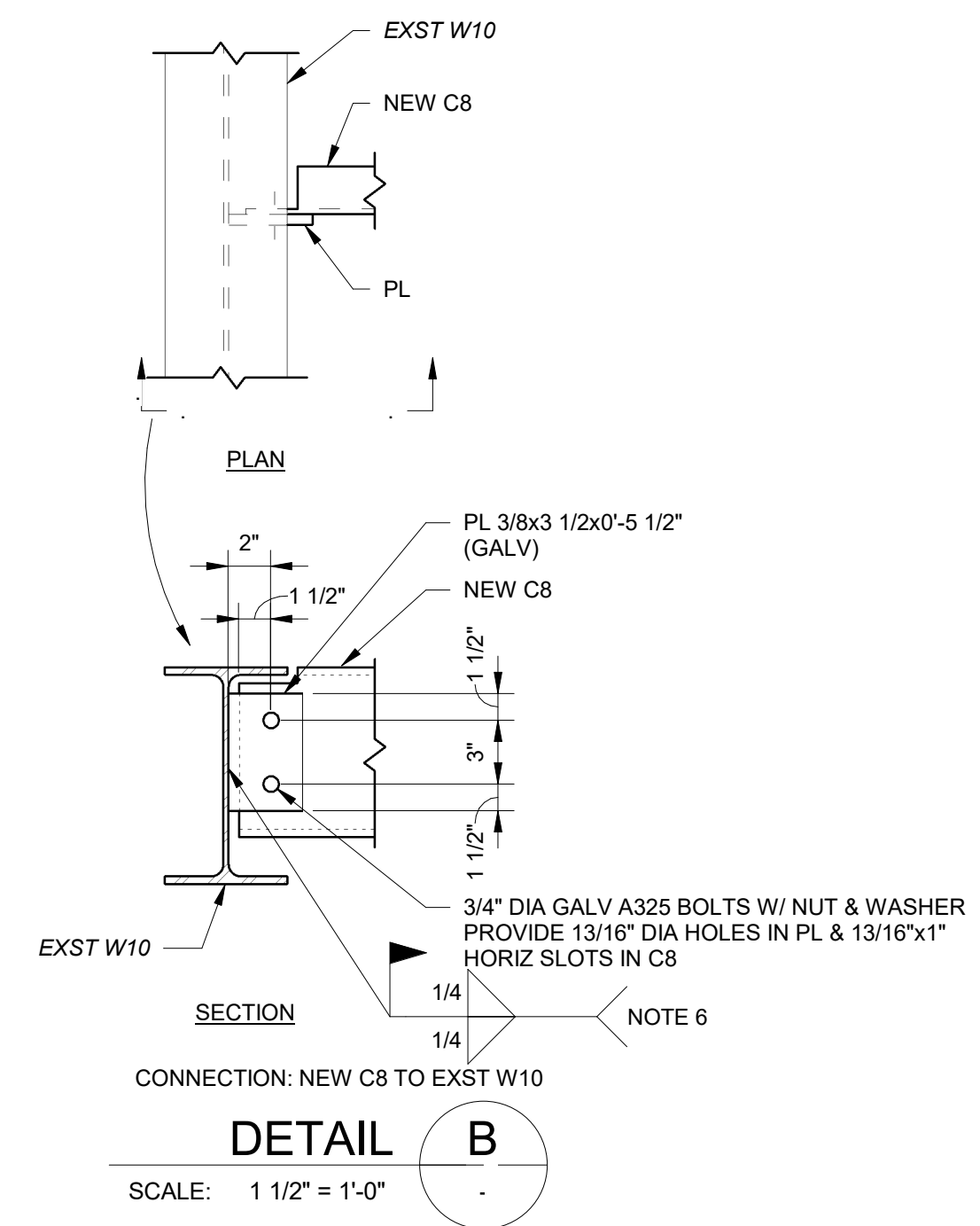
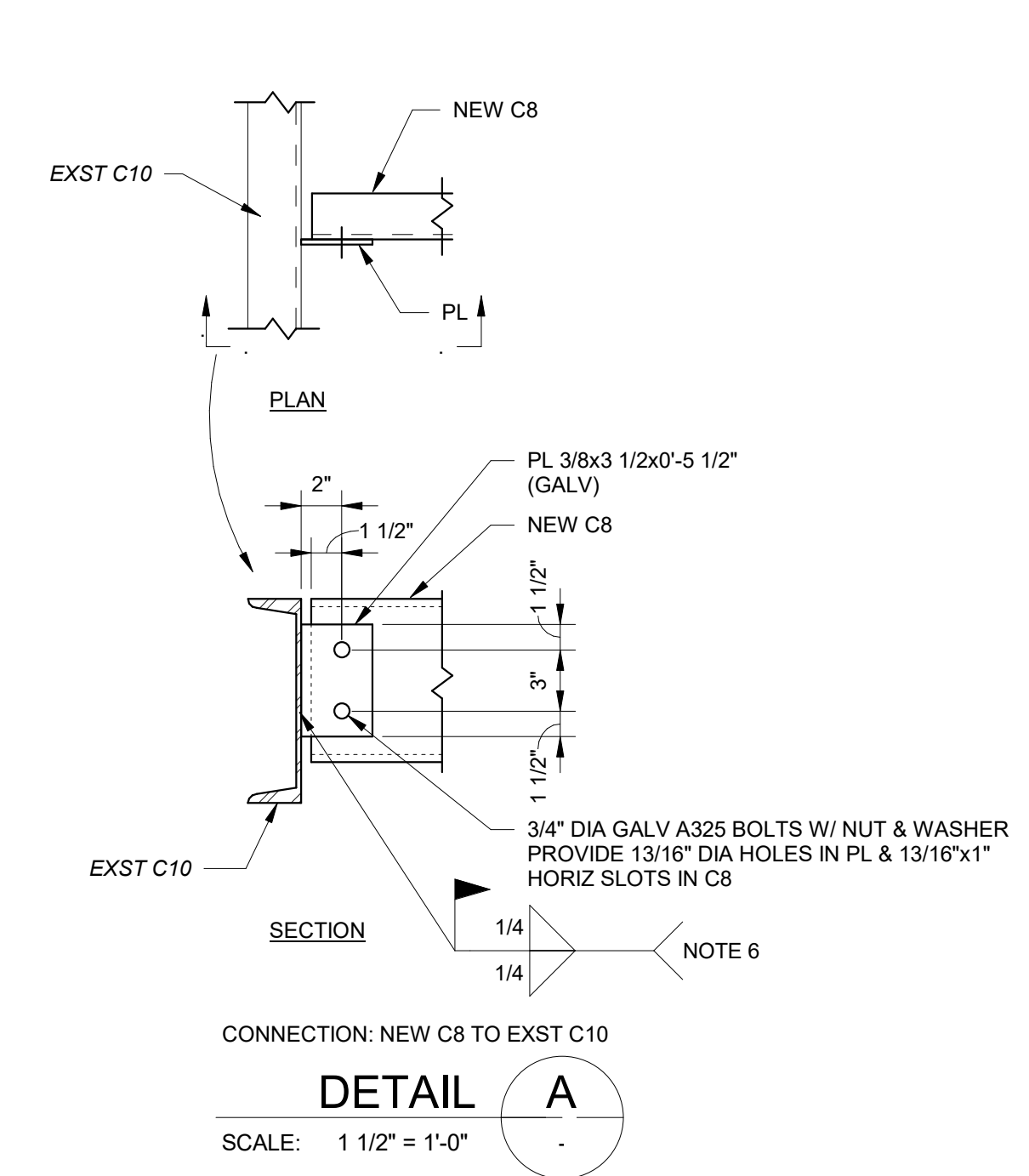
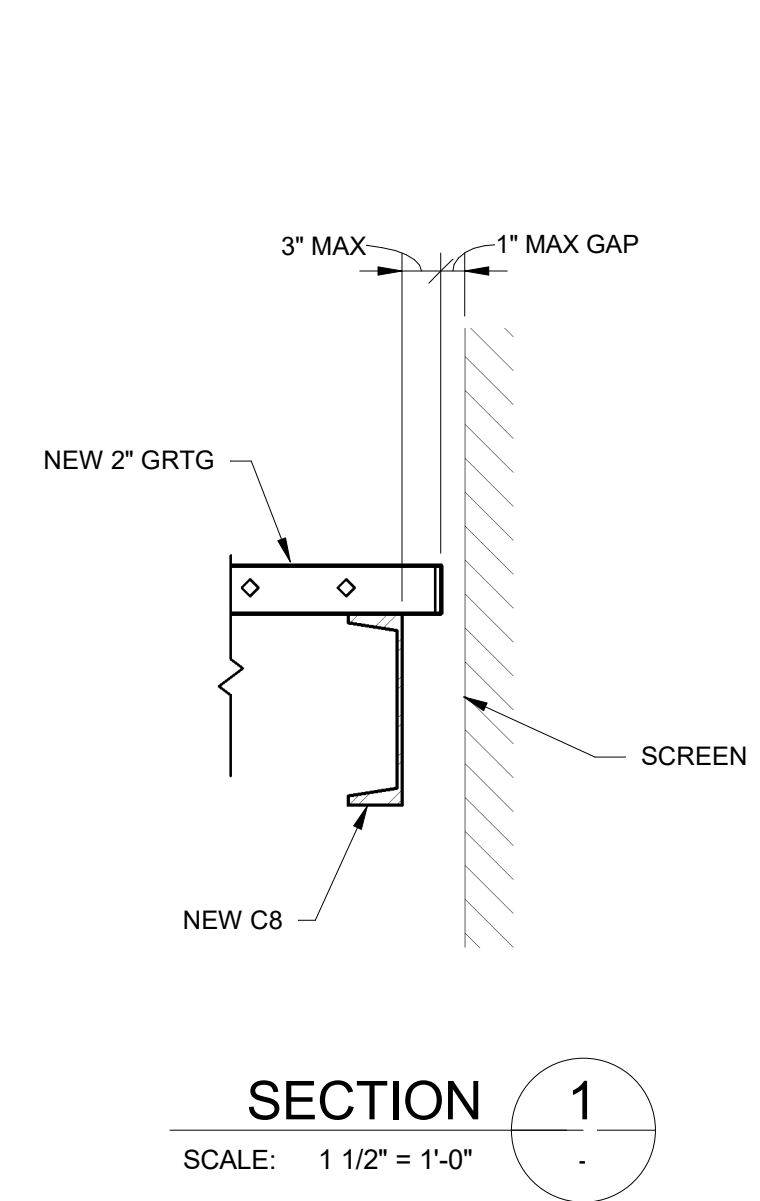
APPROVALS DATE

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Revisions Date

SECOND FLOOR MEZZANINE EL 45.67 PROPOSED PARTIAL

PLAN
1/4" = 1'-0"



Project Name and Location
Water Pollution Control Plant
 Preliminary Treatment Upgrades (WPB2)
 Phase 9B
PRELIMINARY TREATMENT BUILDING
 MEZZANINE
 STRUCTURAL PLAN & DETAILS

Designed: K. BASILI
 Drawn: B. BENNETT
 Checked: M. CALVINO

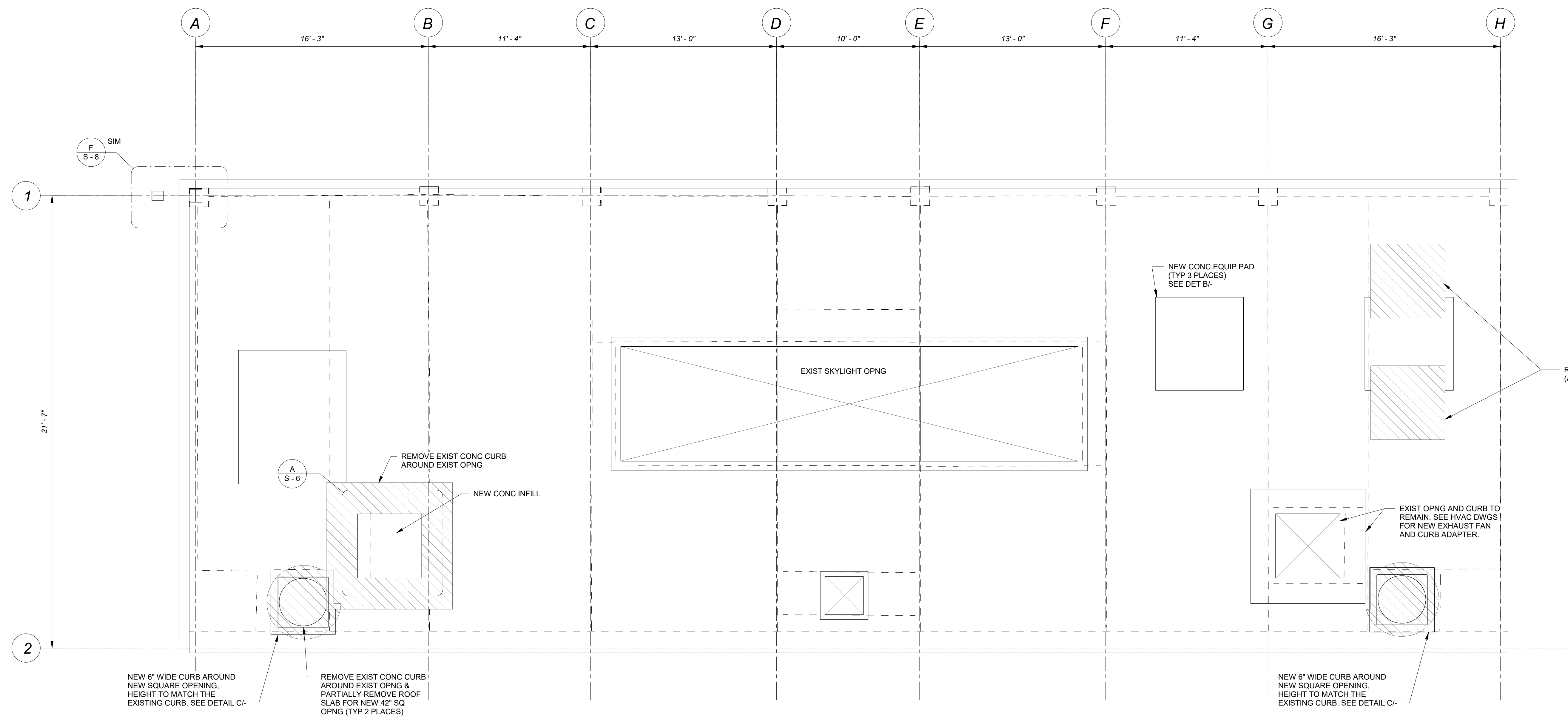
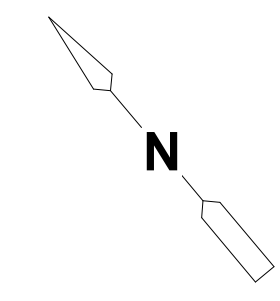
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 Plotted: DECEMBER 18, 2020
 Plotted by: B. BENNETT

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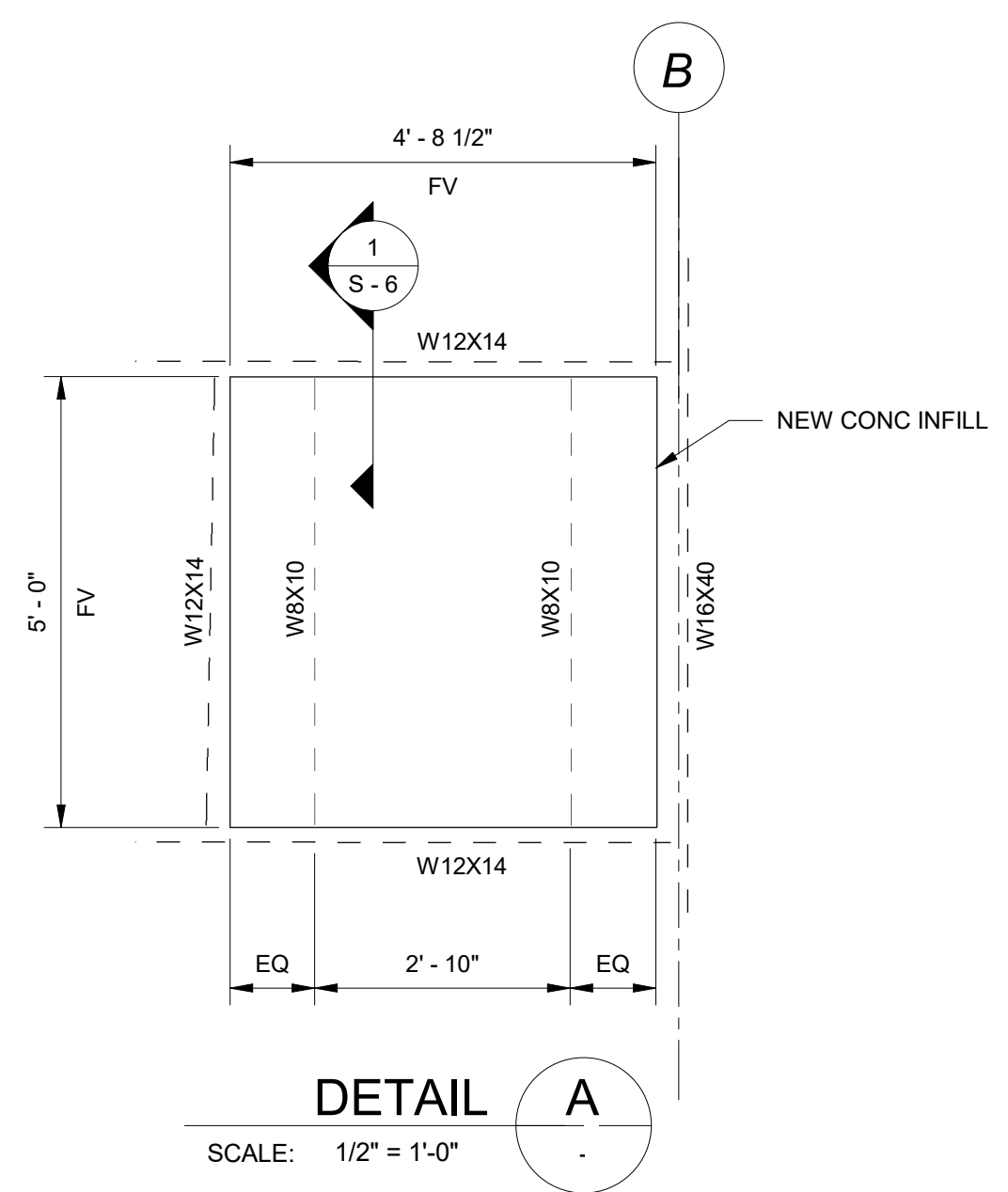


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S - 5

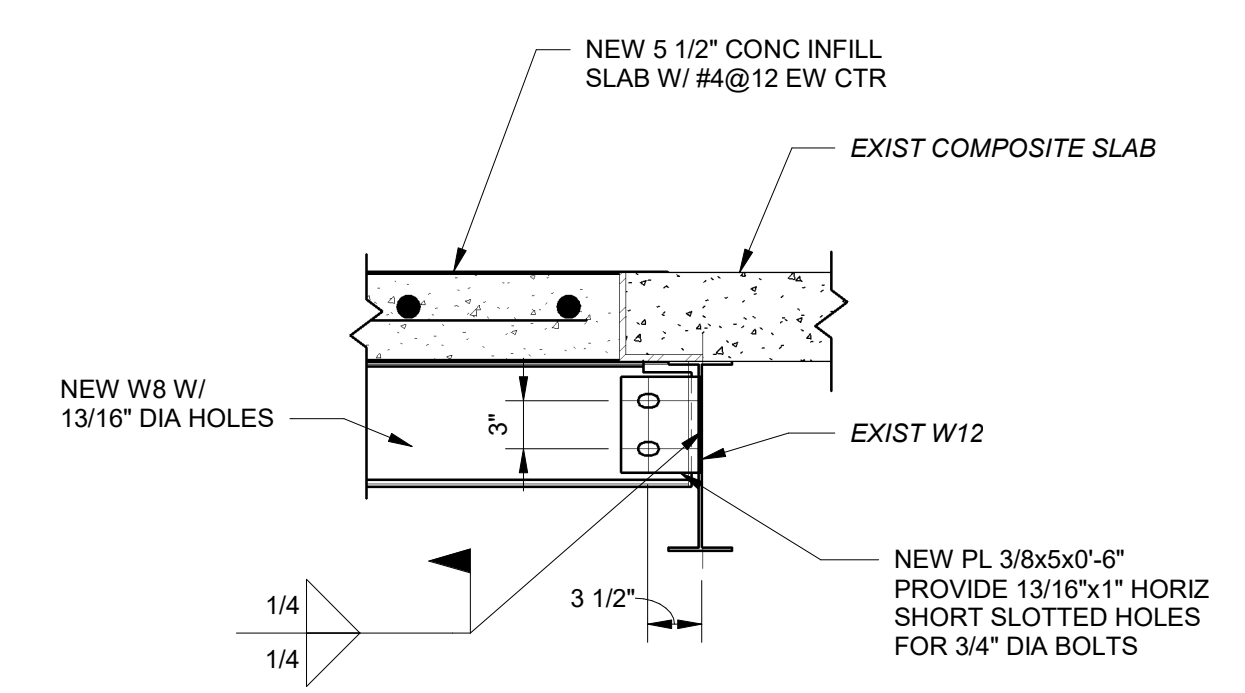
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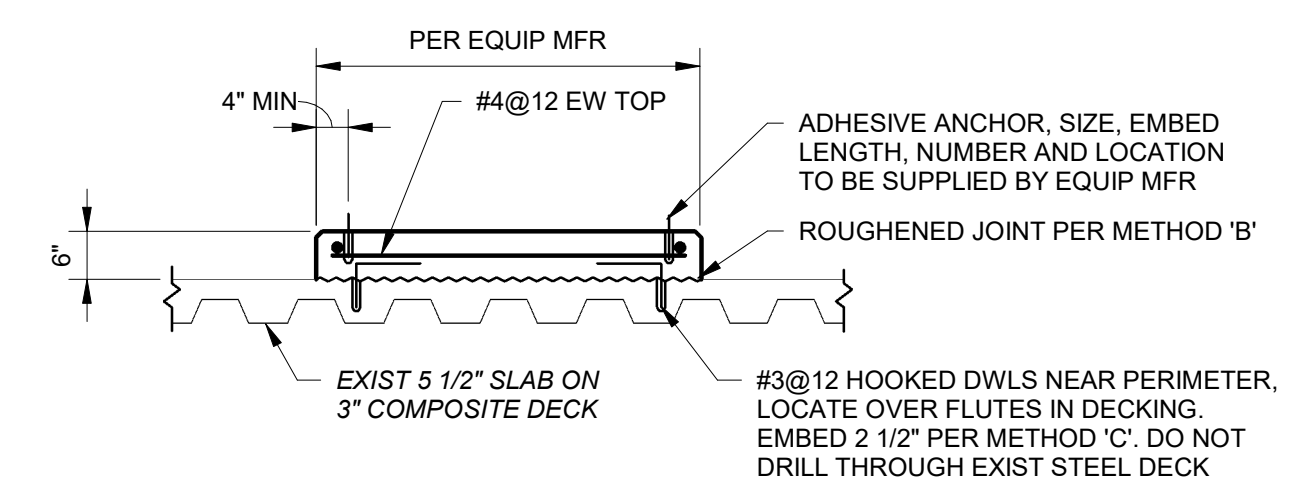
ROOF PROPOSED PARTIAL
PLAN
1/4" = 1'-0"



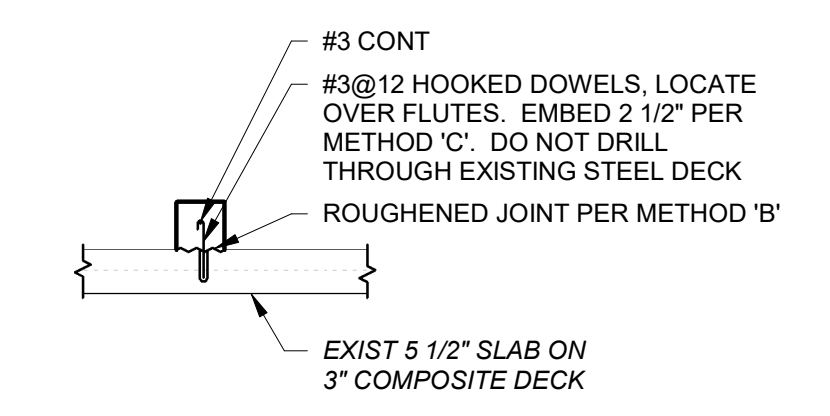
DETAIL A
SCALE: 1/2" = 1'-0"



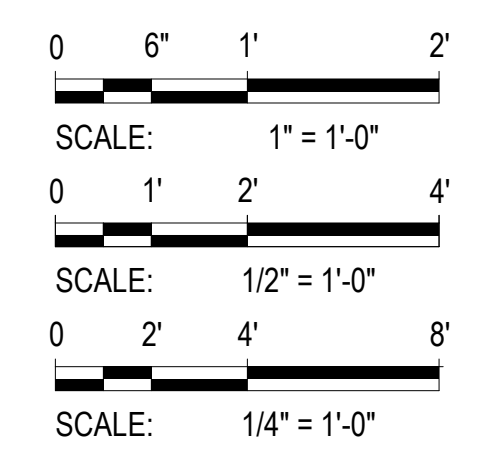
SECTION 1
SCALE: 1" = 1'-0"



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



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



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DEPARTMENT OF ENVIRONMENTAL SERVICES
WATER POLLUTION CONTROL BUREAU
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APPROVALS DATE

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Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2) Phase 9B
PRELIMINARY TREATMENT BUILDING ROOF STRUCTURAL PLAN & DETAILS

Designed: K. BASILI
Drawn: B. BENNETT
Checked: M. CALVINO

Filename: SEZ000PT.rvt
Path: R:\d1295026\SEZ000PT.rvt
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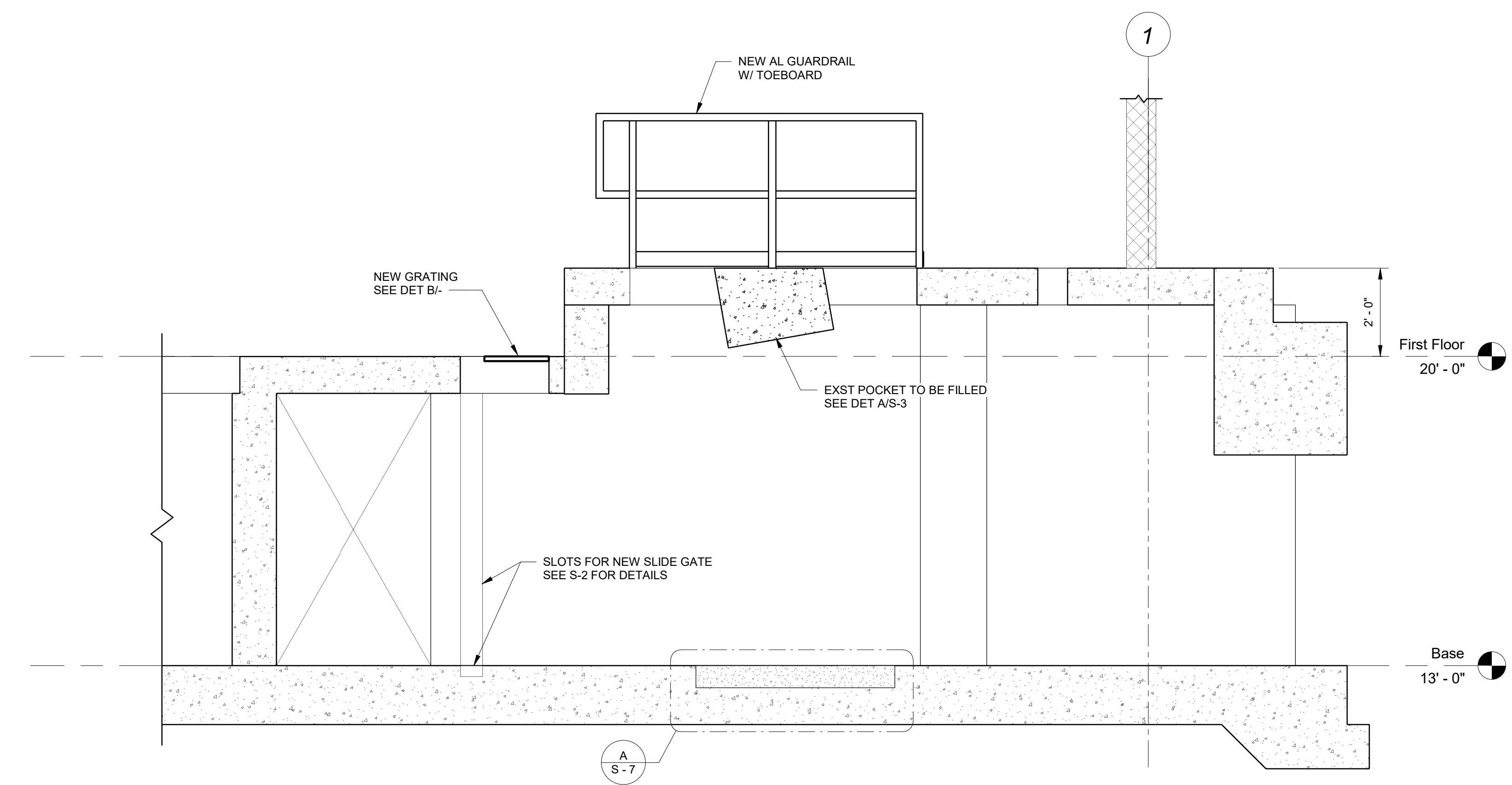
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
STRUCTURAL
SECTIONS & DETAILS I

Designed: K. BASILI
Drawn: B. BENNETT
Checked: M. CALVINO

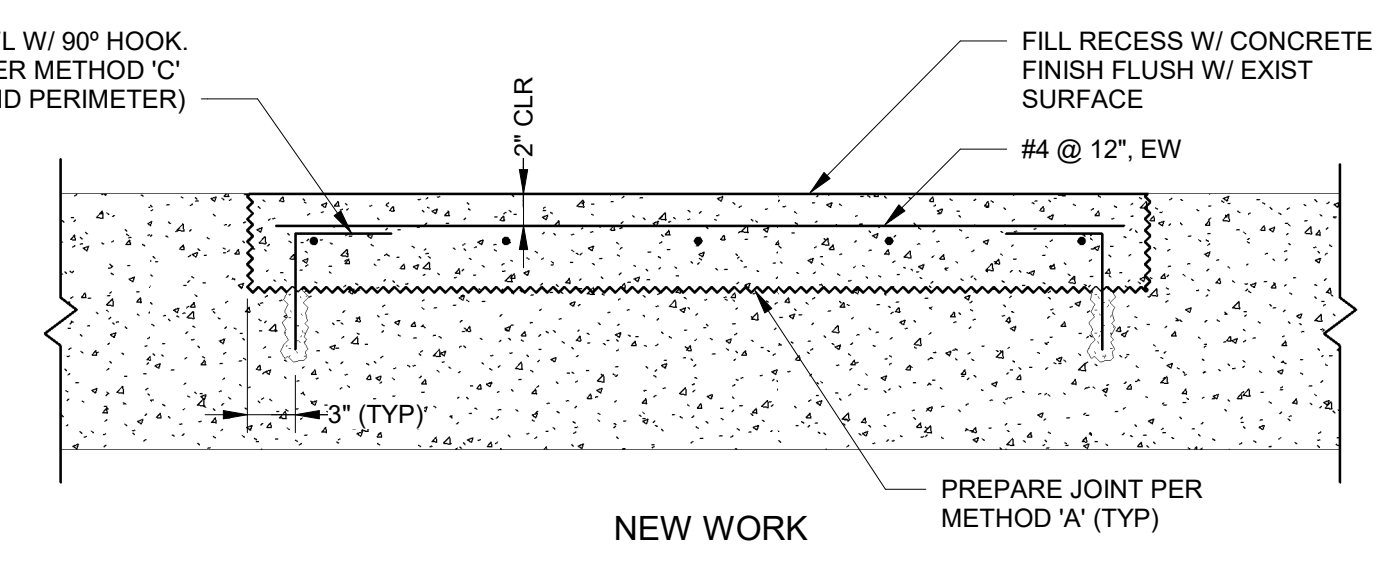
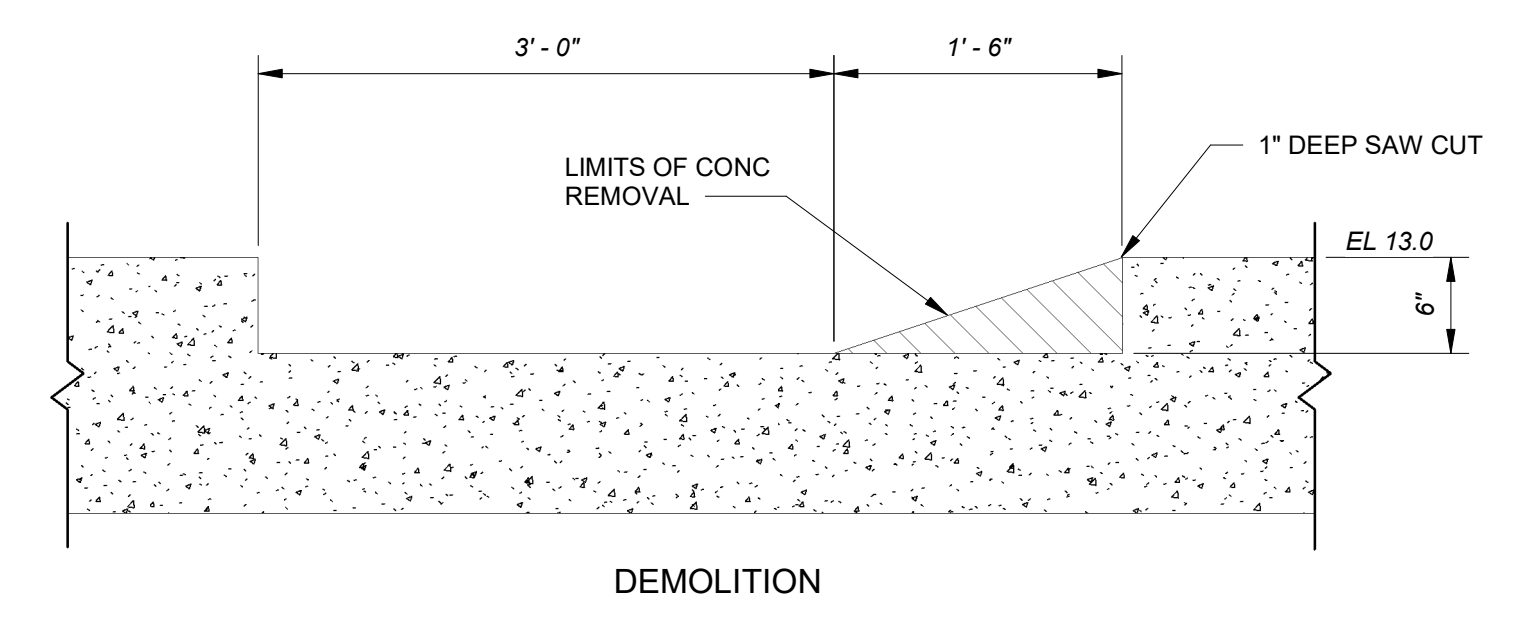
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Plotted: DECEMBER 18, 2020
Plotted by: B. BENNETT

Scale: AS NOTED

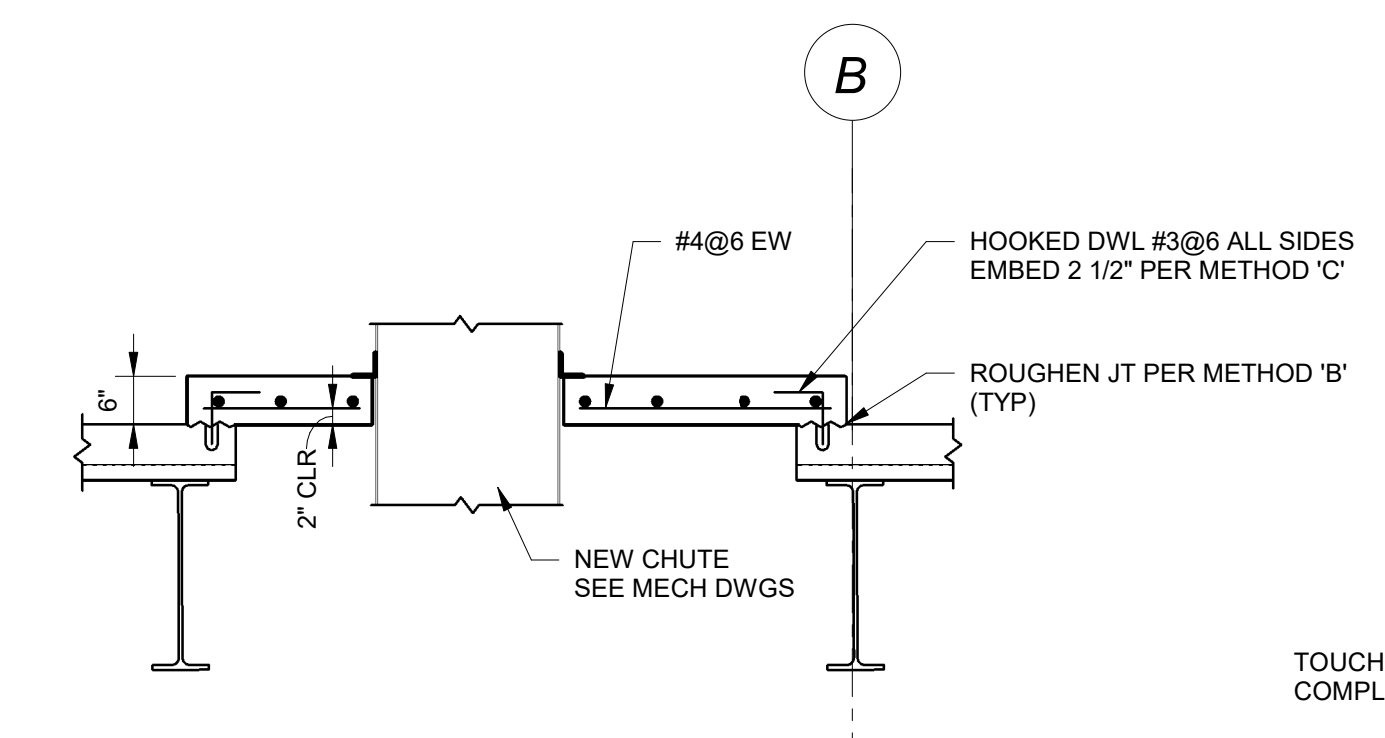
10560 Arrowhead Drive, Suite 500
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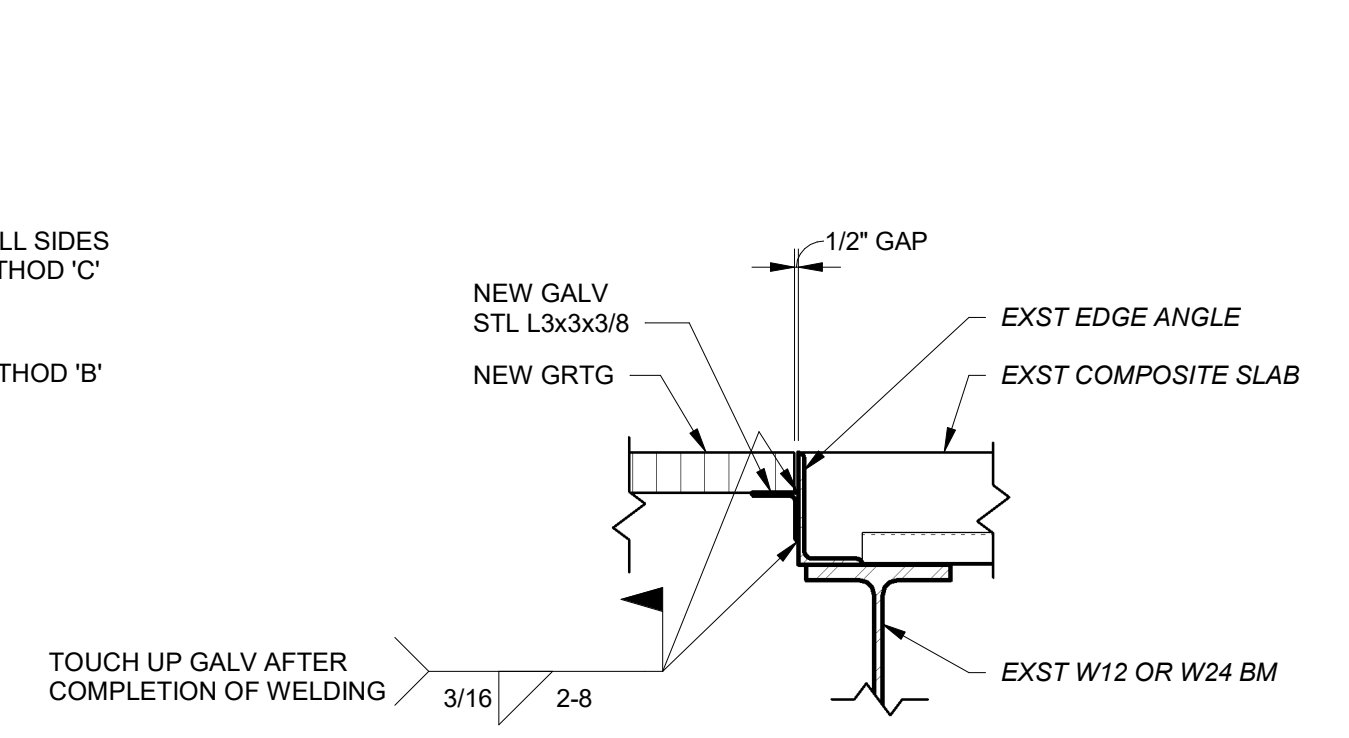
SECTION 1
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S - 2



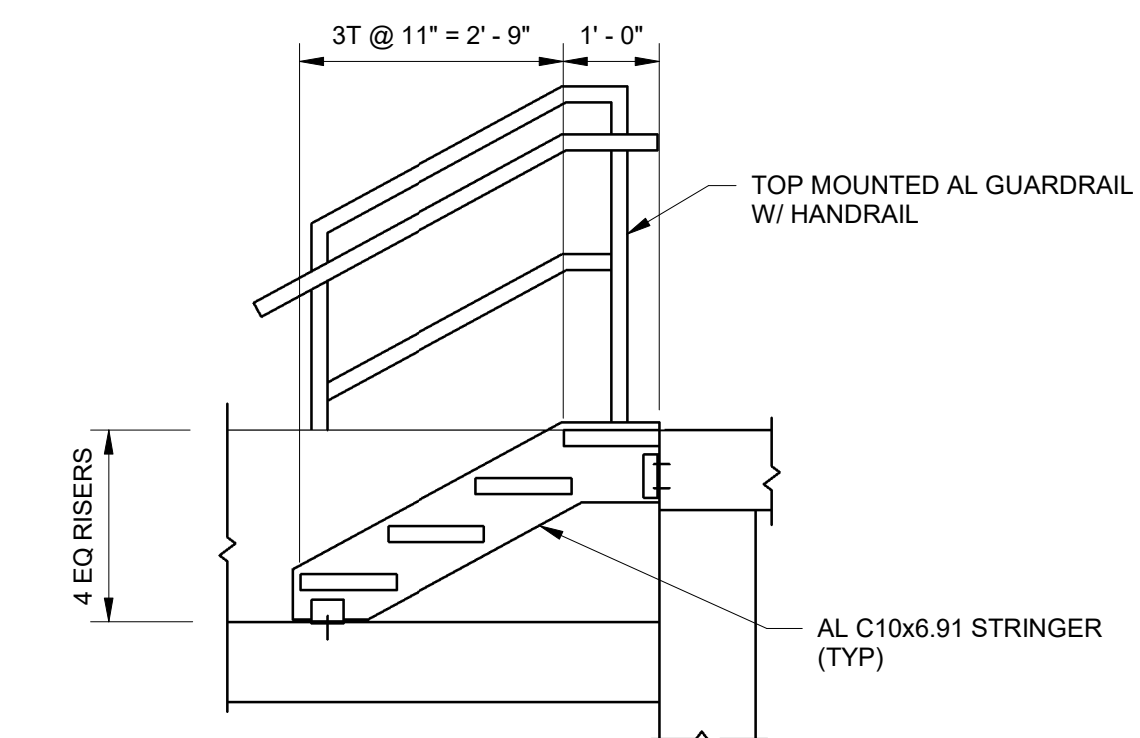
DETAIL A
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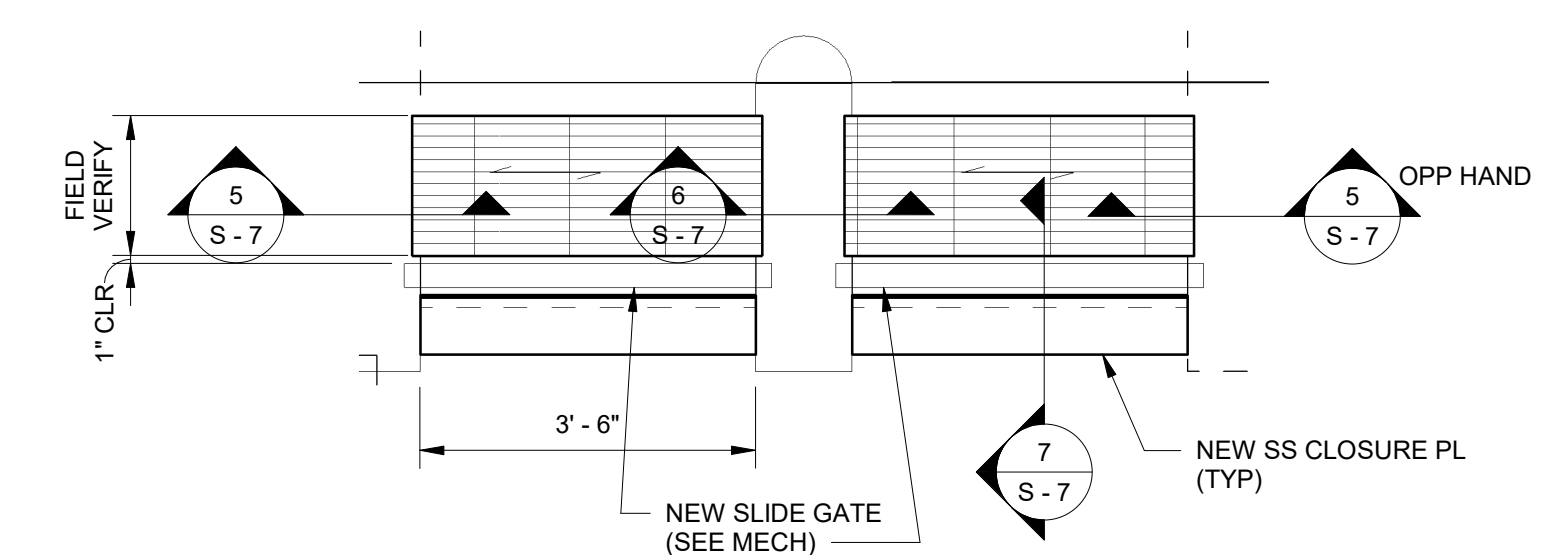
SECTION 2
SCALE: 1/2" = 1'-0"
S - 4



SECTION 3
SCALE: 1" = 1'-0"
S - 4

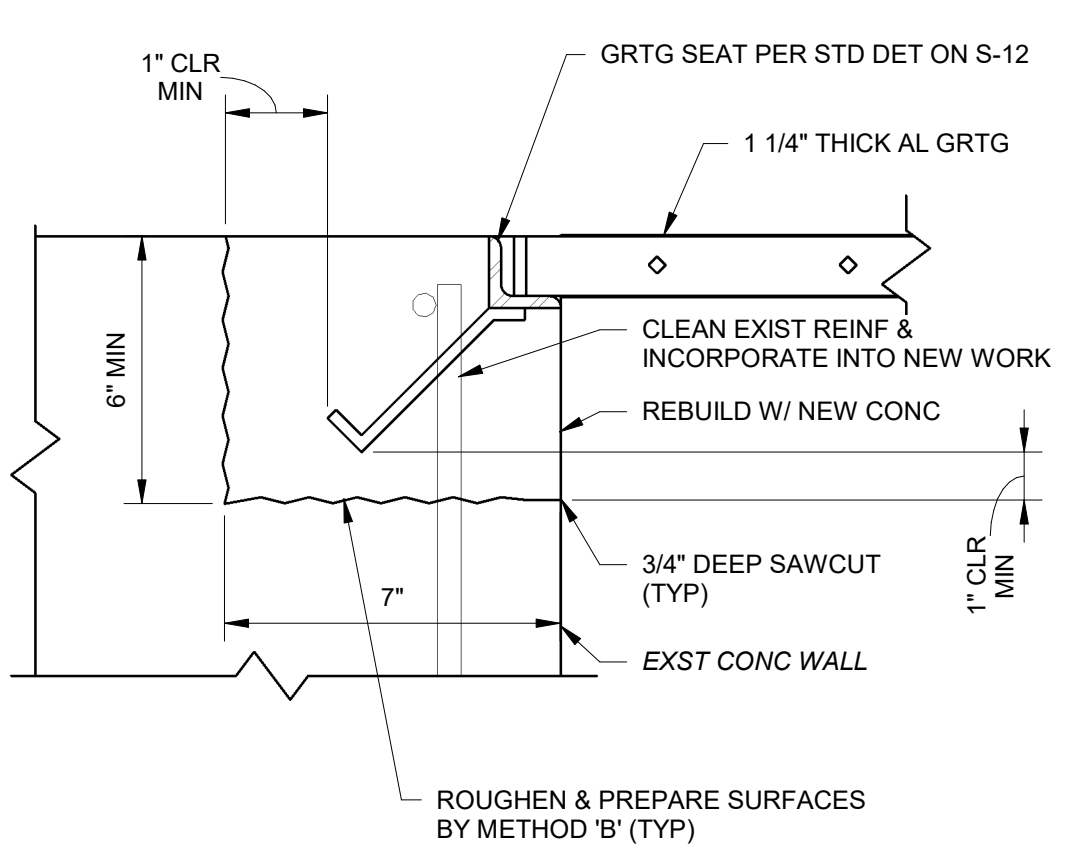


SECTION 4
SCALE: 1/2" = 1'-0"
S - 3

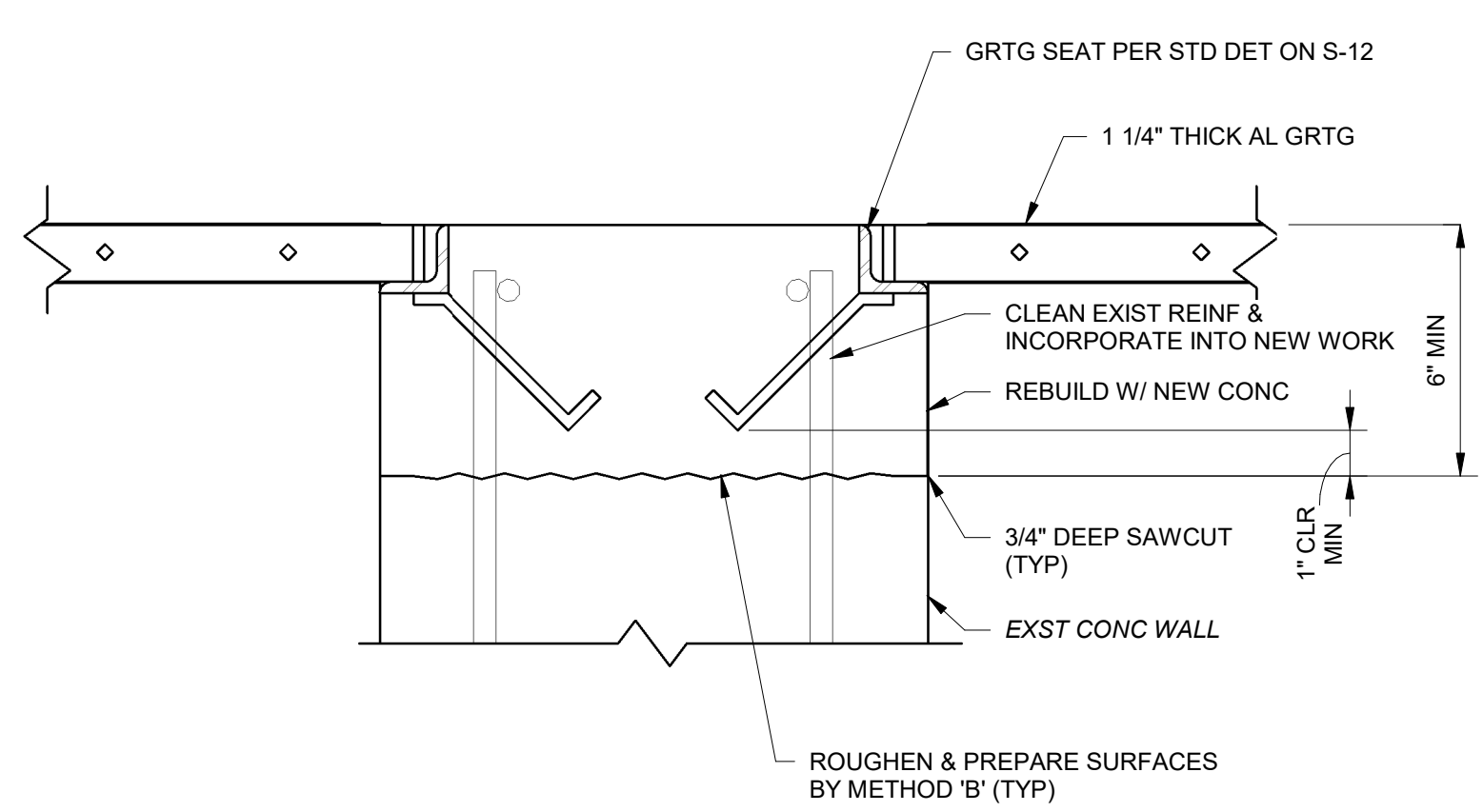


DETAIL B
SCALE: 1/2" = 1'-0"
S - 3

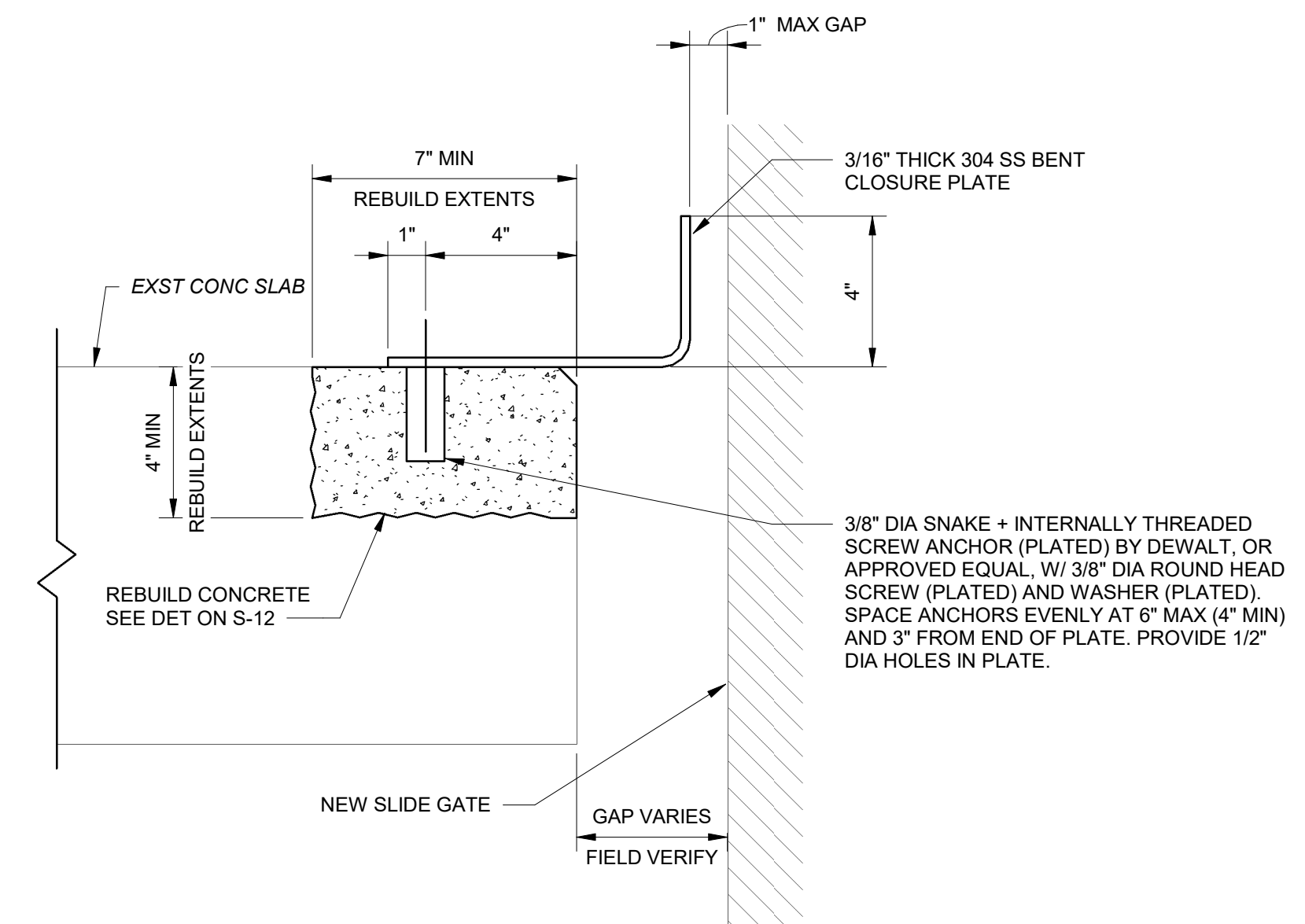
NOTE: FOR LOCATIONS WITHOUT GRATING SEAT, REBUILD CONCRETE PER STD DET ON S-12.



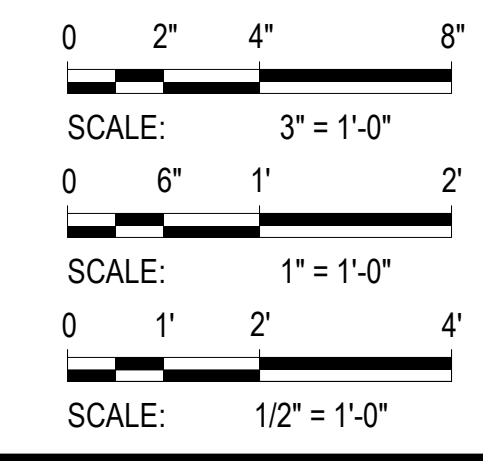
SECTION 5
SCALE: 3" = 1'-0"
S - 7



SECTION 6
SCALE: 3" = 1'-0"
S - 7



SECTION 7
SCALE: 3" = 1'-0"
S - 7



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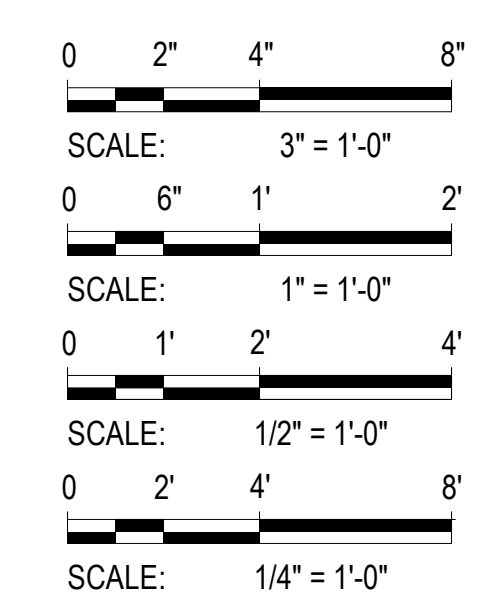
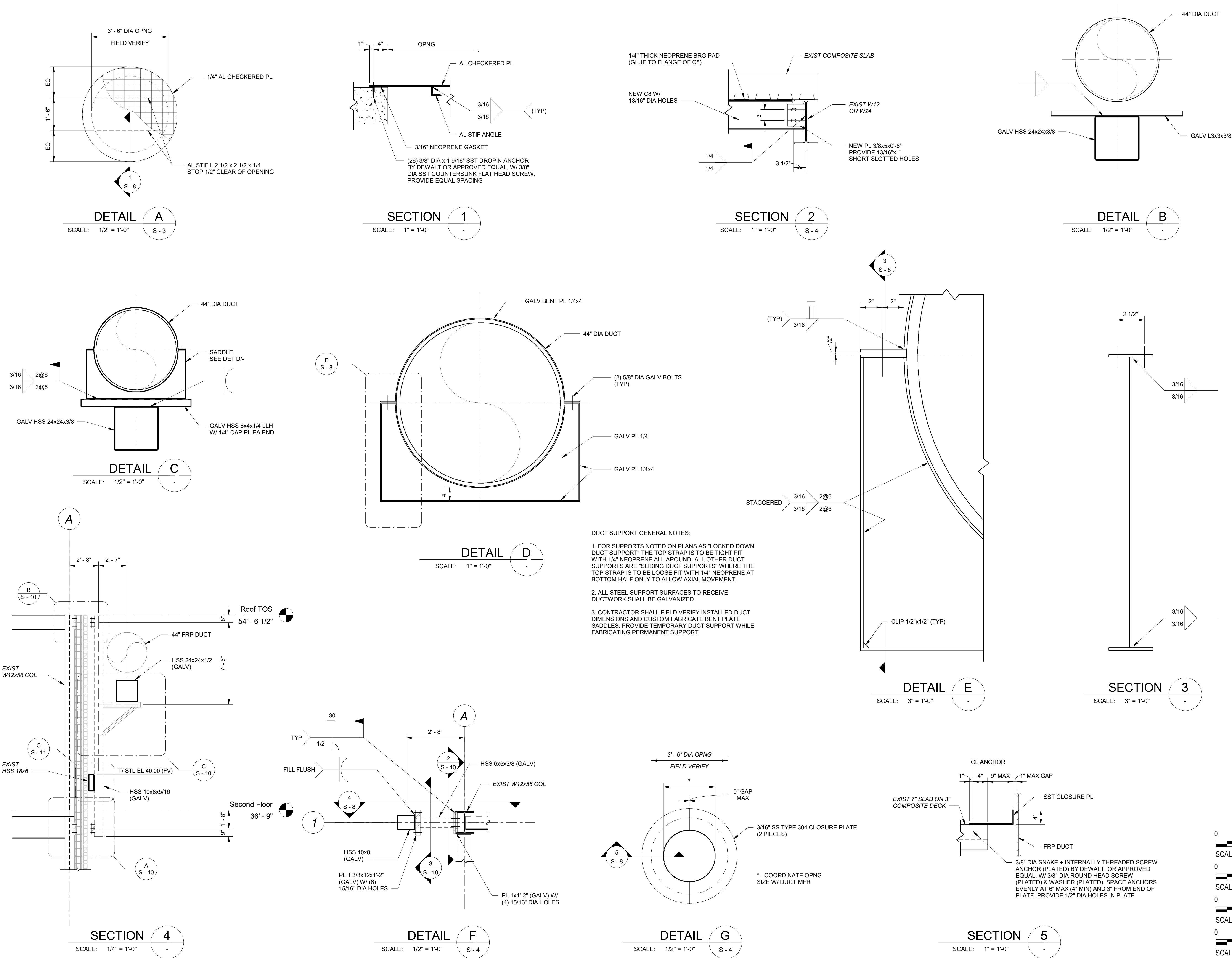
Revisions	Date

Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
STRUCTURAL
SECTIONS & DETAILS II

Designed: K. BASILI
Drawn: B. BENNETT
Checked: M. CALVINO

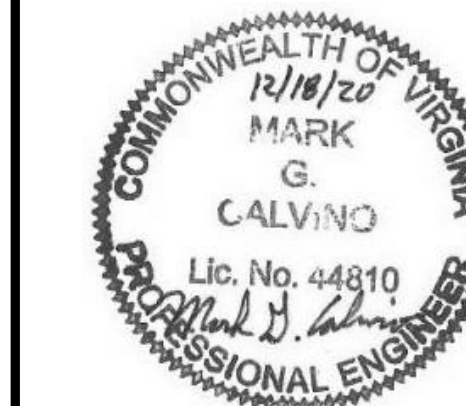
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Plotted: DECEMBER 18, 2020
Plotted by: B. BENNETT

Scale: AS NOTED



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Revisions Date

Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING STRUCTURAL SECTIONS & DETAILS III

Designed: K. BASILI
Drawn: B. BENNETT
Checked: M. CALVINO

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Plotted by: B. BENNETT

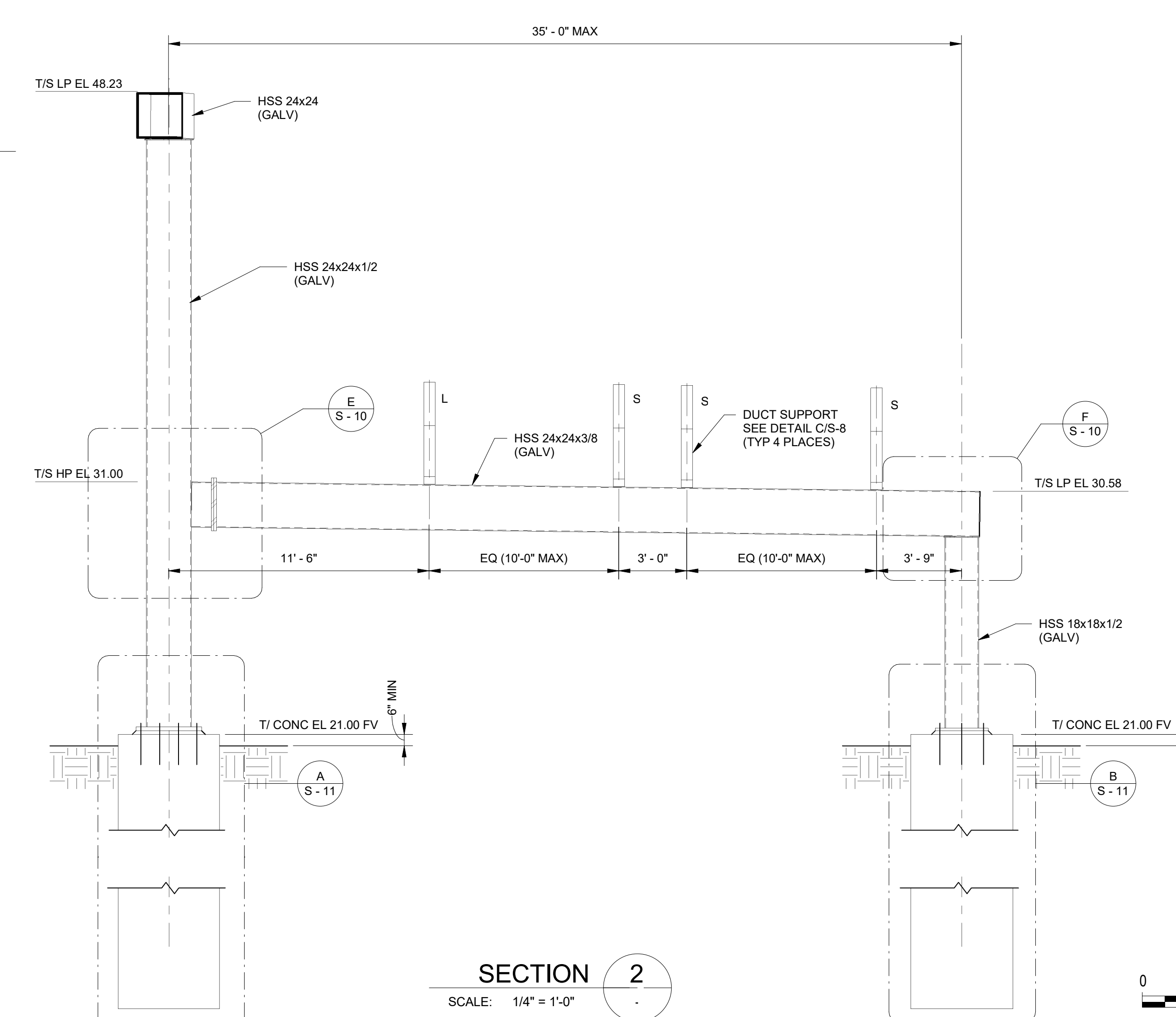
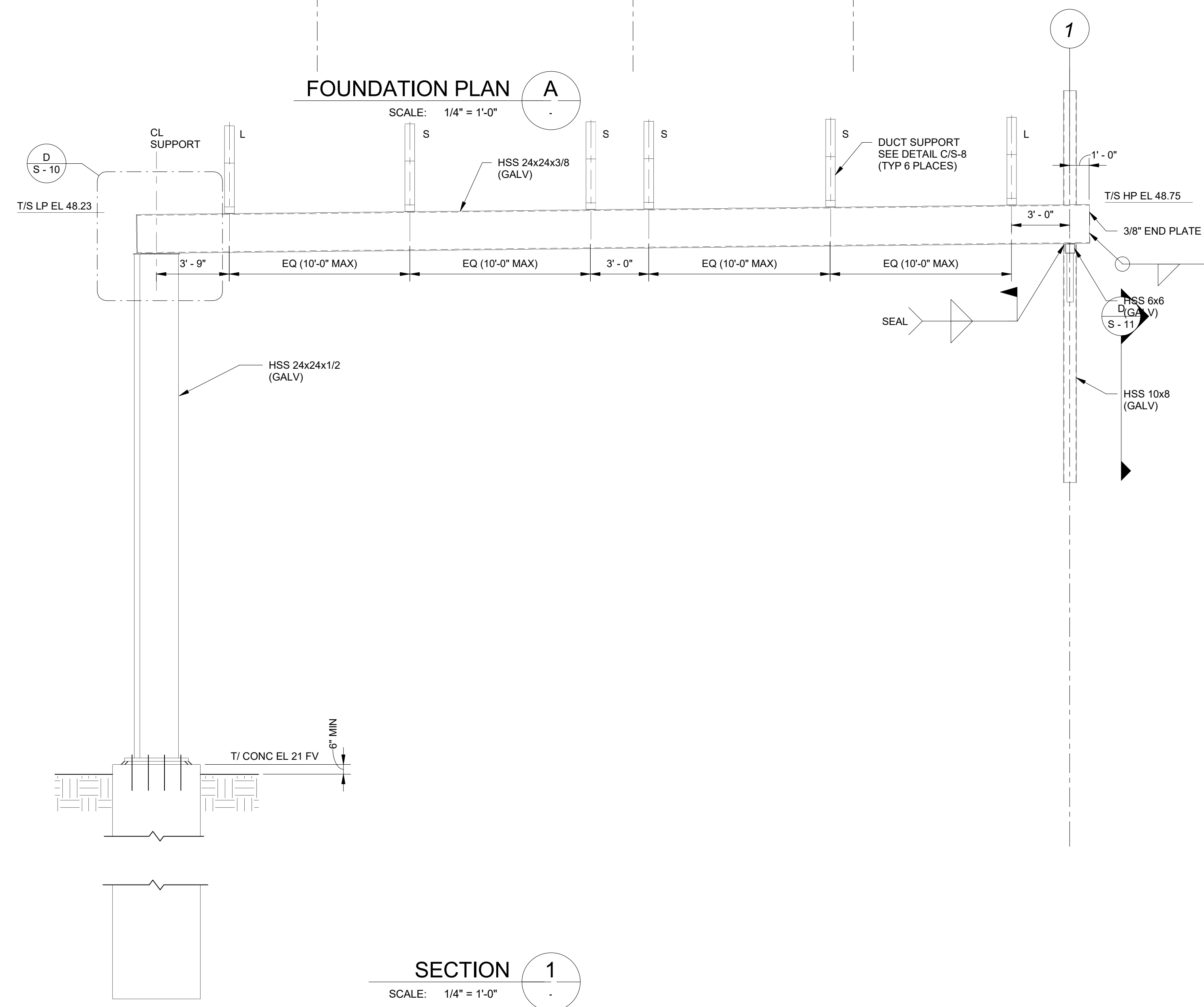
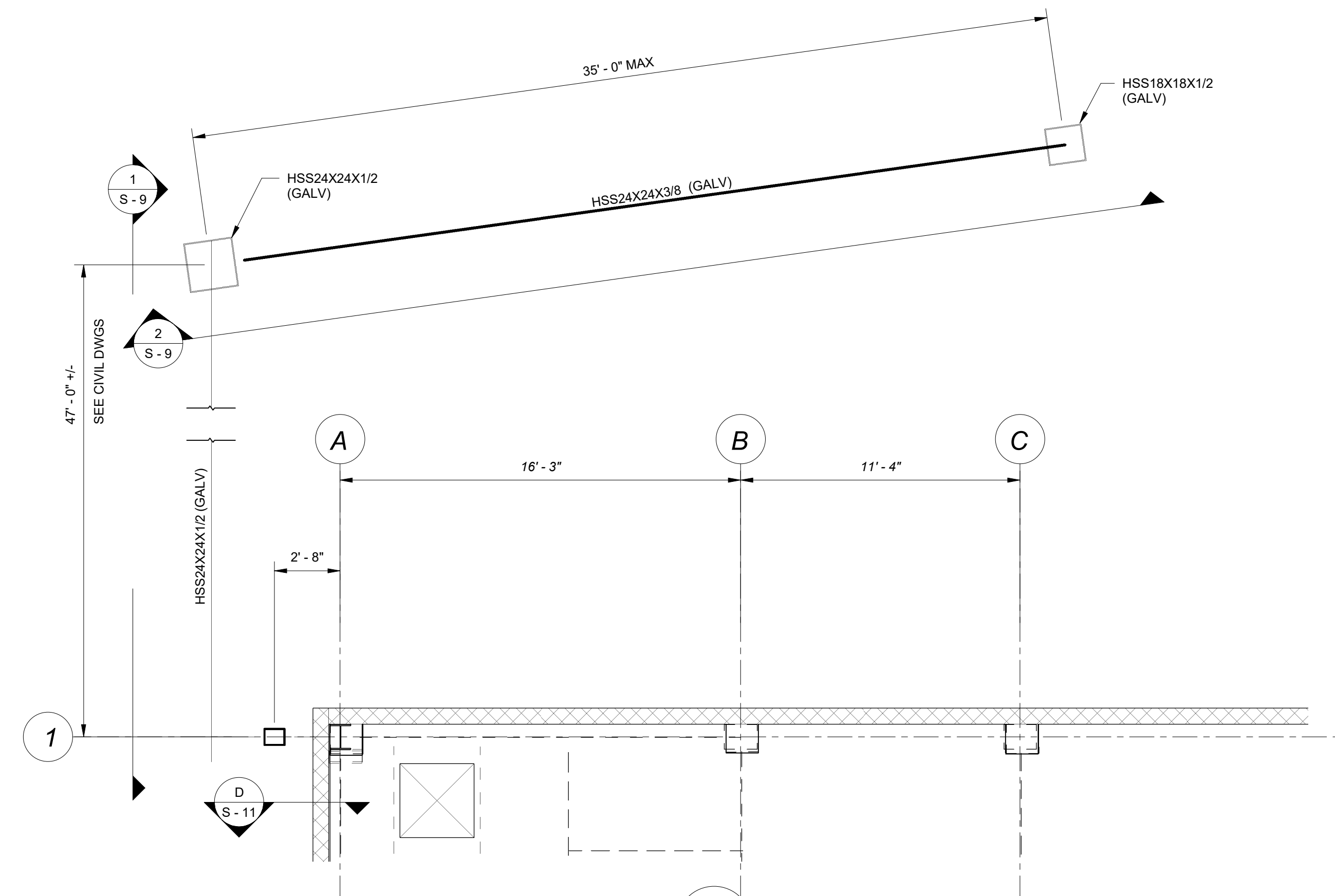
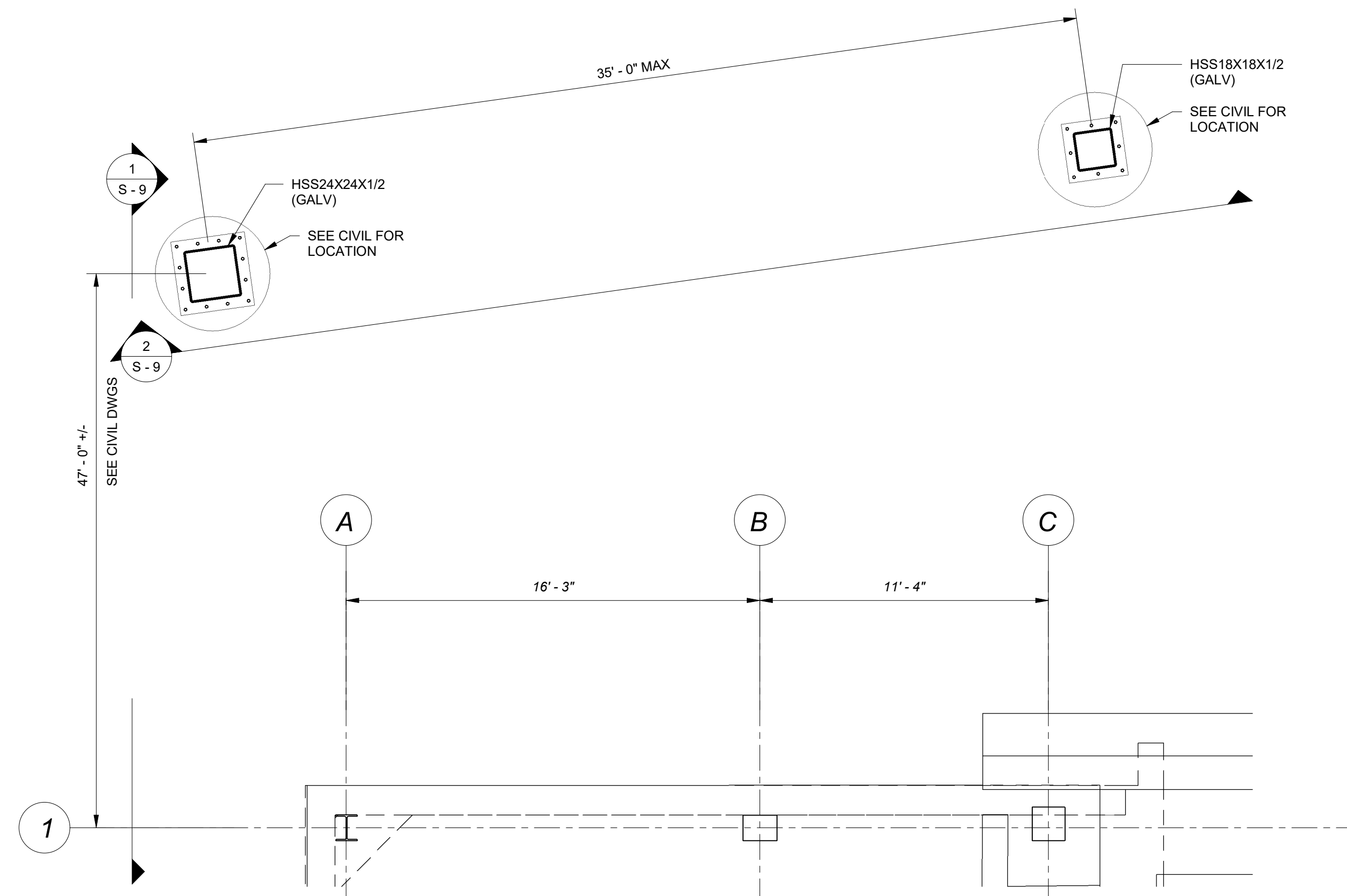
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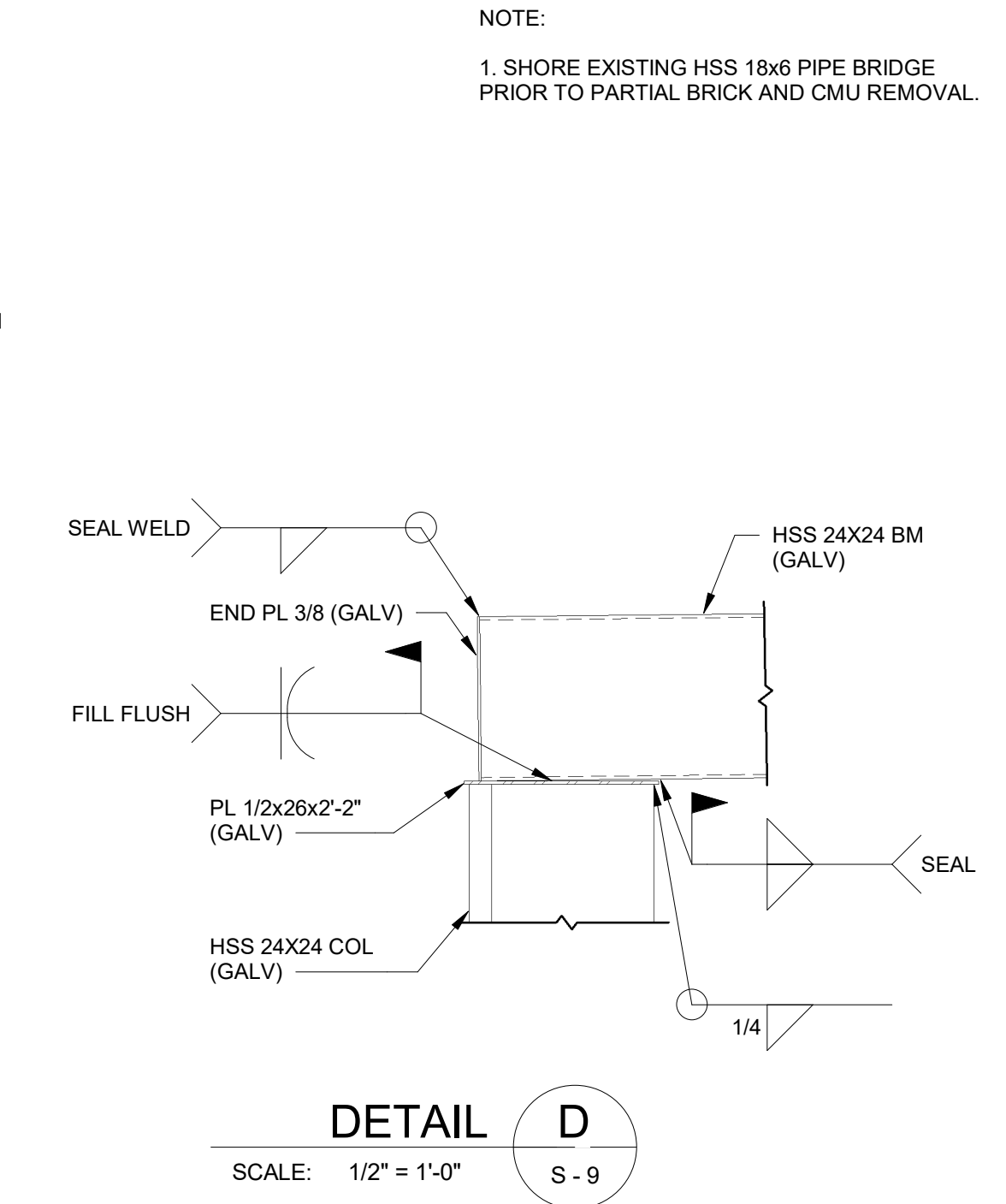
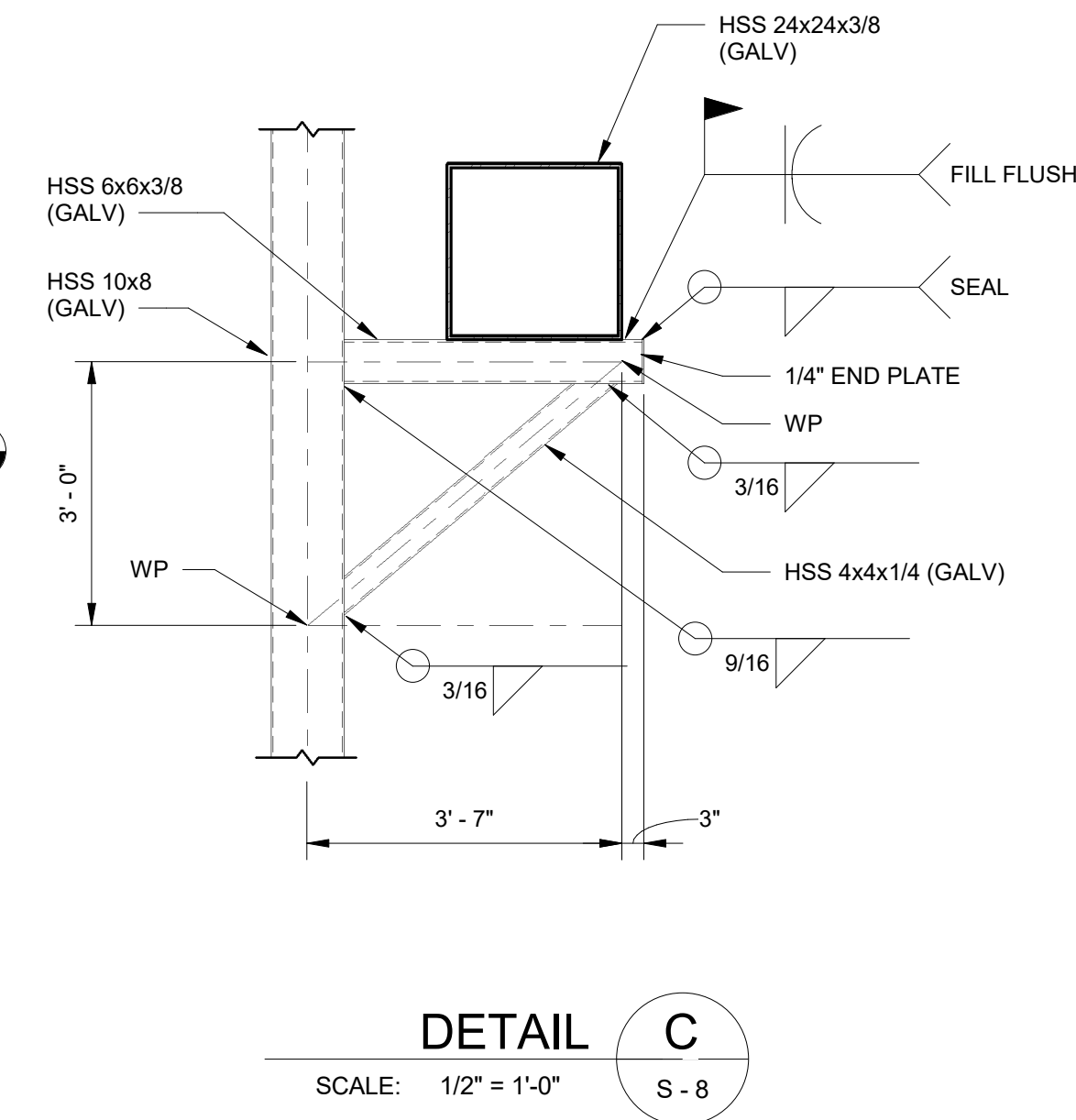
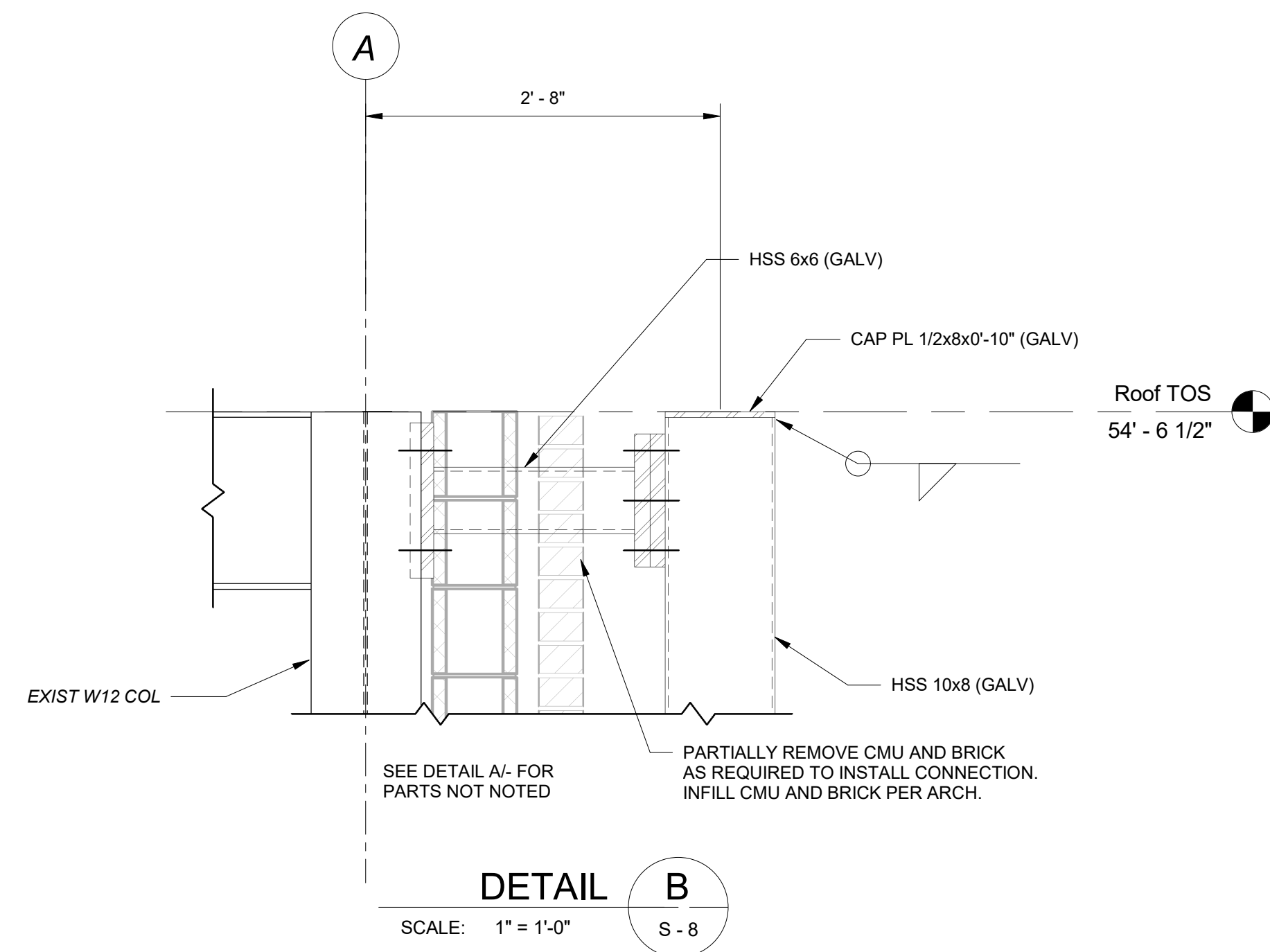
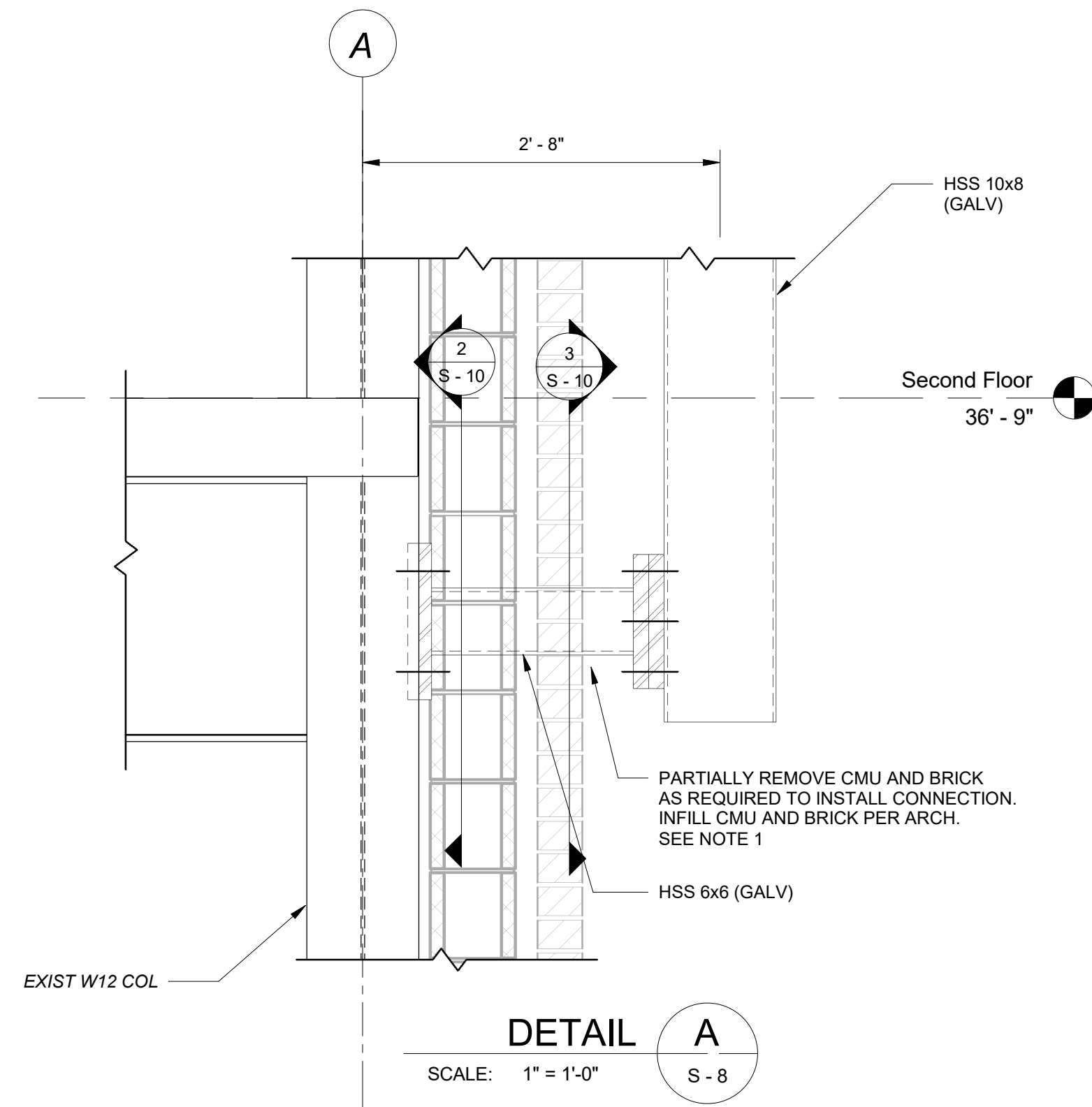
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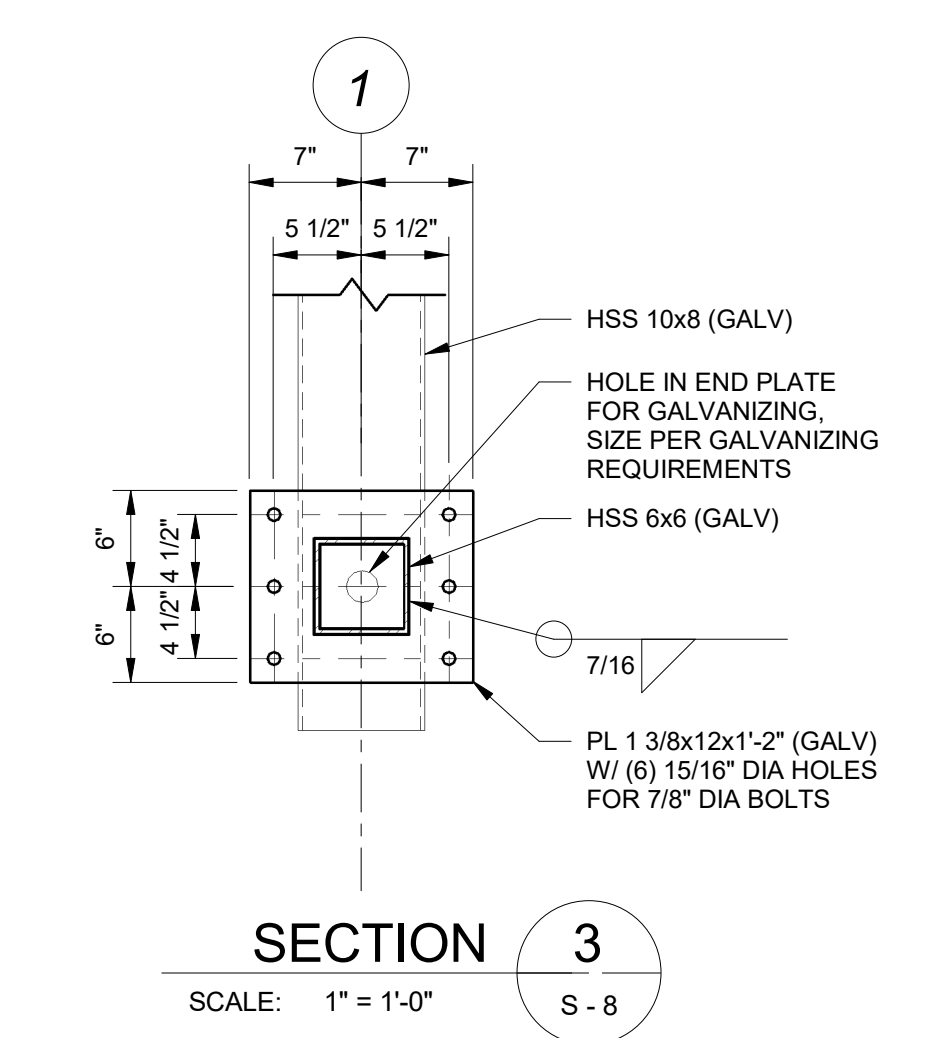
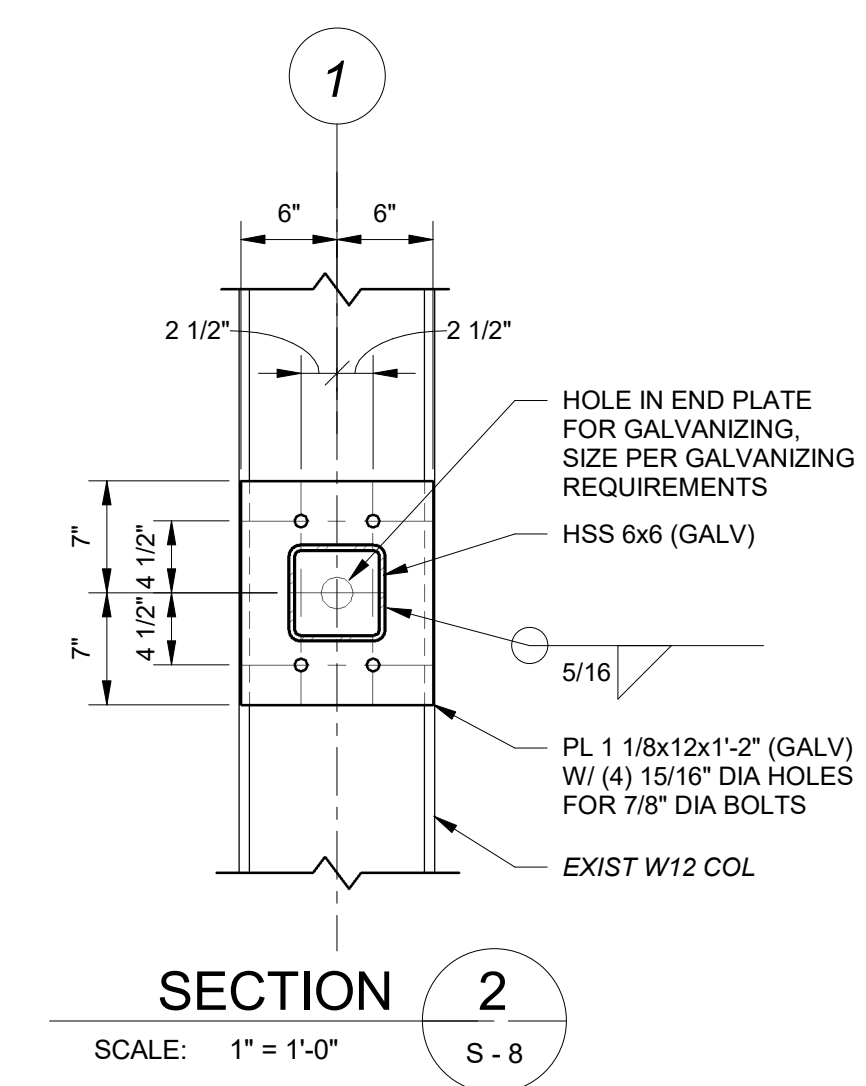
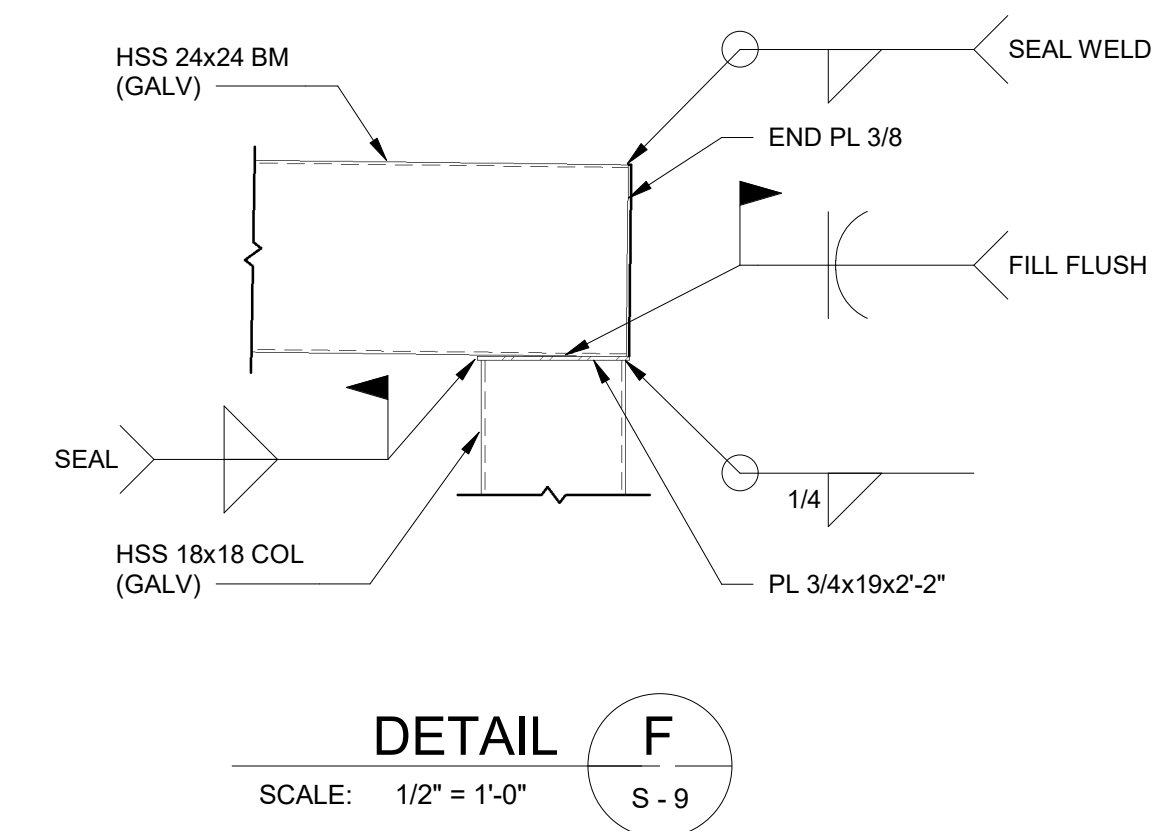
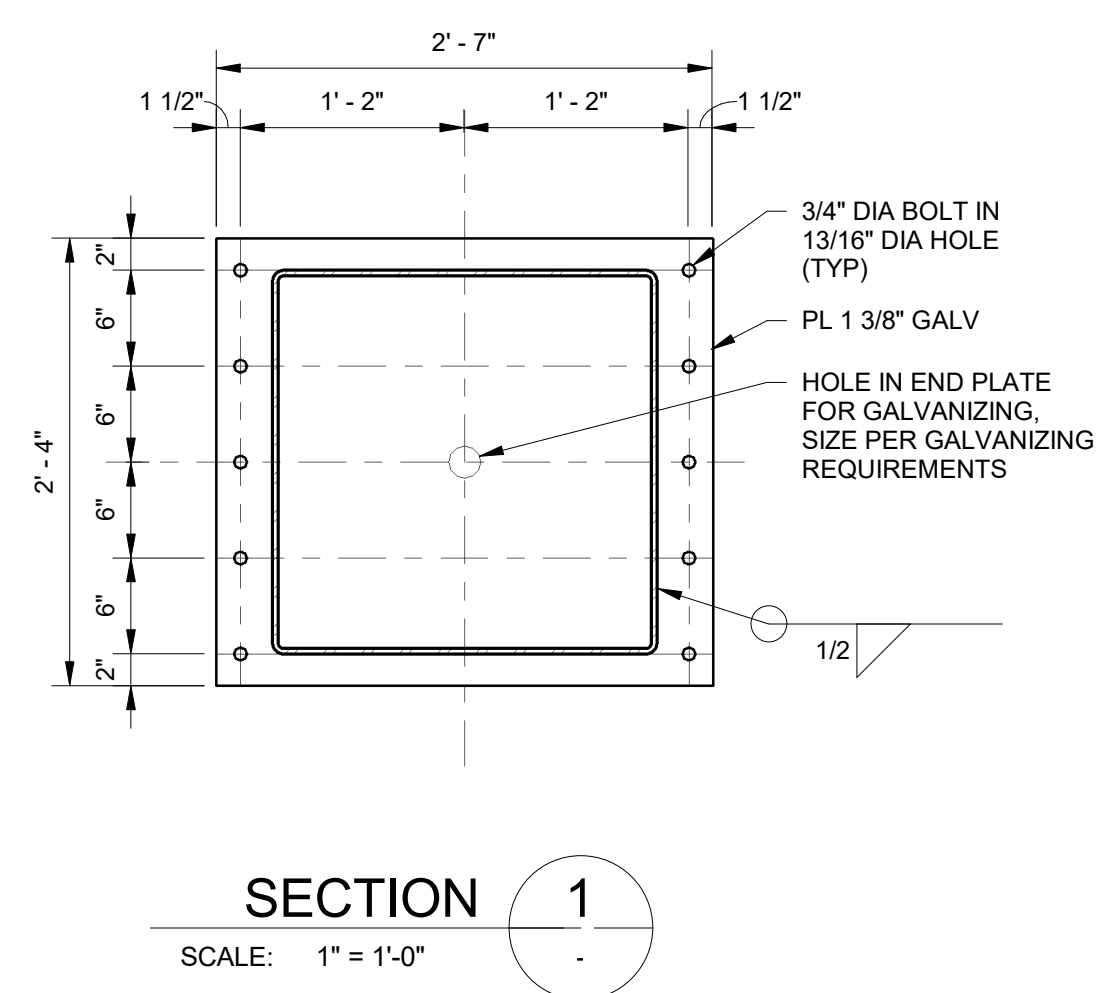
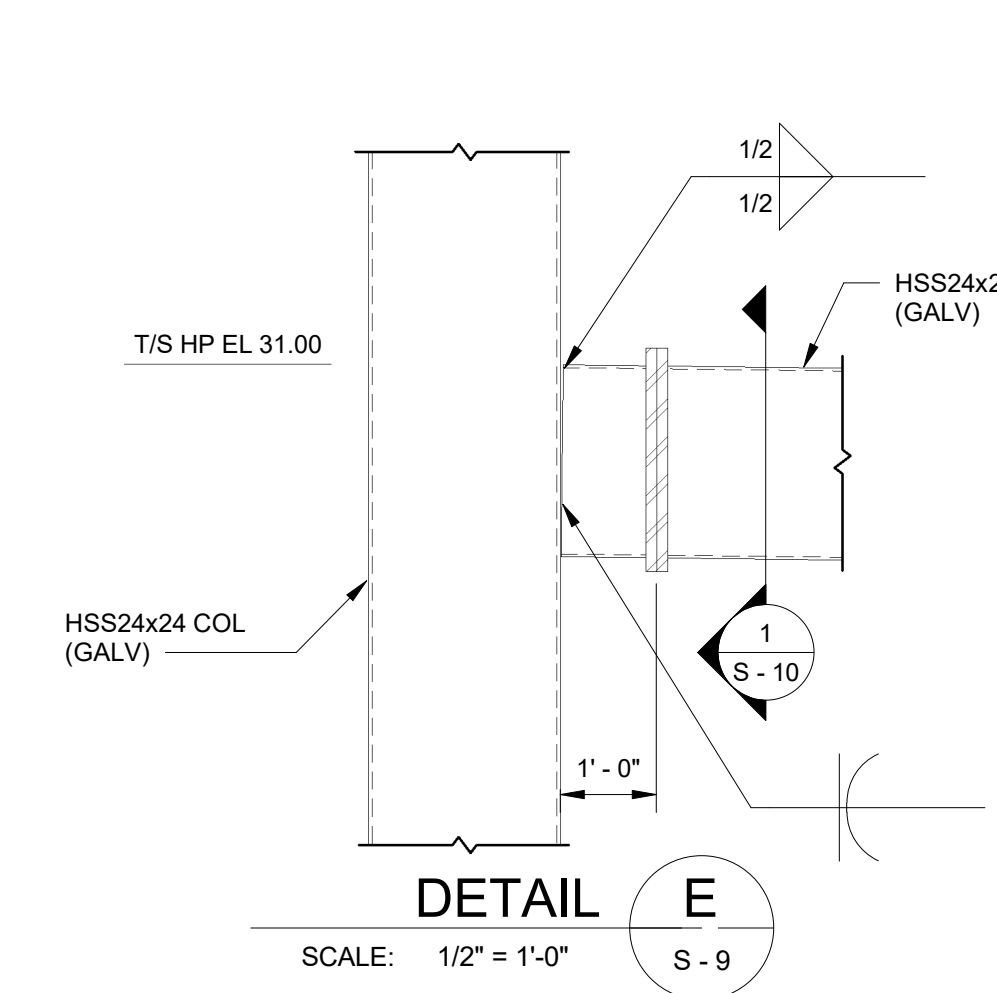
S - 9



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NOTE:
1. SHORE EXISTING HSS 18x6 PIPE BRIDGE PRIOR TO PARTIAL BRICK AND CMU REMOVAL.



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APPROVALS DATE

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Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
STRUCTURAL
SECTIONS & DETAIL IV

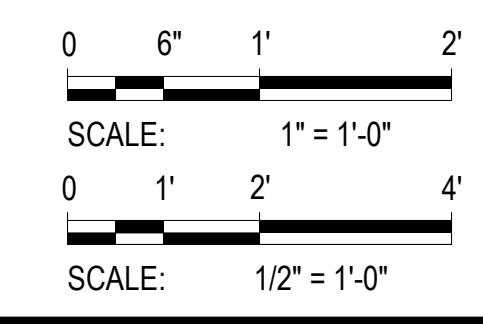
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Drawn: B. BENNETT
Checked: M. CALVINO

Filename: SEZ000PT.rvt
Path: R:\d1295026\SEZ000PT.rvt
Plotted: DECEMBER 18, 2020
Plotted by: B. BENNETT

Scale: AS NOTED

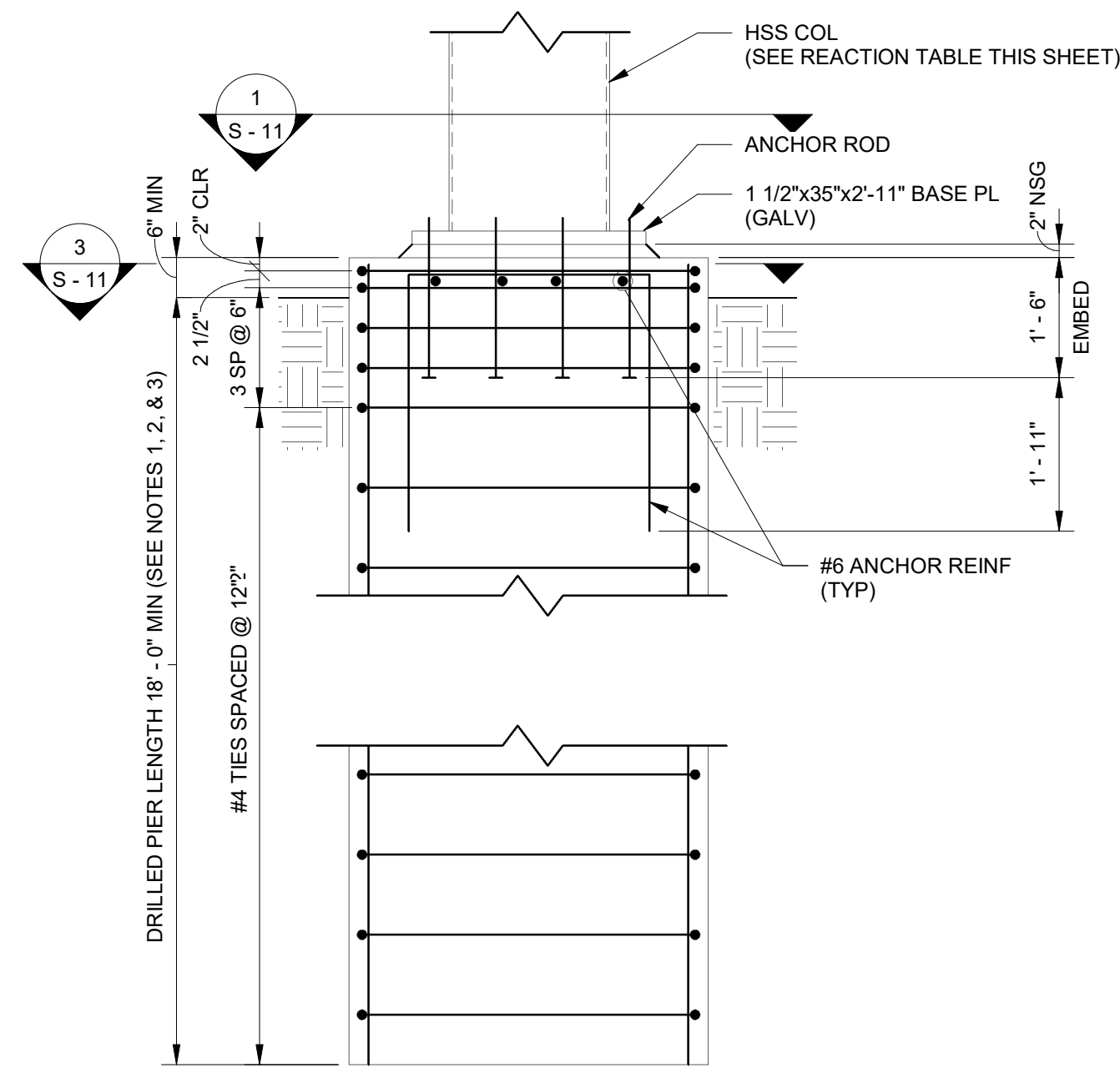


Sht. 27 of 97
S - 10

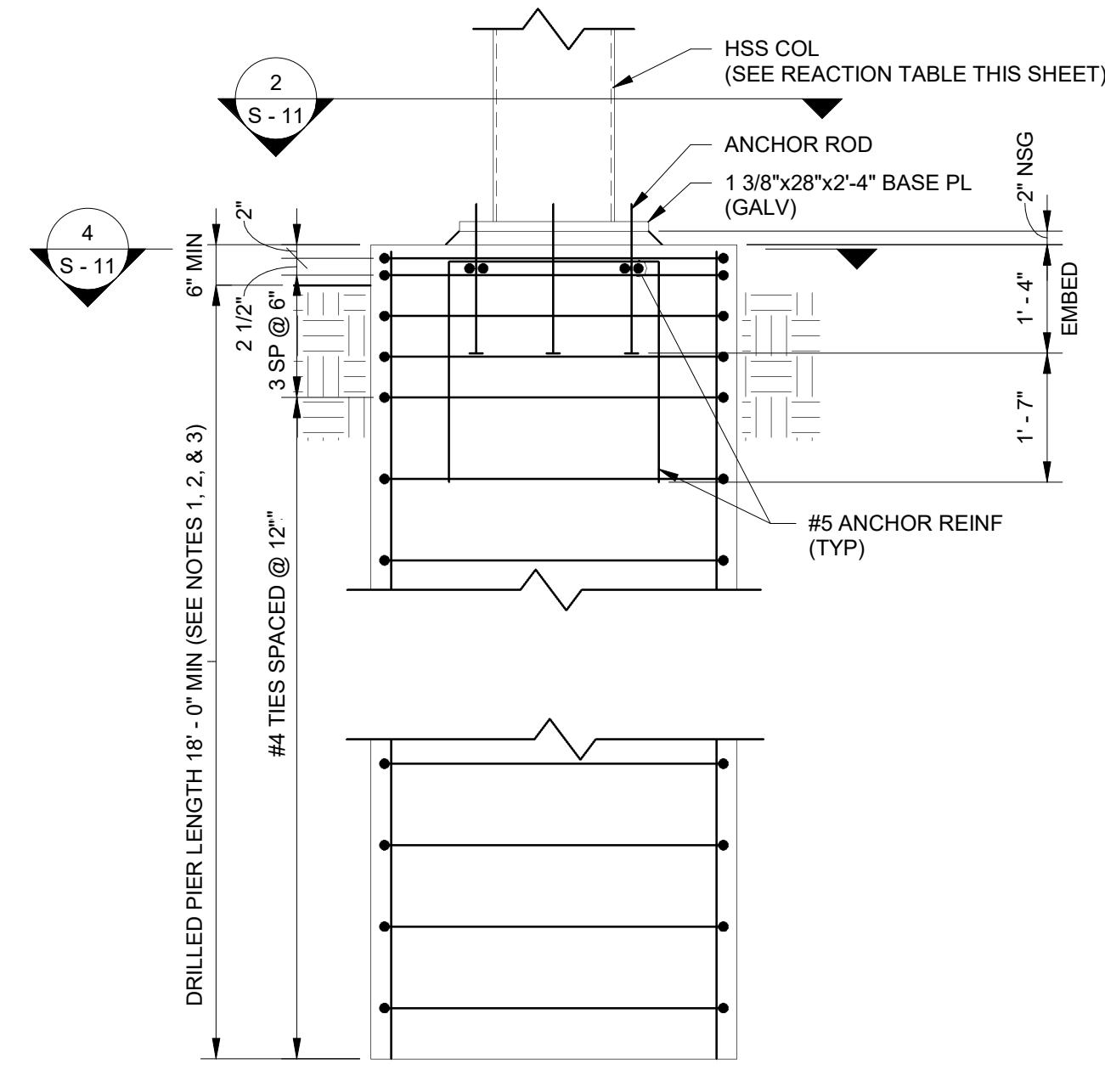


PRELIMINARY TREATMENT UPGRADES

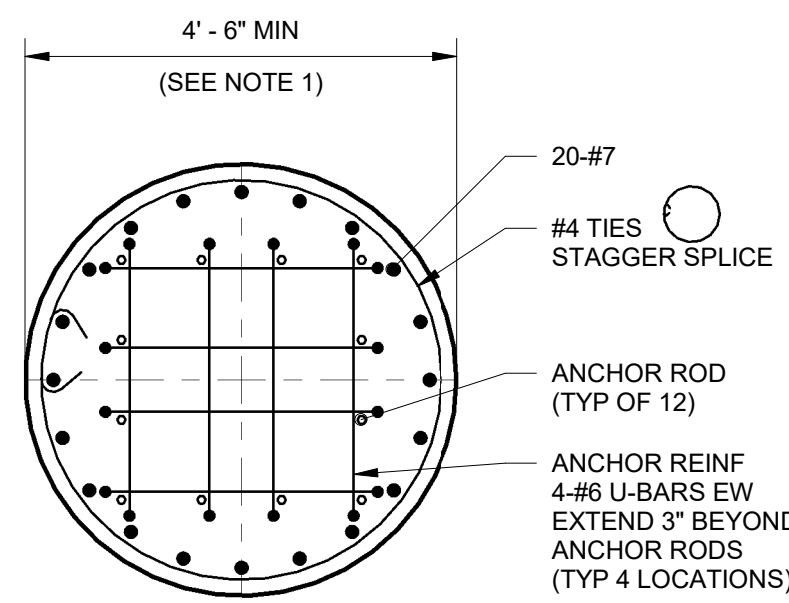
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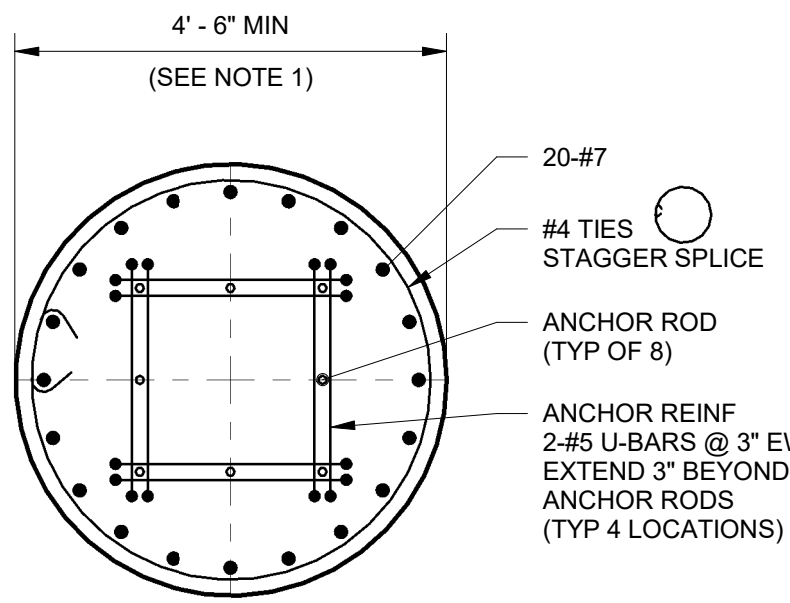
DETAIL A
SCALE: 1/2" = 1'-0"
S-9



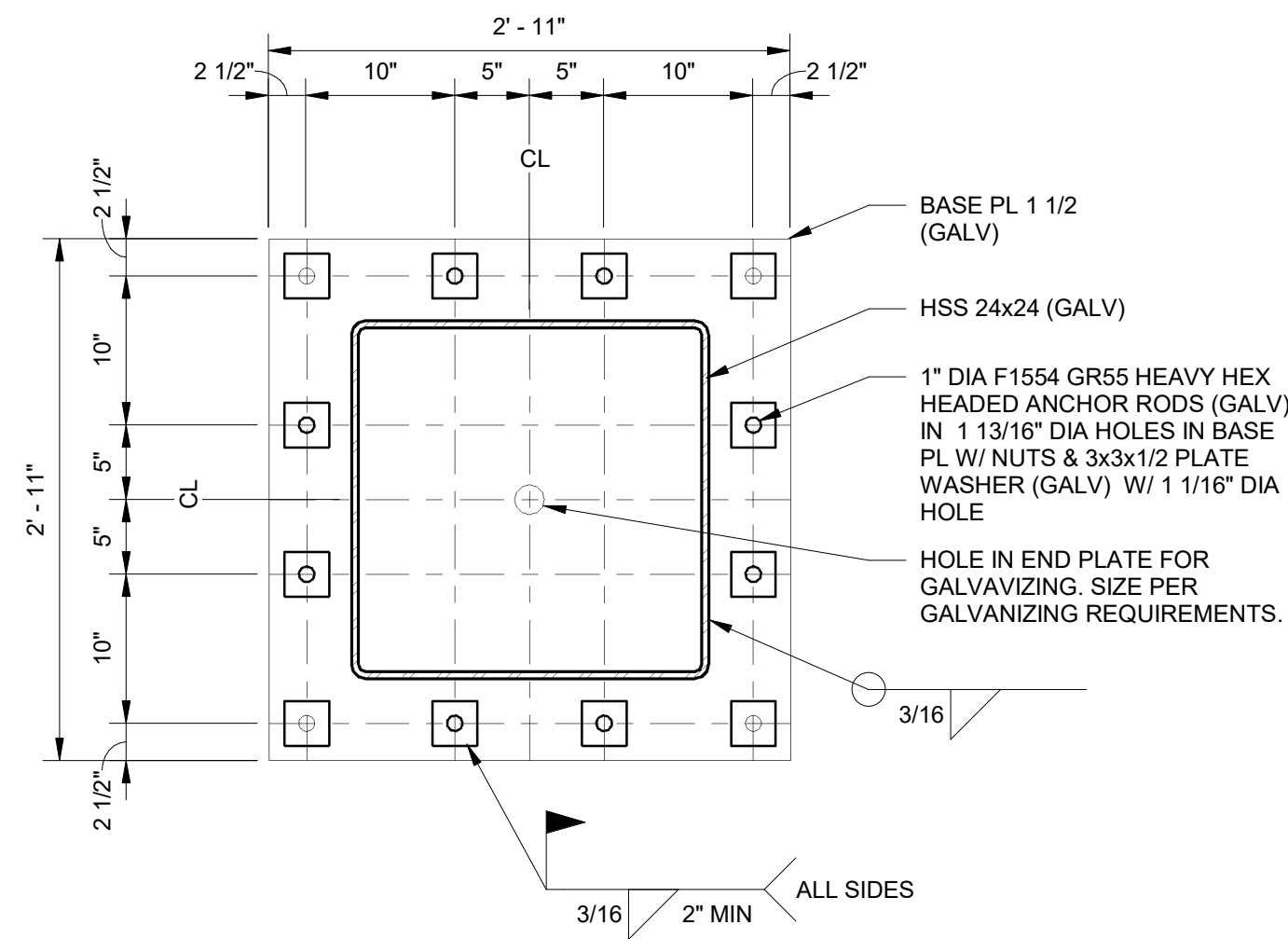
DETAIL B
SCALE: 1/2" = 1'-0"
S-9



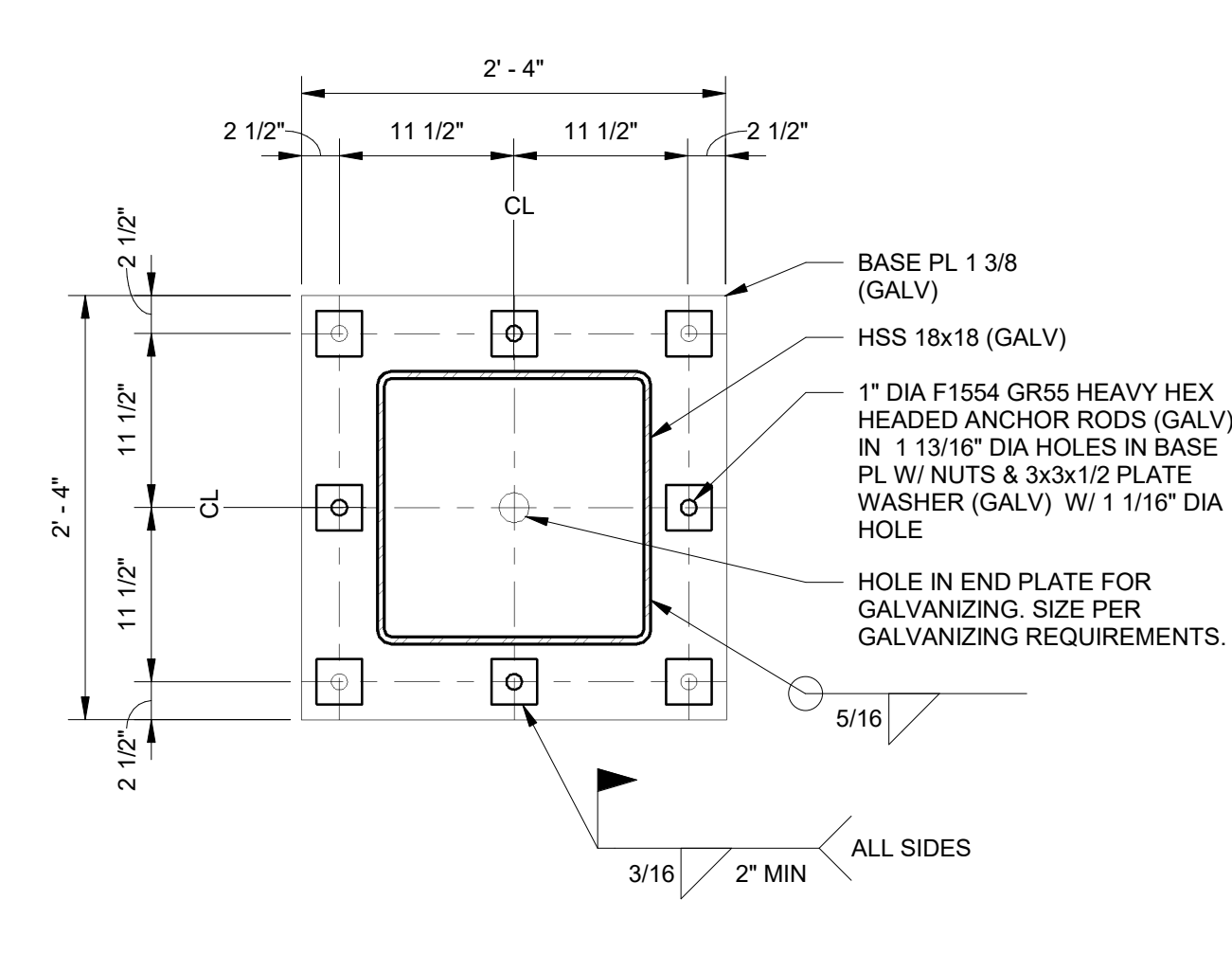
SECTION 3
SCALE: 1/2" = 1'-0"
S-9



SECTION 4
SCALE: 1/2" = 1'-0"
S-9

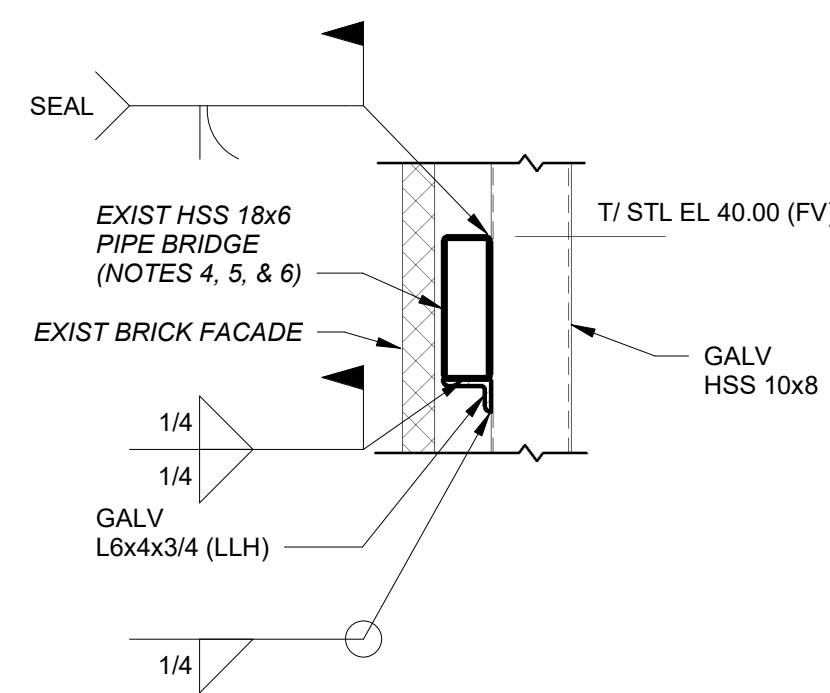


SECTION 1
SCALE: 1" = 1'-0"
S-9

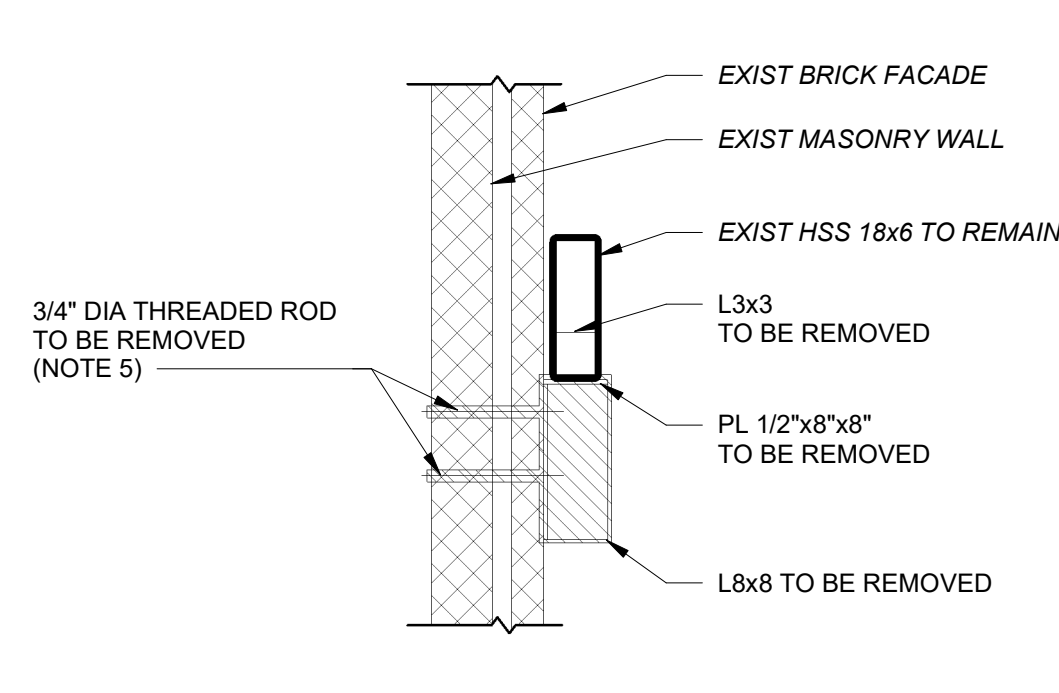


SECTION 2
SCALE: 1" = 1'-0"
S-9

COLUMN SIZE	VERTICAL LOAD, P (KIP)	MOMENT, M (KIP-FT)	LATERAL LOAD, V (KIP)	TORSION, T (KIP-FT)
HSS 24x24	33 MAX DWN 2.4 MIN DWN	1175.0	10.0	17.2
HSS 18x18	8 MAX DWN 0.3 MIN DWN	103.0	10.5	10.0



DETAIL C
SCALE: 1/2" = 1'-0"
S-8



DETAIL D
SCALE: 1/2" = 1'-0"
S-8

NOTE:

- SEE FOUNDATION NOTES ON S-1.
- DRILLED PIER DETAILS AND SECTIONS SHOWN ARE PRELIMINARY AND BASED ON ASSUMED SOIL PROPERTIES. THE CONTRACTOR SHALL CONDUCT A GEOTECHNICAL INVESTIGATION AND SUBMIT THE GEOTECHNICAL DESIGN REPORT IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 316329.
- DESIGN CRITERIA FOR DRILLED PIERS:
 - PERMISSIBLE LATERAL DEFLECTION AT PIER TOP = 1/4 INCH
 - PERMISSIBLE VERTICAL DEFLECTION AT PIER TOP = 1/2 INCH
 - LOAD COMBINATIONS ON THE TOP OF DRILLED PIER: SEE LOAD COMBINATIONS TABLE, THIS SHEET
- SHORE EXISTING HSS 18x6 PIPE BRIDGE PRIOR TO PARTIAL BRICK AND CMU REMOVAL.
- EXISTING HSS 18x6 PIPE BRIDGE SUPPORT TO THE BUILDING SHALL BE REMOVED IN ITS ENTIRETY. SEE DETAIL E1. FILL AND SEAL HOLES IN BRICK AND CMU.
- SEE HVAC DRAWINGS FOR REROUTING OF EXISTING HOT WATER PIPES.



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WATER POLLUTION CONTROL BUREAU
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APPROVALS DATE

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Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
STRUCTURAL
SECTIONS & DETAILS V

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Drawn: B. BENNETT
Checked: M. CALVINO

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Path: R:\d1295026\SEZ000PT.rvt
Plotted: DECEMBER 18, 2020
Plotted by: B. BENNETT

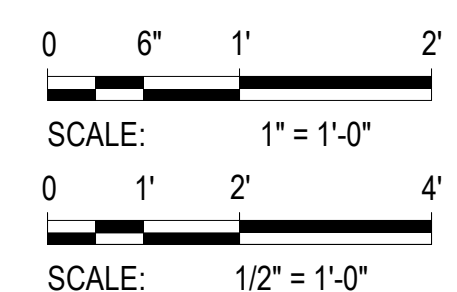
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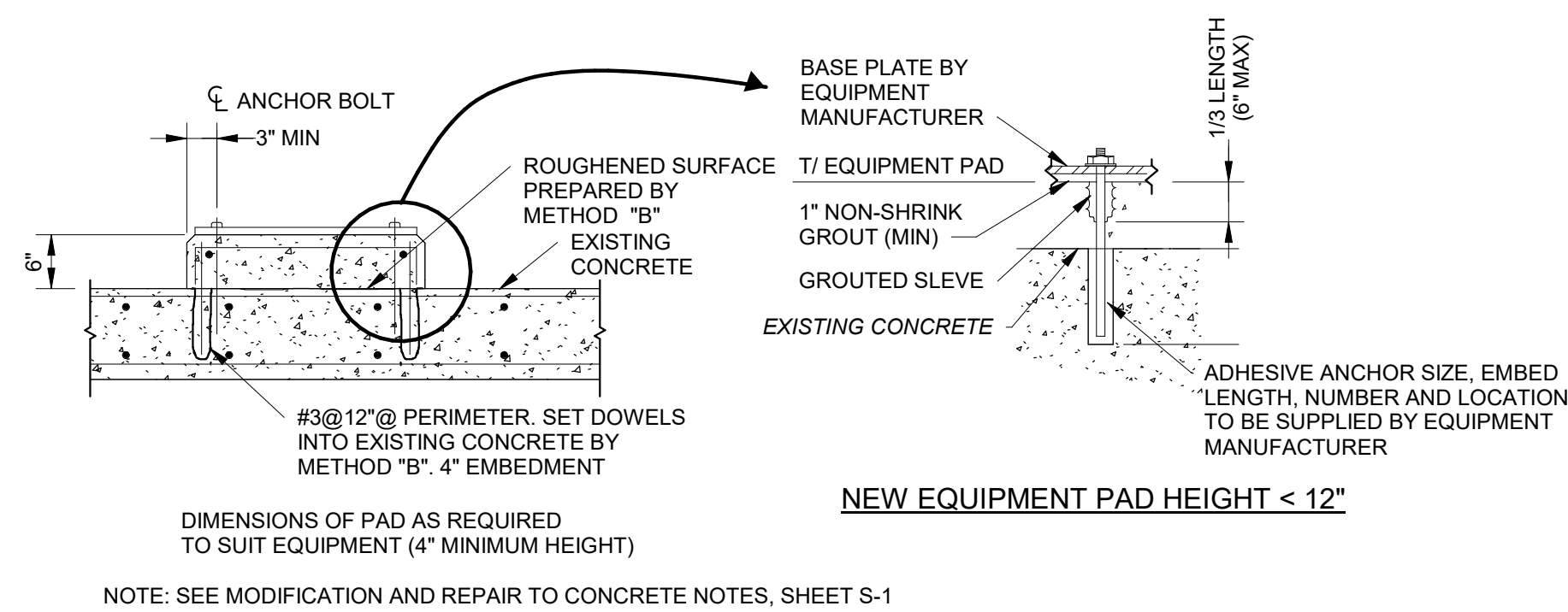
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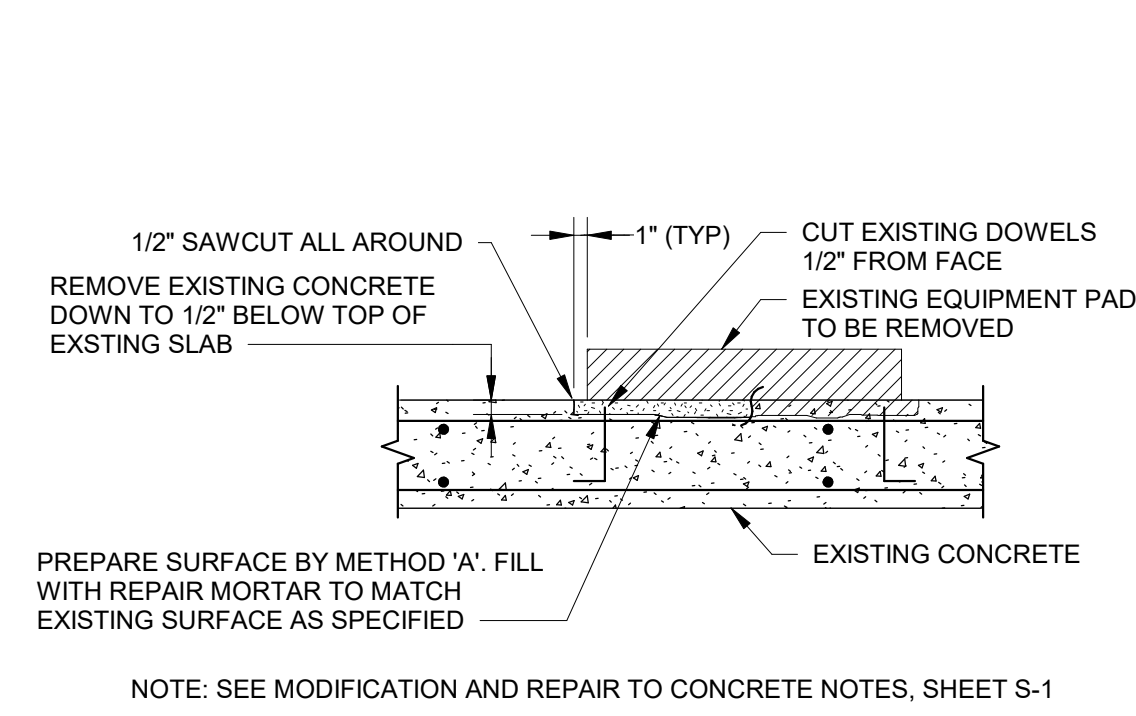
S - 11



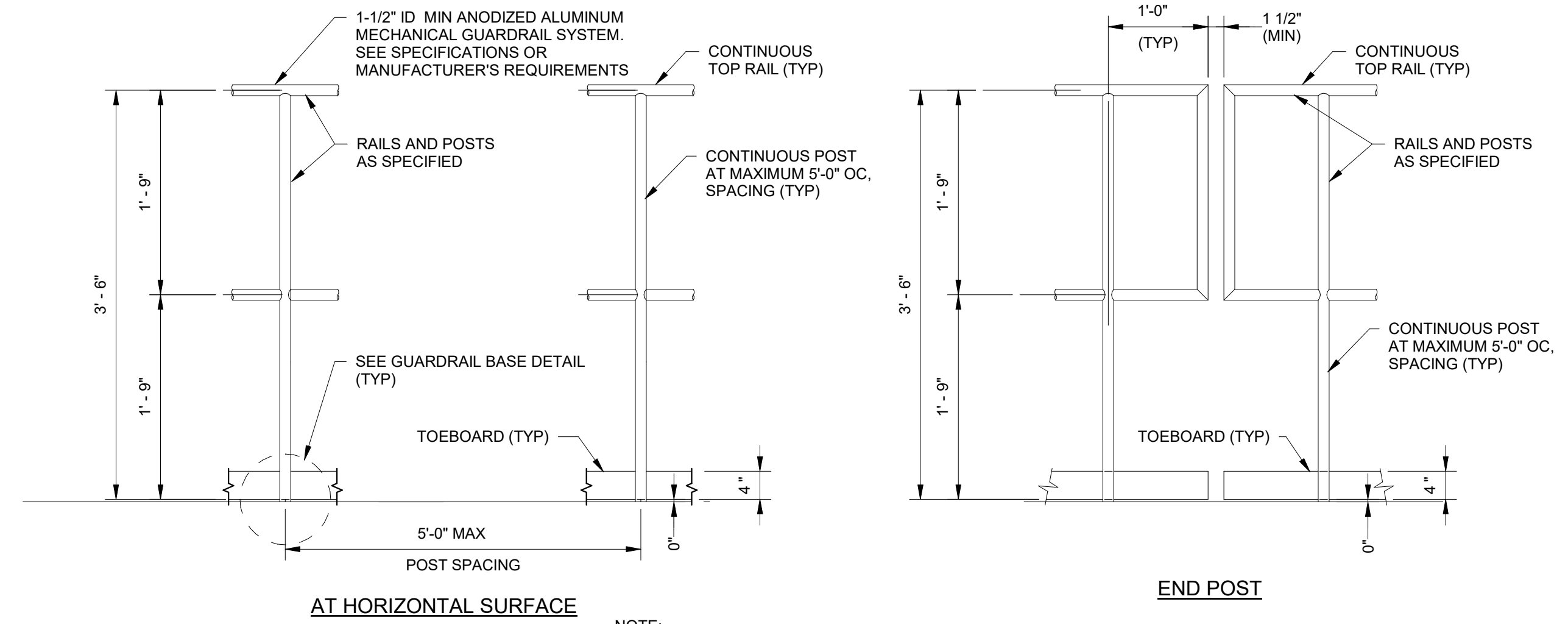
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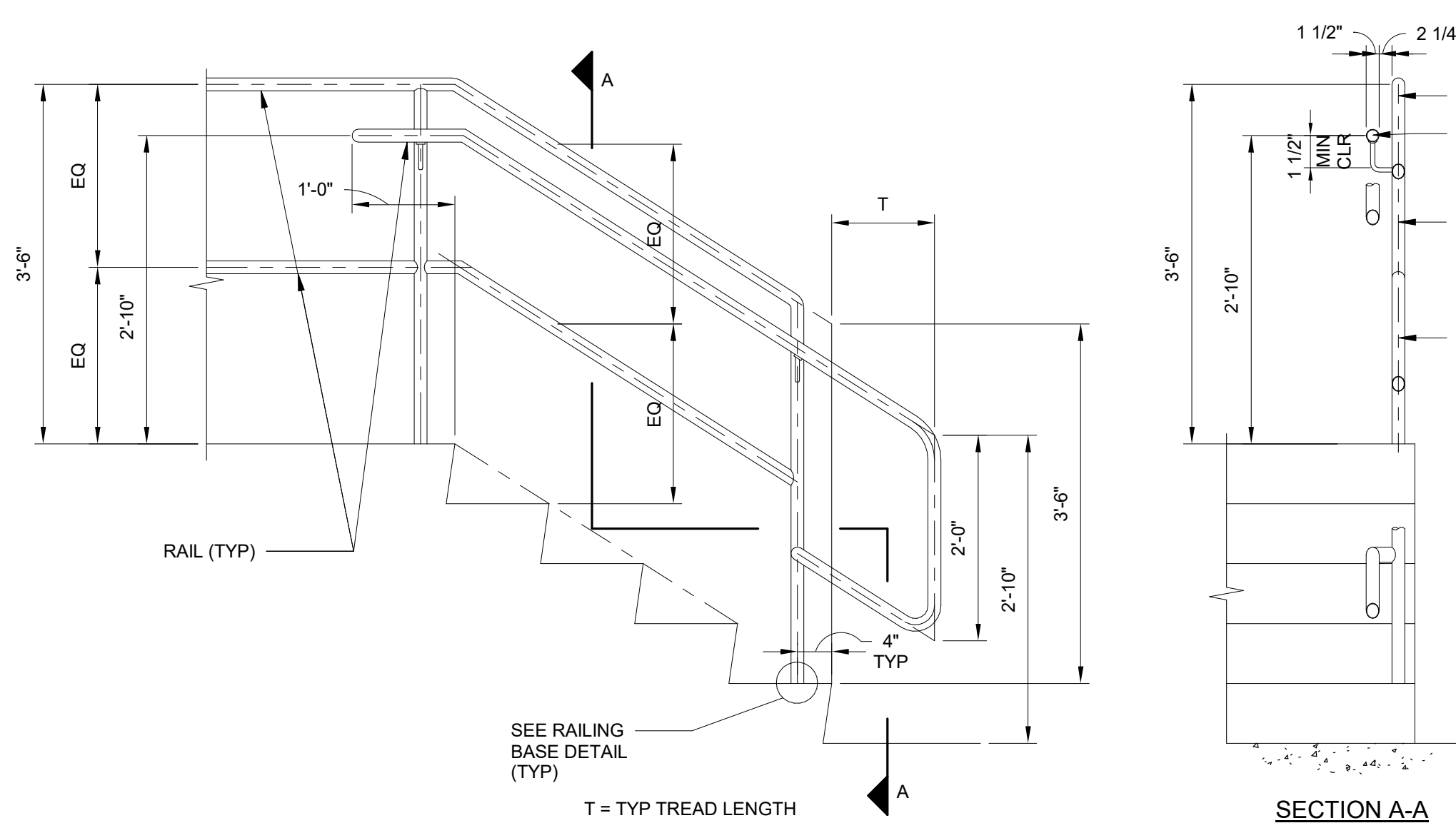
NEW EQUIP PAD ON EXISTING CONCRETE



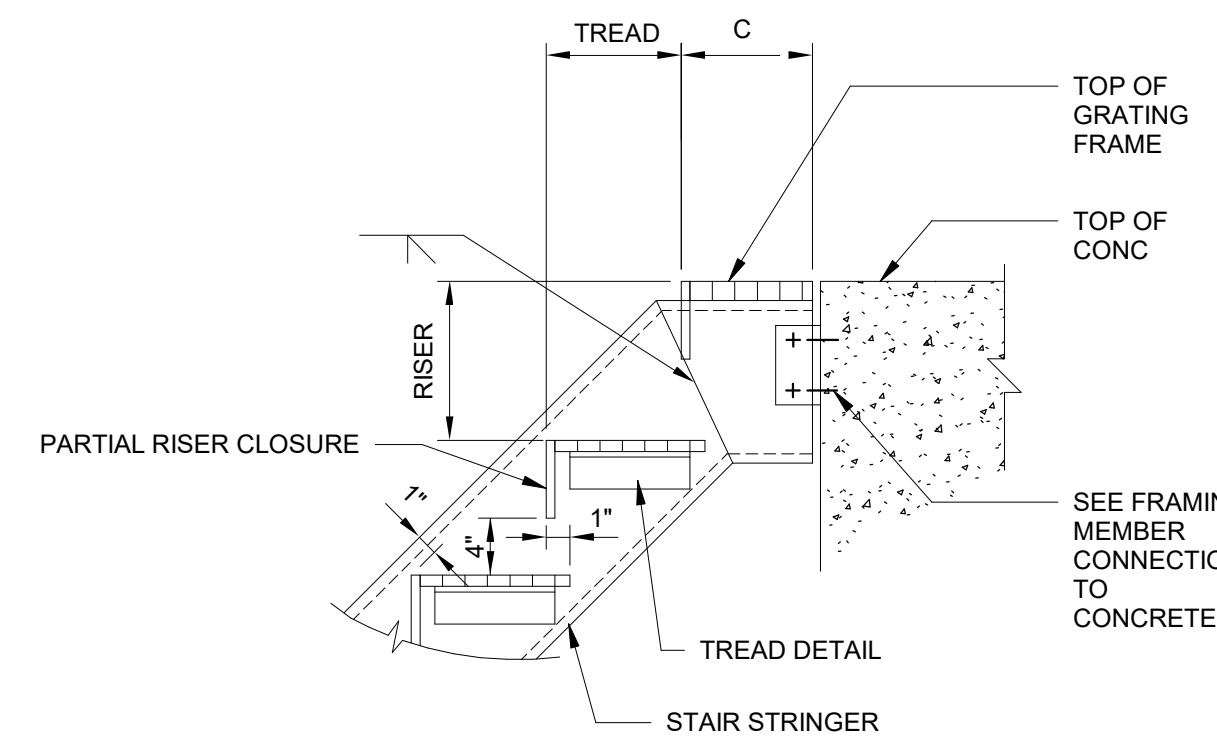
EXIST EQUIP PAD REMOVAL



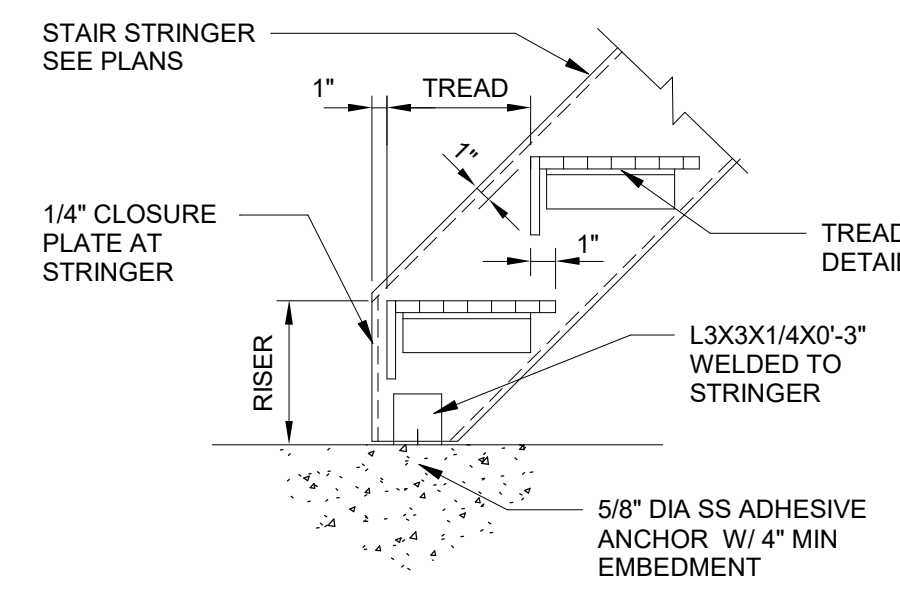
NOTE: TOEBOARD SHALL BE PROVIDED UNLESS SPECIFICALLY NOTED OTHERWISE ON PLANS OR IN SPECIFICATIONS. TOEBOARD NOT REQUIRED WHEN CONCRETE CURBS 4\"/>



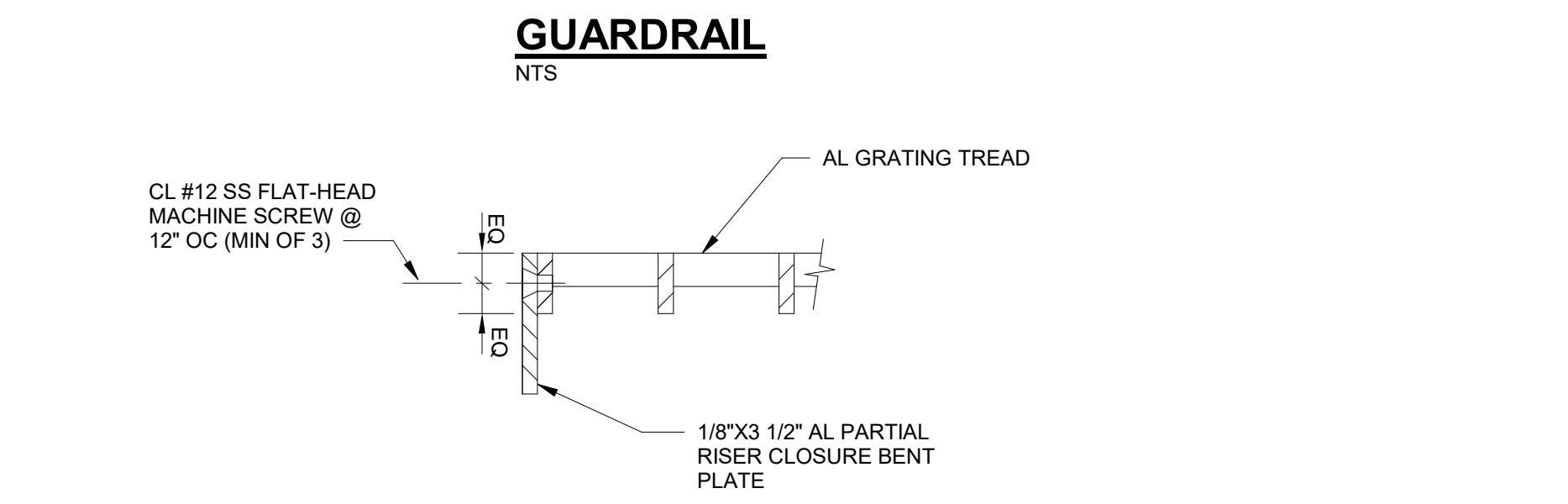
TYPICAL GUARDRAIL/HANDRAIL @ STAIRS
NTS



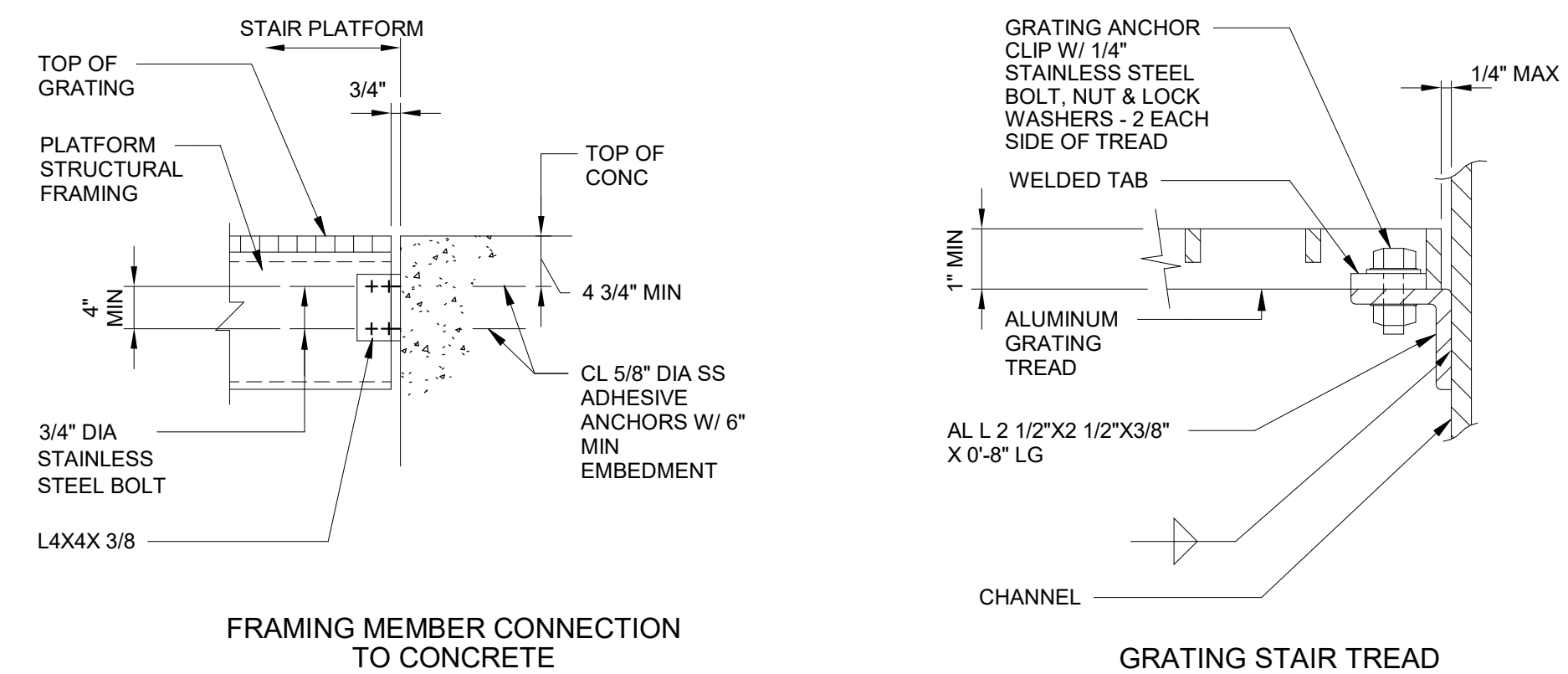
STRINGER CONNECTION AT CONCRETE WALL/SLAB (TOP)



STRINGER CONNECTION AT CONCRETE (BOTTOM)



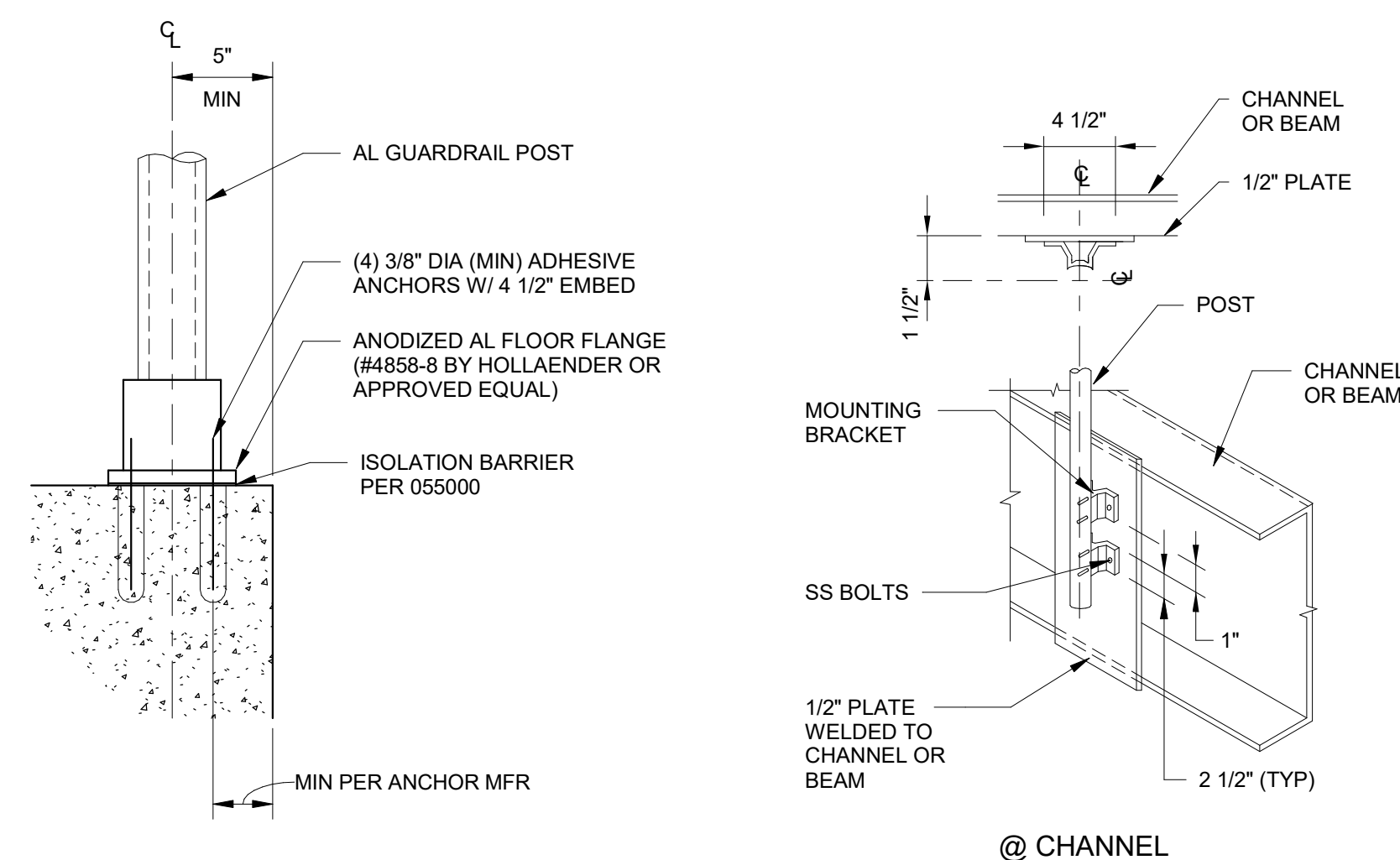
GRATING STAIR PARTIAL RISER CLOSURE



FRAMING MEMBER CONNECTION TO CONCRETE

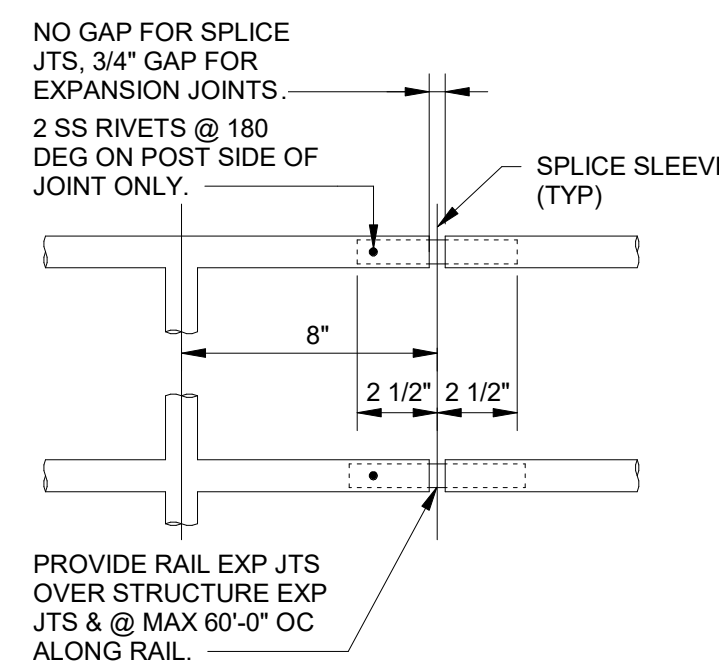
- NOTES:
1. ALL ALUMINUM CONSTRUCTION, EXCEPT FASTENERS WHICH SHALL BE STAINLESS STEEL.
 2. STAIR TREADS SHALL BE A MINIMUM OF 11\"/>

STAIR AND PLATFORM CONNECTION DETAILS
NTS

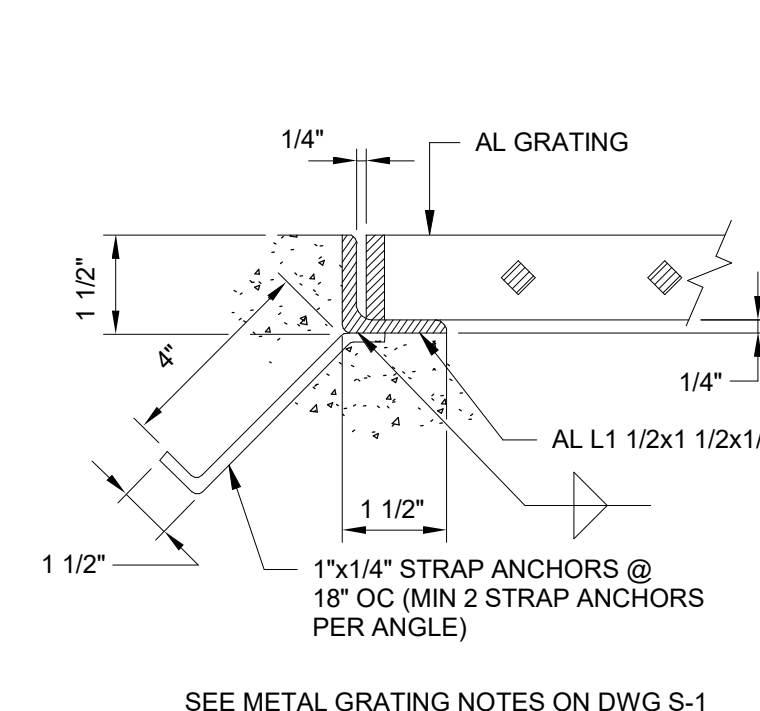


TOP MOUNTED GUARDRAIL BASE
NTS

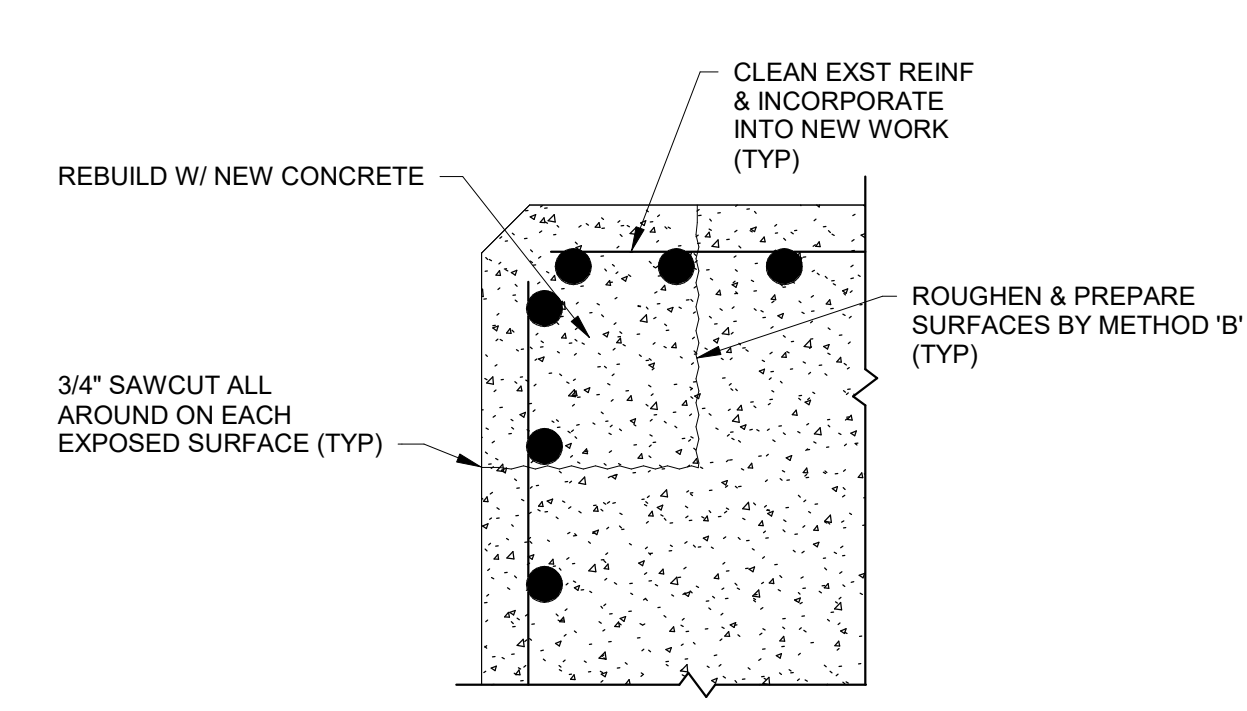
SIDE MOUNTED GUARDRAIL BASE
NTS



GUARDRAIL JOINT
NTS



GRATING SEAT
NTS



REBUILDING CONCRETE AT CORNER
NTS



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Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B

STRUCTURAL STANDARD DETAILS

Designed: K. BASILI
Drawn: B. BENNETT
Checked: M. CALVINO

Filename: SEZ000PT.rvt
Path: R:\d1295026\SEZ000PT.rvt
Plotted: DECEMBER 18, 2020
Plotted by: B. BENNETT

Scale: AS NOTED



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NOTES:

1. THIS DRAWING IS PROVIDED TO OUTLINE THE MINIMUM LEVEL OF SPECIAL INSPECTIONS DURING CONSTRUCTION TO ENSURE CONFORMANCE TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. A STATEMENT OF SPECIAL INSPECTIONS WILL BE PREPARED BY A REGISTERED DESIGN PROFESSIONAL AND SUBMITTED WITH THE BUILDING PERMIT APPLICATION.

VERIFICATION AND INSPECTION	IBC REFERENCE	INSPECTION FREQUENCY CONTINUOUS	PERIODIC	REFERENCE STANDARD	REMARKS
INSPECT DRILLING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH ELEMENT	1705.8	X		CONTRACT DOCUMENTS AND GEOTECHNICAL REPORT	REFER TO THE FOLLOWING TABLES FOR ADDITIONAL RELATED SPECIAL INSPECTIONS
VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM ELEMENT DIAMETERS, BELL DIAMETERS (IF APPLICABLE), LENGTHS, EMBEDMENT INTO ROCK (IF APPLICABLE) AND ADEQUATE END-BEARING STRATA CAPACITY. RECORD CONCRETE OR GROUT VOLUMES PLACED		X			
FOR CONCRETE ELEMENTS PERFORM TESTS AND ADDITIONAL SPECIAL INSPECTIONS IN ACCORDANCE WITH SECTION 1705.3					

VERIFICATION AND INSPECTION	IBC REFERENCE	INSPECTION FREQUENCY CONTINUOUS	PERIODIC	REFERENCE STANDARD
INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT	1705.3 1908.4		X	ACI 318: CH 20, 25.2, 25.3, 26.6.1-26.6.3
INSPECTION OF ANCHORS CAST IN CONCRETE	1705.3		X	ACI 318: SECTION 17.8.2
INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS: a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN (a)	1705.3	X		ACI 318: 17.8.2.4
			X	ACI 318: 17.8.2
VERIFYING USE OF REQUIRED DESIGN MIX	1705.3 1904.1 1904.2 1908.2 1908.3		X	ACI 318: CH 19, 26.4.3, 26.4.4
PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	1705.3 1908.10	X		ACI 318: 26.5, 26.12 ASTM C172 ASTM C31
INSPECT CONCRETE AND SHORTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	1705.3 1908.6 1908.7 1908.8	X		ACI 318: 26.5
VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	1705.3 1908.9		X	ACI 318: 26.5.3 - 26.5.5
INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	1705.3		X	ACI 318: 26.11.1.2(b)

VERIFICATION AND INSPECTION	IBC REFERENCE	INSPECTION FREQUENCY CONTINUOUS	PERIODIC	REFERENCE STANDARD
MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS: a. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED	1705.2		X	AISC 360, SECTION A3.3 AND APPLICABLE ASTM MATERIAL STANDARDS
INSPECTION OF HIGH-STRENGTH BOLTING: a. SNUG-TIGHT JOINTS b. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITH MATCHMARKING, TWIST-OFF BOLT OR DIRECT TENSION INDICATOR METHODS OF INSTALLATION c. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITHOUT MATCHMARKING OR CALIBRATED WRENCH METHODS OF INSTALLATION	1705.2		X	AISC 360, SECTION M2.5
MATERIAL VERIFICATION OF STRUCTURAL STEEL: a. IDENTIFICATION MARKINGS TO CONFORM TO ASTM 360 b. MANUFACTURER'S CERTIFIED MILL TEST REPORTS	1705.2		X	AISC 360, SECTION M5.5
MATERIAL VERIFICATION OF WELD FILLER MATERIALS: a. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED	1705.2		X	AISC 360, SECTION A3.5 AND APPLICABLE AWS A5 DOCUMENTS
INSPECTION OF WELDING: a. COMPLETE AND PARTIAL PENETRATION GROOVE WELDS b. MULTIPASS FILLET WELDS c. SINGLE-PASS FILLET WELDS > 5/16" d. PLUG AND SLOT WELDS e. SINGLE-PASS FILLET WELDS < OR = 5/16"	1705.2 1704.3.1	X		AWS D1.1
INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE: a. DETAILS SUCH AS BRACING AND STIFFENING b. MEMBER LOCATIONS c. APPLICATION OF JOINT DETAILS AT EACH CONNECTION	1705.2 1704.3.2		X	

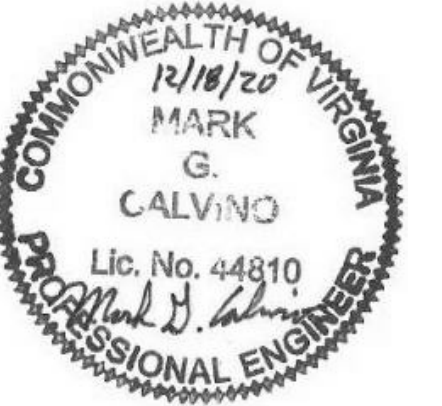
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WATER POLLUTION CONTROL BUREAU
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SEAL



APPROVALS DATE

100% BID SET

Revisions Date

Revisions	Date

Project Name and Location
Water Pollution Control Plant
 Preliminary Treatment Upgrades (WPB2)
 Phase 9B
STRUCTURAL
SCHEDULE OF SPECIAL INSPECTIONS

Designed: K. BASILI
Drawn: B. BENNETT
Checked: M. CALVINO

Filename: SEZ000PT.rvt
Path: R:\d1295026\SEZ000PT.rvt
Plotted: DECEMBER 18, 2020
Plotted by: B. BENNETT

Scale: AS NOTED



10560 Arrowhead Drive, Suite 500
FAIRFAX, VA 22030

Sht. 30 of 97

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MECHANICAL PIPING GENERAL ABBREVIATIONS:

A ABND ABANDONED AFF ABOVE FINISHED FLOOR AG ABOVE GRADE AHS AIR HOSE STATION ALT ALTERNATE AMT AMOUNT APPROX APPROXIMATE AR ACID RESISTANT PIPING ARCH ARCHITECTURAL ARD ACID RESISTANT DRAIN ARRGT ARRANGEMENT ASSY ASSEMBLY AUTO AUTOMATIC AUX AUXILIARY AVG AVERAGE	F (CONTINUED) FL FLUSH FLR FLOOR FLG FLANGE FLGD FLANGED FLV FLAP VALVE FM FORCE MAIN FPM FEET PER MINUTE FPS FEET PER SECOND FV FOOT VALVE	N NAT NORTH NAT NATURAL NC NORMALLY CLOSED NIC NOT IN CONTRACT NO. NUMBER NO NORMALLY OPEN NOM NOMINAL NPSF AMERICAN NATIONAL STRAIGHT PIPE THREADS FOR DRY SEAL PRESSURE JOINTS NPT AMERICAN NATIONAL TAPER PIPE THREAD NTS NOT TO SCALE NV NEEDLE VALVE	T T TREADS T&B TOP AND BOTTOM TDH TOTAL DYNAMIC HEAD TEMP TEMPERATURE THK THICK THRD THREADED, THREAD TKD TANK DRAIN TOS TOP OF STEEL TYP TYPICAL
B B BEND BFV BUTTERFLY VALVE B FLG BLIND FLANGE BIT BITUMINOUS BLDG BUILDING BM BENCH MARK BOT BOTTOM BRG BEARING BRK BRICK BV BALL VALVE	G G GROUND GA GAUGE, GAGE GAL GALLON GALV GALVANIZE, GALVANIZED (HOT DIPPED) GLV GLOBE VALVE GPM GALLONS PER MINUTE GR GRADE GRTG GRATING GV GATE VALVE QVL GRAVEL	O O TO O OUT TO OUT OC ON CENTER OD OUTSIDE DIAMETER OED OPEN END OR OPEN EQUIPMENT DRAIN OF OUTSIDE FACE OFF OFFICE OPER OPERATOR OPNG OPENING OPP OPPOSITE OR OUTSIDE RADIUS OS&Y OUTSIDE STEM AND YOKE OVHD OVERHEAD	U UG UNDERGROUND UL UNDERWRITERS LABORATORY UN UNLESS OTHERWISE NOTED
C CAT CATALOG CB CATCH BASIN CFM CUBIC FEET PER MINUTE CFS CUBIC FEET PER SECOND CHAM CHAMFER CHEM CHEMICAL CHKD CHECKERED CIR CIRCLE CL CENTER LINE CL= CENTER LINE ELEVATION CLG CEILING CLR CLEARANCE CMU CONCRETE MASONRY UNIT CO CLEAN OUT COL COLUMN CONC CONCRETE CONN CONNECTION CONST CONSTRUCTION CONT CONTINUOUS, CONTINUE CONTR CONTRACTOR OR CONTRACT COR CORRUGATED CORR CORRIDOR CPLG COUPLING CSTG CASTING CTR CENTER CV CHECK VALVE	H H HIGH HB HOSE BIBB HD HEAVY DUTY HDR HEADER HDW HARDWARE HEV HOSE END VALVE HGL HYDRAULIC GRADE LINE HGR HANGER HGT HEIGHT HH HANDHOLE HORIZ HORIZONTAL HP HORSEPOWER HP HIGH POINT HR HOUR HRL HANDRAIL HS HIGH STRENGTH HVAC HEATING, VENTILATING AND AIR CONDITIONING HVY HEAVY HWL HIGH WATER LEVEL HYD HYDRAULIC	P P PUMP, PUMPING P&ID PROCESS AND INSTRUMENTATION DIAGRAM PFP PLATE AND FRAME PRESS PL PLATE PLMG PLUMBING PV PLUG VALVE PLYWD PLYWOOD PN PNEUMATIC PPM PARTS PER MILLION PR PAIR PS PUMPING STATION PSF POUNDS PER SQ. FOOT PSI POUNDS PER SQUARE INCH PTD PAINTED PCHV PINCH VALVE	V V VALVE VOLTS VAC VACUUM VB VALVE BOX VERT VERTICAL VOL VOLUME VTR VENT THROUGH ROOF V VENT
D DBL DOUBLE DEMO DEMOLITION DEPT DEPARTMENT DIA DIAMETER DIAG DIAGONAL DIAP DIAPHRAGM DIM DIMENSION DIR DIRECTION DISCH DISCHARGE DIST DISTANCE DN DOWN DWG DRAWING	J JT JOINT	Q Q FLOW QTY QUANTITY	W W WEST W/ WITH W/A WHERE APPLICABLE W/O WITHOUT WH WALL HYDRANT WHS WASH HOSE STATION WL WATER LEVEL WS WATER SURFACE WS WATER STOP WT WATERTIGHT WWF WELDED WIRE FABRIC
E E EAST E TO E END TO END EA EACH ECC ECCENTRIC EF EACH FACE ELEC ELECTRICAL ELEV ELEVATION EMERG EMERGENCY ENG ENGINEER EQ EQUAL EQUIP EQUIPMENT EWU EYE WASH UNIT EXH EXHAUST EXIST EXISTING EXP EXPANSION EXP JT EXPANSION JOINT EXT EXTERNAL	L L LITER LAB LABORATORY LAT LATERAL LB POUND LG LONG LH LEFT HAND LLWL LOW LOW WATER LEVEL LONG LONGITUDINAL LP LOW POINT LR LONG RADIUS LWL LOW WATER LEVEL	R R RISERS RAD RADIUS RD ROOF DRAIN RED REDUCER REHAB REHABILITATION REINF REINFORCING REQD REQUIRED RESIL RESILIENT RCH ROUGH RH RIGHT HAND RLG RAILING RL ROOF LEADER RM ROOM RND ROUND RO ROUGH OPENING RO REDUCED PRESSURE BACK FLOW PREVENTER RPM REVOLUTION PER MINUTE RST REINFORCING STEEL RUB RUBBER	X X HVY EXTRA HEAVY X STR EXTRA STRONG XP EXPLOSION PROOF
F FA FLANGE ADAPTER FAB FABRICATED FCO FLOOR CLEAN OUT FD FLOOR DRAIN FDN FOUNDATION FH FIRE HYDRANT FIN FINISHED FIN GR FINISHED GRADE	M M MOTOR MAN MANUAL MAS MASONRY MATL MATERIAL MAX MAXIMUM MCC MOTOR CONTROL CENTER MECH MECHANICAL MED MEDIUM MEZZ MEZZANINE MFR MANUFACTURER MGD MILLION GALLONS PER DAY MH MANHOLE MHS METAL HOSE MIN MINIMUM MJ MECHANICAL JOINT MLT MEAN LOW TIDE MLW MEAN LOW WATER MO MOUNTED MTD MOUNTED MTL METAL	S S SOUTH SAN SANITARY SCH SCHEDULE SCR SCREW SCRN SCREEN, SCREENING SEC SECONDARY SECT SECTION SG SLIDE GATE SHT SHEET SHTG SHEETING SIM SIMILAR SLG SLUICE GATE SMH SEWER MANHOLE SPEC SPECIFICATION, SPECIFIED SQ SQUARE SR SHORT RADIUS SS STAINLESS STEEL (TYPE 316) STA STATION STD STANDARD STIFF STIFFENER STL STEEL, GENERAL STRUCT STRUCTURE, STRUCTURAL SUB SUBMERGED SUC SUCTION SURF SURFACE SUSP SUSPENDED SYM SYMMETRICAL	Y YH YARD HYDRANT

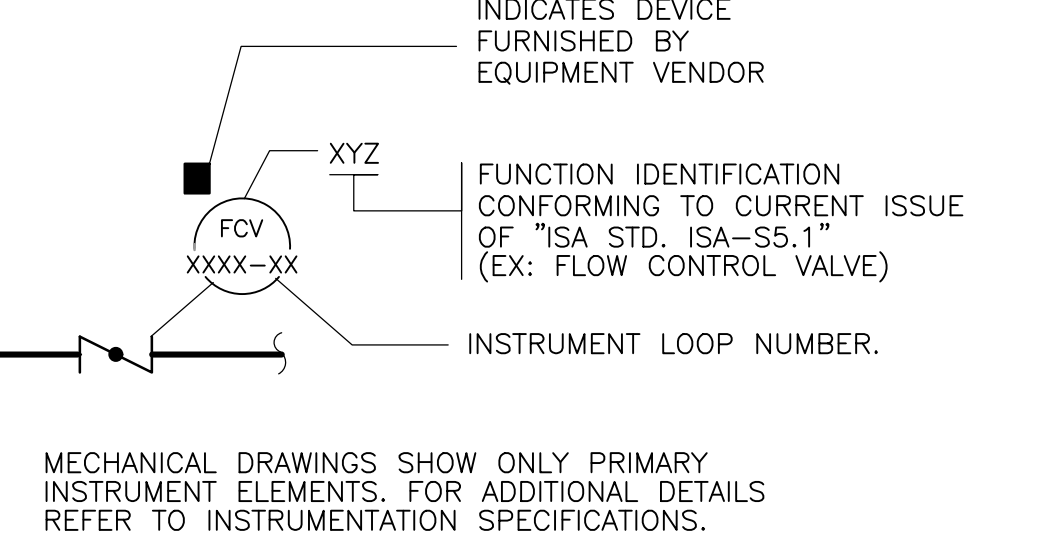
VALVE SYMBOLS

DOUBLE LINE SYMBOLOGY	SINGLE LINE SYMBOLOGY	DESCRIPTION
		GATE VALVE
		KNIFE GATE VALVE
		PLUG VALVE
		BUTTERFLY VALVE
		BALL VALVE
		GLOBE VALVE
		PINCH VALVE
		CONE VALVE
		DIAPHRAGM VALVE
		SWING CHECK VALVE
		SILENT CHECK VALVE
		DOUBLE DOOR CHECK VALVE
		BALL CHECK VALVE
		SOLENOID VALVE
		NEEDLE VALVE
		PRESSURE REDUCING REGULATOR (SELF CONTAINED)
		BACK PRESSURE REGULATOR
		PRESSURE RELIEF VALVE
		VACUUM RELIEF VALVE
		CORPORATION STOP

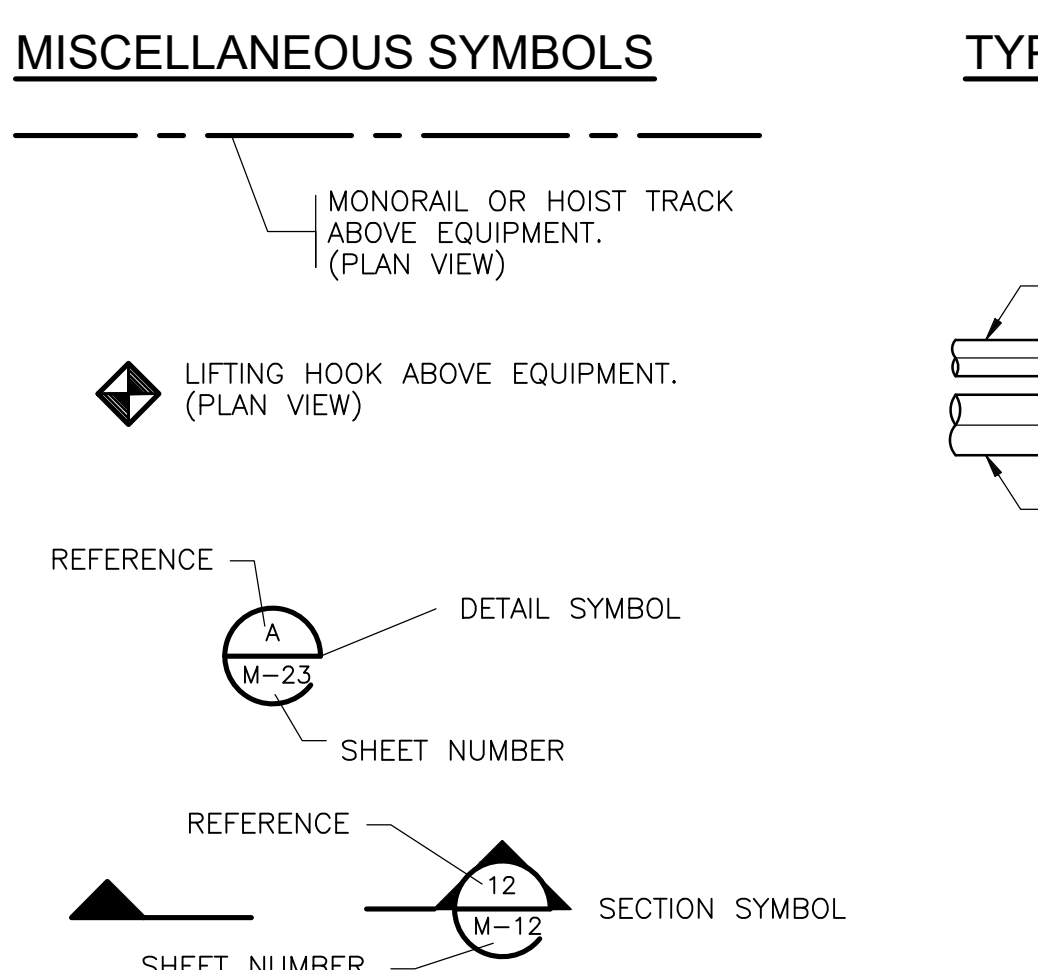
MISCELLANEOUS PIPING COMPONENTS

DOUBLE LINE SYMBOLOGY	SINGLE LINE SYMBOLOGY	DESCRIPTION
		FLEXIBLE BELLOWS TYPE COUPLING
		SLEEVE TYPE PIPE COUPLING
		COUPLING FOR GROOVED PIPE ENDS
		UNION
		FLEXIBLE COUPLING (GENERAL SYMBOL)
		QUICK CONNECT TYPE COUPLING
		HOSE CONNECTION
		Y-STRAINER
		PULSATION DAMPENER
		PULSATION DAMPENER

PROCESS VALVE LOOP IDENTIFICATION



TYPICAL INSTRUMENTATION AND LOOP TAG



LEGENDS SYMBOLS AND ABBREVIATIONS SHOWN ON SHEETS M-1, M-2 AND M-3 INDICATE STANDARD SYMBOLS AND ABBREVIATIONS AND ARE PERTINENT TO THE CONDITIONS ON THIS SET OF DRAWINGS TO THE EXTENT APPLICABLE.

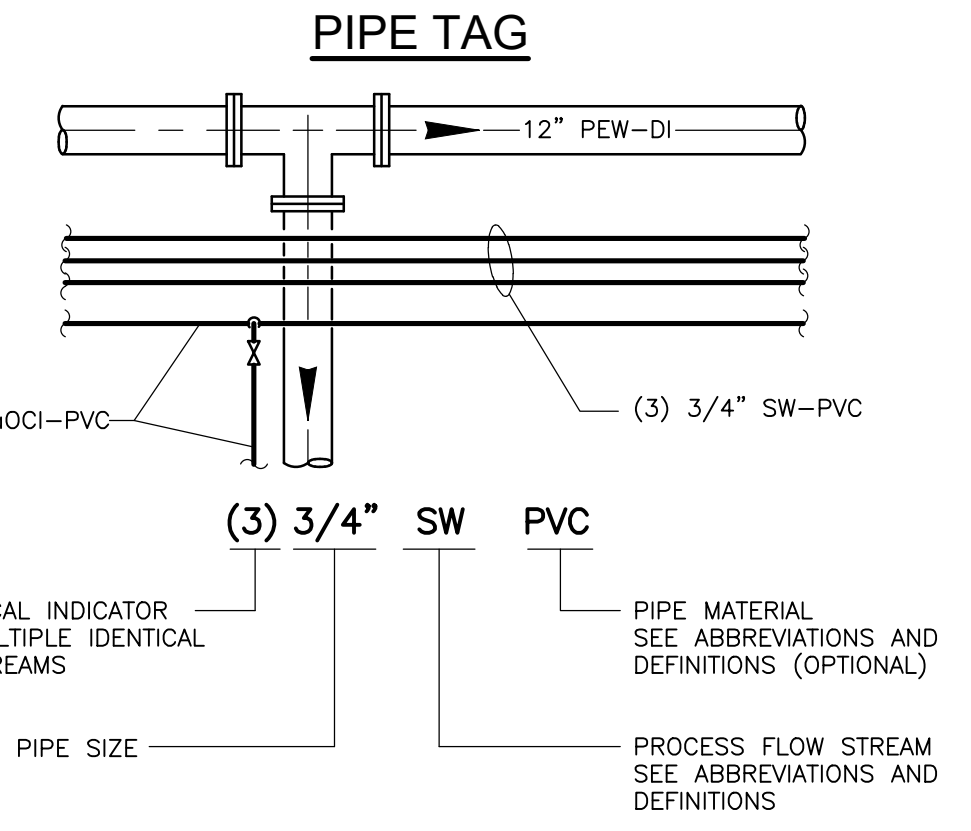
VALVE OPERATOR EXAMPLES

DOUBLE LINE SYMBOLOGY	SINGLE LINE SYMBOLOGY	DESCRIPTION
		CYLINDER ACTUATOR
		ELECTRIC ACTUATOR
		SURGE CONTROL VALVE

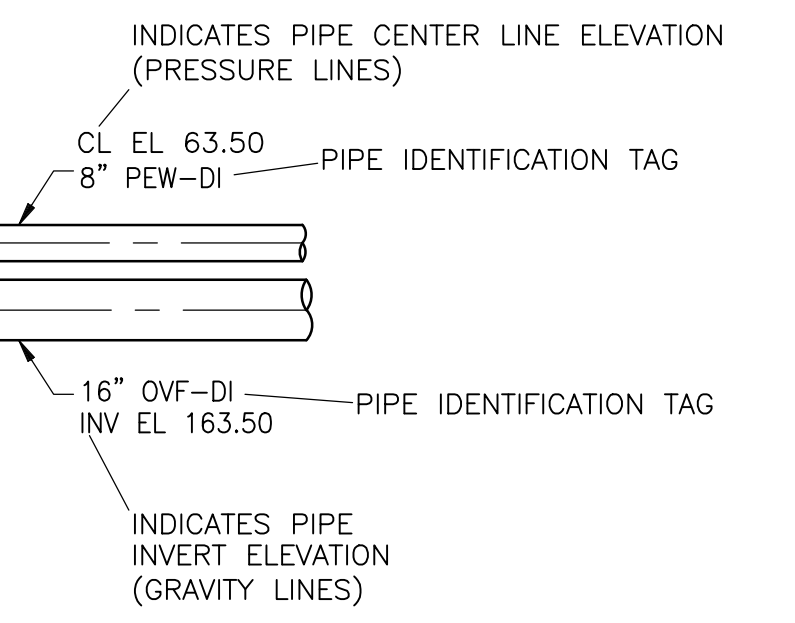
OTHER TYPES OF OPERATORS MAY BE SHOWN ON THE DRAWINGS. FOR ADDITIONAL OPERATOR SYMBOLOGY SEE "INSTRUMENTATION LEGEND SHEETS."

PROCESS PIPE IDENTIFICATION

PROCESS FLOW STREAMS	PIPE MATERIALS
BWW BACKWASH WASTE	CI CAST IRON
CA COMPRESSED AIR	STL STEEL
CS COMPACTED SCREENING	CU COPPER
COW COUNTY WATER (POTABLE)	CPVC CHLORINATED POLYVINYL CHLORIDE
DR DRAIN	DI DUCTILE IRON
FE FILTER EFFLUENT	DIGL DUCTILE IRON GLASS LINED
FD FLOOR DRAIN	FRP FIBERGLASS REINFORCED PLASTIC
FI FILTER INFLUENT	GS GALVANIZED STEEL
GS GRIT SLURRY	HDPE HIGH DENSITY POLYETHYLENE
NaOCl SODIUM HYPOCHLORITE	PCCP PRESTRESSED CONCRETE CYLINDER PIPE
NaOH SODIUM HYDROXIDE	PVC POLYVINYL CHLORIDE PRESSURE PIPE
OVF OVERFLOW	POLYP POLYPROPYLENE
PEW PLANT EFFLUENT WATER	PPSTL POLYPROPYLENE LINED STEEL PIPE
PO POLYMER	RC REINFORCED CONCRETE PIPE
POLC COAGULANT AID POLYMER	RUB RUBBER
PF FILTER AID POLYMER	SS STAINLESS STEEL
RD ROOF DRAIN	BS BLACK STEEL PIPE
RAW RAW WATER	
SAN SANITARY SEWER	
SC SCUM	
SPD SUMP PUMP DISCHARGE	
SPL SAMPLE	
SW SPRAY WASH	
VT VENT	
WNC WASTE NON-CHLORINATED	



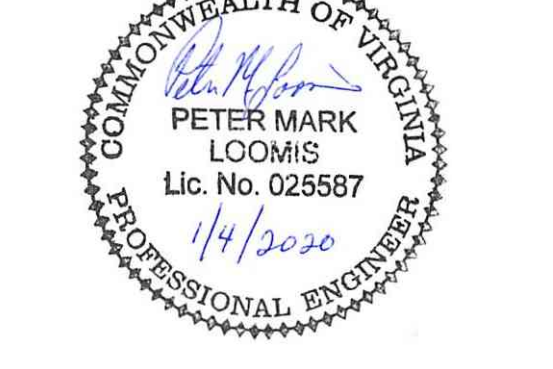
TYPICAL PIPE ELEVATION NOTES



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SEAL



APPROVALS DATE

100% BID SET

Revisions	Date

Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2) Phase 9B
MECHANICAL ABBREVIATIONS AND PIPING SYMBOLOGY

Designed: A. LUTHRA
Drawn: E. JOHNSON
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

Filename: M001PRLG.dwg
Path: C:\pwworking\cdmsmith\client\1259023
Plotted: December 16, 2020
Plotted by: Johnsonec

Scale: AS NOTED



10560 Arrowhead Drive, Suite 500
FAIRFAX, VA 22030
Sht. 31 of 97
M-1

EXISTING FACILITIES INFORMATION:

1. EXISTING FACILITIES INFORMATION HAS BEEN OBTAINED FROM RECORD DRAWINGS TITLED:

ARLINGTON COUNTY, VIRGINIA
WATER POLLUTION CONTROL PLANT
UPGRADE AND EXPANSION - PHASE IIB

DATE: SEPTEMBER 1991
PREPARED BY: CAMP DRESSER & McKEE, ANNANDALE, VIRGINIA

2. ALL EXISTING INFORMATION SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

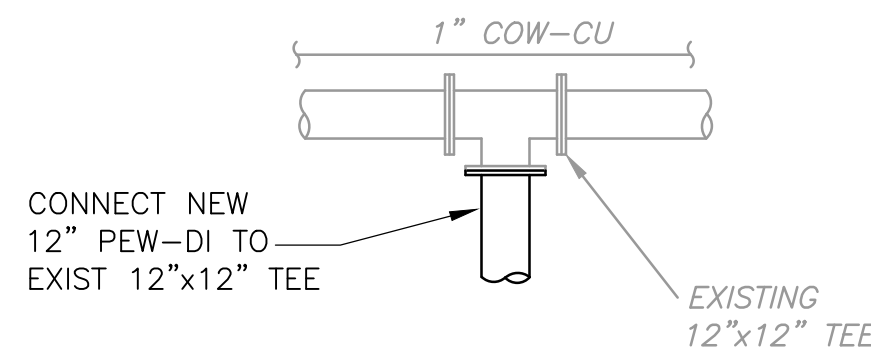
DEMOLITION GENERAL NOTES:

- DIMENSIONS AND LOCATIONS OF EXISTING EQUIPMENT, APPURTENANCES AND STRUCTURES HAVE BEEN OBTAINED FROM EXISTING DESIGN DRAWINGS.
 - CERTAIN EXISTING EQUIPMENT AND STRUCTURES NOT DIRECTLY RELATED TO THE WORK PERFORMED UNDER THIS CONTRACT HAVE BEEN OMITTED FOR THE SAKE OF CLARITY. IT IS NOT WARRANTED THAT THE LOCATIONS AND DIMENSIONS OF EXISTING EQUIPMENT, APPURTENANCES AND STRUCTURES ARE EXACT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND LOCATIONS OF EXISTING PIPING, EQUIPMENT, ELECTRICAL CONDUITS, HVAC DUCTS ETC. TO BE REMOVED FOR THE NEW CONSTRUCTION.
 - THE DEMOLITION, MODIFICATION OR ALTERATION OF EXISTING BUILDINGS, EQUIPMENT, PIPING AND STRUCTURES SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LOCAL REGULATIONS AND CODES. REFER TO STRUCTURAL SPECIFICATIONS FOR FURTHER DETAILS.
 - DEMOLITION AND SALVAGE OF EXISTING EQUIPMENT AND PIPING IS DEFINED ON THE DEMOLITION DRAWINGS AND IN SPECIFICATION SECTION 024119.
 - ALL HOLES CUT FOR NEW PIPING OR EQUIPMENT THROUGH EXISTING CONCRETE OR MASONRY WALLS, SLABS OR ARCHES SHALL BE CORE DRILLED UNLESS OTHERWISE NOTED ON THE DRAWINGS. NO STRUCTURAL MEMBER SHALL BE CUT WITHOUT APPROVAL OF ENGINEER.
 - FOR MAINTENANCE OF EXISTING PLANT OPERATION REFER TO SPECIFICATION SECTION 018100.
 - WHERE PIPES ARE REMOVED, ISOLATE REMAINING PIPE LINE WITH BLIND FLANGE, PLUG OR CAP AS APPROVED BY ENGINEER.
 - WHERE EXISTING PIPES PENETRATE THE FLOOR AND ARE CALLED FOR TO BE REMOVED, THE EXISTING SLEEVE OR CASTING SHALL BE CAPPED AS DETAILED ON THE MECHANICAL DRAWINGS.
 - THE FOLLOWING TERMS ARE USED ON THE DRAWINGS:
- | | |
|----------------------------|--|
| EXISTING | EXISTING EQUIPMENT, PIPING AND APPURTENANCES TO REMAIN IN SERVICE UNLESS OTHERWISE NOTED. CERTAIN ITEMS OF EQUIPMENT AND PIPING MAY BE DISCONNECTED TEMPORARILY TO ALLOW FOR THE CONSTRUCTION OF THE NEW FACILITIES. REFER TO CONSTRUCTION SEQUENCE FOR FURTHER DETAILS. |
| NEW OR NEW WORK | NEW PIPING, NEW WORK, EQUIPMENT, APPURTENANCES AND EQUIPMENT ARE IDENTIFIED WITH BOLD TYPE NOTES OR DESIGNATED AS NEW OR NEW WORK. |
| RELOCATE | REMOVE EXISTING EQUIPMENT, PIPING AND APPURTENANCES AS SHOWN ON THE DRAWINGS, CLEAN, FLUSH AND DRAIN THE INTERIOR OF THE REMOVED EQUIPMENT AND REINSTALL IN THE NEW LOCATION AS SHOWN ON THE DRAWINGS. ALL RELOCATED PIPING AND APPURTENANCES SHALL CONSIDERED AS NEW. |
| DEMOLITION/DEMOLISH/REMOVE | EXISTING PIPING, EQUIPMENT AND APPURTENANCES TO BE TAKEN OUT AND DISPOSED OF OFF-SITE. |
| ABANDON | EXISTING PIPING, EQUIPMENT AND APPURTENANCES TO BE TAKEN OUT OF SERVICE AND LEFT IN PLACE. |
| REMOVE & RETURN | EXISTING PIPING, EQUIPMENT AND APPURTENANCES TO BE TAKEN OUT AND RETURNED TO OWNER. |
- WHERE PARTIAL REMOVAL OF PIPELINES ARE CALLED FOR, PROVIDE PIPE SUPPORTS AS REQUIRED TO SUPPORT EXISTING PORTIONS OF REMAINING PIPE AND/OR REMOVE PIPELINES TO LIMITS AS APPROVED BY ENGINEER.
 - COORDINATE DEMOLITION FOR NEW WORK TO BE CONNECTED TO EXISTING PIPING. LIMIT OF NEW WORK AND DEMOLITION SHOWN ON PLANS IS APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE EXACT LIMITS OF DEMOLITION TO MAKE THE APPROPRIATE CONNECTIONS OF NEW PIPING TO EXISTING, USING EXISTING FLANGED ENDS OF PIPE, COUPLINGS OR FLANGE ADAPTORS AS APPROVED BY THE ENGINEER.
 - SEE STRUCTURAL STANDARD DETAILS FOR METHOD FOR REMOVING EXISTING CONCRETE PADS, CURBS, FILL AND RESTORATION OF EXISTING CONCRETE FLOORS.

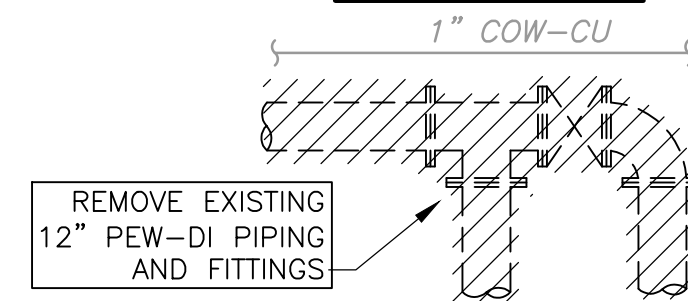
MECHANICAL PIPING GENERAL NOTES:

- PROCESS EQUIPMENT DIMENSIONS, LOCATIONS AND PIPING SYSTEM LAYOUTS ARE BASED ON EQUIPMENT SELECTED BY THE ENGINEER. IF THE CONTRACTOR PROPOSES TO FURNISH EQUIPMENT THAT REQUIRES AN ARRANGEMENT OR SPACE DIFFERING FROM THAT INDICATED ON THE DRAWINGS OR SPECIFIED, THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER FOR APPROVAL DETAILED ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING, INSTRUMENTATION, HVAC, AND ELECTRICAL DRAWINGS AND EQUIPMENT LISTS SHOWING ALL NECESSARY CHANGES AND EMBODYING ALL FEATURES OF THE EQUIPMENT AND/OR PROCESS SYSTEM PROPOSED TO BE FURNISHED. THIS INFORMATION SHALL INCLUDE BUT NOT BE LIMITED TO SCALED PLANS AND SECTIONS, DETAILS AND SCHEMATICS OF ALL APPURTENANCES REQUIRED SUCH AS COMPRESSED AIR SUPPLY, HYDRAULIC SYSTEMS, MAKE-UP WATER SUPPLY, ELECTRICAL CONTROLS, CHEMICAL FEED SYSTEMS etc. SUCH CHANGES IF APPROVED BY THE ENGINEER SHALL BE AT NO EXTRA COST TO THE OWNER. THE CONTRACTOR SHALL ASSUME THE COST OF AND THE RESPONSIBILITY FOR SATISFACTORILY ACCOMPLISHING ALL THE NECESSARY CHANGES CORRESPONDING TO THE DIMENSIONS AND CHARACTERISTICS OF THE EQUIPMENT SUBMITTED AND APPROVED BY THE ENGINEER.
- SIZES OF EQUIPMENT FOUNDATIONS INDICATED ON THE DRAWINGS ARE APPROXIMATE. EXACT DIMENSIONS SHALL BE DETERMINED BY THE CONTRACTOR FOR THE EQUIPMENT FURNISHED. WHERE INDICATED, FLOOR MOUNTED EQUIPMENT AND TANKS SHALL BE SET ON 4" HIGH, MINIMUM, REINFORCED CONCRETE PADS CONFORMING TO DETAILS SHOWN ON THE STRUCTURAL AND/OR MECHANICAL DRAWINGS.
- PROTECTED WATER SUPPLY CONNECTIONS TO PROCESS EQUIPMENT AND PROCESS PIPES ARE SHOWN ON THE MECHANICAL DRAWINGS. DETAILS OF CONTROL VALVE STATIONS, MAKE-UP WATER CONNECTIONS, FLUSHING CONNECTIONS etc. ARE SHOWN ON THE MECHANICAL DRAWINGS.
- DIELECTRIC COUPLINGS, FLANGES OR UNIONS SHALL BE INSTALLED AT ALL CONNECTIONS OF COPPER PIPE TO OTHER TYPES OF METALLIC PIPING.
- MECHANICAL PIPING DRAWINGS DO NOT SHOW ALL VALVES, GAUGES, SWITCHES, OPERATORS, DRAINS, VENTS, etc. REQUIRED FOR THE COMPLETE SYSTEM. CERTAIN SMALL DIAMETER PROCESS PIPING RUNS (3" AND SMALLER) MAY NOT BE SHOWN IN THEIR ENTIRETY. GENERALLY SMALL PIPING IS SHOWN DIAGMATICALLY, FIELD ROUTE SUBJECT TO THE APPROVAL OF THE ENGINEER TO AVOID INTERFERENCES. APPURTENANCES HAVE BEEN OMITTED FOR THE SAKE OF CLARITY. THE CONTRACTOR SHALL FURNISH, INSTALL AND TEST ALL PIPING SYSTEMS AND APPURTENANCES AS INDICATED ON THE PROCESS FLOW SCHEMATICS (P&ID DRAWINGS) AND/OR AS DEFINED IN THE SPECIFICATIONS TO PROVIDE THE COMPLETE SYSTEM.
- NOT ALL AND ONLY CERTAIN TYPES OF SUPPORTS ARE SHOWN ON THE MECHANICAL DRAWINGS. UNLESS OTHERWISE DETAILED ON THE DRAWINGS ALL PIPE SUPPORTS SHALL BE DESIGNED, FURNISHED AND INSTALLED BY THE CONTRACTOR AS SPECIFIED AND TO THE APPROVAL OF ENGINEER. NOTE THAT ALL PIPING ADJACENT TO EQUIPMENT, VALVES, COUPLINGS, INSTRUMENT DEVICES, AND OTHER APPURTENANCES SHALL BE SUPPORTED AND/OR ANCHORED SO AS NOT TO IMPOSE LOADS ON EQUIPMENT.
- ALL EQUIPMENT BASES, AIR RELEASE VALVES, OVERFLOWS AND PIPING HAVING DRAIN OUTLETS SHALL BE PIPED TO THE NEAREST OPEN END DRAIN (OED) OR TRENCH DRAIN USING PVC PIPE OF APPROPRIATE DIAMETER AS INDICATED ON THE DRAWINGS OR AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
- NOT ALL VALVE AND GATE OPERATORS ARE SHOWN (i.e. HANDWHEELS, CRANKS, CHAINWHEELS, MOTORS OR LEVERS). OPERATORS SHALL BE LOCATED TO ALLOW CONVENIENT OPENING AND CLOSING OF VALVES OR GATES. ORIENTATION OF OPERATORS SHALL BE TO APPROVAL OF ENGINEER. NO VALVE SHALL BE INSTALLED WITH THE OPERATING STEM IN THE VERTICAL DOWNWARD POSITION.
- PIPING SHALL BE INSTALLED SO THAT ANY PIPE, LAYER OF PIPING OR EQUIPMENT CAN BE REMOVED WITHOUT DISTURBING REMAINING PIPES AND SUPPORTS.
- THE NUMBER OF UNIONS AND OTHER TYPES OF DISMANTLING COUPLINGS SHOWN IS APPROXIMATE. THE CONTRACTOR SHALL PROVIDE UNIONS OR DISMANTLING COUPLINGS WHETHER THEY ARE SHOWN ON THE DRAWINGS OR NOT ON ALL PIPELINES WITH WELDED, THREADED OR SOLVENT CEMENTED JOINTS: AT ALL EQUIPMENT CONNECTIONS, AT A MINIMUM EVERY 50 FEET AND IN BRANCH LINES TO ALLOW CONVENIENT REMOVAL OF PIPING, EQUIPMENT AND APPURTENANCES.
- FURNISH AND INSTALL ESCUTCHEON PLATES OF SUITABLE SIZE ON ALL PROCESS LINES PASSING THROUGH INTERIOR WALLS OF NON-PROCESS AREAS SUCH AS OFFICES, LABS, LOCKER ROOMS, TOILETS AND PUBLIC CORRIDORS. ESCUTCHEON PLATES SHALL BE INSTALLED ON THE INTERIOR SIDE OF THE NON-PROCESS SEE ARCHITECTURAL DRAWINGS FOR ROOF PENETRATION DETAILS.
- PORTIONS OF NON-PROCESS PIPING (HVAC & PLUMBING) ARE SHOWN FOR CLARITY AND FOR COORDINATION BETWEEN TRADES. REFER TO APPROPRIATE DRAWINGS AND SPECIFICATIONS IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FULLY COORDINATE ALL PROCESS PIPING AND EQUIPMENT WITH THAT OF ALL OTHER TRADES, HVAC, PLUMBING, FIRE PROTECTION AND ELECTRICAL.
- ALL DIMENSIONS MARKED WITH * INDICATE CONTRACTOR TO COORDINATE DIMENSION WITH MANUFACTURER OF APPROVED EQUIPMENT.
- SEE P&ID DRAWINGS FOR ADDITIONAL PIPING AND VALVE REQUIREMENTS.
- WHERE EXISTING WALL CASTINGS ARE TO BE REUSED, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSTALL SPOOL PIECES OR BEVELS AS NECESSARY TO PROVIDE FOR PROPER ALIGNMENT OF NEW PIPING AND/OR EQUIPMENT.
- NOT ALL EXISTING PIPE AND ODOR CONTROL DUCT SHOWN FOR CLARITY.

**EXISTING FACILITIES AND NEW WORK
SYMBOLGY AND ANNOTATION**



**EXISTING FACILITIES
DEMOLITION SYMBOLGY AND ANNOTATION**



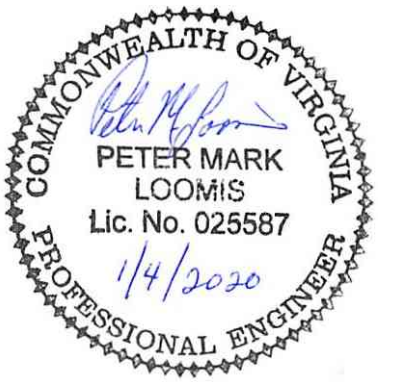
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DEPARTMENT OF ENVIRONMENTAL SERVICES
WATER POLLUTION CONTROL BUREAU
3402 S. GLEBE ROAD
ARLINGTON, VA 22202
PHONE: 703.228.6820

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SEAL



APPROVALS DATE

100% BID SET

Revisions	Date

Project Name and Location

Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
MECHANICAL DEMOLITION AND PIPING
NOTES AND LEGEND

Designed: A. LUTHRA
Drawn: J. SOSA
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

Filename: M002PRLG.dwg
Path: C:\pwworking\johnsonce\1255023
Plotted: December 16, 2020
Plotted by: Johnsonce

Scale: AS NOTED

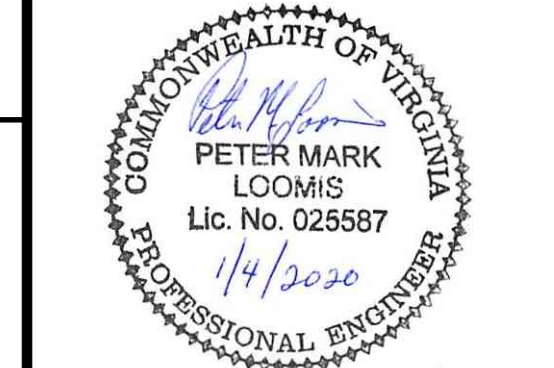


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Sht. 32 of 97

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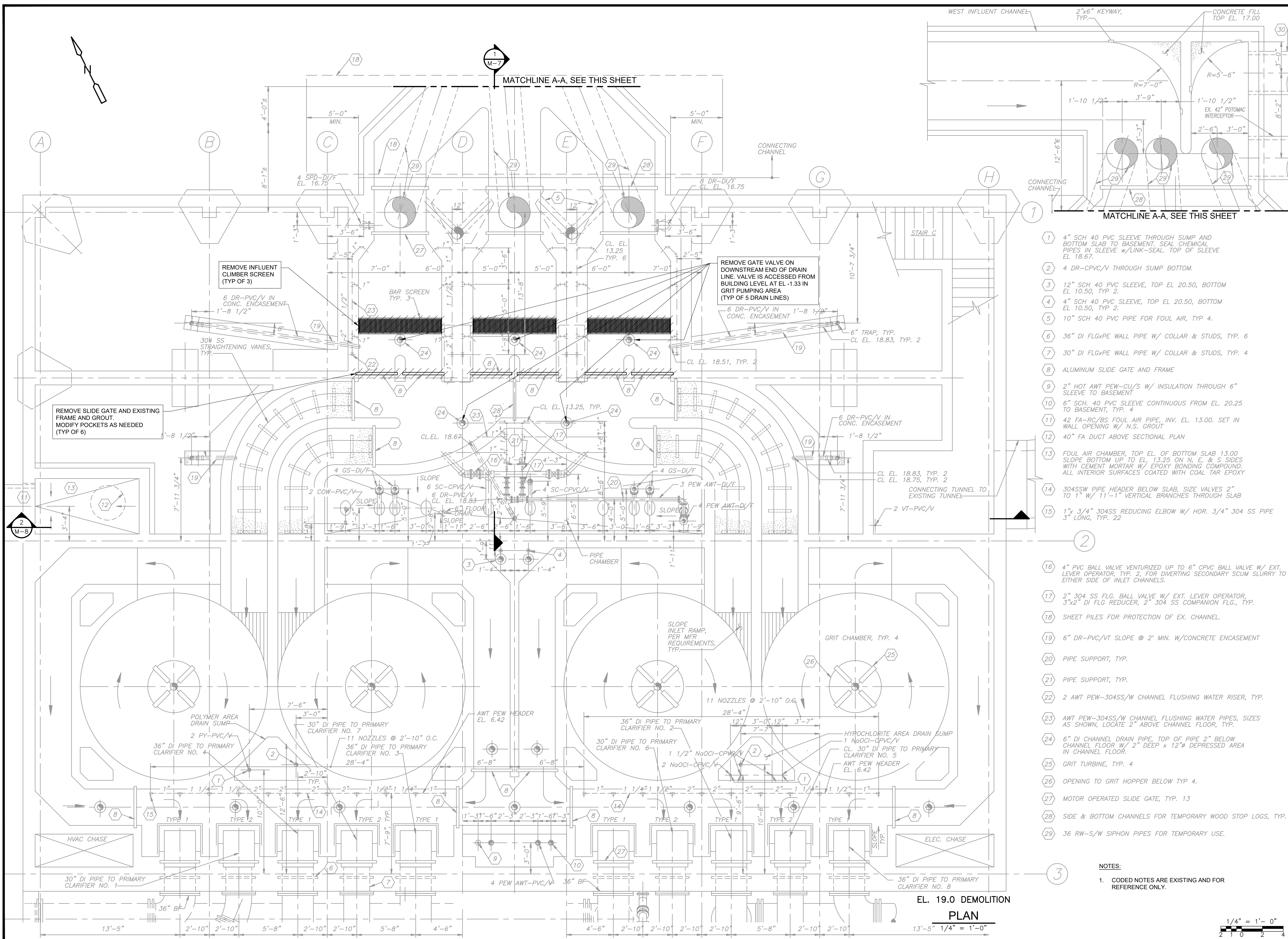
Revisions	Date

Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2) Phase 9B
PRELIMINARY TREATMENT BUILDING BELOW FIRST FLOOR DEMOLITION PLAN

Designed: A. LUTHRA
Drawn: J. SOSA
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

Filename: M003PTDM.dwg
Path: C:\pwworking\cdmsmith\1255923
Plotted: December 16, 2020
Plotted by: Johnson

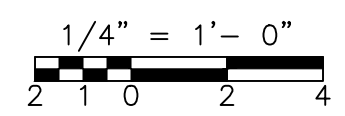
Scale: AS NOTED



- 1 4" SCH 40 PVC SLEEVE THROUGH SUMP AND BOTTOM SLAB TO BASEMENT. SEAL CHEMICAL PIPES IN SLEEVE W/LINK-SEAL. TOP OF SLEEVE EL 18.67.
- 2 4 DR-CPVC/V THROUGH SUMP BOTTOM.
- 3 12" SCH 40 PVC SLEEVE, TOP EL 20.50, BOTTOM EL 10.50, TYP 2.
- 4 4" SCH 40 PVC SLEEVE, TOP EL 20.50, BOTTOM EL 10.50, TYP 2.
- 5 10" SCH 40 PVC PIPE FOR FOUL AIR, TYP 4.
- 6 36" DI FLGX WALL PIPE W/ COLLAR & STUDS, TYP. 6
- 7 30" DI FLGX WALL PIPE W/ COLLAR & STUDS, TYP. 4
- 8 ALUMINUM SLIDE GATE AND FRAME
- 9 2" HOT AWT PEW-CU/S W/ INSULATION THROUGH 6" SLEEVE TO BASEMENT
- 10 6" SCH. 40 PVC SLEEVE CONTINUOUS FROM EL. 20.25 TO BASEMENT, TYP. 4
- 11 42 FA-RC/BS FOUL AIR PIPE, INV. EL. 13.00. SET IN WALL OPENING W/ N.S. GROUT
- 12 40" FA DUCT ABOVE SECTIONAL PLAN
- 13 FOUL AIR CHAMBER, TOP EL. OF BOTTOM SLAB 13.00 SLOPE BOTTOM UP TO EL. 13.25 ON N, E & S SIDES WITH CEMENT MORTAR W/ EPOXY BONDING COMPOUND. ALL INTERIOR SURFACES COATED WITH COAL TAR EPOXY
- 14 304SSW PIPE HEADER BELOW SLAB, SIZE VALVES 2" TO 1" W/ 11"-1" VERTICAL BRANCHES THROUGH SLAB
- 15 1" x 3/4" 304SS REDUCING ELBOW W/ HOR. 3/4" 304 SS PIPE 3" LONG, TYP. 22
- 16 4" PVC BALL VALVE VENTURIZED UP TO 6" CPVC BALL VALVE W/ EXT. LEVER OPERATOR, TYP. 2, FOR DIVERTING SECONDARY SCUM SLURRY TO EITHER SIDE OF INLET CHANNELS.
- 17 2" 304 SS FLG. BALL VALVE W/ EXT. LEVER OPERATOR, 3"x2" DI FLG REDUCER, 2" 304 SS COMPANION FLG., TYP.
- 18 SHEET PILES FOR PROTECTION OF EX. CHANNEL.
- 19 6" DR-PVC/VT SLOPE @ 2" MIN. W/CONCRETE ENCASUREMENT
- 20 PIPE SUPPORT, TYP.
- 21 PIPE SUPPORT, TYP.
- 22 2 AWT PEW-304SS/W CHANNEL FLUSHING WATER RISER, TYP.
- 23 AWT PEW-304SS/W CHANNEL FLUSHING WATER PIPES, SIZES AS SHOWN, LOCATE 2" ABOVE CHANNEL FLOOR, TYP.
- 24 6" DI CHANNEL DRAIN PIPE, TOP OF PIPE 2" BELOW CHANNEL FLOOR W/ 2" DEEP x 12" DEEP DEPRESSED AREA IN CHANNEL FLOOR.
- 25 GRIT TURBINE, TYP. 4
- 26 OPENING TO GRIT HOPPER BELOW TYP 4.
- 27 MOTOR OPERATED SLIDE GATE, TYP. 13
- 28 SIDE & BOTTOM CHANNELS FOR TEMPORARY WOOD STOP LOGS, TYP.
- 29 36 RW-S/W SIPHON PIPES FOR TEMPORARY USE.

NOTES:
1. CODED NOTES ARE EXISTING AND FOR REFERENCE ONLY.

EL. 19.0 DEMOLITION PLAN



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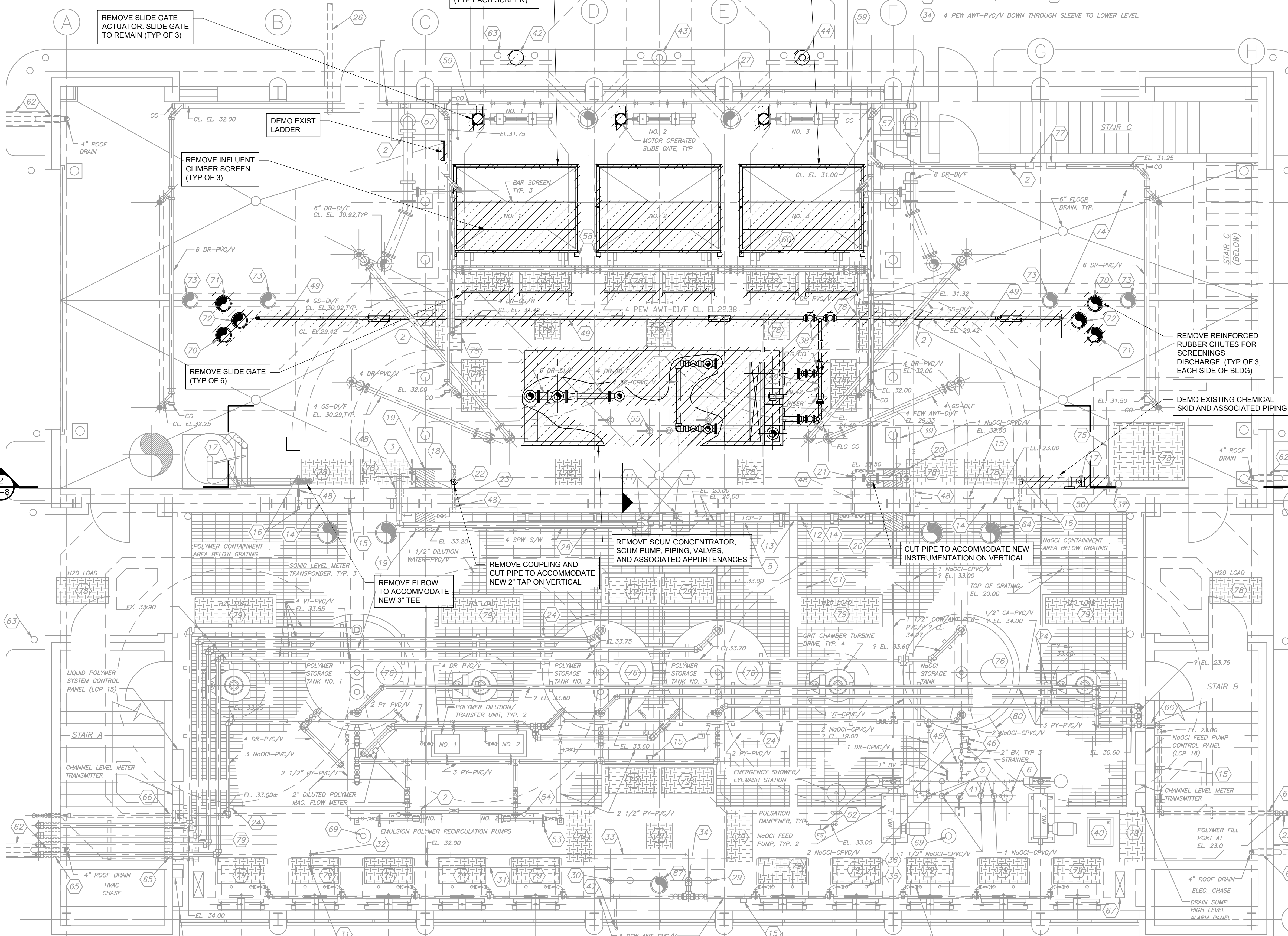
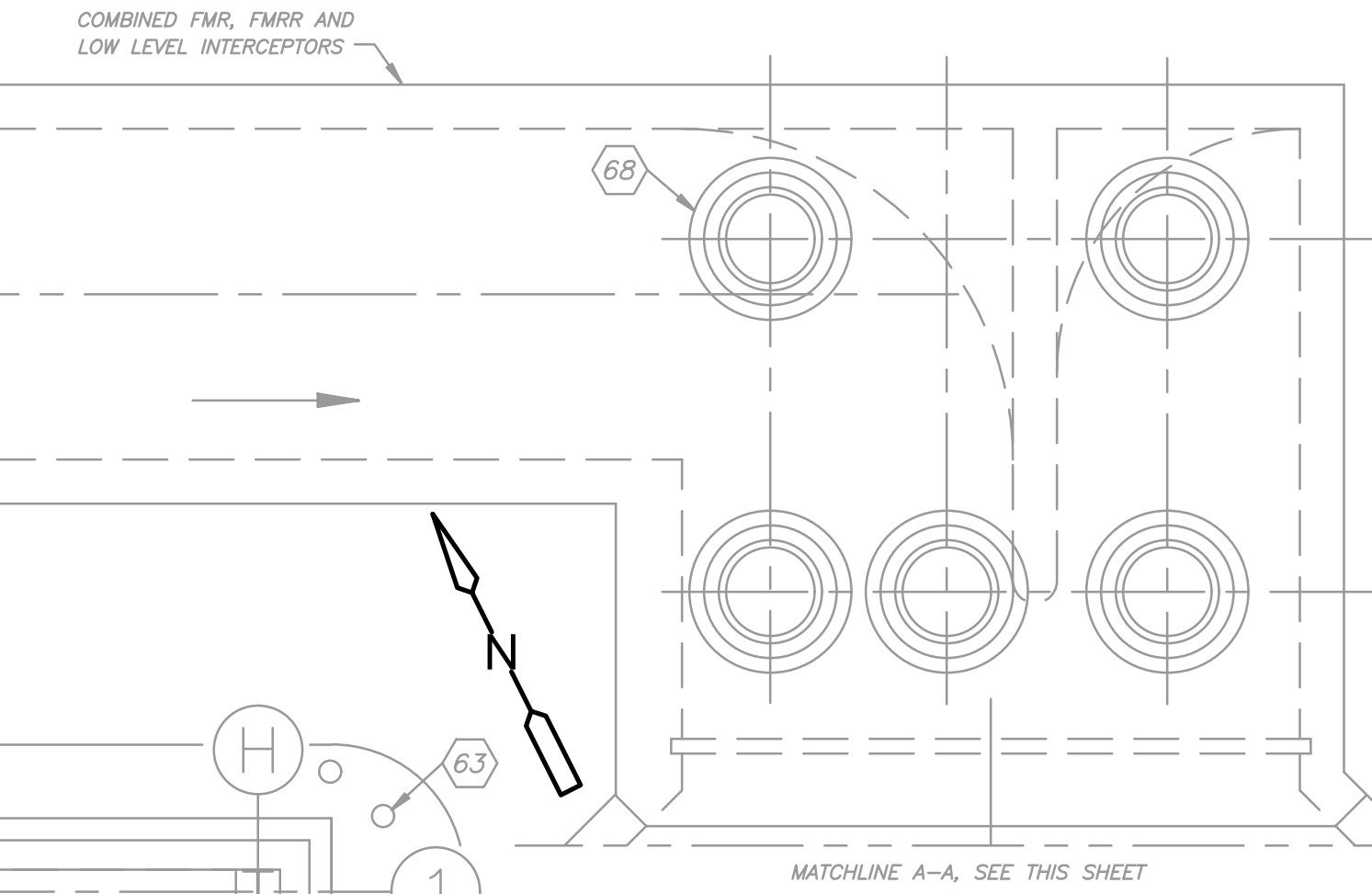
- IDENTIFICATION CODES**
- 1 12" SCH 40 PVC SLEEVES THROUGH CONCRETE TO BASEMENT. TOP EL. 20.50.
 - 2 PIPE SUPPORT
 - 3 1 COW-PVC/V, OFFSET AT EL. 28.00 AND UP TO FLOOR ABOVE.
 - 4 FRONT OF UNIT (SOUTH), TYP.
 - 5 4" SCH 40 PVC SLEEVE THROUGH GRATING SUMP, AND BOTTOM SLAB TO BASEMENT. TOP OF SLEEVE EL. 20.33.
 - 6 CALIBRATION CHAMBER.
 - 7 4 OVERFLOW-PVC/V, 4 DR-PVC/V WITH 4" BV, TYP.
 - 8 GRIT TURBINE DRIVE CONTROL PANEL.

- 9 2 1/2" BV WITH CHAIN OPERATOR, TYP. 3.
- 10 2 1/2" FLANGE TYPE PRESSURE ISOLATOR WITH PRESSURE INDICATING SWITCH.
- 11 1 CA-CU/S UP FROM 4" SCH 40 PVC SLEEVE.
- 12 1 SPARE 4" SCH 40 PVC SLEEVE
- 13 1 1/2" PEW AWT-PVC/V
- 14 1 CA-CU/S (BELOW 12)
- 15 PIPE SUPPORT
- 16 COMPRESSED AIR HOSE FEMALE QUICK CONNECTOR ON 1 CA-CU/S BRANCH.

- 17 1 CA-CU/S UP TO LEVEL ABOVE.
- 18 3/4" COW HOSE BIBB WITH VACUUM BREAKER, CL. EL. 25.00
- 19 3/4" COW HOSE, 100'-0" LONG WITH PISTOL NOZZLE AND HOSE RACK.
- 20 1 1/2" PEW AWT HOSE, 100'-0" LONG WITH 3/8" STRAIGHT NOZZLE AND HOSE RACK.

- 21 6"x4" FLANGE REDUCER WITH 4"x1 1/2" REDUCING FLANGE WITH 1 1/2" PEW AWT-GS/T BRANCHES TO 2-1 1/2" GV AND 1 1/2" HOSE ADAPTERS, CL. EL. 25.00.
- 22 2 COW-PVC/V DOWN THROUGH 3" SCH 40 PVC SLEEVE. CONNECT TO HOSE BIBB, 1 1/2" AND 1" PIPES.
- 23 1 1/2" COW-PVC/V TO CHEMICAL STORAGE ROOM.
- 24 PIPE SUPPORT

- 25 3" BV AND MALE QUICK CONNECTOR WITH CAP.
- 26 4" SCH 40 PVC BUILDING SANITARY DRAIN TO WEST INFLUENT CHANNEL.
- 27 10" SCH 40 PVC PIPE FOR FOUL AIR, TYP. 4. CONNECT TO 14" SCH 40 PVC PIPE RISER BY MITER FITTING AND WELDING CAST INTO WALL BETWEEN CHANNELS.
- 28 SPRINKLER WATER PIPE
- 29 6" SCH 40 PVC SLEEVE CONTINUOUS FROM EL. 20.25 TO BASEMENT, TYP. 4.
- 30 2 HOT PEW AWT-CU/S WITH INSULATION DOWN THROUGH SLEEVE TO LOWER LEVEL.
- 31 2 HOT PEW AWT-CU/S WITH INSULATION UP TO MECHANICAL ROOM.
- 32 2 PEW AWT-PVC/V UP THROUGH SLEEVE TO MECHANICAL ROOM.
- 33 2 PEW AWT-PVC/V CONNECT TO 34.
- 34 4 PEW AWT-PVC/V DOWN THROUGH SLEEVE TO LOWER LEVEL.



- 35 4" SCH 40 PVC SLEEVE W/ REMOVABLE CAP 4" AFF
- 36 4" SCH 40 PVC SLEEVE W/ 1" PEW AWT SPRAY WATER PIPE W/ NOZZLE
- 37 6" SCH 40 PVC SLEEVE W/ TEMP. PLUG
- 38 2" SS FLG BALL VALVES W/ CHAIN OPERATORS & INSULATION
- 39 FABRICATED STEEL BOLLARD
- 42 12" SCH 40 PVC FLO&PE SLEEVE TO CHANNEL BELOW W/ BF
- 43 12" SCH 40 PVC FLO&PE SLEEVE TO CHANNEL BELOW W/ SONIC LEVEL METER TRANSDUCER W/ CABLE TO TRANSMITTER IN PRELIM. PROCESS CONT. RM.
- 44 12" SCH 40 PVC FLO&PE SLEEVE TO CHANNEL BELOW W/ DRILLED FOR CABLE BUSHING W/ MERCURY TYPE HIGH LEVEL FLOAT SWITCH BELOW.
- 45 PIPE SUPPORT FABRICATED FROM 304SS 1 1/2"x 1/4" ANGLES W/ 1/4"x6"x6" EACH END BOLTED TO SUMP WALLS W/ 1/2" SS EPOXY ANCHORS EACH. VERTICAL ANGLES W/ 1/4" SS U-BOLTS TO SUPPORT PIPES.
- 46 PIPE SUPPORT ALL 304 SS, TYP. ALL PIPE SUPPORTS IN NOOCI CONTAINMENT AREA.
- 47 1" AWT PEW FREEZE PROOF WALL HYDRANT CL. EL. 21.0
- 48 SCH. 40 PVC SLEEVE SIZE: PIPE SIZE +2" SET IN GROUT. SEAL PIPE IN SLEEVE W/ COMPRESSION SEAL.
- 49 2 SCT-SS/W W/ INSULATION & HEAT TRACING
- 50 2 VT-PVC/V FLOOR DRAIN VENT PIPE IN 4" SCH 40 PVC SLEEVE. SEAL PIPE IN SLEEVE W/ CAULK
- 51 1" COW-CU/S TO EMERG. SHOWER/EYEWASH
- 52 FLOW SWITCH TO ACTIVATE ALARM WHEN SHOWER/EYEWASH USED.
- 53 FLANGE TYPE PRESSURE ISOLATOR & 0-100 PSI PRESS. INDICATING SWITCH, TYP. 2, MOUNT ABOVE FLG.
- 54 FLANGE TYPE PRESSURE ISOLATOR & COMB. PRESSURE GAGE, 30" Hg/20 PSI, TYP. 2, MOUNT ABOVE FLG.
- 55 3" SCH 40 PVC SLEEVE W/ LEVER TYPE EXTENSION OPERATOR FOR BALL VALVE BELOW. PROVIDE SEALED ESCUTCHEON BETW. OPERATOR STEM AND SLEEVE. TERM. SLEEVE 6" AFF.
- 57 GRIT SLURRY WATER AND FLOOR DRAIN WEIR BOX
- 58 EMERGENCY PULLCORD SCREEN SHUTOFF SWITCHES. ATTACH CORD TO TOP OF GUARDRAILS (NOT SHOWN), TYP. 2 SWITCHES PER SCREEN
- 59 8" DR-PVC WEIR BOX DRAIN PIPE CL. EL. 20.30
- 60 PIPE SUPPORT
- 62 4" ROOF STORM DRAIN THROUGH 6" SCH 40 PVC WALL SLEEVE. DISCHARGE ROOF DRAIN TO 12"Wx4" DP. 20 GALV. STEEL SIDEWALK TRENCH W/ COVER
- 63 6" STL PIPE BOLLARD, TYP.
- 64 FOUL AIR DUCT INTO CHANNEL BELOW, TYP. 4
- 65 6" SCH 40 PVC SLEEVE, TYP. 8, CAULK BETWEEN PIPE AND SLEEVE. FORM SLEEVE IN WALL
- 66 4" SCH 40 PVC SLEEVE, TYP. CAULK BETWEEN PIPE AND SLEEVE. FORM SLEEVE IN WALL
- 67 FOUL AIR DUCT
- 68 24" CI MANHOLE FRAME & COVER OVER 2'-0" RD. OPENING IN CHANNEL. TOP W/ PARGED BRICK BARREL TO BRING TOP TO FINAL GRADE
- 69 8" SCH 40 FLO&PE PVC SLEEVE W/ ULTRASONIC LEVEL METER ELEMENT, LENGTH OF SLEEVE 1'-8", TYP.
- 70 12" DISCH. HOSE FOR DEWATERED SCREENINGS
- 71 12" DISCH HOSE FOR UNDEWATERED SCREENINGS
- 72 12" DISCH HOSE FOR GRIT & SCUM
- 73 12" FOUL AIR INLET HOSE
- 74 LOCATION OF TRANSPORTABLE BIN (BY OWNER), TYP. 4
- 75 6"x6" CONC. CURB W/ HATCH FRAME
- 76 24" MANWAY W/ 1/2" THICK GASKETED FRP COVER W/ 1/2" 304 SS BOLTS
- 77 COMBUSTIBLE GAS DETECTOR & H2S DETECTOR
- 78 ALUM. HATCH
- 79 ALUM. HATCH W/ PLUGGED DRAIN
- 80 2" TANK OVERFLOW PIPE W/ 2" DRAIN PIPE & 2" PVC BALL VALVE

ARLINGTON VIRGINIA

DEPARTMENT OF ENVIRONMENTAL SERVICES
WATER POLLUTION CONTROL BUREAU
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COMMONWEALTH OF VIRGINIA
PETER MARK LOOMIS
Lic. No. 025587
1/4/2020
PROFESSIONAL ENGINEER

APPROVALS DATE

100% BID SET

Revisions Date

Project Name and Location
**Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
FIRST FLOOR
DEMOLITION PLAN**

Designed: A. LUTHRA
Drawn: J. SOSA
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

Filename: M004PTDM.dwg
Path: C:\pwp_gil\johnson\el1255023
Plotted: December 16, 2020
Plotted by: Johnsoeac

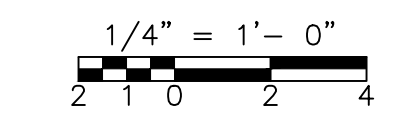
Scale: AS NOTED

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10560 Arrowhead Drive, Suite 500
FAIRFAX, VA 22030

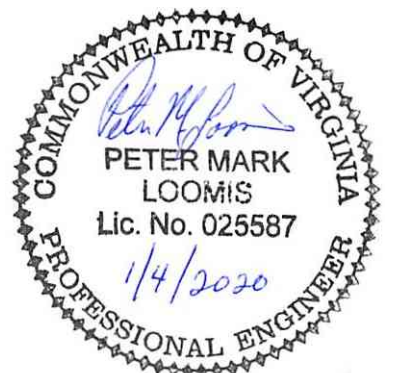
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NOTES:
1. CODED NOTES ARE EXISTING AND FOR REFERENCE ONLY.

FIRST FLOOR DEMOLITION PLAN
1/4" = 1'-0"



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APPROVALS DATE

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Revisions Date

Revisions	Date

Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2) Phase 9B
PRELIMINARY TREATMENT BUILDING SECOND FLOOR DEMOLITION PLAN

Designed: A. LUTHRA
Drawn: J. SOSA
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

Filename: M005PTDM.dwg
Path: C:\pwworking\johnsonc\41255023
Plotted: December 16, 2020
Plotted by: Johnsonc

Scale: AS NOTED

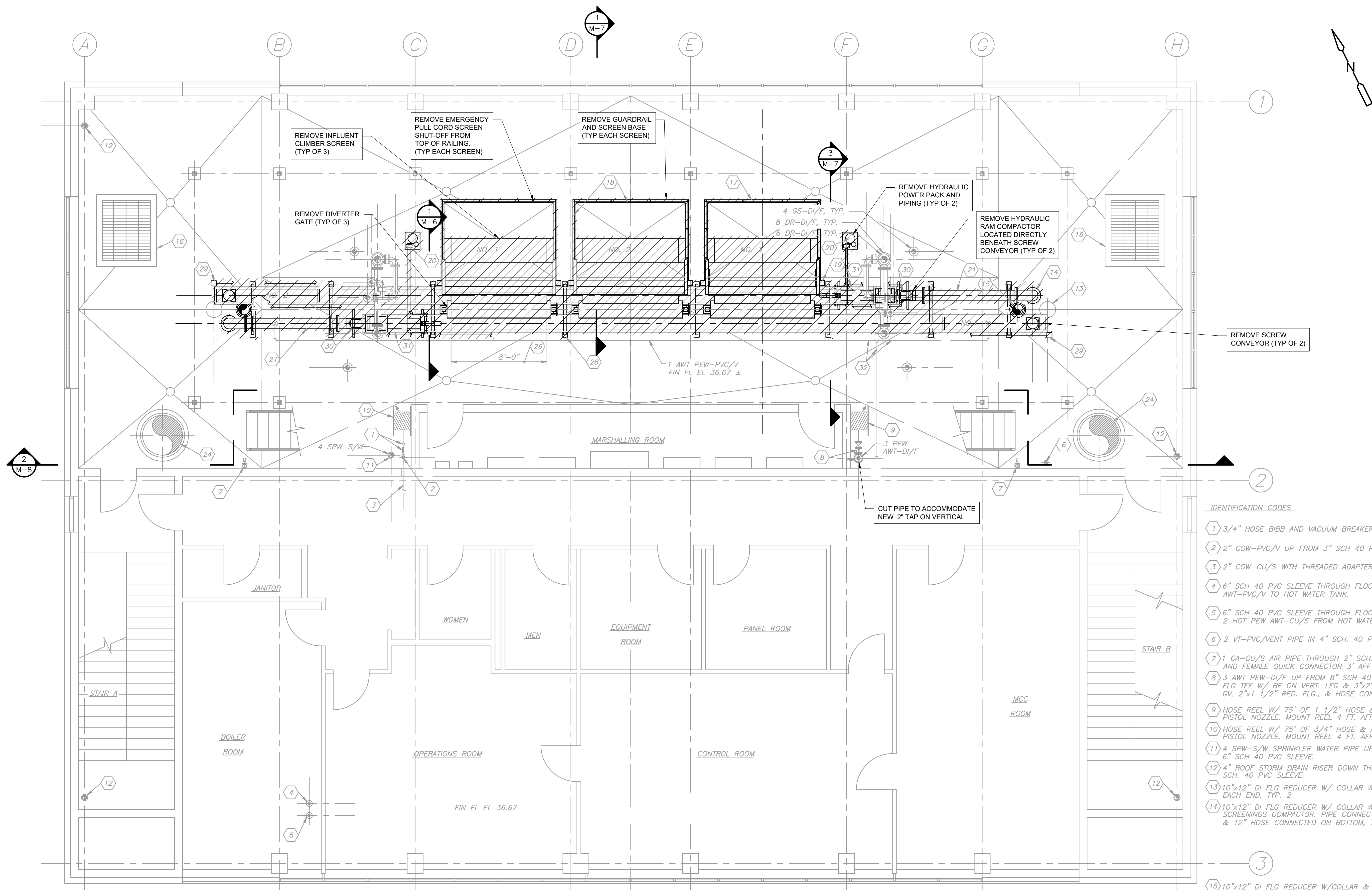
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PRELIMINARY TREATMENT UPGRADES



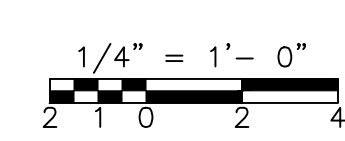
SECOND FLOOR DEMOLITION PLAN
1/4" = 1'-0"

NOTES:
1. CODED NOTES ARE EXISTING AND FOR REFERENCE ONLY.

- (25) ROTATING SCREENINGS DIVERTER CHUTE, TYP. 3, DETAIL A/BM-6 BY BAR SCREEN, MFR.
- (26) WIDTH OF BAR SCREEN CHUTE 8'-0", TYP. 3
- (28) GS SCREW CONVEYOR SUPPORT, TYP.
- (29) CONVEYOR PULL CORD SHUT OFF SWITCH W/ SS CABLE ALONG CONVEYOR
- (30) CONVEYOR DRIVE UNIT
- (31) SCREENINGS COMPACTOR BELOW CONVEYOR
- (32) 1 1/2" PEW AWT-PVC/V W/ 1" BRANCH TO EACH GRIT CLASSIFIER. SUPPORT BELOW PLATFORM

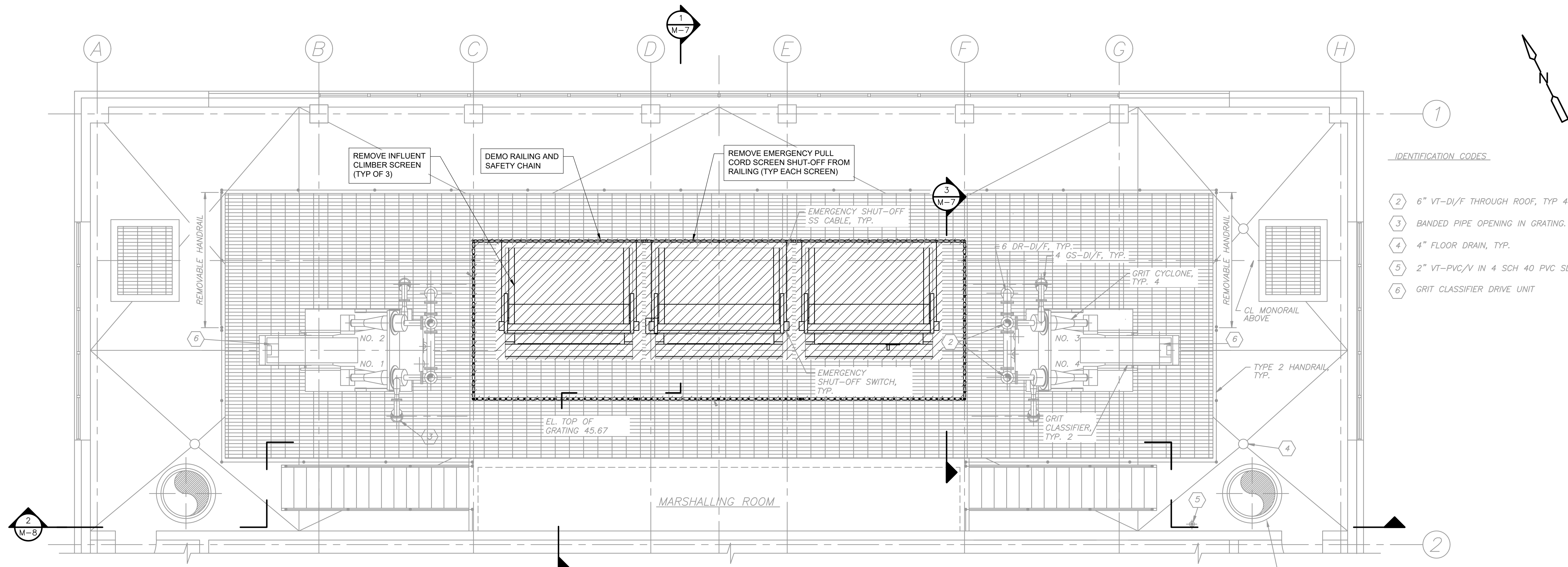
- IDENTIFICATION CODES**
- (1) 3/4" HOSE BIBB AND VACUUM BREAKER FOR COW, 3'-0" AFF.
 - (2) 2" COW-PVC/V UP FROM 3" SCH 40 PVC SLEEVE.
 - (3) 2" COW-CU/S WITH THREADED ADAPTER TO PVC.
 - (4) 6" SCH 40 PVC SLEEVE THROUGH FLOOR WITH 2 PEW AWT-PVC/V TO HOT WATER TANK.
 - (5) 6" SCH 40 PVC SLEEVE THROUGH FLOOR WITH INSULATED 2 HOT PEW AWT-CU/S FROM HOT WATER TANK.
 - (6) 2 VT-PVC/VENT PIPE IN 4" SCH. 40 PVC SLEEVE
 - (7) 1 CA-CU/S AIR PIPE THROUGH 2" SCH. 40 PVC SLEEVE AND FEMALE QUICK CONNECTOR 3' AFF
 - (8) 3 AWT PEW-DI/F UP FROM 8" SCH 40 PVC SLEEVE W/ 3/4" DI FLG TEE W/ BF ON VERT. LEG & 3"x2" DI FLG REDUCER, 2" GV, 2"x1 1/2" RED. FLG., & HOSE CONN. ON HORIZONTAL LEG.
 - (9) HOSE REEL W/ 75' OF 1 1/2" HOSE & ADJUSTABLE PISTOL NOZZLE. MOUNT REEL 4 FT. AFF.
 - (10) HOSE REEL W/ 75' OF 3/4" HOSE & ADJUSTABLE PISTOL NOZZLE. MOUNT REEL 4 FT. AFF.
 - (11) 4 SPW-S/W SPRINKLER WATER PIPE UP THROUGH 6" SCH 40 PVC SLEEVE.
 - (12) 4" ROOF STORM DRAIN RISER DOWN THROUGH 6" SCH. 40 PVC SLEEVE.
 - (13) 10"x12" DI FLG REDUCER W/ COLLAR W/ B.F. ON EACH END, TYP. 2
 - (14) 10"x12" DI FLG REDUCER W/ COLLAR W/ 10" SS SCREENINGS COMPACTOR. PIPE CONNECTED ON TOP & 12" HOSE CONNECTED ON BOTTOM, TYP. 2

- (15) 10"x12" DI FLG REDUCER W/ COLLAR & FABRICATED STL. 10"x8"x2" BRANCH WYE.
- (16) 6"x6" CONC. CURB W/ GS ANGLE GRATING SEAT
- (18) REMOVABLE GUARDRAIL ON BAR SCREEN BASE
- (19) EMERGENCY PULL CORD SCREEN SHUT-OFF SWITCH. ATTACH CORD TO TOP OF GUARDRAIL (NOT SHOWN), TYP. 2 SWITCHES PER SCREEN
- (20) HYDRAULIC OIL PIPES & ELEC. CONDUITS & CONTROL CONDUCTORS AS REQUIRED BY SCREENINGS PRESS MFR., MOUNT HIGH TO PLATFORM FRAME.
- (21) SCREENINGS COMPACTOR SS DISCHARGE PIPE
- (24) FOUL AIR DUCT



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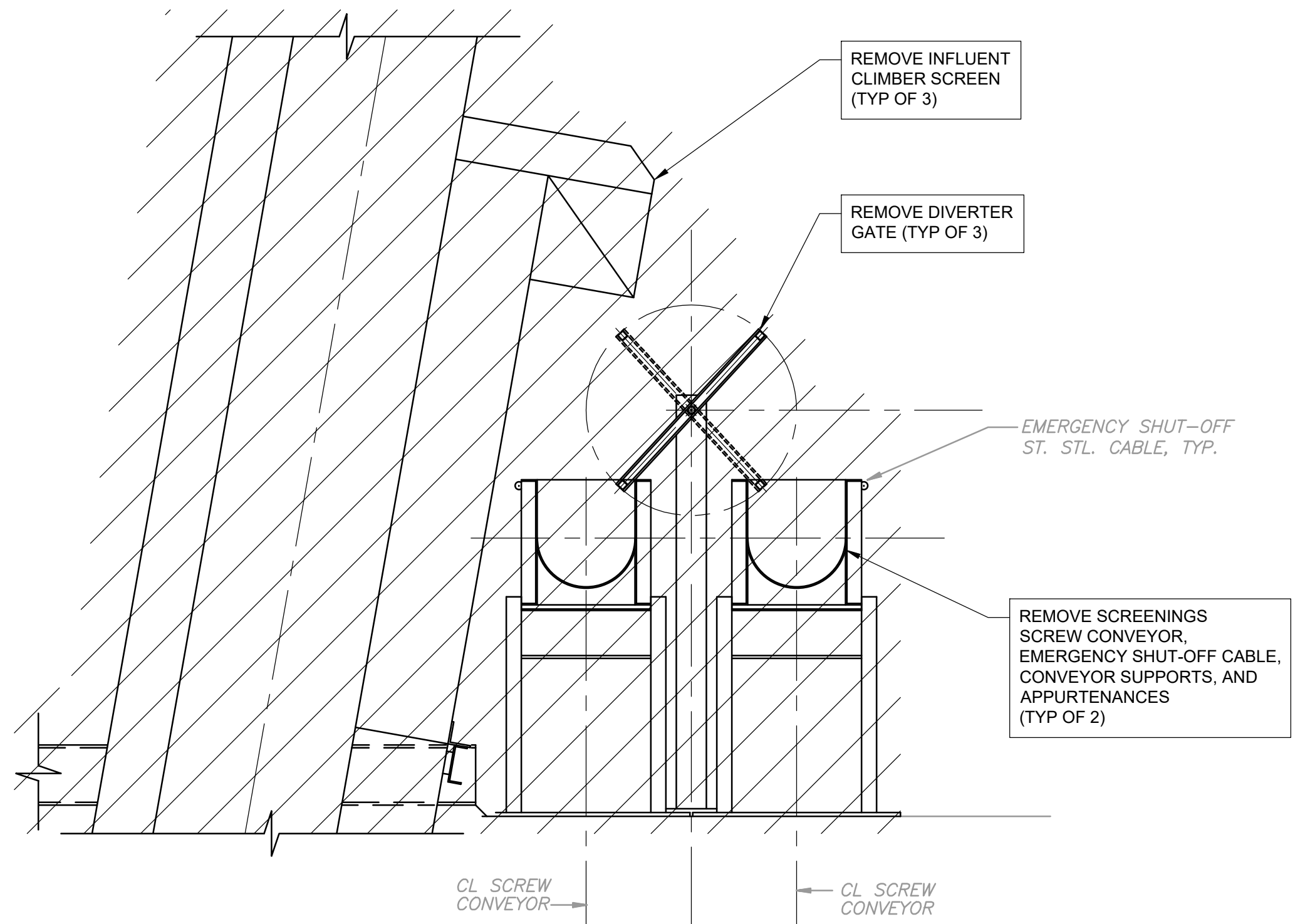
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MEZZANINE DEMOLITION PLAN
1/4" = 1'-0"

IDENTIFICATION CODES

- ② 6" VT-DI/F THROUGH ROOF, TYP 4.
- ③ BANDED PIPE OPENING IN GRATING.
- ④ 4" FLOOR DRAIN, TYP.
- ⑤ 2" VT-PVC/V IN 4 SCH 40 PVC SLEEVE
- ⑥ GRIT CLASSIFIER DRIVE UNIT



ROTATING SCREENINGS DIVERTER CHUTE DEMOLITION SECTION 1
3/4" = 1'-0"

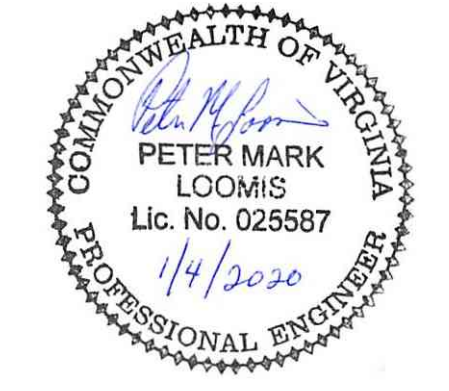
NOTES:
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3402 S. GLEBE ROAD
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PHONE: 703.228.6820

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APPROVALS DATE

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Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2) Phase 9B
PRELIMINARY TREATMENT BUILDING MEZZANINE DEMOLITION PLAN

Designed: A. LUTHRA
Drawn: J. SOSA
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

Filename: M006PTDM.dwg
Path: C:\pwworking\cdm\johnson\cdm1255023
Plotted: December 16, 2020
Plotted by: Johnsonec

Scale: AS NOTED



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M-6

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IDENTIFICATION CODES

- 1 18" FA DUCT
- 2 1 1/2" DILUTION WATER-PVC/V
- 3 1 1/2" PEW AWT-PVC-V
- 4 1" CA-CU/S
- 5 FLASHING, TYP.
- 6 6" WIDE x 6" HIGH CONCRETE CURB, TYP.
- 8 3" COW-DI/F
- 9 6" PEW AWT-DI/F
- 10 SPRINKLER WATER PIPE
- 11 REINF. CONC. EQUIP. SUPPORT, TYP. 4

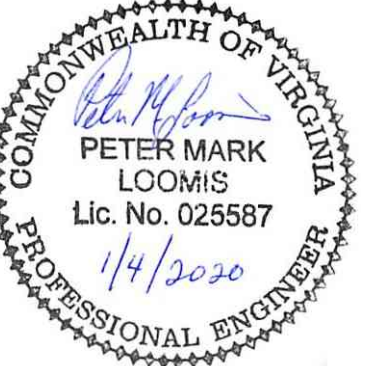
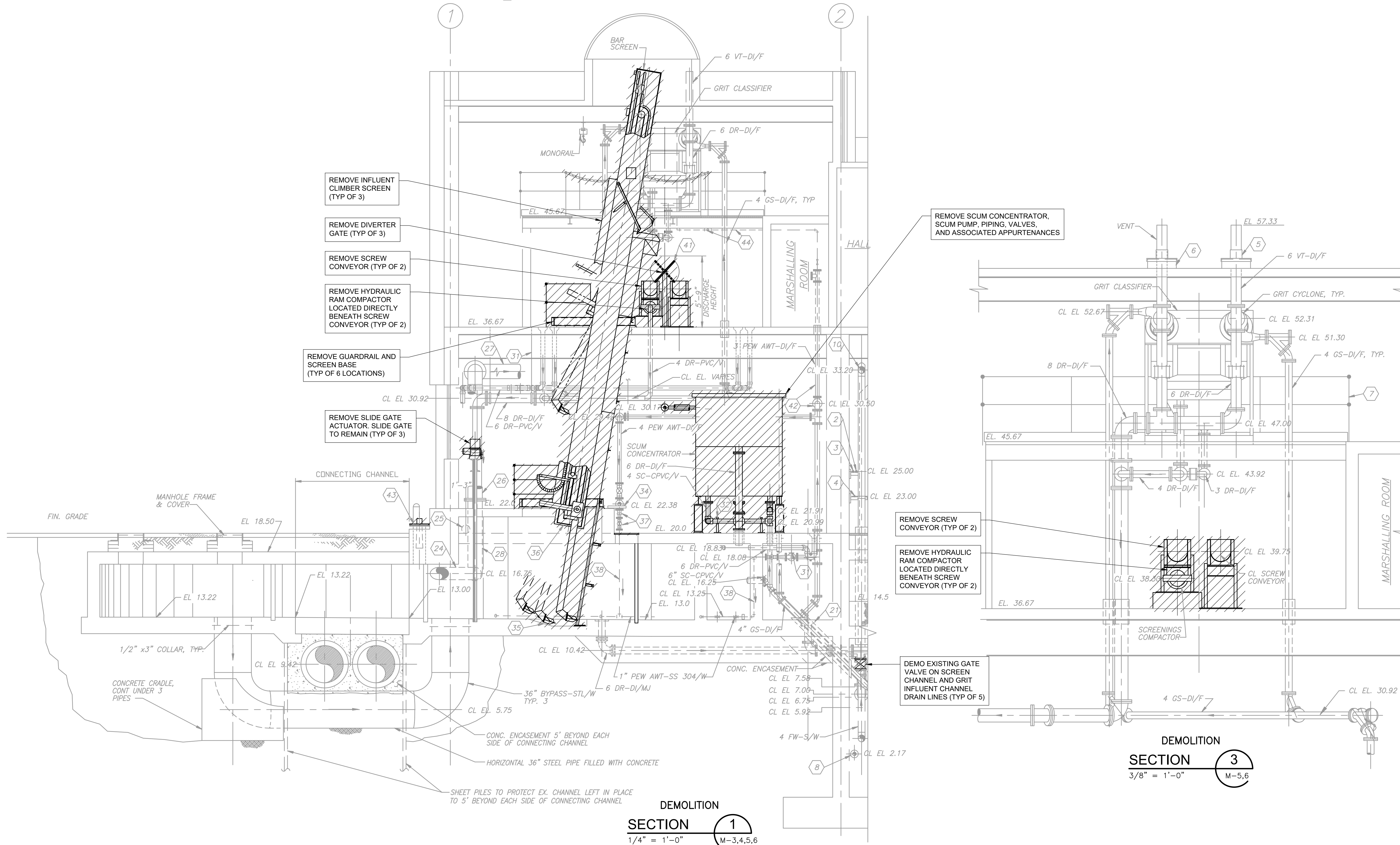
- 13 30" DI FLG&PE WALL PIPE W/ COLLAR, TYP. 4 BUT LENGTH VARIES. FLG TO HAVE STUD BOLTS WHERE TIGHT TO WALL.
- 14 36" DI FLG&FLG PIPE
- 15 36" DI FLG&RESTRAINED BELL 90° BEND
- 16 8" SL-DI/F FLG&FLG PIPE FORMED INTO BEAM
- 17 2" HOT AWT PEW-CU/S W/ INSULATION
- 18 1" CA-CU/S
- 19 1 1/4" PSW-CU/S
- 20 304SS-W AWT PEW PIPE HEADER, SIZE VARIES 2"-1". SEE PLAN SUPPORT W/ PIPE SUPPORTS CL. EL. 6.42
- 21 6" DR-DI/F. CHANGE TO 6 DR-PVC/V ON VERTICAL. INSTALL DI BF ON 6" TEE.
- 22 4" PVC FLG BALL VALVE ON SUMP DRAIN PIPE MOUNT 5' AFF, TYP. 2 PLACES
- 23 ALUMINUM HATCH W/ GASKET, TYP.

- 24 10" FA-SCH 40 PVC. WELD TO 14" FA-SCH 40 PVC VERT. PIPE. FORM INTO CONC. AS SHOWN
- 25 8" DR-PVC GRIT SLURRY WATER DRAIN PIPE, CL. EL. 20.30
- 26 14" FA DUCT. CONNECT TO SCH 40 PVC PIPE AT FLG.
- 27 18" FA DUCT.
- 28 14" FA-SCH 40 PVC. WELD PLATE OVER BOTTOM & WELD TO TWO BRANCH 10" FA-SCH 40 PVC PIPES. PROVIDE FLG ON TOP. FORM INTO CONC. AS SHOWN
- 29 8" DR-PVC/V DRAIN HEADER, 1% MIN. SLOPE
- 30 6" DR-PVC/V PIPE CHAMBER DRAIN PIPE, 1% MIN SLOPE
- 31 PIPE SUPPORT
- 32 PIPE SUPPORT
- 33 6" SCH. 40 PVC SLEEVE, TYP.

- 35 POCKET FOR BAR SCREEN RAKE, TYP.
- 36 SUPPORT POCKET FOR BAR SCREEN FRAME, TYP.
- 37 4"x2" FLG. FLEX. REDUCER W/ RESTRAINING HARNESS PER DETAIL P/00M-2 & 2" FLG SS BALL VALVE, 2" 304SS COMPAN. FLG, TYP. 6 PLACES
- 38 2" PEW AWT-304SS/W W/ NPT THREADED CONN. TO COMPANION FLG.
- 41 ROTATING SCREENINGS DIVERTER CHUTE
- 42 4"x3" DI FLG 90° RED. BEND & 3" AWT PEW-DI/F PIPING TO FLOOR ABOVE.
- 43 12" SCH 40 FLG&PE PVC SLEEVE, TYP. 3 W/ ULTRASONIC LEVEL ELEMENT, FLOAT SWITCH, & BLIND FLG. RESPECTIVELY.
- 44 1 1/2" PEW AWT-PVC/V HEADER W/ 1 1/2" BV & 1" BRANCH W/BV TO EACH GRIT CLASSIFIER.

NOTES:

- 1. CODED NOTES ARE EXISTING AND FOR REFERENCE ONLY.



Revisions	Date

Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2) Phase 9B
PRELIMINARY TREATMENT BUILDING DEMOLITION SECTIONS I

Project Name and Location

Designed: A. LUTHRA
Drawn: E. JOHNSON
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

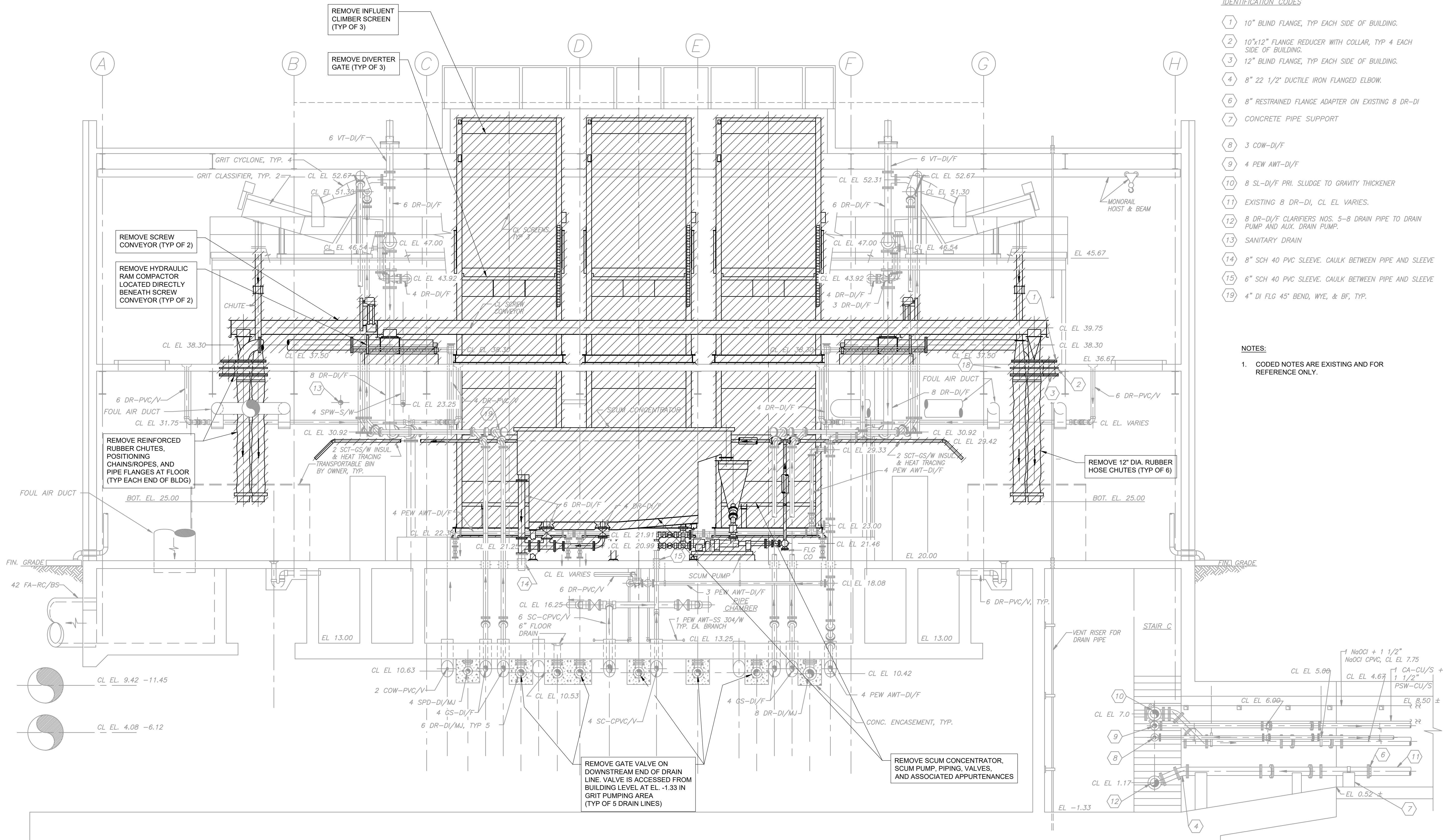
Filename: M007PTPL.dwg
Path: C:\pwworking\johnson\41255023
Plotted: December 16, 2020
Plotted by: Johnsonec

Scale: AS NOTED



10560 Arrowhead Drive, Suite 500
FAIRFAX, VA 22030

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IDENTIFICATION CODES

- 1 10" BLIND FLANGE, TYP EACH SIDE OF BUILDING.
- 2 10"x12" FLANGE REDUCER WITH COLLAR, TYP 4 EACH SIDE OF BUILDING.
- 3 12" BLIND FLANGE, TYP EACH SIDE OF BUILDING.
- 4 8" 22 1/2" DUCTILE IRON FLANGED ELBOW.
- 6 8" RESTRAINED FLANGE ADAPTER ON EXISTING 8 DR-DI
- 7 CONCRETE PIPE SUPPORT
- 8 3 COW-D/F
- 9 4 PEW AWT-D/F
- 10 8 SL-D/F PRI. SLUDGE TO GRAVITY THICKENER
- 11 EXISTING 8 DR-DI, CL. EL. VARIES.
- 12 8 DR-DI/F CLARIFIERS NOS. 5-8 DRAIN PIPE TO DRAIN PUMP AND AUX. DRAIN PUMP.
- 13 SANITARY DRAIN
- 14 8" SCH 40 PVC SLEEVE. CAULK BETWEEN PIPE AND SLEEVE
- 15 6" SCH 40 PVC SLEEVE. CAULK BETWEEN PIPE AND SLEEVE
- 19 4" DI FLG 45° BEND, WYE, & BF, TYP.

NOTES:

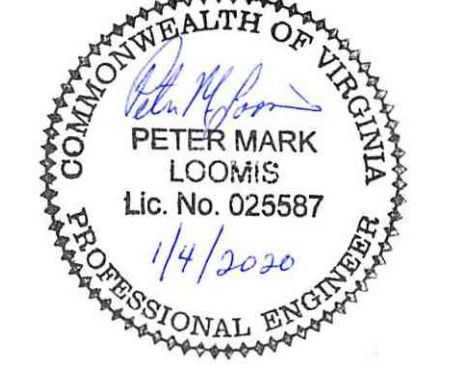
- 1. CODED NOTES ARE EXISTING AND FOR REFERENCE ONLY.



DEPARTMENT OF ENVIRONMENTAL SERVICES
 WATER POLLUTION CONTROL BUREAU
 3402 S. GLEBE ROAD
 ARLINGTON, VA 22202
 PHONE: 703.228.6820

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SEAL



APPROVALS DATE

100% BID SET

Revisions	Date

Project Name and Location
Water Pollution Control Plant
 Preliminary Treatment Upgrades (WPB2) Phase 9B
 PRELIMINARY TREATMENT BUILDING DEMOLITION SECTIONS II

Designed: A. LUTHRA
 Drawn: E. JOHNSON
 Checked: E. SPARGIMINO
 Miss Utility Transmittal #:

Filename: M008PTPL.dwg
 Path: C:\pwworking\cdm\johnson\41255023
 Plotted: December 16, 2020
 Plotted by: Johnsonec

Scale: AS NOTED



Sht. 38 of 97
 M-8

DEMOLITION SECTION 2
 1/4" = 1'-0" M-3,4,5,6

SEAL



APPROVALS DATE

100% BID SET

Revisions Date

Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
BELOW FIRST FLOOR
PROPOSED PLAN

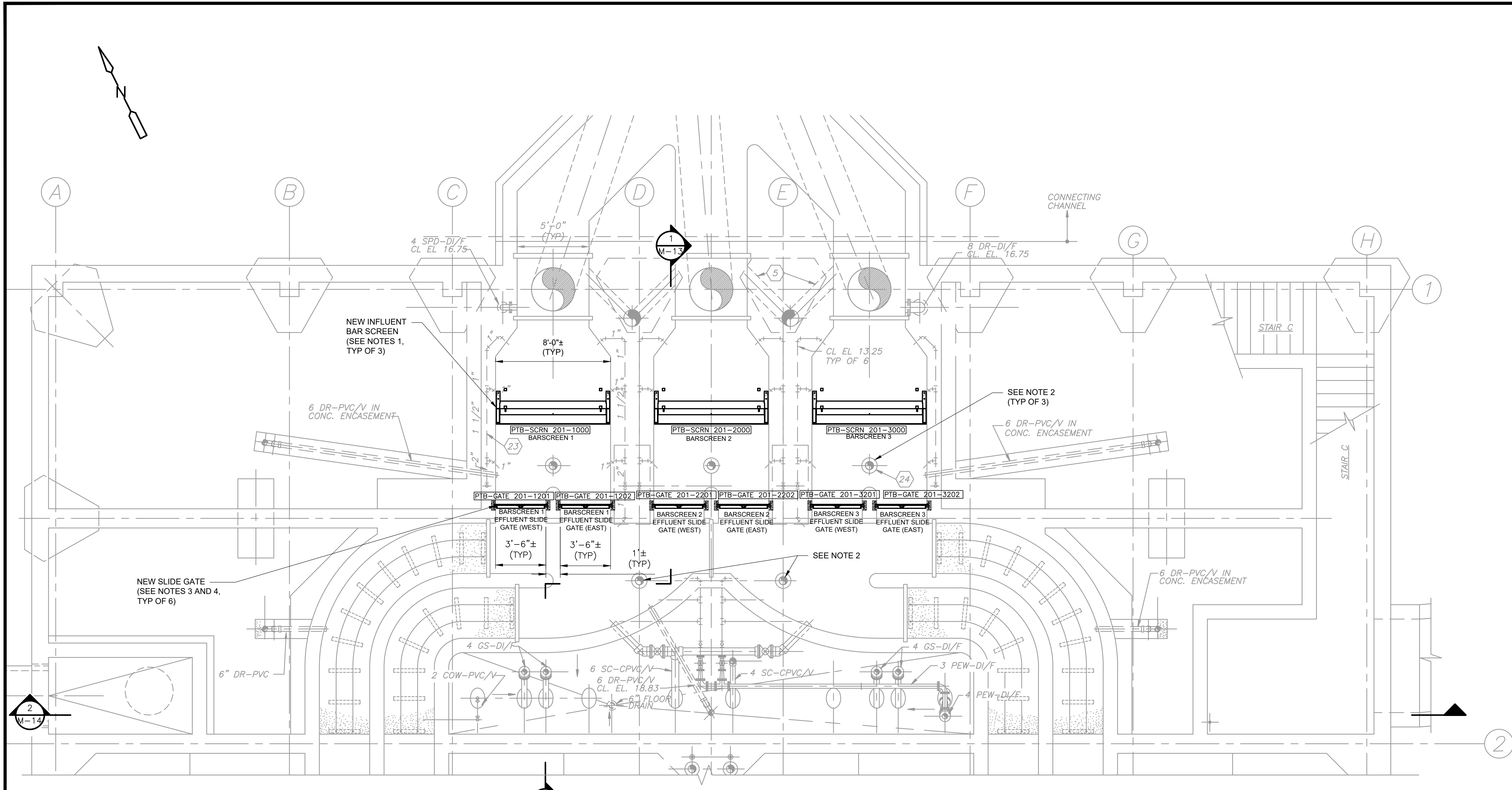
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Drawn: E. JOHNSON
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

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Plotted: December 16, 2020
Plotted by: Johnsonce

Scale: AS NOTED



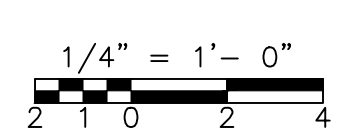
Sht. 39 of 97
M-9



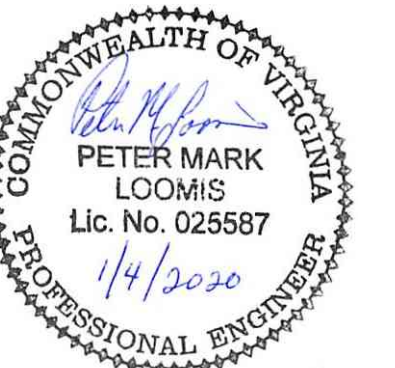
EL. 19.0 - PROPOSED
PLAN
1/4" = 1'-0"

- NOTES:
1. VERIFY EXISTING CHANNEL WIDTH AND DEPTH AND COORDINATE WITH ENGINEER BEFORE PROCURING NEW INFLUENT BAR SCREEN. SEE SPECIFICATION SECTION 462114.
 2. REPLACE 6-INCH CHANNEL DRAIN GATE VALVES (TYP OF 5).
 3. FIELD VERIFY EXISTING CHANNEL WIDTH AND DEPTH AND COORDINATE WITH ENGINEER BEFORE PROCURING NEW EFFLUENT SLIDE GATES. SEE SPECIFICATION 400559.23.
 4. SEE STRUCTURAL DRAWINGS FOR CHANNEL OPENING MODIFICATION DETAILS.
 5. CODED NOTES ARE EXISTING AND FOR REFERENCE ONLY.

- IDENTIFICATION CODES
- 5 10" SCH 40 PVC PIPE FOR FOUL AIR, TYP 4.
 - 23 PEW-304SS/W CHANNEL FLUSHING WATER PIPES, SIZES AS SHOWN.
 - 24 6" DI CHANNEL DRAIN PIPE, TOP OF PIPE 2" BELOW CHANNEL FLOOR W/ 2" DEEP x 12" W DEPRESSION AREA IN CHANNEL FLOOR.



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Revisions	Date

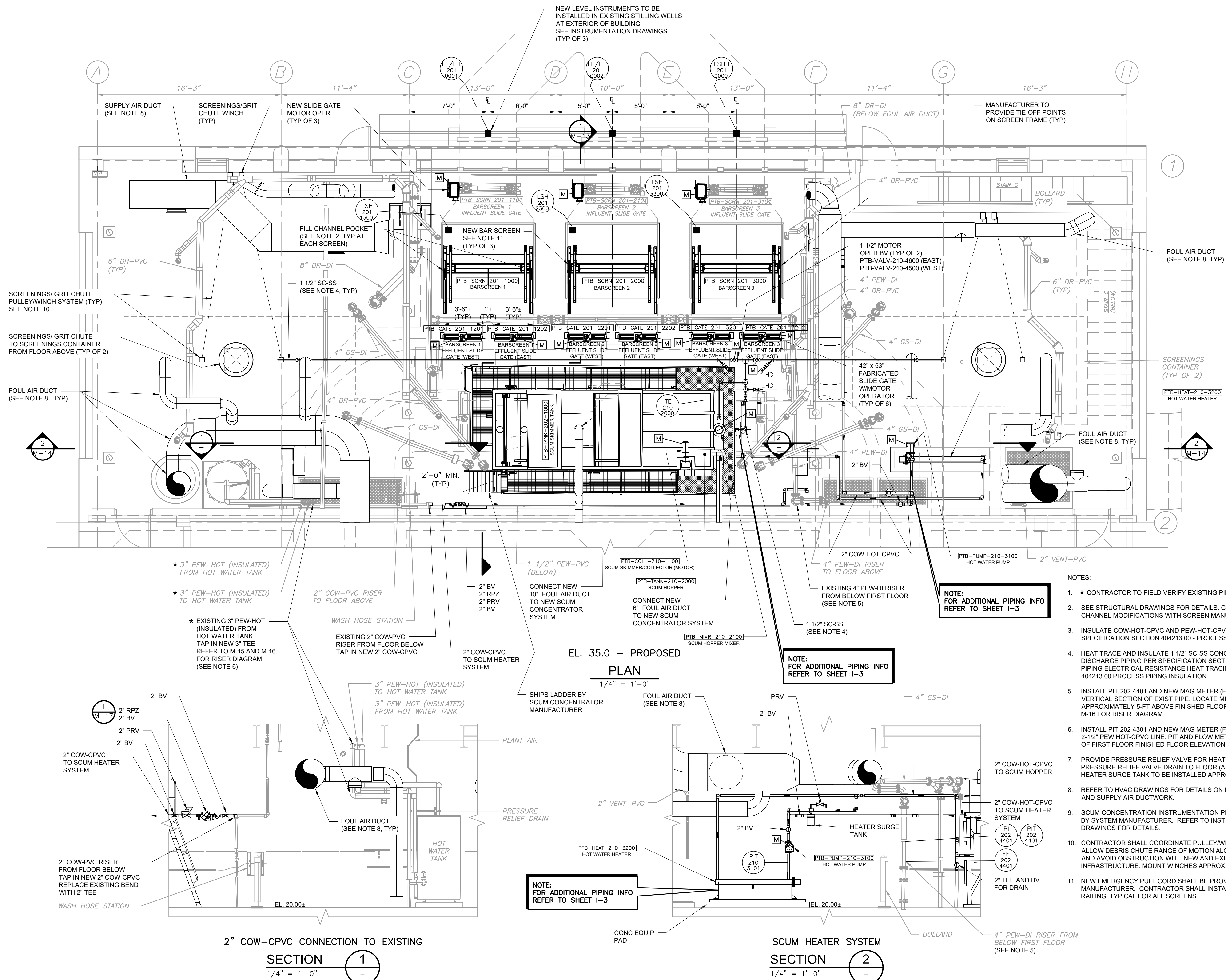
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
FIRST FLOOR
PROPOSED PLAN

Project Name and Location

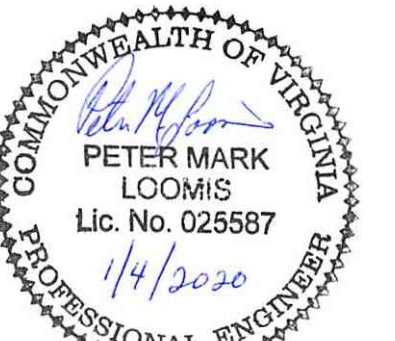
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Drawn: E. JOHNSON
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

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Plotted: December 23, 2020
Plotted by: Johnsonec

Scale: AS NOTED



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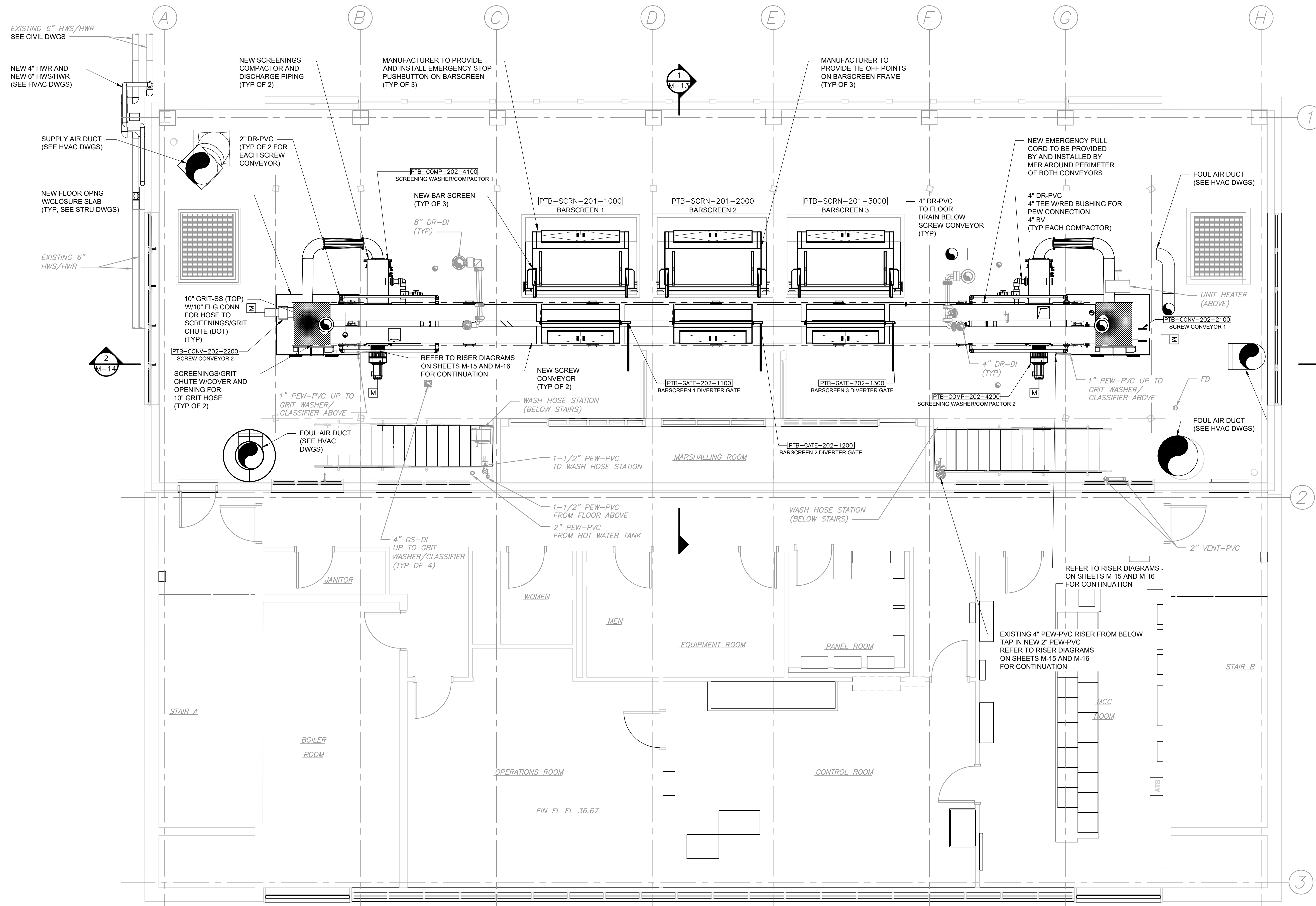
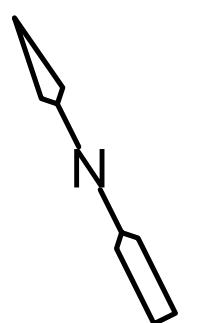
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
SECOND FLOOR
PROPOSED PLAN

Project Name and Location

Designed: A. LUTHRA
Drawn: E. JOHNSON
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

Filename: M011PTPL.dwg
Path: C:\pwworking\johnson\41255023
Plotted: December 17, 2020
Plotted by: Johnsonec

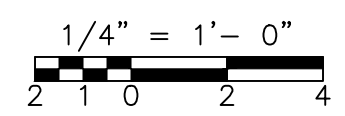
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EL. 36.67 - PROPOSED

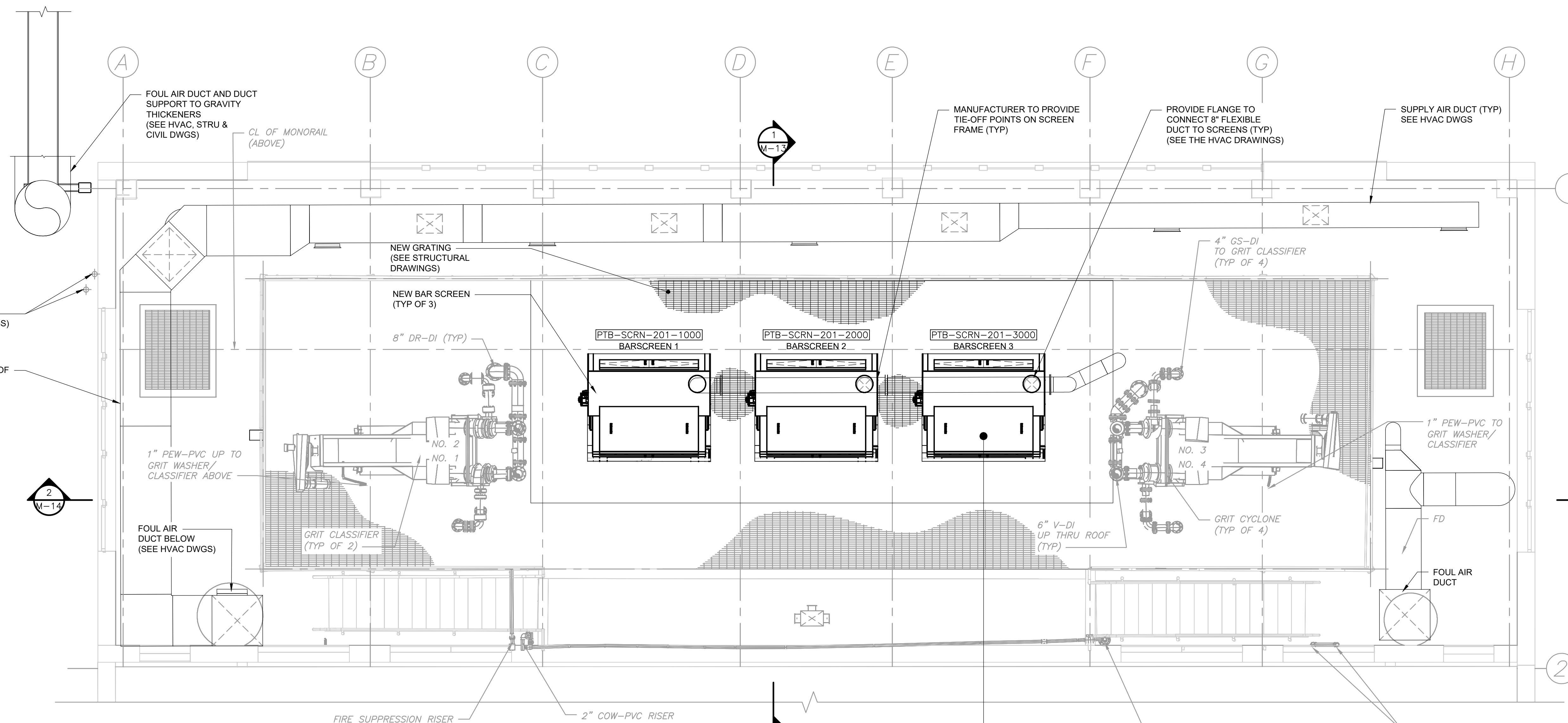
PLAN

1/4" = 1'-0"



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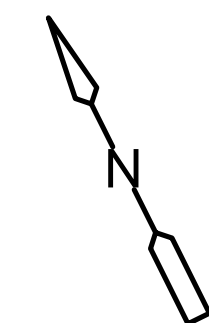
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EL. 45.67 - PROPOSED

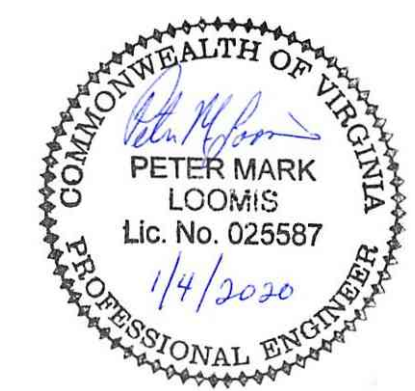
PLAN

1/4" = 1'-0"



1/4" = 1'-0"
 2 1 0 2 4

SEAL



APPROVALS DATE

100% BID SET

Revisions	Date

Water Pollution Control Plant
 Preliminary Treatment Upgrades (WPB2) Phase 9B
 PRELIMINARY TREATMENT BUILDING MEZZANINE
 PROPOSED PLAN

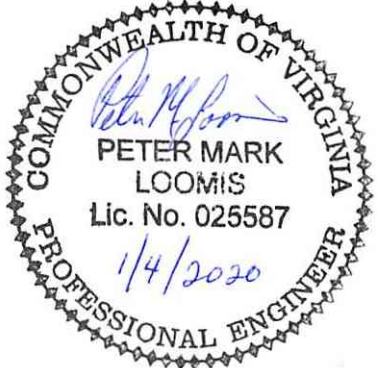
Designed: A. LUTHRA
 Drawn: E. JOHNSON
 Checked: E. SPARGIMINO
 Miss Utility Transmittal #:

Filename: M012PTPL.dwg
 Path: C:\pwworking\johnson\41255023
 Plotted: December 17, 2020
 Plotted by: Johnsonec

Scale: AS NOTED



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Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
PROPOSED SECTIONS I

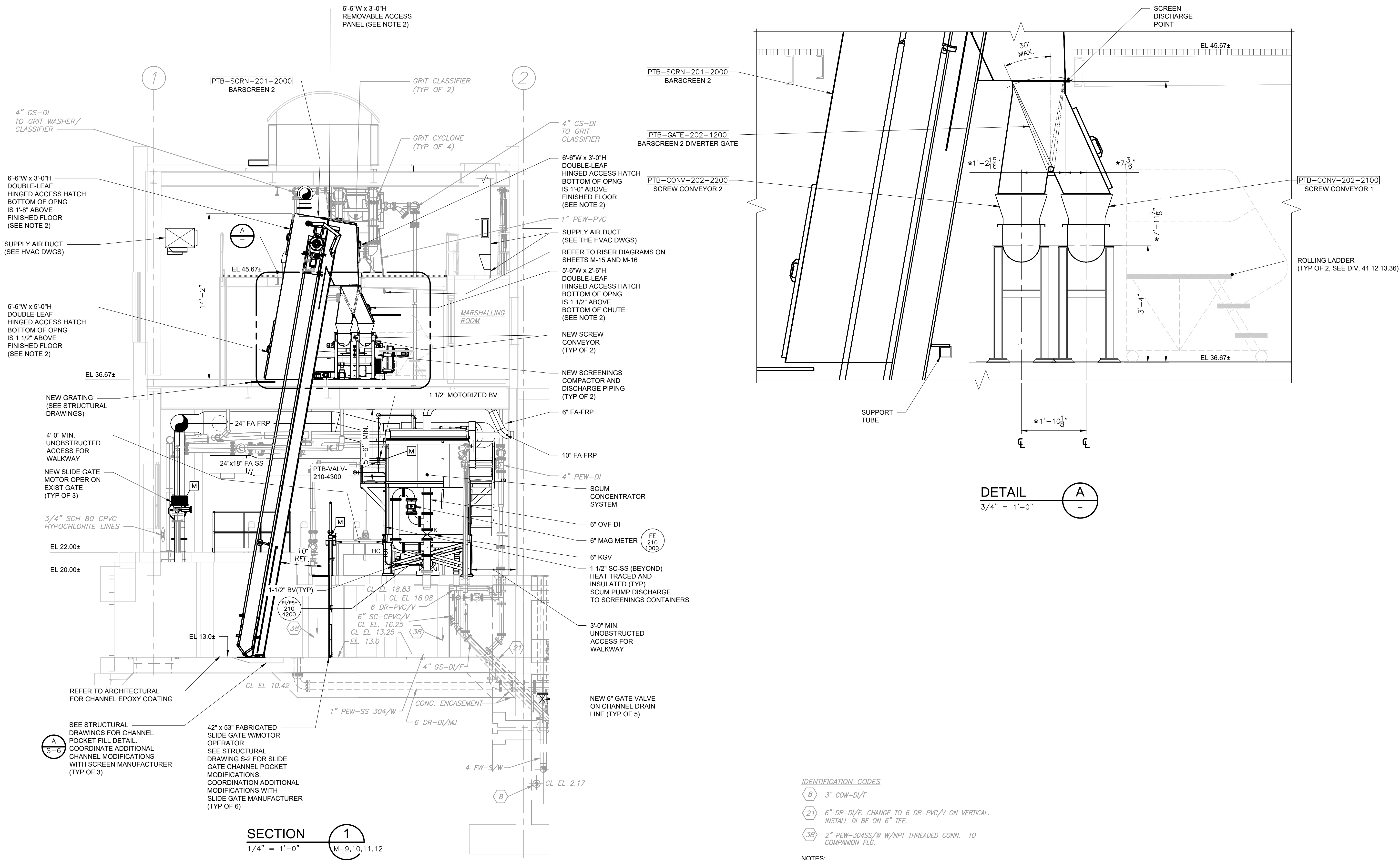
Designed: A. LUTHRA
Drawn: E. JOHNSON
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

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Plotted: December 23, 2020
Plotted by: Johnson

Scale: AS NOTED



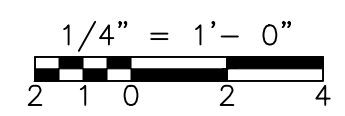
10560 Arrowhead Drive, Suite 500
FAIRFAX, VA 22030



SECTION 1
1/4" = 1'-0" M-9,10,11,12

DETAIL A
3/4" = 1'-0"

- IDENTIFICATION CODES**
- 8 3" COW-DI/F
 - 21 6" DR-DI/F. CHANGE TO 6" DR-PVC/V ON VERTICAL. INSTALL DI BF ON 6" TEE.
 - 38 2" PEW-30ASS/W W/NPT THREADED CONN. TO COMPANION FLG.
- NOTES:**
1. * VERIFY DIMENSIONS IN THE FIELD AND COORDINATE WITH EQUIPMENT MANUFACTURERS.
 2. ACCESS HATCHES SHALL BE PROVIDED BY SCREEN MANUFACTURER (DIVISION 40).
 3. CODED NOTES ARE EXISTING AND FOR REFERENCE ONLY.
 4. SCUM CONCENTRATION INSTRUMENTATION PROVIDED AND LOCATED BY MANUFACTURER. REFER TO INSTRUMENTATION DRAWINGS FOR DETAILS.



IDENTIFICATION CODES

- | | | | |
|--|---|--|--|
| 1 10" BLIND FLANGE, TYP EACH SIDE OF BUILDING. | 7 CONCRETE PIPE SUPPORT | 12 8 DR-DI/F CLARIFIERS NOS. 5-8 DRAIN PIPE TO DRAIN PUMP AND AUX. DRAIN PUMP. | 19 4" DI FLG 45° BEND, WYE, & BF, TYP. |
| 2 10"x12" FLANGE REDUCER WITH COLLAR, TYP 4 EACH SIDE OF BUILDING. | 8 3 COW-DI/F | 13 SANITARY DRAIN | 20 NOT USED |
| 3 12" BLIND FLANGE, TYP EACH SIDE OF BUILDING. | 9 4 PEW-DI/F | 14 8" SCH 40 PVC SLEEVE. CAULK BETWEEN PIPE AND SLEEVE | 21 NOT USED |
| 4 8" 22-1/2" DUCTILE IRON FLANGED ELBOW. | 10 8 SL-DI/F PRL. SLUDGE TO GRAVITY THICKENER | 15 6" SCH 40 PVC SLEEVE. CAULK BETWEEN PIPE AND SLEEVE | 22 NOT USED |
| 5 8 DR-DI/F, CL EL TO MATCH EXISTING 8 DR-DI/F AT JUNCTION WITH EXISTING TUNNEL. | 11 EXISTING 8 DR-DI, CL EL VARIES. | 16 NOT USED | 27 CONCRETE PIPE SUPPORT |
| 6 8" RESTRAINED FLANGE ADAPTER ON EXISTING 8 DR-DI | | 17 NOT USED | |
| | | 18 8" SCH. 40 GS SLEEVE. INSULATE THR. SLEEVE. PIPE CLAMP SUPPORT ON TOP OF SLEEVE, TYP. | |

NOTES:

- CODED NOTES ARE EXISTING AND FOR REFERENCE ONLY.
- SCUM CONCENTRATION INSTRUMENTATION PROVIDED AND LOCATED BY MANUFACTURER. REFER TO INSTRUMENTATION DRAWINGS FOR DETAILS.
- CONTRACTOR TO COORDINATE PULLEY/WINCH LOCATION TO ALLOW DEBRIS CHUTE RANGE OF MOTION ALONG DUMPSTER LENGTH AND AVOID OBSTRUCTION WITH NEW AND EXISTING INFRASTRUCTURE.



DEPARTMENT OF ENVIRONMENTAL SERVICES
WATER POLLUTION CONTROL BUREAU
3402 S. GLEBE ROAD
ARLINGTON, VA 22202
PHONE: 703.228.6820

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SEAL



APPROVALS DATE

100% BID SET

Revisions Date

Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
PROPOSED SECTIONS II

Designed: A. LUTHRA
Drawn: E. JOHNSON
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

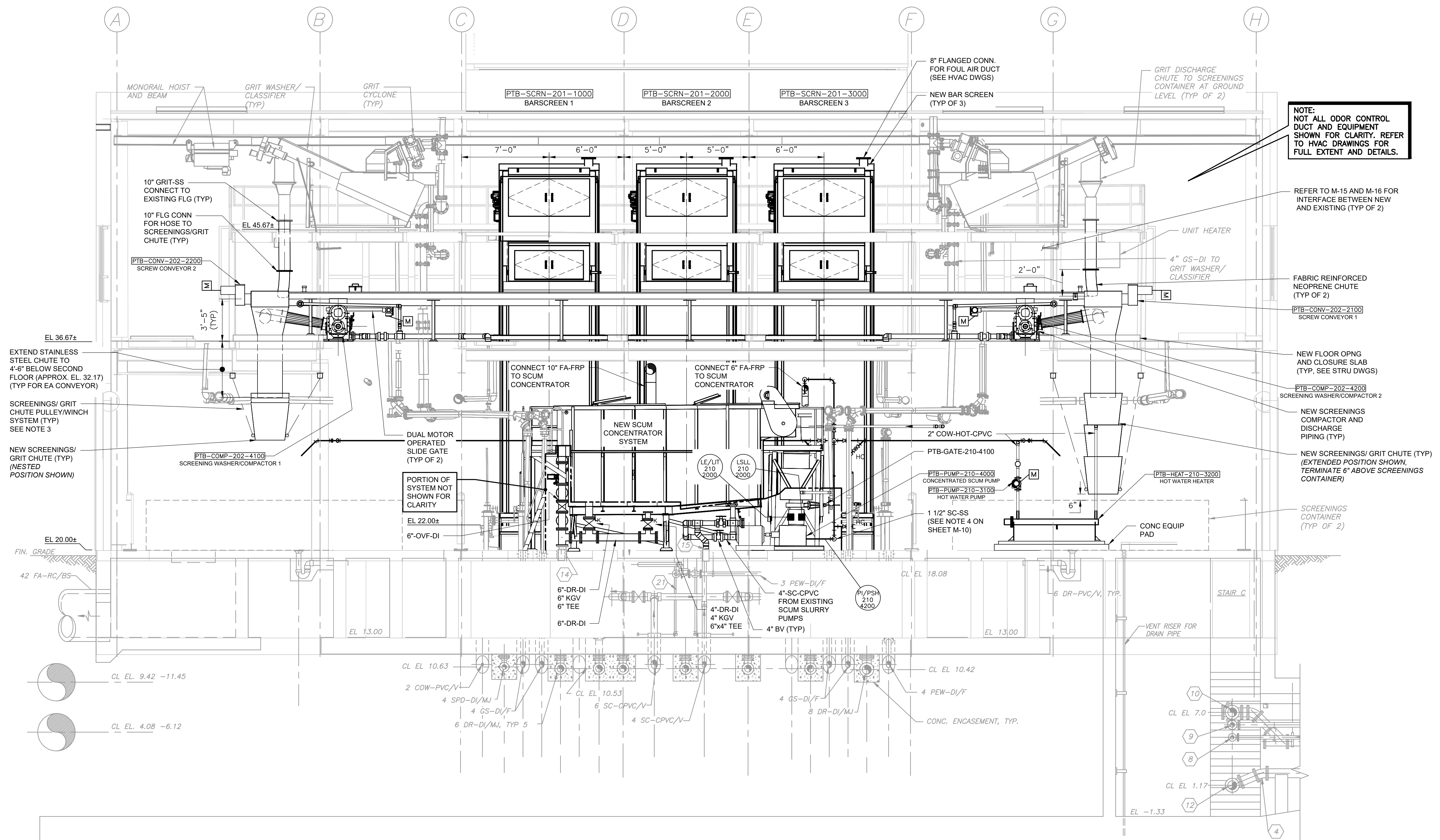
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Plotted by: Johnsonec

Scale: AS NOTED

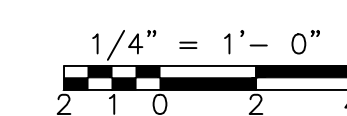


Sht. 44 of 97
M-14

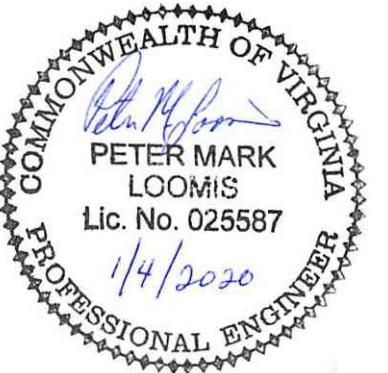
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SECTION 2
1/4" = 1'-0" M-9,10,11,12



SEAL



APPROVALS _____ DATE _____

100% BID SET

Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PEW AND HOT PEW RISER DIAGRAM
DEMOLITION

Designed: A. LUTHRA
Drawn: J. SOSA
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

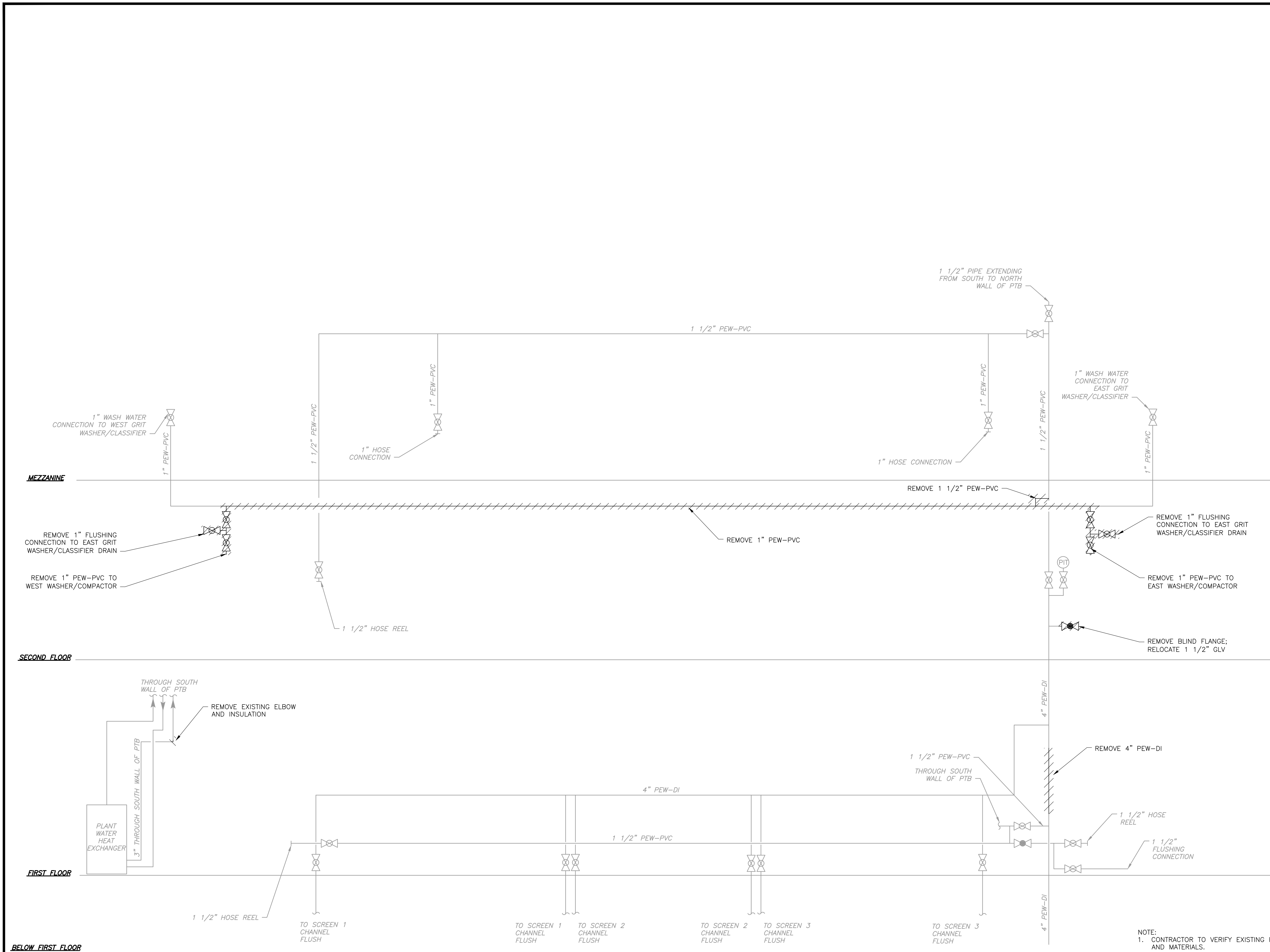
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Plotted: December 17, 2020
Plotted by: Johnsonec

Scale: AS NOTED



10560 Arrowhead Drive, Suite 500
FAIRFAX, VA 22030

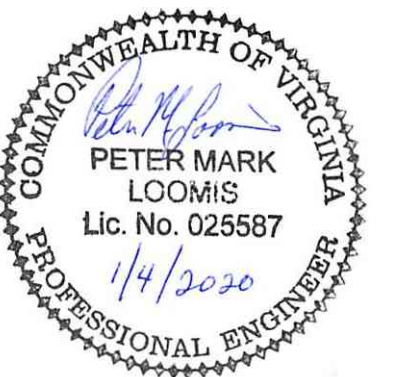
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NOTE:
1. CONTRACTOR TO VERIFY EXISTING PIPE SIZES AND MATERIALS.

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SEAL



APPROVALS DATE

100% BID SET

Revisions	Date

Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PEW AND HOT PEW RISER DIAGRAM MODIFICATIONS

Designed: A. LUTHRA
Drawn: J. SOSA
Checked:
Miss Utility Transmittal #:

Filename: M016PWPL.dwg
Path: C:\pww_p1\johnson\cd\1255023
Plotted: December 17, 2020
Plotted by: Johnsonc

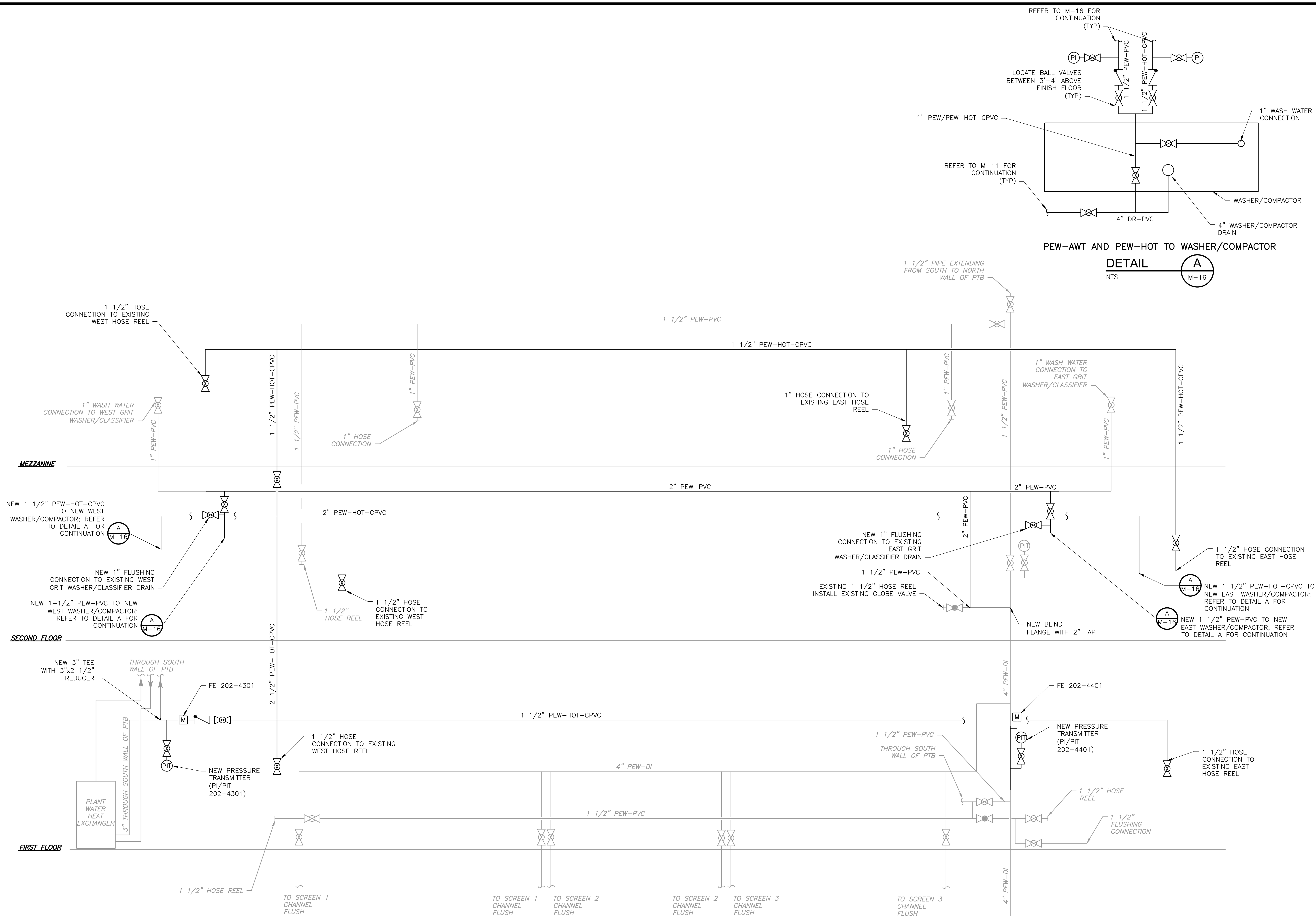
Scale: AS NOTED



10560 Arrowhead Drive, Suite 500
FAIRFAX, VA 22030

Sht. 46 of 97

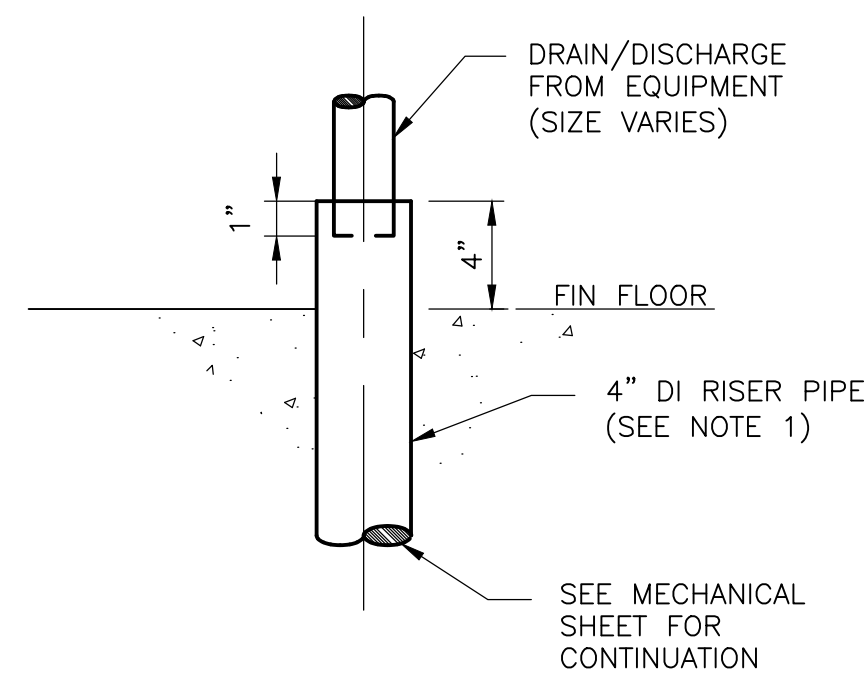
M-16



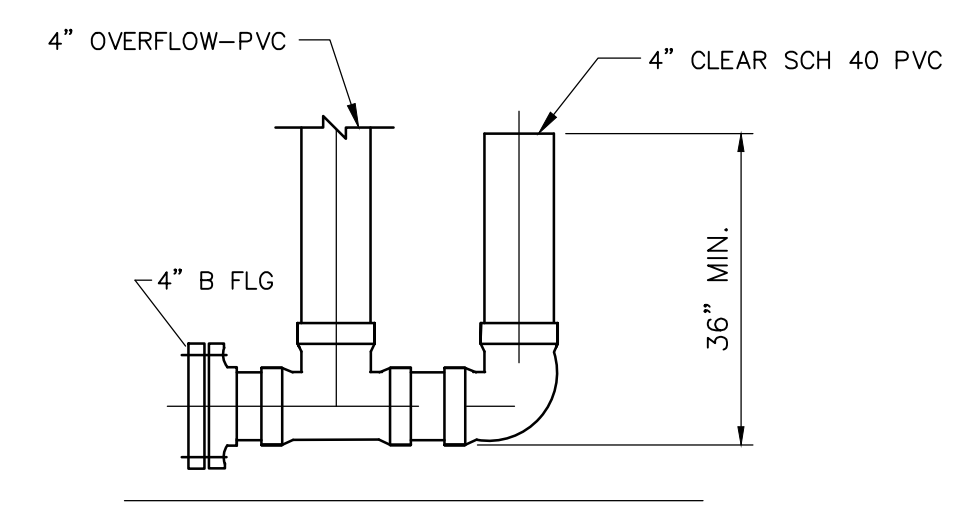
PEW-AWT AND PEW-HOT TO WASHER/COMPACTOR
DETAIL A
NTS

- NOTE:**
- CONTRACTOR TO VERIFY EXISTING PIPE SIZES AND MATERIALS.
 - NEW PEW HOT PIPING TO BE INSULATED.

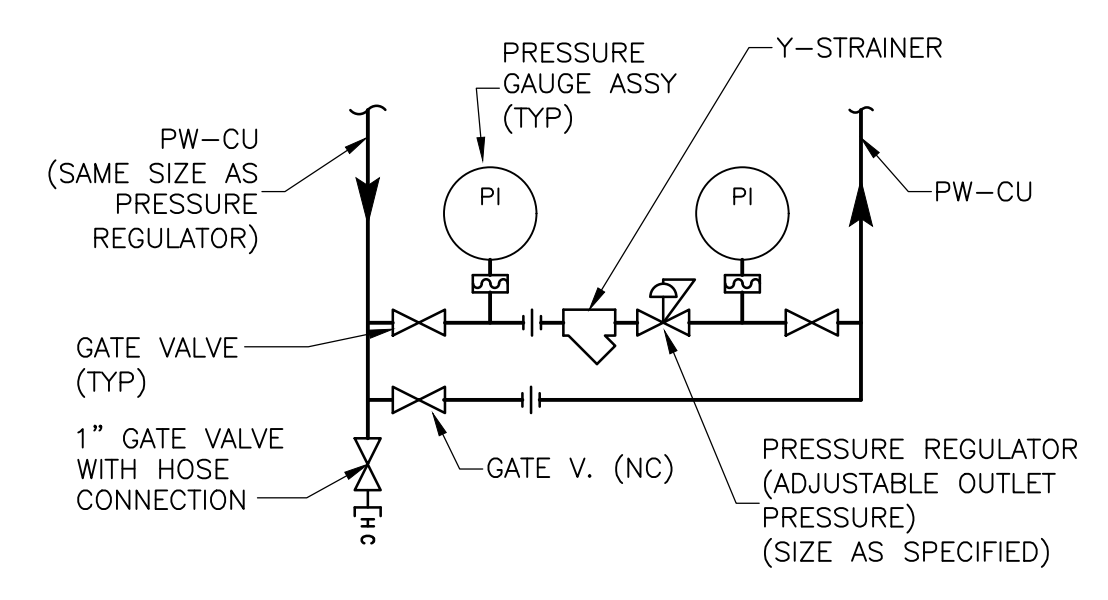
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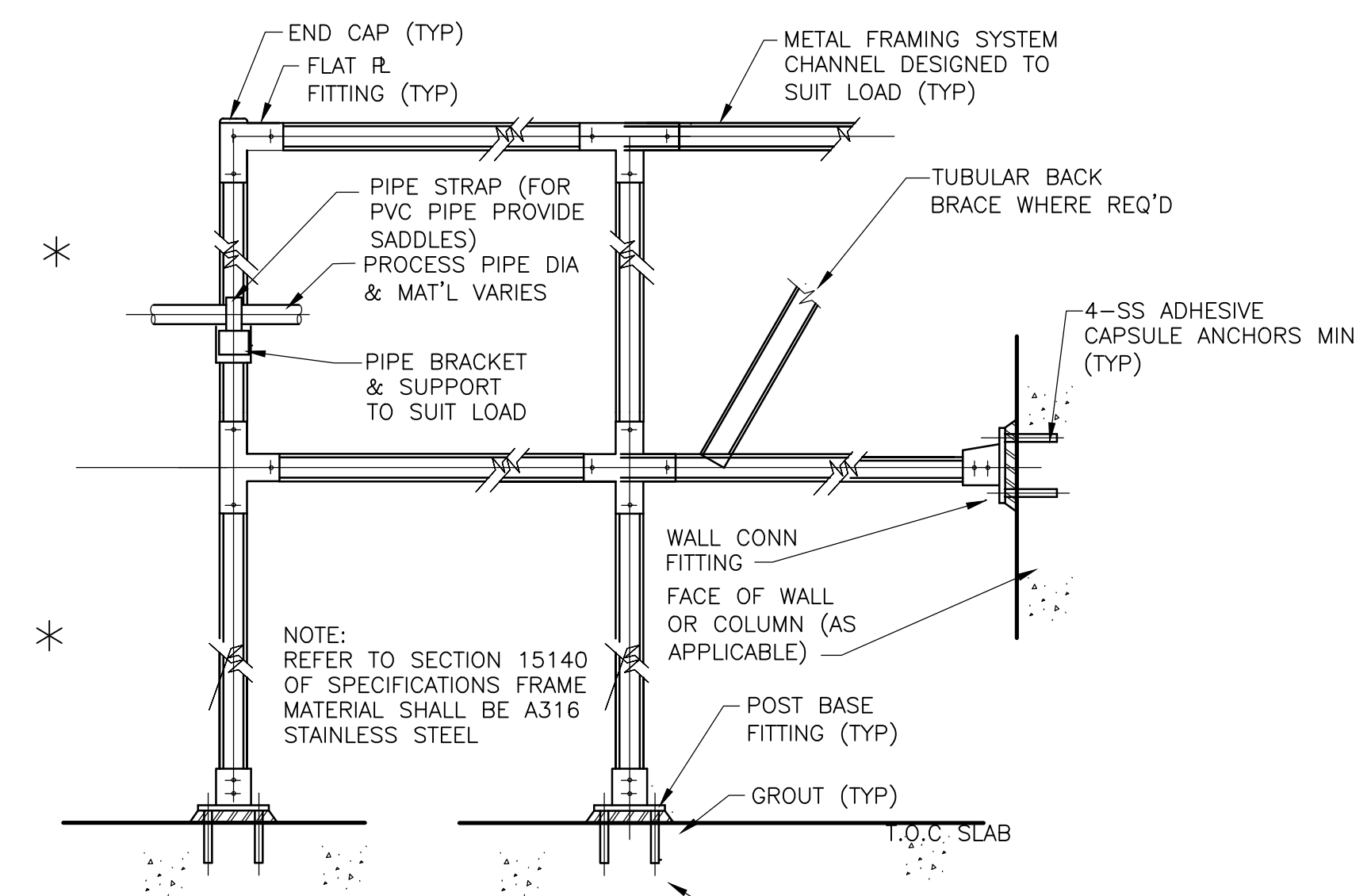
STANDARD SERVICE EQUIPMENT DRAIN
DETAIL A
 NTS



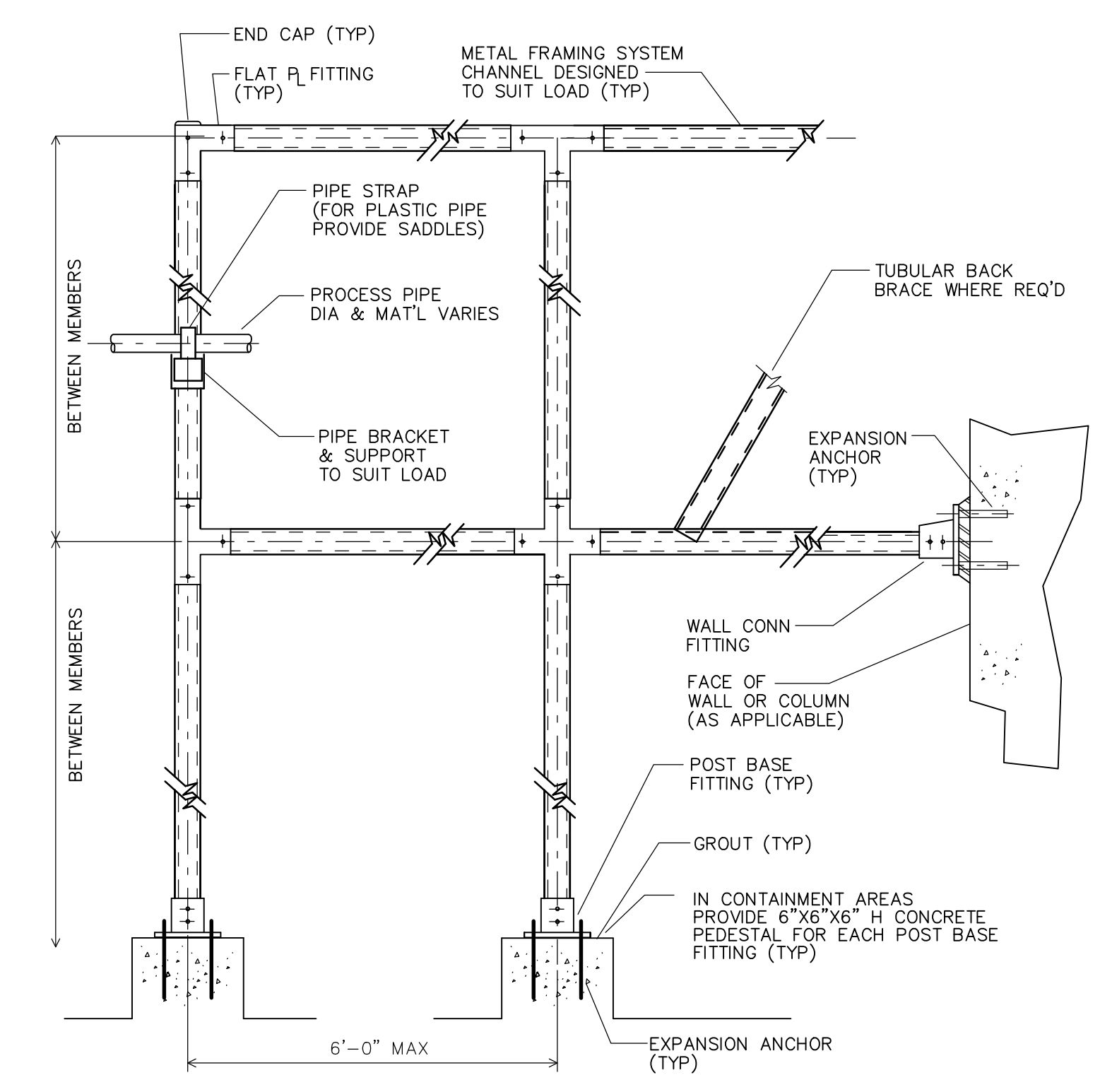
TANK OVERFLOW TRAP
DETAIL B
 NTS



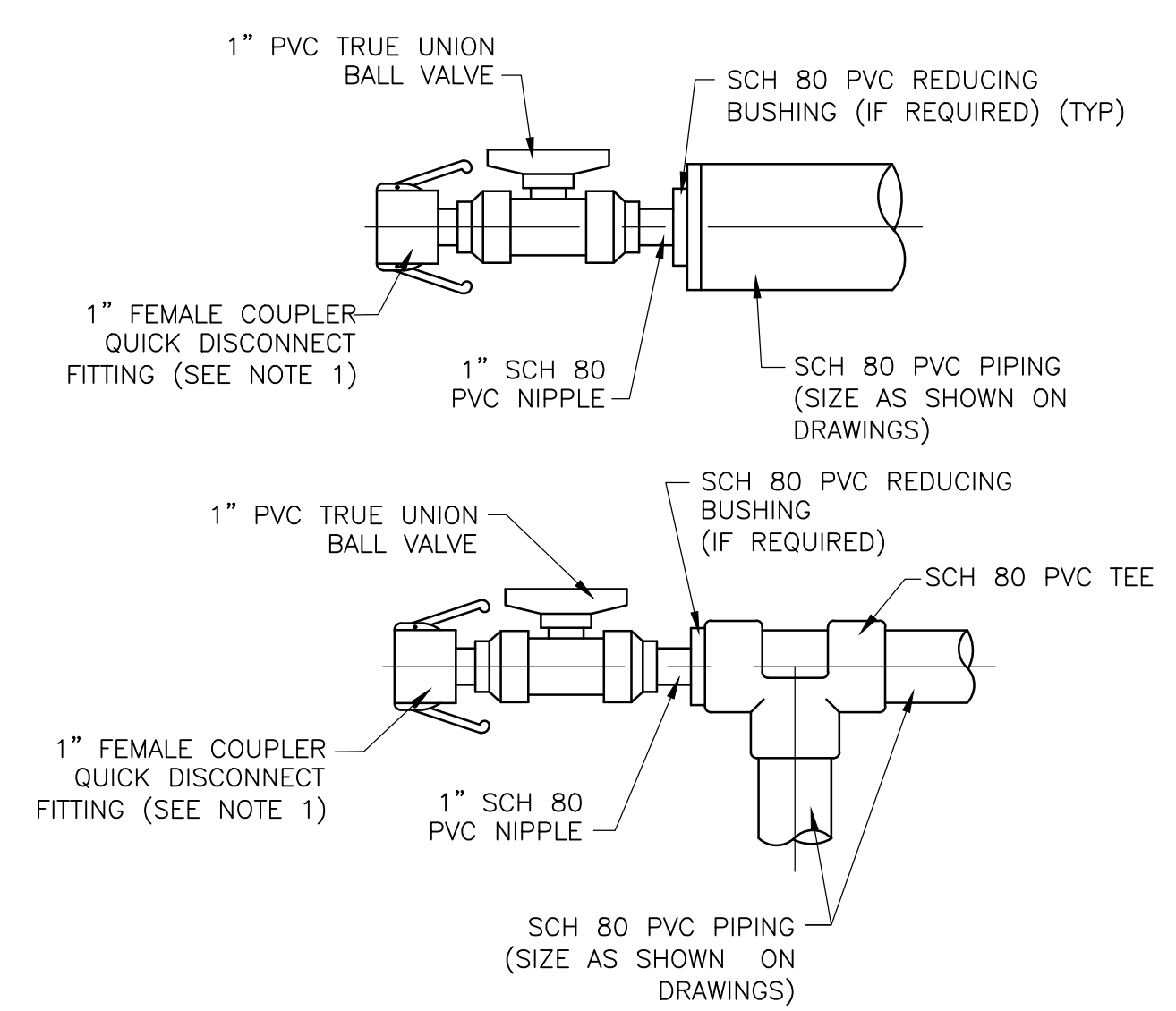
PRESSURE REGULATOR STATION
DETAIL C
 NTS



**CHANNEL FRAMING SYSTEM FOR PIPE SUPPORTS FOR PIPES 3\"/>
DETAIL D
 NTS**

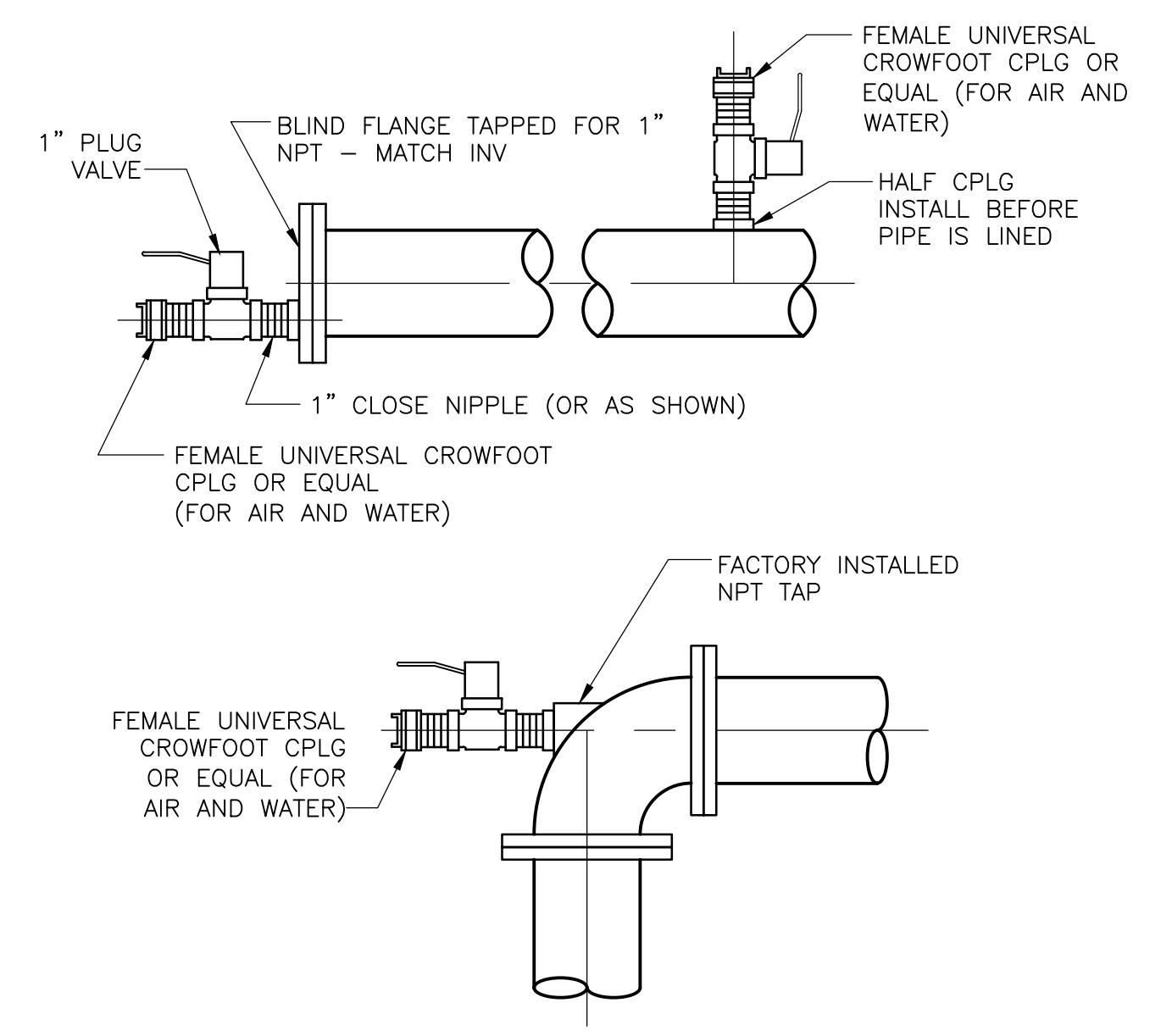


**CHANNEL FRAMING SYSTEM FOR PIPE SUPPORTS FOR PIPES 3\"/>
DETAIL E
 NTS**

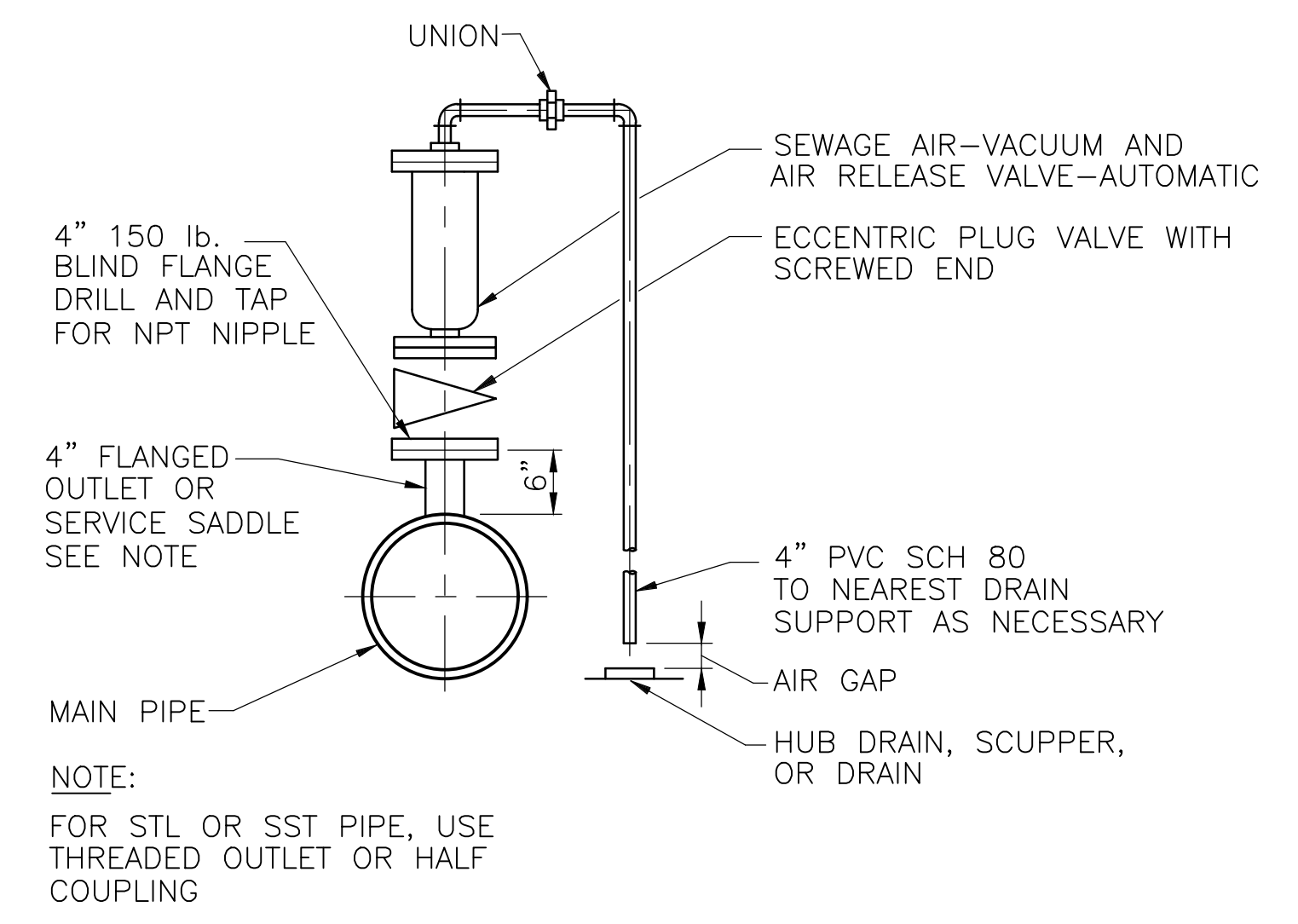


NOTE:
 1. FEMALE COUPLER SHALL BE AS SPECIFIED IN SECTION 15120. PROVIDE PLUG WITH SST CHAIN AS SPECIFIED.

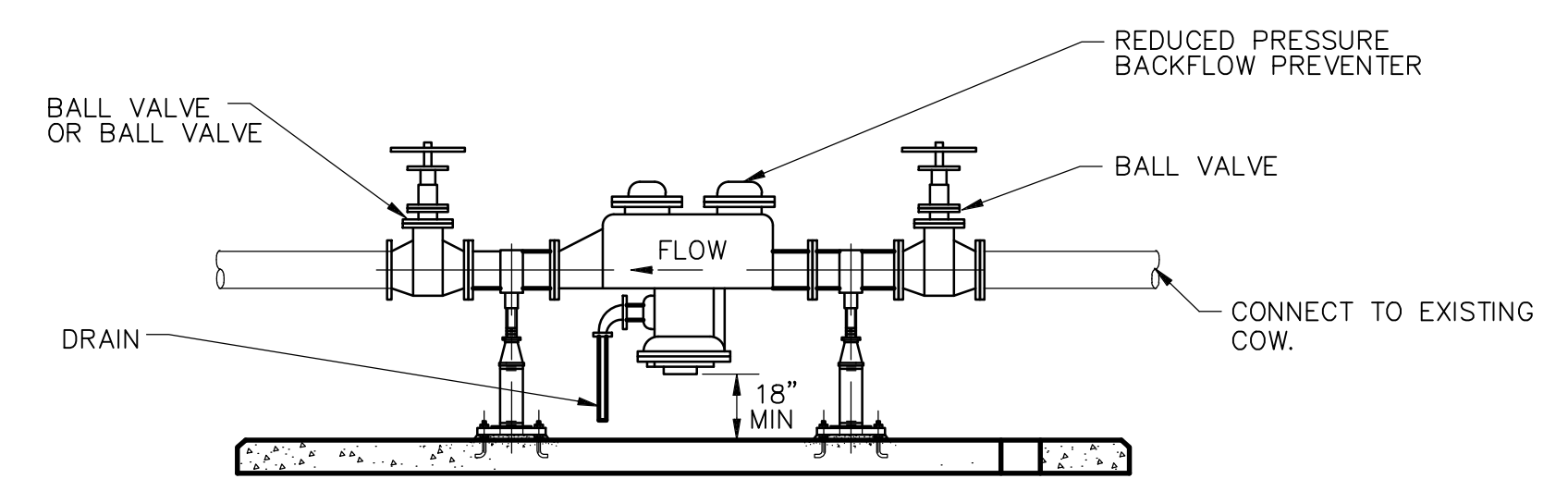
FLUSHING CONNECTIONS FOR CHEMICAL FEED SERVICE
DETAIL F
 NTS



FLUSHING COCK
DETAIL G
 NTS



AIR RELEASE AND VACUUM
DETAIL H
 NTS

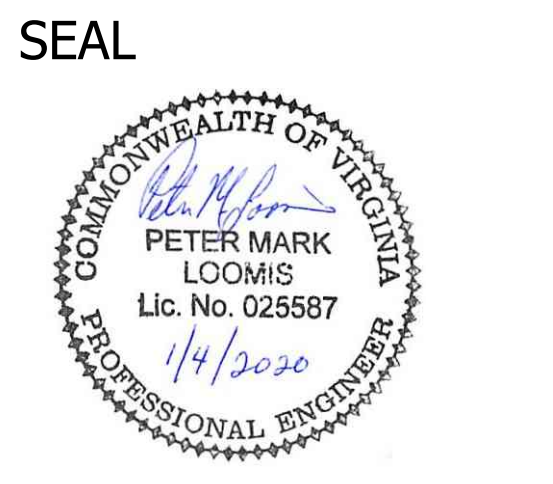


REDUCED PRESSURE BACK FLOW PREVENTOR
DETAIL I
 NTS



DEPARTMENT OF ENVIRONMENTAL SERVICES
 WATER POLLUTION CONTROL BUREAU
 3402 S. GLEBE ROAD
 ARLINGTON, VA 22202
 PHONE: 703.228.6820

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APPROVALS _____ DATE _____

100% BID SET

Revisions	Date

Project Name and Location
Water Pollution Control Plant
 Preliminary Treatment Upgrades (WPB2) Phase 9B
 STANDARD MECHANICAL DETAILS 1

Designed: A. LUTHRA
 Drawn: S. ENGEL
 Checked: E. SPARGIMINO
 Miss Utility Transmittal #:

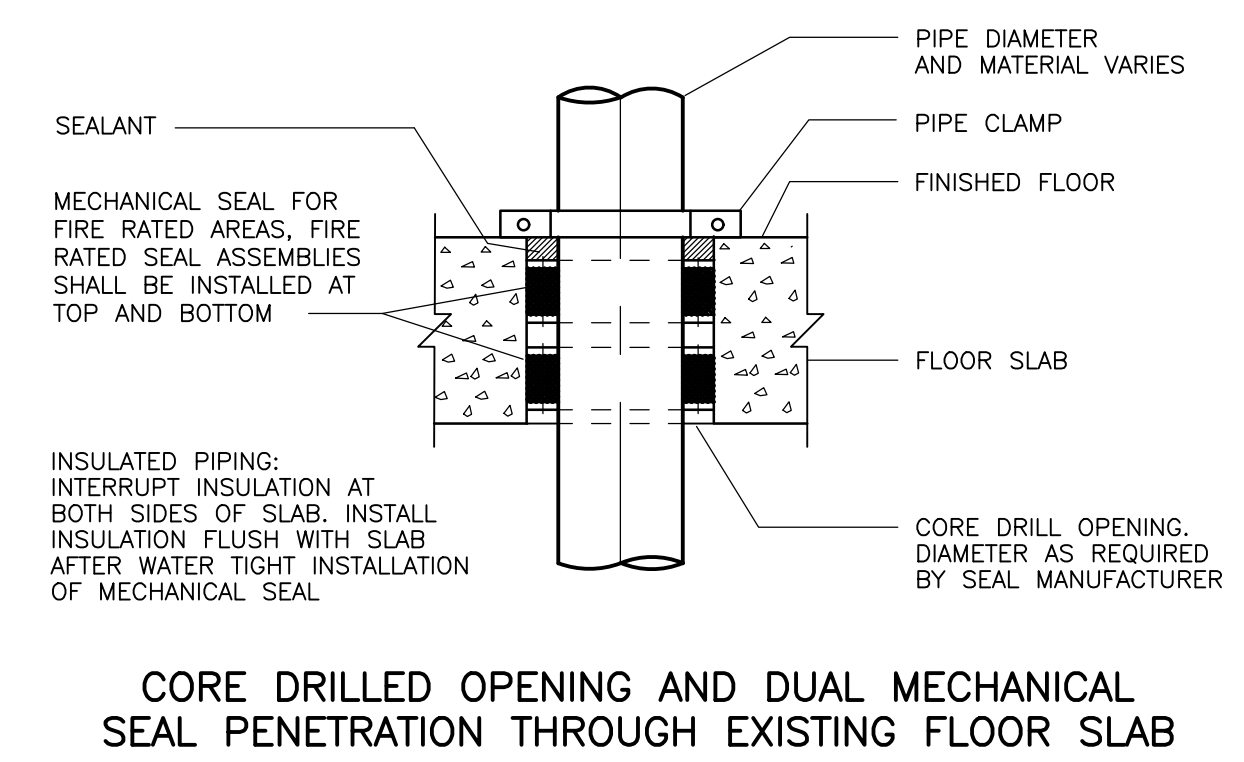
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 Plotted: December 17, 2020
 Plotted by: Johnsonec

Scale: AS NOTED

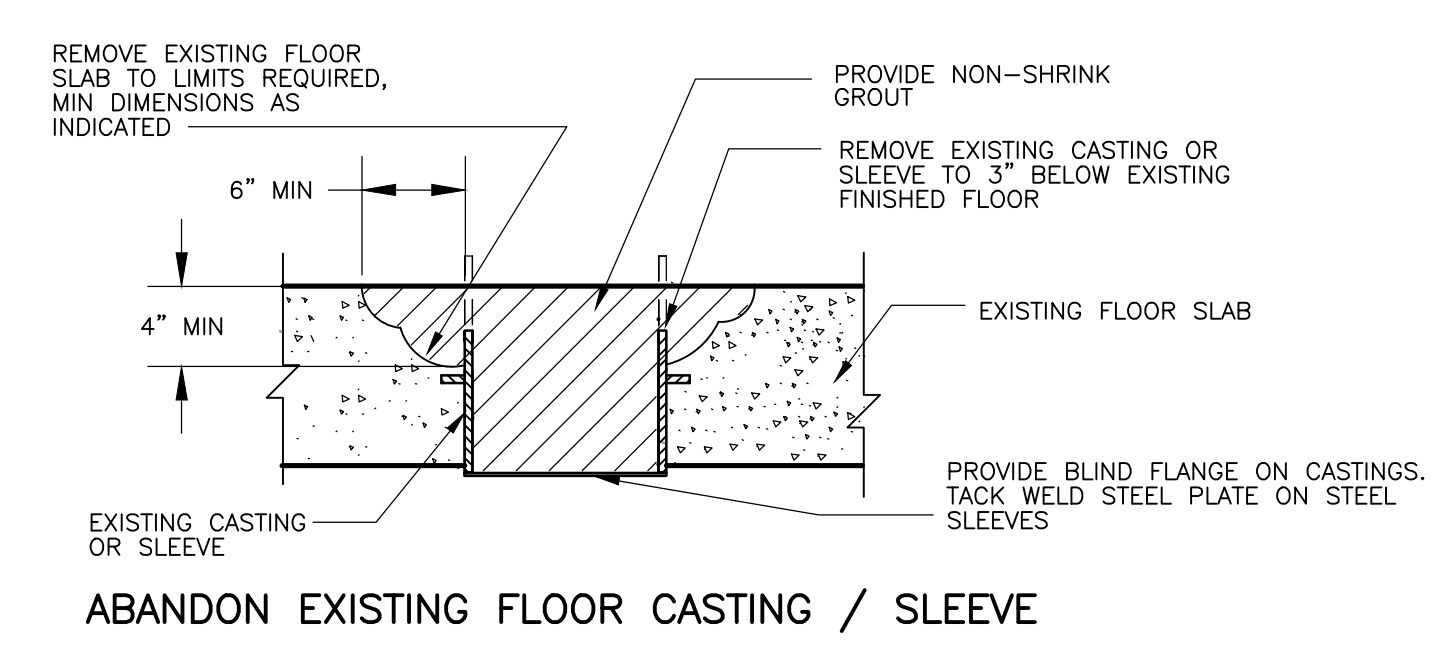


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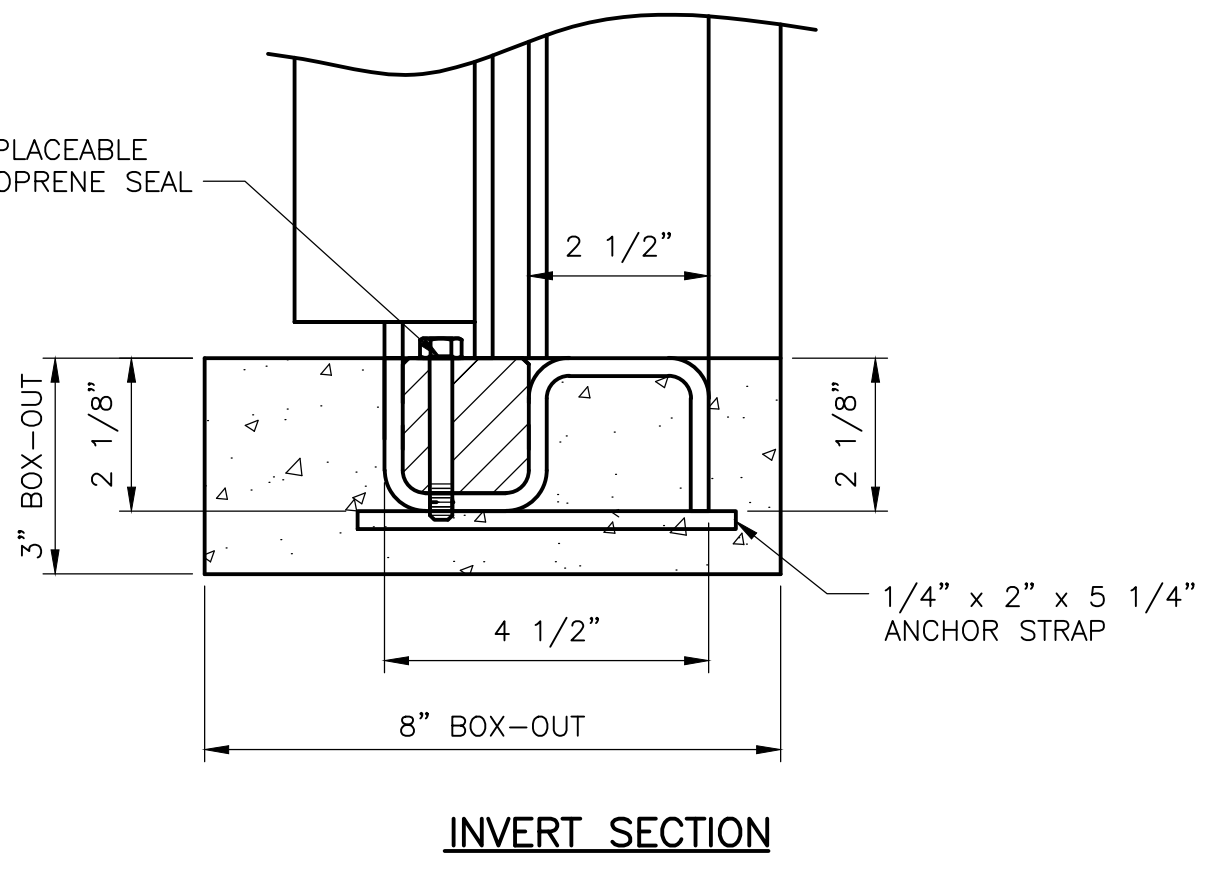
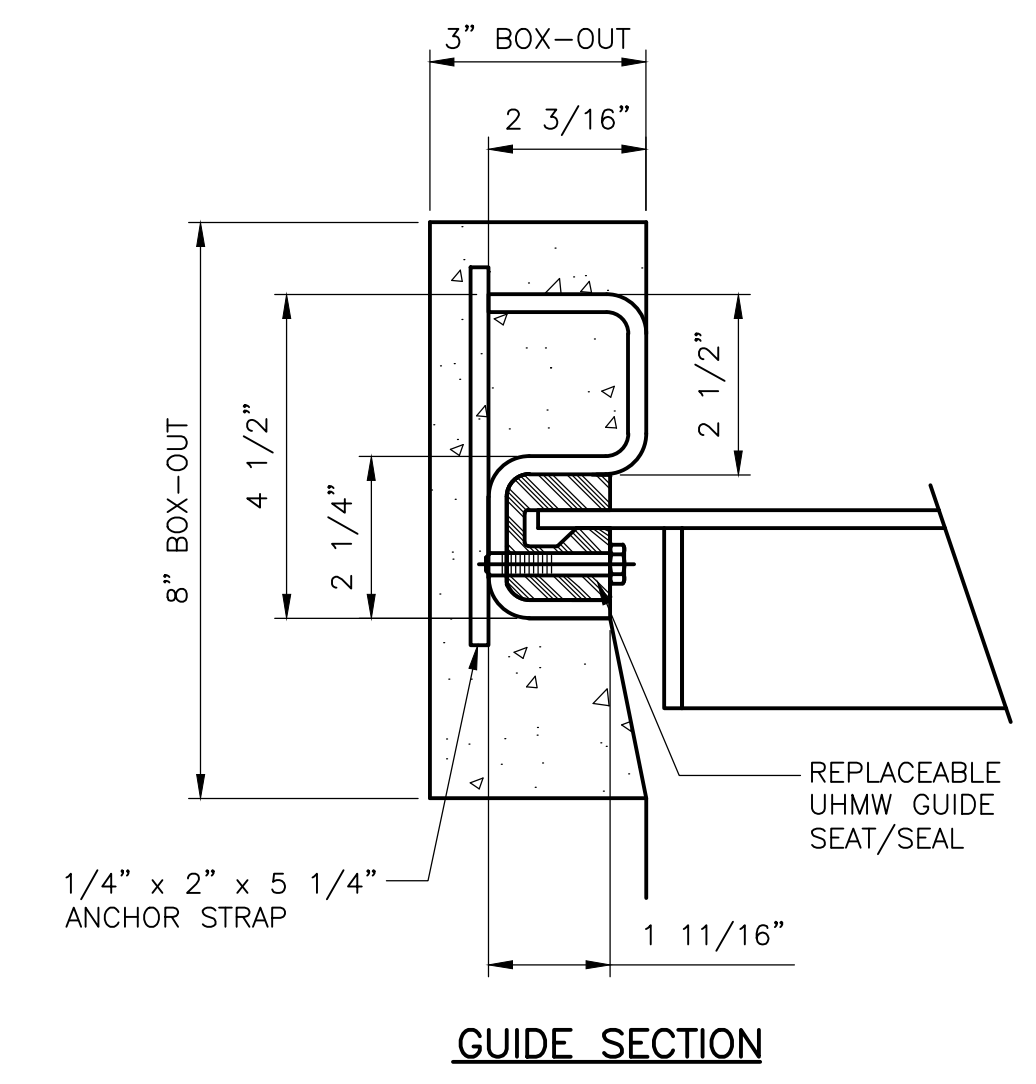
NOT USED
 DETAIL A
 NTS



CORE DRILLED OPENING AND DUAL MECHANICAL SEAL PENETRATION THROUGH EXISTING FLOOR SLAB
 DETAIL B
 NTS



ABANDON EXISTING FLOOR CASTING / SLEEVE
 DETAIL C
 NTS



SIDE SEAL CROSS SECTION
 DETAIL D
 NTS

SEAL

APPROVALS DATE

100% BID SET

Revisions	Date

Project Name and Location
Water Pollution Control Plant
 Preliminary Treatment Upgrades (WPB2)
 Phase 9B
 STANDARD MECHANICAL DETAILS II

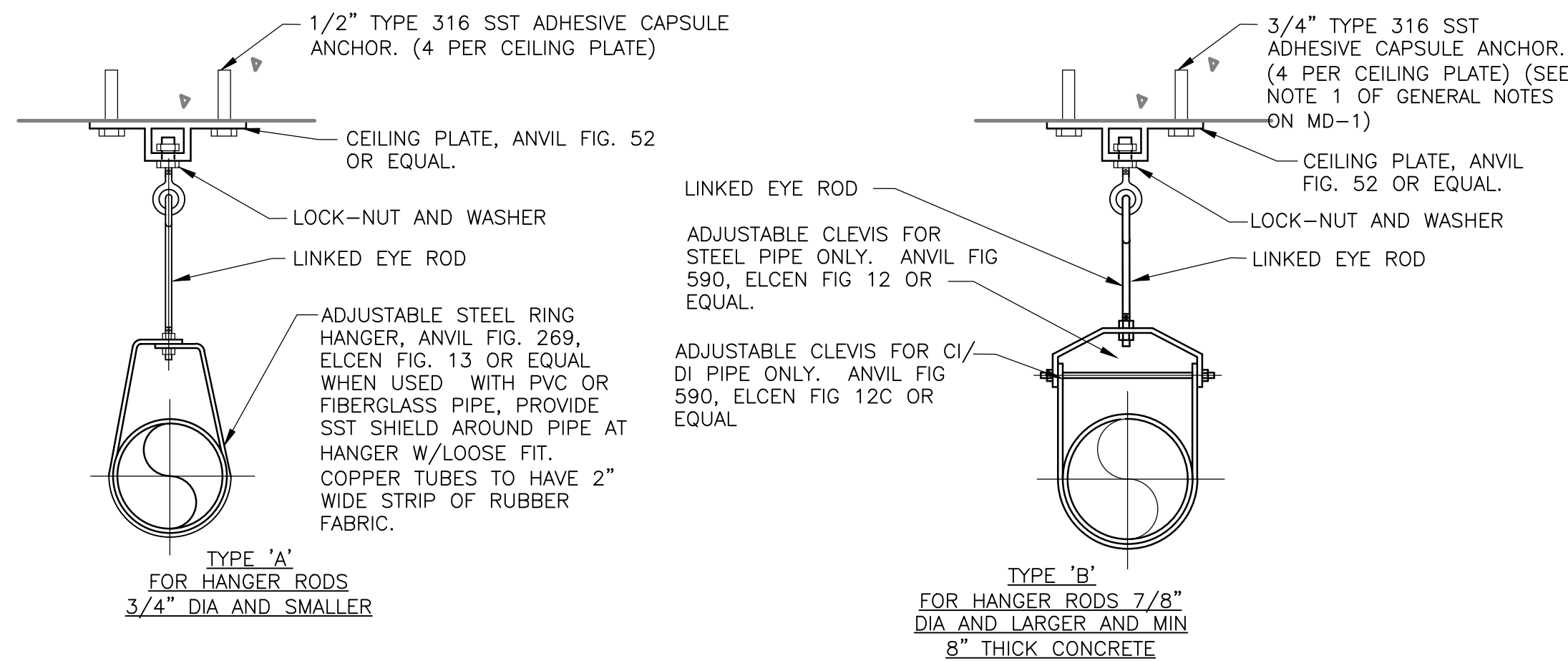
Designed: A. LUTHRA
 Drawn: S. ENGEL
 Checked: E. SPARGIMINO
 Miss Utility Transmittal #:

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 Plotted by: Johnsonec

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EXISTING CEILING

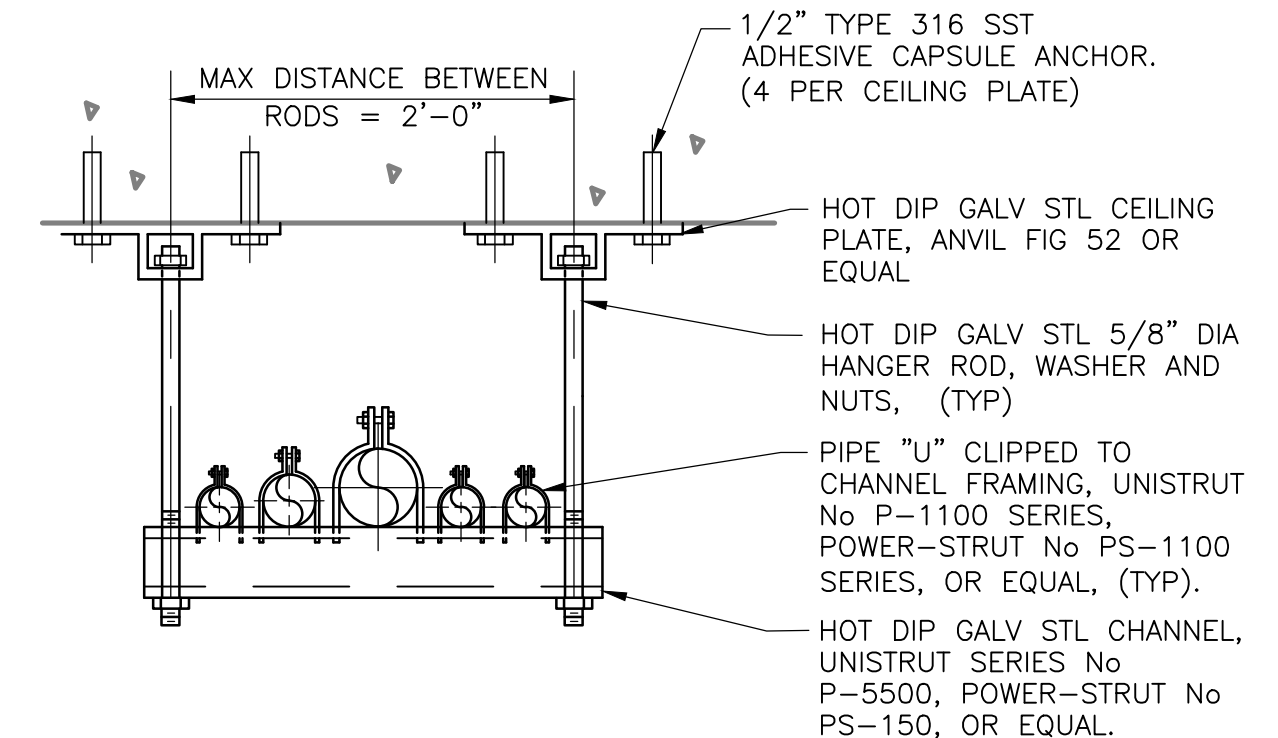
PIPE HANGER RODS			
PIPE DIA (INCHES)	ROD DIA (INCHES)	WEIGHT LIMIT (LBS)	
		TYPE 'A'	TYPE 'B'
1 AND SMALLER	3/8	610	----
1-1/4 TO 2	3/8	610	----
2-1/2 TO 3-1/2	1/2	1130	----
4 TO 5	5/8	1430	----
6	3/4	1430	3800
8,10,12	7/8	----	3800
14,16,18	1	----	3800

NOTE: ALL PARTS SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.

NOTES:

- WHERE LOCATED ABOVE WATER, PIPE SUPPORT SYSTEMS SHALL BE TYPE 316 STAINLESS STEEL MATERIALS OF CONSTRUCTION.
- REFER TO SECTION 15140 FOR SPECIAL PIPE SUPPORT REQUIREMENTS.

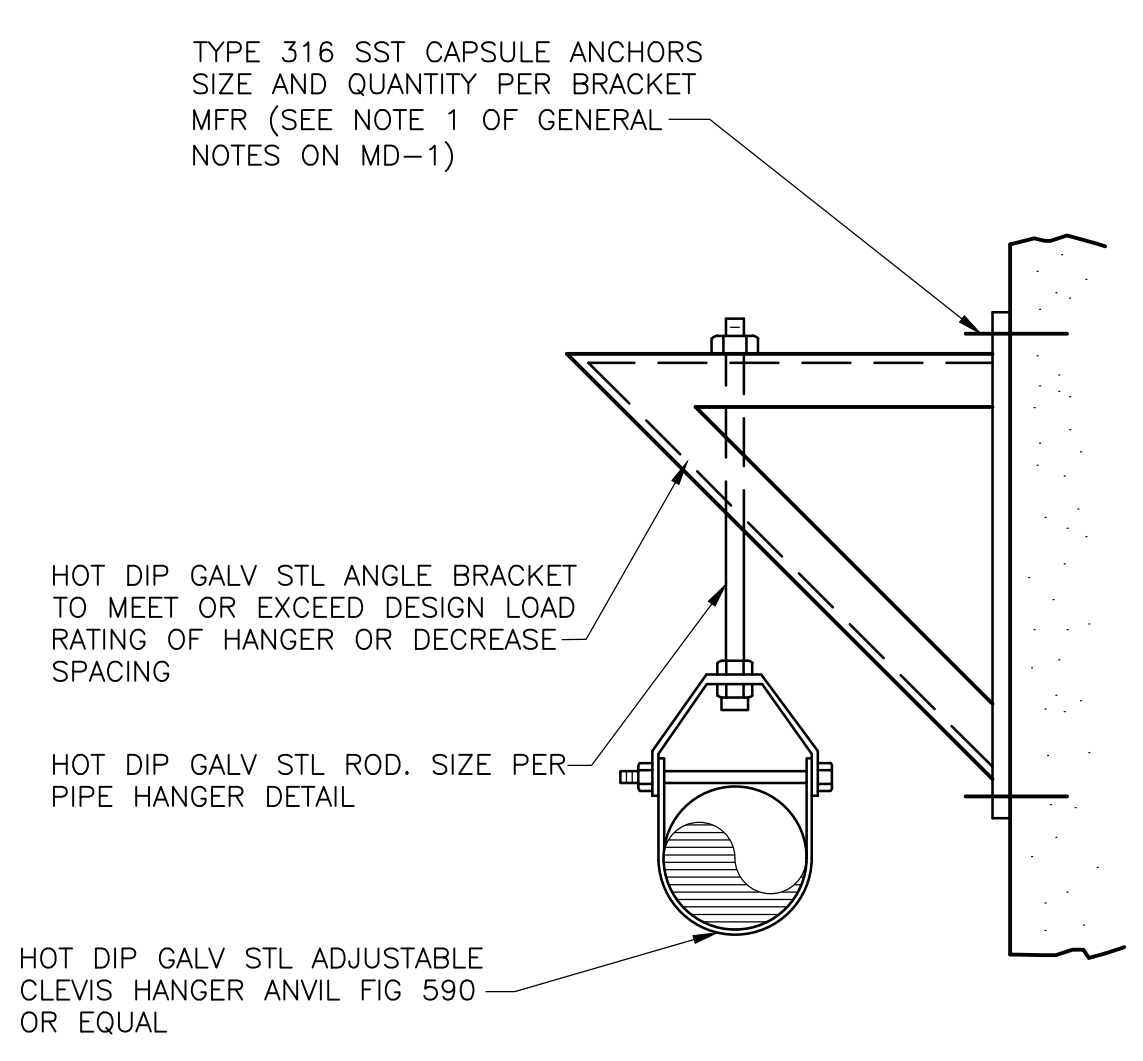
PIPE HANGER
DETAIL A



NOTES:

- WHERE LOCATED ABOVE WATER, PIPE SUPPORT SYSTEMS SHALL BE TYPE 316 STAINLESS STEEL MATERIALS OF CONSTRUCTION.
- REFER TO SECTION 15140 FOR SPECIAL PIPE SUPPORT REQUIREMENTS.
- WHEN USED WITH PVC OR FIBERGLASS PIPE, PROVIDE SST SHIELD AROUND PIPE AT CLIP WITH LOOSE FIT. WRAP COPPER TUBES WITH 2" WIDE STRIP OF RUBBER FABRIC.

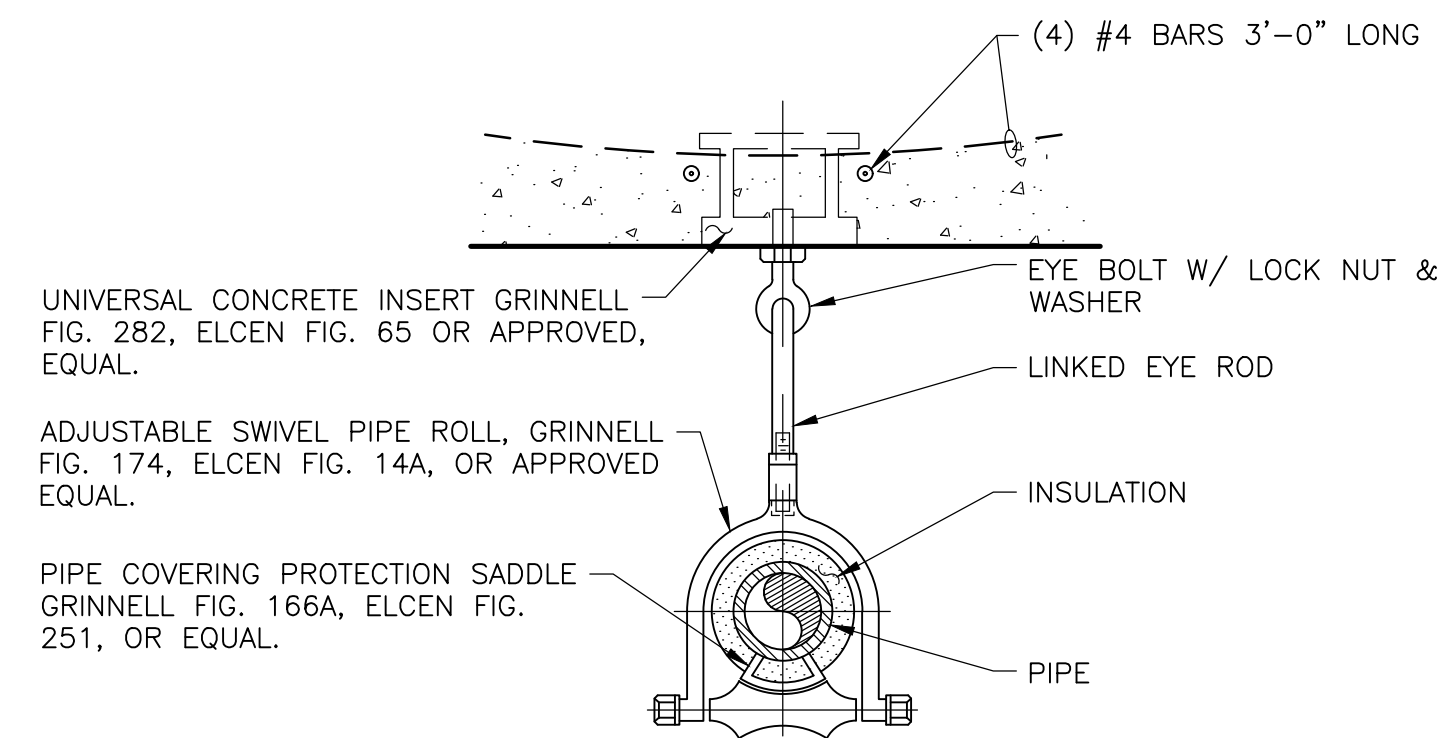
TRAPEZE MULTIPLE PIPE HANGER
DETAIL D



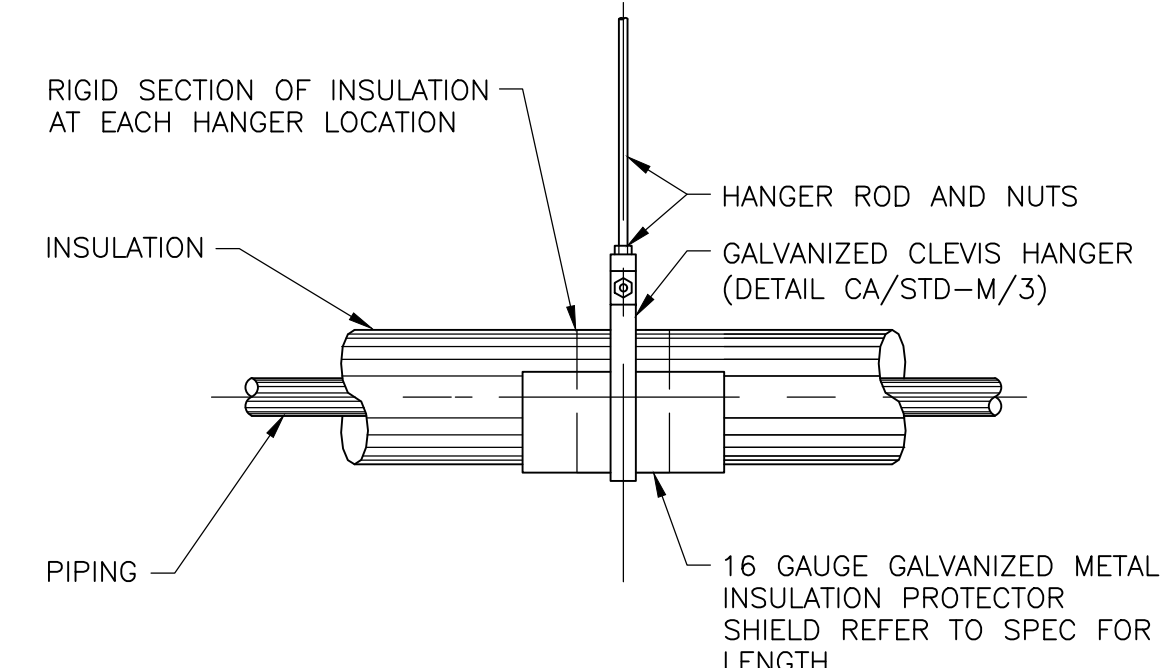
NOTES:

- WHERE LOCATED ABOVE WATER, PIPE SUPPORT SYSTEMS SHALL BE TYPE 316 STAINLESS STEEL MATERIALS OF CONSTRUCTION.
- REFER TO SECTION 15140 FOR SPECIAL PIPE SUPPORT REQUIREMENTS.

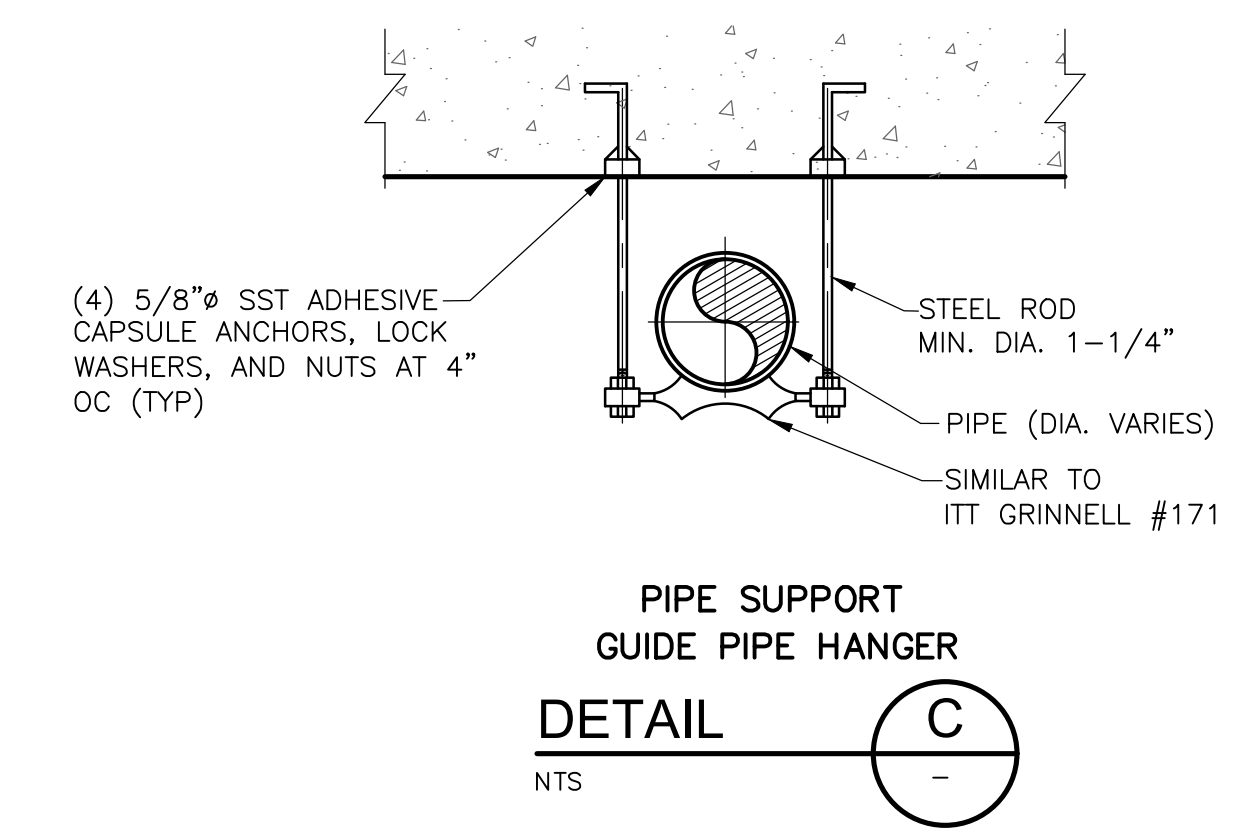
PIPE BRACKET
DETAIL B



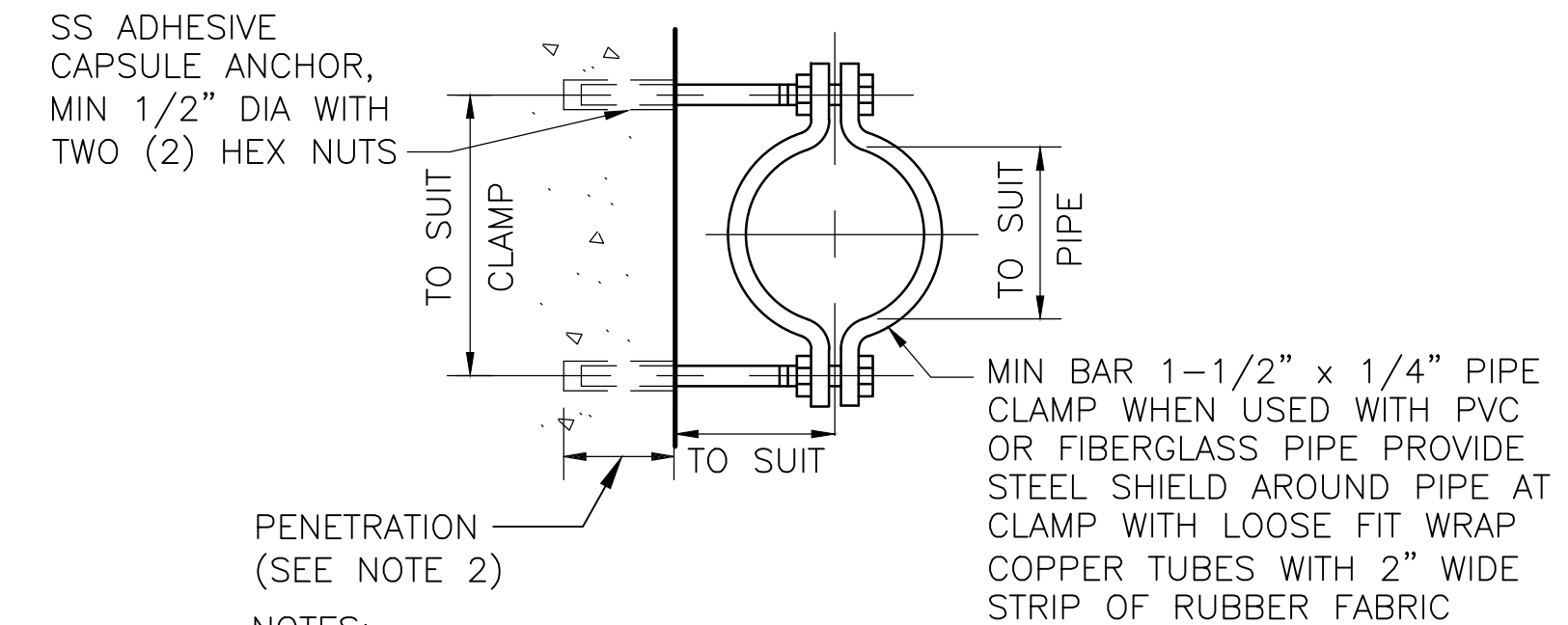
HANGER FOR INSULATED PIPE
DETAIL E



HANGER SUPPORT SYSTEM
INSULATED HORIZONTAL PIPING
DETAIL G



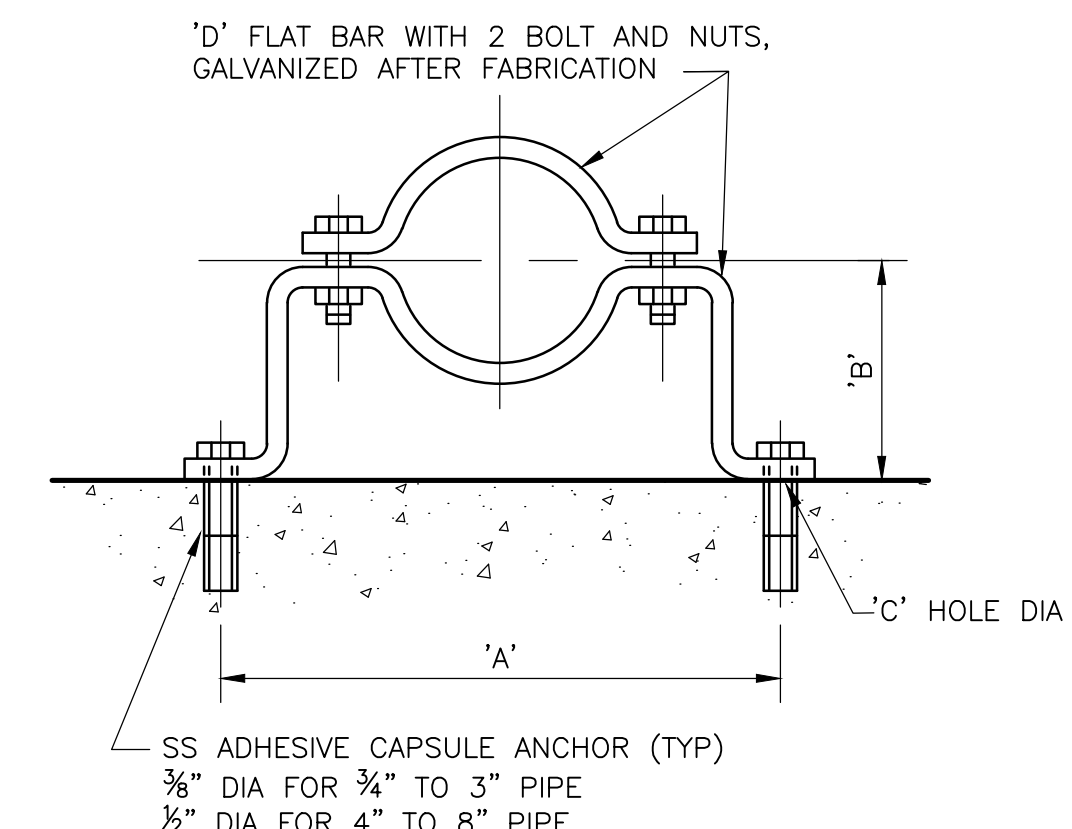
PIPE SUPPORT
GUIDE PIPE HANGER
DETAIL C



NOTES:

- IF SUBMERGED, LOCATED ON OR ABOVE THE HYDRAULIC GRADE LINE, BELOW GRADE OR LOCATED OUTDOORS, THE PIPE CLAMP, WASHER, BOLTS AND SHIELD SHALL BE 316 SS.
- EXPANSION AND ADHESIVE ANCHORS SHALL PENETRATE NOT LESS THAN 2" BEYOND REINFORCEMENT.

PIPE CLAMP
FOR INDIVIDUAL WALL-MOUNTED PIPES
DETAIL F



NOTES:

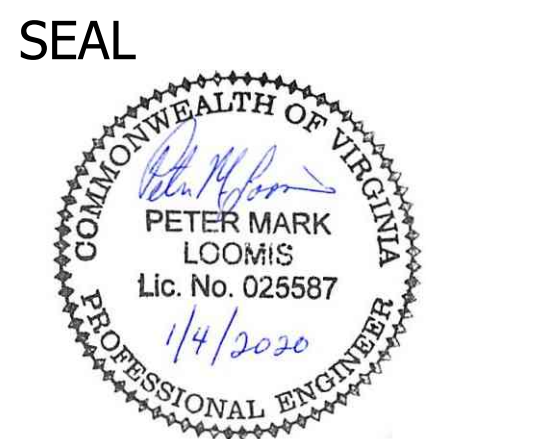
- WHERE SUBMERGED OR LOCATED ON OR ABOVE TOP OF WALL OF HYDRAULIC STRUCTURE, PIPE CLAMP, WASHER AND SHIELD SHALL BE TYPE 316 STAINLESS STEEL.
- WHEN USED WITH PVC OR FIBERGLASS PIPE PROVIDE STEEL SHIELD AROUND PIPE AT CLAMP, WITH LOOSE FIT. WRAP COPPER TUBES WITH 2" STRIP OF RUBBER FABRIC.
- FOR FLANGED PIPING INCREASE 'B' DIMENSION AS REQUIRED.

PIPE CLAMP FOR INDIVIDUAL PIPES
DETAIL H



DEPARTMENT OF ENVIRONMENTAL SERVICES
WATER POLLUTION CONTROL BUREAU
3402 S. GLEBE ROAD
ARLINGTON, VA 22202
PHONE: 703.228.6820

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APPROVALS DATE

100% BID SET

Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
STANDARD MECHANICAL DETAILS III

Designed: A. LUTHRA
Drawn: S. ENGEL
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

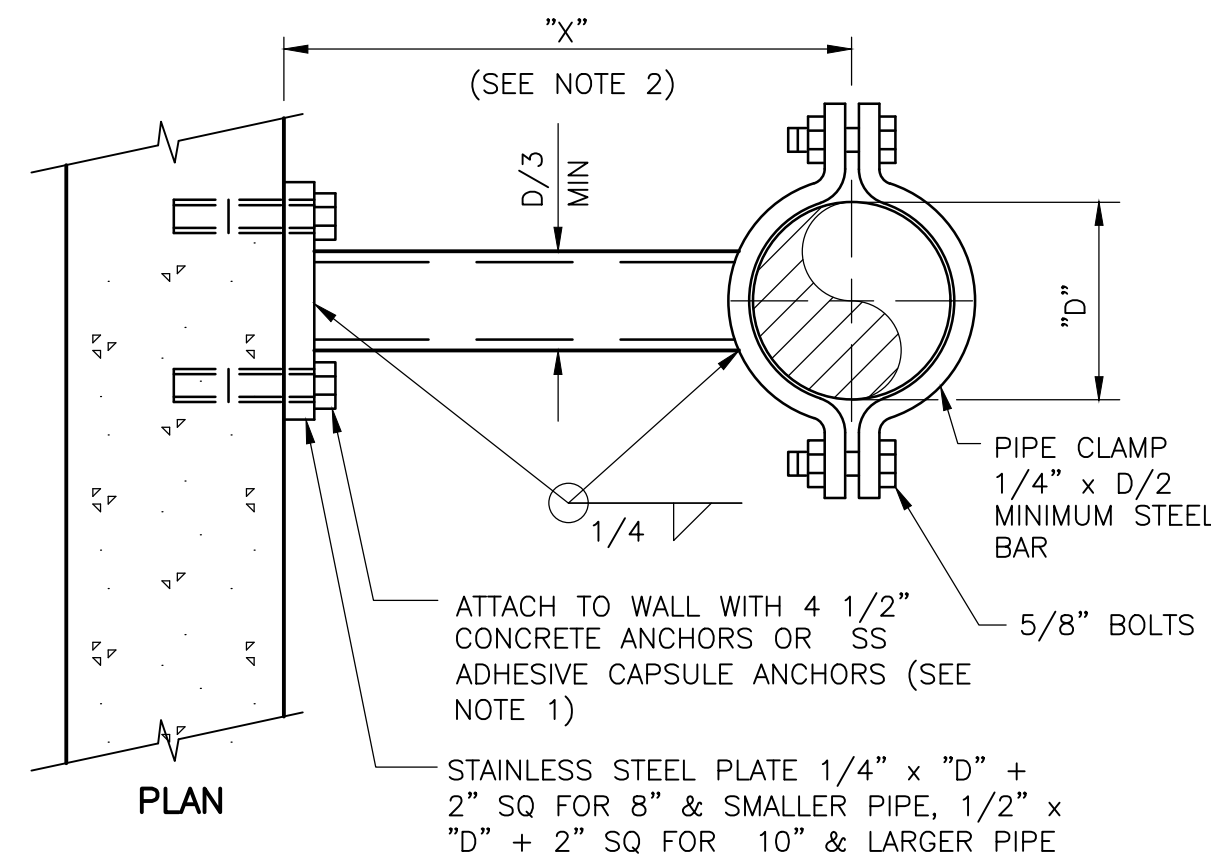
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Plotted by: Johnson

Scale: AS NOTED



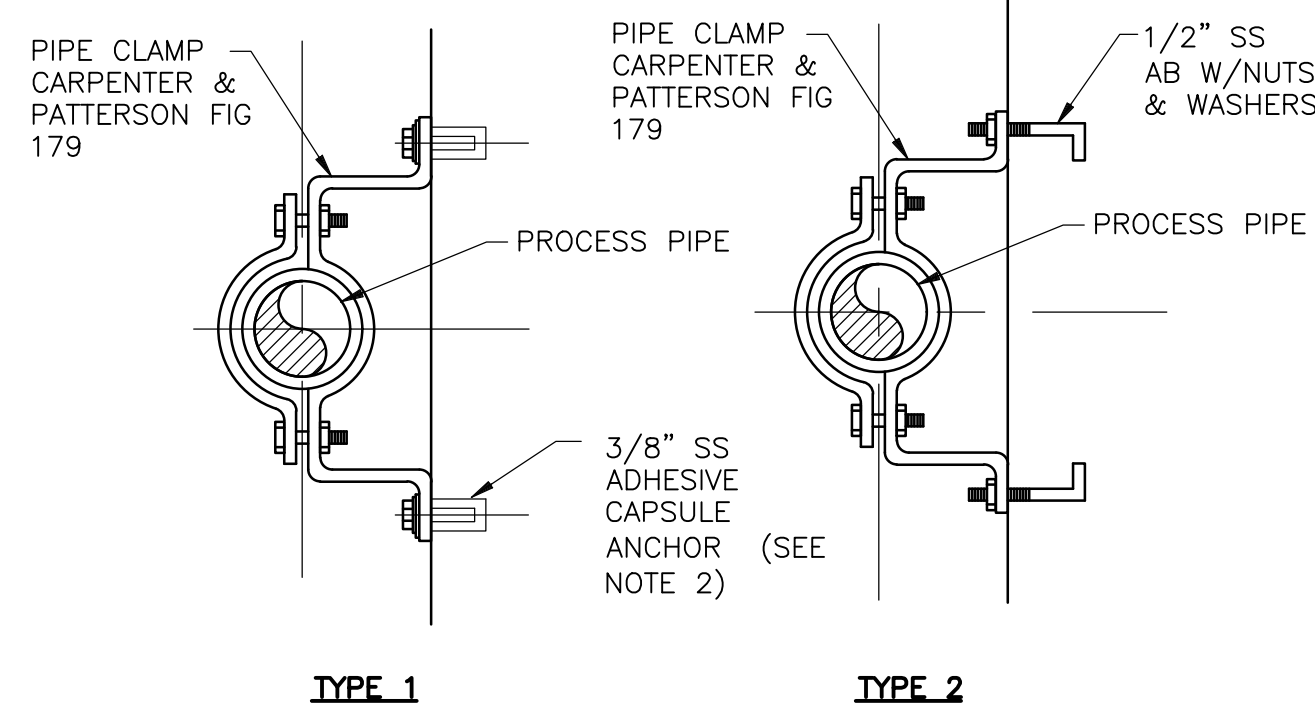
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M-19

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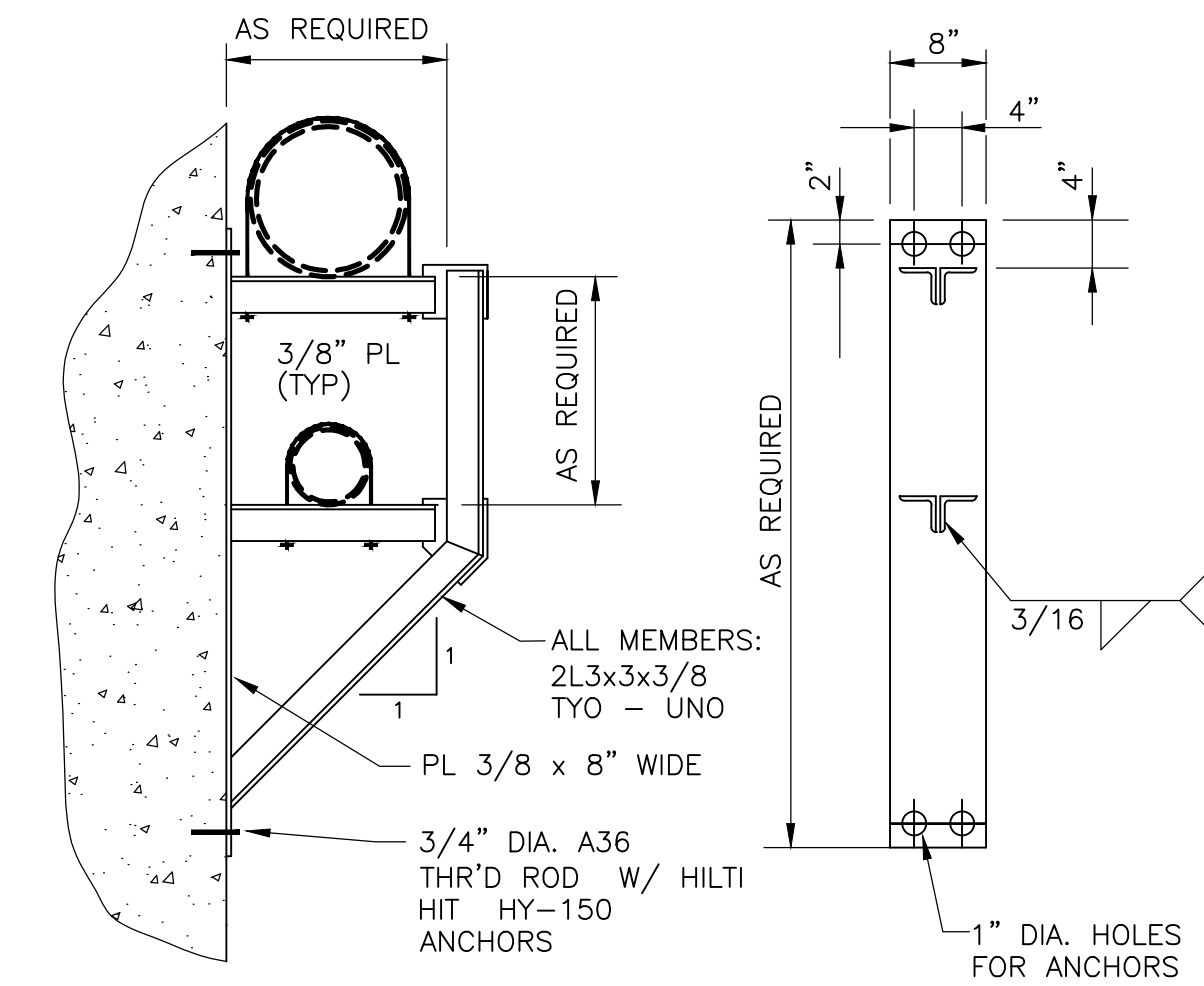
- NOTES:**
1. SWAY BRACE SHALL NOT SUPPORT VERTICAL LOADS.
 2. FOR USE WHEN "X" IS GREATER THAN 12". FOR "X" 12" OR LESS, USE DETAIL D OR AS OTHERWISE NOTED.
 3. PIPE SWAY BRACE ASSEMBLY SHALL BE TYPE 316L STAINLESS STEEL.

VERTICAL PIPE SWAY BRACE
DETAIL A
NTS

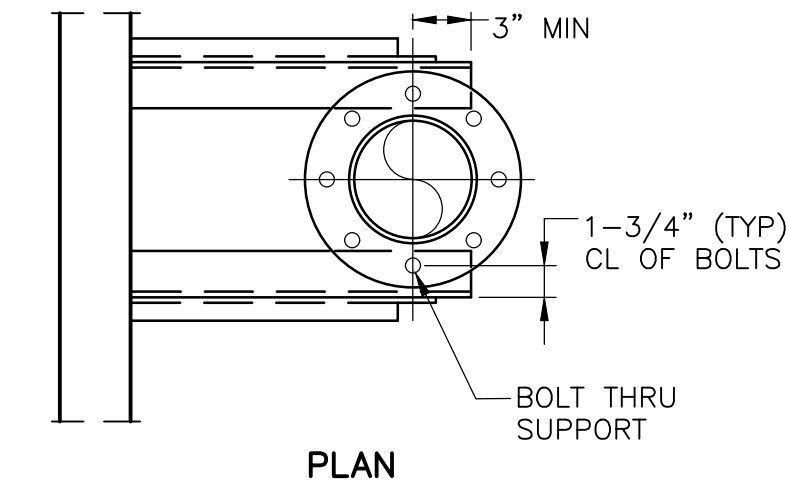
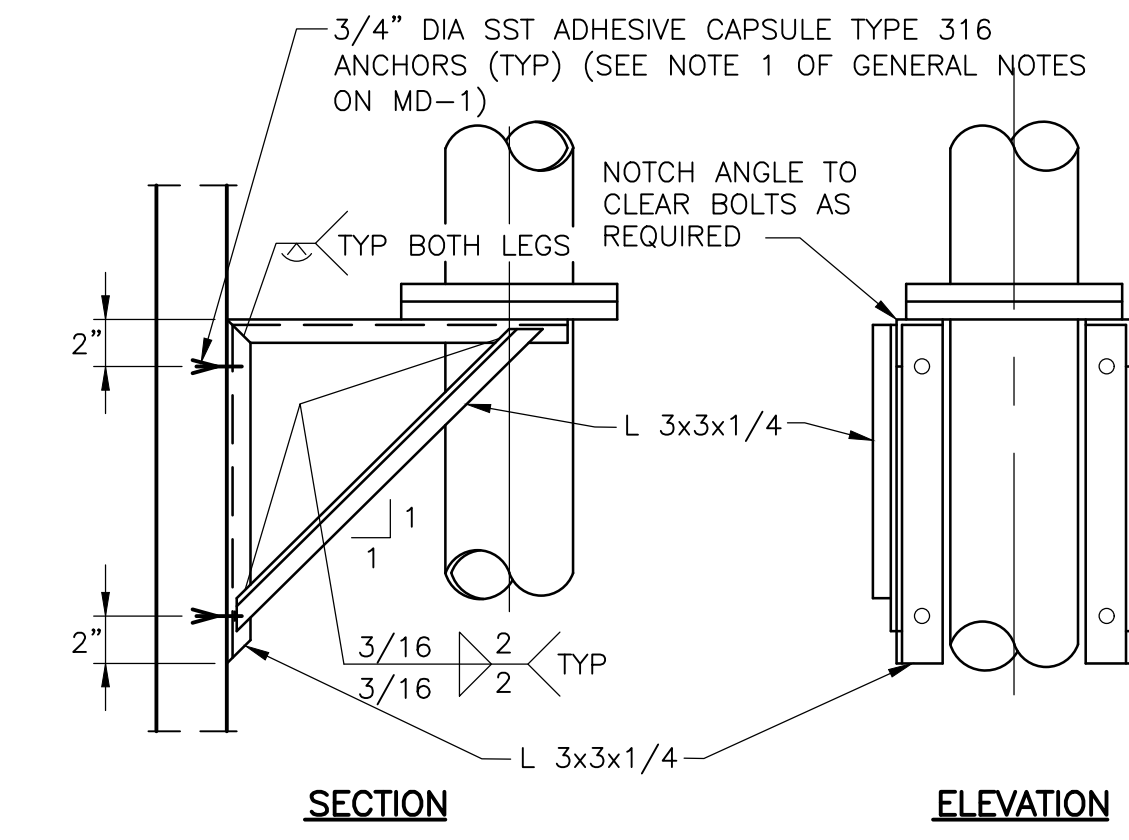


- NOTES:**
1. DO NOT USE FOR PIPE LARGER THAN 8" IN DIAMETER.
 2. ALL INSTALLATIONS IN SUBMERGED OR HYDRAULIC CHANNELS SHALL BE FABRICATED OF TYPE 316 SS, ALL OTHERS SHALL BE HOT DIPPED GALVANIZED FOLLOWING FABRICATION.

PIPE CLAMP FOR INDIVIDUAL PIPES
DETAIL B
NTS

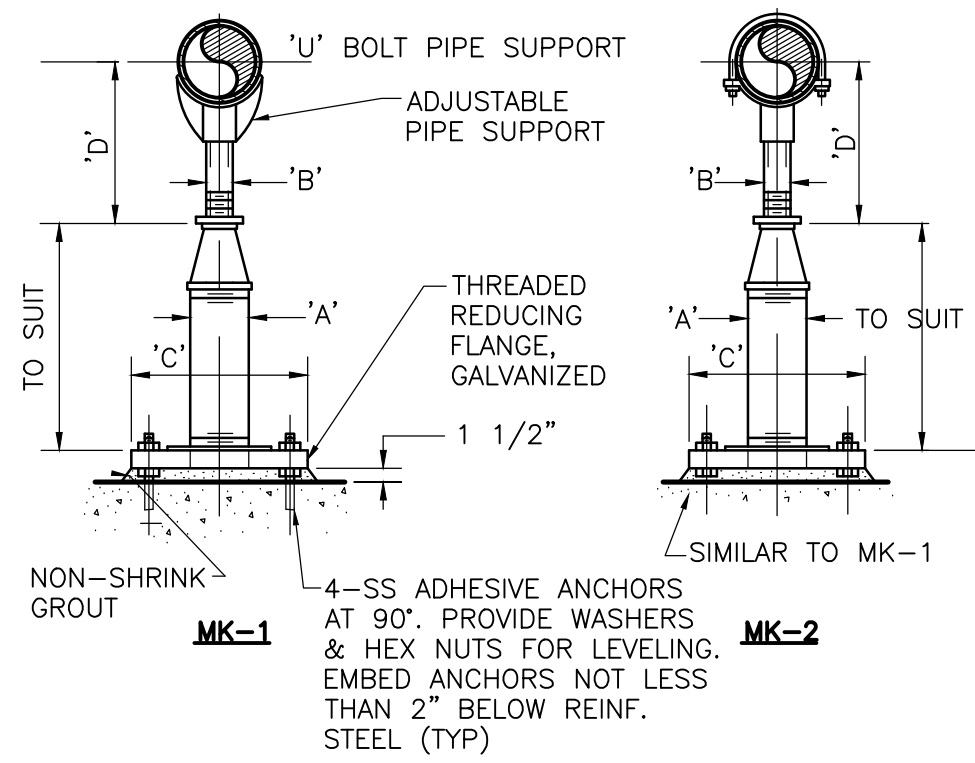


PIPE SUPPORT
DETAIL C
NTS

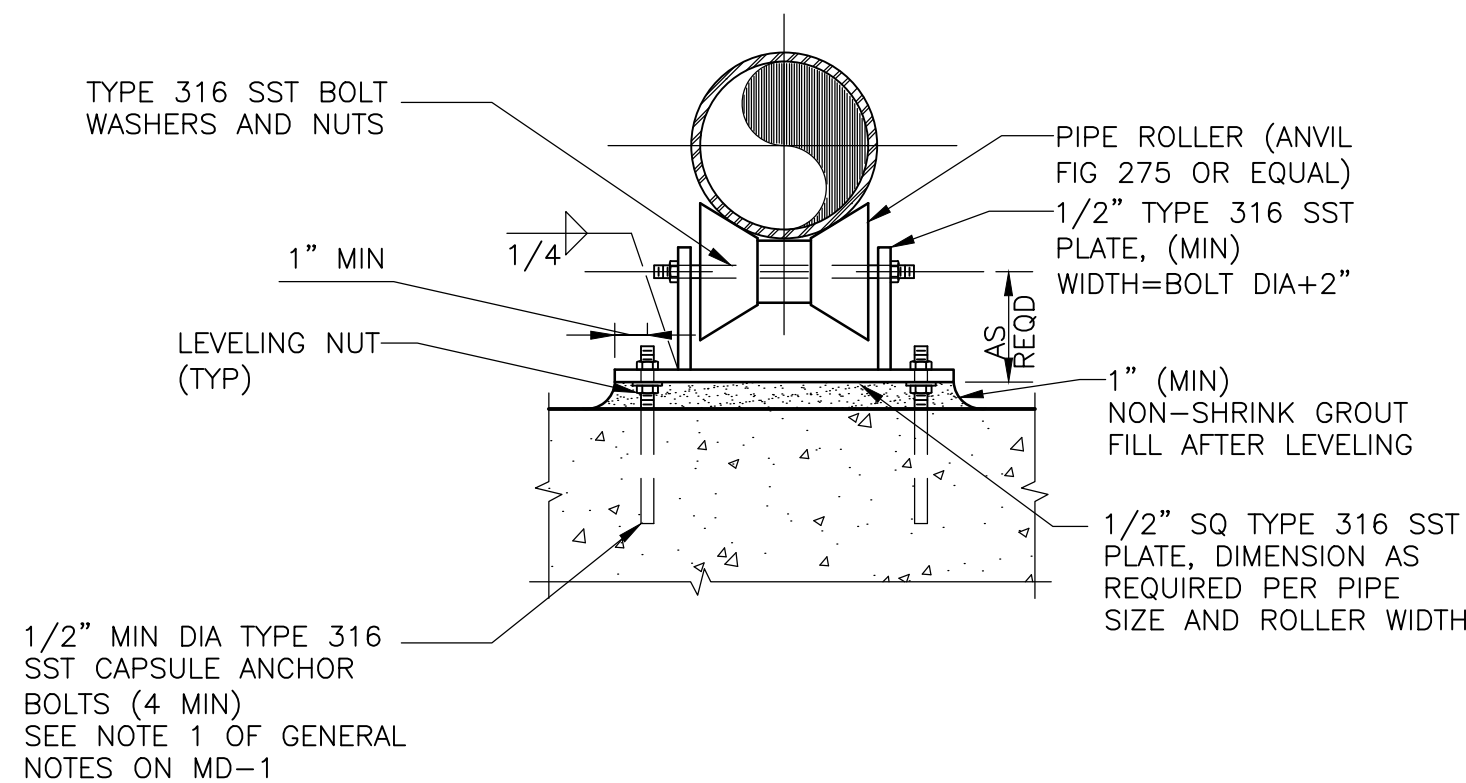


- NOTES:**
1. FOR 4" AND LARGER PIPE.
 2. SUPPORT SHALL BE HOT DIP GALVANIZED EXCEPT WHERE SUBMERGED OR LOCATED OVER WATER, PIPE BRACKET ASSEMBLY AND BOLTS SHALL BE TYPE 316 SST.
 3. MAXIMUM VERTICAL LOAD EQUALS 900 POUNDS.
 4. FOR PIPE WITH JOINT TYPE OTHER THAN FLANGED, WELD SINGLE SLIP-ON TYPE FLANGE TO PIPE AT LOCATION OF EACH SUPPORT.
 5. PIPE BRACKET ASSEMBLY AND BOLTS SHALL BE TYPE 316 SST WHEN USED FOR SUPPORT OF SST PIPING.

PIPE SUPPORT
DETAIL D
NTS

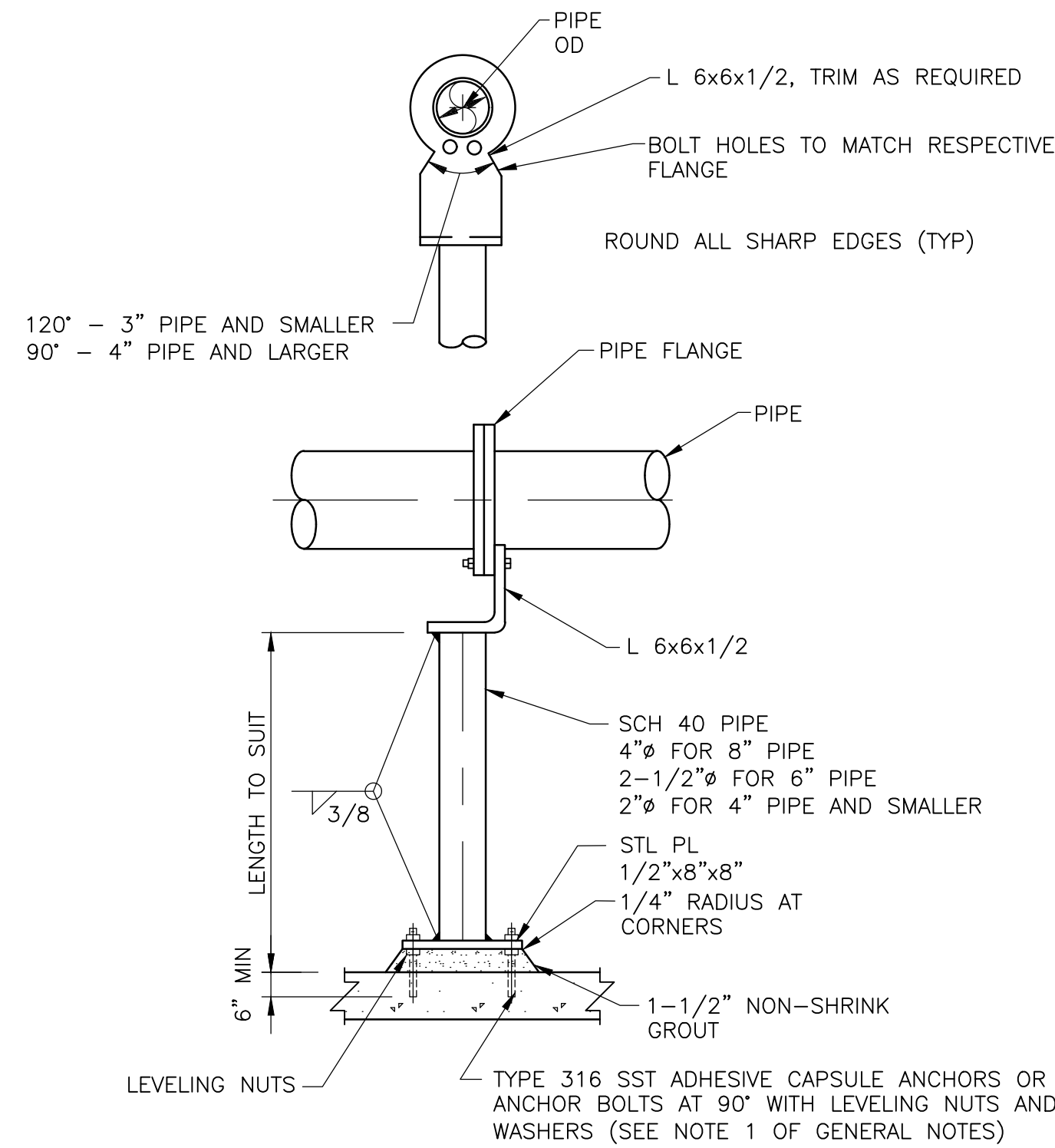


ADJUSTABLE PIPE SUPPORT
DETAIL E
NTS



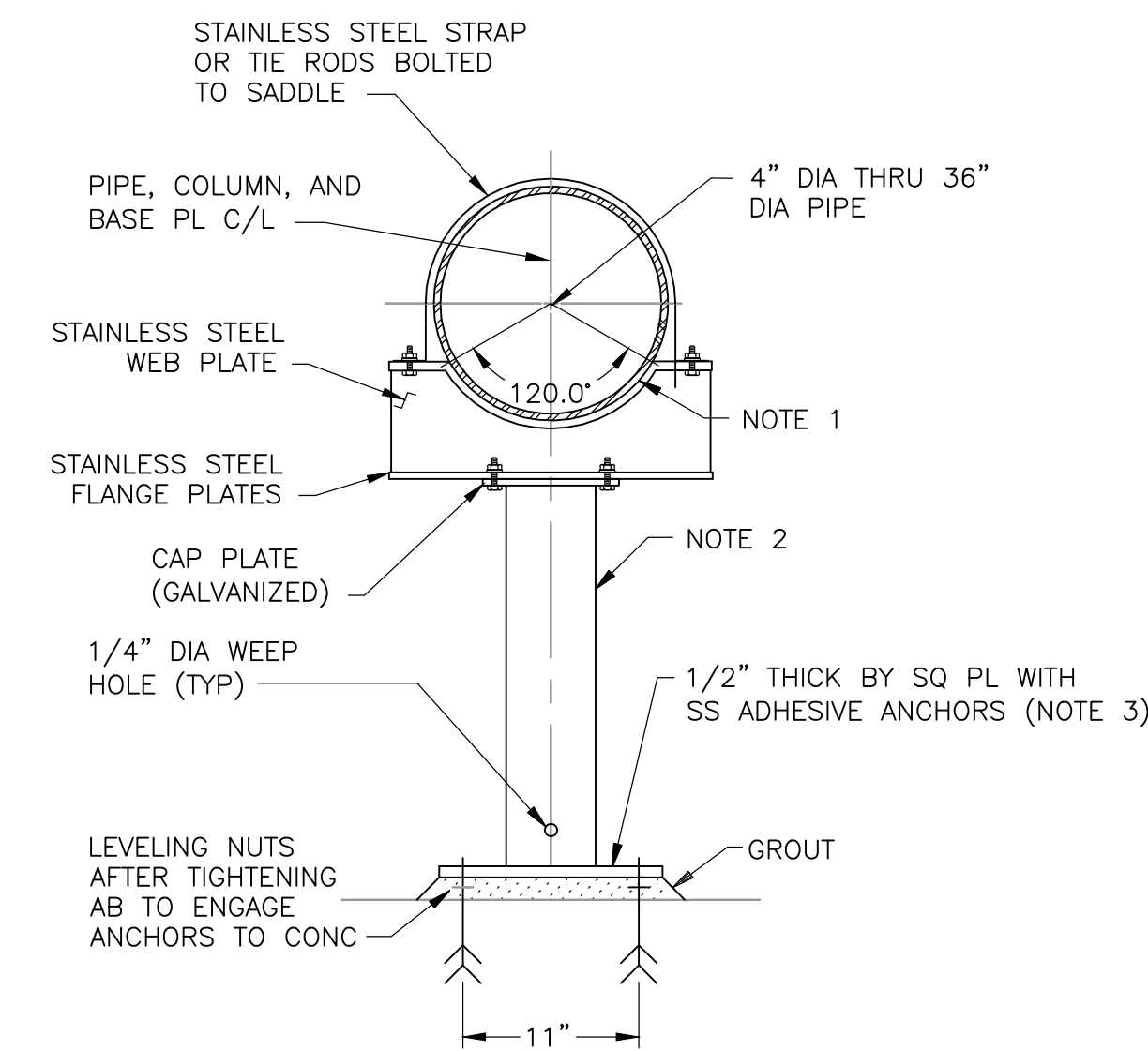
- NOTE:**
1. WHERE SHOWN ON DRAWINGS, PROVIDE INSULATION ON PIPE WITH TYPE 316 SST SHIELD AND OVERSIZE PIPE SUPPORT AS REQUIRED.

PIPE ROLL STAND
DETAIL F
NTS



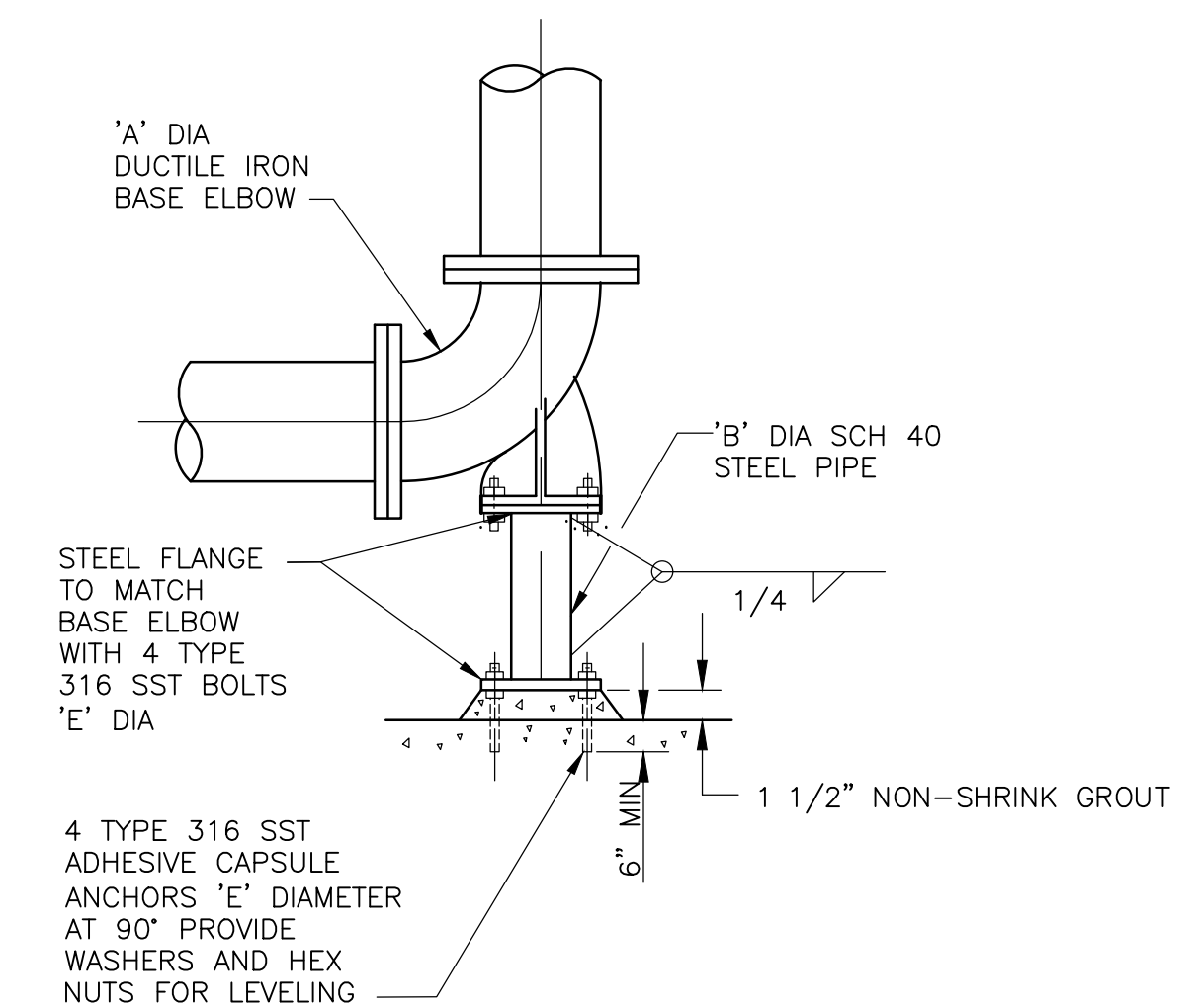
- NOTES:**
1. PROVIDE FIELD PAINTING IN ACCORDANCE WITH 09902 FOR INTERIOR APPLICATIONS AND HOT DIP ALL MATERIALS AFTER FABRICATION FOR EXTERIOR APPLICATIONS.
 2. REFER TO SECTION 15140 FOR SPECIAL PIPE SUPPORT REQUIREMENTS.

PIPE FLANGE SUPPORT
DETAIL G
NTS



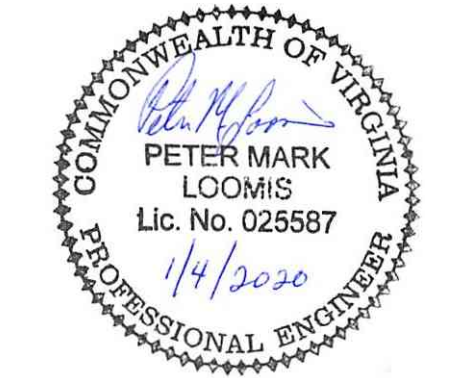
- NOTES:**
1. PROVIDE NEOPRENE WAFFLE ISOLATION PAD, SIMILAR TO KORFUND KORPAD 40 OR EQUAL, UNDER PIPE SADDLE SUPPORT WHEN PIPING IS DIFFERENT MATERIAL THAN PIPE SADDLE SUPPORT.
 2. USE 6 INCH SCHEDULE 40 PIPE COLUMN. ALL PIPE SHALL BE GALVANIZED.
 3. PROVIDE 1" DIA SS EXP OR ADHESIVE ANCHORS W/ 12" EMBEDMENT.

TYPICAL STANCHION PIPE SUPPORT
DETAIL H
NTS



DUCTILE IRON ELBOW

PIPE ELBOW SUPPORT
DETAIL I
NTS



Revisions	Date

HVAC SYMBOLS	
	THERMOSTAT
	HIGH TEMPERATURE SWITCH
	LOW TEMPERATURE SWITCH
	SMOKE DETECTOR
	FLOW SENSOR
	HUMIDISTAT
	MOTION SENSOR
	DAMPER POSITION SWITCH
	WALL TIMER
	BREAK GLASS SWITCH
	WALL SWITCH
	MOTOR OPERATED DAMPER
	EXTERIOR ALARM STATION
	INTERIOR ALARM STATION
	VOLUME DAMPER
	FIRE DAMPER
	SMOKE ACTUATED FIRE DAMPER
	FLEXIBLE CONNECTION
	ELBOW WITH TURNING VANES
	EXHAUST GRILLE
	EXHAUST REGISTER
	RETURN GRILLE

NOTE:
1. SYMBOLS AND ABBREVIATIONS SHOWN ON THE SHEET ARE GENERIC AND MAY NOT HAVE BEEN USED ON THE PROJECT.

HVAC SYMBOLS	
	SUPPLY REGISTER
	SUPPLY DUCT
	RETURN/EXHAUST DUCT
	DOOR GRILLE
	TRANSFER GRILLE
	TRANSFER DUCT
	SHOE-TAP
	DAMPER-EXTRACTOR DUCT CONNECTION
	CEILING DIFFUSER - TYPE VARIES
	ROOF MOUNTED EXHAUST FAN
	WALL MOUNTED EXHAUST FAN
	VARIABLE AIR VOLUME REGULATOR W/ OUTLETS
	ROUND FLEXIBLE INSULATED DUCT
	SHEET METAL DUCT
	ELECTRIC UNIT HEATER
	ELECTRIC DUCT HEATER
	ENERGY RECOVERY UNIT
	VVT BOX WITH TRANSITION

HVAC ABBREVIATIONS	
A	AIR
AABC	ASSOCIATED AIR BALANCE COUNCIL
ACCU	AIR COOLED CONDENSING UNIT
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AL	ALUMINUM
APU	AIR PURIFICATION UNIT
AR	ACID RESISTING
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATING, AND AIR-CONDITIONING ENGINEERS
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ATC	AUTOMATIC TEMPERATURE CONTROL
BDD	BACKDRAFT DAMPER
BEL	BELOW
BLDG	BUILDING
BS	BIRD SCREEN
BTU	BRITISH THERMAL UNITS
C	CONDENSATE
CD	CONTROL DAMPER
CENT	CENTRIFUGAL
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CONC	CONCRETE
CONN	CONNECTION
CU	CONDENSING UNIT
CW	CHILLED WATER
CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
DB	DRY BULB
DG	DOOR GRILLE
DHU	DEHUMIDIFICATION UNIT
DIA	DIAMETER
DISC	DISCHARGE
DN	DOWN
DOAS	DEDICATED OUTSIDE AIR SYSTEM
DPR	DAMPER
DW	DOUBLE WALL INSULATED DUCTWORK
DS	DISCONNECT SWITCH
EA	EACH
EDH	ELECTRIC DUCT HEATER
EER	ENERGY EFFICIENCY RATION
EF	EXHAUST FAN
EG	EXHAUST GRILLE
ER	EXHAUST REGISTER
ERU	ENERGY RECOVERY UNIT
ESP	EXTERNAL STATIC PRESSURE
EUH	ELECTRIC UNIT HEATER
EVAP	EVAPORATOR
FA	FOUL AIR
FAF	FOUL AIR FAN
FC	FLEXIBLE CONNECTION
FD	FIRE DAMPER
FIN	FINISH
FL	FLOOR
FLA	FULL LOAD AMPS
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FEET
FT²	SQUARE FEET
GA	GAUGE
GALV/GS	GALVANIZED
GFC	GAS FIRED CHILLER
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HG	HOT GAS
HP	HORSEPOWER
HR	HOUR

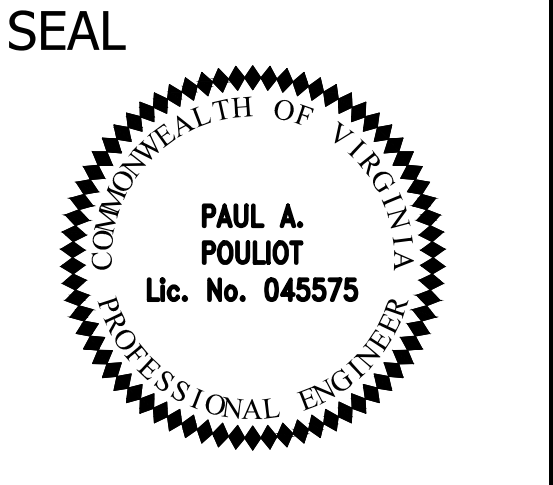
HVAC ABBREVIATIONS	
HW	HEATING WATER
HWR	HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
KW	KILOWATT
LD	LINEAR DIFFUSER
LIQ	LIQUID
LVR	LOUVER
MAU	MAKE-UP AIR UNIT
MBH	THOUSANDS OF BRITISH THERMAL UNITS PER HOUR
MCA	MAXIMUM CURRENT AMPS
MCC	MOTOR CONTROL CENTER
MFR	MANUFACTURER
MOD	MOTOR OPERATED DAMPER
MS	MOTION SENSOR
MTD	MOUNTED
MTG	MOUNTING
NOM	NOMINAL
NTS	NOT TO SCALE
OB	OPPOSED BLADE DAMPER
OSA	OUTSIDE AIR
PAC	PACKAGED AIR CONDITIONING UNIT
PBD	PARALLEL BLADE DAMPER
PCD	PERFORATED CEILING DIFFUSER
PCF	POUNDS PER CUBIC FOOT
PPM	PARTS PER MILLION
PROP	PROPELLER
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
R	REFRIGERANT
R/A	RETURN AIR
RG	RETURN GRILLE
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SAD	SUPPLY AIR DIFFUSER
SD	SMOKE DETECTOR
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SHT	SHEET
SM	SHEET METAL
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
SP	STATIC PRESSURE
SR	SUPPLY REGISTER
SS	STAINLESS STEEL
ST	STEAM
STD	STANDARD
SUCT	SUCTION
SW	SWITCH
TDH	TOTAL DISCHARGE HEAD
TEMP	TEMPERATURE
TG	TRANSFER GRILLE
TSP	TOTAL STATIC PRESSURE
TV	TURNING VANES
TYP	TYPICAL
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORY
VAP	VAPOR
VRF	VARIABLE REFRIGERANT FLOW
VVT	VARIABLE VOLUME TERMINAL
VD	VOLUME DAMPER
W	WITH
WB	WET BULB
WG	WATER GAUGE
WT	WALL TIMER
WTR	WATER

HVAC NOTES	
1.	HVAC EQUIPMENT DIMENSIONS, LOCATIONS, DUCTWORK AND PIPING SYSTEM LAYOUTS ARE BASED ON EQUIPMENT SELECTED BY THE ENGINEER. IF THE CONTRACTOR PROPOSES TO FURNISH EQUIPMENT THAT REQUIRES AN ARRANGEMENT OR SPACE DIFFERING FROM THAT INDICATED ON THE DRAWINGS, OR SPECIFIED, THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER, FOR APPROVAL, DETAILED ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING, INSTRUMENTATION, HVAC AND ELECTRICAL DRAWINGS AND EQUIPMENT LISTS SHOWING ALL NECESSARY CHANGES AND EMBODYING ALL FEATURES OF THE EQUIPMENT THE CONTRACTOR PROPOSES TO FURNISH. THIS INFORMATION SHALL INCLUDE BUT SHALL NOT BE LIMITED TO PLANS, SECTIONS, DETAILS, AND SCHEMATICS OF ALL APPURTENANCES REQUIRED. SUCH CHANGES, IF APPROVED BY THE ENGINEER, SHALL BE AT NO EXTRA COST TO THE OWNER. THE CONTRACTOR SHALL ASSUME THE COST OF, AND THE RESPONSIBILITY FOR, SATISFACTORILY ACCOMPLISHING ALL THE NECESSARY CHANGES CORRESPONDING TO THE DIMENSIONS AND CHARACTERISTICS OF THE EQUIPMENT SUBMITTED AND APPROVED BY THE ENGINEER. REFER TO SPECIFICATIONS FOR FURTHER DETAILS.
2.	SIZES OF EQUIPMENT PADS INDICATED ON THE DRAWINGS ARE APPROXIMATE. EXACT DIMENSIONS SHALL BE DETERMINED BY THE CONTRACTOR FOR THE EQUIPMENT FURNISHED. ALL FLOOR MOUNTED EQUIPMENT SHALL BE SET ON CONCRETE PADS CONFORMING TO DETAILS SHOWN ON THE STRUCTURAL DRAWINGS.
3.	DIELECTRIC COUPLINGS, FLANGES OR UNIONS SHALL BE INSTALLED AT ALL CONNECTIONS OF COPPER PIPE TO OTHER TYPES OF METALLIC PIPING.
4.	HVAC PIPING AND DUCTWORK DRAWINGS DO NOT SHOW ALL DRAINS, VENTS, OFFSETS AND FITTINGS ETC. REQUIRED FOR THE COMPLETE SYSTEM. SMALL PIPING IS SHOWN APPROXIMATELY TO SCALE BUT NOT EVERY FITTING AND OFFSET IS SHOWN. SOME VALVES AND APPURTENANCES MAY BE OMITTED FOR THE SAKE OF CLARITY. THE CONTRACTOR SHALL FURNISH, INSTALL AND TEST ALL HVAC SYSTEMS SHOWN ON THE DRAWINGS AND DETAILS, AND/OR AS DEFINED IN THE SPECIFICATIONS TO PROVIDE THE COMPLETE SYSTEM.
5.	UNLESS OTHERWISE SHOWN ON THE DRAWINGS, ALL WALL PENETRATIONS SHALL BE AS SHOWN ON THE WALL PENETRATION DETAILS. THE CONTRACTOR MAY SUBSTITUTE ALTERNATE METHODS PROVIDING THEY MEET INTENDED DESIGN REQUIREMENTS.
6.	NOT ALL AND ONLY CERTAIN TYPES OF SUPPORTS ARE SHOWN ON THE HVAC DRAWINGS. UNLESS OTHERWISE DETAILED ON THE DRAWINGS ALL PIPE AND DUCT SUPPORTS SHALL BE DESIGNED, FURNISHED AND INSTALLED BY THE CONTRACTOR AS SPECIFIED AND TO THE APPROVAL OF THE ENGINEER.
7.	FOR ALL ROOF MOUNTED EQUIPMENT, MAINTAIN A MINIMUM OF 10'-0" CLEARANCE FROM ANY ROOF EDGE UNLESS GUARDRAILS HAVE BEEN PROVIDED.
8.	UNLESS OTHERWISE NOTED, MOUNT ALL DUCTWORK AND PIPING TIGHT TO STRUCTURE. MAINTAIN A MINIMUM 7'-6" CLEAR HEIGHT BELOW DUCTWORK, INCLUDING SUPPORTS. WHERE CLEARANCE IS LESS THAN 7'-6" PROVIDE WARNING SIGN INDICATING LOW CLEARANCE. ALTERNATE PROTECTION METHODS WILL BE CONSIDERED WITH APPROVAL OF THE OWNER. COORDINATE INSTALLATION OF DUCTWORK WITH ALL OTHER NEW AND EXISTING EQUIPMENT, PIPING, CONDUIT, ETC.
9.	SEE ELECTRICAL DRAWINGS FOR AREA ELECTRICAL/CODE RATING. ALL HVAC EQUIPMENT SHALL COMPLY WITH THE REQUIREMENTS OF THOSE AREA CLASSIFICATIONS.
10.	REFER TO SPECIFICATION 078413 "PENETRATION FIRESTOPPING" FOR FIRESTOPPING SYSTEMS.
11.	PROVIDE FIRESTOPPING ACCORDING TO THE SCHEDULE IN 078413 "PENETRATION FIRE STOPPING" WHEN NEW PENETRATION ARE INSTALLED AT FIRE RATED PARTITIONS INDICATED ON LIFE SAFETY PLANS SHEET OR BETWEEN FLOORS.



DEPARTMENT OF ENVIRONMENTAL SERVICES
WATER POLLUTION CONTROL BUREAU
3402 S. GLEBE ROAD
ARLINGTON, VA 22202
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APPROVALS _____ DATE _____

100% BID SET

Revisions	Date

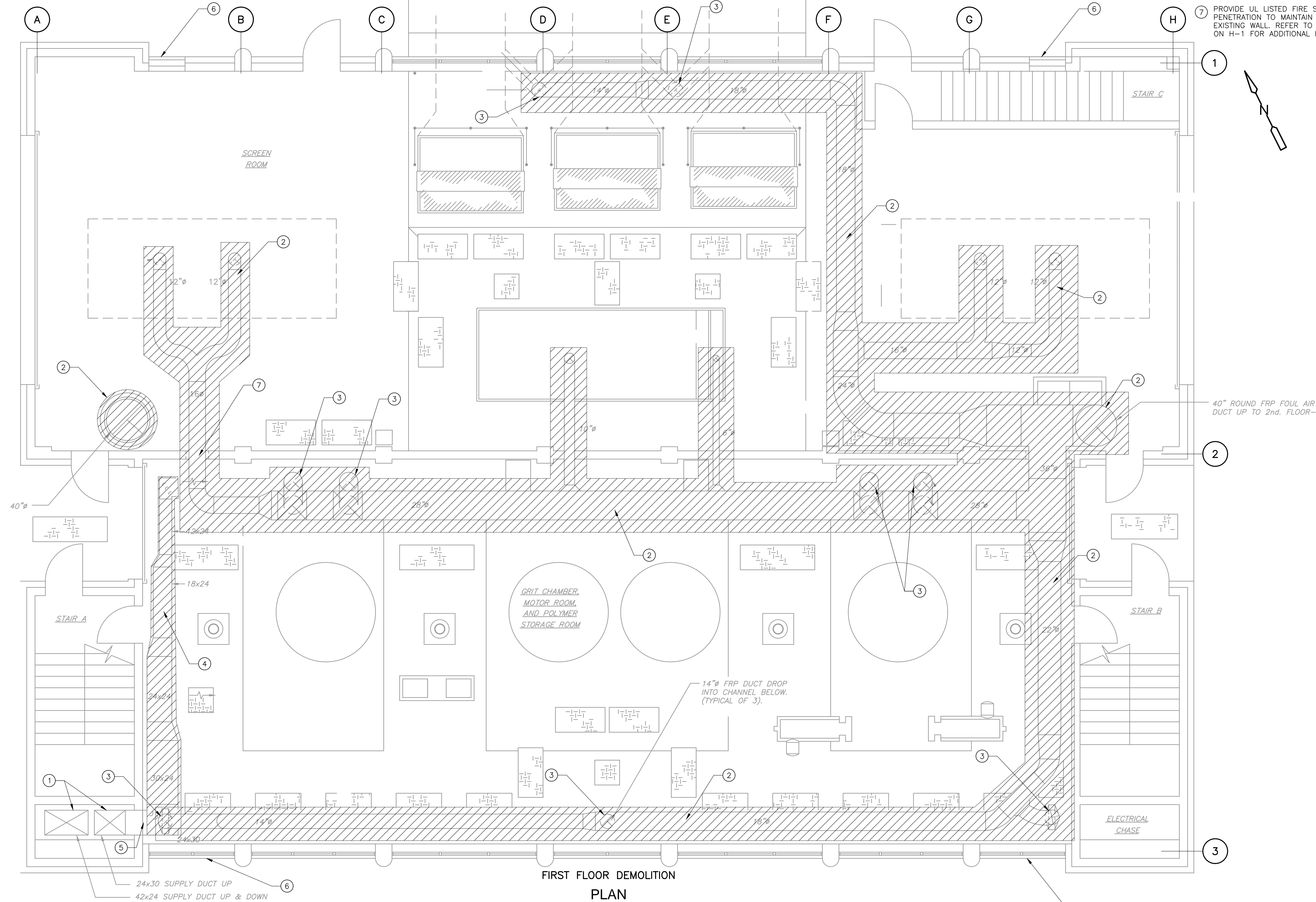
Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
HVAC
SYMBOLS AND ABBREVIATIONS

Designed: P. POULIOT
Drawn: B. BILODEAU
Checked: E. SPARGIMINO

Filename:
Path: R:\41295025\HE2000PT.rvt
Plotted: December 18, 2020
Plotted by: B. BILODEAU
Scale: AS NOTED



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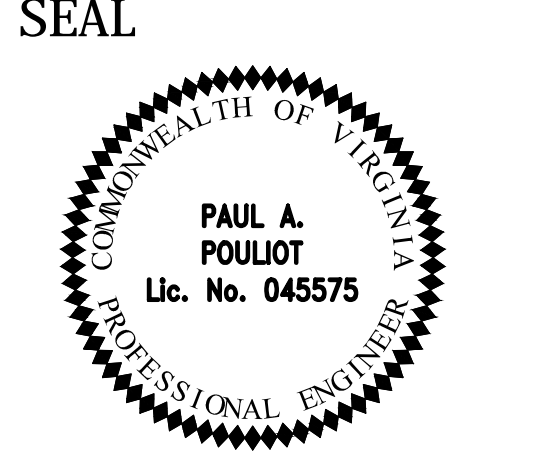
- GENERAL DEMOLITION NOTES:**
- COORDINATE DEMOLITION, AND DISPOSAL WITH THE REQUIREMENTS OF SECTION 024199 AND THE OWNER.
 - CONTRACTOR SHALL FIELD VERIFY LOCATIONS, DIMENSIONS, AND CONFIGURATION OF ALL EXISTING EQUIPMENT, DUCTWORK, HANGERS, SUPPORTS, ANCHORS, CONTROLS, ETC.
 - SEE ARCHITECTURAL, STRUCTURAL, PROCESS MECHANICAL, AND ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION IN THESE AREAS.
 - OPENINGS CREATED BY DEMOLITION ACTIVITIES MUST BE COVERED AND LABELED IMMEDIATELY TO PREVENT FALL HAZARDS.

- DEMOLITION KEYED NOTES:**
- EXISTING HVAC DUCTWORK TO REMAIN.
 - REMOVE EXISTING FRP FOUL AIR DUCTWORK INCLUDING ALL AIR DISTRIBUTION DEVICES AND SUPPORTS.
 - REMOVE EXISTING FRP FOUL AIR DUCTWORK UP TO FLANGED CONNECTION TO CHANNEL.
 - REMOVE EXISTING SHEET METAL DUCTWORK INCLUDING ALL AIR DISTRIBUTION DEVICES AND SUPPORTS.
 - EXISTING DUCTWORK STUB-OUT TO REMAIN FOR NEW DUCT CONNECTION.
 - EXISTING LOUVER TO REMAIN. REMOVE EXISTING BLANK-OFF PANEL IF INSTALLED. CLEAN EXISTING BIRD/INSECT SCREENS.
 - PROVIDE UL LISTED FIRE STOP AT DUCTWORK PENETRATION TO MAINTAIN FIRE RATING OF THE EXISTING WALL. REFER TO HVAC NOTES 10 AND 11 ON H-1 FOR ADDITIONAL INFORMATION.

ARLINGTON VIRGINIA

DEPARTMENT OF ENVIRONMENTAL SERVICES
 WATER POLLUTION CONTROL BUREAU
 3402 S. GLEBE ROAD
 ARLINGTON, VA 22202
 PHONE: 703.228.6820

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Revisions	Date

Water Pollution Control Plant
 Preliminary Treatment Upgrades (WPB2) Phase 9B
PRELIMINARY TREATMENT BUILDING
FIRST FLOOR
 HVAC DEMOLITION PLAN

Designed: P. POULIOT
 Drawn: B. BILODEAU
 Checked: E. SPARGIMINO
 Miss Utility Transmittal #:

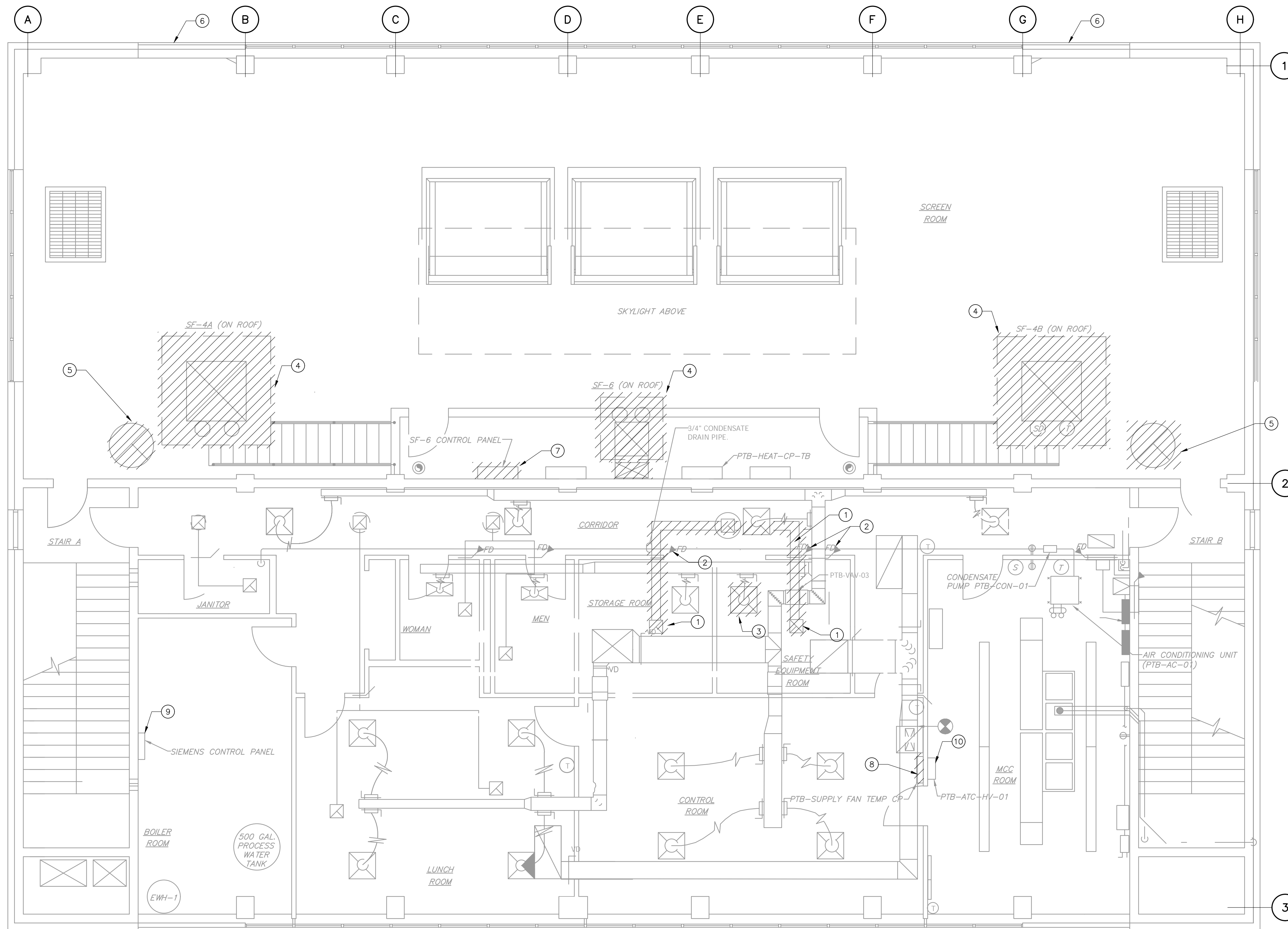
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 Plotted by: BILODEAUBP

Scale: AS NOTED

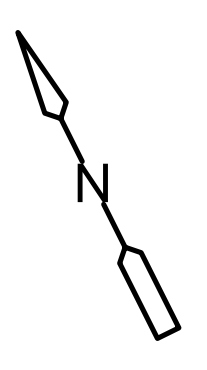


FIRST FLOOR DEMOLITION PLAN
 1/4" = 1'-0"

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SECOND FLOOR DEMOLITION
PLAN
1/4" = 1'-0"



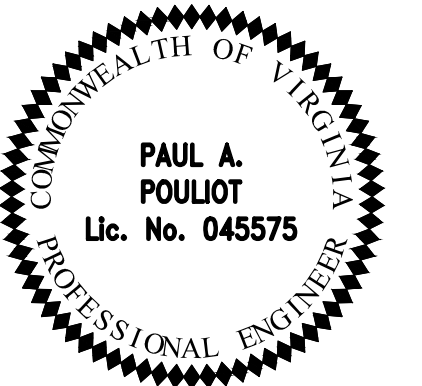
GENERAL DEMOLITION NOTES:

1. COORDINATE DEMOLITION, AND DISPOSAL WITH THE REQUIREMENTS OF SECTION 024199 AND THE OWNER.
2. CONTRACTOR SHALL FIELD VERIFY LOCATIONS, DIMENSIONS, AND CONFIGURATION OF ALL EXISTING EQUIPMENT, DUCTWORK, HANGERS, SUPPORTS, ANCHORS, CONTROLS, ETC.
3. SEE ARCHITECTURAL, STRUCTURAL, PROCESS MECHANICAL, AND ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION IN THESE AREAS.
4. OPENINGS CREATED BY DEMOLITION ACTIVITIES MUST BE COVERED AND LABELED IMMEDIATELY TO PREVENT FALL HAZARDS.

DEMOLITION KEYED NOTES:

- ① REMOVE EXISTING SHEET METAL EXHAUST DUCTWORK, EXHAUST GRILLES, AND SUPPORTS.
- ② EXISTING FIRE DAMPER AND SLEEVE TO REMAIN.
- ③ REMOVE EXISTING SUPPLY DIFFUSER AND FLEXIBLE DUCTWORK. PROVIDE GASKETED AND INSULATED DUCT CAP AT CONNECTION TO DUCT MAIN. DUCT CAP AND INSULATION MATERIALS TO MATCH EXISTING SUPPLY DUCTWORK AND INSULATION MATERIALS.
- ④ REMOVE EXISTING DUCTWORK AND HEATING COIL INCLUDING ALL AIR DISTRIBUTION DEVICES, PIPING SUPPORTS, THERMOSTAT, SMOKE DETECTOR, CONTROLS, CONDUIT, WIRING, ETC.
- ⑤ REMOVE EXISTING FRP FOUL AIR DUCT AND SUPPORTS.
- ⑥ EXISTING LOUVERS TO REMAIN. REMOVE EXISTING BLANK-OFF PANEL IF INSTALLED. CLEAN EXISTING BIRD/INSECT SCREENS.
- ⑦ REMOVE SF-6 CONTROL PANEL.
- ⑧ REMOVE PTB-SUPPLY FAN TEMP CP (SF-4A AND SF-4B CONTROL PANEL). REFER TO THE ELECTRICAL AND INSTRUMENTATION DRAWINGS FOR REMOVAL OF PTB-GAS DET PANEL.
- ⑨ EXISTING SIEMENS CONTROL PANEL TO REMAIN.
- ⑩ EXISTING PTB-ATC-HV-01 CONTROL PANEL (PTB-RTU-01 CONTROL PANEL) TO REMAIN.

SEAL



APPROVALS _____ DATE _____

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Revisions _____ Date _____

Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
SECOND FLOOR
HVAC DEMOLITION PLAN

Designed: P. POULIOT
Drawn: B. BILODEAU
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

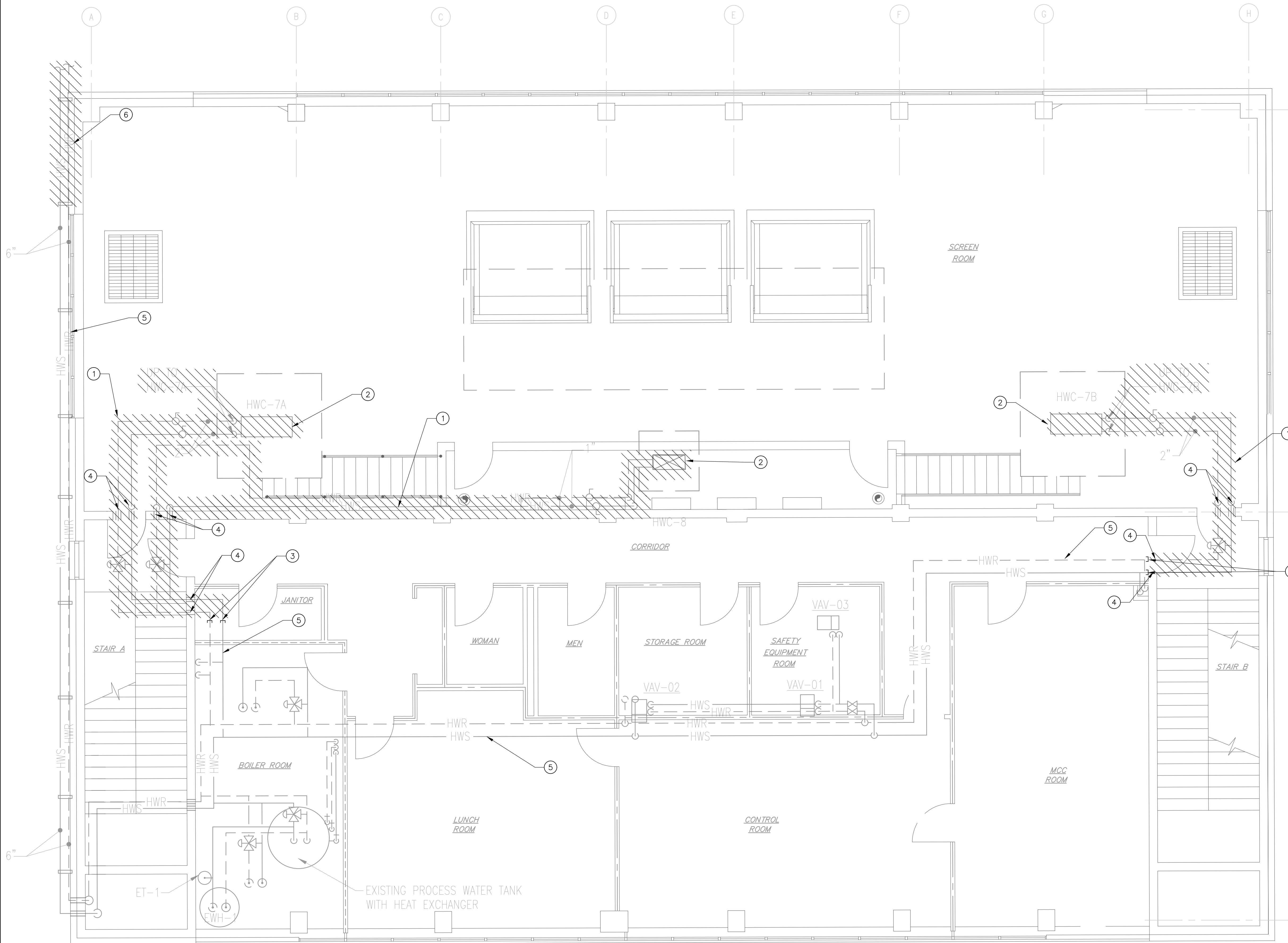
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Plotted: January 04, 2021
Plotted by: BILODEAUBP

Scale: AS NOTED

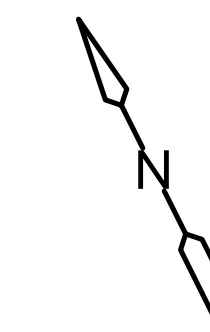


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SECOND FLOOR DEMOLITION
PLAN
 1/4" = 1'-0"



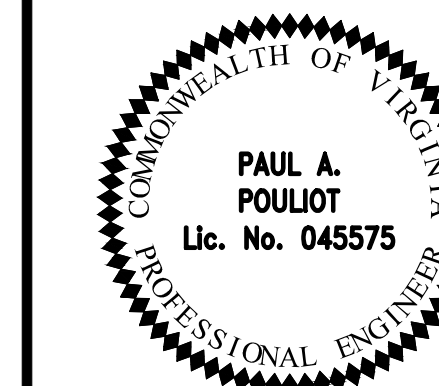
GENERAL DEMOLITION NOTES:

1. COORDINATE DEMOLITION, AND DISPOSAL WITH THE REQUIREMENTS OF SECTION 024199 AND THE OWNER.
2. CONTRACTOR SHALL FIELD VERIFY LOCATIONS, DIMENSIONS, AND CONFIGURATION OF ALL EXISTING EQUIPMENT, DUCTWORK, HANGERS, SUPPORTS, ANCHORS, CONTROLS, ETC.
3. SEE ARCHITECTURAL, STRUCTURAL, PROCESS MECHANICAL, AND ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION IN THESE AREAS.
4. OPENINGS CREATED BY DEMOLITION ACTIVITIES MUST BE COVERED AND LABELED IMMEDIATELY TO PREVENT FALL HAZARDS.

DEMOLITION KEYED NOTES:

- ① REMOVE EXISTING HOT WATER SUPPLY AND RETURN PIPING, INCLUDING ALL VALVES, CONTROLS, AND SUPPORTS.
- ② REMOVE EXISTING HOT WATER COIL. REFER TO KEYED NOTE 4 ON SHEET H-3.
- ③ PROVIDE PIPING CAP.
- ④ FILL PIPE PENETRATION WITH UL LISTED FIRE STOP TO MAINTAIN FIRE RATING OF STAIR WALL. REFER TO HVAC NOTES 10 AND 11 ON H-1 FOR ADDITIONAL INFORMATION.
- ⑤ EXISTING HOT WATER SUPPLY AND RETURN PIPING TO REMAIN.
- ⑥ REMOVE SECTION OF HOT WATER SUPPLY AND RETURN PIPING. REPLACE WITH PIPE PER NEW DRAWING PLANS TO AVOID CONFLICT WITH NEW STRUCTURAL SUPPORTS.

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Revisions _____ Date _____

Revisions	Date

Project Name and Location

Water Pollution Control Plant
 Preliminary Treatment Upgrades (WPB2)
 Phase 9B
PRELIMINARY TREATMENT BUILDING
SECOND FLOOR
 HVAC PIPING DEMOLITION PLAN

Designed: P. POULIOT
 Drawn: B. BILODEAU
 Checked: E. SPARGIMINO
 Miss Utility Transmittal #:

Filename: H004PTDM2.dwg
 Path: C:\pwworking\cdm\biodeaubp\d12550-9
 Plotted: January 04, 2021
 Plotted by: BILODEAUBP

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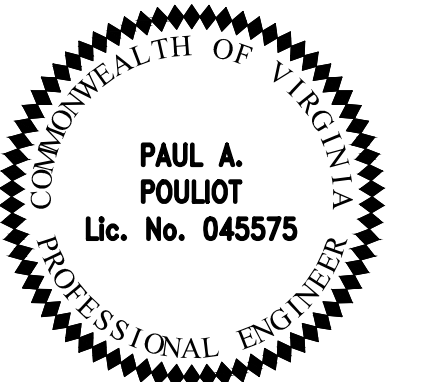
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Revisions _____ Date _____

Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
ROOF
HVAC DEMOLITION PLAN

Designed: P. POULIOT
Drawn: B. BILODEAU
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

Filename: H005RFDM.dwg
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Plotted: January 04, 2021
Plotted by: BILODEAUBP

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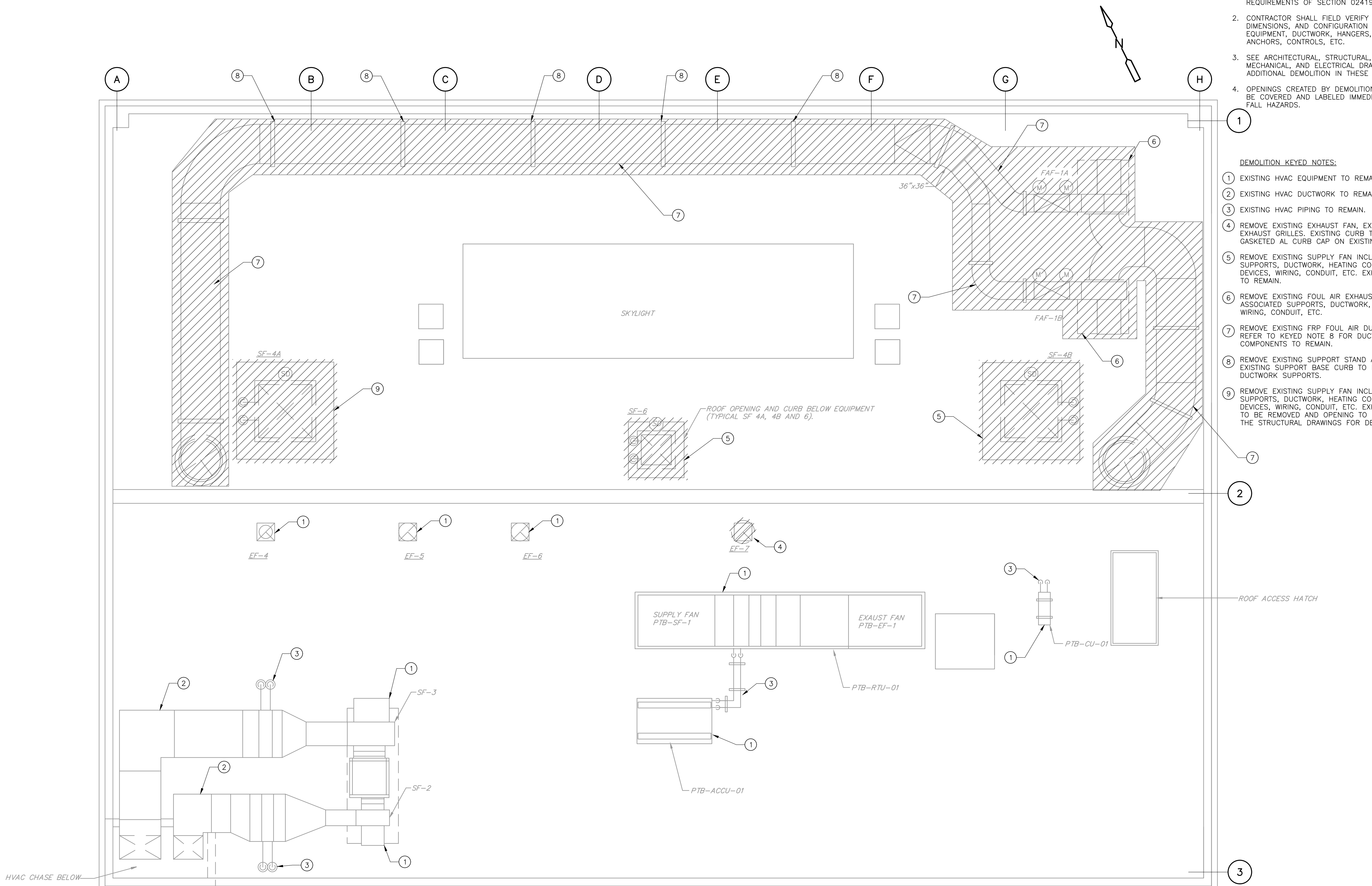
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GENERAL DEMOLITION NOTES:

- COORDINATE DEMOLITION, AND DISPOSAL WITH THE REQUIREMENTS OF SECTION 024199 AND THE OWNER.
- CONTRACTOR SHALL FIELD VERIFY LOCATIONS, DIMENSIONS, AND CONFIGURATION OF ALL EXISTING EQUIPMENT, DUCTWORK, HANGERS, SUPPORTS, ANCHORS, CONTROLS, ETC.
- SEE ARCHITECTURAL, STRUCTURAL, PROCESS MECHANICAL, AND ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION IN THESE AREAS.
- OPENINGS CREATED BY DEMOLITION ACTIVITIES MUST BE COVERED AND LABELED IMMEDIATELY TO PREVENT FALL HAZARDS.

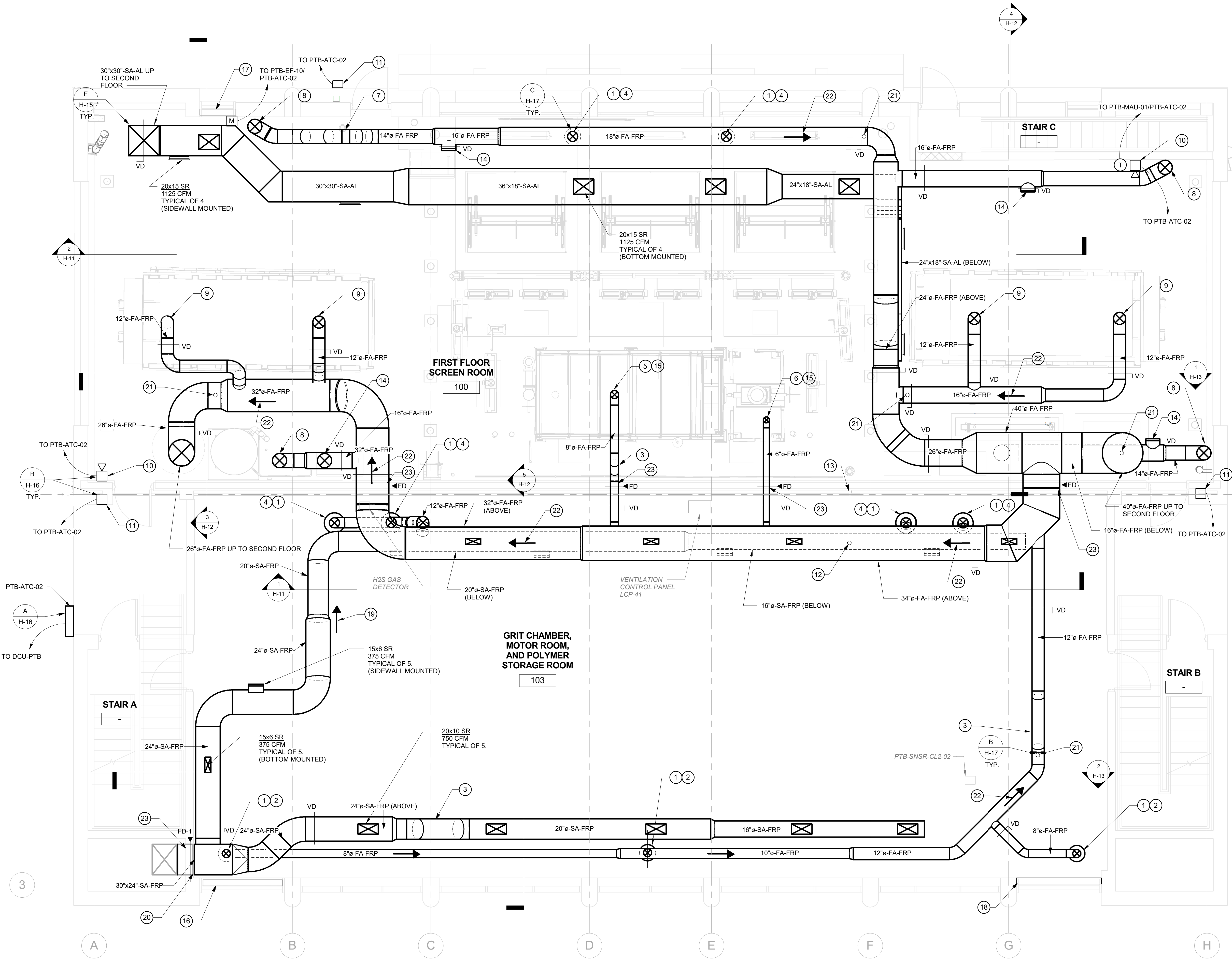
DEMOLITION KEYED NOTES:

- EXISTING HVAC EQUIPMENT TO REMAIN.
- EXISTING HVAC DUCTWORK TO REMAIN.
- EXISTING HVAC PIPING TO REMAIN.
- REMOVE EXISTING EXHAUST FAN, EXHAUST DUCTWORK, AND EXHAUST GRILLES. EXISTING CURB TO REMAIN. PROVIDE GASKETED AL CURB CAP ON EXISTING ROOF CURB.
- REMOVE EXISTING SUPPLY FAN INCLUDING ALL ASSOCIATED SUPPORTS, DUCTWORK, HEATING COILS, PIPING, CONTROL DEVICES, WIRING, CONDUIT, ETC. EXISTING CONCRETE CURB TO REMAIN.
- REMOVE EXISTING FOUL AIR EXHAUST FAN, INCLUDING ALL ASSOCIATED SUPPORTS, DUCTWORK, CONTROL DEVICES, WIRING, CONDUIT, ETC.
- REMOVE EXISTING FRP FOUL AIR DUCT AND SUPPORTS. REFER TO KEYED NOTE 8 FOR DUCT SUPPORT COMPONENTS TO REMAIN.
- REMOVE EXISTING SUPPORT STAND AND SUPPORT SADDLE. EXISTING SUPPORT BASE CURB TO REMAIN FOR NEW DUCTWORK SUPPORTS.
- REMOVE EXISTING SUPPLY FAN INCLUDING ALL ASSOCIATED SUPPORTS, DUCTWORK, HEATING COILS, PIPING, CONTROL DEVICES, WIRING, CONDUIT, ETC. EXISTING CONCRETE CURB TO BE REMOVED AND OPENING TO BE INFILLED. REFER TO THE STRUCTURAL DRAWINGS FOR DETAILS.



ROOF DEMOLITION PLAN
1/4" = 1'-0"

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FIRST FLOOR PLAN
1/4" = 1'-0"

- NOTES:**
- COORDINATE LOCATIONS OF ALL HVAC PIPING, DUCTWORK, AND EQUIPMENT WITH ALL OTHER NEW AND EXISTING UTILITIES, PIPING, ELECTRICAL EQUIPMENT, CONDUIT, WIRING, LIGHTING, BUILDING STRUCTURE, ETC.
 - PROVIDE MINIMUM 1/8" PER FOOT SLOPE FOR ALL FOUL AIR/ODOR CONTROL DUCTWORK TO LOW POINT DRAINS. PROVIDE ADDITIONAL LOW POINT DRAINS AS NECESSARY TO ACCOMMODATE ACTUAL FIELD ROUTING OF DUCTWORK.

- KEYED NOTES:**
- CONNECT NEW FRP DUCTWORK TO EXISTING FLANGED CHANNEL INLET DUCT. FIELD VERIFY DUCT/FLANGE SIZES AND FLANGE BOLT PATTERN.
 - 8"Ø FRP. BALANCE TO 250 CFM.
 - OFFSET DUCT DOWN.
 - 10"Ø FRP BALANCE TO 325 CFM.
 - CONNECT NEW 8"Ø FRP DUCTWORK TO SCUM CONCENTRATOR. BALANCE TO 100 CFM. COORDINATE FLANGE SIZE AND BOLT PATTERN WITH SCUM CONCENTRATOR SUPPLIER.
 - CONNECT NEW 6"Ø FRP DUCTWORK TO SCUM CONCENTRATOR. BALANCE TO 100 CFM. COORDINATE FLANGE SIZE AND BOLT PATTERN WITH SCUM CONCENTRATOR SUPPLIER.
 - PROVIDE OFFSETS AS REQUIRED TO COORDINATE WITH EXISTING PIPING.
 - 14"Ø FRP DOWN TO 12" AFF. PROVIDE 1/2"X1/2" SS WIRE MESH SCREEN AT INLET. BALANCE TO 700 CFM.
 - 12"Ø FRP OPEN ENDED EXHAUST INLET AT 10'-6" AFF BALANCE TO 725 CFM. PROVIDE 1/2"X1/2" SS WIRE MESH SCREEN AT INLET.
 - INTERIOR VENTILATION ALARM STATION.
 - EXTERIOR VENTILATION ALARM STATION.
 - 2" DRAIN FROM PANEL ROOM.
 - 2" DRAIN DOWN TO CONTAINMENT AREA GRATING. TERMINATE PIPE 3" ABOVE GRATING. PROVIDE ADDITIONAL OFFSETS AS REQUIRED.
 - 14"Ø OPEN ENDED EXHAUST INLET. BALANCE TO 700 CFM. PROVIDE 1/2"X1/2" SS WIRE MESH SCREEN AT INLET.
 - IF ALTERNATE SCUM CONCENTRATOR IS PROVIDED 6" ROUND CONNECTION WILL BE ELIMINATED AND FLOW TO 8" ROUND CONNECTION WILL BE INCREASED TO 200 CFM. COORDINATE FINAL CONNECTION REQUIREMENTS WITH SCUM CONCENTRATOR MANUFACTURER. PROVIDE UL LISTED FIRE STOP AT UNUSED DUCT PENETRATION TO MAINTAIN FIRE RATING OF WALL.
 - PROVIDE 6'-1" X 4'-0" INSULATED BLANK-OFF PANEL OVER EXISTING LOUVER. MOUNT TOP OF PANEL AT TOP OF EXISTING LOUVER OPENING. BOTTOM 2'-0" OF LOUVER TO REMAIN OPEN. FIELD VERIFY LOUVER SIZE PRIOR TO FABRICATING PANEL.
 - PTB-EF-10 INTAKE LOUVER. PROVIDE 2'-11" X 6'-8" MOTOR OPERATED DAMPER WITH EXPLOSION PROOF ACTUATOR ENCLOSURE. MOUNT DAMPER TO EXISTING LOUVER. FIELD VERIFY LOUVER SIZE PRIOR TO FABRICATING DAMPER. PROVIDE A MINIMUM OF (2) ACTUATORS. PROVIDE ADDITIONAL ACTUATORS AS REQUIRED BASED ON MAXIMUM ACTUATOR TORQUE.
 - PROVIDE 6'-1" X 4'-0" INSULATED BLANK-OFF PANEL OVER EXISTING LOUVER. MOUNT TOP OF PANEL AT TOP OF EXISTING LOUVER OPENING. BOTTOM 2'-0" OF LOUVER TO REMAIN OPEN. FIELD VERIFY LOUVER SIZE PRIOR TO FABRICATING PANEL.
 - SLOPE DUCT DOWN.
 - CONNECT NEW 30"X24" FRP TO EXISTING 30"X24" SHEET METAL DUCT. FIELD VERIFY DUCT SIZE.
 - LOW POINT DRAIN.
 - SLOPE DUCT TO LOW POINT DRAIN.
 - PROVIDE UL LISTED FIRE STOP AROUND DUCT/FIRE DAMPER PERIMETER TO MAINTAIN FIRE RATING OF EXISTING WALL. REFER TO HVAC NOTES 10 AND 11 ON H-1 FOR ADDITIONAL INFORMATION.



APPROVALS DATE

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Revisions	Date

Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2) Phase 9B
PRELIMINARY TREATMENT BUILDING PROPOSED FIRST FLOOR HVAC PLAN

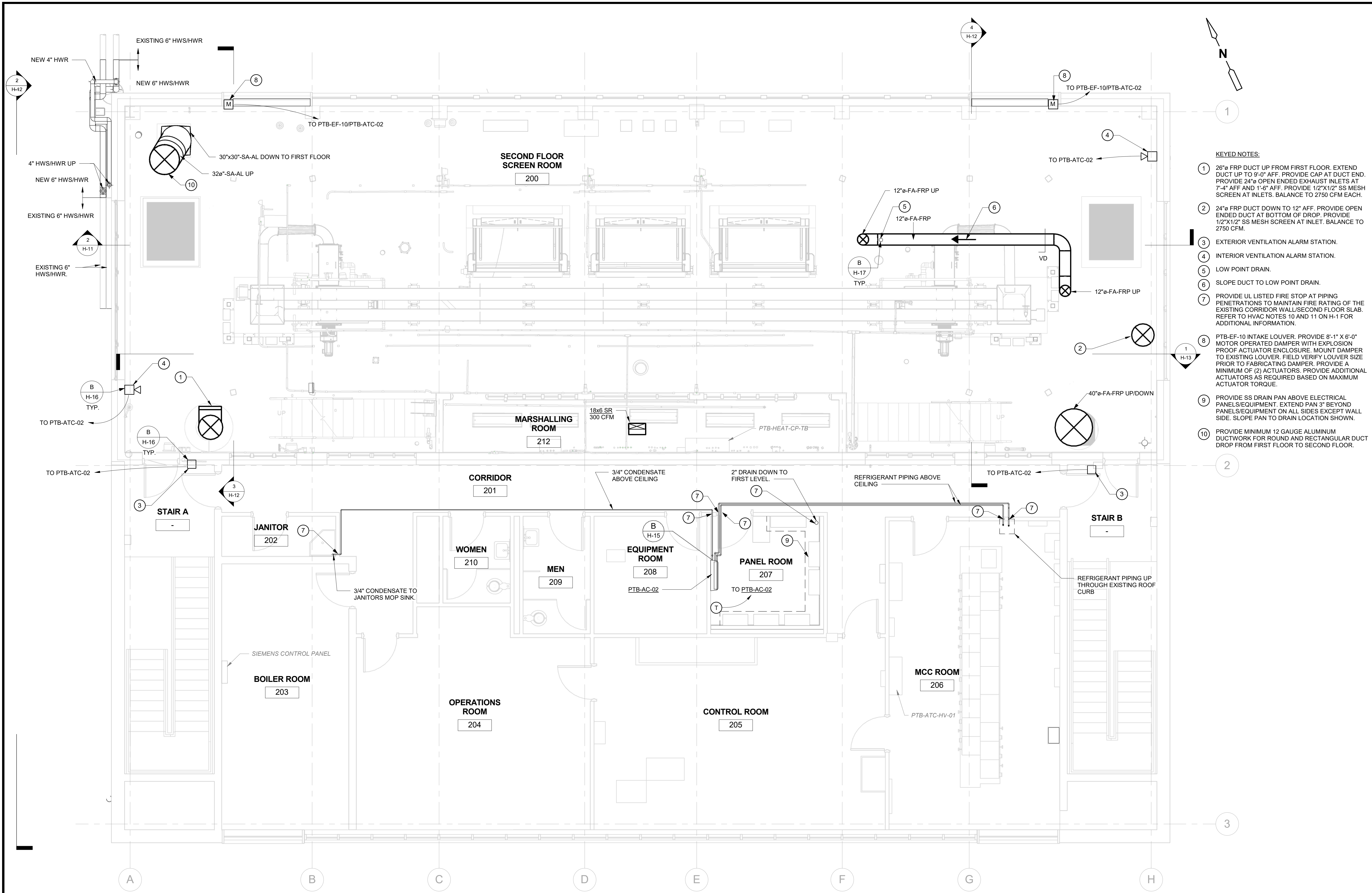
Designed: P. POULIOT
Drawn: B. BILODEAU
Checked: E. SPARGIMINO

Filename:
Path: R:\41295025\HE2000PT.rvt
Plotted: December 18, 2020
Plotted by: B. BILODEAU

Scale: AS NOTED



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- KEYED NOTES:**
- 1 26" FRP DUCT UP FROM FIRST FLOOR. EXTEND DUCT UP TO 9'-0" AFF. PROVIDE CAP AT DUCT END. PROVIDE 24" OPEN ENDED EXHAUST INLETS AT 7'-4" AFF AND 1'-6" AFF. PROVIDE 1/2"X1/2" SS MESH SCREEN AT INLETS. BALANCE TO 2750 CFM EACH.
 - 2 24" FRP DUCT DOWN TO 12" AFF. PROVIDE OPEN ENDED DUCT AT BOTTOM OF DROP. PROVIDE 1/2"X1/2" SS MESH SCREEN AT INLET. BALANCE TO 2750 CFM.
 - 3 EXTERIOR VENTILATION ALARM STATION.
 - 4 INTERIOR VENTILATION ALARM STATION.
 - 5 LOW POINT DRAIN.
 - 6 SLOPE DUCT TO LOW POINT DRAIN.
 - 7 PROVIDE UL LISTED FIRE STOP AT PIPING PENETRATIONS TO MAINTAIN FIRE RATING OF THE EXISTING CORRIDOR WALL/SECOND FLOOR SLAB. REFER TO HVAC NOTES 10 AND 11 ON H-1 FOR ADDITIONAL INFORMATION.
 - 8 PTB-EF-10 INTAKE LOUVER. PROVIDE 8'-1" X 6'-0" MOTOR OPERATED DAMPER WITH EXPLOSION PROOF ACTUATOR ENCLOSURE. MOUNT DAMPER TO EXISTING LOUVER. FIELD VERIFY LOUVER SIZE PRIOR TO FABRICATING DAMPER. PROVIDE A MINIMUM OF (2) ACTUATORS. PROVIDE ADDITIONAL ACTUATORS AS REQUIRED BASED ON MAXIMUM ACTUATOR TORQUE.
 - 9 PROVIDE SS DRAIN PAN ABOVE ELECTRICAL PANELS/EQUIPMENT. EXTEND PAN 3" BEYOND PANELS/EQUIPMENT ON ALL SIDES EXCEPT WALL SIDE. SLOPE PAN TO DRAIN LOCATION SHOWN.
 - 10 PROVIDE MINIMUM 12 GAUGE ALUMINUM DUCTWORK FOR ROUND AND RECTANGULAR DUCT DROP FROM FIRST FLOOR TO SECOND FLOOR.

- NOTES:**
1. COORDINATE LOCATIONS OF ALL HVAC PIPING, DUCTWORK, AND EQUIPMENT WITH ALL OTHER NEW AND EXISTING UTILITIES, PIPING, ELECTRICAL EQUIPMENT, CONDUIT, WIRING, LIGHTING, BUILDING STRUCTURE, ETC.
 2. PROVIDE MINIMUM 1/8" PER FOOT SLOPE FOR ALL FOUL AIR/ODOR CONTROL DUCTWORK TO LOW POINT DRAINS. PROVIDE ADDITIONAL LOW POINT DRAINS AS NECESSARY TO ACCOMMODATE ACTUAL FIELD ROUTING OF DUCTWORK.

SECOND FLOOR PLAN
1/4" = 1'-0"



DEPARTMENT OF ENVIRONMENTAL SERVICES
WATER POLLUTION CONTROL BUREAU
3402 S. GLEBE ROAD
ARLINGTON, VA 22202
PHONE: 703.228.6820

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Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
PROPOSED
SECOND FLOOR HVAC PLAN

Designed: P. POULIOT
Drawn: B. BILODEAU
Checked: E. SPARGIMINO

Filename:
Path: R:\41295025\HEZ000PT.rvt
Plotted: December 18, 2020
Plotted by: B. BILODEAU

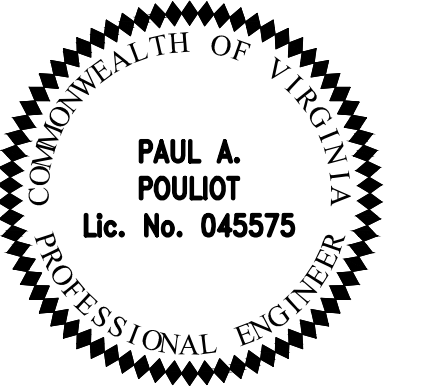
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H-7

SEAL



APPROVALS DATE

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Revisions Date

Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
PROPOSED
MEZZANINE HVAC PLAN

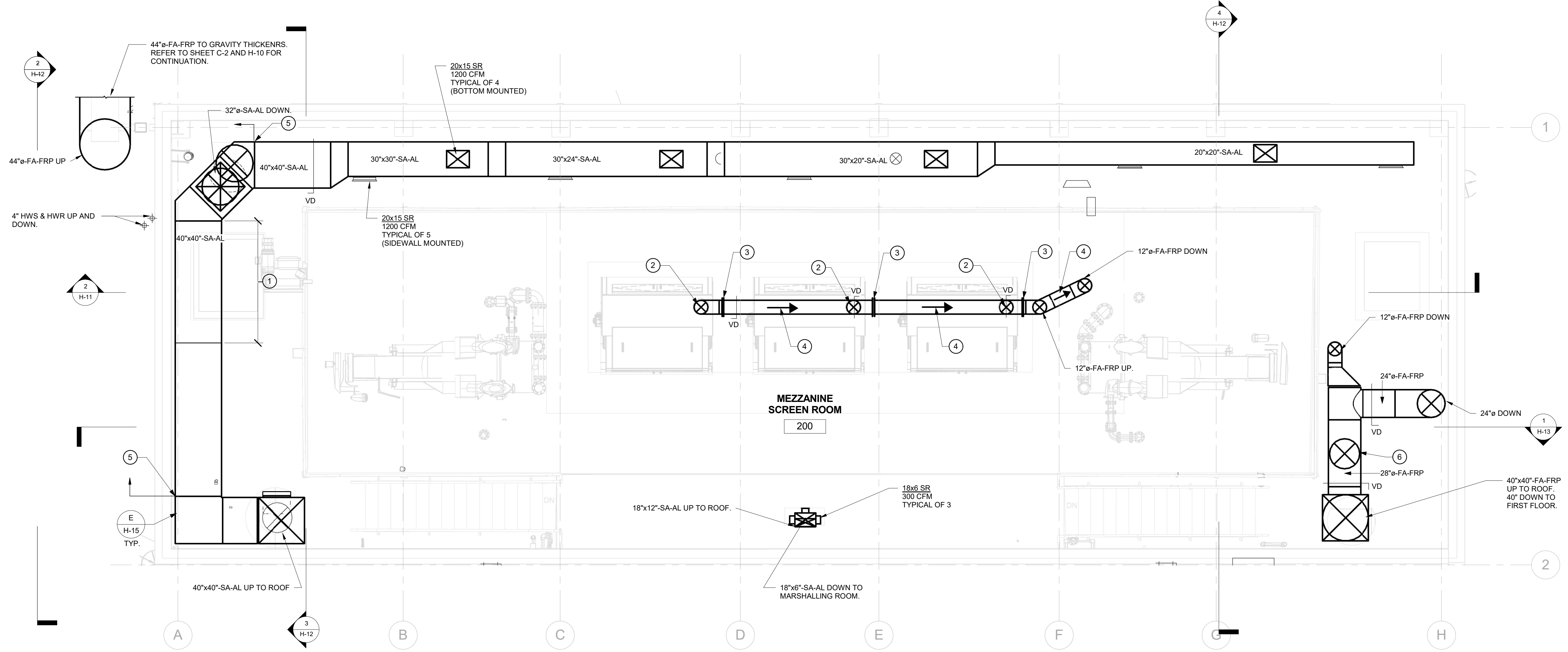
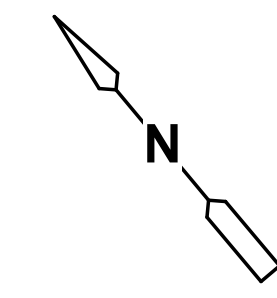
Designed: P. POULIOT
Drawn: B. BILODEAU
Checked: E. SPARGIMINO

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Plotted: December 18, 2020
Plotted by: B. BILODEAU
Scale: AS NOTED



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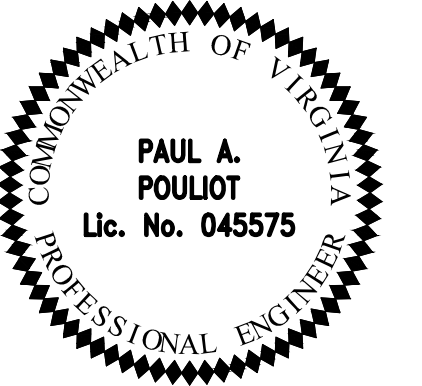


MEZZANINE PLAN
1/4" = 1'-0"

- KEYED NOTES**
- REMOVABLE DUCT SECTION FOR MONORAIL ACCESS. PROVIDE FLANGED CONNECTIONS. PROVIDE MINIMUM 12 GAUGE ALUMINUM DUCTWORK FOR THE REMOVABLE DUCT SECTION.
 - 8"ø FRP FLANGED CONNECTION TO SCREEN COVER. BALANCE TO 200 CFM. COORDINATE FLANGE REQUIREMENTS AND BOLT PATTERN WITH THE SCREEN COVER SUPPLIER.
 - PROVIDE FLANGED CONNECTION TO PERMIT DUCT REMOVAL.
 - SLOPE DUCT TO DRAIN ON SECOND FLOOR.
 - PROVIDE MINIMUM 12 GAUGE ALUMINUM DUCTWORK BETWEEN 90 DEGREE ELBOW IN THE SOUTHWEST CORNER AND THE 45 DEGREE ELBOW IN THE NORTHWEST CORNER OF THE SCREEN ROOM, INCLUDING THE REMOVABLE DUCT SECTION SHOWN, AND THE DUCT DROP TO THE FIRST FLOOR.
 - 24"ø OPEN ENDED EXHAUST INLET BALANCED TO 2750 CFM. PROVIDE 1/2"x1/2" SS WIRE MESH SCREEN AT INTLET.

- NOTES:**
- COORDINATE LOCATIONS OF ALL HVAC PIPING, DUCTWORK, AND EQUIPMENT WITH ALL OTHER NEW AND EXISTING UTILITIES, PIPING, ELECTRICAL EQUIPMENT, CONDUIT, WIRING, LIGHTING, BUILDING STRUCTURE, ETC.
 - PROVIDE MINIMUM 1/8" PER FOOT SLOPE FOR ALL FOUL AIR/ODOR CONTROL DUCTWORK TO LOW POINT DRAINS. PROVIDE ADDITIONAL LOW POINT DRAINS AS NECESSARY TO ACCOMMODATE ACTUAL FIELD ROUTING OF DUCTWORK.

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Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
PROPOSED
ROOF HVAC PLAN

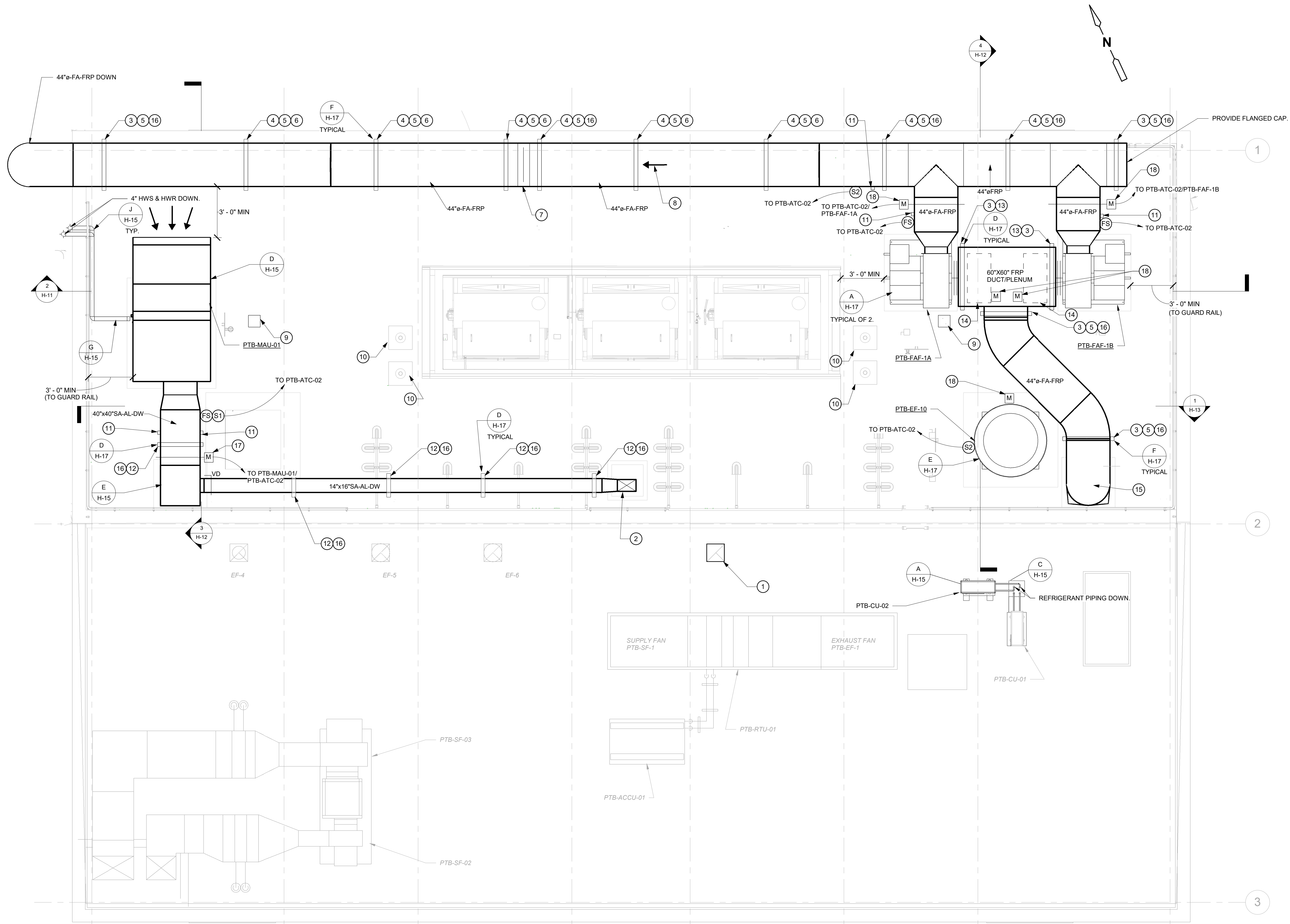
Designed: P. POULIOT
Drawn: B. BILODEAU
Checked: E. SPARGIMINO

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Plotted: December 18, 2020
Plotted by: B. BILODEAU

Scale: AS NOTED



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- KEYED NOTES:**
- PROVIDE MINIMUM 12 GAUGE GASKETED INSULATED AL CURB CAP. FIELD VERIFY SIZE OF EXISTING CURB PRIOR TO FABRICATION OF CAP.
 - 18"x12" AL-DW DOWN THROUGH EXISTING CURB TO MEZZANINE LEVEL. PROVIDE MINIMUM 12 GAUGE GASKETED INSULATED AL CURB CAP TO COVER REMAINING OPENING. FIELD VERIFY SIZE OF EXISTING CURB PRIOR TO FABRICATION OF CAP. PROVIDE CONTINUOUS BEAD OF WEATHER-PROOF SEALANT BETWEEN DUCT AND CURB CAP.
 - FIXED SUPPORT.
 - SLIDING SUPPORT.
 - NEW SADDLE DUCT SUPPORT DESIGNED BY CONTRACTOR
 - MOUNT DUCT SUPPORT ON EXISTING DUCT SUPPORT CURB.
 - EXPANSION JOINT.
 - SLOPE DUCT DOWN.
 - EXISTING ROOF DRAIN.
 - EXISTING PROCESS VENT.
 - PROPOSED TEST PORT LOCATION. COORDINATE FINAL LOCATION WITH TEST AND BALANCE CONTRACTOR.
 - RECTANGULAR DUCT SUPPORT DESIGNED BY DUCT SUPPORT MANUFACTURER OR CONTRACTOR.
 - DUCT/PLENUM SUPPORT STAND DESIGNED BY DUCT SUPPORT MANUFACTURER OR CONTRACTOR.
 - 50" X 24" FRP DUCT DOWN TO FAN INLET BOX. PROVIDE MOTOR OPERATED INLET BOX DAMPER.
 - 44" RD FRP DUCT DOWN, TRANSITION TO 40"x40" FRP AT ROOF PENETRATION.
 - PROVIDE NEW DUCT SUPPORT CURB.
 - QUICK CLOSING (SPRING CLOSE) MOTOR OPERATED SHUT OFF DAMPER WITH EXPLOSION PROOF ACTUATOR ENCLOSURE.
 - MOTOR OPERATED SHUT-OFF DAMPER WITH EXPLOSION PROOF ACTUATOR ENCLOSURE.

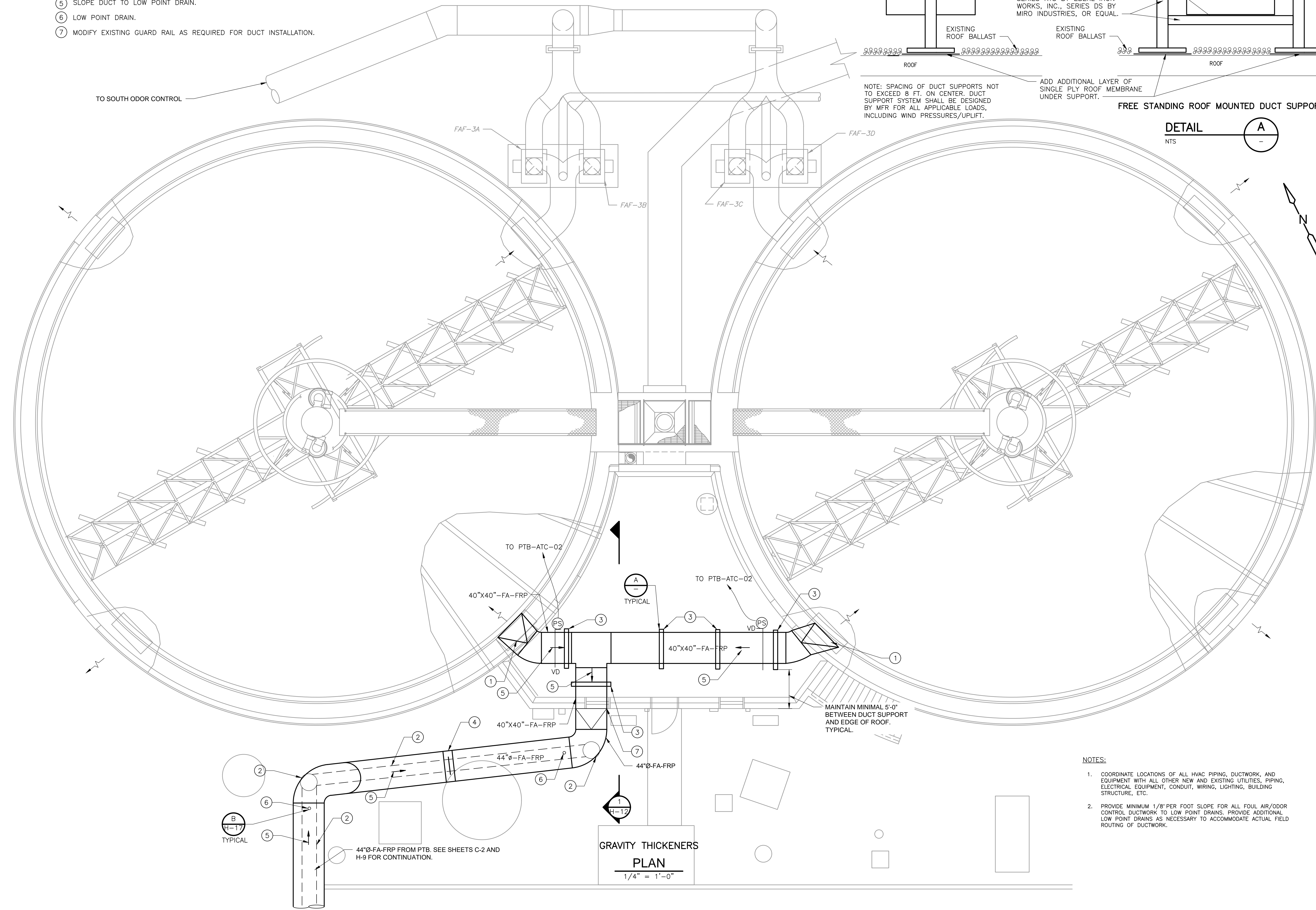
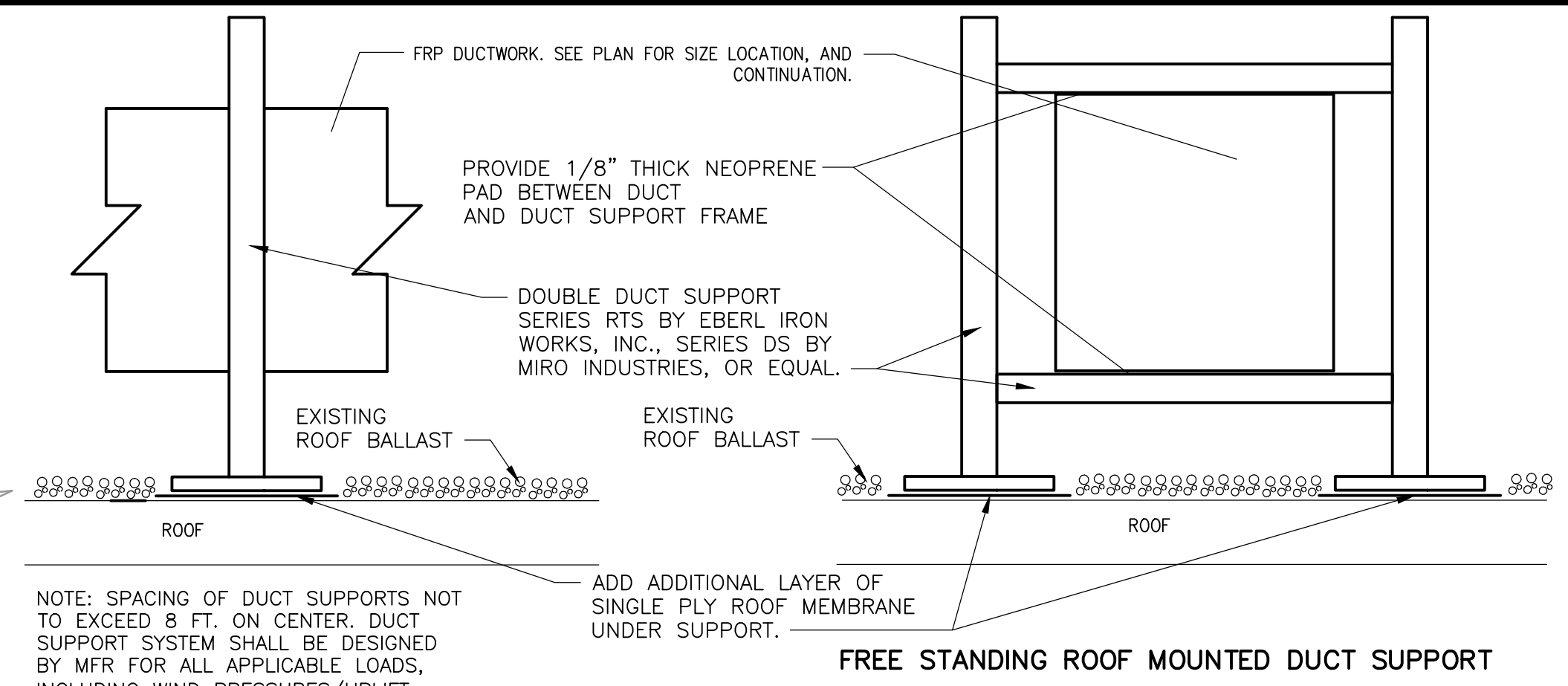
HVAC ROOF PLAN
PLAN
1/4" = 1'-0"

- NOTES:**
- COORDINATE LOCATIONS OF ALL HVAC PIPING, DUCTWORK, AND EQUIPMENT WITH ALL OTHER NEW AND EXISTING UTILITIES, PIPING, ELECTRICAL EQUIPMENT, CONDUIT, WIRING, LIGHTING, BUILDING STRUCTURE, ETC.
 - PROVIDE MINIMUM 1/8" PER FOOT SLOPE FOR ALL FOUL AIR/ODOR CONTROL DUCTWORK TO LOW POINT DRAINS. PROVIDE ADDITIONAL LOW POINT DRAINS AS NECESSARY TO ACCOMMODATE ACTUAL FIELD ROUTING OF DUCTWORK.

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KEYED NOTES

- 1 REMOVE EXISTING LOUVER AND BACKDRAFT DAMPER. CONNECT FOUL AIR EXHAUST DUCT TO EXISTING 48"x24" DORMER OPENING.
- 2 DUCT SUPPORT COLUMN/BRIDGE. REFER TO THE STRUCTURAL DRAWINGS FOR DETAILS.
- 3 FREESTANDING DUCT SUPPORT.
- 4 EXPANSION JOINT.
- 5 SLOPE DUCT TO LOW POINT DRAIN.
- 6 LOW POINT DRAIN.
- 7 MODIFY EXISTING GUARD RAIL AS REQUIRED FOR DUCT INSTALLATION.



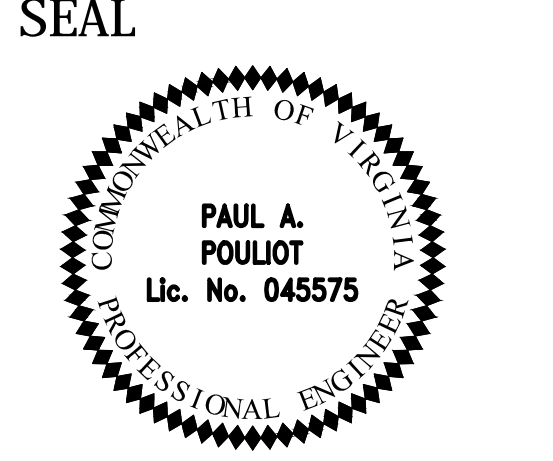
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DEPARTMENT OF ENVIRONMENTAL SERVICES
 WATER POLLUTION CONTROL BUREAU
 3402 S. GLEBE ROAD
 ARLINGTON, VA 22202
 PHONE: 703.228.6820

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APPROVALS DATE

100% BID SET

Revisions	Date

Project Name and Location
Water Pollution Control Plant
 Preliminary Treatment Upgrades (WPB2)
 Phase 9B
 GRAVITY THICKENERS
 PROPOSED
 HVAC PLAN

Designed: P. POULIOT
 Drawn: B. BILODEAU
 Checked: E. SPARGIMINO
 Miss Utility Transmittal #:

Filename: H010GTTT.dwg
 Path: C:\pwworking\cdmsmith\project\12550-9
 Plotted: January 04, 2021
 Plotted by: BILODEAUBP

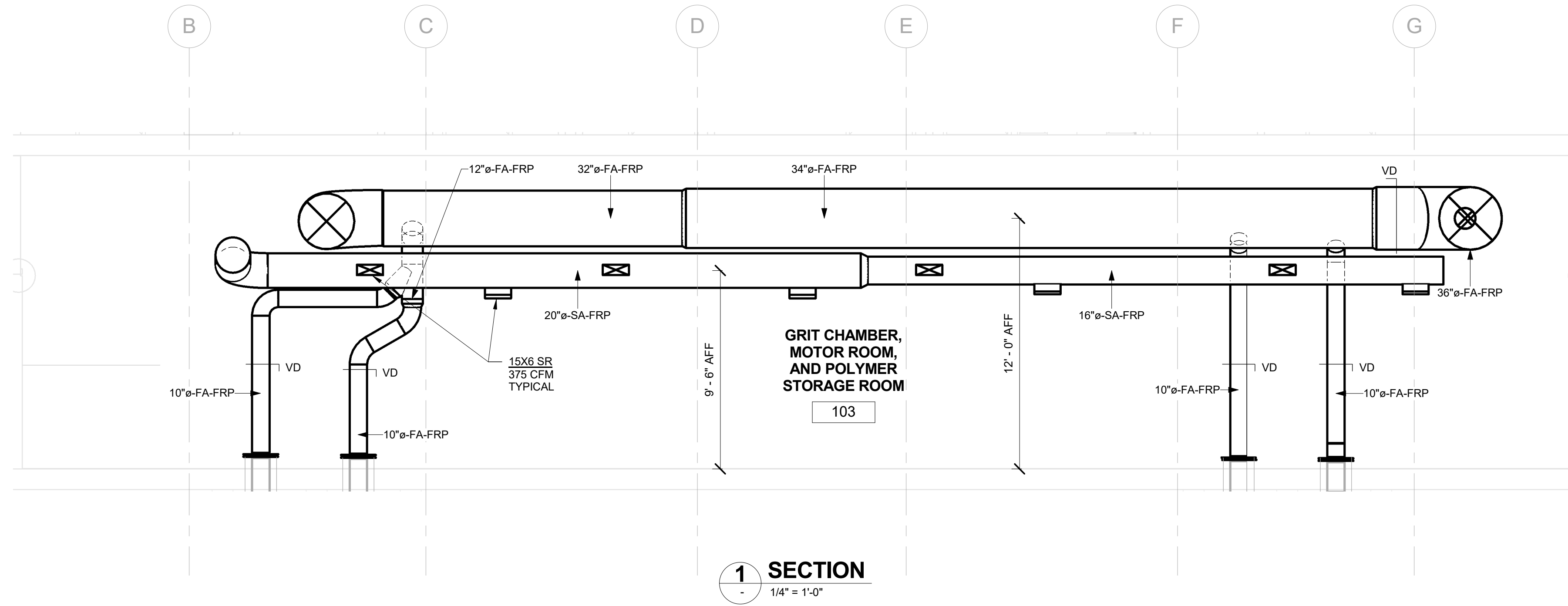
Scale: AS NOTED



Sht. 60 of 97
H-10

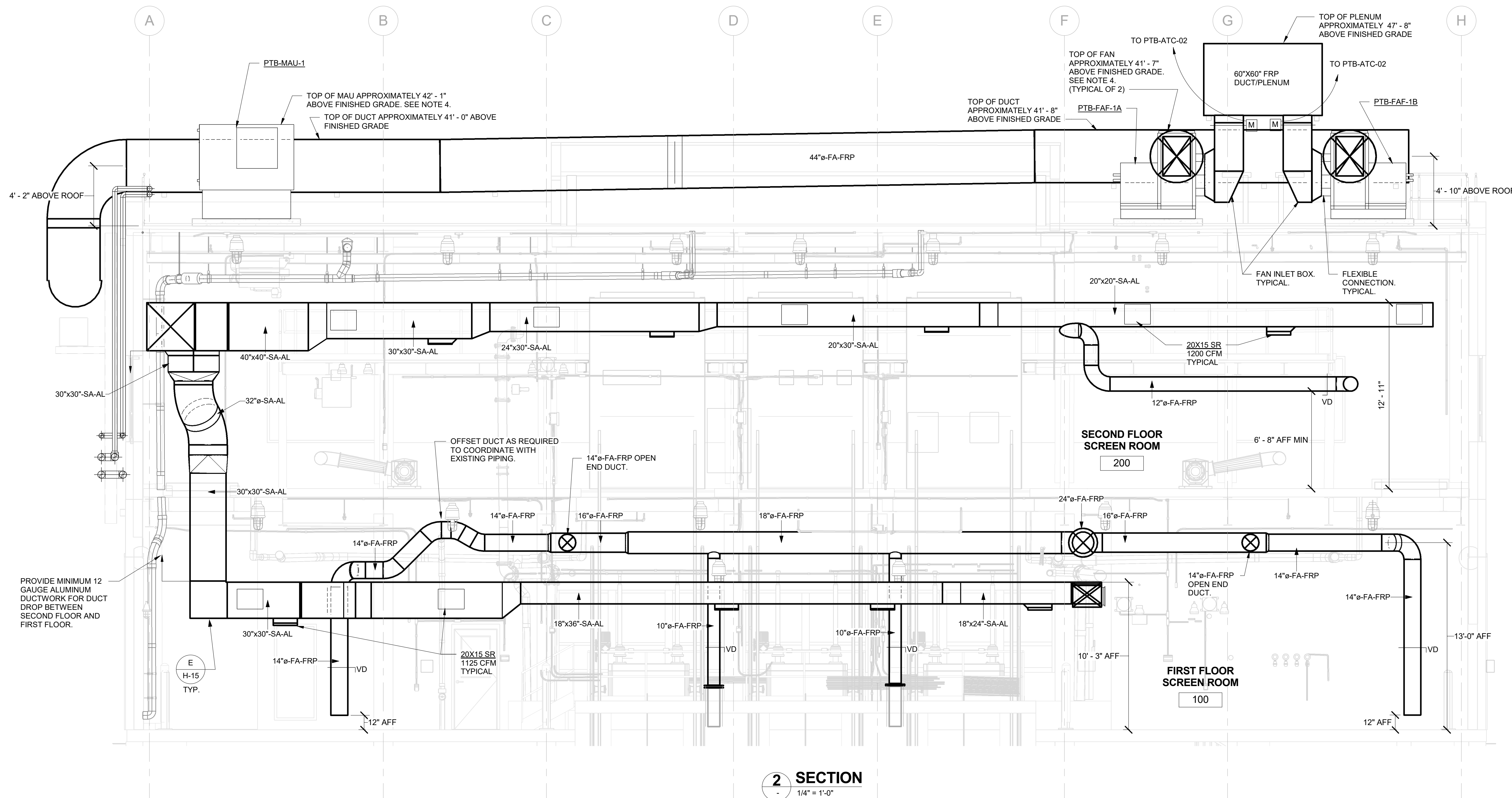
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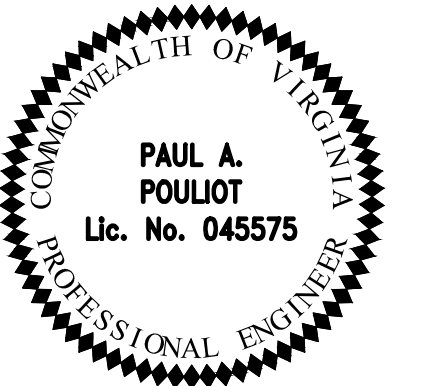


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- APPROXIMATE EQUIPMENT HEIGHTS LISTED MAY VARY DEPENDING ON FINAL APPROVED EQUIPMENT AND CONTRACTOR INSTALLATION.



SEAL



APPROVALS DATE

100% BID SET

Revisions Date

▲ BUILDING PERMIT REVISION 10/20

Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
PROPOSED
HVAC SECTIONS I

Designed: P. POULIOT
Drawn: B. BILODEAU
Checked: E. SPARGIMINO

Filename:
Path: R:\d1295025\HE2000\PT.04
Plotted: January 4, 2021
Plotted by: B. BILODEAU

Scale: AS NOTED

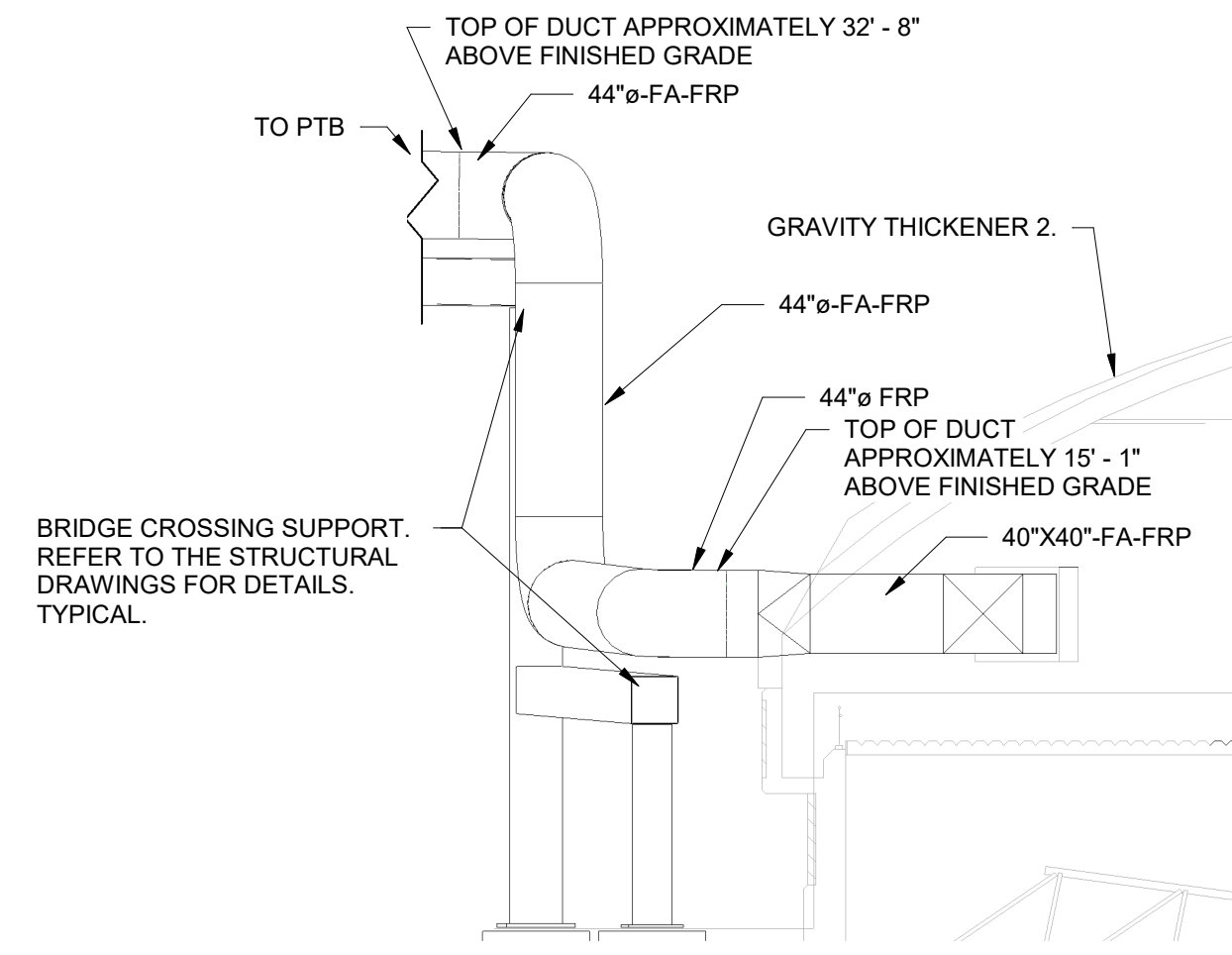


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FAIRFAX, VA 22030

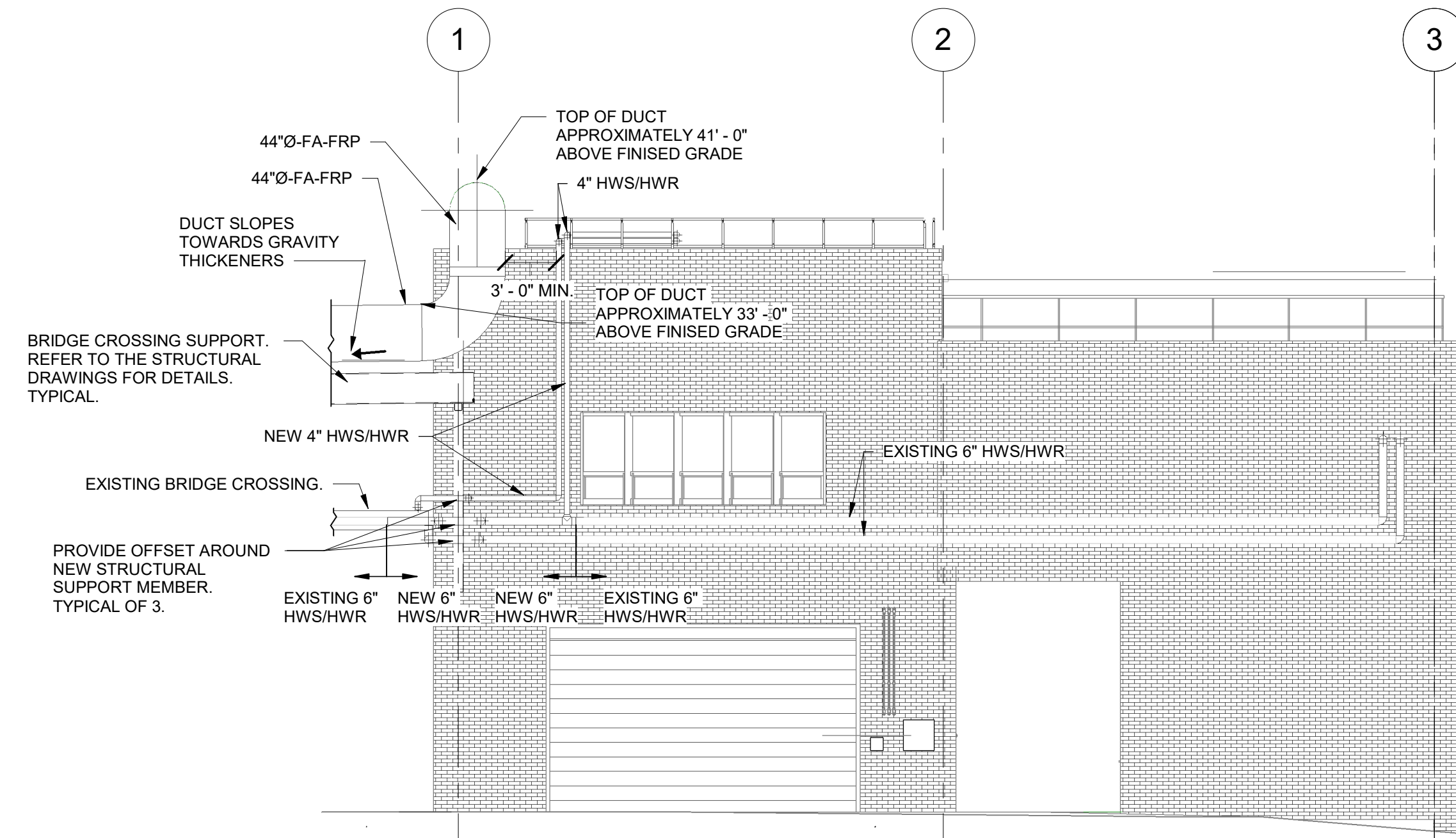
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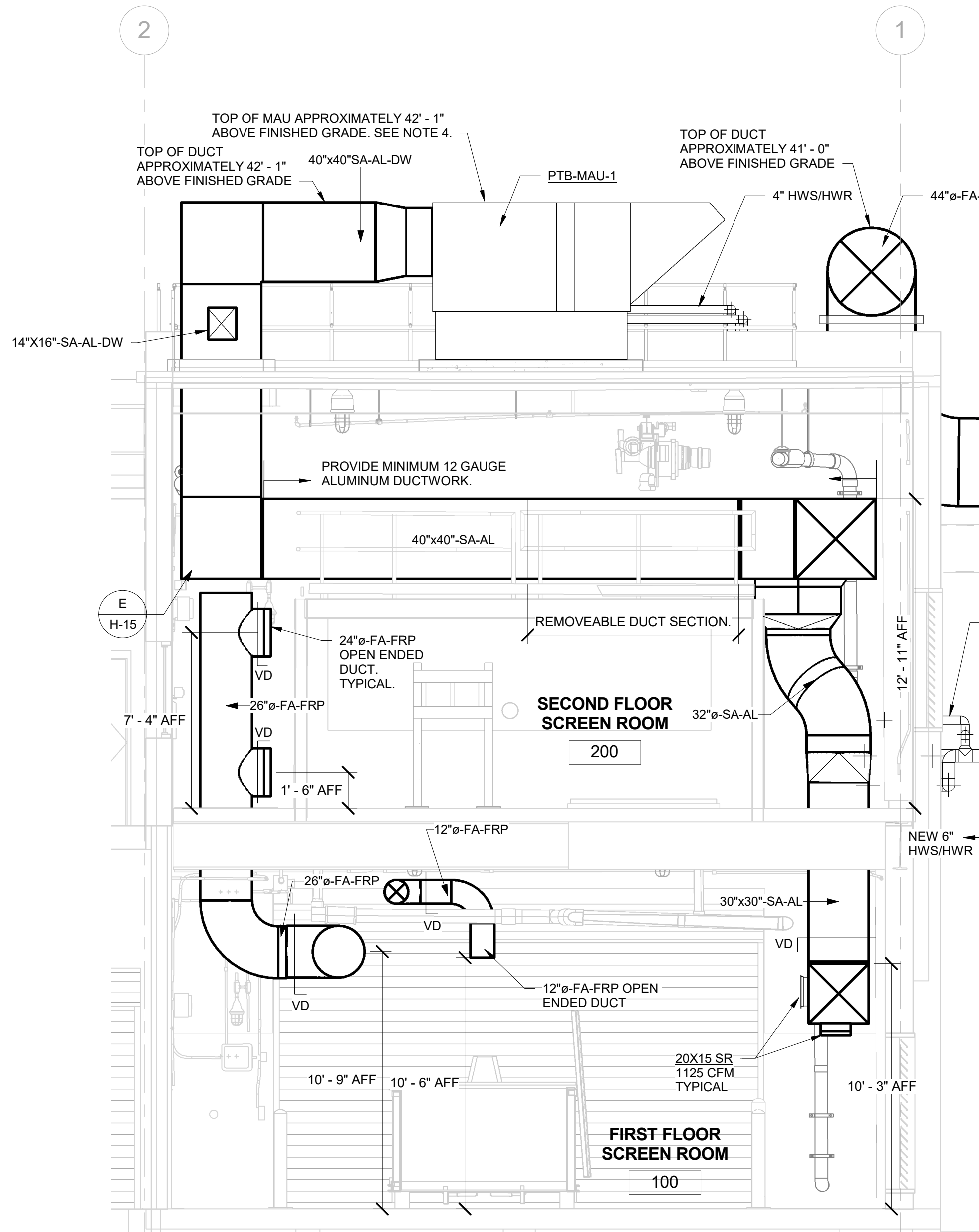
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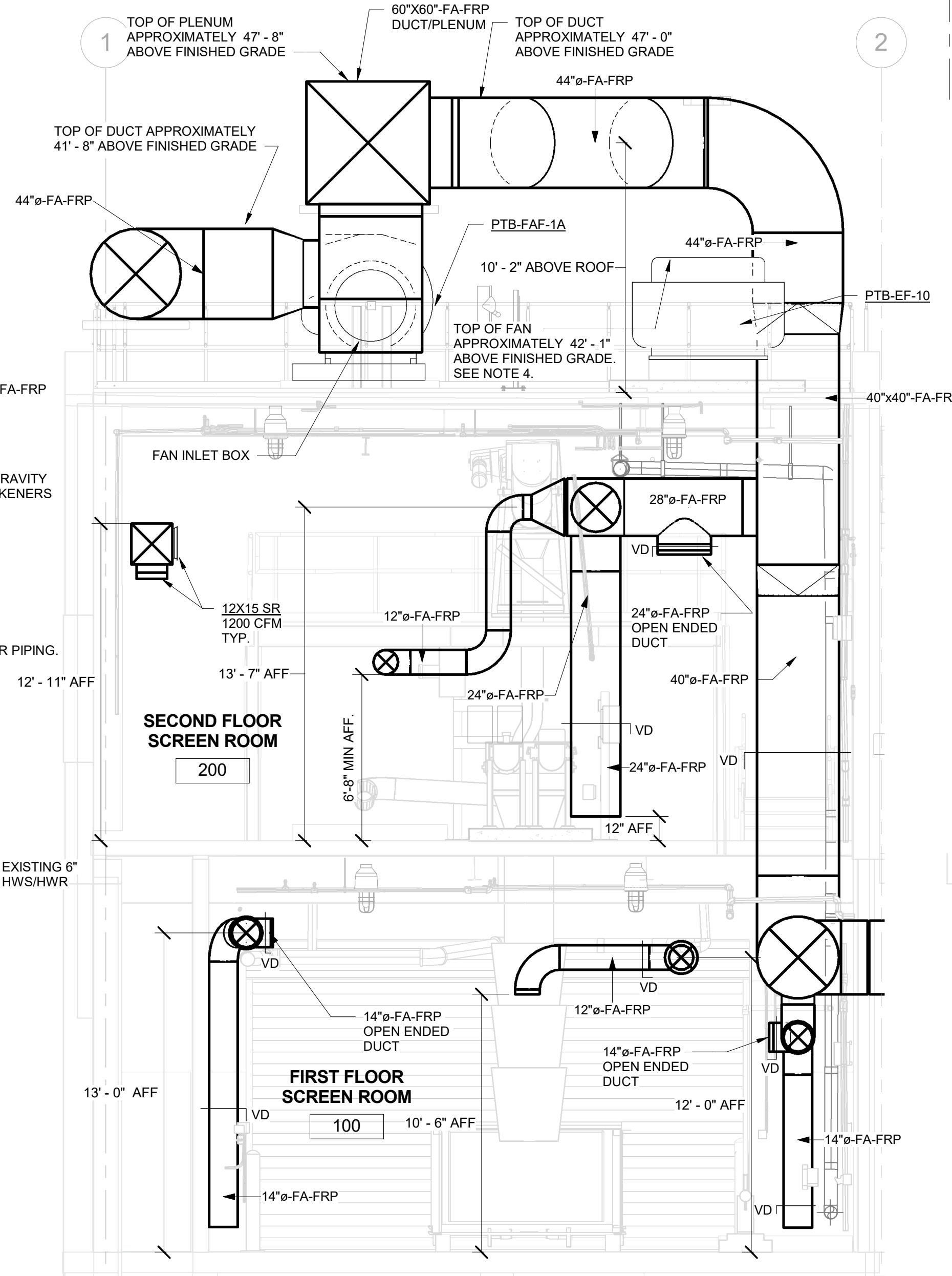
1 SECTION
1/8" = 1'-0"



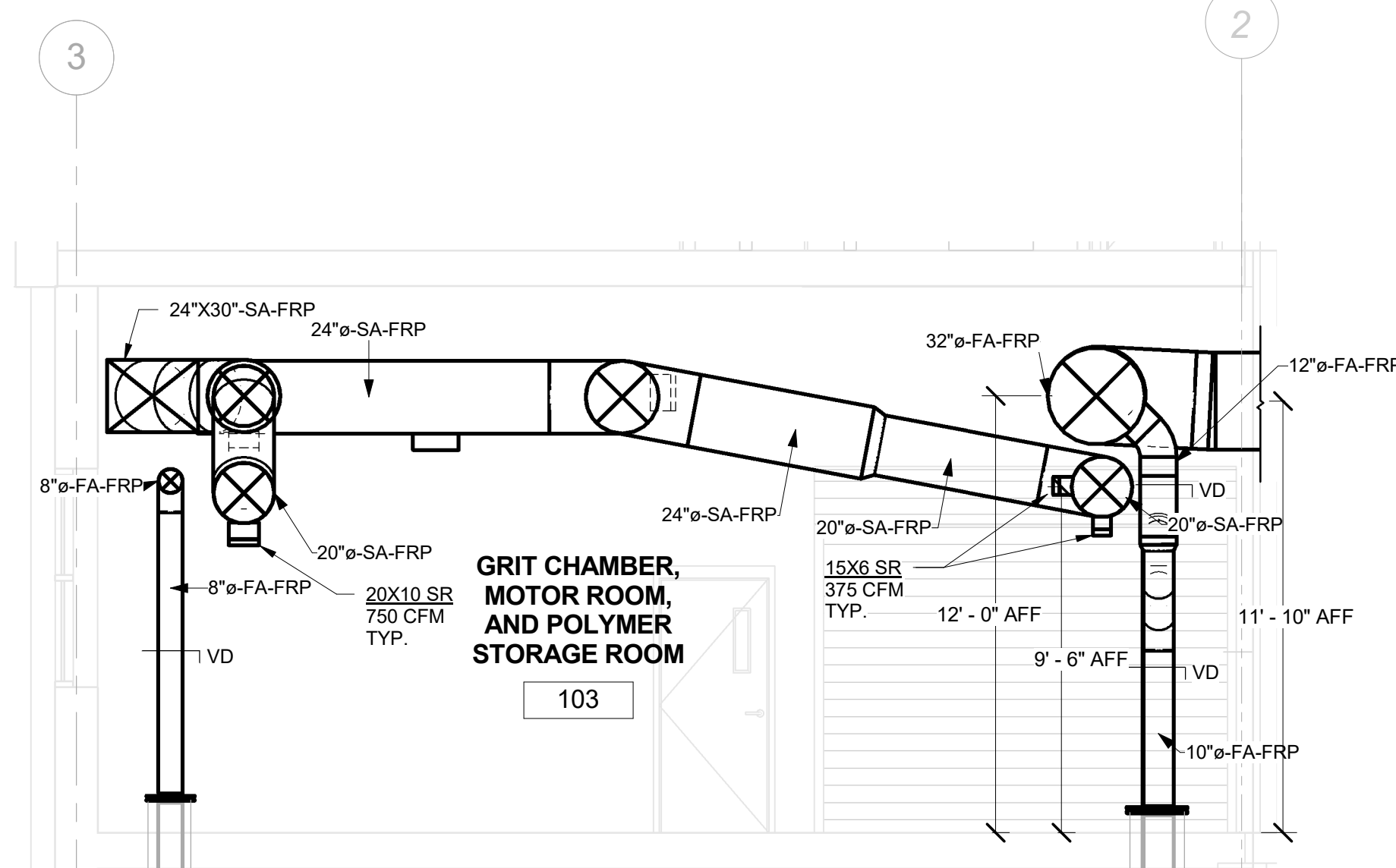
2 SECTION
1/8" = 1'-0"



3 SECTION
1/4" = 1'-0"



4 SECTION
1/4" = 1'-0"



5 SECTION
1/4" = 1'-0"

NOTES:

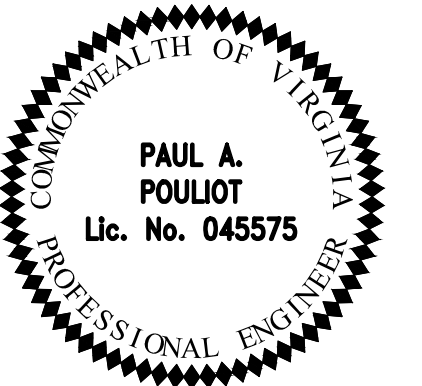
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DEPARTMENT OF ENVIRONMENTAL SERVICES
WATER POLLUTION CONTROL BUREAU
3402 S. GLEBE ROAD
ARLINGTON, VA 22202
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SEAL



APPROVALS DATE

100% BID SET

Revisions Date

▲ BUILDING PERMIT REVISION 10/20

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
PROPOSED
HVAC SECTIONS II

Designed: P. POULIOT
Drawn: B. BILODEAU
Checked: E. SPARGIMINO

Filename:
Path: R:\d1295025\HE2000PT.rvt
Plotted: January 4, 2021
Plotted by: B. BILODEAU

Scale: AS NOTED

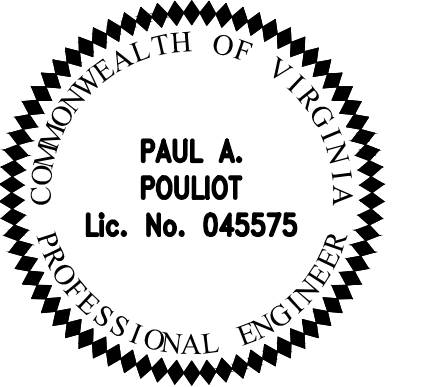


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FAIRFAX, VA 22030

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SEAL



APPROVALS DATE

100% BID SET

Revisions Date

Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
PROPOSED
HVAC SECTIONS III

Designed: P. POULIOT
Drawn: B. BILODEAU
Checked: E. SPARGIMINO

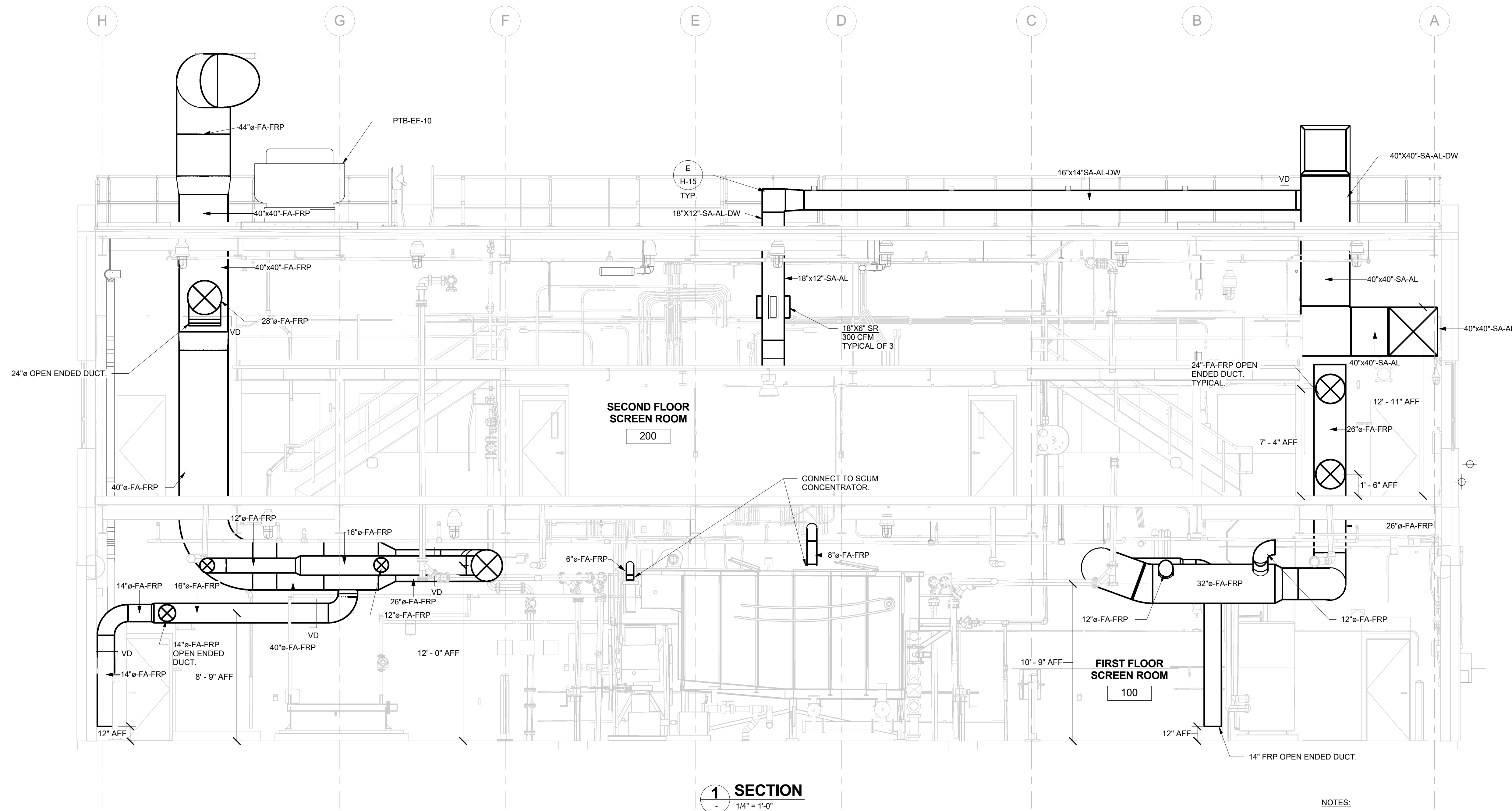
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Plotted: January 4, 2021
Plotted by: B. BILODEAU

Scale: AS NOTED



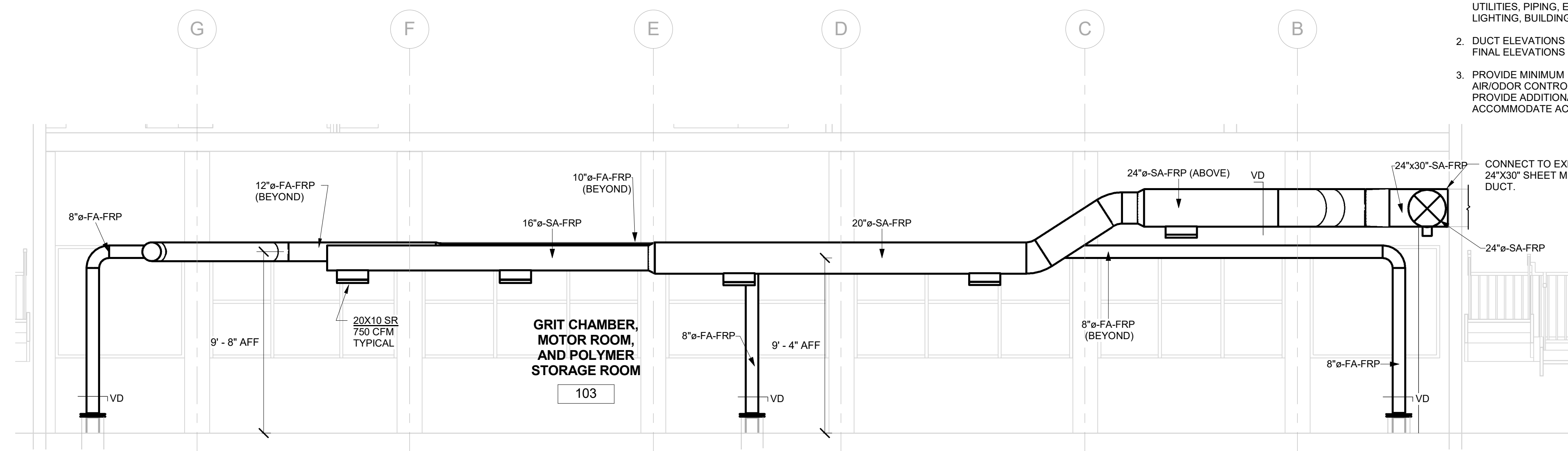
10560 Arrowhead Drive, Suite 500
FAIRFAX, VA 22030

Sht. 63 of 97
H-13



1 SECTION
1/4" = 1'-0"

- NOTES:
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2 SECTION
1/4" = 1'-0"

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HEATING WATER MAKE-UP AIR UNIT SCHEDULE

ITEM NO.	NO. REQ'D	AREA SERVED	SHEET NO.	FAN DATA							HEATING WATER COIL								FILTERS		REMARKS	MANUFACTURER MODEL	ATC PANEL	
				CFM	OSA CFM	ESP/TSP	HP	FAN RPM	DRIVE	VOLT PHASE	ENTERING AIR	LEAVING AIR	ENTERING WATER	LEAVING WATER	FLUID FT. WG	FLOW GPM	FLUID TYPE	COIL MODEL	TOTAL MBH	TYPE				SIZE NO.
PTB-MAU-01	1	SCREEN ROOM PTB	H-9	21,000	21,000	1.00/1.89	25	751	BELT	460 V 3φ	15.0	68.2	180	145	8.4	135.0	30% PROPYLENE	HWS802F10-45X66	1339.8	AL MESH	MFR. STD.	SEE NOTE A & B BELOW	GREENHECK MSX-P125-H35	PTB-ATC-02

NOTE A: PROVIDE UNIT WITH THE FOLLOWING OPTIONS: ELECTROFIN E-COAT COIL COATING, ALUMINUM FINS, COPPER COIL, V-BANK FILTER SECTION WITH ALUMINUM MESH FILTERS, AIR FILTER GAUGE WITH PILOT LIGHT, NEOPRENE VIBRATION ISOLATORS, DOUBLE WALL CONSTRUCTION WITH INSULATION LINER, OUTDOOR AIR TEMPERATURE SENSOR, WEATHERIZATION, DUCT ADAPTOR, WEATHER HOOD WITH BIRD SCREEN, HINGED ACCESS DOORS, HI-PRO POLYESTER CABINET AND CURB COATING, PHOTOELECTRIC SMOKE DETECTOR, TIME DELAY RELAY, AUXILIARY CONTACTS, TOTALLY ENCLOSED FAN COOLED MOTOR, STAINLESS STEEL FASTENERS, DISCHARGE TEMPERATURE SENSOR, FREEZE STAT WITH PILOT LIGHT, NEMA 7 EXPLOSION PROOF SPACE THERMOSTAT, AND NEMA 7 EXPLOSION PROOF MOTOR OPERATED DISCHARGE DAMPER (POWERED FROM UNIT OR PTB-ATC-02). UNIT SHALL BE PROVIDED WITH FACTORY MOTOR STARTER. UNIT SHALL BE PROVIDED WITH A UNIT MOUNTED DDC CONTROLLER WITH BACNET COMMUNICATION PROTOCOL FOR CONNECTION TO THE EXISTING SIEMENS CONTROL PANEL. UNIT SHALL BE PROVIDED WITH A REMOTE ATC PANEL (PTB-ATC-02) AND ALL CONTROL COMPONENTS REQUIRED BY THE CONTROL SEQUENCE IN THE SPECIFICATIONS. LOW TEMPERATURE AND DIRTY FILTER PILOT LIGHTS SHALL BE MOUNTED IN THE REMOTE ATC PANEL (PTB-ATC-02). FACTORY PANEL NOT REQUIRED. UNIT SHALL BE PROVIDED WITH FACTORY EC COATED ROOF CURB.

NOTE B: UNITS SHALL BE GREENHECK OR EQUAL.

EXHAUST FAN AND FOUL AIR FAN SCHEDULE

ITEM NO.	NO. REQ'D	AREA SERVED	SHEET NO.	CFM	S.P.	TYPE			H.P.	VOLT PHASE	FAN RPM	MAX dBA VALUE	MANUFACTURER MODEL NO.	REMARKS	CONTROL	ATC PANEL
						SET	WHEEL	DRIVE								
PTB-EF-10 (SEE NOTE B)	1	SCREEN ROOM PTB	H-9	23,000	0.5"	ROOF	CENT.	BELT	7.5	460 V 3φ	429	69 dBA	GREENHECK CUBE-480-75	SPARK B, A, BS, CE, EC, SS	COMBUSTIBLE GAS ALARM OR HOA SWITCH FOR EMERGENCY OPERATION	PTB-ATC-02
PTB-FAF-1A (DUTY)	1	SCREEN ROOM PTB	H-9	23,000	3.0"	UTILITY	CENT.	BELT	25	460 V 3φ	1254	90 dBA	GREENHECK USP-33	SPARK A, AD, DC, EC2, FL, IB, MC, SS, VIB	CONTINUOUS (INITIAL PRIMARY FAN).	PTB-ATC-02
PTB-FAF-1B (STAND-BY)	1	SCREEN ROOM PTB	H-9	23,000	3.0"	UTILITY	CENT.	BELT	25	460 V 3φ	1254	90 dBA	GREENHECK USP-33	SPARK A, AD, DC, EC2, FL, IB, MC, SS, VIB	CONTINUOUS (INITIAL SECONDARY FAN).	PTB-ATC-02

NOTE A: FANS SHALL BE GREENHECK, LOREN COOK, PENN-BARRY, OR EQUAL. FRP FANS SHALL BE GREENHECK, LOREN COOK, HARTZELL, MK PLASTICS, AERVENT, OR EQUAL.

NOTE B: PTB SHALL OPERATE DURING CONSTRUCTION TO PROVIDE VENTILATION FOR THE PTB. REFER TO SPECIFICATION SECTION 018100 FOR ADDITIONAL DETAILS.

SPARK A = SPARK A CONSTRUCTION (FIBERGLASS/FRP CONSTRUCTION), SHAFT SEAL, EXPLOSION PROOF MOTOR, AND EXPLOSION PROOF MOTOR OPERATED DAMPER RATED FOR CLASS 1, DIVISION 1, GROUP D.

SPARK B = SPARK B (EQUIVALENT) CONSTRUCTION, ALUMINUM AIRFOIL BLADE PROPELLER OR ALUMINUM WHEEL, EXPLOSION PROOF MOTOR, EXPLOSION PROOF MOTOR OPERATED DAMPERS AND SHAFT SEAL.

AC = ALL ALUMINUM CONSTRUCTION
AD = EC COATED ACCESS DOOR
BS = EC COATED ALUMINUM BIRD SCREEN
CA = CLOSURE ANGLES
CE = EC COATED CURB ADAPTOR WITH EC COATED CURB EXTENSION AND CURB SEAL. FIELD VERIFY EXISTING CURB SIZE.

DC = DRAIN CONNECTION
EC = HI-PRO POLYESTER EPOXY COATED ENTIRE FAN, INCLUDING ALL ACCESSORIES
EC2 = HI-PRO Z/HI-PRO POLYESTER COATINGS
FL = FLANGED INLET AND OUTLET CONNECTIONS.
IB = FAN INLET BOX WITH MOTOR OPERATED INLET DAMPER. SIMILAR TO NEW YORK BLOWER MODEL BC-36.
MC = EC COATED MOTOR COVER/BELT GUARD/SHAFT GUARD
SS = STAINLESS STEEL FASTENERS AND SHAFT
VIB = FACTORY MOTOR SLIDE BASE WITH VIBRATION ISOLATORS

AIR COOLED CONDENSING UNIT SCHEDULE

ITEM NO.	NO. REQ'D	AREA SERVED	LOCATION	MATCH WITH	SYSTEM CAPACITY		PIPING		CONDENSER		COMPRESSOR		ELECTRICAL		REMARKS	MANUFACTURER MODEL	HEATING CAP. BTUH @ 17° F	HSPF			
					BTUH	SEER	SUCT. LIQ.	OSA F	CFM	ROWS	NO.	TYPE	MCA	MOCP					VOLT	PHASE	
PTB-CU-02	1	PANEL ROOM PTB	ROOF PTB	PTB-AC-02	9,270	23.5	SEE NOTE B	SEE NOTE B	104	SEE NOTE B	SEE NOTE B	1	1-STAGE ROTARY INVERTER	15	15	208 V	1φ	SEE NOTES A, B, & C BELOW	CARRIER 38MAQB09	8,270	10.0

NOTE A: PROVIDE UNIT WITH THE FOLLOWING OPTIONS: BRONZ-GLOW HUSKY SPC, HERESITE VR-507, OR EQUAL SPRAY-ON CABINET COATING WITH UV INHIBITOR TOP COAT (INTERIOR AND EXTERIOR INCLUDING ALL INTERIOR SURFACES, COMPRESSORS, PIPING, CONDENSER FANS, ETC), BRONZ-GLOW HUSKY COIL COAT, HERESITE PC-2000, OR EQUAL COIL COATING, STAINLESS STEEL HARDWARE (EXTERNAL CABINET HARDWARE ONLY), NON-RUST BASE PAN, AUTO RESTART, TIME DELAY RELAY, LOW AMBIENT CONTROL TO 5°F, CRANKCASE HEATER, BASE PAN HEATER, OVER CURRENT PROTECTION, HIGH TEMPERATURE PROTECTION, LIQUID LINE PRESSURE TAPS, AND WIND BAFFLES.

NOTE B: FOR ALL UNITS, PROVIDE REFRIGERANT PIPING SIZES, COIL ROWS, AND FINS PER THE MANUFACTURER'S RECOMMENDATIONS.

NOTE C: UNITS SHALL BE CARRIER, OR EQUAL.

AIR HANDLING UNIT SCHEDULE

ITEM NO.	NO. REQ'D	AREA SERVED	SHEET NO.	COOLING COIL DATA					FAN DATA					FILTERS	REMARKS	MANUFACTURER MODEL		
				ENTERING AIR DB	LEAVING AIR WB	TOTAL MBH	SENSIBLE MBH	ROWS	OSA CFM	ESP	HP	VOLTAGE/PHASE	DRIVE					
PTB-AC-02	1	PANEL ROOM PTB	H-7	80	67	-	-	9.27	7.79	SEE NOTE B	380	0	MFR STD	208V 1φ	DIRECT	SEE NOTE A	SEE NOTES A, B, & C BELOW	CARRIER 40MAQB09

NOTE A: PROVIDE UNIT WITH THE FOLLOWING OPTIONS: WIRED REMOTE CONTROL, AUTO RESTART, INDOOR FREEZE PROTECTION, TIME DELAY RELAY, CLEANABLE FILTERS, MOUNTING BRACKETS, HIGH TEMPERATURE PROTECTION, ALUMINUM BLUE HYDROPHILIC PRE COATED FINS, AND 208 V/1φ CONDENSATE PUMP POWERED FROM UNIT. PROVIDE MANUFACTURER'S STANDARD FAN MOTOR. AC IS POWERED FROM CU FOR SPECIFIED SYSTEM.

NOTE B: FOR ALL UNITS, PROVIDE SAFE-T-SWITCH MODEL SS610E, OR EQUAL, DUCTLESS SPLIT SYSTEM CONDENSATE OVERFLOW SHUT-OFF SWITCH. INSTALL PER THE MANUFACTURER'S INSTRUCTIONS. PROVIDE ALL NECESSARY RELAYS, FITTINGS, WIRING, CONTACTS, ETC. FOR ALL UNITS, PROVIDE REFRIGERANT PIPING SIZES, COIL ROWS, AND FINS PER THE MANUFACTURER'S RECOMMENDATIONS.

NOTE C: UNITS SHALL BE CARRIER, OR EQUAL.

HVAC PIPING MATERIAL SCHEDULE

SERVICE	MATERIAL	JOINTS/FITTING	STANDARD	INSULATION	HANGERS, SUPPORTS AND ANCHORS	REMARKS
CONDENSATE AND DRIP PAN DRAIN	SCHEDULE 40 PVC-DWV	PVC-DWV PRIMED AND SOLVENT WELDED	ASTM D2665, ASTM D311, ASTM F891, ASTM F1488, ASTM D2949	SEE NOTE A	TYPE 316 STAINLESS STEEL	SEE NOTE A BELOW
REFRIGERANT	TYPE ACR COPPER	WROUGHT COPPER SOLDER TYPE FITTINGS	-	SEE NOTE A	TYPE 316 STAINLESS STEEL	SEE NOTE A BELOW
HEATING WATER	STEEL - SCHEDULE 40 GRADE A DR B	CARBON STEEL SCHEDULE 40 BUTT WELD	ASTM A53	SEE NOTE B	TYPE 316 STAINLESS STEEL	SEE NOTE B BELOW

NOTE A: ALL CONDENSATE AND REFRIGERANT SUCTION PIPING THROUGHOUT THE FACILITY SHALL BE INSULATED WITH 1" THICK CLOSED CELL FOAM INSULATION WITH A MINIMUM DENSITY OF 5.5 LBS/CU FT, MINIMUM K FACTOR OF 0.27 AT 75°F. ALL EXPOSED INSULATION SHALL HAVE A FIELD APPLIED 0.016" THICK ALUMINUM JACKET AND PREFORMED ALUMINUM FITTING COVERS WITH STAINLESS STEEL STRAPS.

NOTE B: ALL HEATING WATER SUPPLY AND RETURN PIPING THROUGHOUT THE FACILITY SHALL BE INSULATED WITH 2" MINERAL FIBER INSULATION WITH A MINIMUM DENSITY OF - LBS/CU FT, MINIMUM K FACTOR OF - AT 75°F. ALL EXPOSED INSULATION SHALL HAVE A FIELD APPLIED 0.016" THICK ALUMINUM JACKET AND PREFORMED ALUMINUM FITTING COVERS WITH STAINLESS STEEL STRAPS.

AIR DISTRIBUTION DEVICE SCHEDULE

SYMBOL	DESCRIPTION	MODEL	FRAME TYPE	MATERIAL	FINISH	REMARKS
SR	SUPPLY REGISTER HIGH VELOCITY	METAL*AIRE RLD-DF	DUCT MOUNTED	ALUMINUM	MILL	OPPOSED BLADE DAMPER
FD	FIRE DAMPER	RUSKIN IB02-SS-OW	STYLE WR	SS	-	OUT OF WALL STYLE WITH FACTORY WALL SLEEVES
FD-1	FIRE DAMPER	RUSKIN IB02-SS-OW	STYLE B	SS	-	OUT OF WALL STYLE WITH FACTORY WALL SLEEVES
VD	VOLUME DAMPER	RUSKIN 1108AF	FLANGED	FRP	-	LOCKING HAND QUADRANT
VD (ROUND)	VOLUME DAMPER	RUSKIN 914	FLANGED	FRP	-	LOCKING HAND QUADRANT
VD	VOLUME DAMPER	RUSKIN CD-35	CHANNEL	AL	-	LOCKING HAND QUADRANT
VD (ROUND)	VOLUME DAMPER	RUSKIN CDR-SB2	CHANNEL	AL	-	LOCKING HAND QUADRANT

NOTES:
1. VOLUME DAMPER MATERIAL SHALL MATCH DUCTWORK MATERIAL AS SHOWN ON THE PLANS.
2. DAMPERS SHALL BE RUSKIN, GREENHECK, POTTORFF, OR EQUAL.
3. AIR DISTRIBUTION DEVICES SHALL BE METAL*AIRE, TITUS, PRICE, OR EQUAL.

CONTROL VALVE SCHEDULE

EQUIPMENT SERVED	LOCATION	CLASS	FLOW RATE	FLUID TYPE	POSITION	CONTROL	TYPE	BASIS OF DESIGN
PTB-MAU-01	PTB ROOF	IV	135 GPM	30% PROPYLENE	N.O.	3-WAY	MODULATING FLOATING POINT CONTROL	SIEMENS

NOTES:
1. VALVE SIZE AND CV VALUE SHALL BE DETERMINED BY THE VALVE MANUFACTURER.
2. VALVE SHALL BE EQUIPPED WITH OPEN AND CLOSE END SWITCHES TO PROVIDE STATUS TO THE EXISTING DDC SYSTEM, AND MANUAL OVERRIDE.
3. NEW CONTROL VALVE SHALL CONNECT TO THE EXISTING SIEMENS DDC SYSTEM FOR VALVE STATUS REPORTING AND BE PROGRAMMED FOR THE MAU SEQUENCE OF OPERATION.
4. VALVE SHALL BE POWERED FROM NEW CONTROL PANEL PTB-ATC-02.

CONTROL COMPONENT SCHEDULE

SYMBOL	DESCRIPTION
(T)	REFER TO AIR HANDLING UNIT SCHEDULE AND THE CONTROL DIAGRAMS FOR AIR CONDITIONING UNIT THERMOSTAT REQUIREMENTS. REFER TO THE MAKE-UP AIR UNIT SCHEDULES AND THE CONTROL DIAGRAMS FOR MAKE-UP AIR UNIT THERMOSTAT REQUIREMENTS. REFER TO THE CONTROL DIAGRAMS FOR THERMOSTAT SETPOINTS.
(M) OR (M) (LOUVER MOUNTED)	LOW LEAKAGE DAMPER, RUSKIN MODEL CD40 (THIN LINE) OR EQUAL WITH BELIMO MODEL AF24-S (24 VOLT) OR AF120-S (120 VOLT) ACTUATOR WITH ZS-260 EXPLOSION PROOF HOUSING. COORDINATE FINAL VOLTAGE WITH ELECTRICAL AND AUTOMATIC TEMPERATURE CONTROL CONTRACTORS/SUPPLIERS. REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
(M) OR (M) (DUCT MOUNTED) (MAKE-UP AIR UNIT)	LOW LEAKAGE AMCA 511 CLASS 1A DAMPER, RUSKIN MODEL CD50-CE OR EQUAL WITH BELIMO MODEL AFB24 (24 VOLT) FAIL SAFE QUICK CLOSING SPRING RETURN ACTUATOR WITH ZS-260 EXPLOSION PROOF HOUSING. COORDINATE FINAL VOLTAGE WITH ELECTRICAL AND AUTOMATIC TEMPERATURE CONTROL CONTRACTORS/SUPPLIERS. REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
(M) OR (M) (DUCT MOUNTED) (FOUL AIR FAN)	LOW LEAKAGE AMCA 511 CLASS 1A DAMPER, RUSKIN MODEL 914 EQUAL WITH BELIMO MODEL AFB24 (24 VOLT) FAIL SAFE QUICK CLOSING SPRING RETURN ACTUATOR WITH ZS-260 EXPLOSION PROOF HOUSING. COORDINATE FINAL VOLTAGE WITH ELECTRICAL AND AUTOMATIC TEMPERATURE CONTROL CONTRACTORS/SUPPLIERS. PROVIDE EPDM OR VITON BLADE SEALS, FIBERGLASS AXLE, AND AXLE SHAFT SEAL WITH OUTBOARD BEARINGS. REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
(S1)	PHOTOELECTRIC SMOKE DETECTOR, SYSTEM SENSOR INNOVAIR FLEX MODEL D4120W OR EQUAL WITH NEMA 4 WATER TIGHT COVER. REFER TO THE CONTROL DIAGRAMS FOR ADDITIONAL REQUIREMENTS. FOR USE WITH MAKE-UP AIR UNITS AND EXHAUST FANS.
(S2)	EXPLOSION PROOF SMOKE DETECTOR FOR FOUL AIR FANS AND EXHAUST FANS. PYROTECTOR MODEL 3003D OR EQUAL. REFER TO THE CONTROL DIAGRAMS FOR ADDITIONAL REQUIREMENTS.
(FS)	EXPLOSION PROOF DIFFERENTIAL PRESSURE FLOW SWITCH, DWYER 1950 SERIES OR EQUAL. REFER TO THE CONTROL DIAGRAMS FOR ADDITIONAL REQUIREMENTS.
(□)	EXTERIOR LOCAL VISIBLE GREEN LIGHT/RED LIGHT (GO/NO GO) ALARM STATION. PROVIDE A STAINLESS STEEL NEMA 4X ENCLOSURE WITH THREE PILOT LIGHTS. FIRST PILOT LIGHT SHALL BE LABELED "VENTILATION SYSTEM NORMAL OPERATION" AND SHALL BE A GREEN STEADY BURN NEMA 4 30 MM STANDARD PILOT LIGHT, SQUARE D OR EQUAL. SECOND PILOT LIGHT SHALL BE LABELED "VENTILATION SYSTEM FAILURE" AND SHALL BE A RED FLASHING NEMA 4 30 MM STANDARD PILOT LIGHT, SQUARE D OR EQUAL. THIRD LIGHT SHALL BE LABELED "VENTILATION SYSTEM FAILURE ACKNOWLEDGED" AND SHALL BE A RED STEADY BURN NEMA 4 30 MM STANDARD PILOT LIGHT. ALARM STATION SHALL BE FIELD WIRED TO CHANGE FROM FLASHING PILOT LIGHT TO STEADY BURN PILOT LIGHT WHEN ALARM IS SILENCED/ACKNOWLEDGED AT THE ATC PANEL. STEADY BURN ALARM LIGHT SHALL REMAIN ON UNTIL RESET AT THE ATC PANEL.
(□)	INTERIOR LOCAL VISIBLE AND AUDIBLE ALARM STATION. PROVIDE THREE EXPLOSION PROOF WALL MOUNTED BEACON LIGHTS AND AN ALARM HORN WITH FUNCTION LABELS. FIRST BEACON LIGHT SHALL BE LABELED "VENTILATION SYSTEM NORMAL" AND SHALL BE A GREEN SOLID LIGHT. SECOND BEACON LIGHT SHALL BE LABELED "VENTILATION SYSTEM FAILURE" AND SHALL BE A RED FLASHING LIGHT. THIRD BEACON LIGHT SHALL BE LABELED "VENTILATION SYSTEM FAILURE ACKNOWLEDGED" AND SHALL BE A RED STEADY BURN LIGHT. LIGHTS SHALL BE EDWARDS MODEL 107XB OR EQUAL. HORN SHALL BE EDWARDS MODEL 870EX OR EQUAL. ALARM STATION SHALL BE FIELD WIRED TO CHANGE FROM FLASHING PILOT LIGHT TO STEADY BURN PILOT LIGHT WHEN ALARM IS SILENCED/ACKNOWLEDGED AT THE ATC PANEL. STEADY BURN ALARM LIGHT SHALL REMAIN ON UNTIL RESET AT THE ATC PANEL.
(BG)	BREAK GLASS SWITCH FOR EMERGENCY VENTILATION SHUTDOWN. KELE MODEL ST120-SN4-BP2 OR EQUAL.
(WS)	WALL SWITCH FOR EMERGENCY VENTILATION START. KELE MODEL ST120L-VSTART.
(PS)	EXPLOSION PROOF DAMPER POSITION SWITCH. KELE 10316H2176 OR EQUAL.

DUCTWORK MATERIAL SCHEDULE

SYMBOL	DESCRIPTION
(AL)	SINGLE WALL ALUMINUM DUCTWORK PER SMACNA STANDARDS. REFER TO SECTION 233113.
(AL-DW)	DOUBLE WALL INSULATED ALUMINUM DUCTWORK PER SMACNA STANDARDS. REFER TO SECTION 233113.
(FRP)	FIBERGLASS REINFORCED PLASTIC DUCTWORK PER SMACNA STANDARDS. REFER TO SECTION 233116.



DEPARTMENT OF ENVIRONMENTAL SERVICES
WATER POLLUTION CONTROL BUREAU
3402 S. GLEBE ROAD
ARLINGTON, VA 22202
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SEAL



APPROVALS DATE

100% BID SET

Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
HVAC SCHEDULES

Designed: P. POULIOT
Drawn: B. BILODEAU
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

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Path: C:\pwworking\cdm\h014schd.dwg
Plotted: January 04, 2021
Plotted by: BILODEAUBP

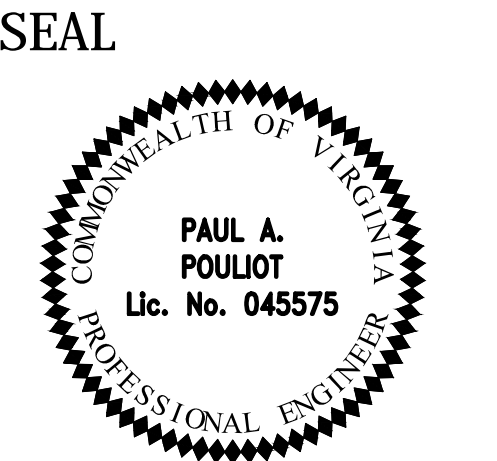
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Sht. 64 of 97
H-14

PRELIMINARY TREATMENT UPGRADES

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APPROVALS _____ DATE _____

100% BID SET

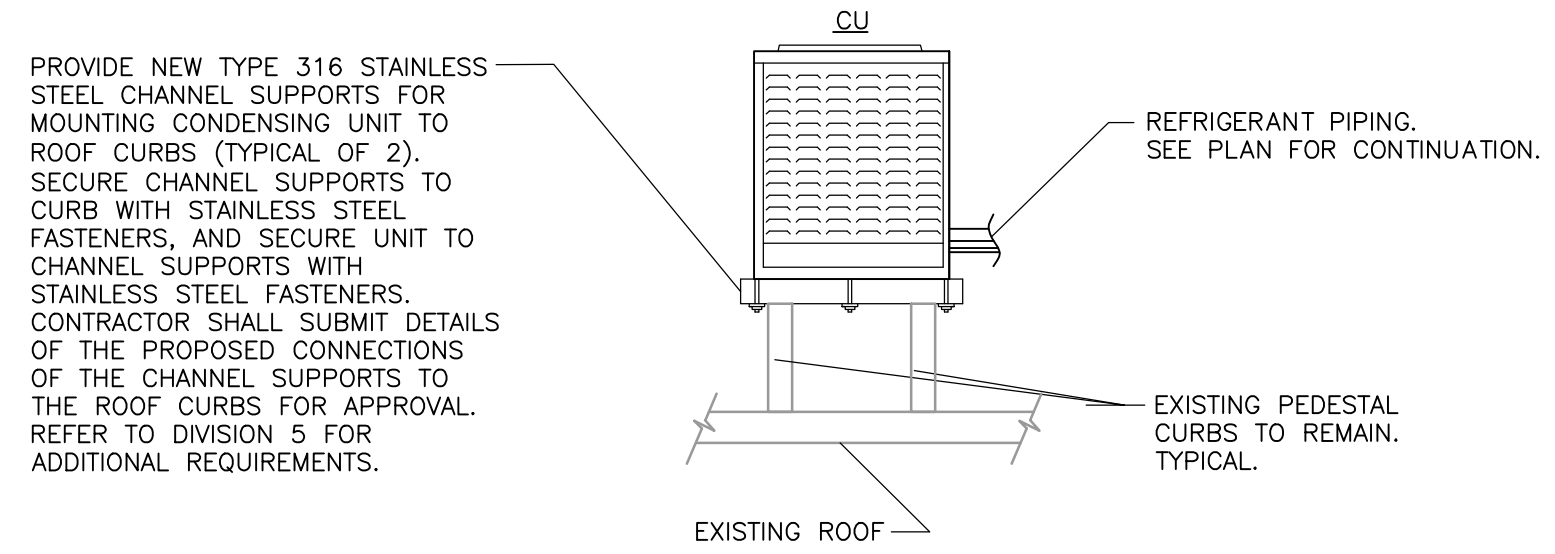
Revisions	Date

Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
HVAC
DETAILS I

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Drawn: B. BILODEAU
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

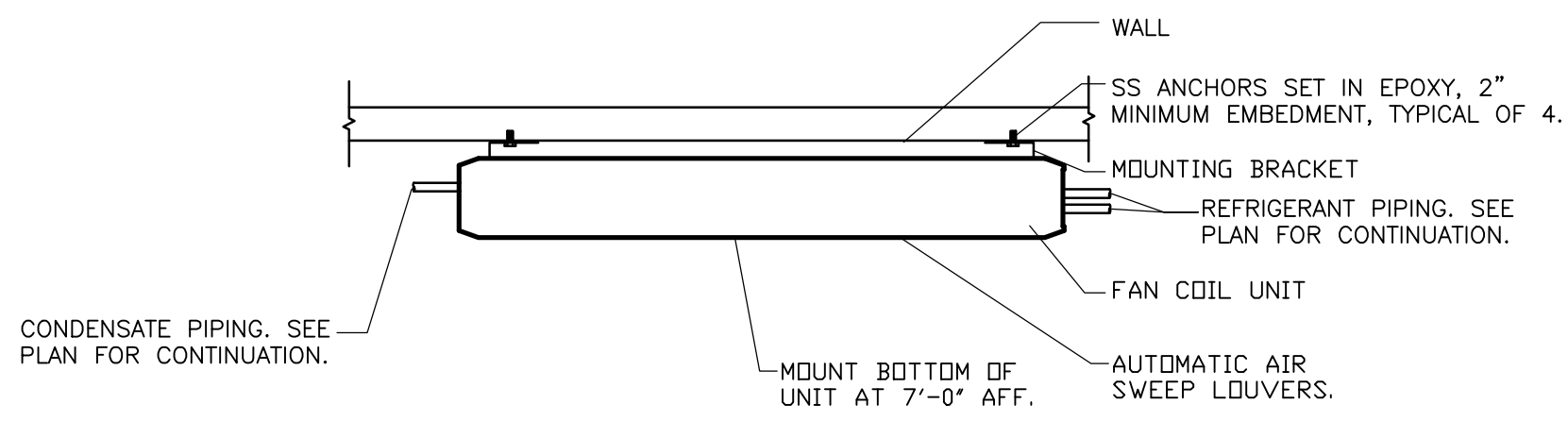
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Plotted by: BILODEAUBP

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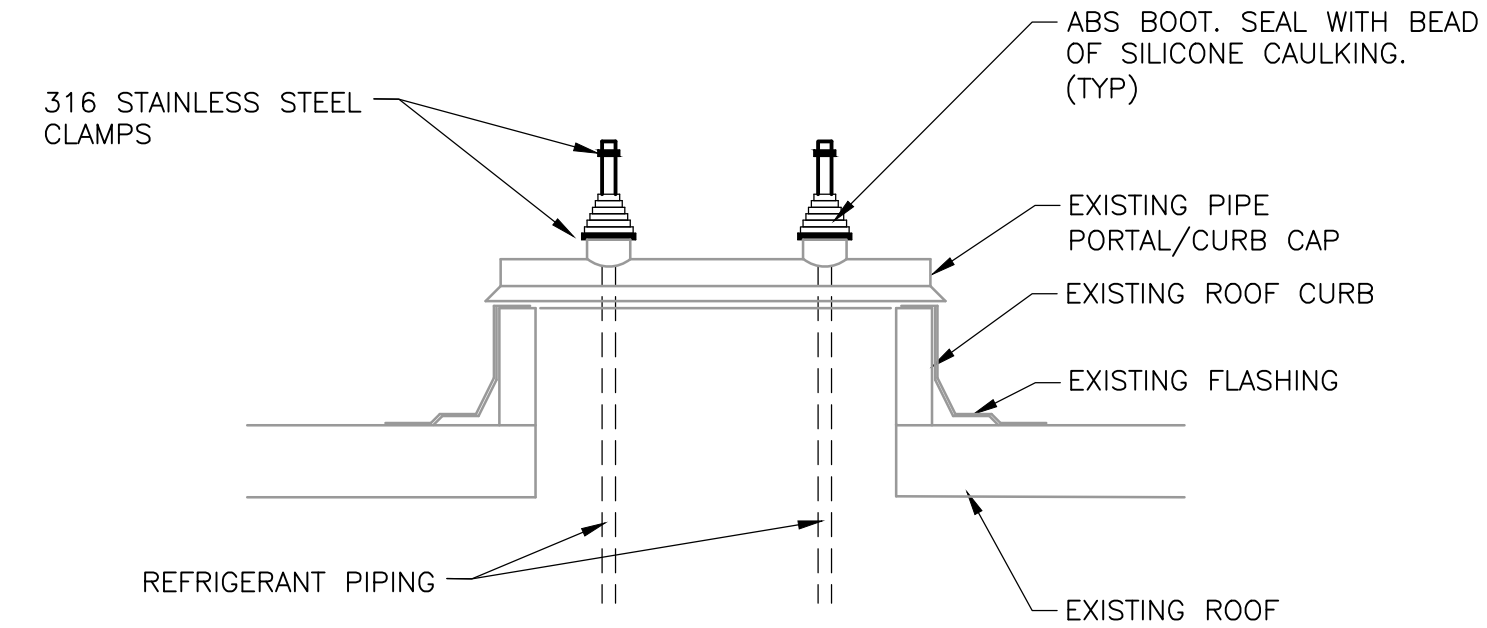
ROOF MOUNTED AIR COOLED CONDENSING UNIT

DETAIL A
NTS



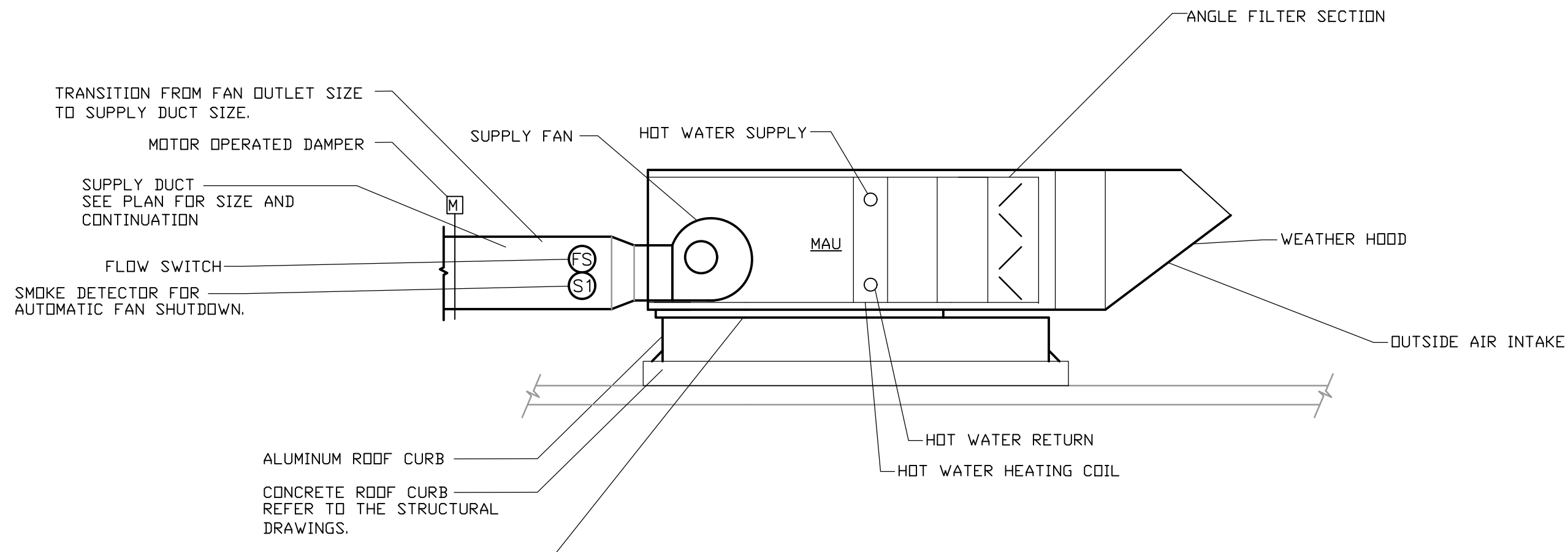
WALL MOUNTED AIR HANDLING UNIT MOUNTING

DETAIL B
NTS



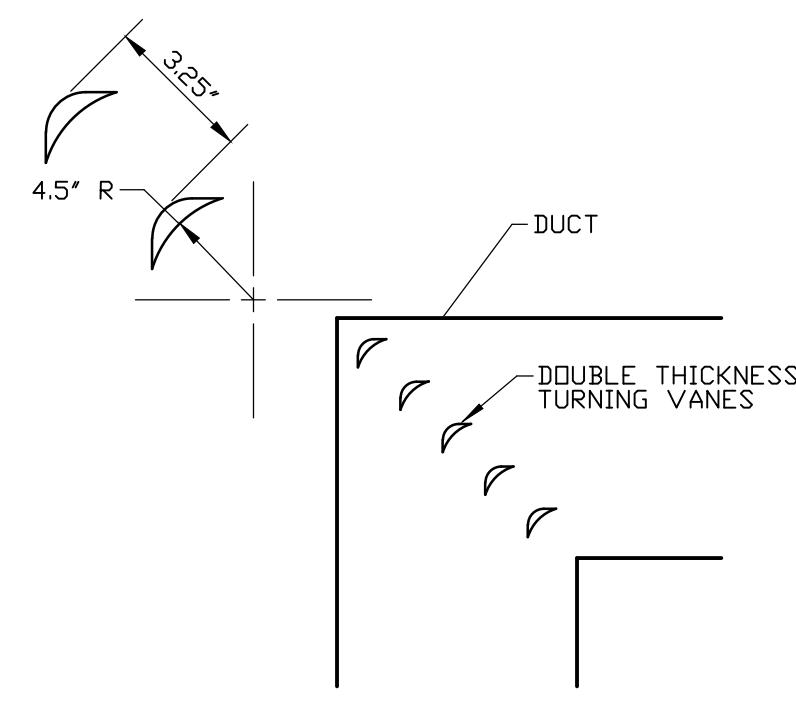
REFRIGERANT PIPING ROOF PENETRATION

DETAIL C
NTS



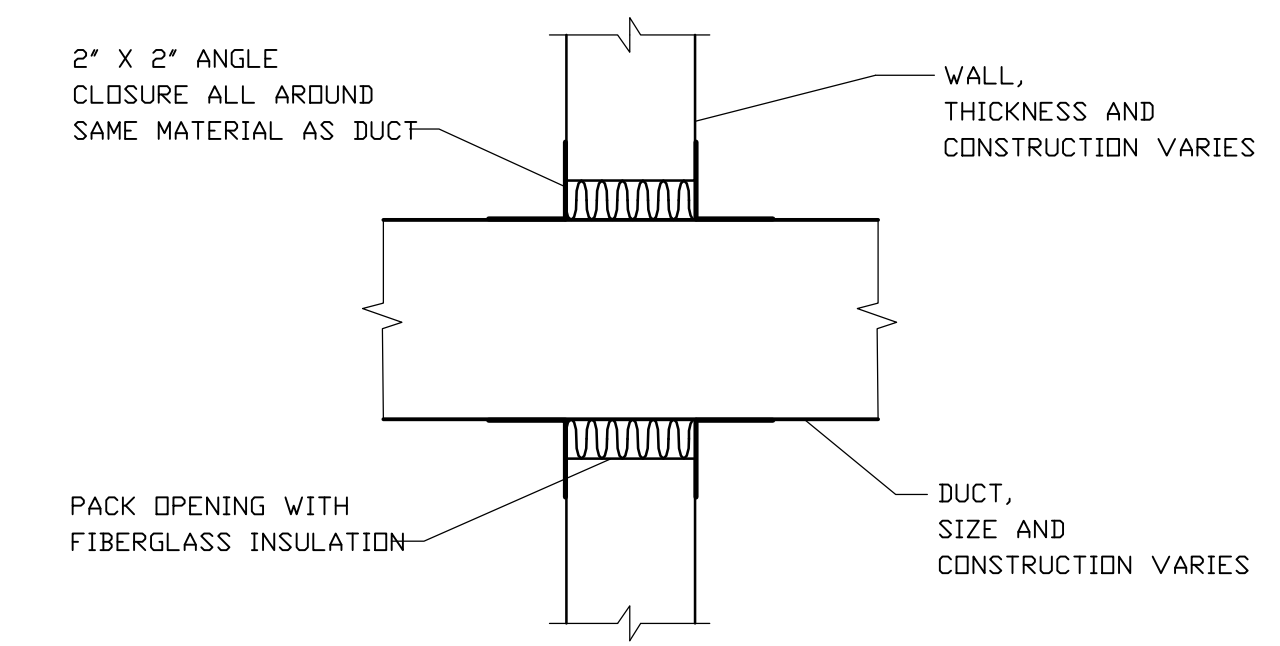
HOT WATER MAKE-UP AIR UNIT (MAU)

DETAIL D
NTS



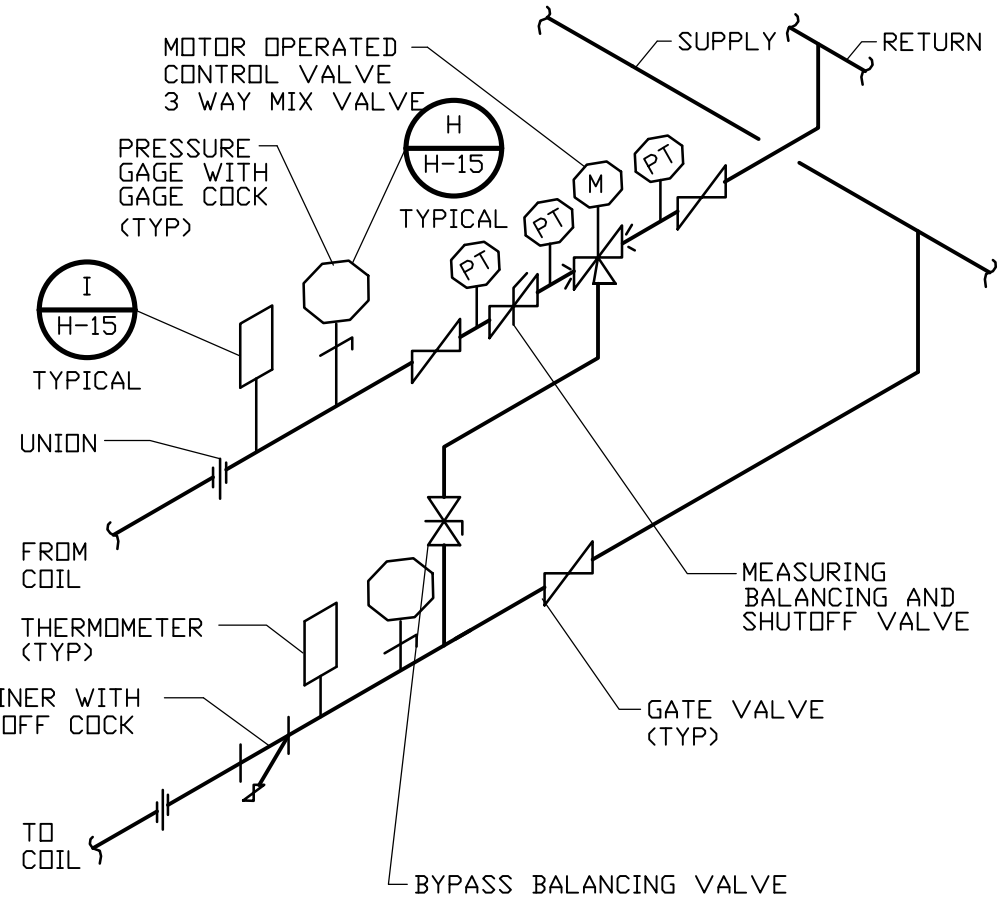
SHEET METAL DUCT TURNING VANES

DETAIL E
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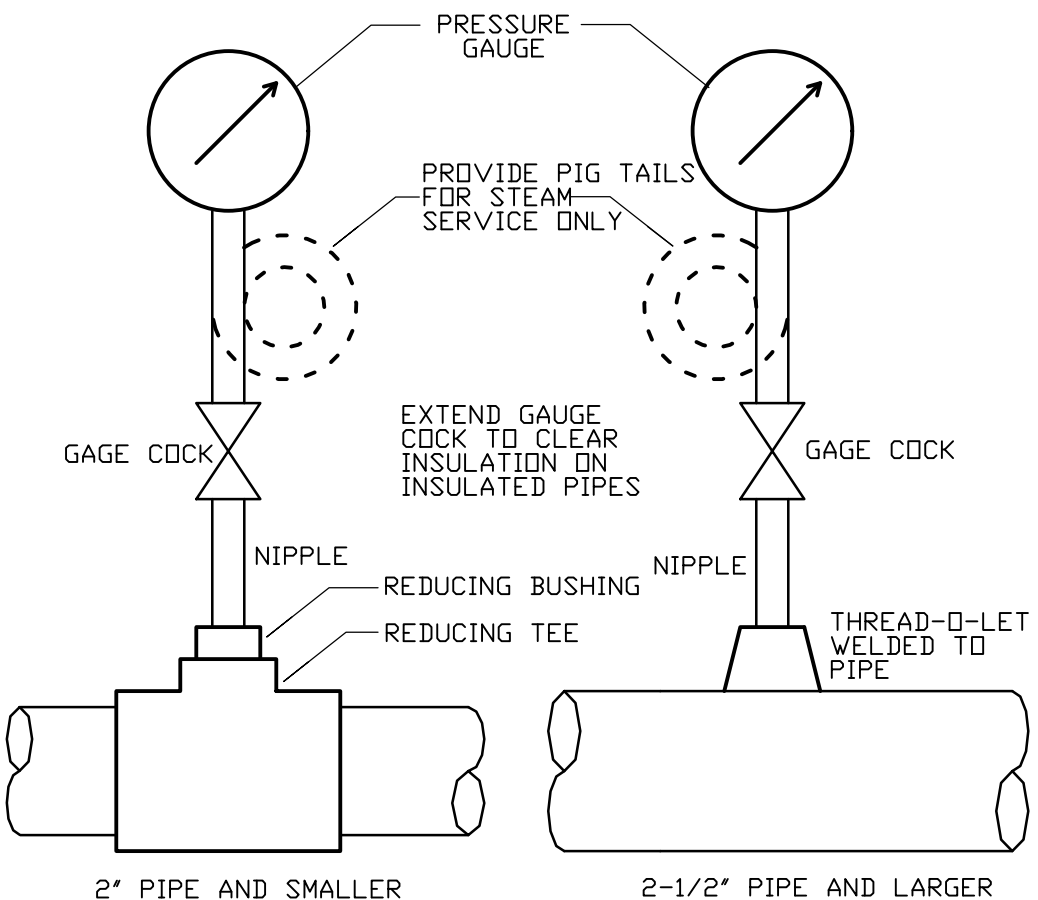
DUCT WALL PENETRATIONS TO BE USED FOR ALL NON-FIRE RATED WALLS

DETAIL F
NTS



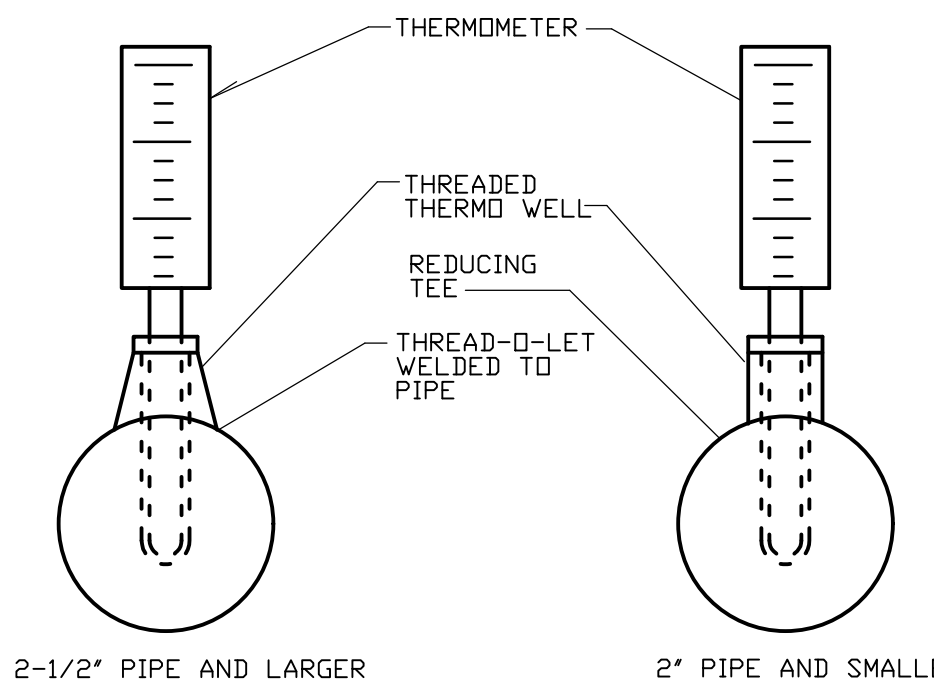
HOT WATER HEATING COIL VALVE BAND

DETAIL G
NTS



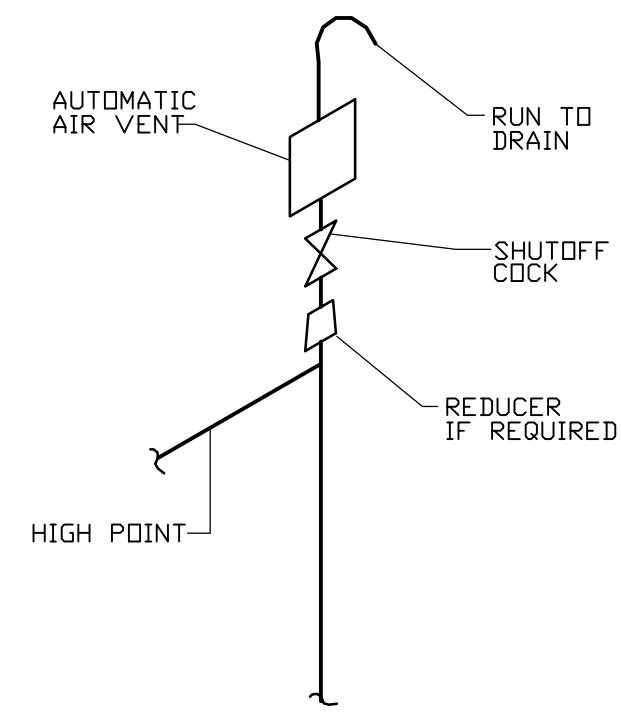
PRESSURE GAUGES IN PIPES

DETAIL H
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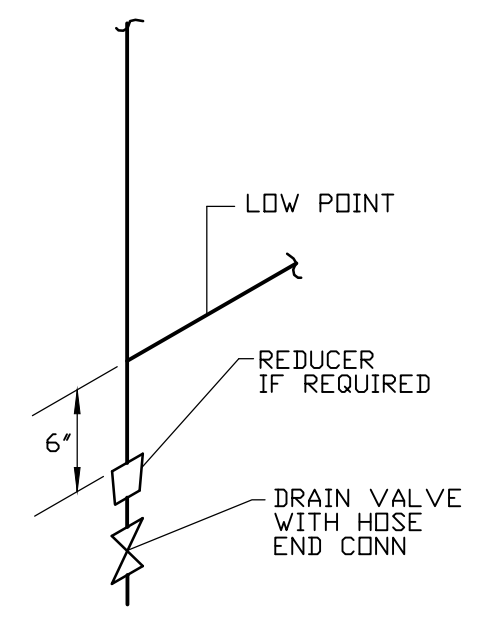
PIPE MOUNTED THERMOMETER

DETAIL I
NTS



HIGH POINT VENT

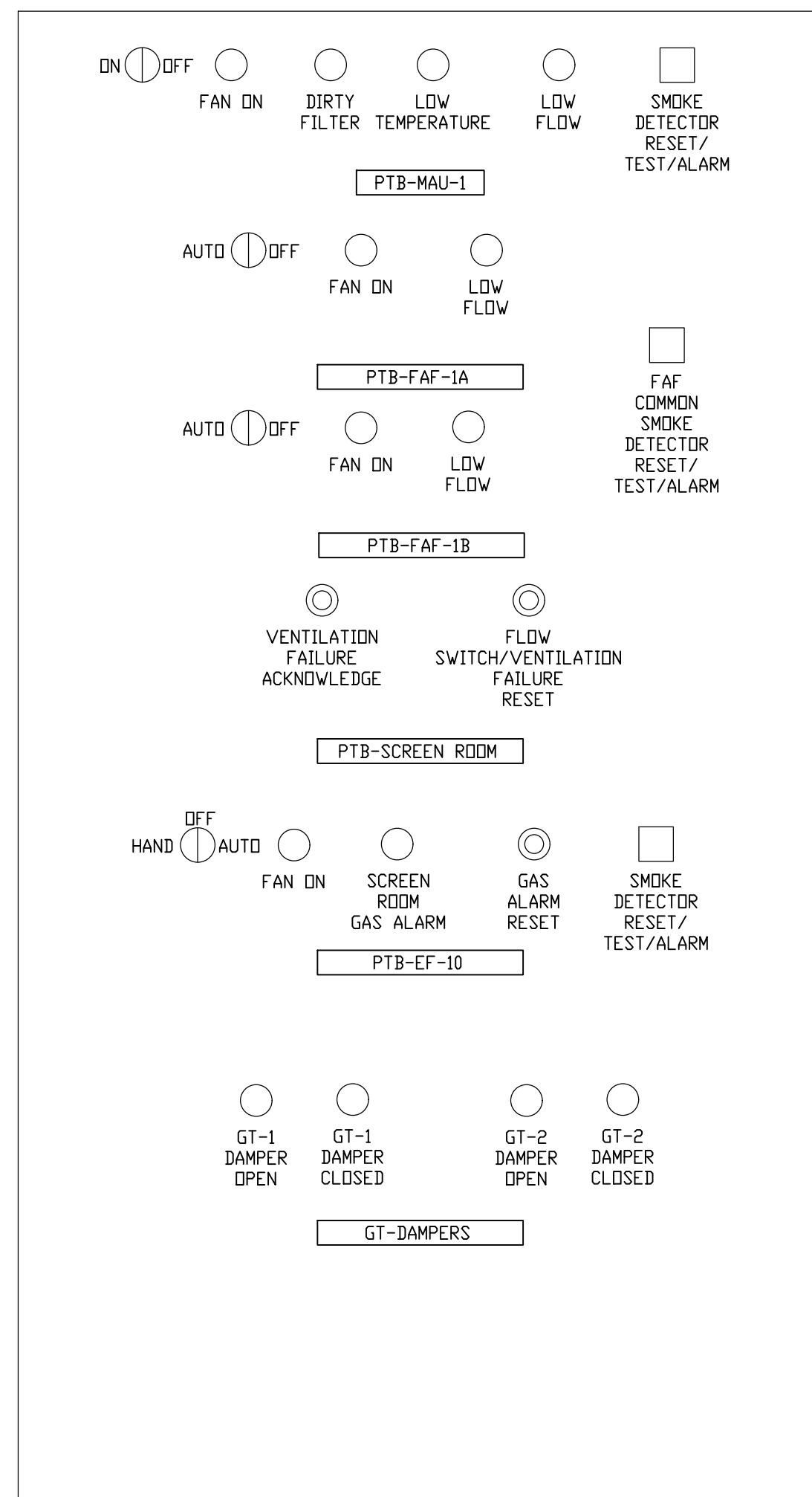
DETAIL J
NTS



LOW POINT DRAIN

DETAIL K
NTS

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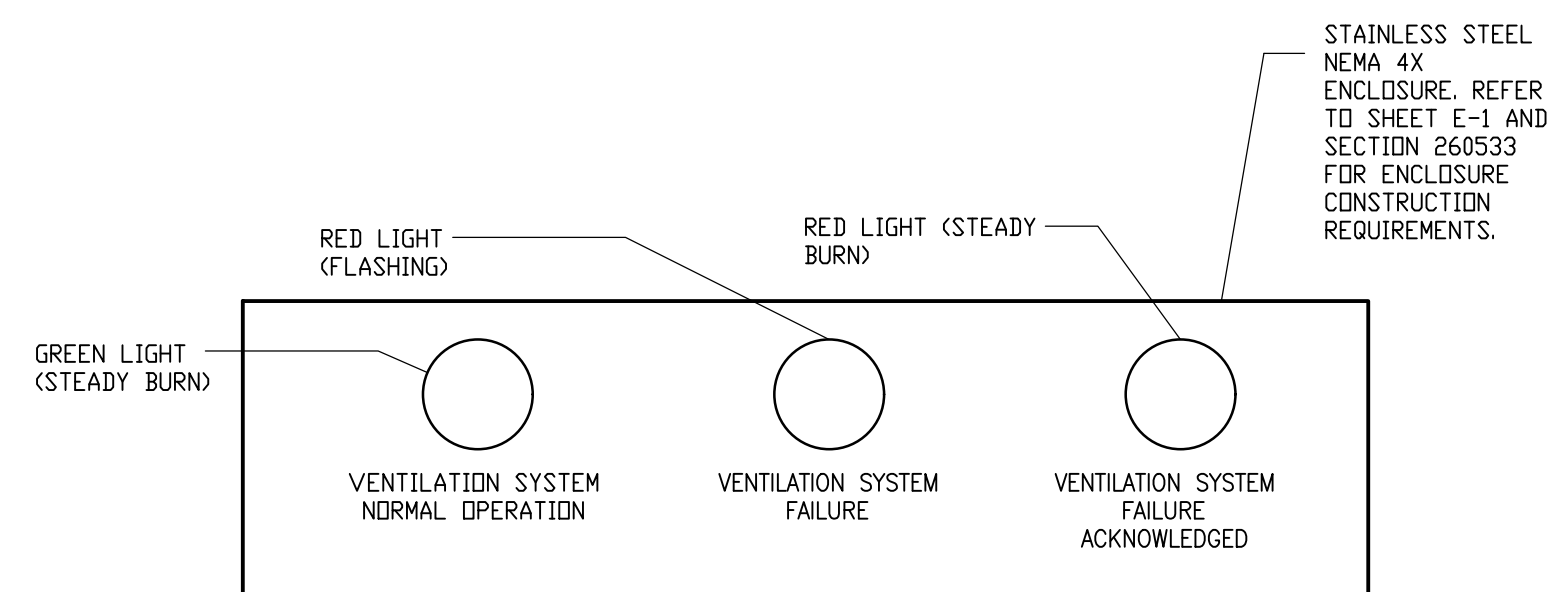


PTB-ATC-02 PANEL FACE

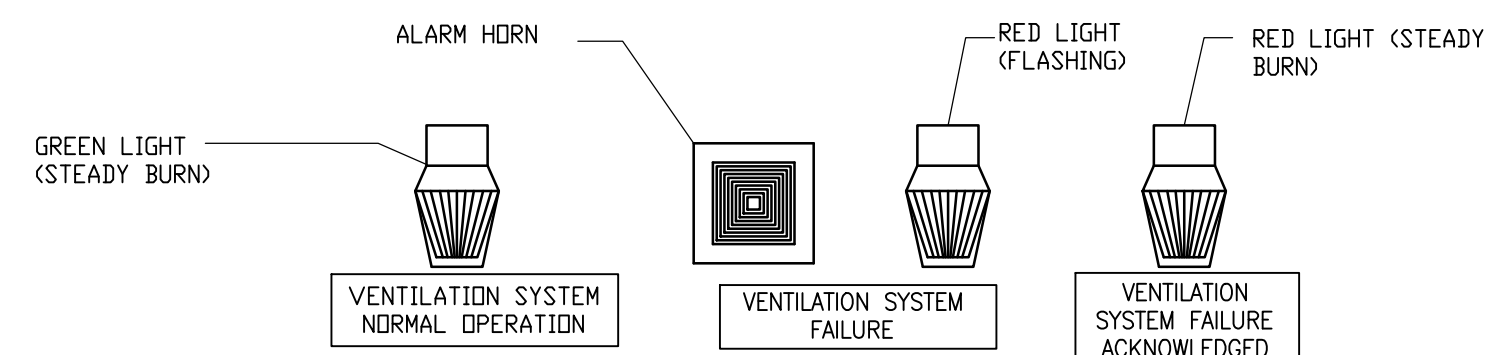
DETAIL A
NTS

REFER TO THE ELECTRICAL DRAWINGS FOR UPS (BACK-UP POWER)

STAINLESS STEEL NEMA 4X ENCLOSURE. REFER TO SHEET E-1 AND SECTION 260533 FOR ENCLOSURE CONSTRUCTION REQUIREMENTS.



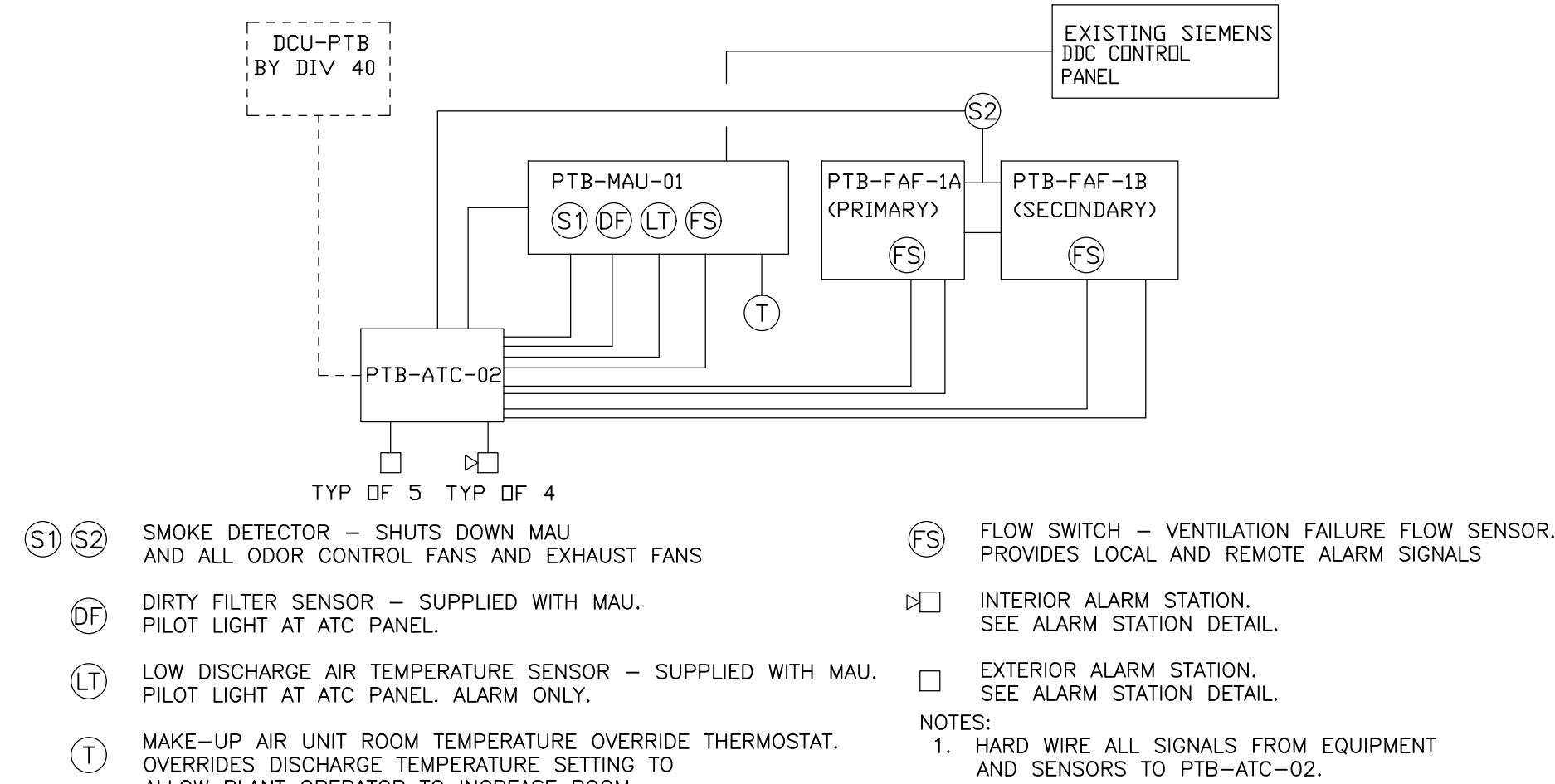
EXTERIOR LOCAL ALARM STATION



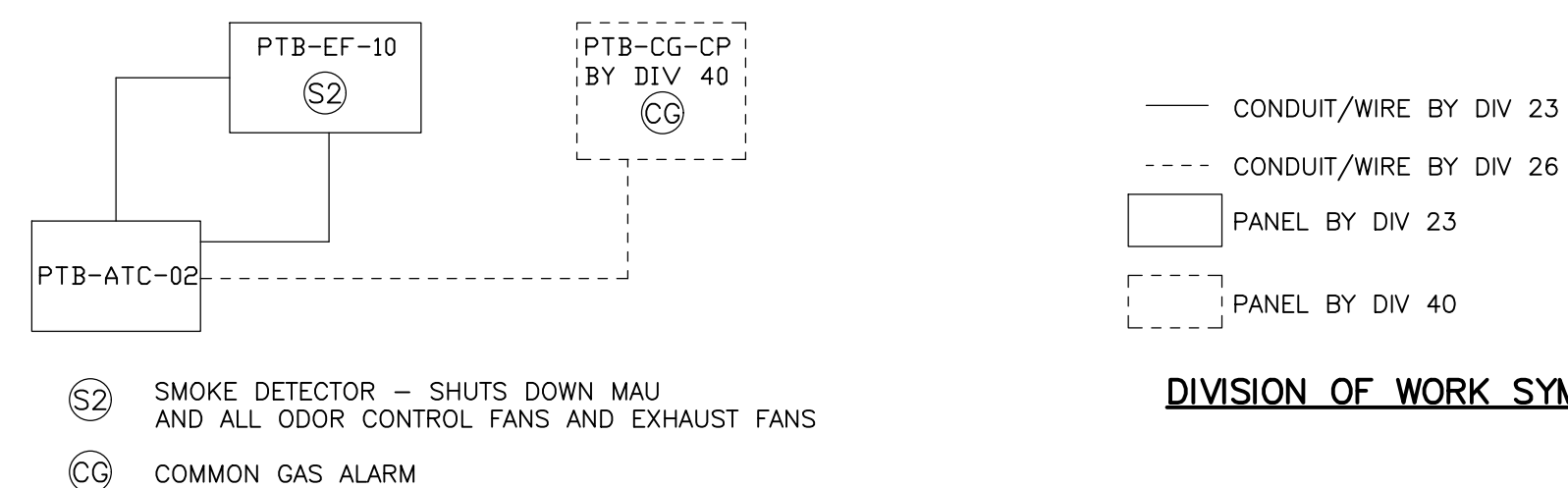
INTERIOR LOCAL ALARM STATION

DETAIL B
NTS

STAINLESS STEEL NEMA 4X ENCLOSURE. REFER TO SHEET E-1 AND SECTION 260533 FOR ENCLOSURE CONSTRUCTION REQUIREMENTS.

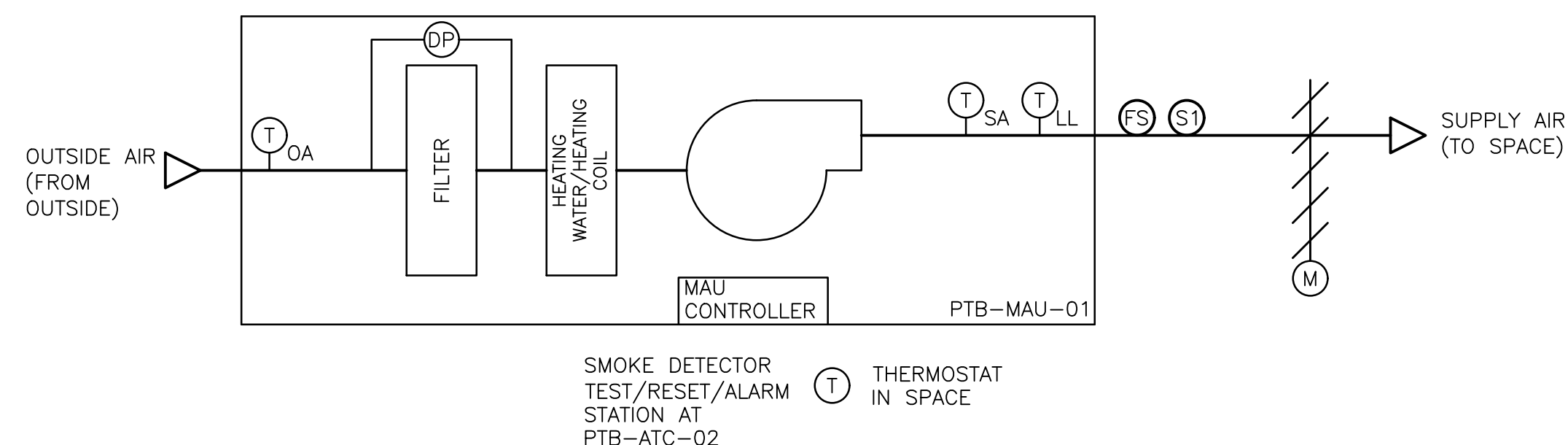


PTB SCREEN ROOM - PRIMARY/SECONDARY VENTILATION SYSTEM CONTROL COMPONENT DIAGRAM

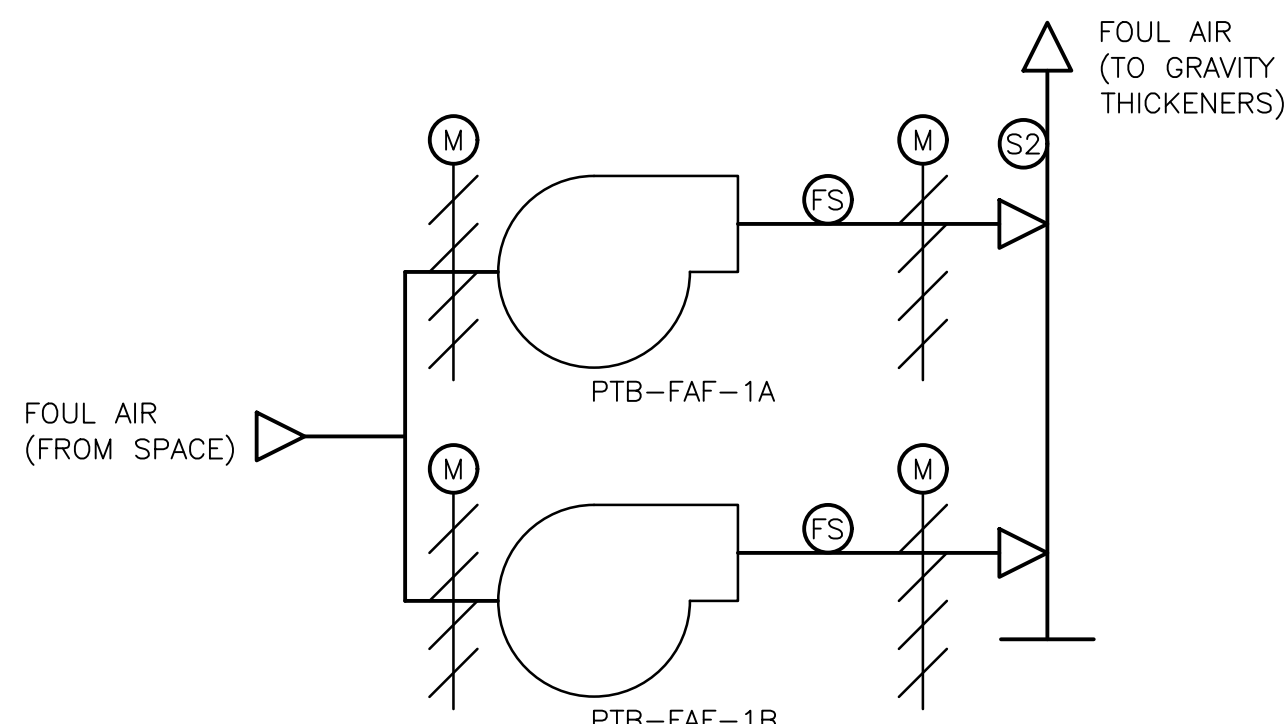


DIVISION OF WORK SYMBOLS

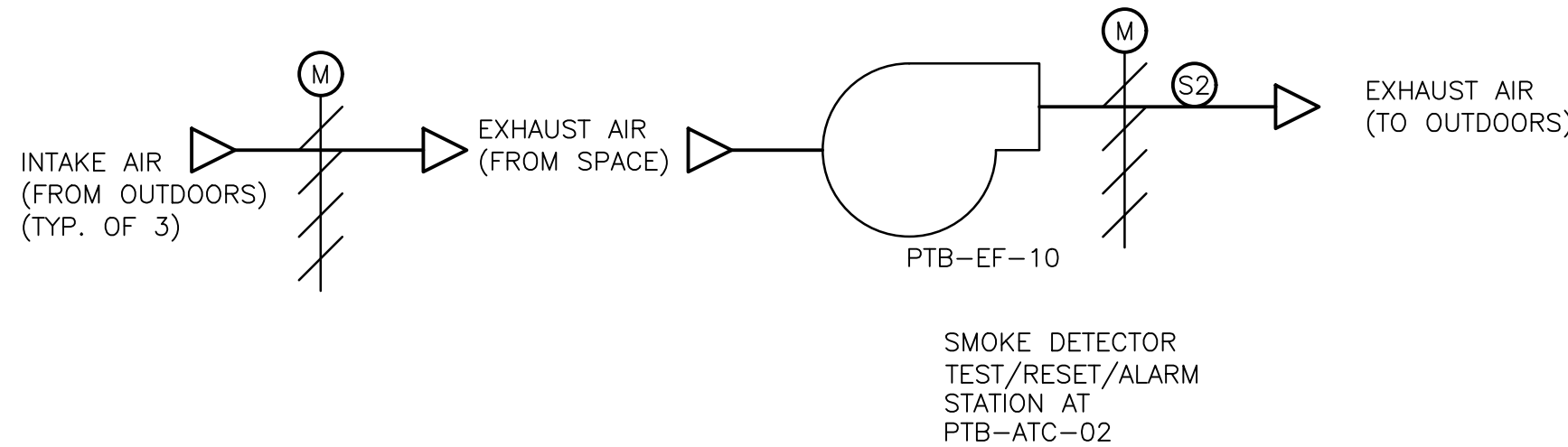
PTB SCREEN ROOM EMERGENCY VENTILATION SYSTEM CONTROL COMPONENT DIAGRAM



PTB-MAU-01 CONTROL COMPONENT DIAGRAM



PTB-FAF-1A AND PTB-FAF-1B CONTROL COMPONENT DIAGRAM



PTB-EF-10 CONTROL COMPONENT DIAGRAM

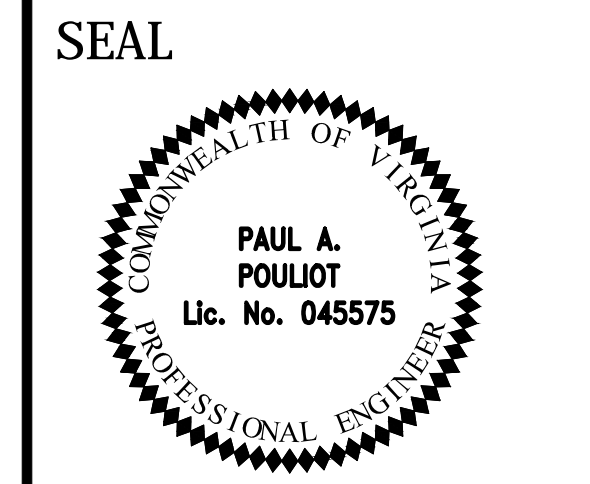
PTB SCREEN ROOM - VENTILATION SEQUENCE OF CONTROL

PRIMARY/SECONDARY VENTILATION SYSTEMS - HEATING WATER MAKE UP AIR UNIT PTB-MAU-01 WITH FOUL AIR EXHAUST FANS PTB-FAF-1A AND PTB-FAF-1B. PTB-MAU-01 AND THE PRIMARY FOUL AIR FAN ARE DESIGNED FOR CONTINUOUS OPERATION TO LOWER THE ELECTRICAL HAZARD CLASSIFICATION OF THE SPACE TO CLASS 1, DIVISION 2 PER NFPA 820. PTB-FAF-1A IS THE INITIAL PRIMARY FOUL AIR FAN AND PTB-FAF-1B IS THE INITIAL SECONDARY FOUL AIR FAN.

EMERGENCY VENTILATION SYSTEM PTB-EF-10 IS DESIGNED FOR EMERGENCY OPERATION DURING A COMMON COMBUSTIBLE GAS ALARM OR BY MANUAL CONTROL AT PTB-ATC-02.

ALL SYSTEM ARE CONTROLLED BY AUTOMATIC TEMPERATURE CONTROL PANEL PTB-ATC-02.

- WHEN SMOKE IS SENSED BY THE PTB-MAU-01 SUPPLY AIR SMOKE DETECTOR, THE COMMON FOUL AIR EXHAUST FAN (PTB-FAF-1A/PTB-FAF-1B) EXHAUST AIR SMOKE DETECTOR, OR THE PTB-EF-10 EXHAUST AIR SMOKE DETECTOR, ALL OTHER CONTROL FUNCTIONS SHALL BE OVERRIDDEN AND PTB-MAU-01, ALL ASSOCIATED FOUL AIR EXHAUST FANS (PTB-FAF-1A AND PTB-FAF-1B), AND PTB-EF-10 SHALL BE OFF. ALL SUPPLY AIR AND EXHAUST AIR DAMPERS SHALL BE CLOSED. AN ALARM LIGHT IN THE ALARM/TEST/RESET STATIONS MOUNTED TO THE ATC PANEL SHALL BE ACTIVATED FOR THE AFFECTED SMOKE DETECTOR. SMOKE SENSORS SHALL BE MANUALLY RESET FROM THE REMOTE ALARM/TEST/RESET STATIONS LOCATED AT PTB-ATC-02.
- WHEN PTB-MAU-01 IS TURNED OFF AT THE ATC PANEL, THE MAKE-UP AIR UNIT SUPPLY FAN SHALL BE OFF, THE SUPPLY FAN DAMPER SHALL BE CLOSED, AND THE TEMPERATURE CONTROLS SHALL BE DEACTIVATED.
- WHEN THE PRIMARY AND/OR SECONDARY FOUL AIR FANS (PTB-FAF-1A AND PTB-FAF-1B) ARE TURNED OFF AT THE ATC PANEL, THE APPLICABLE FAN(S) SHALL BE OFF, AND THE APPLICABLE FOUL AIR FAN DAMPER(S) SHALL BE CLOSED.
- WHEN PTB-EF-10 IS TURNED OFF AT THE ATC PANEL, THE FAN SHALL BE OFF, THE EXHAUST FAN DAMPER SHALL BE CLOSED, AND THE LOUVER MOUNTED INTAKE AIR DAMPERS SHALL BE CLOSED.
- WHEN PTB-MAU-01 IS SET TO ON AT THE ATC PANEL, THE MAKE-UP AIR UNIT SUPPLY FAN SHALL RUN, THE SUPPLY FAN DAMPER SHALL BE OPEN, AND THE TEMPERATURE CONTROLS SHALL BE ACTIVATED.
 - PTB-MAU-01 HEATING CONTROLS SHALL BE CONNECTED TO THE EXISTING SIEMENS DIRECT DIGITAL CONTROL (DDC) SYSTEM. PTB-MAU-01 SHALL BE PROVIDED WITH A DDC CONTROLLER WITH BACNET COMMUNICATIONS INTERFACE. VERIFY NETWORK CONNECTION REQUIREMENTS WITH SIEMENS.
 - THE EXISTING SIEMENS DDC SYSTEM SHALL PROVIDE A SIGNAL TO THE PTB-MAU-01 CONTROLLER TO ACTIVATE THE UNIT HEATING CONTROLS WHEN THE EXISTING HEATING WATER HEATING SYSTEM (BOILERS AND PUMPING SYSTEMS) IS ACTIVE AND CIRCULATING 180°F HEATING WATER/GLYCOL.
 - WHEN THE DISCHARGE AIR TEMPERATURE SENSED BY THE UNIT MOUNTED DISCHARGE AIR TEMPERATURE SENSOR IS BELOW THE SET POINT (INITIALLY 65°F), THE SENSOR SHALL ELECTRONICALLY MODULATE THE THREE-WAY PTB-MAU-01 HEATING WATER CONTROL VALVE TO MAINTAIN CONSTANT DISCHARGE AIR TEMPERATURE AT THE SET POINT.
 - WHEN THE SPACE TEMPERATURE SENSED BY THE SPACE OVERRIDE THERMOSTAT IS 2°F BELOW THE SET POINT (INITIALLY 50°F), THE DISCHARGE AIR TEMPERATURE SENSOR SET POINT SHALL BE INCREASED BY 20°F TO PROVIDE ADDITIONAL HEAT BY ELECTRONICALLY MODULATING THE THREE-WAY PTB-MAU-01 HEATING WATER CONTROL VALVE.
 - WHEN THE TEMPERATURE SENSED BY THE DISCHARGE AIR LOW TEMPERATURE SENSOR IS BELOW THE ALARM SET POINT (INITIALLY 40°F), AN ALARM SHALL BE SIGNALLED AT PTB-ATC-02, AND ALARM SIGNAL SHALL BE SENT TO THE EXISTING SIEMENS DDC SYSTEM.
- WHEN THE PRIMARY AND SECONDARY FOUL AIR EXHAUST FANS (PTB-FAF-1A AND PTB-FAF-1B) ARE SET TO AUTO AT THE ATC PANEL, THE PRIMARY FOUL AIR EXHAUST FAN SHALL RUN, THE PRIMARY EXHAUST FAN DAMPERS SHALL BE OPEN, THE SECONDARY EXHAUST FAN SHALL BE OFF, AND THE SECONDARY EXHAUST FAN DAMPERS SHALL BE CLOSED.
- PRIMARY/SECONDARY FOUL AIR FAN OPERATION (PTB-FAF-1A AND PTB-FAF-1B) SHALL BE ALTERNATED EVERY TWO WEEKS (ADJUSTABLE). FLOW SWITCHES SHALL BE PROVIDED WITH AN ADJUSTABLE TIME DELAY TO ALLOW THE PRIMARY FAN TO STOP AND THE SECONDARY FOUL AIR EXHAUST FAN TO START WITHOUT CREATING A NUISANCE ALARM.
- WHEN PTB-EF-10 IS SET TO AUTO AT THE ATC PANEL AND NO ALARM SIGNAL FROM THE COMMON GAS ALARM IS INDICATED, THE FAN SHALL BE OFF, THE EXHAUST DAMPER SHALL BE CLOSED, AND THE LOUVER MOUNTED INTAKE DAMPERS SHALL BE CLOSED.
- WHEN PTB-EF-10 IS SET TO AUTO AT THE ATC PANEL AND ALARM SIGNAL FROM THE COMMON GAS ALARM IS INDICATED, THE FAN SHALL BE ON, THE EXHAUST DAMPER SHALL BE OPEN, AND THE LOUVER MOUNTED INTAKE DAMPERS SHALL BE OPEN.
 - WHEN THE COMMON GAS ALARM HAS BEEN CLEARED, PTB-EF-10 OPERATION SHALL BE MANUALLY RESET AT THE ATC PANEL.
- WHEN PTB-EF-10 IS SET TO HAND AT THE ATC PANEL, THE FAN SHALL BE ON, THE EXHAUST AIR DAMPER SHALL BE OPEN, AND THE LOUVER MOUNTED INTAKE DAMPERS SHALL BE OPEN.
 - FLOW SWITCH FUNCTIONS:
 - WHEN THE AIRFLOW IN THE SUPPLY DUCT OF PTB-MAU-01 IS BELOW THE SET POINT OF THE FLOW SWITCH, AN ALARM WILL BE INDICATED AT THE LOCAL CONTROL PANEL. IN ADDITION, THE FLOW ALARM WILL BE SENT TO DCU-PTB. INTERIOR AND EXTERIOR VENTILATION FAILURE ALARM PANELS SHALL BE ACTIVATED.
 - WHEN THE AIRFLOW IN THE EXHAUST DUCT OF THE PRIMARY FOUL AIR EXHAUST FAN IS BELOW THE SET POINT OF THE FLOW SWITCH, THE SECONDARY FOUL AIR EXHAUST FAN SHALL START. AN ALARM WILL BE INDICATED AT THE LOCAL CONTROL PANEL. IN ADDITION, THE FLOW ALARM WILL BE SENT TO DCU-PTB. FLOW SWITCH SHALL BE PROVIDED WITH AN ADJUSTABLE TIME DELAY TO ALLOW THE SECONDARY FOUL AIR EXHAUST FAN TO START WITHOUT CREATING A NUISANCE VENTILATION FAILURE ALARM.
 - WHEN THE AIRFLOW IN THE EXHAUST DUCTS OF BOTH THE PRIMARY FOUL AIR EXHAUST FAN AND THE SECONDARY FOUL AIR EXHAUST FAN ARE BELOW THE SETPOINTS OF THE ASSOCIATED FLOW SWITCHES, AN ALARM WILL BE INDICATED AT THE LOCAL CONTROL PANEL. IN ADDITION, THE FLOW ALARM WILL BE SENT TO DCU-PTB. INTERIOR AND EXTERIOR VENTILATION FAILURE ALARM PANELS SHALL BE ACTIVATED.
 - FLOW ALARM OPERATION SHALL BE INDEPENDENT OF ANY SYSTEM ON/OFF OR SHUTDOWN CONTROLS. IN OTHER WORDS, VENTILATION SYSTEM FAILURE ALARMS SHALL ACTIVATE IF FANS ARE TURNED OFF MANUALLY OR SHUTDOWN BY SMOKE DETECTORS.
 - FLOW ALARMS SHALL BE MANUALLY RESET AT THE LOCAL CONTROL PANEL. AN ALARM SILENCE/ALARM ACKNOWLEDGE BUTTON SHALL BE PROVIDED AT THE ATC PANEL TO SILENCE THE INTERIOR HORNS AND ACTIVATE AN ALARM ACKNOWLEDGED LIGHT.



APPROVALS DATE

100% BID SET

Revisions	Date

Project Name and Location

Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
HVAC
DETAILS II

Designed: P. POULIOT
Drawn: B. BILODEAU
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

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Path: C:\pwr_pj1\bilodeau\p12550-9
Plotted: January 04, 2021
Plotted by: BILODEAUBP

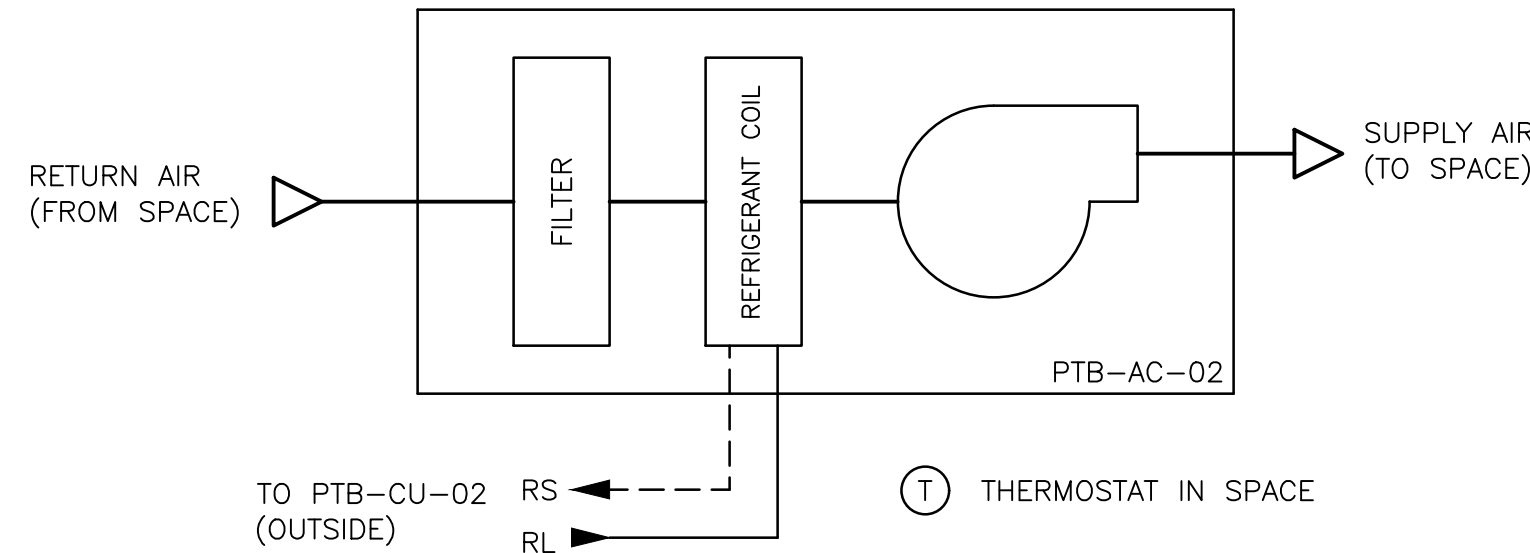
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CDM Smith
10560 Arrowhead Drive, Suite 500
FAIRFAX, VA 22030

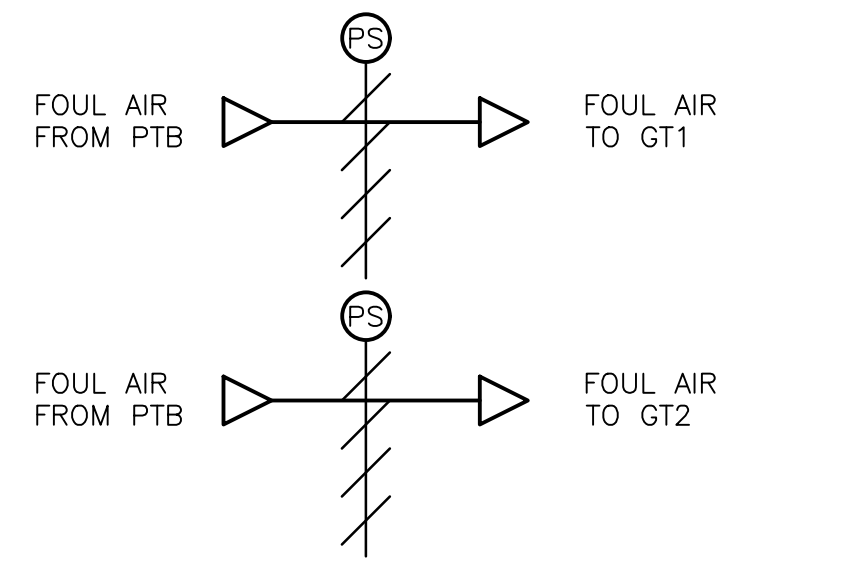
**PTB PANEL ROOM
HVAC SEQUENCE OF CONTROL**

PANEL ROOM AIR CONDITIONING SYSTEM IS PROVIDED TO CONDITION THE ELECTRICAL EQUIPMENT LOCATED IN THE PANEL ROOM IN ORDER TO REDUCE THE EFFECTS OF HEAT AND HUMIDITY ON THE ELECTRICAL EQUIPMENT.

1. SYSTEMS SHALL BE PROVIDED WITH STAND-ALONE FACTORY THERMOSTAT AND STAND-ALONE FACTORY HEATING AND COOLING CONTROLS.
2. SUPPLY FAN SHALL CYCLE WITH HEATING AND COOLING FUNCTIONS.
3. SET POINTS:
3.1. INITIAL COOLING SET POINT SHALL BE 80° F.
3.2. INITIAL HEATING SET POINT SHALL BE 50° F.



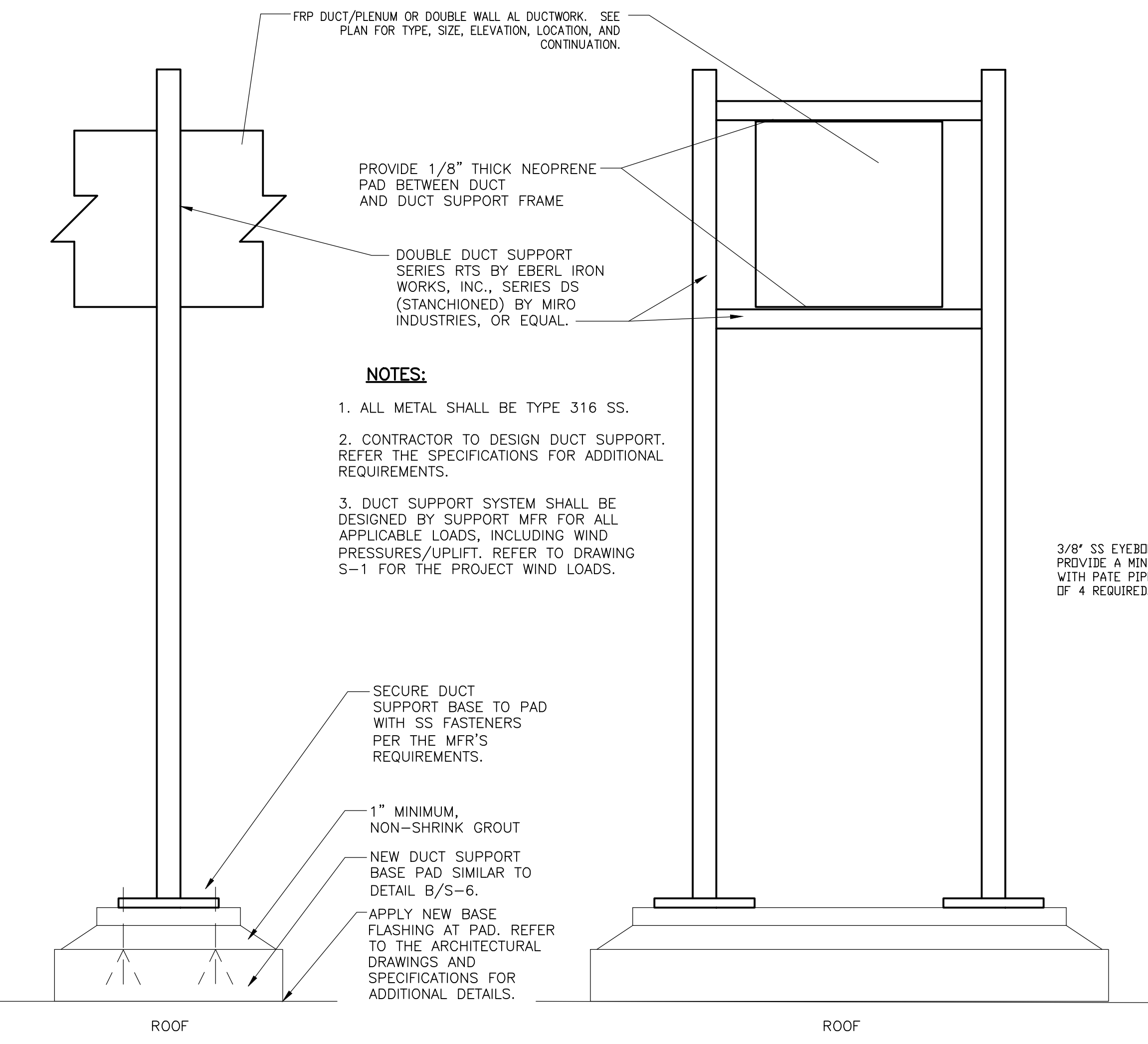
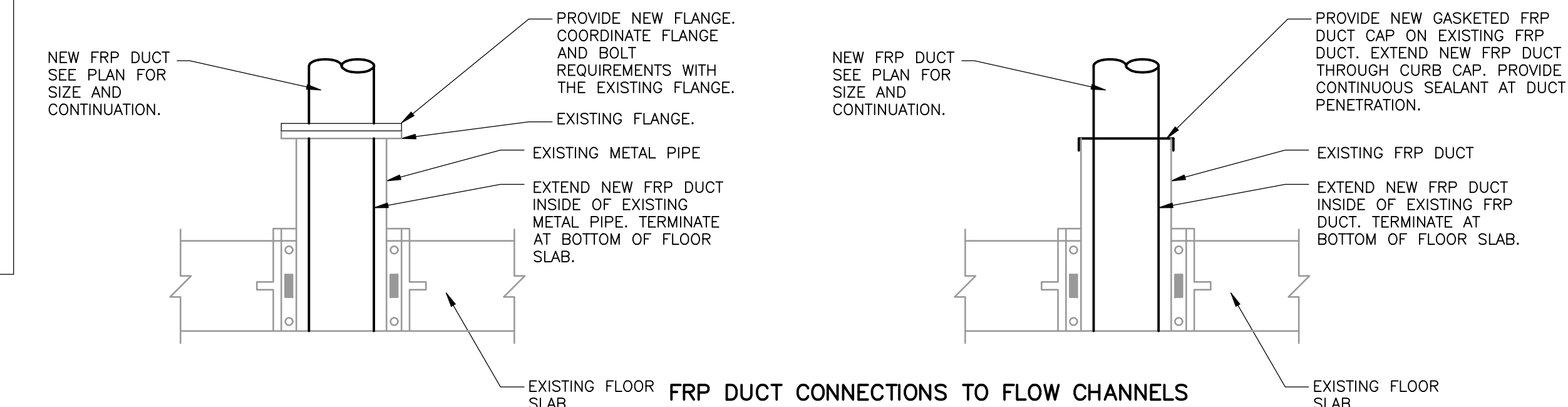
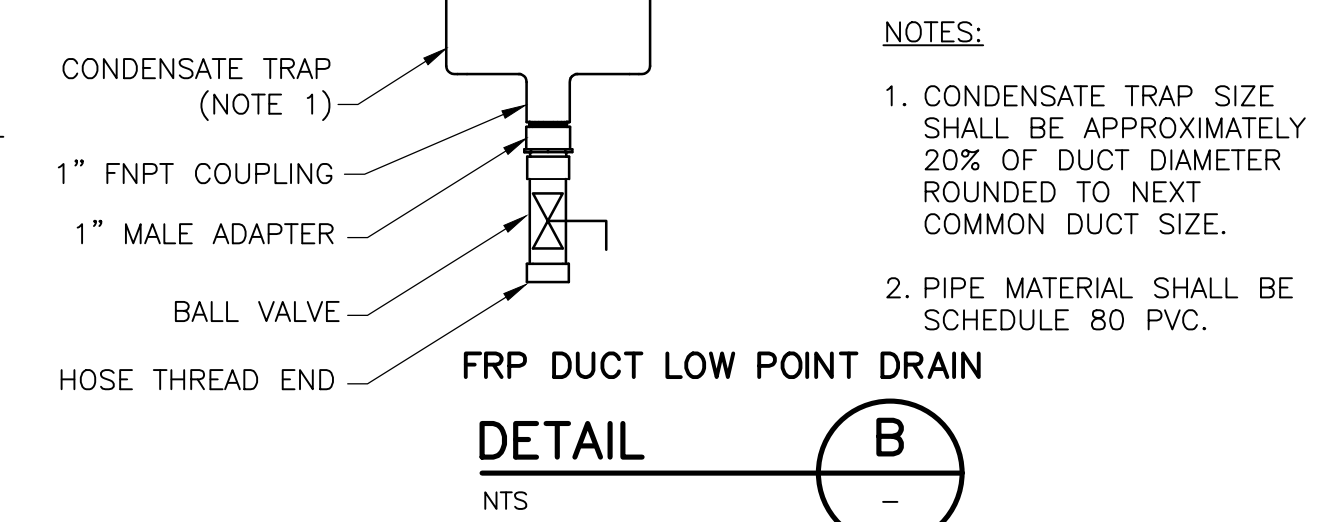
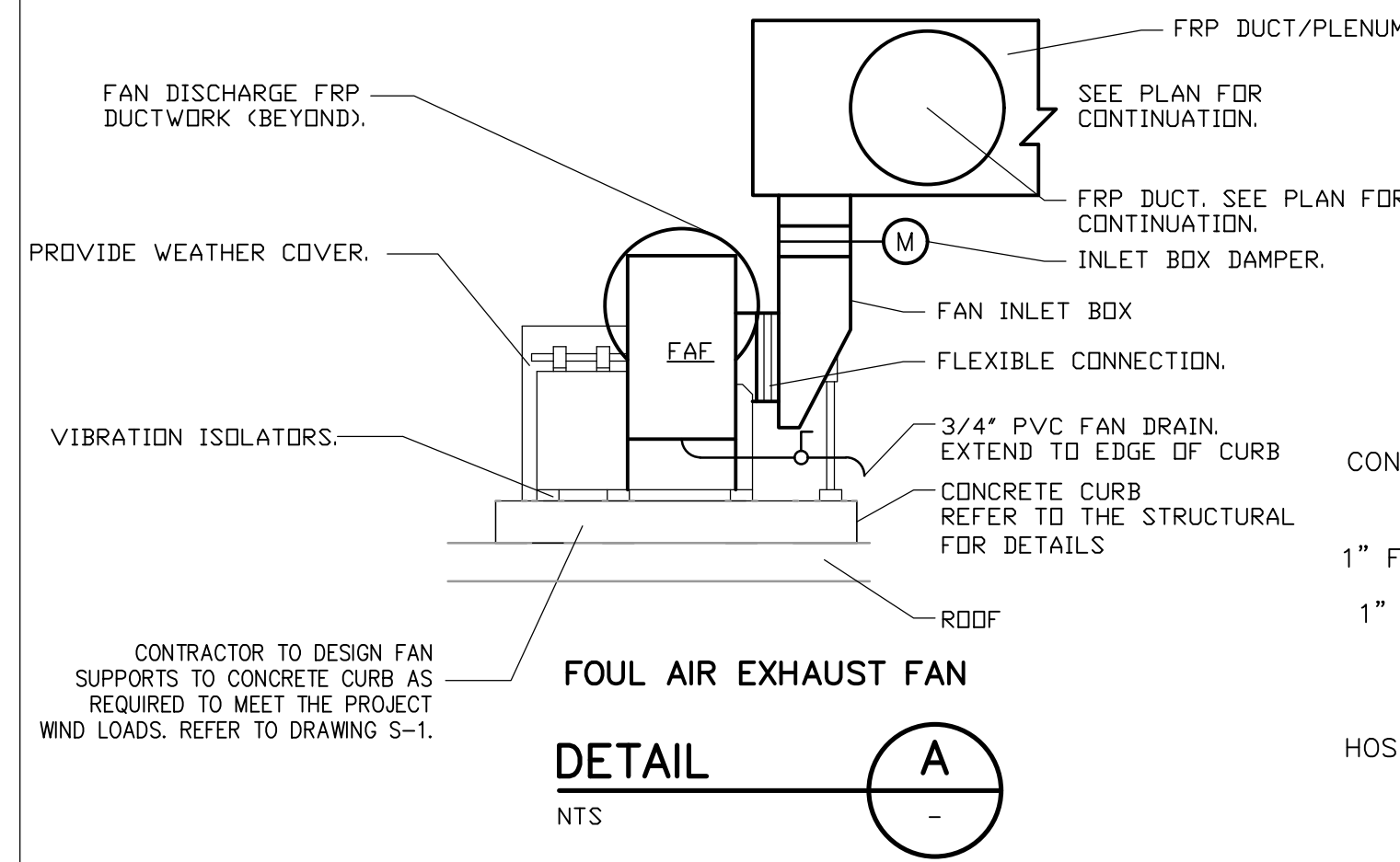
PTB-AC-02 CONTROL COMPONENT DIAGRAM



**GRAVITY THICKENER DAMPER POSITION SWITCHES
HVAC SEQUENCE OF CONTROL**

THE FOUL AIR DUCTWORK DISCHARGING TO EACH GRAVITY THICKENER IS PROVIDED WITH MANUAL SHUT-OFF DAMPERS TO ALLOW ALL AIR TO BE DIRECTED TO ONE GRAVITY THICKENER OR THE OTHER.

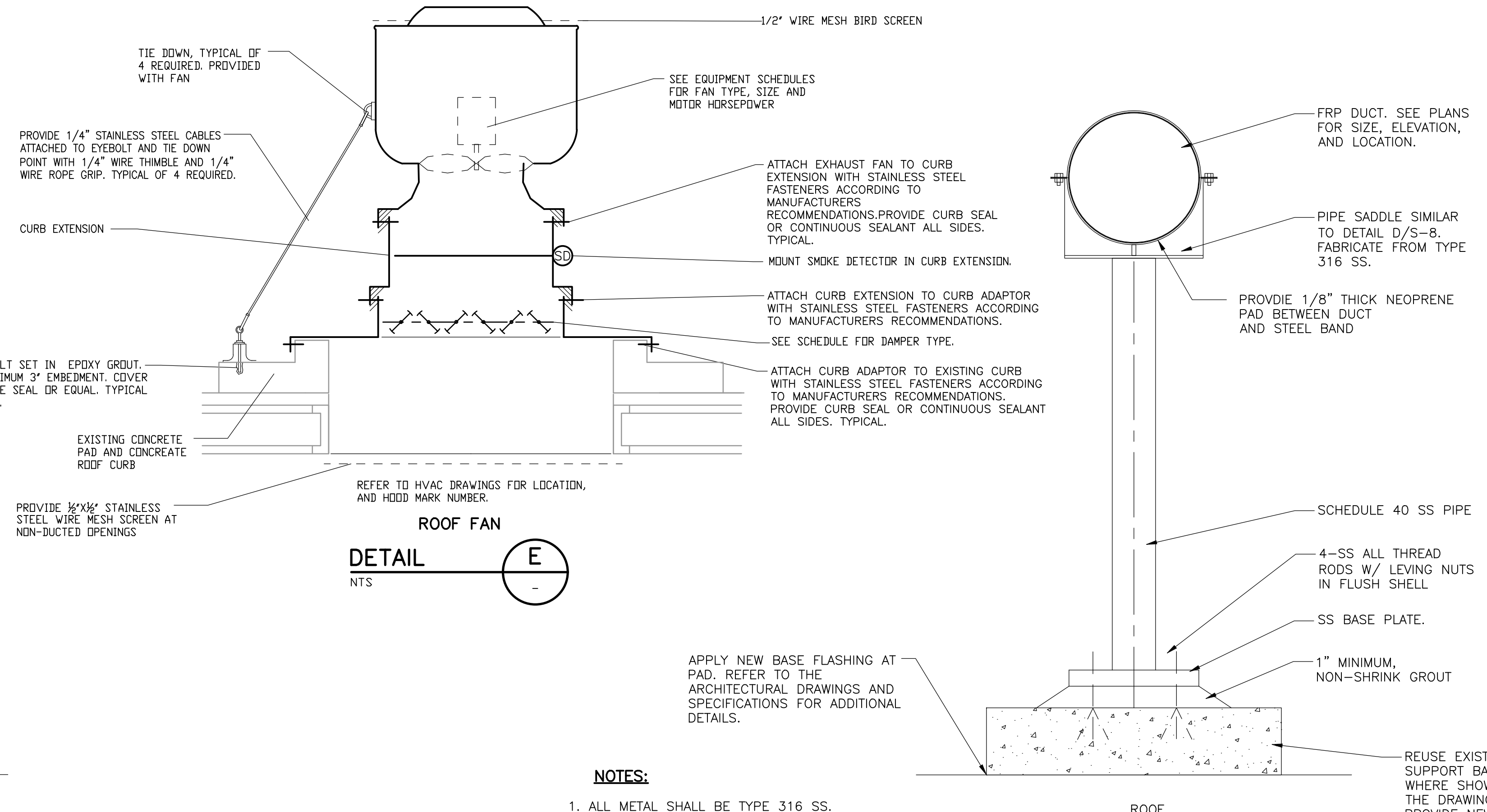
1. WHEN THE MANUAL DAMPER IS OPEN, THE DAMPER POSITION SWITCH SHALL SEND A SIGNAL TO PTB-ATC-02 INDICATING THE DAMPER IS OPEN. A PILOT LIGHT SHALL BE ACTIVATED ON THE PANEL, AND A SIGNAL SHALL BE SENT TO DCU-PTB INDICATING THAT THE DAMPER IS OPEN.
2. WHEN THE MANUAL DAMPER IS CLOSED, THE DAMPER POSITION SWITCH SHALL SEND A SIGNAL TO PTB-ATC-02 INDICATING THE DAMPER IS CLOSED. A PILOT LIGHT SHALL BE ACTIVATED ON THE PANEL, AND A SIGNAL SHALL BE SENT TO DCU-PTB INDICATING THAT THE DAMPER IS CLOSED.
3. HARD WIRE ALL SIGNALS TO PTB-ATC-02



ROOF MOUNTED RECTANGULAR DUCT/PLENUM SUPPORT

DETAIL D

NTS



ROOF FAN

DETAIL E

NTS

NOTES:

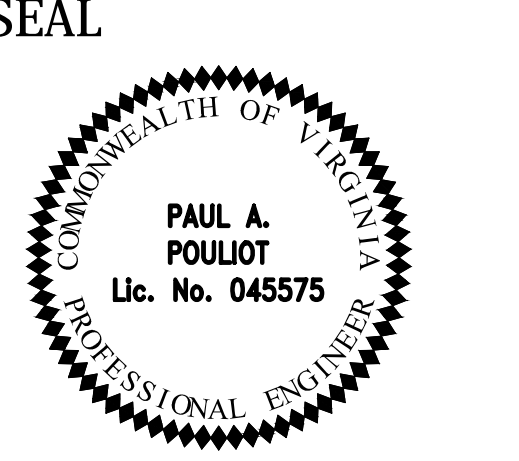
1. ALL METAL SHALL BE TYPE 316 SS.
2. CONTRACTOR TO DESIGN DUCT SUPPORT. REFER THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
3. SPACING OF DUCT SUPPORTS NOT TO EXCEED 8 FT. ON CENTER.
4. DUCT SUPPORT SYSTEM SHALL BE DESIGNED BY SUPPORT MFR FOR ALL APPLICABLE LOADS, INCLUDING WIND PRESSURES/UPLIFT. REFER TO DRAWING S-1 FOR THE PROJECT WIND LOADS.

ROOF MOUNTED ELEVATED ROUND DUCT SUPPORT

DETAIL F

NTS

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APPROVALS _____ DATE _____

100% BID SET

Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
HVAC
DETAILS III

Designed: P. POULIOT
Drawn: B. BILODEAU
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

Filename: H017NEDT.dwg
Path: C:\pwworking\blodeau\p\12550\9
Plotted: January 04, 2021
Plotted by: BILODEAUBP

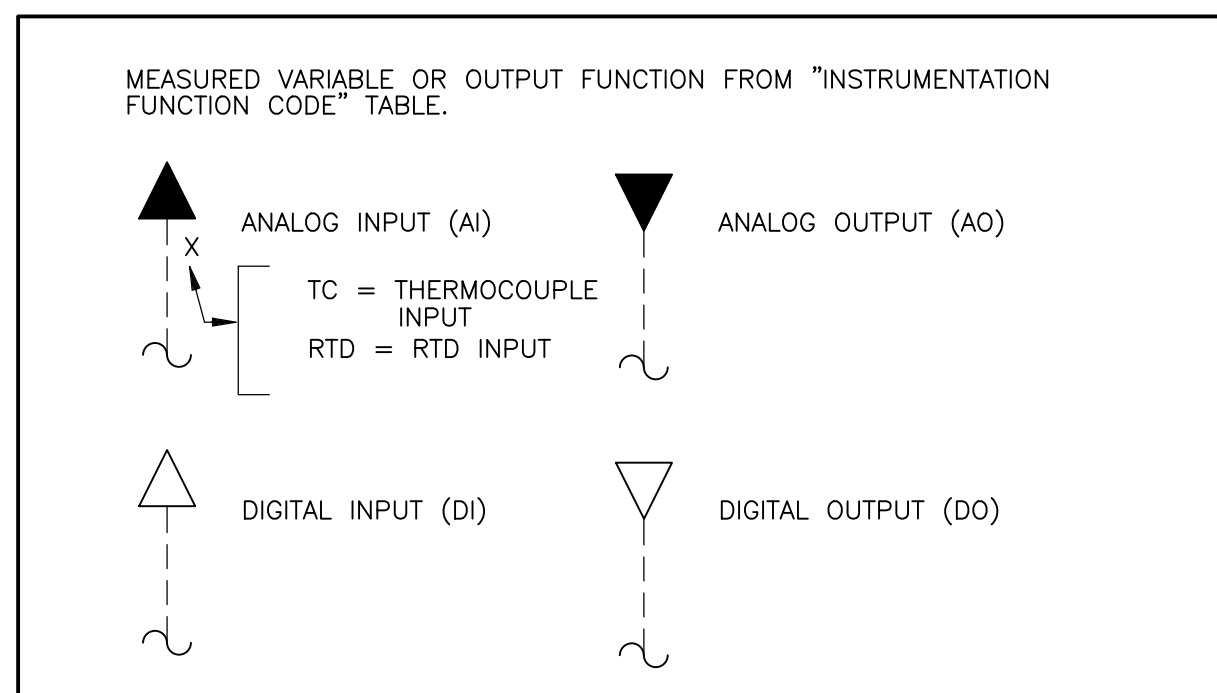
Scale: AS NOTED

INSTRUMENTATION FUNCTION CODE

FIRST LETTERS		SUCCEEDING LETTERS		
COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4	COLUMN 5
MEASURED/INITIATING VARIABLE	VARIABLE MODIFIER	READOUT/PASSIVE FUNCTION	OUTPUT/ACTIVE FUNCTION	FUNCTION MODIFIER
A ANALYSIS		ALARM		
B BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C USER'S CHOICE			CONTROL	CLOSED
D USER'S CHOICE	DIFFERENCE, DIFFERENTIAL			DEVIATION
E VOLTAGE		SENSOR, PRIMARY ELEMENT		
F FLOW, FLOW RATE	RATIO			
G USER'S CHOICE		GLASS, GAUGE, VIEWING DEVICE		
H HAND				HIGH
I CURRENT		INDICATE		
J POWER		SCAN		
K TIME, SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L LEVEL		LIGHT		LOW
M MOISTURE				MIDDLE, INTERMEDIATE
N USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O USER'S CHOICE		ORIFICE, RESTRICTION		OPEN
P PRESSURE		POINT (TEST CONNECTION)		
Q QUANTITY	INTEGRATE, TOTALIZE	INTEGRATE, TOTALIZE		
R RADIATION		RECORD		RUN
S SPEED, FREQUENCY	SAFETY		SWITCH	STOP
T TEMPERATURE			TRANSMIT	
U MULTIVARIABLE		MULTIFUNCTION		
V VIBRATION, MECHANICAL, ANALYSIS			VALVE, DAMPER, LOUVER	
W WEIGHT, FORCE		WELL, PROBE		
X UNCLASSIFIED (1)	X-AXIS	ACCESSORY DEVICES, UNCLASSIFIED (1)	UNCLASSIFIED (1)	UNCLASSIFIED (1)
Y EVENT, STATE, PRESENCE	Y-AXIS		AUXILIARY DEVICES	
Z POSITION, DIMENSION	Z-AXIS, SAFETY INSTRUMENT SYSTEM		DRIVER, ACTUATOR, UNCLASSIFIED, FINAL CONTROL ELEMENT	

TABLE NOTES:
(1) WHEN USED SYMBOL OR SIGNAL LINE IS ANNOTATED.

I/O SIGNALS



GENERAL NOTES

- THIS LEGEND APPLIES TO P&IDs ONLY AND MAY DIFFER FROM LEGENDS FOR OTHER SHEETS.
- IN GENERAL THIS LEGEND SHEET AND THE P&IDs ARE BASED ON THE INTERNATIONAL SOCIETY OF AUTOMATION (ISA) STANDARDS AND RECOMMENDED PRACTICES FOR INSTRUMENTATION AND CONTROL. SOME MODIFICATIONS, ADDITIONS AND ALTERATIONS HAVE BEEN MADE AS REQUIRED TO ACCOMMODATE PROJECT REQUIREMENTS.
- SOME PROCESS ITEMS SUCH AS EQUIPMENT ISOLATION VALVES, BYPASS LINES, ETC., WHICH ARE NOT CRITICAL FOR AN UNDERSTANDING OF THE INSTRUMENTATION FUNCTIONS ARE NOT SHOWN ON THE P&IDs.
- SEE ELECTRICAL AND MECHANICAL SHEETS AND SPECIFICATIONS FOR ADDITIONAL CONTROL AND INTERLOCK REQUIREMENTS.
- LIGHTER WEIGHT LINES, SHOWN AS _____, INDICATE EQUIPMENT, INSTRUMENTS OR PIPING THAT ARE EXISTING. WEIGHTED LINES, SHOWN AS _____, INDICATE EQUIPMENT, INSTRUMENTS OR PIPING THAT ARE NEW. DASHED WEIGHTED LINES, SHOWN AS _____, INDICATED EQUIPMENT, INSTRUMENTS OR PIPING THAT ARE GROUPED AS A PACKAGE.

GENERAL ABBREVIATIONS

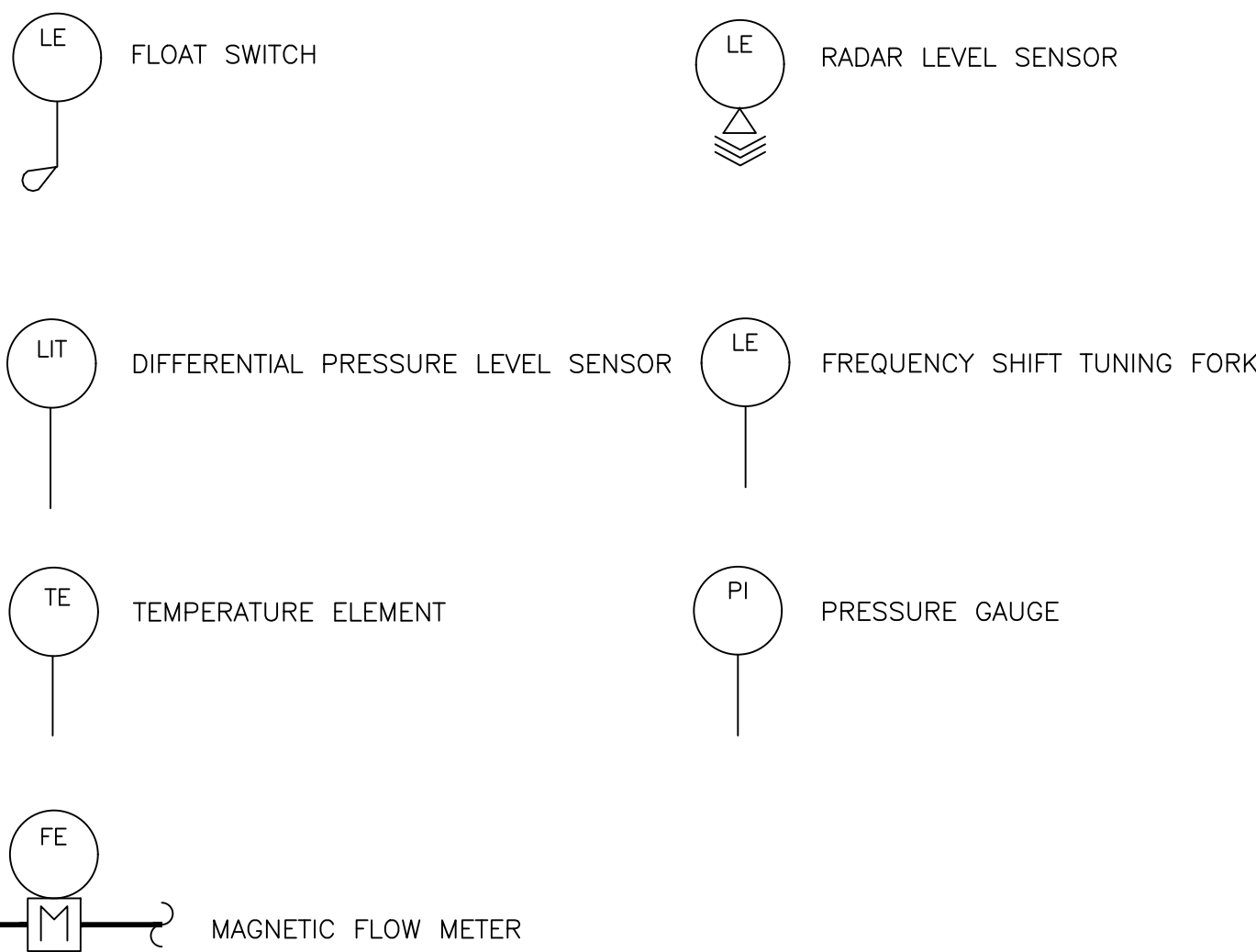
- AI ANALOG IN
- AO ANALOG OUT
- COW COUNTY WATER
- CPU CENTRAL PROCESSOR UNIT
- DCU DISTRIBUTED CONTROL UNIT
- DI DIGITAL OR DISCRETE INPUT
- DO DIGITAL OUTPUT
- FC FAIL CLOSED
- FO FAIL OPEN OR FIBER OPTIC
- OIT OPERATOR INTERFACE TERMINAL
- MCC MOTOR CONTROL CENTER
- NC NORMALLY CLOSED
- NO NORMALLY OPEN
- PLC PROGRAMMABLE LOGIC CONTROLLER
- PEW PLANT EFFLUENT WATER
- RIO REMOTE INPUT/OUTPUT
- UPS UNINTERRUPTIBLE POWER SUPPLY
- VFD VARIABLE FREQUENCY DRIVE

GENERAL INSTRUMENT OR FUNCTION SYMBOLS

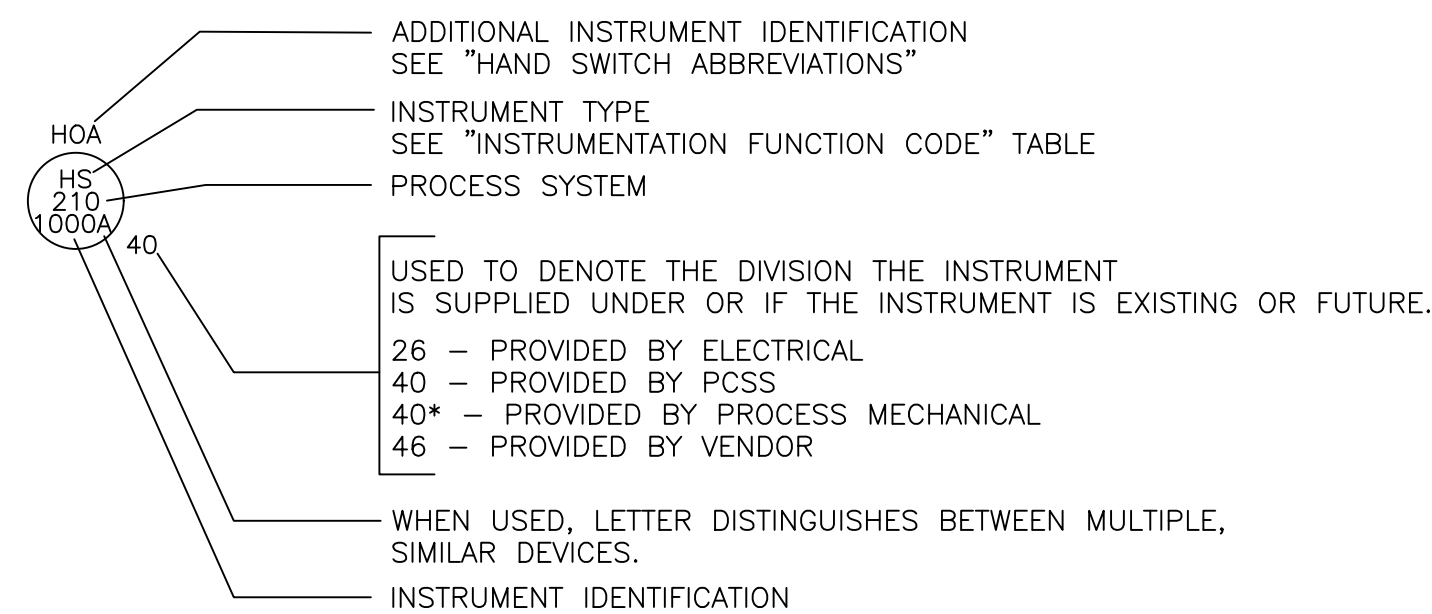
SHARED DISPLAY/ SHARED CONTROL					
PRIMARY CHOICE	SECONDARY CHOICE	COMPUTER SOFTWARE	DISCRETE	LOCATION AND ACCESSIBILITY	
				FIELD MOUNTED AND NORMALLY OPERATOR ACCESSIBLE	
				PRIMARY CONTROL PANEL MOUNTED AND NORMALLY OPERATOR ACCESSIBLE	
				PRIMARY CONTROL PANEL MOUNTED AND NOT NORMALLY OPERATOR ACCESSIBLE	
				SECONDARY CONTROL PANEL MOUNTED AND NORMALLY OPERATOR ACCESSIBLE	
				SECONDARY CONTROL PANEL MOUNTED AND NOT NORMALLY OPERATOR ACCESSIBLE	



PRIMARY ELEMENTS



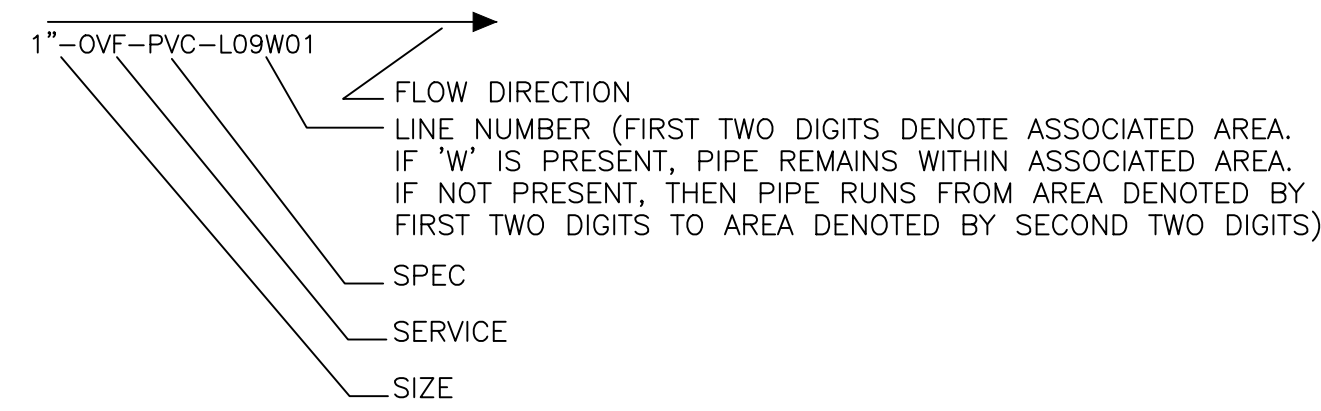
TYPICAL TAG NUMBERS & DESIGNATION



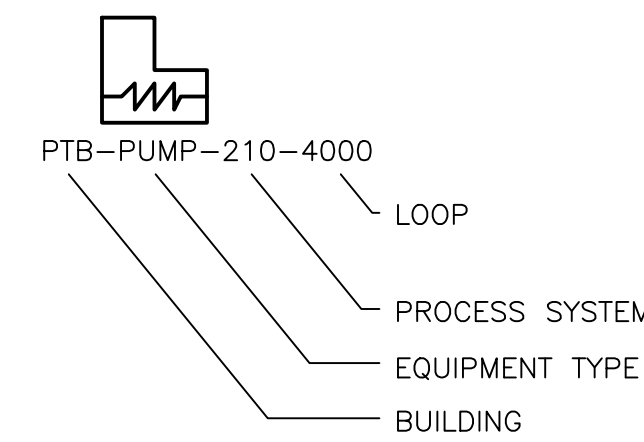
HAND SWITCH ABBREVIATIONS

- AO = AUTO/OFF
- AM = AUTO/MANUAL
- LA = LOCAL/AUTO
- E-STOP = EMERGENCY STOP
- FR = FORWARD/REVERSE
- FOR = FORWARD/OFF/REVERSE
- FS = FAST SLOW
- FOS = FAST/OFF/SLOW
- HOA = HAND/OFF/AUTO
- EOW = EAST/OFF/WEST
- SOR = START/OFF/RESET
- LLS = LEAD/LAG/STANDBY
- LOS = LOCKOUT/STOP
- LR = LOCAL/REMOTE
- OC = OPEN/CLOSE
- OCA = OPEN/CLOSE/AUTO
- OO = ON/OFF
- OOA = ON/OFF/AUTO
- OSC = OPEN/STOP/CLOSE
- RSL = RAISE/STOP/LOWER
- SS = START/STOP

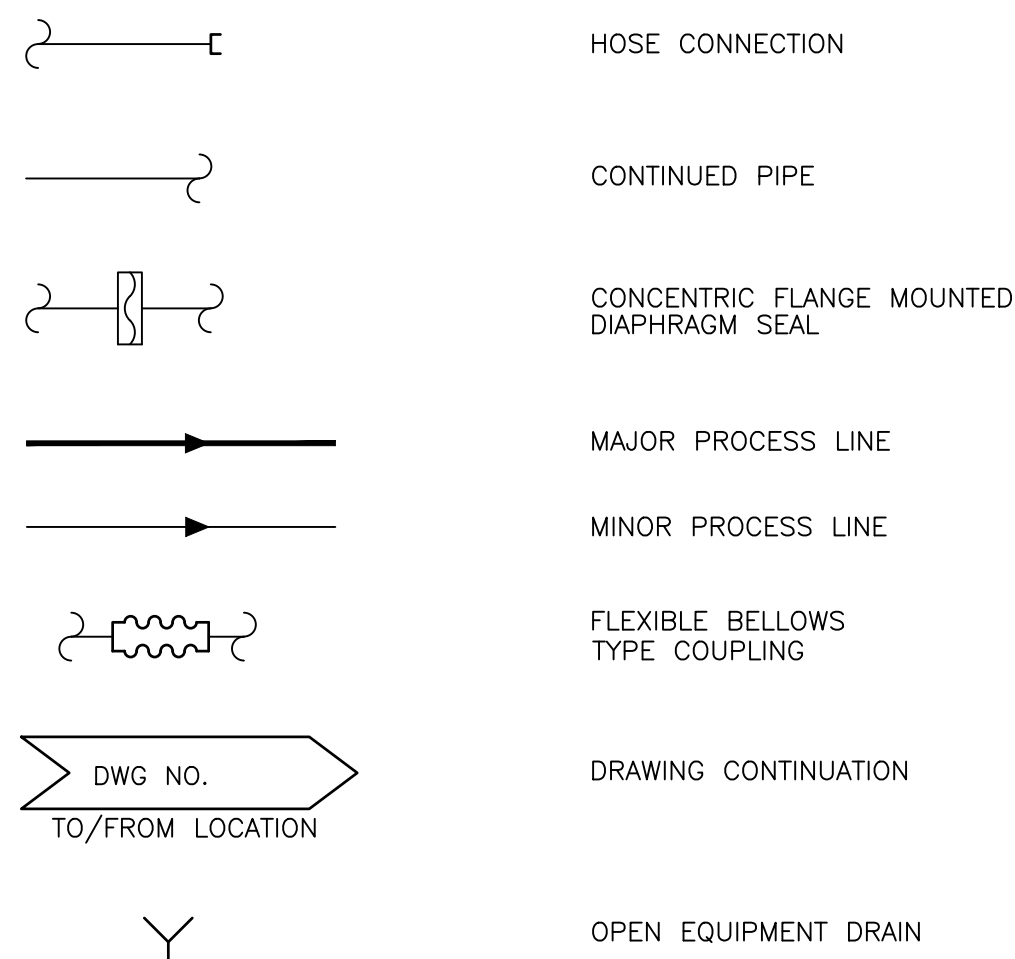
TYPICAL PIPE TAG NUMBERS & DESIGNATION



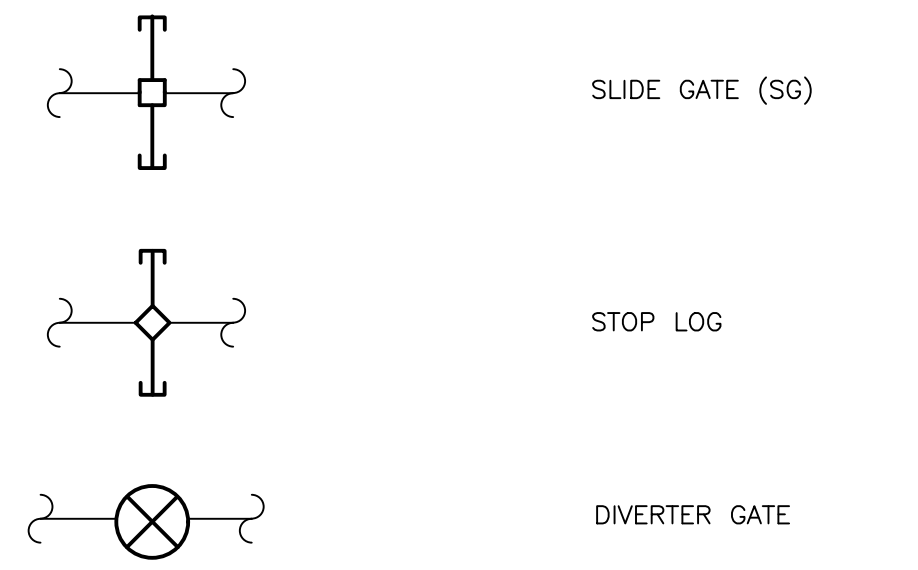
TYPICAL EQUIPMENT TAG NUMBERS & DESIGNATION



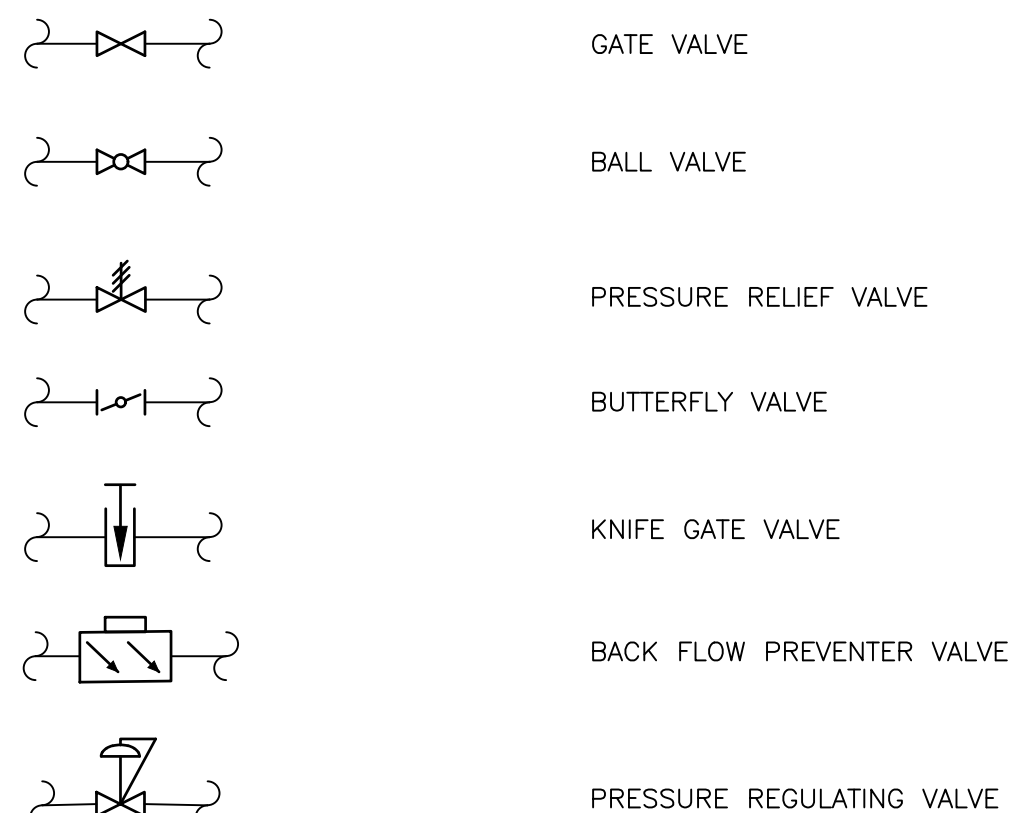
PIPE LINE SYMBOLS



GATE SYMBOLS

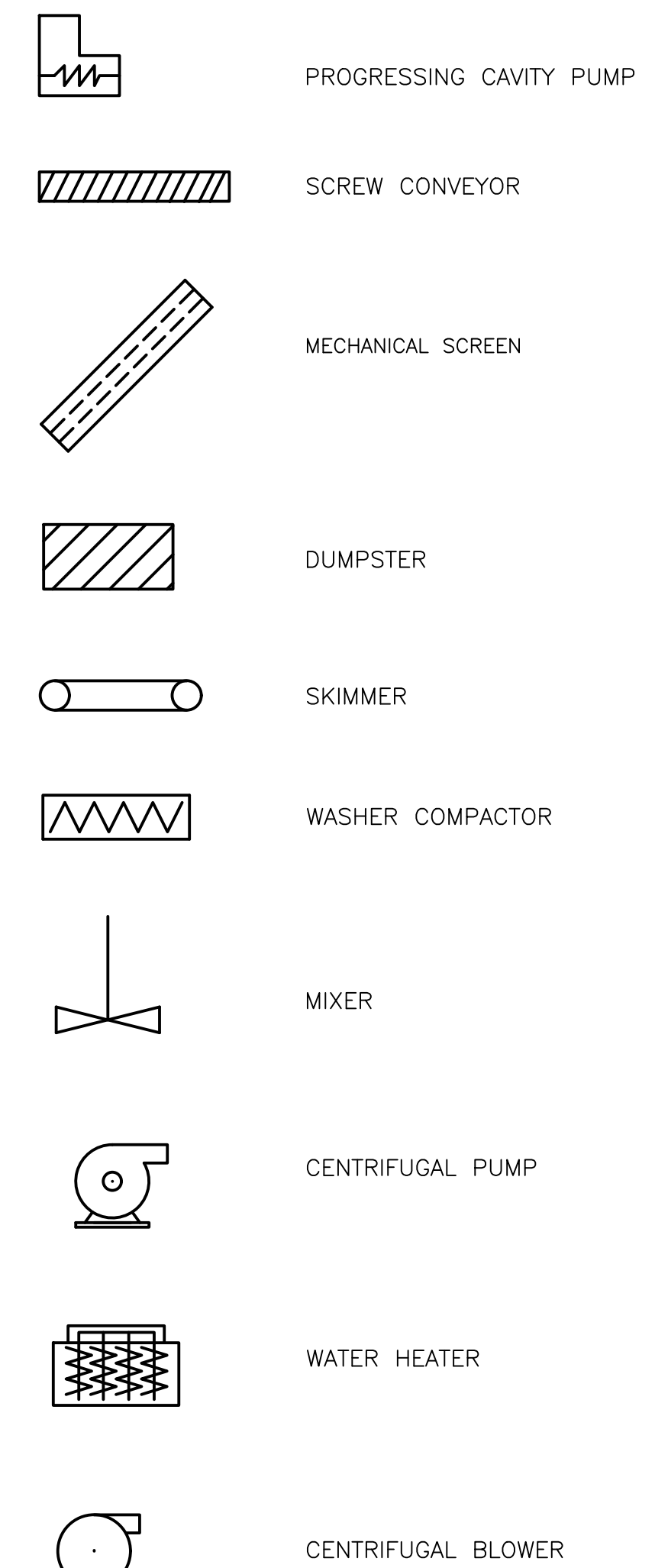


VALVE SYMBOLS

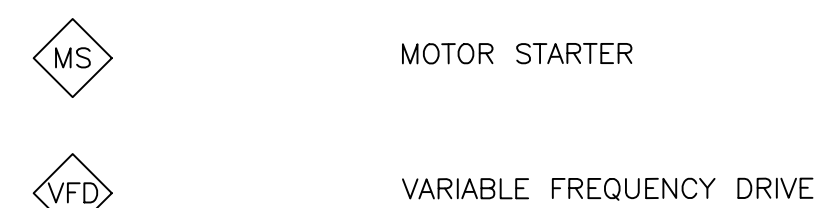


PROCESS EQUIPMENT

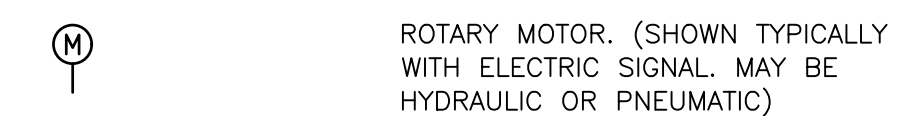
PARTIAL LIST
ADDITIONAL SYMBOLS MAY BE SHOWN ON THE FLOW DIAGRAMS



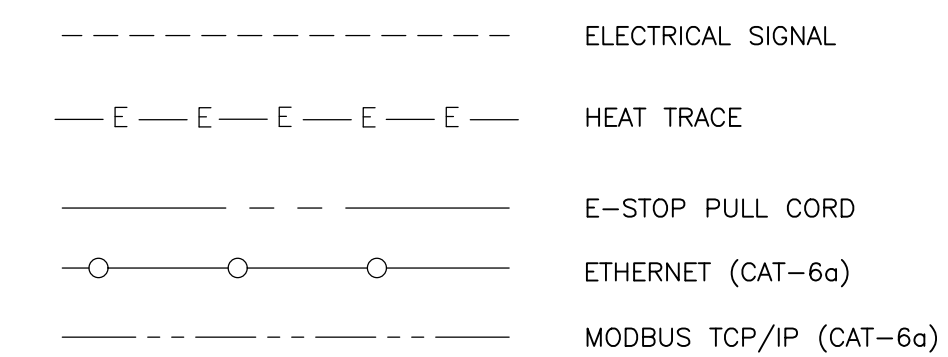
MISCELLANEOUS SYMBOLS



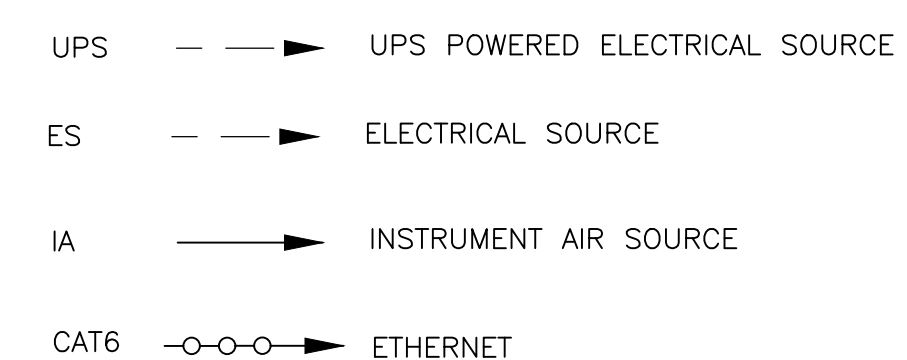
VALVE ACTUATORS



INSTRUMENT LINE SYMBOLS



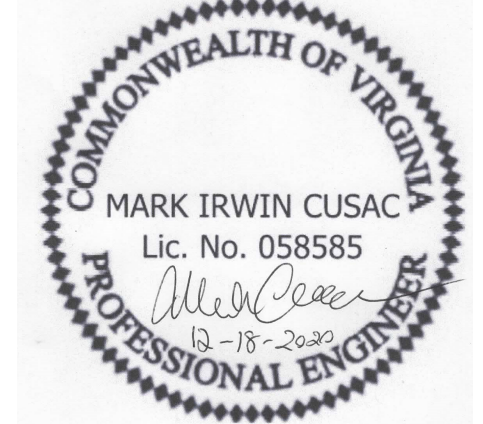
ELECTRICAL / AIR SOURCES



DEPARTMENT OF ENVIRONMENTAL SERVICES
WATER POLLUTION CONTROL BUREAU
3402 S. GLEBE ROAD
ARLINGTON, VA 22202
PHONE: 703.228.6820

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SEAL



APPROVALS DATE

100% BID SET

Revisions Date

Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
INSTRUMENTATION LEGEND

Designed: A. LUTHRA
Drawn: G. VILLAR
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

Filename: 1001HDP1.dwg
Path: C:\pw_p11\willargd\1255104
Plotted: December 18, 2020
Plotted by: VILLARGD

Scale: AS NOTED

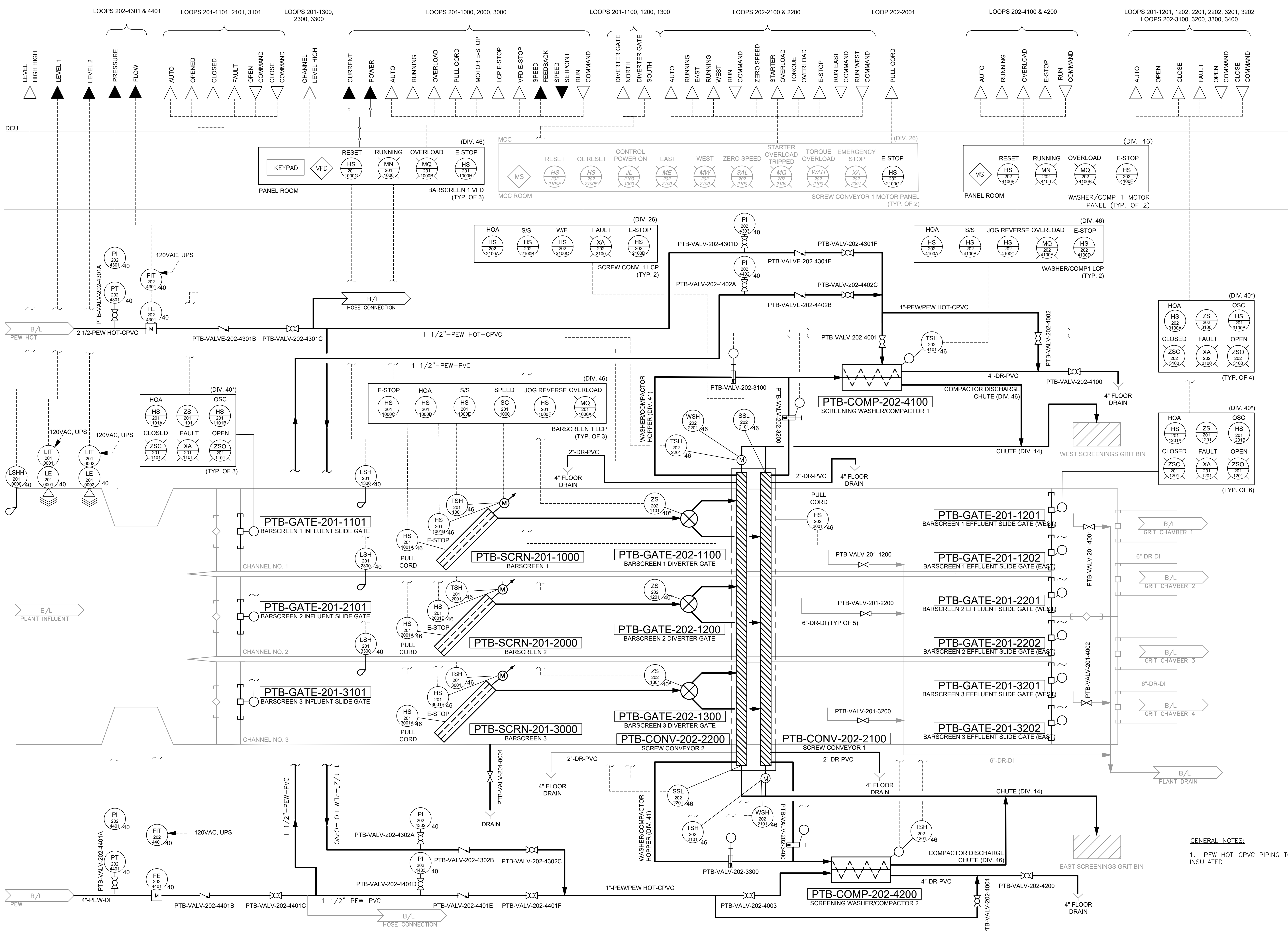


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FAIRFAX, VA 22030

Sht. 68 of 97

I-1

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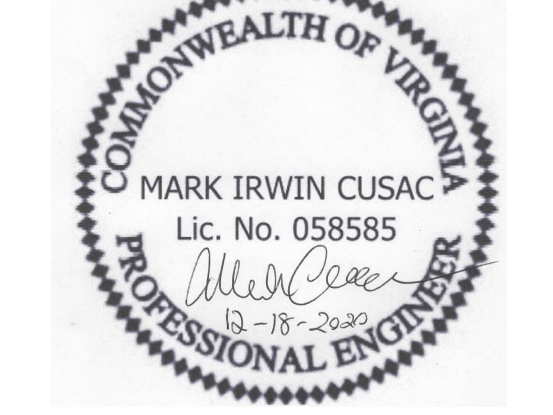
GENERAL NOTES:
 1. PEW HOT-CPVC PIPING TO BE INSULATED



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 WATER POLLUTION CONTROL BUREAU
 3402 S. GLEBE ROAD
 ARLINGTON, VA 22202
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APPROVALS DATE

100% BID SET

Revisions	Date

Water Pollution Control Plant
 Preliminary Treatment Upgrades (WPB2)
 Phase 9B
 PRELIMINARY TREATMENT BUILDING SCREENING

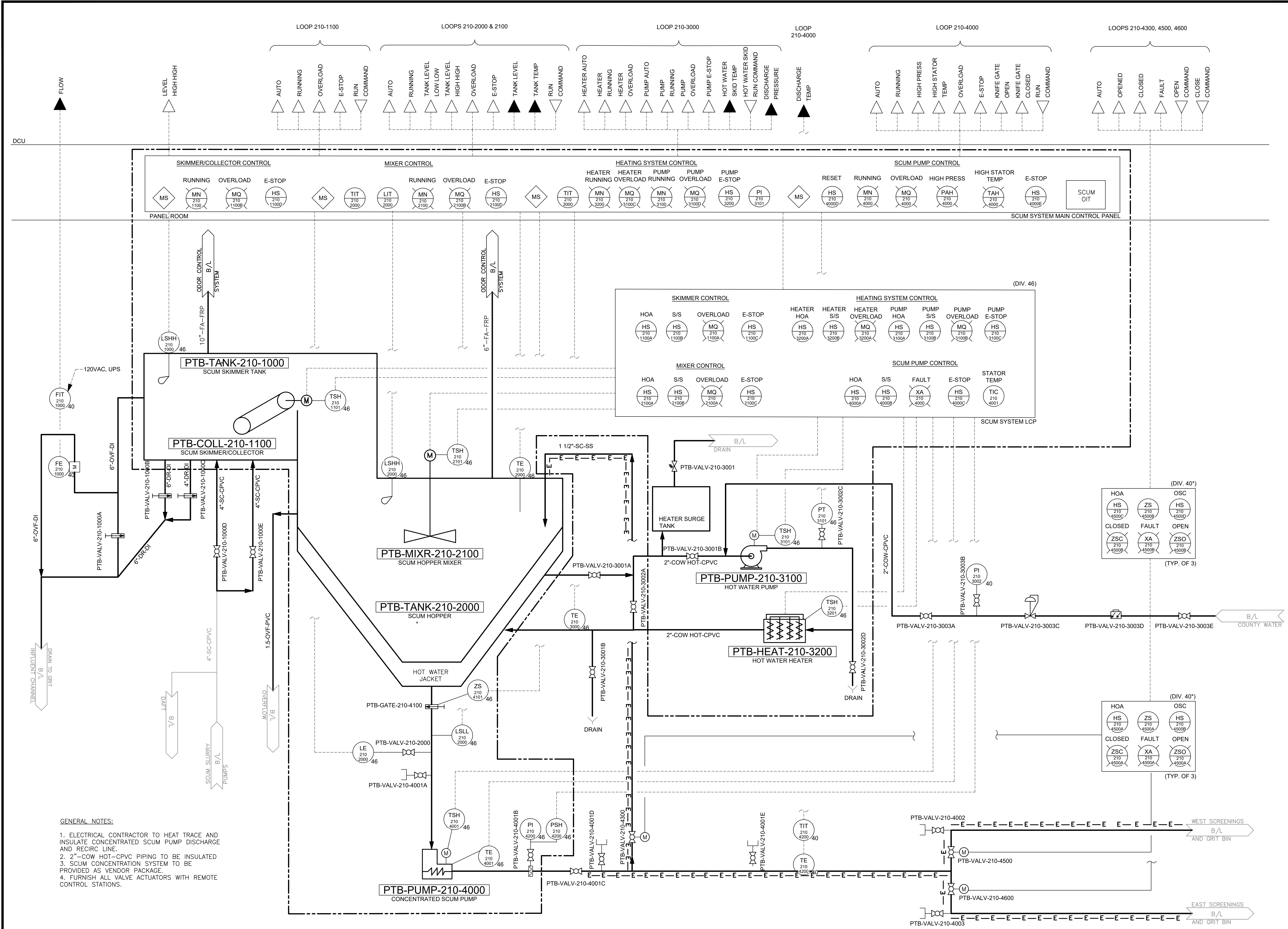
Designed: A. LUTHRA
 Drawn: G. VILLAR
 Checked: E. SPARGIMINO
 Miss Utility Transmittal #:
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 Path: c:\pw_pl1\willarg\dl1255102
 Plotted: December 18, 2020
 Plotted by: VILLARGD

Scale: AS NOTED

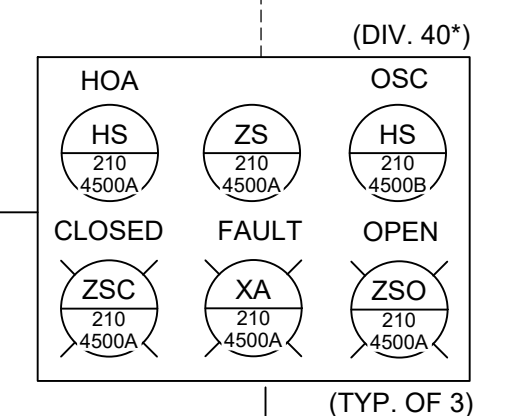
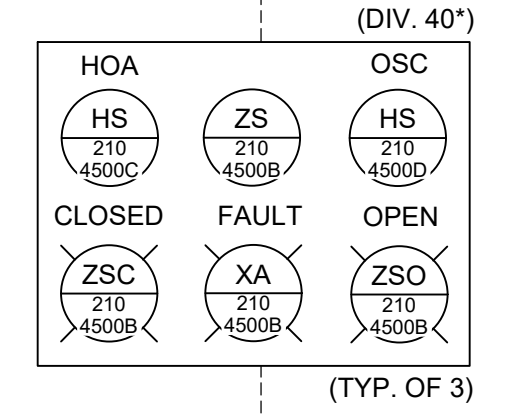
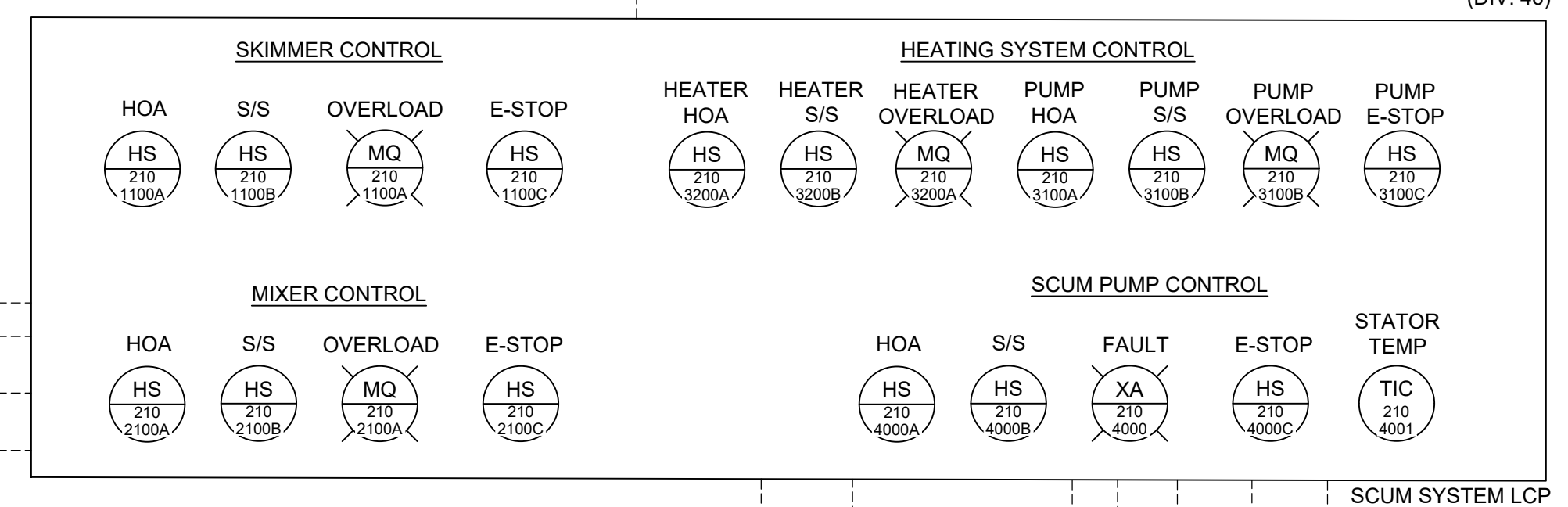
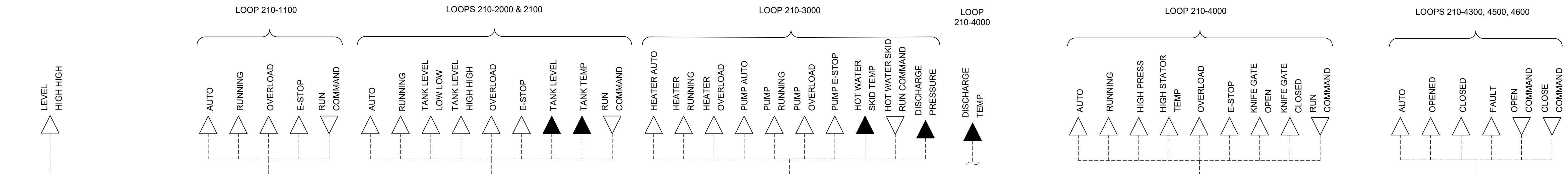


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 Sht. 69 of 97

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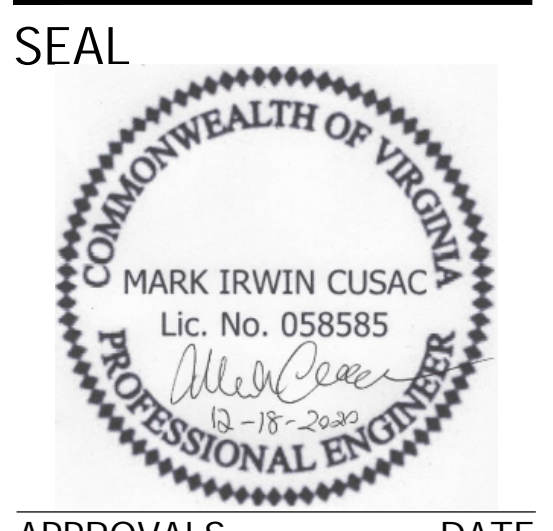


- GENERAL NOTES:**
1. ELECTRICAL CONTRACTOR TO HEAT TRACE AND INSULATE CONCENTRATED SCUM PUMP DISCHARGE AND RECIRC LINE.
 2. 2"-COW HOT-CPVC PIPING TO BE INSULATED
 3. SCUM CONCENTRATION SYSTEM TO BE PROVIDED AS VENDOR PACKAGE.
 4. FURNISH ALL VALVE ACTUATORS WITH REMOTE CONTROL STATIONS.



DEPARTMENT OF ENVIRONMENTAL SERVICES
WATER POLLUTION CONTROL BUREAU
3402 S. GLEBE ROAD
ARLINGTON, VA 22202
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APPROVALS DATE

100% BID SET

Revisions Date

Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
SCUM CONCENTRATION

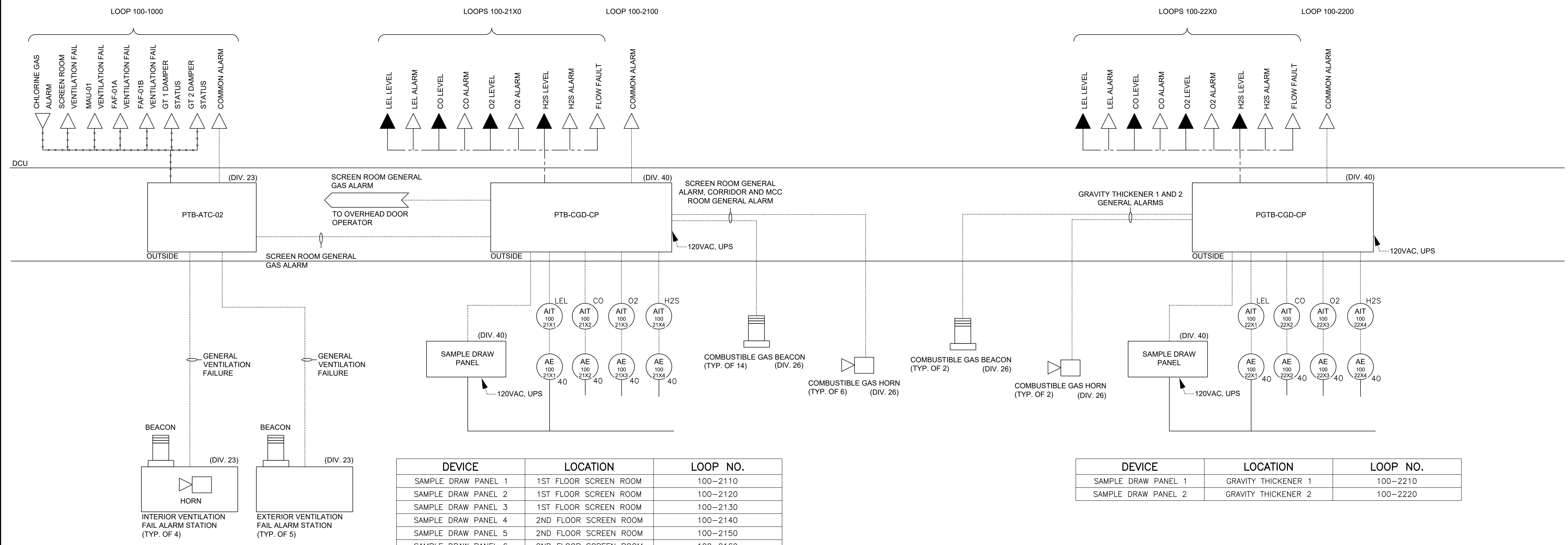
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Drawn: G. VILLAR
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

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Plotted: December 22, 2020
Plotted by: VILLARGD

Scale: AS NOTED



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DEVICE	LOCATION	LOOP NO.
SAMPLE DRAW PANEL 1	1ST FLOOR SCREEN ROOM	100-2110
SAMPLE DRAW PANEL 2	1ST FLOOR SCREEN ROOM	100-2120
SAMPLE DRAW PANEL 3	1ST FLOOR SCREEN ROOM	100-2130
SAMPLE DRAW PANEL 4	2ND FLOOR SCREEN ROOM	100-2140
SAMPLE DRAW PANEL 5	2ND FLOOR SCREEN ROOM	100-2150
SAMPLE DRAW PANEL 6	2ND FLOOR SCREEN ROOM	100-2160

ANALYZER	LOCATION	LOOP NO.
LEL	1ST FLOOR SCREEN ROOM	100-2111
LEL	1ST FLOOR SCREEN ROOM	100-2121
CO	1ST FLOOR SCREEN ROOM	100-2122
O2	1ST FLOOR SCREEN ROOM	100-2123
H2S	1ST FLOOR SCREEN ROOM	100-2124
LEL	1ST FLOOR SCREEN ROOM	100-2131
LEL	2ND FLOOR SCREEN ROOM	100-2141
LEL	2ND FLOOR SCREEN ROOM	100-2151
CO	2ND FLOOR SCREEN ROOM	100-2152
O2	2ND FLOOR SCREEN ROOM	100-2153
H2S	2ND FLOOR SCREEN ROOM	100-2154
LEL	2ND FLOOR SCREEN ROOM	100-2161
LEL	CORRIDOR	100-2171
CO	CORRIDOR	100-2172
LEL	CORRIDOR	100-2181
CO	CORRIDOR	100-2182
LEL	MCC ROOM	100-2191

DEVICE	LOCATION	LOOP NO.
SAMPLE DRAW PANEL 1	GRAVITY THICKENER 1	100-2210
SAMPLE DRAW PANEL 2	GRAVITY THICKENER 2	100-2220

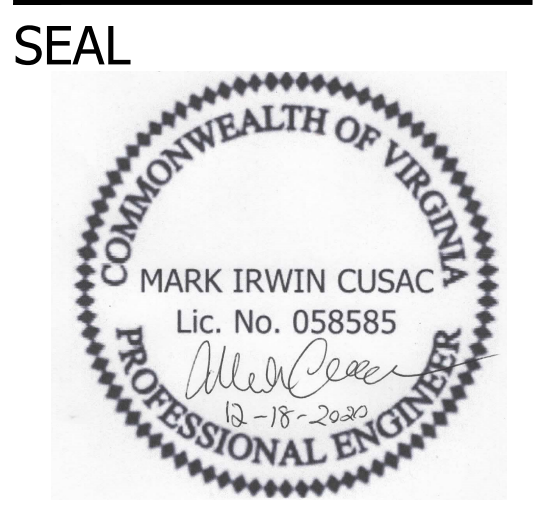
ANALYZER	LOCATION	LOOP NO.
LEL	GRAVITY THICKENER 1	100-2211
CO	GRAVITY THICKENER 1	100-2212
O2	GRAVITY THICKENER 1	100-2213
H2S	GRAVITY THICKENER 1	100-2214
LEL	GRAVITY THICKENER 2	100-2221
CO	GRAVITY THICKENER 2	100-2222
O2	GRAVITY THICKENER 2	100-2223
H2S	GRAVITY THICKENER 2	100-2224

GENERAL NOTES:
 1. SEE HVAC DRAWINGS FOR VENTILATION FAIL ALARM STATIONS AND ATC PANEL DETAILS AND LOCATIONS.
 2. SEE ELECTRICAL DRAWINGS FOR COMBUSTIBLE GAS DETECTORS, HORN, STROBE, AND SAMPLE DRAW PANEL LOCATIONS.



DEPARTMENT OF ENVIRONMENTAL SERVICES
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 ARLINGTON, VA 22202
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APPROVALS _____ DATE _____

100% BID SET

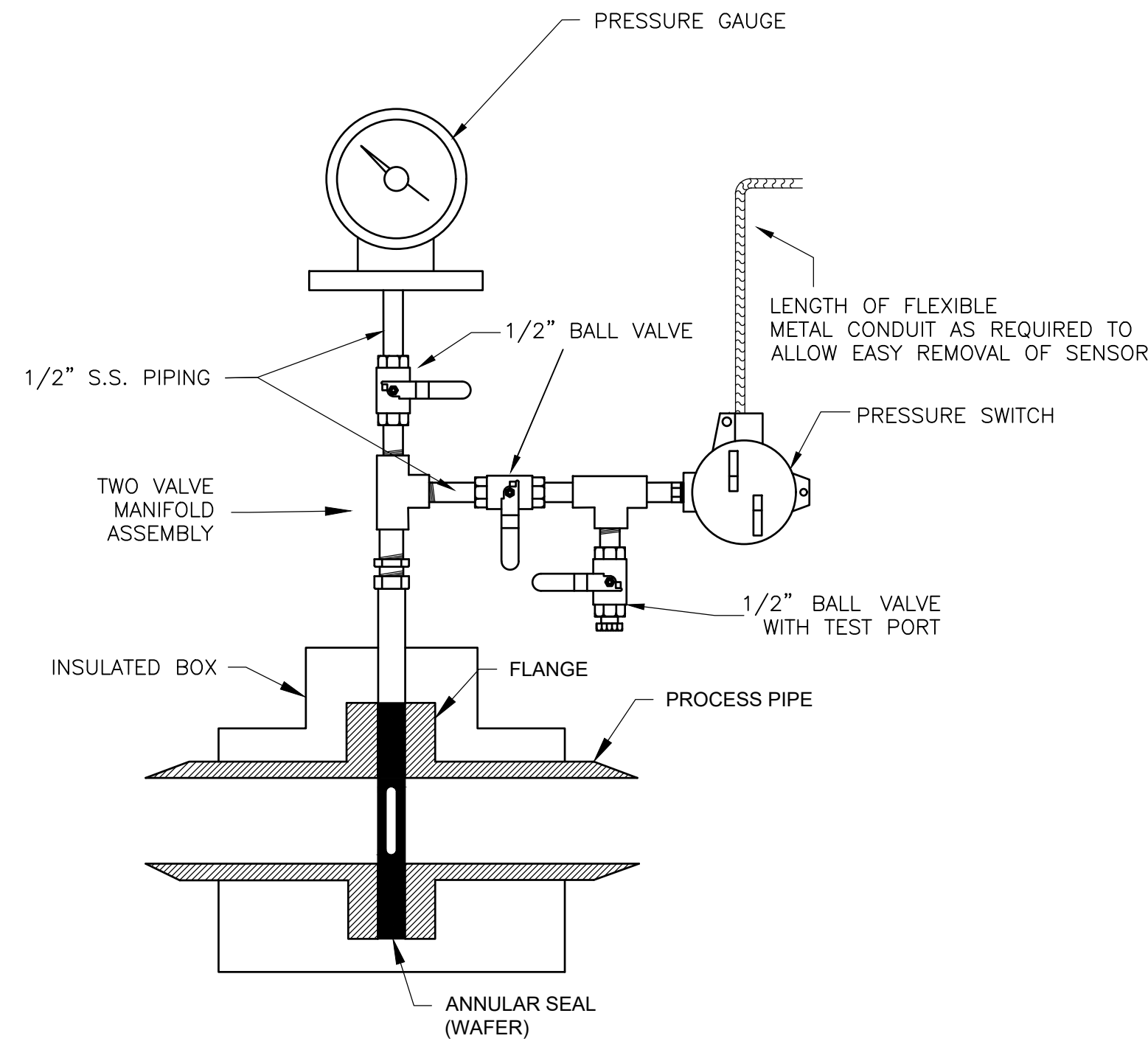
Revisions	Date

Project Name and Location
Water Pollution Control Plant
 Preliminary Treatment Upgrades (WPB2)
 Phase 9B
 HVAC AND GAS DETECTION SYSTEMS

Designed: A. LUTHRA
 Drawn: G. VILLAR
 Checked: E. SPARGIMINO
 Miss Utility Transmittal #:
 Filename: 1004HDP1.dwg
 Path: C:\pw_p11\willargd\1255102
 Plotted: December 18, 2020
 Plotted by: VILLARGD



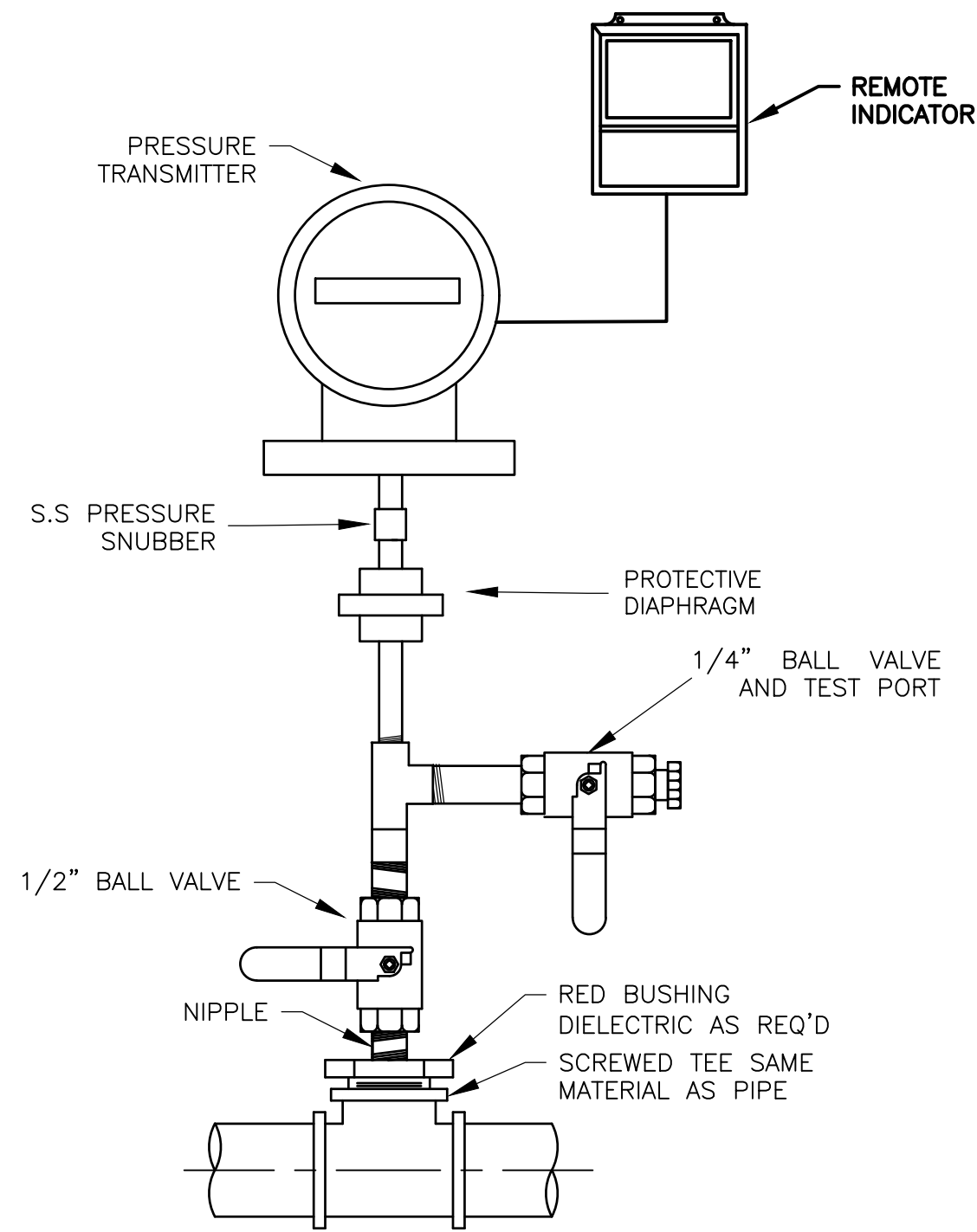
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NOTES:

1. FOR PROPER OPERATION, EVACUATE SECTION BETWEEN DIAPHRAGM AND PRESSURE DEVICE OF AIR AND SEAL WITH OIL.
2. ENSURE SCUM PUMP DISCHARGE LINE HEAT TRACE ALLOWS REMOVAL OF INSULATED BOX WITHOUT IMPACTING HEAT TRACE

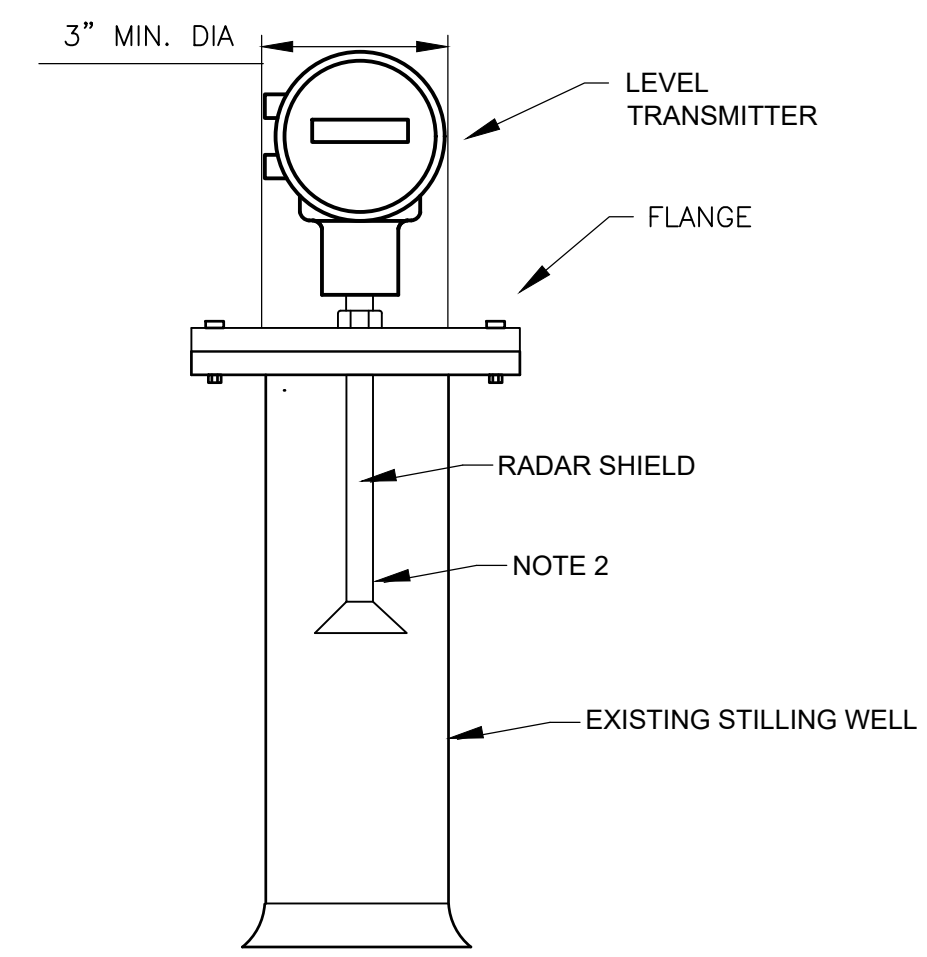
PRESSURE GAUGE AND SWITCH
(ANNULAR SEAL)



NOTES:

1. INSTALL REMOTE TRANSMITTER ON ELEMENT WHEN INDICATED ON THE P&IDs
2. USE DIAPHRAGM SEALS WITH FLUSH VALVE FOR ALL CHEMICALS, SEWAGE, SLUDGE AND OTHER LIQUIDS CONTAINING SOLIDS

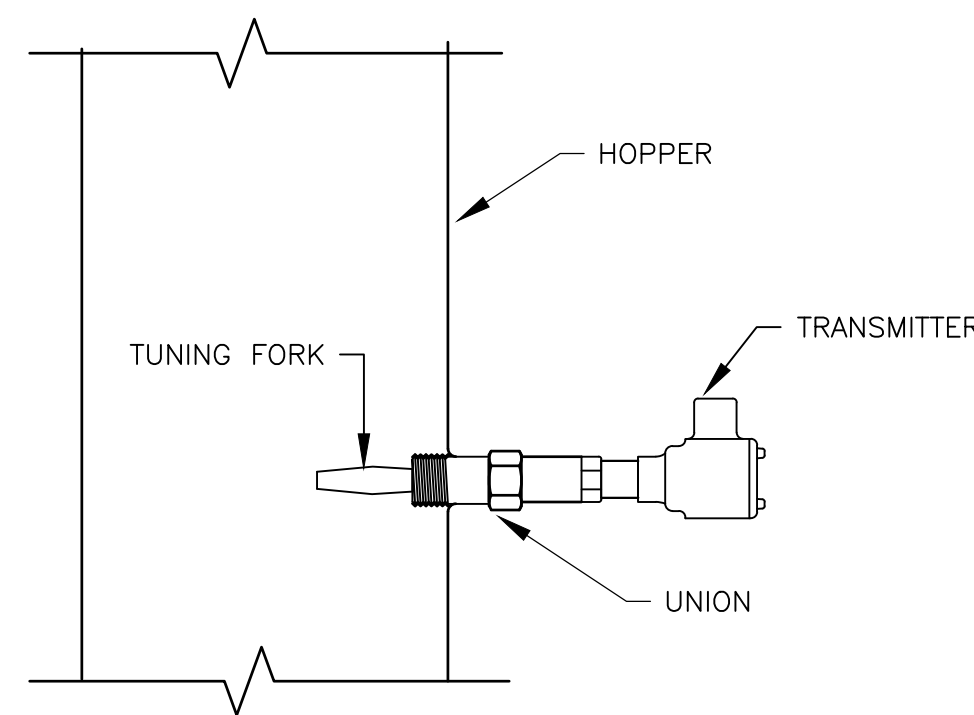
PRESSURE GAUGE
(REMOTE TRANSMITTER)



NOTES:

1. PROVIDE CONE DIAMETER TO MATCH STILLING WELL DIAMETER.
2. PROVIDE 1/2" VENT HOLES IN TWO ROWS, 180° APART. EACH FOOT FROM THE TOP TO BOTTOM OF STILLING WELL.
3. REFER TO ELECTRICAL DRAWINGS FOR TERMINAL BOX AND EQUIPMENT MOUNTING RACK DETAILS.

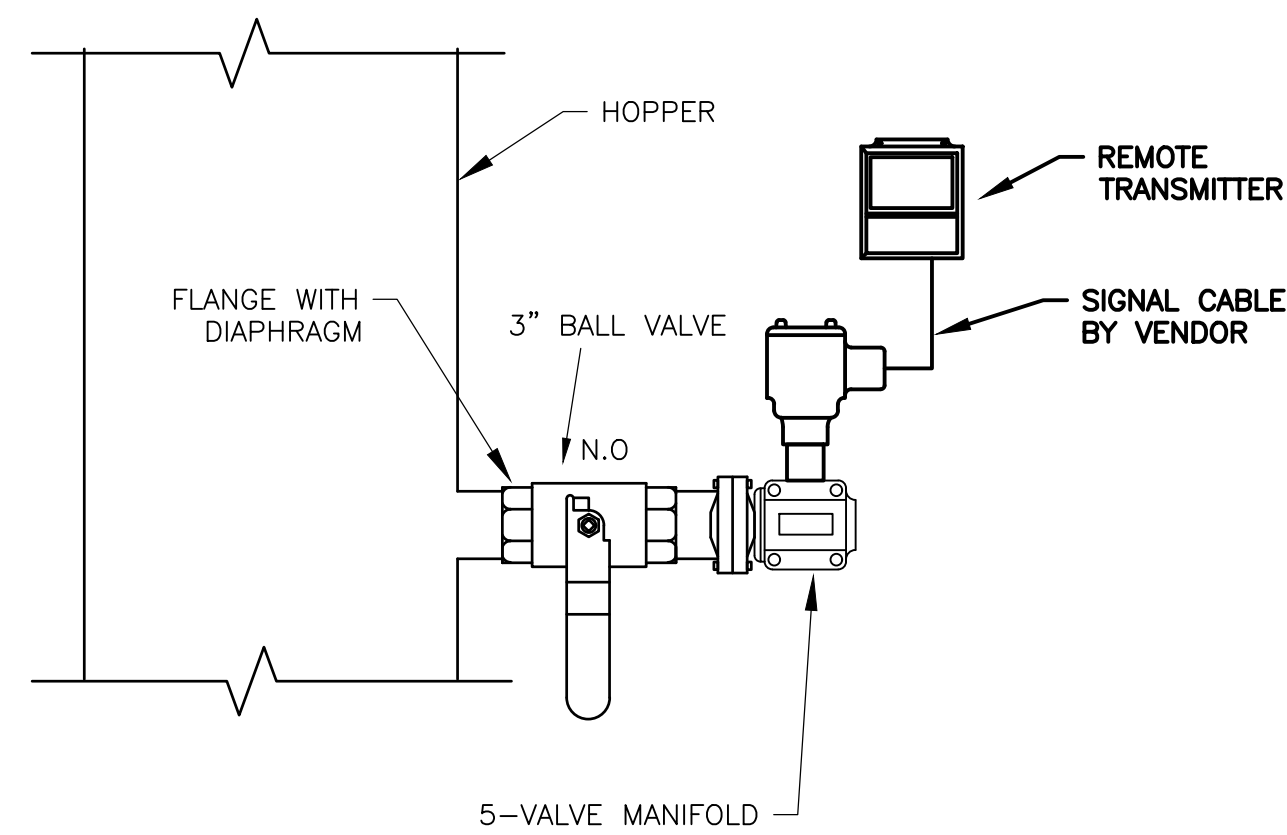
RADAR LEVEL TRANSMITTER
(IN STILLING WELL)



NOTES:

1. ENSURE THE INSTALLATION LOCATION DOES NOT VIBRATE AT THE SENSOR'S NATURAL FREQUENCY OF 1300HZ. THIS MAY CAUSE UNEXPECTED READINGS FROM THE SENSOR.

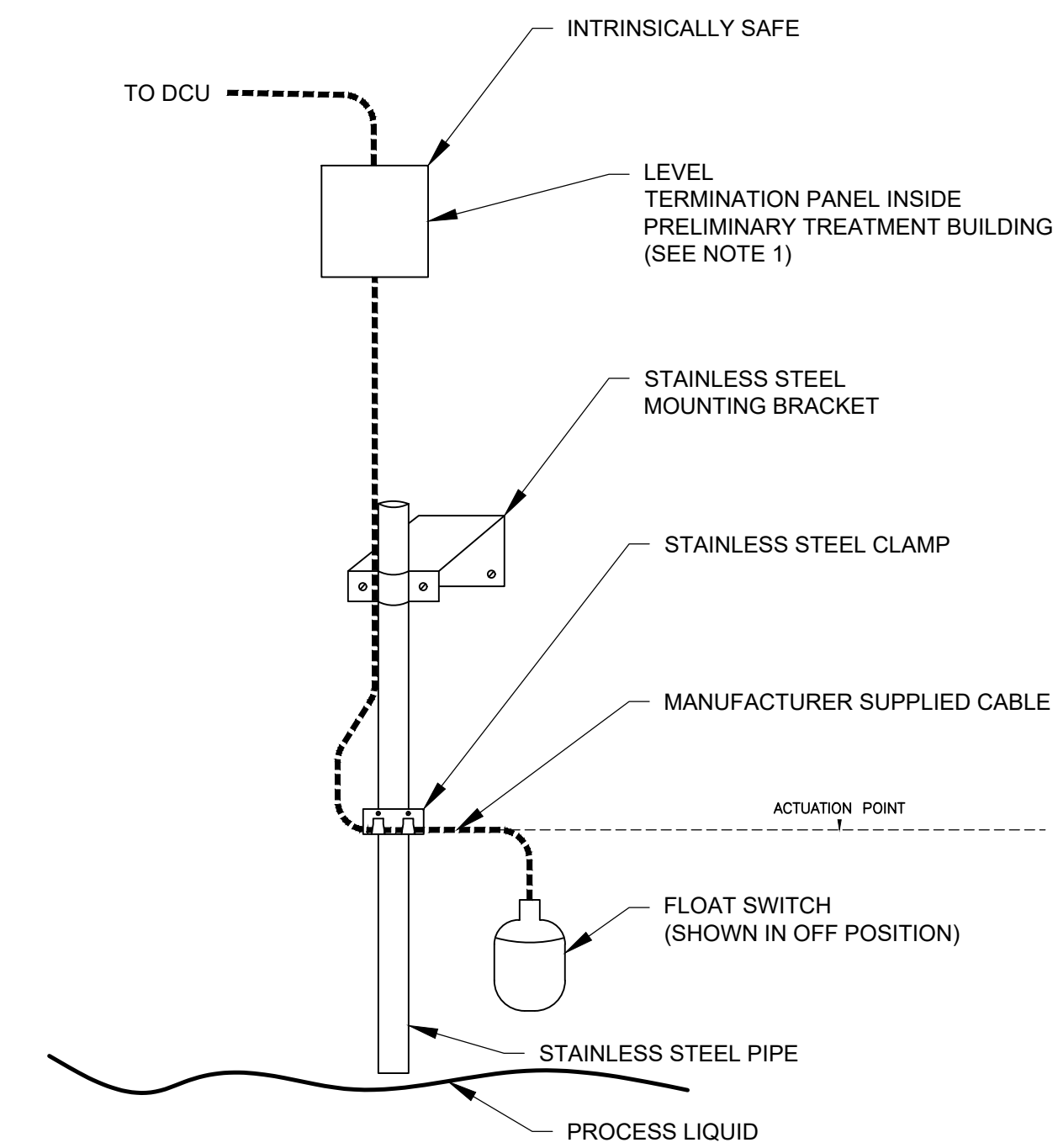
TUNING FORK LEVEL SWITCH



NOTES:

1. PROVIDE DIAPHRAGM IN LINE WITH FLANGE AND AFFIX PRESSURE MANIFOLD DIRECTLY TO FLANGE.
2. PRESSURE TRANSMITTER REFERENCES ATMOSPHERIC PRESSURE AND TANK FLUID PRESSURE.

DIFFERENTIAL PRESSURE TRANSMITTER
(OPENED TANK LEVEL)



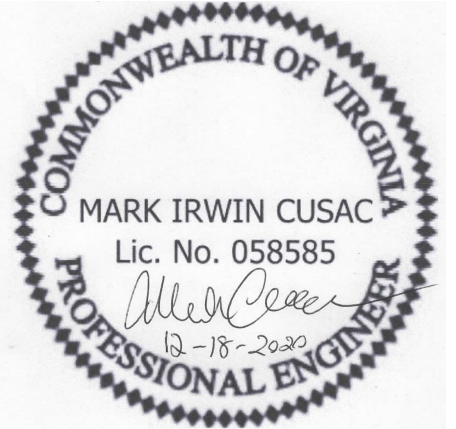
NOTES:

1. PROVIDE 15" X 15" MINIMUM SIZED FLOAT TERMINATION PANEL. PROVIDE J-HOOK INSIDE PANEL TO COIL EXTRA CABLE. PROVIDE TERMINATION BLOCKS. ALL CABLES AND WIRES SHALL BE LABELED.

FLOAT SWITCH
(POLE MOUNTED)



SEAL



APPROVALS _____ DATE _____

100% BID SET

Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (W/PB2)
Phase 9B
INSTRUMENTATION STANDARD
DETAILS I

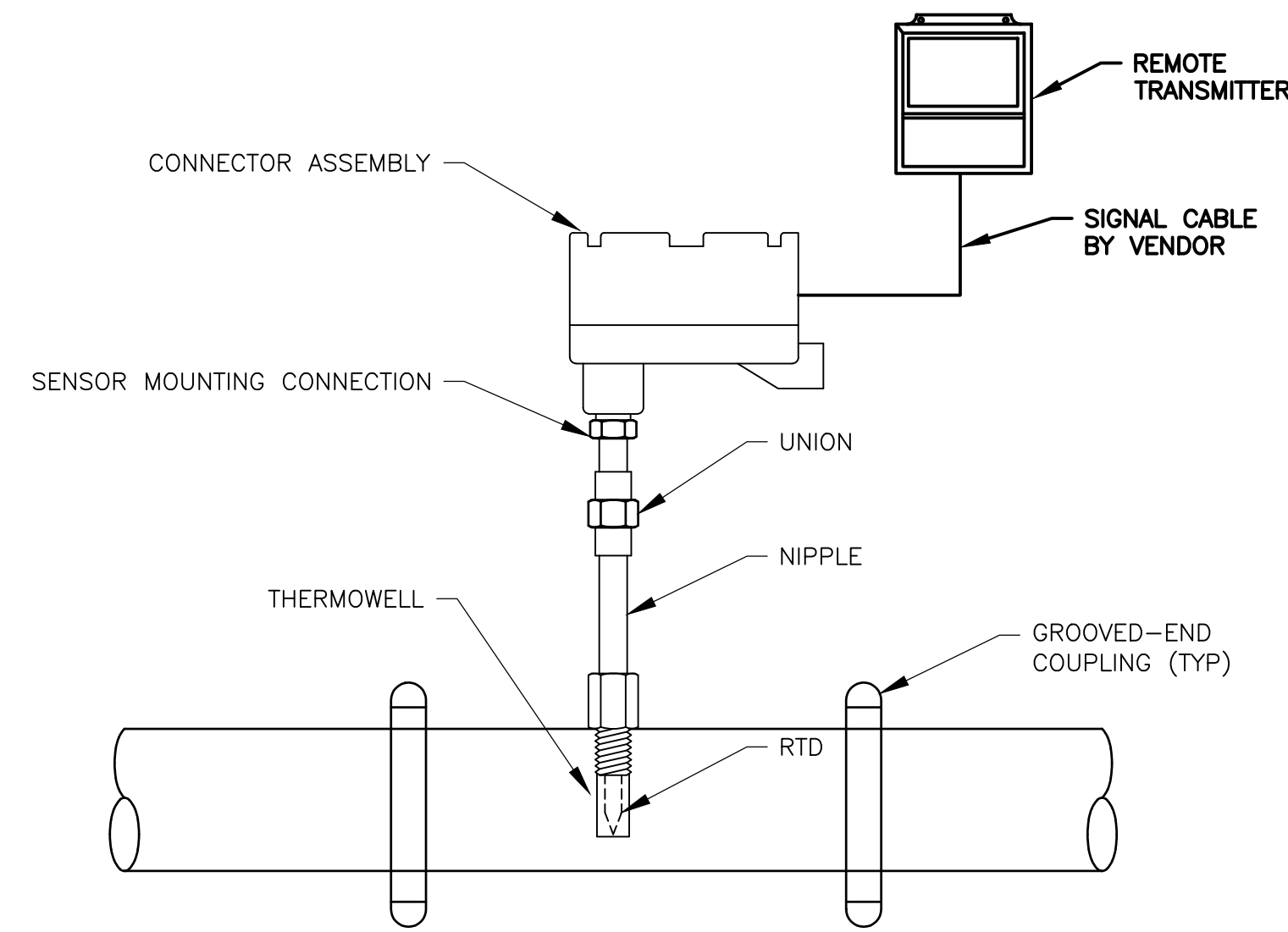
Designed: A. LUTHRA
Drawn: G. VILLAR
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

Filename: 1005HDPL.dwg
Path: C:\pw_pl\1\willargd\1255106
Plotted: December 18, 2020
Plotted by: VILLARGD

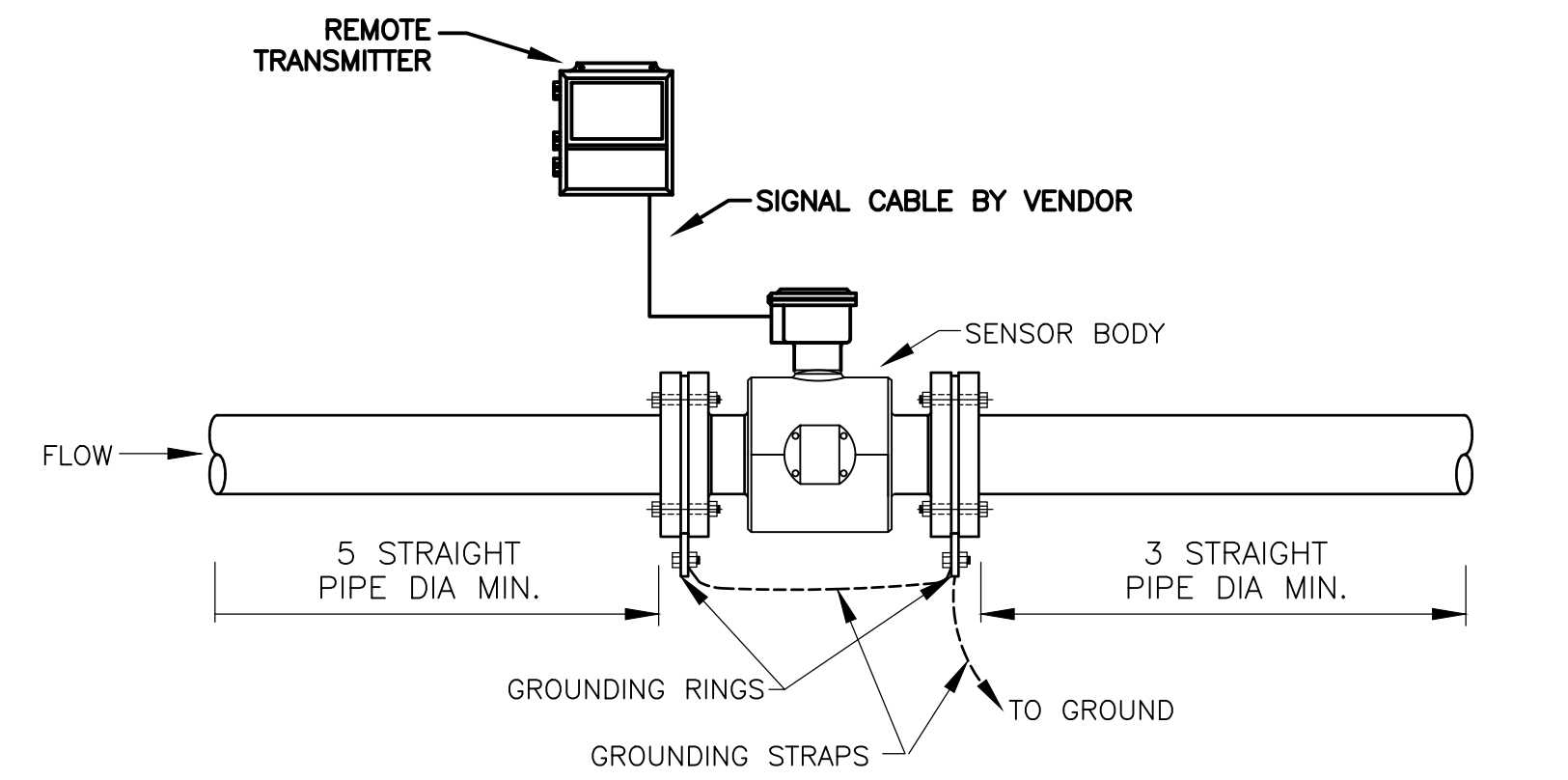
Scale: AS NOTED



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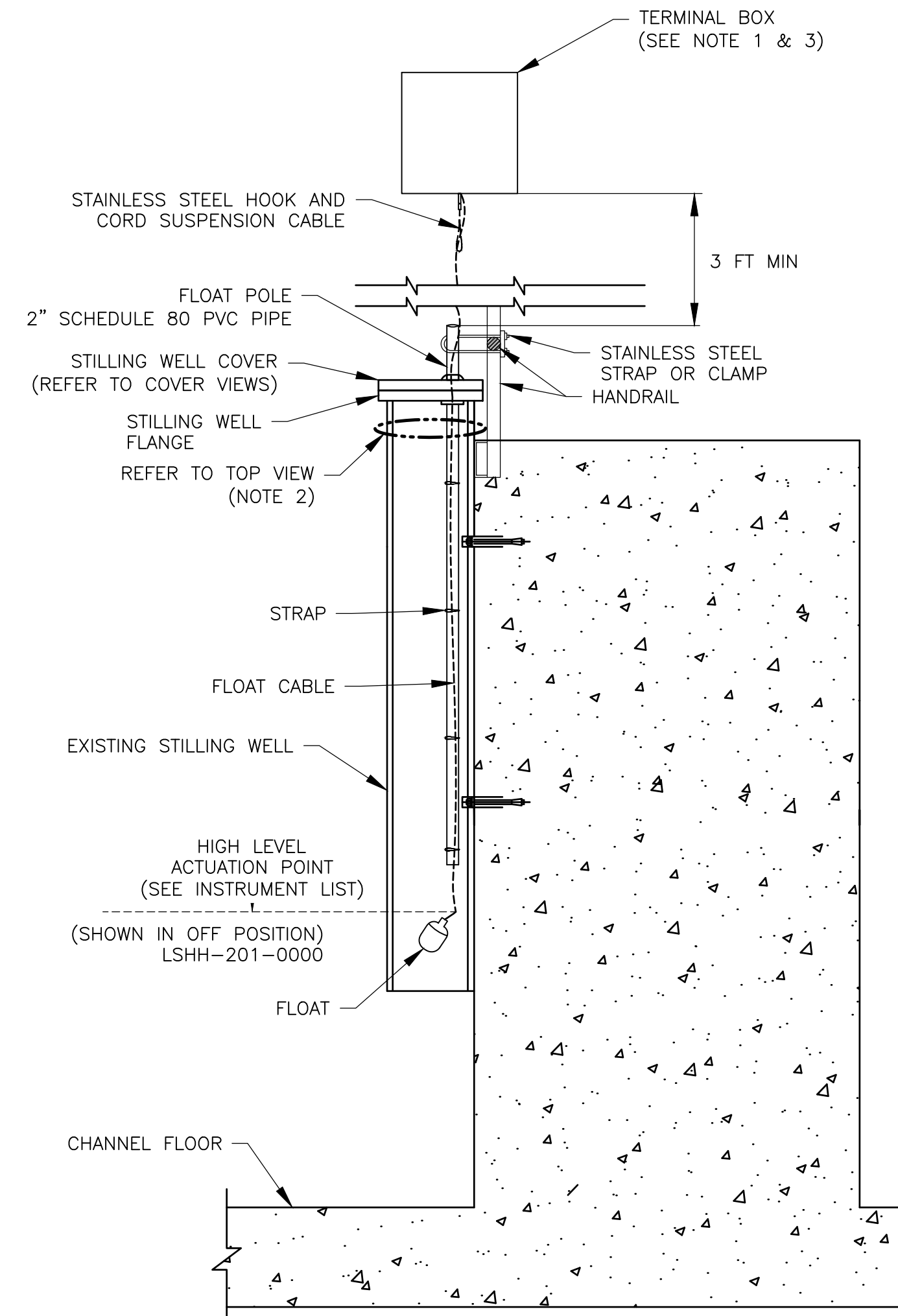


TEMPERATURE SENSOR AND TRANSMITTER
(WITH THERMOWELL)
DETAIL G
NTS

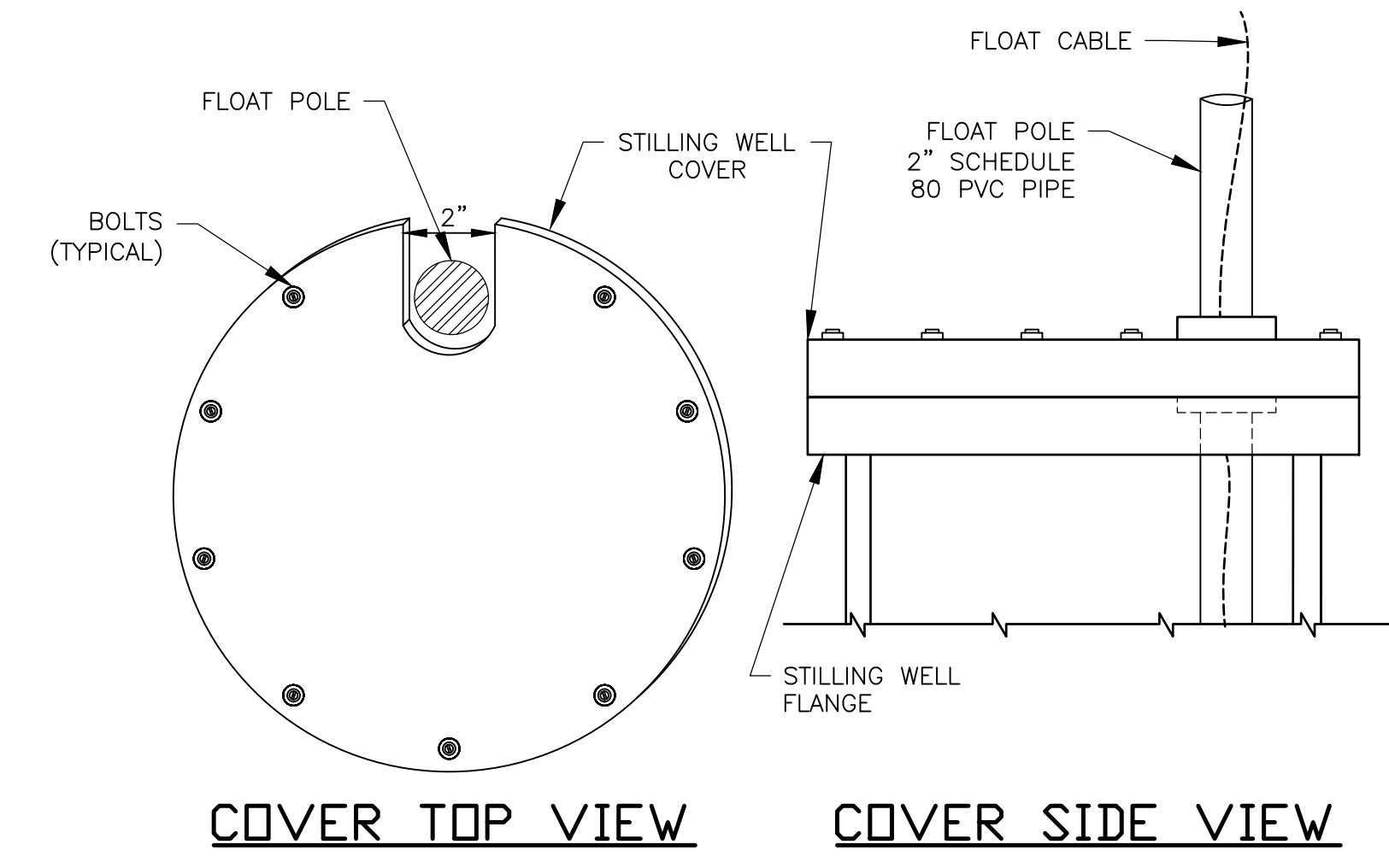


- NOTES:
1. PROVIDE GROUNDING RING(S) AS RECOMMENDED BY MANUFACTURER.
 2. PROVIDE SENSOR LINING TO PREVENT BUILDUP ON METER.
 3. UPSTREAM AND DOWNSTREAM REQUIREMENTS NOT NEEDED FOR FLOW METER ON SCUM DISCHARGE LINE.

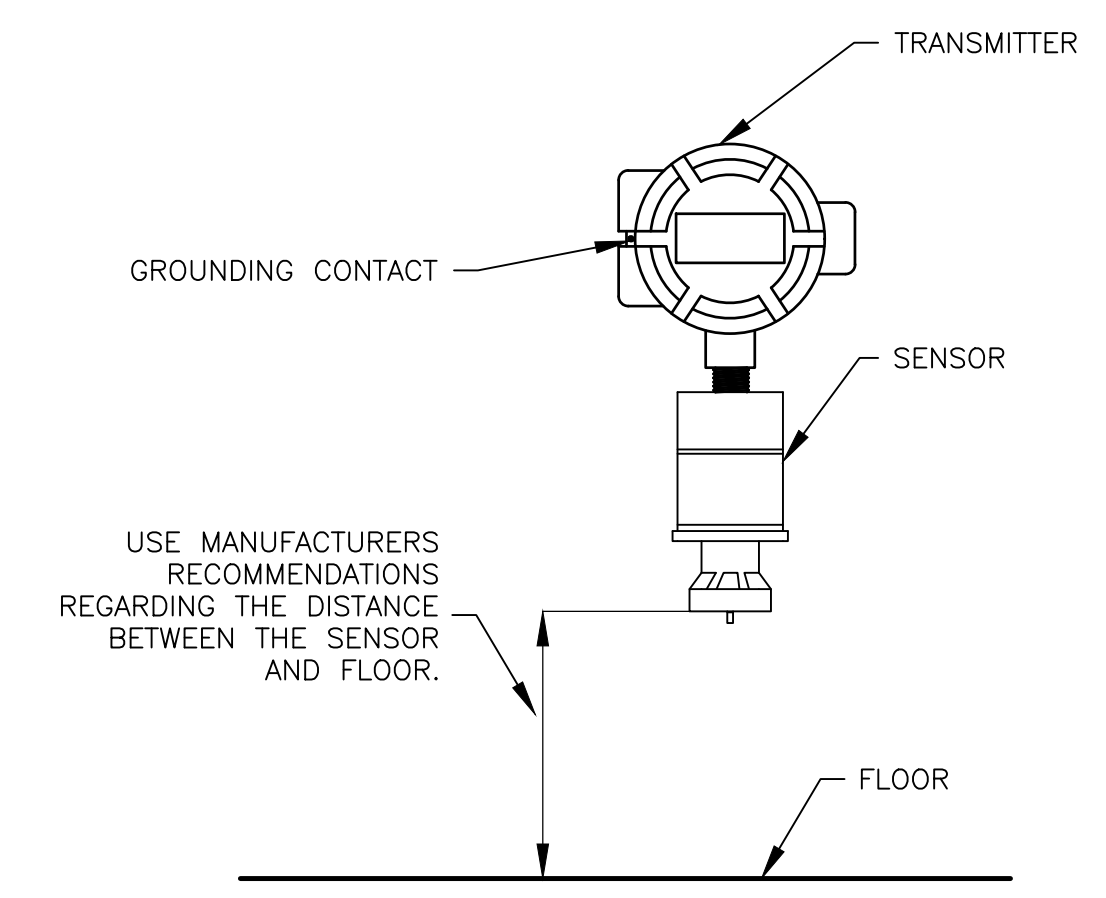
MAGNETIC FLOW METER AND TRANSMITTER
DETAIL H
NTS



- NOTES:
1. PROVIDE 12" X 12" MINIMUM SIZED FLOAT TERMINAL BOX. PROVIDE J-HOOK INSIDE PANEL TO COIL EXTRA CABLE. PROVIDE TERMINATION BLOCKS. ALL CABLES AND WIRES SHALL BE LABELED.
 2. CUT 2" OPENING DOWN THE LENGTH OF THE PIPE. THE OPENING SHALL FACE DOWNSTREAM OF THE FLOW TO PREVENT RAGS FROM GETTING CAUGHT INSIDE THE STILLING WELL. THE BOTTOM OF THE PIPE SHALL BE FLUSH WITH THE FLOOR.
 3. PROVIDE A NEMA 7 CLASS I, DIVISION II RATED TERMINAL BOX LOCATED AT GRADE LEVEL OF THE HEADWORKS BUILDING. SEE ELECTRICAL DRAWINGS FOR PANEL PLACEMENT. PROVIDE APPROPRIATE MANUFACTURER CABLE LENGTH. REFER TO DIVISION 26 SPECIFICATIONS FOR FURTHER REQUIREMENTS.
 4. PROVIDE THREADED STOPS TO BE TIGHTENED AROUND THE COVER SUCH THAT THE POLE IS HELD SECURELY IN PLACE WHILE IN USE.
 5. REFER TO ELECTRICAL DRAWINGS FOR TERMINAL BOX AND EQUIPMENT MOUNTING RACK DETAILS.

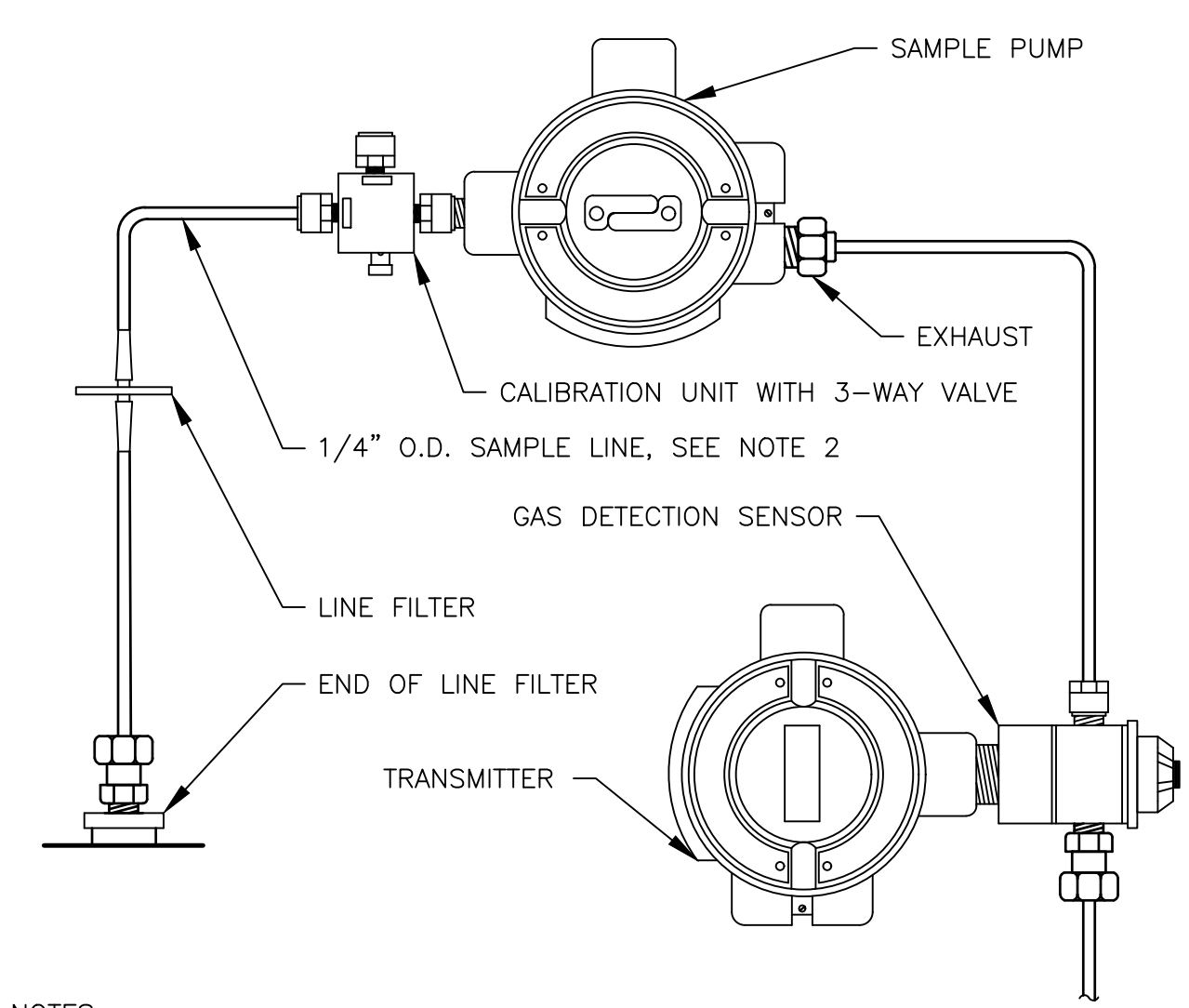


FLOAT SWITCH IN STILLING WELL
WITH COVER
DETAIL K
NTS



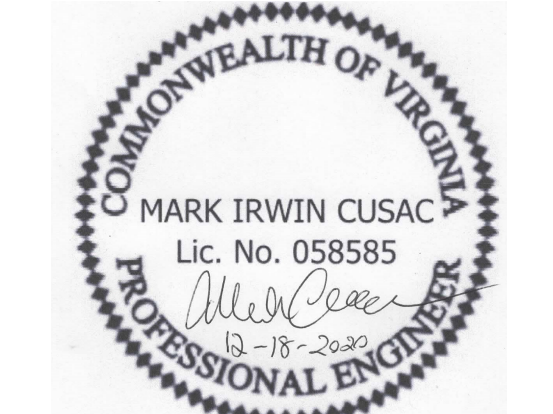
- NOTES:
1. PROVIDE AN EXPLOSION PROOF ENCLOSURE.
 2. MOUNT TRANSMITTER 5' FROM THE FLOOR.

GAS DETECTION
(INTEGRAL SENSOR)
DETAIL I
NTS



- NOTES:
1. ENTIRE TUBING LENGTH SHALL NOT EXCEED 100' BETWEEN THE GAS SENSOR AND SAMPLE END. TUBING PROVIDED BY MANUFACTURER.
 2. SAMPLE LINE SHALL BE 1/4" O.D. TUBING. TUBING LENGTH SHALL NOT EXCEED 100 FEET. TUBING NOT PROVIDED BY MANUFACTURER.
 3. SAMPLE DRAW CAN ALSO BE CONFIGURED WITH TRANSMITTER INSTALLED ALONG SUCTION SIDE OF PUMP.
 4. MOUNT TRANSMITTER AND SAMPLE PUMP 5' FROM THE FLOOR.

GAS MONITORING
(PUMP AND DRAW SYSTEM)
DETAIL J
NTS



Revisions	Date

100% BID SET

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
INSTRUMENTATION STANDARD
DETAILS II

Designed: A. LUTHRA
Drawn: G. VILLAR
Checked: E. SPARGIMINO
Miss Utility Transmittal #:

Filename: 1006HDPL.dwg
Path: C:\pw_pl\11villargd\1255106
Plotted: December 18, 2020
Plotted by: VILLARGD

Scale: AS NOTED



SCOPE OF WORK:

- PROJECT PROVIDES ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO INSTALL A COMPLETE AND MAKE OPERATIONAL THE ELECTRICAL SYSTEM AT ARLINGTON COUNTY WATER POLLUTION CONTROL PLANT (WPCP) PRELIMINARY TREATMENT BUILDING AND OTHER LOCATIONS AS SHOWN ON THE DRAWINGS. THE WORK SHALL INCLUDE FURNISHING, INSTALLING AND TESTING THE EQUIPMENT AND MATERIALS DETAILED IN THE FOLLOWING SECTIONS, BUT ARE NOT LIMITED TO DIVISIONS 26, 28, AND 33.

GENERAL NOTES:

- ELECTRICAL DRAWINGS ARE INTENDED TO SHOW THE GENERAL LAYOUT OF WORK TO BE INSTALLED UNDER THIS CONTRACT WITHOUT ATTEMPTING TO SHOW ALL DETAILS. FURNISH LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED FOR A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM AS SHOWN ON THE CONTRACT DOCUMENTS.
- COORDINATE WORK WITH OTHER TRADES AND THE OWNER.
- MAINTAIN EXISTING PROCESS OPERATIONS. POWER INTERRUPTIONS TO ELECTRICAL EQUIPMENT SHALL BE AT OWNER'S CONVENIENCE WITH 72 HOURS MINIMUM NOTICE. EACH INTERRUPTION SHALL HAVE PRIOR WRITTEN APPROVAL FROM THE OWNER.
- CONTRACTOR'S WORK SHALL INCLUDE COMPLETE TESTING OF EQUIPMENT AND WIRING INCLUDING MAKING MINOR CORRECTIONS, CHANGES, OR ADJUSTMENTS NECESSARY FOR THE PROPER FUNCTIONING OF THE SYSTEM AND EQUIPMENT. WORKMANSHIP SHALL BE OF THE HIGHEST QUALITY; SUBSTANDARD WORK WILL BE REJECTED.
- DO NOT SCALE ELECTRICAL DRAWINGS. REFER TO MECHANICAL, STRUCTURAL DRAWINGS, AND APPROVED MANUFACTURER'S SHOP DRAWINGS FOR EXACT LOCATION OF EQUIPMENT. EXCEPT WHERE DIMENSIONS ARE SHOWN, LOCATIONS OF EQUIPMENT, FIXTURES, OUTLETS, AND SIMILAR DEVICES ARE APPROXIMATE.
- WORK SHALL COMPLY WITH NEC, NATIONAL CODES, AND LOCAL CODES.
- DO NOT SPLICE CONDUCTORS EXCEPT AS NOTED.
- POWER AND CONTROL CONDUITS SHALL HAVE AN EQUIPMENT GROUNDING CONDUCTOR WIRE SIZED PER TABLE 250.122 OF THE NEC (UNLESS OTHERWISE NOTED).
- COORDINATE SEQUENCE OF CONSTRUCTION WITH CIVIL, MECHANICAL, AND STRUCTURAL DISCIPLINES. PROVIDE TEMPORARY POWER AND CONTROL CIRCUITS AS REQUIRED TO MAINTAIN FACILITY OPERATION. VERIFY EXISTING UTILITIES IN AREA OF CONSTRUCTION.
- CONCEAL CONDUITS TO GREATEST EXTENT PRACTICAL. CONDUITS RUN AT EXISTING STRUCTURES SHALL BE RUN EXPOSED.
- WHERE LOCAL DISCONNECTS AND CONTROL PANELS ARE SHOWN ON PLAN VIEWS, LOCATIONS ARE APPROXIMATE. ADJUST LOCATION AS REQUIRED TO COMPLY WITH NEC ARTICLE 110 FOR WORKING CLEARANCES.
- REPAIR, IN ACCORDANCE WITH THE SPECIFICATIONS, SIDEWALKS, WALLS, ROADWAYS, ETC. DISTURBED BY CONSTRUCTION ACTIVITIES WHETHER OR NOT SHOWN FOR REPAIR/REPAVING ON THE DRAWINGS.
- PROVIDE SYSTEMS OF MATERIALS, OR COMBINATION OF MATERIALS, USED TO FILL OPENINGS AROUND PENETRATING ITEMS TO PREVENT THE SPREAD OF FIRE, AND RETAIN THE INTEGRITY OF FIRE-RATED CONSTRUCTION, BY MAINTAINING AN EFFECTIVE BARRIER AGAINST SPREAD OF FLAME, SMOKE, WATER, AND HOT GASES THROUGH PENETRATIONS IN FIRE-RATED WALL AND FLOOR ASSEMBLIES.
- REFER TO SPECIFICATION 078413 "PENETRATION FIRESTOPPING" FOR FIRESTOPPING SYSTEMS. PROVIDE FIRESTOPPING ACCORDING TO THE SCHEDULE WHEN NEW PENETRATIONS ARE INSTALLED AT FIRE RATED PARTITIONS INDICATED ON LIFE SAFETY PLANS SHEET OR BETWEEN FLOORS.
- PROVIDE RUBBER FLOOR MATS
 - FURNISH AND INSTALL A NON-CONDUCTIVE ELASTOMER COMPOUND RUBBER FLOOR MAT EXTENDING THE FULL LENGTH AND PLACED IN FRONT OF AND IN BACK OF EACH PANELBOARD AND CONTROL PANELS.
 - MATS SHALL BE IN ACCORDANCE WITH ASTM D178, TYPE II, CLASS 2, 1/4-IN THICK MINIMUM, 36-IN WIDE WITH CORRUGATED SURFACE AND SHALL BE BRANDED CONTINUOUSLY ON THE BACK.
 - MATS SHALL HAVE THE FOLLOWING RATINGS:
 - VOLTAGE PHASE TO PHASE 17,000 V RMS
 - AC PROOF TEST VOLTAGE 20,000 V RMS
 - DC PROOF TEST VOLTAGE 50,000 V AVERAGE
 - TYPE II MATS SHALL BE OZONE, FLAME AND OIL RESISTANT.
 - INSTALL MATS IN ONE CONTINUOUS PIECE. WHERE EQUIPMENT FACES EACH OTHER AND IS LESS THAN 6-FT APART, PROVIDE ONE WIDTH OF MAT.
 - MATS SHALL BE STORED WITHOUT DISTORTION, FREE FROM DIRECT SUN LIGHT OR SOURCES OF OZONE AND AT A TEMPERATURE NOT TO EXCEED 95 DEGREES F (35 DEGREES C).

SUBMITTALS:

- SUBMIT SHOP DRAWINGS FOR EQUIPMENT, MATERIALS AND OTHER ITEMS FURNISHED UNDER DIVISION 26.
- SUBMIT OPERATION AND MAINTENANCE MANUALS FOR EQUIPMENT FURNISHED UNDER DIVISION 26.
- SUBMIT STARTUP/COMMISSIONING PLANS FOR EQUIPMENT FURNISHED UNDER DIVISION 26.
- SUBMIT TESTING AND SERVICE REPORTS FOR EQUIPMENT AND MATERIALS FURNISHED UNDER DIVISION 26.
- SUBMIT TRAINING PLANS FOR EQUIPMENT FURNISHED UNDER DIVISION 26.
- SUBMIT RECORD DOCUMENTATION TO ACCURATELY SHOW COMPLETED INSTALLATION. INCLUDE MODIFICATIONS TO CONTRACT DOCUMENTS (ONE LINE POWER DIAGRAMS, EQUIPMENT ELEVATIONS, PANEL SCHEDULES, ELEMENTARY CONTROL DIAGRAMS, RISER DIAGRAMS, PLANS, AND CONDUIT, ETC) ALONG WITH ADDITIONAL DRAWINGS OR SKETCHES CREATED TO CONVEY COMPLETED INSTALLATION.

INTERPRETATION OF CONTRACT DOCUMENTS:

- IF DURING PERFORMANCE OF WORK, THERE IS A CONFLICT, ERROR, OR DISCREPANCY BETWEEN OR AMONG CONTRACT DOCUMENTS AND LAWS AND REGULATIONS, PROVIDE THE HIGHER PERFORMANCE STANDARD UNLESS OTHERWISE DIRECTED BY ENGINEER.
- PRIORITY OF DOCUMENTS: FIGURED DIMENSIONS GOVERN OVER SCALED DIMENSIONS, DETAILED DRAWINGS GOVERN OVER GENERAL DRAWINGS, LARGER SCALE DRAWINGS TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS, CHANGE ORDER DRAWINGS SUPERCEDE ORIGINAL CONTRACT DRAWINGS, AND CONTRACT DRAWINGS GOVERN SHOP DRAWINGS.
- IN GENERAL, DRAWINGS DO NOT SHOW CONDUIT ROUTING. PLAN AND ROUTE CONDUITS IN COMPLIANCE WITH SPECIFICATIONS AND DRAWING DETAILS. COORDINATE INSTALLATION WITH OTHER TRADES AND ACTUAL SUPPLIED EQUIPMENT.
- SEE ADDITIONAL NOTES ON ELECTRICAL LEGEND AND ABBREVIATION SHEETS.

ENCLOSURE TYPES:

PROVIDE THE FOLLOWING NEMA TYPE ELECTRICAL ENCLOSURES, UNLESS OTHERWISE NOTED:

- NEMA 12 IN DRY, NON-PROCESS INDOOR LOCATIONS OR IN "DUST" LOCATIONS SHOWN ON THE DRAWINGS.
- NEMA 4X IN OUTDOOR LOCATIONS, ROOMS BELOW GRADE INCLUDING BASEMENTS AND BURIED VAULTS AND "DAMP" OR "WET" LOCATIONS SHOWN ON THE DRAWINGS.
- NEMA 4X IN "CORROSIVE" LOCATIONS SHOWN ON THE DRAWINGS.
- NEMA 7 AND LISTED FOR THE SPECIFIC NEC HAZARDOUS AREA CLASSIFICATION AS SHOWN ON THE DRAWINGS.

NEC CLASSIFIED HAZARDOUS AREAS:

- THIS PROJECT INCLUDES NEC CLASSIFIED HAZARDOUS AREAS. THE FOLLOWING NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS APPLY:
 - NFPA 820 – STANDARD FOR FIRE PROTECTION IN WASTEWATER TREATMENT AND COLLECTION FACILITIES
- REFER TO SHEET E-4 FOR ADDITIONAL INFORMATION ON CLASSIFICATION BOUNDARIES.
- EQUIPMENT, MATERIALS, AND INSTALLATION SHALL COMPLY WITH NEC ARTICLES 500, 501, 502, AND 503.

MATERIALS AND EQUIPMENT:

- PROVIDE NEW MATERIALS AND EQUIPMENT UNLESS SPECIFICALLY NOTED OTHERWISE.
- ELECTRICAL EQUIPMENT AND MATERIALS SHALL BE LISTED BY UNDERWRITER'S LABORATORIES, INC., AND SHALL BEAR APPROPRIATE UL LISTING MARK OR CLASSIFICATION MARKING. EQUIPMENT, MATERIALS, ETC. UTILIZED NOT BEARING A UL CERTIFICATION SHALL BE FIELD OR FACTORY UL CERTIFIED PRIOR TO EQUIPMENT ACCEPTANCE AND USE.
- PROVIDE MAJOR ELECTRICAL EQUIPMENT BY A SINGLE MANUFACTURER: I.E. DISCONNECT SWITCHES, CONDUITS, ETC.

EQUIPMENT SIZE, HANDLING AND STORAGE:

- COORDINATE WITH EQUIPMENT MANUFACTURER SHIPPING SPLITS TO PERMIT SAFE HANDLING AND PASSAGE OF EQUIPMENT TO FINAL INSTALLATION LOCATION.
- COMPLY WITH MANUFACTURER'S INSTRUCTIONS FOR UPRIGHT EQUIPMENT ORIENTATION DURING TRANSPORTATION.
- PROTECT EQUIPMENT FROM MECHANICAL INJURY, OR EXPOSURE TO MOISTURE, CHEMICALS, OR CORROSIVE GASES. DO NOT STORE ELECTRICAL EQUIPMENT OUTDOORS.
- PROVIDE AND ENERGIZE TEMPORARY SPACE HEATERS IF REQUIRED TO CONTROL MOISTURE DURING STORAGE.

CUTTING AND PATCHING:

- CUT AND PATCH IN A WORKMANLIKE MANNER AS REQUIRED TO INSTALL ELECTRICAL WORK.
- CORE-DRILL HOLES IN CONCRETE FLOORS AND WALLS AS REQUIRED. PRIOR TO CORE-DRILLING CONDUIT/PIPE PENETRATIONS THROUGH SLAB, USE GPR TO LOCATE REINFORCING STEEL. LOCATE CONDUIT/PIPE PENETRATIONS TO AVOID REINFORCING STEEL. DO NOT CUT OR DAMAGE REINFORCING STEEL.
- CUTTING OF STRUCTURAL MEMBERS SUCH AS JOISTS, BEAMS, GIRDERS, COLUMNS, OR SLABS IS PROHIBITED.
- PATCH SURFACES TO RESTORE TO ORIGINAL INTEGRITY (WATERPROOF OR FIREPROOF AS REQUIRED) AND APPEARANCE.
- INSTALL WORK AT SUCH TIME AS TO REQUIRE THE MINIMUM AMOUNT OF CUTTING AND PATCHING.

DEMOLITION AND DISPOSITION OF EQUIPMENT:

- DRAWING PLANS SHOWING REMOVAL OF MAJOR MECHANICAL AND ELECTRICAL EQUIPMENT IS NOT INTENDED TO SHOW ALL COMPONENTS TO BE DEMOLISHED. NOT ALL PIPING, CONDUITS, DUCTS, EQUIPMENT, ANCILLARY DEVICES, ETC. ARE SHOWN. THE CONTRACTOR IS TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID.
- UNLESS OTHERWISE SPECIFICALLY NOTED, REMOVE UNUSED EXPOSED CONDUIT AND SUPPORT SYSTEMS BACK TO SOURCE AND/OR POINT OF CONCEALMENT INCLUDING ABOVE ACCESSIBLE CEILING FINISHES. WIRING SHALL BE REMOVED.
- CUT FLUSH WITH SLAB, CEILING, OR WALL ABANDONED CONCEALED CONDUIT. SUITABLY PLUG CONDUITS.
- REPAIR AND RESTORE ADJACENT CONSTRUCTION AND FINISHES AFTER DEMOLITION IS COMPLETE.
- MATERIAL AND EQUIPMENT INDICATED FOR REMOVAL OR DEMOLITION IS TO BECOME CONTRACTOR'S PROPERTY UPON REMOVAL, UNLESS NOTED OTHERWISE. REMOVED MATERIAL TO BE PROPERLY HANDLED AND DISPOSED.

CLEANING:

- REMOVE ALL RUBBISH AND DEBRIS FROM INSIDE AND AROUND ELECTRICAL EQUIPMENT AND ENCLOSURES.
- REMOVE DIRT, DUST OR CONCRETE SPATTER FROM INTERIOR AND EXTERIOR OF EQUIPMENT USING BRUSHES, VACUUM CLEANER OR CLEAN LINT-FREE RAGS. DO NOT USE COMPRESSED AIR.

DELEGATED DESIGN / PROFESSIONAL ENGINEERING SERVICES:

- WHEN ENGINEERING SERVICES ARE SPECIFIED TO BE PROVIDED BY CONTRACTOR, CONTRACTOR SHALL RETAIN A LICENSED PROFESSIONAL ENGINEER TO PERFORM THE SERVICES. ENGINEER SHALL BE LICENSED AT THE TIME SERVICES ARE PERFORMED AND LICENSED IN THE STATE IN WHICH PROJECT IS LOCATED. IF THE STATE ISSUES DISCIPLINE SPECIFIC LICENSES, ENGINEER SHALL BE LICENSED IN THE APPLICABLE DISCIPLINE. ENGINEER SHALL BE EXPERIENCED IN THE TYPE OF WORK BEING PERFORMED.
- ENGINEERING WORK SHALL BE DONE ACCORDING TO THE APPLICABLE REGULATIONS FOR PROFESSIONAL ENGINEERS TO INCLUDE SIGNING, SEALING AND DATING DOCUMENTS.

MAJOR ELECTRICAL SEQUENCE OF CONSTRUCTION:

- REFER TO SPECIFICATIONS 018100 AND 260505.00 FOR MAINTENANCE OF PLANT OPERATIONS AND SEQUENCE OF CONSTRUCTION.

DEMOLITION GENERAL NOTES:

- ONLY THE WPCB STAFF ARE TO DE-ENERGIZE EQUIPMENT. CONTRACTOR SHALL DISCONNECT ALL ELECTRICAL POWER CONNECTIONS FOR ALL EQUIPMENT TO BE REMOVED IN ORDER TO ALLOW SAFE AND COMPLETE REMOVAL OF ALL ASSOCIATED EQUIPMENT IN THIS AREA.
- FOLLOW ALL LOCKOUT/TAGOUT PROCEDURES AND VERIFY POWER IS DISCONNECTED BEFORE BEGINNING DEMOLITION.
- ITEMS SHOWN HATCHED ARE IDENTIFIED FOR DEMOLITION UNLESS OTHERWISE STATED IN THE DRAWING.
- SURVEY THE EXISTING ELECTRICAL SYSTEMS AND EQUIPMENT IDENTIFIED FOR REMOVAL WITH OWNER AND REPRESENTATIVES FROM OTHER TRADES PRIOR TO PERFORMING ANY DEMOLITION WORK.
- REMOVE EXPOSED CONDUITS, OUTLET BOXES, PULLBOXES AND HANGERS MADE OBSOLETE BY THE ALTERATIONS, UNLESS DESIGNATED TO REMAIN. PATCH SURFACES TO MATCH ADJACENT SURFACE FINISH MATERIALS AND FINISHES. PROVIDE BLANK COVERS FOR ABANDONED OUTLETS.
- ABANDONED CONDUITS CONCEALED IN FLOOR OR CEILING SLABS OR IN WALLS, SHALL BE CUT FLUSH WITH THE SLAB OR WALL AT THE POINT OF ENTRANCE. THE CONDUITS SHALL BE SUITABLY PLUGGED AND THE AREA REPAIRED IN A FLUSH, SMOOTH AND APPROVED MANNER.
- PRIOR TO DEMOLISHING ELECTRICAL EQUIPMENT, TRACE EXISTING WIRING TO ITS POWER SUPPLY DISCONNECTING MEANS BY COORDINATING WITH THE OWNER, AND DISCONNECT & REMOVE ALL CONDUIT & WIRE SERVING THE EQUIPMENT SCHEDULED FOR DEMOLITION, UNLESS OTHERWISE NOTED. CUT OFF CONCEALED CONDUITS A MINIMUM OF 1" BELOW THE SURFACE AND FILL & PATCH THE SURFACE TO MATCH ADJACENT SURFACE FINISH MATERIALS & FINISHES.
- REFER TO PROCESS MECHANICAL SHEETS FOR ADDITIONAL EQUIPMENT DEMOLITION.
- DEMOLITION GENERAL NOTES SHALL APPLY TO ALL DEMOLITION WORK.



DEPARTMENT OF ENVIRONMENTAL SERVICES
 WATER POLLUTION CONTROL BUREAU
 3402 S. GLEBE ROAD
 ARLINGTON, VA 22202
 PHONE: 703.228.6820

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SEAL



APPROVALS _____ DATE _____

100% BID SET

Revisions	Date

Project Name and Location

Water Pollution Control Plant
 Preliminary Treatment Upgrades (WPB2)
 Phase 9B
ELECTRICAL GENERAL NOTES

Designed: R. MAGSIPOC
 Drawn: T. BRENNEN
 Checked: T. MOHAMMED
 Miss Utility Transmittal #:

Filename: E001NFGN.dwg
 Path: c:\pw_gbl\magsipecrm\d1255086
 Plotted: December 18, 2020
 Plotted by: MAGSIPOCRM

Scale: AS NOTED



10560 Arrowhead Drive, Suite 500
 FAIRFAX, VA 22030

Sht. 74 of 97

E-1

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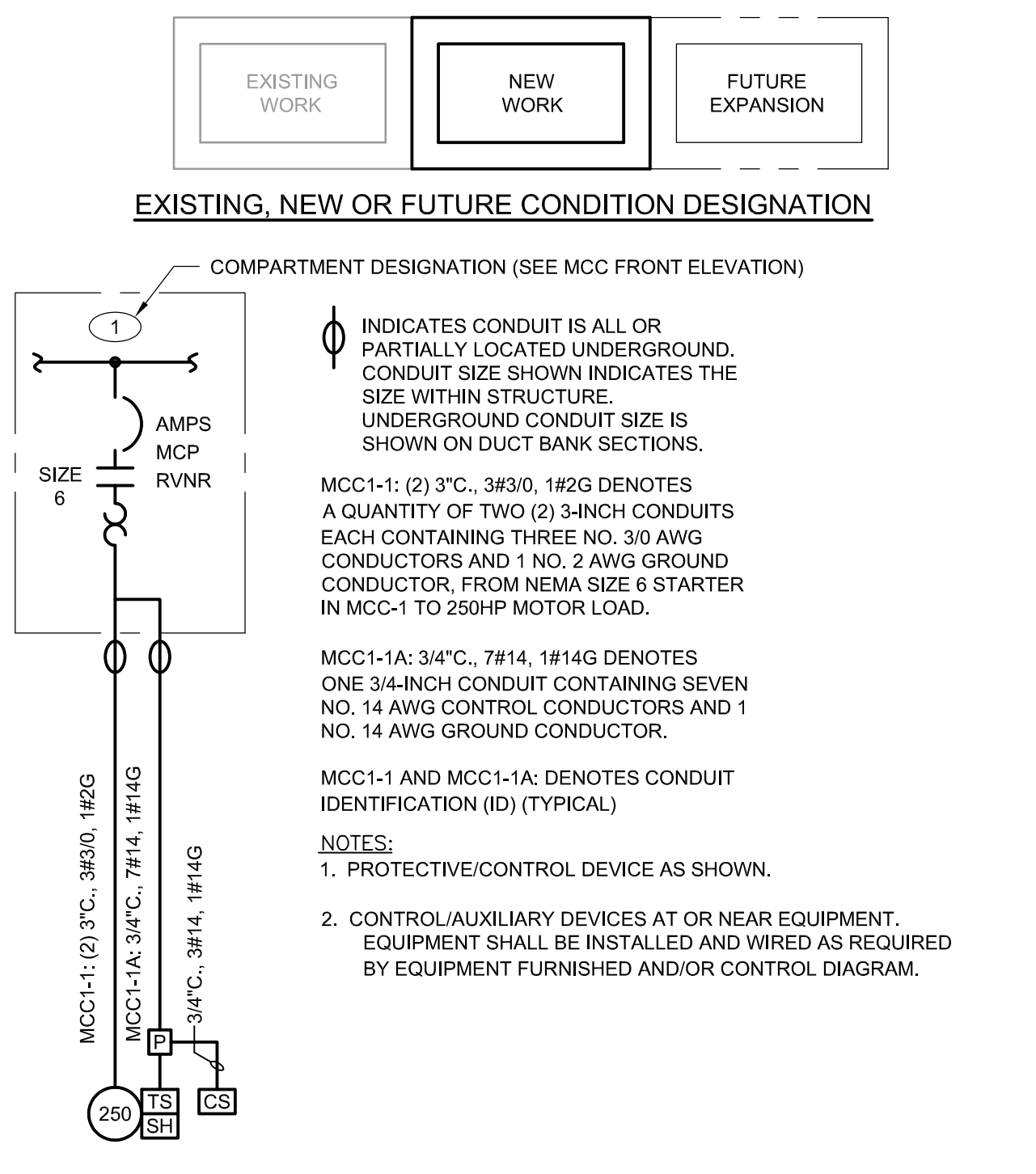
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ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
	—	MEDIUM VOLTAGE DRAWOUT TYPE POWER CIRCUIT BREAKER CS=CONTROL SWITCH
	CB	LOW VOLTAGE AIR OR MOLDED CASE CIRCUIT BREAKER, 3 POLE UNLESS OTHERWISE NOTED.
		COMBINATION MOTOR CIRCUIT PROTECTOR AND MAGNETIC MOTOR STARTER, FULL VOLTAGE NON-REVERSING UNLESS OTHERWISE NOTED: #FVR - FULL VOLTAGE REVERSING RVNR - REDUCED VOLTAGE NON-REVERSING RVAT - REDUCED VOLTAGE AUTO TRANSFORMER RVSS - REDUCED VOLTAGE SOLID STATE 2S1W - TWO SPEED, ONE WINDING 2S2W - TWO SPEED, TWO WINDING (DIAGRAMMATICALLY SHOWN, CONTRACTOR SHALL FIELD LOCATE)
	—	NON-FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE #AMPERE RATING NOTED IF OTHER THAN 30A (DIAGRAMMATICALLY SHOWN, CONTRACTOR SHALL FIELD LOCATE)
	F	FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE #AMPERE RATING AND FUSE SIZE AS NOTED #AMPERE RATING NOTED IF OTHER THAN 30A FUSE RATING (DIAGRAMMATICALLY SHOWN, CONTRACTOR SHALL FIELD LOCATE)
		MANUAL MOTOR STARTER WITH THERMAL OVERLOAD HEATER, 1 POLE UNLESS OTHERWISE NOTED "P" INDICATES WITH PILOT LIGHT "2" INDICATES TWO POLE (DIAGRAMMATICALLY SHOWN, CONTRACTOR SHALL FIELD LOCATE)
	—	DRAWOUT TYPE EQUIPMENT OR DEVICE
	—	MEDIUM VOLTAGE CABLE TERMINATION
	—	MEDIUM VOLTAGE AIR INTERRUPTER SWITCH
	—	MEDIUM VOLTAGE FUSED AIR INTERRUPTER SWITCH #USE RATING
	—	MEDIUM VOLTAGE FUSED MOTOR CONTROLLER
	T	TRANSFORMER, RATINGS AND CONNECTIONS AS NOTED, UNLESS OTHERWISE NOTED ON THE SINGLE LINE DIAGRAMS, ALL DRY TYPE TRANSFORMERS SERVICING ADMINISTRATIVE AND LABORATORY SPACES SHALL HAVE A K FACTOR OF 4. ISOLATION TRANSFORMERS SHALL HAVE A K=20 RATING
	—	CURRENT TRANSFORMER #QUANTITY A = PRIMARY AMPERES
	—	POTENTIAL TRANSFORMER #QUANTITY V = PRIMARY VOLTAGE
	G	GENERATOR, RATINGS AND CONNECTIONS AS NOTED
	—	AUTOMATIC OR MANUAL TRANSFER SWITCH NO.1 (ATS-1), (MTS-1) "N" INDICATES NORMAL OR PREFERRED SOURCE "S" INDICATES STANDBY OR ALTERNATE SOURCE 100A INDICATES CONTINUOUS CURRENT RATING
	—	VARIABLE SPEED DRIVE CONTROLLER #D.C. = D.C. DRIVE CONTROLLER SCR = SILICON CONTROLLED RECTIFIER VFD = VARIABLE FREQUENCY DRIVE
	E	UNIT HEATER - ELECTRIC HEATING COIL AND FAN # - RATING
	U	UNIT HEATER - GAS FIRED, STEAM OR WATER HEATING COIL AND FAN
	M	MOTOR, NUMERAL INDICATES HORSEPOWER
	—	VOLTMETER WITH SWITCH, 3 PHASE
	—	AMMETER WITH SWITCH, 3 PHASE

ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
	—	METER #WM - WATTMETER WHM - WATT HOUR METER WHDM - WATT HOUR DEMAND METER WHDR - WATT HOUR DEMAND RECORDER PF - POWER FACTOR METER DMU - DIGITAL METERING UNIT
	—	TRANSDUCER AX - CURRENT TRANSDUCER WX - WATT TRANSDUCER WHX - WATT HOUR TRANSDUCER
	—	RELAY, NO. AS INDICATED 25 - SYNCHRONISM CHECK RELAY 27 - UNDERVOLTAGE RELAY 32 - DIRECTIONAL POWER RELAY 38 - BEARING PROTECTIVE DEVICE 40 - LOSS OF EXCITATION RELAY 42 - RUNNING CONTACTOR/PILOT RELAY 46 - REVERSE PHASE/PHASE BALANCE/CURRENT RELAY 47 - PHASE SEQUENCE VOLTAGE RELAY 49 - MACHINE OR TRANSFORMER THERMAL RELAY 50/51 - INSTANTANEOUS/TIME OVERCURRENT RELAY 50G - INSTANTANEOUS GROUND 51 - TIME OVERCURRENT RELAY 51G - TIME OVERCURRENT RELAY, GROUNDING RESISTOR TYPE 51N - TIME OVERCURRENT RELAY, RESIDUAL TYPE 51V - TIME OVERCURRENT RELAY WITH VOLTAGE RESTRAINT 51X - AUXILIARY RELAY (TRIPS CB AND ALARMS) 59 - OVERVOLTAGE RELAY 60 - NEGATIVE SEQUENCE VOLTAGE RELAY 62 - TIME DELAY RELAY 63 - OVERPRESSURE RELAY 64 - GENERATOR FIELD GROUND RELAY 67 - AC DIRECTIONAL OVERCURRENT RELAY 74 - ALARM LATCHING RELAY 83 - AUTOMATIC SELECTIVE CONTROL OR TRANSFER RELAY 86 - LOCKING-OUT RELAY 87 - DIFFERENTIAL PROTECTIVE RELAY B - SUFFIX INDICATES "BUS" G - SUFFIX INDICATES "GENERATOR" GF - GROUND FAULT ST - SHUNT TRIP T - SUFFIX INDICATES "TRANSFORMER" X - SUFFIX INDICATES "AUXILIARY"
	—	SPECIAL CAPACITOR #SC - SURGE CAPACITOR PF - POWER FACTOR CORRECTION CAPACITOR
	—	TUNED POWER FACTOR CORRECTION CAPACITOR
	—	PUSHBUTTON, MOMENTARY CONTACT, SPRING RETURN, NORMALLY CLOSED
	ES	EMERGENCY STOP PUSHBUTTON WITH RED MUSHROOM HEAD OPERATOR (MAINTAINED CONTACT)
	PBL	START-STOP PUSHBUTTON CONTROL STATION (MOMENTARY CONTACT) WITH LOCKOUT DEVICE ON STOP
	PBM	START-STOP PUSHBUTTON CONTROL STATION, MAINTAINED CONTACT WITH LOCKOUT DEVICE ON STOP
	S/S	OFF/ON SELECTOR SWITCH
	LR	LOCAL/REMOTE SELECTOR SWITCH
	—	3 POSITION SELECTOR SWITCH, MAINTAINED CONTACT O-OPEN X-CLOSED POSITION TOP MIDDLE BOTTOM CONTACT A X O O O B O X O O C O O O X
	—	NAMEPLATE (A/B/C) HOA - HAND/OFF/AUTO FOR - FORWARD/OFF/REVERSE EOW - EAST/OFF/WEST
	GDVF	GAS DETECTOR / VENTILATION FAILURE ALARM # INDICATES TYPE OF UNIT 1=MASTER, 2=REMOTE
	—	MOTOR STARTER COIL, NUMBER AS INDICATED TO DENOTE INTERLOCKING ONLY
	—	CONTROL RELAY COIL, NUMBER AS INDICATED

ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
	—	PILOT LIGHT, COLOR AS NOTED #L - RED G - GREEN B - BLUE W - WHITE A - AMBER
	—	PILOT LIGHT, PUSH-TO-TEST TYPE, COLOR AS NOTED ABOVE.
	—	TIME DELAY RELAY RANGE AS NOTED SETPOINT AS NOTED #NUMBER AS INDICATED #TDE - TIME DELAY AFTER ENERGIZATION ON DELAY TDD - TIME DELAY AFTER DE-ENERGIZATION OFF DELAY
	—	NOC - NORMALLY OPEN, TIMED CLOSING WHEN ENERGIZED
	—	NCTO - NORMALLY CLOSED, TIMED OPENING WHEN ENERGIZED
	—	NOTO - NORMALLY OPEN, TIMED OPENING WHEN DE-ENERGIZED
	—	NCTC - NORMALLY CLOSED, TIMED CLOSING WHEN DE-ENERGIZED
	*-##	FIELD INSTRUMENT, TAG NO. AS INDICATED * INDICATES INSTRUMENT TYPE DEFINED ON LOOP SHEETS OR P & ID ## INDICATES LOOP NO.
	LS OR ■	LIQUID LEVEL (FLOAT) SWITCH NORMALLY OPEN, CLOSING ON RISING LEVEL
	—	NORMALLY OPEN, CLOSING ON RISING PRESSURE
	—	NORMALLY CLOSED, CLOSING ON RISING PRESSURE
	—	NORMALLY OPEN, CLOSING ON DROPPING PRESSURE
	—	NORMALLY CLOSED, CLOSING ON DROPPING PRESSURE
	TS OR (T) OR ■	TEMPERATURE SWITCH OR THERMOSTAT NORMALLY OPEN, CLOSING ON RISING TEMPERATURE NORMALLY OPEN, CLOSING ON DROPPING TEMPERATURE NORMALLY CLOSED, CLOSING ON RISING TEMPERATURE NORMALLY CLOSED, CLOSING ON DROPPING TEMPERATURE
	FS OR ■	FLOW SWITCH (AIR, WATER, ETC.) NORMALLY OPEN, CLOSING ON INCREASED FLOW NORMALLY CLOSED, CLOSING ON INCREASED FLOW
	ZS OR ■	POSITION (LIMIT) SWITCH NORMALLY OPEN NORMALLY OPEN - HELD CLOSED NORMALLY CLOSED NORMALLY CLOSED - HELD OPEN
	WS OR ■	TORQUE SWITCH NORMALLY OPEN, CLOSING ON HIGH TORQUE NORMALLY CLOSED, CLOSING ON HIGH TORQUE
	—	UTILIZED IN CONJUNCTION WITH OTHER CONTROL SCHEMATIC SYMBOLS TO DEPICT THE PHYSICAL LOCATION OF THE DEVICE # REPRESENTS LOCATION SEE LOCATION LEGEND ON DRAWING
	—	CONDUCTORS OR CONDUITS CROSSING PATHS BUT NOT CONNECTED
	—	CONDUCTORS ELECTRICALLY CONNECTED
	S	SOLENOID VALVE

ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
	—	LIGHTNING ARRESTER
	—	GROUND OR GROUND ROD
	—	FUSE, AMPERE RATING AS NOTED
	HTR	STRIP HEATER OR HEATING ELEMENT
	—	INDUCTOR
	TG	TACHOMETER GENERATOR
	—	CONTACT, NORMALLY OPEN (NO)
	—	CONTACT, NORMALLY CLOSED (NC)
	—	OVERLOAD RELAY HEATER
	—	K = KEY INTERLOCK E = ELECTRICAL INTERLOCK
	TB	TERMINAL OR TEST BLOCK
	RTD	RESISTANCE TEMPERATURE DETECTOR
	VE OR ■	VIBRATION DETECTOR
	DM	DAMPER MOTOR
	ETM	ELAPSED TIME METER
	M	MOTOR OPERATED VALVE OR GATE
	—	INDICATES LIMITS OF ELECTRICAL EQUIPMENT OR WIRING ENCLOSURE



NOTES:

- IN GENERAL CONDUIT ROUTING FOR EQUIPMENT AND DEVICES IS NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ROUTING ALL CONDUITS WHICH SHALL INCLUDE CONDUITS SHOWN ON ONE-LINE AND RISER DIAGRAMS AND HOME-RUNS SHOWN ON PLAN DRAWINGS. REFER TO SPECIFICATIONS FOR MATERIALS AND INSTALLATION REQUIREMENTS.
- THE WIRING DIAGRAMS, QUANTITY AND SIZE OF WIRES AND CONDUITS REPRESENT A SUGGESTED ARRANGEMENT BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL EQUIPMENT. MODIFICATIONS ACCEPTABLE TO THE ENGINEER MAY BE MADE BY THE CONTRACTOR TO ACCOMMODATE EQUIPMENT ACTUALLY PURCHASED. THE BASIC SEQUENCE AND METHOD OF CONTROL MUST BE MAINTAINED AS INDICATED ON THE DRAWINGS AND/OR SPECIFICATIONS.
- SWITCHGEAR AND MOTOR CONTROL CENTER COMPARTMENT DESIGNATIONS AS INDICATED BELOW:
BLANK: NOT INTENDED FOR USE. PLATE ONLY
SPACE: EQUIPPED WITH REQUIRED BUS AND HARDWARE FOR THE FUTURE ADDITION OF BREAKERS AND/OR STARTERS WITHIN THE SIZE AND RANGE SHOWN
SPARE: CONTAINS A COMPLETELY INSTALLED BREAKER AND/OR STARTER OF SIZE AND TYPE INDICATED FOR FUTURE USE.
- INTERPRETATION OF ELECTRICAL DRAWINGS: CIRCUIT IDENTIFICATION, ROUTING, AND SIZES OF CONDUITS AND WIRES ARE SHOWN ON THE FOLLOWING DRAWINGS:
A. ONE LINE POWER DIAGRAMS: POWER, CONTROL, AND SIGNAL WIRING REQUIREMENTS FOR ELECTRICAL DISTRIBUTION EQUIPMENT AND UTILIZATION EQUIPMENT POWERED FROM SWITCHGEAR, SWITCHBOARDS, MOTOR CONTROL CENTERS AND MAJOR POWER DISTRIBUTION PANELBOARDS ARE TYPICALLY SHOWN ON THE ONE LINE DIAGRAMS. THE PARAMETERS IDENTIFIED ON THE ONE LINE DIAGRAMS ARE: CIRCUIT IDENTIFICATION, CIRCUIT ORIGIN AND DESTINATION, CONDUIT SIZE, WIRE SIZE AND QUANTITY FOR COMPLETE CIRCUIT LENGTH, AND AUXILIARY DEVICES ASSOCIATED WITH THE CONTROL/PROTECTION OF THE POWERED EQUIPMENT, AND SIZE OF THE GROUNDING ELECTRODE CONDUCTORS.
B. INSTRUMENTATION AND CONTROL RISER DIAGRAMS: POWER, CONTROL, SIGNAL AND DATA HIGHWAY WIRING REQUIREMENTS FOR INSTRUMENTS AND CONTROL DEVICES CONTROLLED/MONITORED FROM INSTRUMENTATION AND CONTROL PANELS SUCH AS RTUS, PLCs, TERMINAL CABINETS, AND REMOTE I/O PANELS ARE TYPICALLY SHOWN ON THE INSTRUMENTATION AND CONTROL ONE LINE DIAGRAMS. THE PARAMETERS IDENTIFIED ON THE ONE LINE DIAGRAMS ARE: CIRCUIT IDENTIFICATION, CIRCUIT ORIGIN AND DESTINATION, CONDUIT SIZE, WIRE SIZE, QUANTITY AND TYPE FOR COMPLETE CIRCUIT LENGTH, AND AUXILIARY DEVICES ASSOCIATED WITH THE CONTROL/PROTECTION OF THE POWERED EQUIPMENT.
C. FLOOR PLANS: FOR DETERMINING THE LENGTH OF CIRCUITS LOCATED WITHIN STRUCTURES, FLOOR PLANS SHOW THE LOCATION OF ELECTRICAL DISTRIBUTION EQUIPMENT, CONTROL PANELS, UTILIZATION EQUIPMENT, INSTRUMENTS, ANCILLARY EQUIPMENT AND DEVICES AND THE ANTICIPATED PENETRATION LOCATIONS WHERE CONDUITS EXIT/ENTER THE STRUCTURE. HOMERUNS MAY ALSO BE SHOWN FROM MISCELLANEOUS EQUIPMENT NOT SHOWN ON A ONE LINE OR RISER DIAGRAM.
D. SITE PLANS: FOR DETERMINING THE LENGTH OF CIRCUITS EXTERIOR TO STRUCTURES AND TO IDENTIFY THE SPECIFIC REQUIREMENTS OF THE UNDERGROUND CONDUITS OR DUCT BANKS, SITE PLANS SHOW THE GENERAL ROUTING OF UNDERGROUND CONDUITS AND DUCT BANKS WITH SECTIONS INDICATING THE CONDUIT SIZE, ARRANGEMENT AND CIRCUIT ROUTING.
E. NOTE THAT CONDUIT SIZE WITHIN THE STRUCTURE IS INDICATED ON ONE-LINE DIAGRAM AND UNDERGROUND SIZE IS INDICATED ON DUCT BANK SECTIONS.



DEPARTMENT OF ENVIRONMENTAL SERVICES
WATER POLLUTION CONTROL BUREAU
3402 S. GLEBE ROAD
ARLINGTON, VA 22202
PHONE: 703.228.6820

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APPROVALS DATE

100% BID SET

Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2) Phase 9B
ELECTRICAL LEGENDS AND ABBREVIATIONS I

Designed: R. MAGSIPOC
Drawn: R. MAGSIPOC
Checked: T. MOHAMMED
Miss Utility Transmittal #:
Filename: E002NFLG.dwg
Path: C:\pw_gbl\breneen\j\125506
Plotted: December 17, 2020
Plotted by: BRENNENTJ

Scale: AS NOTED



10560 Arrowhead Drive, Suite 500
FAIRFAX, VA 22030

Sht. 75 of 97

E-2

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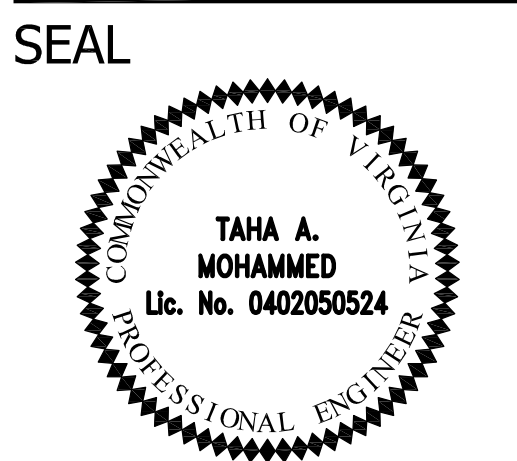
Table with 2 columns: SYMBOL and DESCRIPTION. Contains symbols for lighting fixtures, emergency lighting, and conduit types.

Table with 2 columns: SYMBOL and DESCRIPTION. Contains symbols for switches, dimmers, receptacles, and junction boxes.

Table with 2 columns: SYMBOL and DESCRIPTION. Contains symbols for communication systems, security systems, and fire alarm systems.

Table with 2 columns: SYMBOL and DESCRIPTION. Contains symbols for fire alarm master boxes, horns, strobes, and detectors.

Table titled 'ABBREVIATIONS' listing various electrical and mechanical abbreviations such as AC, AFF, ALG, etc.



APPROVALS DATE

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Table with 2 columns: Revisions and Date. For tracking changes to the document.

Water Pollution Control Plant Preliminary Treatment Upgrades (WPB2) Phase 9B ELECTRICAL LEGENDS AND ABBREVIATIONS II

Designed: R. MAGSIPOC Drawn: R. MAGSIPOC Checked: T. MOHAMMED Miss Utility Transmittal #:

GENERAL NOTE THIS IS A STANDARD LEGEND. SOME SYMBOLS MAY NOT APPEAR ON THE DRAWINGS.

SYMBOL WHERE THERE IS A DETAIL

DETAIL SCALE SYMBOL WHERE DETAIL IS DRAWN

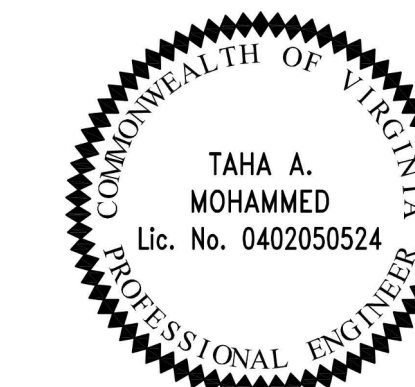
SYMBOL WHERE THERE IS A SECTION

SECTION SCALE SYMBOL WHERE SECTION IS DRAWN

DETAIL SYMBOL

SECTION SYMBOL

SEAL



APPROVALS DATE

100% BID SET

Revisions Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
ELECTRICAL
AREA CLASSIFICATION
PLANS AND SECTIONS

Designed: R. MAGSIPOC
Drawn: B. CHARIS-MOLLING
Checked: T. MOHAMMED
Miss Utility Transmittal #:

Filename: EEZ000PT.rvt
Path: R:\41295022\EEZ000PT.rvt
Plotted: DECEMBER 17, 2020
Plotted by: B. CHARIS-MOLLING

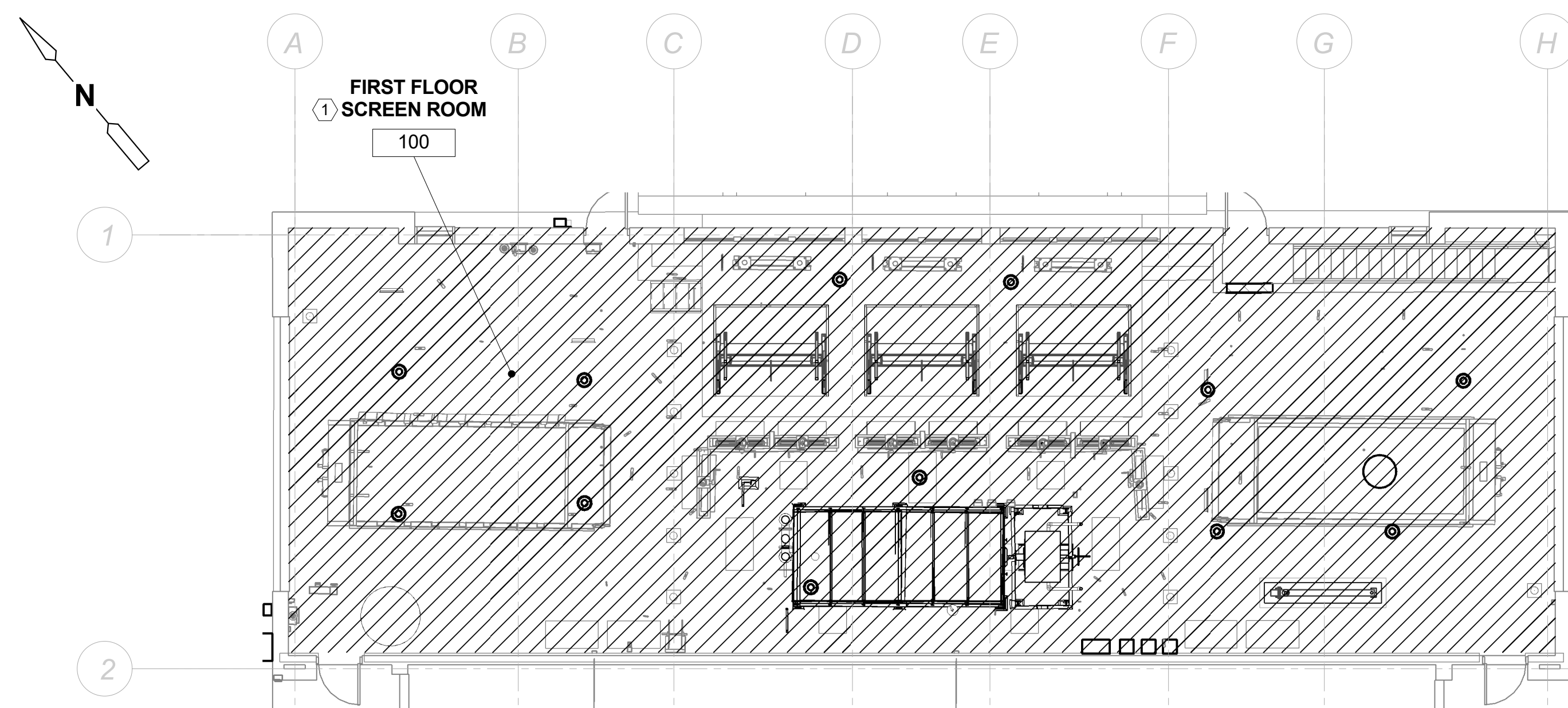
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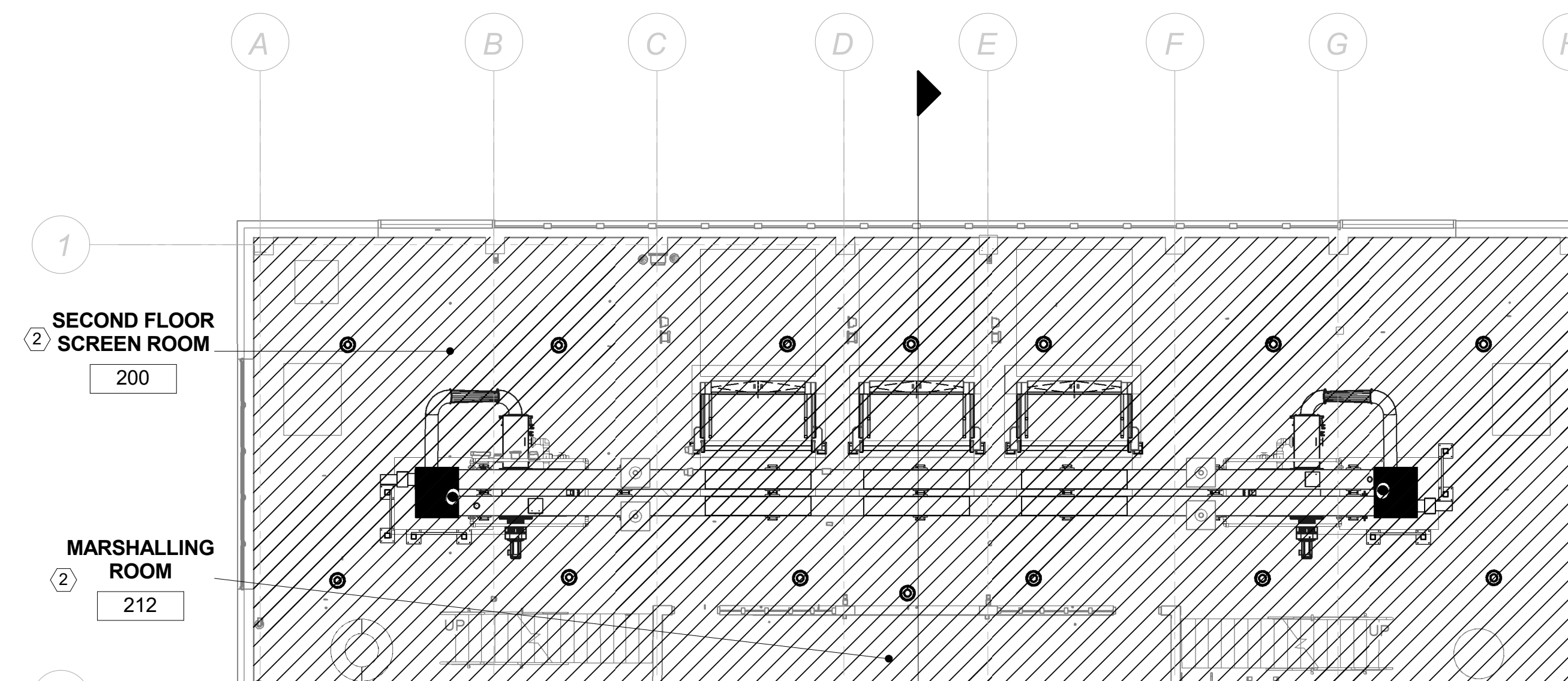
10560 Arrowhead Drive, Suite 500
FAIRFAX, VA 22030

Sht. 77 of 97

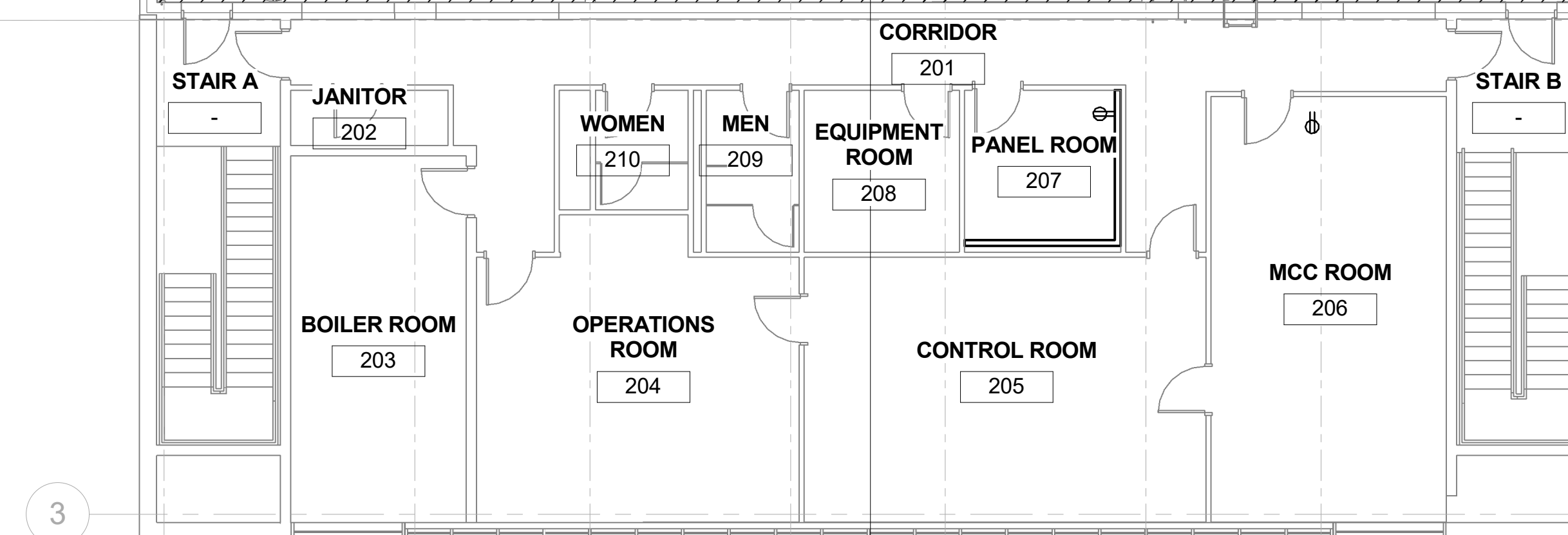
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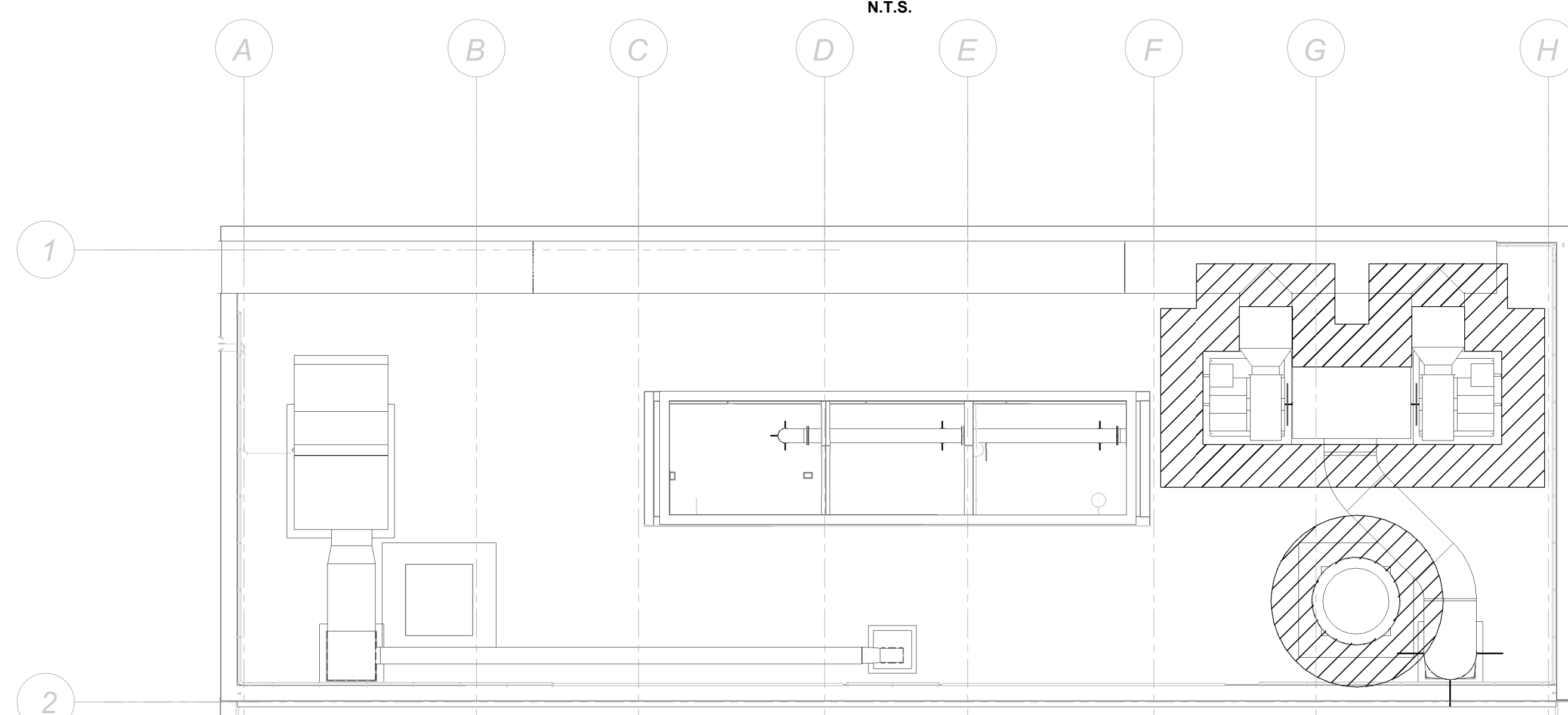
FIRST FLOOR AREA CLASSIFICATION PLAN
N.T.S.



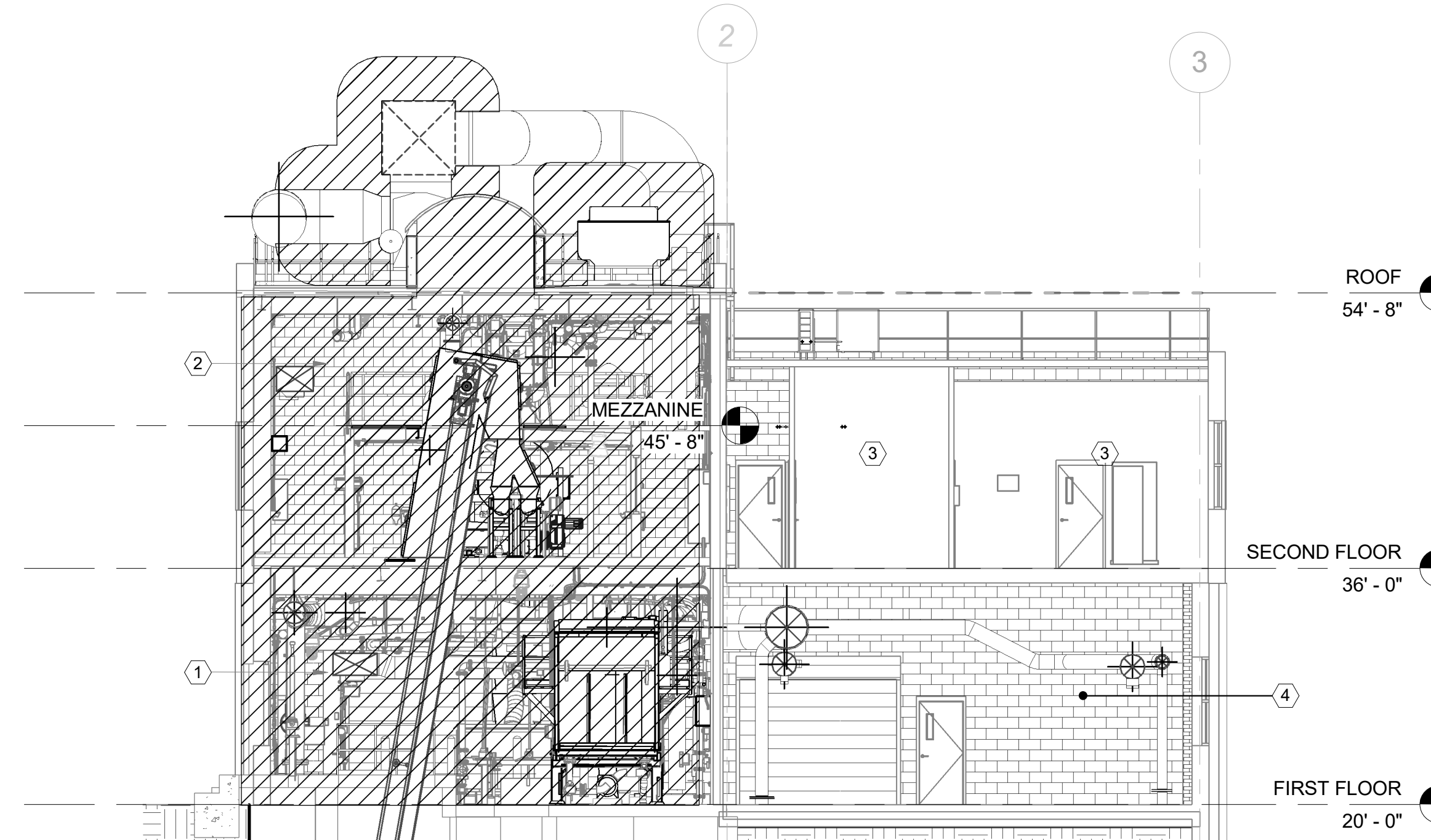
SECOND FLOOR AREA CLASSIFICATION PLAN
N.T.S.



SECOND FLOOR AND MEZZANINE AREA CLASSIFICATION PLAN
N.T.S.



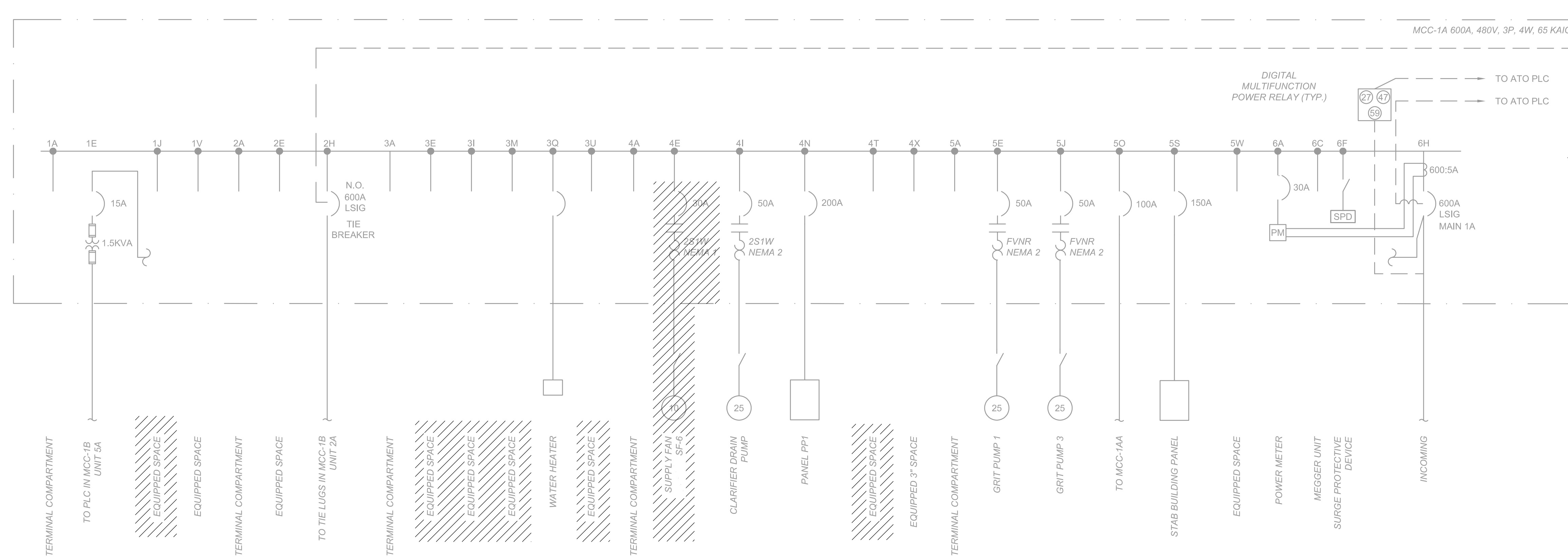
PARTIAL ROOF AREA CLASSIFICATION PLAN
N.T.S.



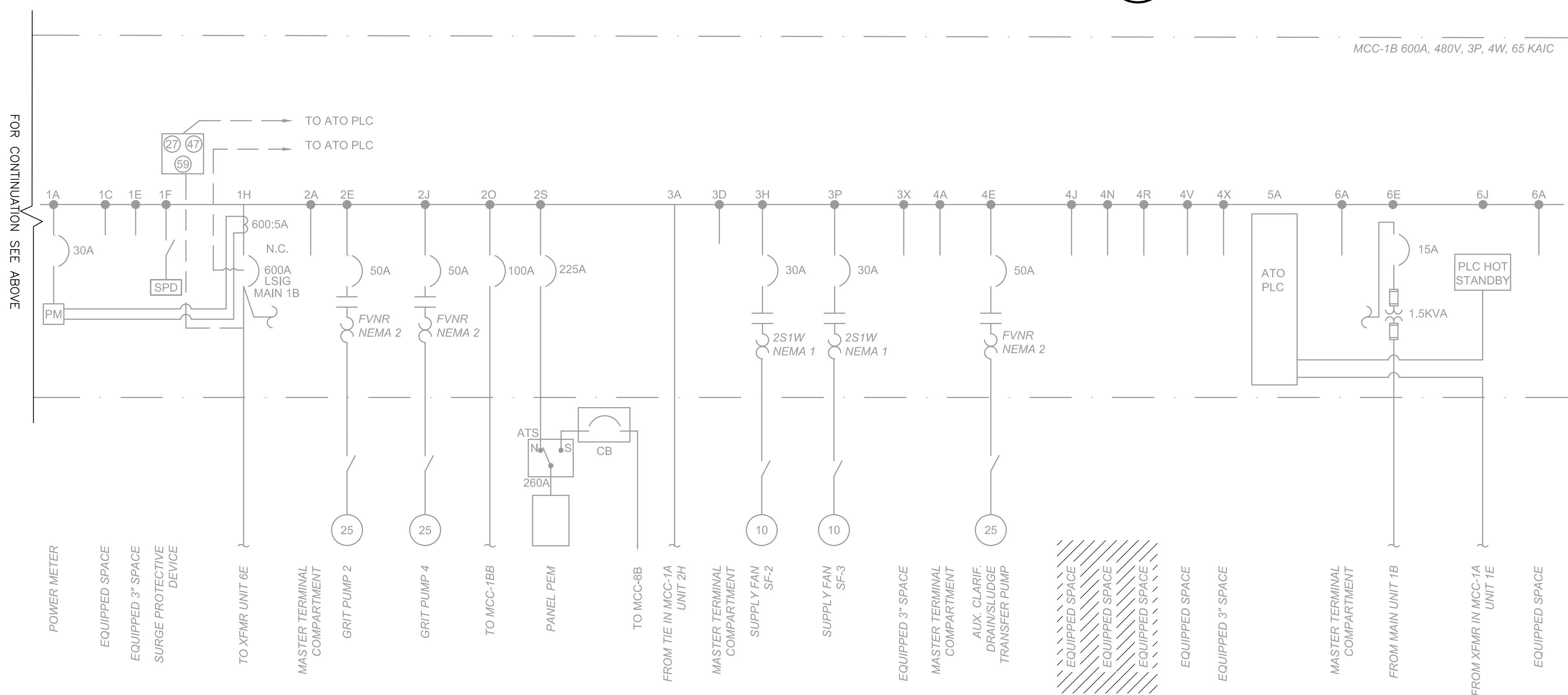
SECTION 1
N.T.S.

AREA CLASSIFICATION LEGEND:								
	CLASS I DIVISION 1		CLASS I DIVISION 2		UNCLASSIFIED			
FPM - FIRE PROTECTION MEASURES		CGD - COMBUSTIBLE GAS DETECTION REQUIRED		NA - NOT APPLICABLE				
		FE - PORTABLE FIRE EXTINGUISHER		NR - NOT REQUIRED				
TABLE OF ELECTRICAL AREA CLASSIFICATIONS								
TAG	AREA	HAZARD CLASSIFICATION	CODE NFPA 820 2016 EDITION	VENTILATION REQUIREMENTS	EXTENT OF CLASSIFIED AREA	FPM	NOTES	
①	FIRST FLOOR SCREEN ROOM	CLASS I, DIVISION 2, GROUP D	TABLE 5.2.2, ROW 2, LINE (b)	CONTINUOUSLY VENTILATED AT 12 AIR CHANGES PER HOUR	ENCLOSED - ENTIRE SPACE	EXISTING CGD WILL BE REPLACED	1. WET AND CORROSIVE	
②	SECOND FLOOR SCREEN ROOM, MARSHALLING ROOM, AND MEZZANINE	CLASS I, DIVISION 2, GROUP D	TABLE 5.2.2, ROW 2, LINE (b)	CONTINUOUSLY VENTILATED AT 12 AIR CHANGES PER HOUR	ENCLOSED - ENTIRE SPACE	EXISTING CGD WILL BE REPLACED	1. WET AND CORROSIVE	
③	ALL OTHER ROOMS	UNCLASSIFIED	N/A	N/A	N/A	N/A	1. DRY 2. THIS FACILITY WAS CONSTRUCTED PRIOR TO THE ISSUE OF NFPA 820.	
④	GRIT CHAMBER, MOTOR ROOM, AND POLYMER STORAGE ROOM	MAINTAIN EXISTING AREA CLASSIFICATION						
⑤	ROOF	CLASS I, DIVISION 2, GROUP D	TABLE 4.2.2, ROW 18, LINE (d)	NOT ENCLOSED, OPEN TO THE ATMOSPHERE	AREAS WITHIN 3' OF LEAKAGE SOURCES SUCH AS FANS, DAMPERS, FLEXIBLE CONNECTIONS, FLANGES, PRESSURIZED UNWELDED DUCTWORK, AND ODOR CONTROL VESSELS	N/A	1. OUTDOORS	
⑥	GRAVITY THICKENERS	CLASS I, DIVISION 1, GROUP D	TABLE 6.2.2, ROW 8, LINE (a)	SEE NOTES	ENCLOSED - ENTIRE SPACE	CGD	1. AIR CHANGES PER HOUR COULD NOT BE VERIFIED, WORST-CASE SCENARIO IS ASSUMED.	

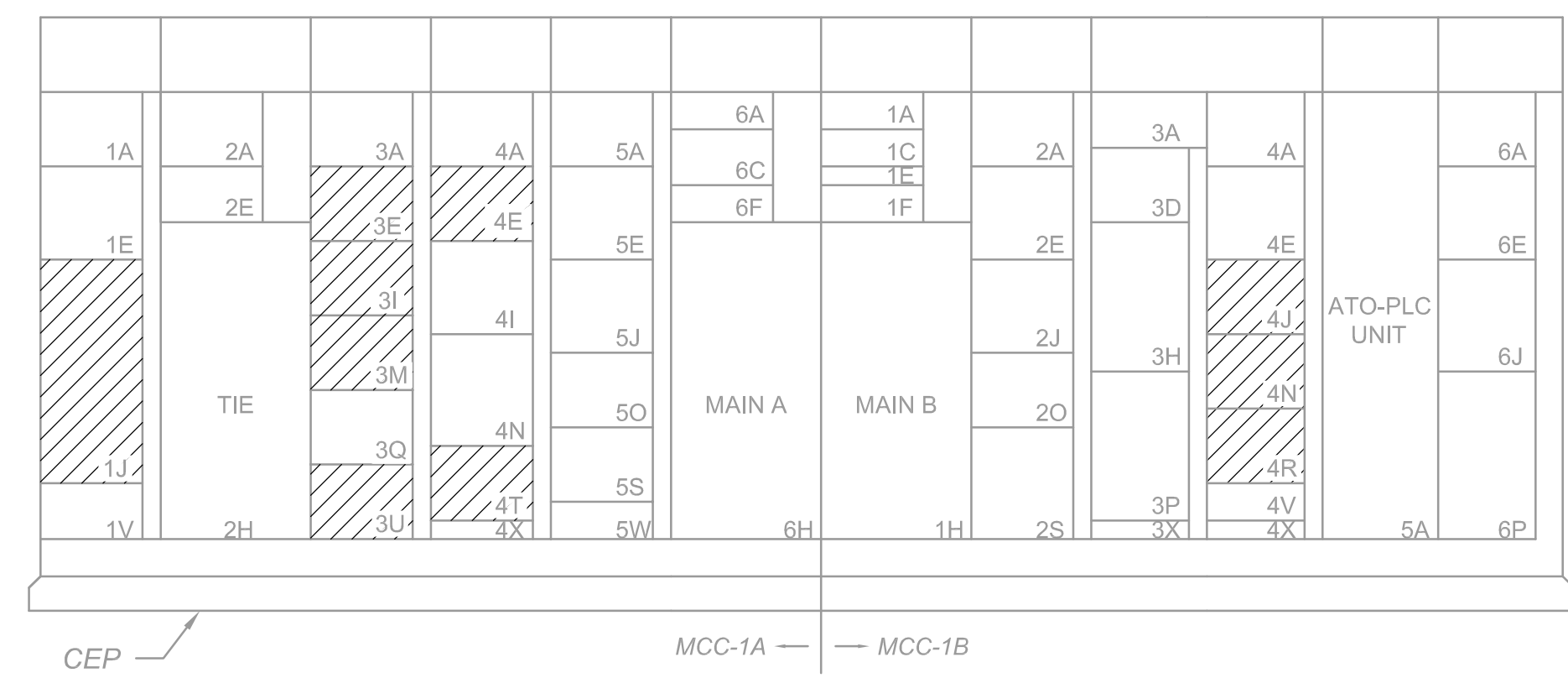
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MCC-1A PROPOSED ONE-LINE
DIAGRAM 1
 N.T.S.



MCC-1B PROPOSED ONE-LINE
DIAGRAM 2
 N.T.S.



MCC-1A DEMOLITION
ELEVATION
 N.T.S.

MCC-1B DEMOLITION
ELEVATION
 N.T.S.

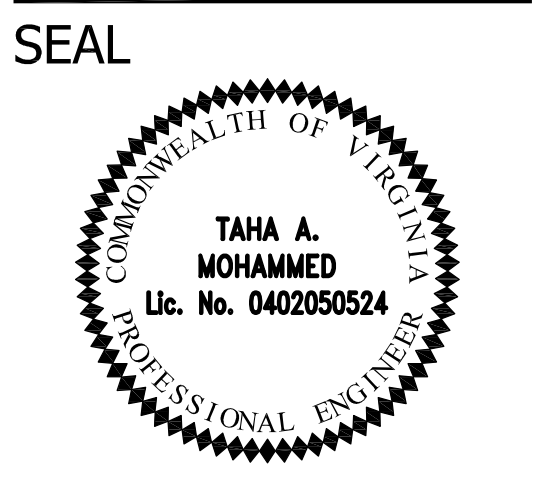
KEYED NOTES:
 ① EXISTING MCC BUCKET TO BE MODIFIED FOR MOTOR STARTER MODIFICATIONS OR CIRCUIT BREAKERS REFER TO SHEET E-7 AND E-8 FOR MOTOR STARTER MODIFICATION.

FOR CONTINUATION SEE BELOW



DEPARTMENT OF ENVIRONMENTAL SERVICES
 WATER POLLUTION CONTROL BUREAU
 3402 S. GLEBE ROAD
 ARLINGTON, VA 22202
 PHONE: 703.228.6820

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APPROVALS _____ DATE _____

100% BID SET

Revisions	Date

Project Name and Location
Water Pollution Control Plant
 Preliminary Treatment Upgrades (WPB2)
 Phase 9B
 EXISTING MCC-1A, MCC-1B
 DEMOLITION ONE-LINE DIAGRAM
 AND ELEVATION

Designed: R. MAGSPOC
 Drawn: T. BRENNEN
 Checked: T. MOHAMMED
 Miss Utility Transmittal #:
 Filename: E005NFOL.dwg
 Path: C:\pw_gbl\breennen\jdl255086
 Plotted: December 17, 2020
 Plotted by: BRENNENTJ

Scale: AS NOTED
CDM Smith
 10560 Arrowhead Drive, Suite 500
 FAIRFAX, VA 22030

Sht. 78 of 97
E-5

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100% BID SET

Revisions	Date

Project Name and Location
Water Pollution Control Plant
 Preliminary Treatment Upgrades (WPB2)
 Phase 9B
 EXISTING MCC-1AA, MCC-1BB
 DEMOLITION ONE-LINE DIAGRAM
 AND ELEVATION

Designed: R. MAGSIPOC
 Drawn: T. BRENNEN
 Checked: T. MOHAMMED
 Miss Utility Transmittal #:

Filename: E006NFOL.dwg
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 Plotted by: BRENNENTJ

Scale: AS NOTED



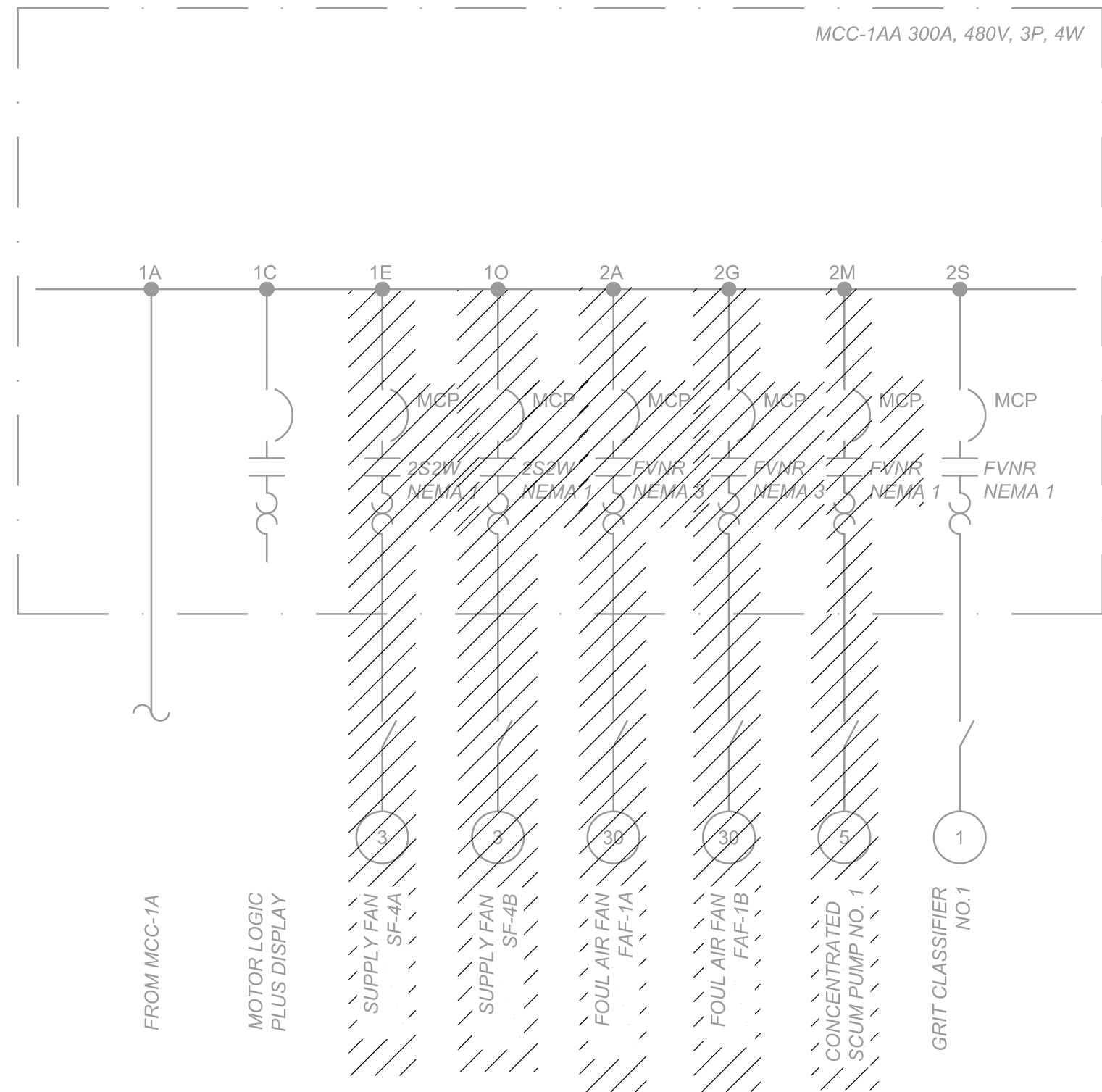
10560 Arrowhead Drive, Suite 500
 FAIRFAX, VA 22030

GENERAL NOTES:

1. PRIOR TO INSTALLING AND PULLING NEW WIRES IN EXISTING CONDUITS, THOROUGHLY CLEAN CONDUITS, FITTINGS, JUNCTION BOXES, TERMINAL BOXES, ETC. USE RUBBER OR PLASTIC MANDREL FOR INTERIOR CONDUIT CLEANING.

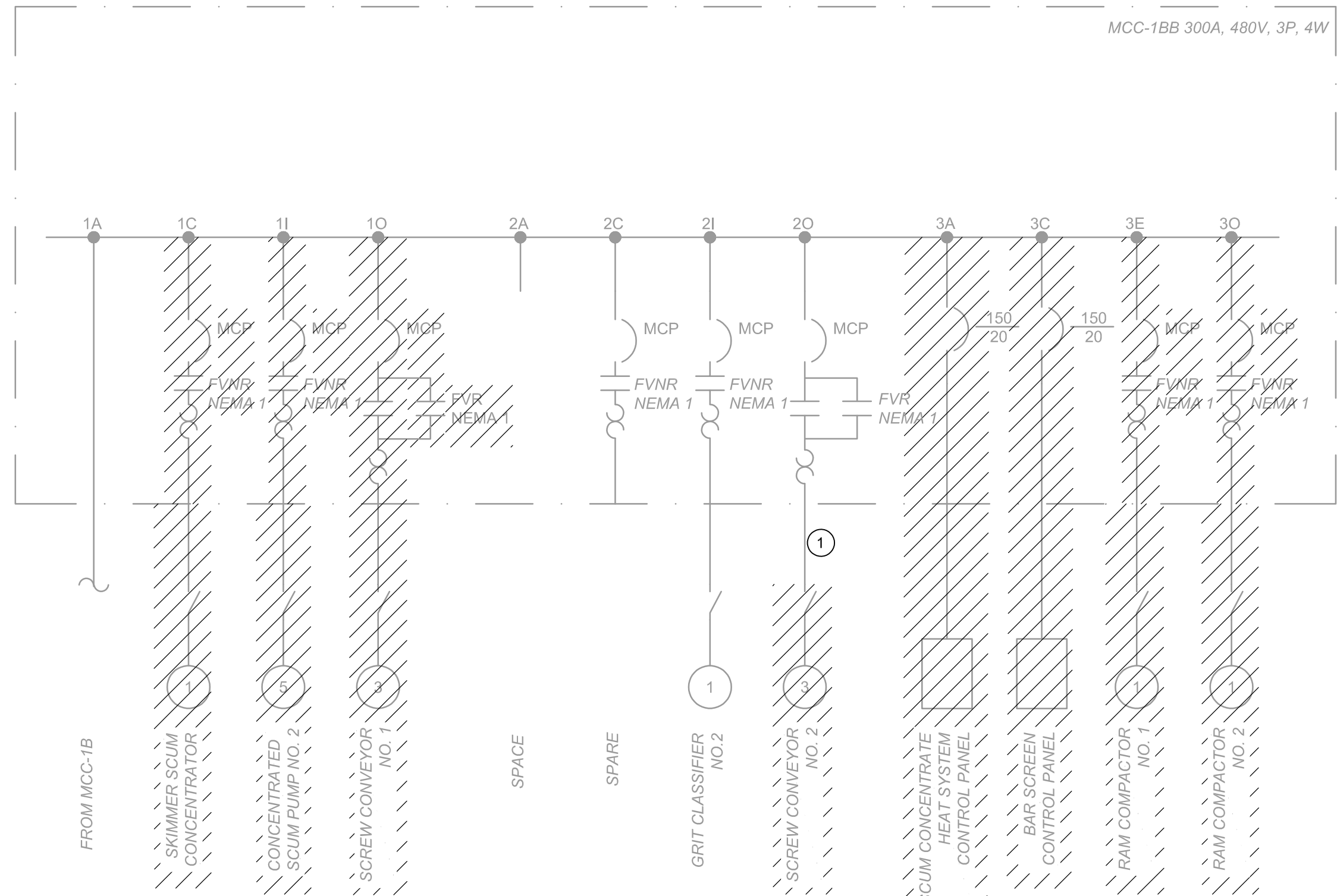
DEMOLITION KEYED NOTES:

1. EXISTING CONDUITS FROM UNCLASSIFIED TO HAZARDOUS (CLASSIFIED) AREAS TO REMAIN TO BE RE-USED.
2. EXISTING MCC BUCKET TO BE MODIFIED FOR MOTOR STARTER MODIFICATIONS OR CIRCUIT BREAKERS REFER TO SHEET SHEET E-7 AND E-8 FOR MOTOR STARTER MODIFICATION.



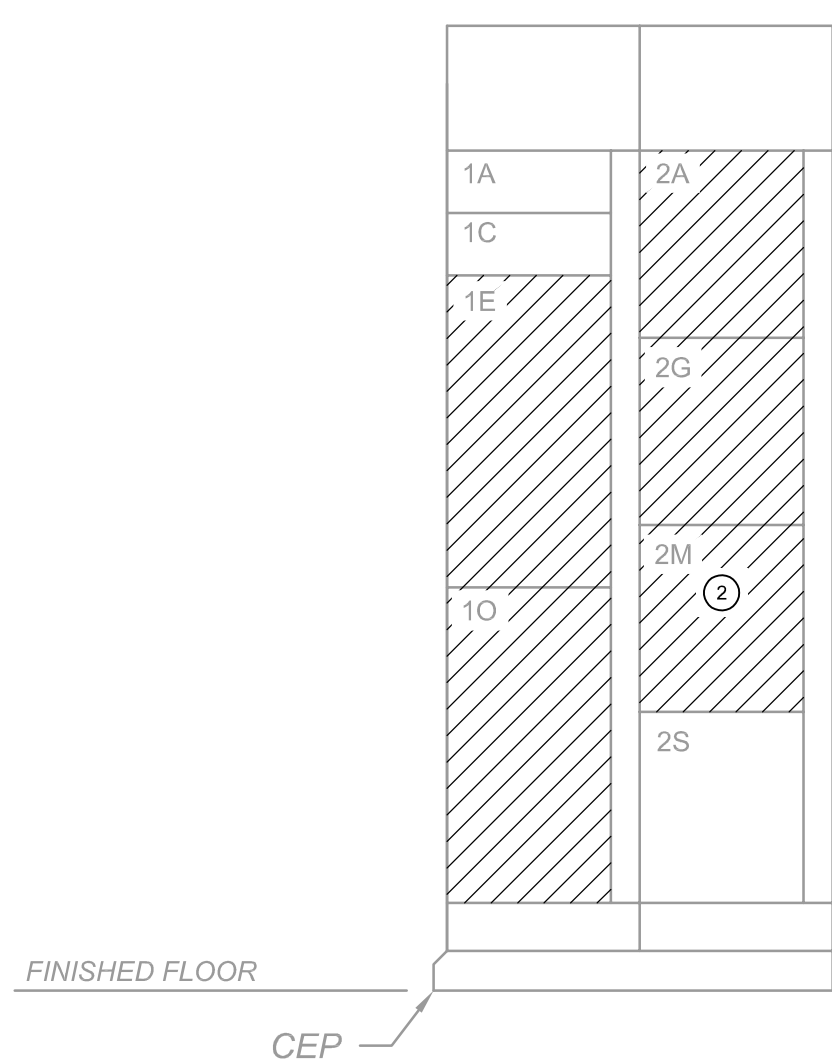
MCC-1AA DEMOLITION ONE-LINE

DIAGRAM 1
 N.T.S.



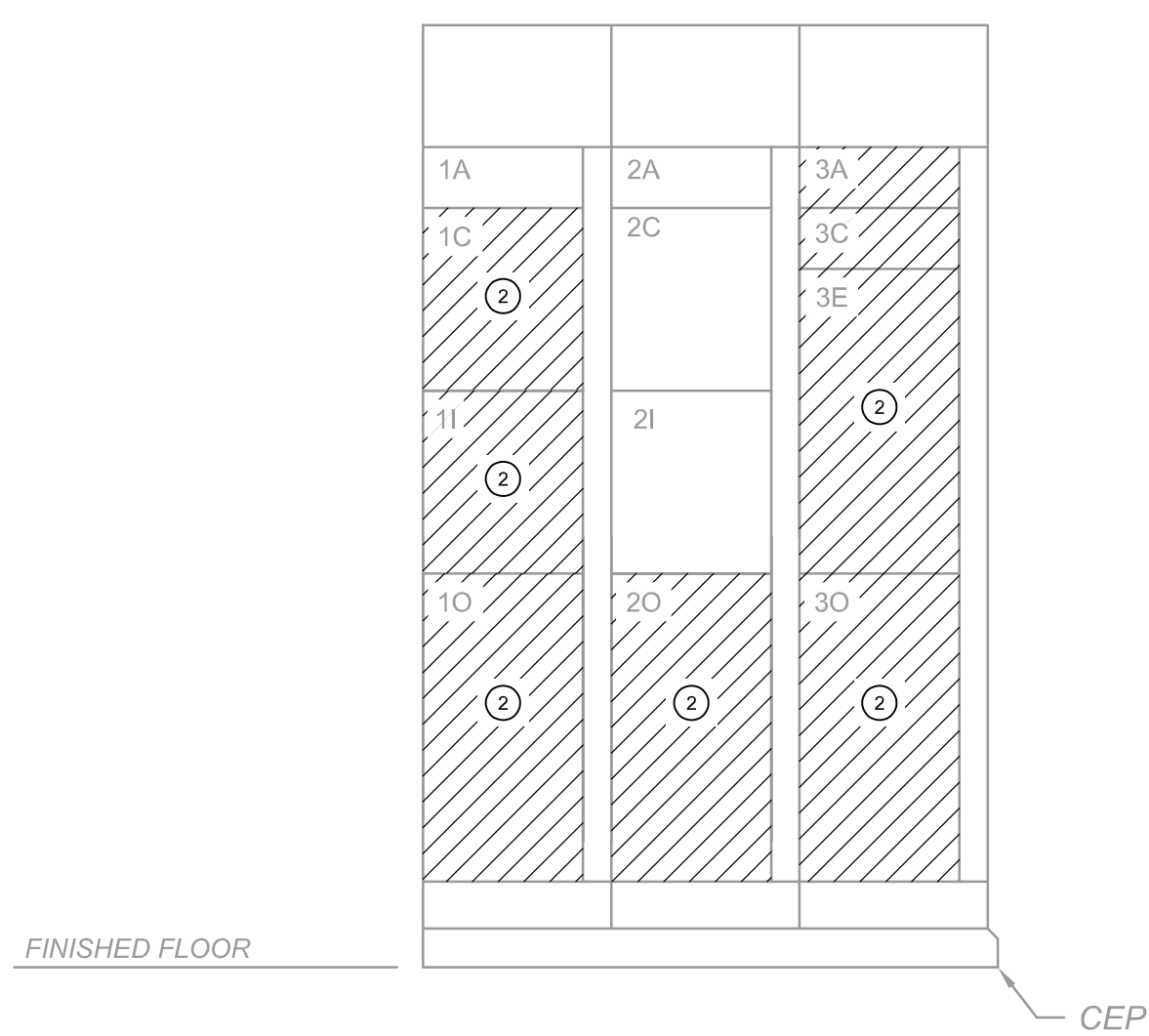
MCC-1BB DEMOLITION ONE-LINE

DIAGRAM 2
 N.T.S.



MCC-1AA DEMOLITION

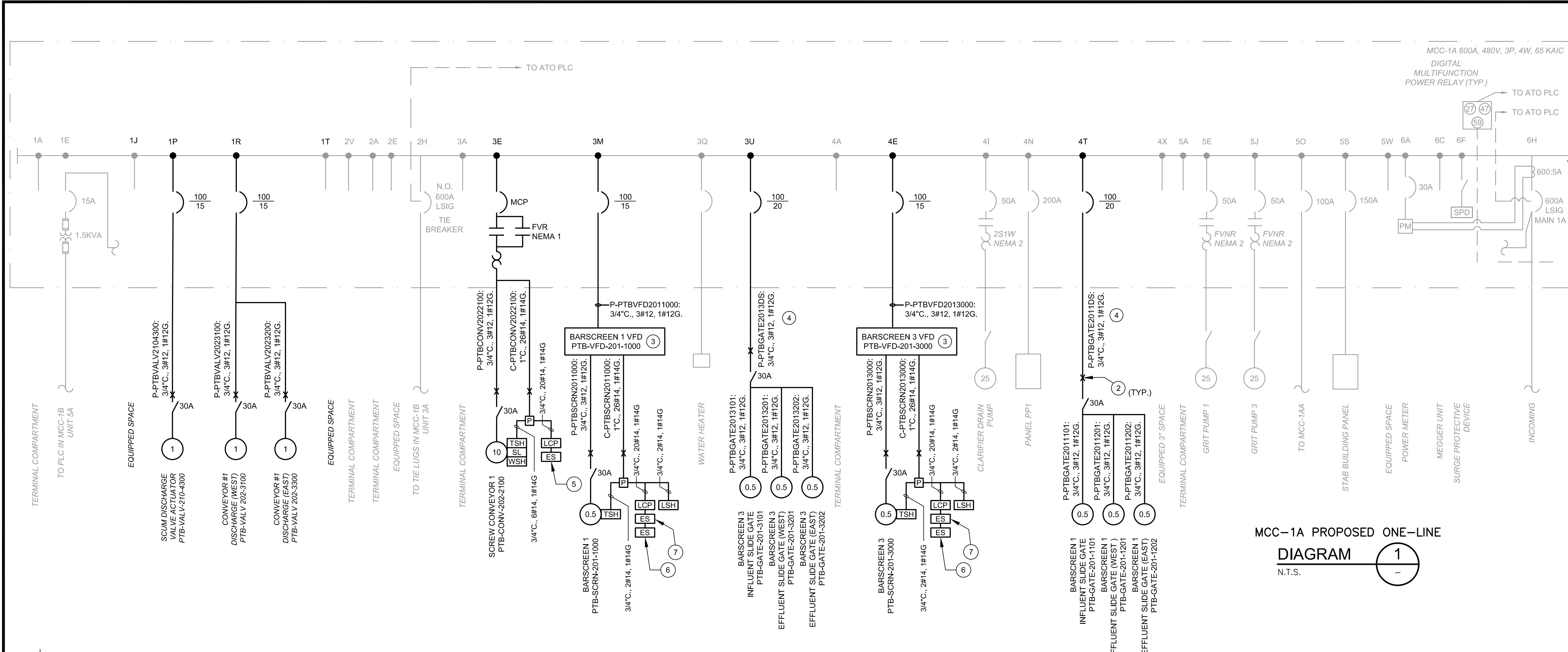
ELEVATION
 N.T.S.



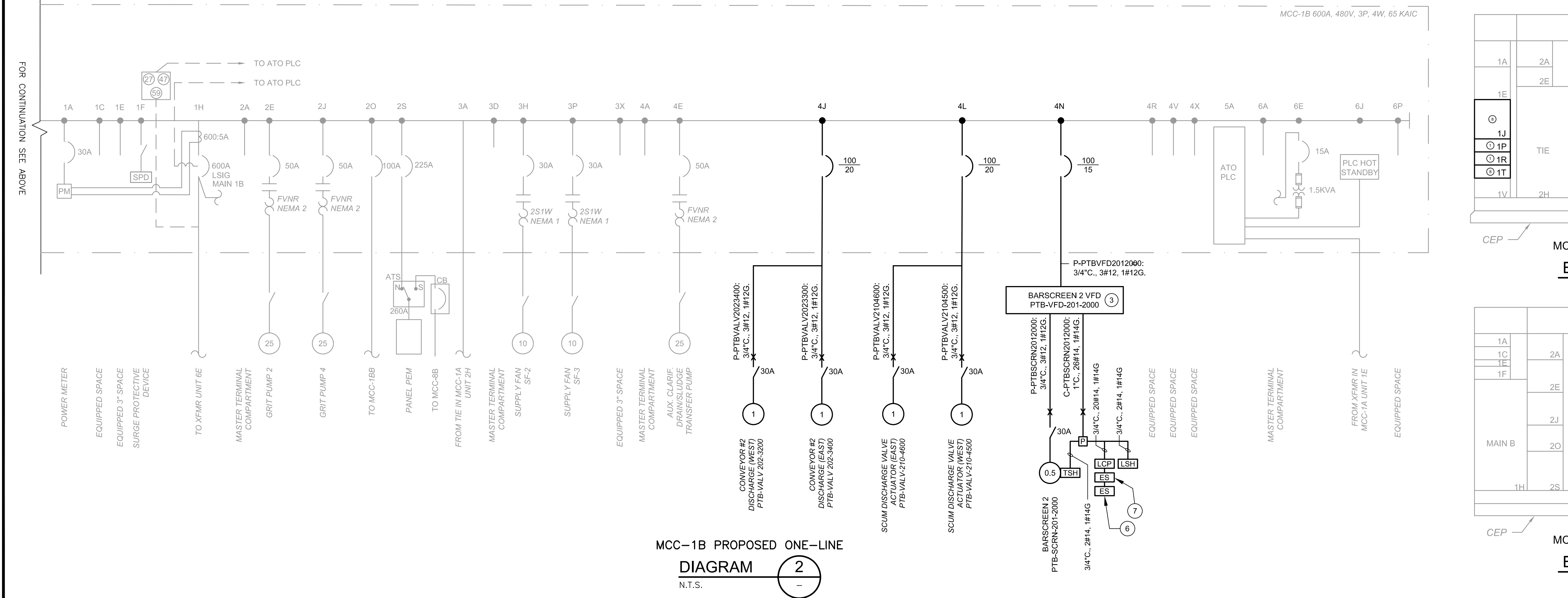
MCC-1BB DEMOLITION

ELEVATION
 N.T.S.

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MCC-1A PROPOSED ONE-LINE
DIAGRAM 1
N.T.S.



MCC-1B PROPOSED ONE-LINE
DIAGRAM 2
N.T.S.

GENERAL NOTES:

1. PRIOR TO INSTALLING AND PULLING NEW WIRES IN EXISTING CONDUITS, THOROUGHLY CLEAN CONDUITS, FITTINGS, JUNCTION BOXES, TERMINAL BOXES, ETC. USE RUBBER OR PLASTIC MANDREL FOR INTERIOR CONDUIT CLEANING.

KEYED NOTES:

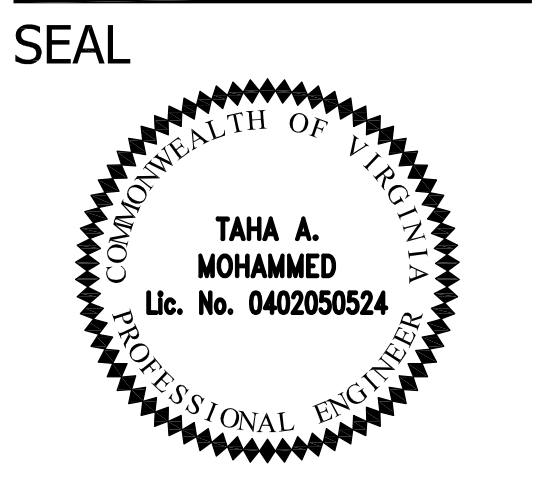
1. FIELD MODIFY EXISTING MCC-1A AND MCC-1B BUCKETS AND PROVIDE NEW CIRCUIT BREAKER AND MOTOR STARTER COMPLETE WITH ENCLOSURE DOOR, THRU-DOOR OPERATING HANDLE, IDENTIFICATION PLATE, AND ALL OTHER NECESSARY ANCILLARY EQUIPMENT. CIRCUIT BREAKER SHALL MATCH EXISTING MCC-1A, MCC-1B IN ALL RESPECTS INCLUDING SHORT CIRCUIT RATING (KAIC).
2. CONTRACTOR MAY RE-USE EXISTING CONDUITS FOR NEW WIRES FROM THE UNCLASSIFIED SPACE TO THE SCREENINGS ROOM. PROVIDE PULLBOX AND NEW EXPLOSION-PROOF SEAL-OFF AND NEW CONDUIT & WIRES TO THE EQUIPMENT.
3. EQUIPMENT FURNISHED BY THE MANUFACTURER TO BE INSTALLED IN THE PANEL ROOM. SEE SHEET E-20 FOR LOCATION.
4. CONTRACTOR MAY RE-USE EXISTING CONDUITS FROM EXISTING MCC AND DOU TO THE BARSREEN SLIDE GATES PROVIDED EXISTING CONDUITS ARE IN GOOD CONDITION. PROVIDE NEW EXPLOSION-PROOF SEAL-OFFS IN ACCORDANCE WITH NEC.
5. COMMON EMERGENCY STOP PULLCORD FOR BOTH SCREW CONVEYORS LOCATED ON THE 2ND FLOOR OF THE SCREEN ROOM.
6. EMERGENCY STOP PULLCORD LOCATED ON THE 1ST FLOOR OF THE SCREEN ROOM.
7. EMERGENCY STOP PUSHBUTTON LOCATED ON THE 2ND FLOOR OF THE SCREEN ROOM.
8. PROVIDE BLANKING PANELS AND LABEL "SPACE" OR "SPARE" AS INDICATED ON THE ONE-LINE

FOR CONTINUATION SEE BELOW



DEPARTMENT OF ENVIRONMENTAL SERVICES
WATER POLLUTION CONTROL BUREAU
DIAGRAM 402 S. GLEBE ROAD
ARLINGTON, VA 22202
PHONE: 703.228.6820

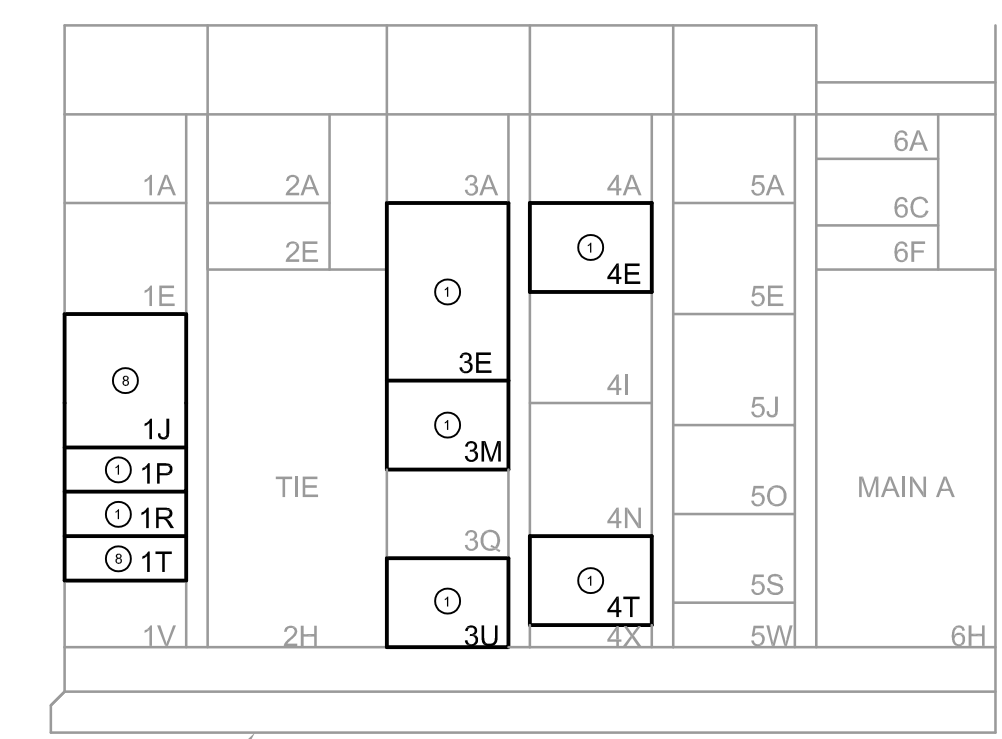
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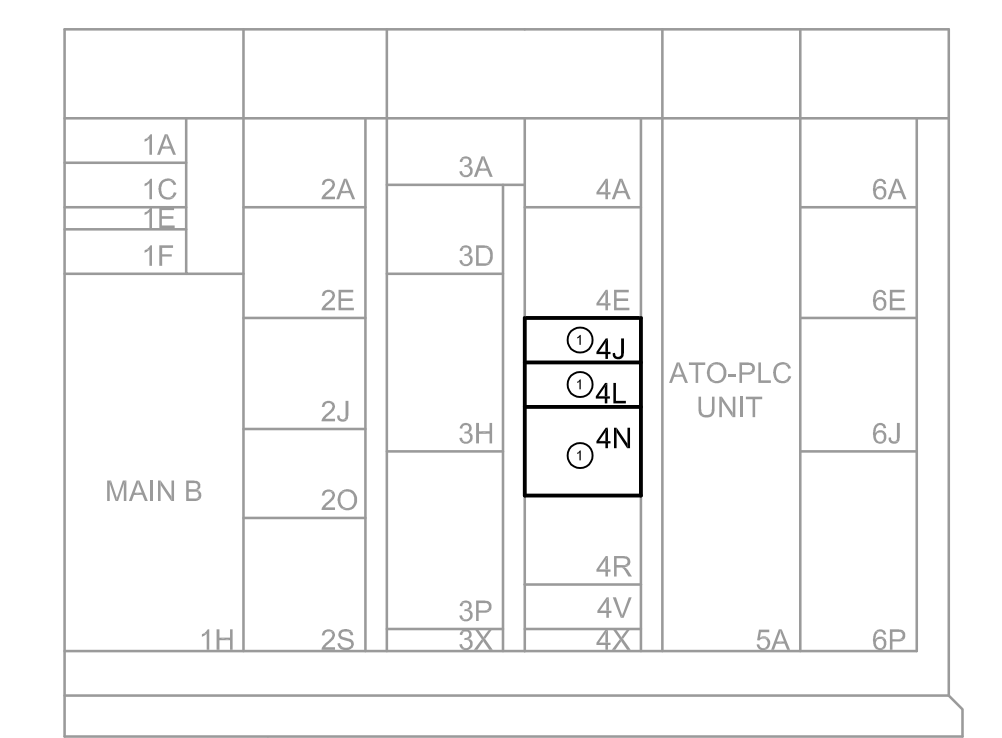
APPROVALS DATE

100% BID SET

Revisions Date



MCC-1A PROPOSED ELEVATION
N.T.S.



MCC-1B PROPOSED ELEVATION
N.T.S.

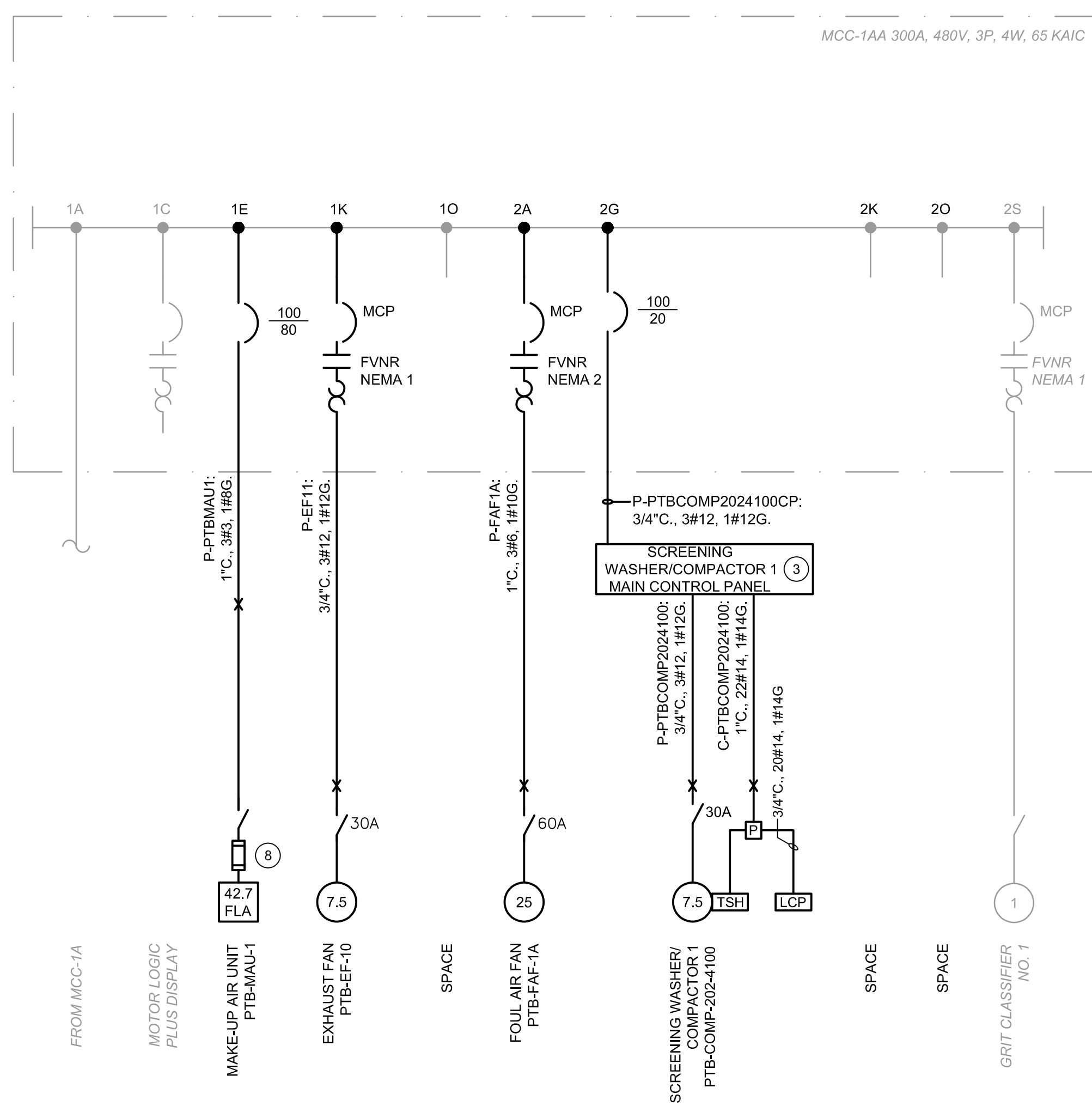
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
MCC-1A, MCC-1B
PROPOSED ONE-LINE DIAGRAM AND ELEVATION

Designed: R. MAGSPOC
Drawn: T. BRENNEN
Checked: T. MOHAMMED
Miss Utility Transmittal #:
Filename: E007NFOL.dwg
Path: c:\pw_gbl\breddenj\1255086
Plotted: December 17, 2020
Plotted by: BRENNENTJ

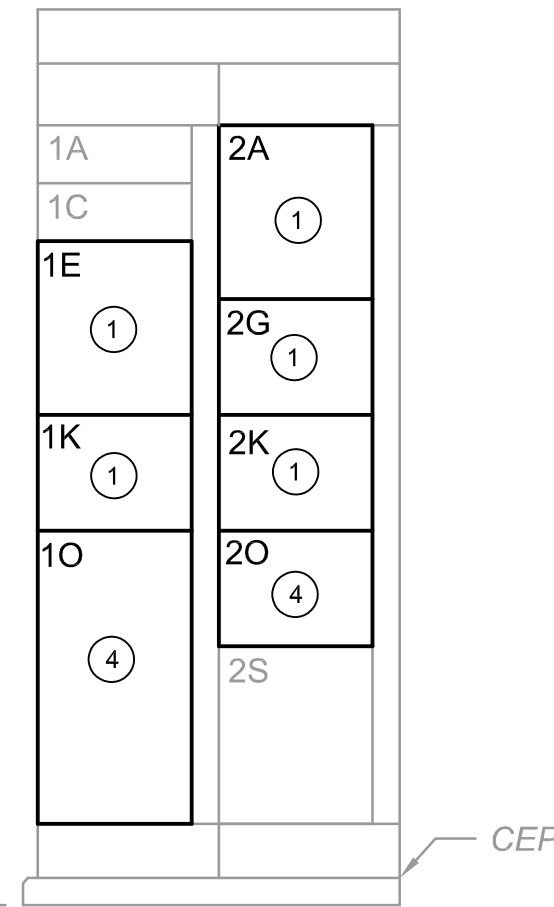
Scale: AS NOTED
CDM Smith
10560 Arrowhead Drive, Suite 500
FAIRFAX, VA 22030

Sht. 80 of 97
E-7

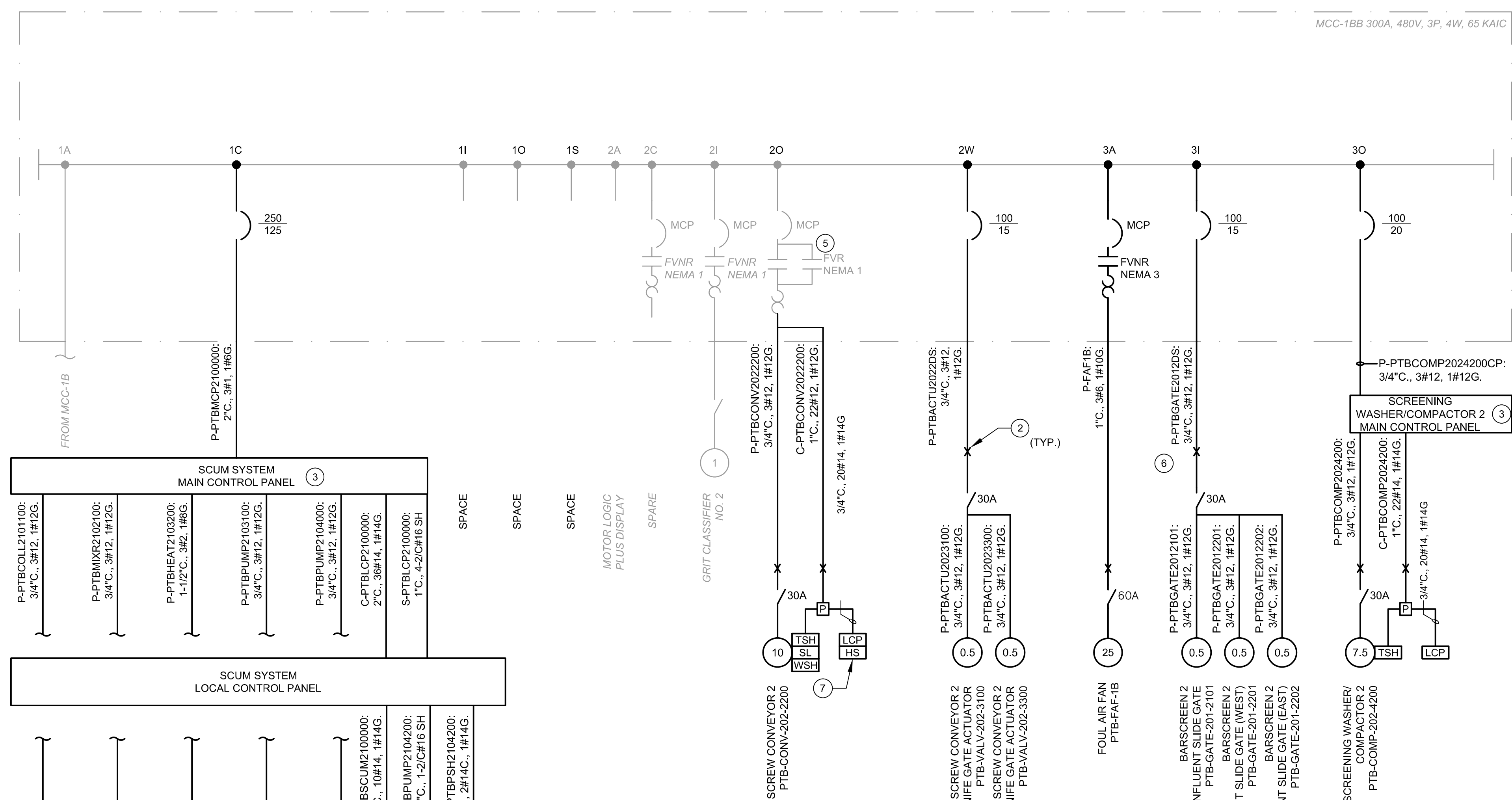
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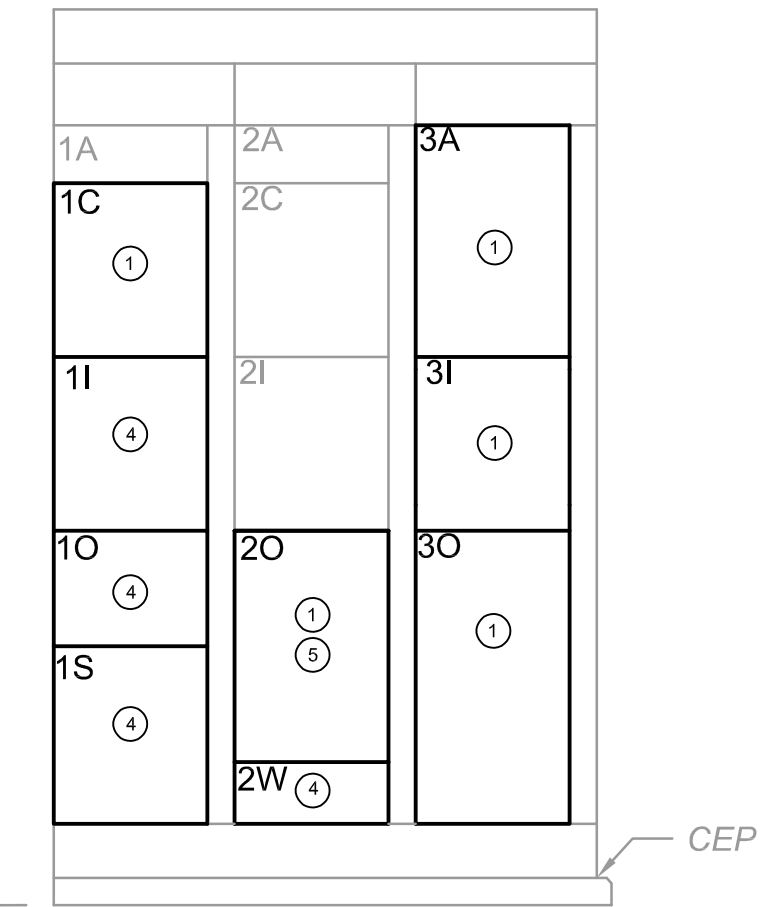
MCC-1AA PROPOSED ONE-LINE DIAGRAM
N.T.S.



MCC-1AA PROPOSED ELEVATION
N.T.S.



MCC-1BB PROPOSED ONE-LINE DIAGRAM
N.T.S.



MCC-1BB PROPOSED ELEVATION
N.T.S.

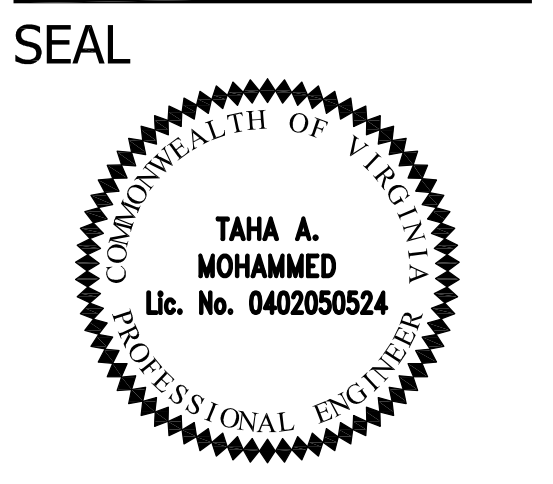
KEYED NOTES:

- FIELD MODIFY EXISTING MCC-1AA AND MCC-1BB BUCKETS AND PROVIDE NEW CIRCUIT BREAKER AND MOTOR STARTER COMPLETE WITH BUCKET DOOR, THRU-DOOR OPERATING HANDLE, IDENTIFICATION NAMEPLATE, AND ALL OTHER NECESSARY ANGLIARY EQUIPMENT. CIRCUIT BREAKER SHALL MATCH EXISTING MCC-1AA, MCC-1BB IN ALL RESPECTS INCLUDING SHORT CIRCUIT RATING (KAIC).
- CONTRACTOR MAY RE-USE EXISTING CONDUITS FOR NEW WIRES FROM THE UNCLASSIFIED SPACE TO THE SCREENINGS ROOM. PROVIDE PULLBOX AND NEW EXPLOSION-PROOF SEAL-OFF AND NEW CONDUIT & WIRES TO THE EQUIPMENT.
- EQUIPMENT FURNISHED BY THE MANUFACTURER TO BE INSTALLED IN THE PANEL ROOM. SEE SHEET E-20 FOR LOCATION.
- PROVIDE BLANKING PANELS AND LABEL "SPACE" OR "SPARE" AS INDICATED ON THE ONE-LINE DIAGRAM.
- EXISTING MOTOR STARTERS TO REMAIN AND BE MODIFIED. REFER TO SCHEMATIC DIAGRAMS FOR MODIFICATIONS.
- CONTRACTOR MAY RE-USE EXISTING CONDUITS FROM EXISTING MCC AND DCU TO THE BARSCREEN SLIDE GATES PROVIDED EXISTING CONDUITS ARE IN GOOD CONDITION. PROVIDE NEW EXPLOSION-PROOF SEALOFFS IN ACCORDANCE WITH NEC.
- COMMON EMERGENCY STOP PULLCORD FOR BOTH SCREW CONVEYORS LOCATED ON THE 2ND FLOOR OF THE SCREEN ROOM.
- FUSE SIZED PER MANUFACTURER'S RECOMMENDATIONS.



DEPARTMENT OF ENVIRONMENTAL SERVICES
WATER POLLUTION CONTROL BUREAU
3402 S. GLEBE ROAD
ARLINGTON, VA 22202
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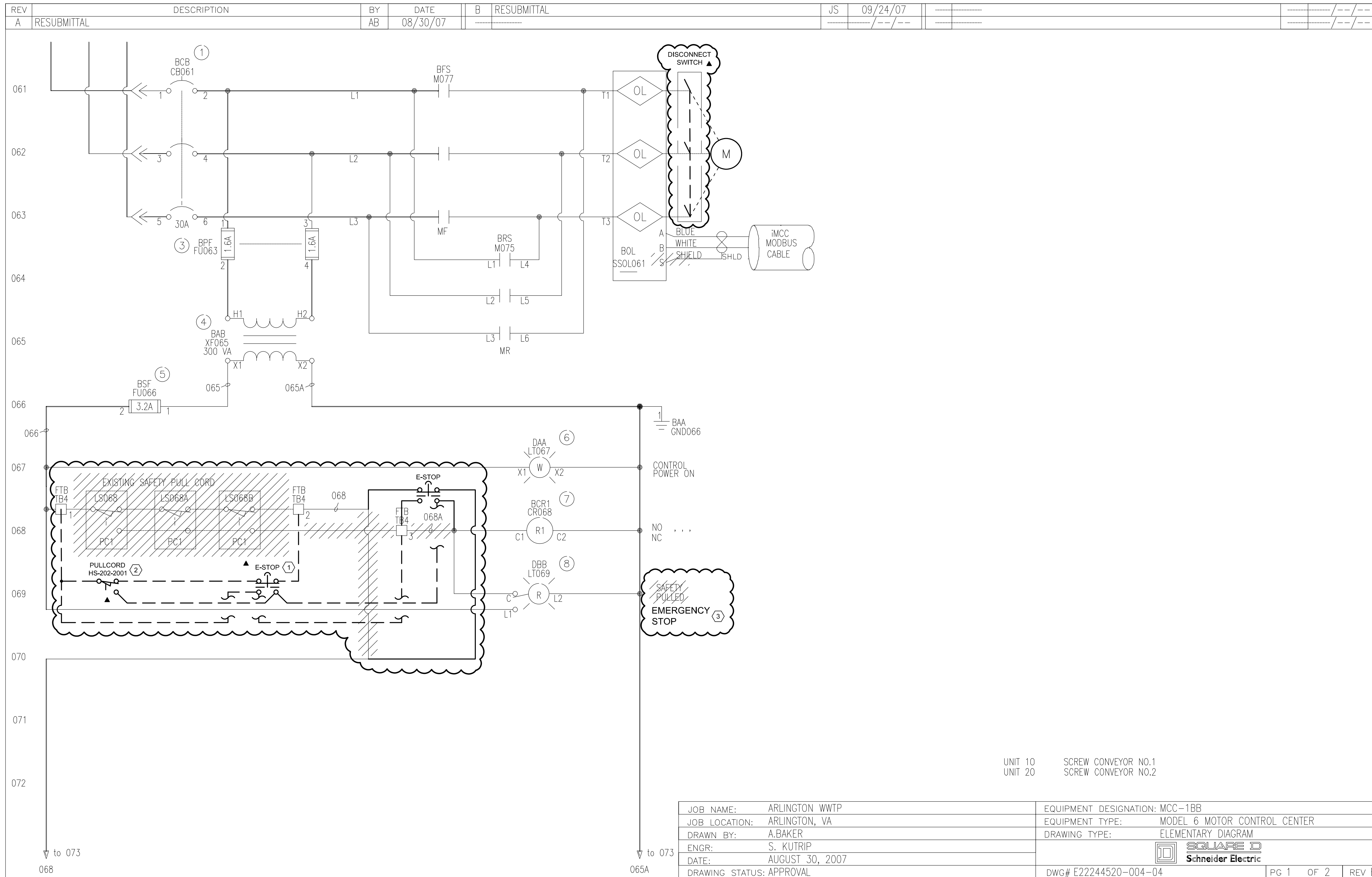
Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2) Phase 9B
MCC-1AA, MCC-1BB
PROPOSED ONE-LINE DIAGRAM AND ELEVATION

Designed: R. MAGSPOC
Drawn: T. BRENNEN
Checked: T. MOHAMMED
Miss Utility Transmittal #:
Filename: E008NFOL.dwg
Path: c:\pw_gbl\breddenj\1255086
Plotted: December 17, 2020
Plotted by: BRENNENTJ

Scale: AS NOTED
CDM Smith
10560 Arrowhead Drive, Suite 500
FAIRFAX, VA 22030

Sht. 81 of 97
E-8

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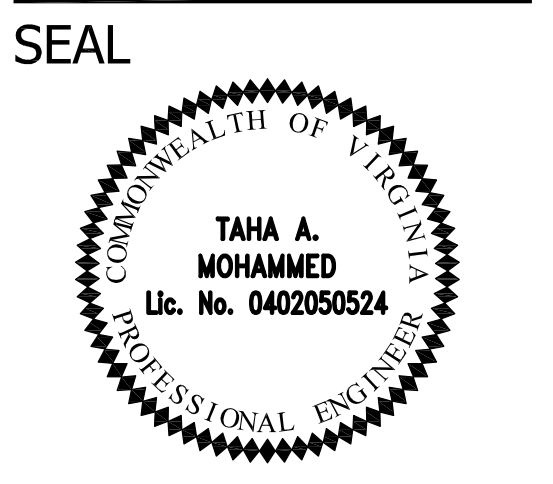


LEGEND
▲ DEVICE LOCATED IN FIELD
● DEVICE LOCATED IN PLC
SP SURGE PROTECTION
NOTE: ALL DEVICES ARE LOCATED IN THE MOTOR STARTER BUCKET UNLESS CALLED OUT OTHERWISE.



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Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
ELECTRICAL SCHEMATIC DIAGRAMS I

Designed: R. MAGSIPOC
Drawn: R. MAGSIPOC
Checked: T. MOHAMMED
Miss Utility Transmittal #:

Filename: E009PTCD.dwg
Path: c:\pw_p01\brnennj\41255066
Plotted: December 17, 2020
Plotted by: BRENNENTJ

Scale: AS NOTED



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FAIRFAX, VA 22030

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SCREW CONVEYOR MOTOR STARTER SCHEMATIC MODIFICATIONS



N.T.S.

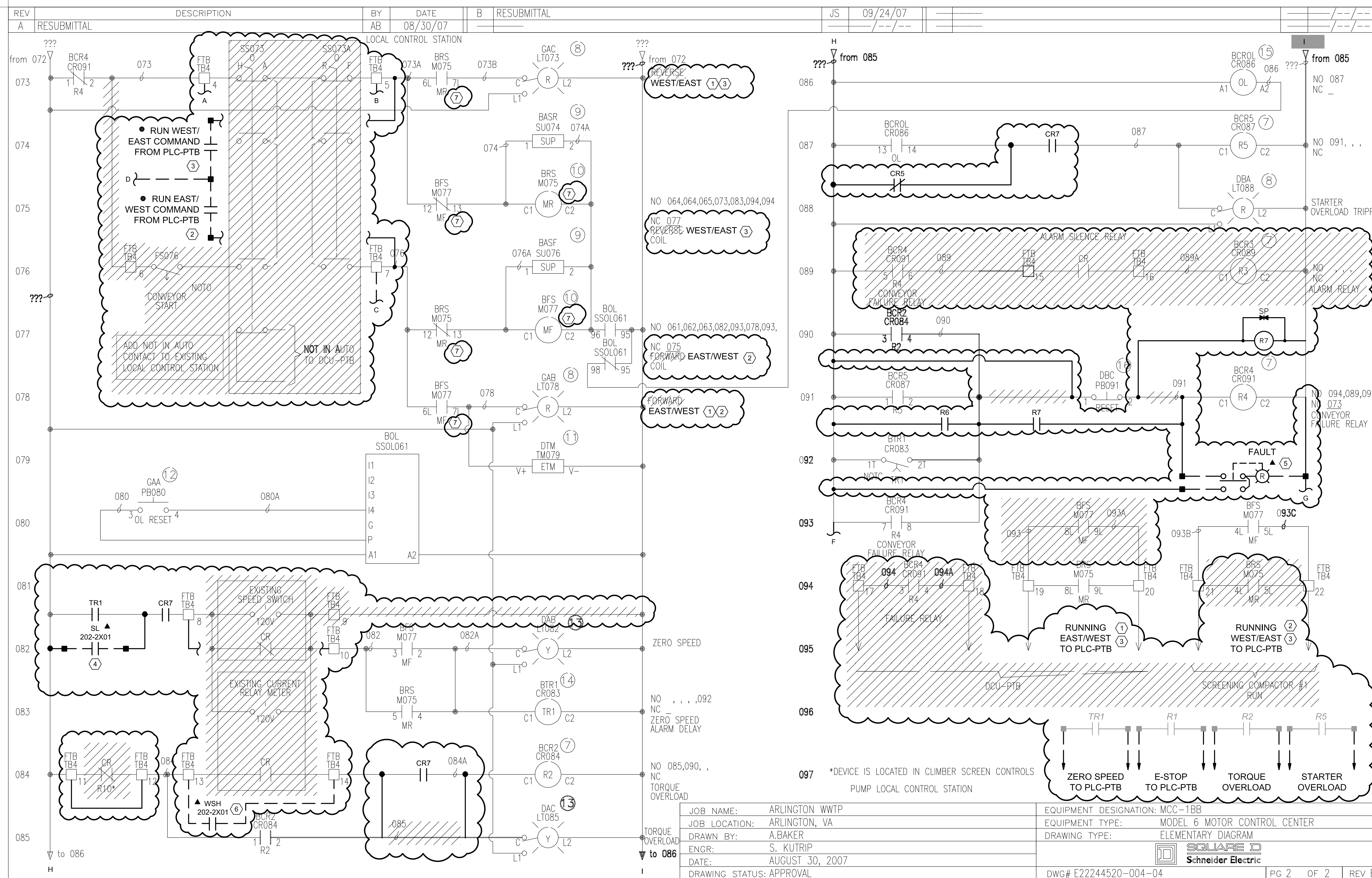
GENERAL NOTES:

- EXISTING MOTOR STARTER SCHEMATIC DIAGRAM PROVIDED BY ARLINGTON COUNTY AND IS FOR REFERENCE ONLY. CONTRACTOR SHALL FIELD VERIFY THE COMPONENTS AND WIRING.
- MODIFICATIONS TO THE EXISTING MOTOR STARTER IS SHOWN CLOUDED ON THIS SHEET ONLY.

KEYED NOTES:

- LOCATED IN THE SCREW CONVEYOR LOCAL CONTROL PANEL
- COMMON EMERGENCY STOP PULLCORD FOR BOTH SCREW CONVEYORS LOCATED ON THE 2ND FLOOR OF THE SCREEN ROOM.
- REMOVE EXISTING NAMEPLATE ON THE MCC BUCKET DOOR AND PROVIDE NEW NAMEPLATE FOR THE PILOT LIGHT IDENTIFICATION.

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LEGEND
 ▲ DEVICE LOCATED IN FIELD
 ● DEVICE LOCATED IN PLC
 SP SURGE PROTECTION
 NOTE: ALL DEVICES ARE LOCATED IN THE MOTOR STARTER BUCKET UNLESS CALLED OUT OTHERWISE.

GENERAL NOTES:
 1. EXISTING MOTOR STARTER SCHEMATIC DIAGRAM PROVIDED BY ARLINGTON COUNTY AND IS FOR REFERENCE ONLY. CONTRACTOR SHALL FIELD VERIFY THE COMPONENTS AND WIRING.
 2. MODIFICATIONS TO THE EXISTING MOTOR STARTER IS SHOWN CLOUDED ON THIS SHEET ONLY.

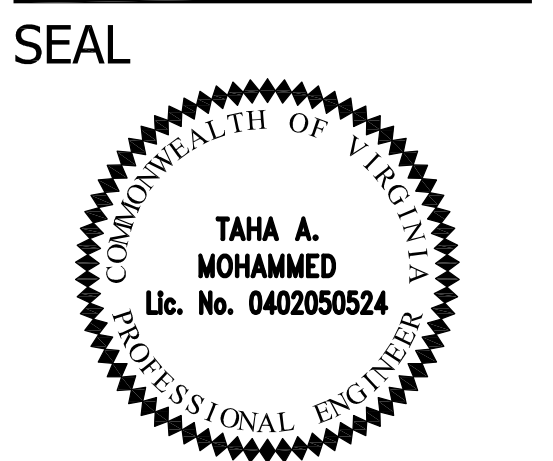
KEYED NOTES:
 ① REMOVE EXISTING NAMEPLATE ON THE MCC BUCKET DOOR AND PROVIDE NEW NAMEPLATE FOR THE PILOT LIGHT IDENTIFICATION.
 ② LABEL AS "WEST" FOR SCREW CONVEYOR NO. 1 AND "EAST" FOR SCREW CONVEYOR NO. 2.
 ③ LABEL AS "EAST" FOR SCREW CONVEYOR NO. 1 AND "WEST" FOR SCREW CONVEYOR NO. 2.
 ④ CONTACT CLOSURES ON "ZERO SPEED".
 ⑤ LOCATED IN THE SCREW CONVEYOR LOCAL CONTROL PANEL.
 ⑥ TORQUE OVERLOAD SHUTDOWN SWITCH CLOSURES TO STOP MOTOR.
 ⑦ RE-LABEL RELAYS IN THE MCC BUCKET WITH "MF" FOR EAST OR "MR" FOR WEST IN ACCORDANCE WITH THE CONVEYOR DIRECTION.

JOB NAME:	ARLINGTON WWTP	EQUIPMENT DESIGNATION:	MCC-1BB
JOB LOCATION:	ARLINGTON, VA	EQUIPMENT TYPE:	MODEL 6 MOTOR CONTROL CENTER
DRAWN BY:	A.BAKER	DRAWING TYPE:	ELEMENTARY DIAGRAM
ENGR:	S. KUTRIP		
DATE:	AUGUST 30, 2007		
DRAWING STATUS:	APPROVAL	DWG#	E22244520-004-04
		PG	2 OF 2
		REV	B



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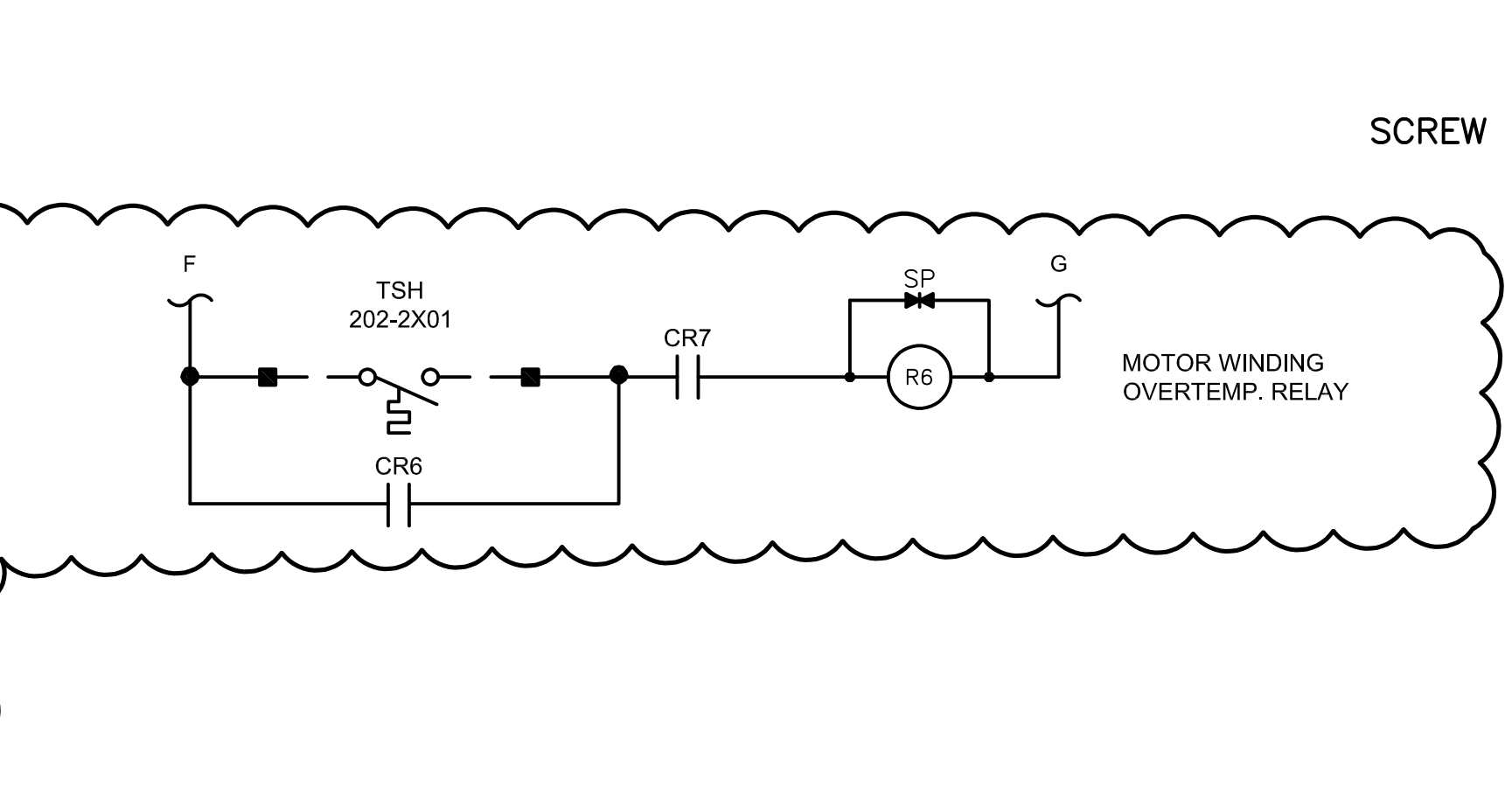
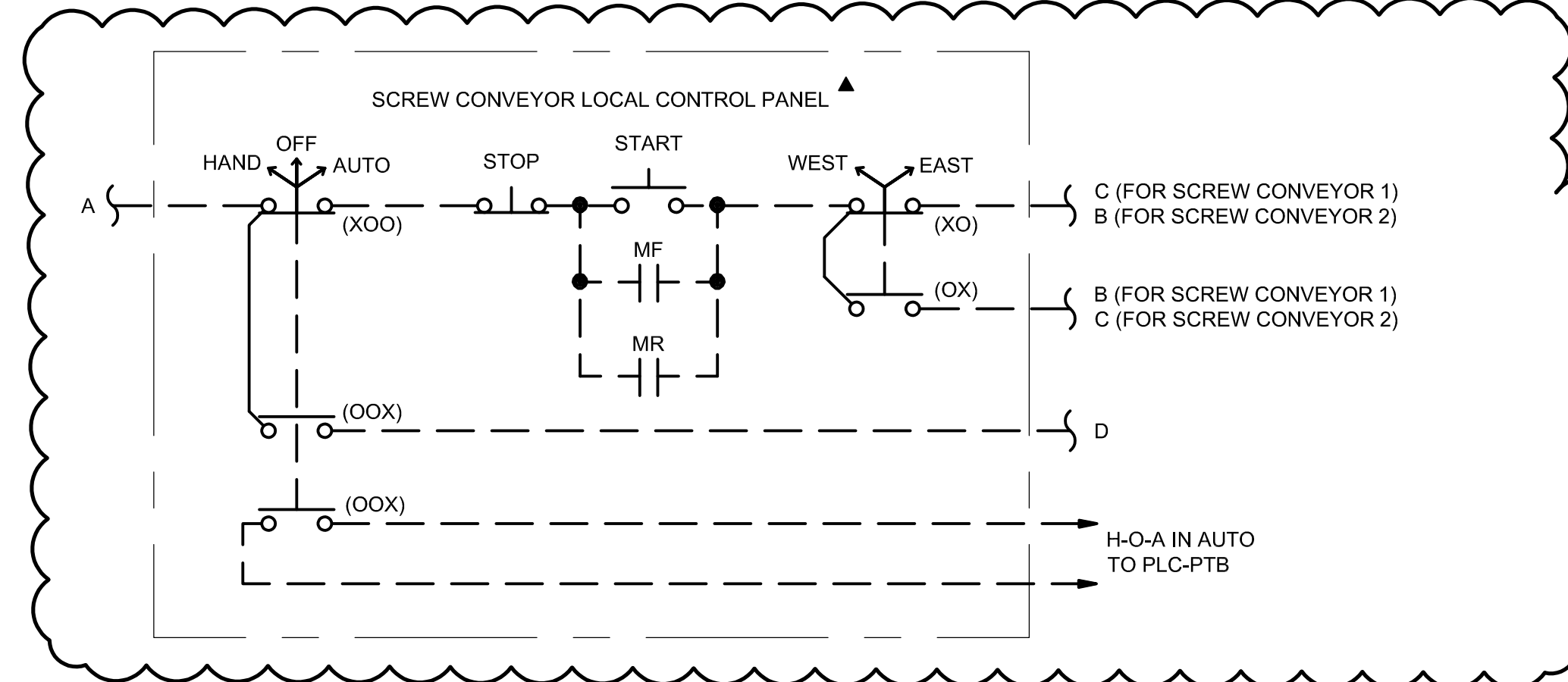
Project Name and Location
Water Pollution Control Plant
 Preliminary Treatment Upgrades (WPB2)
 Phase 9B
 ELECTRICAL
 SCHEMATIC DIAGRAMS II

Designed: R. MAGSIPOC
 Drawn: R. MAGSIPOC
 Checked: T. MOHAMMED
 Miss Utility Transmittal #:
 Filename: E010PTCD.dwg
 Path: c:\pw_gbl\magsi\pcrm\d1255086
 Plotted: December 28, 2020
 Plotted by: MAGSIPOCRM

Scale: AS NOTED



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 Sht. 83 of 97
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SCREW CONVEYOR MOTOR STARTER SCHEMATIC MODIFICATIONS (CONT.)

DIAGRAM 1
 N.T.S.

TYPICAL FOR
 SCREW CONVEYOR 1 PTB-CONV-202-2100
 SCREW CONVEYOR 2 PTB-CONV-202-2200

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LEGEND
 ▲ DEVICE LOCATED IN FIELD
 ● DEVICE LOCATED IN PLC
 SP SURGE PROTECTION
 NOTE: ALL DEVICES ARE LOCATED IN THE MOTOR STARTER BUCKET UNLESS CALLED OUT OTHERWISE.



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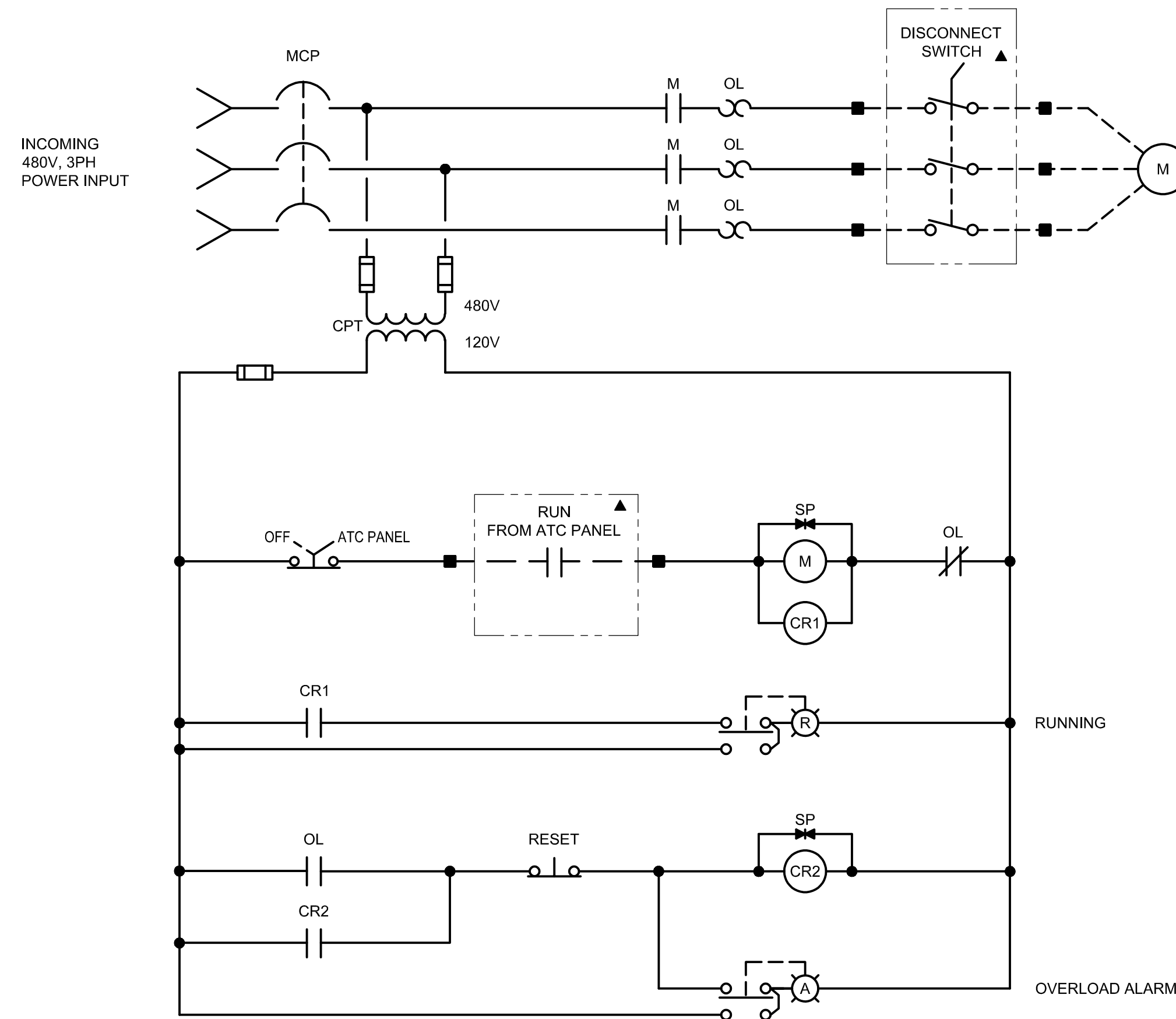
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TYPICAL FAN SCHEMATIC
 DIAGRAM 1
 N.T.S.

TYPICAL FOR
 PTB-FAF-1A
 PTB-FAF-1B
 PTB-EF-10

Project Name and Location

Water Pollution Control Plant
 Preliminary Treatment Upgrades (WPB2)
 Phase 9B
 ELECTRICAL
 SCHEMATIC DIAGRAMS III

Designed: R. MAGSIPOC
 Drawn: R. MAGSIPOC
 Checked: T. MOHAMMED
 Miss Utility Transmittal #:

Filename: E011PTCD.dwg
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 Plotted: December 17, 2020
 Plotted by: BRENNENTJ

Scale: AS NOTED

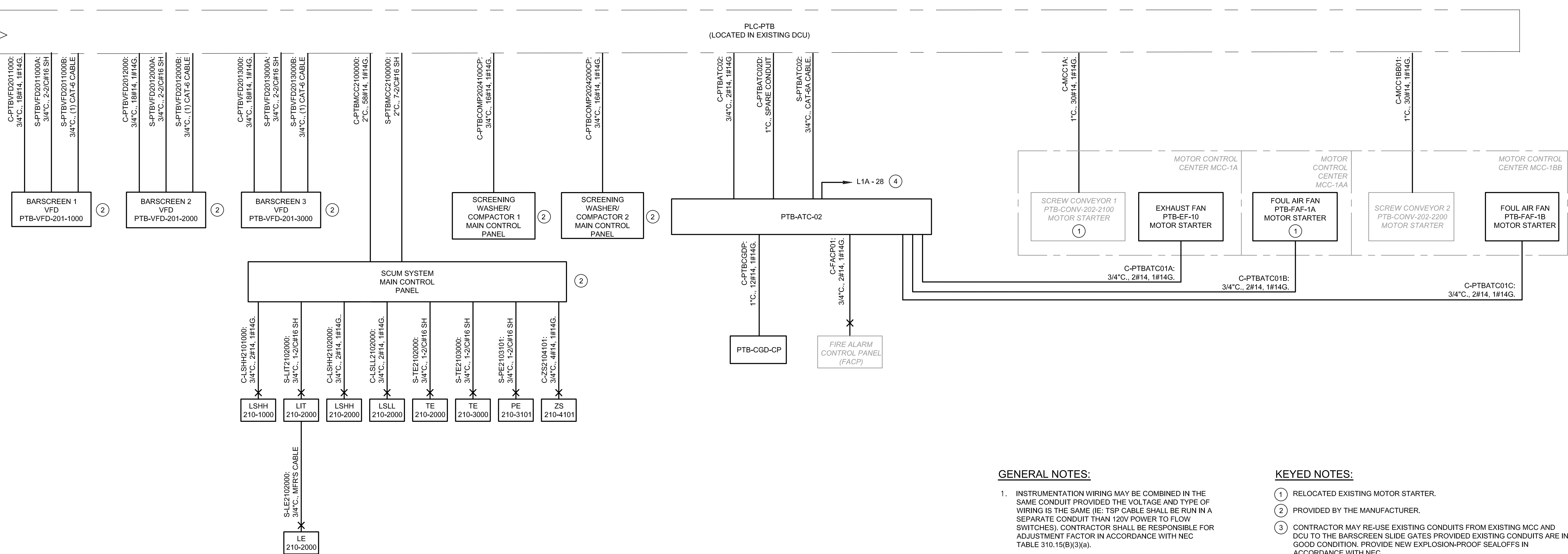


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FOR CONTINUATION
SEE ABOVE

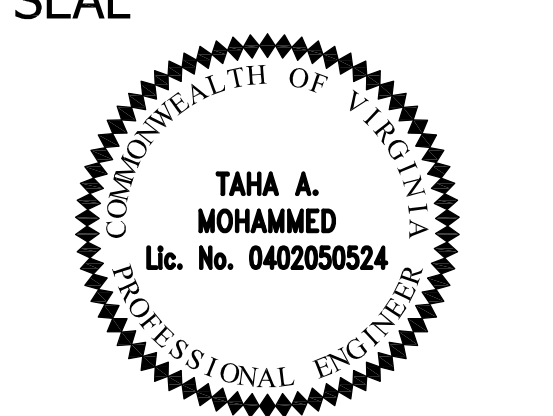


RISER
DIAGRAM 1
NOT TO SCALE

- GENERAL NOTES:**
- INSTRUMENTATION WIRING MAY BE COMBINED IN THE SAME CONDUIT PROVIDED THE VOLTAGE AND TYPE OF WIRING IS THE SAME (IE: TSP CABLE SHALL BE RUN IN A SEPARATE CONDUIT THAN 120V POWER TO FLOW SWITCHES). CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTMENT FACTOR IN ACCORDANCE WITH NEC TABLE 310.15(B)(3)(a).
 - QUANTITY OF WIRES SHOWN INCLUDE SPARE WIRES.

- KEYED NOTES:**
- RELOCATED EXISTING MOTOR STARTER.
 - PROVIDED BY THE MANUFACTURER.
 - CONTRACTOR MAY RE-USE EXISTING CONDUITS FROM EXISTING MCC AND DCU TO THE BARSREEN SLIDE GATES PROVIDED EXISTING CONDUITS ARE IN GOOD CONDITION. PROVIDE NEW EXPLOSION-PROOF SEALOFFS IN ACCORDANCE WITH NEC.
 - REFER TO PANELBOARD SCHEDULES FOR CONDUIT/CONDUCTOR REQUIREMENTS.
 - PROVIDE CONDUIT SEAL-OFFS FOR HAZARDOUS (CLASSIFIED) AREAS AS DEFINED ON SHEET E-4. NOT ALL SEAL-OFFS ARE SHOWN ON THIS DRAWING. CONTRACTOR SHALL SEAL-OFF CONDUITS ENTERING OR LEAVING HAZARDOUS (CLASSIFIED) AREAS PER NEC.

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Revisions	Date

Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
ELECTRICAL
RISER DIAGRAMS I

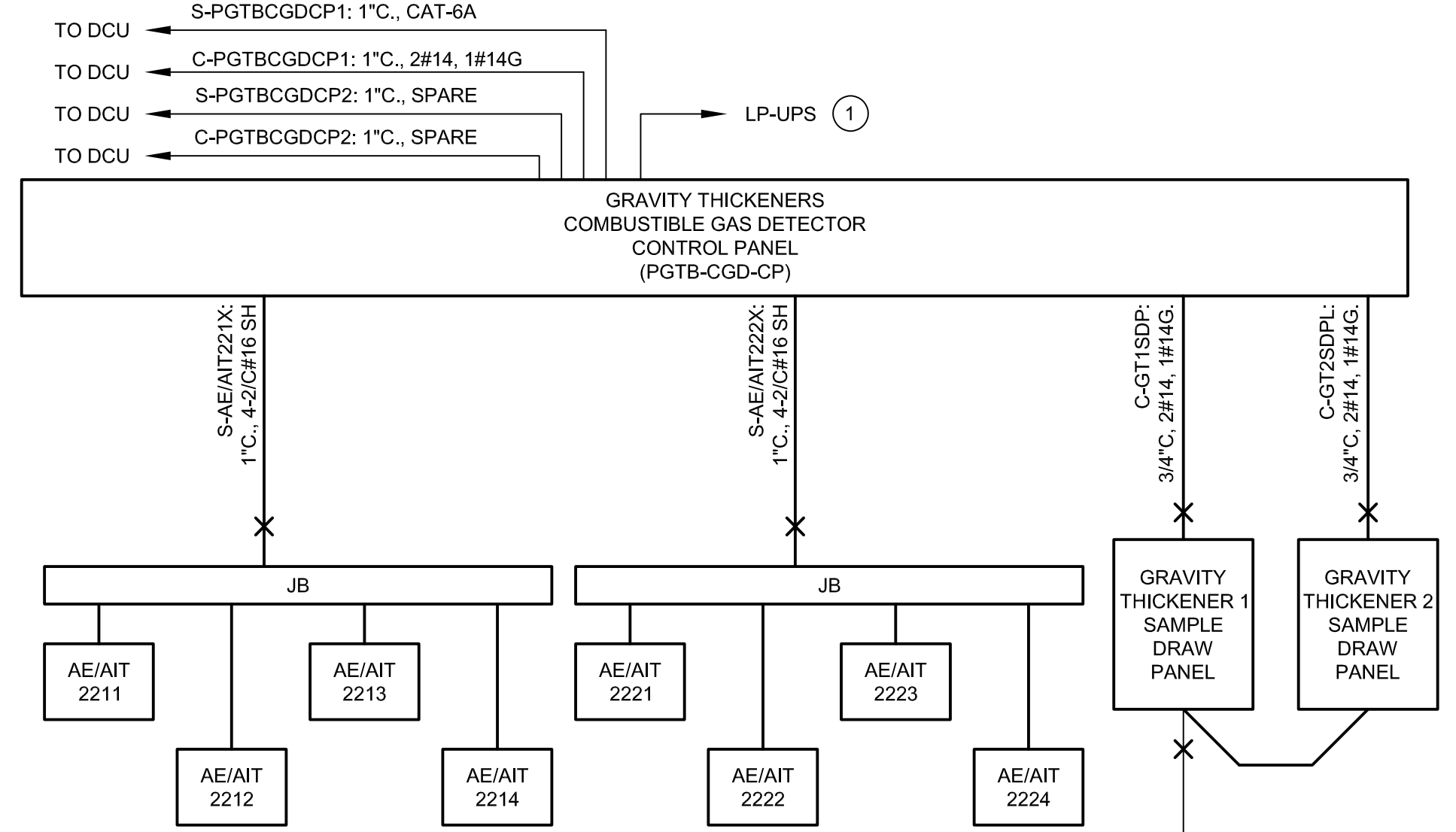
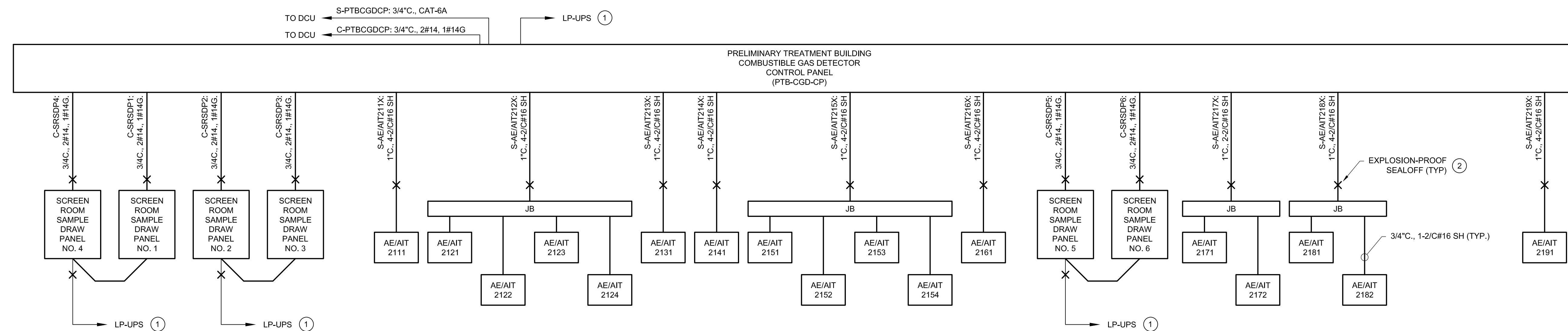
Designed: R. MAGSPOC
Drawn: G. WARD
Checked: T. MOHAMMED
Miss Utility Transmittal #:

Filename: E012NFRD.dwg
Path: C:\pw_gbl\magspoc\m\41255086
Plotted: December 28, 2020
Plotted by: MAGSPOCRM

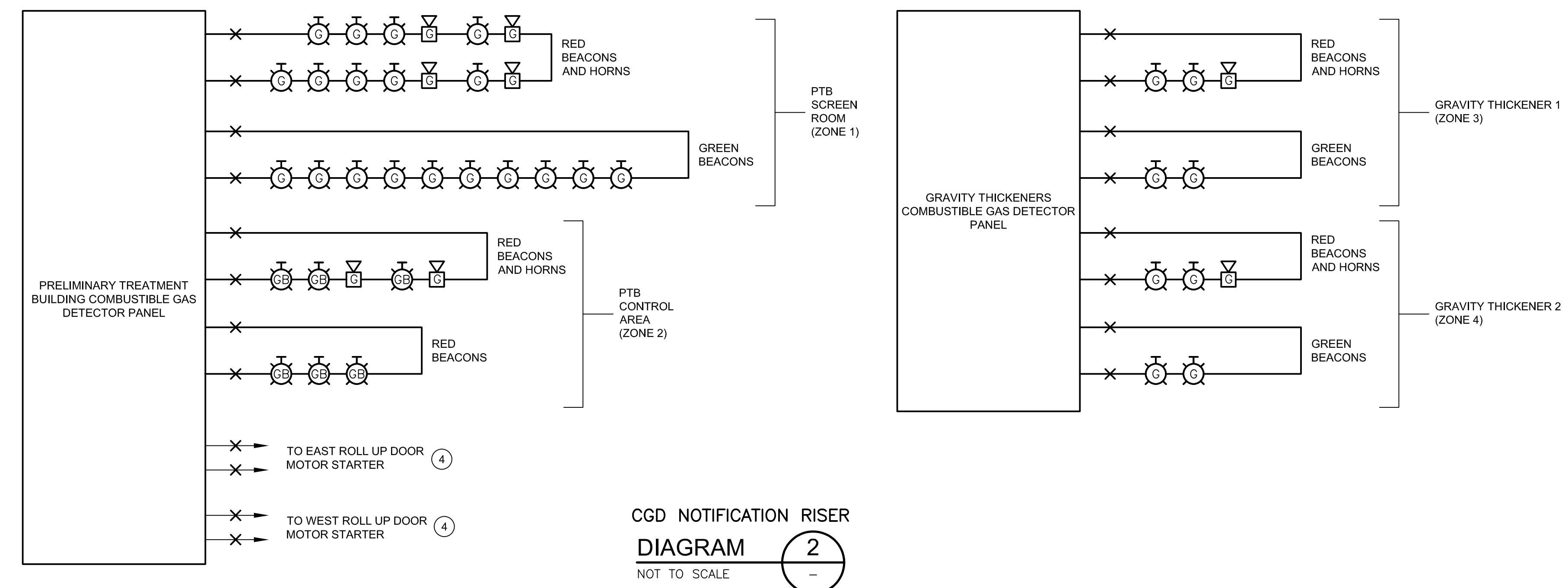
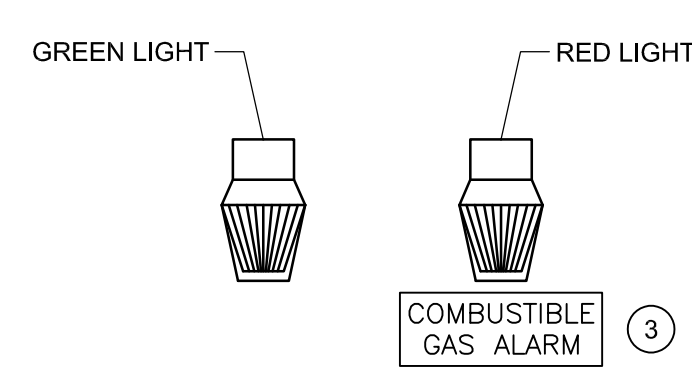
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CGD INITIATION RISER
DIAGRAM 1
NOT TO SCALE



CGD NOTIFICATION RISER
DIAGRAM 2
NOT TO SCALE

GENERAL NOTES:

1. INSTRUMENTATION WIRING MAY BE COMBINED IN THE SAME CONDUIT PROVIDED THE VOLTAGE AND TYPE OF WIRING IS THE SAME (IE: TSP CABLE SHALL BE RUN IN A SEPARATE CONDUIT THAN 120V POWER TO FLOW SWITCHES). CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTMENT FACTOR IN ACCORDANCE WITH NEC TABLE 310.15(B)(3)(a).
2. QUANTITY OF WIRES SHOWN INCLUDE SPARE WIRES.
3. COMBUSTIBLE GAS DETECTION BEACONS AND HORNS SHALL BE SUITABLE FOR CLASS I, DIVISION 1, HAZARDOUS AREAS, SUITABLE FOR INDOOR OR OUTDOOR LOCATIONS, AND BE 24VDC.
4. BEACONS SHALL BE DUAL-LITE WITH STEADY GREEN FOR "GO"/"SAFE", STEADY RED FOR "NO-GO"/"FAIL", AND FLASHING RED FOR ALARM NOTIFICATION. MAXIMUM AMPS OF THE BEACONS WILL BE 0.22A PER BEACON. BEACONS SHALL BE 170XBR SERIES BY EDWARDS SIGNALING OR APPROVED EQUAL.
5. HORNS WILL PRODUCE AN AVERAGE OF 84 DECIBELS AT 10 FEET. MAXIMUM AMPS OF THE HORNS WILL BE 0.16A PER HORN. HORNS SHALL BE MODEL 889D BY EDWARDS SIGNALING OR APPROVED EQUAL.
6. PROVIDE ALL MOUNTING HARDWARE FOR COMBUSTIBLE GAS DETECTORS, BEACONS, AND HORNS AS NECESSARY FOR THE LOCATION INSTALLED.
7. PROVIDE SIGNAGE FOR CGD BEACONS. SIGNS SHALL DISPLAY "COMBUSTIBLE GAS ALARM". REFER TO DETAIL A ON THIS SHEET. LETTERS SHALL NOT BE LESS THAN 1-IN HIGH, 1/4-IN STROKE. SIGNS SHALL BE LAMINATED PLASTIC, ENGRAVED WHITE LETTERS WITH A RED BACKGROUND.

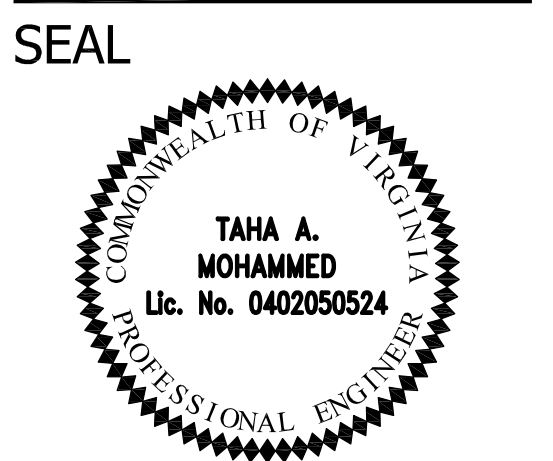
KEYED NOTES:

- 1 REFER TO PANELBOARD SCHEDULES FOR CONDUIT/CONDUCTOR REQUIREMENTS.
- 2 PROVIDE CONDUIT SEAL-OFFS FOR HAZARDOUS (CLASSIFIED) AREAS AS DEFINED ON SHEET E-4. NOT ALL SEAL-OFFS ARE SHOWN ON THIS DRAWING. CONTRACTOR SHALL SEAL-OFF CONDUITS ENTERING OR LEAVING HAZARDOUS (CLASSIFIED) AREAS PER NEC.
- 3 GAS DETECTION BEACONS WILL BE "GO"/"NO-GO" FOR EXTERIOR LOCATIONS AND "SAFE"/"FAIL" FOR INTERIOR LOCATIONS.
- 4 MODIFY EXISTING MOTOR STARTER TO OPEN ROLL-UP DOORS UPON DETECTION OF HAZARDOUS GAS IN THE PRELIMINARY TREATMENT BUILDING.



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ARLINGTON, VA 22202
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APPROVALS DATE

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Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
ELECTRICAL
RISER DIAGRAMS II

Designed: R. MAGSPOC
Drawn: T. BRENNEN
Checked: T. MOHAMMED
Miss Utility Transmittal #:

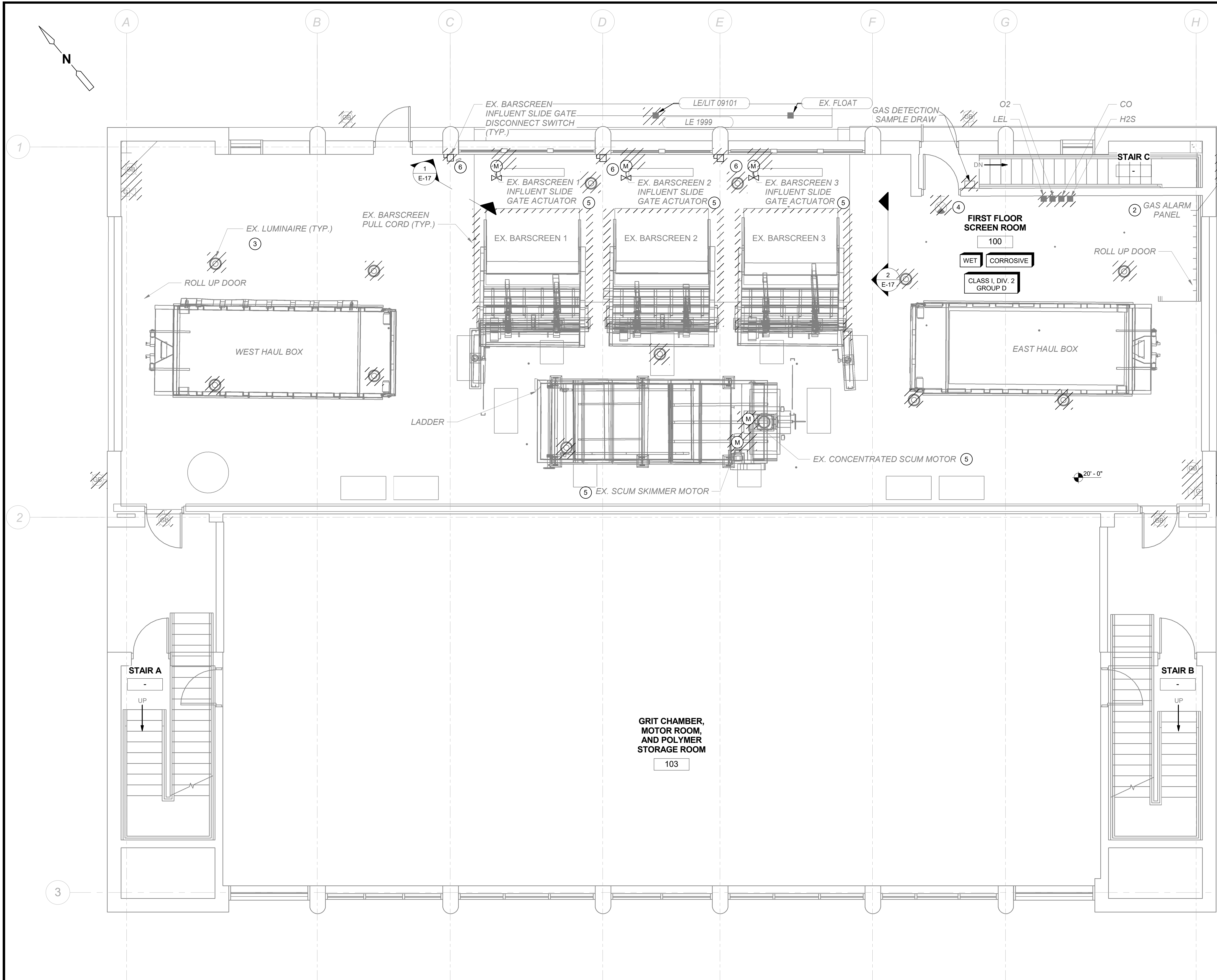
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Path: C:\pw_gbl\magspocm\41255086
Plotted: December 28, 2020
Plotted by: MAGSPOCRM

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E-13

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DEMOLITION GENERAL NOTES:

1. CONTRACTOR MAY RE-USE EXISTING CONDUITS FOR NEW WIRES. PROVIDE NEW EXPLOSION-PROOF SEALOFFS PER NEC WHERE RE-USE OF EXISTING CONDUITS TRANSITION FROM UNCLASSIFIED TO HAZARDOUS (CLASSIFIED) AREAS.
2. PRIOR TO INSTALLING AND PULLING NEW WIRES IN EXISTING CONDUITS, THOROUGHLY CLEAN CONDUITS, FITTINGS, JUNCTION BOXES, TERMINAL BOXES, ETC. USE RUBBER OR PLASTIC MANDREL FOR INTERIOR CONDUIT CLEANING.
3. DISCONNECT ALL ELECTRICAL POWER CONNECTIONS FOR ALL EQUIPMENT TO BE REMOVED IN ORDER TO ALLOW SAFE AND COMPLETE REMOVAL OF ALL ASSOCIATED EQUIPMENT IN THIS AREA.
4. COORDINATE DEMOLITION SEQUENCE WITH OTHER DISCIPLINES.
5. DISCONNECT AND REMOVE WIRES FOR EQUIPMENT THAT WILL BE DEMOLISHED. PROVIDE PULLSTRING AND CAP ON BOTH ENDS TO MAKE CONDUITS THAT WILL NOT BE REUSED WATERTIGHT.

DEMOLITION KEYED NOTES:

- ① DEMOLISH EXISTING HORNS, STROBES, AND ASSOCIATED CONDUITS AND WIRE BACK TO THE EXISTING GAS DETECTION PANEL IN THE CONTROL ROOM.
- ② DISCONNECT, REMOVE, AND RETURN TO THE OWNER SENSIDYNE PANEL INSIDE THE GAS ALARM PANEL ENCLOSURE. DEMOLISH ENCLOSURE, CONDUIT, AND WIRE.
- ③ DISCONNECT AND REMOVE EXISTING LUMINAIRES. EXISTING CONDUITS & WIRES TO REMAIN TO BE REUSED.
- ④ DISCONNECT AND REMOVE EXISTING EXIT SIGN AND JUNCTION BOX AND RETURN TO THE OWNER. DEMOLISH EXISTING CONDUIT AND WIRE ASSOCIATED WITH THE EXIT SIGN.
- ⑤ EQUIPMENT TO BE DEMOLISHED. REFER TO PROCESS MECHANICAL DRAWINGS. DISCONNECT AND REMOVE WIRES BACK TO THE SOURCE.
- ⑥ DEMOLISH EXISTING DISCONNECT SWITCH AND DOWNSTREAM CONDUITS TO THE ACTUATOR.



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Water Pollution Control Plant
 Preliminary Treatment Upgrades (WPB2)
 Phase 9B
PRELIMINARY TREATMENT BUILDING
 FIRST FLOOR
 DEMOLITION PLAN

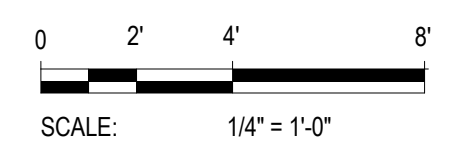
Designed: R. MAGSIPOC
 Drawn: B. CHARIS-MOLLING
 Checked: T. MOHAMMED
 Miss Utility Transmittal #:
 Filename: EEZ000PT.rvt
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 Plotted: DECEMBER 17, 2020
 Plotted by: B. CHARIS-MOLLING

Scale: AS NOTED

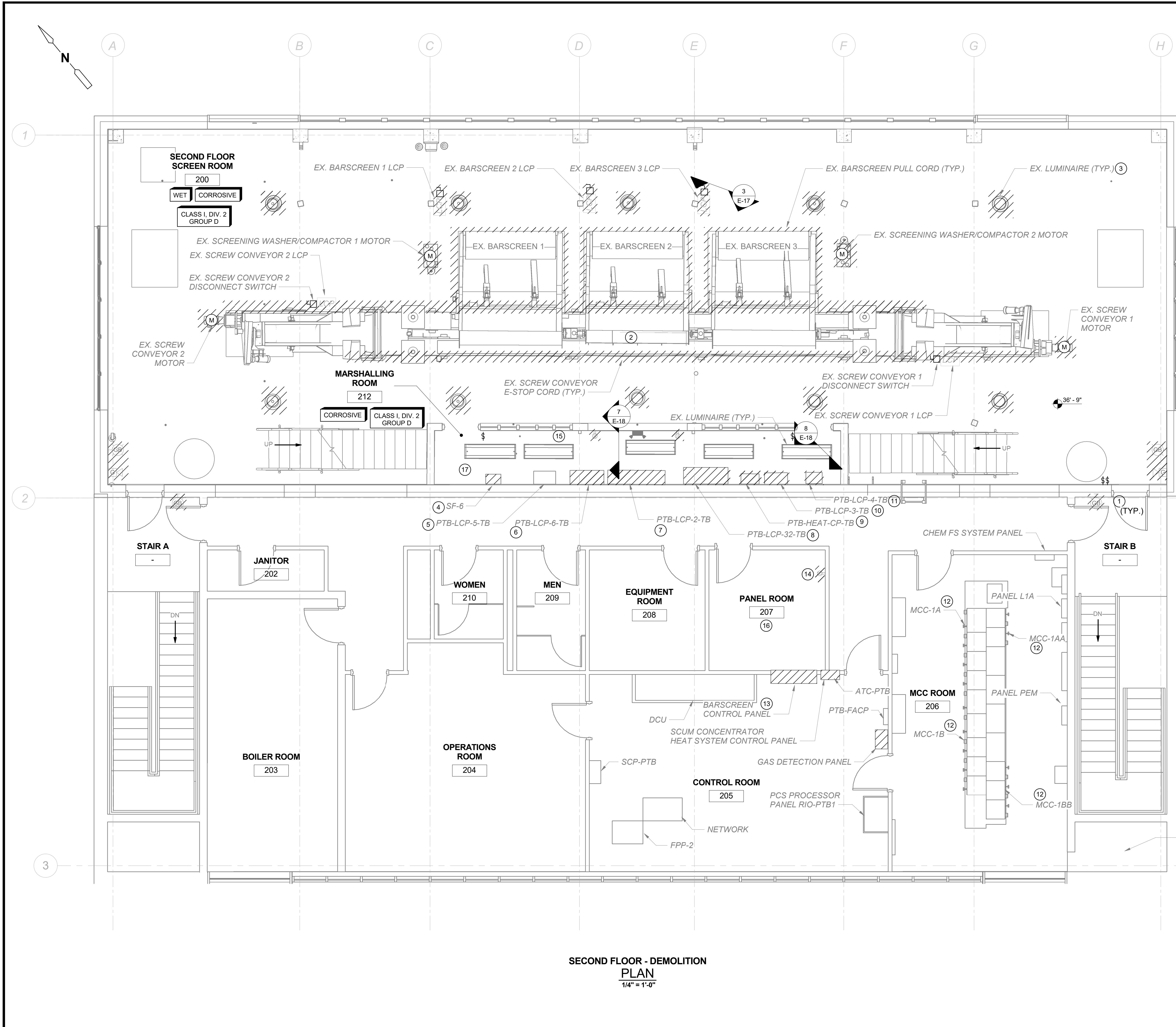


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FIRST FLOOR - DEMOLITION PLAN
 1/4" = 1'-0"



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SECOND FLOOR - DEMOLITION PLAN
1/4" = 1'-0"

DEMOLITION GENERAL NOTES:

1. CONTRACTOR MAY RE-USE EXISTING CONDUITS FOR NEW WIRES. PROVIDE NEW EXPLOSION-PROOF SEALOFFS PER NEC WHERE RE-USE OF EXISTING CONDUITS TRANSITION FROM UNCLASSIFIED TO HAZARDOUS (CLASSIFIED) AREAS.
2. PRIOR TO INSTALLING AND PULLING NEW WIRES IN EXISTING CONDUITS, THOROUGHLY CLEAN CONDUITS, FITTINGS, UNCTION BOXES, TERMINAL BOXES, ETC. USE RUBBER OR PLASTIC MANDREL FOR INTERIOR CONDUIT CLEANING.
3. DISCONNECT ALL ELECTRICAL POWER CONNECTIONS FOR ALL EQUIPMENT TO BE REMOVED IN ORDER TO ALLOW SAFE AND COMPLETE REMOVAL OF ALL ASSOCIATED EQUIPMENT IN THIS AREA.
4. COORDINATE DEMOLITION SEQUENCE WITH OTHER DISCIPLINES.
5. DISCONNECT AND REMOVE WIRES FOR EQUIPMENT THAT WILL BE DEMOLISHED. PROVIDE PULLSTRING AND CAP ON BOTH ENDS TO MAKE CONDUITS THAT WILL NOT BE REUSED WATERTIGHT.

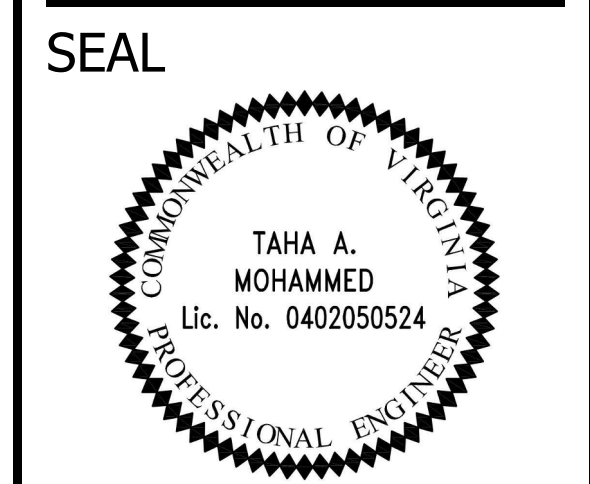
DEMOLITION KEYED NOTES:

- 1 DEMOLISH EXISTING HORNS, STROBES, AND ASSOCIATED CONDUITS AND WIRES BACK TO THE EXISTING GAS DETECTION PANEL IN THE CONTROL ROOM.
- 2 EQUIPMENT TO BE DEMOLISHED. REFER TO PROCESS MECHANICAL DRAWINGS. DISCONNECT AND REMOVE WIRES BACK TO THE SOURCE.
- 3 DISCONNECT AND REMOVE EXISTING LUMINAIRES. EXISTING CONDUITS AND WIRES TO REMAIN TO BE REUSED.
- 4 DEMOLISH TERMINAL BOX FOR EXISTING SF-6.
- 5 TERMINAL BOX FOR EXISTING GRIT CLASSIFIER TO REMAIN.
- 6 DEMOLISH TERMINAL BOX FOR EXISTING SCREENING COMPACTOR.
- 7 DEMOLISH TERMINAL BOX FOR EXISTING BAR SCREEN/CONVEYOR.
- 8 DEMOLISH TERMINAL BOX FOR EXISTING FOUL AIR AND SUPPLY FAN.
- 9 DEMOLISH TERMINAL BOX FOR EXISTING SCUM CONCENTRATOR HEAT SYSTEM.
- 10 DEMOLISH TERMINAL BOX FOR EXISTING SCUM CONCENTRATOR.
- 11 DEMOLISH TERMINAL BOX FOR EXISTING CONCENTRATION SCUM PUMP.
- 12 REFER TO SHEETS E-5 THROUGH E-8 FOR MCC-1 MODIFICATIONS.
- 13 EXISTING BARSCREEN CONTROL PANEL SHALL BE KEPT OPERATIONAL UNTIL ALL BARSCREENS HAVE BEEN REPLACED.
- 14 DISCONNECT AND REMOVE EXISTING RECEPTACLE. CONDUIT AND WIRES TO REMAIN TO BE REUSED.
- 15 SEAL ALL WALL, CEILING, OR FLOOR OPENINGS FOR ALL UNUSED PENETRATIONS AFTER INSTALLATION OF NEW CONDUITS. SEAL MATERIAL SHALL BE A UL-APPROVED EXPANDING MATERIAL WHICH EQUALS OR EXCEEDS THE FIRE RATING OF THE WALL, CEILING, OR FLOOR CONSTRUCTION.
- 16 DISCONNECT EXISTING LUMINAIRES AND STORE IN A CLEAN AND DRY AREA TO BE RE-INSTALLED AFTER REPLACEMENT OF THE CEILING AND GRID. REFER TO ARCHITECTURAL PLANS FOR EXISTING REFLECTED CEILING PLAN.
- 17 ALL LIGHT FIXTURES AND LIGHT SWITCHES IN THE MARSHALLING ROOM WILL BE REPLACED WITH EXPLOSION-PROOF LIGHTS AND SWITCHES BY THE OWNER.



DEPARTMENT OF ENVIRONMENTAL SERVICES
WATER POLLUTION CONTROL BUREAU
3402 S. GLEBE ROAD
ARLINGTON, VA 22202
PHONE: 703.228.6820

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APPROVALS DATE

100% BID SET

Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
SECOND FLOOR
DEMOLITION PLAN

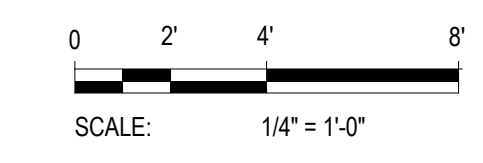
Designed: R. MAGSIPOC
Drawn: B. CHARIS-MOLLING
Checked: T. MOHAMMED
Miss Utility Transmittal #:

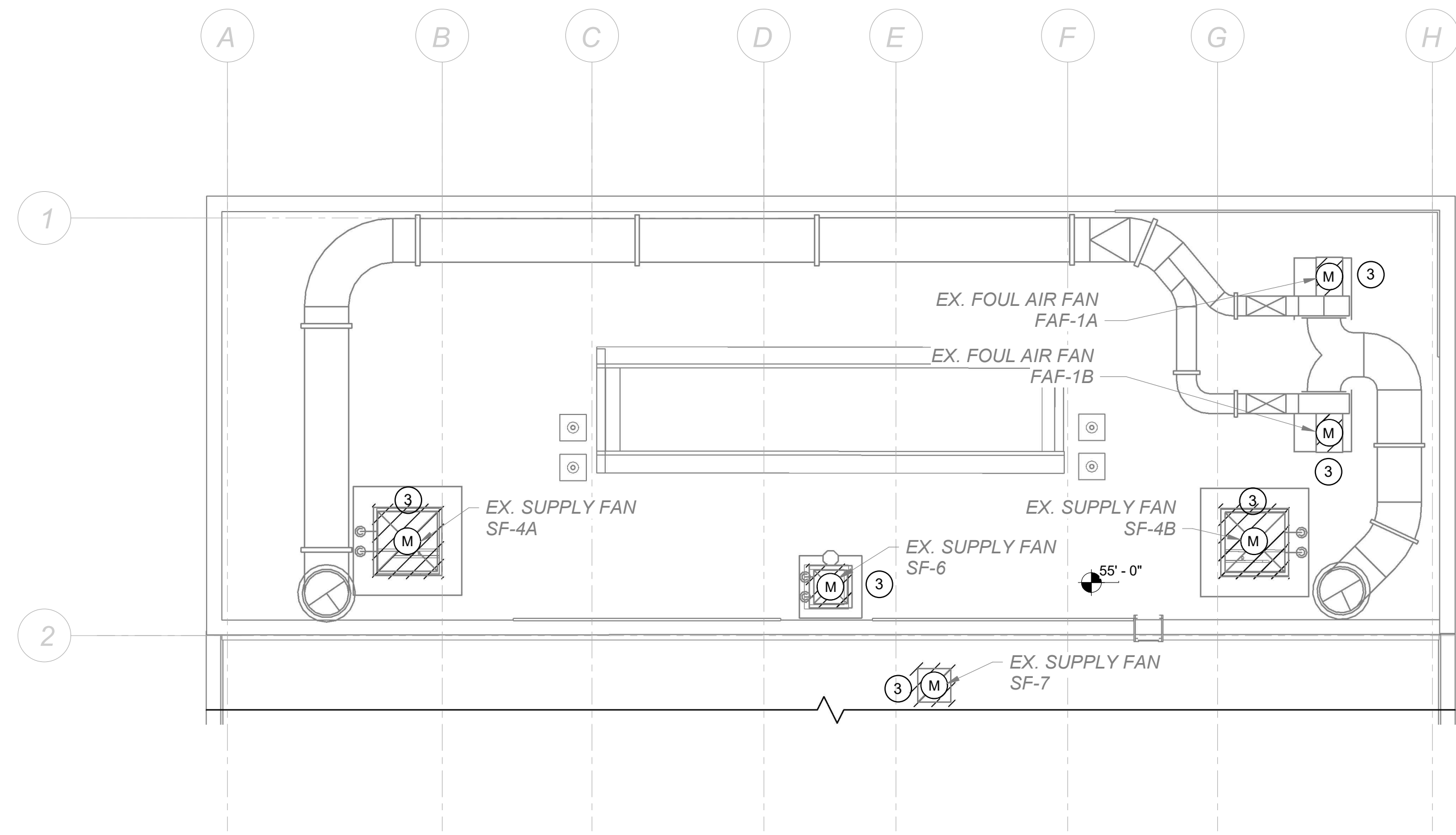
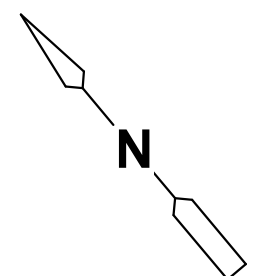
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Path: R:\d1295022\EEZ000PT.rvt
Plotted: DECEMBER 17, 2020
Plotted by: B. CHARIS-MOLLING

Scale: AS NOTED



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E-15





PARTIAL ROOF - DEMOLITION PLAN
1/8" = 1'-0"

DEMOLITION GENERAL NOTES:

1. CONTRACTOR MAY RE-USE EXISTING CONDUITS FOR NEW WIRES. PROVIDE NEW EXPLOSION-PROOF SEALOFFS PER NEC WHERE RE-USE OF EXISTING CONDUITS TRANSITION FROM UNCLASSIFIED TO HAZARDOUS (CLASSIFIED) AREAS.
2. PRIOR TO INSTALLING AND PULLING NEW WIRES IN EXISTING CONDUITS, THOROUGHLY CLEAN CONDUITS, FITTINGS, UNCTION BOXES, TERMINAL BOXES, ETC. USE RUBBER OR PLASTIC MANDREL FOR INTERIOR CONDUIT CLEANING.
3. DISCONNECT ALL ELECTRICAL POWER CONNECTIONS FOR ALL EQUIPMENT TO BE REMOVED IN ORDER TO ALLOW SAFE AND COMPLETE REMOVAL OF ALL ASSOCIATED EQUIPMENT IN THIS AREA.
4. COORDINATE DEMOLITION SEQUENCE WITH OTHER DISCIPLINES.
5. DISCONNECT AND REMOVE WIRES FOR EQUIPMENT THAT WILL BE DEMOLISHED. PROVIDE PULLSTRING AND CAP ON BOTH ENDS TO MAKE CONDUITS THAT WILL NOT BE REUSED WATERTIGHT.

DEMOLITION KEYED NOTES:

- 1 SEAL ALL WALL, CEILING, OR FLOOR OPENINGS FOR ALL UNUSED PENETRATIONS AFTER INSTALLATION OF NEW CONDUITS. SEAL MATERIAL SHALL BE A UL-APPROVED EXPANDING MATERIAL WHICH EQUALS OR EXCEEDS THE FIRE RATING OF THE WALL, CEILING, OR FLOOR CONSTRUCTION.
- 2 DISCONNECT AND REMOVE EXISTING LUMINAIRES. EXISTING CONDUITS & WIRES TO REMAIN TO BE REUSED.
- 3 EQUIPMENT TO BE DEMOLISHED. REFER TO HVAC DRAWINGS. DEMOLISH EXISTING CONDUIT AND WIRES BACK TO THE SOURCE.
- 4 EQUIPMENT TO BE DEMOLISHED. REFER TO PROCESS MECHANICAL DRAWINGS. DISCONNECT AND REMOVE WIRES BACK TO THE SOURCE.



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APPROVALS DATE

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Revisions Date

Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
MEZZANINE AND PARTIAL ROOF
DEMOLITION PLANS

Designed: R. MAGSIPOC
Drawn: B. CHARIS-MOLLING
Checked: T. MOHAMMED
Miss Utility Transmittal #:

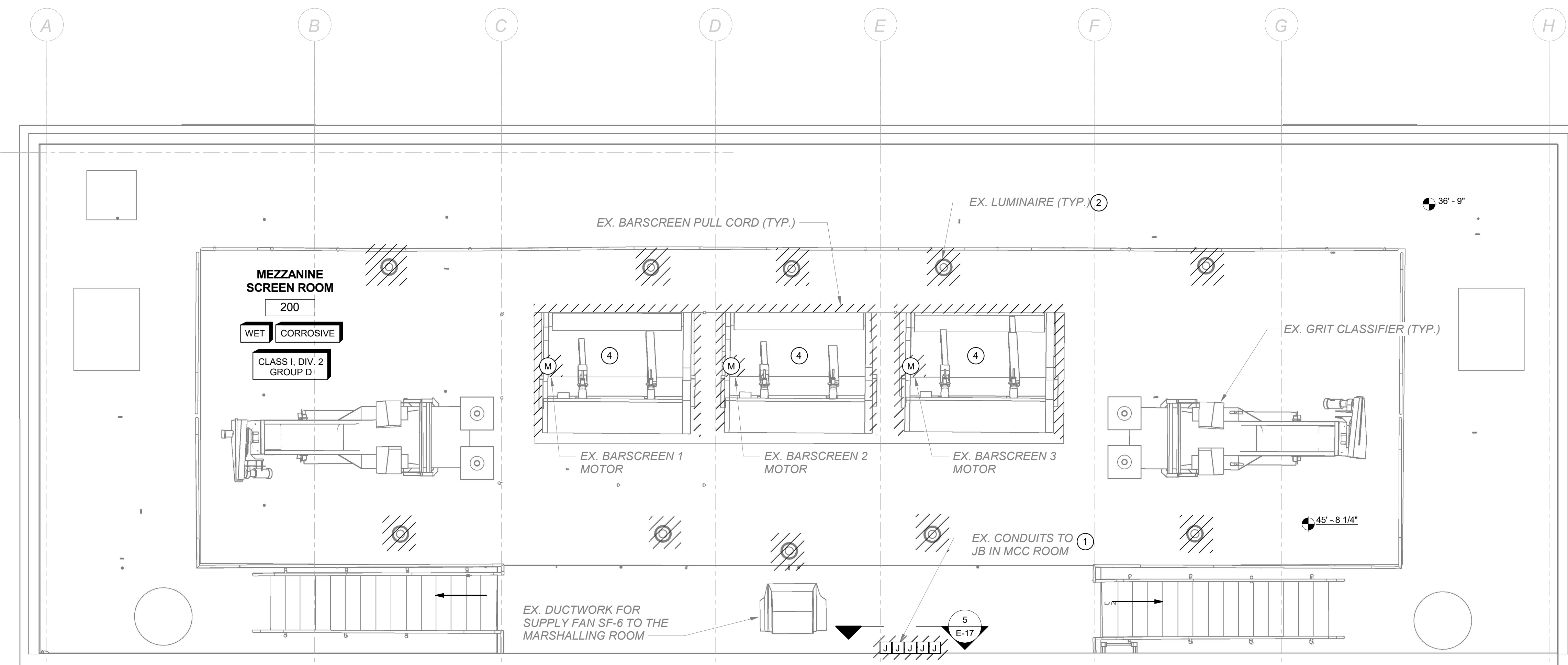
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Plotted: DECEMBER 17, 2020
Plotted by: B. CHARIS-MOLLING

Scale: AS NOTED

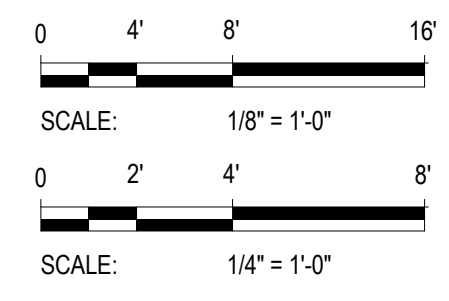


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E-16



MEZZANINE - DEMOLITION PLAN
1/4" = 1'-0"



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REMOVE EX. BARSCREEN INFLUENT SLIDE GATE DISCONNECT SWITCH (TYP.)

EXISTING INFLUENT GATE VALVE
SECTION 1
NOT TO SCALE E-14



REMOVE EX. BARSCREEN PULL CORD (TYP.)

EXISTING BARSCREEN PULL CORD
SECTION 2
NOT TO SCALE E-14



NEW BARSCREEN LOCAL CONTROL PANEL AND DISCONNECT TO BE INSTALLED AT SAME LOCATION

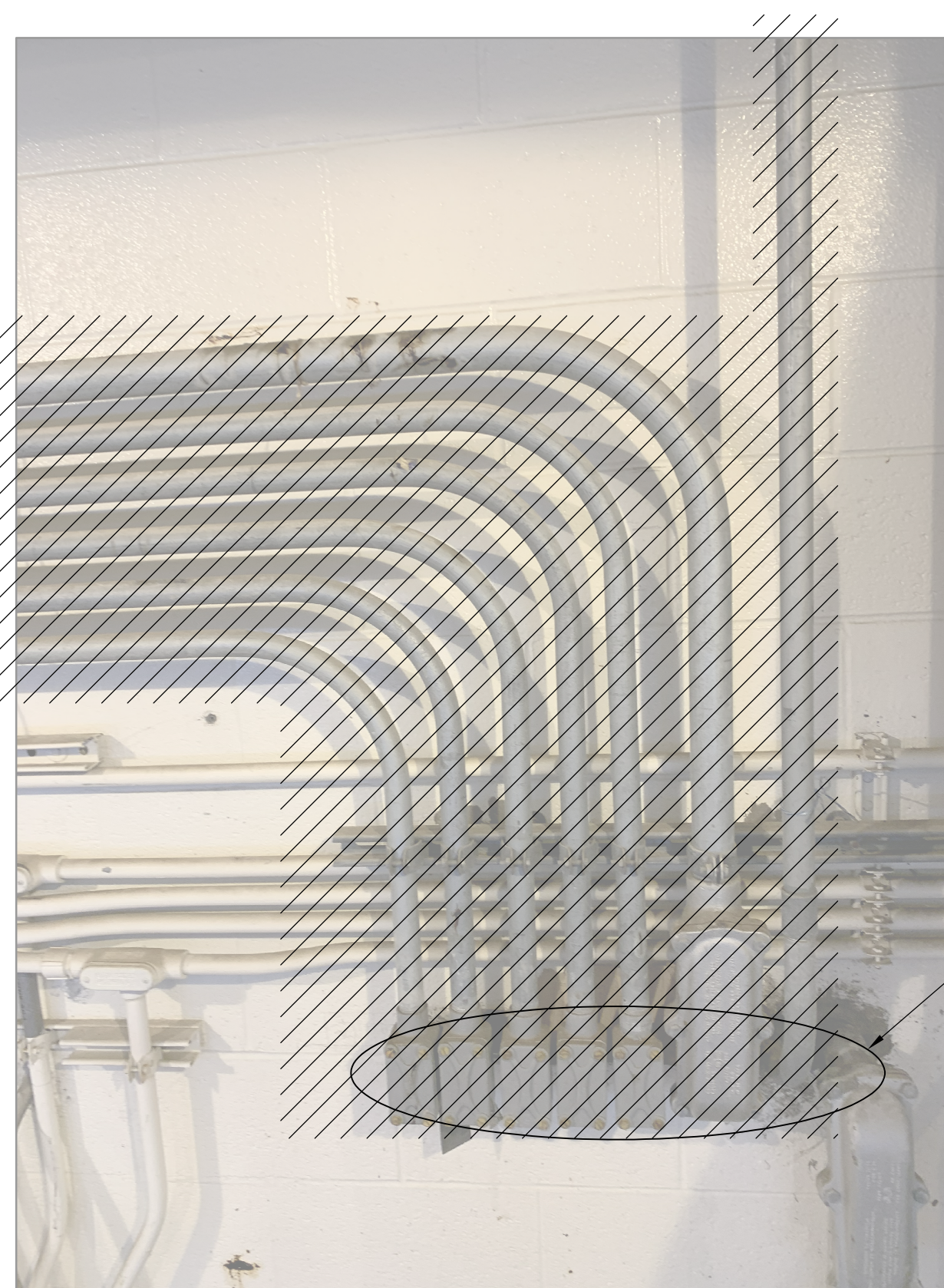
EXISTING BARSCREEN LCP AND DS
SECTION 3
NOT TO SCALE E-15



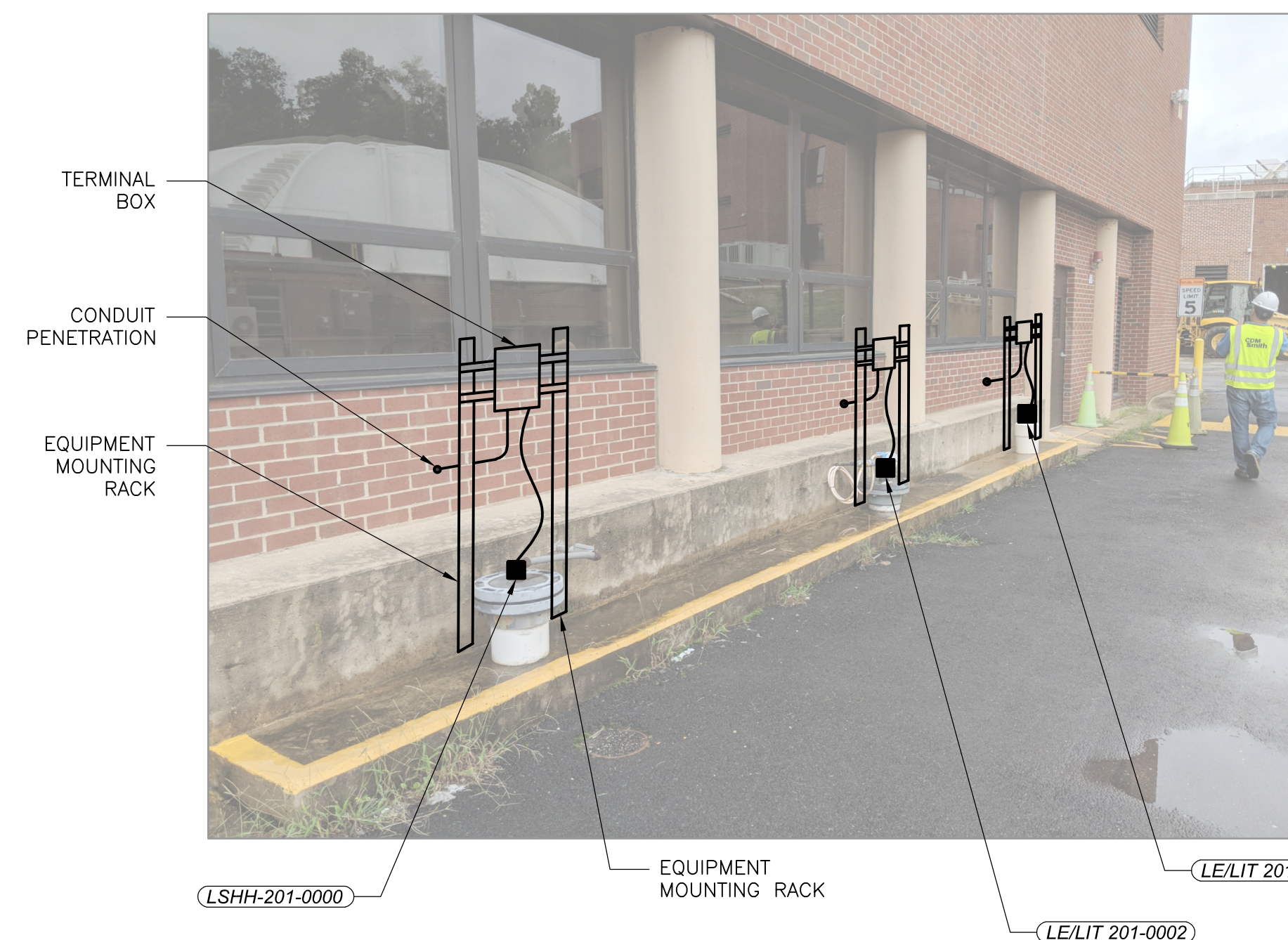
EXISTING CONDENSING UNIT AND DISCONNECT SWITCH

INSTALL NEW STRUT, EQUIPMENT MOUNTING STAND, AND DISCONNECT SWITCH ON EXISTING EQUIPMENT CURB

ROOF CONDENSING UNIT DS
SECTION 4
NOT TO SCALE E-21



EXISTING MEZZANINE CONDUITS
SECTION 5
NOT TO SCALE E-16



NOTES:

1. REFER TO DETAIL J ON SHEET E-24 FOR INSTALLATION OF EQUIPMENT MOUNTING RACK AND CONDUIT PENETRATION.

OUTDOOR LE/LIT & LSHH INSTRUMENTS
SECTION 6
NOT TO SCALE E-19

GENERAL NOTES:

- CONTRACTOR MAY RE-USE EXISTING CONDUITS FOR NEW WIRES. PROVIDE NEW EXPLOSION-PROOF SEALOFFS PER NEC WHERE RE-USE OF EXISTING CONDUITS TRANSITION FROM UNCLASSIFIED TO HAZARDOUS (CLASSIFIED) AREAS.
- PRIOR TO INSTALLING AND PULLING NEW WIRES IN EXISTING CONDUITS, THOROUGHLY CLEAN CONDUITS, FITTINGS, JUNCTION BOXES, TERMINAL BOXES, ETC. USE RUBBER OR PLASTIC MANDREL FOR INTERIOR CONDUIT CLEANING.

KEYED NOTES:

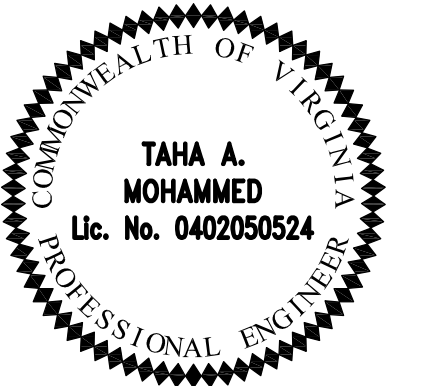
- EXISTING CONDUIT PENETRATIONS TRANSITIONING FROM THE SCREEN ROOM MEZZANINE LEVEL TO THE UNCLASSIFIED AREAS.



DEPARTMENT OF ENVIRONMENTAL SERVICES
WATER POLLUTION CONTROL BUREAU
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APPROVALS DATE

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Revisions Date

Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
ELECTRICAL
SECTION PHOTOS I

Designed: R. MAGSIPOC
Drawn: R. MAGSIPOC
Checked: T. MOHAMMED
Miss Utility Transmittal #:

Filename: E017DMPL.dwg
Path: c:\pw_gil\magsipocm\41255086
Plotted: December 28, 2020
Plotted by: MAGSIPOCRM

Scale: AS NOTED

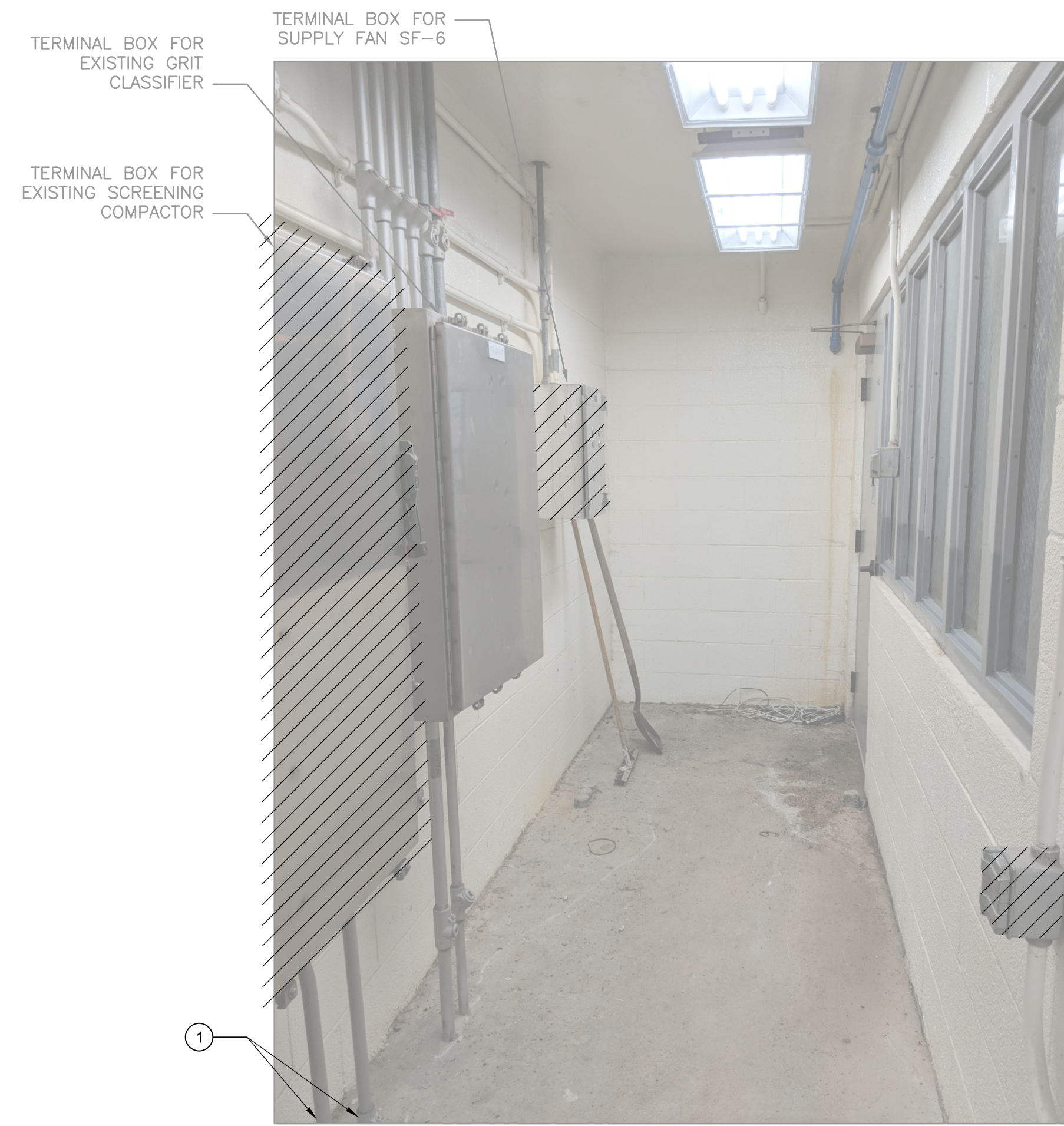


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E-17

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EXISTING MARSHALLING ROOM PANELS
SECTION 7
 NOT TO SCALE E-15



EXISTING MARSHALLING ROOM PANELS
SECTION 8
 NOT TO SCALE E-15

GENERAL NOTES:

1. CONTRACTOR MAY RE-USE EXISTING CONDUITS FOR NEW WIRES. PROVIDE NEW EXPLOSION-PROOF SEALOFFS PER NEC WHERE RE-USE OF EXISTING CONDUITS TRANSITION FROM UNCLASSIFIED TO HAZARDOUS (CLASSIFIED) AREAS.
2. PRIOR TO INSTALLING AND PULLING NEW WIRES IN EXISTING CONDUITS, THOROUGHLY CLEAN CONDUITS, FITTINGS, JUNCTION BOXES, TERMINAL BOXES, ETC. USE RUBBER OR PLASTIC MANDREL FOR INTERIOR CONDUIT CLEANING.

KEYED NOTES:

- ① EXISTING CONDUIT PENETRATIONS TRANSITIONING TO THE SCREEN ROOM FIRST FLOOR.
- ② EXISTING CONDUIT PENETRATIONS TRANSITIONING TO THE SCREEN ROOM MEZZANINE LEVEL.

SEAL



APPROVALS _____ DATE _____

100% BID SET

Revisions	Date

Project Name and Location

Water Pollution Control Plant
 Preliminary Treatment Upgrades (WPB2)
 Phase 9B
ELECTRICAL
 SECTION PHOTOS II

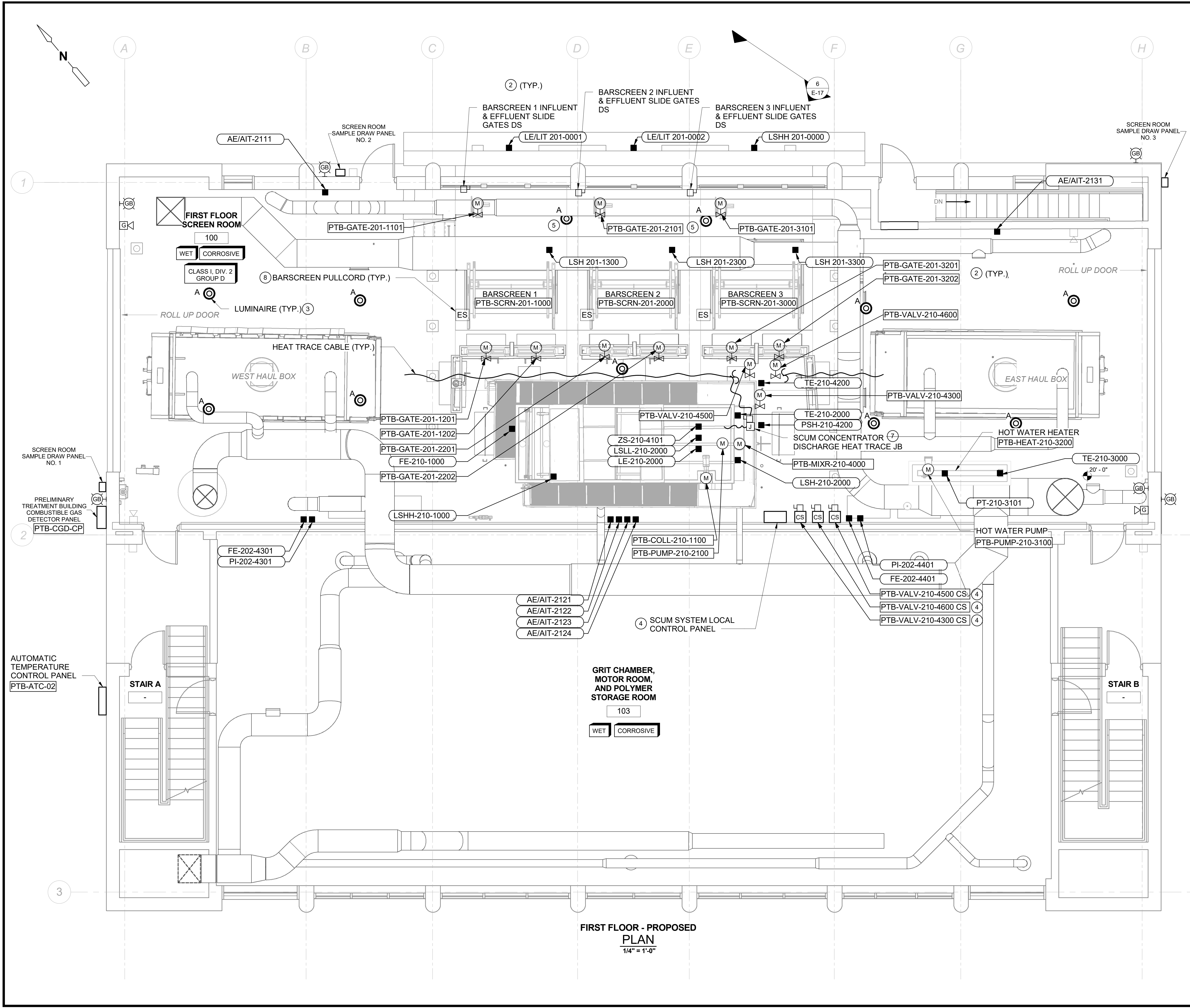
Designed: R. MAGSIPOC
 Drawn: R. MAGSIPOC
 Checked: T. MOHAMMED
 Miss Utility Transmittal #:

Filename: E018DMPL.dwg
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 Plotted: December 28, 2020
 Plotted by: MAGSIPOCRM

Scale: AS NOTED



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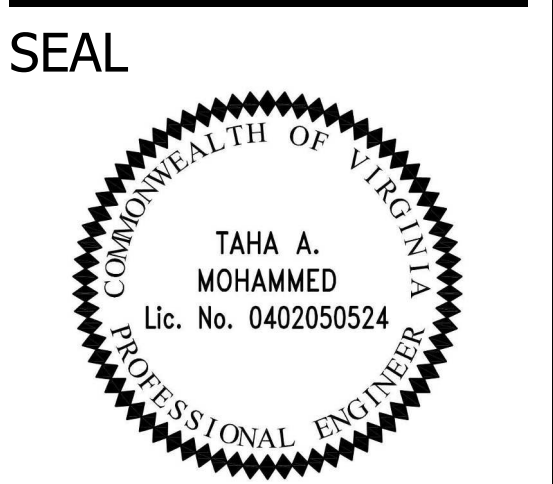
- GENERAL NOTES:**
- CONTRACTOR MAY RE-USE EXISTING CONDUITS FOR NEW WIRES. PROVIDE NEW EXPLOSION-PROOF SEALOFFS PER NEC WHERE RE-USE OF EXISTING CONDUITS TRANSITION FROM UNCLASSIFIED TO HAZARDOUS (CLASSIFIED) AREAS.
 - PRIOR TO INSTALLING AND PULLING NEW WIRES IN EXISTING CONDUITS, THOROUGHLY CLEAN CONDUITS, FITTINGS, JUNCTION BOXES, TERMINAL BOXES, ETC. USE RUBBER OR PLASTIC MANDREL FOR INTERIOR CONDUIT CLEANING.
 - CONDUITS FROM THE SCREEN ROOM OR PANEL ROOM TO THE MGC ROOM OR CONTROL ROOM SHALL BE ROUTED TO THE MEZZANINE LEVEL. RE-USE EXISTING CEILING, FLOOR, OR WALL PENETRATIONS WHERE POSSIBLE.
 - MOUNT COMBUSTIBLE GAS DETECTOR SENSORS/TRANSMITTERS 48-INCHES ABOVE FURNISHED FLOORS.
 - EQUIPMENT LOCATIONS SHOWN ON THIS DRAWING ARE APPROXIMATE. REFER TO PROCESS MECHANICAL DRAWINGS FOR LOCATIONS.
 - ALL MATERIALS SHALL BE SUITABLE FOR THE AREA CLASSIFICATION. REFER TO DRAWING E-4 FOR AREA CLASSIFICATIONS.

- KEYED NOTES:**
- INSTALL NEW CONDUITS FROM EXISTING JUNCTION BOX TO SCREEN GATE DISCONNECT SWITCHES.
 - ROUTE CONDUITS ALONG CEILING AND DROP DOWN AT EQUIPMENT.
 - INSTALL NEW LUMINAIRES IN THE SAME LOCATION AS THE DEMOLISHED EXISTING LUMINAIRES. MOUNTING HEIGHTS SHALL MATCH EXISTING LUMINAIRE MOUNTING HEIGHTS.
 - COORDINATE LOCATION OF CP, CS, AND DS WITH PROCESS MECHANICAL PIPING. REFER TO PROCESS MECHANICAL DRAWINGS FOR PIPE SIZE, TYPE, AND LOCATION. PROVIDE DRIP PANS ABOVE EQUIPMENT THAT IS LOCATED UNDERNEATH PIPING.
 - INSTALL NEW LUMINAIRES BELOW DUCTWORK. PROVIDE NEW CONDUIT AND WIRE.
 - NOT USED
 - REFER TO PROCESS MECHANICAL DRAWINGS FOR LENGTH OF PIPING TO BE HEAT TRACED.
 - INSTALL MANUFACTURER PULLCORDS ALONG RAILING OF THE BARSCREEN.



DEPARTMENT OF ENVIRONMENTAL SERVICES
 WATER POLLUTION CONTROL BUREAU
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Revisions	Date

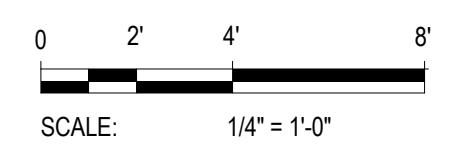
Project Name and Location
Water Pollution Control Plant
 Preliminary Treatment Upgrades (WPB2)
 Phase 9B
 PRELIMINARY TREATMENT BUILDING
 FIRST FLOOR
 PROPOSED PLAN

Designed: R. MAGSIPOC
 Drawn: B. CHARIS-MOLLING
 Checked: T. MOHAMMED
 Miss Utility Transmittal #:
 Filename: EEZ000PT.rvt
 Path: R:\d1295022\EEZ000PT.rvt
 Plotted: DECEMBER 17, 2020
 Plotted by: B. CHARIS-MOLLING

Scale: AS NOTED



Sht. 92 of 97
 E-19



FIRST FLOOR - PROPOSED PLAN
 1/4" = 1'-0"

SEAL



APPROVALS DATE

100% BID SET

Revisions Date

Revisions	Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2)
Phase 9B
PRELIMINARY TREATMENT BUILDING
SECOND FLOOR
PROPOSED PLAN

Designed: R. MAGSIPOC
Drawn: B. CHARIS-MOLLING
Checked: T. MOHAMMED
Miss Utility Transmittal #:

Filename: EEZ000PT.rvt
Path: R:\d1295022\EEZ000PT.rvt
Plotted: DECEMBER 17, 2020
Plotted by: B. CHARIS-MOLLING

Scale: AS NOTED



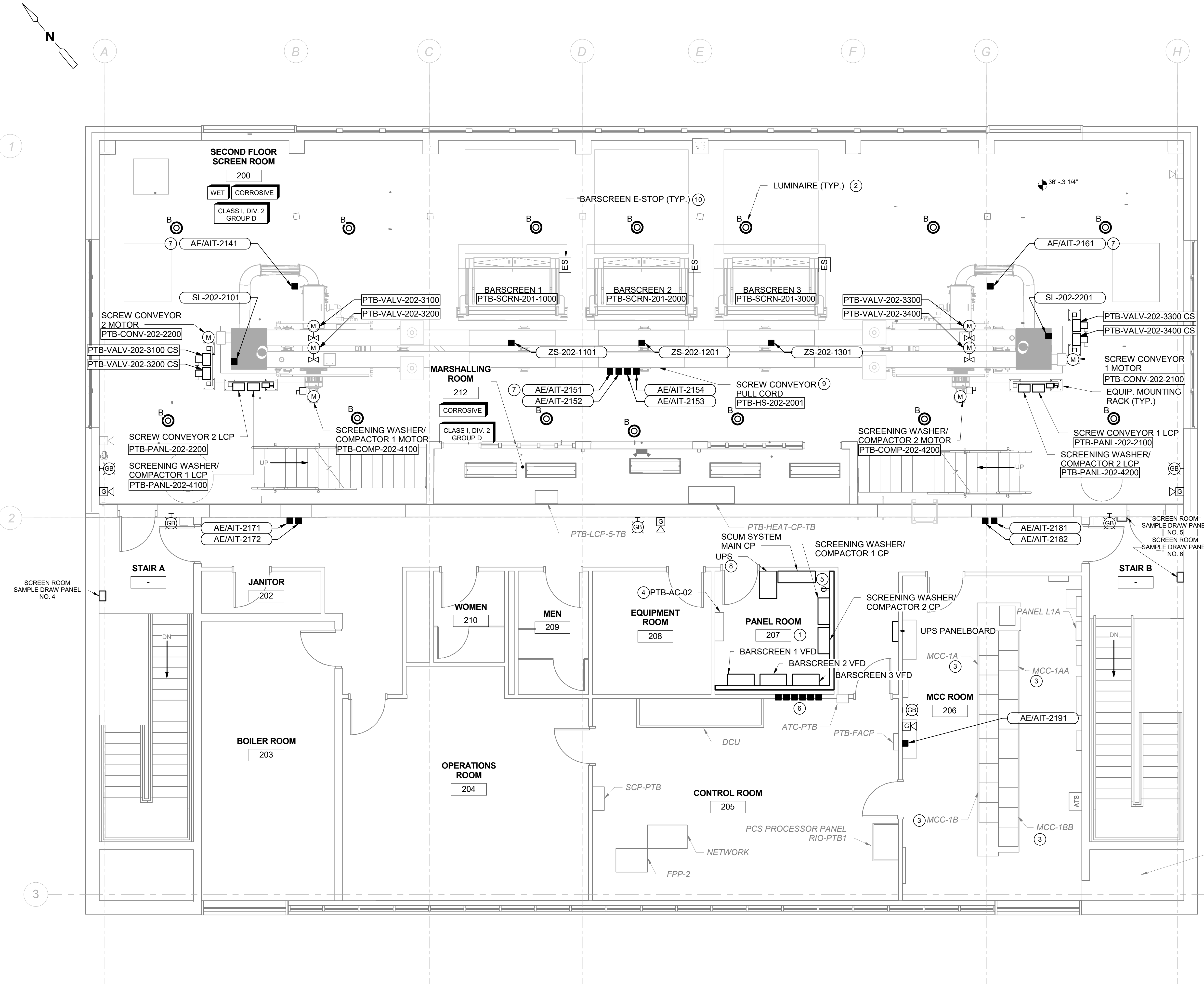
10560 Arrowhead Drive, Suite 500
FAIRFAX, VA 22030

GENERAL NOTES:

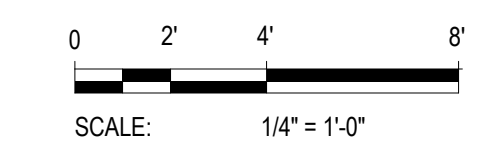
- CONTRACTOR MAY RE-USE EXISTING CONDUITS FOR NEW WIRES. PROVIDE NEW EXPLOSION-PROOF SEALOFFS PER NEC WHERE RE-USE OF EXISTING CONDUITS TRANSITION FROM UNCLASSIFIED TO HAZARDOUS (CLASSIFIED) AREAS.
- PRIOR TO INSTALLING AND PULLING NEW WIRES IN EXISTING CONDUITS, THOROUGHLY CLEAN CONDUITS, FITTINGS, JUNCTION BOXES, TERMINAL BOXES, ETC. USE RUBBER OR PLASTIC MANDREL FOR INTERIOR CONDUIT CLEANING.
- CONDUITS FROM THE SCREEN ROOM OR PANEL ROOM TO THE MCC ROOM OR CONTROL ROOM SHALL BE ROUTED TO THE MEZZANINE LEVEL. RE-USE EXISTING CEILING, FLOOR, OR WALL PENETRATIONS WHERE POSSIBLE.
- INSTALL NEW HORNS AND STROBES IN THE SAME LOCATION AS THE DEMOLISHED HORNS AND STROBES.
- MOUNT COMBUSTIBLE GAS DETECTOR SENSORS/TRANSMITTERS 48 INCHES ABOVE FURNISHED FLOOR
- ALL MATERIALS SHALL BE SUITABLE FOR THE AREA CLASSIFICATION. REFER TO DRAWING E-4 FOR AREA CLASSIFICATIONS.

KEYED NOTES:

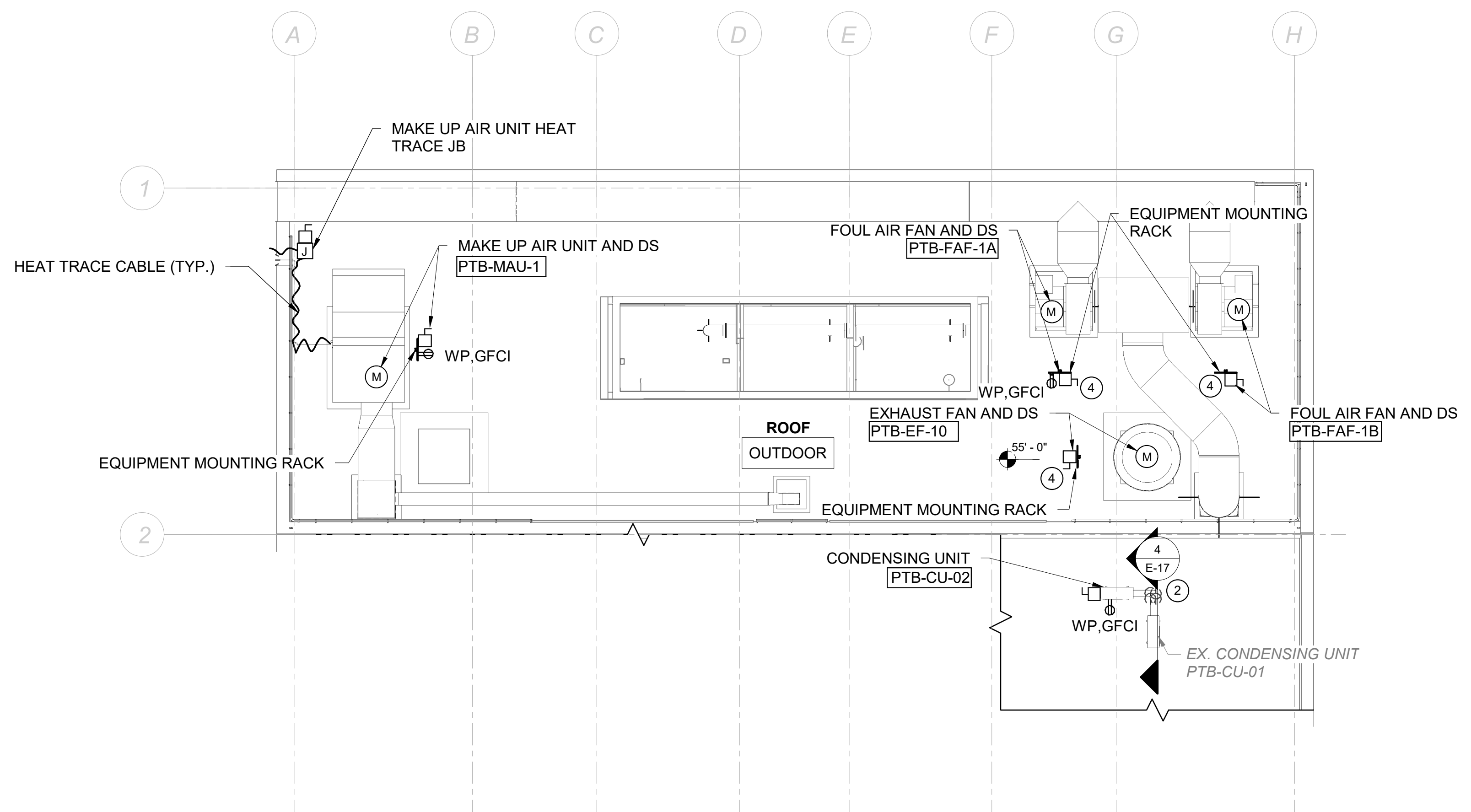
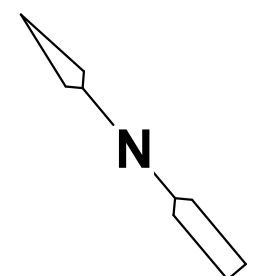
- CLEAN EXISTING LUMINAIRE LAMPS AND HOUSING, AND INSTALL IN NEW CEILING GRID. RE-USE EXISTING CONDUITS, WIRES, AND LIGHT SWITCHES. REFER TO ARCHITECTURAL DRAWINGS FOR REFLECTED CEILING PLAN.
- INSTALL NEW LUMINAIRES IN THE SAME LOCATION AS THE DEMOLISHED EXISTING LUMINAIRES. MOUNTING HEIGHTS SHALL MATCH EXISTING LUMINAIRE MOUNTING HEIGHTS.
- REFER TO SHEETS E-5 THROUGH E-8 FOR MCC-1 MODIFICATIONS.
- PTB-AC-02 SHALL BE POWERED FROM PTB-CU-01 LOCATED ON THE ROOF. CONDUIT AND WIRE SHALL BE PROVIDED BY THE HVAC CONTRACTOR. REFER TO SHEET H-2.
- INSTALL RECEPTACLE ON FALSE WALL AND RE-USE EXISTING WIRES.
- REMOTE TRANSMITTERS PIT 202-4301, PIT 202-4401, FIT 202-4301, FIT 202-4401, FIT 210-1000, TIT 210-4200
- MOUNT COMBUSTIBLE GAS DETECTORS TO THE MEZZANINE STRUCTURE.
- PROVIDE A 3000VA, 120V INPUT/OUTPUT, DOUBLE CONVERSION, TOWER-STYLE UPS WITH MINIMUM 15 MINUTES RUNTIME AT 1000VA LOAD TO POWER GGD PANELS. VERTIV GXTS OR APPROVED EQUAL. PROVIDE A 4U VERTICAL WALL-MOUNT RACK BRACKET AND INSTALL VERTIV MICROPOD UPS BYPASS SWITCH IN VERTICAL RACK SUCH THAT BYPASS OPERATION SWITCH AND CABLES FACE OUTWARD TOWARD THE CENTER OF THE ROOM.
- INSTALL MANUFACTURER PULLCORD AROUND CONVEYORS.
- MOUNT E-STOP PUSHBUTTON ON BARSREEN ENCLOSURE.



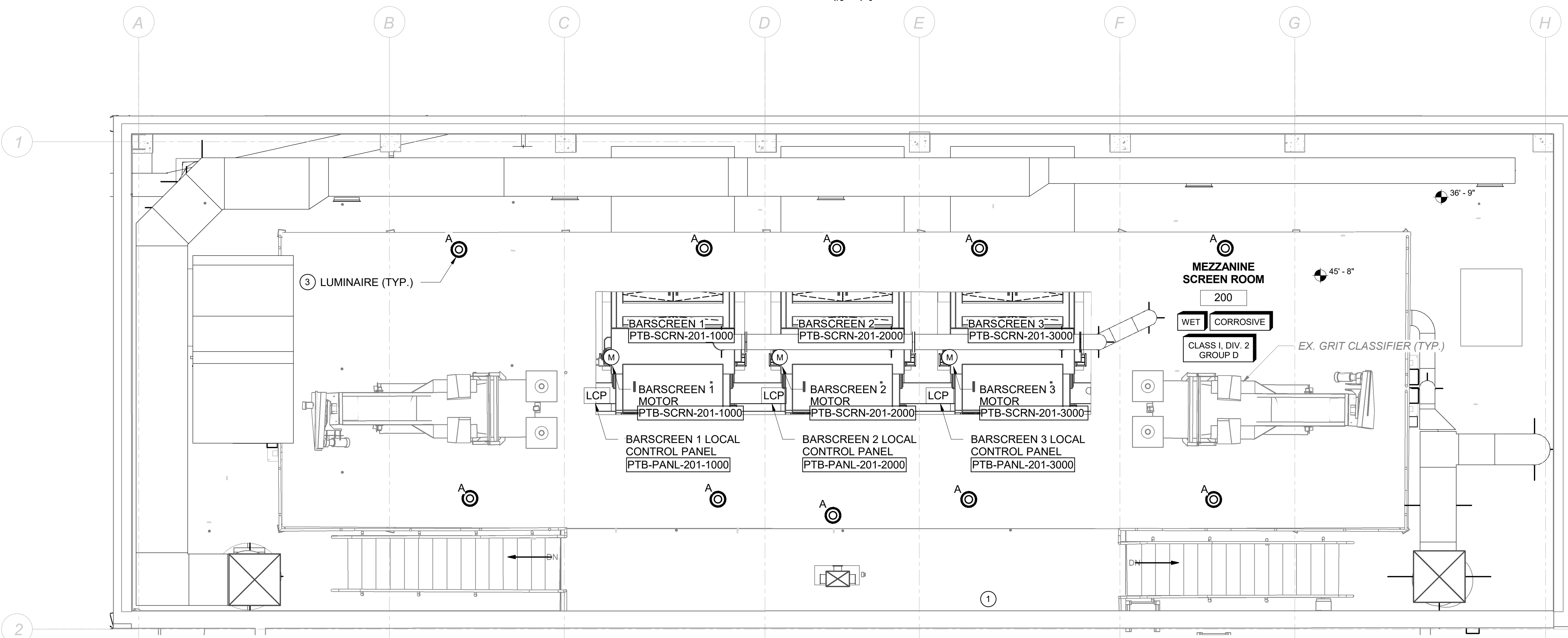
SECOND FLOOR - PROPOSED
PLAN
1/4" = 1'-0"



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PARTIAL ROOF - PROPOSED PLAN
1/8" = 1'-0"



MEZZANINE - PROPOSED PLAN
1/4" = 1'-0"

GENERAL NOTES:

1. CONTRACTOR MAY RE-USE EXISTING CONDUITS FOR NEW WIRES. PROVIDE NEW EXPLOSION-PROOF SEALOFFS PER NEC WHERE RE-USE OF EXISTING CONDUITS TRANSITION FROM UNCLASSIFIED TO HAZARDOUS (CLASSIFIED) AREAS.
2. PRIOR TO INSTALLING AND PULLING NEW WIRES IN EXISTING CONDUITS, THOROUGHLY CLEAN CONDUITS, FITTINGS, JUNCTION BOXES, TERMINAL BOXES, ETC. USE RUBBER OR PLASTIC MANDREL FOR INTERIOR CONDUIT CLEANING.
3. CONDUITS FROM THE SCREEN ROOM OR PANEL ROOM TO THE MCC ROOM OR CONTROL ROOM SHALL BE ROUTED TO THE MEZZANINE LEVEL. RE-USE EXISTING CEILING, FLOOR, OR WALL PENETRATIONS WHERE POSSIBLE.
4. ALL MATERIALS SHALL BE SUITABLE FOR THE AREA CLASSIFICATION. REFER TO DRAWING E-4 FOR AREA CLASSIFICATIONS.

KEYED NOTES:

1. CONTRACTOR MAY UTILIZE EXISTING CONDUIT FROM UNCLASSIFIED TO HAZARDOUS (CLASSIFIED) AREAS FOR NEW EQUIPMENT. INSTALL NEW EXPLOSION PROOF SEALOFFS PER NEC.
2. RE-USE EXISTING ROOF PENETRATIONS FOR FEEDERS TO PTB-CU-02.
3. INSTALL NEW LUMINAIRES IN THE SAME LOCATION AS THE DEMOLISHED EXISTING LUMINAIRES. MOUNTING HEIGHTS SHALL MATCH EXISTING LUMINAIRE MOUNTING HEIGHTS.
4. DISCONNECT SWITCHES AND RECEPTACLES WILL BE LOCATED OUTSIDE THE HAZARDOUS AREAS. IF DISCONNECT SWITCHES ARE LOCATED IN THE HAZARDOUS AREA, THEY WILL BE EXPLOSION-PROOF AND RATED FOR THE AREA WHERE THEY ARE INSTALLED.

SEAL



APPROVALS DATE

100% BID SET

Revisions Date

Project Name and Location
Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2) Phase 9B
PRELIMINARY TREATMENT BUILDING MEZZANINE AND PARTIAL ROOF PROPOSED PLANS

Designed: R. MAGSIPOC
Drawn: B. CHARIS-MOLLING
Checked: T. MOHAMMED
Miss Utility Transmittal #:

Filename: EEZ000PT.rvt
Path: R:\d1295022\EEZ000PT.rvt
Plotted: DECEMBER 17, 2020
Plotted by: B. CHARIS-MOLLING

Scale: AS NOTED



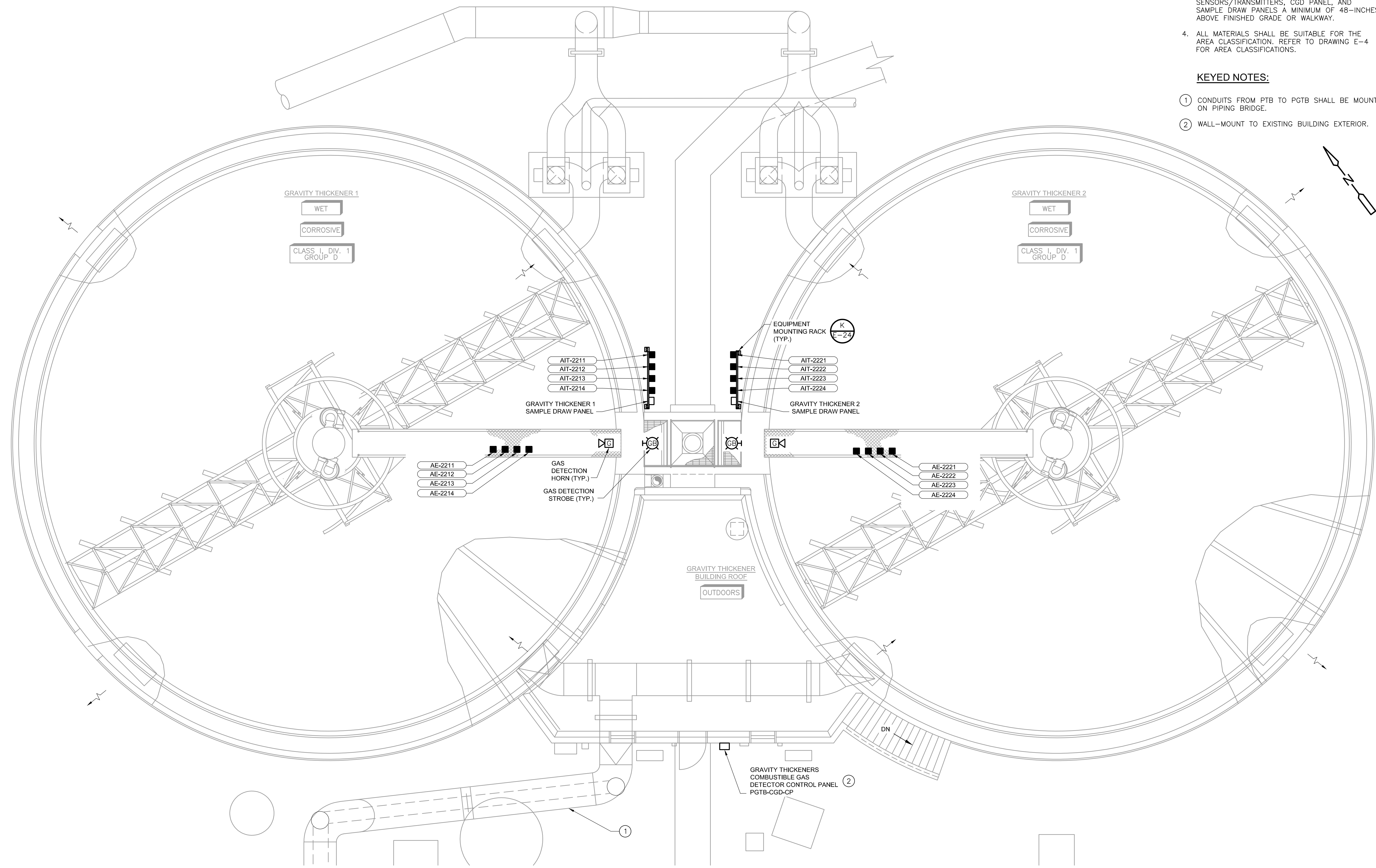
10560 Arrowhead Drive, Suite 500
FAIRFAX, VA 22030

Sht. 94 of 97

E-21

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GENERAL NOTES:

- EQUIPMENT LOCATED WITHIN THE GRAVITY THICKENERS SHALL FACE AND BE REACHABLE FROM THE WALKWAY.
- GAS DETECTION HORN AND STROBES SHALL BE MOUNTED ABOVE THE DOORS.
- MOUNT COMBUSTIBLE GAS DETECTOR SENSORS/TRANSMITTERS, CGD PANEL, AND SAMPLE DRAW PANELS A MINIMUM OF 48-INCHES ABOVE FINISHED GRADE OR WALKWAY.
- ALL MATERIALS SHALL BE SUITABLE FOR THE AREA CLASSIFICATION. REFER TO DRAWING E-4 FOR AREA CLASSIFICATIONS.

KEYED NOTES:

- CONDUITS FROM PTB TO PGTB SHALL BE MOUNTED ON PIPING BRIDGE.
- WALL-MOUNT TO EXISTING BUILDING EXTERIOR.



DEPARTMENT OF ENVIRONMENTAL SERVICES
 WATER POLLUTION CONTROL BUREAU
 3402 S. GLEBE ROAD
 ARLINGTON, VA 22202
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SEAL



APPROVALS _____ DATE _____

100% BID SET

Revisions _____ Date _____

Revisions	Date

Water Pollution Control Plant
 Preliminary Treatment Upgrades (WPB2)
 Phase 9B
GRAVITY THICKENERS
 PROPOSED PLAN

Designed: R. MAGSIPOC
 Drawn: T. BRENNEN
 Checked: T. MOHAMMED
 Miss Utility Transmittal #:

Filename: E022PGTB.dwg
 Path: c:\pw_gll\magsioc\m\41255086
 Plotted: December 28, 2020
 Plotted by: MAGSIPOCRM

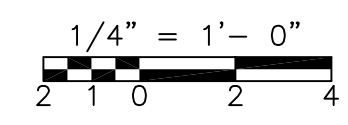
Scale: AS NOTED



Sht. 95 of 97

E-22

GRAVITY THICKENERS
PLAN
 1/4" = 1'-0"



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- GENERAL NOTES:**
- PROVIDE UPDATED TYPEWRITTEN PANELBOARD SCHEDULES. CONFIRM DESCRIPTION NAMES WITH THE OWNER PRIOR TO PRINTING.
- KEYED NOTES:**
- DISCONNECT AND REMOVE EXISTING 40A/3P CIRCUIT BREAKER AND RETURN TO OWNER. PROVIDE NEW 20A/2P CIRCUIT BREAKER.
 - REFER TO PANELBOARD SCHEDULE FOR CONDUIT AND WIRE SIZES AND QUANTITIES.

225 AMP MAIN BREAKER		EXISTING PANELBOARD L1A				LOCATION: PTB MCC ROOM								
225 AMP BUS RATING		65 KA SHORT CIRCUIT RATING				ENCLOSURE RATING: NEMA 1								
208/120 VOLTS		ELECTRONIC GRADE: NO				MOUNTING: SURFACE								
CIRCUIT NO.	DESCRIPTION	LOAD KVA			BREAKER AMPS/POLES	NOTES	CIRCUIT NO.	DESCRIPTION	LOAD KVA			BREAKER AMPS/POLES	NOTES	
		A	B	C					A	B	C			
1	EXISTING PANEL L3		3		60 /3		2	EXISTING PANEL L1B		4		60 /3		
3				3			4							
5							6							
7	EXISTING PC-1		6		100 /3		8	EXISTING CCP	0.5			20 /1		
9			6				10	EXISTING CCP	0.5	0.5		20 /1		
11							12	EXISTING CCP			0.5	20 /1		
13	EXISTING 2ND FLOOR LIGHTING	0.5			20 /1		14	EXISTING 2ND FLOOR LIGHTING	0.5			20 /1		
15	EXISTING 2ND FLOOR LIGHTING		0.5		20 /1		16	EXISTING 2ND FLOOR LIGHTING		0.5		20 /1		
17	EXISTING 2ND FLOOR LIGHTING			1	20 /1		18	EXISTING 2ND FLOOR LIGHTING			1	20 /1		
19	EXISTING 2ND FLOOR LIGHTING	1			20 /1		20	EXISTING 2ND FLOOR LIGHTING	1			20 /2		
21	EXISTING 2ND FLOOR RECEPTACLE		0.5		20 /1		22	EXISTING 2ND FLOOR RECEPTACLE		0.5		20 /1		
23	EXISTING 2ND FLOOR RECEPTACLE			0.5	20 /1		24	AIR CONDITIONING CONDENSING UNIT			1.25	15 /2	8	
25	SCUM CONCENTRATOR DISCHARGE HEAT TRACE	0.5			20 /1	3,7	26	PTB-CU-02	1.25					
27	ROOF RECEPTACLE		0.18		20 /1	7	28	MAKEUP AIR UNIT HWS/HWR HEAT TRACE		1		20 /1	3,7	
29	EXISTING E.W.H.			1.5	30 /2		30	UPS			3	30 /2	5	
31		1.5					32							
TOTAL PHASE KVA THIS SIDE		12.5	10.18	12			TOTAL PHASE KVA THIS SIDE		7.25	6.5	9.75			
								TOTAL KVA PER PHASE		19.75	16.68	21.75		
								TOTAL THREE PHASE KVA		58.18				

NOTES:
 1. PROVIDE LOCKING HARDWARE
 3. 30 ma GFI CIRCUIT BREAKER FOR EQUIPMENT PROTECTION ONLY (HEAT TRACE)
 5. BRANCH CIRCUIT WIRING: 3/4"C, 3#12 & 1#12G
 7. BRANCH CIRCUIT WIRING: 3/4"C, 2#12 & 1#12G

NOTES CONT.:
 2. 5 ma GROUND FAULT INTERRUPTER (GFI) CIRCUIT BREAKER
 4. PROVIDE LOCKING HARDWARE & PAINT BREAKER HANDLE RED (FACP)
 6. BRANCH CIRCUIT WIRING: 3/4"C, 3#10 & 1#10G
 8. BRANCH CIRCUIT WIRING: 3/4"C, 2#10 & 1#10G

PANELBOARD SCHEDULES 1
 NOT TO SCALE



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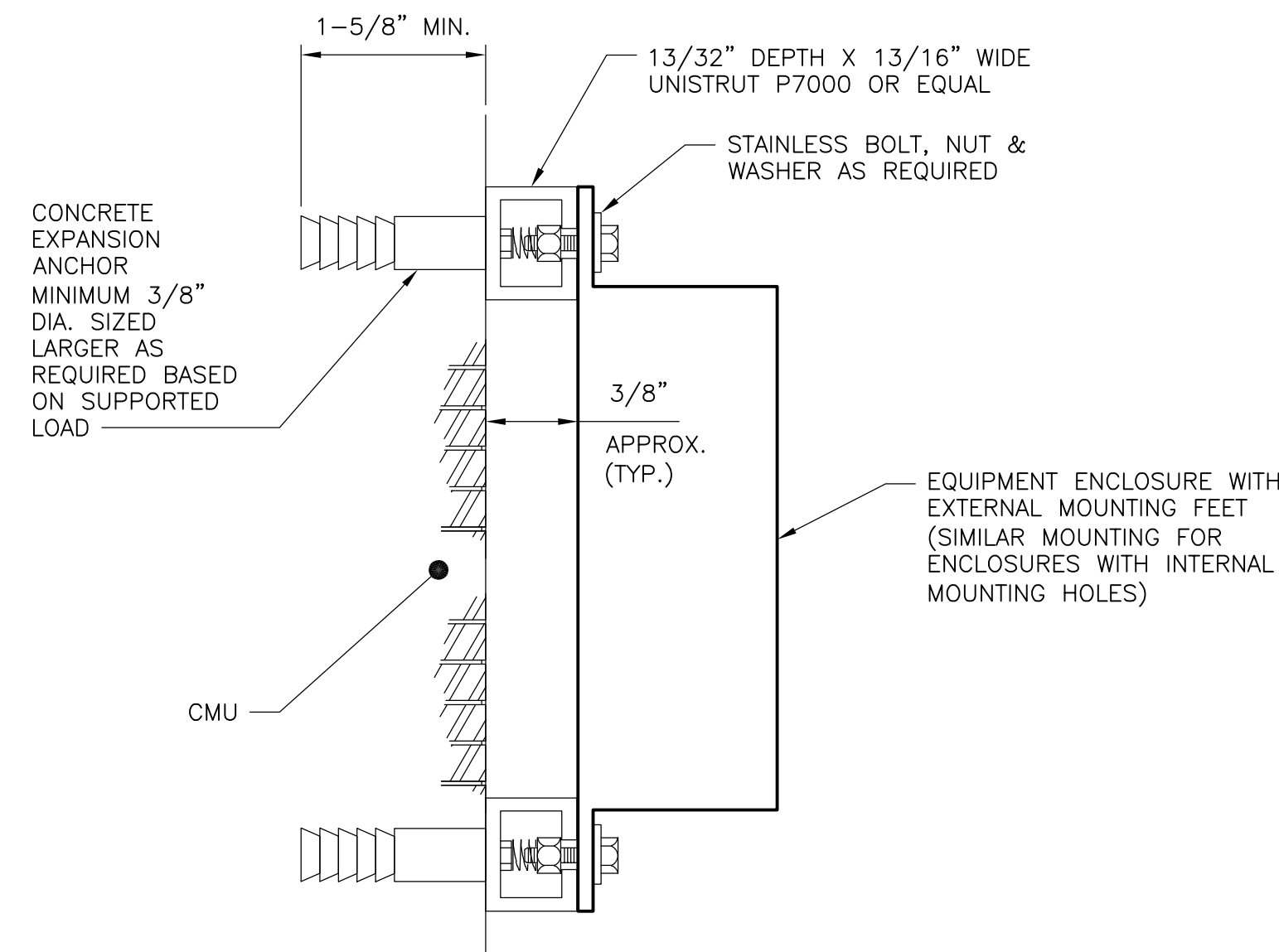
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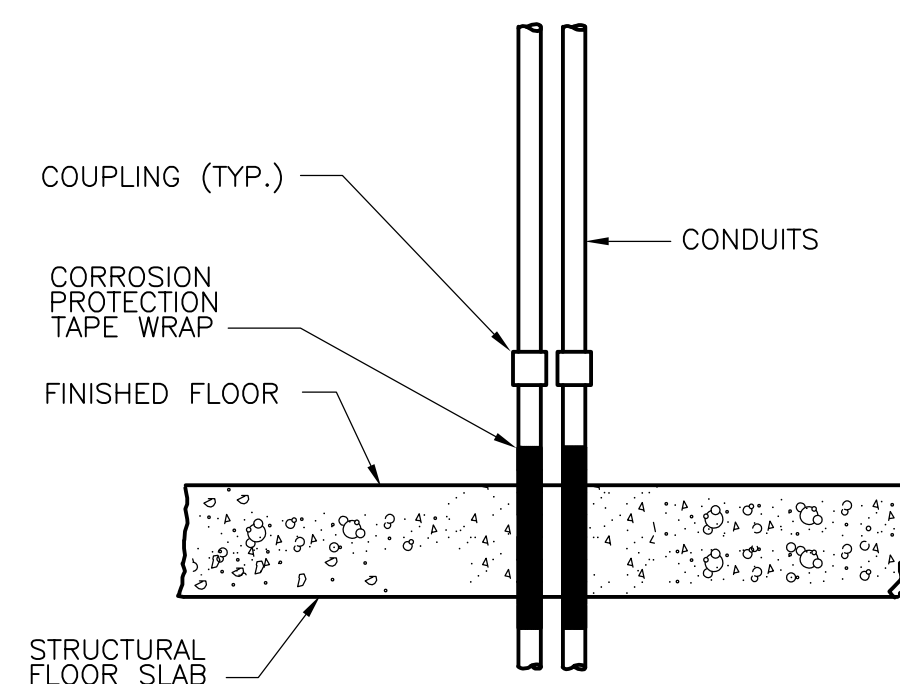


NOTE:

1. APPLICABLE FOR ALL NON CAST-IRON ENCLOSURES OR BOXES

EQUIPMENT ENCLOSURE MOUNTED ON CMU

DETAIL A
N.T.S.

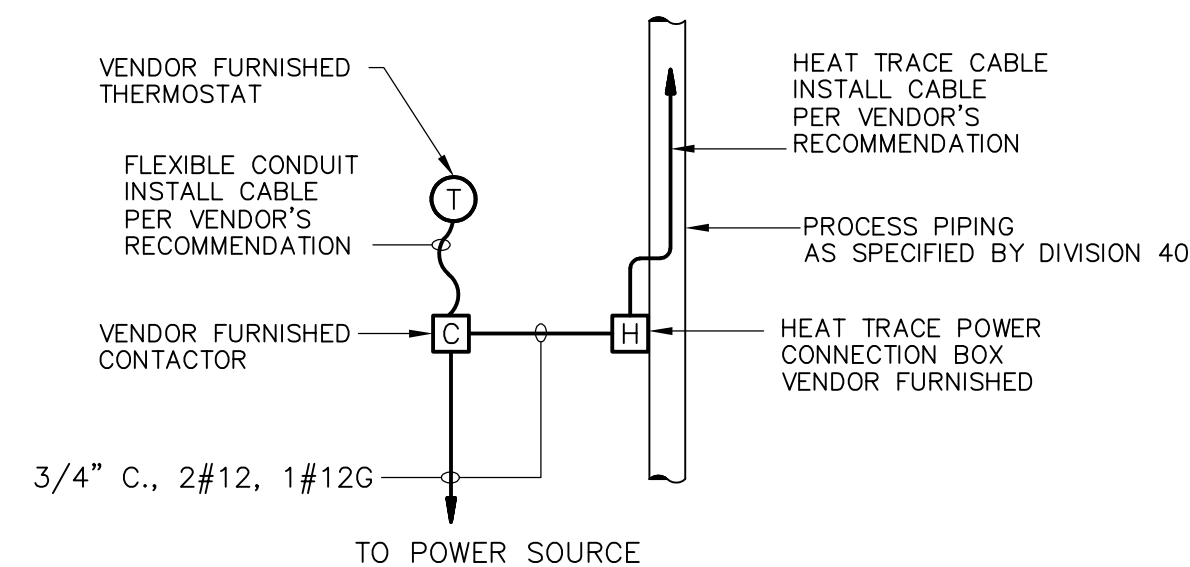


NOTES:

1. PRIOR TO CORE-DRILLING FLOOR SLAB, COORDINATE AND IDENTIFY LOCATION OF ANY STRUCTURAL REINFORCEMENT TO AVOID DURING CONDUIT PENETRATION.

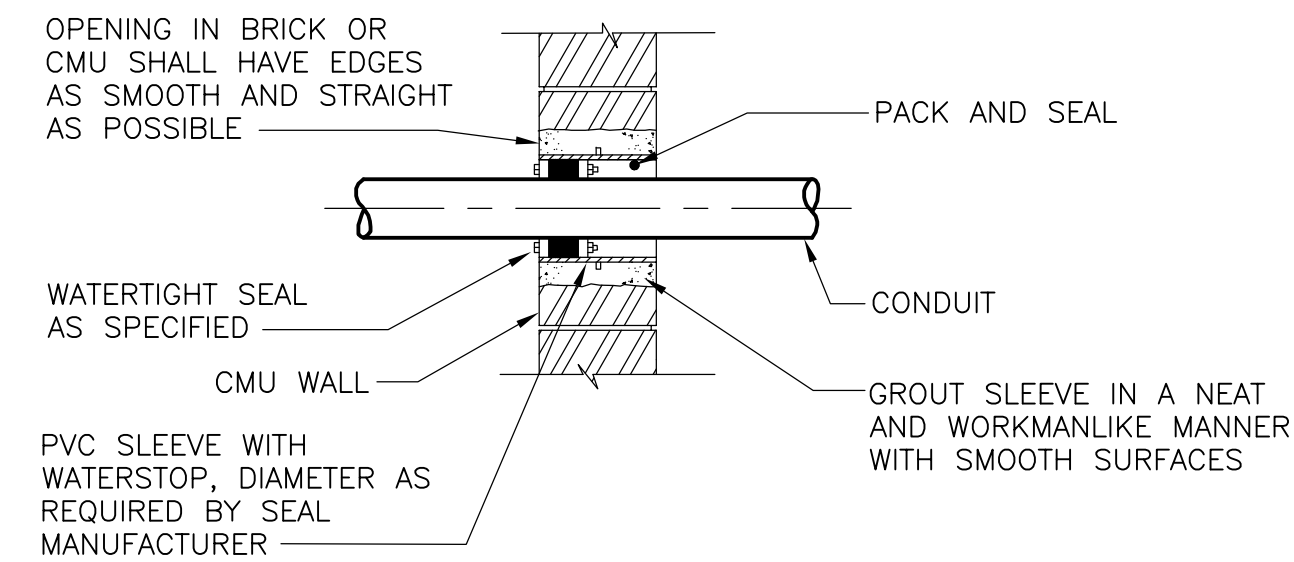
TYPICAL CONDUIT FLOOR PENETRATION

DETAIL D
N.T.S.



HEAT TRACE DETAIL

DETAIL H
N.T.S.

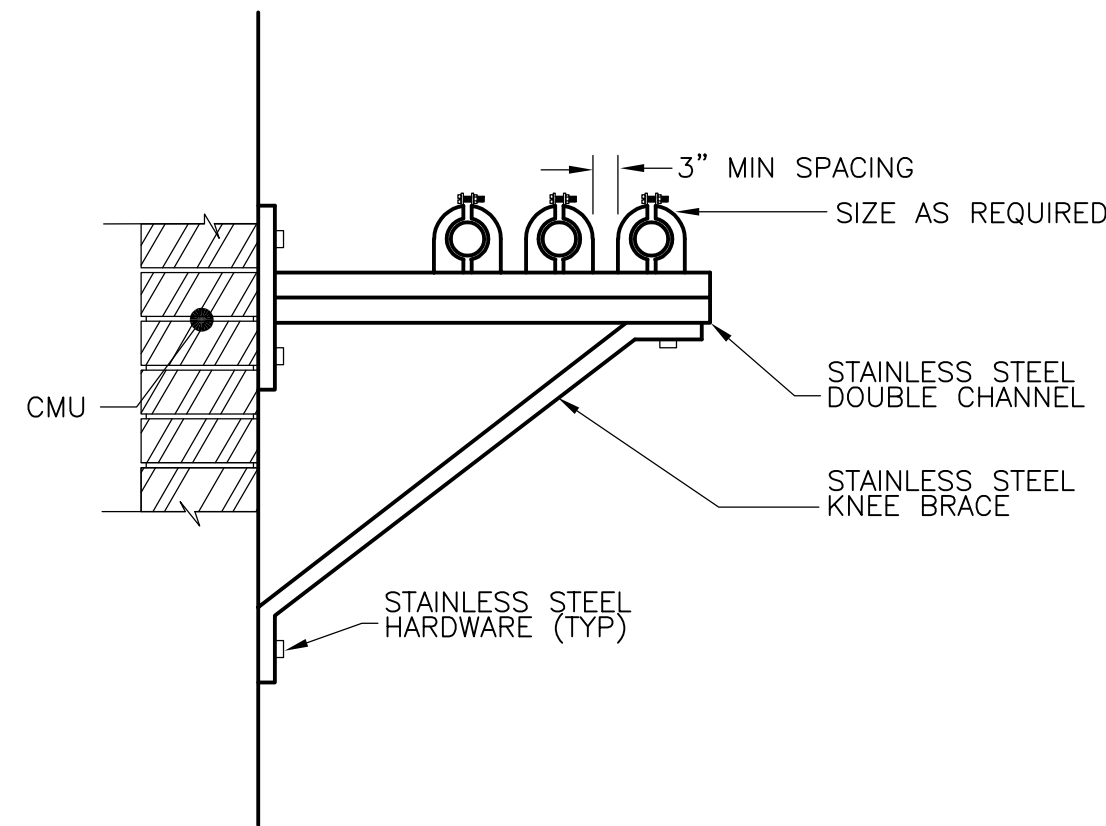


NOTES:

1. PRIOR TO CORE-DRILLING CMU, COORDINATE AND IDENTIFY LOCATIONS OF REINFORCING REBAR TO AVOID DURING PENETRATION.

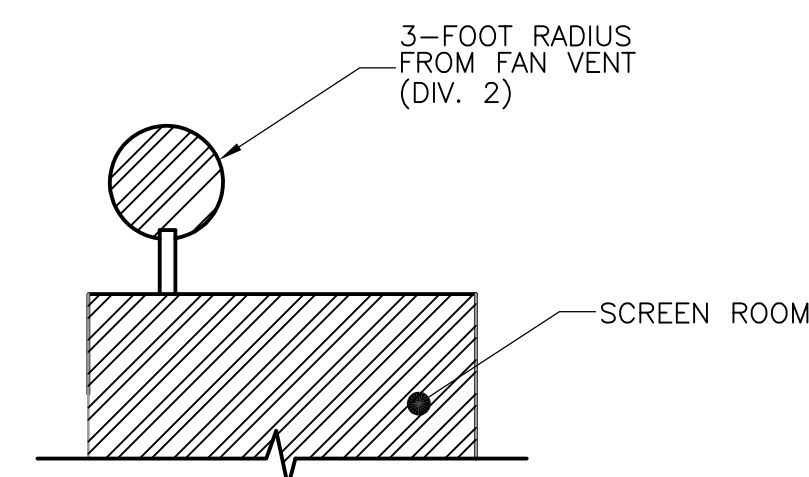
CONDUIT PENETRATION THROUGH CMU

DETAIL B
N.T.S.



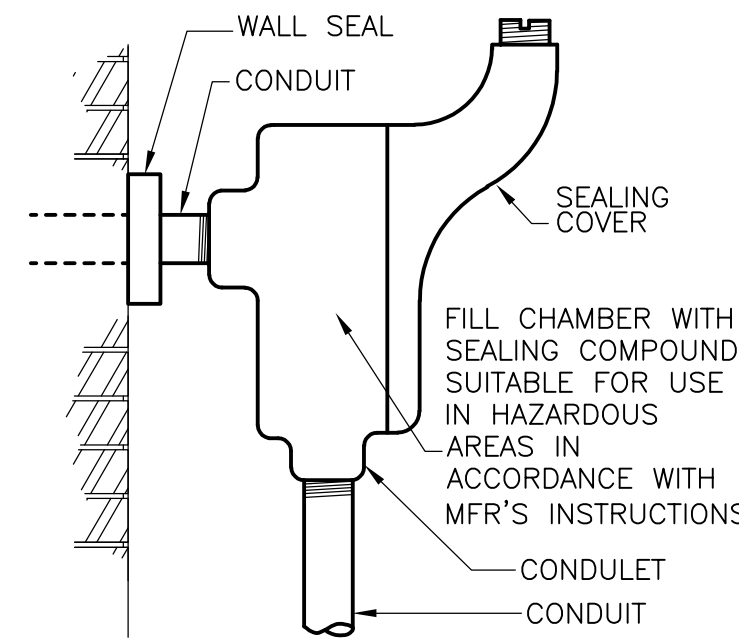
CONDUIT RACK

DETAIL E
N.T.S.



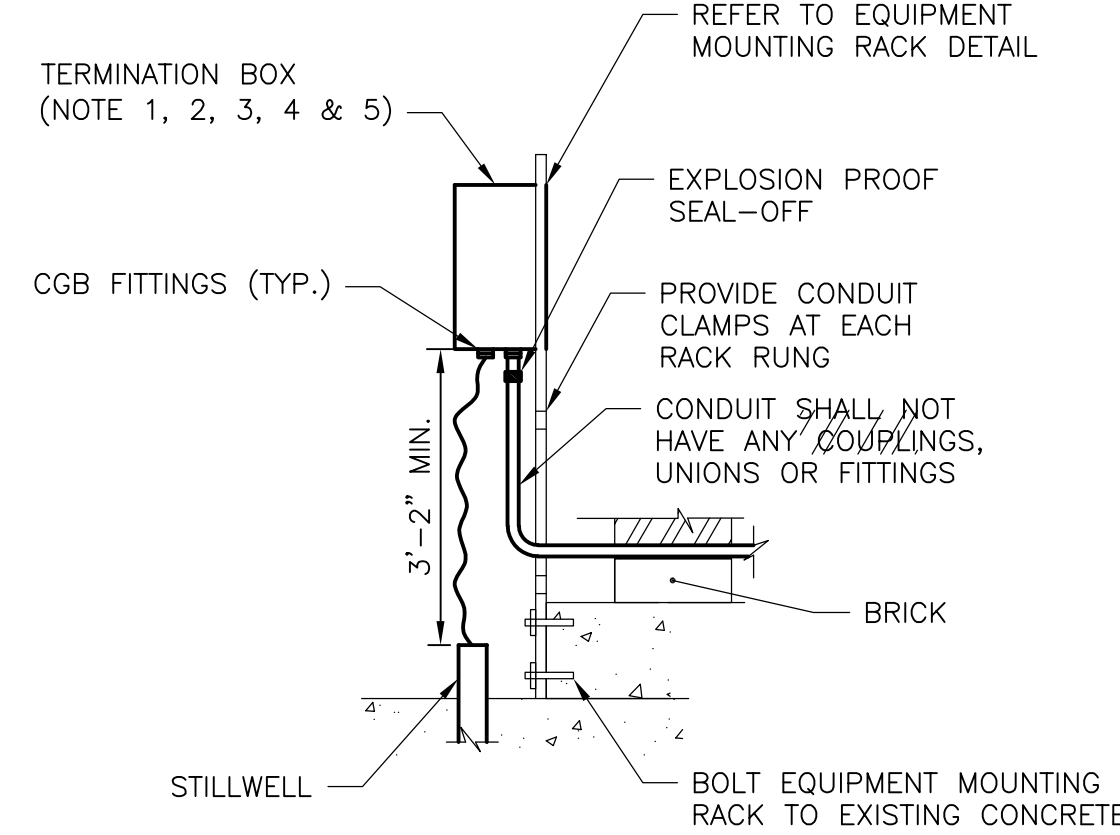
PTB ROOF HAZARDOUS AREA

DETAIL I
N.T.S.



CONDUIT SEALOFF FITTING

DETAIL F
N.T.S.

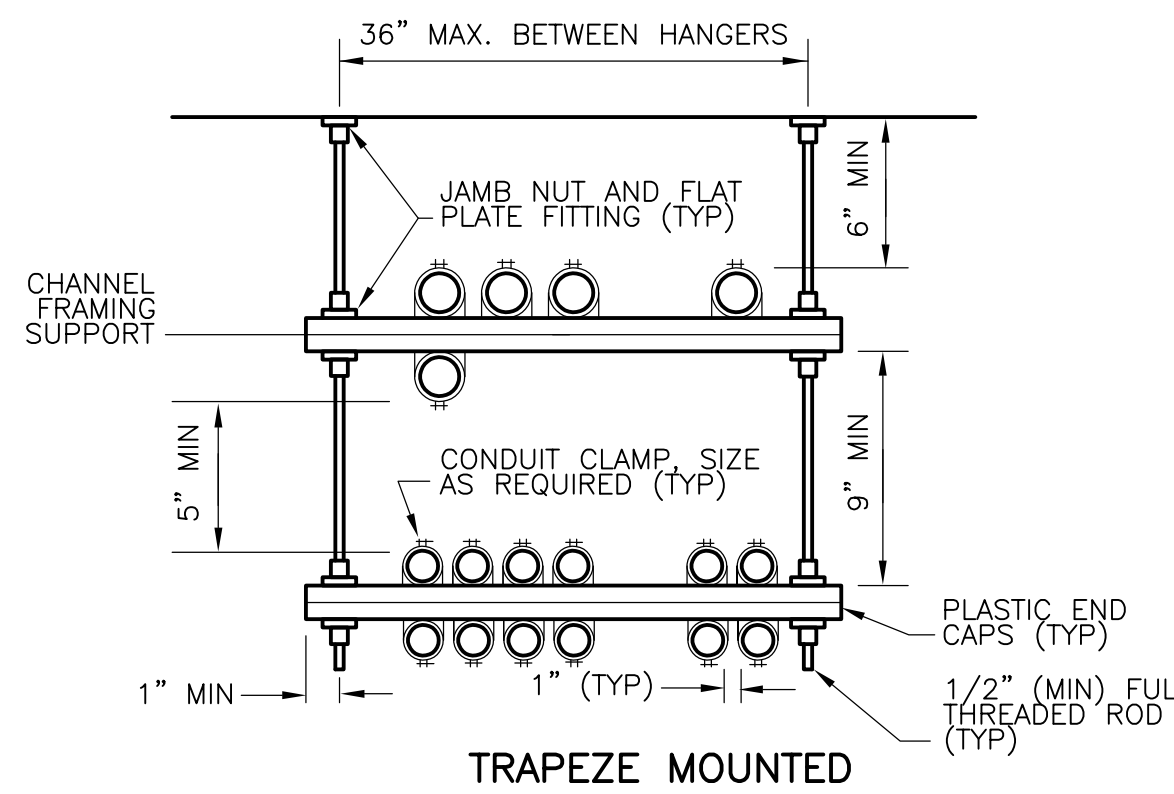


NOTES:

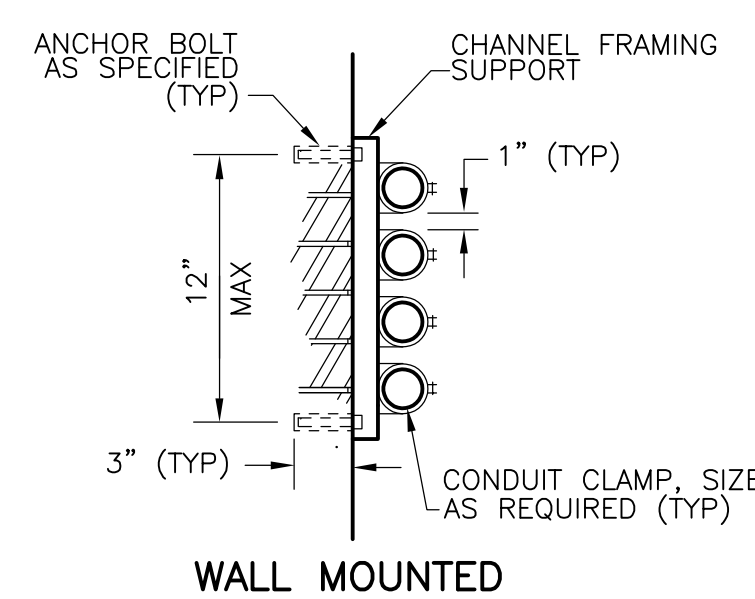
1. CABLE TERMINATION BOX.
2. PROVIDE 600V INSULATED DISTRIBUTION BLOCKS. LUGS SHALL BE DESIGNED TO ACCOMMODATE SMALL STRAND FLEXIBLE CABLES AS WELL AS STANDARD BUILDING WIRE.
3. PROVIDE GROUND BAR WITH INDIVIDUAL LUGS FOR EACH (CONDUIT AND CABLE) GROUND WIRE AND BOND TO BOX.
4. ALL MOUNTING HARDWARE SHALL BE TYPE 316 S.S.
5. SEE EQUIPMENT MOUNTING RACK RUNG CLAMP DETAIL FOR MOUNTING OF CONDUITS AND MANUFACTURER CABLES TO THE RACK.

OUTDOOR TERMINATION BOX

DETAIL J
N.T.S.



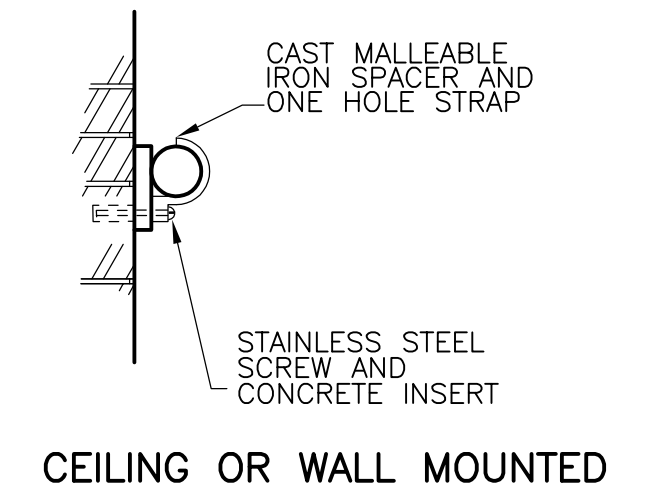
TRAPEZE MOUNTED



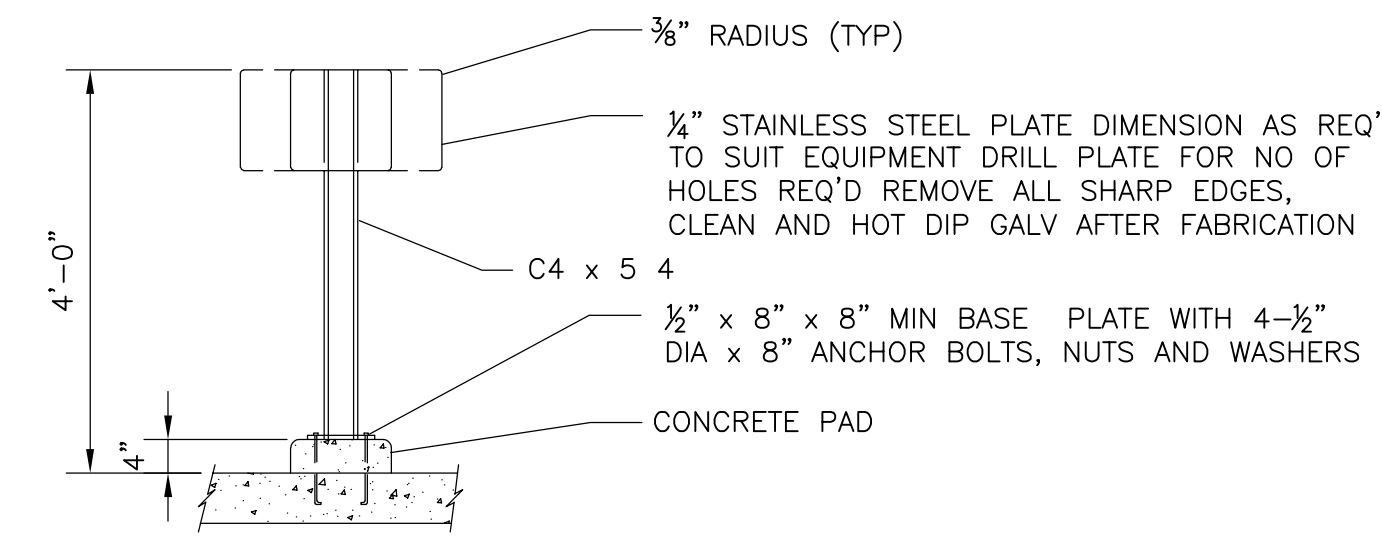
WALL MOUNTED

CONDUIT MOUNTING

DETAIL C
N.T.S.

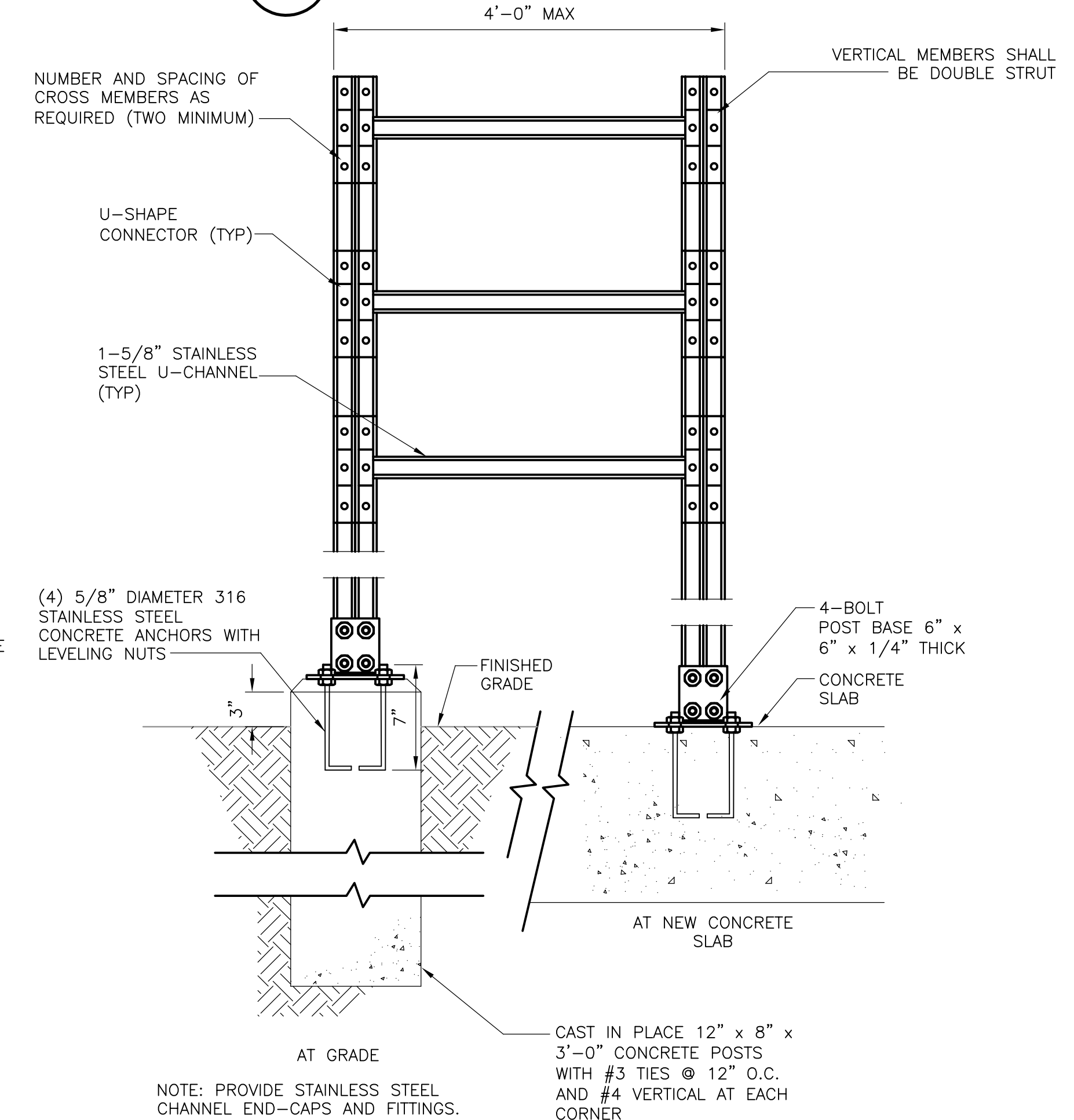


CEILING OR WALL MOUNTED



POWER DISCONNECT/CONTROL STATION MOUNTING STAND

DETAIL G
N.T.S.



EQUIPMENT MOUNTING RACK

DETAIL K
N.T.S.

HEAT TRACING SCHEDULE						
PROCESS	PIPE MATERIAL	PIPE SIZE	INSULATION	HEAT TRACE CABLE RATING	APPROXIMATE LENGTH	NOTES
CONCENTRATED SCUM	STAINLESS STEEL	1-1/2 INCHES	1-INCH MOLDED GLASS FIBER	5 W/FT	100 FEET	CLASS I, DIV. 2
HEATING WATER (MAKEUP AIR UNIT)	STEEL - SCHEDULE 40 GRADE A OR B	4-INCHES AND 6-INCHES (REFER TO HVAC DRAWINGS FOR LOCATIONS)	2-INCH MINERAL FIBER INSULATION	8 W/FT	125 FEET	UNCLASSIFIED, WET

SEAL



APPROVALS DATE

100% BID SET

Revisions Date

Revisions	Date

Water Pollution Control Plant
Preliminary Treatment Upgrades (WPB2) Phase 9B
ELECTRICAL STANDARD DETAILS I

Designed: R. MAGSIPOC
Drawn: T. BRENNEN
Checked: T. MOHAMMED
Miss Utility Transmittal #:

Filename: E024NFDT.dwg
Path: C:\pw_gbl\magsipocrm\41255086
Plotted: December 28, 2020
Plotted by: MAGSIPOCRM

Scale: AS NOTED