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# ORANGEBURG WASTEWATER TREATMENT PLANT SCREENING IMPROVEMENTS PROJECT

CONTRACT NO. RFB-RC-SWR-2023-06  
SRF PROJECT NO. C3-5368-35-00



**Environmental  
Facilities Corporation**



**FOR BID  
JUNE 2024**



ABBREVIATIONS

GENERAL		DT	DAY TANK	I	IRON	PP	POWER PANEL OR POWER	VENT	VENTILATING OR
		DWG(S)	DRAWING(S)	I&C	INSTRUMENTATION AND	PREFAB	POLE	VERT	VENTILATION
A/C	AIR CONDITIONER	DWL	DOWEL	ID	INSIDE DIAMETER	PROP	PROPOSED	VF	VANE AXIAL FAN
AB	ANCHOR BOLT	EA	EACH	IF	INSIDE FACE	PRVN	POWER ROOF VENTILATOR	VOL	VOLUME
AC	ASBESTOS CEMENT	ECC	ECCENTRIC	IN	INCH	PSF	POUNDS PER SQUARE FOOT	VTR	VENT THROUGH ROOF
ACP	AIR COMPRESSOR	ECH	ELECTRIC CABINET HEATER	INCL	INCLUDED	PSI	POUNDS PER SQUARE INCH	W	WEST OR WIDTH
ACT-MR	ACOUSTICAL CEILING TILE, MOISTURE RESISTANT	ED	EQUIPMENT DRAIN	INF	INFLUENT	PSU	POWER SUPPLY UNIT	W/	WITH
AD	AREA DRAIN	EDH	ELECTRIC DUCT HEATER	INSUL	INSULATION	PVMT	PAVEMENT	WF	WALL FAN
ADH	ADHESIVE	EDP	EMERGENCY DISTRIBUTION PANEL	INT	INTERIOR	QTY	QUANTITY	WG	WIRE GLASS
ADJ	ADJUSTABLE	EE	EACH END	IPP	INSTRUMENT POWER PANEL	RAD	RADIUS	WH	WALL HYDRANT OR WALL HEATER
AFF	ABOVE FINISHED FLOOR	EEW	EMERGENCY EYE WASH	JB	JUNCTION BOX	RECIR	RECIRCULATION	WL	WATER LEVEL
AGGR	AGGREGATE	EF	EACH FACE OR EXHAUST FAN	JCT	JUNCTION	RECT	RECTANGULAR	WM	WATER METER
AH	AIR HEATER	EFF	EFFLUENT	JT	JOINT	RED	REDUCER	WO	WITHOUT
AHU	AIR HANDLING UNIT	EHH	ELECTRICAL HANDHOLE	L	LENGTH/ANGLE	REF	REFERENCE	WP	WATERPROOF
AL-ALUM	ALUMINUM	EL	ELEVATION	LA	LINE AHEAD	REG	REGISTER	WPFG	WATER PROOFING
ALLOW	ALLOWANCE/ALLOWABLE	ELEC	ELECTRICAL LIGHTING	LAM	LABORATORY	REINF	REINFORCING	WSE	WATER SURFACE ELEVATION
ALT	ALTERNATE	ELP	ELECTRICAL MANHOLE	LAV	LAVATORY	REM	REMOVE	WSP	WEATHER STRIP
APPROX	APPROXIMATE	ENGR	ENGINEER	LAV	LAVATORY	REQD	REQUIRED	WT	WEIGHT
AR	AIR RECEIVER	ENT	ENTRANCE	LAV	LAVATORY	REST	RESTRAINED	WV	WATER VALVE
ARCH	ARCHITECTURAL	EOG	EDGE OF GRAVEL	LD	LONG LEG HORIZONTAL	REV	REVISE	WWF	WELDED WIRE FABRIC
ASB	ASBESTOS	EOP	EDGE OF PAVEMENT	LL	LIVE LOAD	RFD	REFRIGERANT AIR DRYER	WWTP	WASTEWATER TREATMENT PLANT
ASPH	ASPHALT	EPP	EMERGENCY POWER PANEL	LLH	LONG LEG HORIZONTAL	RH	ROOF HOOD		
AT	ASPHALT TILE	EPT	EPOXY	LLV	LONG LEG VERTICAL	RIO	REMOTE INPUT/OUTPUT		
ATF	AIR TERMINAL UNIT (FAN POWERED)	EQ	EQUAL	LLV	LONG LEG VERTICAL	RJ	RESTRAINED JOINT	XFMR	TRANSFORMER
ATS	AUTOMATIC TRANSFER SWITCH	EOP	EDGE OF PAVEMENT	LLV	LONG LEG VERTICAL	RM	ROOM	XMH	EXISTING MANHOLE
ATU	AIR TERMINAL UNIT	EPP	EMERGENCY POWER PANEL	LLV	LONG LEG VERTICAL	RND	ROUND		
B	BORING	EPT	EPOXY	LLV	LONG LEG VERTICAL	RO	ROUGH OPENING	YH	YARD HYDRANT
BC	BOILER CHEMICALS	EQPT	EQUIPMENT	LLV	LONG LEG VERTICAL	RPM	REVOLUTIONS PER MINUTE	YI	YARD INLET
BD	BOARD	ERH	ELECTRIC WIRE ROPE HOIST	LLV	LONG LEG VERTICAL	RPZ	REDUCED PRESSURE ZONE ASSEMBLY	YD	YARD
BDD	BACKDRAFT DAMPER	ES	EMERGENCY SHOWER OR EMERGENCY SWITCH	LLV	LONG LEG VERTICAL	RR	RAILROAD	YR	YEAR
BF	BLIND FLANGE	ES/EEW	EMERGENCY SHOWER AND EYEWASH	LLV	LONG LEG VERTICAL	RT	RIGHT		
BFE	BOTTOM OF FITTING ELEV	ET	EXPANSION TANK	LLV	LONG LEG VERTICAL	RTU	REMOTE TERMINAL UNIT		
BH	BASEBOARD HEATER	EUH	ELECTRIC UNIT HEATER	LLV	LONG LEG VERTICAL	R/W OR ROW	RIGHT OF WAY		
BITUM	BITUMINUS	EW	EACH WAY	LLV	LONG LEG VERTICAL	S	SOUTH OR SLOPE		
BLDG	BUILDING LINE	EW	ELECTRIC WATER COOLER	LLV	LONG LEG VERTICAL	SB	SOIL BORING		
BLK	BLOCK	EW	ELECTRIC WATER HEATER	LLV	LONG LEG VERTICAL	SBL	SURVEY BASELINE		
BLW	BLOWER	EW	ELECTRIC WATER HEATER	LLV	LONG LEG VERTICAL	SBU	SODIUM BISULFITE		
BM	BENCH MARK	EW	ELECTRIC WATER HEATER	LLV	LONG LEG VERTICAL	SBMP	SCHEDULE		
BOC	BACK OF CURB	EXC	EXCAVATE	LLV	LONG LEG VERTICAL	SCG	SLUICE GATE		
BOM	BOTTOM OF MASONRY	EXP	EXPANSION	LLV	LONG LEG VERTICAL	SCR	SELECTIVE CATALYTIC REDUCTION		
BOT	BOTTOM	EXP JT	EXPANSION JOINT	LLV	LONG LEG VERTICAL	SDG	SLIDE GATE		
BRC	BRIDGE CRANE	EXT	EXTERIOR	LLV	LONG LEG VERTICAL	SECT	SECTION		
BRG	BEARING	F	FAN	LLV	LONG LEG VERTICAL	SEV	SERVICE		
BRK	BRICK	FAB	FABRICATE	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
BRL	BUILDING RESTRICTION LINE	F&C	FRAME AND COVER	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
BRZ	BRONZE	F&G	FRAME AND GRATE	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
BT	BOLT	FC	FLOOR CLEANOUT	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CB	CATCH BASIN	FCO	FLOOR CLEANOUT	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CBD	COUNTERBALANCE BACKDRAFT DAMPER	FCU	FAN COIL UNIT	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CC	COOLING COIL	FD	FLOOR DRAIN	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
C/C	CENTER TO CENTER	FDN	FOUNDATION	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CCP	CIRCULATING PUMP	FE	FIRE EXTINGUISHER/FLOW ELEMENT	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CD	CONTROL DAMPER	FEF	FIRE EXHAUST FAN	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CDWP	CONDENSER WATER PUMP	FH	FIRE HYDRANT	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CE	CONSTRUCTION EASEMENT	FIG	FIGURE	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CEM	CEMENT	FIN	FINISH	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CER	CERAMIC	FIX	FIXTURE	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CF	CUBIC FEET	FL	FLOOR	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CFM	CUBIC FEET PER MINUTE	FLEX	FLEXIBLE	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CL	CENTERLINE	FLG	FLANGE	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CLKG	CAULKING	FLXC	FLEXIBLE CONNECTION	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CPLG	COUPLING	FM	FLOW METER	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CLR	CLEAR	FOC	FIBER OPTICS CABLE	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CMU	CONCRETE MASONRY UNIT	FRF	FIREPROOF	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CO	CLEANOUT	FS	FLOW SWITCH	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
COL	COLUMN	FSD	FIRE/SMOKE DAMPER	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CONC	CONCENTRIC	FT	FEET OR FIN TUBE HEATER	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CONC	CONCRETE	FTG	FITTING	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CONST	CONSTRUCTION	FURR	FURRING OR FURRED	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CONT	CONTINUOUS	G	GATE	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CONTR	CONTRACTOR	GA	GAUGE	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CORP	CORPORATION	GAL	GALLON	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CP	CONCRETE PLANK OR CONTROL PANEL OR CONTROL POINT	GALV	GALVANIZED	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CPT	CONTROL POWER TRANSFORMER	GC	GENERAL CONTRACTOR	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CR	CONTROL RELAY	GEN	GENERATOR	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CRS	COURSE	GH	GAS INFRARED HEATER	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CSP	CHEMICAL SERVICE PUMP	GPM	GALLONS PER MINUTE	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CSSP	CHEMICAL SERVICE SUMP PUMP	GR	GRADE	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CST	CHEMICAL STORAGE TANK	GRTG	GRATING	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CT	CERAMIC TILE	GUH	GAS UNIT HEATER	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CTJ	CONTROL JOINT	GW	GUY WIRE	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CU	COPPER OR CONDENSING UNIT	GWH	GAS WATER HEATER	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
CY	CUBIC YARD	GYP	GYPSUM	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
DAD	DESICCANT AIR DRYER	HB	HOSE BIBB	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
DD	DESICCANT DRYER	HC	HEATING COIL	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
DEC	DECANT	HCP	HORIZONTAL END SUCTION CENTRIFUGAL PUMP	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
DEH	DEHUMIDIFIER	HDW	HARDWARE	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
DEM	DEMISTER	HE	HEAT EXCHANGER	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
DET	DETAIL	HEX	HEXAGONAL	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
DF	DUCT FAN OR DRINKING FOUNTAIN	HFCA	HARNESSED FLANGED COUPLING ADAPTER	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
DIA OR Ø	DIAMETER	HHRG	HYBRID HIGH RESISTANCE GROUNDING	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
DIAG	DIAGONAL	HORIZ	HORIZONTAL	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
DIM	DIMENSION	HP	HORSEPOWER OR HEAT PUMP	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
DISC	DISCONNECT	HPT	HIGH POINT	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
DISCH	DISCHARGE	HRU	HEAT RECOVERY UNIT	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
DIST	DISTRIBUTION	HRG	HIGH RESISTANCE GROUNDING	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
DJ	DISMANTLING JOINT	HSCP	HORIZONTAL SPLIT CASE PUMP	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
DKC	DOOR OPERATOR (ELECTRIC)	HUM	HUMIDIFIER	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
DL	DEAD LOAD	HVAC	HEATING, VENTILATION AND AIR CONDITIONING	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
DN	DOWN	HW	HEATING WATER BOILER	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
DOZ	DOZEN	HWB	HEATING WATER BOILER	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
DP	DISTRIBUTION PANEL	HWCH	HEATING WATER CABINET	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
DS	DISCONNECT SWITCH	HWL	HEATER	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
DIS	DOWNSTREAM	HWP	HIGH WATER LEVEL	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
		HWW	HEATING WATER PUMP	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		
		HYD	HIGHWAY HYDRAULIC	LLV	LONG LEG VERTICAL	SG	SQUARE FEET		

- GENERAL NOTES**
- DEMOLITION ACTIVITIES SHALL BE DONE IN ACCORDANCE WITH OSHA 1926 SUBPART T DEMOLITION, 1926 SUBPART Z TOXIC AND HAZARDOUS SUBSTANCES, AND 1926.1153 RESPIRABLE CRYSTALLINE SILICA.
  - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLY WITH AND ENFORCE ALL APPLICABLE SAFETY REGULATIONS.
  - CONTRACTOR SHALL MAINTAIN HEADWORKS FACILITY IN OPERATION DURING CONSTRUCTION AS DETAILED IN THE SPECIFICATIONS.
  - WORK PERFORMED UNDER THIS CONTRACT SHALL COMPLY WITH APPLICABLE FEDERAL, STATE, AND LOCAL SAFETY AND OCCUPATIONAL HEALTH LAWS AND REGULATIONS. WHERE THE REQUIREMENTS OF THE SPECIFICATION, APPLICABLE LAWS, CRITERIA, ORDINANCES, REGULATIONS, AND REFERENCED DOCUMENTS VARY, THE OWNER SHALL BE CONTACTED AND WILL PROVIDE AN INTERPRETATION FOR THE CONTRACTOR.
  - THE CONTRACTOR SHALL PROTECT ALL STRUCTURES, ROADS, PIPELINES, TREES, SHRUBBERY, GRASSED AREAS, ETC. DURING THE PROGRESS OF THE WORK AND SHALL REMOVE FROM THE SITE ALL DEBRIS AND UNUSED EQUIPMENT. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL RESTORE THE SITE AS NEATLY AS POSSIBLE TO ITS ORIGINAL CONDITION, INCLUDING THE REPLACEMENT (AT THE CONTRACTOR'S SOLE EXPENSE) OF GRASSED AND PAVED AREAS WHICH HAVE BEEN DAMAGED.
  - ALL PLANT STREETS, ROADWAYS, SECURITY AND ACCESS AREAS SHALL REMAIN UNOBTSTRUCTED DURING CONSTRUCTION. THE NEED TO TEMPORARILY BLOCK OR CLOSE OFF ANY AREA SHALL BE COORDINATED WITH THE ENGINEER, OWNER, AND PLANT SECURITY. THE OWNER'S PLANT SITE IS AN ACTIVE TRUCKING AREA. CONTRACTOR SHALL RECOGNIZE THIS AND COORDINATE ALL DELIVERIES, LARGE VEHICLES NEEDS ETC. TO THE BEST OF ITS ABILITIES.
  - THE CONTRACTOR SHALL PROVIDE ALL RIGGING, RAMPS, HOISTING, AND SHORING, AS REQUIRED FOR THE INSTALLATION OF THIS WORK INCLUDING ALL REQUIRED CALCULATIONS, SUBMITTALS, AND PERMITS.
  - ALL WORK SHALL BE PERFORMED BY LICENSED CONTRACTORS AND WORKERS EXPERIENCED IN THE TRADE HAVING JURISDICTION. ALL WORK SHALL BE SUPERVISED BY THE CONTRACTOR AT ALL TIMES.
  - ANY DEVIATION OR CHANGE IN DESIGN SHALL NOT BE MADE WITHOUT WRITTEN APPROVAL OF THE ENGINEER OR OWNER. ANY WORK INSTALLED WITHOUT PRIOR APPROVAL OF THE ENGINEER OR OWNER OR FOUND TO BE DEFECTIVE OR OF POOR QUALITY SHALL BE REPLACED BY THE CONTRACTOR AT ITS OWN EXPENSE.
  - ALL CONSTRUCTION WORK SHALL BE CONFINED TO THE AREA INDICATED ON THE DRAWINGS AND SHALL NOT BLOCK MEANS OF ACCESS/EGRESS FOR OCCUPANTS OF BUILDINGS OR OTHER PROJECTS.
  - THE CONTRACTOR SHALL COORDINATE WITH THE OWNER THE SUPPLY OF TEMPORARY POWER, POTABLE WATER, NON-POTABLE WATER, COMPRESSED AIR AND LIGHTING, AS REQUIRED TO PERFORM ITS WORK. SUCH UTILITY REQUIREMENTS ARE THE CONTRACTOR'S RESPONSIBILITY.
  - CONTRACTOR SHALL COORDINATE AND SCHEDULE ITS ACTIVITIES WITH SITE ACTIVITIES, AS TO NOT INTERFERE WITH NORMAL SITE OPERATION, AND AS REQUIRED TO NOT IMPEDE THE PROGRESS OF RELATED PROJECT WORK. SPECIAL ATTENTION SHOULD BE MADE TO RESTRICTING UNAUTHORIZED ACCESS TO THE SITE AND AVOID VANDALISM.
  - CONTRACTOR SHALL COORDINATE AND SCHEDULE ITS ACTIVITIES WITH THE OWNER, RESIDENT PROJECT REPRESENTATIVE, OTHER PROJECTS, AND ALL TRADES INVOLVED WITH THE PROJECT.
  - FOR CLASS 1, DIVISION 2 LOCATIONS, ALL EQUIPMENT FURNISHED AND CONSTRUCTION TOOLS SHALL BE RATED FOR CLASS 1, DIVISION 1. SEE AREA DESIGNATION TABLES, DRAWING G-04.

LEGEND		SYMBOLS		MATERIALS	
	BALL VALVE		REDUCER		GRADE OR EARTH
	BALL CHECK VALVE		WALL PENETRATION		ASPHALT PAVING
	BUTTERFLY VALVE		FLEXIBLE HOSE		CAST IRON
	CHECK VALVE		SINGLE LINE DRAWINGS		STEEL
	SWING CHECK VALVE		DOUBLE LINE DRAWINGS		INSULATION
	CONTROL VALVE		MECHANICAL COUPLING		WATER SURFACE
	DIAPHRAGM VALVE		WELDED JOINT		MECHANICAL PUSH-ON OR RESTRAINED JOINT
	FLUSHING CONNECTION		FLANGED JOINT		HARNESSED FLANGED ADAPTER
	GATE VALVE		MECHANICAL COUPLING		SLEEVE TYPE COUPLING
	GLOBE VALVE		HARNESSED SLEEVE TYPE COUPLING		GRATING
	MOTOR OPERATED VALVE		DISMANTLING JOINT		CHECKERED PLATE
	NEEDLE VALVE		EXPANSION JOINT		FIRE EXTINGUISHER
	PINCH VALVE		ES/EEW		CONCRETE FILL OR GROUT
	PLUG VALVE		PARTITION TYPE		CONCRETE MASONRY UNIT
	PRESSURE GAUGE WITH/WITHOUT DIAPHRAGM SEAL		DOOR SCHEDULE		BRICK
	PRESSURE REDUCING VALVE		LOUVER TYPE		GRAVEL
	PRESSURE RELIEF VALVE				CONCRETE
	PRESSURE RELIEF/VACUUM BREAKER VALVE				
	QUICK CONNECT COUPLING				
	SOLENOID VALVE				
	STRAINER				
	THREE WAY VALVE				
	UNION				
	HOSE BIBB				

SECTION AND DETAIL KEYING	LINETYPES	
DRAWINGS ARE CROSS REFERENCED IN THE FOLLOWING METHOD: (A) A SECTION CUT ON DRAWING A3 IS IDENTIFIED AS FOLLOWS: 		PROPOSED ITEMS
(B) THE SECTION SHOWN ON DRAWING A6 IS IDENTIFIED AS FOLLOWS: 		EXISTING ITEMS
		HIDDEN ITEMS
		DEMOLITION ITEMS
		CENTER LINE
		MATCH LINE
DETAILS ARE CROSS REFERENCED IN A SIMILAR MANNER, EXCEPT DETAILS ARE IDENTIFIED BY A SQUARE WITH A NUMBER IN THE UPPER HALF. STANDARD DETAILS ARE REFERENCED BY A UNIQUE SEVEN DIGIT NUMBER AND ARE SHOWN ON THE CONTRACT DRAWINGS BY ONE OF TWO METHODS: 		

ROOM NAME LABEL	ELEVATION CALL OUT

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**AREA/ROOM DESIGNATION MATERIAL REQUIREMENTS**

DISCIPLINE / COMPONENT	AREA DESIGNATIONS			
	INDOOR WET PROCESS AREA	INDOOR DRY PROCESS AREA	INDOOR DRY NON-PROCESS AREA	OUTDOOR AREA
<b>PROCESS MECHANICAL</b>				
PIPE SUPPORTS	304L SST	304L SST	HOT DIP GALV	304L SST
PIPE SUPPORTS FOR 304L SST PIPE	304L SST	304L SST	304L SST	304L SST
PIPE SUPPORTS FOR 316L SST PIPE	316L SST	316L SST	316L SST	316L SST
PIPE SUPPORT FASTENING HARDWARE AND THREADED ROD	316L SST	304L SST	HOT DIP GALV	316L SST
PIPE SUPPORT FASTENING HARDWARE AND THREADED ROD FOR 304L SST PIPE	316L SST	304L SST	304L SST	316L SST
PIPE SUPPORT FASTENING HARDWARE AND THREADED ROD FOR 316L SST PIPE	316L SST	316L SST	316L SST	316L SST
PIPE SUPPORT ANCHORS	316L SST	304L SST	HOT DIP GALV	316L SST
PIPE SUPPORT ANCHORS FOR 304L SST PIPE	316L SST	304L SST	304L SST	316L SST
PIPE SUPPORT ANCHORS FOR 316L SST PIPE	316L SST	316L SST	316L SST	316L SST
EQUIPMENT AND CHEMICAL TANK ANCHORS	316L SST	316L SST	316L SST	316L SST
<b>STRUCTURAL</b>				
GUARDS, HANDRAIL AND GRATING	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM
GUARDS, HANDRAIL AND GRATING FASTENING HARDWARE	316L SST	304L SST	304L SST	304L SST
GUARDS, HANDRAIL AND GRATING ANCHORS	316L SST	304L SST	304L SST	316L SST
WATERSTOPS	PVC	PVC	PVC	PVC
<b>HVAC</b>				
DUCT HANGERS	304L SST	304L SST	HOT DIP GALV	304L SST
DUCT HANGER FASTENING HARDWARE AND THREADED ROD	304L SST	304L SST	HOT DIP GALV	304L SST
DUCT HANGER ANCHORS	316L SST	304L SST	HOT DIP GALV	316L SST
<b>PLUMBING</b>				
PIPE HANGERS	304L SST	304L SST	HOT DIP GALV	304L SST
HANGER FASTENING HARDWARE AND THREADED ROD	304L SST	304L SST	HOT DIP GALV	304L SST
HANGER ANCHORS	316L SST	304L SST	HOT DIP GALV	316L SST
<b>ELECTRICAL</b>				
SUPPORT CHANNELS	304L SST	HOT DIP GALV	HOT DIP GALV	304L SST
FASTENING HARDWARE AND THREADED ROD	304L SST	304L SST	HOT DIP GALV	304L SST
ANCHORS	316L SST	304L SST	HOT DIP GALV	316L SST

NOTES:  
 1. THIS TABLE PROVIDES MINIMUM ACCEPTABLE MATERIAL REQUIREMENTS IF NO FURTHER GUIDANCE IS GIVEN IN DRAWINGS AND SPECIFICATIONS. ALTERNATE MATERIALS MAY BE REQUIRED WHERE SPECIFICALLY IDENTIFIED IN DRAWINGS OR SPECIFICATIONS.  
 2. FOR SST ITEMS IT IS ACCEPTABLE TO USE 304 IN LIEU OF 304L AND 316 IN LIEU OF 316L IF NO WELDING IS REQUIRED.

**AREA/ROOM DESIGNATION**

NUMBER	BUILDING NAME	AREA/ROOM NAME	AREA/ROOM DESIGNATION
001	MECHANICAL SCREEN BUILDING	MECHANICAL SCREEN ROOM	INDOOR WET PROCESS AREA
100	MECHANICAL SCREEN BUILDING	COMPACTOR ROOM	INDOOR WET PROCESS AREA
003	MECHANICAL SCREEN BUILDING	ELECTRICAL ROOM	INDOOR DRY NON-PROCESS AREA
006	WET WELL BUILDING	BYPASS CHANNEL CHAMBER	INDOOR WET PROCESS AREA
002	MECHANICAL SCREEN BUILDING	DUMPSTER ROOM	INDOOR DRY NON-PROCESS AREA

**AREA CLASSIFICATION TABLE**

AREA	NFPA 820 CODE REFERENCE	ELECTRICAL CLASSIFICATION	FIRE PROTECTION MEASURES	DESIGN VENTILATION	COMMENTS
MECHANICAL SCREEN ROOM	Table 5.2.2. Row 2b.	Class 1, Division 2	FE,H,CGD	B	NOTE 1, 4
COMPACTOR ROOM	Table 5.2.2. Row 2b.	Class 1, Division 2	FE,H,CGD	B	NOTE 1, 3, 4
ELECTRICAL ROOM	N/A	UNCLASSIFIED	NR	A	
BAR RACK CHANNELS / WET WELL	Table 5.2.2. Row 2b.	Class 1, Division 2	FE,H,CGD	B	NOTE 1, 4
DUMPSTER ROOM	Table 5.2.2. Row 2b.	Class 1, Division 2	NR	B	NOTE 1, 3, 4
MECHANICAL SCREEN ROOM DUCTWORK/FANS AND SPACE 3- FEET AROUND VENT FANS	Table 5.2.2. Row 2b.	Class 1, Division 2	FE,H,CGD	B	NOTE 2

**ABBREVIATIONS:**

A - NO VENTILATION OR VENTILATED AT LESS THAN 12 ACH  
 B - CONTINUOUSLY VENTILATED AT 12 ACH  
 ACH - AIR CHANGES PER HOUR  
 CGD - COMBUSTIBLE GAS DETECTION REQUIRED  
 FE - PORTABLE FIRE EXTINGUISHER REQUIRED  
 H - HYDRANT PROTECTION REQUIRED  
 NR - NOT REQUIRED  
 N.A - NOT APPLICABLE

**NOTES:**

- CONTRACTOR SHALL ASSUME ALL EXISTING VENTILATION EQUIPMENT IS NOT FUNCTIONAL OR FUNCTIONS AT LESS THAN DESIGN CAPACITY. CONTRACTOR SHALL PROVIDE PORTABLE COMBUSTIBLE GAS DETECTION FOR THE PROTECTION OF ITS EMPLOYEES FOR AREAS WHERE COMBUSTIBLE GAS DETECTION IS REQUIRED.
- THE AREA BEYOND THE ENVELOPE IS UNCLASSIFIED.
- DUMPSTER ROOM AND COMPACTOR ROOM ARE CONNECTED TO THE MECHANICAL SCREEN ROOM, THEREFORE THE AREAS HAVE THE SAME CLASSIFICATION AS THE MECHANICAL SCREEN ROOM.
- FOR CLASS 1, DIVISION 2 LOCATIONS, EQUIPMENT AND CONSTRUCTION TOOLS SHALL BE RATED FOR CLASS 1, DIVISION 1.

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DESIGNED BY:	R. FROST
DRAWN BY:	B.CASULL
CHECKED BY:	P. SAURER
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"

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**Hazen**  
 HAZEN AND SAWYER  
 498 SEVENTH AVENUE, 11th FLOOR  
 NEW YORK, NEW YORK 10018

ROCKLAND COUNTY SEWER DISTRICT NO.1  
 ORANGEBURG, NEW YORK

ORANGEBURG WASTEWATER  
 TREATMENT PLANT  
 SCREENING IMPROVEMENTS PROJECT

GENERAL  
 AREA DESIGNATION TABLES

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	G-04



**SITE PLAN**  
SCALE: 1" = 80'

SCALE: 1" = 80'

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CHECKED BY:	P. SAURER

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TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

GENERAL  
OVERALL SITE PLAN

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	G-05

**GENERAL NOTES:**

- SITE INFORMATION TAKEN FROM SITE SURVEY CONDUCTED BY STEPHEN R. MILLER, LS, PC, DATED 8-2-2023.
- HORIZONTAL CONTROL IS REFERENCED TO THE NEW YORK STATE PLANE COORDINATE SYSTEM, EAST ZONE, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD 83). VERTICAL CONTROL IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
- CONTRACTOR SHALL VERIFY FIELD CONDITIONS BEFORE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS AND DIMENSIONS WHERE NEW WORK WILL MATCH EXISTING. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION PRIOR TO THE COMMENCEMENT OF WORK.
- CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS FROM THE APPROPRIATE AUTHORITIES, DEPARTMENTS, AND/OR AGENCIES HAVING JURISDICTION PRIOR TO COMMENCING WORK.
- CONTRACTOR SHALL TAKE CARE TO AVOID DAMAGE TO EXISTING PAVEMENT, TREES, VEGETATION, STRUCTURES, AND UTILITIES NOT INDICATED TO BE DEMOLISHED OR REMOVED. ANY DAMAGE TO EXISTING PAVEMENT, TREES, VEGETATION, STRUCTURES, AND UTILITIES NOT INDICATED TO BE DEMOLISHED OR REMOVED SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE GIS INFORMATION, RECORD DRAWINGS, AND SITE SURVEY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THEIR EXACT LOCATION AND TO AVOID DAMAGE TO THEM. THE CONTRACTOR SHALL CONTACT DIG SAFELY NEW YORK AT PHONE NUMBER 811 OR 1-800-962-7962 TO REQUEST UNDERGROUND UTILITY LOCATION MARK-OUT AT LEAST TWO (2) WORKING DAYS BUT NO MORE THAN TEN (10) WORKING DAYS PRIOR TO BEGINNING EXCAVATION, INCLUDING SOIL DRILLING. THE CONTRACTOR SHALL ALSO CONTACT AND REQUEST UTILITY LOCATION MARK-OUT FROM BURIED UTILITY OWNERS WITH UTILITIES ON THE PROJECT SITE THAT ARE NOT PARTICIPANTS OF DIG SAFELY NEW YORK.
- WHERE PROPOSED WORK IS IN THE VICINITY OF UTILITY POLES, SUCH THAT SUPPORT OF THE POLE(S) WILL BE REQUIRED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE UTILITY OF THE WORK. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE UTILITY FOR SUPPORT OF THE POLE.
- WHERE OVERHEAD POWER LINES ARE PRESENT, CONTRACTOR MUST CONTACT THE UTILITY PRIOR TO CONSTRUCTION ACTIVITIES TO DETERMINE THE MINIMUM REQUIRED EQUIPMENT CLEARANCE (MEC) DISTANCE BASED UPON LINE STRENGTH.
- DURING STRUCTURAL EXCAVATION AND PLACEMENT OF UTILITIES THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY REGULATIONS, INCLUDING BUT NOT LIMITED TO 29 CFR 1926 SUBPART P EXCAVATIONS AND NYS CR 753 DIG SAFELY NY REGULATIONS, AND SHALL SUBMIT TO THE ENGINEER FOR APPROVAL SHEET PILING, SHORING AND/OR BRACING DESIGNS, PREPARED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NEW YORK, AS MAY BE NECESSARY TO COMPLY WITH THESE REGULATIONS.
- GROUNDWATER FROM ALL DEWATERING OPERATIONS SHALL BE DISCHARGED THROUGH AN APPROVED SEDIMENT FILTERING DEVICE TO AN ENVIRONMENTALLY ACCEPTABLE LOCATION IN ACCORDANCE WITH THE APPLICABLE NYSDEC PERMITS TO BE PROCURED BY THE CONTRACTOR.
- ALL TEMPORARY FACILITIES ARE SUBJECT TO THE SAME HEALTH AND SAFETY REQUIREMENTS AS PERMANENT FACILITIES, AS SPECIFIED IN THE CONTRACT DOCUMENTS AND HEALTH SAFETY PLAN (HASP).
- THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL DEBRIS GENERATED DURING THE PROJECT OFF SITE AT A PROPERLY PERMITTED DISPOSAL FACILITY.
- CONTRACTOR SHALL MAKE EVERY EFFORT TO SAVE AND MAINTAIN ALL PROPERTY IRONS, MONUMENTS, OTHER PERMANENT POINTS AND LINES OF REFERENCE AND CONSTRUCTION STAKES. A STATE OF NEW YORK REGISTERED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE SHALL REPLACE PROPERTY IRONS, MONUMENTS, AND OTHER PERMANENT POINTS OF REFERENCE DESTROYED BY THE CONTRACTOR. MONUMENTS FROM SURVEY INCLUDE: "TOP CENTER NUT HYDRANT" AND "BOX CUT ON STEP". FOR REFERENCE MONUMENTS, SEE DRAWING C-02.

TABLE OF EXISTING MONUMENTS

NAME	COORDINATES	ELEVATION
TOP CENTER NUT HYDRANT	N: 805369.69 E: 645307.81	71.79'
BOX CUT ON STEP	N: 805450.99 E: 645447.99	69.93'

- CONTRACTOR IS REQUIRED TO UTILIZE HAND DIGGING OR HYDROEXCAVATION TO A DEPTH OF 4 FEET IN AREAS WHERE UNDERGROUND UTILITIES ARE PRESENT.

**LEGEND**

NEW	EXISTING	
		CONTOUR
		SPOT ELEVATION
		PROPERTY LINE
		WATER PIPING
		UNDERGROUND ELECTRIC
		GAS LINE
		STORM LINE
		HYDRANT
		BACK OF CURB
		FRONT OF CURB
		SEWER PIPE
		TOP OF CURB
		BOTTOM OF CURB
		SEWER MANHOLE
		DROP INLET
		ELECTRICAL MANHOLE
		BOLLARD
		CHAIN LINK FENCE
		ELECTRICAL EQUIPMENT
		UTILITY POLE
		STREET SIGN
		ROOF DRAIN
		DEMOLITION ITEMS
		LIMIT OF DISTURBANCE
		SILT FENCE
		CONSTRUCTION FENCE
		INLET PROTECTION
		CURB INLET
		TEST BORING LOCATION
		GEO-TECH SOIL BORING
		CONCRETE SIDEWALK
		PAVEMENT RESTORATION
		LANDSCAPE STONE
		GRASS RESTORATION

**ABBREVIATIONS**

SD	STORM DRAIN	PVC	POLYVINYL CHLORIDE
MH	MANHOLE	FM	FORCE MAIN
OF	OVERFLOW	FDC	FIRE DEPARTMENT CONNECTION
DIP	DUCTILE IRON PIPE	FP	FIRE PROTECTION
WWR	WASHWATER RECYCLE	PW	POTABLE WATER
GD	GALLERY DRAIN	LF	LINEAR FEET
WWW	WASTE WASHWATER	PPE	POLYPROPYLENE
CMP	CORRUGATED METAL PIPE	RCP	REINFORCED CONCRETE PIPE
ACF	ANNUAL CHANCE FLOOD	G	GAS
EOP	EDGE OF PAVEMENT	SS	SANITARY SEWER
LOD	LIMITS OF DISTURBANCE	W	WATER
OHE	OVERHEAD ELECTRIC	ℙ	PROPERTY LINE
FOC	FIBER OPTIC CABLE	℄	CENTER LINE
LP	LIGHT POLE	RECM	ROLLED EROSION CONTROL MATTING
UGE	UNDERGROUND ELECTRIC	SHWT	SEASONALLY HIGH WATER TABLE
PP	POWER POLE	TP	TEST PIT
TOC	TOP OF CURB	BOC	BOTTOM OF CURB

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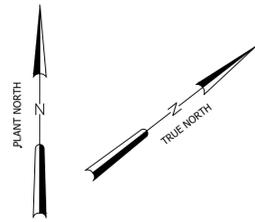
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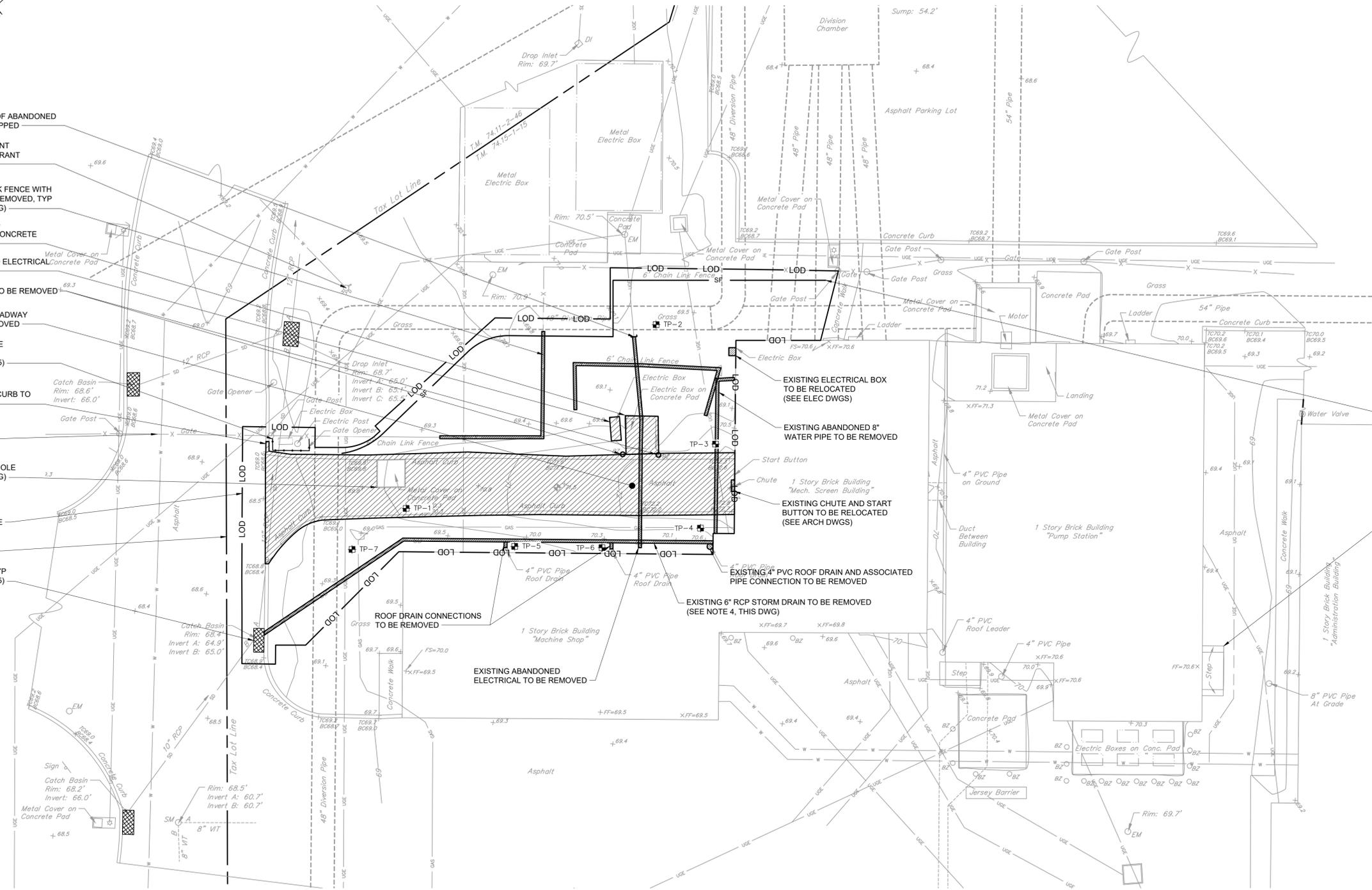
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NOTES, LEGEND & ABBREVIATIONS

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HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	C-01

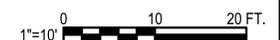


- NOTES:**
- FRAME AND COVER TO BE RE-SET TO ACCOMMODATE CHANGES IN GRADE FOR NEW ACCESS DRIVEWAY. SEE DWG C-03.
  - CONTRACTOR SHALL PERFORM TEST PITS AT LOCATIONS SHOWN PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR SHALL PERFORM UP TO TWO (2) ADDITIONAL TEST PITS AS DIRECTED BY THE ENGINEER OR THE OWNER. THESE TEST PITS ARE AT THE DISCRETION OF THE ENGINEER OR OWNER AND DOES NOT PRECLUDE THE CONTRACTOR FROM VERIFYING EXISTING CONDITIONS. ALL COSTS ASSOCIATED WITH PERFORMING TEST PITS SHALL BE INCLUDED IN THE LUMP SUM OF THE CONTRACT.
  - CONSTRUCTION FENCE SHALL BE PLACED TO PROTECT ELECTRICAL EQUIPMENT ADJACENT TO THE ACCESS DRIVEWAY. THE PLACEMENT OF THE FENCE SHALL NOT IMPEDE FUNCTIONALITY OF THE EXISTING SLIDE GATE.
  - EXISTING RECORD INFORMATION HAS BEEN GATHERED FROM RECORD DRAWINGS, "DRAWINGS FOR THE CONSTRUCTION OF THE SEWAGE TREATMENT PLANT EXPANSION PHASE I: FOR THE ROCKLAND COUNTY SEWER DISTRICT NO. 1".
  - ANY REMOVAL OF FENCE TO ACCOMMODATE THE CONSTRUCTION ACTIVITIES INCLUDING FENCE REMOVAL/REPLACEMENT NOT SHOWN ON THE CONTRACT DOCUMENTS SHALL BE RESTORED IN KIND. TEMPORARY FENCE SHALL BE PROVIDED IN PLACE AND LEFT SECURED AT THE END OF EACH DAY. ALL LABOR, MATERIALS AND EQUIPMENT ASSOCIATED WITH REMOVAL, REPLACEMENT, AND RESTORATION OF FENCING TO ACCOMMODATE CONSTRUCTION ACTIVITIES SHALL COME AT NO ADDITIONAL COST TO THE OWNER.

- REMAINING SECTION OF ABANDONED ELECTRICAL TO BE CAPPED
- BENCHMARK MONUMENT TOP CENTER NUT HYDRANT ELEV. 71.79'
- EXISTING 6" CHAIN LINK FENCE WITH BARBED WIRE TO BE REMOVED, TYP (SEE NOTE 5, THIS DWG)
- EXISTING ABANDONED TRANSFORMER AND CONCRETE PAD TO BE REMOVED
- EXISTING ABANDONED ELECTRICAL CONCRETE PAD TO BE REMOVED
- EXISTING BOLLARDS TO BE REMOVED
- EXISTING ASPHALT ROADWAY AND CURB TO BE REMOVED
- CONSTRUCTION FENCE (SEE NOTE 3) (SEE DETAIL, DWG C-05)
- EXISTING CONCRETE CURB TO BE REMOVED, TYP
- EXISTING SLIDE GATE
- EXISTING ELEC HANDHOLE (SEE NOTE 1, THIS DWG)
- LIMIT OF DISTURBANCE
- PROPERTY LINE, TYP
- INLET PROTECTION, TYP (SEE DETAIL, DWG C-05)



**PLAN**  
SCALE: 1" = 10'



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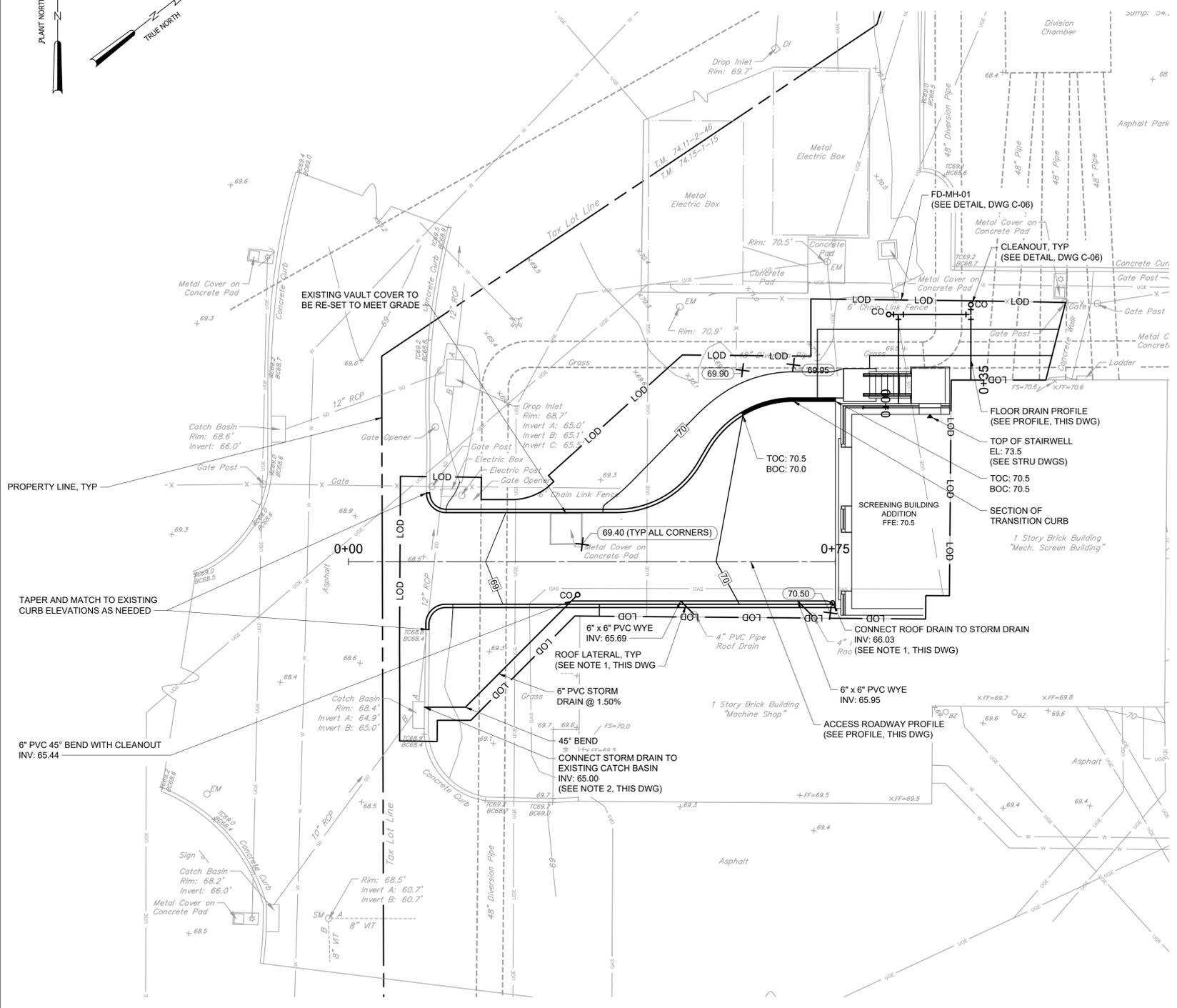
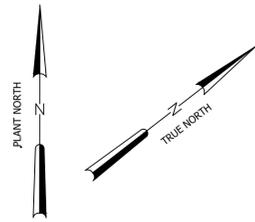
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498 SEVENTH AVENUE, 11TH FLOOR  
NEW YORK, NEW YORK 10018

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ORANGEBURG, NEW YORK

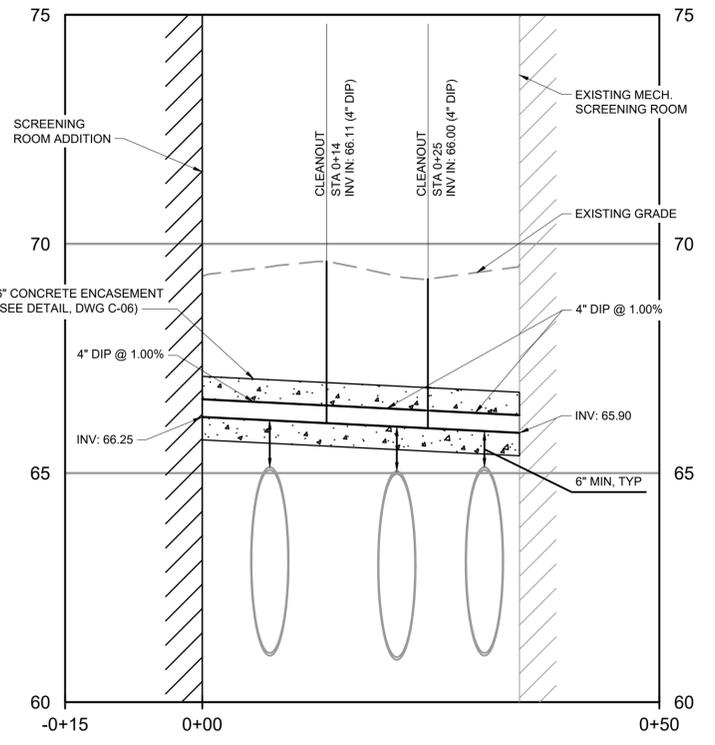
ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

CIVIL  
EXISTING CONDITIONS, EROSION CONTROL AND  
DEMOLITION SITE PLAN

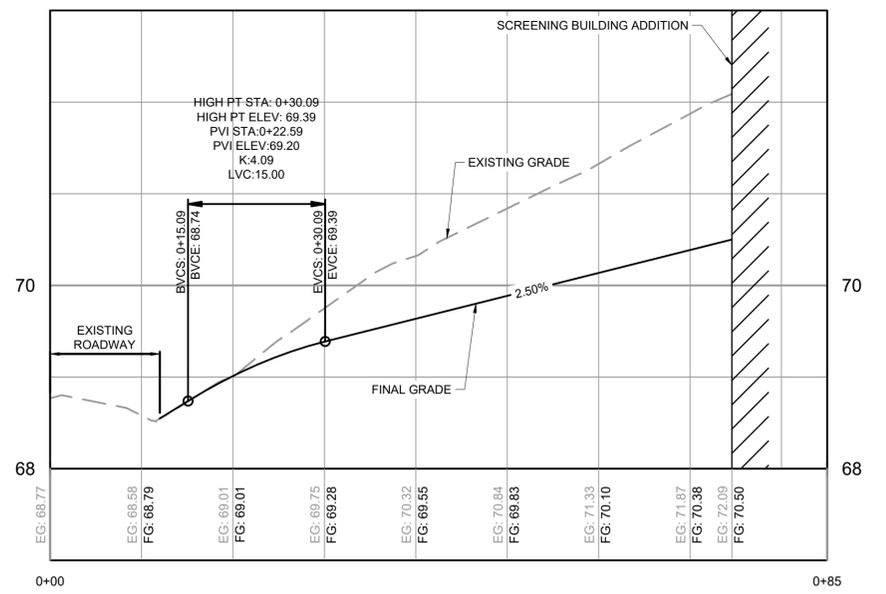
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HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
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**PLAN**  
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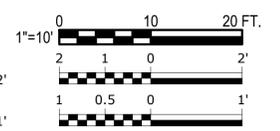


**FLOOR DRAIN PROFILE**  
HORIZONTAL SCALE: 1" = 10'  
VERTICAL SCALE: 1" = 2'



**ACCESS ROADWAY PROFILE**  
HORIZONTAL SCALE: 1" = 10'  
VERTICAL SCALE: 1" = 1'

- NOTES:**
- CONTRACTOR SHALL TRANSITION EXISTING 4" CIP ROOF DRAINS TO 6" PVC STORM DRAIN PIPE WITH FERRO 1051 SERIES STANDARD FLEXIBLE COUPLING OR APPROVED EQUAL. CONTRACTOR SHALL TEST PIT EXISTING ROOF DRAINS, ROOF DRAIN LATERALS, AND STORM DRAINS TO CONFIRM PIPE MATERIALS, ELEVATIONS, ALIGNMENT, AND OUTSIDE DIAMETER OF PIPING PRIOR TO SHOP DRAWING SUBMITTAL TO ENGINEER FOR REVIEW.
  - CONTRACTOR SHALL REMOVE EXISTING 6" RCP STORM DRAIN PIPE CONNECTION FROM THE EXISTING CATCH BASIN. PVC STORM DRAIN SHALL BE INSTALLED AT THE SAME PENETRATION AND ANNULAR SPACE SHALL BE FILLED WITH NON-SHRINK GROUT. ANY MODIFICATION TO THE EXISTING CATCH BASIN TO ACCOMMODATE THE PVC STORM DRAIN SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. MODIFICATION TO THE EXISTING CATCH BASIN SHALL COME AT NO ADDITIONAL COST TO THE OWNER.



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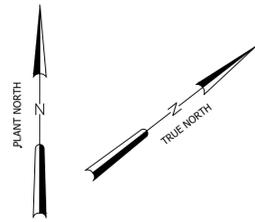
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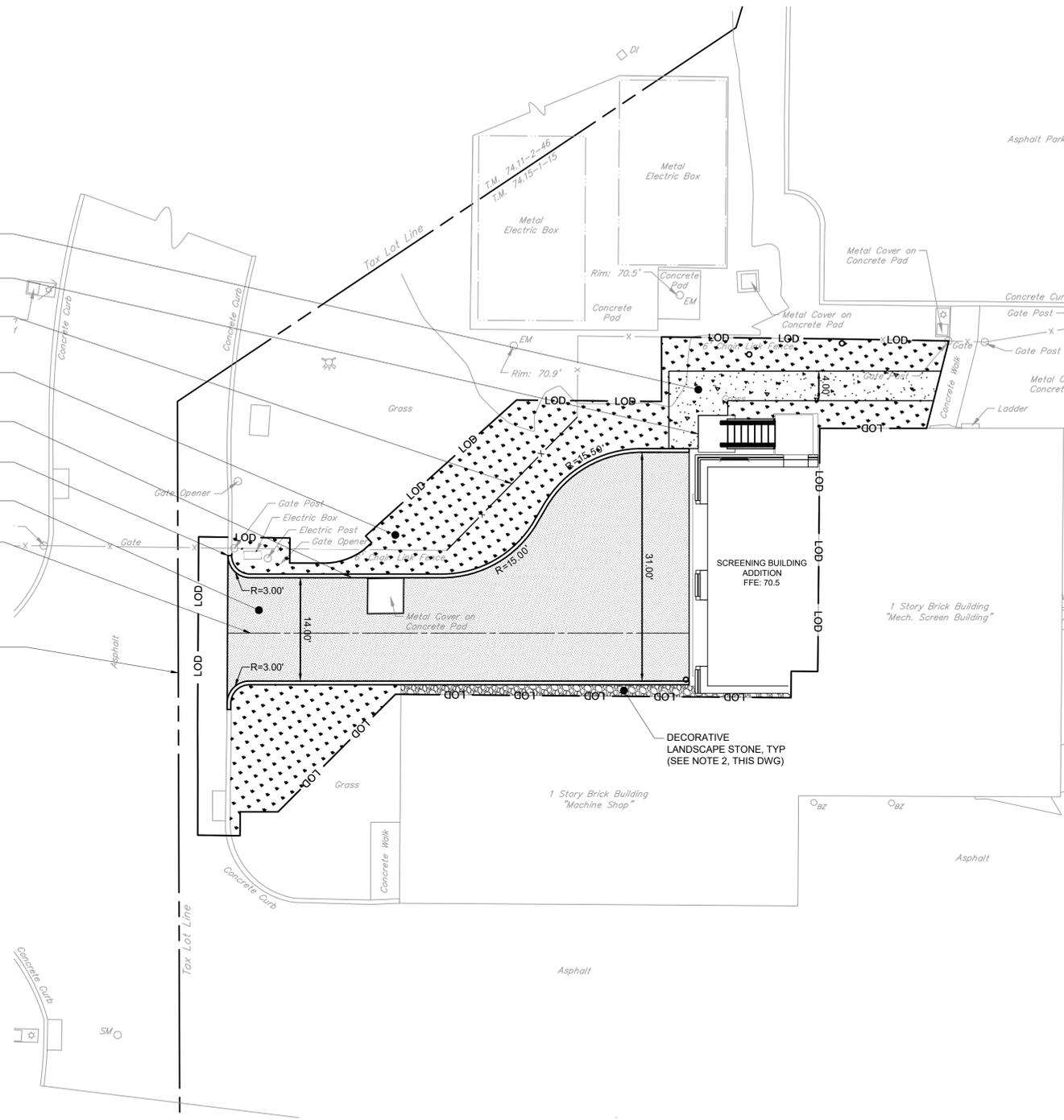
ORANBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

CIVIL  
GRADING AND DRAINAGE PLAN

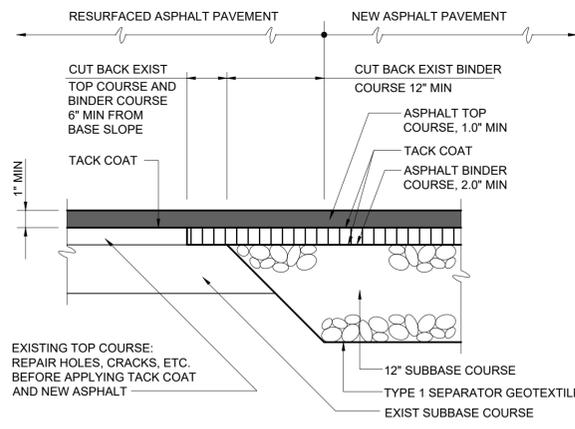
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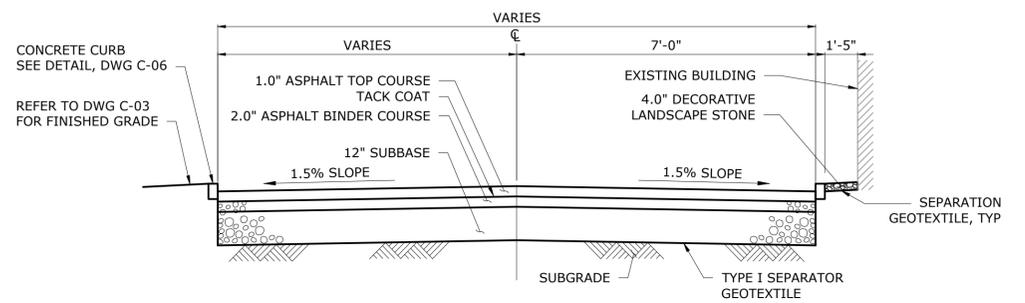
- 4' WIDE CONCRETE WALKWAY  
(SEE DETAIL, DWG C-06)
- EXTERIOR STAIRWELL AND LANDING PAD  
(SEE STRU DWGS)
- 6' CHAIN LINK FENCE WITH BARBED WIRE  
(SEE DETAIL, DWG C-06)
- FINAL GRASS RESTORATION, TYP
- 6" CONCRETE CURB  
(SEE DETAIL, DWG C-05)
- CONCRETE CURB TO MEET EXISTING CURB
- ASPHALT PAVEMENT  
(SEE DETAIL, THIS DWG)
- DRIVEWAY CENTER LINE  
(SEE PROFILE, DWG C-03)
- PROPERTY LINE, TYP



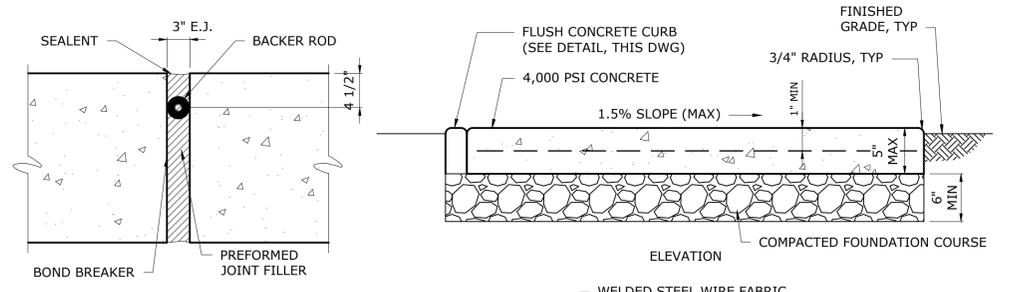
PLAN  
SCALE: 1" = 10'



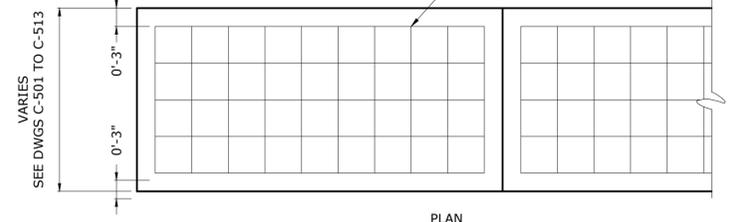
TYPICAL PAVEMENT JUNCTION  
NTS



TYPICAL ACCESS DRIVEWAY SECTION  
NTS



CONCRETE WALKWAY EXPANSION JOINT



NOTES:

1. EXPANSION JOINTS ARE TO BE LOCATED 10'-0" ON CENTER.
2. TOOLED OR CUT JOINTS LOCATED AT 5'-0" ON CENTER.
3. CONCRETE TO BE BROOM FINISHED.
4. CONCRETE AND GRANULAR FILL TO BE PLACED ON SUBGRADE COMPACTED TO 95% DENSITY.

CONCRETE WALKWAY  
NTS



- NOTES:
1. YARD PIPING, BURIED UTILITY INFRASTRUCTURE AND SITE TOPOGRAPHY IS NOT SHOWN FOR CLARITY. SEE DRAWINGS C-02 - C-03.
  2. DECORATIVE LANDSCAPE STONE SHALL BE SMOOTH ROUNDED STONE SIZED BETWEEN ONE TO TWO INCHES. CONTRACTOR SHALL SUBMIT THREE SAMPLES OF DIFFERENT STONE TYPE TO THE ENGINEER AND OWNER FOR REVIEW AND APPROVAL.

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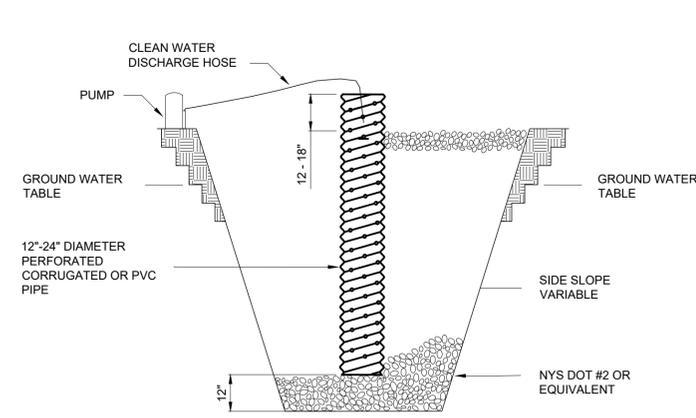
CIVIL  
FINAL SITE PLAN

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	C-04

**EROSION AND SEDIMENT CONTROL NOTES:**

- CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE SOIL EROSION AND SEDIMENT CONTROL REQUIREMENTS SPECIFIED BY THE NYSDEC STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (NOVEMBER 2016).
- IN THE EVENT OF CONFLICT BETWEEN THESE SPECIFICATION REQUIREMENTS AND POLLUTION CONTROL LAWS, RULES, REGULATIONS OR PERMIT CONDITIONS BY OTHER FEDERAL OR STATE OR LOCAL GOVERNMENT AGENCIES, THE MORE RESTRICTIVE LAWS, RULES OR REGULATIONS SHALL APPLY.
- THE LOCATION AND EXTENT OF EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REVISED AS REQUIRED DURING EACH PHASE OF CONSTRUCTION RESULTING IN A CHANGE OF EITHER THE QUANTITY OR DIRECTION OF SURFACE RUNOFF FROM THE CONSTRUCTION AREAS. EROSION AND SEDIMENT CONTROL MEASURES SHALL REMAIN IN PLACE AT THE CONCLUSION OF THE PROJECT.
- CONTRACTOR SHALL OBTAIN PRIOR APPROVAL FROM THE ENGINEER, OWNER, AND REGULATORY AGENCIES FOR DEVIATIONS FROM THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
- NO LAND DISTURBANCE, DEMOLITION OR CONSTRUCTION ACTIVITIES SHALL BEGIN UNTIL ALL PERIMETER EROSION AND SEDIMENT CONTROL MEASURES, INCLUDING, BUT NOT LIMITED TO, SILT FENCING, INLET PROTECTION, AND TEMPORARY DIVERSIONS HAVE BEEN INSTALLED AS SHOWN ON THE CONTRACT DRAWINGS. IF CLEARING IS REQUIRED FOR INSTALLATION OF A PARTICULAR MEASURE, ALL MEASURES NOT REQUIRING CLEARING SHALL BE INSTALLED FIRST. CLEARING OF THE NECESSARY LAND FOR INSTALLATION OF THE PARTICULAR MEASURE MAY THEN PROCEED.
- APPROPRIATE SOIL EROSION AND SEDIMENT CONTROL MEASURES TO BE USED ARE SPECIFIC TO THE PARTICULAR SITE.
- CLEARING SHALL BE LIMITED AS MUCH AS POSSIBLE TO AREAS REQUIRED FOR CURRENT CONSTRUCTION ACTIVITIES. MASS CLEARING AND GRADING SHALL BE AVOIDED.
- ALL EROSION CONTROL MEASURES SHALL BE INSPECTED BY THE CONTRACTORS QUALIFIED INSPECTOR WITHIN 24 HOURS FOLLOWING EVERY RAINFALL EVENT THAT HAS PRECIPITATION OF 0.5" OR GREATER, BUT IN NO CASE LESS THAN ONCE EVERY SEVEN CALENDAR DAYS.
- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED, REPAIRED, OR REPLACED IMMEDIATELY BY THE CONTRACTOR AS REQUIRED TO MAINTAIN PERFORMANCE OF MEASURE DURING THE LIFE OF THE PROJECT, INCLUDING WINTER SHUTDOWN, ETC. SUCH INSPECTION AND MAINTENANCE SHALL CONTINUE UNTIL AFTER PERMANENT STABILIZATION MEASURES ARE IN PLACE AND THE TEMPORARY CONTROL MEASURES ARE ORDERED TO BE REMOVED BY THE ENGINEER.
- TIMELY MAINTENANCE OF SEDIMENT CONTROL PRACTICES IS THE RESPONSIBILITY OF THE CONTRACTOR. ALL PRACTICES SHALL BE MAINTAINED IN GOOD WORKING ORDER AT ALL TIMES. THE SEDIMENT LEVEL IN ALL PRACTICES SHALL BE CLOSELY MONITORED AND SEDIMENT REMOVED PROMPTLY WHEN MAXIMUM LEVELS ARE REACHED OR AS ORDERED BY THE ENGINEER. ALL SEDIMENT CONTROL PRACTICES SHALL BE INSPECTED BY THE END OF EACH WORK DAY, PRIOR TO EVERY WEEKEND, BEFORE AND AFTER EACH RAINFALL OF 0.5" OR GREATER WITHIN A 12 HOUR PERIOD, OR AS DIRECTED BY THE ENGINEER IN ORDER TO INSURE PROPER OPERATION.
- WHERE EROSION CONTROL MATERIALS HAVE BEEN USED ON FINAL GRADE THAT HAVE BEEN PERMANENTLY SEEDED, THE CONTRACTOR SHALL CARE FOR THE AREAS UNTIL ACCEPTANCE OF THE CONTRACT OR ACCEPTANCE OF THE TURF, WHICHEVER IS LATER. WHERE NECESSARY, SUCH CARE MAY INCLUDE, BUT IS NOT LIMITED TO PROVIDING WARNING SIGNS OR BARRICADES FOR PROTECTION AGAINST TRAFFIC, ANY SURFACES THAT HAVE SETTLED, BECOME GULLED, OR OTHERWISE DAMAGED SHALL BE REPAIRED AT NO ADDITIONAL EXPENSE TO THE CITY TO REESTABLISH THE GRADE AND SOIL CONDITIONS THAT EXISTED PRIOR TO PLACING EROSION CONTROL MATERIALS.
  - WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 7TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASED IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE;
  - WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH-DISTURBING ACTIVITIES WILL BE RESUMED WITHIN FOURTEEN (14) DAYS, TEMPORARY STABILIZATION MEASURES NEED NOT BE INITIATED ON THAT PORTION OF THE SITE.
- ALL DISTURBED AREAS SHALL DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBANCE ACTIVITIES AND UNTIL FINAL STABILIZATION IS ACHIEVED. SEDIMENT-LADEN GROUNDWATER ENCOUNTERED DURING TRENCHING, BORING, OR OTHER ACTIVITIES SHALL BE PUMPED INTO A SEDIMENT TRAPPING DEVICE PRIOR TO BEING DISCHARGED INTO A STREAM, POND, SWALE, OR CATCH BASIN.
- SOIL STOCKPILE AND LAYDOWN AREAS SHALL HAVE PERIMETER SEDIMENT CONTROL MEASURES AND TEMPORARY OR PERMANENT STABILIZATION MEASURES INSTALLED AS SOON AS POSSIBLE AND AT COMPLETION OF STOCKPILING AND LAYDOWN ACTIVITIES. STOCKPILES, EXCLUDING FINAL CONDITION STOCKPILE, SIDE SLOPES SHALL NOT EXCEED 3H : 1V UNLESS APPROVED BY ENGINEER. AND IN NO CASE EXCEED 2H : 1V. FINAL CONDITION STOCKPILE SHALL NOT EXCEED 2H : 1V. TOP OF STOCKPILE SHALL BE GRADED WITH A MINIMUM 5% SLOPE TO INSURE PROPER DRAINAGE.
- ALL DISTURBED AREAS, EXCEPT FOR CONCRETE AND PAVED AREAS, SHALL BE FERTILIZED, SEEDED AND MULCHED IN ACCORDANCE WITH THE SPECIFICATIONS AND THE SEEDING SCHEDULE, AND RE-SEEDED AS NECESSARY, TO ESTABLISH AND MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.
- ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS SHALL BE PROTECTED TO PREVENT THE DEPOSITION OF MATERIALS ONTO TRAVERSED OFFSITE ROADWAYS. IF MATERIAL IS TRACKED ONTO OFFSITE ROADWAYS, IT SHALL BE REMOVED IMMEDIATELY. DO NOT UTILIZE A WATER HOSE TO CLEAN ROADS UNLESS THE RUNOFF IS DIRECTED TO A PROPERLY DESIGNED AND FUNCTIONING SEDIMENT CONTROL DEVICE. PROPER PRECAUTIONS SHALL BE TAKEN TO ENSURE THAT MATERIALS DEPOSITED ONTO OFFSITE ROADWAYS ARE REMOVED SO THAT THEY DO NOT

- ENTER YARD INLETS, CATCH BASINS, SEWERS, WETLANDS, SURFACE WATER BODIES, OR ROADSIDE SWALES. DO NOT UTILIZE A FIRE OR GARDEN HOSE TO CLEAN ROADS UNLESS THE RUNOFF IS DIRECTED TO A PROPERLY DESIGNED AND FUNCTIONING SEDIMENT CONTROL DEVICE. WATER PUMPED OUT OF THE EXCAVATED AREAS CONTAINS SEDIMENTS THAT MUST BE REMOVED PRIOR TO DISCHARGING TO RECEIVING BODIES OF WATER USING REMOVABLE PUMPING STATIONS, SUMP PITS, PORTABLE SEDIMENTATION TANKS AND/OR SILT CONTROL BAGS.
- WHERE CONCRETE EQUIPMENT WASHING IS REQUIRED, THIS MUST BE DONE IN AN APPROVED "CONCRETE CONTAINMENT AREA". CONTRACTOR SHALL NOT DISCHARGE ANY CONCRETE WASHOUT WATER INTO SEWERS, SURFACE WATER BODIES OR ONTO THE GROUND. ALL WASHOUT WATER MUST BE REMOVED FROM THE SITE(S) DAILY.
- EARTHEN-MATERIAL STOCKPILES MUST BE LOCATED A MINIMUM OF 50' FROM STORM DRAINS AND STREAMS UNLESS NO REASONABLE ALTERNATIVES ARE AVAILABLE.
- DEDICATED AREAS FOR DEMOLITION, CONSTRUCTION, AND OTHER WASTES MUST BE LOCATED A MINIMUM OF 50' FROM STORM DRAINS AND STREAMS UNLESS NO REASONABLE ALTERNATIVES ARE AVAILABLE.
- STAGING AREA, STOCKPILES, AND OTHER STORAGE LOCATIONS SHALL BE PROTECTED FROM EROSION.
- SEEDING DATES: THE FOLLOWING SEEDING DATES ARE BEST RECOMMENDED TO ESTABLISH PERMANENT VEGETATIVE COVER WITHIN MOST LOCATIONS IN THE HEPCSD: **SPRING - 3/15-5/15 AND FALL - 9/1 - 10/15**
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, INSTALLATION, PERMITTING, AND OPERATION OF A DEWATERING SYSTEM AS REQUIRED FOR THE COMPLETION OF THE WORK. PROCEDURES FOR DEWATERING INCLUDING ASSOCIATED EROSION AND SEDIMENT CONTROL PROPOSED BY THE CONTRACTOR SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO ANY EARTHWORK OPERATIONS. ALL WATER REMOVED BY DEWATERING OPERATIONS SHALL BE DISPOSED OF IN ACCORDANCE WITH THE SOIL EROSION AND SEDIMENT CONTROL REQUIREMENTS SPECIFIED BY THE NYSDEC STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (NOVEMBER 2016). CONTRACTOR MAY USE PORTABLE SETTLING TANK, SEDIMENT FILTER BAG, OR OTHER APPROVED METHOD TO SETTLE DEWATERING FLOW OF SEDIMENT BEFORE DISCHARGE.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE, PERMANENT VEGETATION IS ESTABLISHED ON ALL DISTURBED AREAS, AND LOCAL AUTHORITIES HAVE GIVEN PERMISSION FOR REMOVAL.
- IF INSPECTIONS BY THE ENGINEER OR THE COUNTY'S INSPECTOR OR ENGINEER FIND FAILURE(S) BY THE CONTRACTOR TO COMPLY, THE ENTIRE PROJECT WILL BE STOPPED WITH NO COMPENSATION TO THE CONTRACTOR UNTIL ALL FINDINGS HAVE BEEN IDENTIFIED, ADDRESSED AND COMPLETED BY THE CONTRACTOR.
- IF DIRECTED, THE CONTRACTOR SHALL PROVIDE TO THE ENGINEER WEEKLY COPIES OF A REPORT FOR HIS INSPECTION, FINDINGS AND ACTIONS TAKEN.

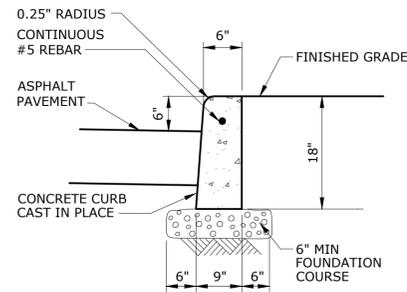


**CONSTRUCTION SPECIFICATIONS**

- PIT DIMENSIONS ARE VARIABLE.
- THE STANDPIPE SHOULD BE CONSTRUCTED BY PERFORATING A 12"-24" DIAMETER CORRUGATED OR PVC PIPE.
- A BASE OF NYS DOT #2 OR EQUIVALENT AGGREGATE SHOULD BE PLACED IN THE PIT TO A DEPTH OF 12". AFTER INSTALLING THE STANDPIPE, THE PIT SURROUNDING THE STANDPIPE SHOULD BE BACKFILLED WITH NYS DOT #2 OR EQUIVALENT AGGREGATE.
- THE STANDPIPE SHOULD EXTEND 12'-18" ABOVE THE LIP OF THE PIT.
- IF DISCHARGE WILL BE PUMPED DIRECTLY TO A STORM DRAINAGE SYSTEM, THE STANDPIPE SHOULD BE WRAPPED WITH FILTERCLOTH BEFORE INSTALLATION. IT IS RECOMMENDED THAT 1/4"-1/2" HARDWARE CLOTH MAY BE PLACED AROUND THE STANDPIPE, PRIOR TO ATTACHING THE FILTERCLOTH.

**DEWATERING SUMP PIT**

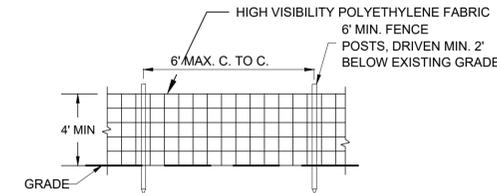
NTS



- CONCRETE CURB HEIGHT VARIES. CURB HEIGHT IS 6" UNLESS OTHERWISE NOTED

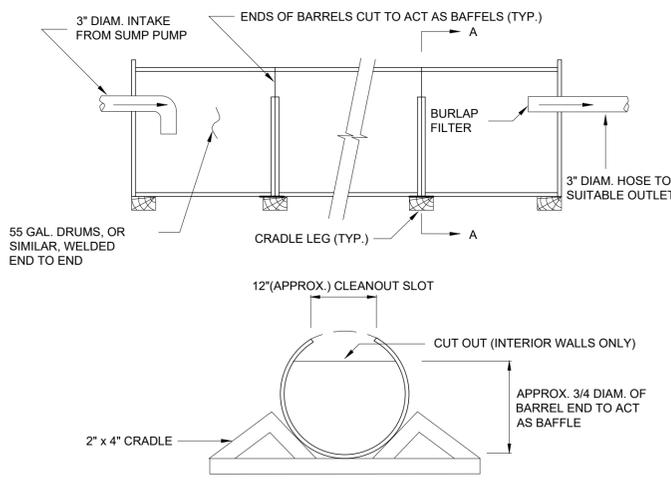
**CONCRETE CURB**

NTS



**CONSTRUCTION FENCE**

NOT TO SCALE

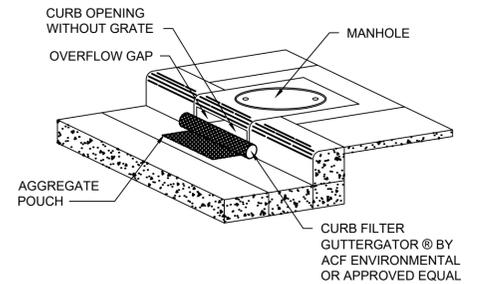


**CONSTRUCTION SPECIFICATIONS**

- CLEAN OUT THE SEDIMENT TANK WHEN ONE THIRD (1/3) FILLED WITH SILT.
- STEEL DRUMS ARE USED AS AN EXAMPLE DUE TO THEIR READY AVAILABILITY. ANY TANKS MAY BE USED, PROVIDING THAT THE VOLUME REQUIREMENTS ARE MET.
- ALL SEDIMENT COLLECTED IN THE TANK SHALL BE DISPOSED OF IN A SEDIMENT TRAPPING DEVICE OR AS APPROVED BY THE INSPECTOR.

**PORTABLE SEDIMENT TANK**

NTS

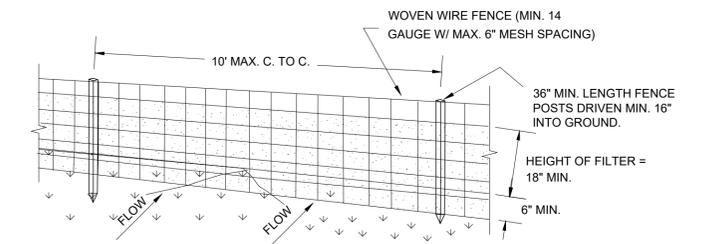


**NOTES:**

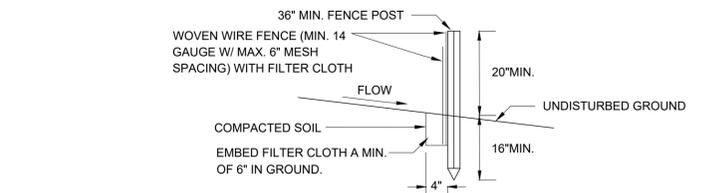
- INSTALL CURB FILTERS AT ALL INLETS WITHOUT GRATES TO KEEP SILT, SEDIMENT AND CONSTRUCTION DEBRIS OUT OF THE STORM SYSTEM
- THE CURB FILTER SHALL BE DANDY CURB AS MANUFACTURED BY DANDY PRODUCTS INC., OR EQUAL. SUBMIT SHOP A SHOP DRAWING FOR THE CURB FILTERS.
- THE CURB FILTER SHALL FORM OF A CYLINDRICAL TUBE PLACED IN FRONT OF AND EXTENDING BEYOND THE INLET OPENING ON BOTH SIDES.
- THE CURB FILTER SHALL HAVE A POUCH ON THE STREET SIDE OF THE UNIT FOR STONE AGGREGATE TO HOLD THE FILTER IN PLACE.
- THE CURB FILTER SHALL BE CONSTRUCTED OF A HIGH VISIBILITY ORANGE MONOFILAMENT FABRIC.
- FILL POUCH WITH #57 STONE AGGREGATE TO A LEVEL (AT LEAST HALF-FULL) THAT WILL KEEP UNIT IN PLACE DURING A RAIN EVENT AND CREATE A SEAL BETWEEN THE CURB FILTER AND THE SURFACE OF THE STREET.
- CENTER THE UNIT AGAINST CURB OR MEDIAN INLET OPENING SO THAT THE CURB SIDE OF THE UNIT CREATES A SEAL WITH THE CURB OR MEDIAN BARRIER AND INLET STRUCTURE. THERE WILL BE APPROXIMATELY TWELVE (12) INCHES OF THE INLET PROTECTION UNIT OVERHANGING ON EACH SIDE OF THE OPENING.
- THE CONTRACTOR SHALL REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM SURFACE AND VICINITY OF UNIT AFTER EACH RAIN EVENT.

**CURB INLET PROTECTION**

NTS



**PERSPECTIVE VIEW**



**SECTION VIEW**

**CONSTRUCTION SPECIFICATIONS**

- WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
- FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 6" MAXIMUM MESH OPENING.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
- PREFABRICATED UNITS SHALL MEET THE MINIMUM REQUIREMENTS SHOWN.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

**REINFORCED SILT FENCE**

NTS

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PLOT DATE: 6/24/2024 6:55 PM BY: BCASULL

PROJECT ENGINEER:	R. FROST						
DESIGNED BY:	J. TANNER						
DRAWN BY:	J. TANNER						
CHECKED BY:	D. SHEERAN						
0	BID	06/2024	PDS	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0	1/2"	1"
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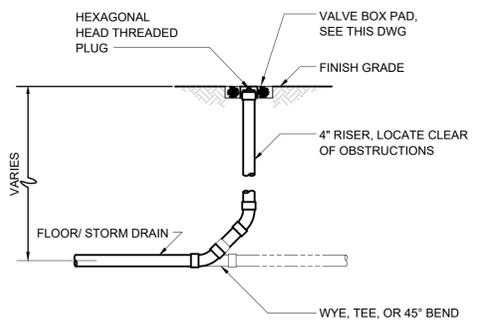
**Hazen**  
HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11TH FLOOR  
NEW YORK, NEW YORK 10018

ROCKLAND COUNTY SEWER DISTRICT NO.1  
ORANGEBURG, NEW YORK

ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

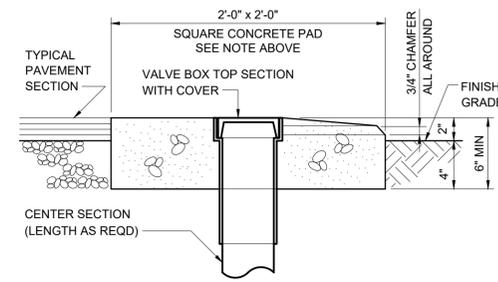
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HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	C-05

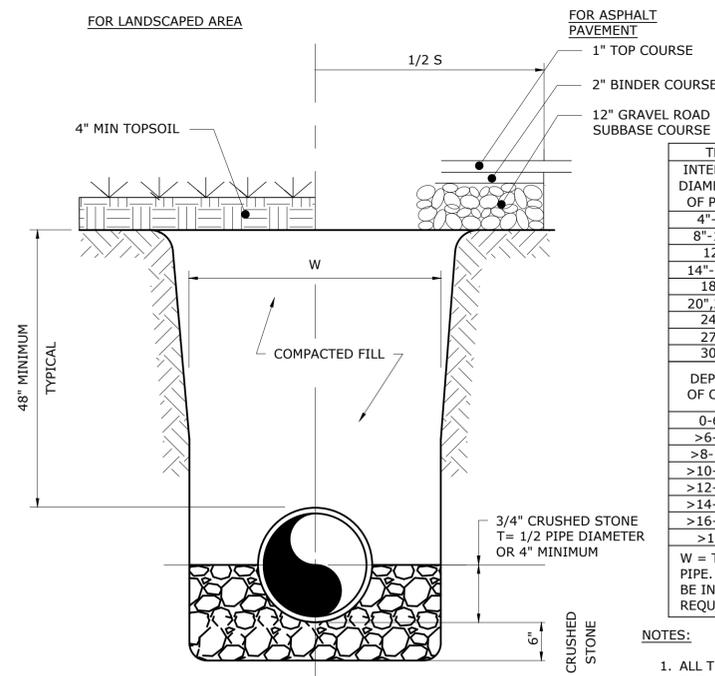


**CLEANOUT**  
NOT TO SCALE

NOTE:  
EMBED INTO CONCRETE PAD, BRASS DISK WITH VALVE DATA PER CLEANOUT DETAIL



**VALVE BOX PAD**  
NOT TO SCALE

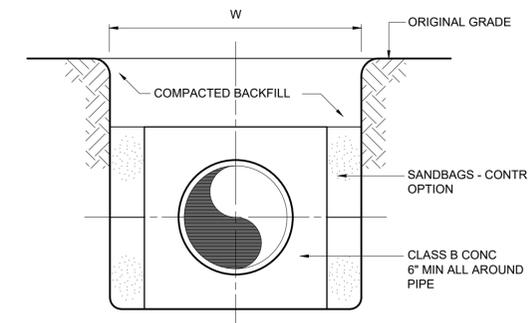


**TYPICAL TRENCH**  
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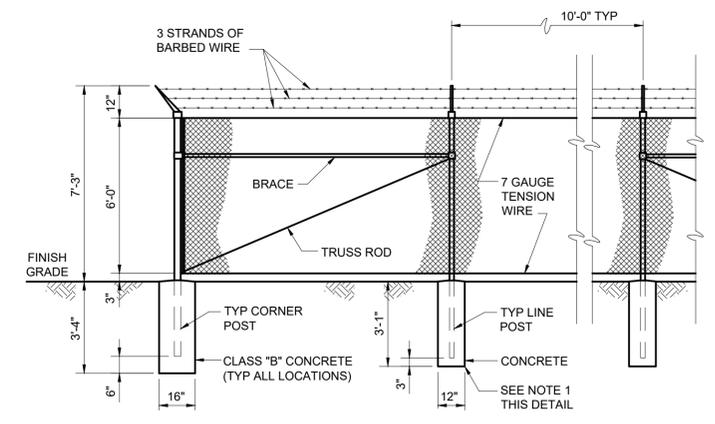
TRENCH EXCAVATION LIMITS		
INTERNAL DIAMETER OF PIPE	W	S
	MAX	MIN
4"-6"	3'-9"	O.D. +20"
8"-10"	3'-9"	O.D. +20"
12"	3'-9"	O.D. +20"
14"-16"	4'-2"	O.D. +20"
18"	4'-4"	O.D. +20"
20", 21"	4'-8"	O.D. +20"
24"	4'-11"	O.D. +20"
27"	5'-9"	O.D. +24"
30"	6'-7"	O.D. +24"
DEPTH OF CUT	S	
0-6'	S=W+4'	
>6-8'	S=W+8'	
>8-10'	S=W+12'	
>10-12'	S=W+16'	
>12-14'	S=W+20'	
>14-16'	S=W+24'	
>16-18'	S=W+28'	
>18'	S=W+32'	

W = TRENCH WIDTH AT BOTTOM OF PIPE. TRENCH SIDE SLOPES SHALL BE IN ACCORDANCE WITH OSHA REQUIREMENTS.

NOTES:  
1. ALL TRENCHES SHALL BE BACKFILLED WITH GOOD TO EXCELLENT FILL AS PER NYCDEP STANDARD SEWER AND WATER MAIN SPECIFICATIONS AND CONTRACT SPECIFICATIONS.

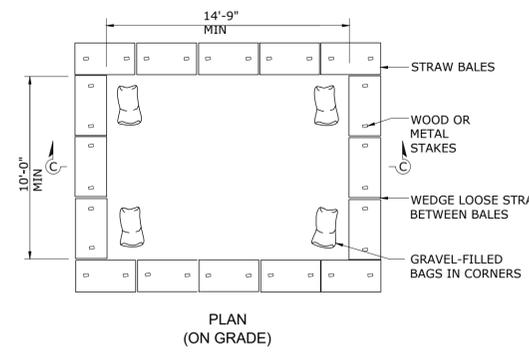
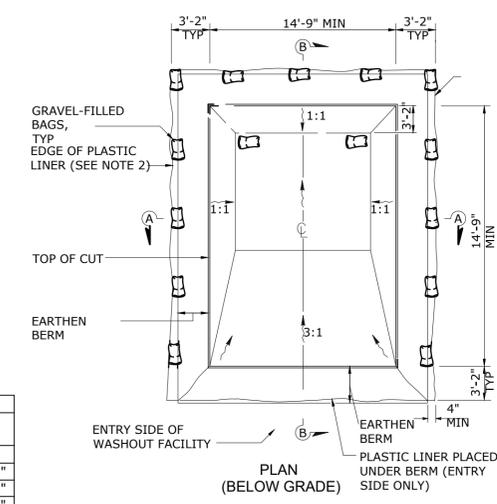


**CONCRETE ENCASEMENT**  
NTS



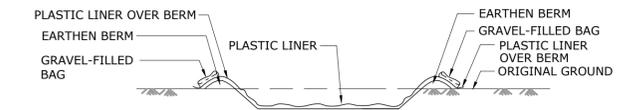
**CORNER/LINE**

NOTES:  
1. IF ROCK IS ENCOUNTERED WHEN SETTING POSTS, DRILL HOLES 4 INCHES LARGER IN DIAMETER THAN POSTS AND BACKFILL TO GRADE WITH CLASS "B" CONCRETE.

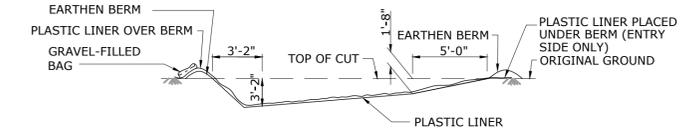


**PLAN (ON GRADE)**

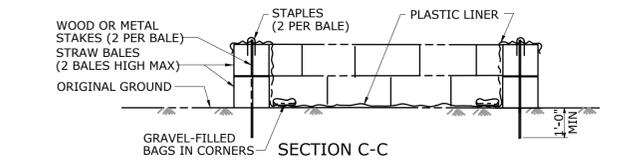
**CHAIN LINK FENCE**  
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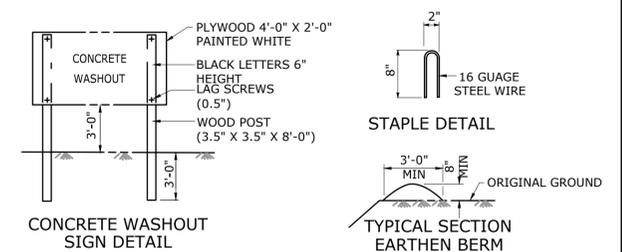
**SECTION A-A**



**SECTION B-B**



**SECTION C-C**



**CONCRETE WASHOUT SIGN DETAIL**

**TYPICAL SECTION EARTHEN BERM**

NOTES:  
1. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 32'-10" OF THE TEMPORARY CONCRETE WASHOUT FACILITY.  
2. PLASTIC LINER SHALL BE ANCHORED WITH GRAVEL-FILLED BAGS FOR BELOW GRADE CONCRETE WASHOUT FACILITY.  
3. THE CONTRACTOR SHALL PROVIDE WATERTIGHT, PORTABLE WASHOUT CONTAINERS IF SPACE CONSTRAINTS OF THE SITE DO NOT ALLOW THE USE OF THE DETAIL ABOVE. CONTRACTOR SHALL FURNISH, MAINTAIN, AND REMOVE CONTAINERS TO THE SITE AS REQUIRED FOR THEIR CONCRETE DELIVERIES AT NO ADDITIONAL COST TO THE OWNER.

**CONCRETE WASHOUT**  
NTS

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PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. TANNER
DRAWN BY:	J. TANNER
CHECKED BY:	D. SHEERAN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"
REV	ISSUED FOR
0	BID
	06/2024
	PDS

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**Hazen**  
HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11TH FLOOR  
NEW YORK, NEW YORK 10018

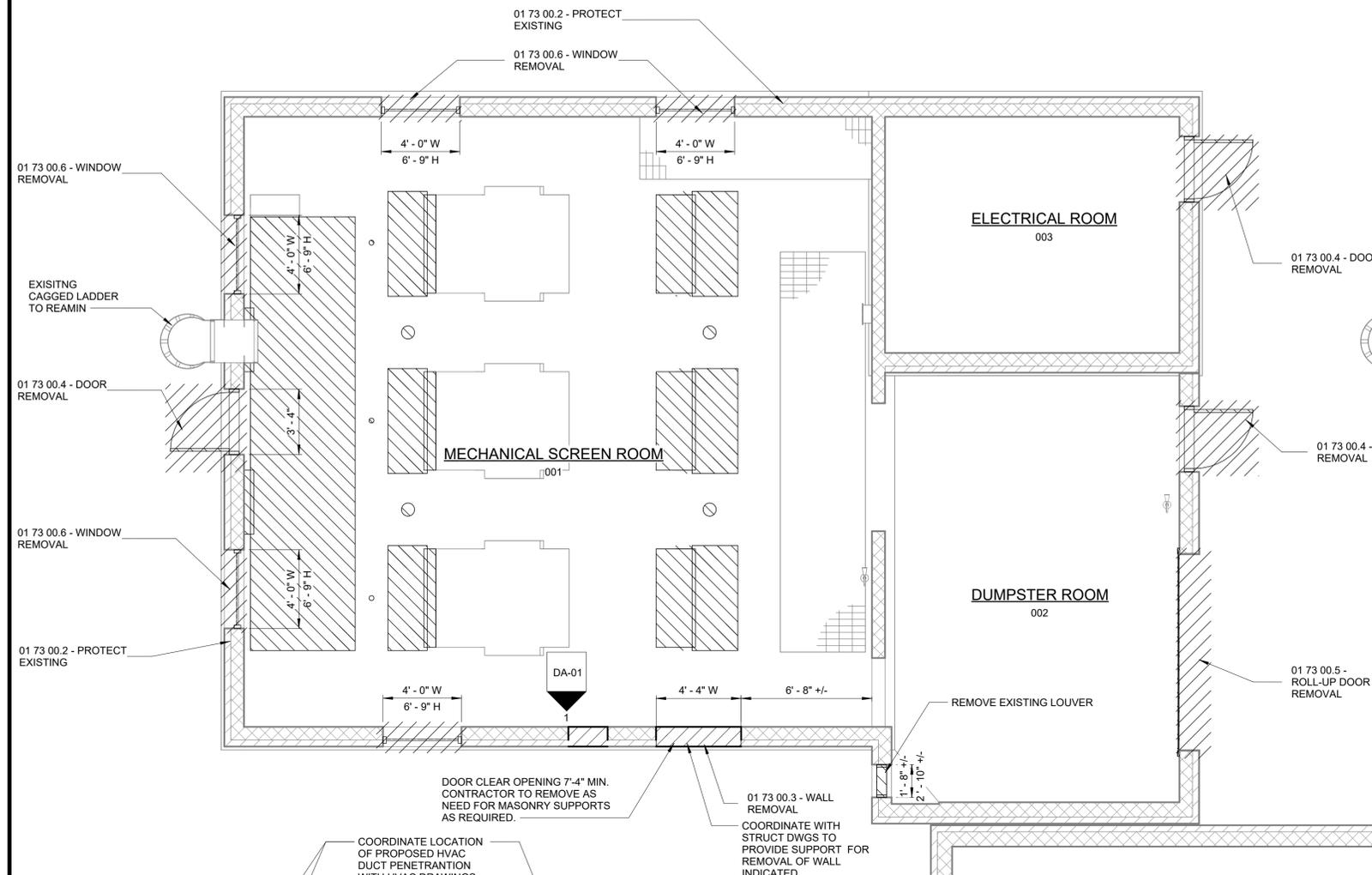
ROCKLAND COUNTY SEWER DISTRICT NO.1  
ORANGEBURG, NEW YORK  
  
ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

CIVIL  
DETAILS  
SHEET 2

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	C-06

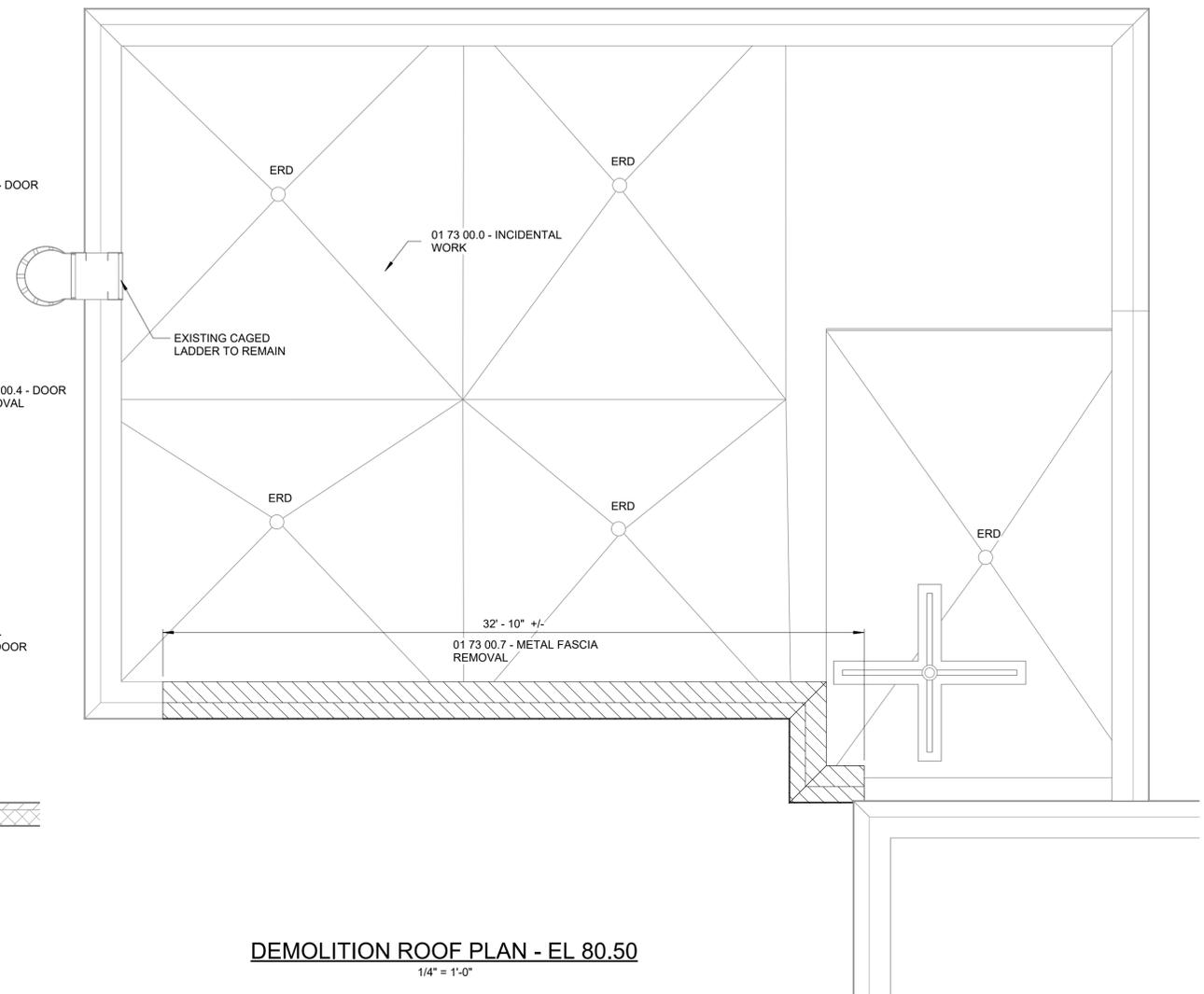
NOTE:

1. REFER TO DRAWING A-01 FOR ARCHITECTURAL NOTES.
2. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS IN FIELD. COORDINATE ALL REMOVAL WORK WITH PROPOSED WORK.
3. CONTRACTOR SHALL TAKE CARE TO AVOID DAMAGE TO EXISTING AREAS/EQUIPMENT NOT INDICATED TO BE DEMOLISHED OR REMOVED, ANY DAMAGE TO EXISTING AREA/EQUIPMENT NOT INDICATED TO BE DEMOLISHED OR REMOVE SHALL BE REPAIRED AT THE CONTRACT'S OWN EXPENSE



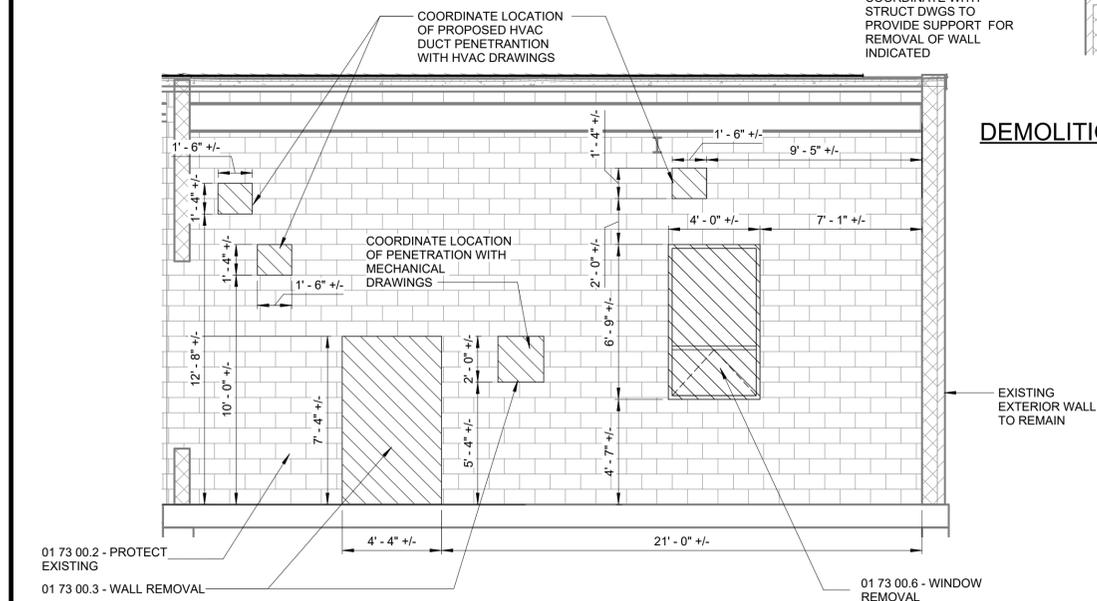
DEMOLITION FLOOR PLAN - EL 70.50

1/4" = 1'-0"



DEMOLITION ROOF PLAN - EL 80.50

1/4" = 1'-0"



1 - DEMOLITION INTERIOR ELEVATION

1/4" = 1'-0"

LEGEND

- ITEM TO BE REMOVED
- EXISTING ROOF DRAIN TO REMAIN

Autodesk Docs/06/06/2024 09:00:00 EDS and CA for RCSD Streets Rehab/0462-000-100-MSBA.vt 6/24/2024 6:37:29 PM

0	BID	06/2024	PDS
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. MARTINEZ
DRAWN BY:	J. MARTINEZ
CHECKED BY:	M. STALLONE
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	
0	1/2" 1"

FOR BID



**Hazen**

HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11th FLOOR  
NEW YORK, NEW YORK 10018

ROCKLAND COUNTY SEWER DISTRICT NO.1  
ORANGEBURG, NEW YORK

ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

ARCHITECTURAL REMOVAL  
PLANS AT EL 70.50 AND EL 88.50 AND ELEVATION

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	DA-01

**GENERAL NOTES**

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE RULES AND REGULATIONS OF 2020 BUILDING CODE OF NEW YORK STATE AND TOWN/VILLAGE OF ROCKLAND, NY.
- WRITTEN DIMENSIONS ON THESE DRAWINGS SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS.
- CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB AND ENGINEERS OFFICE MUST BE NOTIFIED OF ANY VARIATION FROM THE DIMENSIONS SHOWN BY THESE DRAWINGS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY BRACING AND PROTECTING ALL WORK DURING CONSTRUCTION AGAINST DAMAGE, BREAKAGE, COLLAPSE, DISTORTIONS AND OFF-ALIGNMENT ACCORDING TO APPLICABLE CODES, STANDARDS AND GOOD PRACTICE.
- CONSTRUCTION SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES, ORDINANCES, RULES AND REGULATIONS PERTAINING TO LABOR AND MATERIALS.
- ALL NOTES HEREIN MENTIONED WITH THOSE ON THE VARIOUS DRAWINGS, SHALL APPLY TO ALL DRAWINGS.
- ALL EXITS SHALL BE KEPT READILY ACCESSIBLE AND UNOBSTRUCTED AT ALL TIMES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF RATED PARTITIONS AND STRUCTURES PARTICULARLY WHERE PENETRATED BY VARIOUS TRADES.

**ABBREVIATIONS**

ACOUS	ACOUSTICAL	ELEC	ELECTRICAL	LAB	LABORATORY	S	SOUTH
ADMIN	ADMINISTRATION	ELEV	ELEVATOR	LAV	LAVATORY	SECT	SECTION
AFF	ABOVE FINISH FLOOR	EL	ELEVATION	LDR	LEADER	SQFT	SQUARE FEET
AL	ALUMINUM	ENGR	ENGINEER	LB	POUND	STRUCT	STRUCTURAL
&	AND	EQ	EQUAL	LIN FT	LINEAR FEET	SHT	SHEET
A	ARCHITECTURAL	EQUIP	EQUIPMENT	LPT	LOW POINT	SMS	SHEET METAL SCREWS
@	AT	ERD	EXISTING ROOF DRAIN	LSG	LAMINATED SAFETY GLASS	SLJ	SIDING LAP JOINT
B&B	BALLAD & BURLAPPED	EXST	EXISTING	MO	MASONRY OPENING	SIM	SIMILAR
BSMT	BASEMENT	EXP	EXPANSION	MAT'L	MATERIAL	SPECS	SPECIFICATIONS
BM	BEAM	EJ	EXPANSION JOINT	MAX	MAXIMUM	SQ	SQUARE
BLK	BLOCK	EXT	EXTERIOR	MAINT	MAINTENANCE	SST	STAINLESS STEEL
BD	BOARD	FD	FLOOR DRAIN	MFR	MANUFACTURER	STA	STATION
BOT	BOTTOM	FFE	FINISH FLOOR ELEVATION	MIN	MINIMUM	STD	STANDARD
BO	BOTTOM OF	FRP	FIBER REINFORCED PLASTIC	N	NORTH	STL	STEEL
BC	BRICK COURSES	OC	ON CENTER	STOR	STORAGE		
BLDG	BUILDING	FWP	FIBROUS WOOD PANEL	OD	OUTSIDE DIAMETER	T	TREAD
CAB	CABINET	FIN	FINISH	OL	OCCUPANT LOAD	THK	THICKNESS
CIP	CAST IN PLACE	FIN FL	FINISH FLOOR	PART	PARTITION	TO	TOP OF
CLG	CEILING	FIX	FIXTURE	PCMU	PREFACED ARCHITECTURAL CONCRETE MASONRY UNIT	TOM	TOP OF MASONRY
C/S	CIVIL SANITARY	FE	FIRE EXTINGUISHER	PCP	PORTLAND CEMENT PLASTER	TOS	TOP OF SLAB
CLO	CLOSET	FL	FLOOR	PCG	POLYCARBONATE GLASS	TRM	TRANSITION MEMBRANE
CMU	CONCRETE MASONRY UNIT	GALV	GALVANIZED	PJ	PREMOLDED JOINT	TSM	TRANSOM
CONC	CONCRETE	GC	GENERAL CONTRACTOR	P	PLATE	TWS	TRANSLUCENT WALL SYSTEM
CB	CONCRETE BLOCK	GL	GLASS	PL	PLUMBING	TYP	TYPICAL
CONT	CONTINUOUS	GFB	GROUND FACE BLOCK	PNL	PANEL	UL	UNDERWRITER'S LABORATORIES
CJ	CONTROL JOINT	GR	GRADE	PREP	PREPARATION/PREPARE	UNO	UNLESS NOTED OTHERWISE
CNT	CONTROL	GYP	GYPSUM	PSF	POUNDS PER SQUARE FOOT	UV	ULTRAVIOLET
CO	CLEANOUT COORD COORDINATE	HC	HANDICAPPED	PTD	PAINTED	VAR	VARIES
CTSK	COUNTERSINK	HDN	HARDENER	PVC	POLYVINYL CHLORIDE	VERT	VERTICAL
CU	CUBIC	HDW	HARDWARE	PVF	POLYVINYL FLUORIDE	VIF	VERIFY IN FIELD
CL	CLEAR	HT	HEIGHT	QUAN	QUANTITY	VP	VISION PANEL
DTL	DETAIL	HPT	HIGH POINT	R	RISER	W	WEST
DIA	DIAMETER	HM	HOLLOW METAL	RAD	RADIUS	WC	WATER CLOSET
DIM	DIMENSION	HORIZ	HORIZONTAL	RCP	REFLECTED CEILING PLAN	WD	WOOD
DR	DOOR	HR	HOUR	REF	REFERENCE	WT	WEIGHT
DN	DOWN	HVAC	HEATING, VENTILATION & AIR CONDITIONING	REINF	REINFORCING	W/O	WITHOUT
DS	DOWNSPOUT	ID	INSIDE DIMENSION	REQ'D	REQUIRED		
DOW	DOWEL	IG	INSULATING GLASS	RD	ROOF DRAIN		
DWG	DRAWING	INFO	INFORMATION	RM	ROOM		
DF	DRINKING FOUNTAIN	INSUL	INSULATION	RO	ROUGH OPENING		
EA	EACH	INT	INTERIOR				
E	EAST	JC	JANITOR'S CLOSET				
EWC	ELECTRIC WATER	JT	JOINT				
COOLER							

**SYMBOLS AND LEGEND**

DETAIL NO. 1	SIM	DETAIL TAG
DRAWING NO. A101		
CL		CENTER LINE
ROOM NAME		ROOM NUMBER
101		
(W-X)		WINDOW TAG
(XXX-X)		DOOR TAG
(LX)		LOUVER TAG
(A)		REVISION TAG
(A-XX)		ELEVATION TAG
(X-X)		SECTION TAG
(Masonry Wall)		MASONRY WALL
(Concrete)		CONCRETE
(Grout or Fill)		GROUT OR FILL
(Metal)		METAL
(Wood Blocking)		WOOD BLOCKING
(Brick)		BRICK
(Planters)		PLANTERS
(FE)		FIRE EXTINGUISHER
(FEC)		FIRE EXTINGUISHER CABINET
(CO2)		CARBON DIOXIDE FIRE EXTINGUISHER
(RD)		ROOF DRAIN
(EDR)		EXISTING ROOF DRAIN
(F/D)		FLOOR DRAIN
(X-X)		SIGN LOCATION AND TYPE SYMBOL (DIRECTION OF ARROW ON EXIT SIGNS)

**ARCHITECTURAL NOTES**

**DIVISION 1**

- 01 73 00.0 - INCIDENTAL WORK: THE ARCHITECTURAL DRAWINGS SHOW PRINCIPAL AREAS WHERE WORK MUST BE ACCOMPLISHED UNDER THIS CONTRACT. INCIDENTAL WORK MAY ALSO BE NECESSARY IN AREAS NOT SHOWN ON ARCHITECTURAL DRAWINGS DUE TO CHANGES AFFECTING EXISTING MECHANICAL, ELECTRICAL, PLUMBING OR OTHER SYSTEMS. SUCH INCIDENTAL WORK IS ALSO PART OF THIS CONTRACT. INSPECT THOSE AREAS, AND ASCERTAIN WORK NEEDED, AND DO THAT WORK IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS, AT NO ADDITIONAL COST.
- 01 73 00.1 - COORDINATION OF CONTRACTS: THE DEMOLITION WORK OF THIS CONTRACT SHALL BE COORDINATED W/ REMOVAL DWGS OF E & H CONTRACTS.
- 01 73 00.2 - PROTECT EXISTING: PROTECT EXISTING WORK TO REMAIN FROM DAMAGE. CAREFULLY REMOVE WORK AS INDICATED BY SAW CUT - MINIMIZE THE USE OF HAMMERING OR CHIPPING OF EXISTING.
- 01 73 00.3 - WALL REMOVAL: DEMOLISH WALLS AS INDICATED ON REMOVAL CONTRACT DRAWINGS. CLEAN, SCRAPE, AND CHIP OFF EXCESS MORTAR AT ADJACENT WALLS TO PROVIDE A SMOOTH FINISH. REFER TO NOTE 04 22 23.1 - PREFACED CONCRETE MASONRY UNIT RESTORATION FOR PATCHING OF ADJACENT WALL. COORDINATE REMOVAL WITH PROPOSED WORK.
- 01 73 00.4 - DOOR REMOVAL: REMOVE EXISTING DOOR IN ITS ENTIRETY.
- 01 73 00.5 - ROLL-UP DOOR REMOVAL: REMOVE ROLL-UP DOOR AND ALL ITS APPARATUS. EXISTING ANGLE FRAME TO REMAIN.
- 01 73 00.6 - WINDOW REMOVAL: REMOVE EXISTING WINDOW SYSTEM IN ITS ENTIRETY. PROTECT BUILDING INTERIOR FROM WATER INFILTRATION UNTIL WORK OF THE PROPOSED WINDOW IS COMPLETED.
- 01 73 00.7 - METAL FASCIA REMOVAL: REMOVE EXISTING METAL FASCIA AS INDICATED ON CONTRACT DRAWINGS.

**DIVISION 3**

- 03 33 00.0 - MOCK-UP SLAB: SET MOCK-UP WALLS MOCKUP ON 6-INCHES THICK CONCRETE PAD WITH 10 X 10 WWF OVER 6-INCHES GRAVEL BED. SIZE OF PAD TO BE 4-FEET WIDE BY 10-FEET LONG REFER TO NOTE 04 22 23.5 MOCK-UP EXTERIOR WALL SYSTEM.
- 03 35 00.0 - CONCRETE HARDENER: PROVIDE TYPE C FLOAT FINISH WITH NON-SLIP SHAKE ON AGGREGATE AND CONCRETE HARDENER FINISH THROUGHOUT ALL INTERIOR HORIZONTAL CONCRETE SURFACES.
- 03 35 00.1 - EXPOSED CONCRETE AND COLUMN FINISH: PROVIDE TYPE III GROUT CLEANED FINISH AT ALL INTERIOR CONCRETE AND CONCRETE COLUMNS THROUGHOUT ENTIRE PROJECT.

**DIVISION 4**

- 04 01 20.0 - EXTERIOR BRICK CLEANING: CLEAN EACH FAÇADE FOR FULL HEIGHT AND WIDTH AS INDICATED ON CONTRACT DRAWINGS.
- 04 01 20.1 - INTERIOR PREFACED CONCRETE MASONRY UNIT CLEANING: UPON COMPLETION OF THE WORK ASSOCIATED WITH SECTION 04 22 23.23., CLEAN EACH WALLS ENCLOSED THE ROOM AND AREA OF WORK FOR FULL HEIGHT IN AREAS ASSOCIATED WITH THE WORK OF THE PROJECT.
- 04 05 19.0 - TOP OF MASONRY WALL: SECURE TOP OF ALL MASONRY WALLS TO UNDERSIDE OF STRUCTURE AS INDICATED ON STRUCTURAL DRAWINGS AND SECTION 04 05 19 - MASONRY ANCHORAGE AND REINFORCING.
- 04 05 19.1 - EXTERIOR MASONRY WALL: REFER TO STRUCTURAL DRAWINGS FOR VERTICAL REINFORCING. REFER TO SECTION 04 05 19 MASONRY ANCHORAGE AND REINFORCING AND STRUCTURAL DRAWING FOR LINTELS AND BOND BEAMS. ALL VERTICAL REINFORCING SHALL BE PLACED IN FULLY GROUTED CELLS.
- 04 05 19.3 - MASONRY WALL HORIZONTAL REINFORCEMENT: INSTALL CONTINUOUS HEAVY DUTY METAL TRUSS MESH REINFORCEMENT IN STAINLESS STEEL FOR EXTERIOR WALLS AND IN GALVANIZED STEEL FOR INTERIOR WALLS.
- 04 05 19.4 - WEEP: PROVIDE WEEPS IN THE HEAD JOINTS OF THE FIRST COURSE OF MASONRY IMMEDIATELY ABOVE ALL CONCEALED FLASHING. SPACE WEEPS 16 INCHES ON CENTERS HORIZONTALLY. WEEPS SHALL BE SIZED IN ACCORDANCE WITH SECTION 04 05 23.
- 04 05 19.5 - CAVITY DRAINAGE MAT: PROVIDE CAVITY DRAINAGE MAT IN THICKNESS OF ACTUAL AIR SPACE MINUS TOLERANCES RECOMMENDED BY MANUFACTURER. AIR SPACE TO BE NO LESS THAN 1 INCH.
- 04 21 13.0 - FACE BRICK: PROVIDE MODULAR FACE BRICK IN RUNNING BOND OVER 4-INCH CAVITY WITH AIR AND VAPOR BARRIER APPLIED TO 12-INCH GFB BACKUP MASONRY PER NOTE 07 26 16.0 WALL SYSTEM VAPOR AND AIR BARRIERS. PROVIDE CAVITY DRAINAGE MAT PER NOTE 04 05 19.5 AND CAVITY WALL INSULATION PER NOTE 07 21 00.0 FOR FULL HEIGHT OF CAVITIES. PROVIDE WEEPS PER NOTE 04 05 19.4 BRICK CAVITY WALL REINFORCEMENT TO BE IN ACCORDANCE WITH SECTION 04 05 19.0 - MASONRY ANCHORAGE AND REINFORCING.
- 04 22 23.23.1 - MASONRY INFILL: PROVIDE MASONRY INFILL OF EXISTING CONDITIONS IN AREAS INDICATED ON CONTRACT DRAWINGS. ALL MASONRY INFILL SHALL BE CMU UNLESS NOTED OTHERWISE.
- 04 22 23.23.2 - EXTERIOR MASONRY BACKUP: ALL EXTERIOR MASONRY WALL SYSTEMS SHALL BE COMPRISED OF 12-INCH GFB BACKUP MASONRY. BACKUP UNIT MASONRY SHALL HAVE EXPOSED SIDES FINISHED AT THE INTERIOR FACE. EXTERIOR MASONRY WALLS SHALL BE ANCHORED BY REINFORCING INTO CONCRETE SLABS OR UNDERSIDES OF BEAMS IN ACCORDANCE WITH THE STRUCTURAL DRAWINGS AND SECTION 04 05 19 - MASONRY ANCHORAGE AND REINFORCING.
- 04 22 23.23.3 - CONCRETE MASONRY UNIT RESTORATION: IN AREAS DESIGNATED FOR DEMOLITION OF EXISTING CONCRETE MASONRY UNITS, IF DEMOLITION EXCEEDS THE AREAS INDICATED FOR REPLACEMENT THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL REINFORCING AND ACCESSORIES FOR REPAIR OF SUCH CONDITIONS. CLEAN ALL WALLS WITHIN AREAS OF WORK AFTER MASONRY REPAIR IS COMPLETED. THE REPLACEMENT CONCRETE MASONRY UNITS SHALL MATCH THE SIZE, SHAPE, FINISH AND COLOR TO THE CONCRETE MASONRY UNITS.
- 04 22 23.23.4 - CONTROL JOINTS: PROVIDE BACKER ROD AND SEALANT AT ALL CONTROL JOINTS. BUTT AND CORNER JOINTS SHALL BE SEALED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. CONTROL JOINTS SHALL BE AS INDICATED ON THE CONTRACT DRAWINGS. HORIZONTAL JOINT REINFORCEMENT SHALL NOT CONTINUE THROUGH CONTROL JOINTS.
- 04 22 23.23.5 - MOCK-UP EXTERIOR WALL SYSTEM: REFER TO NOTE 03 33 00.1 MOCK-UP SLAB. SET MOCK-UP WALLS AT CENTER OF MOCK-UP SLAB. MOCK-UP TO CAVITY WALL BASE WILL BE TOP OF GRADE EQUAL TOP OF MOCK-UP SLAB. REFER TO DETAIL 5 DRAWING A-07 FOR EXTERIOR CAVITY WALL ASSEMBLY. REFER TO DETAIL 4 ON DRAWING A-09 FOR COPING ASSEMBLY AT TOP OF MOCKUP. HEIGHT OF MOCKUP TO BE 4-FEET. LENGTH OF MOCK-UP TO BE 8-FEET. PROVIDE VERTICAL CONTROL JOINT AT CENTERLINE OF MOCK-UP WALL - REFER TO NOTE 04 22 23.23.4 CONTROL JOINTS. MOCK-UP OF EXTERIOR CAVITY WALL ASSEMBLY TO BE AS INDICATED ON THE DETAIL SECTIONS INDICATED ABOVE WITHOUT EXCEPTION.

**DIVISION 5**

- 05 51 00.0 - METAL STAIR: PROVIDE METAL STAIR AND ASSOCIATED PLATFORM AND RAILINGS IN ACCORDANCE WITH STRUCTURAL DRAWINGS AND SECTION 05 51 00 METAL STAIRS. PROVIDE TOE GUARDS AT ALL HORIZONTAL OPEN SIDE RAILINGS ADJOINING OPENINGS AND STAIR PLATFORMS ADJOINING CLEAR OPENINGS TO FLOORS OR SLABS BELOW.
- 05 52 00.0 - GUARDS AND RAILINGS: PROVIDE METAL GUARDS AND RAILINGS AT ALL STAIRS IN ACCORDANCE WITH SECTION 05 52 00 GUARDS AND RAILINGS. RAILINGS ALONG WALLS SHALL BE PROVIDED WITH WALL MOUNTED SUPPORT BRACKETS. FREE STANDING TYPE SHALL BE PROVIDED WITH WELDED ON BASE MOUNTING FLANGES. INSTALLATION SHALL UTILIZE ADHESIVE ANCHORS.

**DIVISION 6**

- 06 10 00.0 - WOOD BLOCKING: ALL BLOCKING USED FOR ROOFING AND IN EXTERIOR WALLS TO BE PRESERVATIVE TREATED LUMBER.

**DIVISION 7**

- 07 21 00.0 - CAVITY WALL INSULATION: PROVIDE MINIMUM R-11.4 OF CAVITY WALL INSULATION THROUGHOUT ENTIRE EXTERIOR SURFACE OF BACK-UP EXTERIOR MASONRY WALL SYSTEMS RECEIVING FACE BRICK. PRIOR TO THE INSTALLATION OF INSULATION PROVIDE AN AIR AND VAPOR BARRIER IN ACCORDANCE WITH NOTE 07 26 16.0.
- 07 21 00.1 - ROOFING BOARD INSULATION: PROVIDE MINIMUM R-30 OF UNTAPERED ROOF INSULATION THROUGHOUT ROOF AREA WITH 1/4-INCH PER FOOT TAPERED INSULATION LAID ON TOP OF UNTAPERED INSULATION. INSTALL IN ACCORDANCE WITH MANUFACTURERS REQUIREMENTS OVER VAPOR RETARDER ONTO STRUCTURAL ROOF SYSTEM.
- 07 21 00.3 - PERIMETER INSULATION: INSTALL PERIMETER INSULATION AFTER CONCRETE FOUNDATION WORK HAS BEEN POURED AND ACCEPTABLE TO ENGINEER. PERIMETER INSULATION SHALL EXTEND DOWNWARD BELOW GRADE FOR A MINIMUM OF 2-FEET WITH MIN R-10 CONTINUOUS INSULATION. STAGGER JOINTS IN INSULATION AND BUTT INSULATION TIGHTLY TOGETHER. PROTECT PERIMETER INSULATION FROM DAMAGE DURING BACK FILLING WORK.
- 07 26 13.0 - WALL SYSTEM VAPOR AND AIR BARRIERS: PROVIDE VAPOR AND AIR BARRIERS THROUGHOUT ALL ABOVE GRADE WALL SURFACES. SEAL WALL SYSTEM VAPOR AND AIR BARRIERS TO ADJOINING TRANSITION MEMBRANES TO CREATE A COMPLETE VAPOR AND AIR BARRIER ENCLOSURE SYSTEM. APPLY AIR AND VAPOR BARRIER ON INTERIOR SIDE OF CAVITY FOR ALL EXTERIOR CAVITY WALL SYSTEMS. VAPOR AND AIR BARRIERS SHALL BE INSTALLED PRIOR TO INSTALLATION OF INSULATION AND CAN BE USED AS ADHESIVE TO SECURE INSULATION.
- 07 26 16.0 - SHEET MEMBRANE WATERPROOFING: PROVIDE SHEET MEMBRANE WATERPROOFING THROUGHOUT ALL FOUNDATION WALLS, GRADE BEAMS, AND SLABS INCLUDING BUT NOT LIMITED TO CONCRETE FOUNDATION CONDITIONS SUCH AS PIPE TRENCHES, AND PENETRATIONS BELOW THE FLOOR SLAB AS A COMPLETE WATERPROOFING SYSTEM.
- 07 52 00.0 - MODIFIED BITUMINOUS MEMBRANE ROOFING: PROVIDE MODIFIED BITUMINOUS MEMBRANE ROOFING COULD APPLIED SYSTEM THROUGHOUT ALL ROOF AREAS INDICATED ON CONTRACT DRAWINGS. PROVIDE ONE HALF INCH COVER BOARD UNDER MEMBRANE AND OVER TAPERED INSULATION.
- 07 60 00.0 - FLASHING: PROVIDE FLASHING AS SPECIFIED IN SECTION 07 60 00 - SHEET METAL FLASHING AND TRIM SHALL EXTEND A MINIMUM OF 8" VERTICAL RETURN AT REAR OF ASSEMBLY. PROVIDE SEPARATION FOR ALL DISSIMILAR METALS.
- 07 70 00.0 - METAL FASCIA: PROVIDE PRE-FINISHED METAL FASCIA UNITS WITH MITERED WELDED CORNERS, CONCEALED SPLICE PLATES AND JOINT TRIM, RETAINER CLIPS, COMPRESSION PADS, FASTENERS, AND OTHER ACCESSORIES REQUIRED TO MAKE A COMPLETE INSTALLATION. IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. PRIOR TO THE INSTALLATION OF THE FASCIA, ALLOW FOR AND COORDINATE THE INSTALLATION OF VAPOR BARRIER AND TRANSITION MEMBRANE AS WORK OF SECTION 07 26 16.0 AND WORK OF 07 21 00.0 CAVITY WALL INSULATION. COLOR TO MATCH ADJACENT STRUCTURES.
- 07 70 00.1 - FALL PROTECTION SYSTEM: PROVIDE FALL ARREST ANCHORAGE CONNECTION DEVICE PER SECTION 07 70 00. REFER TO ROOF PLAN FOR LOCATIONS.
- 07 90 00.0 - BACKER ROD AND SEALANT: PROVIDE BACKER ROD AND SEALANT AROUND PERIMETER OF ALL OPENINGS, INCLUDING BUT NOT LIMITED TO DOORS, WINDOWS, TRANSLUCENT PANELS, AND LOUVERS. REFER TO SECTION 07 90 00 FOR JOINT FILLERS, SEALANTS AND CAULKING.
- 07 95 00.0 - EXTERIOR EXPANSION JOINTS: PROVIDE EXPANSION JOINT BETWEEN MASONRY MATERIALS. CLEAN AND PREPARE SURFACES IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
- 07 95 00.1 - INTERIOR EXPANSION JOINT AT WALL AND CEILING: PROVIDE EXPANSION JOINT WITH ALUMINUM COVER FOR WALL AND CEILING CONDITION AT OPENING. CLEAN AND PREPARE SURFACES IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. PROVIDE ALL TRANSITION FROM FLOOR TO WALL AND CEILING FOR FULL HEIGHT OF OPENING.
- 07 95 00.2 - INTERIOR EXPANSION JOINT AT FLOOR: PROVIDE EXPANSION JOINT WITH ALUMINUM COVER FOR FLOOR CONDITION AT OPENING. CLEAN AND PREPARE SURFACES IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. PROVIDE ALL TRANSITION FROM FLOOR TO WALL FOR FULL CONDITION OF OPENING.
- 07 95 00.3 - EXPANSION JOINT AT ROOF: PROVIDE EXPANSION JOINT COMPRESSIBLE FILLER AT ROOF SLAB PRIOR TO THE INSTALLATION OF JOINT COVER.

**DIVISION 8**

- 08 11 19.0 - STEEL DOORS AND FRAMES: PROVIDE STEEL DOORS AND FRAMES AS INDICATED ON THE ARCHITECTURAL DRAWINGS. HARDWARE TO BE INSTALLED IN ACCORDANCE WITH 08 71 01- FINISH DOOR HARDWARE.
- 08 33 00.0 - HINGED FLOOR DOOR AND FRAME SYSTEM: PROVIDE FLOOD RESISTANT DOORS AND FRAME ASSEMBLY TO PREVENT ENTRY OF FLOOD WATER INTO THE PROTECTED SPACE. VARIED HEIGHT OF WATER HEAD TO THE DOORS IS DETERMINED BY THE ELEVATIONS OF THE FLOORS IN WHICH THE DOORS ARE LOCATED TO THE DESIGN FLOOD ELEVATION. COORDINATED DOORS, HARDWARE OPTIONS AND FLOOD HEIGHT WITH THE DOOR MANUFACTURER.
- 08 33 23.0 - OVERHEAD COILING DOORS: PROVIDE MOTOR OPERATED OVERHEAD COILING DOORS WITH INSULATED ALUMINUM CURTAIN SLATS. BOTTOM BAR WEATHERSTRIPPING, GALVANIZED STRUCTURAL STEEL GUIDES AND GALVANIZED DOOR HOODS. OVERHEAD COILING DOORS SHALL HAVE A THERMAL TRANSMITTANCE VALUE OF NO MORE THAN U-0.125.
- 08 51 13.0 - ALUMINUM WINDOWS: PROVIDE ALUMINUM FRAMED WINDOWS WITH INSULATED GLASS IN ACCORDANCE WITH SECTION 08 51 13 ALUMINUM WINDOWS AND FRAMES AND SECTION 08 80 00 GLASS AND GLAZING. PROVIDE FLASHING IN ACCORDANCE WITH ARCHITECTURAL NOTE 07 60 00.0 FLASHING.
- 08 71 00.0 - FINISH DOOR HARDWARE: PROVIDE FINISH DOOR HARDWARE IN ACCORDANCE WITH SECTION 08 71 00.
- 08 80 00.0 - GLAZING: ALL EXTERIOR GLAZING SHALL BE IN ACCORDANCE WITH SECTION 08 80 00 - GLAZING.
- 08 95 43 - FLOOD VENTS: PROVIDE FLOOD VENTS AS INDICATED ON CONTRACT DRAWINGS. WORK SHALL BE IN ACCORDANCE WITH SECTION 08 95 43.

**DIVISION 9**

- 09 90 00.0 - PAINTING: SCRAPE CLEAN AND PAINT EXISTING LINTELS TO RECEIVE NEW DOOR, NEW ROLL-UP DOOR AND NEW WINDOW. AT INTERIOR MASONRY IN-FILL WORK, MASONRY TO BE PAINTED TO MATCH ADJACENT COLOR.
- 09 97 00.0 - CONCRETE FLOOR TOPPING: PREPARE FLOOR FOR APPLICATION OF CONCRETE FLOOR TOPPING WITH NON-SLIP SURFACE FINISH. ALL VERTICAL BASES SHALL BE 6" HIGH AROUND ENTIRE PERIMETER OF ROOM.

**DIVISION 10**

- 10 14 01.0 - IDENTIFYING DEVICES: PROVIDE IDENTIFYING SIGNS FOR ALL DOORS AND ROOMS, WARNING SIGNS, SAFETY SIGNS BUILDING SIGN AND SITE SIGNAGE AS INDICATED ON ARCHITECTURAL DRAWINGS AND SECTION 10 14 01.
- 10 44 16.0 - FIRE EXTINGUISHERS: PROVIDE WALL MOUNTED "DC" TYPE FIRE EXTINGUISHER IN MECHANICAL ROOMS, HVAC EQUIPMENT PLATFORMS AND PROCESS AREAS. PROVIDE "CO2" TYPE FOR ELECTRICAL ROOM AND CONTROL/ELECTRICAL INSTRUMENTATION ROOM UNLESS OTHERWISE NOTED. PROVIDE CORROSION RESISTANT MOUNTING BRACKETS FOR ALL FIRE EXTINGUISHERS. ALLOW FOR ONE FIRE EXTINGUISHER PER EVERY 75-FEET OF TRAVEL DISTANCE.
- 10 71 19.0 - REMOVABLE FLOOD BARRIERS: WHERE INDICATED ON DRAWINGS, PROVIDE REMOVABLE FLOOD BARRIERS. COORDINATE WITH MANUFACTURER TO PROVIDE FLOOD BARRIERS IN WIDTHS AND HEIGHTS AS INDICATED ON CONTRACT DRAWINGS.
- 10 71 19.1 - FLOOD BARRIER STORAGE: WHERE INDICATED ON DRAWINGS, PROVIDE WALL-MOUNTED STORAGE RACKS FOR FLOOD BARRIERS WHEN NOT IN USED.

Autodesk Docs/06/06/2024\_000\_EDS and CA for RCSD Streets Rehab/0462-000-100-MSBA.v4 02/24/2024 6:38:55 PM

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J.MARTINEZ
DRAWN BY:	J.MARTINEZ
CHECKED BY:	M. STALLONE
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"
BID	06/2024
ISSUED FOR	DATE

FOR BID




**Hazen and Sawyer**  
498 SEVENTH AVENUE, 11th FLOOR  
NEW YORK, NEW YORK 10018

**ROCKLAND COUNTY SEWER DISTRICT NO.1**  
ORANGEBURG, NEW YORK

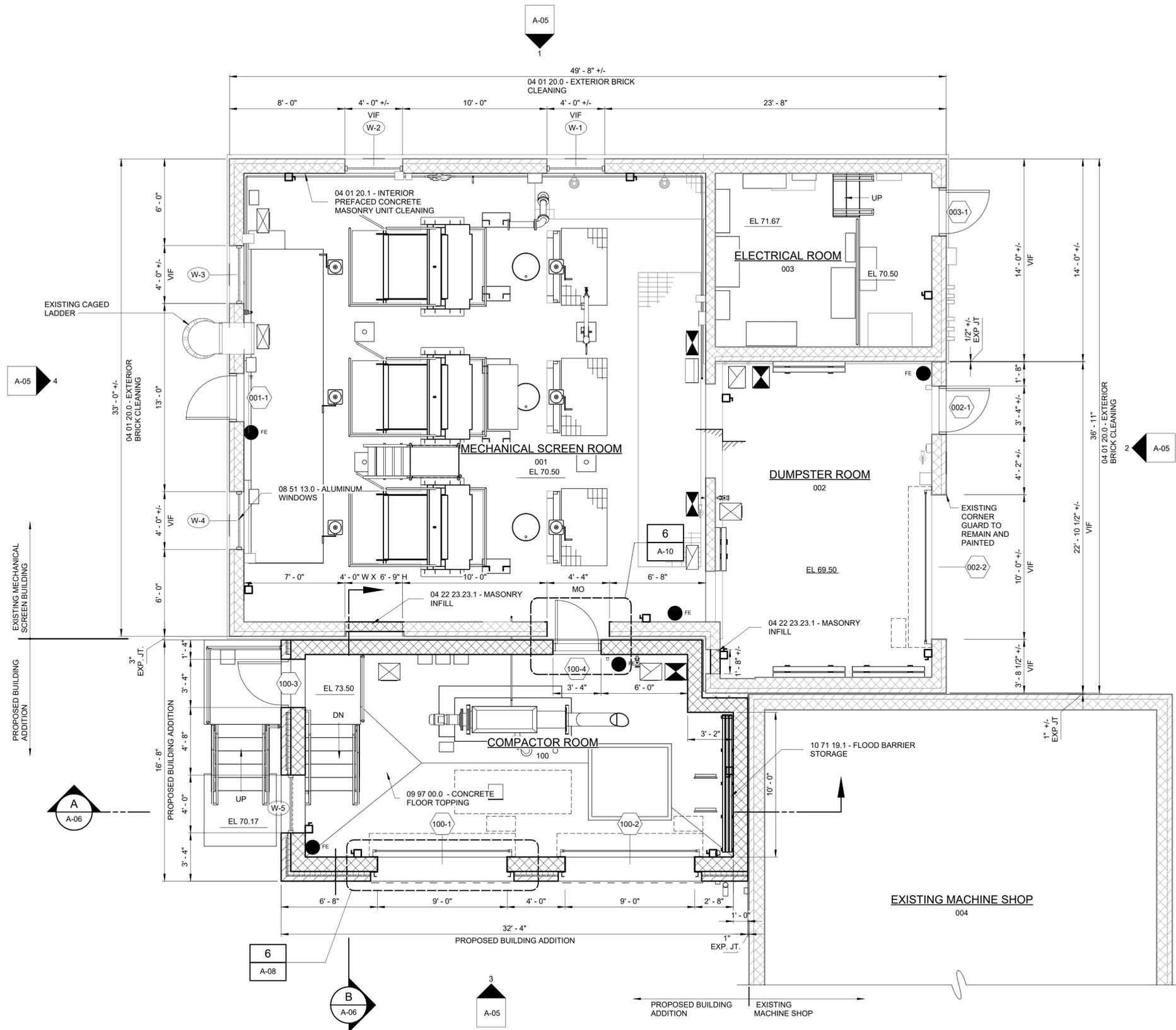
**ORANGEBURG WASTEWATER TREATMENT PLANT**  
SCREENING IMPROVEMENTS PROJECT

**ARCHITECTURAL LEGEND AND NOTES**

DATE: JUNE 2024  
HAZEN NO.: 90462-000  
CONT NO.: RFB-RC-SWR-2023-06  
DRAWING NUMBER: A-01



NOTE:  
1. REFER TO DRAWING A-01 FOR ARCHITECTURAL NOTES



FLOOR PLAN EL 70.50  
1/4" = 1'-0"

**LEGEND**  
 EXISTING WALL [hatched pattern]  
 PROPOSED WALL [cross-hatched pattern]



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0	BID	06/2024	PDS
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. MARTINEZ
DRAWN BY:	J. MARTINEZ
CHECKED BY:	M. STALLONE
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	
0	1/2" 1"

FOR BID



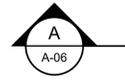
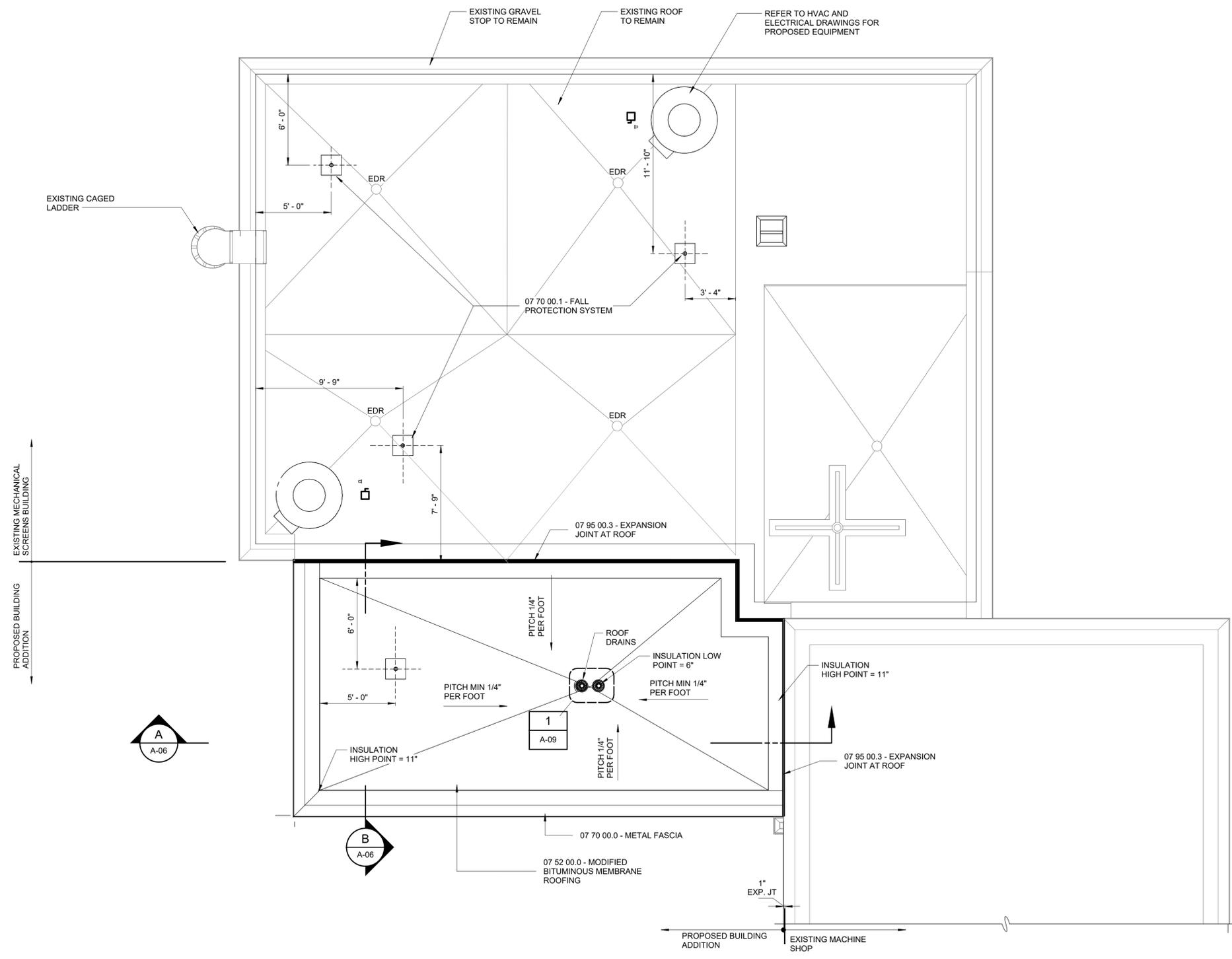
**Hazen**  
 HAZEN AND SAWYER  
 498 SEVENTH AVENUE, 11th FLOOR  
 NEW YORK, NEW YORK 10018

ROCKLAND COUNTY SEWER DISTRICT NO.1  
 ORANBURG, NEW YORK  
 ORANBURG WASTEWATER  
 TREATMENT PLANT  
 SCREENING IMPROVEMENTS PROJECT

ARCHITECTURAL  
 FIRST FLOOR PLAN

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	A-03

NOTE:  
1. REFER TO DRAWING A-01 FOR ARCHITECTURAL NOTES



**ROOF PLAN EL 80.50**  
1/4" = 1'-0"



Autodesk Docs/06/06/2024\_000\_EDS and CA for RCSD Screens Rehab/0462-000-100-MSBA.v4 6/24/2024 6:37:04 PM

0	BID	06/2024	PDS
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. MARTINEZ
DRAWN BY:	J. MARTINEZ
CHECKED BY:	M. STALLONE
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

FOR BID



**Hazen**  
HAZEN AND SAWYER  
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NEW YORK, NEW YORK 10018

ROCKLAND COUNTY SEWER DISTRICT NO.1  
ORANGEBURG, NEW YORK  
  
ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

ARCHITECTURAL  
ROOF PLAN

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	A-04

REFER TO HVAC AND ELECTRICAL DRAWINGS FOR PROPOSED EQUIPMENT

T.O EXISTING ROOF SLAB EL 88.73

CRITICAL EQUIPMENT FLOOD ELEVATION EL 74.29

NON-CRITICAL EQUIPMENT FLOOD ELEVATION EL 73.29

T.O FLOOR SLAB EL 70.50

DUCT PENETRATION - REFER TO HVAC DRAWINGS  
08 95 43 - FLOOD VENTS

08 51 13.0 - ALUMINUM WINDOWS

08 95 43 - FLOOD VENTS

### 1 - NORTH ELEVATION

1/4" = 1'-0"

NOTE:

1. REFER TO DRAWING A-01 FOR ARCHITECTURAL NOTES

EXISTING MACHINE SHOP

EXISTING MECHANICAL SCREEN BUILDING

REFER TO HVAC AND ELECTRICAL DRAWINGS FOR PROPOSED EQUIPMENT

T.O EXISTING ROOF SLAB EL 88.73

ELECTRICAL EQUIPMENT - SEE ELECTRICAL DRAWINGS, TYP

CRITICAL EQUIPMENT FLOOD ELEVATION EL 74.29

NON-CRITICAL EQUIPMENT FLOOD ELEVATION EL 73.29

EXISTING CORNER GUARD TO REMAIN AND PAINTED

08 95 43 - FLOOD VENTS  
08 33 23.0 - OVERHEAD COILING DOORS

### 2 - EAST ELEVATION

1/4" = 1'-0"

REFER TO HVAC AND ELECTRICAL DRAWINGS FOR PROPOSED EQUIPMENT

TOP OF ROOF SLAB EL 88.50

05 51 00.0 - METAL STAIR

CRITICAL EQUIPMENT FLOOD ELEVATION EL 74.29

NON-CRITICAL EQUIPMENT FLOOD ELEVATION EL 73.29

TOP OF FLOOR SLAB EL 70.50

### 3 - SOUTH ELEVATION

1/4" = 1'-0"

PROPOSED BUILDING ADDITION

EXISTING MACHINE SHOP

EXISTING CAGED LADDER TO REMAIN

REFER TO HVAC AND ELECTRICAL DRAWINGS FOR PROPOSED EQUIPMENT

EXISTING MECHANICAL SCREEN BUILDING

PROPOSED BUILDING ADDITION

07 70 00.1 - FALL PROTECTION SYSTEM

07 95 00.0 - EXTERIOR EXPANSION JOINTS

07 70 00.0 - METAL FASCIA

TOP OF ROOF SLAB EL 88.50

CJ  
04 21 13.0 - FACE BRICK

08 51 13.0 - ALUMINUM WINDOWS

05 51 00.0 - METAL STAIR

CRITICAL EQUIPMENT FLOOD ELEVATION EL 74.29

TOP OF LANDING

NON-CRITICAL EQUIPMENT FLOOD ELEVATION EL 73.29

### 4 - WEST ELEVATION

1/4" = 1'-0"

1/4" = 1'-0"

1 0 1 2 3 7  
1/4" = 1'-0"

Autodesk Docs/06462-000\_EDS and CA for RCSD Sewers Rehab/0462-000-100-MSBA.vt 6/24/2024 6:37:11 PM

0	BID	06/2024	PDS
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. MARTINEZ
DRAWN BY:	J. MARTINEZ
CHECKED BY:	M. STALLONE
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	
0	1/2" 1"

FOR BID



**Hazen**  
HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11th FLOOR  
NEW YORK, NEW YORK 10018

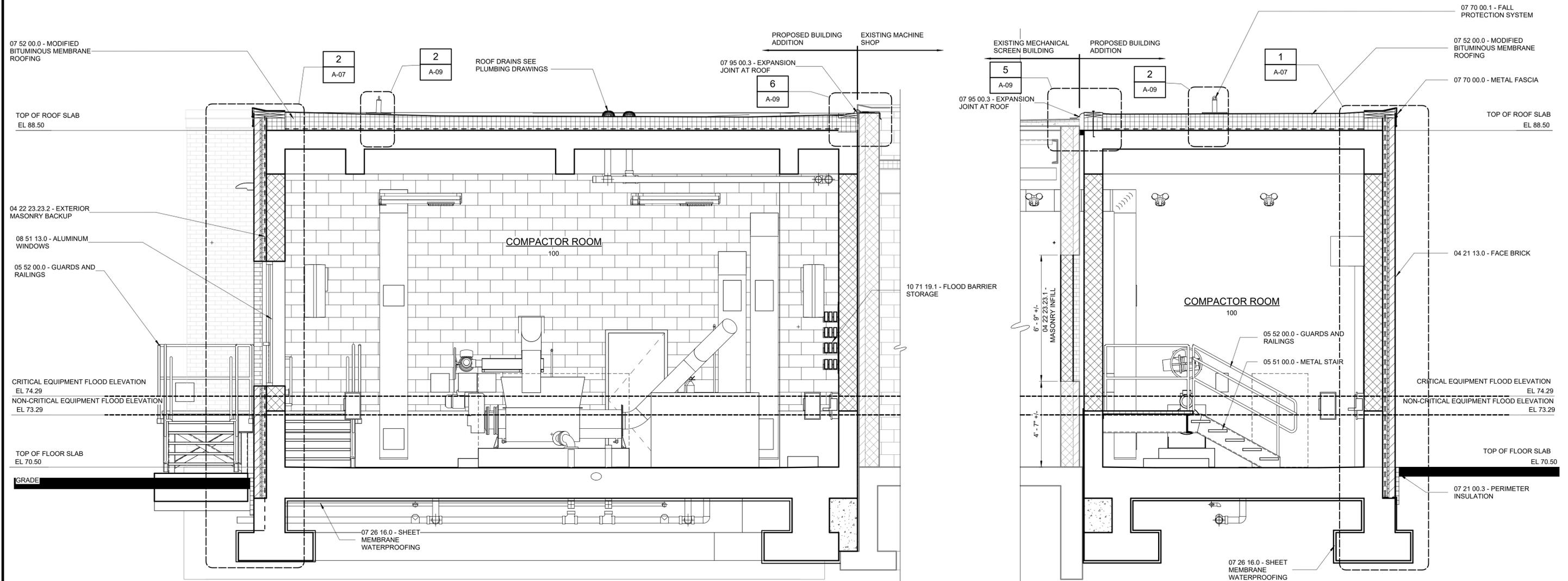
ROCKLAND COUNTY SEWER DISTRICT NO.1  
ORANGEBURG, NEW YORK

ORANGEBURG WASTEWATER TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

ARCHITECTURAL ELEVATIONS

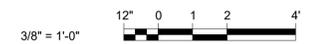
DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	A-05

NOTE:  
1. REFER TO DRAWING A-01 FOR ARCHITECTURAL NOTES



SECTION A  
3/8" = 1'-0"

SECTION B  
3/8" = 1'-0"



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PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. MARTINEZ
DRAWN BY:	J. MARTINEZ
CHECKED BY:	M. STALLONE
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

FOR BID



**Hazen**  
HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11th FLOOR  
NEW YORK, NEW YORK 10018

ROCKLAND COUNTY SEWER DISTRICT NO.1  
ORANGEBURG, NEW YORK

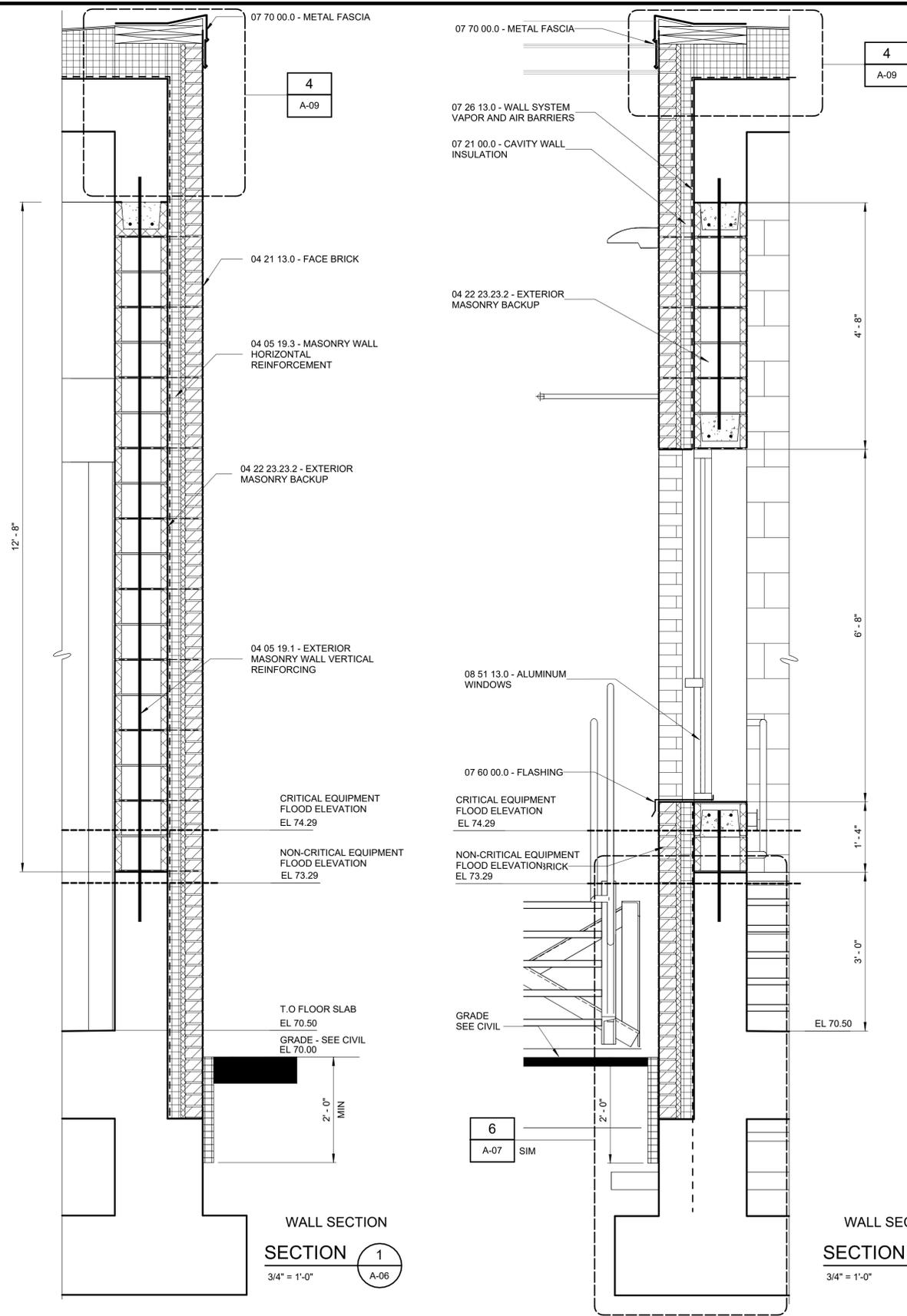
ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

ARCHITECTURAL  
SECTIONS

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	

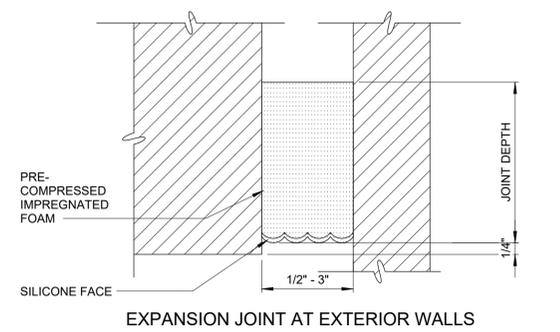
A-06

NOTE:  
1. REFER TO DRAWING A-01 FOR ARCHITECTURAL NOTES

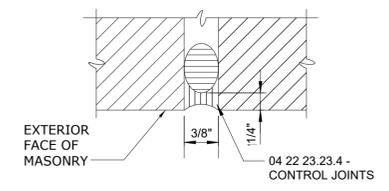


WALL SECTION  
SECTION 1  
3/4" = 1'-0"  
A-06

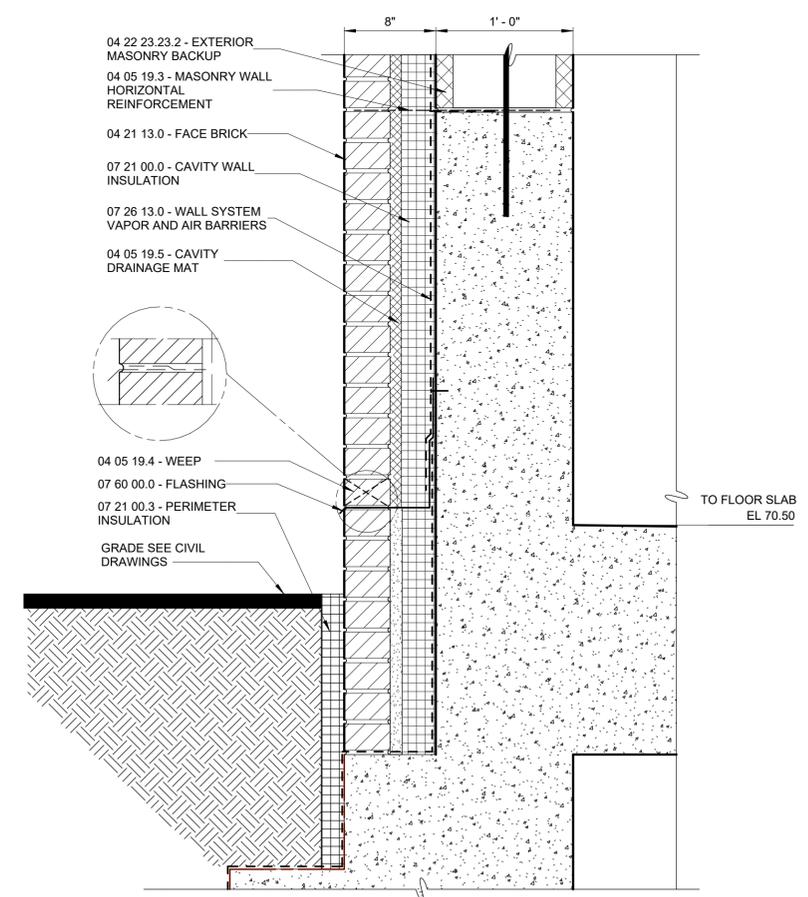
WALL SECTION  
SECTION 2  
3/4" = 1'-0"  
A-06



DETAIL 4  
6" = 1'-0"  
A-07



MASONRY CONTROL JOINTS  
DETAIL 5  
12" = 1'-0"  
A-07



DETAIL 6  
1 1/2" = 1'-0"  
A-07

Autodesk Docs/06/06/2024\_000\_EDS and CA for RCSD Streets Rehab/0462-000-100-MSBA.vt 6/24/2024 6:37:20 PM

REV	ISSUED FOR	DATE	PDS	BY
0	BID	06/2024	PDS	

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. MARTINEZ
DRAWN BY:	J. MARTINEZ
CHECKED BY:	M. STALLONE
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	
0	1/2" 1"

FOR BID

# Hazen

HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11th FLOOR  
NEW YORK, NEW YORK 10018

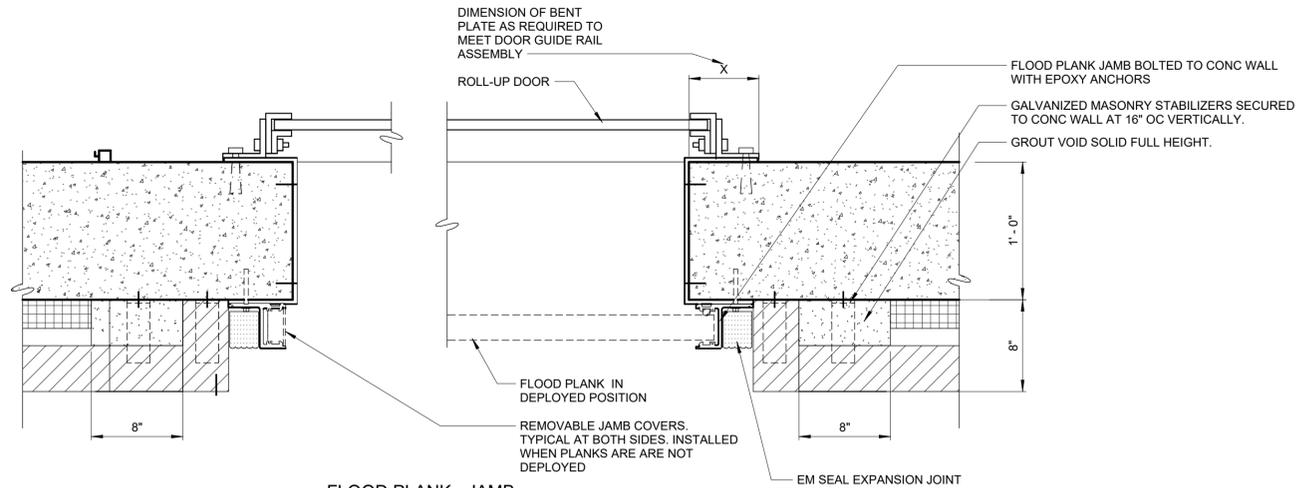
ROCKLAND COUNTY SEWER DISTRICT NO.1  
ORANGEBURG, NEW YORK

ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

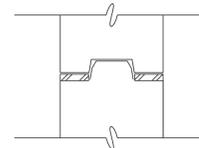
ARCHITECTURAL  
WALL SECTIONS AND DETAILS

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	A-07

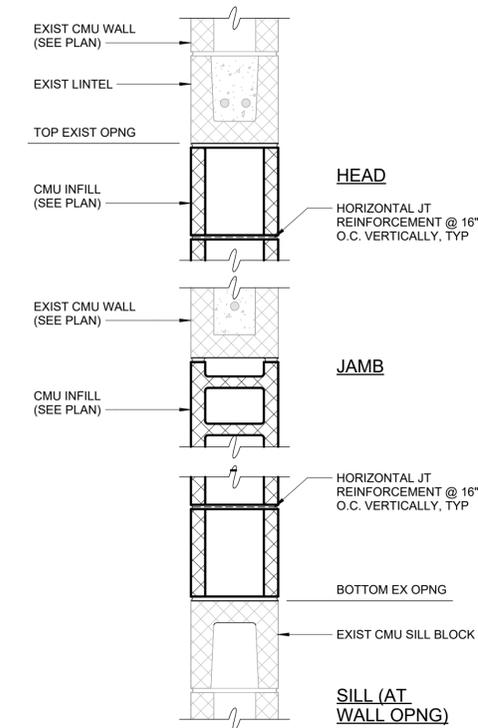
NOTE:  
1. REFER TO DRAWING A-01 FOR ARCHITECTURAL NOTES



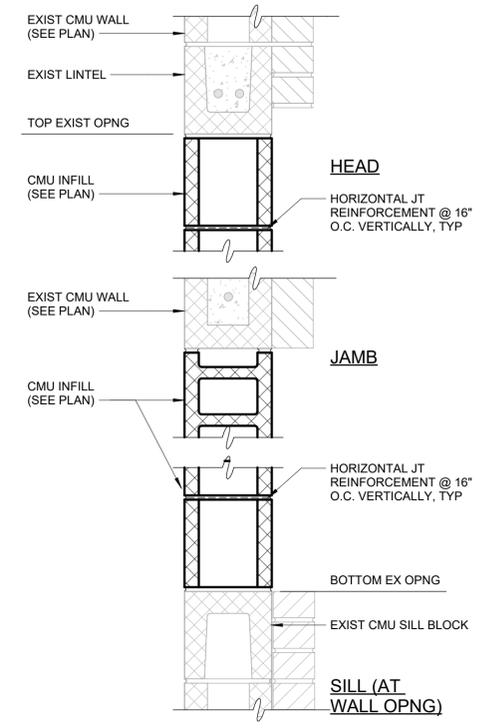
FLOOD PLANK - JAMB  
DETAIL 6  
1 1/2" = 1'-0"



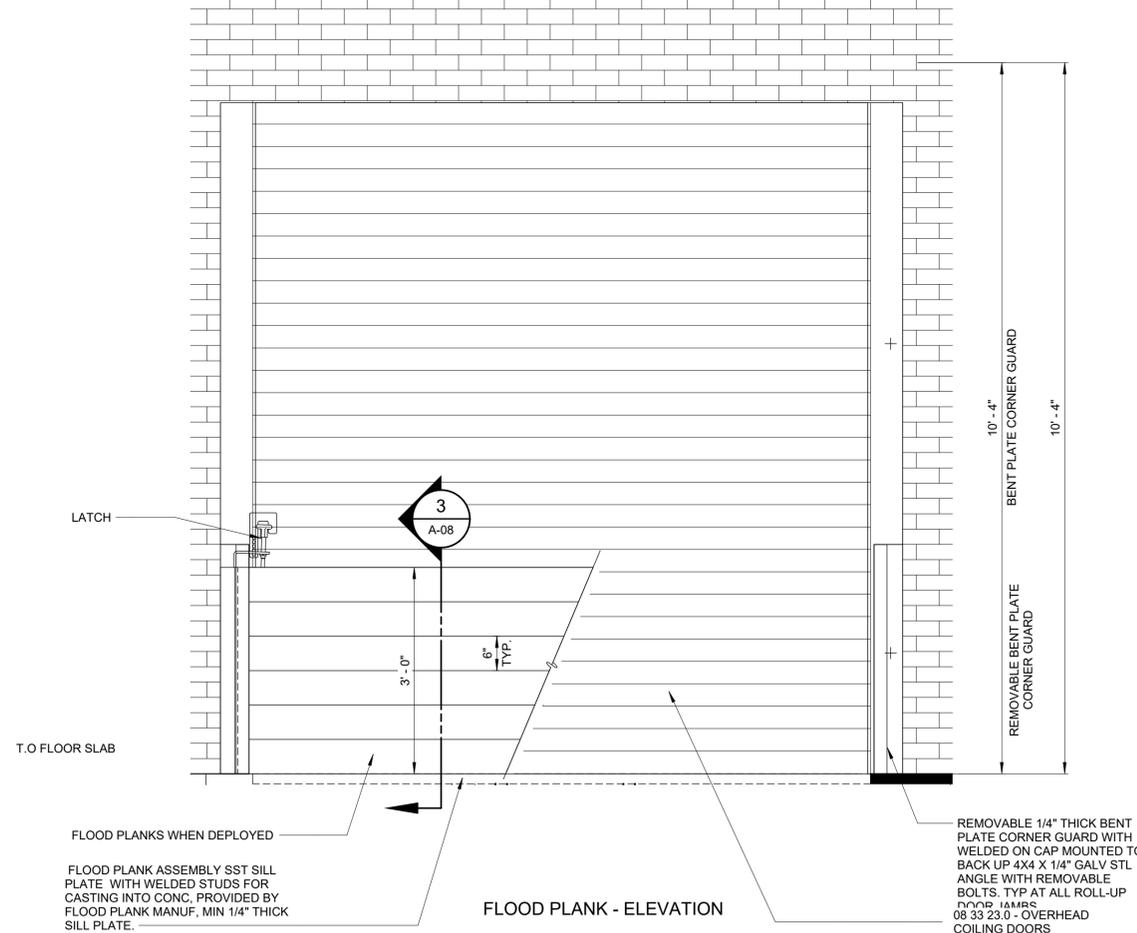
FLOOD PLANK INTERMEDIATE DETAIL  
DETAIL 4  
6" = 1'-0"



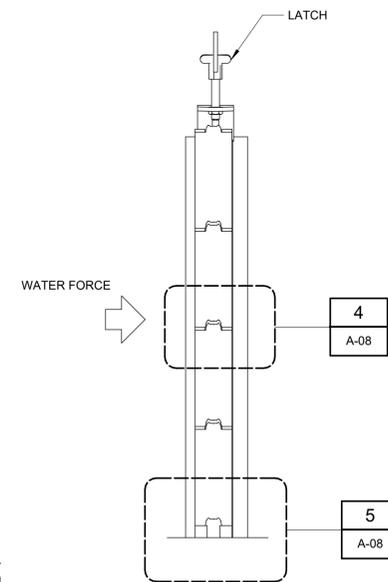
CMU INFILL IN EXISTING WALL OPENING  
DETAIL 8  
1 1/2" = 1'-0"



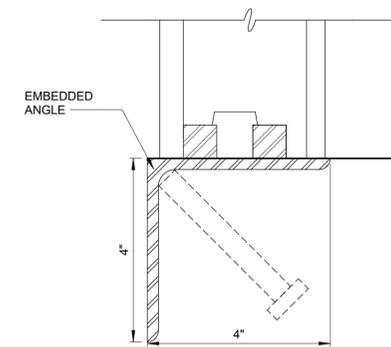
CMU INFILL IN EXISTING WALL OPENING  
DETAIL 7  
1 1/2" = 1'-0"



FLOOD PLANK - ELEVATION  
DETAIL 1  
3/4" = 1'-0"



SECTION 3  
1 1/2" = 1'-0"



FLOOD PLANK SILL DETAIL  
DETAIL 5  
6" = 1'-0"

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REV	ISSUED FOR	DATE	PDS BY
0	BID	06/2024	PDS

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. MARTINEZ
DRAWN BY:	J. MARTINEZ
CHECKED BY:	M. STALLONE
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"

FOR BID



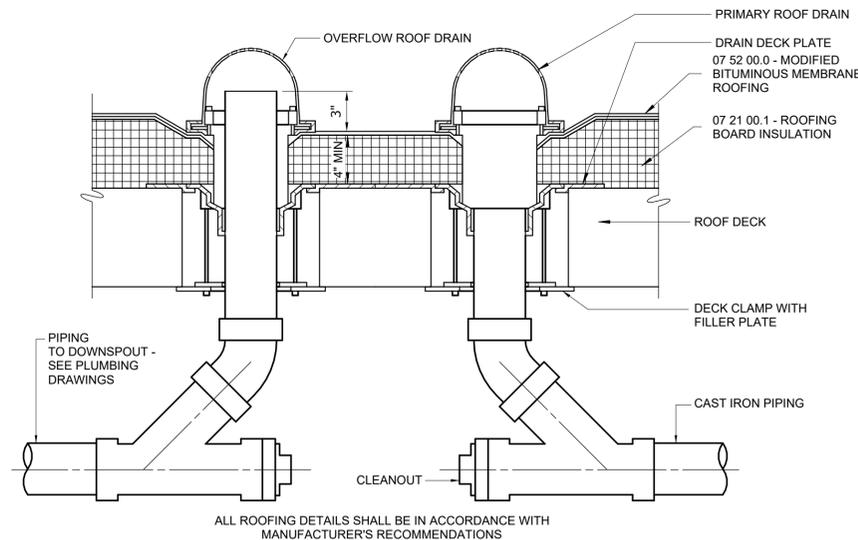
**Hazen**  
HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11th FLOOR  
NEW YORK, NEW YORK 10018

ROCKLAND COUNTY SEWER DISTRICT NO.1  
ORANGEBURG, NEW YORK  
ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

ARCHITECTURAL  
DETAILS

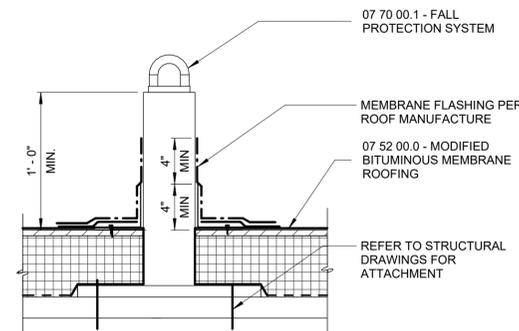
DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	A-08

NOTE:  
1. REFER TO DRAWING A-01 FOR ARCHITECTURAL NOTES



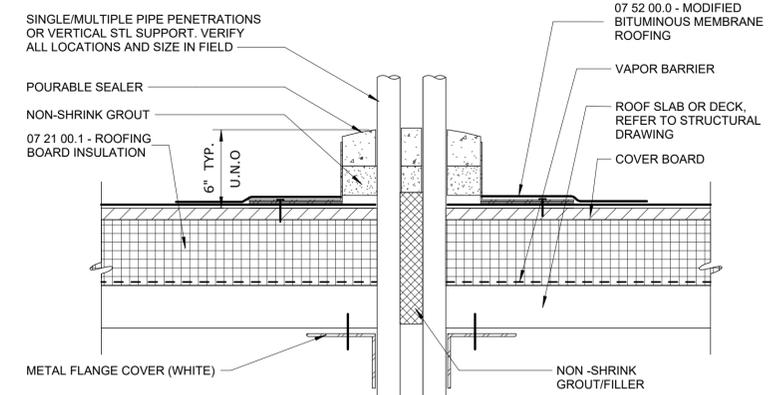
ROOF DRAIN

DETAIL	1
1 1/2" = 1'-0"	A-04



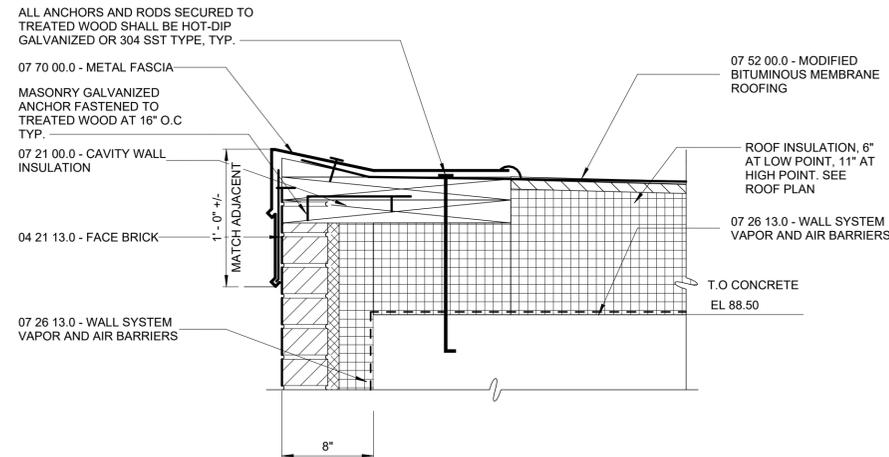
FALL PROTECTION

DETAIL	2
1 1/2" = 1'-0"	A-06



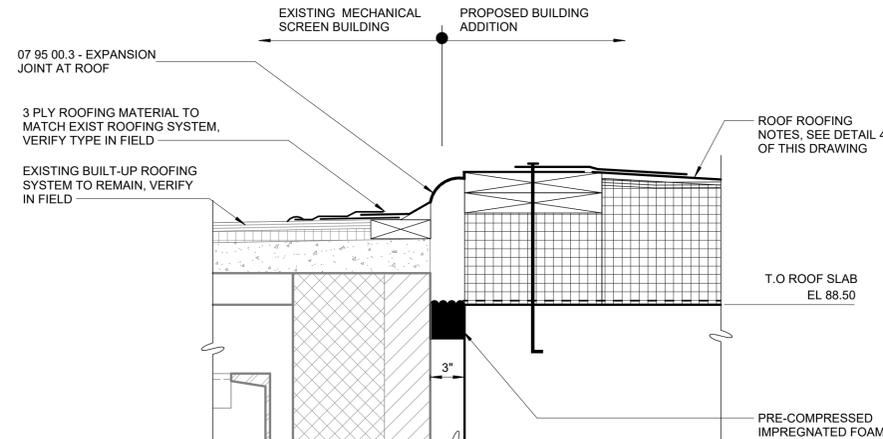
POURABLE SEALER POCKET

DETAIL	3
3" = 1'-0"	A-09



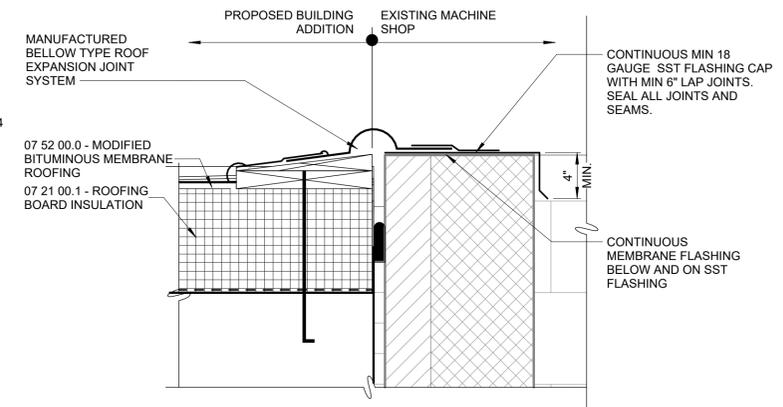
ROOF FASCIA

DETAIL	4
1 1/2" = 1'-0"	A-07



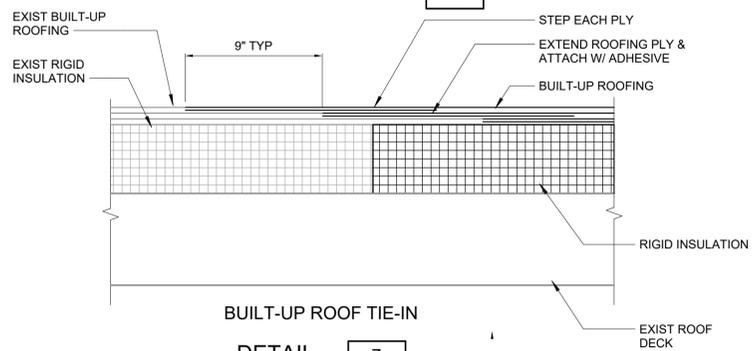
ROOF EXPANSION JOINT

DETAIL	5
1 1/2" = 1'-0"	A-06



ROOF EXPANSION JOINT

DETAIL	6
1 1/2" = 1'-0"	A-06



BUILT-UP ROOF TIE-IN

DETAIL	7
3" = 1'-0"	A-09

Autodesk Docs/06/06/2024\_000\_EDS and CA for RCSD Streets Rehab/0462-000-100-MSBA.vt 6/24/2024 6:37:24 PM

0	BID	06/2024	PDS
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. MARTINEZ
DRAWN BY:	J. MARTINEZ
CHECKED BY:	M. STALLONE
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"

FOR BID



**Hazen**  
HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11th FLOOR  
NEW YORK, NEW YORK 10018

ROCKLAND COUNTY SEWER DISTRICT NO.1  
ORANGEBURG, NEW YORK

ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

ARCHITECTURAL  
ROOF DETAILS

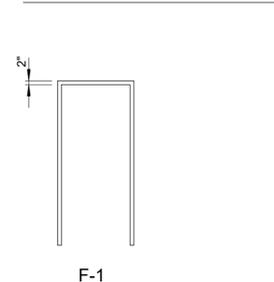
DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	A-09

**DOOR SCHEDULE**

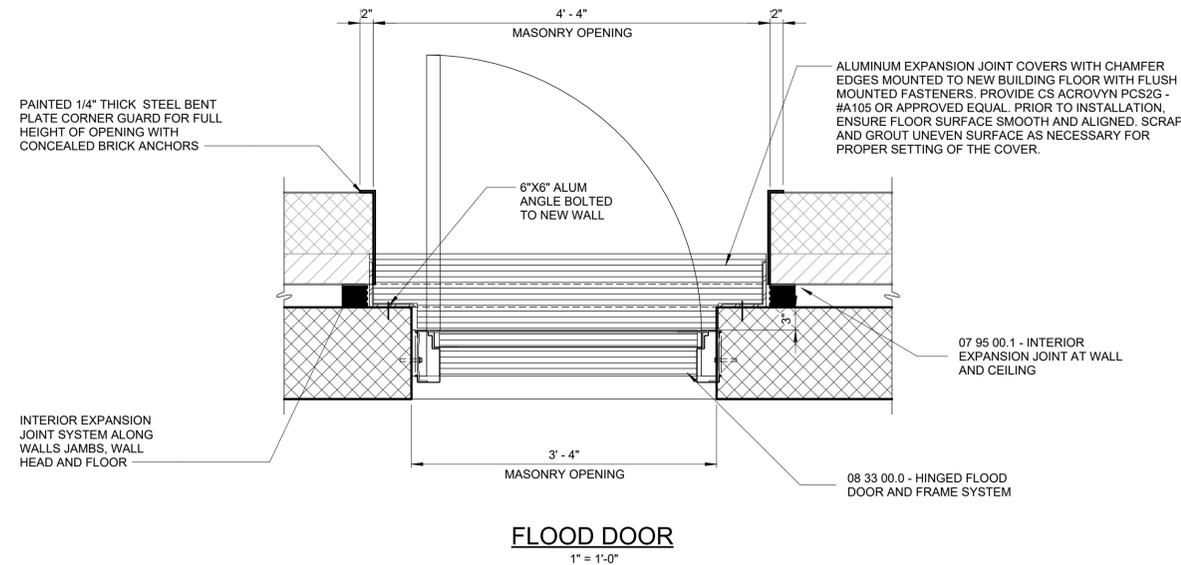
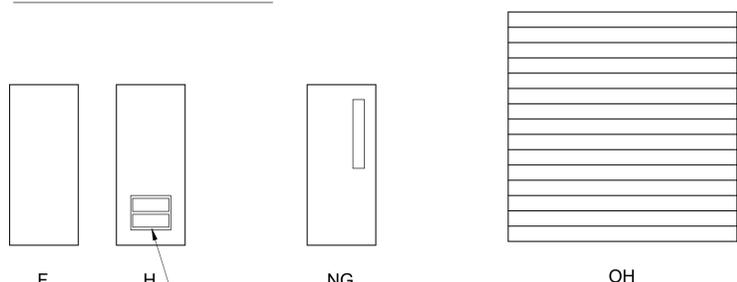
NO.	FRAME			DOOR				DETAILS			HARDWARE	REMARKS
	TYPE	MATL	TYPE	MATL	WIDTH	HEIGHT	THICKNESS	HEAD	JAMB	SILL		
001-1	F-1	SST	NG	SST	3'-0"	7'-2"	1 3/4"	3/A-10	3/A-10	3/A-10	1	FIELD VERIFY OPENING
002-1	F-1	SST	NG	SST	3'-0"	7'-2"	1 3/4"	3/A-10	3/A-10	3/A-10	1	FIELD VERIFY OPENING
002-2	MFR	SST	OH	SST	10'-0"	14'-0"	3/4"	4/A-10	4/A-10	4/A-10	-	FIELD VERIFY OPENING
003-1	F-1	SST	F	SST	3'-0"	7'-2"	1 3/4"	3/A-10	3/A-10	3/A-10	1	FIELD VERIFY OPENING
100-1	MFR	STL	OH	SST	9'-0"	10'-4"	3/4"	5/A-10	5/A-10	5/A-10	-	INSULATED OVERHEAD DOOR, MOTORIZED
100-2	MFR	STL	OH	SST	9'-0"	10'-4"	3/4"	5/A-10	5/A-10	5/A-10	-	INSULATED OVERHEAD DOOR, MOTORIZED
100-3	F-1	SST	NG	SST	3'-0"	7'-10"	1 3/4"	2/A-10	2/A-10	2/A-10	1	
100-4	F-1	SST	F	SST	3'-0"	7'-2"	1 3/4"	1/A-10	1/A-10	1/A-10	2	FLOOD DOOR SYSTEM TO BE PROVIDED BY FLOOD DOOR MANUFACTURER

NOTE:  
1. REFER TO DRAWING A-01 FOR ARCHITECTURAL NOTES

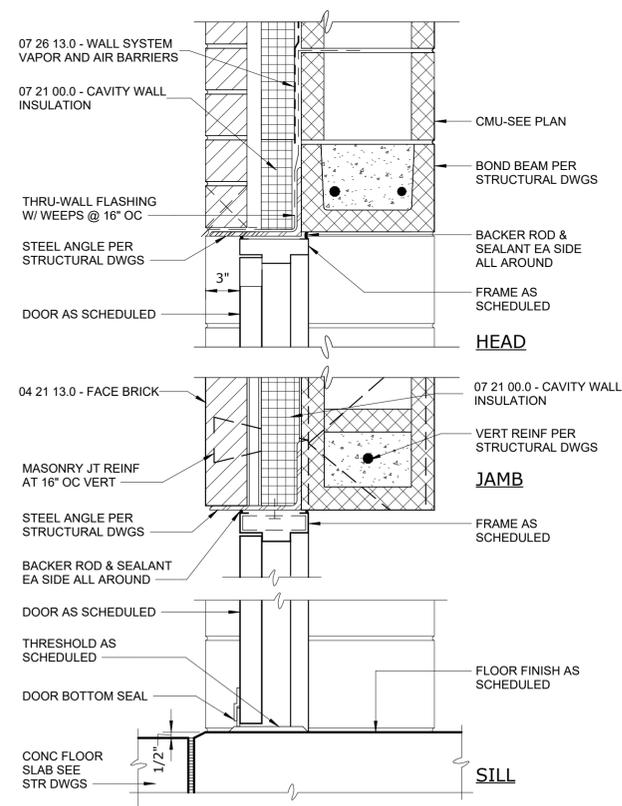
**FRAME TYPES** 1/4" = 1'-0"



**DOOR TYPES** 1/4" = 1'-0"

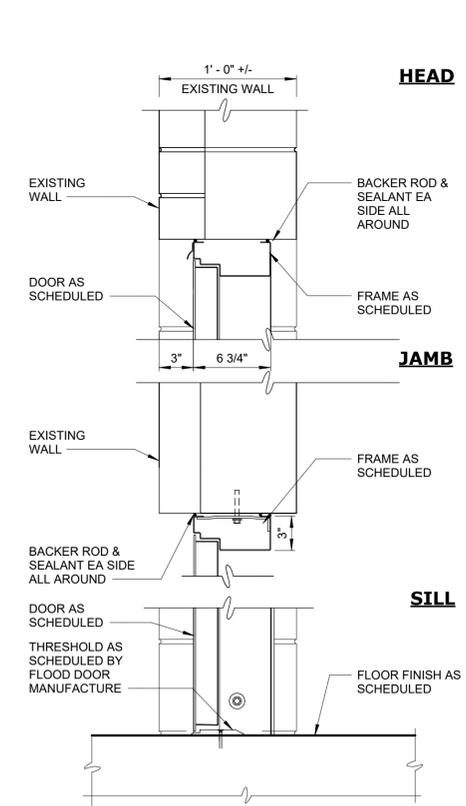


**FLOOD DOOR**  
1" = 1'-0"



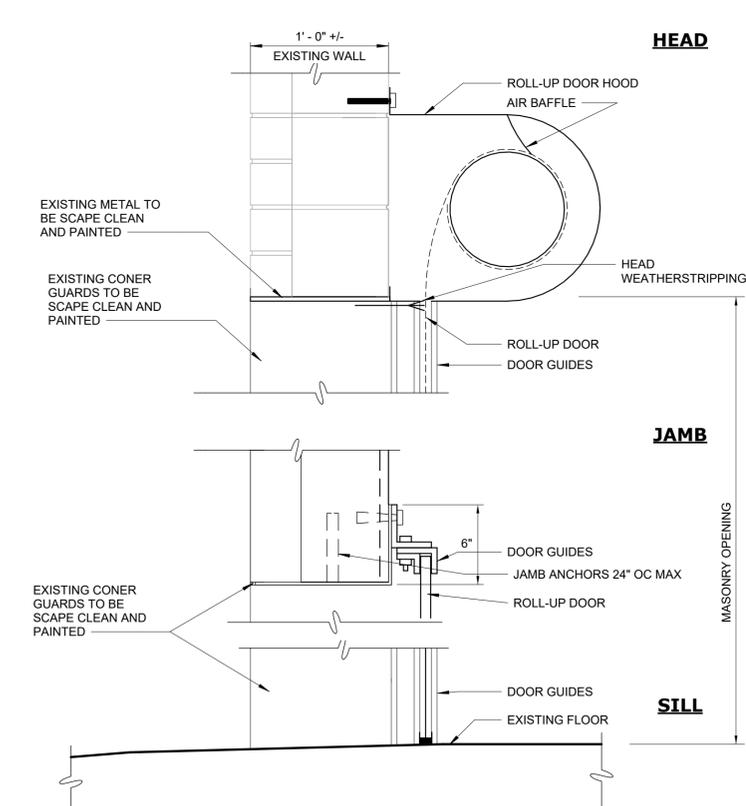
**DOOR IN MASONRY WALL**

DETAIL	2
1 1/2" = 1'-0"	A-10



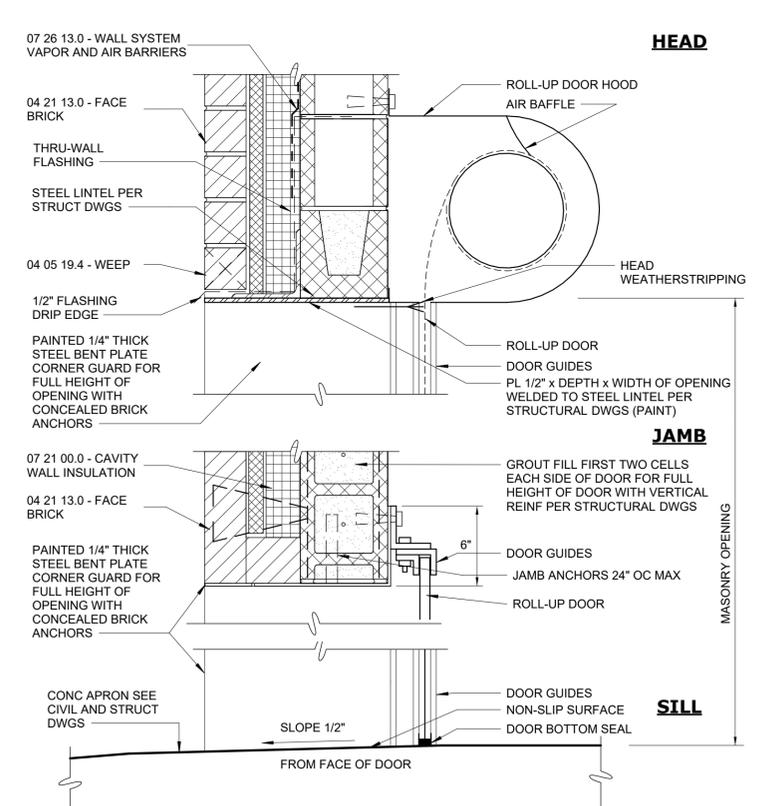
**EXTERIOR DOOR AT EXISTING EXTERIOR WALL**

DETAIL	3
1 1/2" = 1'-0"	A-10



**ROLL-UP DOOR AT EXISTING WALL**

DETAIL	4
1 1/2" = 1'-0"	A-10



**ROLL-UP DOOR**

DETAIL	5
1 1/2" = 1'-0"	A-10

Autodesk Docs/06/06/2024\_000\_EDS and CA for RCSD Streets Rehab/0462-000-100-MSBA.vt 6/24/2024 6:37:26 PM

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REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. MARTINEZ
DRAWN BY:	J. MARTINEZ
CHECKED BY:	M. STALLONE
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"

FOR BID



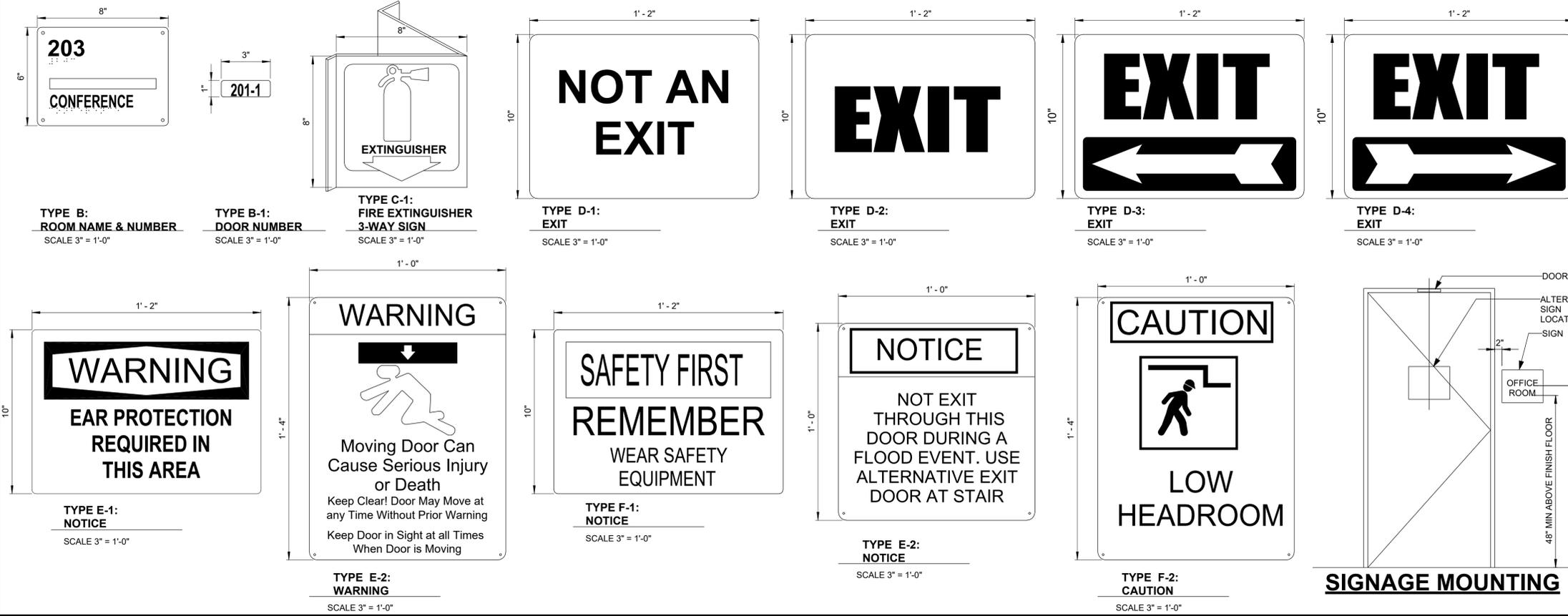
**Hazen**  
HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11th FLOOR  
NEW YORK, NEW YORK 10018

ROCKLAND COUNTY SEWER DISTRICT NO.1  
ORANGEBURG, NEW YORK  
**ORANGEBURG WASTEWATER TREATMENT PLANT SCREENING IMPROVEMENTS PROJECT**

**ARCHITECTURAL DOOR SCHEDULE AND DETAILS**

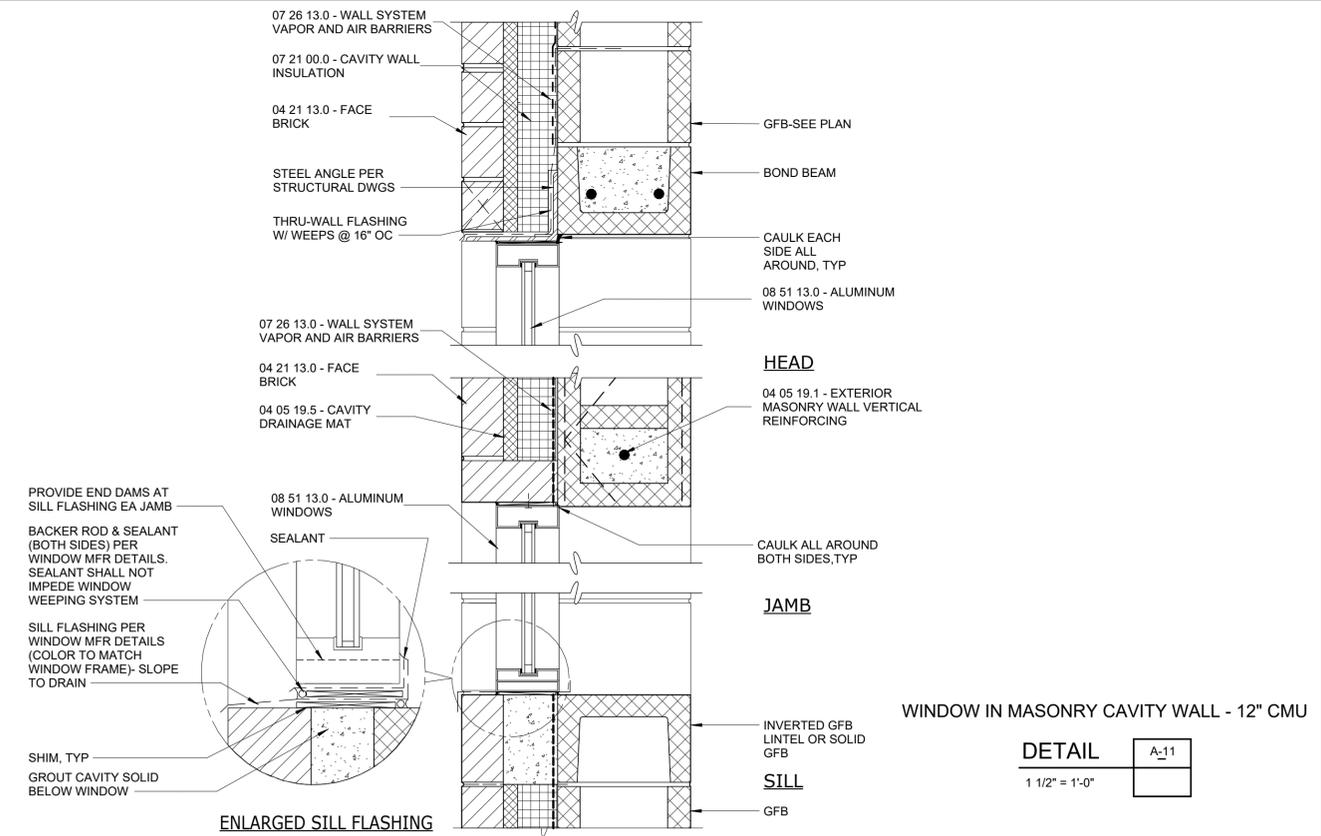
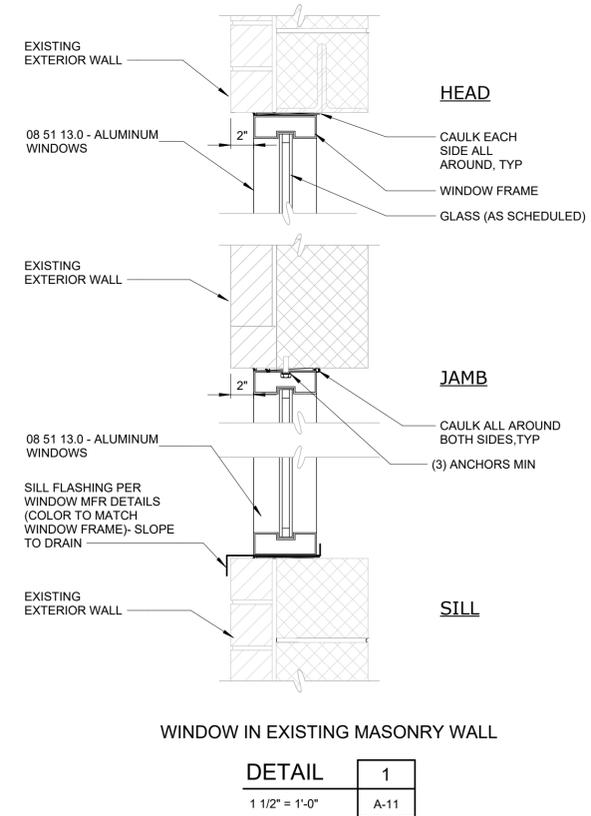
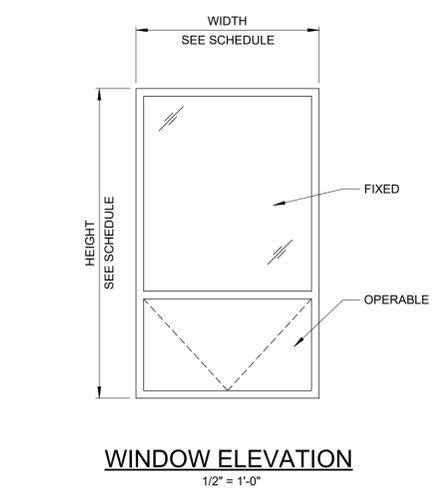
DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	A-10

NOTE:  
1. REFER TO DRAWING A-01 FOR ARCHITECTURAL NOTES



IDENTIFYING DEVICES				
SIGN TYPE	NAME	MESSAGE	QUANTITY	REMARKS
B	ROOM NAME & NUMBER		-	PROVIDE ONE PER ROOM
B-1	DOOR NUMBER		-	PROVIDE ONE PER DOOR
C-1	FIRE EXTINGUISHER - 3 WAY SIGN	EXTINGUISHER		ONE PER FIRE EXTINGUISHER, SEE FLOOR PLAN FOR QUANTITY AND LOCATIONS
D-1	EXIT	NOT AN EXIT	6	
D-2	EXIT	EXIT	6	
D-3	EXIT	DIRECTIONAL ARROW	6	
D-4	EXIT	DIRECTIONAL ARROW	6	
E-1	WARNING	EAR PROTECTION REQUIRED IN THIS AREA	2	
E-2	WARNING	MOVING DOOR CAN CAUSE SERIOUS INJURY OR DEATH	6	
F-1	NOTICE	SAFETY FIRST REMEMBER WEAR SAFETY EQUIPMENT	6	
F-2	NOTICE	NOT EXIT - THROUGH THIS DOOR DURING A FLOOD EVENT. USE ALTERNATIVE EXIT DOOR AT STAIR	4	
F-3	CAUTION	LOW HEADROOM	4	

WINDOW SCHEDULE							
NO.	FRAME			DETAILS			REMARKS
	MATERIAL	WIDTH	HEIGHT	HEAD	JAMB	SILL	
W-1	AL	4' - 0"	6' - 9"	1/A-11	1/A-11	1/A-11	FIELD VERIFY WINDOW OPENING
W-2	AL	4' - 0"	6' - 9"	1/A-11	1/A-11	1/A-11	FIELD VERIFY WINDOW OPENING
W-3	AL	4' - 0"	6' - 9"	1/A-11	1/A-11	1/A-11	FIELD VERIFY WINDOW OPENING
W-4	AL	4' - 0"	6' - 9"	1/A-11	1/A-11	1/A-11	FIELD VERIFY WINDOW OPENING
W-5	AL	4' - 0"	6' - 8"	2/A-11	2/A-11	2/A-11	



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REV	ISSUED FOR	DATE	PDS BY
0	BID	06/2024	

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. MARTINEZ
DRAWN BY:	J. MARTINEZ
CHECKED BY:	M. STALLONE
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	
0	1/2" 1"

FOR BID

# Hazen

HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11th FLOOR  
NEW YORK, NEW YORK 10018

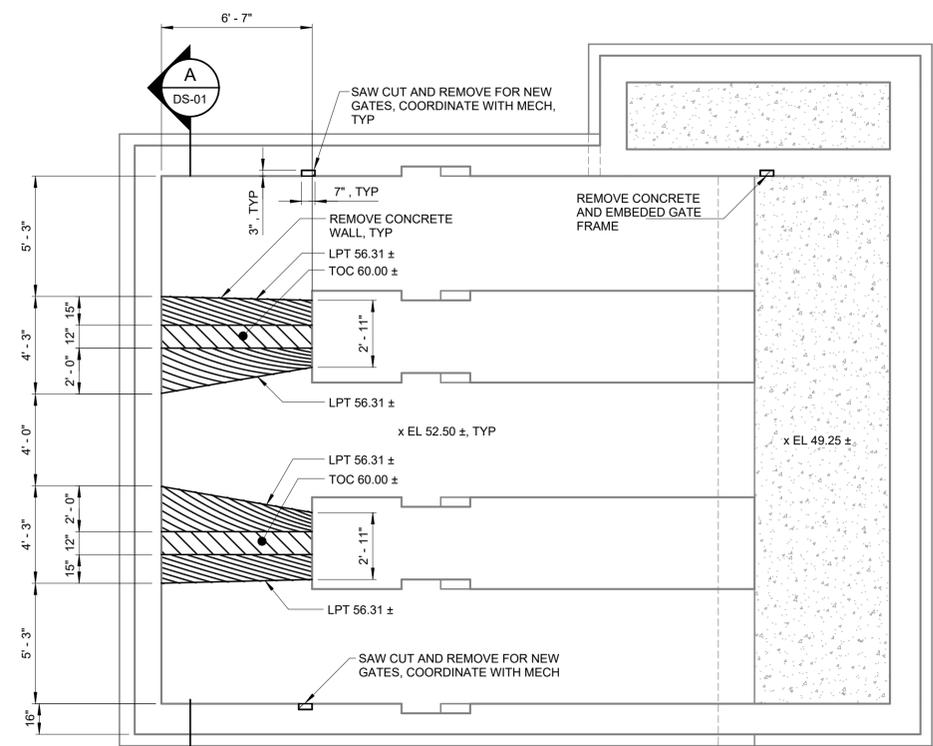
ROCKLAND COUNTY SEWER DISTRICT NO.1  
ORANGEBURG, NEW YORK

ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

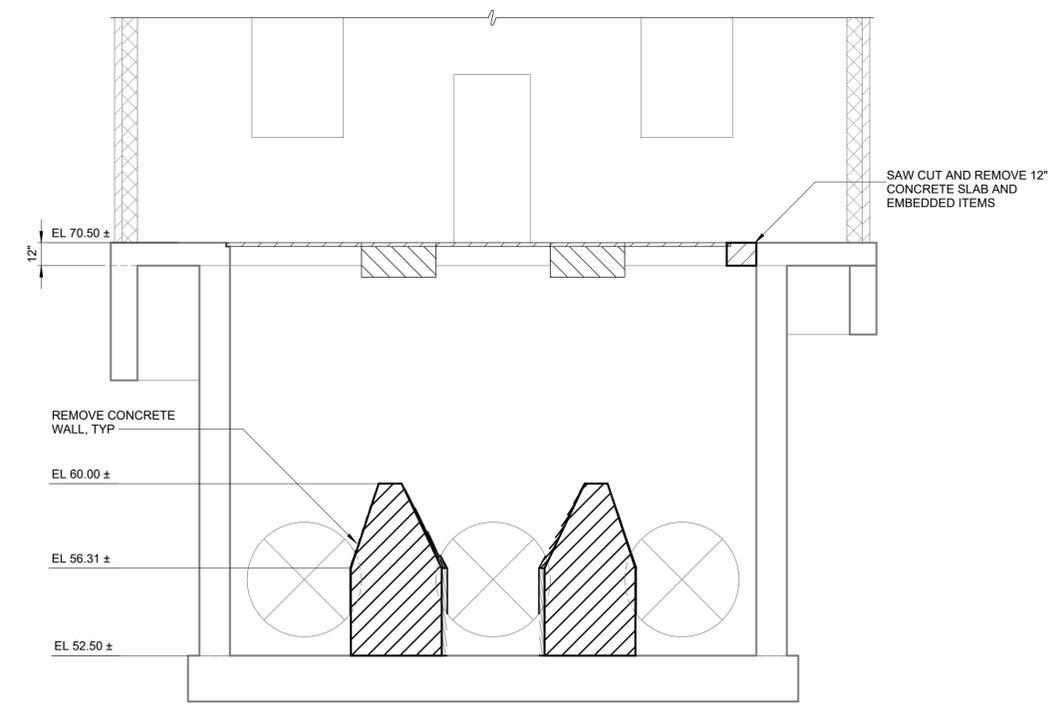
ARCHITECTURAL  
WINDOW AND IDENTIFYING DEVICES SCHEDULE  
AND DETAILS

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	A-11

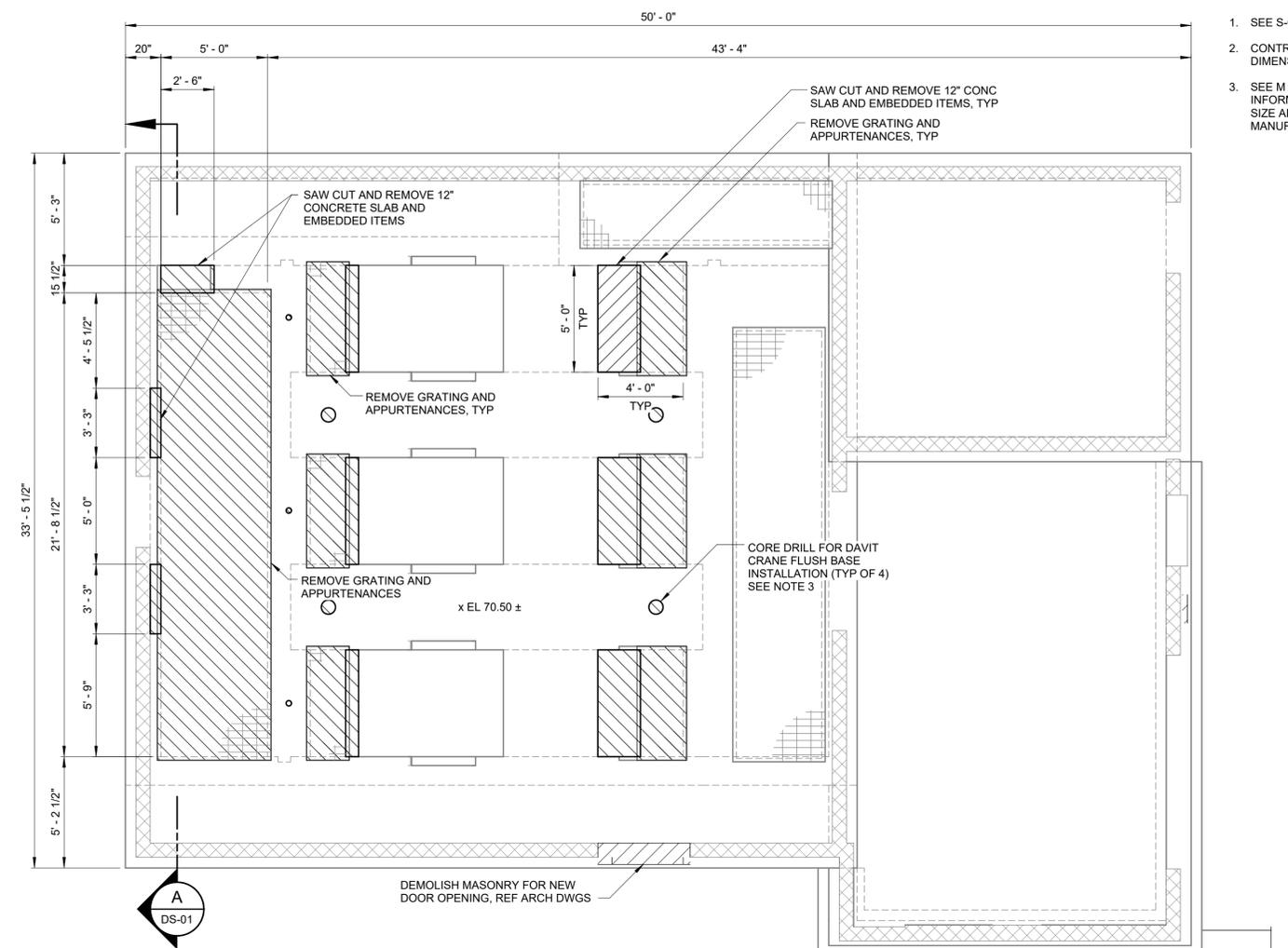
- NOTES:**
- SEE S-02 FOR ADDITIONAL DEMOLITION NOTES.
  - CONTRACTORS SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS.
  - SEE M DRAWINGS FOR ADDITIONAL INFORMATION ON DAVIT CRANE, COORDINATE SIZE AND DEPTH OF CORE DRILL WITH MANUFACTURER



**DEMOLITION PLAN @ EL 52.50**  
1/4" = 1'-0"



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



**DEMOLITION PLAN @ EL 70.50**  
1/4" = 1'-0"



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REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	S. MANZO
DRAWN BY:	M. ROBLE
CHECKED BY:	L. GIROUX
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"

FOR BID



**Hazen**  
HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11th FLOOR  
NEW YORK, NEW YORK 10018

ROCKLAND COUNTY SEWER DISTRICT NO.1  
ORANGEBURG, NEW YORK  
  
ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

STRUCTURAL REMOVAL  
PLAN EL 52.50, EL 70.50 AND SECTION

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	DS-01

**GENERAL STRUCTURAL NOTES**

- G-1 THESE NOTES ARE GENERAL AND SUPPLEMENT THE SPECIFICATIONS. THESE NOTES APPLY TO THE ENTIRE PROJECT UNLESS MODIFIED OR NOTED OTHERWISE IN THE CONTRACT DOCUMENTS.
- G-2 STANDARD DETAILS SHALL BE USED WHEN REFERRED TO OR WHEN NO MORE RESTRICTIVE OR DIFFERENT DETAILS ARE SHOWN ON THE DRAWINGS.
- G-3 DESIGN IS IN ACCORDANCE WITH AND CONSTRUCTION SHALL COMPLY WITH THE PROVISIONS OF THE 2020 NEW YORK STATE BUILDING CODE. THE DESIGN LOADS AND OTHER DESIGN VALUES GIVEN IN NOTES G-4 THROUGH G-8 WERE USED FOR DESIGN OF STRUCTURES UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- G-4 LIVE LOADS:

STRUCTURE \ LEVEL	ROOF	BOTTOM / GROUND FLOOR
COMPACTOR ROOM	30 PSF	300 PSF

-ALL STAIRWAYS, LANDINGS AND PLATFORMS ARE DESIGNED FOR A LIVE LOAD = 100 PSF UNLESS NOTED OTHERWISE.

**G-5 SNOW LOAD:**

GROUND SNOW LOAD (Pg) = 30 PSF  
 FLAT-ROOF SNOW LOAD (Pf) = 30PSF  
 SNOW EXPOSURE FACTOR (Ce) = 30 PSF  
 SNOW LOAD IMPORTANCE FACTOR (Is) = 1.10  
 THERMAL FACTOR (Ct) = 1.10  
 DRIFT SURCHARGE LOAD Pd = 36 PSF  
 WIDTH OF SNOW DRIFT (W) = 6 FT

**G-6 WIND DESIGN CRITERIA:**

BASIC DESIGN WIND SPEED (V) = 125 MPH  
 ALLOWABLE STRESS DESIGN WIND SPEED (Vasd) = 97 MPH  
 RISK CATEGORY = III  
 WIND EXPOSURE = C

STRUCTURE \ PARAMETER	PRESSURE COEFFICIENT GCpi	WIND DESIGN PRESSURE	COMPONENTS AND CLADDING	LATERAL LOAD RESISTING SYSTEM
COMPACTOR ROOM	±0.18	30 PSF	43 PSF WALLS	MASONRY SHEAR WALL

**G-7 SEISMIC LOAD:**

RISK CATEGORY = III  
 SEISMIC IMPORTANCE FACTOR (Ie) = 1.25  
 SITE CLASS = C  
 MAPED SPECTRAL RESPONSE ACCELERATIONS (Ss/S1) = 0.299/0.062  
 SPECTRAL RESPONSE ACCELERATIONS (Sms/Sm1) = 0.389/0.093  
 SPECTRAL RESPONSE COEFFICIENTS (SDS/SD1) = 0.259/0.062  
 SEISMIC DESIGN CATEGORY = B

STRUCTURE \ PARAMETER	BASIC STRUCTURAL SYSTEM	DESIGN BASE SHEAR	SEISMIC RESPONSE COEFFICIENT Cs	RESPONSE MODIFICATION COEFFICIENT R	ANALYSIS PROCEDURE
COMPACTOR ROOM	MASONRY SHEAR WALL	40 K	0.162	2	EQUIVALENT LATERAL FORCE

**G-8 RAIN LOAD:**

RAIN INTENSITY (i) = 6.86 IN/HR - 15 MIN INTENSITY  
 2.98 IN/HR - 60 MIN INTENSITY

G-9 ALL DIMENSIONS INDICATED FOR EXISTING STRUCTURES SHALL BE VERIFIED BY FIELD MEASUREMENT. ALL DIMENSIONS THAT ARE CONTROLLED BY OR RELATED TO EQUIPMENT SHALL BE VERIFIED BY THE CONTRACTOR WITH THE MANUFACTURER SHOP DRAWINGS PRIOR TO CONSTRUCTION.

G-10 THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING INFORMATION IN THE FIELD AS REQUIRED FOR NEW WORK.

G-11 IF A CONFLICT IS FOUND BETWEEN DIFFERENT PORTIONS OF THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. CONTINUED CONSTRUCTION OF THE AREA IN CONFLICT SHALL BE AT THE CONTRACTOR'S OWN RISK UNTIL THE CONFLICT IS RESOLVED.

G-12 EQUIPMENT ANCHOR SIZES, TYPES, EMBEDMENT AND PATTERNS SHALL BE DESIGNED BY THE MANUFACTURER OF THE EQUIPMENT. IF EQUIPMENT MANUFACTURER IS UNABLE TO PROVIDE DESIGN OF ANCHOR EMBEDMENT, DESIGN SHALL BE BY ENGINEER RETAINED BY CONTRACTOR BASED ON LOADS PROVIDED BY EQUIPMENT MANUFACTURER. CONTRACTOR SHALL SUBMIT SIZE, PLACEMENT, AND EMBEDMENT REQUIREMENTS. ALL ANCHOR PATTERNS SHALL BE TEMPLATED TO ENSURE ACCURACY OF PLACEMENT.

G-13 STRUCTURAL DRAWINGS SHALL BE USED IN COORDINATION WITH THE DRAWINGS OF ALL OTHER DISCIPLINES AND MANUFACTURER'S SHOP DRAWINGS.

G-14 STRUCTURES HAVE BEEN DESIGNED FOR OPERATIONAL LOADS ON THE COMPLETED STRUCTURE. DURING CONSTRUCTION, THE STRUCTURES SHALL BE PROTECTED BY BRACING AND TEMPORARY SUPPORTS WHEREVER EXCESSIVE CONSTRUCTION LOADS MAY OCCUR. OVERSTRESSING OF ANY STRUCTURAL ELEMENT IS PROHIBITED.

G-15 IF CONTRACTOR DESIRES TO TEMPORARILY PLACE OR MOVE LOADS ON OR ADJACENT TO EXISTING STRUCTURES OR UTILITIES DURING CONSTRUCTION PROCESS, CONTRACTOR IS EXCLUSIVELY RESPONSIBLE FOR MAINTAINING STRUCTURAL INTEGRITY AND AVOIDING OVERSTRESSING AND DAMAGING EXISTING STRUCTURES AND UTILITIES. CONTRACTOR SHALL SUBMIT STRUCTURAL CALCULATIONS AND DRAWINGS VERIFYING THAT PROPOSED CONSTRUCTION (INCLUDING APPLICATION OF TEMPORARY CONSTRUCTION LOADS) WILL NOT OVERSTRESS OR DAMAGE EXISTING STRUCTURES AND UTILITIES. DRAWINGS AND CALCULATIONS SHALL BE SEALED BY A PROFESSIONAL ENGINEER CURRENTLY REGISTERED IN THE STATE OF NEW YORK.

**GENERAL STRUCTURAL NOTES, CONTINUED**

- G-16 NO BACKFILL SHALL BE PLACED AGAINST ANY SUBSTRUCTURE WALLS UNLESS ALL ADJACENT SUPPORTING ELEMENTS HAVE ACHIEVED DESIGN STRENGTH, OR WALLS HAVE BEEN PROPERLY BRACED, AND IN ANY CASE NOT SOONER THAN 28 DAYS AFTER THE PLACING OF CONCRETE UNLESS APPROVED BY THE ENGINEER. SUPPORTING ELEMENTS SHALL INCLUDE ADJACENT WALLS, SLABS, BEAMS AND COLUMNS.
- G-17 LEAKAGE TESTING OF HYDRAULIC STRUCTURES SHALL NOT BEGIN UNTIL ALL STRUCTURAL ELEMENTS HAVE REACHED THE SPECIFIED MINIMUM CONCRETE STRENGTH. BACKFILL SHALL NOT BE PLACED AROUND ANY HYDRAULIC STRUCTURE UNTIL THE LEAKAGE TEST HAS BEEN COMPLETED UNLESS APPROVED BY THE ENGINEER.

**STRUCTURAL METALS**

- M-1 DETAIL, FABRICATE, AND ERECT STRUCTURAL STEEL IN ACCORDANCE WITH ANSI/AISC 360 SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, LATEST EDITION.
- M-2 STEEL MATERIAL:  
 A) STRUCTURAL HSS: ASTM A500, GRADE C (46/50 KSI) OR A1085 GRADE A (50 KSI)  
 B) STRUCTURAL PIPE: ASTM A53, GRADE B (35 KSI)  
 C) PLATES, BARS AND ANGLES: ASTM A36 UNO (36 KSI)  
 D) STRUCTURAL W, C, & MC SHAPES: ASTM A992 (50 KSI)  
 E) STRUCTURAL M & S SHAPES: ASTM A36 (36 KSI)  
 F) STRUCTURAL HP: ASTM A572 GRADE 50 (50 KSI)  
 G) ANCHOR RODS: ASTM F1554 GRADE 55 (55 KSI)
- M-3 PROVIDE MINIMUM 3/4" DIAMETER ASTM F3125 GRADE A325 TYPE 1 OR GRADE F1852 TYPE 1 HIGH STRENGTH BOLTS WITH SNUG TIGHTENED TYPE N CONNECTIONS FOR STRUCTURAL STEEL UNLESS NOTED OTHERWISE. HOLES FOR BOLTS SHALL BE STANDARD SIZE UNLESS NOTED OTHERWISE.
- M-4 PROVIDE TYPICAL STEEL BEAM CONNECTIONS FOR A CAPACITY OF NOT LESS THAN ONE HALF OF THE TOTAL UNIFORM LOAD CAPACITY TABULATED IN THE AISC TABLES FOR ALLOWABLE LOADS OF BEAMS UNLESS NOTED OTHERWISE.
- M-5 DO NOT PAINT STEEL SURFACES WHICH ARE TO BE WELDED OR ARE TO BE ENCASED IN CONCRETE.
- M-6 ALL STAINLESS STEEL FABRICATIONS EXPOSED TO UNDERWATER SERVICE SHALL BE TYPE 316. ALL OTHER STAINLESS STEEL FABRICATIONS SHALL BE TYPE 304 UNLESS NOTED OTHERWISE.
- M-7 ALUMINUM SHALL BE ALLOY 6061-T6 UNLESS NOTED OTHERWISE.
- M-8 ALL BOLTS, ANCHORS, AND CONCRETE ANCHORS CONNECTING ALUMINUM SHALL BE STAINLESS STEEL TYPE 316 FOR UNDERWATER APPLICATIONS AND TYPE 304 FOR ALL OTHER APPLICATIONS.
- M-9 ALUMINUM SHALL BE ISOLATED FROM CONTACT WITH CONCRETE AND DISSIMILAR METALS.
- M-10 ALL GROOVE AND BUTT WELDS SHALL BE FULL PENETRATION.
- M-11 FILLET WELD SIZES SHALL NOT BE LESS THAN THE MINIMUM SIZE REQUIRED BY AISC CODE FOR PLATE SIZES TO BE CONNECTED AND SHALL BE APPLIED TO THE ENTIRE JOINT CONTACT LENGTH, AND NOT LESS THAN 3/16".
- M-12 ALL WELDS SHALL BE PERFORMED IN THE SHOP UNLESS NOTED BY A FIELD WELD SYMBOL OR APPROVED BY ENGINEER.
- M-13 BOTTOM SURFACES OF BASE PLATES SHALL BE GROUTED TO ENSURE FULL BEARING CONTACT WITH CONCRETE SLAB.
- M-14 WHENEVER ONE MEMBER IS FASTENED TO ANOTHER WITH FASTENINGS (BOLTS, WELDS, ETC.) SET AT A UNIFORM SPACING, A MINIMUM OF TWO FASTENINGS PER PIECE SHALL BE CONNECTED AND THE FIRST AND LAST FASTENINGS SHALL BE LOCATED NOT TO EXCEED 0.25 OF FASTENER SPACING FROM EACH END.
- M-15 GRATING PANELS SHALL BE CONFINED TO PREVENT MOVEMENT PER STANDARD DETAIL S-05-0706. USE OF GRATING CLIP ATTACHMENT IS NOT ACCEPTABLE TO PREVENT GRATING MOVEMENT.

**FOUNDATIONS**

- F-1 CONCRETE (CAST-IN-PLACE) NOTES APPLY TO FOUNDATIONS.
- F-2 ALLOWABLE SOIL BEARING PRESSURE
- F-3 MINIMUM DEPTH FROM ADJACENT FINISHED GRADE TO BOTTOM OF FOUNDATION = 42 INCHES.
- F-4 COMPACTOR ROOM STRUCTURE IS DESIGNED FOR THE DESIGN FLOOD ELEVATION OF:

STRUCTURE \ PARAMETER	ALLOWABLE SOIL BEARING PRESSURE
COMPACTOR ROOM	3000 PSF

STRUCTURE \ PARAMETER	NORMAL GROUND WATER ELEVATION	100-YEAR FLOOD ELEVATION	DESIGN FLOOD ELEVATION (DFE) - NON-CRITICAL EQUIPMENT
COMPACTOR ROOM - NON-CRITICAL EQUIPMENT	EL. 65.50	EL. 71.29	EL. 73.29

**CONCRETE (CAST-IN-PLACE)**

- C-1 DESIGN OF CONCRETE ELEMENTS INCLUDING WALLS, FORMED SLABS, BEAMS, AND COLUMNS IS IN ACCORDANCE WITH ACI 318 (CODE REQUIREMENTS FOR STRUCTURAL CONCRETE) AND 350 (CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES).
- C-2 CONCRETE STRENGTH CLASSES (28-DAY COMPRESSIVE STRENGTH):  
 A) CLASS A1 CONCRETE (4,500 PSI): NORMAL WEIGHT STRUCTURAL CONCRETE TO BE USED IN ALL STRUCTURES UNLESS NOTED OTHERWISE.  
 B) CLASS B CONCRETE (3,000 PSI): NORMAL WEIGHT STRUCTURAL CONCRETE USED FOR DUCT BANK ENCASUREMENTS, CATCH BASINS, FENCE AND GUARD POST EMBEDMENT, CONCRETE FILL, AND OTHER AREAS WHERE SPECIFICALLY NOTED ON CONTRACT DRAWINGS.
- C-3 ALL BAR REINFORCING SHALL CONFORM TO ASTM A615, GRADE 60 UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A1064.
- C-4 CONCRETE COVER FOR REINFORCING (UNLESS NOTED OTHERWISE ON THE DRAWINGS):  
 A) CONCRETE DEPOSITED DIRECTLY AGAINST SOIL: 3"  
 B) CONCRETE EXPOSED TO WEATHER (#5 OR SMALLER): 1 1/2"  
 C) CONCRETE EXPOSED TO WEATHER (#6 OR LARGER): 2"  
 D) SLABS: 1 1/2"  
 AT SURFACES CONTACTING FLUID: 2"  
 E) BEAMS AND COLUMNS (TO MAIN REINFORCEMENT): 2"  
 BEAMS AND COLUMNS (TO COLUMN TIES OR STIRRUPS): 1 1/2"  
 F) WALLS 12" OR MORE: 2"  
 WALLS LESS THAN 12" (#5 OR SMALLER): 1 1/2"  
 WALLS LESS THAN 12" (#6 OR LARGER): 2"  
 G) FOR SURFACES EXPOSED TO FLUID IN BEAMS, COLUMNS AND WALLS: ADD 1/2" TO ABOVE VALUES
- C-5 SPLICES SHALL BE CLASS "B" CONFORMING TO THE PROVISIONS OF ACI 318 UNLESS NOTED OTHERWISE. SPLICE LENGTH FOR TWO DIFFERENT SIZED BARS TO BE LAP SPLICED TOGETHER SHALL BE THE LENGTH OF THE LARGER BAR UNLESS NOTED OTHERWISE.
- C-6 CONSTRUCTION JOINTS SHALL BE LOCATED AS SHOWN ON THE DRAWINGS. CONSTRUCTION JOINTS NOT SHOWN SHALL BE SUBMITTED BY THE CONTRACTOR FOR THE APPROVAL OF THE ENGINEER PRIOR TO SUBMITTING REBAR SHOP DRAWINGS.
- C-7 ALL JOINTS WHICH ARE IN MEMBERS IN CONTACT WITH LIQUID OR BELOW GRADE SHALL HAVE A WATERSTOP. CONSTRUCTION JOINTS SHALL HAVE A 6" PVC RIBBED WATERSTOP. EXPANSION JOINTS SHALL HAVE A 9" PVC CENTER BULB RIBBED WATERSTOP. IN VERTICAL JOINTS, WATERSTOPS SHALL TERMINATE NO LESS THAN 18" ABOVE THE MAXIMUM WATER SURFACE OR 18" ABOVE GRADE, WHICHEVER IS HIGHER.
- C-8 UNLESS SPECIFICALLY NOTED OTHERWISE, WALLS ABOVE INTERSECTING SLABS OF ALL LIQUID CONTAINING AND BELOW GRADE STRUCTURES SHALL HAVE HORIZONTAL REINFORCEMENT SPACING OF 6" MAXIMUM IN THE 6'-0" ZONE ABOVE THE CONSTRUCTION JOINT. SEE STANDARD DETAIL S-03-0115.
- C-9 ALL EXPOSED CORNERS SHALL HAVE A 3/4" CHAMFER.
- C-10 EQUIPMENT SUPPORTS, ANCHORAGES, OPENINGS, RECESSES AND REVEALS NOT SHOWN ON THE STRUCTURAL DRAWINGS BUT REQUIRED BY OTHER CONTRACT DOCUMENTS, SHALL BE INSTALLED PRIOR TO PLACING CONCRETE.
- C-11 REINFORCING BARS AND ACCESSORIES SHALL NOT BE IN CONTACT WITH ANY METAL PIPE, PIPE FLANGE, METAL CONDUIT, OR OTHER METAL PARTS EMBEDDED IN CONCRETE. A MINIMUM CLEARANCE OF 2" SHALL BE PROVIDED.
- C-12 CONDUITS AND OTHER SIMILAR ITEMS EMBEDDED IN OR PENETRATING THROUGH CONCRETE SHALL BE SPACED ON CENTER NOT LESS THAN 3 TIMES THEIR OUTSIDE DIMENSION, BUT NOT LESS THAN 2 1/2" CLEAR. WHEN SUCH ITEMS ARE EMBEDDED IN WALLS OR SLABS, THEY SHALL NOT OCCUPY MORE THAN 1/3 OF THE MEMBER THICKNESS.
- C-13 AT ALL TYPICAL CURBS, EQUIPMENT PADS, AND PIPE SUPPORT PIERS, REINFORCING DOWELS SHOWN MAY BE REPLACED WITH ADHESIVE DOWELS AS SPECIFIED. DOWELS LOCATED CLOSER THAN 3" FROM ANY EDGE OF CONCRETE SHALL NOT BE REPLACED WITH DRILLED DOWELS.
- C-14 ADJUST THE LOCATION OF DOWELS OR ANCHORS PLACED INTO HARDENED CONCRETE AS NEEDED TO AVOID DRILLING THROUGH ANY REINFORCING BARS. IF THE LOCATION NEEDS TO BE MODIFIED, CONTACT THE ENGINEER. CONTRACTOR SHALL USE NON-DESTRUCTIVE MEANS TO FIELD LOCATE REINFORCEMENT PRIOR TO DRILLING HOLES FOR DOWELS OR ANCHORS.
- C-15 CLEAR DISTANCE FROM ANCHOR RODS TO ANY CONCRETE EDGE SHALL BE 4" MINIMUM UNLESS NOTED OTHERWISE.

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0	BID	06/2024	PDS
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	S. MANZO
DRAWN BY:	M. ROBLE
CHECKED BY:	L. GIROUX
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"

FOR BID



**Hazen**  
 HAZEN AND SAWYER  
 498 SEVENTH AVENUE, 11th FLOOR  
 NEW YORK, NEW YORK 10018

ROCKLAND COUNTY SEWER DISTRICT NO.1  
 ORANBURG, NEW YORK  
 ORANBURG WASTEWATER TREATMENT PLANT  
 SCREENING IMPROVEMENTS PROJECT

STRUCTURAL  
 GENERAL STRUCTURAL NOTES SHEET 1

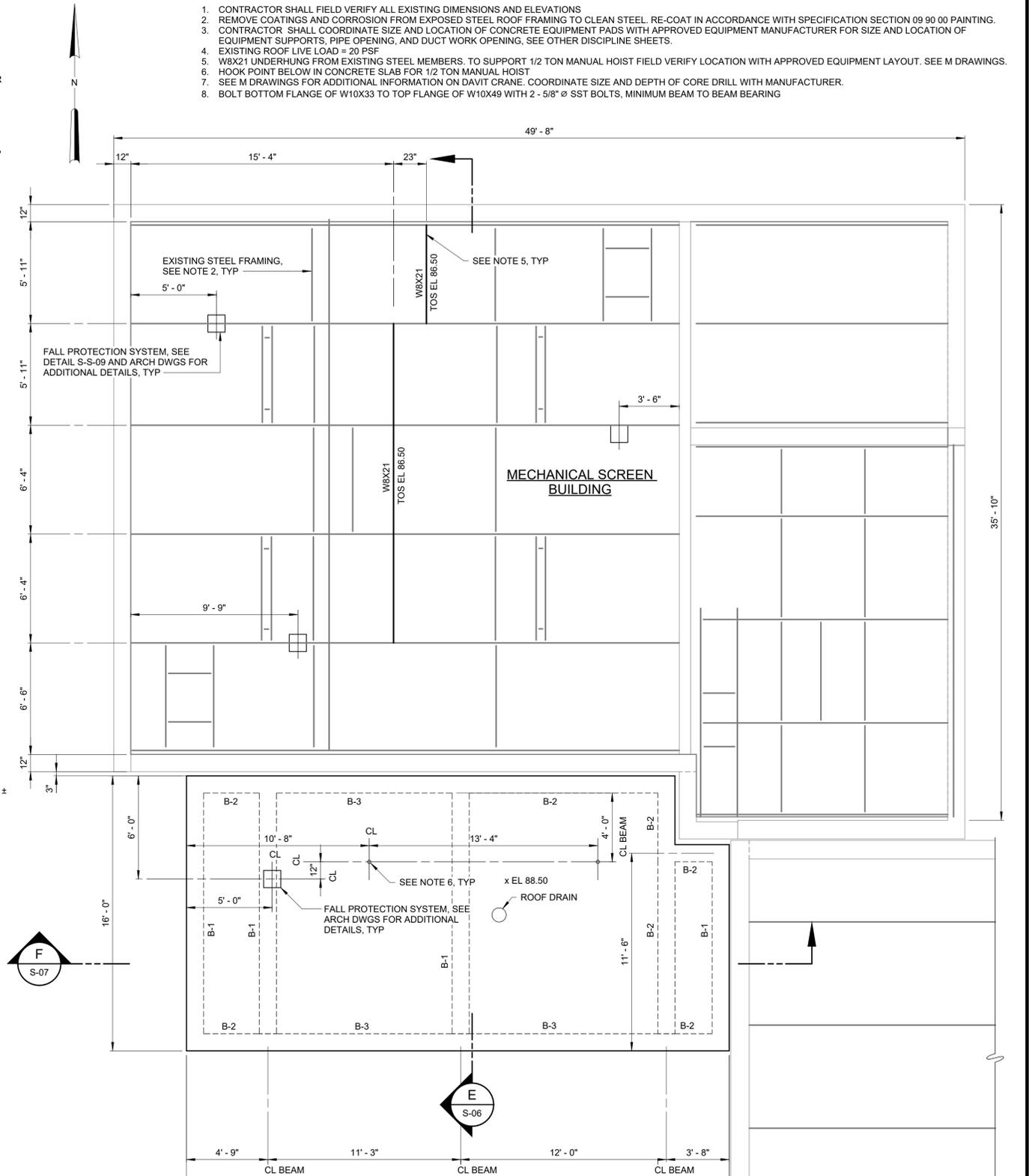
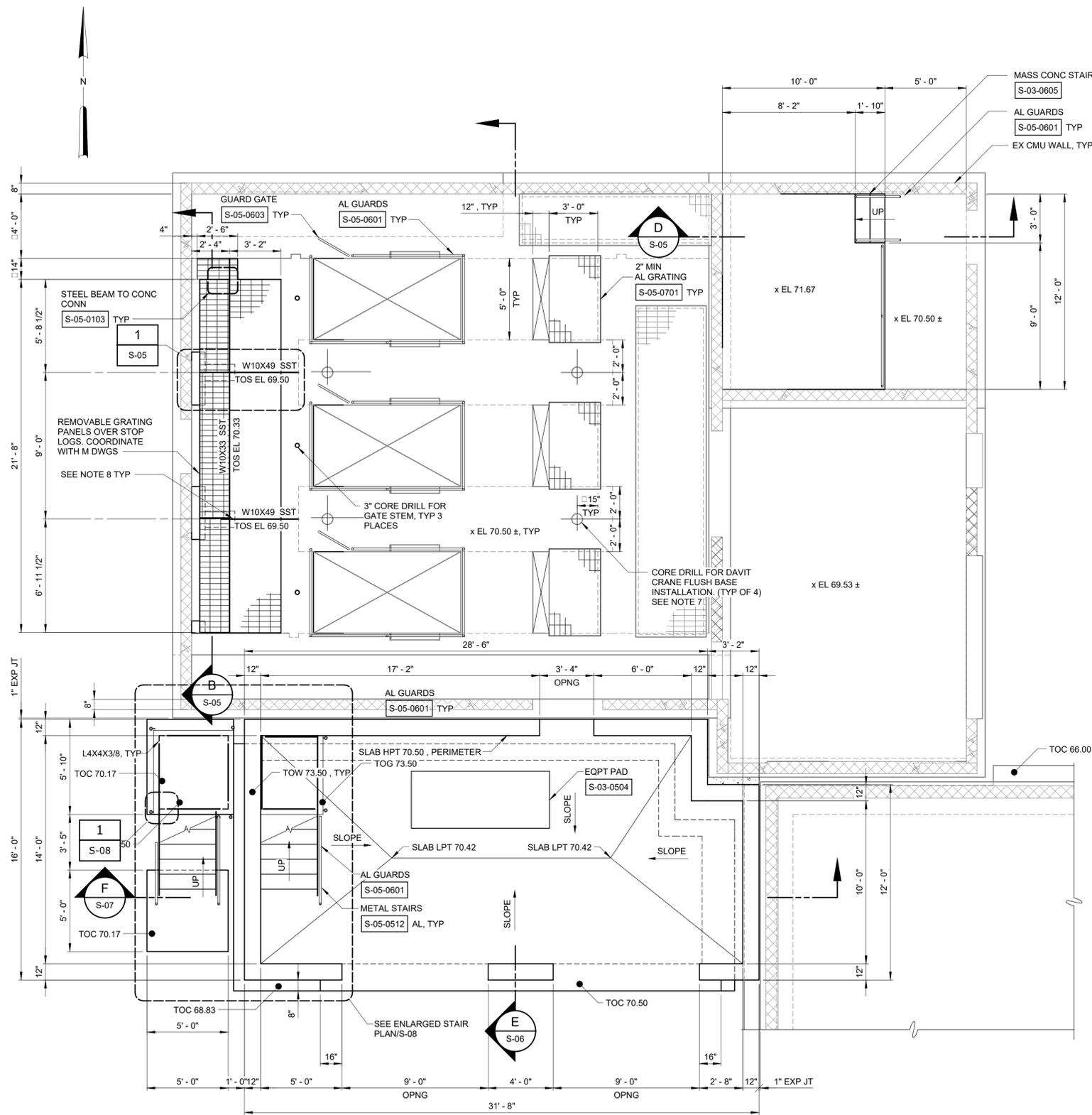
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HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	S-01





**NOTES:**

1. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS AND ELEVATIONS
2. REMOVE COATINGS AND CORROSION FROM EXPOSED STEEL ROOF FRAMING TO CLEAN STEEL. RE-COAT IN ACCORDANCE WITH SPECIFICATION SECTION 09 90 00 PAINTING.
3. CONTRACTOR SHALL COORDINATE SIZE AND LOCATION OF CONCRETE EQUIPMENT PADS WITH APPROVED EQUIPMENT MANUFACTURER FOR SIZE AND LOCATION OF EQUIPMENT SUPPORTS, PIPE OPENING, AND DUCT WORK OPENING, SEE OTHER DISCIPLINE SHEETS.
4. EXISTING ROOF LIVE LOAD = 20 PSF
5. W8X21 UNDERHUNG FROM EXISTING STEEL MEMBERS. TO SUPPORT 1/2 TON MANUAL HOIST FIELD VERIFY LOCATION WITH APPROVED EQUIPMENT LAYOUT. SEE M DRAWINGS.
6. HOOK POINT BELOW IN CONCRETE SLAB FOR 1/2 TON MANUAL HOIST
7. SEE M DRAWINGS FOR ADDITIONAL INFORMATION ON DAVIT CRANE. COORDINATE SIZE AND DEPTH OF CORE DRILL WITH MANUFACTURER.
8. BOLT BOTTOM FLANGE OF W10X33 TO TOP FLANGE OF W10X49 WITH 2 - 5/8"  $\phi$  SST BOLTS, MINIMUM BEAM TO BEAM BEARING



**FLOOR PLAN EL 70.50**  
1/4" = 1'-0"

**ROOF PLAN EL 88.50**  
1/4" = 1'-0"



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DESIGNED BY:	S. MANZO
DRAWN BY:	M. ROBLE
CHECKED BY:	L. GIROUX
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

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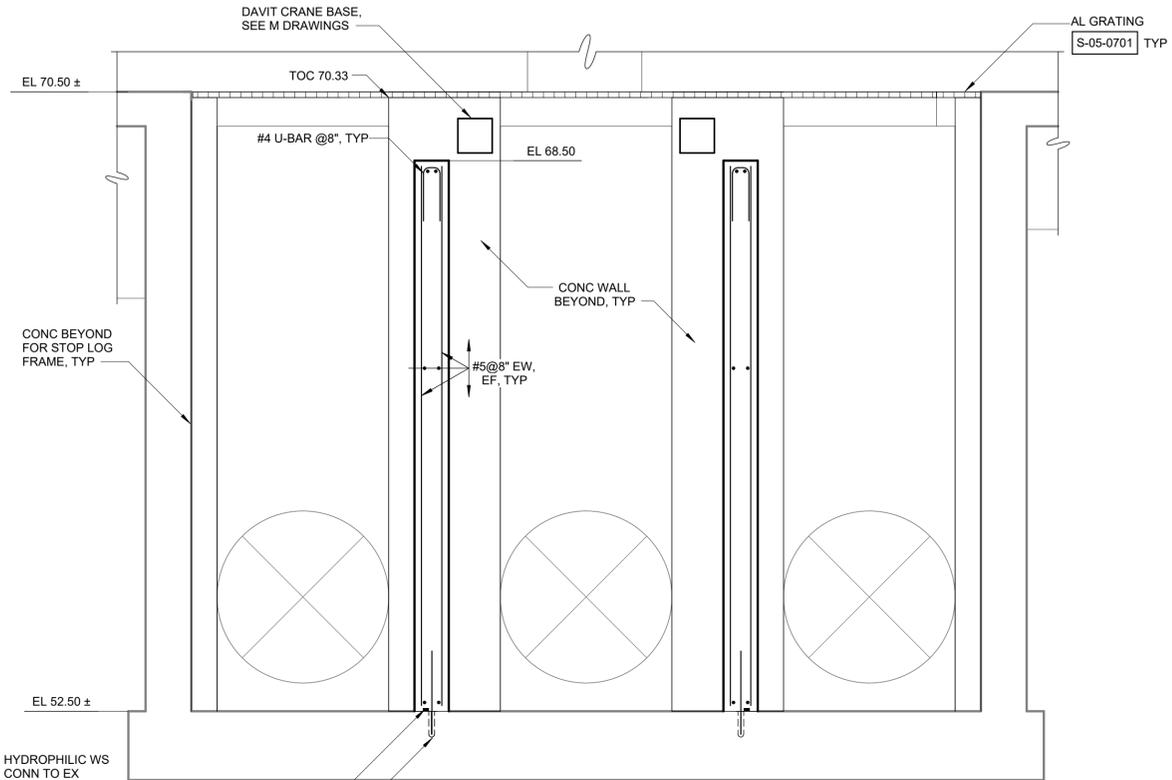


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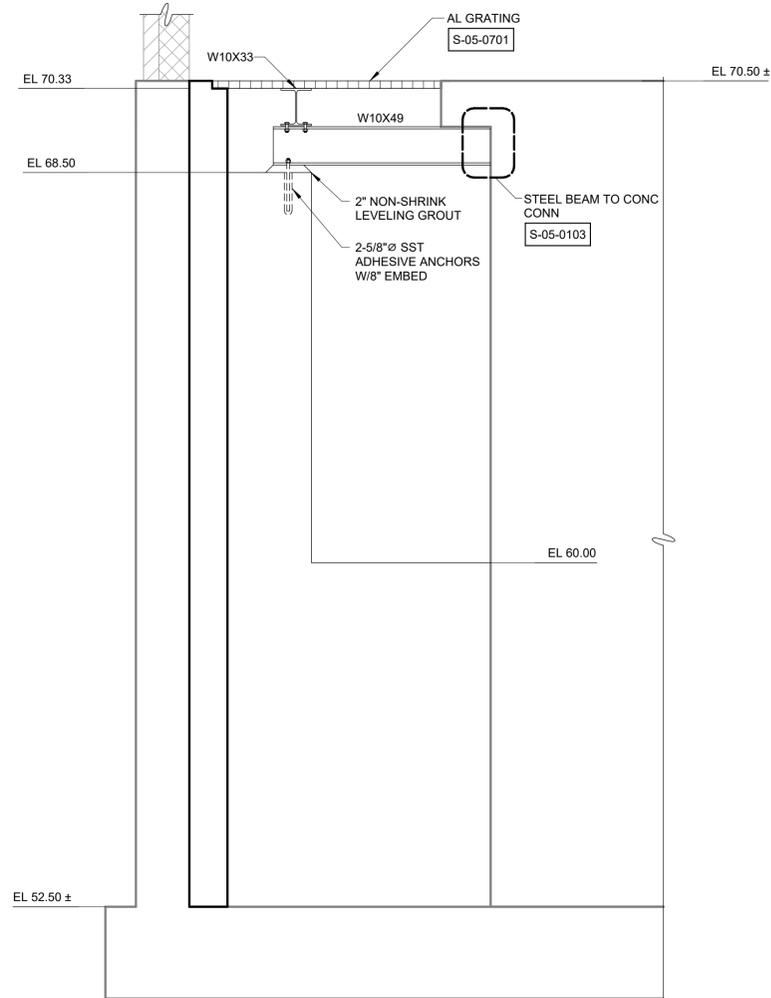
ROCKLAND COUNTY SEWER DISTRICT NO.1  
ORANGEBURG, NEW YORK  
**ORANGEBURG WASTEWATER TREATMENT PLANT SCREENING IMPROVEMENTS PROJECT**

**STRUCTURAL PLANS EL 70.50 AND 88.50**

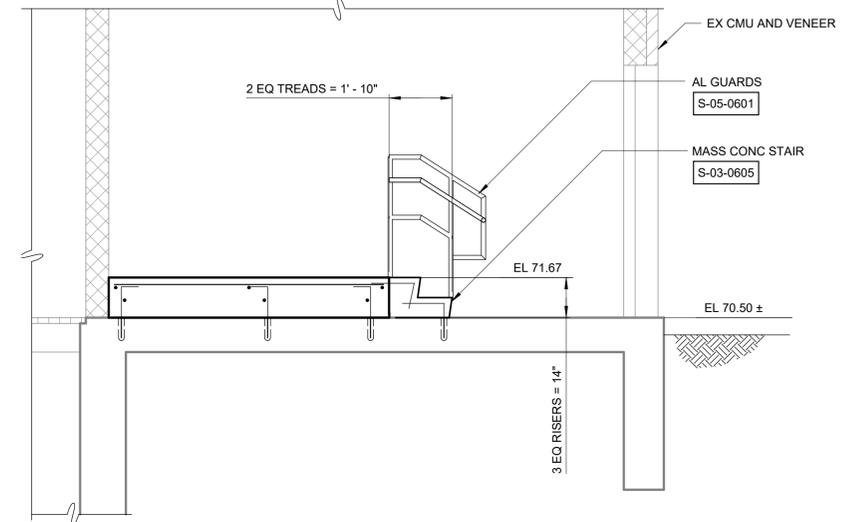
DATE:	JUNE 2024
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CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	S-04



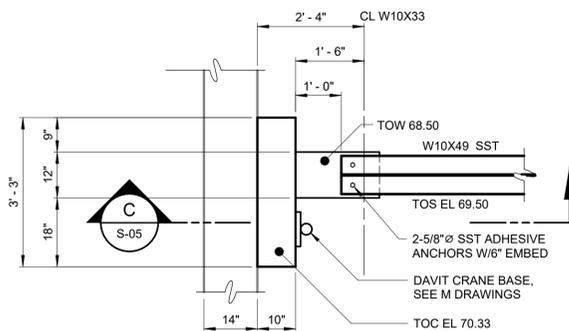
**SECTION B**  
3/8" = 1'-0" S-03



**SECTION C**  
1/2" = 1'-0" S-03



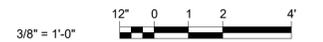
**SECTION D**  
3/8" = 1'-0" S-04



**DETAIL 1**  
1/2" = 1'-0" S-04

- NOTES:
1. ROUGHEN EXISTING CONCRETE SURFACE TO AN AMPLITUDE OF 1/4".
  2. APPLY EPOXY BONDING AGENT PRIOR TO CONCRETE POUR.
  3. REINFORCING NOT SHOWN FOR CLARITY.

- NOTES:
1. W10X33 NOT SHOWN FOR CLARITY.
  2. 2" NON-SHRINK LEVELING GROUT BELOW W10X49.



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CHECKED BY:	L. GIROUX
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"

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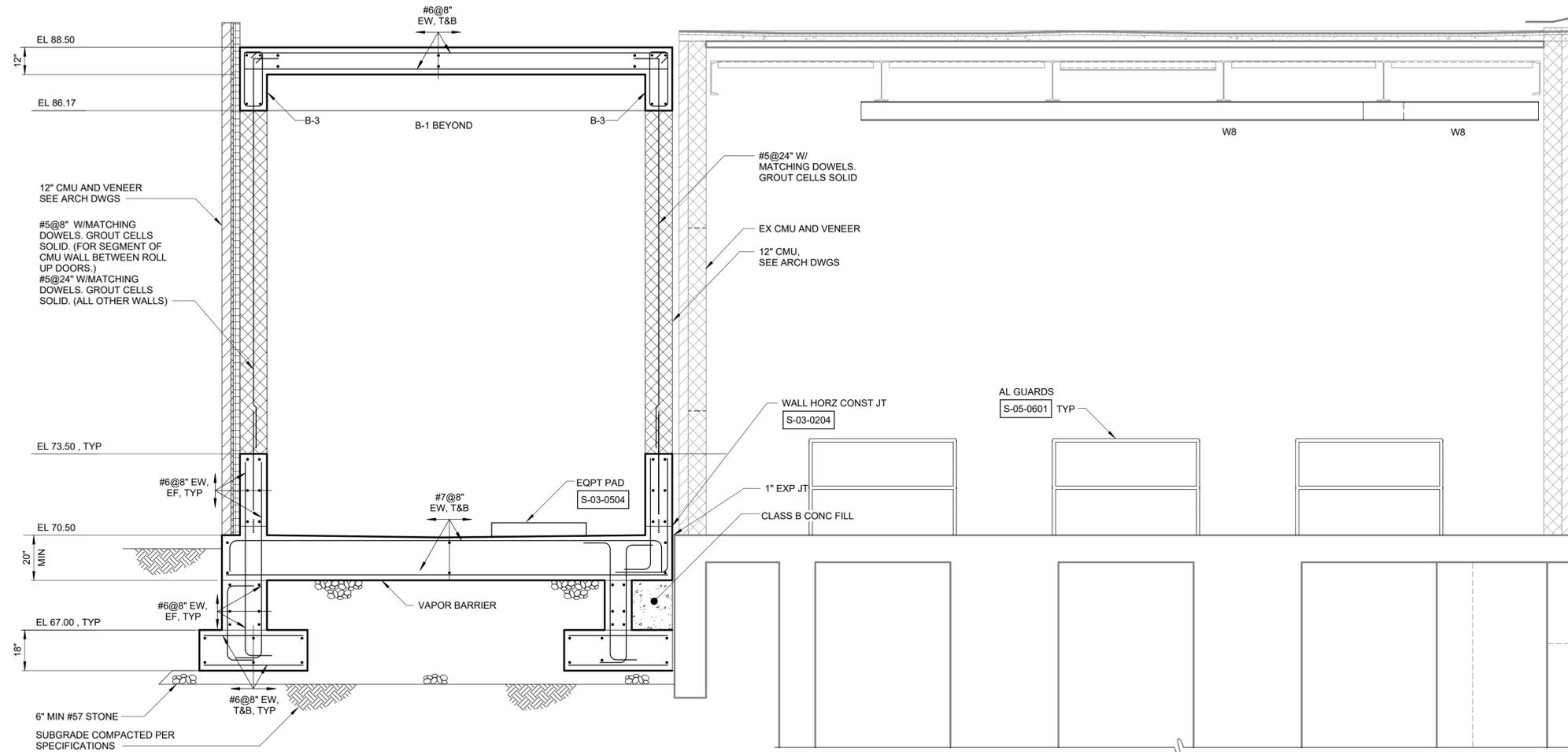
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ORANGEBURG, NEW YORK

ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

STRUCTURAL  
SECTIONS - SHEET 1

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DRAWING NUMBER:	S-05



SECTION E  
3/8" = 1'-0"



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DRAWN BY:	M. ROBLE
CHECKED BY:	L. GIROUX

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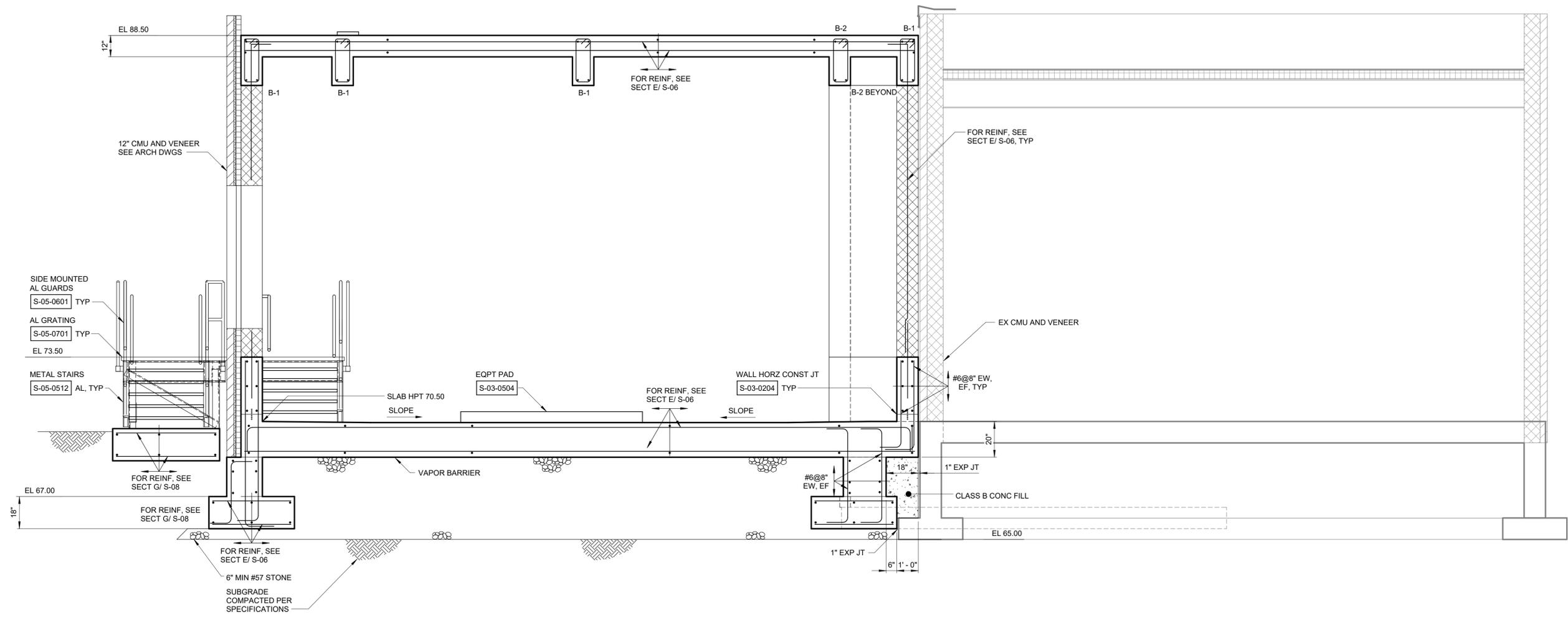


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ROCKLAND COUNTY SEWER DISTRICT NO.1  
ORANGEBURG, NEW YORK  
  
ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

STRUCTURAL  
SECTIONS - SHEET 2

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	S-06



SECTION F  
 3/8" = 1'-0" S-03



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PROJECT ENGINEER:	R. FROST
DESIGNED BY:	S. MANZO
DRAWN BY:	M. ROBLE
CHECKED BY:	L. GIROUX

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 NEW YORK, NEW YORK 10018

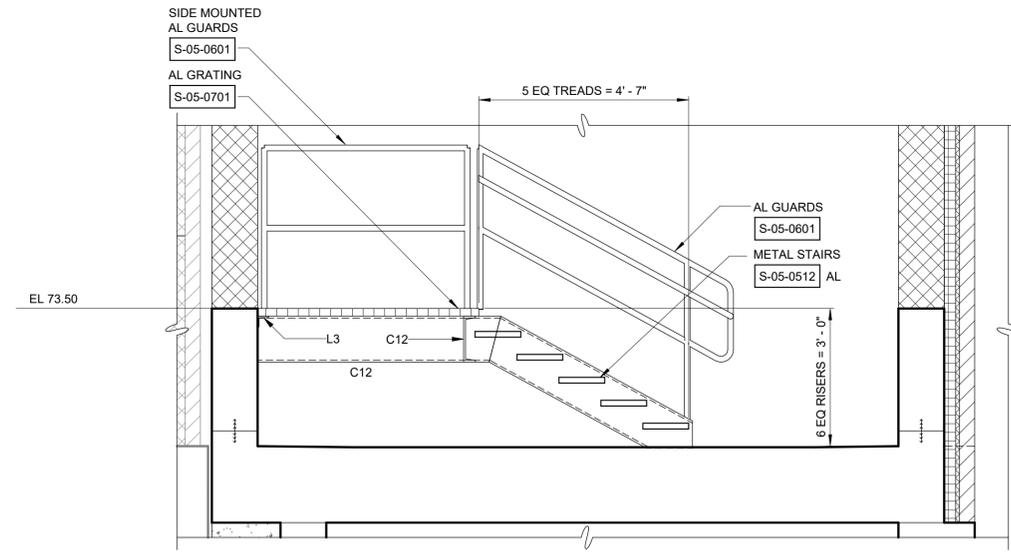
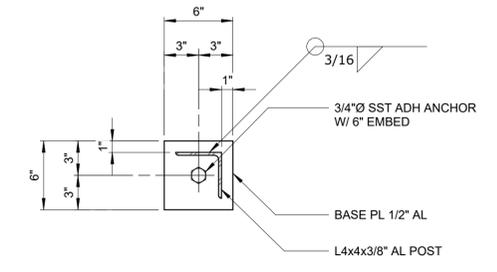
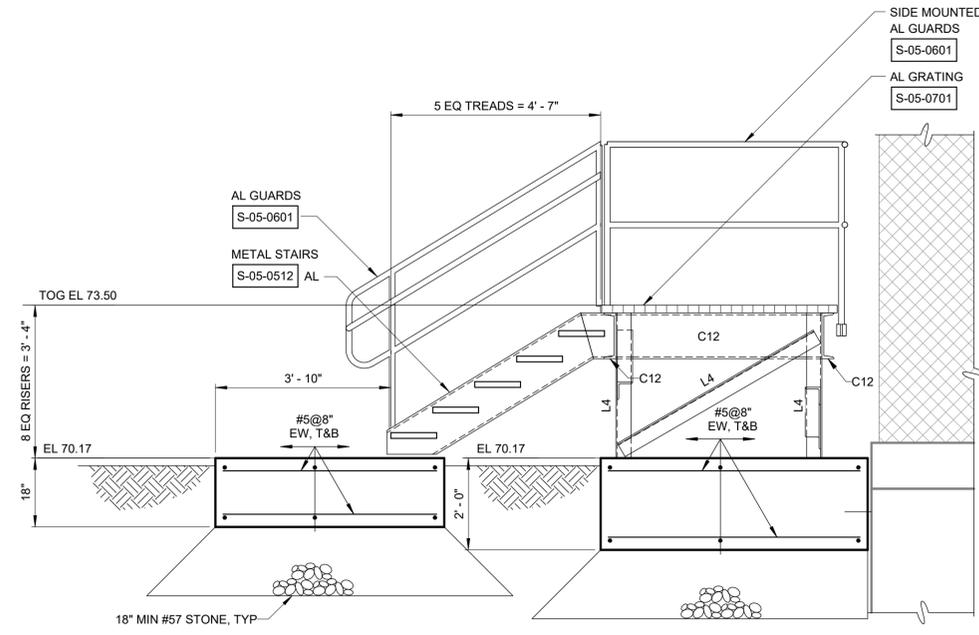
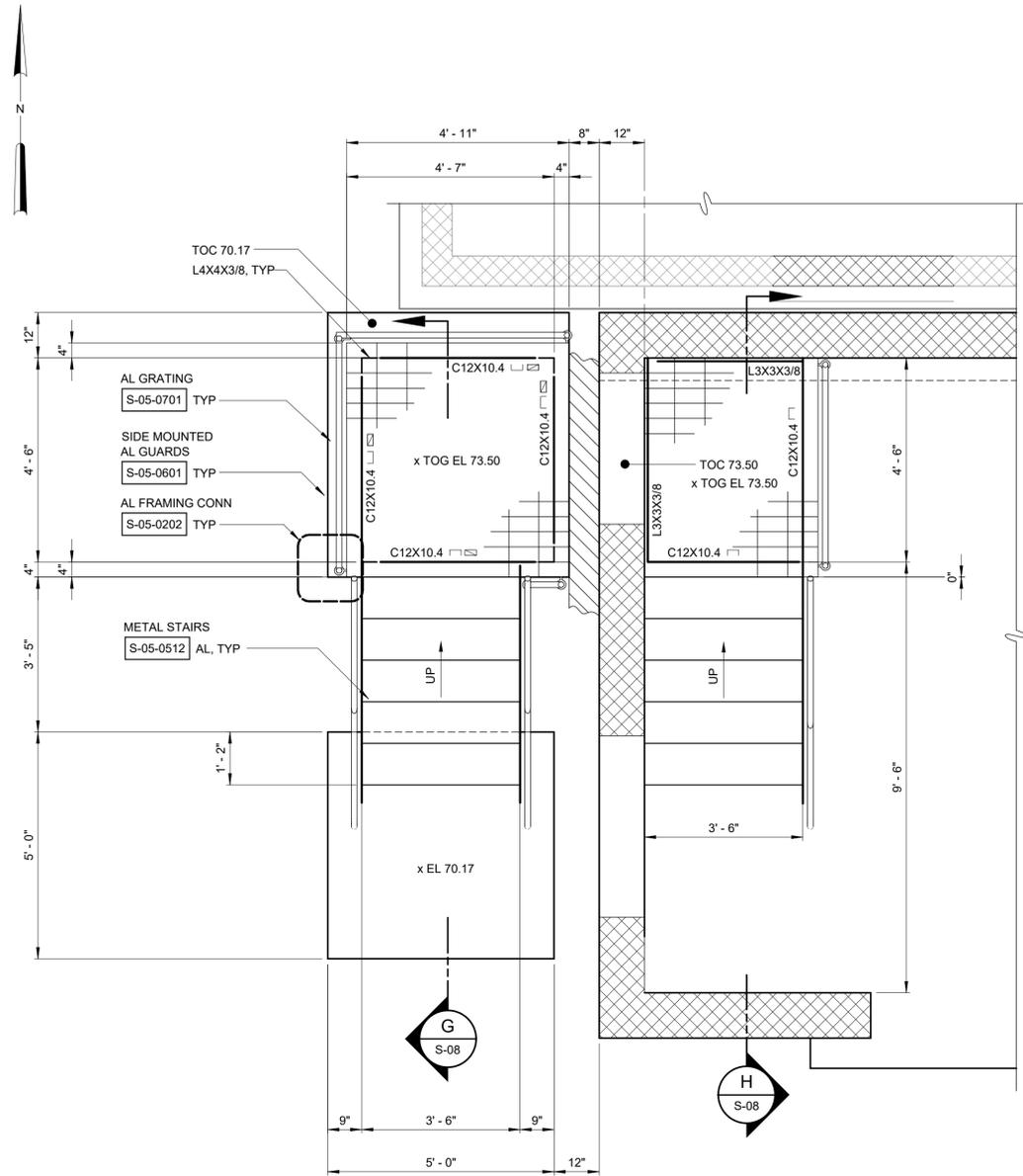
ROCKLAND COUNTY SEWER DISTRICT NO.1  
 ORANGETOWN, NEW YORK

ORANGETOWN WASTEWATER  
 TREATMENT PLANT  
 SCREENING IMPROVEMENTS PROJECT

STRUCTURAL  
 SECTIONS - SHEET 3

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	S-07

NOTES:  
 1.  DENOTES L4x4x3/8" DIAGONAL BRACING



NOTE:  
 REINF NOT SHOWN FOR CLARITY



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PROJECT ENGINEER:	R. FROST
DESIGNED BY:	S. MANZO
DRAWN BY:	M. ROBLE
CHECKED BY:	L. GIROUX

FOR BID



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ROCKLAND COUNTY SEWER DISTRICT NO.1  
 ORANGEBURG, NEW YORK

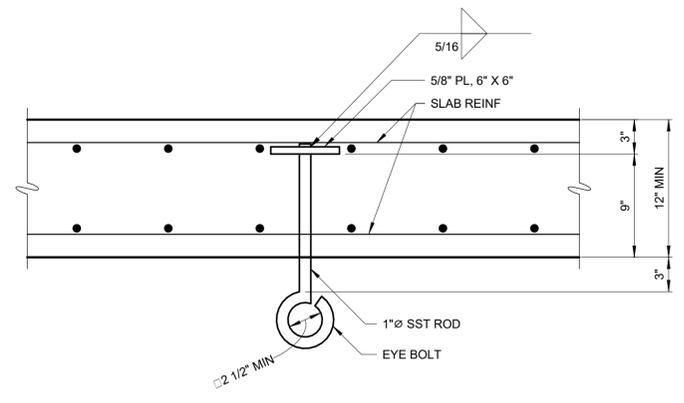
ORANGEBURG WASTEWATER  
 TREATMENT PLANT  
 SCREENING IMPROVEMENTS PROJECT

STRUCTURAL  
 ENLARGED STAIR PLAN AND SECTIONS

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	S-08

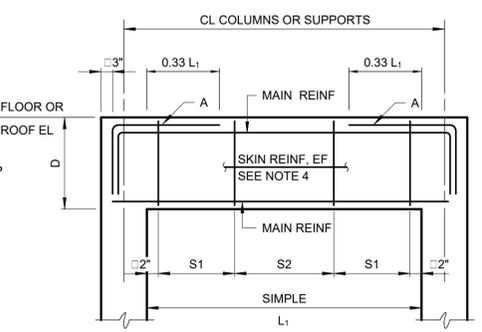
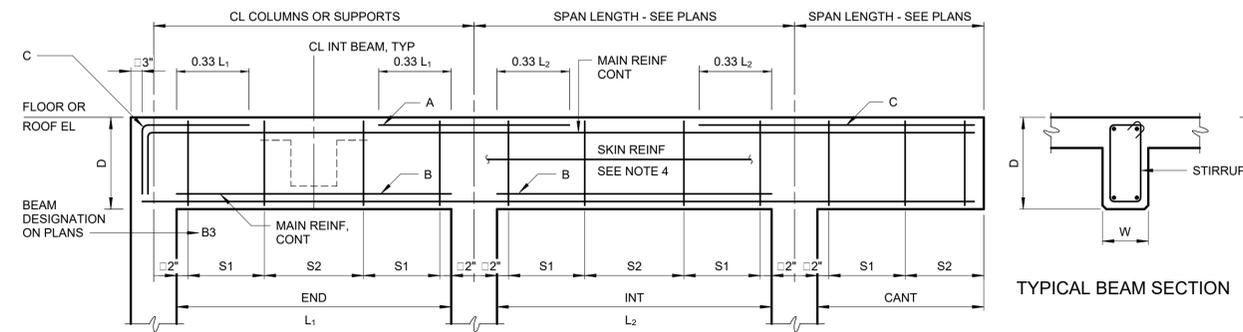
BEAM SCHEDULE															
MARK	COUNT	SPAN TYPE	SIZE		TOP ELEV	MAIN REINF		ADD REINF			S1 STIRRUPS		S2 STIRRUPS		REMARKS
			W"	D"		TOP	BOT	A	B	C	SIZE	SPACING	SIZE	SPACING	
B-1	4	SIMP	12"	28"	88.50	2-#8	2-#8				#3	8"	#3	8"	
B-2	7	END	12"	28"	88.50	2-#8	2-#8				#3	8"	#3	8"	
B-3	3	INT	12"	28"	88.50	2-#8	2-#8				#3	8"	#3	8"	

NOTE:  
1. SEE STANDARD DETAIL S-03-1001 FOR TYPICAL BEAM ELEVATIONS.



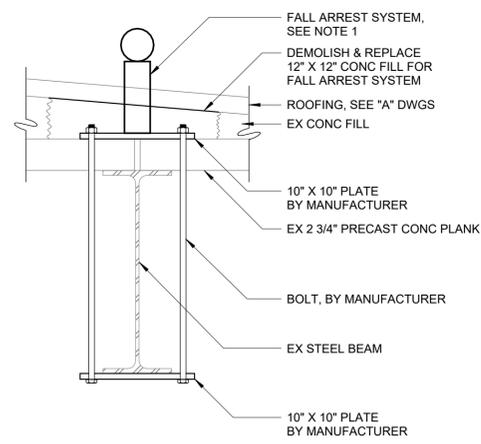
NOTE:  
1. MAX ALLOWABLE LOAD = 1/2 TON

EYE BOLT DETAIL	
DETAIL	2
1 1/2" = 1'-0"	S-04



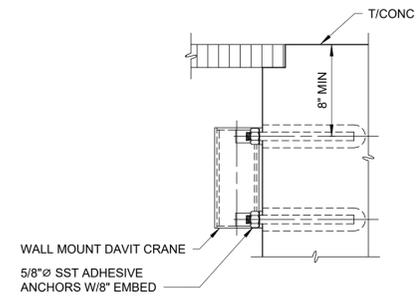
- NOTES:
- WHERE BEAMS FRAME INTO CONCRETE WALLS, WALLS SHALL BE BLOCKED OUT FULL HEIGHT AND WIDTH OF BEAM TO PROVIDE A MINIMUM 8" SEAT FOR BEAM BEARING. WALL REINFORCEMENT SHALL NOT BE INTERRUPTED THROUGH BLOCKOUT.
  - S1 = 2x"D" FOR STIRRUP SPACING SEE BEAM SCHEDULE
  - CONTINUOUS BOTTOM BARS IN ALL BEAMS MAY BE SPLICED AT COLUMN CENTERLINES. CONTINUOUS TOP BARS MAY BE SPLICED AT MID-SPAN.
  - UNLESS NOTED OTHERWISE, PROVIDE SKIN REINFORCEMENT BETWEEN TOP AND BOTTOM MAIN REINFORCEMENT AS FOLLOWS:  
FOR BEAMS 18" OR LESS IN DEPTH, NO SKIN REINFORCEMENT IS REQUIRED  
FOR BEAMS >18" THRU 36" IN DEPTH, PROVIDE #5@12" EF  
FOR BEAMS >36" THRU 84" IN DEPTH, PROVIDE #5@6" EF  
FOR BEAMS >84" IN DEPTH, SEE REMARKS IN BEAM SCHEDULE.
  - ALL STIRRUPS SHALL BE CLOSED TIES, TYPE T1, (ACI 315) UNLESS NOTED OTHERWISE.
  - SEE DRAWINGS FOR BEAM ELEVATION DIAGRAMS SPECIFICALLY REFERRED TO IN THE BEAM SCHEDULES.
  - WHEN TWO LAYERS OF FLEXURAL REINFORCEMENT ARE REQUIRED THE SPACING BETWEEN THE LAYERS SHALL BE 3 INCHES.

TYPICAL BEAM ELEVATION  
S-03-1001



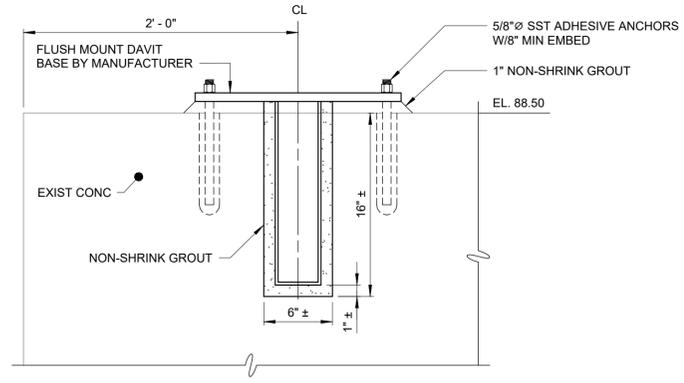
NOTE:  
1. FALL ARREST SYSTEM SHALL BE A BOLT AROUND TYPE KEE RIDGE ANCHOR - BOLT AROUND K&A-BLT BY KEE SAFETY OR EQUAL

FALL PROTECTION ON STEEL BEAM DETAIL	
DETAIL	3
1 1/2" = 1'-0"	S-04



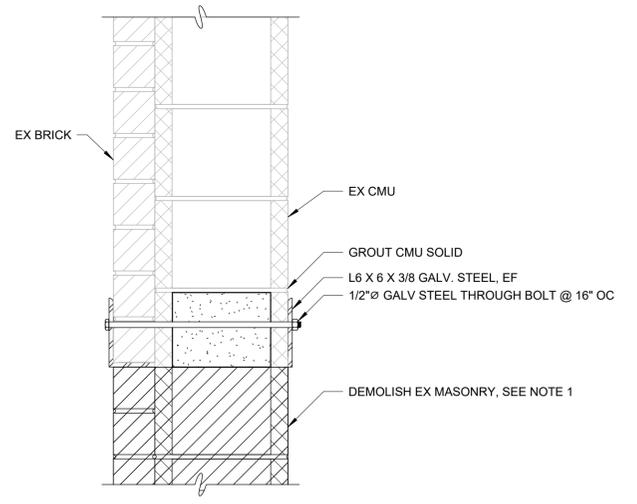
FALL PROTECTION WALL MOUNT  
INSTALLATION DETAIL

DETAIL	4
1 1/2" = 1'-0"	S-04



DAVIT CRANE FLUSH BASE INSTALLATION  
DETAIL

DETAIL	5
1 1/2" = 1'-0"	S-04



NOTES:  
1. INSTALL STEEL LINTEL PRIOR TO DEMOLISHING MASONRY BELOW  
2. MAXIMUM SPAN = 4'-0"  
3. MINIMUM END BEARING - 4" MIN  
4. SAW CUT GROOVE IN MASONRY JOINT TO INSTALL STEEL LINTEL

RETROFIT STEEL LINTEL DETAIL

DETAIL	6
1 1/2" = 1'-0"	S-04



Autodesk Docs/06/06/2024 10:00 AM and CA for RCSD Streets Rehab/0462-000-100-MBS-S.rvt 02/24/2024 7:02:43 PM

0	BID	06/2024	PDS
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	S. MANZO
DRAWN BY:	M. ROBLE
CHECKED BY:	L. GIROUX
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"

FOR BID



**Hazen**  
HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11th FLOOR  
NEW YORK, NEW YORK 10018

ROCKLAND COUNTY SEWER DISTRICT NO.1  
ORANGEBURG, NEW YORK

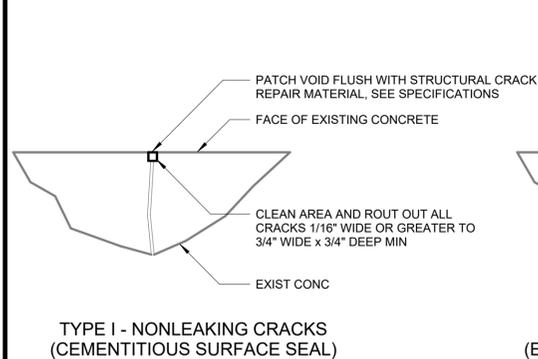
ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

STRUCTURAL  
BEAM DETAILS AND SCHEDULE

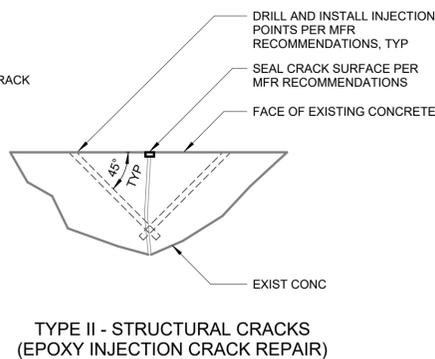
DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	S-09

NOTES:

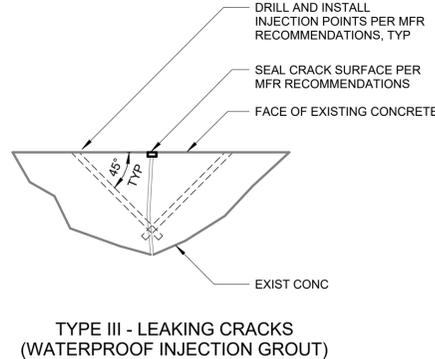
1. CONCRETE REPAIR WORK SHALL BE PERFORMED PER SPECIFICATION SECTION 03 01 30 AND THE DETAILS ON THIS DRAWING.
2. FOR EXISTING STRUCTURES LISTED IN THE TABLE: THE CONTRACTOR, IN CONJUNCTION WITH THE ENGINEER, SHALL DETERMINE THE EXTENT OF CRACKED OR DETERIORATED CONCRETE TO BE REHABILITATED AND/OR RESURFACED. FOR EACH STRUCTURE A SUMMARY OF WORK SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO COMMENCEMENT OF THE WORK.
3. SPALLED AND/OR DETERIORATED AREAS WHERE DEPTH "D" TO BE REPAIRED IS LESS THAN OR EQUAL TO 4" SHALL BE REPAIRED PER DETAIL 2. AREAS WHERE DEPTH "D" IS GREATER THAN 4" SHALL BE REPAIRED PER DETAIL 4.
4. FOR PAYMENT PURPOSES, THE WIDTH OF CONTRACTION OR CONSTRUCTION JOINT REPAIR SHALL BE LIMITED TO 4 INCHES MAXIMUM MEASURED EITHER WAY FROM THE CENTERLINE OF THE JOINT. DETERIORATED CONCRETE AT A JOINT WIDER THAN 4 INCHES SHALL BE PAID AS A SPALL REPAIR.
5. REFERENCE SPECIFICATION SECTION 01 20 00 MEASUREMENT AND PAYMENT FOR ESTIMATED CONCRETE REPAIR QUANTITIES AND ADDITIONAL INFORMATION ON ALL REPAIRS.
6. THE CONTRACT LUMP SUM BID PRICE SHALL INCLUDE ALL WORK RELATING TO CONCRETE REPAIRS AS INDICATED HEREIN AND SPECIFIED IN SPECIFICATION SECTION 03 01 30 - REHABILITATION OF CAST IN PLACE CONCRETE. THE LISTED QUANTITIES BY WORK ITEM ARE INCLUDED IN THE LUMP SUM. ANY QUANTITIES OF CONCRETE REPAIR WORK ITEMS EXCEEDING THE LISTED QUANTITIES WILL BE PAID FOR BY UNIT PRICE ITEMS. SEE SPECIFICATION 01 20 00 - MEASUREMENT AND PAYMENT.
7. FINAL QUANTITIES SHALL BE BASED ON FIELD CONDITIONS AND INSTALLED REPAIRS.



TYPE I - NONLEAKING CRACKS (CEMENTITIOUS SURFACE SEAL)



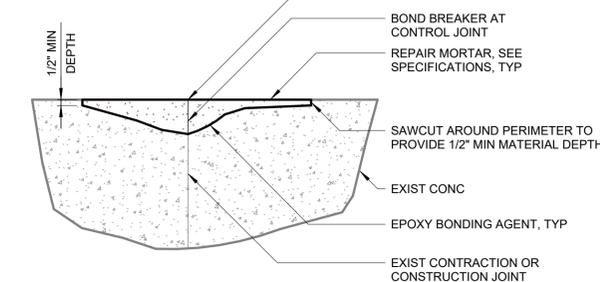
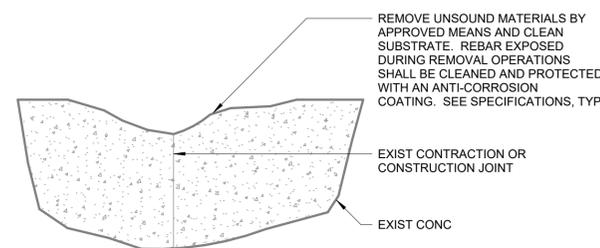
TYPE II - STRUCTURAL CRACKS (EPOXY INJECTION CRACK REPAIR)



TYPE III - LEAKING CRACKS (WATERPROOF INJECTION GROUT)

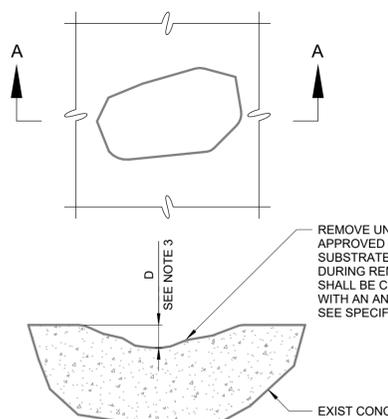
CRACK REPAIR

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



CONTRACTION OR CONSTRUCTION JOINT REPAIR

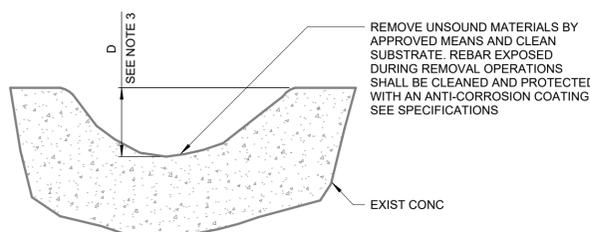
DETAIL	3
1 1/2" = 1'-0"	



DEMOLITION SECTION A-A

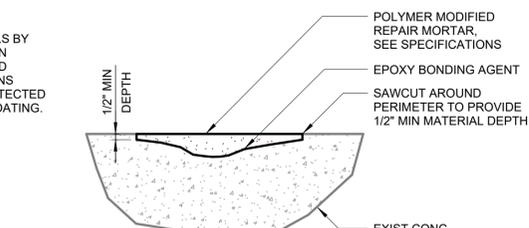
SURFACE SPALL REPAIR

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

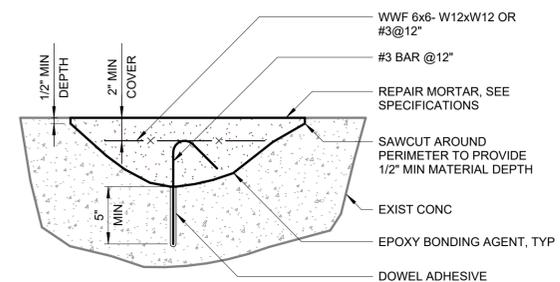


FORMED SPALL REPAIR

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



NEW SECTION A-A



FORMED SPALL REPAIR

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

CONCRETE REPAIR QUANTITIES						
DESCRIPTION	TYPE I EPOXY CEMENTITIOUS SURFACE SEAL (LF)	TYPE II EPOXY INJECTION CRACK REPAIR (LF)	TYPE III WATERPROOF INJECTION GROUT CRACK REPAIR (LF)	SURFACE SPALL REPAIR MATERIAL (CF)	FORMED SPALL REPAIR MATERIAL (CF)	CONTRACTION OR CONSTRUCTION JOINT REPAIR (LF)
MECHANICAL SCREEN AREA	0	100	100	200	200	100

Autodesk Docs/06/06/2024 10:00:00 AM and CA for RCSD Streets Rehab/0462-000-100-MBS-S.rvt 6/24/2024 7:02:44 PM

0	BID	06/2024	PDS
REV	ISSUED FOR	DATE	BY

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DESIGNED BY:	S. MANZO
DRAWN BY:	M. ROBLE
CHECKED BY:	L. GIROUX
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FOR BID

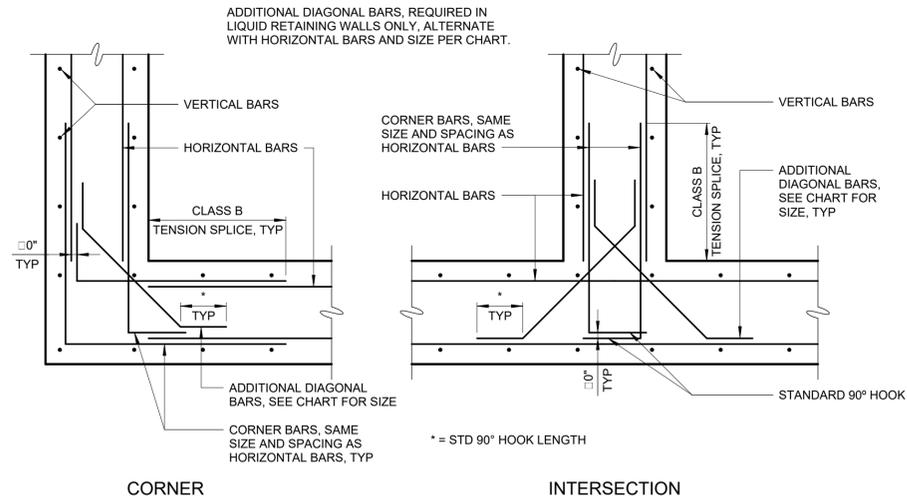


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ORANGEBURG WASTEWATER  
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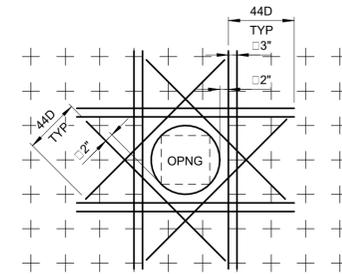
STRUCTURAL  
CONCRETE REPAIR DETAILS AND NOTES

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	S-10



DIAGONAL BAR SIZE CHART	
BAR SIZE - HORIZONTAL REINFORCEMENT	BAR SIZE - DIAGONAL REINFORCEMENT
# 3	# 3
# 4	# 3
# 5	# 4
# 6	# 5
# 7	# 5
# 8	# 6
# 9	# 7
# 10	# 8
# 11	# 9

AT LOCATIONS WHERE DIFFERENT SIZE HORIZONTAL BARS CONVERGE, THE LARGER BAR SIZE SHALL CONTROL



- NOTES:
- THIS DETAIL APPLIES FOR OPENINGS 8"Ø AND LARGER. FOR SMALLER OPENINGS, BEND BARS OR ADJUST SPACING OF REINFORCEMENT TO AVOID OPENING.
  - PLACE EXTRA BARS OF THE SAME SIZE AS THE INTERRUPTED BARS AT EACH SIDE OF OPENING. QUANTITY OF EXTRA BARS AT EACH SIDE SHALL EQUAL HALF THE QUANTITY OF INTERRUPTED BARS EXCEPT WHERE NOTED OTHERWISE.
  - PROVIDE ONE DIAGONAL BAR EACH SIDE OF OPENING WITH SIZE EQUAL TO MAIN REINFORCEMENT, TYPICAL EACH FACE.
  - WHERE INVERT OF OPENING IN WALL IS LESS THAN 44 BAR DIAMETERS FROM TOP OF SLAB, EXTRA REINFORCEMENT ON EACH SIDE SHALL INCLUDE DOWELS EMBEDDED INTO SLAB WITH STANDARD 90 DEGREE HOOKS TO SPLICE WITH EXTRA VERTICAL REINFORCEMENT. DOWELS SHALL ALSO STILL BE PROVIDED BELOW OPENING.
  - WHERE INVERT OF OPENING IN WALL OR SLAB IS CLOSER THAN 44 BAR DIAMETERS TO EDGE OF SLAB OR BOTTOM OF WALL, EXTRA DIAGONAL BARS MAY BE TERMINATED TWO INCHES FROM EDGE OF SLAB OR BOTTOM OF WALL. DOWELS DO NOT HAVE TO BE PROVIDED TO SPLICE WITH DIAGONAL BARS.

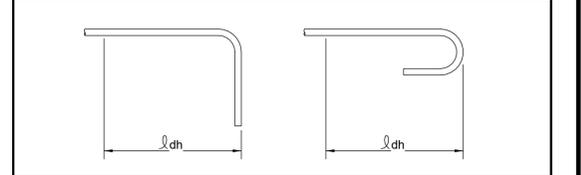
### DEVELOPMENT LENGTH OF STANDARD HOOKS

FOR UNCOATED BARS IN TENSION

$f_y = 60,000 \text{ psi}$        $f_c' = 4000 \text{ psi OR GREATER}$

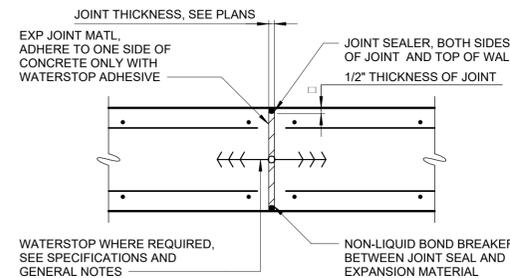
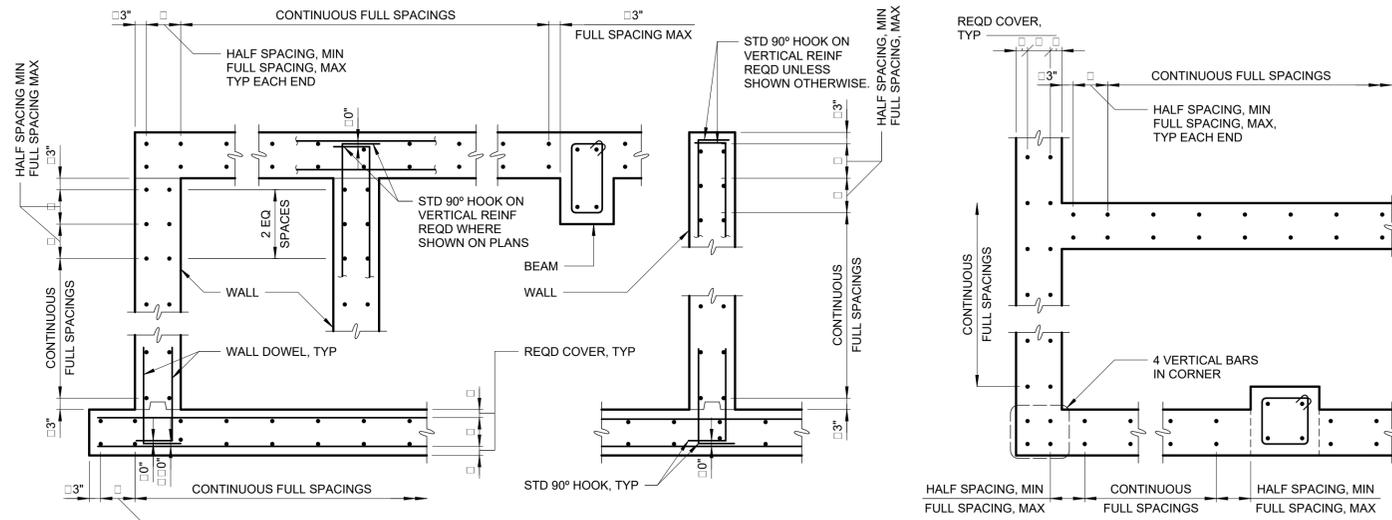
BAR SIZE	DEVELOPMENT LENGTH, $l_{dh}$	
	BASIC	W/ CONC COVER *
#3	8"	6"
#4	10"	7"
#5	1'-0"	9"
#6	1'-3"	11"
#7	1'-5"	1'-0"
#8	1'-7"	1'-2"
#9	1'-10"	1'-4"
#10	2'-1"	1'-6"
#11	2'-3"	1'-7"

\* SIDE COVER NORMAL TO PLANE OF HOOK AT LEAST 2 1/2"; AND FOR 90° HOOK, END COVER BEYOND OUTSIDE END OF HOOK AT LEAST 2".



WALL REINFORCING  
S-03-0108

REINFORCING AT OPENINGS  
S-03-0109



EXPANSION JOINT  
S-03-0201

### BASIC DEVELOPMENT LENGTH AND SPLICE LENGTH

FOR UNCOATED BARS IN TENSION

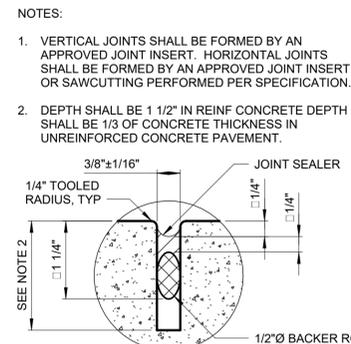
$f_y = 60,000 \text{ psi}$        $f_c' = 4000 \text{ psi OR GREATER}$

CLEAR COVER  $\geq 1.5$  INCHES      NORMAL WEIGHT CONCRETE

BASIC DEVELOPMENT LENGTH $l_d$				BAR SIZE	CLASS B SPLICE LENGTH $1.3 \times l_d$			
CLEAR SPACING $\geq 3"$		CLEAR SPACING $< 3"$			CLEAR SPACING $\geq 3"$		CLEAR SPACING $< 3"$	
BASIC	TOP *	BASIC	TOP *	BASIC	TOP *	BASIC	TOP *	
1'-0"	1'-0"	1'-0"	1'-4"	# 3	1'-0"	1'-3"	1'-4"	1'-8"
1'-0"	1'-3"	1'-7"	2'-1"	# 4	1'-3"	1'-8"	2'-1"	2'-9"
1'-3"	1'-7"	2'-4"	3'-0"	# 5	1'-7"	2'-0"	3'-0"	3'-11"
1'-6"	1'-11"	3'-1"	4'-0"	# 6	1'-11"	2'-5"	4'-0"	5'-2"
2'-5"	3'-1"	4'-11"	6'-4"	# 7	3'-1"	4'-0"	6'-4"	8'-3"
3'-0"	3'-11"	6'-0"	7'-9"	# 8	3'-11"	5'-1"	7'-9"	10'-1"
3'-8"	4'-9"	6'-9"	8'-9"	# 9	4'-9"	6'-3"	8'-9"	11'-4"
4'-6"	5'-10"	7'-7"	9'-10"	# 10	5'-10"	7'-7"	9'-10"	12'-9"
5'-5"	7'-0"	8'-5"	10'-11"	# 11	7'-0"	9'-1"	10'-11"	14'-2"

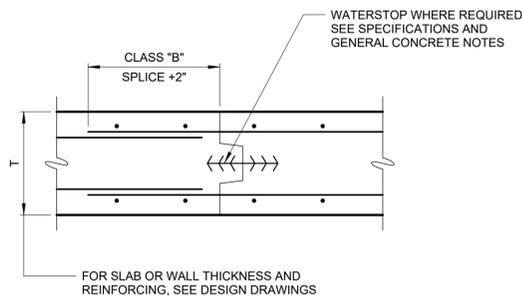
\* TOP REINFORCEMENT IS ANY HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCEMENT.

\*\* FOR MATERIALS OR CONDITIONS DIFFERENT FROM THOSE STATED, LENGTHS SHOWN IN CHART SHALL BE MODIFIED TO CONFORM TO THE PROVISIONS OF ACI 318-14, SECTION 25.3.

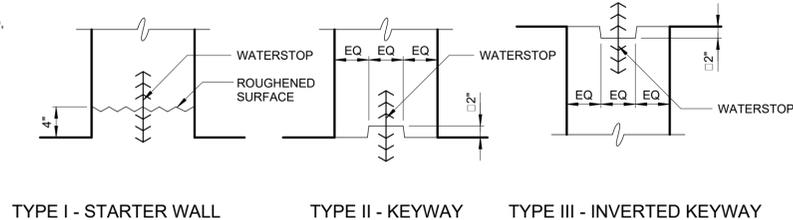


SEALED JOINT  
S-03-0202

BAR PLACEMENT  
S-03-0110



CONSTRUCTION JOINT  
S-03-0203



WALL HORIZONTAL CONSTRUCTION JOINTS  
S-03-0204

- NOTES:
- VERTICAL JOINTS SHALL BE FORMED BY AN APPROVED JOINT INSERT. HORIZONTAL JOINTS SHALL BE FORMED BY AN APPROVED JOINT INSERT OR SAWCUTTING PERFORMED PER SPECIFICATION.
  - DEPTH SHALL BE 1 1/2" IN REINF CONCRETE DEPTH SHALL BE 1/3 OF CONCRETE THICKNESS IN UNREINFORCED CONCRETE PAVEMENT.

- NOTES:
- TYPE I - STARTER WALL IS REQUIRED FOR ALL BASE OF WALLS 12 INCHES OR LESS IN THICKNESS WHERE WATERSTOPS ARE REQUIRED.
  - TYPE I - STARTER WALL IS PREFERRED, BUT TYPE II - KEYWAY IS ACCEPTABLE FOR BASE OF WALLS GREATER THAN 12 INCHES IN THICKNESS WHERE WATERSTOPS ARE REQUIRED.
  - TYPE III - INVERTED KEYWAY IS REQUIRED AT TOP OF WALLS WHERE WATERSTOPS ARE REQUIRED.

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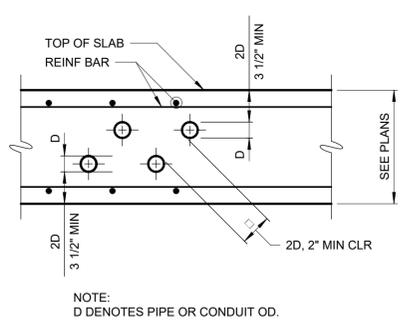
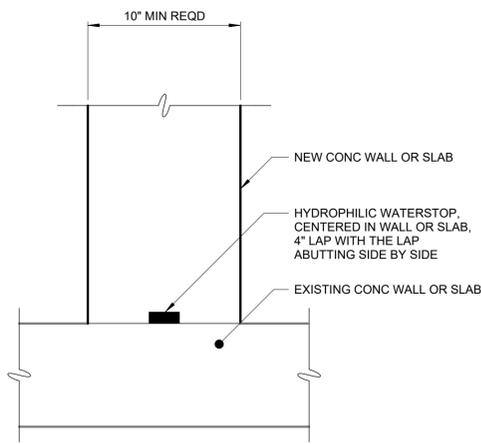


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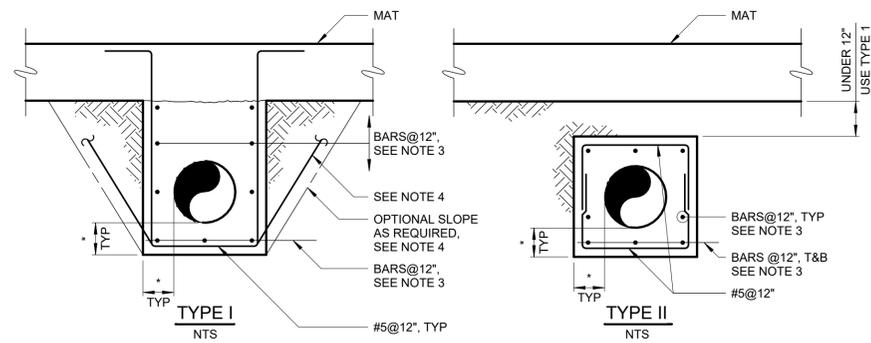
ROCKLAND COUNTY SEWER DISTRICT NO.1  
ORANGEBURG, NEW YORK  
  
ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

STRUCTURAL  
DETAILS - SHEET 1

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	S-11



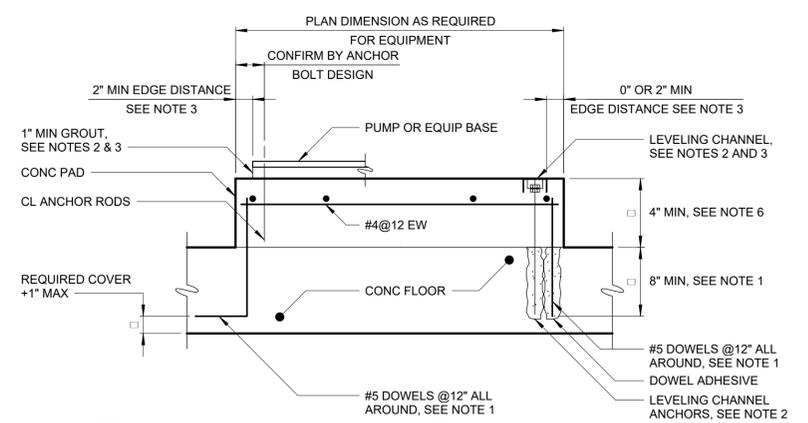
PIPE OR CONDUIT EMBEDDED IN SLAB  
S-03-0403



- NOTES:
- TIE IN ALL PIPES & CONDUITS BELOW GROUND FLOOR SLAB WHEN PILE FOUNDATION IS UTILIZED. USE TYPE I.
  - \* DENOTES 9" FOR PIPES LESS THAN 42", 12" FOR PIPES 42" TO 72" AND 18" FOR PIPES GREATER THAN 84".
  - FOR 9" ENCASUREMENTS USE #5 BARS. FOR 12" ENCASUREMENTS USE #6 BARS AND FOR 18" ENCASUREMENTS USE #7 BARS.
  - OPTIONAL SLOPE, WHERE UTILIZED, SHALL BE 45 DEGREES. ENCASUREMENT CONCRETE SHALL BE PLACED TO THE SLOPE LINE WITH VERTICAL REBAR BENT ALONG THE SLOPE AS INDICATED.

ALL PIPING AND CONDUITS BELOW SLABS ON EARTH TO BE ENCASED BY GENERAL CONTRACTOR UNLESS NOTED OTHERWISE.

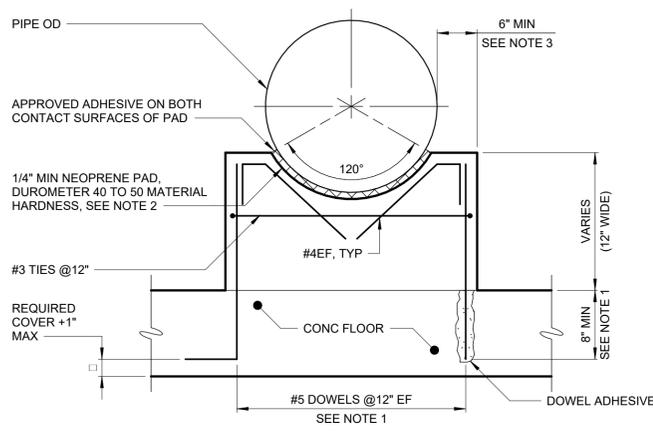
PIPE ENCASUREMENTS  
S-03-0404



- NOTES:
- DOWELS MAY BE CAST IN WITH 90° HOOK OR ANCHORED WITH DOWEL ADHESIVE AT CONTRACTORS OPTION. WHERE FLOOR IS LESS THAN 10" THICK, USE #4 DOWELS EMBEDDED TO WITHIN 2" OF BOTTOM OF FLOOR SLAB.
  - THE CONTRACTOR SHALL PROVIDE LEVELING CHANNELS AND LEVELING CHANNEL ANCHORS FOR SWITCHGEAR, SWITCHBOARDS, MOTOR CONTROL CENTERS, AND SIMILAR EQUIPMENT WHEN REQUIRED TO MEET EQUIPMENT MANUFACTURER'S LEVELING TOLERANCES. THE CONTRACTOR SHALL PROVIDE 1" MINIMUM NON-SHRINK GROUT FOR PUMPS AND SIMILAR EQUIPMENT WHEN REQUIRED TO MEET EQUIPMENT MANUFACTURER'S UNIFORM BEARING AND LEVELING REQUIREMENTS.
  - PRIOR TO PLACING CONCRETE PAD, LEVELING CHANNEL SIZE AND MEANS OF INSTALLATION, ANCHORAGE, GROUT, CONCRETE EDGE DISTANCE, AND CONCRETE BLOCKOUTS REQUIREMENTS SHALL BE COORDINATED WITH EQUIPMENT MANUFACTURER.
  - COAT DISSIMILAR MATERIALS PER THE CONTRACT DOCUMENTS.
  - STAGGER CHANNEL ANCHORS AND PAD DOWELS.
  - FOR PADS 24" OR GREATER IN DEPTH, PROVIDE #4@8" HORIZONTAL SKIN REINFORCING AROUND PERIMETER OF PAD.

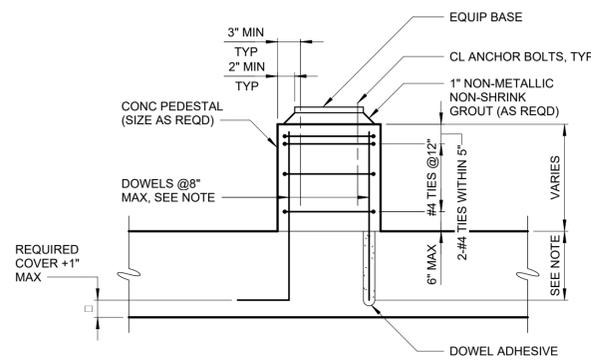
EQUIPMENT PAD  
S-03-0504

HYDROPHILIC WATERSTOP CONNECTION TO EXISTING STRUCTURE AT CONSTRUCTION JOINT  
S-03-0304



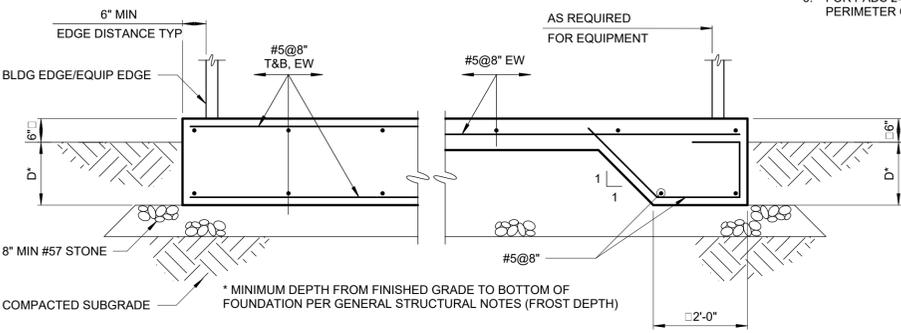
- NOTES:
- DOWELS MAY BE CAST IN WITH 90° HOOK OR ANCHORED WITH DOWEL ADHESIVE AT CONTRACTORS OPTION. WHERE FLOOR IS LESS THAN 10" THICK, USE #4 DOWELS EMBEDDED TO WITHIN 2" OF BOTTOM OF FLOOR SLAB.
  - ENGINEER SHALL VERIFY THICKNESS OF PAD WILL ACCOMMODATE DESIGN MOVEMENT, PARTICULARLY FOR OUTSIDE AERIAL PIPE.
  - COORDINATE SUPPORT WIDTH WITH PIPE STRAP ANCHORAGE REQUIREMENTS. PROVIDE 6" MINIMUM FROM CENTER OF PIPE STRAP ANCHOR ROD TO EDGE OF CONCRETE.

CRADLE PIPE SUPPORT  
S-03-0505



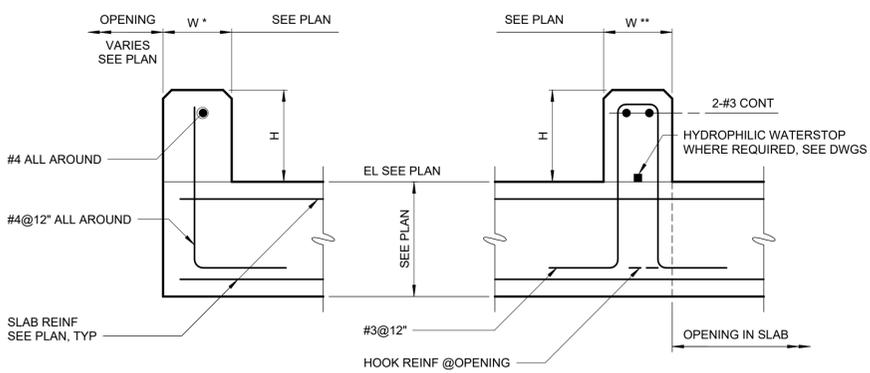
- NOTE:
- TOTAL AREA OF DOWELS SHALL NOT BE LESS THAN ONE PERCENT OF THE TOTAL PLAN AREA OF THE PEDESTAL, EQUALLY SPACED AROUND ALL 4 SIDES OF PEDESTAL. DOWELS MAY BE CAST IN WITH 90° HOOK OR ANCHORED WITH DOWEL ADHESIVE AT CONTRACTORS OPTION. WHERE FLOOR IS LESS THAN 10" THICK, USE #4 DOWELS EMBEDDED TO WITHIN 2" OF BOTTOM OF FLOOR SLAB.

EQUIPMENT SUPPORT PEDESTAL  
S-03-0507



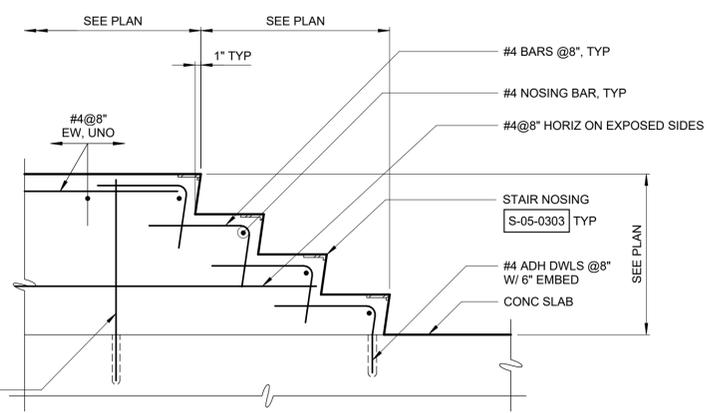
- NOTE:
- UNLESS NOTED OTHERWISE, CONTRACTOR SHALL HAVE THE OPTION OF PLACING EQUIPMENT FOUNDATION WITH A CONSTANT THICKNESS OF D + 6" OR AS AN 8" SLAB WITH THICKENED EDGE AROUND THE FOUNDATION PERIMETER.

EXTERIOR EQUIPMENT FOUNDATION  
S-03-0508



- NOTE:
- W\* DENOTES CURBS LESS THAN 8"  
W\*\* DENOTES CURBS EQUAL TO OR GREATER THAN 8" DOWELS MAY BE CAST IN OR ANCHORED WITH DOWEL ADHESIVE SYSTEM WITH A 6" MINIMUM EMBEDMENT. WHERE FLOOR IS 8" THICK OR LESS, USE DOWELS EMBEDDED TO WITHIN 2" OF BOTTOM OF FLOOR SLAB.

CONCRETE CURB  
S-03-0603



MASS CONCRETE STAIR  
S-03-0605

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REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	S. MANZO
DRAWN BY:	M. ROBLE
CHECKED BY:	L. GIROUX
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"

FOR BID

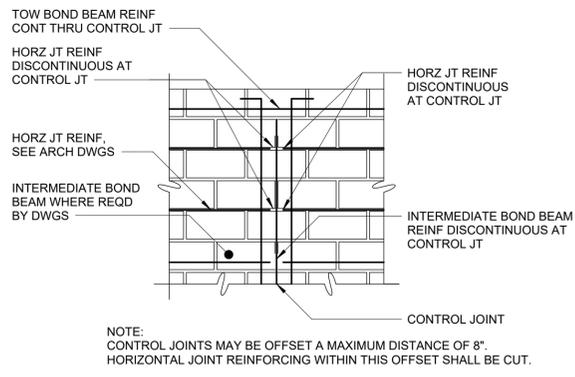


**Hazen**  
HAZEN AND SAWYER  
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NEW YORK, NEW YORK 10018

ROCKLAND COUNTY SEWER DISTRICT NO.1  
ORANGEBURG, NEW YORK  
  
ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

STRUCTURAL  
DETAILS - SHEET 2

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	S-12



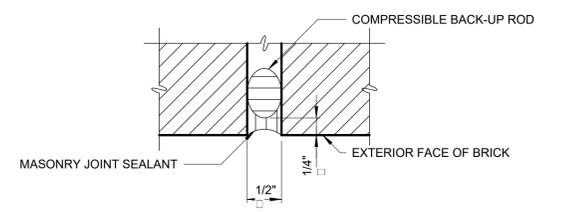
**ELEVATION**

**PLAN**

NOTE: WIDE FLANGED PREFORMED CONTROL JOINT FILLER MAY BE USED.

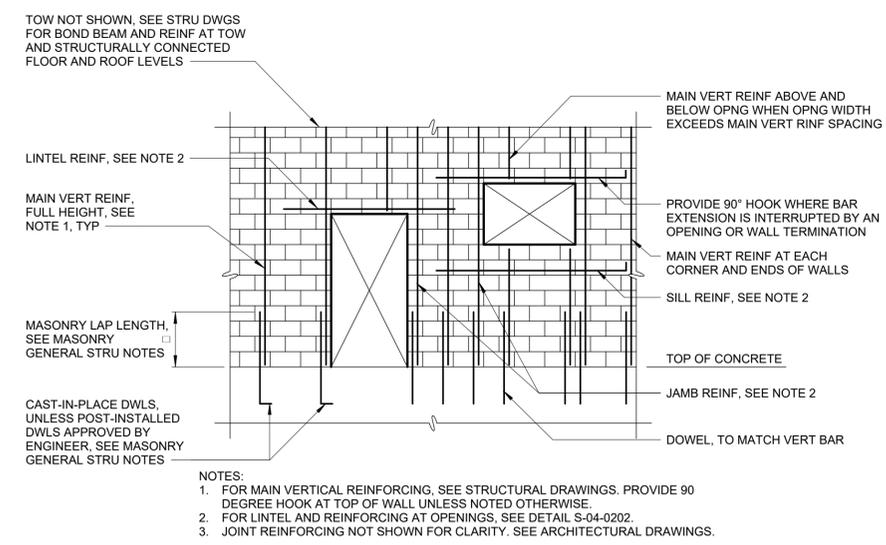
**CONTROL JOINT BLOCK**

**S-04-0105**



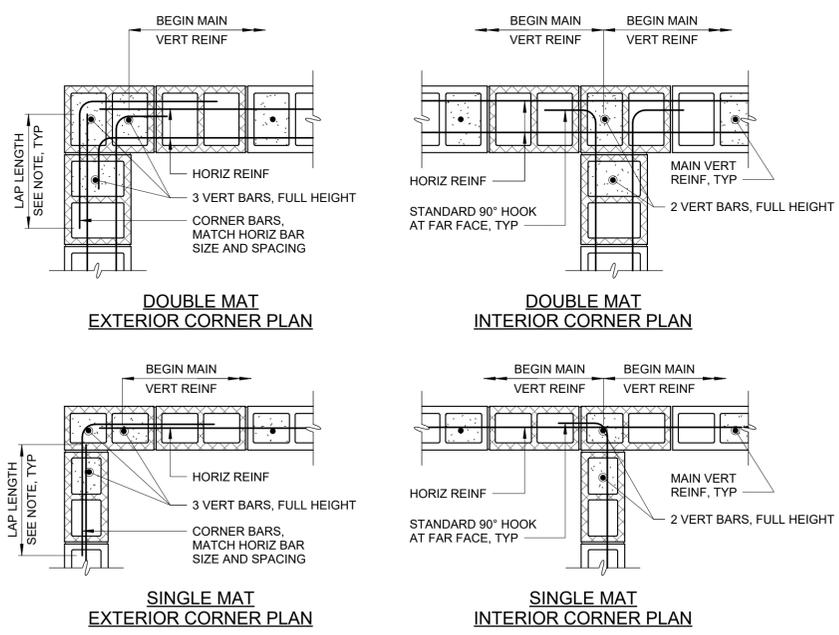
**BRICK EXPANSION JOINT**

**S-04-0108**



**TYPICAL MASONRY REINFORCING ELEVATION**

**S-04-0201**

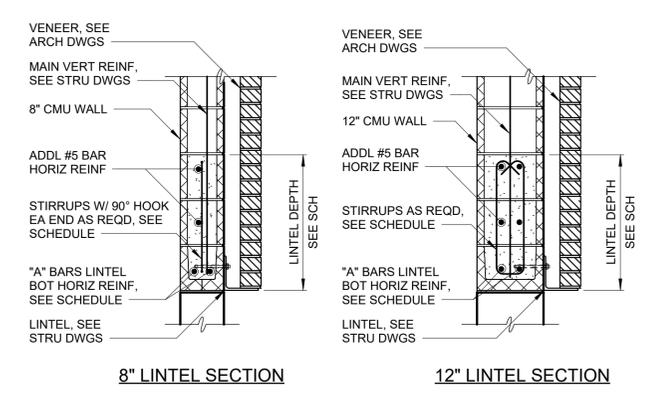
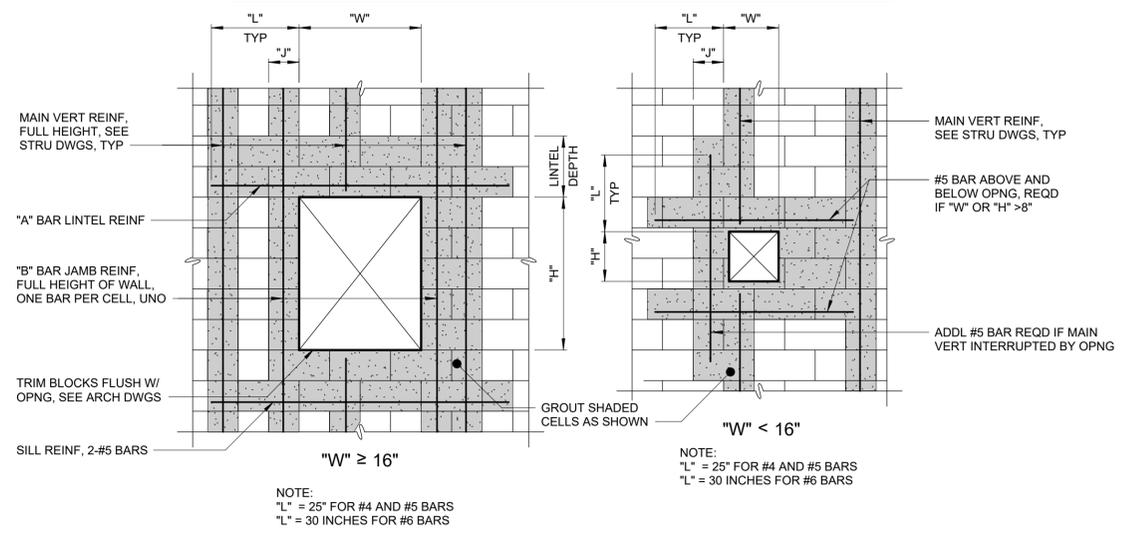


**TYPICAL MASONRY WALL INTERSECTION REINFORCING**

**S-04-0203**

NOTES:  
1. SEE MASONRY GENERAL STRUCTURAL NOTES FOR LAP SPLICE LENGTH REQUIREMENTS.  
2. DETAIL APPLIES TO BOND BEAM HORIZONTAL REINFORCING.

CMU OPENING REINFORCEMENT SCHEDULE					
"W" OPNG WIDTH	LINTEL DEPTH	LINTEL STIRRUP	"A" BAR LINTEL	"B" BAR JAMB	"J" MIN JAMB WIDTH
UP TO 2'-8"	8"	-	#5 BAR	1-#5 BAR EA JAMB	8"
>2'-8" <= 4'-0"	8"	-	2-#5 BARS	1-#5 BAR EA JAMB	8"
>4'-0" <= 6'-0"	16"	#3@8"	2-#5 BARS	2-#5 BAR EA JAMB	16"
>6'-0" <= 8'-0"	24"	#3@8"	2-#5 BARS	2-#5 BAR EA JAMB	16"
>8'-0" <= 10'-0"	32"	#3@8"	2-#5 BARS	3-#5 BAR EA JAMB	24"



**TYPICAL MASONRY OPENINGS**

**S-04-0202**

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PROJECT ENGINEER:	R. FROST
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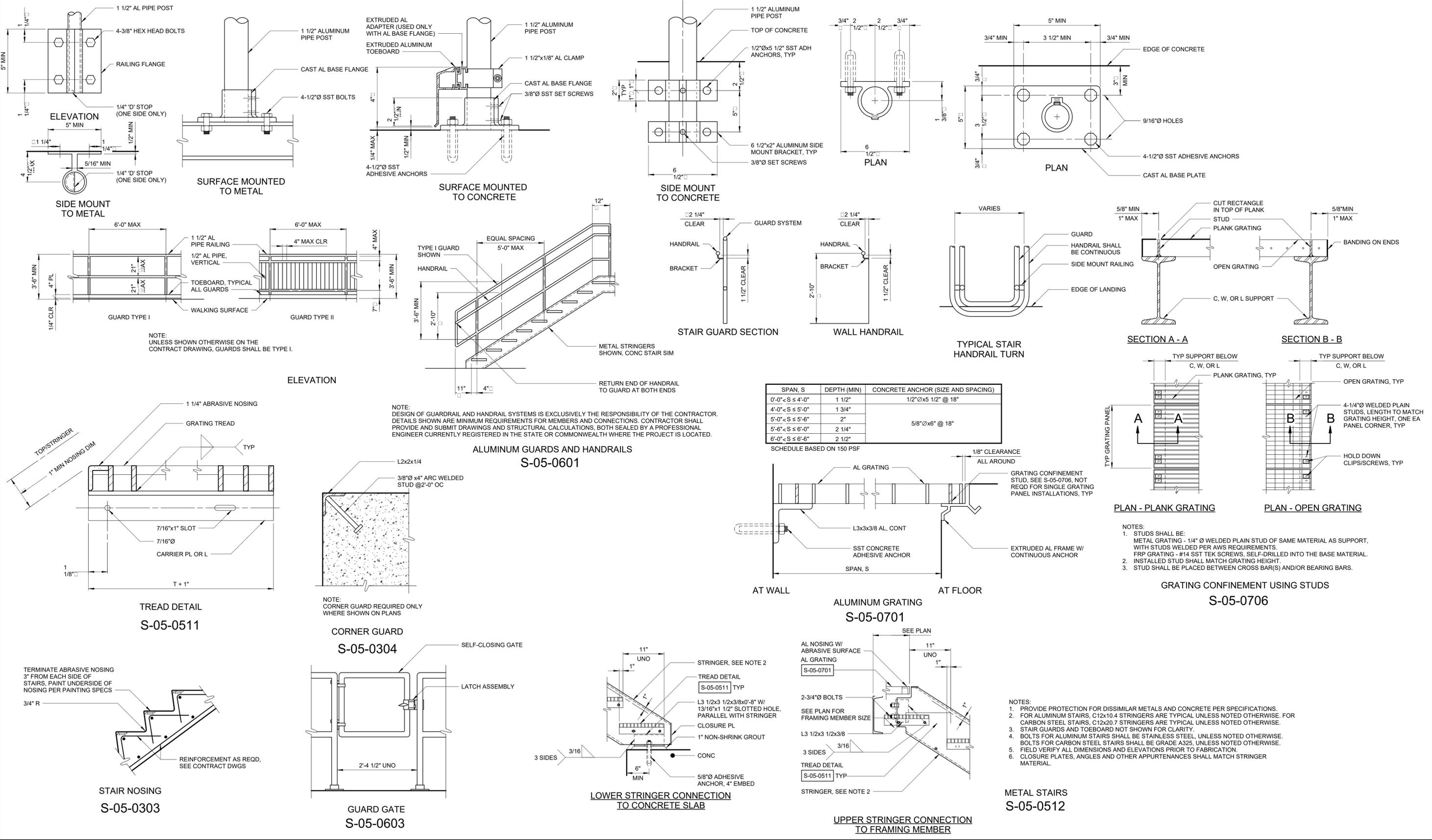
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NEW YORK, NEW YORK 10018

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ORANGEBURG WASTEWATER  
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STRUCTURAL  
DETAILS - SHEET 3

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	S-13



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PROJECT ENGINEER:	R. FROST
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DRAWN BY:	M. ROBLE
CHECKED BY:	L. GIROUX

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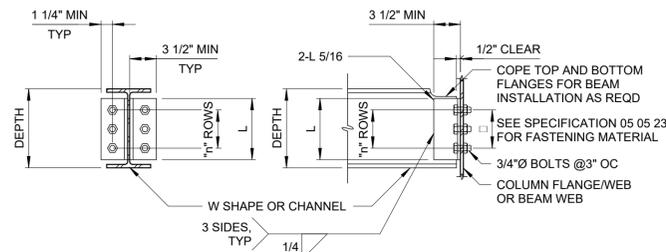
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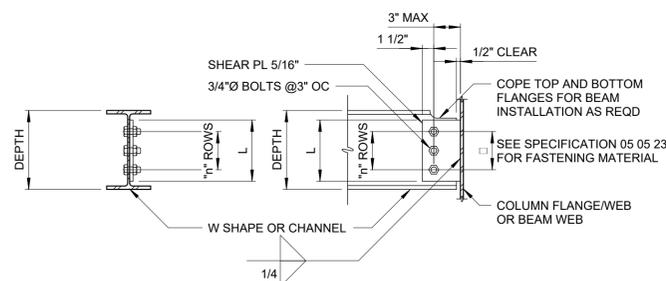
STRUCTURAL  
DETAILS - SHEET 4

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	S-14

NOMINAL BEAM DEPTH, INCHES	(n) ROWS	L, INCHES
8-10	2	5 1/2"
12-15	3	8 1/2"
16-18	4	11 1/2"
21	5	1'-2 1/2"
24	6	1'-5 1/2"
27	7	1'-8 1/2"
30	8	1'-11 1/2"
33	9	2'-2 1/2"
36	10	2'-5 1/2"



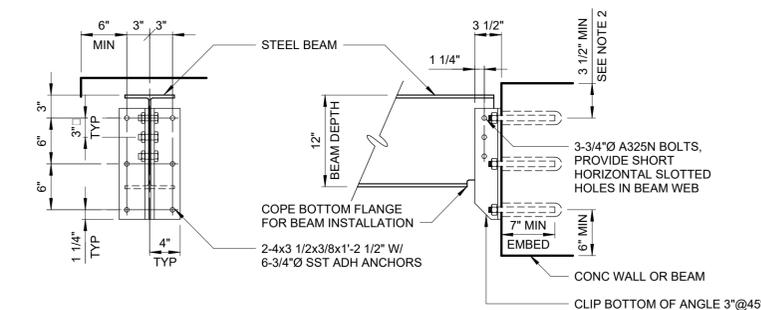
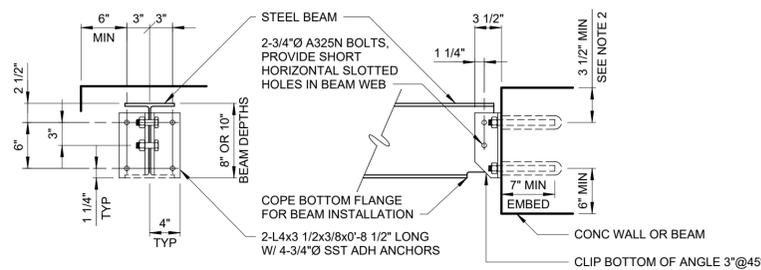
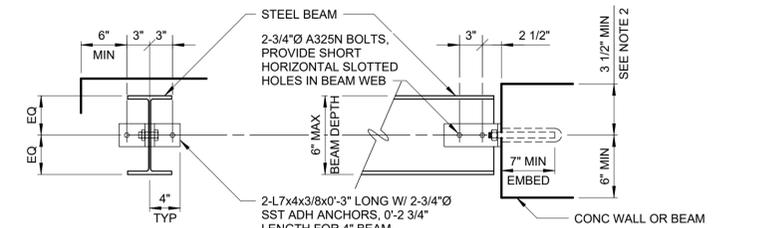
**TYPE I DOUBLE ANGLE**



**TYPE II SINGLE PLATE**

NOTE:  
TYPE I DOUBLE ANGLE CONNECTION SHALL BE USED UNO ON DRAWINGS.

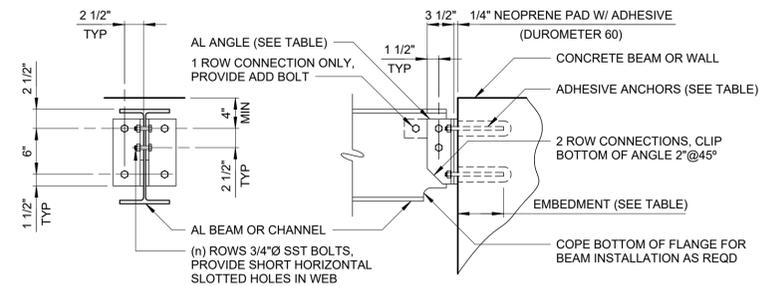
**STEEL FRAMING CONNECTION  
S-05-0102**



- NOTES:
- WHERE BOTH ENDS OF BEAM ARE ATTACHED TO A WALL, PROVIDE LONG HORIZONTALLY SLOTTED HOLES IN BEAM WEB AT ONE END. TIGHTEN NUTS SNUG TIGHT, BACK OFF 1/2 TURN, AND LOCK WITH DOUBLE NUT.
  - DO NOT CUT EXISTING CONCRETE BEAM TOP REINFORCING DURING DRILL-IN ANCHOR INSTALLATION. FIELD LOCATE BEAM REINFORCING PRIOR TO FABRICATION WITH GROUND PENETRATING RADAR OR OTHER ACCEPTABLE MEANS. ADD LENGTH TO CLIP ANGLES AS REQUIRED TO LOWER ANCHORS TO CLEAR REINFORCING WHILE MAINTAINING SPACING AND EDGE DISTANCE AS SHOWN.

**STEEL BEAM TO CONCRETE CONNECTION  
S-05-0103**

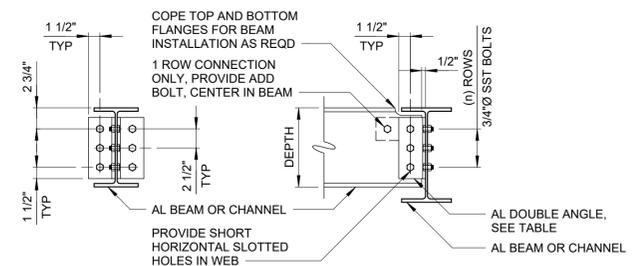
AL MEMBER DEPTH	AL DOUBLE ANGLES	(n) ROWS	SST ADHESIVE ANCHORS	EMBEDMENT
4", 5", 6"	2-L6x4x3/8x3" LONG	1	2-5/8"Ø SST ADHESIVE ANCHORS	5", MIN
8"	2-L4x3 1/2x3/8x0'-9"	2	4-5/8"Ø SST ADHESIVE ANCHORS	5", MIN
10", 12", 15"	2-L4x3 1/2x3/8x0'-9"	3	4-3/4"Ø SST ADHESIVE ANCHORS	6 1/2", MIN



NOTE:  
DURING INSTALLATION OF ADHESIVE ANCHORS BEAM TOP REINFORCEMENT SHALL NOT BE CUT. PRIOR TO FABRICATION FIELD LOCATE REINFORCEMENT AND LENGTHEN ANGLES AS REQUIRED LOWER ANCHORS TO CLEAR REINFORCEMENT.

**ALUMINUM BEAM TO CONCRETE CONNECTION  
S-05-0201**

AL MEMBER DEPTH	AL DOUBLE ANGLES	(N) ROWS
4", 5", 6"	2-L6x4x3/8x0'-3" LONG	1
8"	2-L4x4x5/16x0'-5 1/2"	2
10", 12", 15"	2-L4x4x5/16x0'-8"	3



**ALUMINUM FRAMING CONNECTION  
S-05-0202**

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CHECKED BY:	L. GIROUX
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ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

STRUCTURAL  
DETAILS - SHEET 5

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	S-15

1 - STEEL CONSTRUCTION

INSPECTION TASK	FREQUENCY	
	CONT	PER
NOT USED		

2 - STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL

INSPECTION TASK	FREQUENCY	
	CONT	PER
NOT USED		

3 - OPEN-WEB STEEL JOISTS AND JOIST GIRDERS

INSPECTION TASK	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	REFERENCED STANDARD

4 - CONCRETE CONSTRUCTION

INSPECTION TASK	FREQUENCY		REFERENCE STANDARD	NYSBC REFERENCE
	CONT	PER		
1 INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT.		X	ACI 318: Ch 20, 25.2, 25.3, 26.6.1-26.6.3	1705.3, 1908.4
2 REINFORCING BAR WELDING:			AWS D1.4, ACI 318: 26.6.4	1705.3
a VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706.		X		
b INSPECT SINGLE-PASS FILLET WELD, MAXIMUM 5/16".		X		
c INSPECT ALL OTHER WELDS.	X			
3 INSPECT ANCHORS CAST IN CONCRETE.		X	ACI 318: 17.8.2	1705.3
4 INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS: **			ACI 318: 17.8.2.4, ACI 318: 17.8.2	1705.3
a ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.	X			
b MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.a		X		
5 VERIFY USE OF REQUIRED DESIGN MIX.		X	ACI 318: Ch 19, 26.4.3, 26.4.4	1705.3, 1904.1, 1904.2, 1908.2, 1908.3
6 PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X		ASTM C172, ASTM C31, ACI 318: 26.5, 26.12	1705.3, 1908.10
7 INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X		ACI 318: 26.5	1705.3, 1908.6, 1908.7, 1908.8
8 VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.		X	ACI 318: 26.5.3-26.5.5	1705.3, 1908.9
9 INSPECT FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.		X	ACI 318: 26.11.1, 2(b)	1705.3

\* WHERE APPLICABLE, SEE IBC SECTION 1705.13, SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE.  
 \*\* SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUED BY AN APPROVED SOURCE IN ACCORDANCE WITH 17.8.2 IN ACI 318, OR OTHER QUALIFICATION PROCEDURES. WHERE SPECIFIC REQUIREMENTS ARE NOT PROVIDED, SPECIAL INSPECTION REQUIREMENTS SHALL BE SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL AND SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO THE COMMENCEMENT OF THE WORK.

NOTES

- ACI 318 REFERENCED STANDARD REFERS TO THE 2019 EDITION.
- CONCRETE PATIOS, DRIVEWAYS AND SIDEWALKS ON GRADE ARE EXEMPT FROM SPECIAL INSPECTION REQUIREMENTS.

5 - DEEP FOUNDATION ELEMENTS

INSPECTION TASK	FREQUENCY		NYSBC REFERENCE
	CONT	PER	
NOT USED			

6 - MASONRY CONSTRUCTION - LEVEL 2 QUALITY ASSURANCE

INSPECTION TASK	REFERENCE STANDARD		NYSBC REFERENCE
	TMS 402	TMS 602	
PRIOR TO CONSTRUCTION, VERIFICATION OF COMPLIANCE OF SUBMITTALS.		ART. 1.5	1705.4
PRIOR TO CONSTRUCTION, VERIFICATION OF fm, EXCEPT WHERE SPECIFICALLY EXEMPTED BY THE CODE.		ART. 1.4B	
DURING CONSTRUCTION, VERIFICATION OF SLUMP FLOW AND VISUAL STABILITY INDEX (VSI) WHEN SELF-CONSOLIDATING GROUT IS DELIVERED TO THE PROJECT SITE.		ART. 1.5, 1.6.3	

MINIMUM SPECIAL INSPECTION	FREQUENCY		REFERENCE STANDARD		IBC REFERENCE
	CONT	PER	TMS 402	TMS 602	
1 AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING COMPLY:					1705.4
a PROPORTIONS OF SITE-PREPARED MORTAR.		X		ART. 2.1, 2.6A, 2.6C	
b GRADE, TYPE AND SIZE OF REINFORCEMENT, CONNECTORS, AND ANCHOR BOLTS.		X		ART. 3.4, 3.6A	
c SAMPLE PANEL CONSTRUCTION.		X		ART. 1.6C	
2 PRIOR ON GROUTING, VERIFY THAT THE FOLLOWING COMPLY:					1705.4
a GROUT SPACE.		X		ART. 3.2D, 3.2F	
b PLACEMENT OF REINFORCEMENT, CONNECTORS, AND ANCHOR BOLTS.		X	SEC 6.1, 6.3.1, 6.3.6, 6.3.7	ART. 3.2E, 3.4	
c PROPORTIONS OF SITE-PREPARED GROUT.		X		ART. 2.6B, 2.4 G.1.b	
3 VERIFY COMPLIANCE OF THE FOLLOWING DURING CONSTRUCTION:					1705.4
a MATERIALS AND PROCEDURES WITH APPROVED SUBMITTALS.		X		ART. 1.5	
b PLACEMENT OF MASONRY UNITS AND MORTAR JOINT CONSTRUCTION.		X		ART. 3.3B	
c SIZE AND LOCATION OF STRUCTURAL MEMBERS.		X		ART. 3.3F	
d TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION.		X	SEC. 1.2.1(e), 6.2.1, 6.3.1		
e WELDING OF REINFORCEMENT.	X		SEC. 6.1.6.1.2		
f PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40° F) OR HOT WEATHER (TEMPERATURES ABOVE 90° F).		X		ART. 1.8C, 1.8D	
g PLACEMENT OF GROUT COMPLIES.	X			ART. 3.5, 3.6C	
4 OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS.		X		ART. 1.4B.2.a.3, 1.4B.2.b.3, 1.4B.2.c.3, 1.4B.3, 1.4B.4	1705.4

NOTES

- SCHEDULE REFERENCES LEVEL 2 QUALITY ASSURANCE IN ACCORDANCE WITH TMS 402/602-16.

7 - SOILS

MINIMUM SPECIAL INSPECTION	FREQUENCY		NYSBC REFERENCE
	CONT	PER	
1 VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.		X	1705.6
2 VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIALS.		X	
3 PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.		X	
4 VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X		
5 PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.		X	

NOTES:

- REQUIRED INSPECTION TABLES ARE BASED ON REQUIREMENTS OF CHAPTER 17 OF THE NEW YORK STATE BUILDING CODE.
- SELECTED MATERIALS, ASSEMBLIES, EQUIPMENT INSTALLATION, ERECTION, FABRICATION OR PLACEMENT OF COMPONENTS AND CONNECTIONS SHALL COMPLY WITH THE NEW YORK STATE BUILDING CODE REQUIREMENTS FOR STRUCTURAL TEST AND SPECIAL INSPECTION (CHAPTER 17).
- INFORMATION PRESENTED ON THIS DRAWING DETAILS THE SPECIAL INSPECTIONS WHICH ARE REQUIRED BY THE BUILDING CODE. SPECIAL INSPECTIONS ARE NOT IN THE CONTRACT. HOWEVER THE CONTRACTOR IS REQUIRED TO PREPARE FOR AND PROVIDE ACCESS FOR THE SPECIAL INSPECTIONS WITH A MINIMUM 2 DAY NOTIFICATION TO THE CONSTRUCTION MANAGER AT NO ADDITIONAL COST TO THE OWNER.
- ALL REQUIRED SPECIAL INSPECTIONS SHALL BE PERFORMED BY SPECIAL INSPECTORS PROVIDED AND COORDINATED BY THE OWNER. THE SPECIAL INSPECTOR(S) SHALL BE QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE TO THE SATISFACTION OF THE BUILDING OFFICIAL. FOR INSPECTIONS OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTIONS, ALL INSPECTION REPORTS AND TEST RESULTS SHALL BE IMMEDIATELY SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL WITHOUT DELAY.
- DEFINITIONS:
  - CONTINUOUS INSPECTION - REFERS TO THE FULL TIME OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED.
  - PERIODIC INSPECTION - REFERS TO THE PART TIME OR INTERMITTENT OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK HAS BEEN OR IS BEING PERFORMED AND AT THE COMPLETION OF THE WORK.
  - OBSERVE (O) - APPROVED SPECIAL INSPECTOR SHALL OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.
  - PERFORM (P) - THESE TASKS SHALL BE PERFORMED FOR EACH WELDED JOINT OR MEMBER
  - PROVIDE INSPECTION (X) - PROVIDE INDICATED CONTINUOUS OR PERIODIC INSPECTION FOR THESE TASKS
- SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- NON-STRUCTURAL PLUMBING, MECHANICAL, FUEL GAS, AND ELECTRICAL SYSTEM COMPONENTS:
  - SEISMIC SYSTEM QUALIFICATIONS PER NYSBC 1705.12 IS NOT REQUIRED FOR THIS PROJECT.
  - PERIODIC SPECIAL INSPECTION FOR SEISMIC RESISTANCE PER NYSBC 1705.12.3 IS NOT REQUIRED FOR THIS PROJECT.

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DESIGNED BY:	S. MANZO
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ROCKLAND COUNTY SEWER DISTRICT NO.1  
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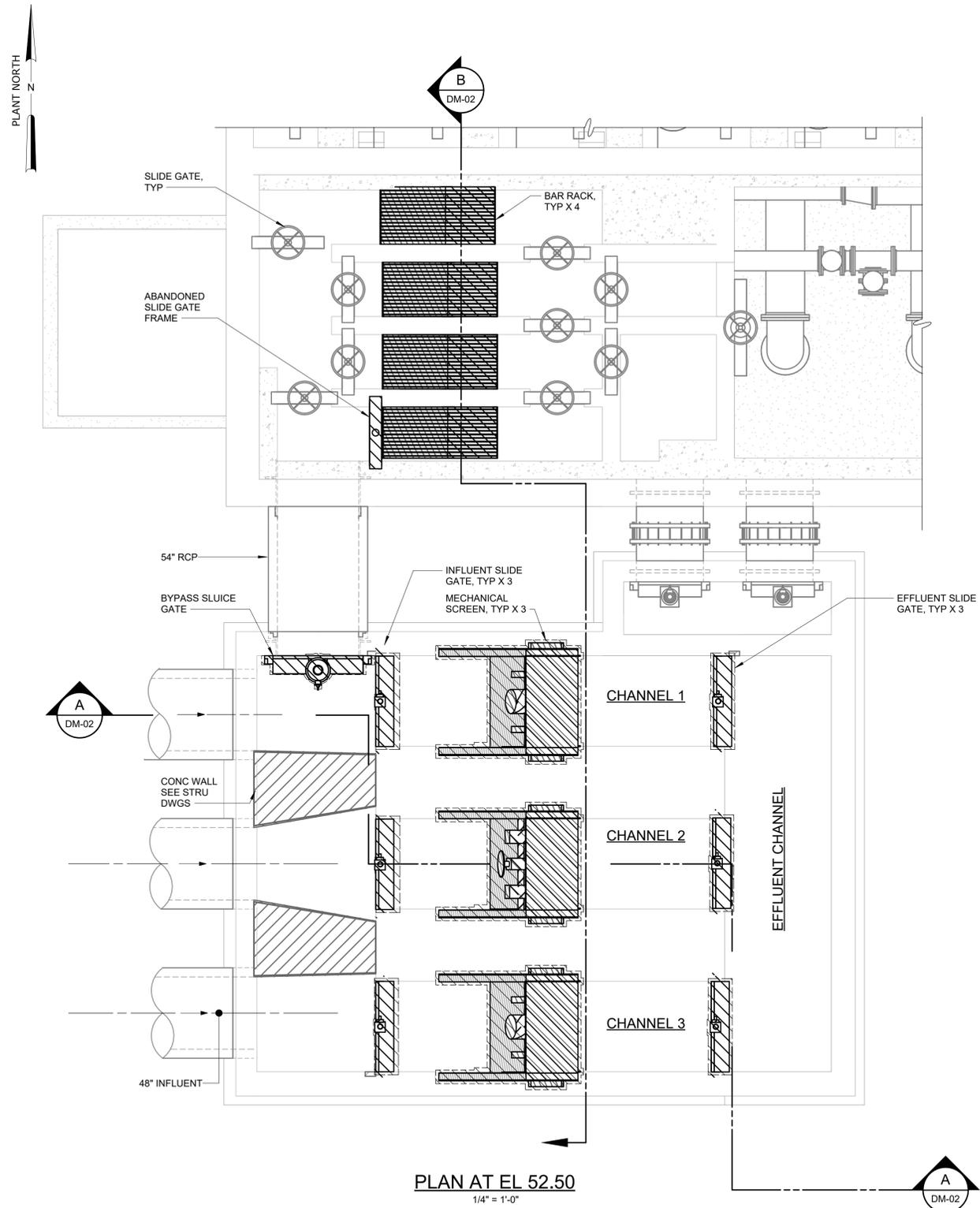
ORANBURG WASTEWATER  
 TREATMENT PLANT  
 SCREENING IMPROVEMENTS PROJECT

STRUCTURAL  
 SPECIAL INSPECTION

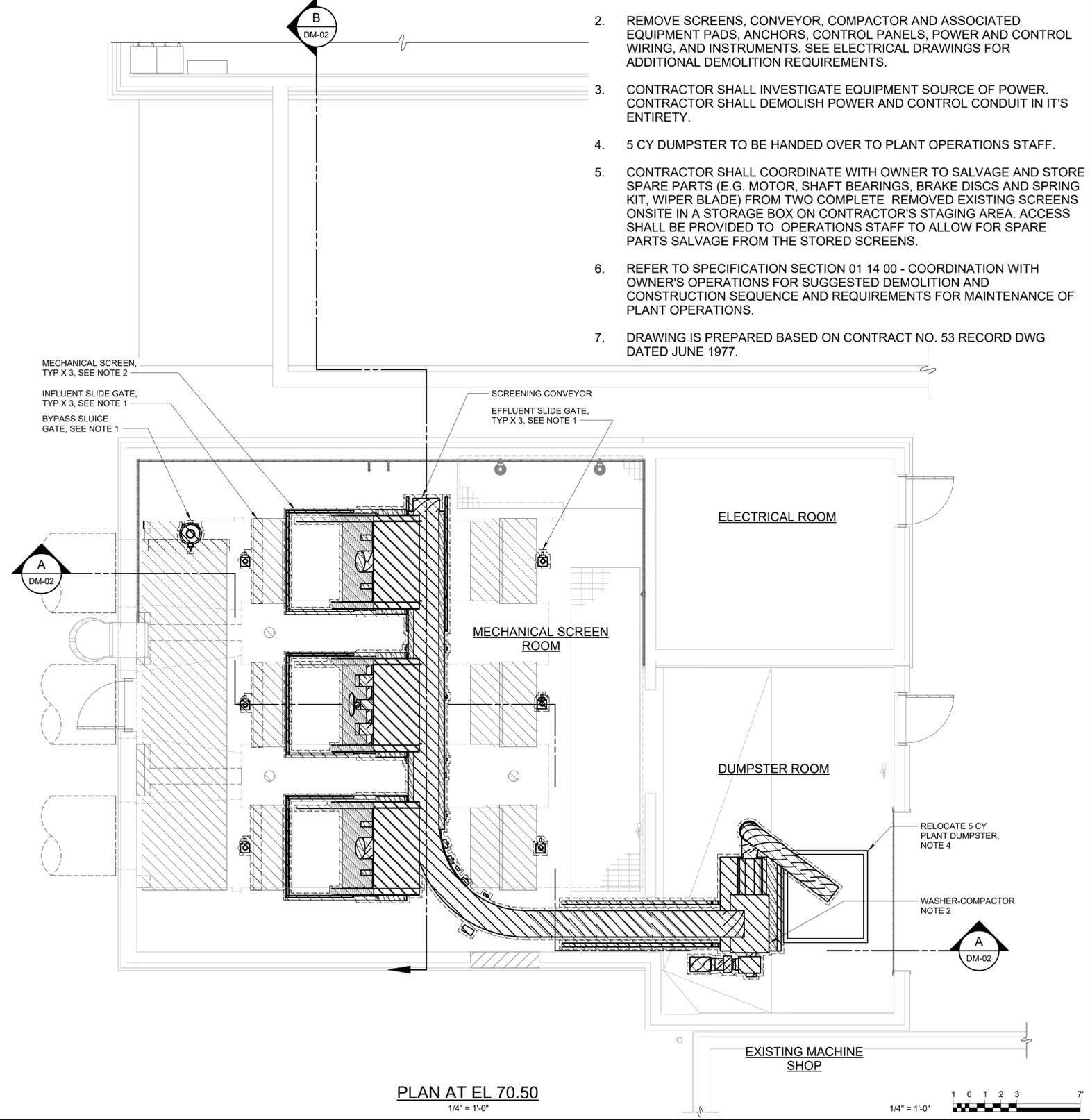
DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	S-16

NOTES:

1. REMOVE EXISTING SLIDE GATES INCLUDING DISCS, FRAMES, GUIDES, SEALS, STEMS, PEDESTALS, ANCHORS AND MANUAL OPERATOR ASSEMBLIES.
2. REMOVE SCREENS, CONVEYOR, COMPACTOR AND ASSOCIATED EQUIPMENT PADS, ANCHORS, CONTROL PANELS, POWER AND CONTROL WIRING, AND INSTRUMENTS. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION REQUIREMENTS.
3. CONTRACTOR SHALL INVESTIGATE EQUIPMENT SOURCE OF POWER. CONTRACTOR SHALL DEMOLISH POWER AND CONTROL CONDUIT IN ITS ENTIRETY.
4. 5 CY DUMPSTER TO BE HANDED OVER TO PLANT OPERATIONS STAFF.
5. CONTRACTOR SHALL COORDINATE WITH OWNER TO SALVAGE AND STORE SPARE PARTS (E.G. MOTOR, SHAFT BEARINGS, BRAKE DISCS AND SPRING KIT, WIPER BLADE) FROM TWO COMPLETE REMOVED EXISTING SCREENS ONSITE IN A STORAGE BOX ON CONTRACTOR'S STAGING AREA. ACCESS SHALL BE PROVIDED TO OPERATIONS STAFF TO ALLOW FOR SPARE PARTS SALVAGE FROM THE STORED SCREENS.
6. REFER TO SPECIFICATION SECTION 01 14 00 - COORDINATION WITH OWNER'S OPERATIONS FOR SUGGESTED DEMOLITION AND CONSTRUCTION SEQUENCE AND REQUIREMENTS FOR MAINTENANCE OF PLANT OPERATIONS.
7. DRAWING IS PREPARED BASED ON CONTRACT NO. 53 RECORD DWG DATED JUNE 1977.



PLAN AT EL 52.50  
1/4" = 1'-0"



PLAN AT EL 70.50  
1/4" = 1'-0"



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PROJECT ENGINEER:	R. FROST
DESIGNED BY:	X. LIN/C.MULFORD
DRAWN BY:	B. CASULL
CHECKED BY:	P. SAURER
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

FOR BID



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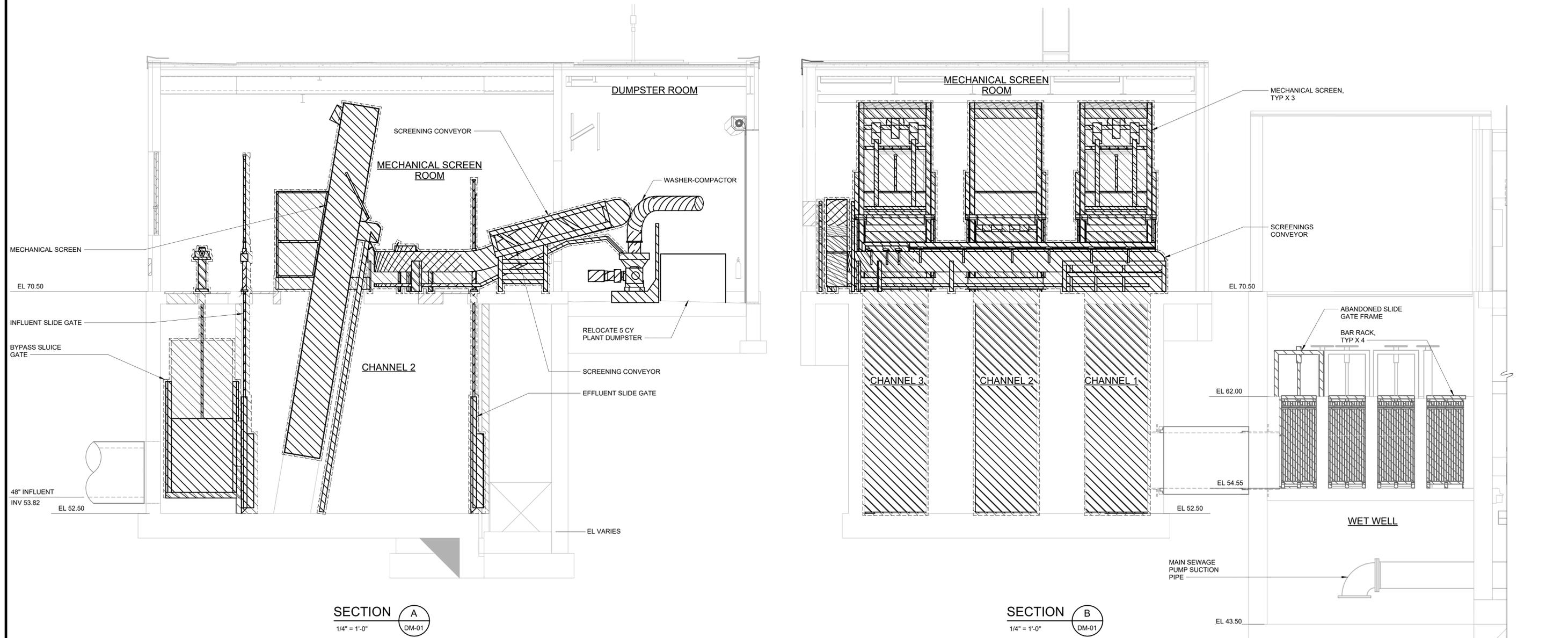
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ORANGEBURG, NEW YORK

ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

MECHANICAL REMOVAL  
PLANS EL 52.50 AND EL 70.50

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	DM-01

- NOTES:  
 1. SEE NOTES ON SHEET DM-01



SECTION A  
 1/4" = 1'-0"  
 DM-01

SECTION B  
 1/4" = 1'-0"  
 DM-01

1/4" = 1'-0"

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 ORANBURG WASTEWATER TREATMENT PLANT  
 SCREENING IMPROVEMENTS PROJECT

MECHANICAL REMOVAL SECTIONS

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	DM-02

ABBREVIATIONS

CY CUBIC YARD  
 EL ELEVATION  
 EQPT EQUIPMENT  
 INV INVERT  
 SLG SLIDE GATE  
 MS MECHANICAL SCREEN

PIPING SYSTEMS

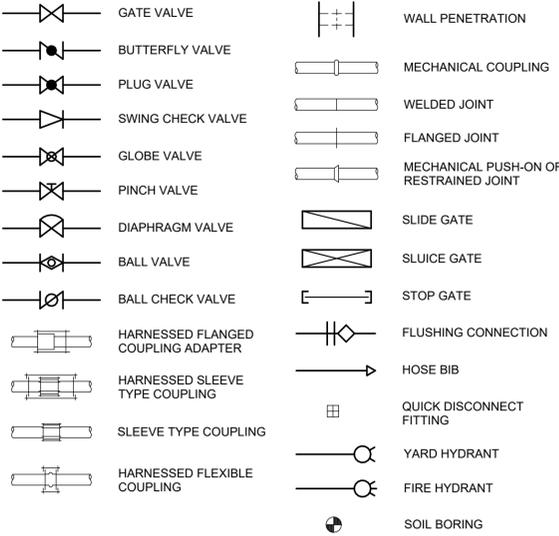
DR DRAIN  
 SW SERVICE WATER

GENERAL NOTES

- EQUIPMENT SIZES AND LOCATIONS ARE APPROXIMATE. ACTUAL DIMENSIONS TO BE DETERMINED BY CONTRACTOR BASED ON EQUIPMENT FURNISHED. COORDINATE MECHANICAL WORK WITH THE WORK OF ALL OTHER TRADES. THE ARRANGEMENT OF EQUIPMENT AND PIPING SHOWN IS NOT INTENDED TO SHOW DIMENSIONS PARTICULAR TO A SPECIFIC EQUIPMENT MANUFACTURER. THE CONTRACTOR SHALL COORDINATE AND CONFIRM ALL CRITICAL DIMENSIONS FOR ACTUAL EQUIPMENT AND PIPING PROVIDED AND SHALL PROVIDE ALL REVISIONS NECESSARY TO THE EQUIPMENT, EQUIPMENT PADS AND PIPING LAYOUT AS REQUIRED. THESE REVISIONS SHALL BE SUBMITTED WITH THE PIPING LAYOUT DRAWINGS.
- LOCATION OF INSTRUMENTATION AND CONTROL DEVICES ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE FINAL LOCATION OF INSTRUMENTATION AND CONTROL DEVICES WITH EQUIPMENT MANUFACTURER.
- PROVIDE ADEQUATE MEANS OF ACCESS CLEARANCE FOR ALL EQUIPMENT THAT REQUIRE ACCESS FOR PROPER OPERATION, MAINTENANCE AND REPAIR PER MANUFACTURERS' CLEARANCES. NO EQUIPMENT OR MATERIALS OF ANY TRADE SHALL BE INSTALLED WITHIN THE EQUIPMENT CLEARANCE AREA.
- EXISTING CONDITIONS MAY VARY. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS.
- CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL EQUIPMENT, PIPING, VALVES AND OTHER RELATED APPURTENANCES.
- REFER TO SPECIFICATION SECTION 01 73 01 FOR DETAILS ON SUGGESTED DEMOLITION AND CONSTRUCTION SEQUENCE.
- PIPE ELEVATIONS ARE CENTERLINES UNLESS NOTED OTHERWISE.

LEGEND

SYMBOLS



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DESIGNED BY:	X. LIN/C.MULFORD
DRAWN BY:	B. CASULL
CHECKED BY:	P. SAURER
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ROCKLAND COUNTY SEWER DISTRICT NO.1  
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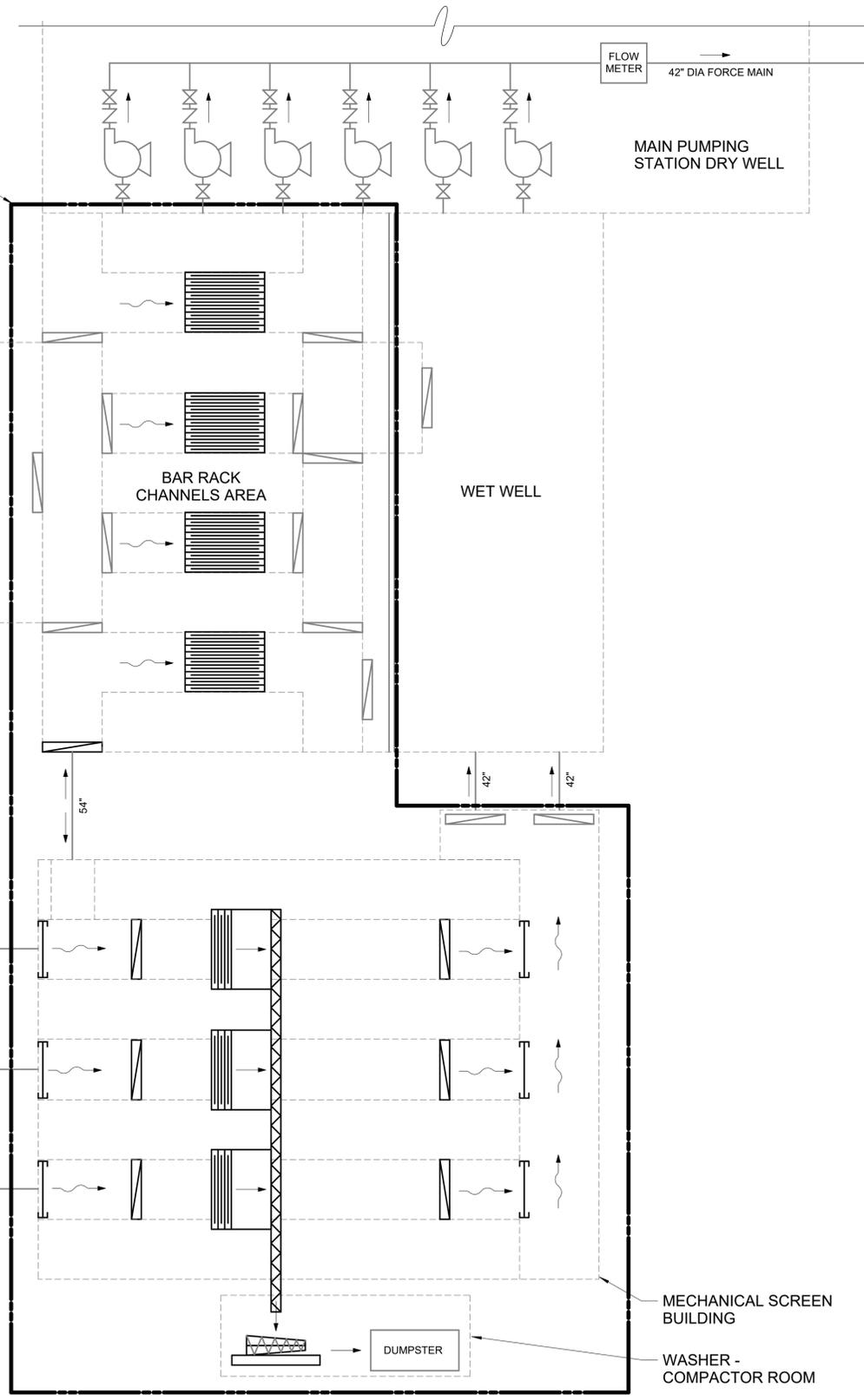
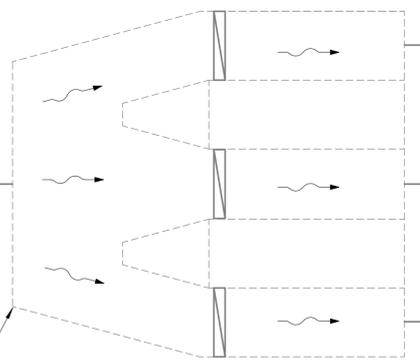
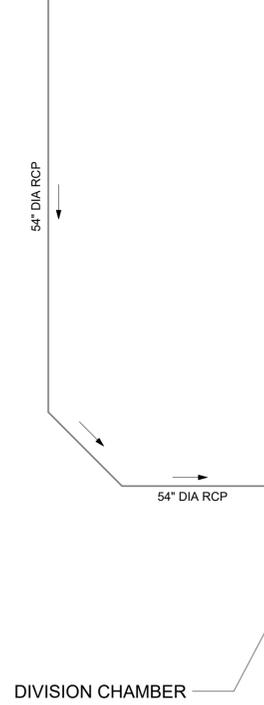
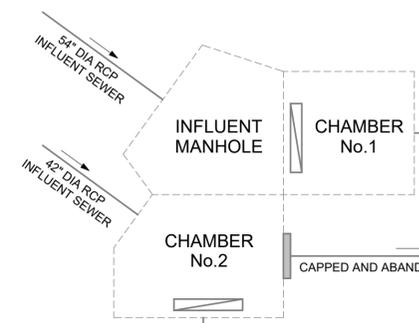
ORANGEBURG WASTEWATER  
 TREATMENT PLANT  
 SCREENING IMPROVEMENTS PROJECT

MECHANICAL  
 NOTES AND ABBREVIATIONS

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	M-01

LIMIT OF CONTRACT  
RFP-RC-2022-013

- LEGEND:
-  BAR RACK
  -  CHECK VALVE
  -  GATE VALVE
  -  MECHANICAL BAR SCREEN
  -  SEWAGE PUMP
  -  SLIDE GATE
  -  STOP LOG
  -  BUILDING
  -  SHAFTLESS SCREW CONVEYOR
  -  WASHER COMPACTOR



PROCESS FLOW DIAGRAM  
N.T.S.

MECHANICAL SCREEN BUILDING  
WASHER - COMPACTOR ROOM

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DRAWN BY:	B. CASULL
CHECKED BY:	P. SAURER
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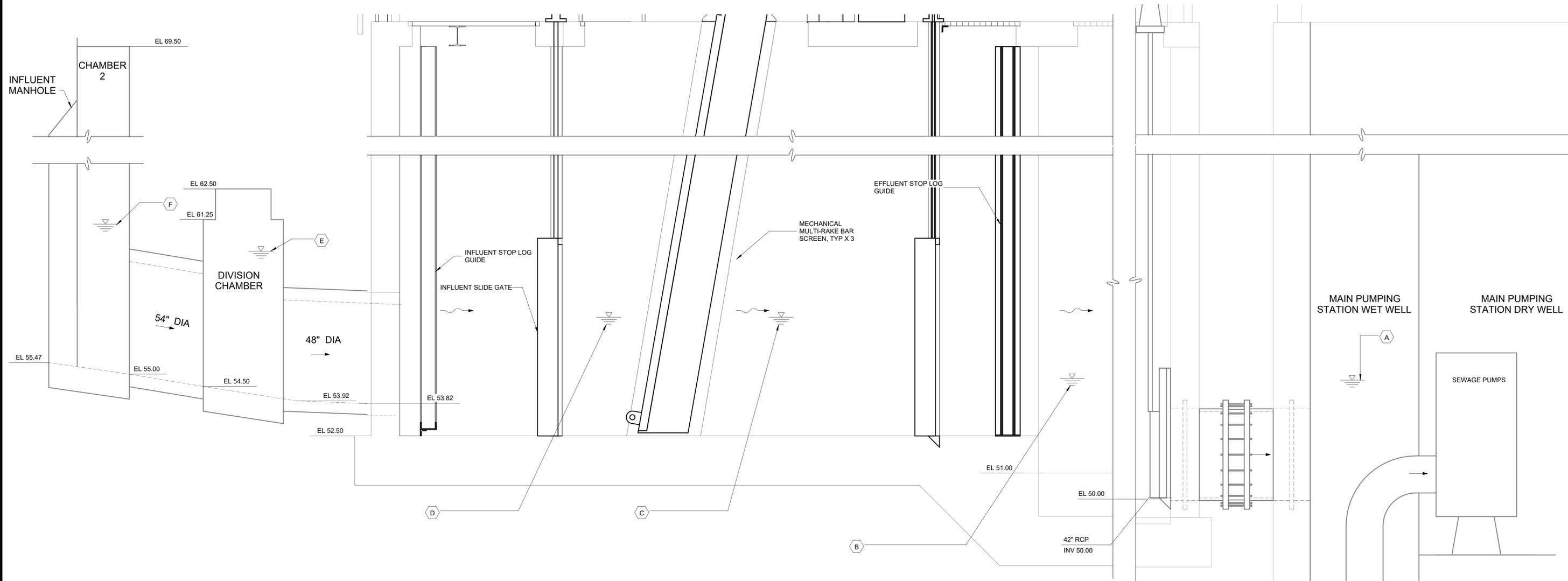


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ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

MECHANICAL  
PROCESS FLOW DIAGRAM

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	M-02



**HYDRAULIC PROFILE**  
NTS

HYDRAULIC GRADE LINE (SEE KEYNOTE LOCATIONS IN PROFILES)

CONDITION	INFLUENT FLOW (MGD)	FLOW PER SCREEN CHANNEL	SCREEN % BLINDING	F	E	D	C	B	A
				INFLUENT MANHOLE	DIVISION CHAMBER	UPSTREAM OF MECHANICAL SCREEN	DOWNSTREAM OF MECHANICAL SCREEN	EFFLUENT CHANNEL (NOTE 3)	MAIN PUMP STATION WET WELL
AVERAGE FLOW (TWO CHANNELS IN SERVICE)	20.60	10.30	30	55.93	55.82	54.86	54.73	54.62	54.50
				58.35	58.20	58.13	58.11	58.08	58.00
PEAK FLOW (THREE CHANNELS IN SERVICE)	80.00	26.67		60.47	58.30	57.24	56.72	56.05	54.50
				62.71	60.54	59.64	59.45	59.20	58.00
PEAK FLOW (TWO CHANNELS IN SERVICE)	80.00	40.00		62.24	60.07	58.17	57.24	56.05	54.50
				64.02	61.85	60.07	59.66	59.20	58.00

- NOTES:
- MAIN PUMP STATION WET WELL LEVEL:
    - MAINTAINING LEVEL - 54.50
    - HIGH LEVEL ALARM LEVEL - 58.00
  - THIS HYDRAULIC PROFILE ASSUMES EVEN FLOW SPLIT BETWEEN THREE CHANNELS. HYDRAULIC PROFILE SHOWN FOLLOWS THE FLOW PATH THROUGH CHANNEL 3.

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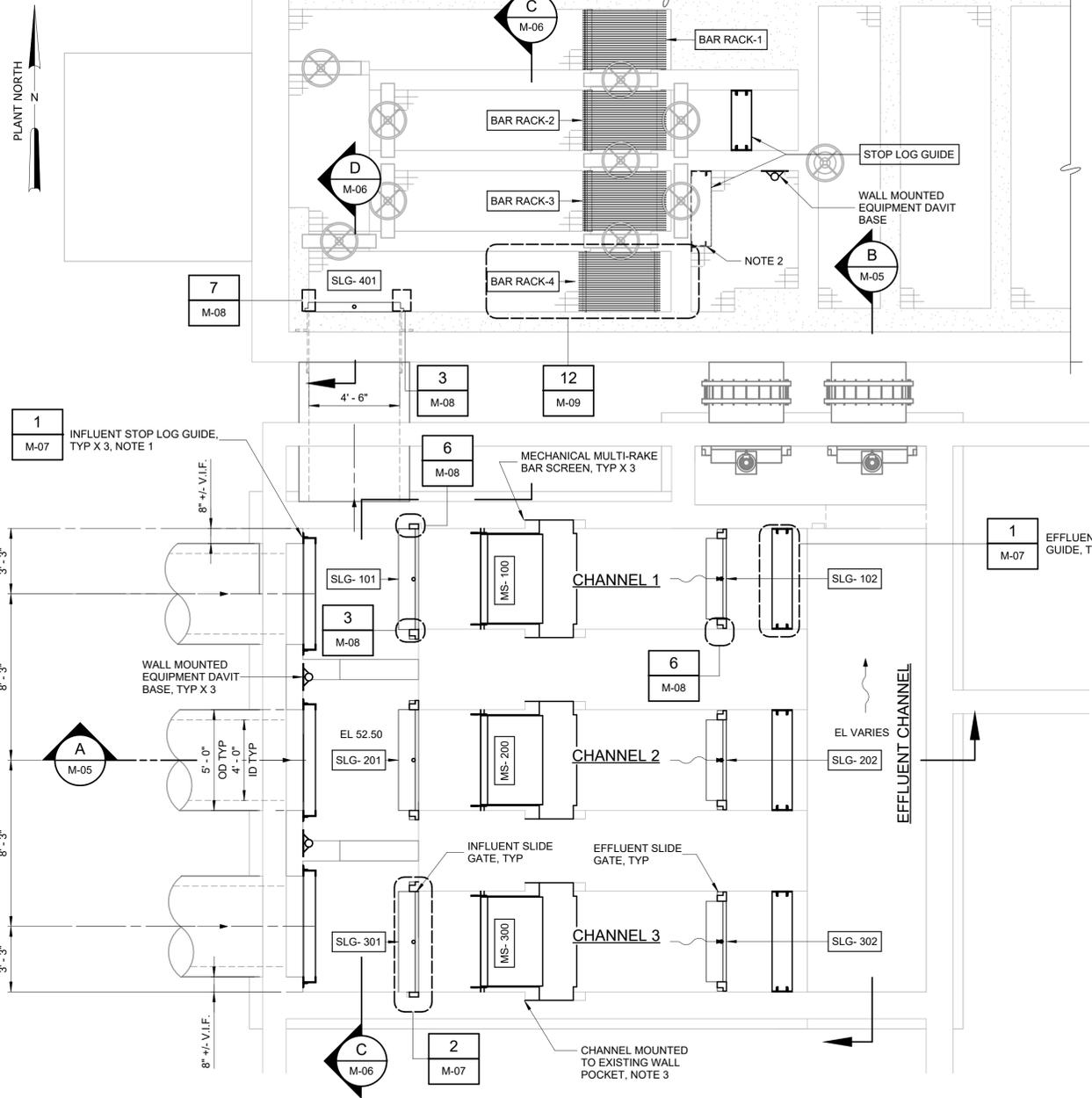


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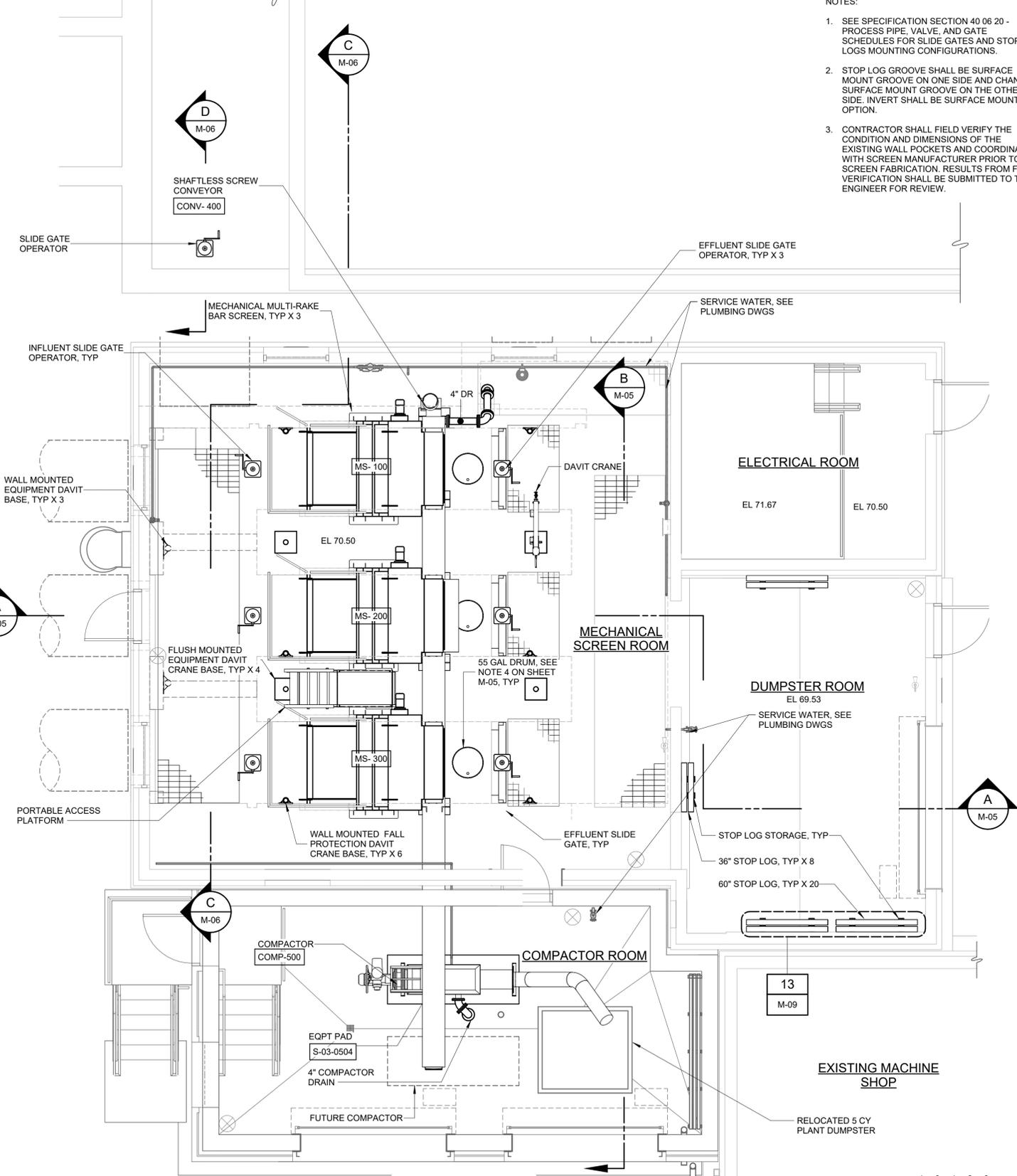
ROCKLAND COUNTY SEWER DISTRICT NO.1  
 ORANBURG, NEW YORK  
 ORANBURG WASTEWATER TREATMENT PLANT  
 SCREENING IMPROVEMENTS PROJECT

MECHANICAL  
 HYDRAULIC PROFILE

DATE: JUNE 2024  
 HAZEN NO.: 90462-000  
 CONT NO.: RFB-RC-SWR-2023-06  
 DRAWING NUMBER: M-03



PLAN AT EL 52.50  
1/4" = 1'-0"



PLAN AT EL 70.50  
1/4" = 1'-0"

- NOTES:
- SEE SPECIFICATION SECTION 40 06 20 - PROCESS PIPE, VALVE, AND GATE SCHEDULES FOR SLIDE GATES AND STOP LOGS MOUNTING CONFIGURATIONS.
  - STOP LOG GROOVE SHALL BE SURFACE MOUNT GROOVE ON ONE SIDE AND CHANNEL SURFACE MOUNT GROOVE ON THE OTHER SIDE. INVERT SHALL BE SURFACE MOUNT OPTION.
  - CONTRACTOR SHALL FIELD VERIFY THE CONDITION AND DIMENSIONS OF THE EXISTING WALL POCKETS AND COORDINATE WITH SCREEN MANUFACTURER PRIOR TO SCREEN FABRICATION. RESULTS FROM FIELD VERIFICATION SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.

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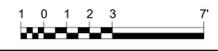
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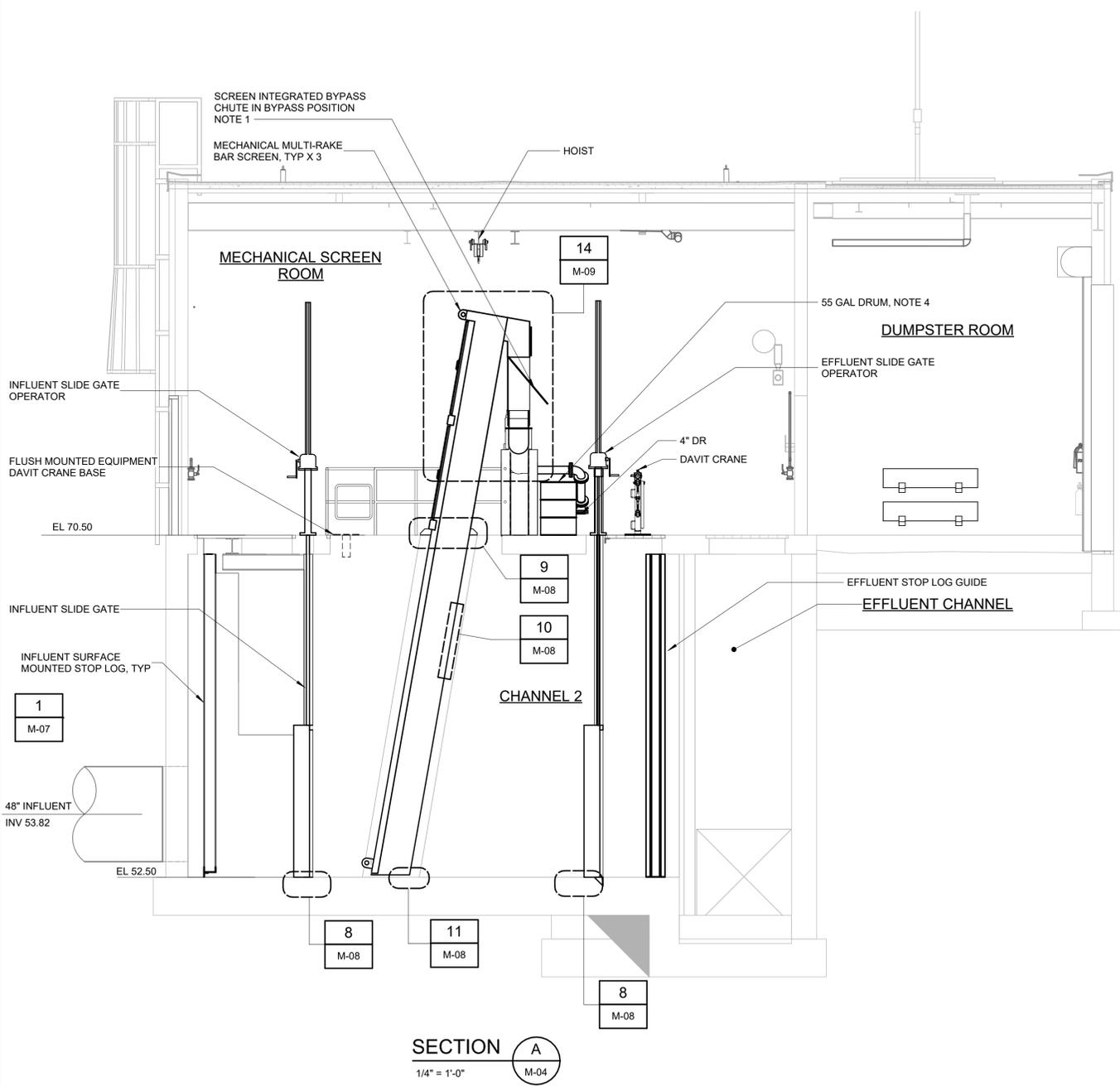
ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

MECHANICAL  
PLANS

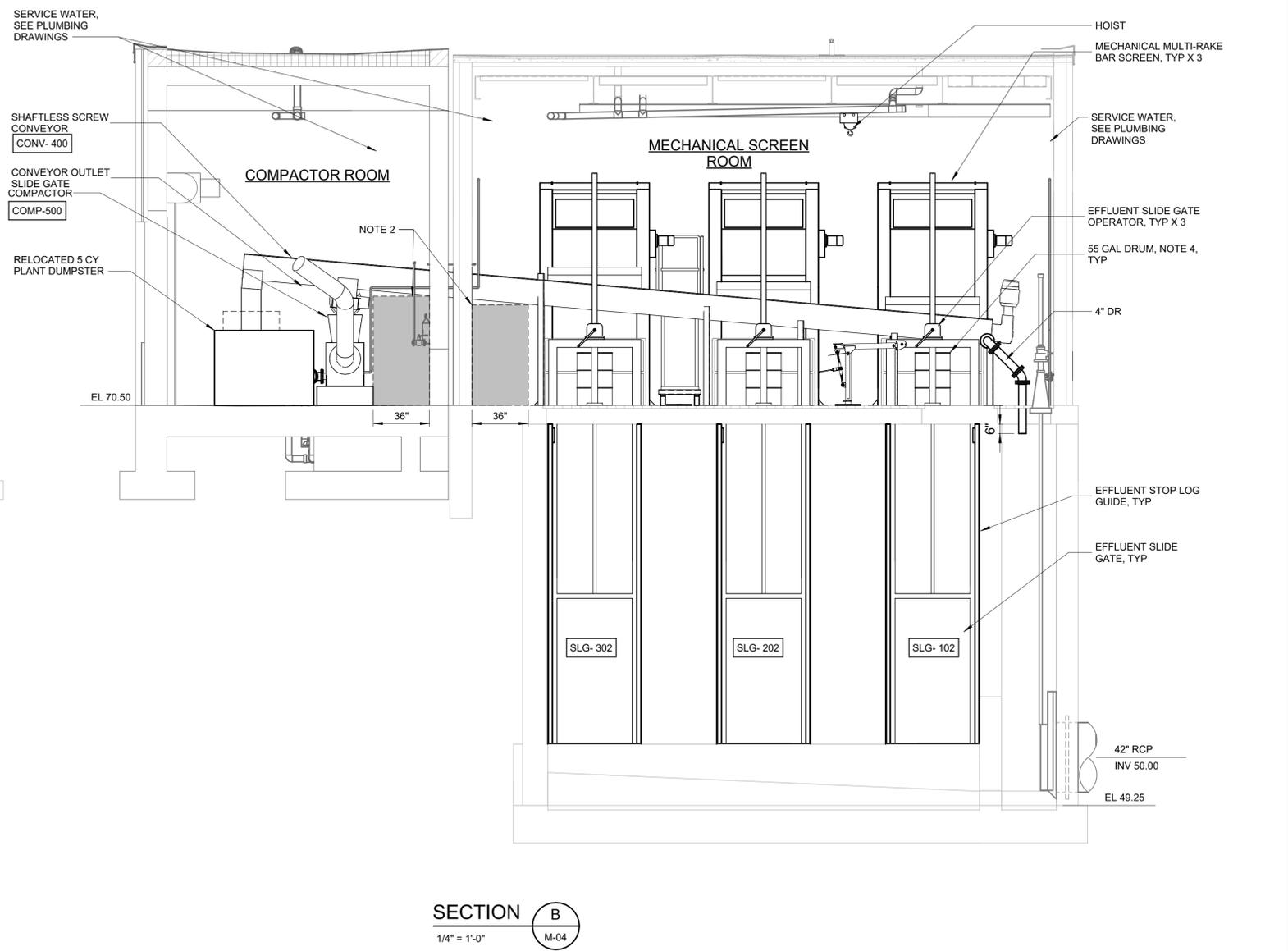
DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	M-04



- NOTE:
1. WHEN MANUAL SCREEN DISCHARGE BYPASS CHUTE IS IN BYPASS MODE DISCHARGE SCREENINGS GO TO BYPASS 55 GALLON DRUMS.
  2. NO EQUIPMENT OR MATERIALS OF ANY TRADE SHALL BE INSTALLED WITHIN EQUIPMENT ACCESS CORRIDOR.
  3. SEE SECTION 40 06 20 - PROCESS PIPE, VALVE, AND GATE SCHEDULES FOR SLIDE GATES AND STOP LOGS MOUNTING CONFIGURATIONS.
  4. FURNISH THREE 55-GALLON DRUMS, EACH EQUIPPED WITH A DRUM LIFTING AND DISPENSING HOIST MOUNT AND A PORTABLE DRUM DOLLIE. SEE SECTION 46 21 12 - MECHANICALLY CLEANED MULTI-RAKE TYPE BAR SCREENS FOR DRUM LIFTING AND DISPENSING MOUNT REQUIREMENTS.
  5. FURNISH EACH SCREEN WITH A BYPASS ADAPTER TROUGH TO DIRECT SCREENINGS FROM THE SCREEN BYPASS CHUTE TO THE 55 GALLON DRUM. THE CONTRACTOR SHALL COORDINATE THE SIZE OF THE ADAPTER TROUGH WITH THE BAR SCREEN MANUFACTURER



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



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



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CHECKED BY:	P. SAURER
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0	1/2" 1"

FOR BID



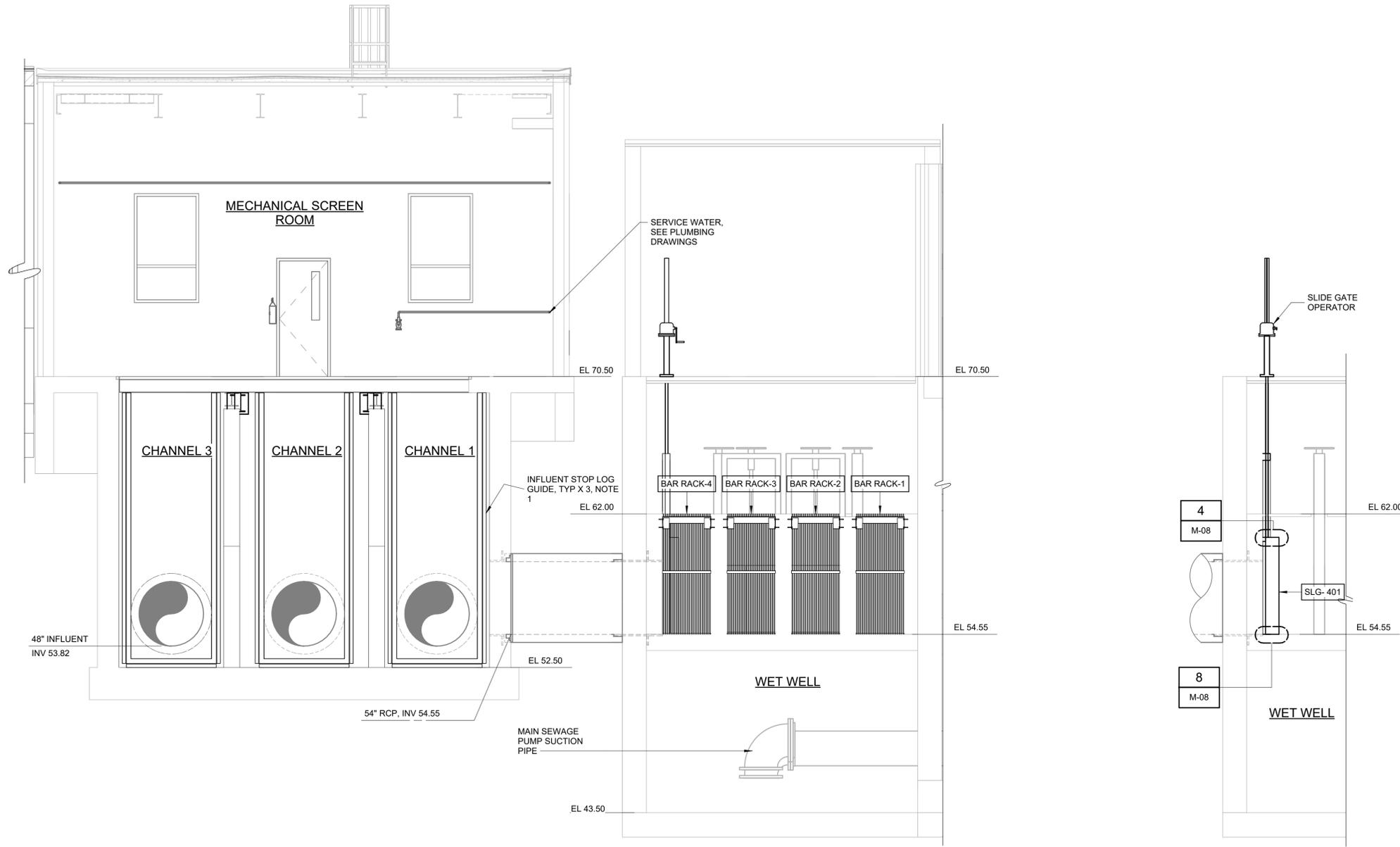
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ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

MECHANICAL  
SECTIONS - SHEET 1

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	M-05

NOTE:  
 1. SEE SECTION 40 06 20 - PROCESS PIPE, VALVE, AND GATE SCHEDULES FOR SLIDE GATES AND STOP LOGS MOUNTING CONFIGURATIONS.



SECTION C  
 1/4" = 1'-0" M-04

SECTION D  
 1/4" = 1'-0" M-04



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CHECKED BY:	P. SAURER
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"

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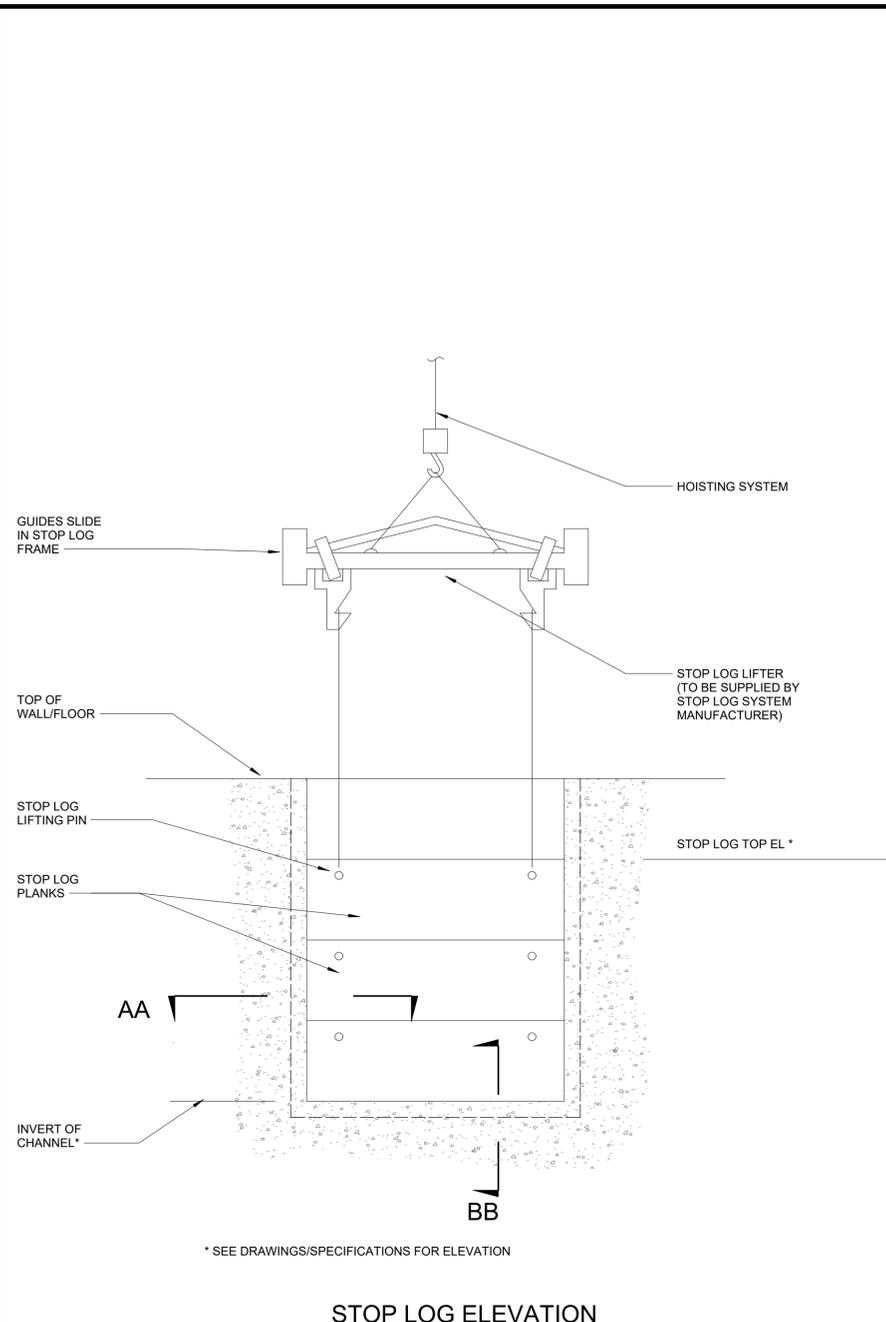
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 ORANBURG, NEW YORK

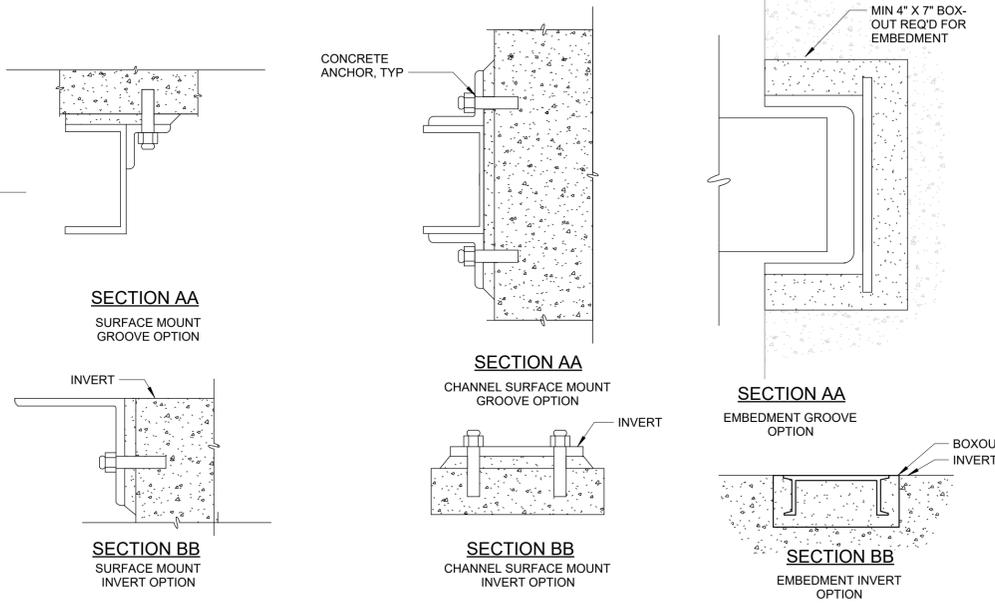
ORANBURG WASTEWATER TREATMENT PLANT  
 SCREENING IMPROVEMENTS PROJECT

MECHANICAL SECTIONS - SHEET 2

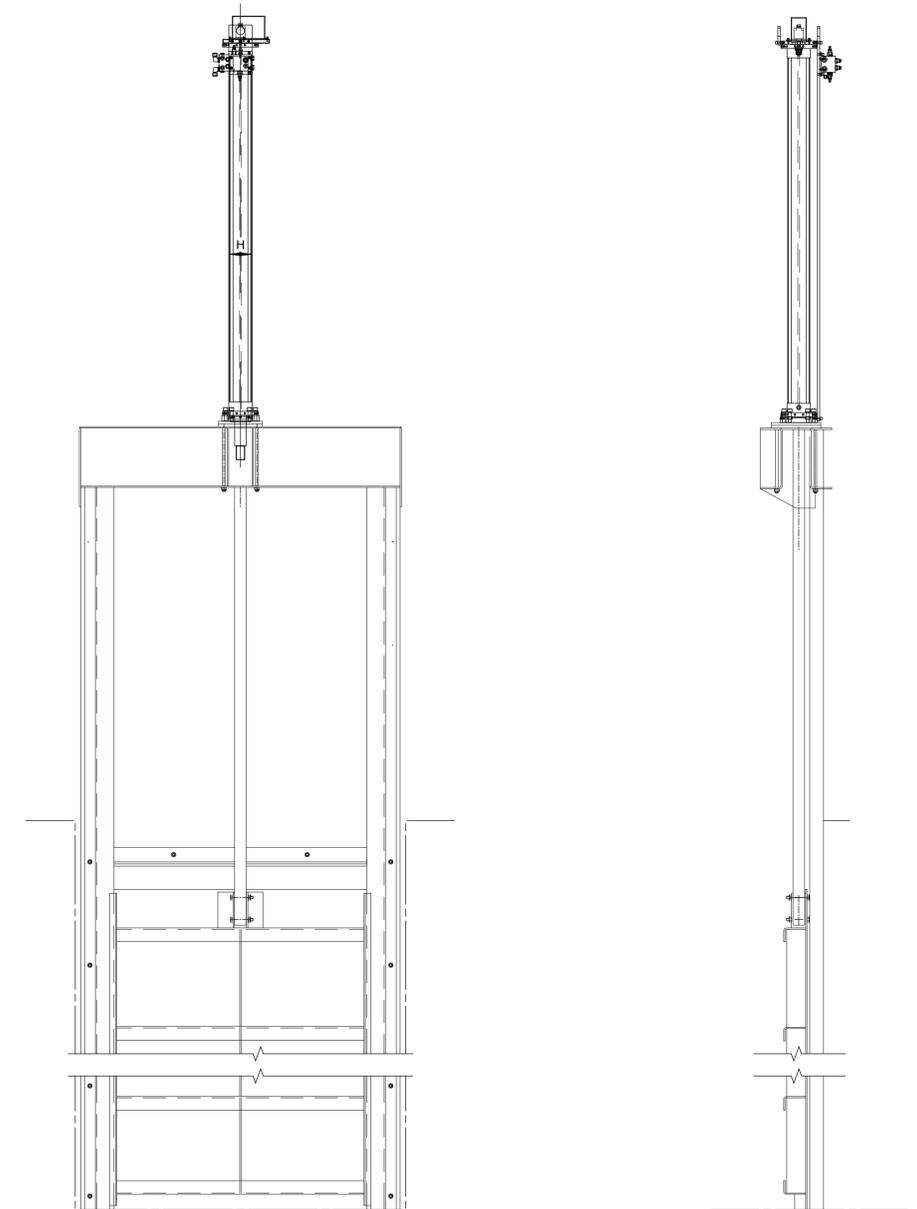
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HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	M-06



**STOP LOG ELEVATION**



**STOP LOG SYSTEM**  
**DETAIL 1**  
 NTS M-04



**SLIDE GATE DETAIL**  
**DETAIL 2**  
 NTS M-04

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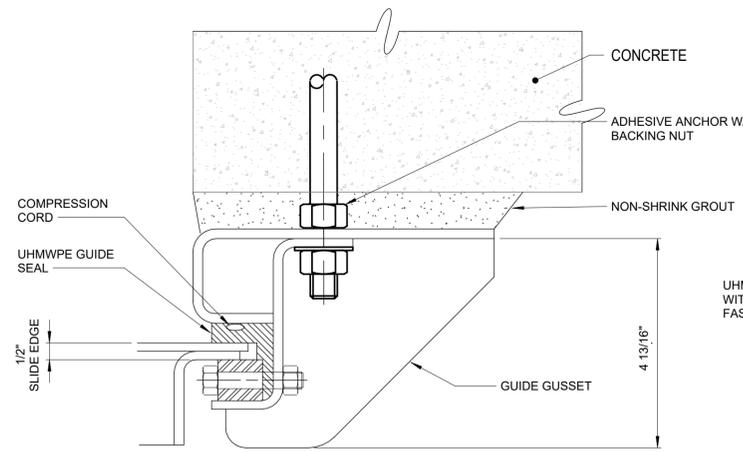
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ORANBURG WASTEWATER  
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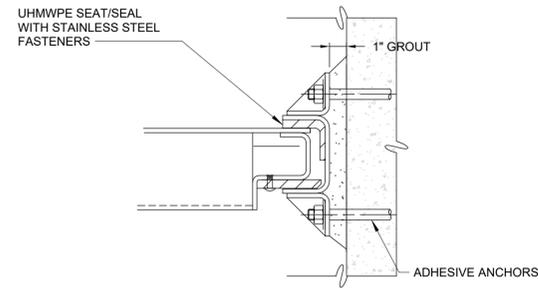
MECHANICAL  
 DETAILS - SHEET 1

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HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	M-07

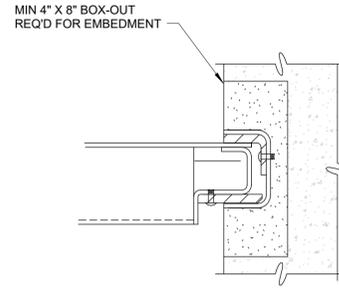


SURFACE MOUNTED GATE GUIDE SECTION

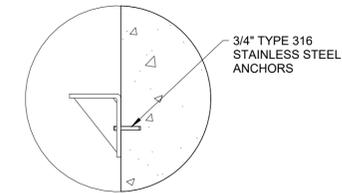
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NTS	M-04



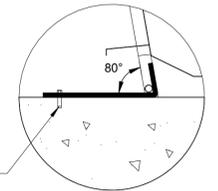
SURFACE MOUNTED GATE GUIDE OPTION



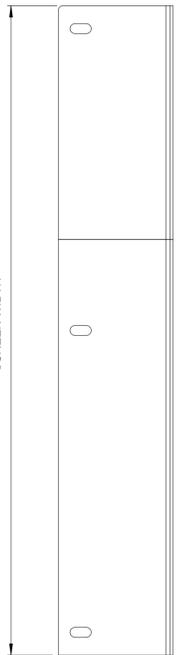
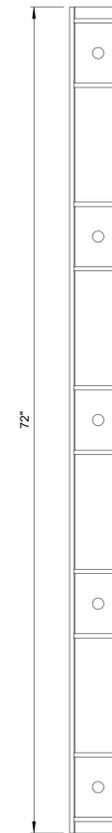
EMBEDMENT GATE GUIDE OPTION



3/4\"/>

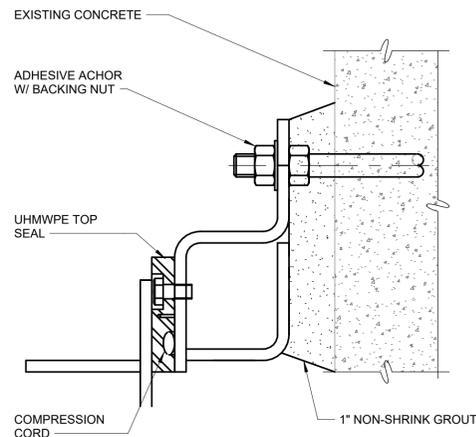


3/4\"/>



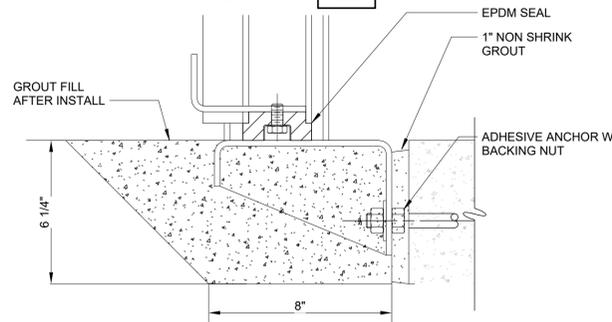
CHANNEL INVERT SCREEN BRACKET

DETAIL	11
NTS	M-05



SURFACE MOUNTED GATE TOP SEAL SECTION

DETAIL	4
NTS	M-06



SURFACE MOUNTED GATE BOTTOM SEAL

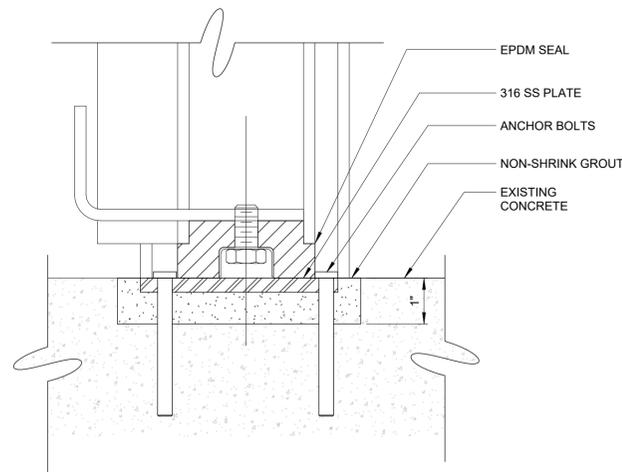
DETAIL	5
NTS	

CHANNEL MOUNTED GATE GUIDE SECTION

DETAIL	6
NTS	M-04

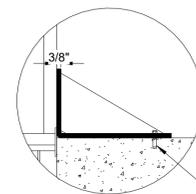
EMBEDMENT GATE GUIDE OPTION

DETAIL	7
NTS	M-04

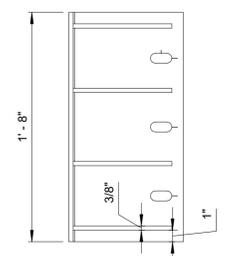


FLUSHED MOUNTED GATE BOTTOM SEAL

DETAIL	8
NTS	M-05

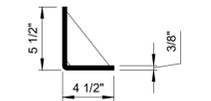


3/4\"/>



TOP OF CHANNEL SCREEN FLOOR BRACKET

DETAIL	9
NTS	M-05



CHANNEL WALL SCREEN BRACKET

DETAIL	10
NTS	M-05

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PROJECT ENGINEER:	R. FROST
DESIGNED BY:	X. LIN/C.MULFORD
DRAWN BY:	B. CASULL
CHECKED BY:	P. SAURER
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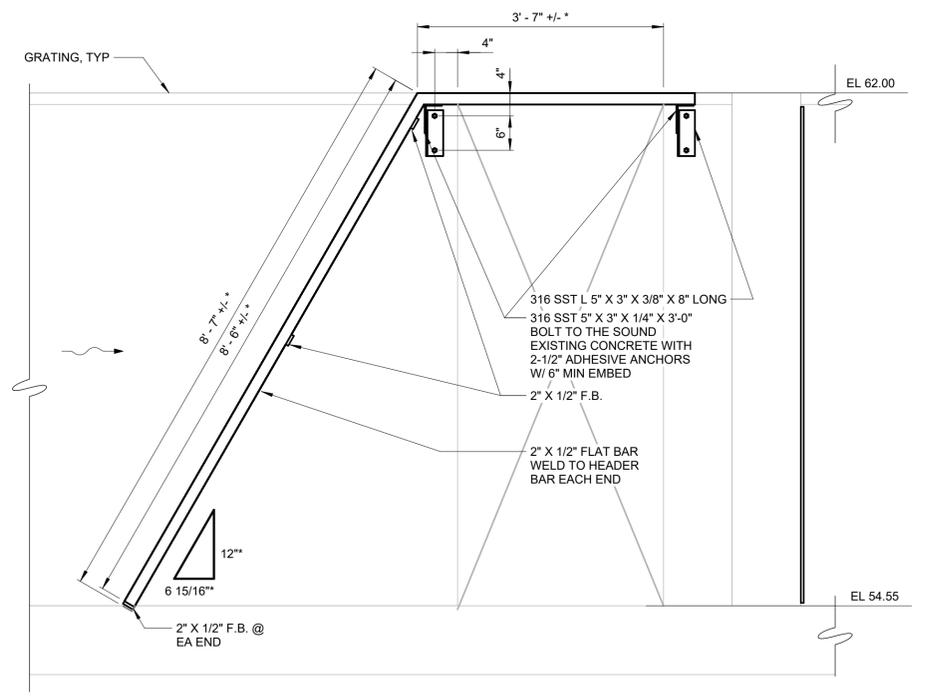
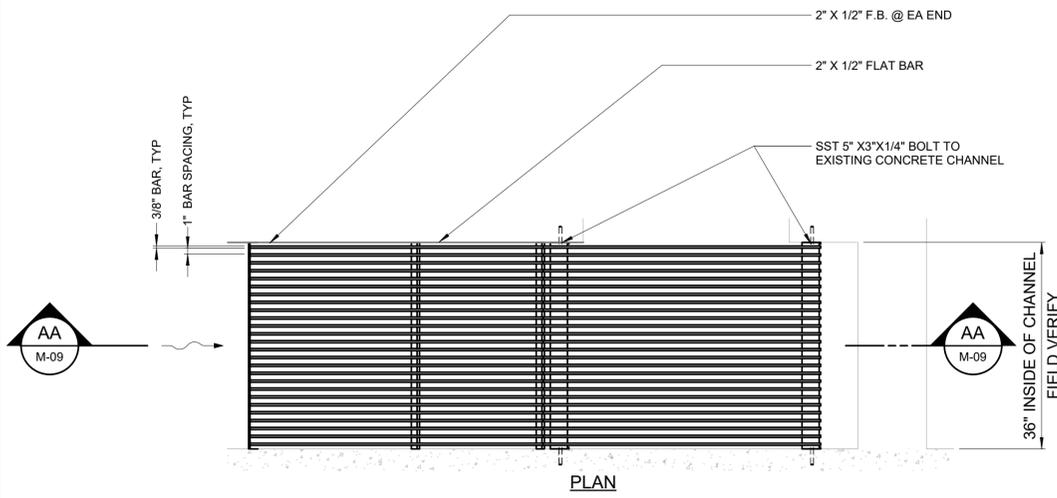
**Hazen**  
HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11th FLOOR  
NEW YORK, NEW YORK 10018

ROCKLAND COUNTY SEWER DISTRICT NO.1  
ORANGEBURG, NEW YORK

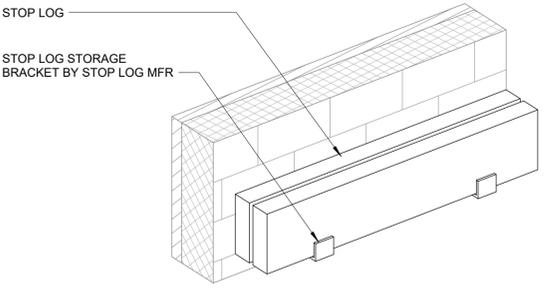
ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

MECHANICAL  
DETAILS - SHEET 2

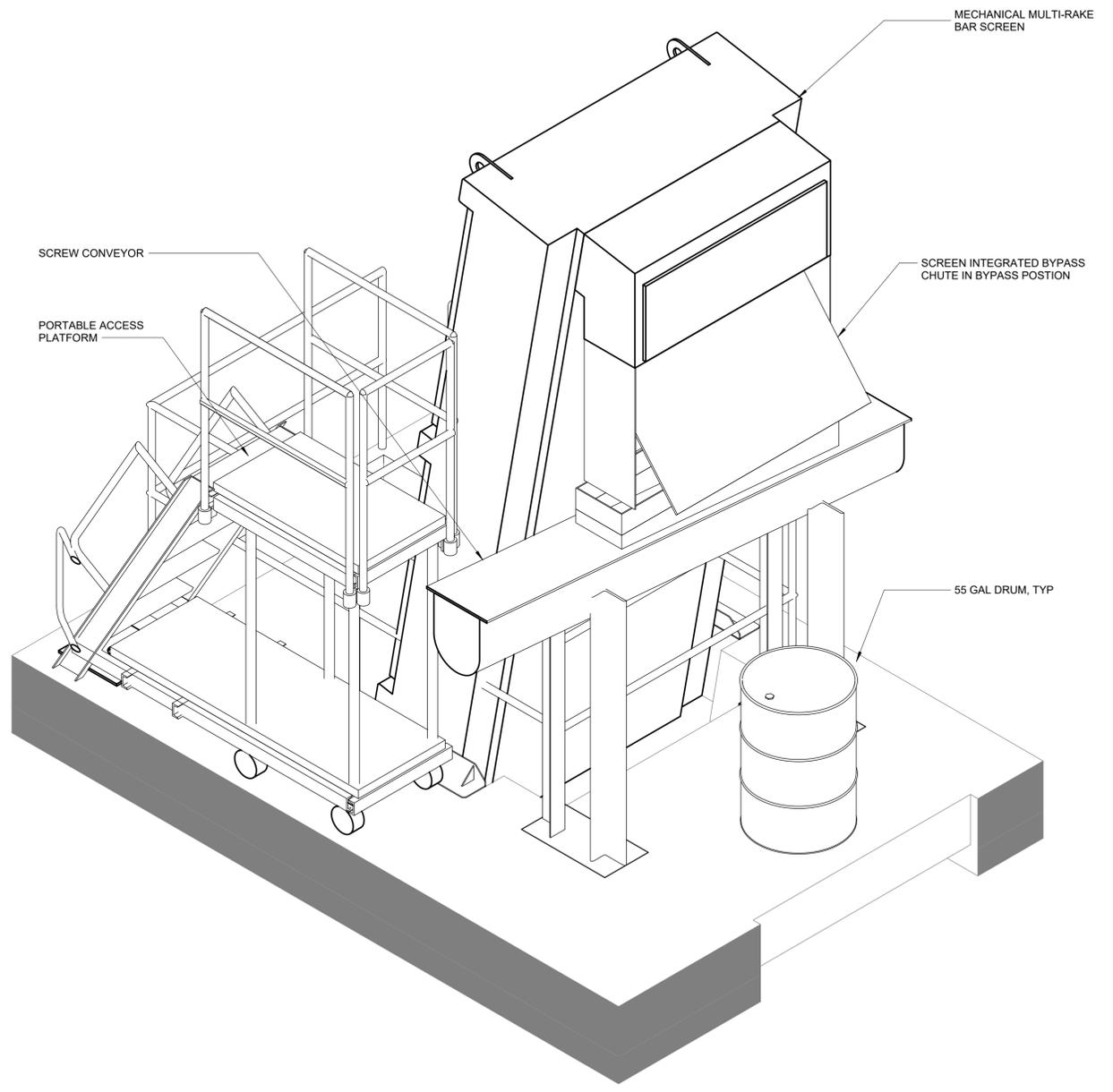
DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	M-08



SECTION AA  
\* MATCH EXISTING BAR RACK  
BAR RACK  
DETAIL 12  
NTS M-04



STOP LOG STORAGE ISOMETRIC  
DETAIL 13  
NTS M-04



SCREEN INTEGRATED BYPASS CHUTE IN BYPASS POSITION ISOMETRIC  
DETAIL 14  
NTS M-05

Autodesk Docs/06/06/2024 09:00:00 EDS and CA for RCSD Screens Rehab/0462-000-100-MSB-M.rvt 6/24/2024 7:20:09 PM

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PROJECT ENGINEER:	R. FROST
DESIGNED BY:	X. LIN/C.MULFORD
DRAWN BY:	B. CASULL
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"

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ORANBURG, NEW YORK

ORANBURG WASTEWATER TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

MECHANICAL  
DETAILS - SHEET 3

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	M-09

File: C:\USERS\FBEATY\APPDATA\LOCAL\AUTOCAD\PLANT\_3D\COLORLABORATION\CACHE\9462-000\RCSD\PID.DWG(1) SYMBOLS AND LEGEND Saved by FBEATY Save date: 10/16/2023 9:34 AM  
PLOT DATE: 10/25/2023 3:47 PM BY: FBEATY

### INSTRUMENT AND FUNCTION SYMBOLS

LOCATION AND ACCESSIBILITY	SHARED DISPLAY/SHARED CONTROL		COMPUTER SYSTEMS AND SOFTWARE	DISCRETE
	PRIMARY CHOICE OR BASIC PROCESS CONTROL SYSTEM	SOFTWARE FUNCTION OR MODULE		
- LOCATED IN FIELD - NOT PANEL, CABINET, OR CONSOLE MOUNTED - VISIBLE AT FIELD LOCATION - NORMALLY OPERATOR ACCESSIBLE				
- LOCATED IN OR ON FRONT OF CENTRAL OR MAIN PANEL OR CONSOLE - VISIBLE ON FRONT OF PANEL OR ON VIDEO DISPLAY - NORMALLY OPERATOR ACCESSIBLE AT PANEL FRONT OR CONSOLE				
- LOCATED IN REAR OF CENTRAL OR MAIN PANEL - LOCATED IN CABINET BEHIND PANEL - NOT VISIBLE ON FRONT OF PANEL OR ON VIDEO DISPLAY - NOT NORMALLY OPERATOR ACCESSIBLE AT PANEL OR CONSOLE				
- LOCATED IN OR ON FRONT OF SECONDARY OR LOCAL PANEL OR CONSOLE - VISIBLE ON FRONT OF PANEL OR ON VIDEO DISPLAY - NORMALLY OPERATOR ACCESSIBLE AT PANEL FRONT OR CONSOLE				
- LOCATED IN REAR OF SECONDARY OR LOCAL PANEL - LOCATED IN FIELD CABINET - NOT NORMALLY OPERATOR ACCESSIBLE AT PANEL OR CONSOLE				

- SUFFIX (X) TO DIFFERENTIATE BETWEEN INSTRUMENTS AND FUNCTIONS THAT WOULD OTHERWISE HAVE THE SAME IDENTIFICATION.
- SINGLE INSTRUMENT OR OTHER COMPONENT HAVING MULTIPLE FUNCTIONS OR SHARING A COMMON HOUSING
- DESIGNATIONS OF CONTROL FUNCTIONS (ZZZ) ASSOCIATED WITH INSTRUMENT OR OTHER COMPONENTS.
- |                         |                        |
|-------------------------|------------------------|
| AHC - AUTO/HOLD/CLOSE   | OSC - OPEN/STOP/CLOSED |
| AM - AUTO/MANUAL        | POT - POTENTIOMETER    |
| CALC - CALCULATION      | RL - RAISE/LOWER       |
| DEV - DEVIATION         | RS - RUN/STOP          |
| MOA - MANUAL/OFF/AUTO   | RSL - RAISE/STOP/LOWER |
| HOR - HAND/OFF/REMOTE   | SD - SHUTDOWN          |
| LOS - LOCKOUT STOP      | SEL - SELECT           |
| LR - LOCAL/REMOTE       | SP - SET POINT         |
| LSR - LOCAL/STOP/REMOTE | SR - START/RESET       |
| OO - ON / OFF           | SS - STOP/START        |
| OC - OPEN/CLOSE         | VP - VACUUM/PRESSURE   |

- INSTRUMENT WITH COMPUTING OR CONVERTING FUNCTION
- PILOT LIGHT
- CONTROL SYSTEM COMPUTING FUNCTION
- CONVERT
- |               |                            |
|---------------|----------------------------|
| E - VOLTAGE   | H - HYDRAULIC              |
| I - CURRENT   | O - ELECTROMAGNETIC, SONIC |
| P - PNEUMATIC | R - RESISTANCE (ELECT.)    |
| A - ANALOG    | D - DIGITAL                |
| B - BINARY    |                            |
- COMPUTE
- |                 |              |                  |
|-----------------|--------------|------------------|
| SUMMING         | PROPORTIONAL | DIFFERENCE       |
| SUBTRACTOR      | DERIVATIVE   | HIGH SELECTING   |
| MULTIPLYING     | AVERAGING    | LOW SELECTING    |
| DIVIDING        | RATIO        | INTEGRAL         |
| ROOT EXTRACTION | PID          | COMPLEX FUNCTION |
- # = 1, 2, 3, etc.  
REFER TO NOTE ON SAME SHEET FOR BRIEF DESCRIPTION
- ELECTRICAL CONTROL INTERLOCK
- COMPLEX INTERLOCK  
# = 1, 2, 3, etc.  
REFER TO NOTE ON SAME SHEET FOR BRIEF DESCRIPTION
- INSTRUMENTS/PANELS PROVIDED BY OTHER DISCIPLINES UNDER THIS CONTRACT

### VALVE, GATE, AND ACTUATOR SYMBOLS

	GATE VALVE		BACKFLOW PREVENTER
	PLUG VALVE		PRESSURE RELIEF VALVE
	GLOBE VALVE		VACUUM RELIEF VALVE
	BALL VALVE		COMBINATION VACUUM AND PRESSURE RELIEF VALVE
	BUTTERFLY VALVE		VACUUM REGULATING PRESSURE RELIEF VALVE
	CHECK VALVE		PRESSURE-REDUCING REGULATOR
	3-WAY VALVE		BACKPRESSURE REGULATOR
	3-WAY BALL VALVE		AIR GAP CONNECTION
	DIAPHRAGM VALVE		STOP LOG
	PINCH VALVE		STOP/SLIDE GATE
	NEEDLE VALVE		SOLENOID ACTUATOR
	STOP LOG		PNEUMATIC ACTUATOR
	STOP/SLIDE GATE		MANUAL ACTUATOR
	SOLENOID ACTUATOR		BALL CHECK VALVE
	PNEUMATIC ACTUATOR		
	MANUAL ACTUATOR		
	DUCKBILL CHECK VALVE		

### PUMP AND EQUIPMENT SYMBOLS

	CENTRIFUGAL WET PIT PUMP (DRY DRY-PIT SUBMERSIBLE)		FAN / BLOWER (CENTRIFUGAL)		GEAR PUMP OR BLOWER (POSITIVE DISPLACEMENT)
	SCREW PUMP		PISTON PUMP		DIAPHRAGM PUMP
	ROTARY LOBE PUMP OR BLOWER (POSITIVE DISPLACEMENT)		METERING PUMP		COMPRESSOR
	PROGRESSIVE CAVITY PUMP		VERTICAL PUMP		INLINE GRINDER
	CENTRIFUGAL PUMP		SCREEN		MIXER
			EDUCTOR		

### IDENTIFICATION LETTERS

	FIRST LETTERS		SUCCEEDING LETTERS		
	MEASURED OR 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	CONDUCTIVITY			CONTROL	CLOSE
D	DENSITY (MASS) OR SPECIFIC GRAVITY	DIFFERENCE, DIFFERENTIAL			DEVIATION
E	VOLTAGE (EMF)		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 OR HUMIDITY	MOMENTARY			MIDDLE, INTERMEDIATE
N	TORQUE		USER'S CHOICE	USER'S CHOICE/REMOTE	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		MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL PROBE		
X	UNCLASSIFIED	X-AXIS	ACCESSORY DEVICES, UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE, PRESENCE	Y-AXIS		AUXILIARY DEVICES	
Z	POSITION, DIMENSION	Z-AXIS, SAFETY INSTRUMENTED SYSTEM		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

### MISCELLANEOUS SYMBOLS

	QUICK CONNECT		PULSATION DAMPENERS		STROBE		DIAPHRAGM SEAL		EQUIPMENT OR PANEL TAG		AIR FILTER
	BLIND FLANGE		BUZZER		RUPTURE DISK		FULL LINE OR TAPPED RING SEAL		MOTOR		STATIC MIXER
	FLEXIBLE HOSE		HORN		VENT		DRAIN		CARTRIDGE FILTER		VISUAL LEAK STATION

### PRIMARY ELEMENT SYMBOLS

	MAGNETIC FLOW METER		TURBINE OR PROPELLER FLOW METER		PADDLE WHEEL FLOW METER		PARSHALL FLUME		VARIABLE AREA FLOW METER WITH INTEGRAL VALVE		SUBMERSIBLE LEVEL SENSOR		NON-CONTACT RADAR LEVEL SENSOR		FLOAT LEVEL SWITCH		FOOT VALVE
	ULTRASONIC FLOW METER		VENTURI FLOW METER		VORTEX FLOW METER		WEIR		ORIFICE PLATE		ULTRASONIC LEVEL SENSOR		GUIDED WAVE RADAR LEVEL SENSOR		CAPACITANCE LEVEL SENSOR		
	THERMAL FLOW METER OR SWITCH		AVERAGING PITOT TUBE		POSITIVE DISPLACEMENT FLOW METER												

### ANALYTICAL ABBREVIATIONS

	ANALYSIS INSTRUMENT	$(ZZZ)$	$(ZZZ) =$	COMB - COMBUSTIBLE GAS (METHANE)	H2S - HYDROGEN SULFIDE	O2 - OXYGEN
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- ### GENERAL NOTES
- SYMBOLS AND NOMENCLATURE ARE BASED ON ANSI/ISA-5.1-2009.
  - REFER TO LEGEND SHEETS OF OTHER DISCIPLINES FOR ADDITIONAL SYMBOLS AND ABBREVIATIONS.
  - REFER TO SPECIFICATIONS FOR ADDITIONAL DETAIL ON CONTROL SYSTEM FUNCTIONAL REQUIREMENTS.
  - POWER SUPPLIES FOR LOOPS OR SYSTEMS SHALL BE FURNISHED BY THE INSTRUMENTATION SUPPLIER TO MEET THE PARTICULAR CHARACTERISTICS (E.G., VOLTAGE AND CURRENT REQUIREMENTS) OF COMPONENTS IN EACH LOOP OR SYSTEM.

### LINE SYMBOLS AND LEGEND

	MAJOR PROCESS PIPES OR CHANNELS		OFF-SHEET CONNECTOR		PROCESS/SIGNALS NOT CONNECTED (CROSSING)
	SECONDARY PROCESS OR MECHANICAL CONNECTION		DISCRETE ELECTRICAL SIGNALS		PROCESS/SIGNALS CONNECTED
	AIR SUPPLY OR SIGNAL		DISCRETE DIGITAL SIGNALS		NEW EQUIPMENT/STRUCTURE
	ELECTRICAL SIGNAL/COPPER CABLE		ANALOG ELECTRICAL SIGNALS		EXISTING EQUIPMENT/STRUCTURE
	DATA LINK OR INTERNAL SOFTWARE LINK		ANALOG DIGITAL SIGNALS		FUTURE EQUIPMENT/STRUCTURE
	FIBER OPTIC CABLE				
	CAT6 CABLE				

### MISCELLANEOUS ABBREVIATIONS

LCP - LOCAL CONTROL PANEL	HSR - SPRING RETURN RUN/OFF SELECTOR
LCS - LOCAL CONTROL STATION	ROA - SPRING RETURN RUN/OFF/AUTO SELECTOR
N.C. - NORMALLY CLOSED	HMSR - HAND MOMENTARY START PB
N.O. - NORMALLY OPEN	HMSS - HAND MOMENTARY STOP PB

PROJECT ENGINEER:	R. FROST		
DESIGNED BY:	F. BEATY		
DRAWN BY:	F. BEATY		
CHECKED BY:	G. MARKOU		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
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# Hazen

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498 SEVENTH AVENUE, 11TH FLOOR  
NEW YORK, NEW YORK 10018

ROCKLAND COUNTY SEWER DISTRICT NO.1  
ORANGEBURG, NEW YORK

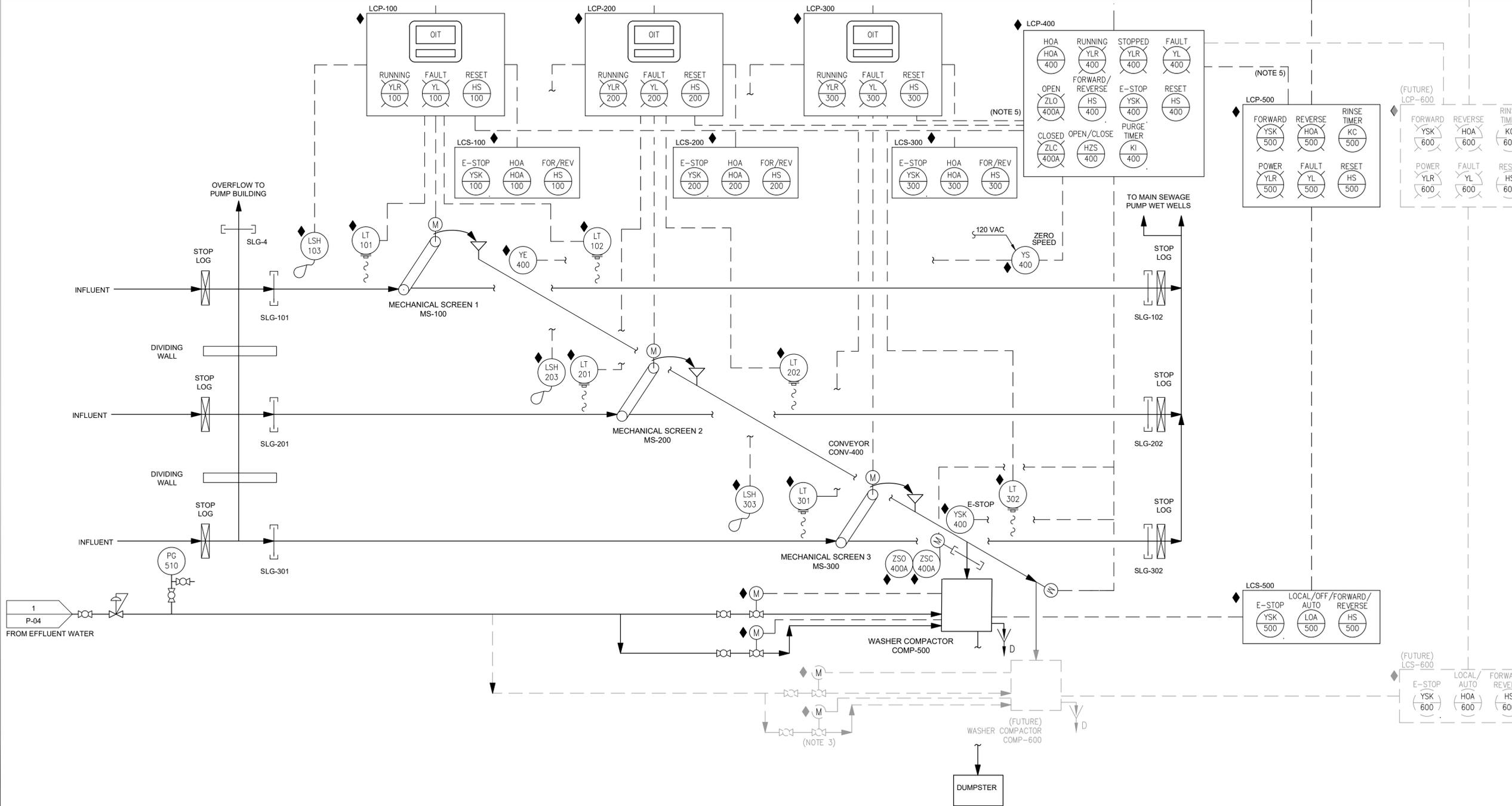
ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

## INSTRUMENTATION SYMBOLS AND LEGEND

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	I-01

SCADA/HMI

PLC-RTU1



- GENERAL NOTES:**
1. SCREW CONVEYOR SHALL OPERATE WHILE ANY OF THE MECHANICAL SCREENS ARE OPERATING.
  2. WASHER COMPACTORS SHALL OPERATE WHILE CONVEYOR IS IN OPERATION AND DISCHARGE GATE IS OPEN. WASHER COMPACTOR SHALL CONTINUE OPERATION FOR ADJUSTABLE TIME AFTER CONVEYOR STOPS AND ASSOCIATED GATE IS CLOSED.
  3. COLLECTION PAN FLUSH WATER SHALL OPEN FOR FIVE (5) SECONDS EVERY TWENTY (20) SECONDS (FIELD ADJUSTABLE).
  4. DEVICE COMMUNICATION TO PLC-RTU1 SHALL BE MODBUS TCP/IP OVER ETHERNET CAT-6 CABLE.
  5. SCREENS SHALL PROVIDE REMOTE RUN/STOP SIGNALS TO CONVEYOR. CONVEYOR SHALL PROVIDE REMOTE RUN/STOP SIGNALS TO COMPACTOR.

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DESIGNED BY:	F. BEATY		
DRAWN BY:	F. BEATY		
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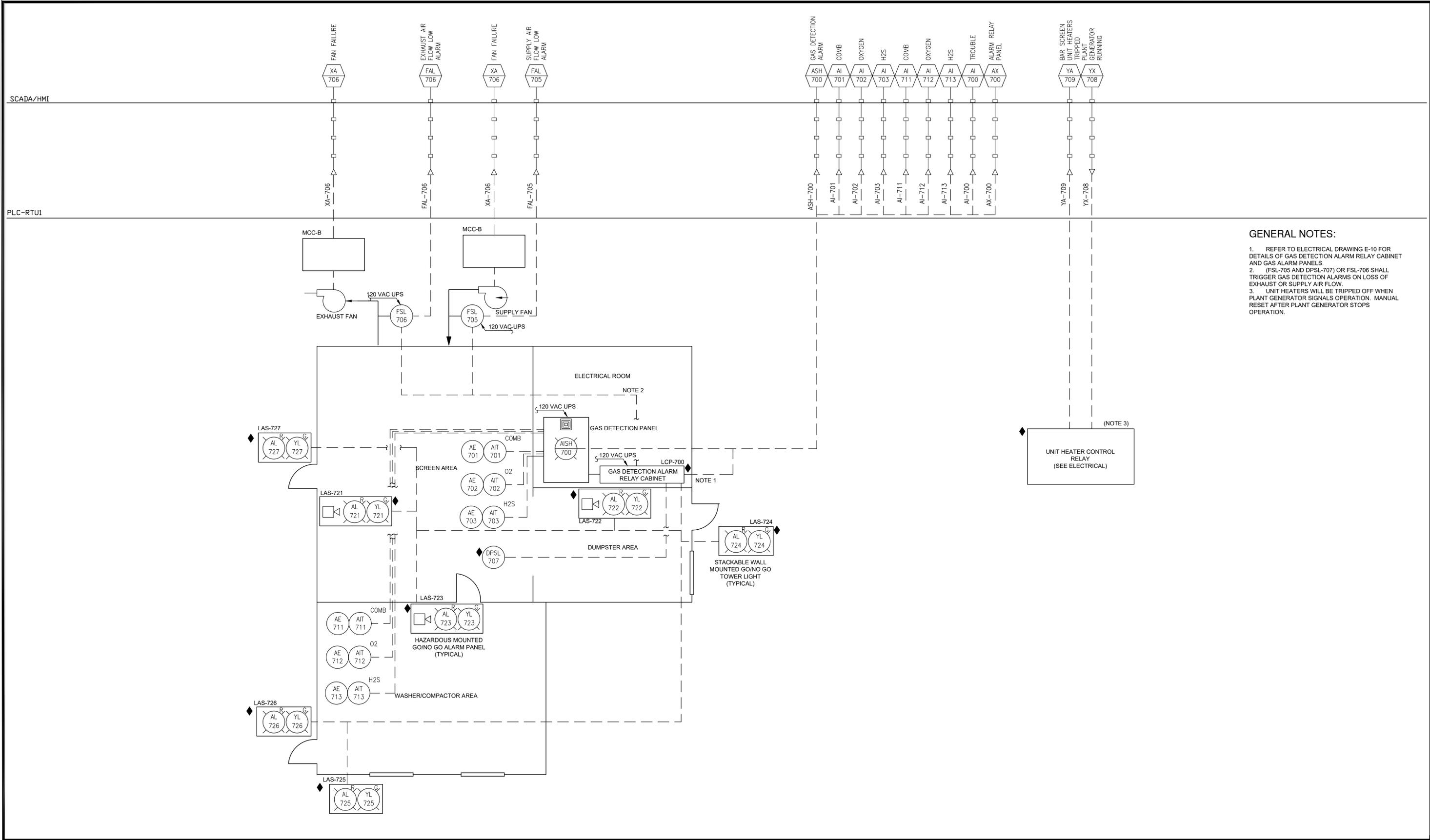
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ORANGEBURG WASTEWATER  
 TREATMENT PLANT  
 SCREENING IMPROVEMENTS PROJECT

INSTRUMENTATION  
 PROCESS AND INSTRUMENTATION DIAGRAM  
 SCREENS

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	I-02



- GENERAL NOTES:**
1. REFER TO ELECTRICAL DRAWING E-10 FOR DETAILS OF GAS DETECTION ALARM RELAY CABINET AND GAS ALARM PANELS.
  2. (FSL-705 AND DPSL-707) OR FSL-706 SHALL TRIGGER GAS DETECTION ALARMS ON LOSS OF EXHAUST OR SUPPLY AIR FLOW.
  3. UNIT HEATERS WILL BE TRIPPED OFF WHEN PLANT GENERATOR SIGNALS OPERATION. MANUAL RESET AFTER PLANT GENERATOR STOPS OPERATION.

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 PLOT DATE: 10/25/2023 3:47 PM BY: FBEATY

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DESIGNED BY:	F. BEATY		
DRAWN BY:	F. BEATY		
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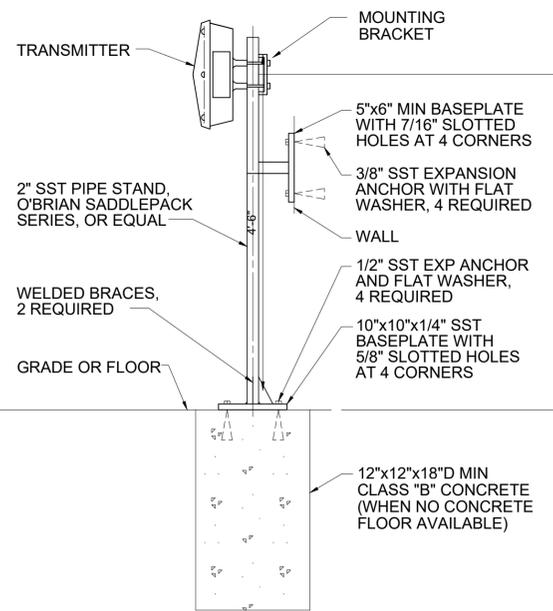
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ORANBURG WASTEWATER TREATMENT PLANT  
 SCREENING IMPROVEMENTS PROJECT

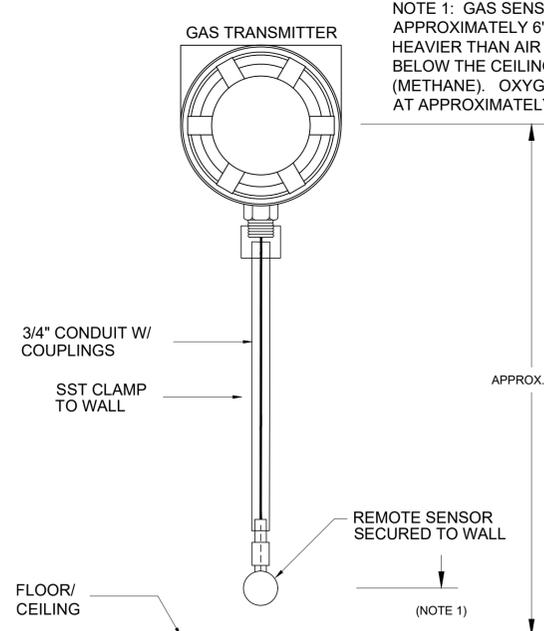
INSTRUMENTATION  
 PROCESS AND INSTRUMENTATION DIAGRAM  
 SUPPORT SYSTEMS

DATE:	JUNE 2024
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DRAWING NUMBER:	I-03



TYPICAL PIPE STAND TRANSMITTER MOUNTED ON FLOOR OR WALL

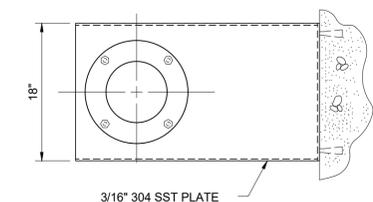
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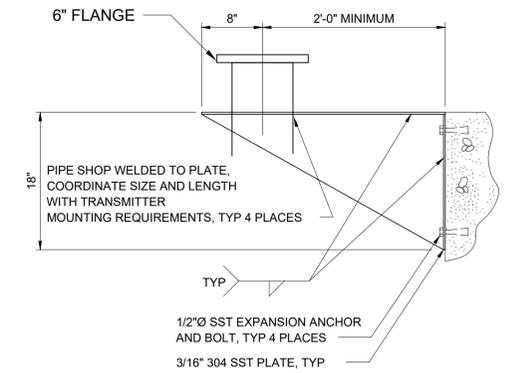
AMBIENT GAS SENSOR AND TRANSMITTER

I-40-0506

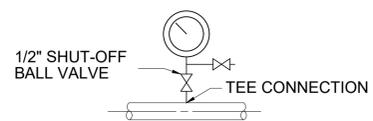
NOTE 1: GAS SENSOR SHALL BE LOCATED APPROXIMATELY 6" ABOVE THE FLOOR FOR GASSES HEAVIER THAN AIR (H<sub>2</sub>S) AND APPROXIMATELY 6" BELOW THE CEILING FOR GASSES LIGHTER THAN AIR (METHANE). OXYGEN SENSORS SHALL BE MOUNTED AT APPROXIMATELY 5'-0" ABOVE FINISHED FLOOR.



PLAN VIEW  
RADAR LEVEL TRANSMITTER  
WALL MOUNTING DETAIL  
I-40-0212

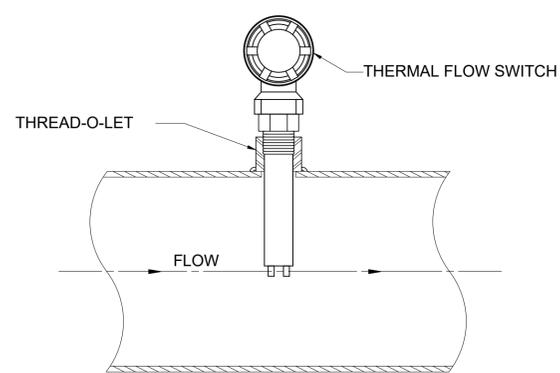


SECTION



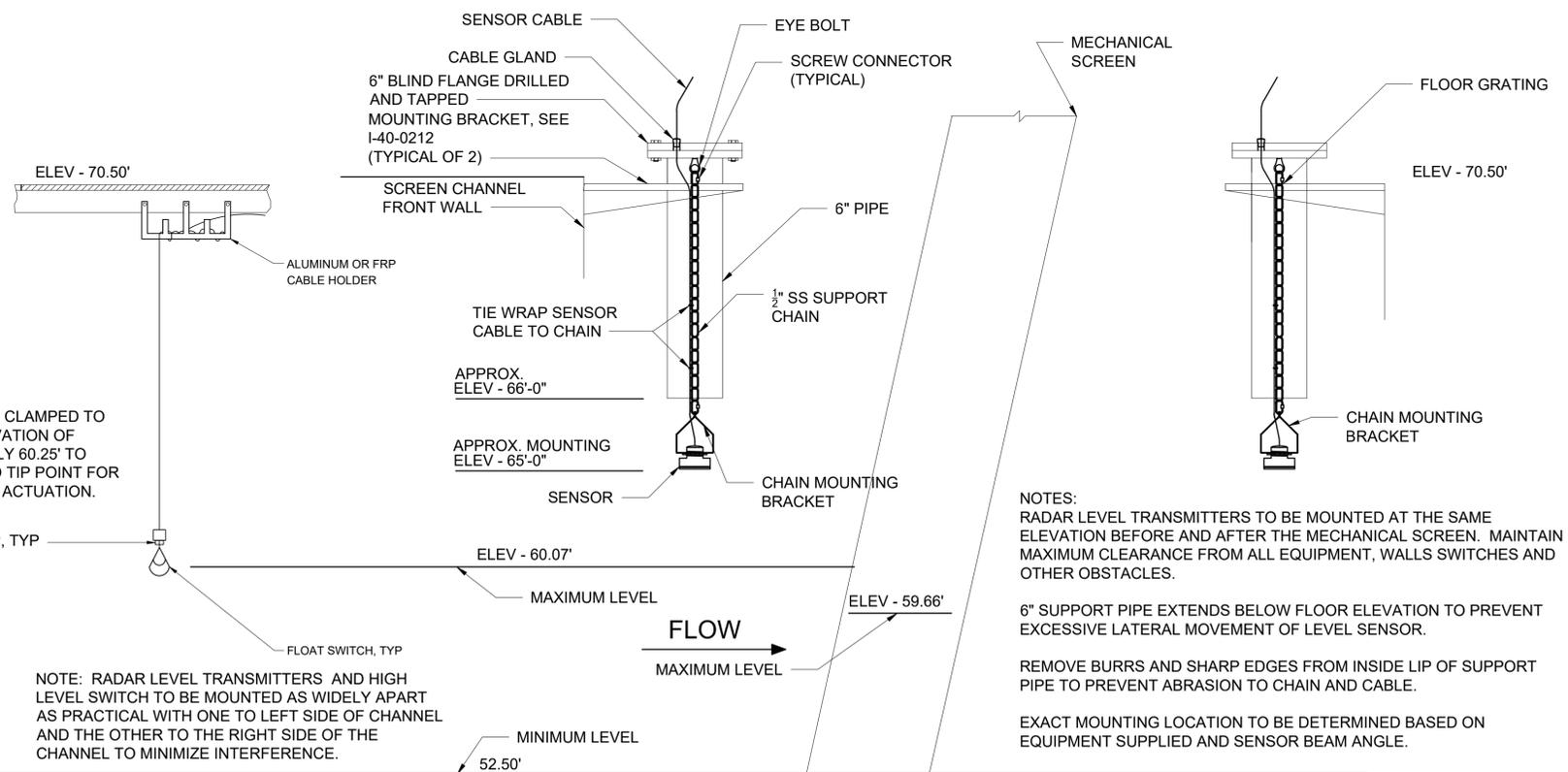
PRESSURE GAUGE  
INSTALLATION WITH TEE CONNECTION  
(SHOWN W/O DIAPHRAGM SEAL)  
USED FOR PIPES UNDER 2"

I-40-0303



THERMAL FLOW SWITCH

I-40-0107



TYPICAL FLOAT TYPE LEVEL SWITCH MOUNTING DETAILS

I-40-0206

NON-CONTACTING RADAR LEVEL TRANSMITTERS AT MECHANICAL SCREEN

CHAIN SUSPENSION MOUNTING

I-40-0218

NOTES:  
RADAR LEVEL TRANSMITTERS TO BE MOUNTED AT THE SAME ELEVATION BEFORE AND AFTER THE MECHANICAL SCREEN. MAINTAIN MAXIMUM CLEARANCE FROM ALL EQUIPMENT, WALLS SWITCHES AND OTHER OBSTACLES.

6" SUPPORT PIPE EXTENDS BELOW FLOOR ELEVATION TO PREVENT EXCESSIVE LATERAL MOVEMENT OF LEVEL SENSOR.

REMOVE BURRS AND SHARP EDGES FROM INSIDE LIP OF SUPPORT PIPE TO PREVENT ABRASION TO CHAIN AND CABLE.

EXACT MOUNTING LOCATION TO BE DETERMINED BASED ON EQUIPMENT SUPPLIED AND SENSOR BEAM ANGLE.

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PROJECT ENGINEER:	R. FROST		
DESIGNED BY:	F. BEATY		
DRAWN BY:	F. BEATY		
CHECKED BY:	G. MARKOU		
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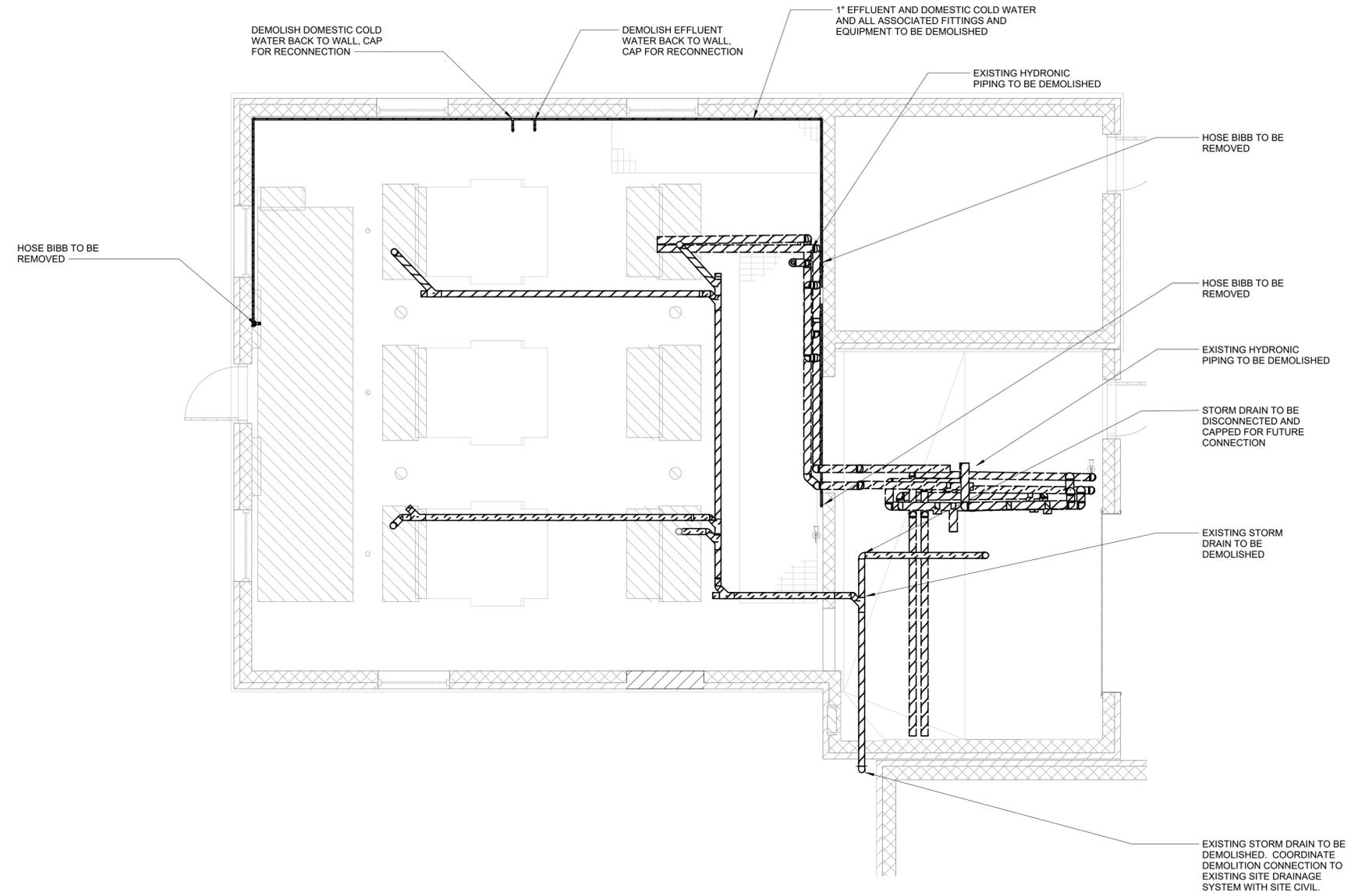
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ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

INSTRUMENTATION  
INSTALLATION DETAILS

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	I-04



DEMOLITION PLAN EL 70.50  
1/4" = 1'-0"



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ORANGEBURG WASTEWATER  
TREATMENT PLANT  
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PLUMBING REMOVAL  
PLAN EL 70.50

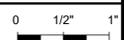
DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	DP-01

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. ROSS
DRAWN BY:	K. TREANOR
CHECKED BY:	G. LYNCH

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## GENERAL NOTES

- AT A MINIMUM, ALL WORK SHALL COMPLY WITH AND BE INSTALLED IN ACCORDANCE WITH THE SUPPLEMENTAL UNIFORM AND FIRE PREVENTION BUILDING CODE, NYS BUILDING CODE, NYS PLUMBING CODE, 2020 NYS ENERGY CODE, AND ALL CODES LOCAL OR OTHERWISE HAVING JURISDICTION OVER THE WORK. IF THE CONTRACT DOCUMENT SHOW DIFFERENT THAN THE CODE, THE MORE STRINGENT SHALL APPLY.
- ALL WORK SHOWN ON THE DRAWINGS SHALL BE PROVIDED UNLESS OTHERWISE NOTED.
- DUCTWORK & PIPING IS DIAGRAMMATICALLY SHOWN. EXACT ROUTING OF NEW PIPING & DUCTWORK SHALL BE DETERMINED IN FIELD WITH THE APPROVAL OF THE ENGINEER.
- THE WORDS PROVIDE OR INSTALL, SINGLY OR IN COMBINATION SHALL MEAN FURNISH AND INSTALL IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
- EXISTING CONDITION HAVE BEEN GENERATED FROM AVAILABLE AS-BUILT DRAWINGS. CONTRACTOR SHALL VERIFY AS-BUILT CONDITIONS IN FIELD AND DEVIATIONS SHALL BE REPORTED TO THE ENGINEER PRIOR TO PERFORMING THE WORK.
- THE CONTRACTOR SHALL PROVIDE ALL CUTTING AND PATCHING TO MATCH EXISTING AS REQUIRED FOR THE INSTALLATION OF HIS WORK.
- THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF HIS WORK AND NEWLY INSTALLED WORK, INCLUDING PROTECTION OF BUILDING OCCUPANTS AND OWNERS EQUIPMENT, PUBLIC, AND PERSONNEL. PROVIDE APPROPRIATE SIGNAGE, BARRIERS, AND SAFETY GUARD RAILS AS REQUIRED.
- WHERE WELDING OR OPEN FLAME IS USED FOR CUTTING, SOLDERING, ETC., CONTRACTOR SHALL PROVIDE FIRE EXTINGUISHERS AND A FIRE WATCH IN PROXIMITY OF WORK AREA.
- ALL WORK SHALL BE COORDINATED WITH ALL TRADES RELATED TO THE COMPLETION OF THIS PROJECT.
- THE CONTRACTOR SHALL FILE PLANS WITH THE GOVERNING AUTHORITIES HAVING JURISDICTION AND SHALL SECURE ALL PERMITS AND PAY ALL FEES REQUIRED FOR THE INSTALLATION OF HIS WORK.
- THE CONTRACTOR SHALL GUARANTEE ALL MATERIAL AND WORK INSTALLED TO BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR, AFTER ACCEPTANCE OF THE INSTALLATION BY THE ENGINEER AND OWNER. THE CONTRACTOR SHALL SUBMIT IN WRITING TO OWNER STATING THE SAME. EQUIPMENT WARRANTIES OF A LONGER DURATION SHALL APPLY.
- THE CONTRACTOR SHALL INDEMNIFY THE OWNER, HIS REPRESENTATIVES AND THE ENGINEER FROM ANY CLAIMS OR SUITS RESULTING IN NEGLIGENCE ON THE PART OF THE CONTRACTOR AND FOR FAILING TO EXECUTE HIS WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL PROVIDE ALL RIGGING, HOISTING AND SCAFFOLDING AS REQUIRED FOR THE INSTALLATION OF HIS WORK.
- ALL WORK SHALL BE PERFORMED BY LICENSED CONTRACTORS AND WORKMEN EXPERIENCED IN THE TRADE HAVING JURISDICTION. ALL WORK SHALL BE SUPERVISED AT ALL TIMES AND WORKMANSHIP SHALL BE FIRST CLASS IN ALL RESPECTS AND IN ACCORDANCE WITH BEST TRADE PRACTICES.
- ANY DEVIATION OR CHANGE IN DESIGN SHALL NOT BE MADE WITHOUT WRITTEN APPROVAL OF THE ENGINEER AND SIGNED BY THE OWNER. ANY WORK INSTALLED WITHOUT PRIOR APPROVAL OF THE ENGINEER AND OWNER OR FOUND TO BE DEFECTIVE IN ANY WAY SHALL BE REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE.
- ALL CONSTRUCTION WORK SHALL BE CONFINED TO THE AREA INDICATED ON PLANS AND SHALL NOT BLOCK MEANS OF EGRESS FOR OCCUPANTS OF THE BUILDING.
- ALL WORK SHALL BE PERFORMED DURING NORMAL WORKING HOURS: 8AM TO 5PM MONDAY THROUGH FRIDAY EXCEPT LEGAL HOLIDAYS OR FOR EMERGENCY REPAIRS, UNLESS DIRECTED OTHERWISE BY THE OWNER. WORKING HOURS MUST BE COORDINATED WITH GENERAL CONTRACTOR. HOWEVER, THE CONTRACTOR MAY WORK EXTRA HOURS AS NEEDED TO COMPLETE THE CONTRACT SCOPE OF WORK AND MEET THE COMPLETION DATE AT NO ADDITIONAL COST TO OWNER, AS LONG AS OWNER HAS BEEN PROPERLY NOTIFIED AND HAS APPROVED SAME.
- ROUGH PATCHING OF WALLS, FLOORS, ETC. SHALL BE BY TRADE WHO PERFORMED WORK UNLESS OTHERWISE NOTED AND SHALL MATCH EXISTING SURROUNDING AREA IN ALL RESPECTS. WORK AREA SHALL BE LEFT BROOM CLEAN AT THE END OF EACH DAY. ALL DISCARDED AND DEMOLISHED MATERIAL AND RUBBISH SHALL BE REMOVED FROM PREMISES DAILY IN A LEGAL AND APPROVED MANNER. FINAL PATCHING AND PAINTING SHALL BE PERFORMED BY GENERAL CONTRACTOR
- LIMIT THE SPREAD OF DUST WHEN CUTTING BY INSTALLING POLYETHYLENE BARRIERS OR TARPULINS AND EXHAUST TO CONTAIN AIRBORNE MATERIALS.
- THE CONTRACTOR SHALL MAINTAIN ON THE JOB SITE A SET OF CONTRACT DRAWINGS.
- THE CONTRACTOR SHALL MAINTAIN ON THE JOB SITE A SET OF SHOP DRAWINGS IN WHICH ANY DEVIATIONS FROM THE ORIGINAL DESIGN SHALL BE NOTED. UPON COMPLETION OF THE INSTALLATION OF NEW WORK THE CONTRACTOR SHALL TURN OVER TO THE OWNER AND ENGINEER (1) SET OF AS-BUILT REPRODUCIBLE DRAWINGS AND (1) SET OF PRINTS INCLUDING ALL APPROVED FIELD CHANGES AND DESIGN DEVIATIONS PRIOR TO RECEIPT OF FINAL PAYMENT BY OWNER.
- ALL PENETRATIONS THROUGH PARTITIONS, FLOORS, WALLS AND ROOF FOR ALL PIPING, CONDUIT AND DUCTWORK SHALL BE SEALED AND FIRE SAFED OFF TO MAINTAIN FIRE INTEGRITY OF EXISTING STRUCTURE.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, AS WELL AS BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES OF THE WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING ADEQUATE PRECAUTIONS AND SHALL PROVIDE REASONABLE PROTECTION TO PREVENT INJURY OR DAMAGE TO PERSONS, THE WORK, AND OTHER PROPERTY.

## PLUMBING NOTES

- AT A MINIMUM, ALL WORK SHALL COMPLY WITH AND BE INSTALLED IN ACCORDANCE WITH THE SUPPLEMENTAL UNIFORM AND FIRE PREVENTION BUILDING CODE, NYC BUILDING CODE, NYC PLUMBING CODE, AND ALL CODES LOCAL OR OTHERWISE HAVING JURISDICTION OVER THE WORK. IF THE CONTRACT DOCUMENT SHOW DIFFERENT THAN THE CODE, THE MORE STRINGENT SHALL APPLY.
- CONTRACTOR TO OBTAIN ALL PERMITS AND PAY ALL FEES REQUIRED BY LOCAL AUTHORITIES HAVING JURISDICTION.
- PIPING IS DIAGRAMMATICALLY SHOWN. EXACT ROUTING OF NEW PIPING SHALL BE DETERMINED IN FIELD WITH THE APPROVAL OF THE ENGINEER.
- CONTRACTOR TO SUBMIT PLUMBING DIAGRAM FOR APPROVAL PRIOR TO PERFORMING WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL NEW MATERIAL, WORK AND EQUIPMENT INSTALLED UNTIL FINAL ACCEPTANCE BY THE ENGINEER.
- ALL PIPING SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE ONLY.
- PROVIDE ALL CUTTING, PATCHING, AND CLEAN-UP.
- PIPING SUPPORTS SHALL BE INSTALLED AS DETAILED ON DWGS AND IN CONFORMANCE WITH APPLICABLE CODES HAVING JURISDICTION.
- PROVIDE SCHEDULE 40 STEEL PIPE SLEEVES IN ALL MASONRY WALLS, FLOORS AND PARTITIONS PENETRATED BY PIPING. IN SHEET ROCK PARTITION PROVIDE 22 GAUGE GALVANIZED SLEEVES. ALLOW ROOM IN SLEEVE FOR INSULATION. PACK OPENING AROUND PIPING IN SLEEVE WITH U.L. APPROVED FIRE RATED MATERIAL.
- PROVIDE BALL VALVES FOR ISOLATION ON ALL BRANCH PIPING AT CONNECTIONS TO MAINS AND AT ALL CONNECTIONS TO EQUIPMENT. VALVES SHALL BE EQUAL TO NIBCO FIG. S-580 WITH SOLDERED JOINTS.
- INSULATE ALL HOT, COLD WATER, AND PUMP DISCHARGE PIPING. INSULATION SHALL BE ONE PIECE FLEXIBLE ELASTOMERIC WITH ALL SERVICE JACKET WITH SELF SEALING LAP JOINT. DO NOT USE STAPLES TO SEAL VAPOR BARRIER. INSULATION SHALL HAVE A MAXIMUM FLAME SPREAD OF (25) AND MAXIMUM SMOKE DEVELOPED RATING OF (50). INSULATION SHALL BE 1" THICK FOR INTERIOR PIPING AND 2" THICK FOR EXTERIOR PIPING.
- LABEL AND IDENTIFY PIPING SERVICE USING SAME DESIGNATIONS OR ABBREVIATIONS AS USED ON THE DRAWINGS; ALSO INCLUDE PIPE SIZE AND ARROW INDICATING FLOW DIRECTION. UTILIZE STICK ON LABELS AS MFR'D BY SETON NAMEPLATE OR EQUAL.
- PROVIDE CHROME PLATED PIPING WHERE PIPING IS EXPOSED BELOW FIXTURES, CEILINGS AND WALLS. PROVIDE CHROME PLATED ESCUTCHEONS AROUND ALL PIPING PENETRATING FINISHED WALLS AND ON PIPING EXPOSED TO VIEW.
- HOT AND COLD WATER PIPING SHALL BE TESTED HYDROSTATICALLY TO 1 1/2 TIMES ITS NORMAL WORKING PRESSURE OR 100 PSI WHICHEVER IS GREATER, FOR A MINIMUM OF 2 HOURS. REPAIR ANY LEAKS AND REPEAT SAME TO THE SATISFACTION OF THE ENGINEER AND OWNER.
- DISINFECT DOMESTIC WATER PIPING IN ACCORDANCE WITH GOVERNING CODES HAVING JURISDICTION.
- COORDINATE SANITARY WORK WITH GC AND FACILITY MANAGER. ALL SANITARY AND VENT PIPING TO BE LOCATED AND ROUTED IN FIELD. ALL VENT AND SANITARY PIPING TO BE CONNECTED TO EXISTING BUILDING SANITARY.
- PITCH ALL SANITARY PIPING IN DIRECTION OF FLOW A MINIMUM OF 1/4" PER FOOT. PROVIDE CLEAN OUTS IN SANITARY PIPING AT ALL CHANGES IN DIRECTION IN HORIZONTAL PIPING.
- PROVIDE ACCESS DOORS IN WALLS, CEILINGS AND FLOORS AS REQUIRED FOR SERVICING VALVES, CLEAN OUTS AND ITEMS REQUIRING MAINTENANCE.
- TEST ALL PIPING IN ACCORDANCE WITH N.Y.S. PLUMBING CODE AND GOVERNING AUTHORITY HAVING JURISDICTION.
- TEST AND ADJUST AS REQUIRED ALL EQUIPMENT AND PIPING IN ACCORDANCE WITH ALL APPLICABLE CODES, AND MANUFACTURERS RECOMMENDATIONS, FOR COMPLETE FUNCTIONING SYSTEM.
- UPON COMPLETION OF ALL WORK, ALL EQUIPMENT, FIXTURES, PIPING, ETC. SHALL BE THOROUGHLY CLEANED AND LEFT IN FIRST CLASS CONDITION.

## LEGEND

SYMBOL	DESCRIPTION
	EXISTING WORK BY OTHERS
	WORK TO BE PROVIDED
	POINT OF CONNECTION
	POINT OF DISCONNECTION
	RISER
	ELBOW DOWN
	BALL VALVE
CW	COLD WATER
EW	EFFLUENT WATER
V	VENT
	HOSE BIB
	ISOLATION VALVE
SAN	SANITARY
FD	FLOOR DRAIN
CO	CLEANOUT
FCO	FLOOR CLEAN OUT
WCO	WALL CLEANOUT
VTR	VENT THROUGH ROOF
ETR	EXISTING TO REMAIN
	DENOTES REDUCED PRESSURE ZONE

NOTE: ALL WORK IS TO BE PROVIDED UNLESS OTHERWISE NOTED



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ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

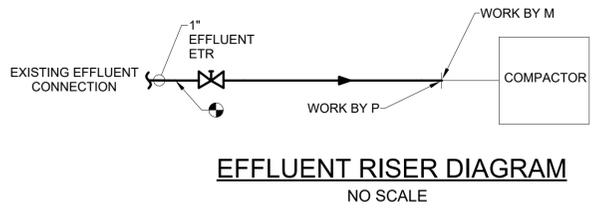
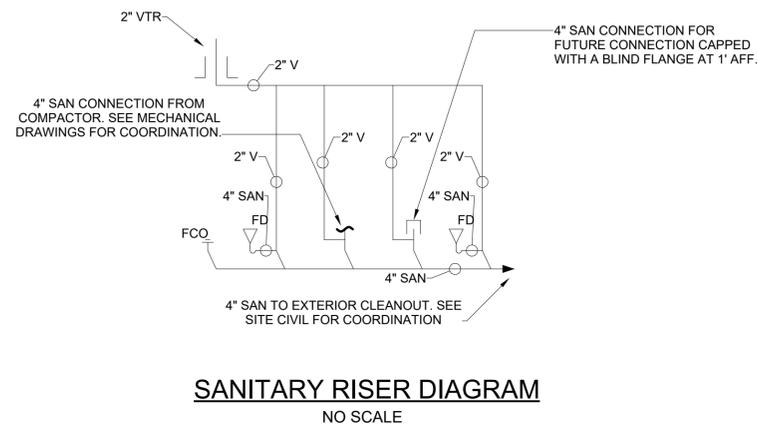
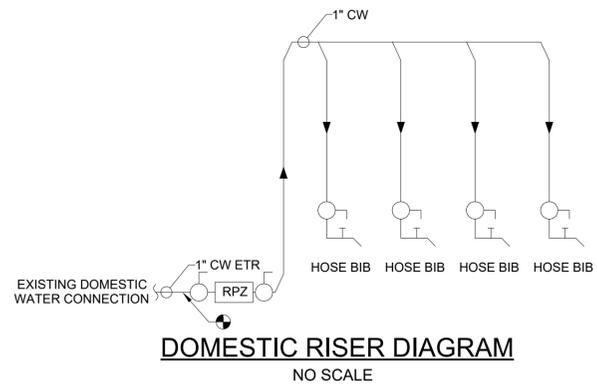
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NOTES AND LEGEND

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DRAWING NUMBER: P-01

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PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. ROSS
DRAWN BY:	K. TREANOR
CHECKED BY:	G. LYNCH
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"



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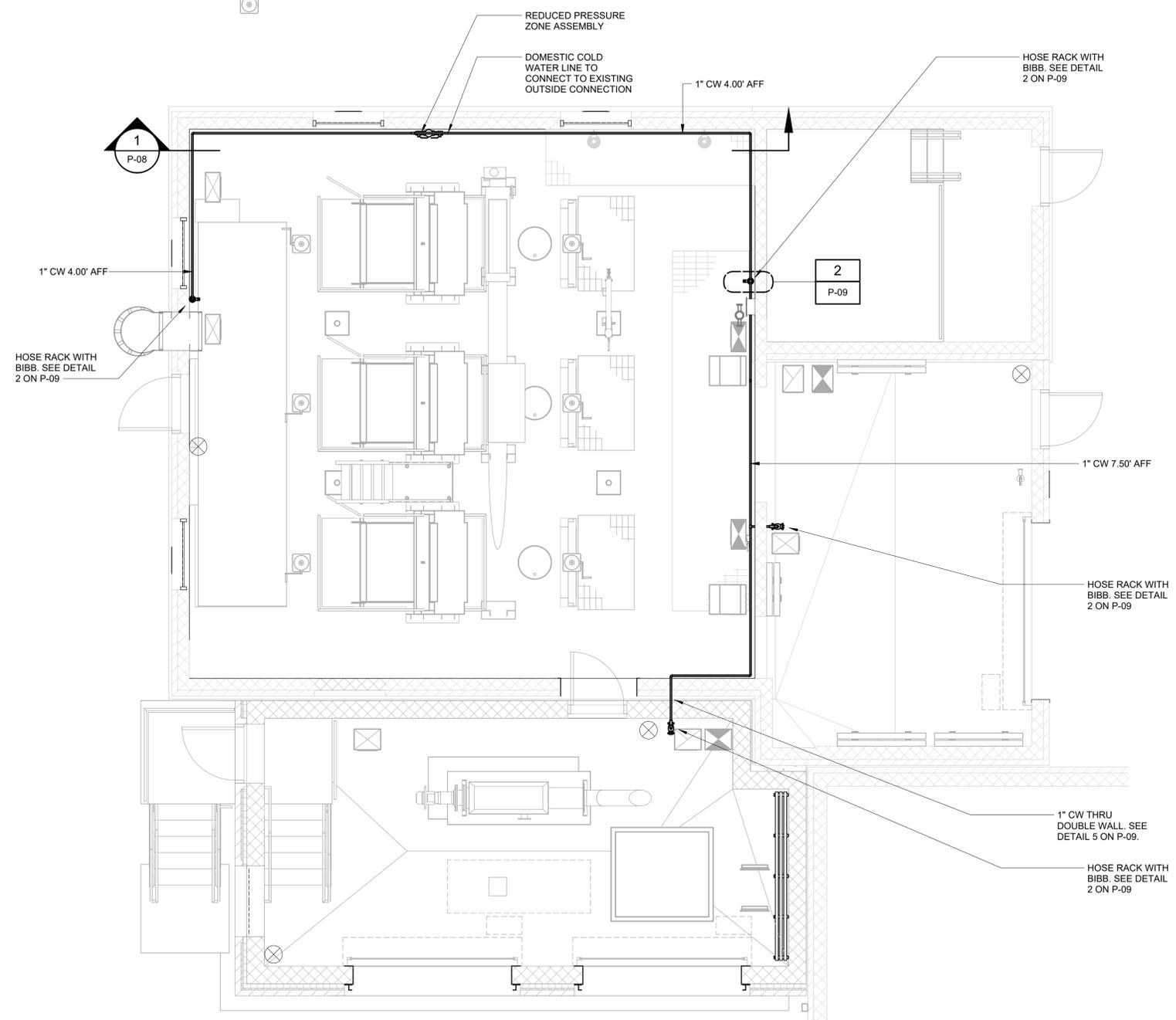
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DATE: JUNE 2024  
HAZEN NO.: 90462-000  
CONT NO.: RFB-RC-SWR-2023-06  
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P-02

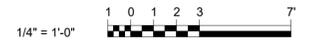
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**DOMESTIC PLAN EL 70.50**  
1/4" = 1'-0"



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PLUMBING  
DOMESTIC PLAN EL 70.50

DATE:	JUNE 2024
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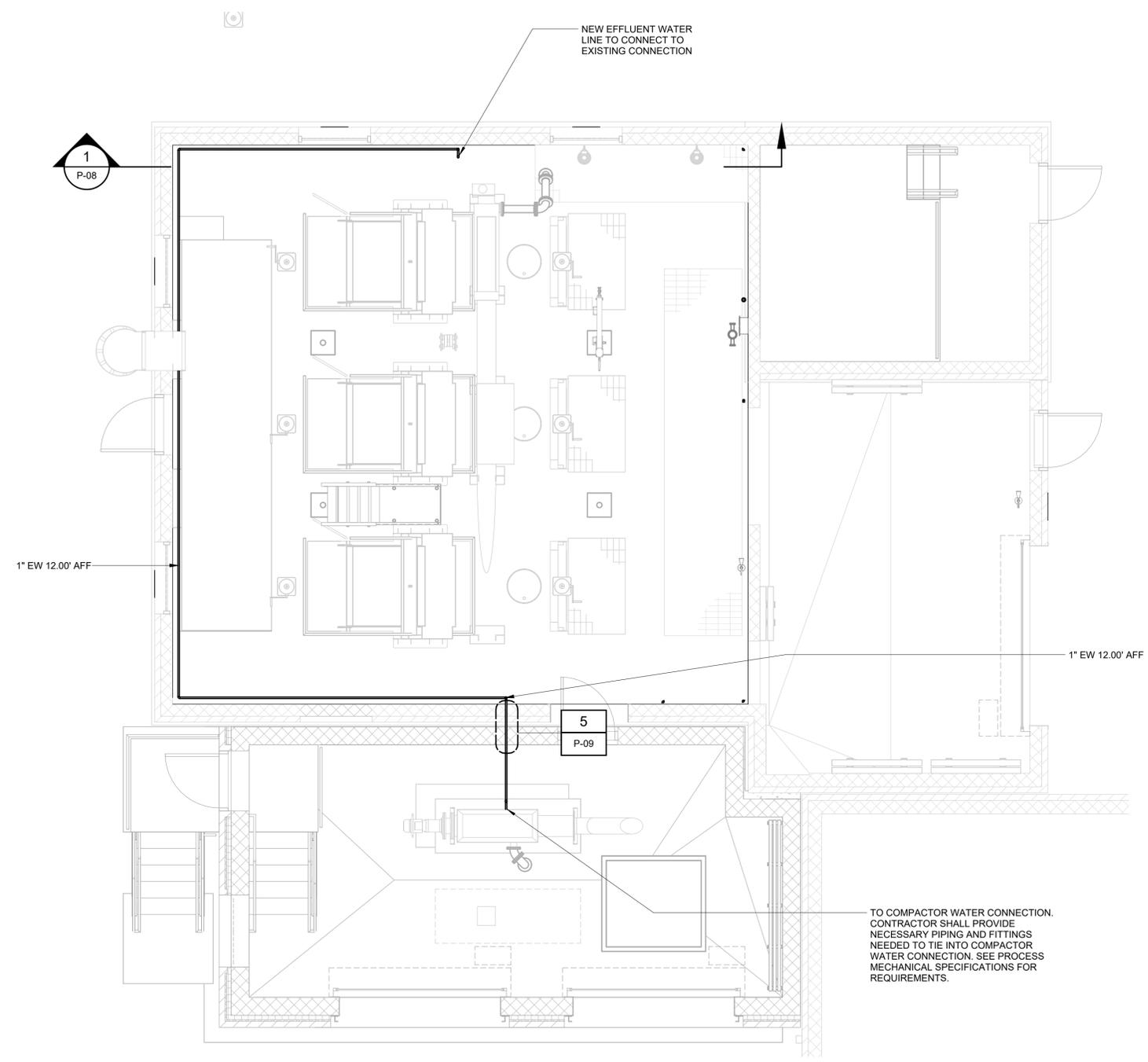
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**EFFLUENT PLAN EL 70.50**  
1/4" = 1'-0"



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EFFLUENT PLAN EL 70.50

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
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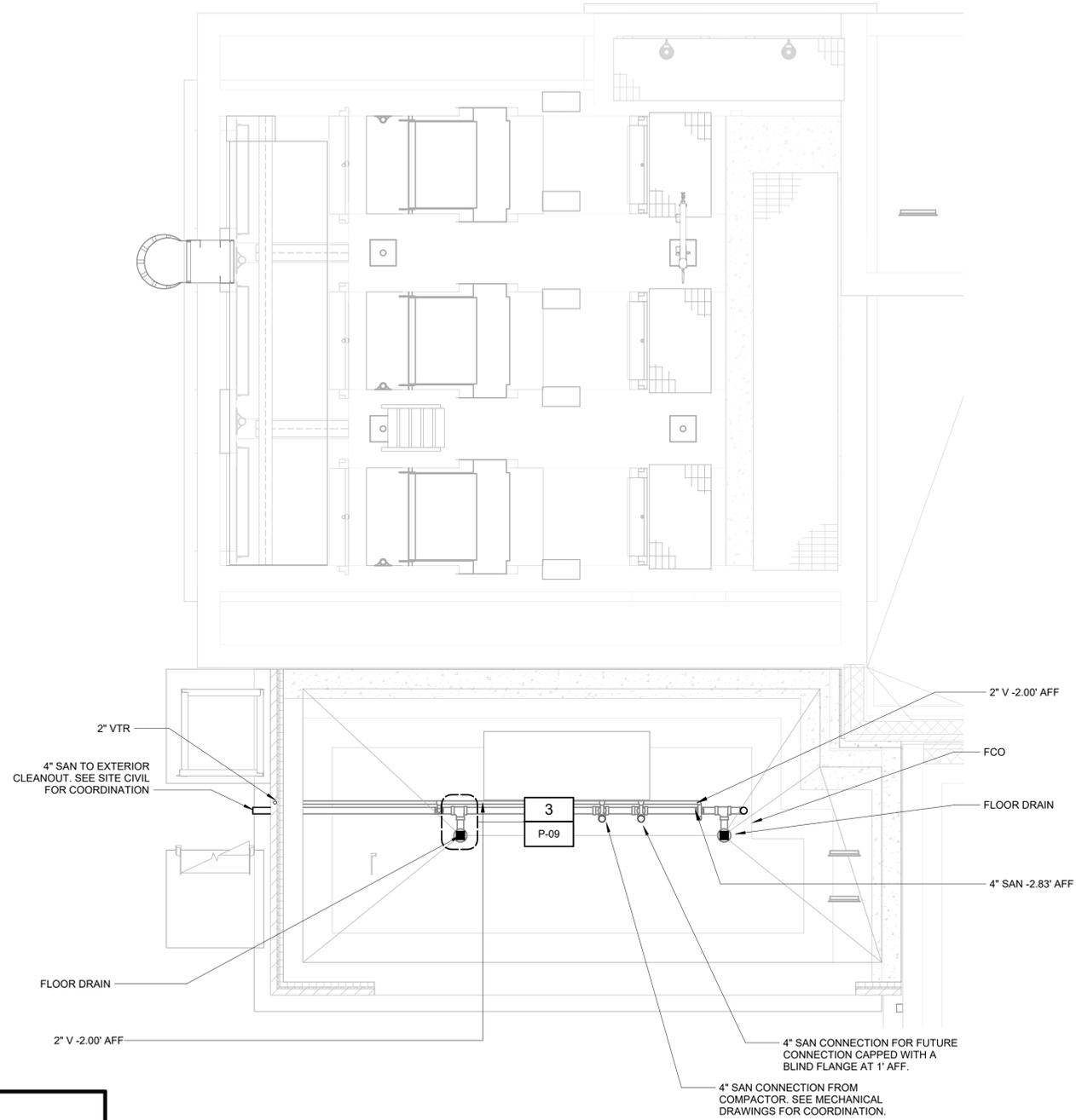
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**SANITARY PLAN EL 66.50**  
1/4" = 1'-0"



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PLUMBING  
SANITARY PLAN EL 66.50

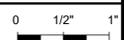
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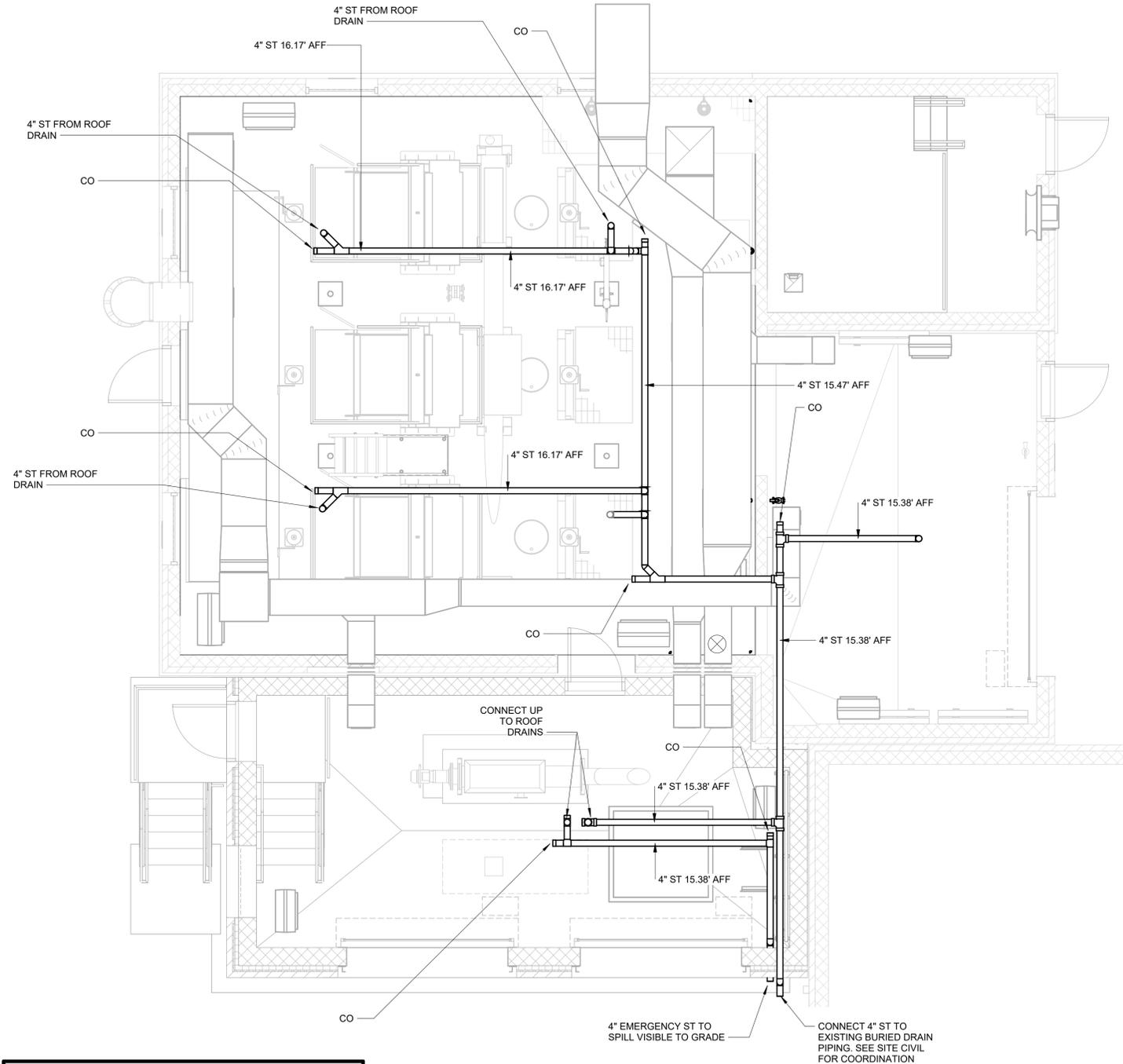
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**STORM DRAIN PLAN EL 70.50**  
1/4" = 1'-0"



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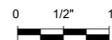
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STORM DRAIN PLAN EL 70.50

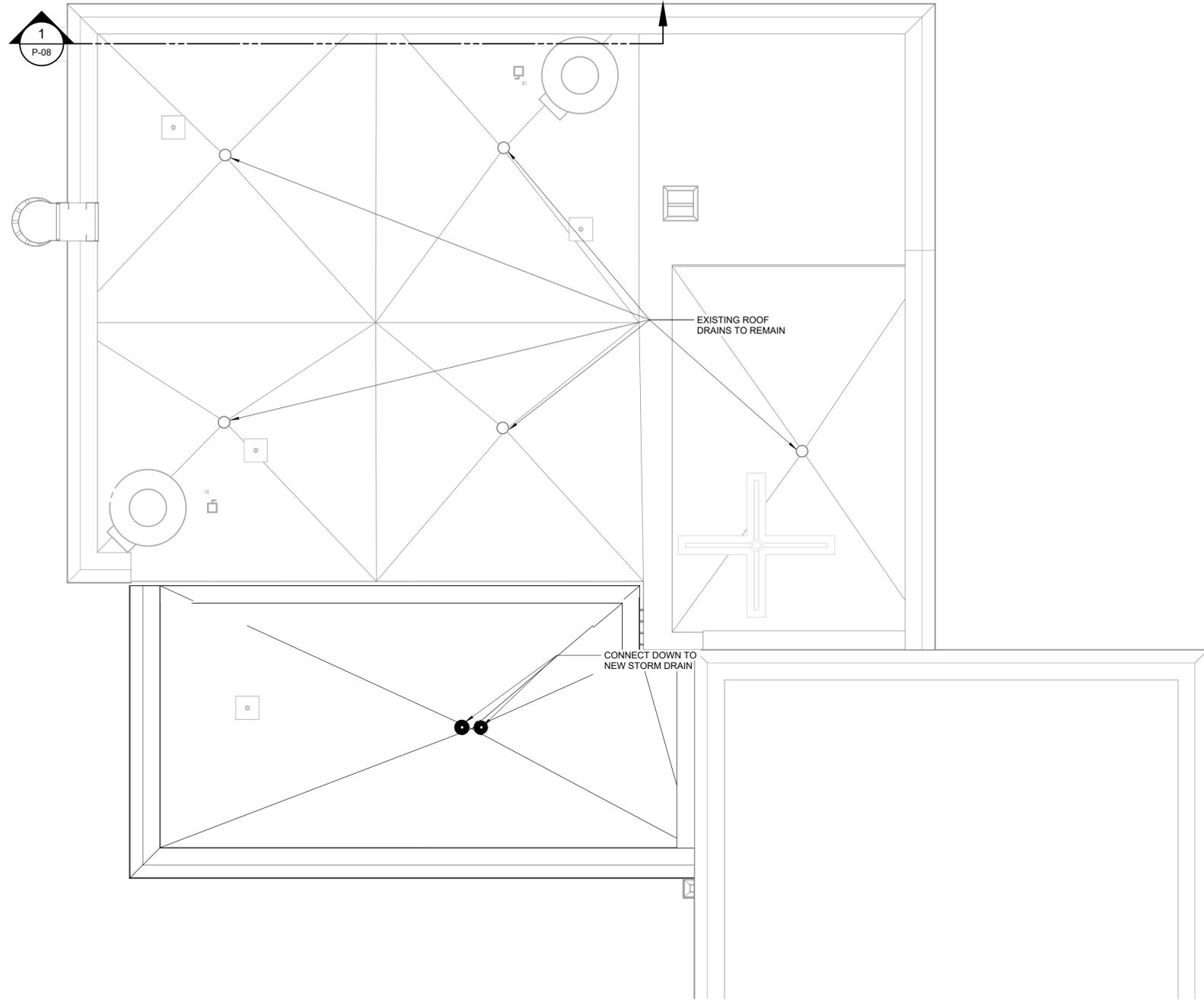
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P-06

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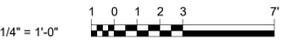
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ROOF DRAIN PLAN EL 88.00

1/4" = 1'-0"



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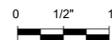
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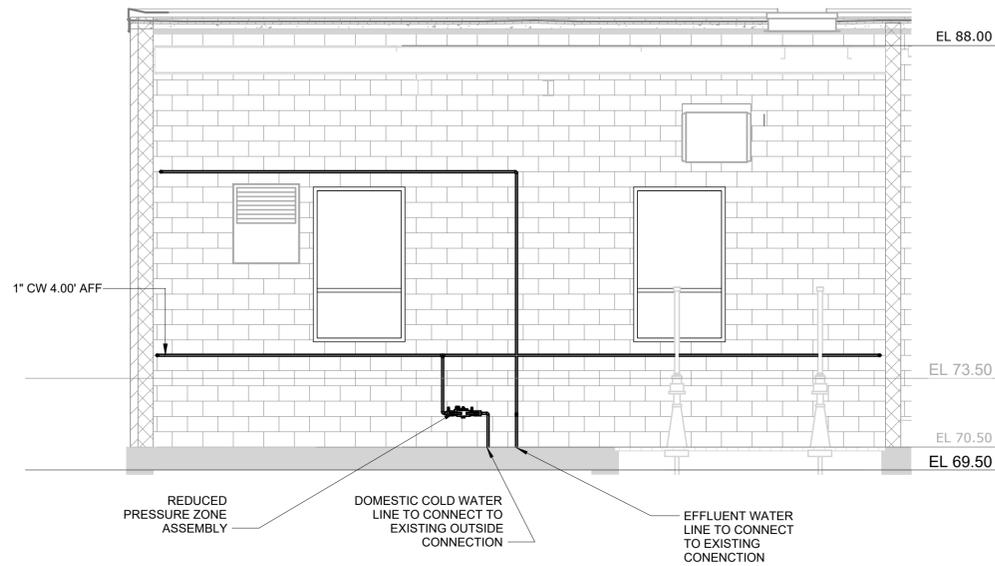
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ROOF DRAIN PLAN EL 88.00

DATE: JUNE 2024  
HAZEN NO.: 90462-000  
CONT NO.: RFB-RC-SWR-2023-06  
DRAWING NUMBER:  
P-07

PROJECT ENGINEER:	R. FROST
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BAR SCREEN ROOM NORTH WALL

SECTION 1  
1/4" = 1'-0" P-03

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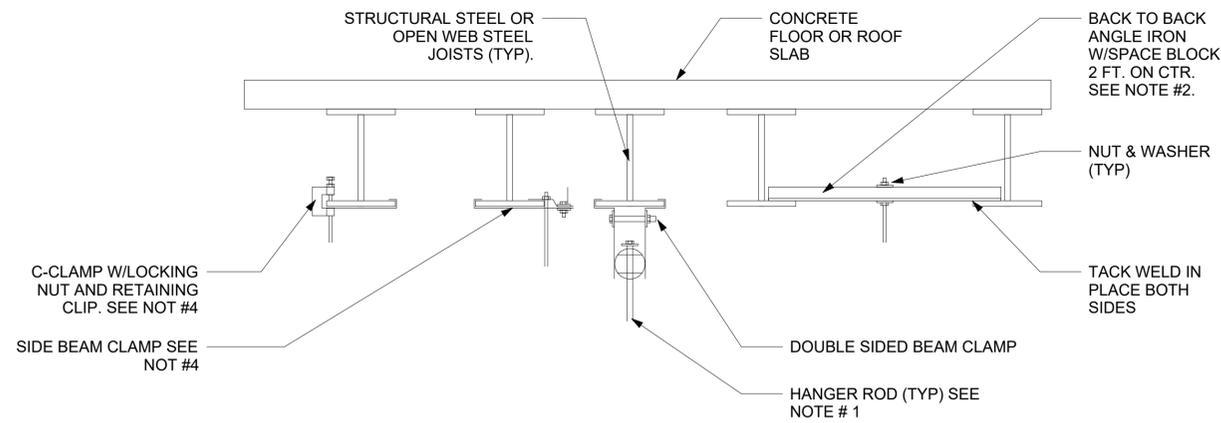
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PLUMBING  
SECTION

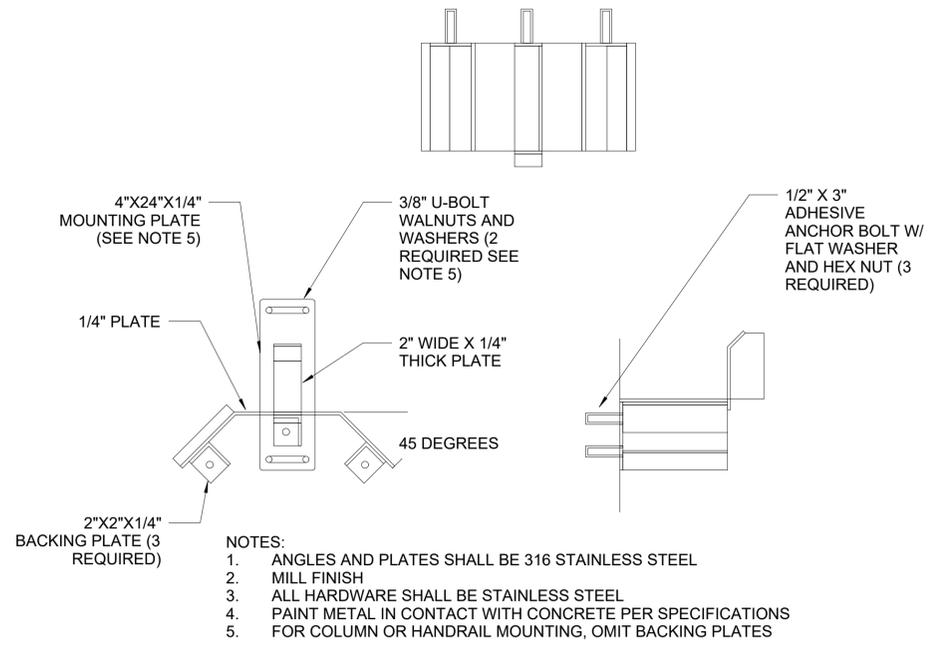
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DRAWING NUMBER:	P-08



INDIVIDUAL PIPE HANGER ROD & SPACING SCHEDULE												
NOMINAL PIPE OR TUBE SIZE - INCHES	3/4	1	1 1/2	2	2 1/2	3	4	5	6	8	10	12
HANGER ROD SIZES - INCHES	3/8	3/8	3/8	1/2	1/2	1/2	5/8	5/8	7/8	7/8	7/8	7/8
MAXIMUM SPACING BETWEEN PIPE SUPPORTS - FEET	6	7	9	10	11	12	14	16	17	19	22	23
MAXIMUM SPACING BETWEEN COPPER TUBE SUPPORTS - FEET	6	6	8	9	10	10	12	14	14	16	18	20

NOTES: TRAPEZE HANGER SPACING SHALL BE BASED ON SPACING OF SMALLEST PIPE ON TRAPEZE. TRAPEZE SHALL BE DESIGNED WITH A FACTOR OF SAFETY OF 5 FOR CENTER OF SPAN CONCENTRATED LOAD.

- NOTES:
- REFER TO PIPE HANGER DETAIL FOR HANGER ROD SIZE. FOR CEILING SUSPENDED EQUIPMENT PROVIDE MIN. 3/8" DIA. HANGER ROD (REFER TO MANUFACTURERS INSTALLATION INSTRUCTIONS).
  - FOR PIPES UNDER 2" US A SINGLE 1-1/2"x1-1/2"x1/4" ANGLE IRON WITH C-CLAMP. FOR PIPES 2-1/2" AND LARGER USE 3"x2"x1/4" ANGLE IRON BACK TO BACK AS SHOWN.
  - REPAIR OF FIRE PROOFING IN ORDER TO FACILITATE THE INSTALLATION OF HANGER RODS IN EXISTING CONSTRUCTION SHALL BE BY THE CONTRACTOR.
  - USE OF C-CLAMPS AND SIDE BEAM CLAMPS LIMITED TO PIPING 2-1/2" AND UNDER.

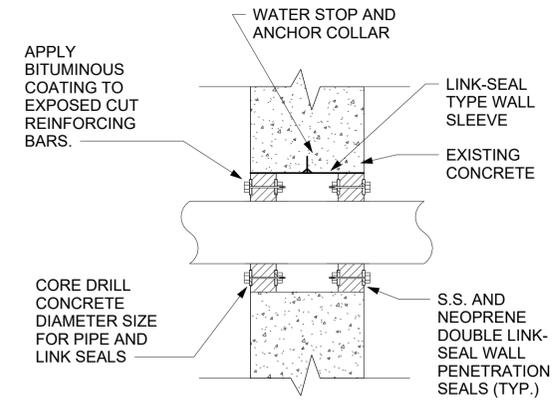


HOSE RACK DETAIL

DETAIL	2
NTS	P-03

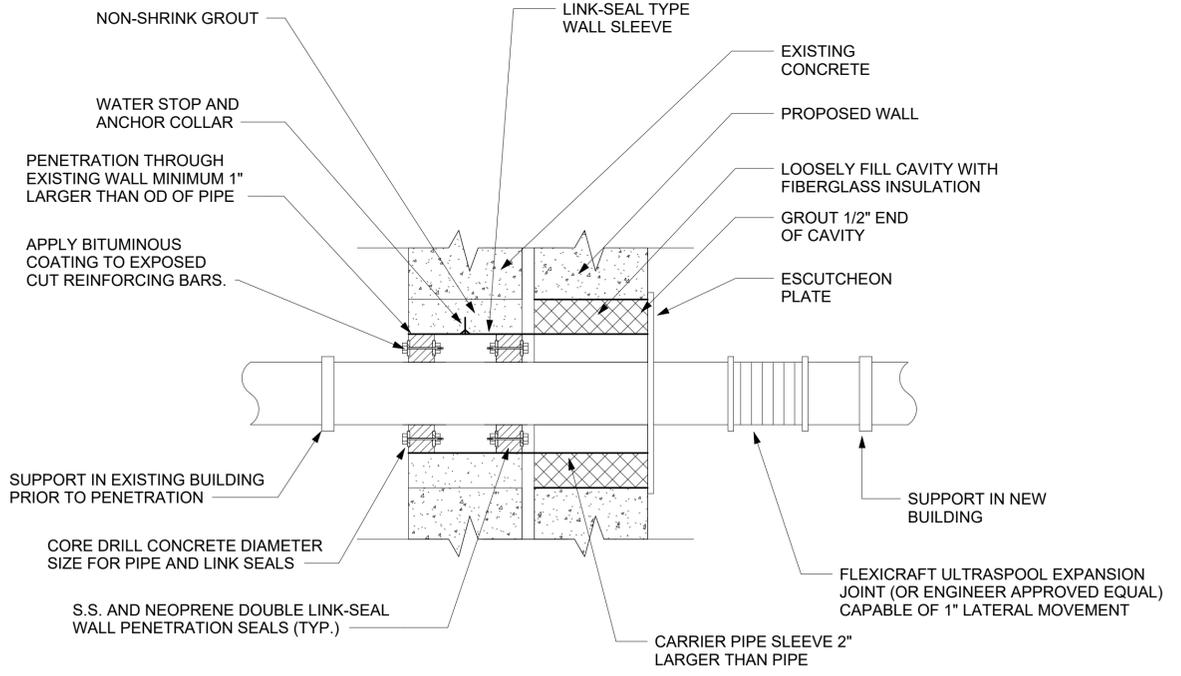
PIPE SUPPORT DETAIL

DETAIL	1
NTS	-



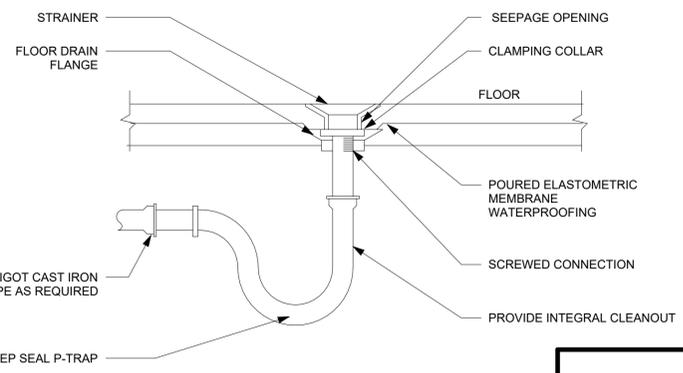
PIPE PENETRATION DETAIL

DETAIL	4
NTS	-



DOUBLE WALL PIPE PENETRATION DETAIL

DETAIL	5
NTS	P-04



FLOOR DRAIN DETAIL

DETAIL	3
NTS	P-05



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PLUMBING  
DETAILS

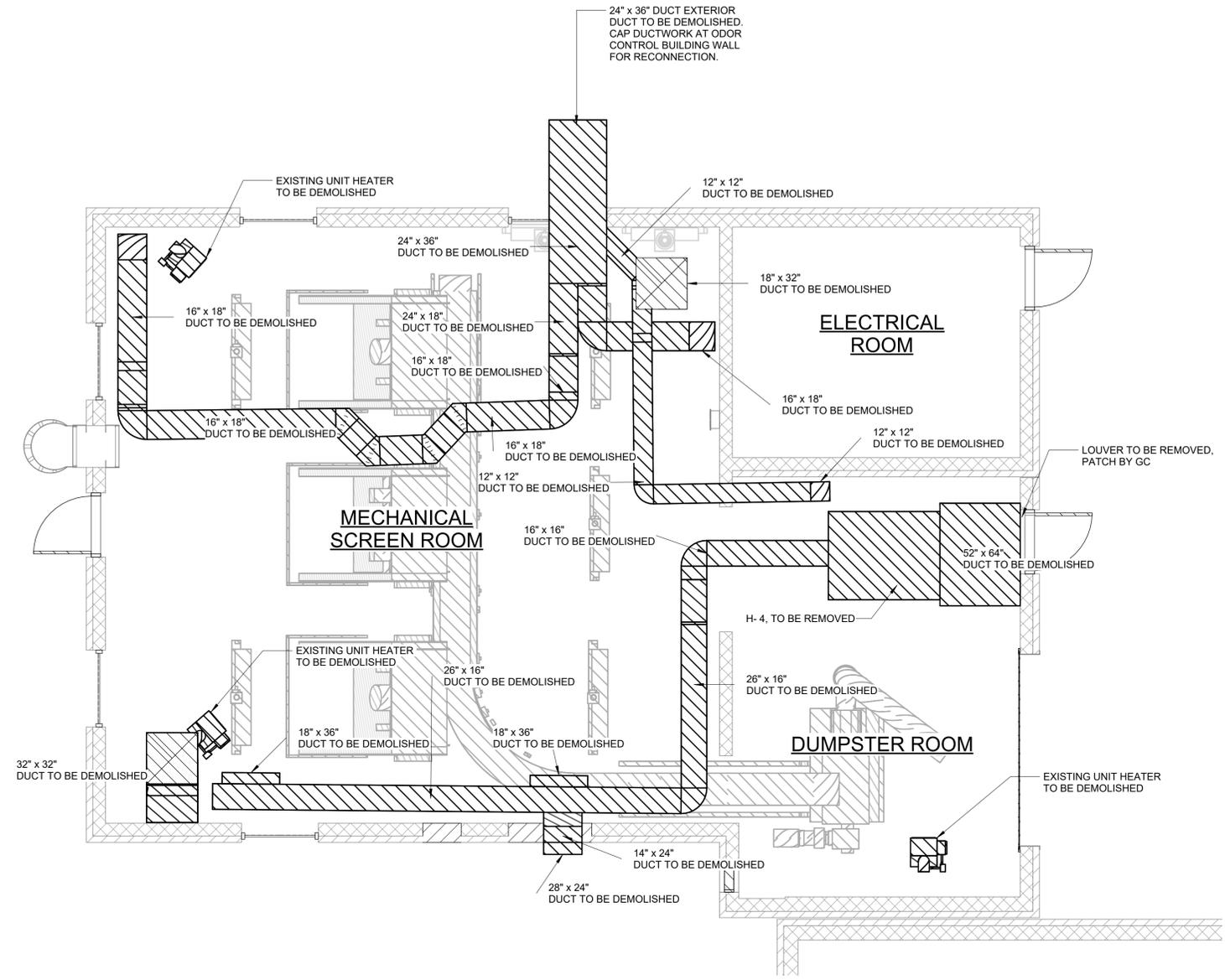
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DESIGNED BY:	J. ROSS
DRAWN BY:	K. TREANOR
CHECKED BY:	G. LYNCH
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"

FOR BID



DEMOLITION PLAN EL 70.50  
1/4" = 1'-0"



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REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. ROSS
DRAWN BY:	K. TREANOR
CHECKED BY:	G. LYNCH

FOR BID

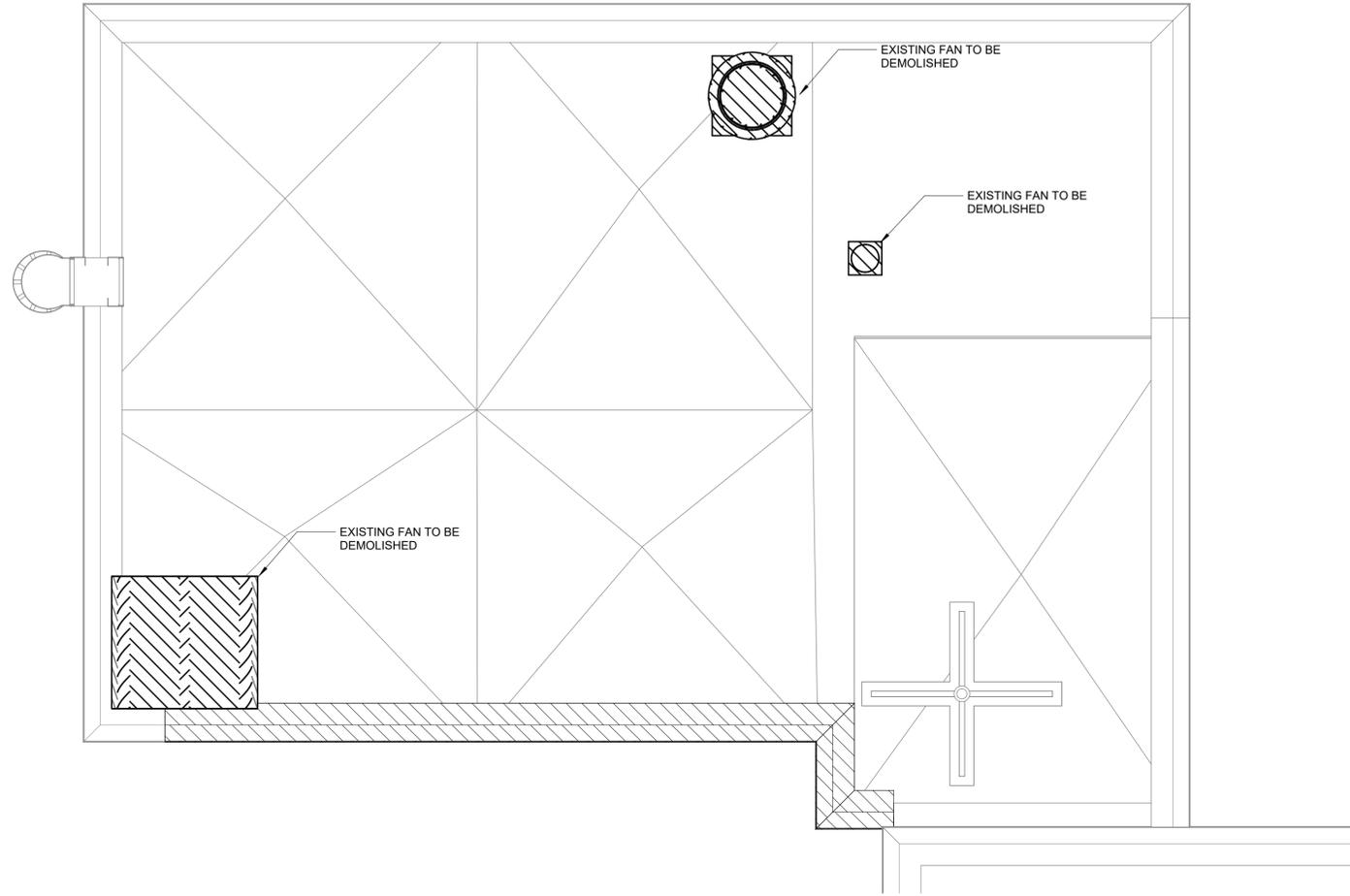
**Hazen**  
HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11th FLOOR  
NEW YORK, NEW YORK 10018

ROCKLAND COUNTY SEWER DISTRICT NO.1  
ORANGEBURG, NEW YORK

ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

HVAC REMOVAL  
PLAN EL 70.50

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	DH-01



DEMOLITION PLAN EL 88.00  
1/4" = 1'-0"



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ORANGETBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

HVAC REMOVAL  
PLAN EL 88.00

DATE: JUNE 2024  
HAZEN NO.: 90462-000  
CONT NO.: RFB-RC-SWR-2023-06  
DRAWING NUMBER:  
DH-02

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. ROSS
DRAWN BY:	K. TREANOR
CHECKED BY:	G. LYNCH

FOR BID

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"
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## GENERAL NOTES

- AT A MINIMUM, ALL WORK SHALL COMPLY WITH AND BE INSTALLED IN ACCORDANCE WITH THE SUPPLEMENTAL UNIFORM AND FIRE PREVENTION BUILDING CODE, NYS BUILDING CODE, NYS MECHANICAL CODE, 2020 NYS ENERGY CODE, AND ALL CODES LOCAL OR OTHERWISE HAVING JURISDICTION OVER THE WORK. IF THE CONTRACT DOCUMENTS SHOW DIFFERENT THAN THE CODE, THE MORE STRINGENT SHALL APPLY.
- ALL WORK SHOWN ON THE DRAWINGS SHALL BE PROVIDED UNLESS OTHERWISE NOTED.
- DUCTWORK & PIPING IS DIAGRAMMATICALLY SHOWN. EXACT ROUTING OF NEW PIPING & DUCTWORK SHALL BE DETERMINED IN FIELD WITH THE APPROVAL OF THE ENGINEER.
- THE WORDS PROVIDE OR INSTALL, SINGLY OR IN COMBINATION, SHALL MEAN FURNISH AND INSTALL IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL PROVIDE ALL CUTTING AND PATCHING TO MATCH EXISTING AS REQUIRED FOR THE INSTALLATION OF HIS WORK.
- THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF HIS WORK AND NEWLY INSTALLED WORK, INCLUDING PROTECTION OF BUILDING OCCUPANTS AND OWNERS EQUIPMENT, PUBLIC, AND PERSONNEL. PROVIDE APPROPRIATE SIGNAGE, BARRIERS, AND SAFETY GUARD RAILS AS REQUIRED.
- WHERE WELDING OR OPEN FLAME IS USED FOR CUTTING, SOLDERING, ETC., CONTRACTOR SHALL PROVIDE FIRE EXTINGUISHERS AND A FIRE WATCH IN PROXIMITY OF WORK AREA.
- ALL WORK SHALL BE COORDINATED WITH ALL TRADES RELATED TO THE COMPLETION OF THIS PROJECT.
- THE CONTRACTOR SHALL FILE PLANS WITH THE GOVERNING AUTHORITIES HAVING JURISDICTION AND SHALL SECURE ALL PERMITS AND PAY ALL FEES REQUIRED FOR THE INSTALLATION OF HIS WORK.
- THE CONTRACTOR SHALL GUARANTEE ALL MATERIAL AND WORK INSTALLED TO BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR, AFTER ACCEPTANCE OF THE INSTALLATION BY THE ENGINEER AND OWNER. THE CONTRACTOR SHALL SUBMIT IN WRITING TO OWNER STATING THE SAME. EQUIPMENT WARRANTIES OF A LONGER DURATION SHALL APPLY.
- THE CONTRACTOR SHALL INDEMNIFY THE OWNER, HIS REPRESENTATIVES AND THE ENGINEER FROM ANY CLAIMS OR SUITS RESULTING IN NEGLIGENCE ON THE PART OF THE CONTRACTOR AND FOR FAILING TO EXECUTE HIS WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL PROVIDE ALL RIGGING, HOISTING AND SCAFFOLDING AS REQUIRED FOR THE INSTALLATION OF HIS WORK.
- ALL WORK SHALL BE PERFORMED BY LICENSED CONTRACTORS AND WORKMEN EXPERIENCED IN THE TRADE HAVING JURISDICTION. ALL WORK SHALL BE SUPERVISED AT ALL TIMES AND WORKMANSHIP SHALL BE FIRST CLASS IN ALL RESPECTS AND IN ACCORDANCE WITH BEST TRADE PRACTICES.
- ANY DEVIATION OR CHANGE IN DESIGN SHALL NOT BE MADE WITHOUT WRITTEN APPROVAL OF THE ENGINEER AND SIGNED BY THE OWNER. ANY WORK INSTALLED WITHOUT PRIOR APPROVAL OF THE ENGINEER AND OWNER OR FOUND TO BE DEFECTIVE IN ANY WAY SHALL BE REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE.
- ALL CONSTRUCTION WORK SHALL BE CONFINED TO THE AREA INDICATED ON PLANS AND SHALL NOT BLOCK MEANS OF EGRESS FOR OCCUPANTS OF THE BUILDING.
- ALL WORK SHALL BE PERFORMED DURING NORMAL WORKING HOURS: 8AM TO 5PM MONDAY THROUGH FRIDAY EXCEPT LEGAL HOLIDAYS OR FOR EMERGENCY REPAIRS, UNLESS DIRECTED OTHERWISE BY THE OWNER. WORKING HOURS MUST BE COORDINATED WITH GENERAL CONTRACTOR. HOWEVER, THE CONTRACTOR MAY WORK EXTRA HOURS AS NEEDED TO COMPLETE THE CONTRACT SCOPE OF WORK AND MEET THE COMPLETION DATE AT NO ADDITIONAL COST TO OWNER, AS LONG AS OWNER HAS BEEN PROPERLY NOTIFIED AND HAS APPROVED SAME.
- ROUGH PATCHING OF WALLS, FLOORS, ETC. SHALL BE BY TRADE WHO PERFORMED WORK UNLESS OTHERWISE NOTED AND SHALL MATCH EXISTING SURROUNDING AREA IN ALL RESPECTS. WORK AREA SHALL BE LEFT BROOM CLEAN AT THE END OF EACH DAY. ALL DISCARDED AND DEMOLISHED MATERIAL AND RUBBISH SHALL BE REMOVED FROM PREMISES DAILY IN A LEGAL AND APPROVED MANNER. FINAL PATCHING AND PAINTING SHALL BE PERFORMED BY GENERAL CONTRACTOR
- LIMIT THE SPREAD OF DUST WHEN CUTTING BY INSTALLING POLYETHYLENE BARRIERS OR TARPULINS AND EXHAUST TO CONTAIN AIRBORNE MATERIALS.
- THE CONTRACTOR SHALL MAINTAIN ON THE JOB SITE A SET OF CONTRACT DRAWINGS.
- THE CONTRACTOR SHALL MAINTAIN ON THE JOB SITE A SET OF SHOP DRAWINGS IN WHICH ANY DEVIATIONS FROM THE ORIGINAL DESIGN SHALL BE NOTED. UPON COMPLETION OF THE INSTALLATION OF NEW WORK THE CONTRACTOR SHALL TURN OVER TO THE OWNER AND ENGINEER (1) SET OF AS-BUILT REPRODUCIBLE DRAWINGS AND (1) SET OF PRINTS INCLUDING ALL APPROVED FIELD CHANGES AND DESIGN DEVIATIONS PRIOR TO RECEIPT OF FINAL PAYMENT BY OWNER.
- ALL PENETRATIONS THROUGH PARTITIONS, FLOORS, WALLS AND ROOF FOR ALL PIPING, CONDUIT AND DUCTWORK SHALL BE SEALED AND FIRE SAFED OFF TO MAINTAIN FIRE INTEGRITY OF EXISTING STRUCTURE.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, AS WELL AS BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES OF THE WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING ADEQUATE PRECAUTIONS AND SHALL PROVIDE REASONABLE PROTECTION TO PREVENT INJURY OR DAMAGE TO PERSONS, THE WORK, AND OTHER PROPERTY.

## HVAC NOTES

- PROVIDE SLEEVES FOR ALL DUCTS PENETRATING AND PASSING THROUGH ALL PARTITIONS, FLOORS, CEILINGS AND WALLS. ALLOW ROOM IN SLEEVE FOR INSULATION. SLEEVES SHALL BE MINIMUM OF 22 GAUGE SHEET METAL. PACK ANNULAR SPACE IN SLEEVE AROUND DUCT WITH FIRE RATED MATERIAL, SIMILAR TO THERMAFIBER. SEAL AND CAULK ALL WALL, FLOOR, CEILING AND SLAB OPENINGS WITH U.L. APPROVED FIRE RATED MATERIAL TO PREVENT TRANSMISSION OF ODORS AND SMOKE TO ADJACENT SPACES. ALL DUCT PENETRATIONS OF FIRE RATED WALLS AND SLABS SHALL BE EQUIPPED WITH FIRE/SMOKE RATED DAMPERS.
- CONTRACTOR SHALL PROVIDE ACCESS DOORS IN ALL CEILINGS, DUCTS, CHASES AND WALLS AS REQUIRED FOR ACCESS TO ALL CONCEALED OPERATING DEVICES INCLUDING BUT NOT LIMITED TO FIRE DAMPERS, VOLUME DAMPERS, CONTROL DAMPERS AND BOXES, ETC.
- ALL HVAC WORK SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE NYS MECHANICAL CODE, STATE AND LOCAL BUILDING CODES, SMACNA AND ASHRAE STANDARDS, NFPA-90A, ALL CODES AND ORDINANCES HAVING JURISDICTION AND IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS AT A MINIMUM.
- UPON COMPLETION OF ALL WORK, ALL EQUIPMENT AND DUCTWORK SHALL BE THOROUGHLY CLEANED AND LEFT IN FIRST CLASS CONDITION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EQUIPMENT UNTIL FINAL ACCEPTANCE BY THE ENGINEER.
- ALL EQUIPMENT SHALL BE TESTED IN ACCORDANCE WITH ALL APPLICABLE CODES, MANUFACTURER SPECIFICATIONS, AND TO THE SATISFACTION OF THE ENGINEER.
- BALANCE AND ADJUST AIRFLOW TO REGISTERS AND GRILLES AS INDICATED ON DRAWINGS. ALL SYSTEMS SHALL BE BALANCED TO WITHIN 10% OF DESIGN FLOW WITH REPORT SUBMITTED TO OWNER. BALANCING WORK SHALL BE PERFORMED BY AN INDEPENDENT CERTIFIED BALANCING CONTRACTOR WHO IS CERTIFIED BY AABC OR NEBB. SUBMIT BALANCING REPORT TO ENGINEER FOR APPROVAL.
- CONTRACTOR SHALL PROVIDE ALL CONTROLS AND CONTROL WIRING AS REQUIRED FOR COMPLETE CONTROL OF EQUIPMENT FOR A COMPLETE FUNCTIONING SYSTEM. REFER TO ELECTRICAL DRAWINGS FOR STANDARDS OF CONSTRUCTION.
- INSTALL ALL REQUIRED APPURTENANCES PER CODE WHETHER SPECIFIED OR NOT FOR COMPLETE FUNCTIONING SYSTEMS.

## LEGEND

SYMBOL	DESCRIPTION
	EXISTING WORK BY OTHERS
	WORK TO BE PROVIDED
	WORK TO BE REMOVED
	POINT OF CONNECTION
	POINT OF DISCONNECTION
	RISER
	ELBOW DOWN
	UNION
	EXHAUST DUCT
	RETURN DUCT
	SUPPLY DUCT
	DUCT ELBOW WITH TURNING VANES
	AIR TERMINAL
	CHECK VALVE
	GLOBE VALVE
	GATE VALVE
	MOTORIZED OPERATED DAMPER
	DUCT MOUNTED TEMPERATURE SENSOR
	THERMOSTAT
DPS	DIFFERENTIAL PRESSURE SWITCH
SA	SUPPLY AIR
EA	EXHAUST AIR
OC	ODOR CONTROL
OA	OUTSIDE AIR
RA	RETURN AIR
EAT	ENTERING AIR TEMPERATURE
LAT	LEAVING AIR TEMPERATURE
ESP	EXTERNAL STATIC PRESSURE
RAG	RETURN AIR GRILLE
EAG	EXHAUST AIR GRILLE
SAG	SUPPLY AIR GRILLE
<b>EF-1</b>	DENOTES EXHAUST FAN NO. 1
<b>EUH-1</b>	DENOTES ELECTRIC UNIT HEATER NO. 1
<b>L-1</b>	DENOTES LOUVER NO. 1
<b>SF-1</b>	DENOTES SUPPLY FAN NO. 1

NOTE: ALL WORK IS TO BE PROVIDED UNLESS OTHERWISE NOTED

Autodesk Docs/09462-000\_EDS and CA for RCSD Screens/Revised/09462-000-100-HSEB-H-1.rvt 10/20/2023 11:03:40 AM

				PROJECT ENGINEER:	R. FROST
				DESIGNED BY:	J. ROSS
				DRAWN BY:	K. TREANOR
				CHECKED BY:	G. LYNCH
0	BID	06/2024	PDS	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	
REV	ISSUED FOR	DATE	BY	0	1/2" 1"

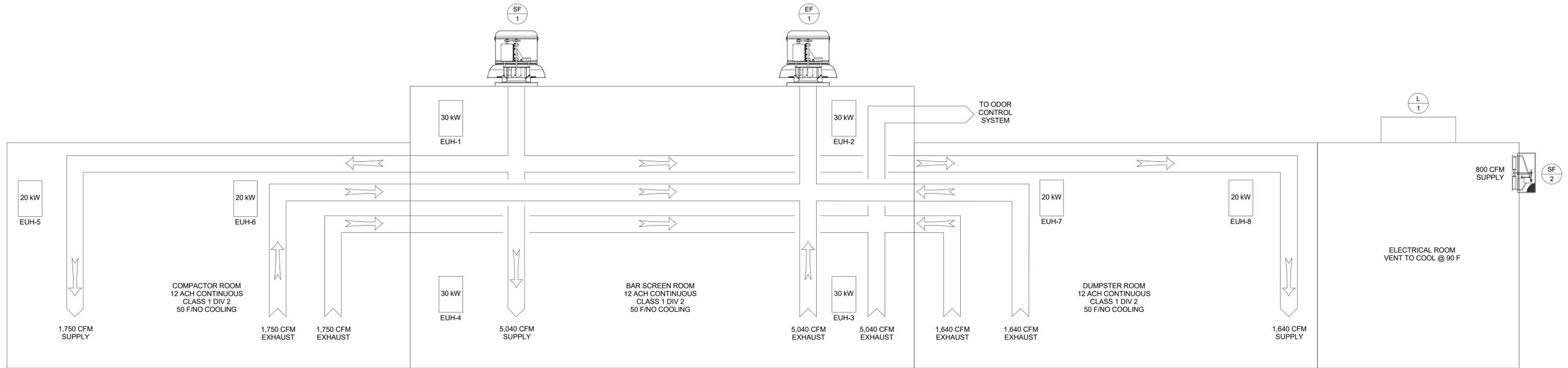


ROCKLAND COUNTY SEWER DISTRICT NO.1  
ORANBURG, NEW YORK

ORANBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

HVAC  
LEGEND AND NOTES

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	H-01



**AIRFLOW DIAGRAM**  
NO SCALE



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**ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT**

**HVAC  
AIRFLOW DIAGRAM**

DATE: JUNE 2024  
HAZEN NO.: 90462-000  
CONT NO.: RFB-RC-SWR-2023-06  
DRAWING NUMBER: H-02

Autodesk Docs/90462-000\_EDS and CA for RCSD Screens Release/90462-000-100-HSEB-H.rvt 10/20/2023 11:03:40 AM

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FAN SCHEDULE

TAG	NAME	ROOM LOCATION	ARRANGEMENT	AIRFLOW (CFM)	ESP	RPM	BHP	HP	FEG	VOLTAGE	PHASE	FREQUENCY	dBA	WEIGHT (LBS)	MANUFACTURER	MODEL NUMBER	COMMENTS
SF-1	BAR SCREEN SUPPLY FAN	BAR SCREEN ROOM	ROOF TOP SUPPLY FAN	8,430	1 IN WC	1995	3.996	5	75	460	3	60	75	662	COOK	225QMXS	2, 3, 4
EF-1	BAR SCREEN EXHAUST FAN	BAR SCREEN ROOM	ROOF TOP EXHAUST FAN	8,430	1 IN WC	2078	4.731	7 1/2	67	460	3	60	76	598	COOK	225QMXE	1, 2, 3, 4
SF-2	ELECTRICAL ROOM SUPPLY FAN	ELECTRICAL ROOM	PROPELLER WALL SUPPLY FAN	930	.33 IN WC	860	0.130	1/2	-	460	3	60	64	73	COOK	24EWS612D08	

- NOTES:  
 1. FAN TO BE STANDBY  
 2. FAN SHALL BE SPARK RESISTANT B  
 3. EXPLOSION PROOF  
 4. PROVIDE WITH CURB ADAPTER AS REQUIRED TO MATCH EXISTING 32"x32" ROOF OPENING.

ELECTRIC UNIT HEATER SCHEDULE

NAME	ROOM LOCATION	VOLTAGE	POWER (KW)	CAPACITY (MBH)	MOTOR HP	CFM	HORIZ. AIR THROW (ft.)	WEIGHT (LBS)	MANUFACTURER	AREA CLASSIFICATION	COMMENTS
EUH-1, EUH-2, EUH-3, EUH-4	BAR SCREEN ROOM	480/3/60	30	102.3	30	2,330	54	216	QMARK GUX30004832	CLASS 1, DIV. 2, GROUP D	1, 2, 3
EUH-5, EUH-6	DUMPSTER ROOM	480/3/60	20	68.2	20	1,400	43	171	QMARK GUX20004832	CLASS 1, DIV. 2, GROUP D	1, 2, 3
EUH-7, EUH-8	COMPACTOR ROOM	480/3/60	20	68.2	20	1,400	43	171	QMARK GUX20004832	CLASS 1, DIV. 2, GROUP D	1, 2, 3

- NOTES:  
 1. UNIT SHALL BE EXPLOSION PROOF  
 2. PROVIDE UNIT WITH DISCONNECT  
 3. PROVIDE UNIT WITH INTEGRAL THERMOSTAT

AIR TERMINALS

UNIT NO.	NO.	LOCATION	CFM (MAX/MIN)	ESP ("WG)	DIMENSIONS LxW (INCHES)	BLADE SPACING (INCHES)	MATERIAL	NC	THROW (FEET)	MFR. & MODEL NO.	REMARKS
SG-1	4	BAR SCREEN ROOM	1260	.183	18x12	3/4"	ALUMINUM	35	45	TITUS 301RL	1
EG-1	8	BAR SCREEN ROOM	1260	.099	24x12	3/4"	ALUMINUM	35	-	TITUS 350R	1
SG-2	2	COMPACTOR ROOM	875	.183	12x12	3/4"	ALUMINUM	35	40	TITUS 301RL	1
EG-2	4	COMPACTOR ROOM	875	.130	18x10	3/4"	ALUMINUM	35	-	TITUS 350R	1
SG-3	2	DUMPSTER ROOM	820	.183	18x8	3/4"	ALUMINUM	40	40	TITUS 301RL	1
EG-3	4	DUMPSTER ROOM	820	.130	18x10	3/4"	ALUMINUM	40	-	TITUS 350R	1
EG-4	1	ELECTRICAL ROOM	925	.263	22x6	3/4"	ALUMINUM	40	-	TITUS 350R	1

- NOTES:  
 1. COORDINATE GRILLE INSTALLATION WITH OTHER TRADES

LOUVER PENTHOUSE SCHEDULE

NAME	HOOD SIZE	CURB CAP SIZE	HEIGHT	MINIMUM FREE AREA (SQ. IN.)	STATIC PRESSURE DROP	MFR. & MODEL NUMBER	REMARKS
L-1	23.75"x 23.75"	17.5." x 17.5"	9"	144	0.15"	TRE RELIEF DUCTED 12x12x2	1, 2

- NOTES:  
 1. PROVIDE UNIT WITH MANUFACTURERS ROOF CURB  
 2. PROVIDE UNIT WITH BIRDSCREEN



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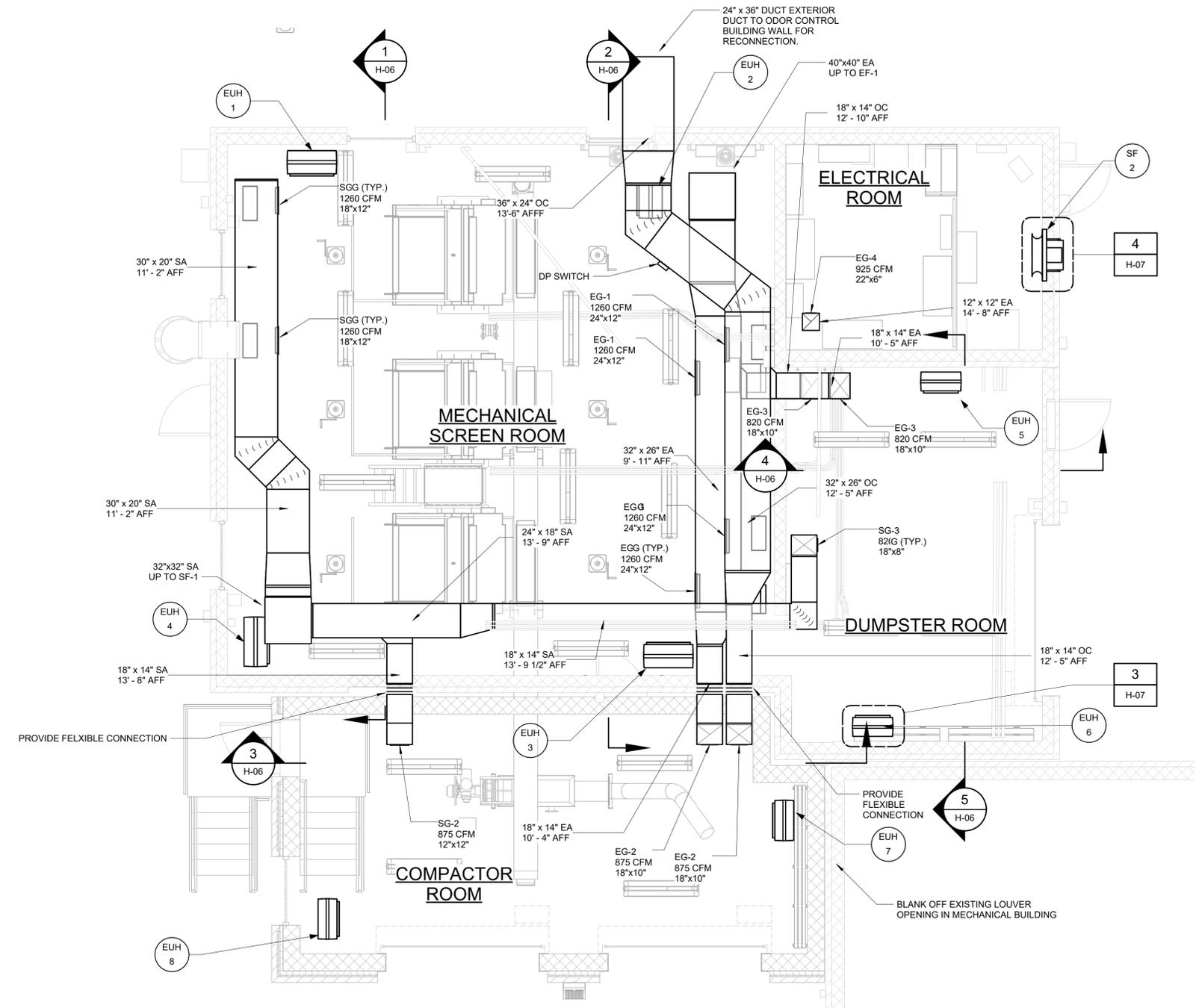
HVAC  
 SCHEDULES

DATE: JUNE 2024  
 HAZEN NO.: 90462-000  
 CONT NO.: RFB-RC-SWR-2023-06  
 DRAWING NUMBER: H-03

FOR BID

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. ROSS
DRAWN BY:	K. TREANOR
CHECKED BY:	G. LYNCH
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FOR BID

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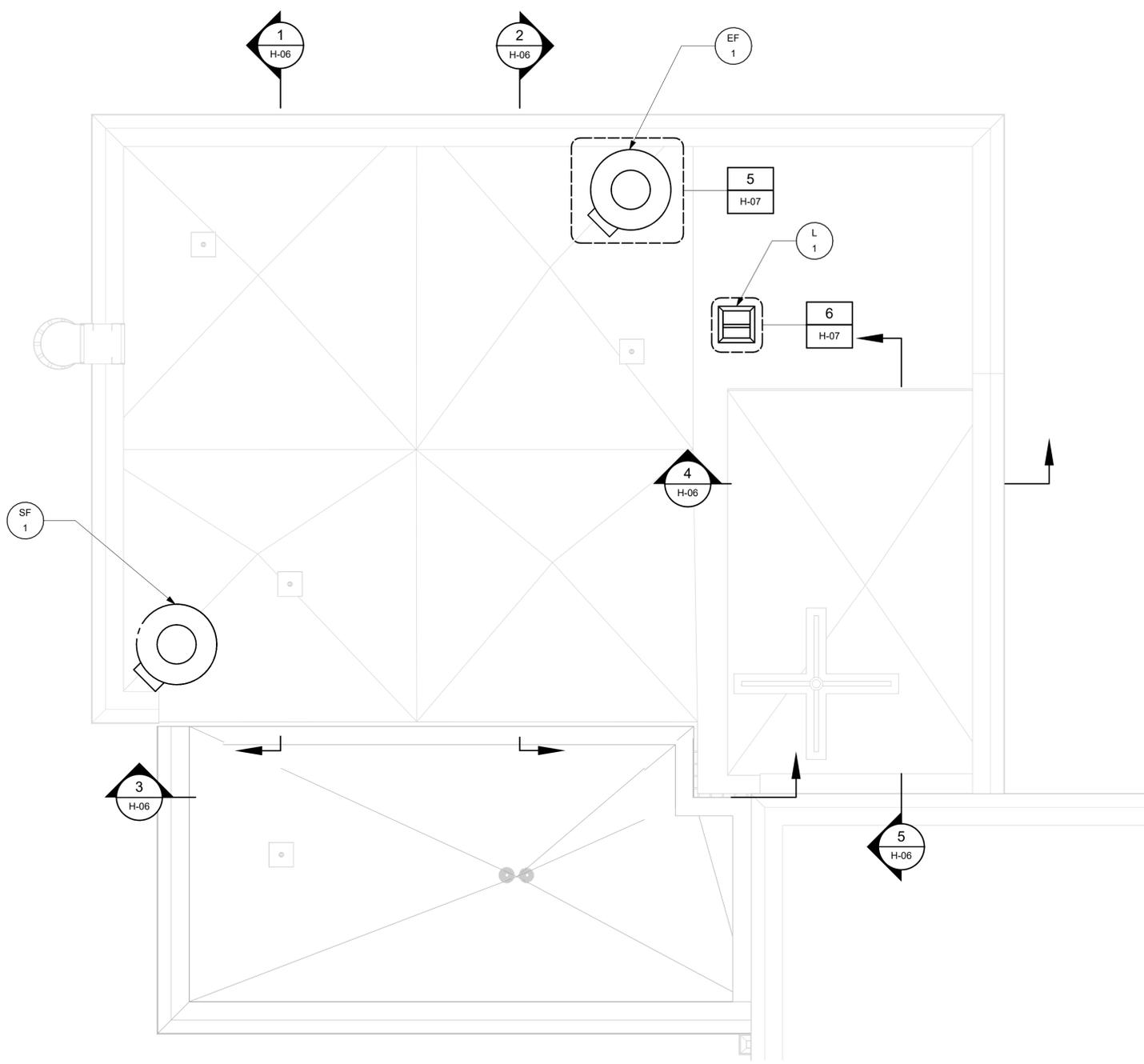
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HVAC  
PLAN EL 70.50

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	H-04



PLAN EL 88.00  
1/4" = 1'-0"



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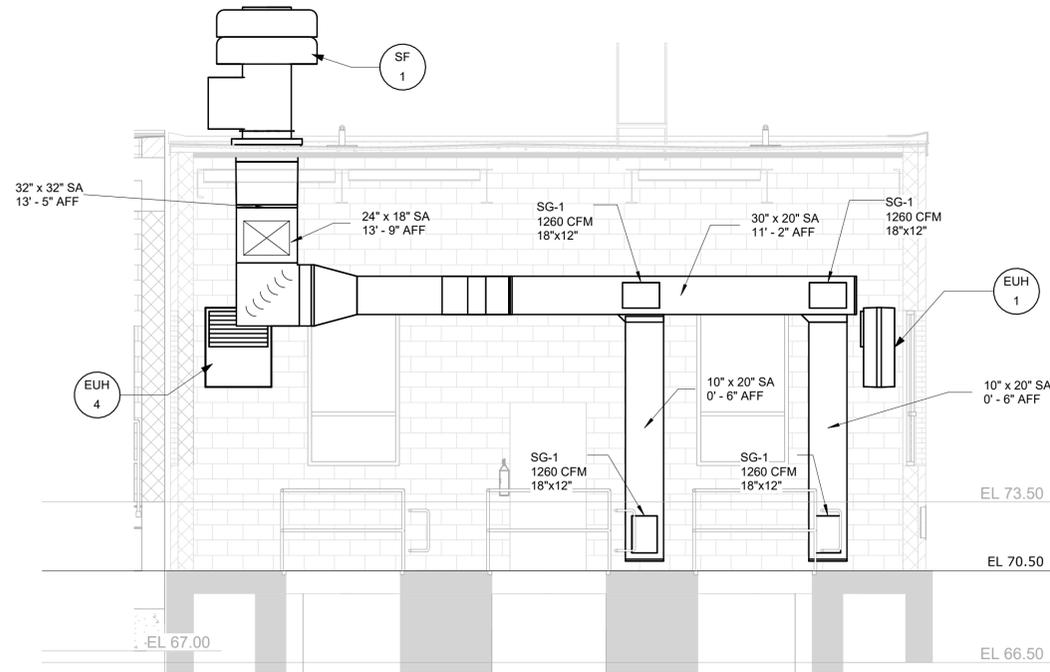
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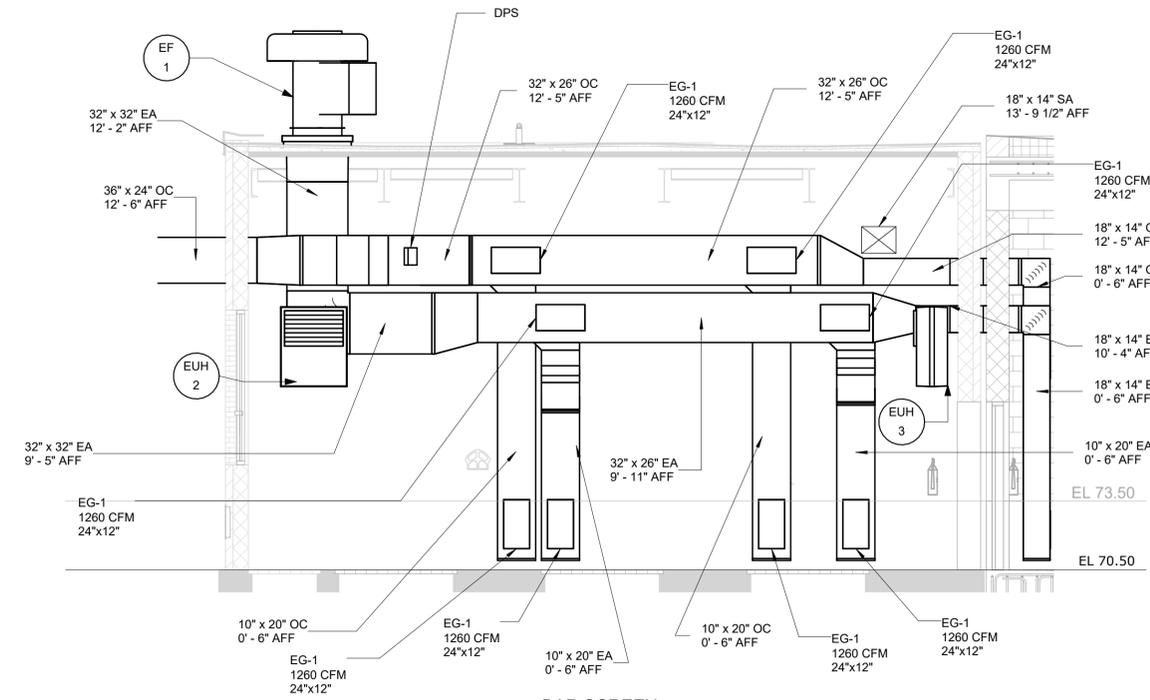
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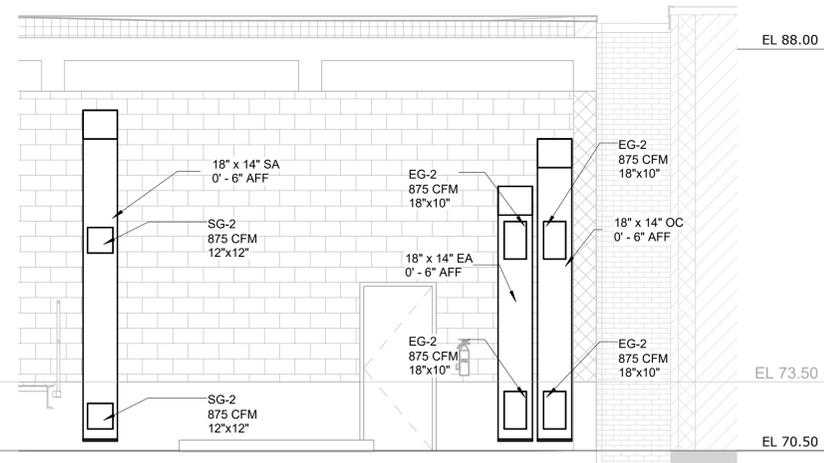
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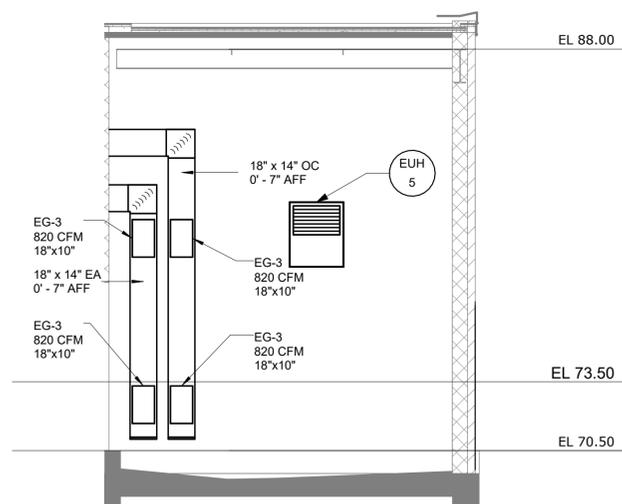
BAR SCREEN ROOM SUPPLY  
SECTION 1  
1/4" = 1'-0" H-04



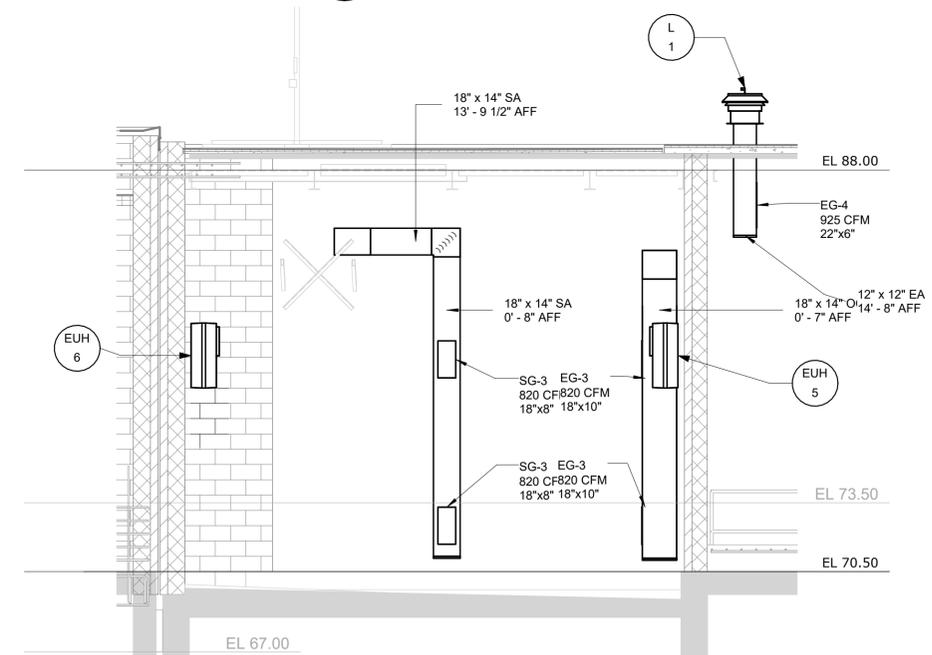
BAR SCREEN ROOM EXHAUST  
SECTION 2  
1/4" = 1'-0" H-04



COMPACTOR ROOM  
SECTION 3  
1/4" = 1'-0" H-04



DUMPSTER ROOM NORTH  
SECTION 4  
1/4" = 1'-0" H-04



DUMPSTER ROOM WEST  
SECTION 5  
1/4" = 1'-0" H-04



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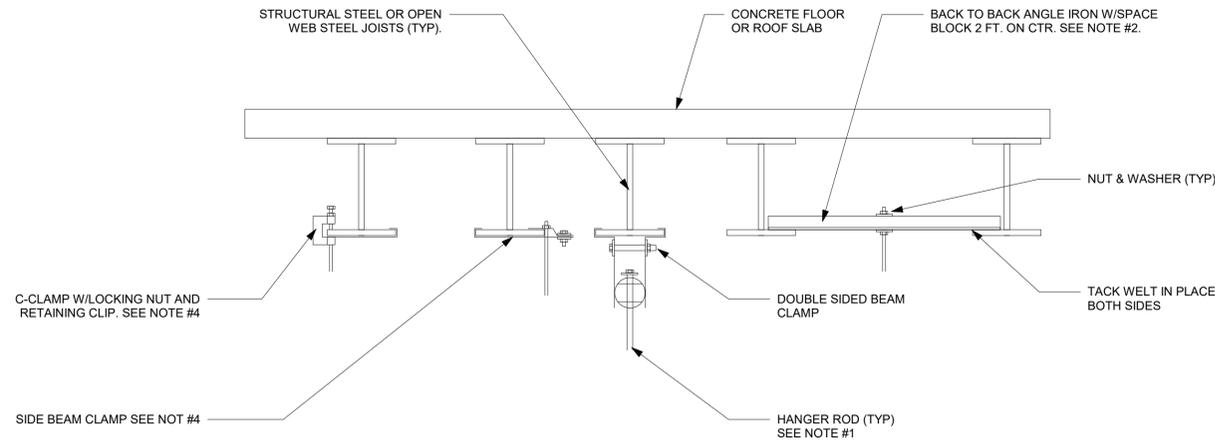


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HVAC SECTIONS  
DRAWING NUMBER: H-06

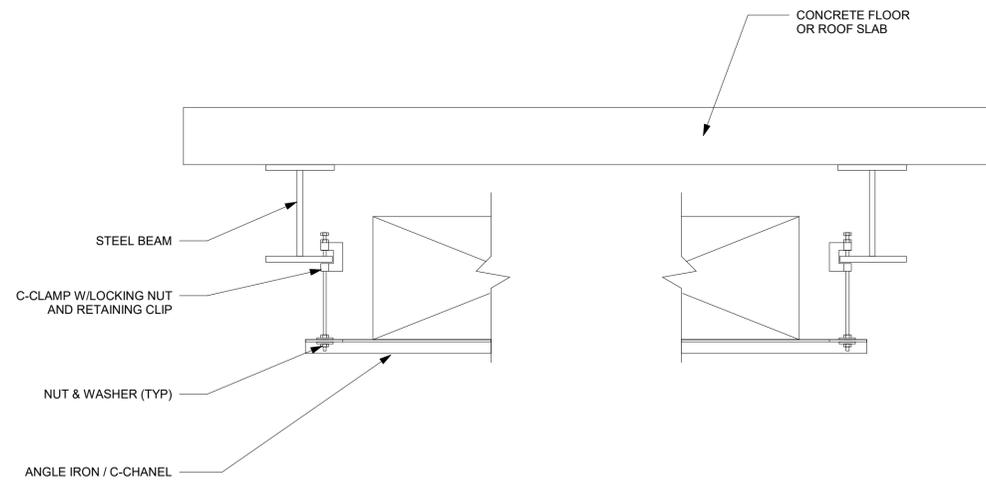
DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	H-06



- NOTES:
- REFER TO PIPE HANGER DETAIL FOR HANGER ROD SIZE. FOR CEILING SUSPENDED EQUIPMENT PROVIDE MIN. 3/8" DIA. HANGER ROD (REFER TO MANUFACTURERS INSTALLATION INSTRUCTIONS).
  - FOR PIPES UNDER 2" USE A SINGLE 1-1/2"x1-1/2"x1/4" ANGLE IRON WITH C-CLAMP. FOR PIPES 2-1/2" AND LARGER USE 3"x2"x1/4" ANGLE IRON BACK TO BACK AS SHOWN.
  - REPAIR OF FIRE PROOFING IN ORDER TO FACILITATE THE INSTALLATION OF HANGER RODS IN EXISTING CONSTRUCTION SHALL BE BY THE CONTRACTOR.
  - USE OF C-CLAMPS AND SIDE BEAM CLAMPS LIMITED TO PIPING 2-1/2" AND UNDER.

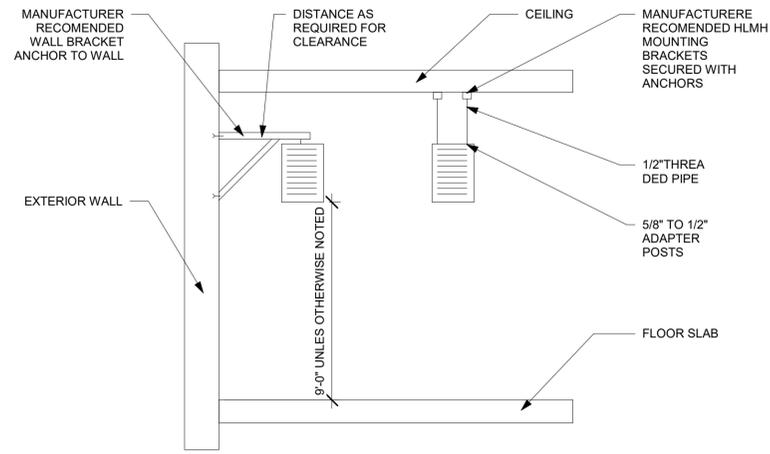
TYPICAL METHODS OF SECURING HANGER RODS TO STRUCTURAL STEEL

DETAIL	1
NTS	-



DUCT HANGER DETAIL

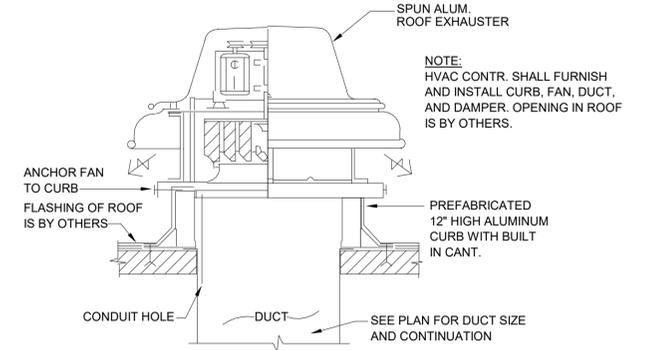
DETAIL	2
NTS	-



- NOTES:
- SUPPORT FROM WALL UNLESS OTHERWISE NOTED

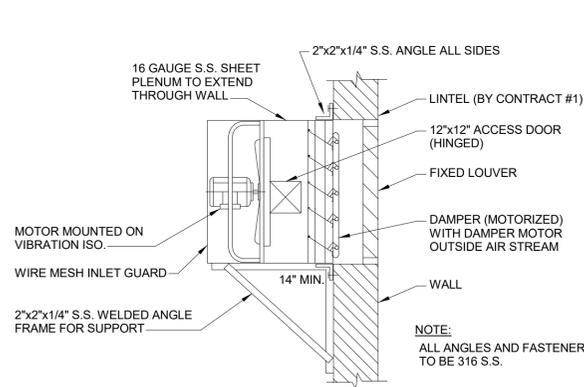
ELECTRIC UNIT HEATER MOUNTING DETAIL

DETAIL	3
NTS	H-04



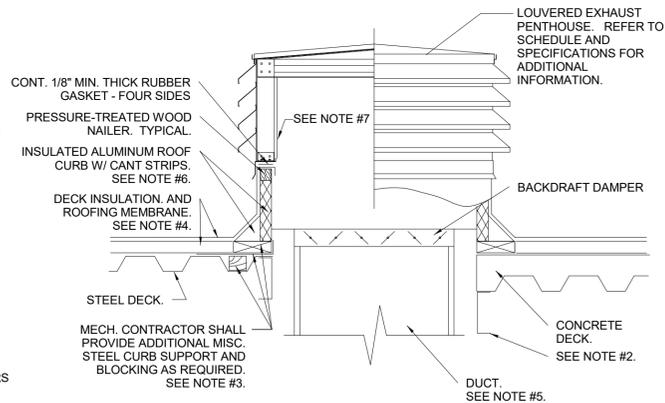
ROOF EXHAUST FAN

DETAIL	5
NTS	H-05



WALL MOUNTED FAN

DETAIL	4
NTS	H-04



LOUVERED PENTHOUSE

DETAIL	6
NTS	H-05

- NOTES:
- REFER TO ARCHITECTURAL DRAWINGS FOR THE EXACT ROOF CONSTRUCTION.
  - REFER TO STRUCT. DWGS. FOR ADDITIONAL INFORMATION REGARDING ROOF OPENING FRAMING
  - PROVIDE THE PRESSURE-TREATED BLOCKING, UNDER THE CURB, AND RAISE THE CURB TO ACCOMMODATE THE THICKNESS OF THE ROOF INSULATION. SECURE BLOCKING TO THE ROOF STRUCTURE WITH LOAD RATED, RUSTPROOF FASTENERS.
  - ROOFING BY GENERAL CONTRACTOR.
  - EXHAUST DUCTWORK SHALL BE GALVANIZED SHEETMETAL PROVIDE APPROPRIATE INSULATION AS REQUIRED BY THE SPECIFICATIONS.
  - WHEN THE PENTHOUSE IS TO BE INSTALLED ON A PITCHED ROOF, THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE CURB MANUFACTURER TO PROVIDE A PITCHED CURB TO MATCH THE PITCH OF THE ROOF. THE PENTHOUSE SHALL BE INSTALLED LEVEL.
  - 1/2"x1/2" ALUMINUM MESH INSECT SCREEN.

Autodesk Docs/09462-000\_EDS and CA for RCSD Screens Release/0462-000-100-HSEB-H-1.rvt 10/20/2023 11:03:50 AM

PROJECT ENGINEER:	R. FROST		
DESIGNED BY:	J. ROSS		
DRAWN BY:	K. TREANOR		
CHECKED BY:	G. LYNCH		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
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REV	ISSUED FOR	DATE	BY



FOR BID

**Hazen**

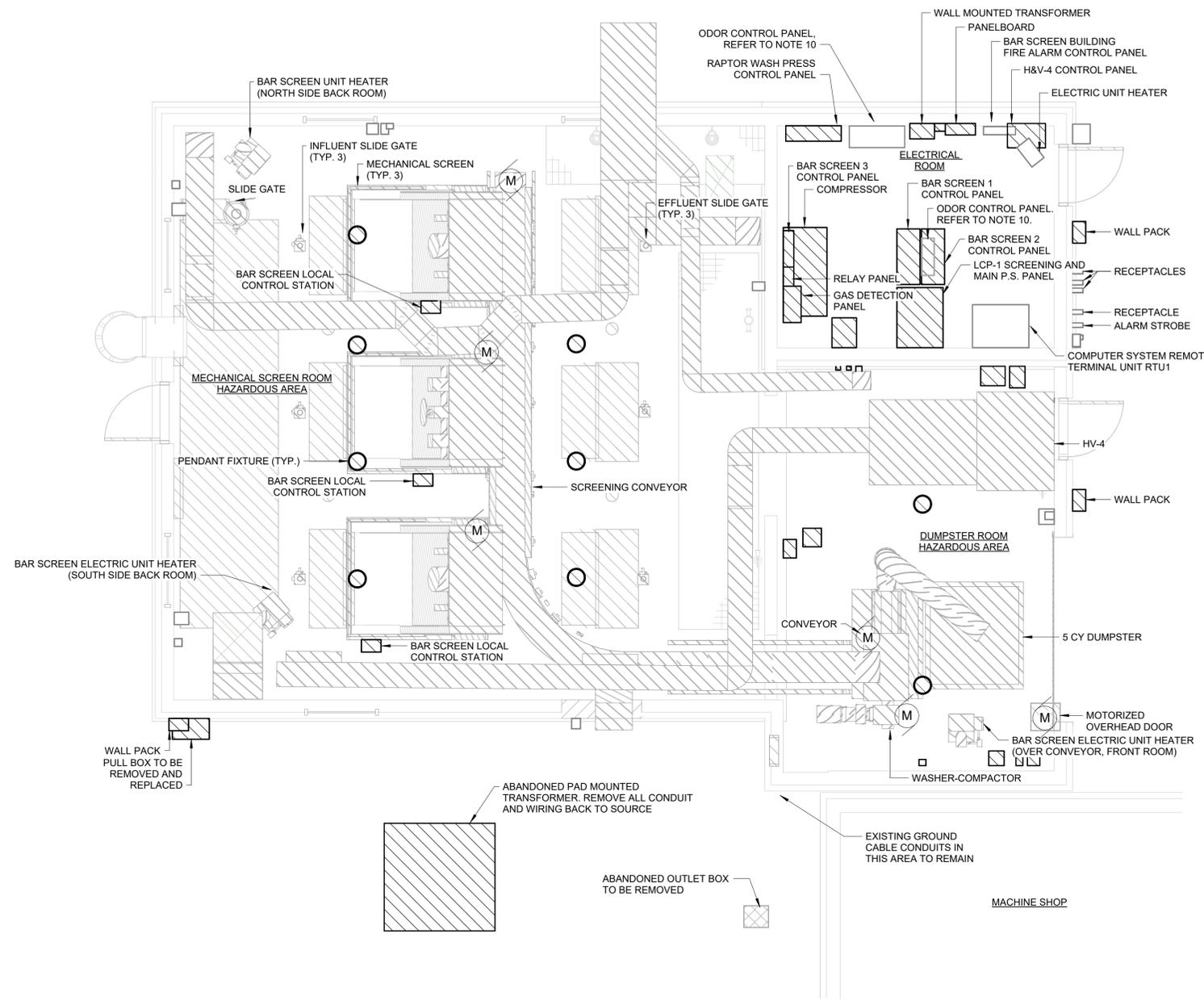
HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11th FLOOR  
NEW YORK, NEW YORK 10018

ROCKLAND COUNTY SEWER DISTRICT NO.1  
ORANGEBURG, NEW YORK

ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

HVAC  
DETAILS

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	H-07



- NOTES:**
- REFER TO GENERAL SHEET FOR AREA CLASSIFICATION CHART.
  - CONTRACTOR TO DISCONNECT AND REMOVE ALL EXISTING ELECTRICAL EQUIPMENT IN BUILDING ALONG WITH WIRING AND CONDUIT BACK TO SOURCE.
  - ALL PANELBOARD, STARTERS, DISCONNECT SWITCHES, LIGHTING FIXTURES, RECEPTACLES, PULLBOXES, JUNCTION BOXES, AND ALL WIRE AND CONDUIT ASSOCIATED WITH ALL OTHER ELECTRICAL EQUIPMENT LOCATED IN THE MECHANICAL SCREEN ROOM AND DUMPSTER ROOM ARE TO BE REMOVED, UNLESS OTHERWISE NOTED. VERIFY EQUIPMENT IN FIELD.
  - REMOVE EQUIPMENT AND ALL ASSOCIATED WIRE AND CONDUIT IN IN THE ELECTRICAL ROOM, CALLED OUT ON FLOOR PLANS.
  - SEAL ALL EXISTING CONDUIT PENETRATIONS TO BE DEMOLISHED. PATCH TO MATCH EXISTING WALL AND FLOOR CONSTRUCTION. PATCHES SHALL BE WATER TIGHT AND FIRE PROTECTED.
  - NOT ALL EQUIPMENT, DEVICES AND CONDUIT ARE SHOWN ON FLOOR PLANS. VERIFY IN FIELD AND REMOVE.
  - ALL DEVICES, CONDUIT, WIRE, RACEWAY, PULLBOXES ETC. ASSOCIATED WITH THE FIRE ALARM SYSTEM SHALL REMAIN INTACT AND PROTECTED DURING THE DEMOLITION AND CONSTRUCTION.
  - REFER TO DEMOLITION DRAWINGS OF OTHER TRADES.
  - ALL CONDUIT AND WIRE, RELATED TO ALL LIGHTING, ELECTRICAL EQUIPMENT, INSTRUMENTATION, MECHANICAL, HVAC, AND PLUMBING EQUIPMENT SHALL BE DEMOLISHED BACK TO SOURCE UNLESS OTHERWISE NOTED. VERIFY EQUIPMENT IN FIELD.
  - ODOR CONTROL PANEL IS MOUNTED ABOVE BAR SCREEN 2 CONTROL PANEL. RELOCATE AS SHOWN ON POWER PLANS. REMOVE WIRE AND CONDUIT IN CONFLICT WITH CONSTRUCTION. EXTEND WIRE AND CONDUIT AS REQUIRED TO NEW LOCATION.

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



**Hazen**  
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ROCKLAND COUNTY SEWER DISTRICT NO.1  
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ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

ELECTRICAL  
FIRST FLOOR DEMOLITION PLAN

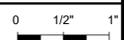
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HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	DE-01

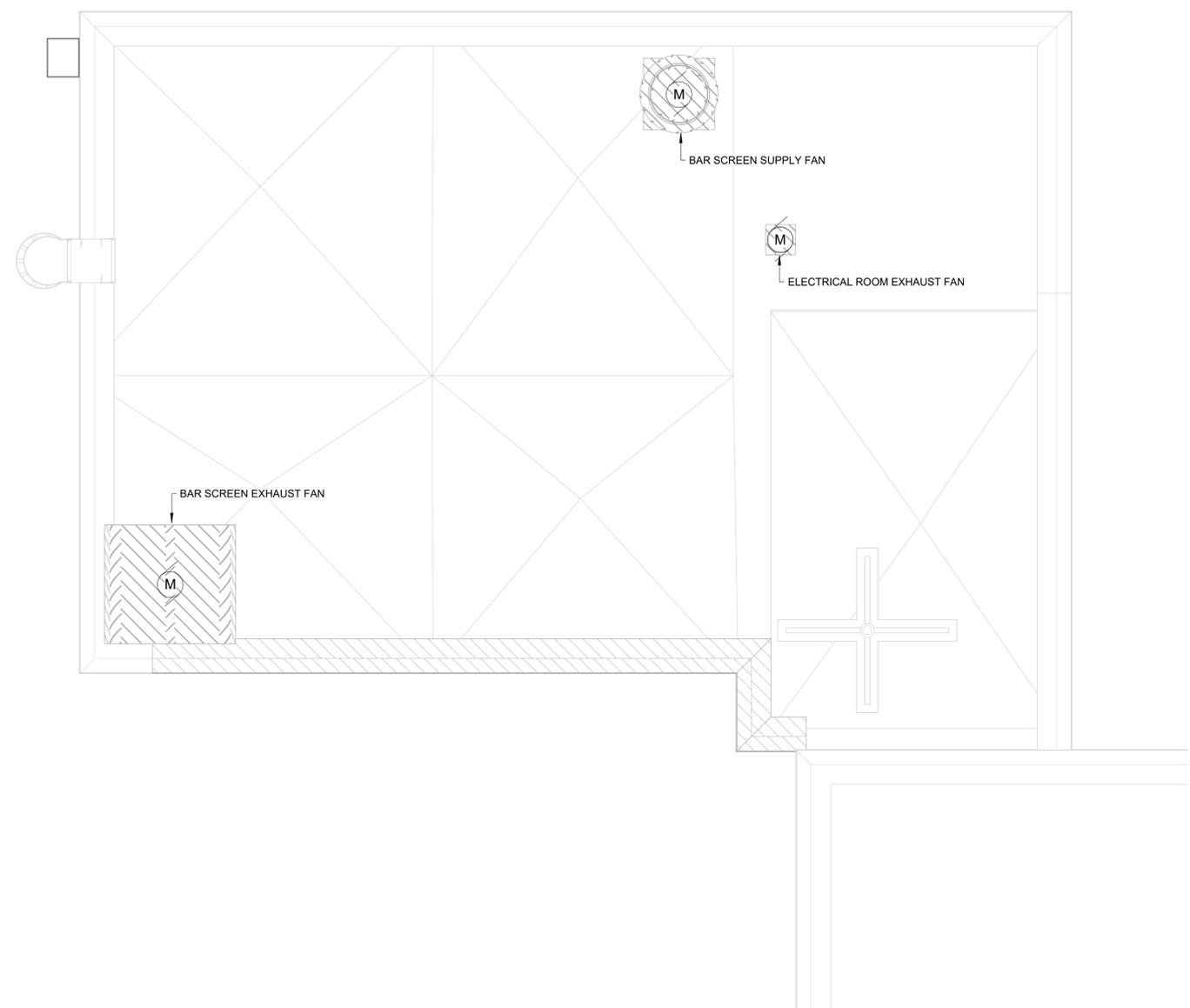
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0	BID	06/2024	PDS
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. DULAK
DRAWN BY:	B. LADA
CHECKED BY:	G. LYNCH
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

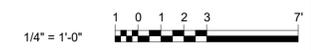
FOR BID





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

- NOTES:**
1. REFER TO GENERAL SHEET FOR AREA CLASSIFICATION CHART.
  2. CONTRACTOR TO DISCONNECT AND REMOVE ALL EXISTING ELECTRICAL EQUIPMENT IN BUILDING ALONG WITH WIRING AND CONDUIT BACK TO SOURCE.
  3. ALL PANELBOARD, STARTERS, DISCONNECT SWITCHES, LIGHTING FIXTURES, RECEPTACLES, PULLBOXES, JUNCTION BOXES, AND ALL OTHER ELECTRICAL EQUIPMENT IS TO BE REMOVED, UNLESS OTHERWISE NOTED. VERIFY EQUIPMENT IN FIELD.
  4. SEAL ALL EXISTING CONDUIT PENETRATIONS TO BE DEMOLISHED. PATCH TO MATCH EXISTING WALL AND FLOOR CONSTRUCTION. PATCHES SHALL BE WATER TIGHT AND FIRE PROTECTED.
  5. NOT ALL EQUIPMENT, DEVICES AND CONDUIT ARE SHOWN ON FLOOR PLANS. VERIFY IN FIELD AND REMOVE.
  6. ALL DEVICES, CONDUIT, WIRE, RACEWAY, PULLBOXES ETC. ASSOCIATED WITH THE FIRE ALARM SYSTEM SHALL REMAIN INTACT.
  7. REFER TO DEMOLITION DRAWINGS OF OTHER TRADES.
  8. ALL CONDUIT AND WIRE, RELATED TO ALL LIGHTING, ELECTRICAL EQUIPMENT, INSTRUMENTATION, MECHANICAL, HVAC, AND PLUMBING EQUIPMENT SHALL BE DEMOLISHED BACK TO SOURCE UNLESS OTHERWISE NOTED. VERIFY EQUIPMENT IN FIELD.



Autodesk Docs/RO/AR/000\_EDS and CA for RCSD Streets Rehab/0462-000-100-MSB-E vt  
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REV	ISSUED FOR	DATE	BY
0	BID	06/2024	PDS

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. DULAK
DRAWN BY:	W. MORGAN
CHECKED BY:	G. LYNCH

FOR BID

**Hazen**

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498 SEVENTH AVENUE, 11th FLOOR  
NEW YORK, NEW YORK 10018

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ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

ELECTRICAL  
ROOF DEMOLITION PLAN

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	DE-02

**ABBREVIATIONS**

A or AMP	AMPERE, AMPS
AC	ALTERNATING CURRENT
ACPH	AIR CHANGES PER HOUR
AF	AMPERE FRAME SIZE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPS INTERRUPTING CURRENT
AR	ANGLED REFLECTOR
ATS	AMPERE TRIP RATING
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
C or COND	CONDUIT
C&W	CONDUIT & WIRE
CA	CABLE
CB	CIRCUIT BREAKER
CDRS	CONDUCTORS
CIRC	CIRCUIT
CCR	CORROSION RESISTANT
CON ED	CON. EDISON CO.
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CT	CURRENT TRANSFORMER
DC	DIRECT CURRENT
DS	DISCONNECT SWITCH
DFE	DESIGN FLOOD ELEVATION
EMH	ELECTRICAL MANHOLE
EMT	ELECTRICAL METALLIC TUBING
ESTOP	EMERGENCY STOP
ETM	ELAPSED TIME METER
FLEX	FLEXIBLE
FLOA	FLOAT SWITCH
FS	FLOW SWITCH
FSW	FUSED SWITCH
FVNR	FULL-VOLTAGE NON-REVERSING
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GENSET	EMERGENCY POWER GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
GRD	GROUND
HOA	HAND-OFF-AUTO SELECTOR SWITCH
HO/P	HORSE POWER
IB/OB	INBOARD/OUTBOARD
IL	INDICATING LIGHT
IS	INTRUSION SWITCH
I/O	INPUT/OUTPUT
ISR	INTRINSICALLY SAFE RELAY
JB	JUNCTION BOX
JIC	JOINT INDUSTRIAL COUNCIL
KCMIL	THOUSAND CIRCULAR MILS
KVA	KILOVOLT AMPERES
KW	KILOWATT
LO	LOCK-OUT
LS	LIMIT SWITCH
mA	MILLIAMPS
MAG	MAGNETIC
MAX	MAXIMUM
MCP	MOTOR CIRCUIT PROTECTOR
MDF	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MMS	MANUAL MOTOR STARTER
MSS	MOTOR STARTING SWITCH
MSH	MOTOR WINDING MOISTURE PROTECTION
Mx	MOTOR CONTACTOR AUXILIARY CONTACT
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NO	NORMALLY OPEN
NP	NAMEPLATE
OH/E	OVERHEAD ELECTRIC
OH/L	OVERHEAD TELEPHONE
OL	OVERLOAD RELAY
Ø	PHASE
P	POLE
PB	PUSHBUTTON
PBx	PULL BOX
PF	PULLING FITTING
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
PR	PAIR
PS	PRESSURE SWITCH
PT	POTENTIAL TRANSFORMER
R&R	REMOVE & REPLACE
RECP	RECEPTACLE
RGS	RIGID GALVANIZED STEEL CONDUIT
SA	SURGE ARRESTOR
SEL or SEL SW	SELECTOR SWITCH
SCP	STATION CONTROL PANEL
SHLD	SHIELDED
SN	SOLID NEUTRAL
SS	STAINLESS STEEL
SSW	SAFETY SWITCH
S/S	STOP/START PUSH BUTTON
STR	STRANDED
SV	SOLENOID VALVE
SW	SWITCH
TERM	TERMINAL
TR	TIMER
TR.SW.	TRANSFER SWITCH
TSP	TWISTED SHIELDED PAIR
TSH	MOTOR WINDING THERMAL PROTECTION
TYP	TYPICAL
UG/E	UNDERGROUND ELECTRIC
UG/T	UNDERGROUND TELEPHONE
UPS	UNINTERRUPTIBLE POWER SUPPLY
VA	VOLT-AMPERES
VFD	VARIABLE FREQUENCY DRIVE
VM	VOLTMETER
W	WITH
WP	WEATHER PROOF, WATER PROOF
XP	EXPLOSION PROOF
XFMR	TRANSFORMER

**GENERAL NOTES:**

- ALL WORK SHALL COMPLY WITH AND BE INSTALLED IN ACCORDANCE WITH THE SUPPLEMENTAL UNIFORM AND FIRE PREVENTION BUILDING CODE OF NEW YORK AND ALL CODES LOCAL OR OTHERWISE HAVING JURISDICTION OVER THE WORK. CONTRACTOR MUST BE LICENSED AND CERTIFIED TO WORK IN AREAS CONTAINING ASBESTOS.
- THE WORDS PROVIDE OR INSTALL, SINGLY OR IN COMBINATION SHALL MEAN FURNISH AND INSTALL.
- THE CONTRACTOR SHALL PROVIDE ALL CUTTING AND PATCHING AS REQUIRED FOR THE INSTALLATION OF HIS WORK.
- THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF HIS WORK AND NEWLY INSTALLED OR EXISTING WORK, INCLUDING PROTECTION OF BUILDING OCCUPANTS, PUBLIC, AND PERSONNEL. PROVIDE APPROPRIATE BARRIERS, AND SAFETY GUARD RAILS AS REQUIRED.
- LIMIT THE SPREAD OF DUST WHEN CUTTING BY INSTALLING POLYETHYLENE BARRIERS OR TARPULINS TO CONTAIN AIRBORNE MATERIALS.
- NO SYSTEM SHALL BE SHUT DOWN WITHOUT PERMISSION OF THE FACILITIES OPERATION MGR. A MINIMUM TWO WEEK NOTICE SHALL BE GIVEN TO THE FACILITIES OPERATION MGR. WHEN SYSTEM SHUTDOWN INVOLVES A TEMPORARY DISRUPTION TO BUILDING SERVICES.
- ANY DISRUPTION IN BUILDING SERVICES SHALL BE KEPT TO A MINIMUM AND SHALL NOT BE IMPLEMENTED WITHOUT RECEIVING PRIOR WRITTEN APPROVAL OF THE FACILITIES OPERATION MGR.
- ALL WORK SHALL BE COORDINATED WITH THE FACILITIES OPERATION MGR. AND ALL TRADES RELATED TO THE INSTALLATION OF THIS PROJECT. THE CONTRACTOR SHALL TURN OVER TO THE OWNER AT THE COMPLETION OF ALL WORK. THREE (3) COPIES IN BOUND FORM OF OPERATING, MAINTENANCE, AND INSTRUCTION MANUALS WHICH SHALL INCLUDE ALL EQUIPMENT BROCHURES, PIPING AND WIRING DIAGRAMS, DRAWINGS, TEMPERATURE CONTROLS, AND STARTUP AND SHUTDOWN PROCEDURES OF ALL NEWLY INSTALLED EQUIPMENT.
- THE CONTRACTOR SHALL FILE PLANS WITH GOVERNING AUTHORITIES HAVING JURISDICTION AND SHALL SECURE ALL PERMITS AND PAY ALL FEES REQUIRED FOR THE INSTALLATION OF HIS WORK.
- THE CONTRACTOR SHALL GUARANTEE ALL MATERIAL AND WORK INSTALLED TO BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR, AFTER ACCEPTANCE OF THE INSTALLATION BY THE ENGINEER AND OWNER. THE CONTRACTOR SHALL SUBMIT IN WRITING TO OWNER STATING SAME.
- THE CONTRACTOR SHALL INDEMNIFY THE OWNER, HIS REPRESENTATIVES AND THE ENGINEER FROM ANY CLAIMS OR SUITS RESULTING IN NEGLIGENCE ON THE PART OF THE CONTRACTOR AND FOR FAILING TO EXECUTE HIS WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- ALL WORK SHALL BE INSPECTED BY A THIRD PARTY. CONTRACTOR SHALL PAY ALL ASSOCIATED FEES.
- THE CONTRACTOR SHALL PROVIDE ALL RIGGING, HOISTING AND SCAFFOLDING AS REQUIRED FOR THE INSTALLATION OF HIS WORK.
- ALL WORK SHALL BE PERFORMED BY LICENSED CONTRACTORS AND WORKMAN EXPERIENCED IN THE TRADE HAVING JURISDICTION. ALL WORK SHALL BE SUPERVISED AT ALL TIMES AND WORKMANSHIP SHALL BE FIRST CLASS IN ALL RESPECTS.
- ANY DEVIATION OR CHANGE IN DESIGN SHALL NOT BE MADE WITHOUT WRITTEN APPROVAL OF THE ENGINEER OR OWNER. ANY WORK INSTALLED WITHOUT PRIOR APPROVAL OF THE ENGINEER OR OWNER OR FOUND TO BE DEFECTIVE OR OF POOR QUALITY SHALL BE REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE.
- ALL CONSTRUCTION WORK SHALL BE CONFINED TO THE AREA INDICATED ON PLANS AND SHALL NOT BLOCK MEANS OF EGRESS FOR OCCUPANTS OF THE BUILDING.
- ALL WORK SHALL BE PERFORMED DURING NORMAL WORKING HOURS: 8 A.M. TO 5 P.M. MONDAY THROUGH FRIDAY EXCEPT LEGAL HOLIDAYS OR FOR EMERGENCY REPAIRS, UNLESS DIRECTED OTHERWISE BY THE OWNER. HOWEVER, THE CONTRACTOR MAY WORK EXTRA HOURS AS NEEDED TO COMPLETE THE CONTRACT SCOPE OF WORK AND MEET THE COMPLETION DATE AT NO ADDITIONAL COST TO OWNER, AS LONG AS OWNER HAS BEEN PROPERLY NOTIFIED AND HAS APPROVED SAME.
- PATCHING OF WALLS, FLOORS, ETC. SHALL BE BY TRADE WHO PERFORMED WORK AND SHALL MATCH EXISTING SURROUNDING AREA IN ALL RESPECTS. WORK AREA SHALL BE LEFT BROOM CLEAN AT THE END OF EACH DAY. ALL DISCARDED AND DEMOLISHED MATERIAL AND RUBBISH SHALL BE REMOVED FROM PREMISES DAILY IN A LEGAL AND APPROVED MANNER.
- THE CONTRACTOR SHALL MAINTAIN ON THE JOB SITE A SET OF SHOP DRAWINGS IN WHICH ANY DEVIATIONS FROM THE ORIGINAL DESIGN SHALL BE NOTED. UPON COMPLETION OF THE INSTALLATION OF NEW WORK THE CONTRACTOR SHALL TURN OVER TO THE OWNER AND ENGINEER (1) SET OF AS-BUILT REPRODUCIBLE DRAWINGS AND (1) SET OF PRINTS INCLUDING ALL APPROVED FIELD CHANGES AND DESIGN DEVIATIONS PRIOR TO RECEIPT OF FINAL PAYMENT BY OWNER.
- PROVIDE TERMINAL STRIPS IN ALL JUNCTION BOXES WHERE SPLICES ARE MADE.
- ALL WORK SHOWN ON ALL DRAWINGS IS NEW UNLESS OTHERWISE NOTED.
- ALL PENETRATIONS THROUGH PARTITIONS, FLOORS, WALLS AND ROOF FOR ALL PIPING, CONDUIT AND DUCTWORK SHALL BE SEALED AND FIRE SAFED OFF TO MAINTAIN FIRE INTEGRITY OF EXISTING STRUCTURE.
- ALL DOWNSTREAM DEVICES WHICH BECOME DISCONNECTED DURING THIS CONSTRUCTIONS SHALL BE RECONNECTED AT NO COST TO THE OWNER. TECHNIQUES, SEQUENCES, AND PROCEDURES OF THE WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING REASONABLE PRECAUTIONS AND SHALL PROVIDE REASONABLE PROTECTION TO PREVENT INJURY OR DAMAGE TO PERSONS, THE WORK AND OTHER PROPERTY.
- OWNER RESERVES THE RIGHT TO MOVE EQUIPMENT LOCATION 10'-0" FROM WHERE SHOWN ON CONTRACT DRAWINGS WITH NO ADDITIONAL COST.

**GENERAL DEMOLITION NOTES:**

- REMOVE ALL ELECTRICAL EQUIPMENT RELATED TO PROCESS MECHANICAL AND HVAC EQUIPMENT TO BE REMOVED. EX: CONTROL STATIONS, INSTRUMENTATION, LOCAL DISCONNECTS, ETC. UNLESS OTHERWISE NOTED ON DEMOLITION DRAWINGS.
- REMOVE ALL CONDUIT AND WIRE FOR ALL ELECTRICAL EQUIPMENT RELATED TO PROCESS MECHANICAL EQUIPMENT TO BE REMOVED BACK TO SOURCE. UNLESS OTHERWISE NOTED ON DEMOLITION DRAWINGS.
- IF POWER SOURCE (POWER PANEL, MCC, ETC) FOR EQUIPMENT REMOVED IS TO REMAIN, RE-LABEL AS "SPARE" OR NEW CIRCUIT DESIGNATION. UNLESS OTHERWISE NOTED ON DEMOLITION DRAWINGS.
- SEE MECHANICAL PLANS FOR ADDITIONAL EQUIPMENT TO BE REMOVED ON DEMOLITION DRAWINGS.
- REMOVE ALL EXISTING LIGHTING, CONDUIT, WIRING, CONTROLS, ETC. UNLESS OTHERWISE NOTED ON DEMOLITION DRAWINGS.

**GENERAL GROUNDING NOTES:**

- THE GROUNDING SYSTEM IS SHOWN DIAGRAMMATICALLY. EXACT LOCATION OF CABLE GROUND RODS AND CONNECTIONS SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD.
- ALL BURIED GROUNDING CABLE CONNECTIONS SHALL BE CADWELDED OR THERMOWELDED. THE WELDED CONNECTIONS SHALL BE LEFT EXPOSED FOR INSPECTION BY ENGINEER PRIOR TO BACKFILLING.
- WHERE EXPOSED TO MECHANICAL INJURY, THE GROUNDING CONDUCTOR SHALL BE SUITABLY PROTECTED BY PIPE OR OTHER MECHANICAL PROTECTION. EACH END OF PROTECTING CONDUIT (IF METALLIC) SHOULD BE GROUNDED TO THE BARE CABLE.
- ALL EXPOSED CABLE LUGS AND CONNECTORS SHALL BE OF THE COMPRESSION TYPE UNLESS OTHERWISE NOTED.
- STEEL MUST BE CLEANED THOROUGHLY, AND CABLE MUST BE COMPLETELY DRY BEFORE MAKING WELD CONNECTIONS.
- THE GROUNDING SYSTEM SHALL BE CONNECTED TO A METALLIC WATERLINE (WHERE AVAILABLE) WITH A MINIMUM OF 10 FEET LENGTH UNDERGROUND AND SHALL BE CONNECTED TO THE GROUNDING ELECTRODES.
- CADWELD ALL DUCTBANK GROUNDS TO SITE GROUND GRIDS.

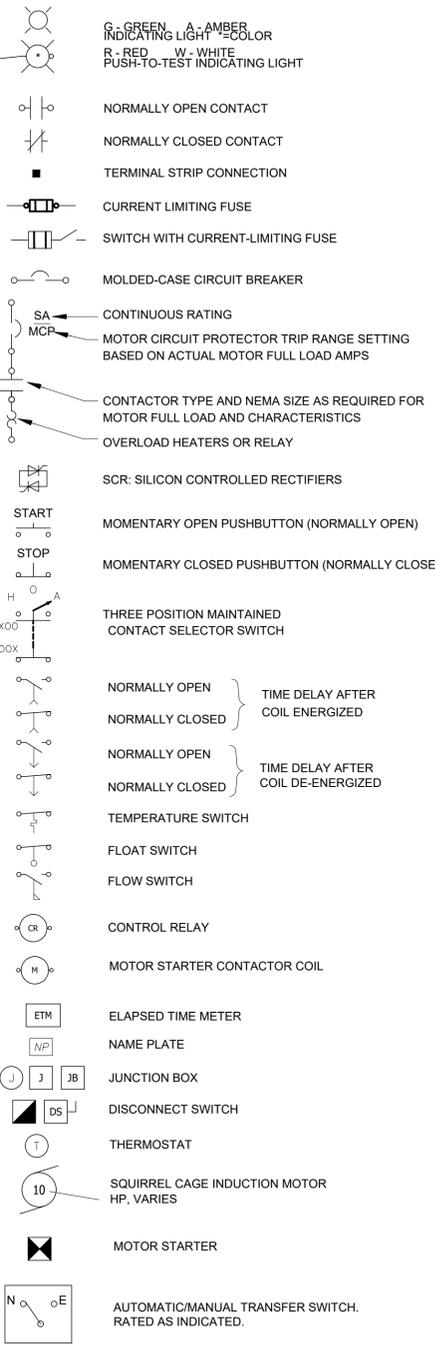
**GENERAL LIGHTING NOTES:**

- INSTALL LIGHTING LUMINAIRES IN LOCATIONS AS SHOWN OR AS NOTED, AS CLOSE AS POSSIBLE TO THESE LOCATIONS WHEN ADJUSTMENTS TO AVOID INTERFERENCES ARE REQUIRED. LUMINAIRES SHALL BE INSTALLED LEVEL AND PLUMB.
- CONNECT LUMINAIRES ON CIRCUITS AS SHOWN ON DRAWINGS AND ON PANELBOARD SCHEDULES. LIGHTING CIRCUIT CONDUIT AND CONDUCTORS SHALL BE PER NEC OR AS NOTED ON THE DRAWINGS.
- CLEAN EACH LUMINAIRE AT TIME OF SUBSTANTIAL COMPLETION.
- OPERATE EACH LUMINAIRE AFTER INSTALLATION AND CONNECTION. INSPECT FOR PROPER CONNECTIONS AND OPERATION, AND REPAIR ALL IMPROPER CONNECTIONS.
- LIGHT SWITCHES SHALL BE AS SPECIFIED IN SECTION 260500, AND SUITABLE FOR THE CLASSIFICATION OF THE AREA.
- SUBMIT SHOP DRAWINGS FOR ALL LUMINAIRES UNDER THIS CONTRACT IN ACCORDANCE WITH SECTION 013300 OF THE CONTRACT DOCUMENTS. PROVIDE COMPLETE INFORMATION INCLUDING LUMINAIRE ACCESSORIES, INSTALLATION INSTRUCTIONS, OPERATIONS AND MAINTENANCE INFORMATION, AND LIST OF LUMINAIRE TYPES AND MANUFACTURER TO BE USED FOR EACH.
- PROVIDE PROJECT RECORD DOCUMENTS IN ACCORDANCE WITH SECTION 01XXXX AND 260500 OF THE CONTRACT DOCUMENTS. RECORD DOCUMENTS SHALL ACCURATELY SHOW FIXTURE LOCATIONS OF EACH LUMINAIRE INCLUDING THE CONNECTIONS, AND FOR EACH TYPE OF LUMINAIRE, PROVIDE MANUFACTURERS NAME, CATALOG NUMBER, VOLTAGE, LAMP TYPE AND POWER REQUIREMENTS.

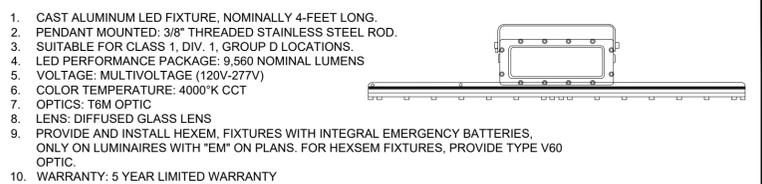
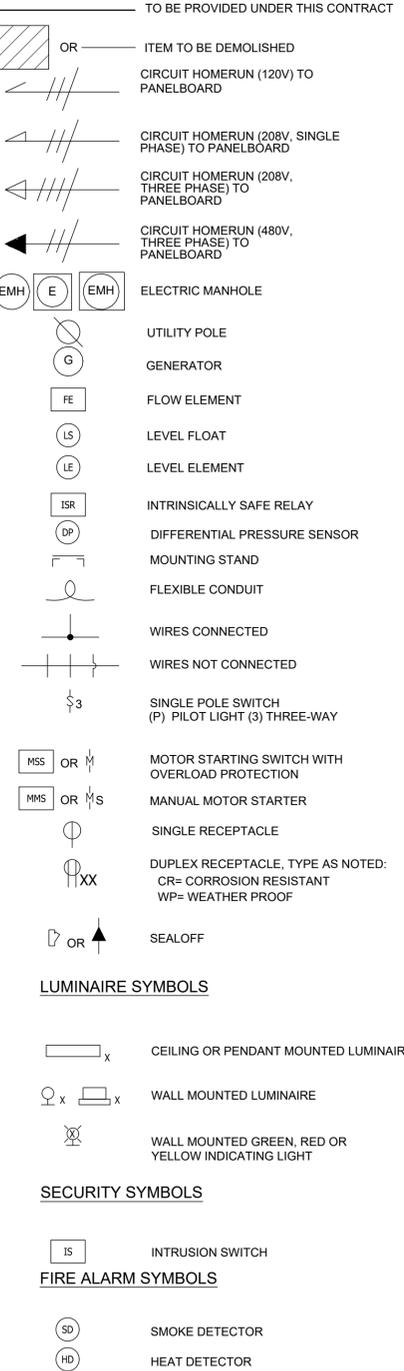
**GENERAL CLASSIFICATION NOTES:**

- REFER TO GENERAL SHEET FOR AREA CLASSIFICATIONS.
- EQUIPMENT ENCLOSURES AND INSTALLATION IN CLASS 1, DIV. 2 AREAS SHALL CONFORM TO CLASS 1, DIV. 1 REQUIREMENTS.
- PROVIDE SEAL OFFS FOR ANY CONDUIT THAT PASSES OR ENTERS A CLASS 1, DIV. 1 GROUP D CLASSIFIED AREA OR CLASS 1, DIV. 2 GROUP D CLASSIFIED AREA.
- PROVIDE EQUIPMENT ENCLOSURE RATINGS SUITABLE FOR THEIR CLASSIFICATION, UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL USE NON-SPARKING OR INTRINSICALLY SAFE TOOLS IN CLASS 1, DIV. 1, AND CLASS 1, DIV. 2 AREAS.

**SYMBOLS:**



**SYMBOLS:**



CAST ALUMINUM LED FIXTURE, NOMINALLY 4-FEET LONG.  
PENDANT MOUNTED: 3/8" THREADED STAINLESS STEEL ROD.  
SUITABLE FOR CLASS 1, DIV. 1, GROUP D LOCATIONS.  
LED PERFORMANCE PACKAGE: 9,560 NOMINAL LUMENS  
VOLTAGE: MULTIVOLTAGE (120V-277V)  
COLOR TEMPERATURE: 4000°K CCT  
OPTICS: T8M OPTIC  
LENS: DIFFUSED GLASS LENS  
PROVIDE AND INSTALL HEXEM, FIXTURES WITH INTEGRAL EMERGENCY BATTERIES, ONLY ON LUMINAIRES WITH "EM" ON PLANS. FOR HEXSEM FIXTURES, PROVIDE TYPE V60 OPTIC.  
WARRANTY: 5 YEAR LIMITED WARRANTY

**FIXTURE 'A' SPECIFICATION**  
NOT TO SCALE

- LOW WATTAGE, LED.
- WALL MOUNTED; CAST ALUMINUM BACK PLATE.
- DARK BRONZE BAKED POLYESTER POWDER FINISH.
- ONE PIECE, POLYCARBONATE FRONT HOUSING WITH CLEAR, U.V. STABILIZED, PRISMATIC REFRACTOR.
- POLISHED ALUMINUM REFLECTOR.
- SUITABLE FOR OUTDOOR APPLICATION.
- 19 WATT LED, 2,124 LUMENS
- INTEGRAL DRIVER, MULTI-VOLT, PHOTOCCELL

MANUFACTURERS:  
HOLOPHANE - HEXS EXPLOSION PROOF LED LINEAR OR APPROVED EQUAL  
HOLOPHANE - HEXSEM EXPLOSION PROOF LED LINEAR OR APPROVED EQUAL

**LUMINAIRE 'B' SPECIFICATION**  
NOT TO SCALE

- LIGHT SOURCE: EXIT SIGN.
- MOUNTING: WALL/PENDANT
- VOLTAGE: 120V
- SUITABLE FOR USE IN A CLASS 1, DIV. 1, GROUP D HAZARDOUS AREA.
- EMERGENCY BATTERY BACK-UP INTEGRAL TO SIGN
- OPTIONS: EMERGENCY BATTERY BACKUP, BATTERY BACK-UP SELF-DIAGNOSTIC FEATURE

MANUFACTURER:  
MULE LIGHTING, XPX LED SERIES EXPLOSION PROOF EDGE LIT LED EXIT SIGN OR APPROVED EQUAL

**EXIT SIGN SPECIFICATION**  
NOT TO SCALE



**Hazen**  
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ROCKLAND COUNTY SEWER DISTRICT NO.1  
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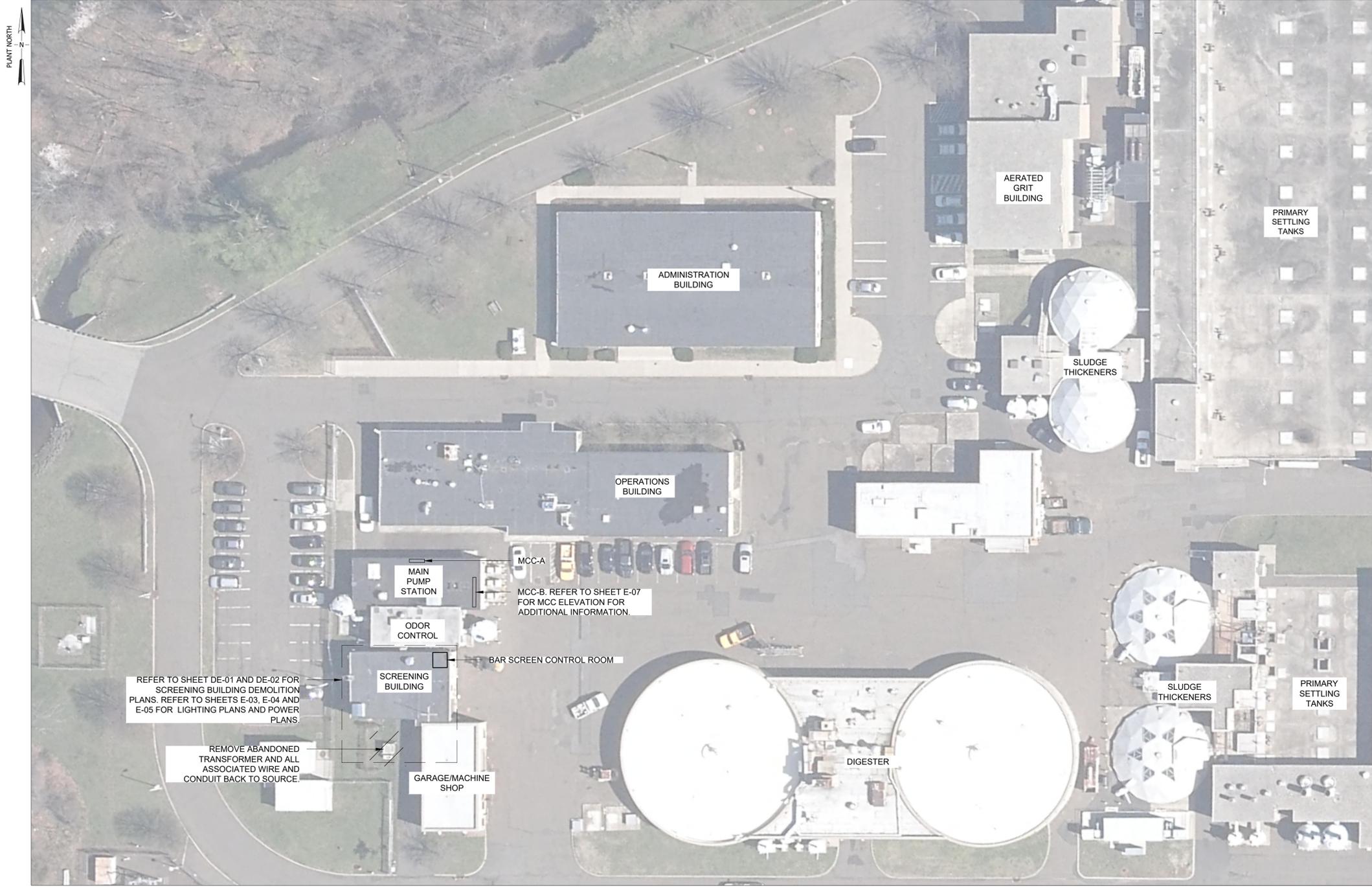
**ELECTRICAL  
LEGENDS AND NOTES**

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	E-02

File: C:\USERS\BCASULL\LDACC\DCS\HAZEN AND SAWYER\90462-000\_EDS AND CA FOR RCD SCREENS REHAB\PROJECT FILES\01\_DESIGN\ELECTRICAL\01\_SAWYER\90462-000\_E-01\_Sawyer.dwg; 6/24/2024 8:08 PM; PLOT DATE: 6/24/2024 8:07 PM; BY: BCASULL

PROJECT ENGINEER:	R. FROST		
DESIGNED BY:	J. DULAK		
DRAWN BY:	B. LADA		
CHECKED BY:	G. LYNCH		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
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THE ABBREVIATIONS AND SYMBOLS LISTED HEREIN ARE STANDARDS OF THIS OFFICE AND APPLY TO A VARIETY OF PROJECTS. ONLY A PORTION OF THEM WILL NECESSARILY APPLY TO ANY GIVEN PROJECT. SEE THE LISTINGS IN OTHER SECTIONS OF THIS DOCUMENT FOR ADDITIONAL SYMBOLS AND ABBREVIATIONS.



- NOTES:
1. REFER TO AREA CLASSIFICATION CHART.
  2. PROVIDE SEAL-OFFS FOR ANY CONDUIT RUN THAT PASSES OR ENTERS A CLASS 1, DIV. 1 AND DIV. 2 GROUP D CLASSIFIED AREA.
  3. PROVIDE EQUIPMENT ENCLOSURE RATINGS SUITABLE FOR THEIR AREA CLASSIFICATION.

**SITE PLAN**  
SCALE 1" = 30'



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PROJECT ENGINEER:	R. FROST		
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CHECKED BY:	G. LYNCH		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
REV	ISSUED FOR	DATE	BY
0	BID	06/2024	PDS



**Hazen**  
HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11TH FLOOR  
NEW YORK, NEW YORK 10018

ROCKLAND COUNTY SEWER DISTRICT NO.1  
ORANGEBURG, NEW YORK

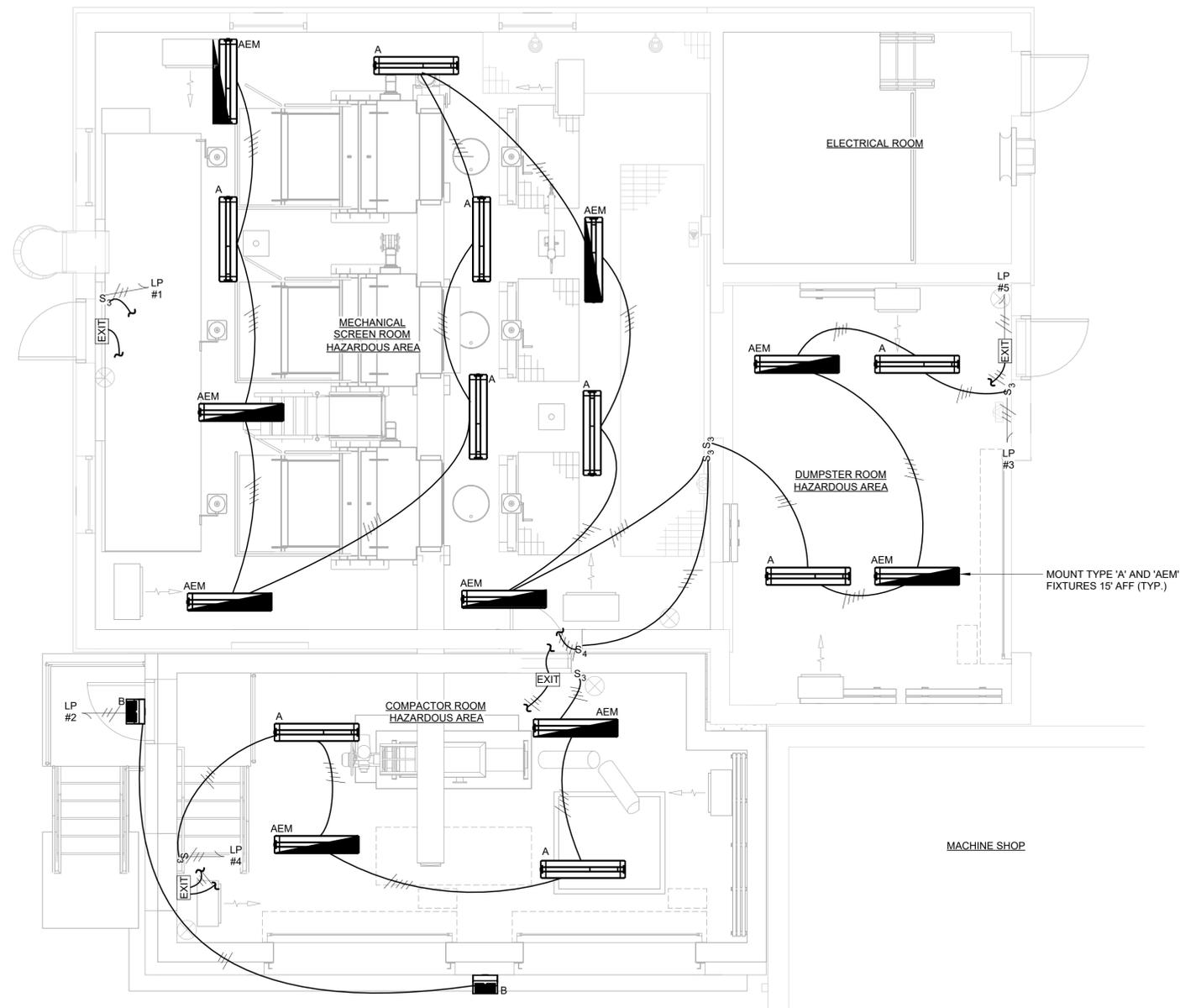
ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

ELECTRICAL  
SITE PLAN

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	E-02



NOTES:  
 1. REFER TO GENERAL SHEET FOR AREA CLASSIFICATION CHART.



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

MOUNT TYPE 'A' AND 'AEM' FIXTURES 15' AFF (TYP.)



Autodesk Docs/06/06/2024 09:00:00 EDS and CA for RCSD Streets Rehab/0462-000-100-MSB-E.rvt  
 06/24/2024 7:57:41 PM

0	BID	06/2024	PDS
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. DULAK
DRAWN BY:	W. MORGAN
CHECKED BY:	G. LYNCH

FOR BID

**Hazen**

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 498 SEVENTH AVENUE, 11th FLOOR  
 NEW YORK, NEW YORK 10018

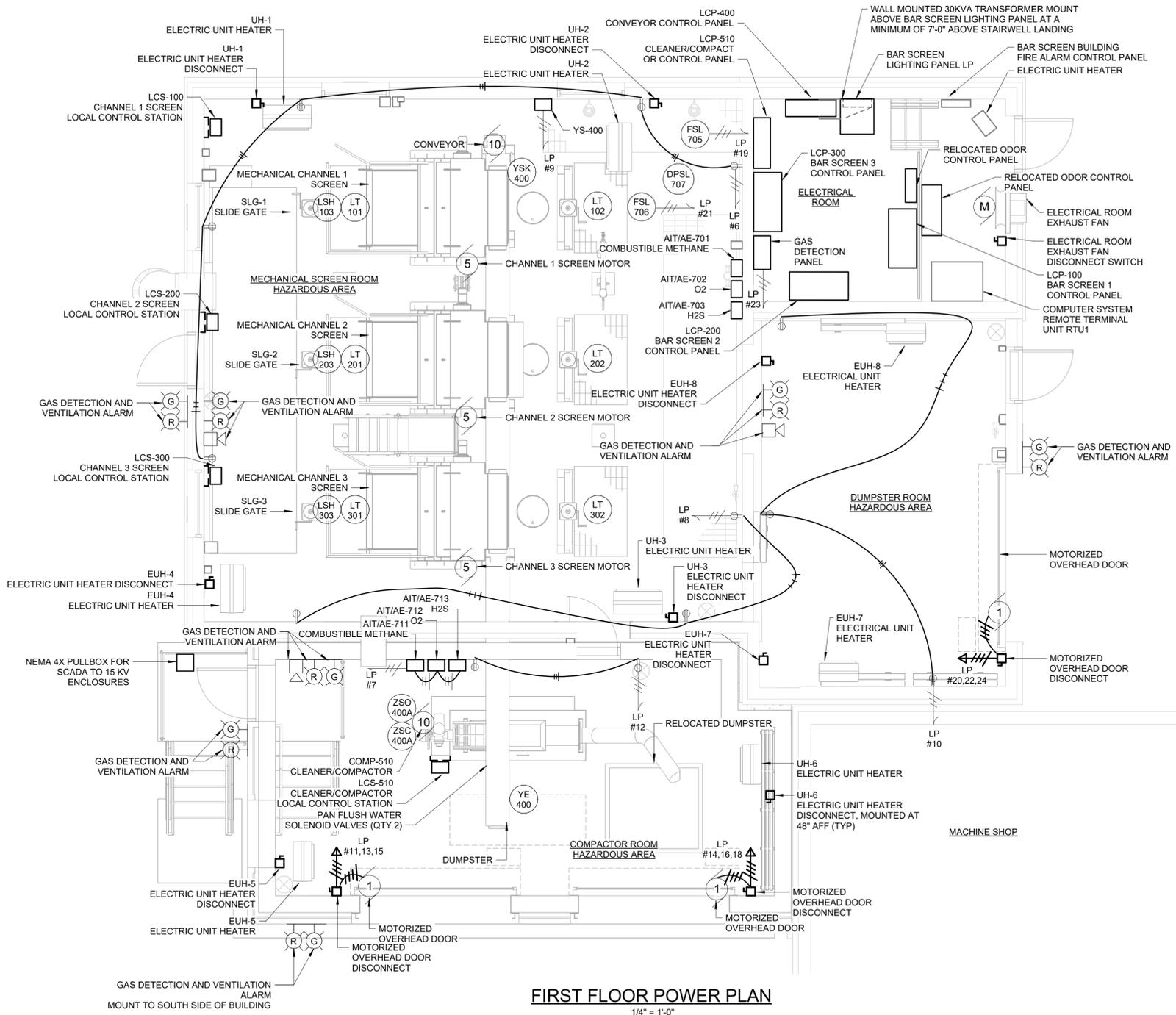
ROCKLAND COUNTY SEWER DISTRICT NO.1  
 ORANGETOWN, NEW YORK

ORANGETOWN WASTEWATER  
 TREATMENT PLANT  
 SCREENING IMPROVEMENTS PROJECT

ELECTRICAL  
 FIRST FLOOR LIGHTING PLAN

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	E-03

NOTES:  
 1. REFER TO GENERAL SHEET FOR AREA CLASSIFICATION CHART.



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



Autodesk Docs/06/06/2024\_000\_EDS and CA for RCSD Streets Rehab/0462-000-100-MSB-E.rvt  
 6/24/2024 7:57:43 PM

0	BID	06/2024	PDS
REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. DULAK
DRAWN BY:	B. LADA
CHECKED BY:	G. LYNCH
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

FOR BID

**Hazen**

HAZEN AND SAWYER  
 498 SEVENTH AVENUE, 11th FLOOR  
 NEW YORK, NEW YORK 10018

ROCKLAND COUNTY SEWER DISTRICT NO.1  
 ORANGEBURG, NEW YORK

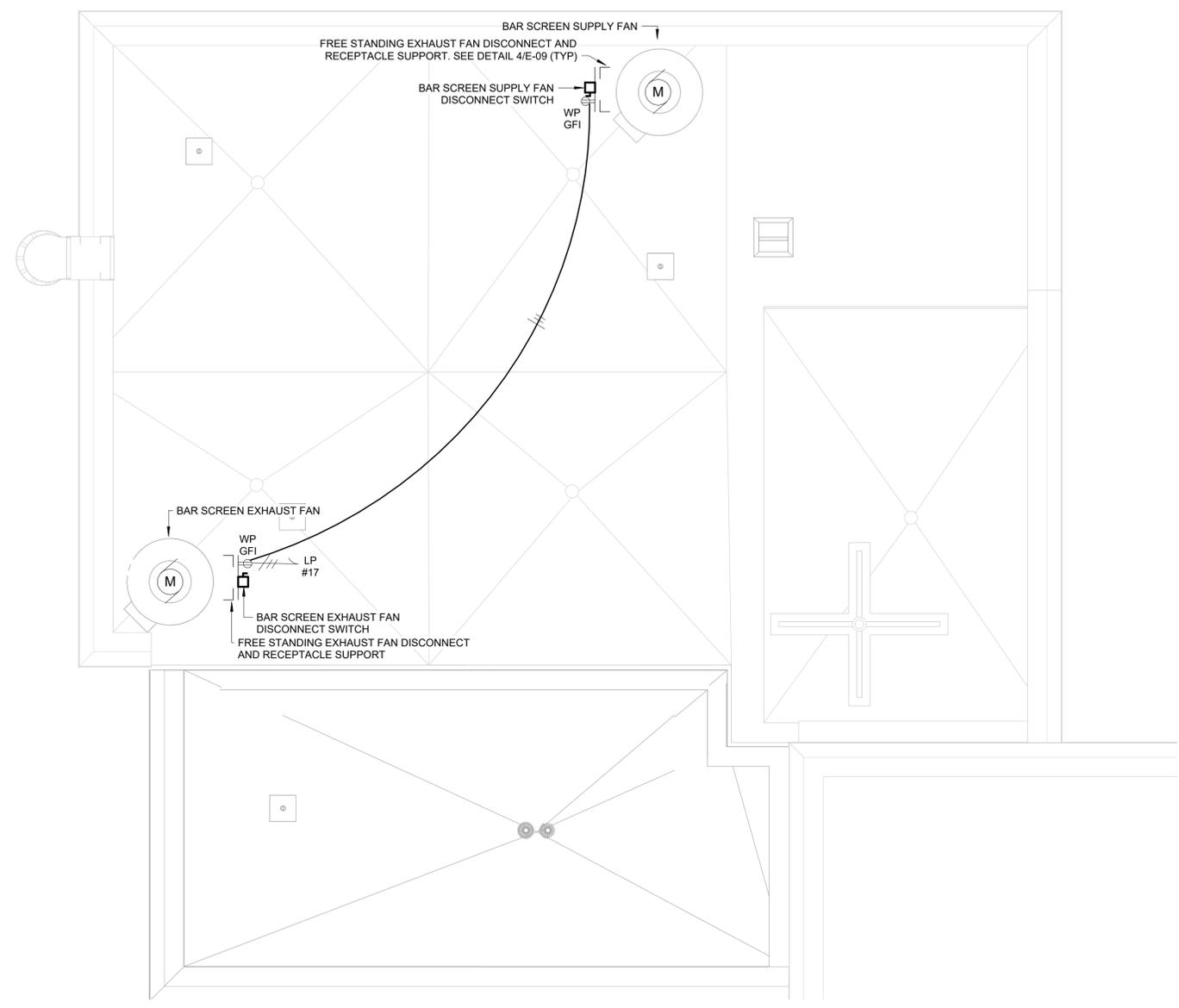
ORANGEBURG WASTEWATER  
 TREATMENT PLANT  
 SCREENING IMPROVEMENTS PROJECT

ELECTRICAL  
 FIRST FLOOR POWER PLAN

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	E-04



NOTE:  
1. REFER TO GENERAL SHEET FOR AREA CLASSIFICATION CHART.



**ROOF POWER PLAN**  
1/4" = 1'-0"

3/8" = 1'-0"



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NEW YORK, NEW YORK 10018

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ORANGEBURG, NEW YORK  
  
ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

ELECTRICAL  
ROOF POWER PLAN

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	E-05

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. DULAK
DRAWN BY:	W. MORGAN
CHECKED BY:	G. LYNCH

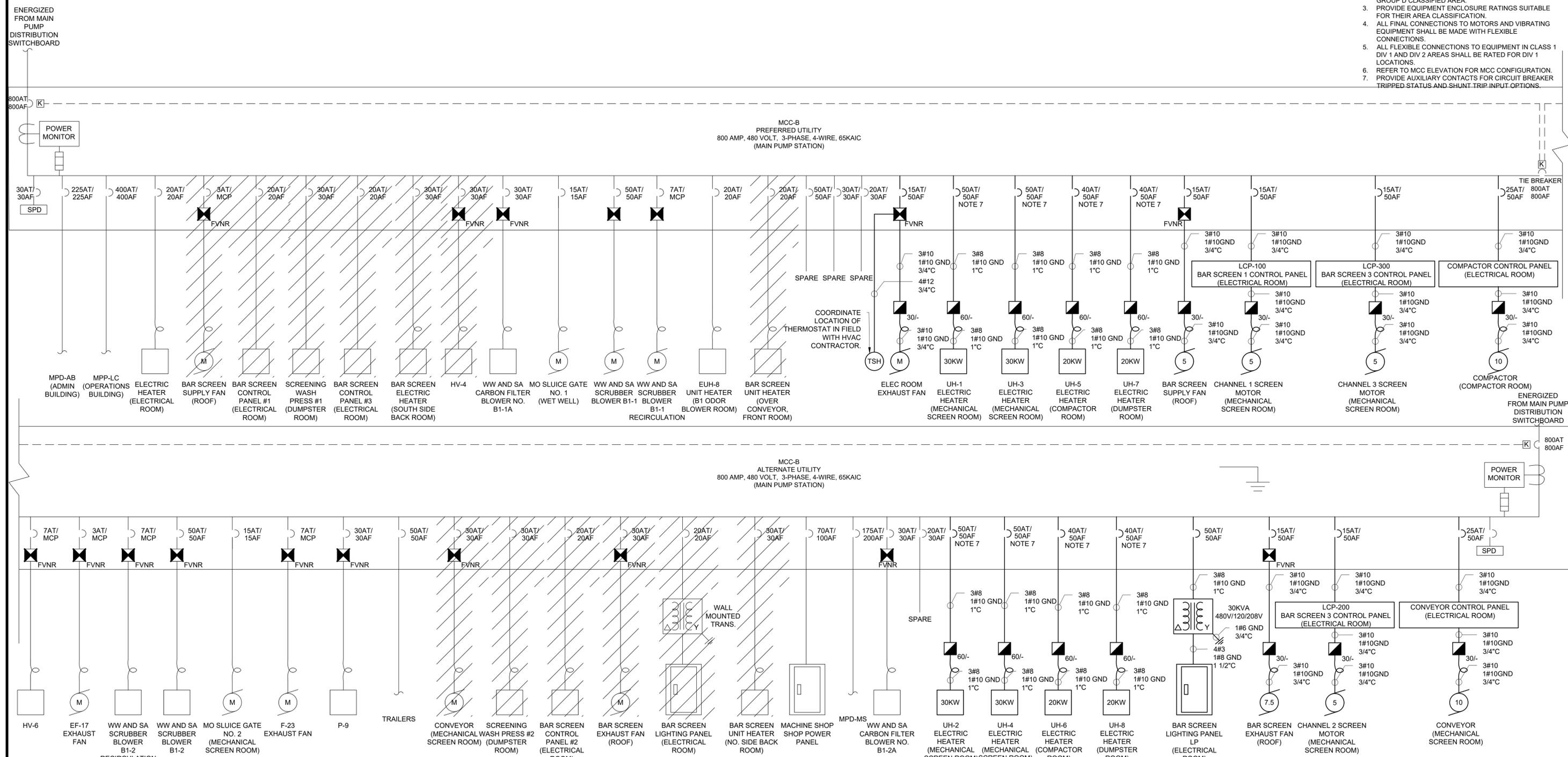
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Autodesk Docs/ROARS-000\_EDS and CA for RCSD Streets Rehab/0462-000-100-MSB-E.rvt 6/24/2024 7:57:43 PM

- NOTES:
- REFER TO AREA CLASSIFICATION TABLE ON DRAWING G-04.
  - PROVIDE SEAL-OFFS FOR ANY CONDUIT RUN THAT PASSES OR ENTERS A CLASS 1, DIV. 1 AND DIV. 2 GROUP D CLASSIFIED AREA.
  - PROVIDE EQUIPMENT ENCLOSURE RATINGS SUITABLE FOR THEIR AREA CLASSIFICATION.
  - ALL FINAL CONNECTIONS TO MOTORS AND VIBRATING EQUIPMENT SHALL BE MADE WITH FLEXIBLE CONNECTIONS.
  - ALL FLEXIBLE CONNECTIONS TO EQUIPMENT IN CLASS 1 DIV 1 AND DIV 2 AREAS SHALL BE RATED FOR DIV 1 LOCATIONS.
  - REFER TO MCC ELEVATION FOR MCC CONFIGURATION.
  - PROVIDE AUXILIARY CONTACTS FOR CIRCUIT BREAKER TRIPPED STATUS AND SHUNT TRIP INPUT OPTIONS.



ONE LINE DIAGRAM  
N.T.S.



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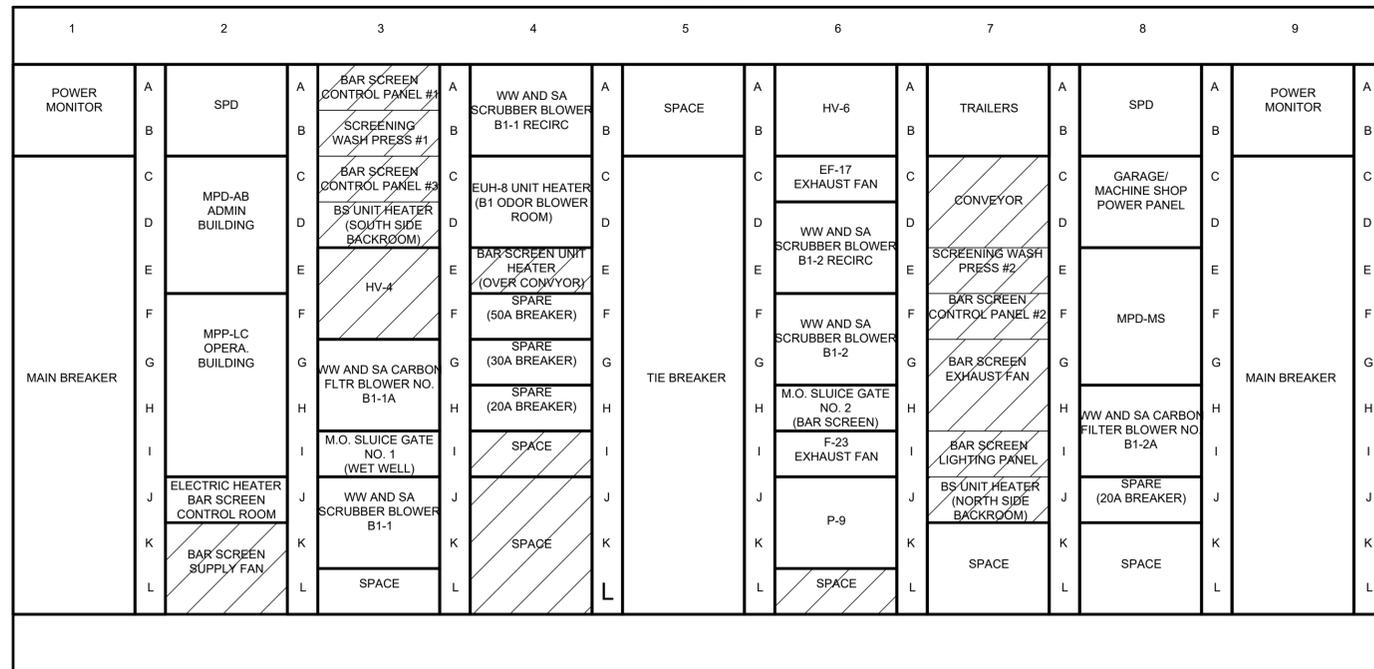
ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

ELECTRICAL  
SINGLE LINE DIAGRAM

PROJECT ENGINEER:	R. FROST		
DESIGNED BY:	J. DULAK		
DRAWN BY:	B. LADA		
CHECKED BY:	G. LYNCH		
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DATE:	JUNE 2024
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CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	E-06

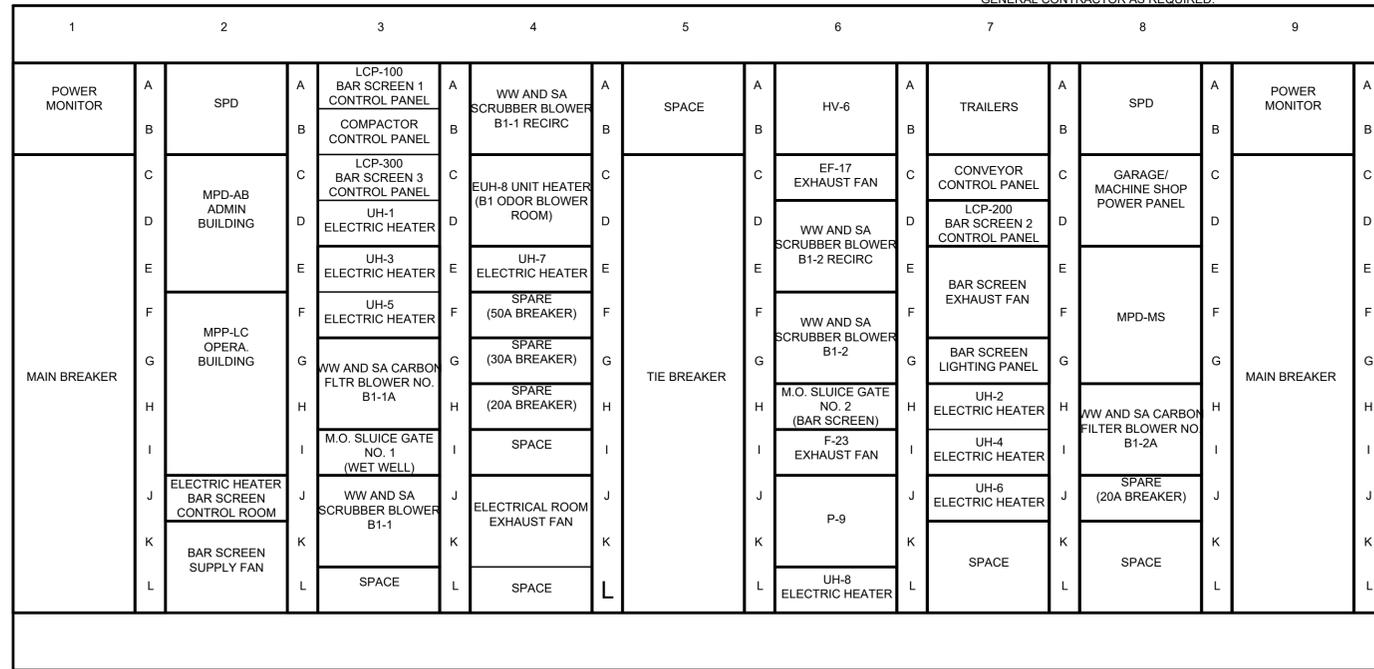
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**MCC-B DEMOLITION ELEVATION**

NO SCALE

MCC-B PHASING NOTES:  
 1. CONTRACTOR SHALL PROVIDE OWN WRITTEN PHASING PLAN FOR REVIEW BY OWNER AND ENGINEER PRIOR TO THE START OF ANY WORK. PROVIDE AT LEAST 2 WEEKS NOTICE.  
 2. ALL PHASING AND TEMPORARY ELECTRICAL FACILITIES SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR AS REQUIRED.



**MCC-B ELEVATION**

NO SCALE

NOTES:  
 1. PROVIDE RETROFILL BUCKETS AS SHOWN IN THE MCC ELEVATION. MATCH EXISTING MANUFACTURER, TYPE AND RATINGS.  
 2. LABEL BUCKETS WITH FULL EQUIPMENT NAMES, TAGS AND BUILDING LOCATIONS.

**PANELBOARD BAR SCREEN LIGHTING PANEL, LP SCHEDULE**

MAIN BUS RATINGS: 100A, 120/208 VOLTS, 3 PHASE, 4 WIRE      FED FROM: MCC-B  
 MINIMUM SHORTCIRCUIT INTERRUPTION RATING: 22,000 AIC      INCOMING FEED: 4#3  
 MAIN BREAKER TRIP: 100A      ENCLOSURE: NEMA 12  
 ESTIMATED CONNECTED LOAD: 7.63 KW

DESCRIPTION	LOAD KW	CB TRIP/POLE	CIR. NO	A	B	C	CIR. NO	CB TRIP/POLE	LOAD KW	DESCRIPTION
SCREENS RM LIGHTING	.80	20A/1P	1	●			2	20A/1P	.10	EXTERIOR LIGHTING
DUMPSTER RM LIGHTING	.32	20A/1P	3	●			4	20A/1P	.32	COMPACTOR RM LIGHTING
EXIT LIGHTING	--	20A/1P	5	●			6	20A/1P	1.0	RECEPTACLES
AIT/AE-711,712,713	.20	20A/1P	7	●			8	20A/1P	.60	RECEPTACLES
YS-400	.20	20A/1P	9	●			10	20A/1P	.60	RECEPTACLES
MOTORIZED DOOR	.75	20A/3P	11	●			12	20A/1P	.40	RECEPTACLES
			13	●			14	20A/3P	.75	MOTORIZED DOOR
			15	●						
ROOF RECEPTACLES	.40	20A/1P	17	●			18			
FSL-705	.12	20A/1P	19	●			20			
FSL-706	.12	20A/1P	21	●			22	20A/3P	.75	MOTORIZED DOOR
GAS DETECTION PANEL	.20	20A/1P	23	●			24			
SPARE	--	20A/1P	25	●			26	20A/1P	--	SPARE
SPARE	--	20A/1P	27	●			28	20A/1P	--	SPARE
SPARE	--	20A/1P	29	●			30	20A/1P	--	SPARE
SPARE	--	20A/1P	31	●			32	20A/1P	--	SPARE
SPARE	--	20A/1P	33	●			34	20A/1P	--	SPARE
SPARE	--	20A/1P	35	●			36	20A/1P	--	SPARE
SPARE	--	20A/1P	37	●			38	20A/1P	--	SPARE
SPARE	--	20A/1P	39	●			40	20A/1P	--	SPARE
SPARE	--	20A/1P	41	●			42	20A/1P	--	SPARE

**PANELBOARD GENERAL NOTES:**

- FOR THREE PHASE CIRCUITS - PROVIDE 3/4" C W/ 3#12, 1#12 GND FOR 20 AMP CIRCUITS SERVING EQUIPMENT WITHIN 60' OF PANELBOARD. UNLESS OTHER WISE NOTED. INCREASE CONDUIT AND WIRE SIZES IN ACCORDANCE WITH THE N.E.C. FOR LONGER CIRCUITS OR CIRCUITS MORE THAN 20 AMPS.
- FOR SINGLE PHASE CIRCUITS - PROVIDE 3/4" C W/ 2#12, 1#12 GND FOR 20 AMP CIRCUITS SERVING EQUIPMENT WITHIN 60' OF PANELBOARD. UNLESS OTHER WISE NOTED. INCREASE CONDUIT AND WIRE SIZE IN ACCORDANCE WITH THE N.E.C. FOR LONGER CIRCUITS OR CIRCUITS MORE THAN 20 AMPS.
- CONTRACTOR SHALL BALANCE ALL PANELBOARD LOADS ACROSS PHASES.

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 PLOT DATE: 6/24/2024 8:07 PM BY: BCASULL



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 HAZEN AND SAWYER  
 498 SEVENTH AVENUE, 11TH FLOOR  
 NEW YORK, NEW YORK 10018

ROCKLAND COUNTY SEWER DISTRICT NO.1  
 ORANGEBURG, NEW YORK

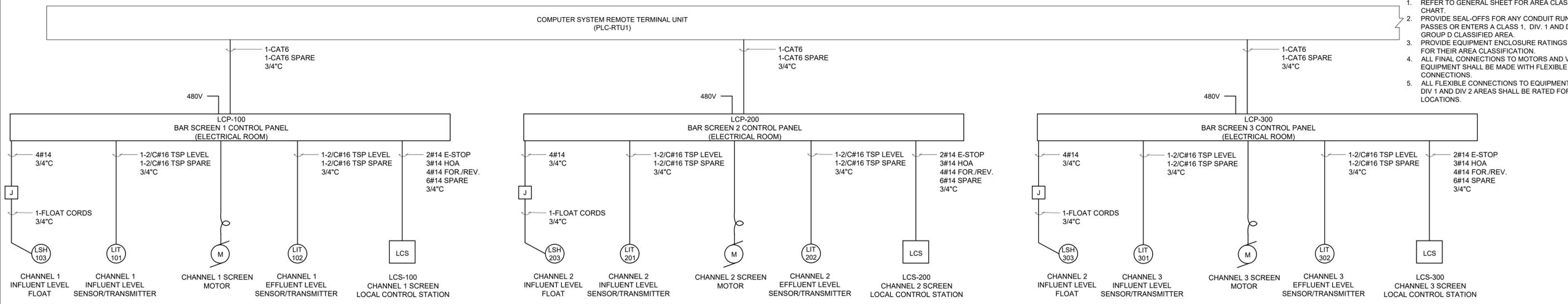
ORANGEBURG WASTEWATER  
 TREATMENT PLANT  
 SCREENING IMPROVEMENTS PROJECT

MAIN PUMP STATION/SCREENING BUILDING  
 ELECTRICAL  
 MCC SCHEDULE AND ELEVATION

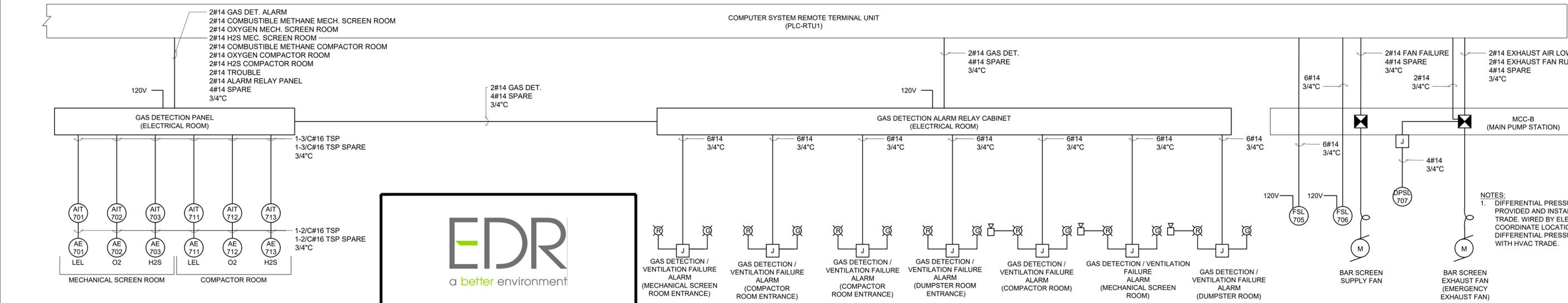
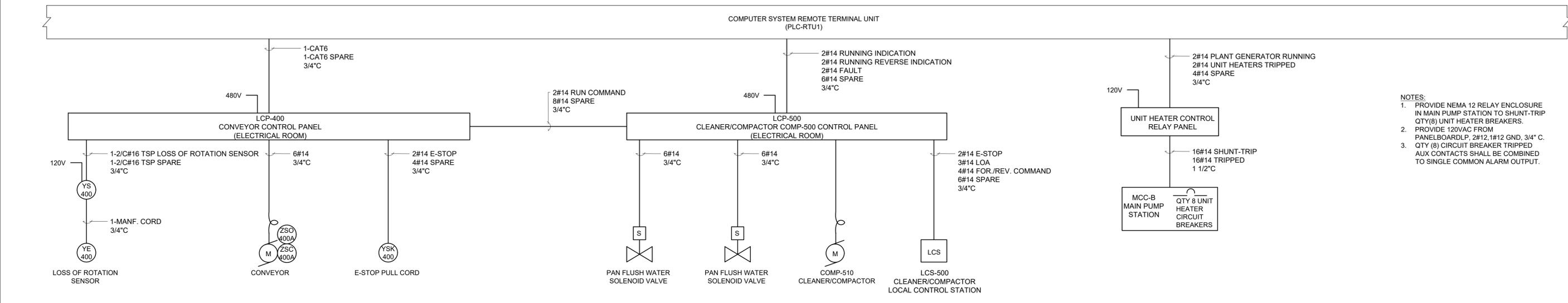
DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	E-07

PROJECT ENGINEER:	R. FROST		
DESIGNED BY:	J. DULAK		
DRAWN BY:	B. LADA		
CHECKED BY:	G. LYNCH		
IF THIS BAR DOES NOT MEASURE IT THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
REV	ISSUED FOR	DATE	BY
0	BID	06/2024	PDS

- NOTES:
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  - ALL FLEXIBLE CONNECTIONS TO EQUIPMENT IN CLASS 1 DIV 1 AND DIV 2 AREAS SHALL BE RATED FOR DIV 1 LOCATIONS.



- NOTES:
- PROVIDE NEMA 12 RELAY ENCLOSURE IN MAIN PUMP STATION TO SHUNT-TRIP QTY(8) UNIT HEATER BREAKERS.
  - PROVIDE 120VAC FROM PANELBOARD, 2#12, 1#12 GND, 3/4" C.
  - QTY (8) CIRCUIT BREAKER TRIPPED AUX CONTACTS SHALL BE COMBINED TO SINGLE COMMON ALARM OUTPUT.



- NOTES:
- DIFFERENTIAL PRESSURE SWITCH PROVIDED AND INSTALLED BY HVAC TRADE. WIRED BY ELECTRICAL TRADE. COORDINATE LOCATION OF DIFFERENTIAL PRESSURE SWITCH WITH HVAC TRADE.



**Hazen**  
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498 SEVENTH AVENUE, 11TH FLOOR  
NEW YORK, NEW YORK 10018

ROCKLAND COUNTY SEWER DISTRICT NO.1  
ORANGEBURG, NEW YORK

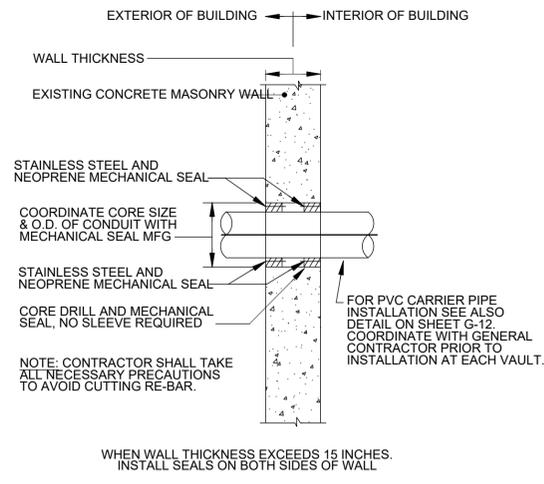
ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

SCREENING BUILDING  
ELECTRICAL  
CONTROL DIAGRAM

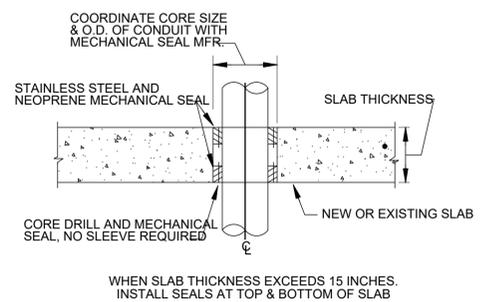
PROJECT ENGINEER:	R. FROST		
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CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	E-08

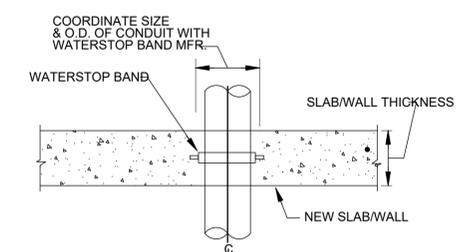
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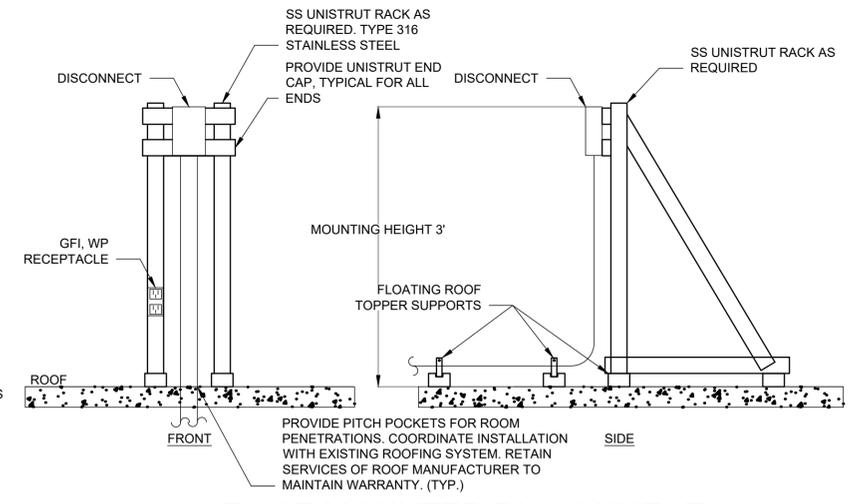
**CONDUIT PENETRATION THRU CONCRETE WALL**  
**DETAIL** 1  
 NTS E-09



**CONDUIT PENETRATION THRU CONCRETE SLAB**  
**DETAIL** 2  
 NTS E-09

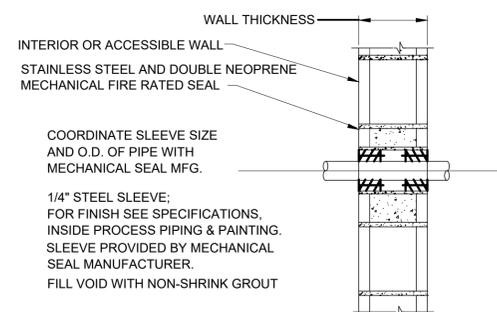


**CONDUIT PENETRATION THRU NEW CONCRETE WALL/SLAB**  
**DETAIL** 3  
 NTS E-09

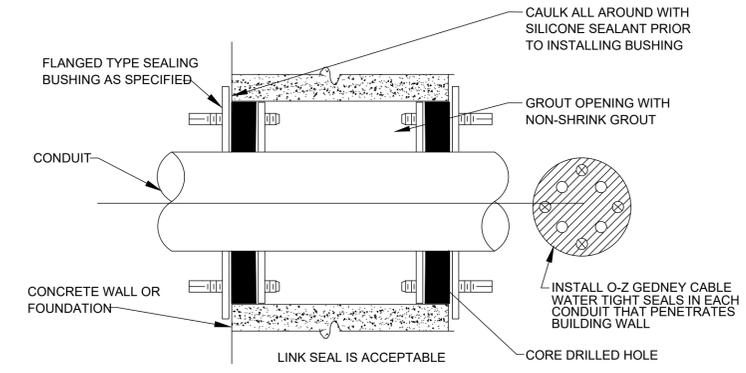


**ROOF MOUNTED DISCONNECT MOUNTING DETAIL**  
 NTS 4  
E-09

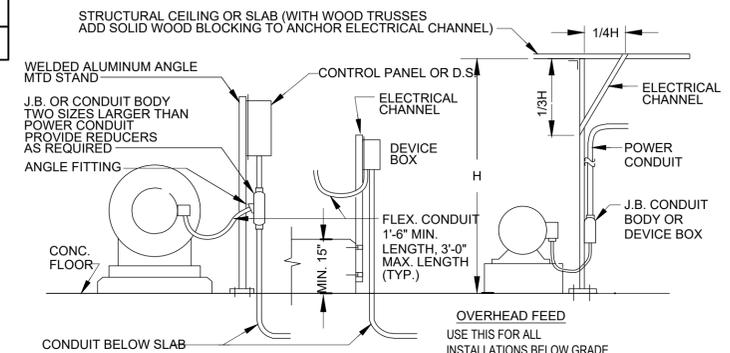
**NOTE**  
 ALL STAIRWELL WALLS SHALL BE CONSIDERED FIRE RATED. ALL CONDUIT PENETRATIONS SHALL BE SEALED IN STRICT ACCORDANCE WITH THIS DETAIL AND ALL LOCAL FIRE CODES.



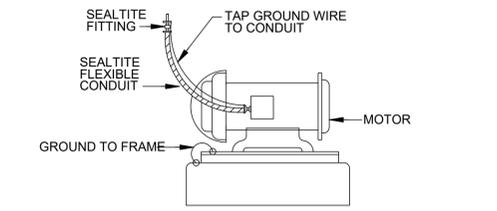
**CONDUIT PENETRATION THROUGH FIRE RATED BLOCK WALL**  
**DETAIL** 5  
 NTS E-09



**TYPICAL SLEEVE DETAIL FOR EXISTING WALL PENETRATION**  
**DETAIL** 6  
 NTS E-09

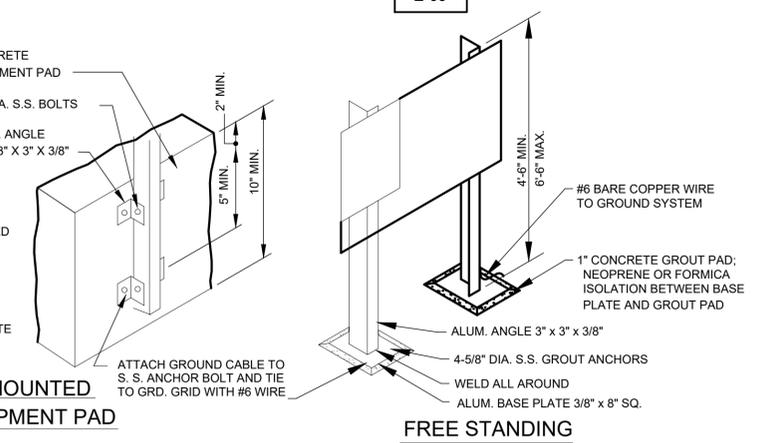


**TYPICAL ELECTRICAL FEED DETAIL**  
 NTS 7  
E-09



**GROUNDING ELECTRIC MOTOR**  
**DETAIL** 8  
 NTS E-09

ITEMS LARGER THAN 4" X 4" SHALL BE INSTALLED ON A MOUNTING PLATE. TWO POSTS ARE REQUIRED FOR ENCLOSURES WIDER THAN 8". MOUNTING PLATES SHALL BE 1/4" TH. ALUM. PLATE 2" GREATER ON EACH SIDE THAN DIMENSION OF ENCLOSURE(S). ROUND ALL CORNERS AND EDGES. EQUIPMENT MOUNTING SHALL BE WITH S. S. FASTENERS. ANCHOR PLATE TO POST WITH 3/8" DIA. S. S. FASTENERS.



**TYPICAL PANEL/DISCONNECT MOUNTING**  
**DETAIL** 9  
 NTS E-09



**Hazen**  
 HAZEN AND SAWYER  
 498 SEVENTH AVENUE, 11TH FLOOR  
 NEW YORK, NEW YORK 10018

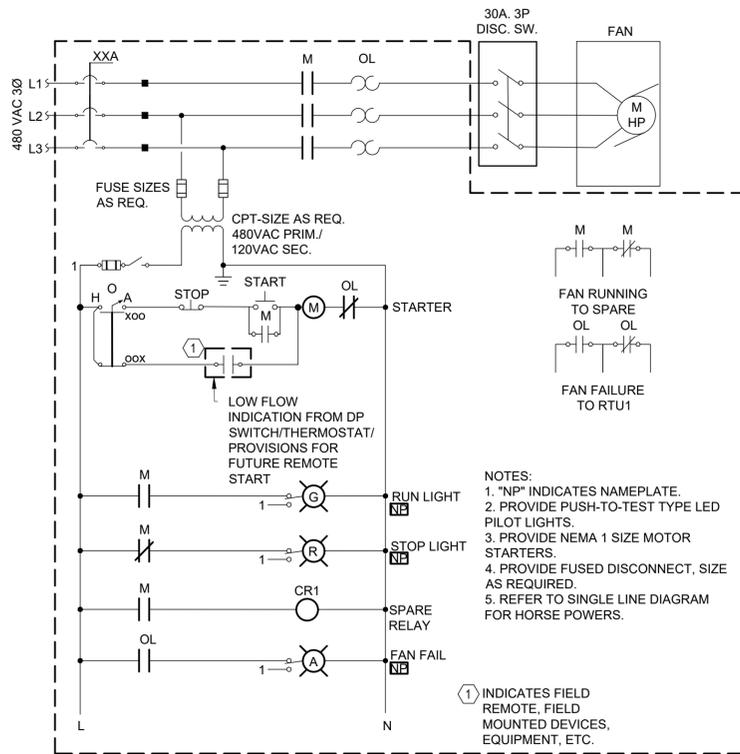
ROCKLAND COUNTY SEWER DISTRICT NO.1  
 ORANGETOWN, NEW YORK  
 ORANGETOWN WASTEWATER TREATMENT PLANT  
 SCREENING IMPROVEMENTS PROJECT

ELECTRICAL MISCELLANEOUS DETAILS I

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	E-09

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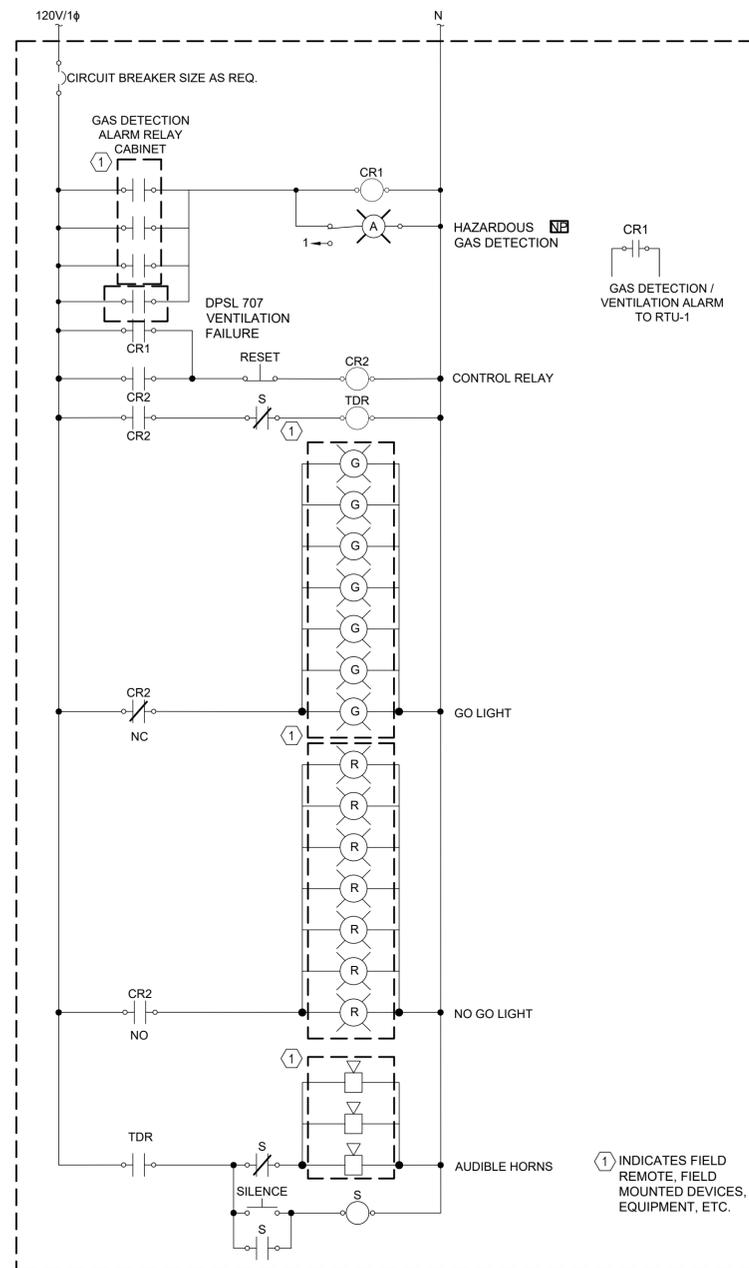
PROJECT ENGINEER:	R. FROST		
DESIGNED BY:	J. DULAK		
DRAWN BY:	B. LADA		
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**TYPICAL VENTILATION FAN  
ELEMENTARY DIAGRAM  
DETAIL**

1
E-10

- NOTES:
- THIS ELEMENTARY DIAGRAM IS TYPICAL FOR THE FOLLOWING:
    - BAR SCREEN EXHAUST (EMERGENCY) FAN
    - BAR SCREEN SUPPLY FAN
    - ELECTRICAL ROOM EXHAUST FAN

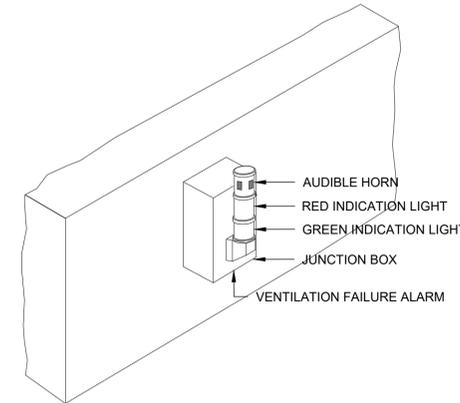


**GAS DETECTION ALARM RELAY  
CABINET ELEMENTARY  
DETAIL**

- NOTES:
- REFER TO FLOOR PLANS FOR ALARM RELAY CABINET LOCATION, GO/NO GO LIGHT AND AUDIBLE HORN QUANTITY, AND THE AIT LOCATION AND QUANTITY.

**DETAIL**

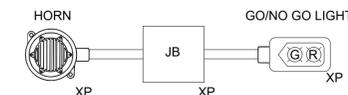
3
E-10



- VENTILATION FAILURE ALARM NOTES:
- AUDIBLE HORN TO PRODUCE 100dBa AT 10'.
  - RED INDICATION LIGHTS TO BE RED STROBING.
  - YELLOW INDICATION LIGHTS TO BE YELLOW STROBING.
  - GREEN INDICATION LIGHTS TO BE STEADY.
  - PROVIDE A SIGN LABELED AS "HAZARDOUS GAS/VENTILATION ALARM INDICATION GREEN-NOT DETECTED, RED-PRESENT" BELOW THE LIGHTS.

**STACKABLE WALL MOUNTED GO/NO GO  
ALARM TOWER LIGHT DETAIL  
DETAIL**

2
E-10



- NOTES:
- GO/NO GO LIGHT SHALL BE A FULLY ASSEMBLED EFS SERIES CONTROL STATION WITH PILOT LIGHTS. FROM CROUSE-HINDS OR APPROVED EQUAL.
  - HORN SHALL BE MODEL FEDERAL SIGNAL MODEL, 31X-024-1 OR APPROVED EQUAL.
  - GO/NO GO LIGHTS AND HORNS SHALL BE RATED FOR CLASS 1, DIV. 1 GROUP D AREAS.
  - PROVIDE A SIGN LABELED AS "HAZARDOUS GAS INDICATION GREEN-NOT DETECTED, RED-PRESENT" BELOW THE LIGHTS.

**HAZARDOUS MOUNTED GO/NO GO  
ALARM DETAIL  
DETAIL**

4
E-10



**Hazen**  
HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11TH FLOOR  
NEW YORK, NEW YORK 10018

ROCKLAND COUNTY SEWER DISTRICT NO.1  
ORANGEBURG, NEW YORK  
  
ORANGEBURG WASTEWATER  
TREATMENT PLANT  
SCREENING IMPROVEMENTS PROJECT

ELECTRICAL  
MISCELLANEOUS DETAILS II

DATE:	JUNE 2024
HAZEN NO.:	90462-000
CONT NO.:	RFB-RC-SWR-2023-06
DRAWING NUMBER:	E-10

File: C:\USERS\BCASULL\Documents\HAZEN AND SAWYER\90462-000\_EDS AND CA FOR RCSD SCREENS REHAB\PROJECT FILES\01\_DESIGN\ELEC\2306 E-10.dwg, Date: 6/24/2024 8:08 PM, BY: BCASULL

PROJECT ENGINEER:	R. FROST		
DESIGNED BY:	J. DULAK		
DRAWN BY:	B. LADA		
CHECKED BY:	G. LYNCH		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
REV	ISSUED FOR	DATE	BY
0	BID	06/2024	PDS

FOR BID