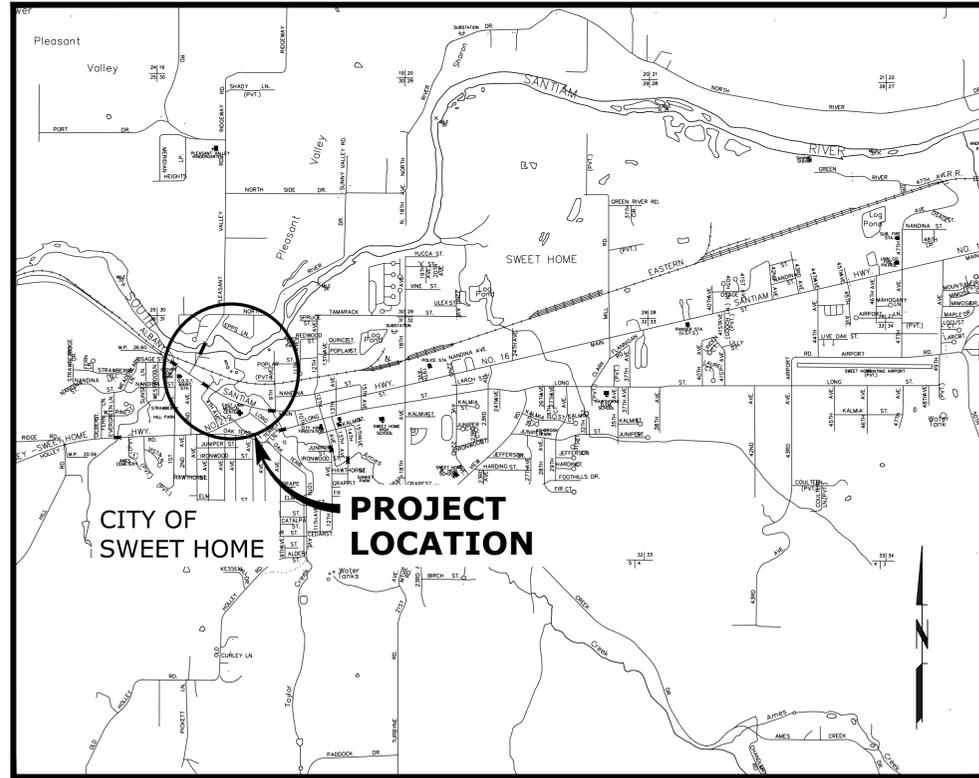




MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT - PHASE 1

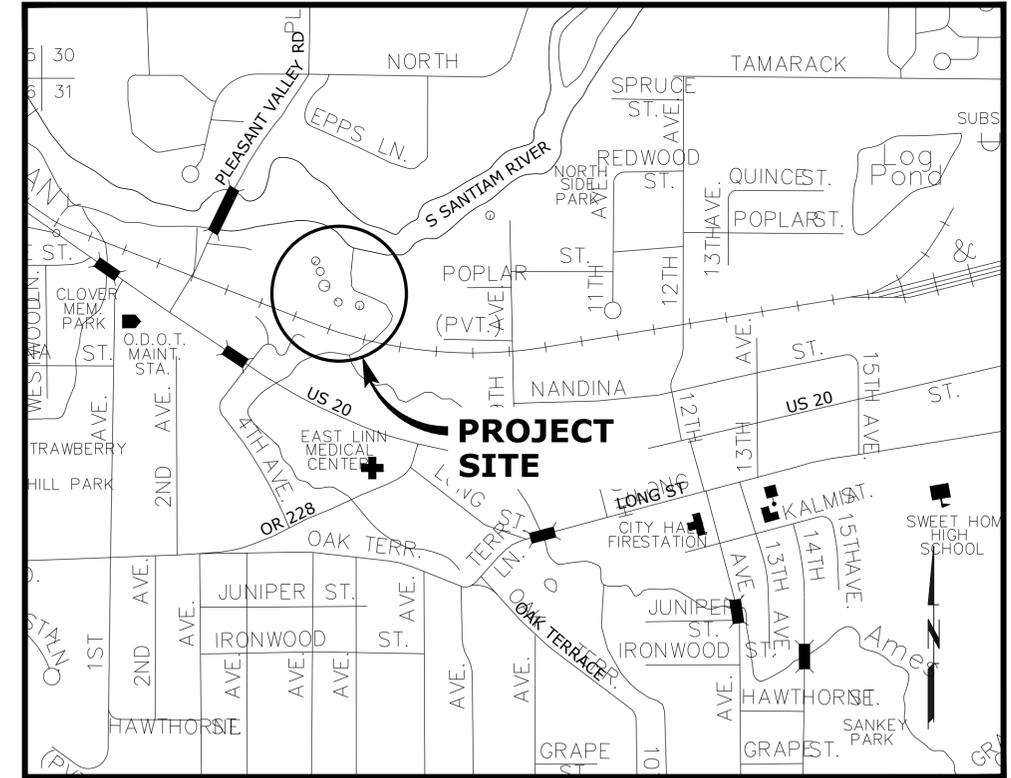
AUGUST 2022

VOLUME 3 OF 3



VICINITY MAP

SCALE: 1"=2000'



LOCATION MAP

SCALE: 1"=500'



ATTENTION: OREGON LAW REQUIRES THE CONTRACTOR TO FOLLOW THE RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. THE CONTRACTOR MAY OBTAIN COPIES OF THE RULES BY CALLING THE UTILITY NOTIFICATION CENTER. (NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS 503-246-6699.)

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GENERAL NOTES

1. CONTRACTOR SHALL OBTAIN ALL NECESSARY LOCAL, COUNTY, STATE, AND UTILITY CONSTRUCTION PERMITS, AND SHALL CONTACT EACH PERMITTING AGENCY AT LEAST TWO (2) BUSINESS DAYS PRIOR TO STARTING WORK. CONTRACTOR SHALL OBTAIN ALL REQUIRED LICENSES BEFORE STARTING CONSTRUCTION.
2. WHERE INTERRUPTION OF EXISTING FACILITIES IS REQUIRED, CONTRACTOR SHALL PROVIDE 72 HOUR NOTICE TO ENGINEER AND THE AFFECTED UTILITY. CONTRACTOR SHALL ARRANGE FOR THE RELOCATION OF ANY IN CONFLICT WITH THE PROPOSED CONSTRUCTION.
3. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF ORS 757.542 TO 757.562. THE CONTRACTOR SHALL NOTIFY EACH UNDERGROUND UTILITY AT LEAST 48 BUSINESS-DAY HOURS, BUT NOT MORE THAN 10 BUSINESS DAYS, PRIOR TO EXCAVATING, BORING, OR POTHOLING.
4. PROVIDE 24-HOUR ACCESS FOR OPERATIONS.
5. TOPOGRAPHIC MAP WAS COMPILED BY UDELL ENGINEERING & LAND SURVEYING. THE HORIZONTAL DATUM IS OREGON STATE PLANE.
6. ANY ALTERATION OR VARIANCE FROM THESE PLANS, EXCEPT MINOR FIELD ADJUSTMENT NEEDED TO MEET EXISTING FIELD CONDITIONS, SHALL FIRST BE APPROVED BY THE ENGINEER. ANY ALTERATIONS OR VARIANCE FROM THESE PLANS SHALL BE DOCUMENTED ON CONSTRUCTION FIELD PRINTS AND TRANSMITTED TO THE ENGINEER. ANY PROPOSED CHANGES IN CONSTRUCTION PLANS MUST BE SUBMITTED IN WRITING AND APPROVED BY ENGINEER PRIOR TO COMMENCING WORK.
7. CONTRACTOR SHALL KEEP AND MAINTAIN A CURRENT SET OF DRAWINGS ON SITE. CONTRACTOR TO KEEP ACCURATE "AS-BUILT" RECORD COPY OF PLANS. "AS-BUILT" PLANS TO BE RETURNED TO ENGINEER AT COMPLETION OF PROJECT.
8. CONTRACTOR SHALL NOTIFY THE ENGINEER AND OWNER 48 HOURS BEFORE STARTING CONSTRUCTION, AND 24 HOURS BEFORE RESUMING WORK AFTER SHUTDOWNS EXCEPT FOR NORMAL RESUMPTION OF WORK FOLLOWING SATURDAYS, SUNDAYS, OR HOLIDAYS. CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF 48 HOURS PRIOR TO ANY TESTING OR REQUIRED INSPECTION.
9. THE LIMITS OF THE SITE THAT MAY BE USED FOR CONSTRUCTION, STORAGE, MATERIALS HANDLING, PARKING OF VEHICLES AND OTHER OPERATIONS RELATED TO THE PROJECT ARE SHOWN ON THE PLANS. LIMITS OF WORK ALSO INCLUDE RIGHTS OF ACCESS OBTAINED BY THE CONTRACTOR, SUBJECT TO ALL PUBLIC LAWS AND REGULATIONS AND RIGHTS OF ACCESS BY UTILITY COMPANIES AND OTHER HOLDERS OF EASEMENT RIGHTS.
10. CONTRACTOR SHALL MAKE ALL ARRANGEMENTS NECESSARY TO OBTAIN SUFFICIENT WATER, POWER AND LIGHTING FOR CONSTRUCTION PURPOSES.
11. THE DRAWINGS SHOW APPROXIMATE LOCATIONS AND DEPTHS OF EXISTING UNDERGROUND UTILITIES. BEFORE ORDERING MATERIALS OR BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL POT-HOLE AND VERIFY THE LOCATION/DEPTH OF EXISTING UNDERGROUND UTILITIES AND REPORT ANY POTENTIAL CONFLICTS TO THE CONSTRUCTION MANAGER. CONTRACTOR SHALL KEEP EXISTING UTILITIES IN SERVICE AND PROTECT THEM DURING CONSTRUCTION.
12. CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE STARTING WORK AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
13. CONTRACTOR TO FIELD CHECK ALL EXISTING STRUCTURES FOR VERIFICATION OF DIMENSIONS WHERE EQUIPMENT IS TO BE INSTALLED.
14. CONTRACTOR SHALL REFER TO ALL RELATED DRAWINGS AND TO MANUFACTURER'S DRAWINGS FOR COMPLETE DETAILS OF A GIVEN FACILITY.
15. EXISTING ELEVATIONS SHOWN ON DRAWINGS WERE BASED ON SURVEY DATA AND INFORMATION SUPPLIED BY THE UTILITY COMPANIES. CONTRACTOR SHALL FIELD VERIFY ALL ELEVATIONS SHOWN ON DRAWINGS.
16. SEE ALL DISCIPLINE DRAWINGS FOR ADDITIONAL SYMBOLS AND NOTES.
17. NOT ALL EXISTING UTILITIES AND UNDERGROUND STRUCTURES ARE SHOWN IN DRAWINGS. THE LOCATION OF EXISTING UTILITIES AND OTHER UNDERGROUND STRUCTURES SHOWN ON THE DRAWINGS IS APPROXIMATE AND THEIR ACTUAL LOCATIONS MAY VARY FROM THAT SHOWN. CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL UNDERGROUND FEATURES THAT MAY BE AFFECTED BY THE WORK.
18. CONTRACTOR SHALL PROTECT ALL EXISTING APPURTENANCES THAT REMAIN INCLUDING THOSE LOCATED WITHIN PAVED AREAS, WHETHER OR NOT SHOWN ON THE DRAWINGS, UNTIL READJUSTED. SUCH ITEMS INCLUDE, BUT ARE NOT LIMITED TO, VALVE CANS, ELECTRICAL MANHOLES, PULL BOXES, CATHODIC PROTECTION TEST STATIONS, MANHOLE AND CLEANOUT CASTINGS, AND SURVEY MONUMENTS.
19. CONTRACTOR SHALL NOTIFY CONSTRUCTION MANAGER WHERE THE WORK MIGHT CAUSE SURVEY MONUMENTS TO BECOME DISTURBED OR DESTROYED. CONTRACTOR SHALL PROVIDE A LICENSED LAND SURVEYOR TO SET REFERENCES AND RESTORE SURVEY MONUMENTS IN ACCORDANCE WITH COUNTY AND CITY STANDARDS.
20. ALL AREAS DISTURBED OUTSIDE THE WORK AREA SHALL BE RESTORED TO THE PRE-DISTURBED CONDITION.
21. TYPICAL DETAILS SHALL BE USED FOR ALL PERMANENT WORK, EVEN THOUGH THEY ARE NOT CALLED OUT AT ALL LOCATIONS WHERE THEY APPLY. REFER TO TYPICAL DETAILS SHEETS.
22. REFER TO SECTION 01 12 16 FOR WORK RESTRICTIONS INCLUDING SEQUENCING REQUIREMENTS AND REQUIREMENTS TO MAINTAIN DESIGNATED FACILITIES AND UTILITIES IN SERVICE DURING CONSTRUCTION. THE CITY OF SWEET HOME WASTEWATER FACILITIES IMPROVEMENTS REQUIRES DETAILED PLANNING OF CONSTRUCTION SEQUENCING, SPECIAL COORDINATION AND COMPREHENSIVE PROGRAMMING, COMBINED WITH OTHER SPECIAL WORK ACTIVITIES. CONTRACTOR SHALL PREPARE AND SUBMIT A DETAILED WORK SEQUENCE PLAN TO THE ENGINEER FOR REVIEW AT THE PRE-CONSTRUCTION CONFERENCE.
23. CONTRACTOR SHALL COORDINATE AND NOTIFY THE CONSTRUCTION MANAGER WHEN WORK IS READY FOR INSPECTIONS. PRESENCE OR ABSENCE OF INSPECTOR WILL NOT RELIEVE CONTRACTOR OF FULL RESPONSIBILITY FOR PROPER PERFORMANCE OR WORK.
24. CONTRACTOR SHALL REMOVE AND LEGALLY DISPOSE OF ALL MATERIALS THAT ARE TO BE REMOVED FROM THE SITE INCLUDING, SURPLUS EXCAVATION MATERIALS AND DEBRIS ITEMS DESIGNATED BY THE OWNER FOR SALVAGING SHALL REMAIN THE PROPERTY OF THE OWNER, AND SHALL BE CAREFULLY REMOVED AND STORED AS DIRECTED.
25. CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS AND SECURITY, INCLUDING PROTECTION OF PUBLIC AND PRIVATE PROPERTY ADJACENT TO WORK DURING THE CONSTRUCTION OF THE PROJECT.
26. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH ALL CURRENTLY APPLICABLE SAFETY LAWS OF ANY JURISDICTIONAL BODY. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL BARRICADES, SAFETY DEVICES, AND CONTROL TRAFFIC WITHIN CONSTRUCTION AREAS AS REQUIRED. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR COMPLIANCE WITH ADDITIONAL PUBLIC SAFETY REQUIREMENTS WHICH MAY ARISE DURING CONSTRUCTION.
27. CONTRACTOR SHALL BE COMPLETELY RESPONSIBLE FOR PROTECTING ANY TREES NOT DESIGNATED FOR REMOVAL. ANY TREE DAMAGE SHALL BE REPLACED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.
28. DURING CONSTRUCTION PHASE, CONTRACTOR MUST MAINTAIN SEWER, POWER AND WATER SERVICES FOR THE WWTP OPERATION.
29. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSPECT THE NATURE AND CONDITION OF ALL FACILITIES TO BE DEMOLISHED, MODIFIED OR ALTERED PRIOR TO SUBMITTAL OF BID. INSPECTION SHALL TAKE PLACE DURING PRE-BID VISIT TO SITE CONDUCTED BY OWNER.
30. CONTRACTOR SHALL PROTECT FROM DAMAGE ANY EXTERIOR PLANTINGS, STRUCTURES AND EQUIPMENT NOT SUBJECT TO REMOVAL.
31. CONTRACTOR IS REQUIRED TO COORDINATE ALL DEMOLITION WORK WITH THE OPERATION OF THE WWTP. CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH COORDINATION.
32. SITE PREPARATION, DEMOLITION AND REMOVAL SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS AND AS APPROVED BY THE CM.
33. UTILITIES OR INTERFERING PORTIONS OF UTILITIES THAT ARE ABANDONED IN PLACE SHALL BE REMOVED BY THE CONTRACTOR TO THE EXTENT NECESSARY TO ACCOMPLISH THE WORK. IDENTIFY LENGTHS AND ELEVATIONS OF ABANDONED PIPING THAT ARE NOT REMOVED FOR RECORD DRAWING PURPOSES. ALL PIPELINES SHALL BE REMOVED OR PLUGGED.
34. DEMO WORK TO INCLUDE REMOVAL AND OFFSITE DISPOSAL OF ALL ASPHALT CONCRETE, CONCRETE, PIPING, EQUIPMENT AND OTHER NON-NATIVE MATERIALS AND SELECT VEGETATION TO THE DEPTH OF EXCAVATION REQUIRED FOR CONSTRUCTION OF THIS PROJECT.
6. CONTRACTOR SHALL RESTORE ALL EXISTING FEATURES, INCLUDING BUT NOT LIMITED TO, ROADWAYS, STRUCTURES, CURBS, SIDEWALKS, FENCES, WALLS, PLANTINGS, MAILBOXES, SIGNS, PIPING, AND UTILITIES DISTURBED DURING CONSTRUCTION TO EXISTING CONDITIONS UNLESS OTHERWISE SPECIFIED. SUCH RESTORATION WILL BE CONSIDERED INCIDENTAL.
7. ALL SURVEY AND STAKING NECESSARY FOR CONSTRUCTION SHALL BE PROVIDED BY THE CONTRACTOR. THE CONTRACTOR SHALL DEVELOP AND MAKE ALL DETAIL SURVEYS NECESSARY TO ESTABLISH PRINCIPAL LINES AND GRADES. SURVEY CONTROL BENCHMARKS ARE PROVIDED ON SHT C-010.
8. PROTECT FRESHLY POURED CONCRETE FROM VANDALISM OR OTHER DAMAGE FOR A MINIMUM OF TWENTY-FOUR (24) HOURS OR UNTIL CURED ENOUGH TO SUPPORT TYPICAL USE, WHICHEVER IS LONGER. ANY CONCRETE DAMAGED BY VANDALISM OR OTHER CAUSES SHALL BE REPLACED AT NO COST TO THE CITY.

PIPELINE NOTES

1. ALL SEWAGE FORCE MAIN JOINTS SHALL BE RESTRAINED. RESTRAIN ALL VALVES, TEES, BENDS, AND FITTINGS WITH MECHANICAL JOINT RESTRAINTS AND INSTALL CONCRETE THRUST BLOCKS WHERE SHOWN. ALL FITTINGS TO BE MECHANICAL JOINT UNLESS OTHERWISE NOTED.
2. CONTRACTOR TO PROVIDE "AS CONSTRUCTED" DRAWINGS INDICATING FINAL LOCATION AND ELEVATION, GRADE, ALIGNMENT, FITTINGS AND MATERIALS INSTALLED AND ALL OTHER UTILITIES OR OBSTACLES SHOWN ON THESE PLANS AND SHALL BE UPDATED CONTINUOUSLY THROUGHOUT CONSTRUCTION. AS CONSTRUCTED DRAWINGS SHALL BE "RED LINES" OF THE DESIGN DRAWINGS.
3. AT THE END OF EACH WORKDAY, ALL OPEN TRENCHES SHALL BE BACKFILLED OR COVERED AND SECURED WITH PINNED PLATES. ALL TRENCHES IN TRAFFIC AREAS SHALL BE PAVED WITH TEMPORARY HOT MIX ASPHALT.
4. CONTRACTOR SHALL COMPLY WITH ALL OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ) REQUIREMENTS IN THE DISPOSAL OF CHLORINATED WATER. SEE SPECIFICATIONS.
5. SEE SPECIFICATION SECTION 01 12 16 WORK SEQUENCE FOR PROJECT SPECIFIC WORK CONSTRAINTS.

NO.	DATE	BY	REVISION

NOTICE

 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

WJS
 DESIGNED
 SMB
 DRAWN
 PLVM
 CHECKED



MAHLER WATER RECLAMATION FACILITY IMPREVENTS PROJECT PHASE 1

GENERAL & CIVIL NOTES

SHEET

G-002

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PROJECT NO.: 19-2605 SCALE: NO SCALE DATE: August 2022

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PIPE & FITTING SYMBOLS

PLANT	SCHEMATIC	
		WELDED JOINT
		FLANGED JOINT
		GROOVED END JOINT
		MECHANICAL JOINT
		PUSH-ON JOINT (RUBBER GASKET)
		FLANGED COUPLING ADAPTER
		DOUBLE BALL FLEXIBLE EXTENSION COUPLING
		FLEXIBLE COUPLING W/ THRUST RING
		90° BEND UP
		90° BEND DOWN
		TEE UP
		TEE DOWN
		LATERAL UP
		LATERAL DOWN
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER
		UNION
		BLIND FLANGE
		CAP
		LONG SLEEVE
		FLEXIBLE COUPLING
		FITTING (45°)

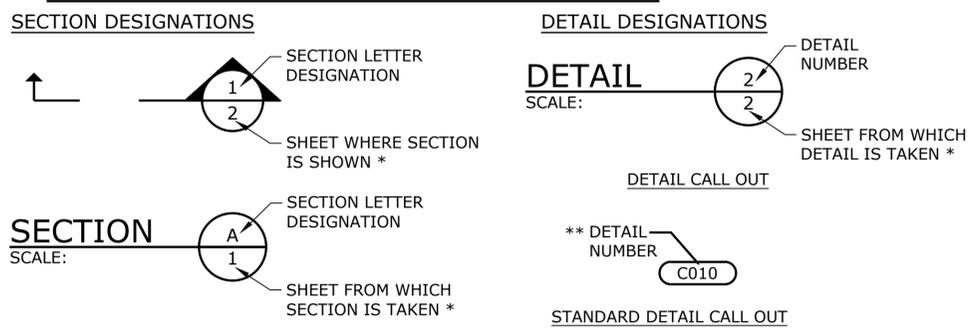
VALVE SYMBOLS

PLANT	SCHEMATIC		
		BUTTERFLY VALVE	V-100+
		BALL VALVE	V-200+
		PLUG VALVE (TOP)	V-300+
		3-WAY PLUG VALVE	V-300+
		CHECK VALVE	V-400+
		DOUBLE CHECK ASSEMBLY	V-400+
		BALL SWING CHECK	V-400+
		REDUCED PRESSURE BACKFLOW PREVENTER W/ GATE VALVES	V-400+
		GATE VALVE	V-500+
		NEEDLE VALVE	V-600+
		GLOBE VALVE	V-700+
		HOSE VALVE	V-700+
		RELIEF VALVE	V-800+
		PRESSURE REDUCING VALVE	V-800+
		SOLENOID VALVE	V-900+
		HOSE BIBB	

TOPOGRAPHIC LEGEND

	EXISTING	PROPOSED
WATERLINE	--- 10"W ---	— 12"DI W —
ELECTRICITY UNDERGROUND	--- E ---	— E —
ELECTRICITY OVERHEAD	--- OVHD ---	
GAS	--- 4"G ---	— 4"G —
TELEPHONE/TELEMETRY	--- T ---	— T —
CABLE TELEVISION	--- CATV ---	— CATV —
SANITARY SEWER LINE	--- 8"SS ---	— 8"SS —
SANITARY SEWER FORCE MAIN	--- 6"FM ---	— 6"FM —
STORM DRAIN	--- 8"SD ---	— 8"SD —
CULVERT	== == == ==	— 18"D —
ABANDON PIPE		+++++
REMOVE PIPE/ STRUCTURE		xxxxxxx
DRAINAGE DITCH	.....
CHAIN LINK FENCE	o-o-o-o-o	o-o-o-o-o
TEMPORARY SILT FENCE		□
GUARDRAIL	.....
ROCK WALL	.....
TREE/BUSH LINE	.....
CENTERLINE	---	---
EASEMENT/PROPERTY LINE	---	---
RIGHT-OF-WAY	---	---
EDGE OF PAVEMENT/AC	.....	.....
EDGE OF GRAVEL	.....	.....
CURB	====	====
SIDEWALK	..... S/W	.....
STRUCTURE OR FACILITY	□	□
CONTOUR MINOR	.....	.....
CONTOUR MAJOR	..... 200	..... 200
MANHOLE	●	●
CLEAN-OUT	○	○
CATCH BASIN/FIELD INLET	□	□
THRUST BLOCK	△	△
VALVE	⊗	⊗
AIR RELEASE ASSEMBLY	⊕	⊕
FIRE HYDRANT ASSEMBLY	⊙	⊙
WATER METER	⊞	⊞
PULL BOX/JUNCTION BOX	□	□
UTILITY POLE	○	○
GUY WIRE	┆	┆
LIGHT POST	⊙	⊙
MAILBOX	□	□
SIGN	┆	┆
BENCHMARK	⊕	⊕
TREE DECIDUOUS	○	○
TREE CONIFEROUS	○	○
TREE TO BE REMOVED	○	○
SURFACE ELEVATION	+ 176.63	+ 176.63

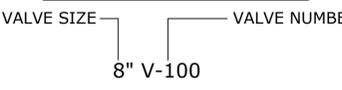
SECTION AND DETAIL DESIGNATIONS



EXAMPLE PIPE CALL OUT



EXAMPLE VALVE CALL OUT



FLOW STREAM ABBREVIATIONS

DR	DRAIN (PROCESS)	PSC	PRIMARY SCUM
FM	INFLUENT PUMP STATION FORCEMAIN	SD	STORM DRAIN
INF	INFLUENT PUMP STATION DISCHARGE	SL-D	DIGESTED SLUDGE
INF	INFLUENT PUMP STATION INLET	SL-WAS	WAS SLUDGE
PFD	PERFORATED DRAIN	SS	SANITARY SEWER
PS	PRIMARY SLUDGE	W	POTABLE WATER

* NOTE: IF PLAN AND SECTION FOR DETAIL CALL-OUT AND DETAIL ARE SHOWN ON THE SAME DRAWING, DRAWING NUMBER IS REPLACED WITH A DASH.
 **STANDARD DETAILS ARE ON DETAIL SHEETS

NO.	DATE	BY	REVISION

NOTICE

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

WJS
DESIGNED
SMB
DRAWN
PLVM
CHECKED



MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

GENERAL & CIVIL SYMBOLS

PROJECT NO.: 19-2605 SCALE: NO SCALE DATE: August 2022

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@	AASHTO	AT	AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS
AB	ANCHOR BOLT	ABE	AERATION BASIN EFFLUENT
ABI	AERATION BASIN INFLUENT	ABD	ABANDON(ED)
ABS	ACRYLONITRILE BUTADIENE STYRENE	ABV	ABOVE / ALCOHOL BY VOLUME
AC	ASPHALTIC CONCRETE	ACP	ASPHALTIC CONCRETE PAVING
ADJ	ADJUSTABLE	ADJC	ADJACENT
AFF	ABOVE FINISHED FLOOR	AFG	ABOVE FINISHED GRADE
AHR	ANCHOR	AL	ALUMINUM
ALT	ALTERNATE	AMP	AMPERE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	APPROX	APPROXIMATE
APPVD	APPROVED	APWA	AMERICAN PUBLIC WORKS ASSOCIATION
ARCH	ARCHITECTURAL	ARV	AIR RELEASE VALVE
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	ASSN	ASSOCIATION
ASSY	ASSEMBLY	ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS
ATM	ATMOSPHERIC	AUTO	AUTOMATIC
AUX	AUXILIARY	AVE	AVENUE
AVG	AVERAGE	AWWA	AMERICAN WATER WORKS ASSOCIATION
B&S	BELL & SPIGOT	BC	BOLT CIRCLE
BF	BOTH FACE	BFD	BACKFLOW PREVENTION DEVICE
BFILL	BACKFILL	BFV	BUTTERFLY VALVE
BHP	BRAKE HORSEPOWER	BKGD	BACKGROUND
BLDG	BUILDING	BLVD	BOULEVARD
BM	BENCHMARK / BEAM	BMP	BEST MANAGEMENT PRACTICES
BO	BLOW-OFF	BOC	BACK OF CURB
BS	BOTH SIDES	BSMT	BASEMENT
BTF	BOTTOM FACE	BTU	BRITISH THERMAL UNIT
BV	BALL VALVE	BW	BOTH WAYS
C	CELSIUS	C TO C	CENTER TO CENTER
CAK	BIOSOLIDS CAKE	CARV	COMBINATION AIR RELEASE VALVE
CAS	CAUSTIC SODA	CATV	CABLE TELEVISION
CB	CATCH BASIN	CCP	CONCRETE CYLINDER PIPE
CCW	COUNTER CLOCKWISE	CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND	CHAN	CHANNEL
CHEM	CHEMICAL	CHFR	CHAMFER
CHKV	CHECK VALVE	CI	CAST IRON
CIP	CAST IRON PIPE	CIPC	CAST IN PLACE CONCRETE
CISP	CAST IRON SOIL PIPE	CJ	CONSTRUCTION JOINT
CL OR C/L	CENTER LINE	CL2	CHLORINE
CLG	CEILING	CLJ	CONTROL JOINT
CLR	CLEAR	CLSM	CONTROLLED LOW STRENGTH MATERIAL
CMP	CORRUGATED METAL PIPE	CMU	CONCRETE MASONRY UNIT
CND	CONDUIT		

CNT	CONTROL POINT	CO	CLEANOUT
COL	COLUMN	COMB	COMBINATION
CONC	CONCRETE	CONN	CONNECTION
CONST	CONSTRUCTION	CONT	CONTINUOUS / CONTINUATION
CONTR	CONTRACT(OR)	COORD	COORDINATE
COP	COPPER	CORP	CORPORATION
CORR	CORRUGATED	CP	CONTROL POINT
CPLG	COUPLING	CPVC	CHLORINATED POLYVINYL CHLORIDE
CRUSHED	CRUSHED ROCK	CS	COMBINED SLUDGE
CSP	CONCRETE SEWER PIPE	CT	COURT
CTR	CENTER	CU	CUBIC
CULV	CULVERT	CV	CONTROL VALVE
CW	CLOCKWISE / COLD WATER	CY	CUBIC YARDS
CYL	CYLINDER LOCK	DC	DIRECT CURRENT
DEFL	DEFLECTION	DEG	DEGREE
DET	DETAIL	DI	DUCTILE IRON
DIA	DIAMETER	DIM	DIMENSION
DIPS	DUCTILE IRON PIPE SIZE	DIR	DIRECTION
DIST	DISTANCE	DN	DOWN
DR	DRAIN	DS	DIGESTER SLUDGE
DWG	DRAWING	DWL	DOWEL
DWV	DRAIN WASTE AND VENT	DWY	DRIVEWAY
E OR ELEC	ELECTRICAL	EA	EACH
ECC	ECCENTRIC	EF	EACH FACE
EFF	EFFLUENT	EL	ELEVATION
ELB	ELBOW	ENCL	ENCLOSURE
EOP	EDGE OF PAVEMENT	EP	EDGE OF PAVEMENT
EQ	EQUAL	EQL SP	EQUALLY SPACED
EQUIP	EQUIPMENT	ESMT	EASEMENT
EW	EACH WAY	EXC	EXCAVATE
(E), EXIST	EXISTING	EXP	EXPANSION
EXP BT	EXPANSION BOLT	EXP JT	EXPANSION JOINT
EXT	EXTERIOR	F	FAHRENHEIT
F TO F	FACE TO FACE	FAB	FABRICATE
FB	FLAT BAR	FCA	FLANGED COUPLING ADAPTER
FCO	FLOOR CLEANOUT	FD	FLOOR DRAIN
FDN	FOUNDATION	FE	FINAL EFFLUENT
FEXT	FIRE EXTINGUISHER	FF	FAR FACE
FG	FINISH GRADE	FGL	FIBERGLASS
FH	FIRE HYDRANT	FIN	FINISH(ED)
FIPT	FEMALE IRON PIPE THREAD	FITG	FITTING
FL	FLOOR LINE	FLX	FLEXIBLE
FLG	FLANGE	FLL	FLOW LINE

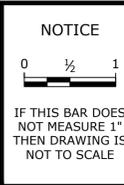
FLR	FLOOR	FM	FORCE MAIN
FO	FIBER OPTIC	FOC	FACE OF CONCRETE
FOF	FACE OF FINISH	FOM	FACE OF MASONRY
FOS	FACE OF STUDS	FPM	FEET PER MINUTE
FPS	FEET PER SECOND	FRP	FIBERGLASS REINFORCED PLASTIC
FT	FEET / FOOT	FTG	FOOTING
FUT	FUTURE	FUTR	FIXTURE
G	GAS	GA	GAUGE
GAL	GALLON	GALV	GALVANIZED
GC	GROOVED COUPLING	GEN	GENERATOR
GFA	GROOVED FLANGE ADAPTER	GI	GALVANIZED IRON
GIP	GALVANIZED IRON PIPE	GJ	GRIP JOINT
GL	GLASS	GLV	GLOBE VALVE
GND	GROUND	GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR	GPM	GALLONS PER MINUTE
GPS	GALLONS PER SECOND, GLOBAL POSITIONING SYSTEM	GR	GRIT
GR LN	GRADE LINE	GRTG	GRATING
GV	GATE VALVE	GRVL	GRAVEL
GYP	GYP SUM	HB	HOSE BIBB
HC	HOLLOW CORE	HDPE	HIGH DENSITY POLYETHYLENE
HDR	HEADER	HDWE	HARDWARE
HGR	HANGER	HGT	HEIGHT
HH	HANDHOLD	HM	HOLLOW METAL
HMAC	HOT MIX ASPHALT CONCRETE	HNDRL	HANDRAIL
HOA	HAND-OFF-AUTO	HOR	HAND-OFF-REMOTE / HORIZONTAL
HP	HIGH PRESSURE / HORSEPOWER	HPG	HIGH PRESSURE GAS
HPT	HIGH POINT	HR	HOUR
HSB	HIGH STRENGTH BOLT	H/T	HUB AND TACK
HV	HOSE VALVE	HVAC	HEATING, VENTILATION, AIR CONDITIONING
HW	HOT WATER	HWL	HIGH WATER LINE
HWY	HIGHWAY	HYD	HYDRANT
HYDR	HYDRAULIC	I&C	INSTRUMENTATION & CONTROL
ID	INSIDE DIAMETER	IE	INVERT ELEVATION
IF	INSIDE FACE	IMPVT	IMPROVEMENT
IN	INCH	INCC	INCLUDE(D)(ING)
INFL	INFLUENT	INJ	INJECTION
INSTL	INSTALLATION / INSTALL	INSUL	INSULATION
INTER	INTERCEPTOR	INTR	INTERIOR
INV	INVERT	IP	IRON PIPE
IPS	INFLUENT PUMP STATION	IPT	IRON PIPE THREAD
IR	IRON ROD	IRRIG	IRRIGATION
JT	JOINT		

JUNC	JUNCTION	KPL	KICK PLATE
KVA	KILOVOLT AMPERE	KW	KILOWATT
KWY	KEYWAY	L	LENGTH
LAB	LABORATORY	LAV	LAVATORY
LB	POUND	LF	LINEAR FOOT
LIN	LINEAL	LOC	LOCATION
LONG	LONGITUDINAL	LP	LOW PRESSURE
LPT	LOW POINT	LRG	LARGE
LS	LONG SLEEVE / LUMP SUM	LT	LEFT
LVL	LEVEL	LWL	LOW WATER LINE
MAN	MANUAL	MAT	MATERIAL
MAX	MAXIMUM	MCC	MOTOR CONTROL CENTER
MCP	MASTER CONTROL PANEL	MEB	MAIN ELECTRICAL & BLOWER BUILDING
MECH	MECHANICAL	MET	METAL
MFR	MANUFACTURER	MGD	MILLION GALLONS PER DAY
MH	MANHOLE	MIN	MINIMUM
MIPT	MALE IRON PIPE THREAD	MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT	MON	MONUMENT / MONOLITHIC
MOT	MOTOR	MP	MILEPOST
MSL	MEAN SEAL LEVEL	MTD	MOUNTED
NA	NOT APPLICABLE	NAV88	NORTH AMERICAN VERTICAL DATUM OF 1988
NC	NORMALLY CLOSED	NF	NEAR FACE
NIC	NOT IN CONTRACT	NO / NO.	NORMALLY OPEN / NUMBER
NOM	NOMINAL	NORM	NORMAL
NRS	NON-RISING STEM	NTS	NOT TO SCALE
O TO O	OUT TO OUT	OC	ON CENTER
OD	OUTSIDE DIAMETER	ODOT	OREGON DEPARTMENT OF TRANSPORTATION
OF	OVERFLOW / OUTSIDE FACE	OPNG	OPENING
OPP	OPPOSITE	ORIG	ORIGINAL
OVHD	OVERHEAD	(P)	PROPOSED / NEW
P&ID	PROCESS & INSTRUMENTATION DIAGRAM	PA	PROCESS AIR
PC	POINT OF CURVE	PCC	POINT OF COMPOUND CURVE
PCVC	POINT OF CURVATURE ON VERTICAL CURVE	PE	PRIMARY EFFLUENT
PERF	PERFORATED	PERM	PERMANENT
PERP	PERPENDICULAR	PEX	CROSS-LINKED POLYETHYLENE
PG	PRESSURE GAUGE	PH	PIPE HANGER
PI	PRIMARY INFLUENT	PIVC	POINT OF INTERSECTION ON VERTICAL CURVE
PK	SURVEY "PK" NAIL	PL OR P/L	PROPERTY LINE / PLATE / PLASTIC
PLBG	PLUMBING	PLE	PLANE END
PNL	PANEL	POC	POINT OF CURVATURE

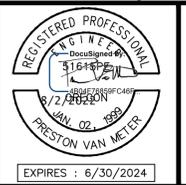
POL	POLYMER	POLY	POLYETHYLENE
PP	POWER POLE	PRC	POINT OF REVERSE CURVATURE
PRCST	PRECAST	PREP	PREPARATION
PRESS	PRESSURE	PRKG	PARKING
PROP	PROPERTY	PRV	PRESSURE REDUCING VALVE
PS	PUMP STATION/PRIMARY SLUDGE	PSC	PRIMARY SCUM
PSIG	POUNDS PER SQUARE INCH GAUGE	PSL	PIPE SLEEVE
PSPT	PIPE SUPPORT	PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE	PVMT	PAVEMENT
PWR	POWER	QTY	QUANTITY
R, RAD	RADIUS	RAS	RETURN ACTIVATED SLUDGE
RC	REINFORCED CONCRETE	RCD	REINFORCED CONCRETE PIPE
RD	ROAD / ROOF DRAIN	RDCR	REDUCER
RDRS	RECYCLE DRAIN PUMP STATION	REF	REFERENCE
REINF	REINFORCED(D)(ING)(MENT)	REQ'D	REQUIRED
RESTR	RESTRAINED	RFCA	RESTRAINED FLANGE COUPLING ADAPTER
RM	ROOM	RND	ROUND
RO	ROUGH OPENING	R/W	RIGHT-OF-WAY
RPBPD	REDUCED PRESSURE BACKFLOW PREVENTION DEVICE	RPC	RED PLASTIC CAP
RPM	REVOLUTIONS PER MINUTE	RR	RAILROAD
RS	RAW SEWAGE	RST	REINFORCED STEEL
RT	RIGHT	S	SLOPE
SALV	SALVAGE	SAN	SANITARY
SC	SOLID CORE	SCE	SECONDARY CLARIFIER EFFLUENT
SCH	SCHEDULE	SCM	SCUM
SCRN	SCREENINGS	SD	STORM DRAIN
SDI	STORM DRAIN INLET	SDL	SADDLE
SDLAT	STORM DRAIN LATERAL	SDR	STANDARD DIMENSION RATIO
SECT	SECTION	SHLDR	SHOULDER
SHT	SHEET	SIM	SIMILAR
SL	SLUDGE	SLD	DIGESTED SLUDGE
SLP	SLOPE	SLV	SLEEVE
SOLN	SOLUTION	SP	SOIL PIPE / SEWER PIPE
SPCL	SPECIAL	SPEC(S)	SPECIFICATION(S)
SPG	SPACING	SPL	SPOOL
SPRT	SUPPORT	SQ	SQUARE
SQ FT	SQUARE FOOT	SQ IN	SQUARE INCH
SQ YD	SQUARE YARD	SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEANOUT	SST	STAINLESS STEEL
ST	STREET	STA	STATION
STD	STANDARD	STL	STEEL
STOR	STORAGE	STR	STRAIGHT

STRUCT	STRUCTURE / STRUCTURAL	T OR TEL	TELEPHONE
SUBMG	SUBMERGED	T&B	TOP & BOTTOM
SUCT	SUCTION	TAN	TANGENCY
SV	SOLENOID VALVE	TB	THRUST BLOCK
S/W	SIDEWALK	TBM	TEMPORARY BENCHMARK
SWD	SIDEWATER DEPTH	TC	TOP OF CONCRETE / TOP OF CURB
SWGR	SWITCH GEAR	TCE	TEMPORARY CONSTRUCTION EASEMENT
SYMM	SYMMETRICAL	TDH	TOTAL DYNAMIC HEAD
SYS	SYSTEM	TEMP	TEMPERATURE / TEMPORARY
		T&G	TONGUE & GROOVE
		THK	THICK / THICKNESS
		THRD	THREAD (ED)
		THRU	THROUGH
		TP	TEST PIT / TOP OF PAVEMENT / TURNING POINT
TRANS	TRANSITION	TSP	TRI-SODIUM PHOSPHATE
TST	TOP OF STEEL	TW	TOP OF WALL
TWAS	THICKENED WASTE ACTIVATED SLUDGE	TYP	TYPICAL
UG	UNDERGROUND	UH	UNIT HEATER
UN	UNION	UNO	UNLESS NOTED OTHERWISE
USGS	UNITED STATES GEOLOGIC SURVEY	UW	UTILITY WATER
V	VENT / VOLT	VAC	VACUUM
VB	VACUUM BREAKER	VBOX	VALVE BOX
VC	VERTICAL CURVE	VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE	VOL	VOLUME
VCP	VITRIFIED CLAY PIPE	VTR	VENT THROUGH ROOF
W1	POTABLE WATER	W2	NON-POTABLE WATER
W/	WITH	W/IN	WITHIN
W/O	WITHOUT	W/W	WALL TO WALL
WAS	WASTE ACTIVATED SLUDGE	WD	WOOD
WF	WIDE FLANGE	WH	WATER HEATER
WI	WROUGHT IRON	WM	WATER METER
WP	WORKING POINT / WATERPROOFING	WS	WATER SERVICE
WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION	WT	WEIGHT
WTP	WATER TREATMENT PLANT	WTR	WATER
WTRT	WATERTIGHT	WWF	WELDED WIRE FABRIC
WWTF	WASTEWATER TREATMENT FACILITY	WWTP	WASTEWATER TREATMENT PLANT
X SECT	CROSS SECTION	XFMR	TRANSFORMER
YD	YARD DRAIN / YARD	YH	YARD HYDRANT
YR	YEAR	ZN	ZINC

NO.	DATE	BY	REVISION



WJS
DESIGNED
SMB
DRAWN
PLVM
CHECKED



MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

GENERAL & CIVIL ABBREVIATIONS

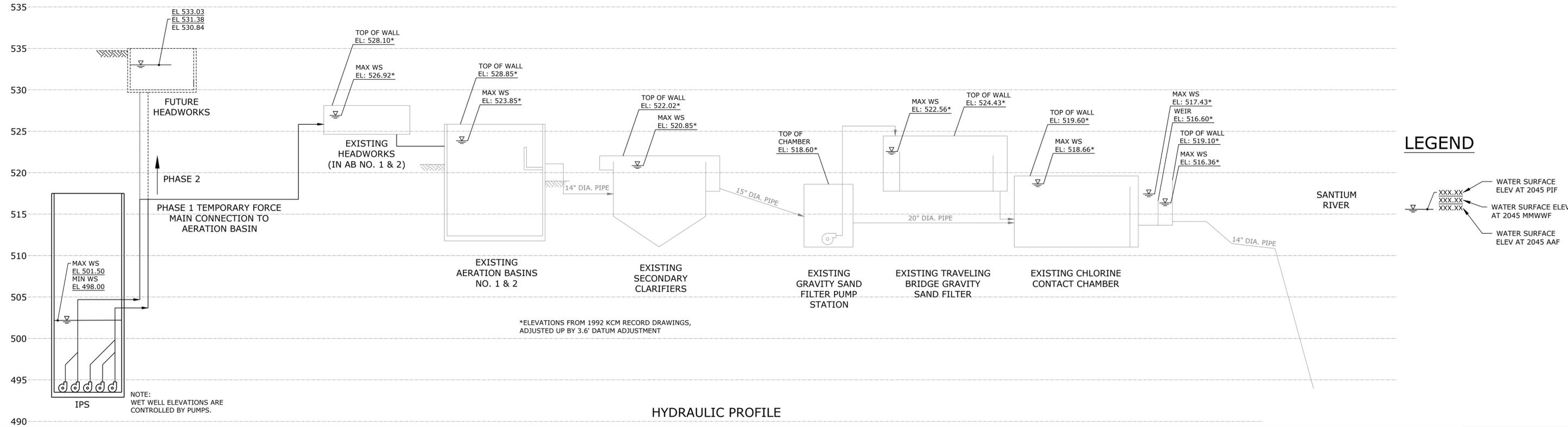
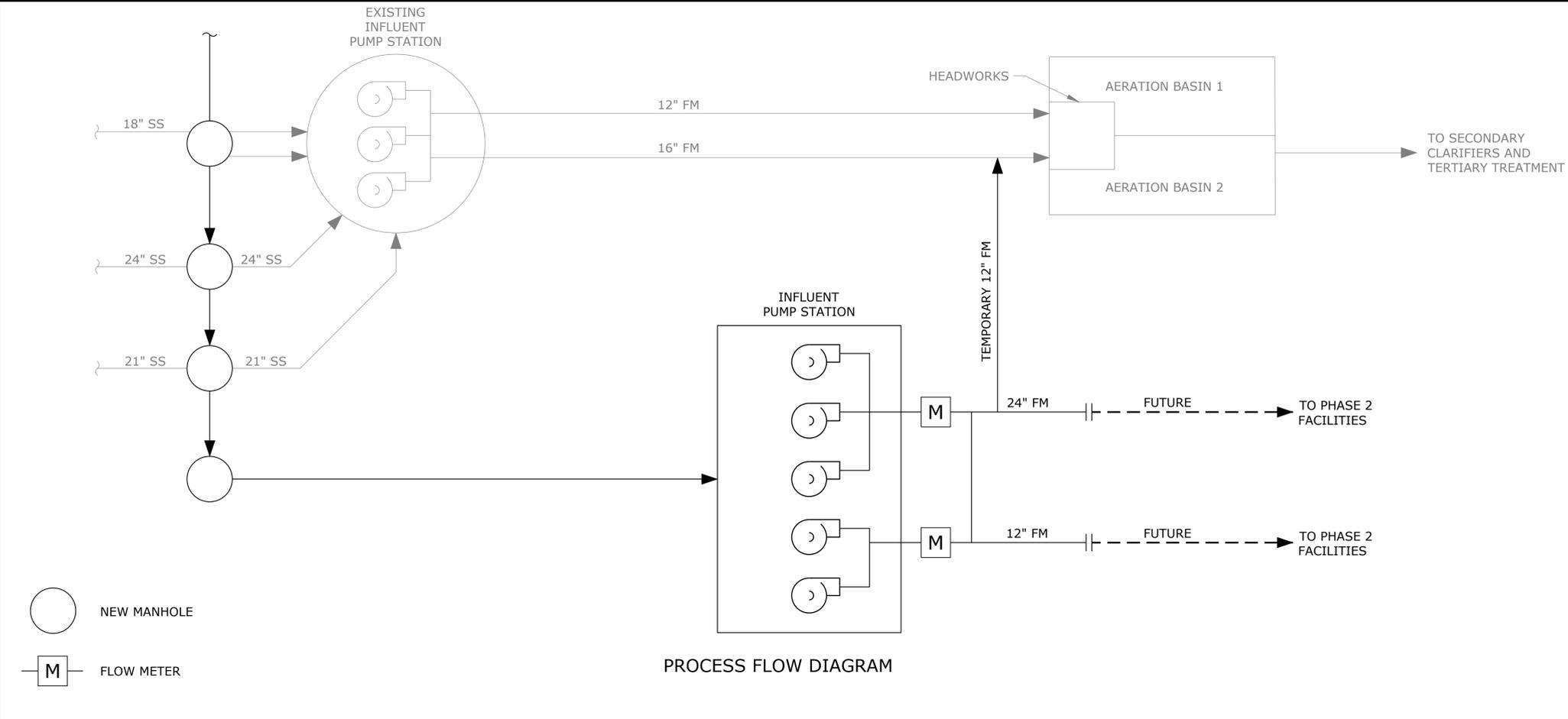
PROJECT NO.: 19-2605 SCALE: NO SCALE DATE: August 2022

SHEET G-004

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C:\Users\barber\ACCDocs\Cadworks Inc\Sweet Home WWTP\Project Files\Active Design - CAD\2D Design\01_General\19-2605-OR-G.dwg G-005 7/26/2022 9:38 AM SBARBER 23.1s (LMS Tech)

POPULATION		CURRENT	YEAR 2045
INFLUENT FLOWS		9,820	11,643
AVERAGE DRY WEATHER FLOW (ADWF)		0.9 MGD	1.1 MGD
ANNUAL AVERAGE FLOW (AAF)		1.5 MGD	1.9 MGD
AVERAGE WET WEATHER FLOW (AWWF)		2.2 MGD	2.6 MGD
MAX MONTH DRY WEATHER FLOW (MMDWF)		2.6 MGD	3.1 MGD
MAX MONTH WET WEATHER FLOW (MMWWF)		3.6 MGD	4.3 MGD
MAX DAY WET WEATHER FLOW (MDWWF)		7.8 MGD	9.4 MGD
PEAK INSTANTANEOUS FLOW (PIF)		11.8 MGD	12.4 MGD
INFLUENT LOADS		CURRENT	YEAR 2045
cBOD			
ANNUAL AVERAGE		1,200 LB/DAY	1,400 LB/DAY
MAX MONTH DRY		1,700 LB/DAY	2,000 LB/DAY
MAX MONTH WET		1,800 LB/DAY	2,100 LB/DAY
TSS			
ANNUAL AVERAGE		1,700 LB/DAY	2,000 LB/DAY
MAX MONTH DRY		2,600 LB/DAY	3,000 LB/DAY
MAX MONTH WET		2,900 LB/DAY	3,400 LB/DAY
NPDES PERMIT LIMITS		AVERAGE EFFLUENT	
		MONTHLY	WEEKLY
MAY 1 - OCT 31		mg/L LB/D	mg/L LB/D
CBOD5 <	10	120	15 180
TSS <	10	120	15 180
TOTAL AMMONIA-NITROGEN <	5.1		
pH	6.3-9		
NOV 1 - APRIL 30			
CBOD5 <	15	290	23 460
TSS <	20	350	30 520
TOTAL AMMONIA-NITROGEN <	5.1		
pH	6.3-9		
INFLUENT PUMP STATION			
HIGH FLOW			SUBMERSIBLE
PUMP TYPE			VFD
CONTROL			3
NUMBER			75
HP (EACH)			6.8 MGD (4,700 GPM) @ 40' TDH
DESIGN POINT (ONE PUMP)			12.4 MGD (8,757 GPM) @ 48' TDH
DESIGN POINT (TWO PUMPS)			
LOW FLOW			SUBMERSIBLE
PUMP TYPE			VFD
CONTROL			2
NUMBER			25
HP (EACH)			1.8 MGD (1,250 GPM) @ 42.5' TDH
DESIGN POINT (ONE PUMP)			2.9 MGD (2,000 GPM) @ 50 TDH
DESIGN POINT (TWO PUMPS)			
MIN SYSTEM CAPACITY			0.50 MGD (350 GPM)
FIRM SYSTEM CAPACITY (W/ LARGEST PUMP OUT OF SERVICE)			15.3 MGD (10,600 GPM)
COMBINED FORCE MAIN VELOCITY			3.43 FT/SEC
CURRENT AAF (12" FM)			4.35 FT/SEC
2045 AAF (12" FM)			7.44 FT/SEC
2045 PIF (24" FM)			
INFLUENT FLOW METER			MAGNETIC FLOW METER
TYPE			2
NUMBER			24, 8 INCH
SIZE			



LEGEND

XXX.XX	WATER SURFACE ELEV AT 2045 PIF
XXX.XX	WATER SURFACE ELEV AT 2045 MMWWF
XXX.XX	WATER SURFACE ELEV AT 2045 AAF

NO.	DATE	BY	REVISION

NOTICE

0 1/2 1

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

WJS
DESIGNED
SMB
DRAWN
PLVM
CHECKED



MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

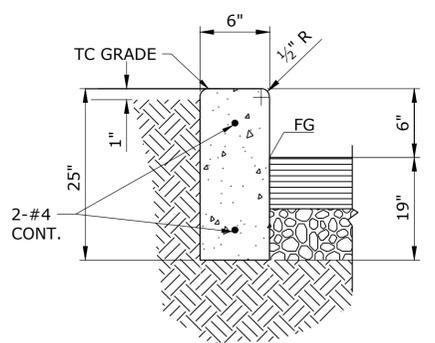
DESIGN CRITERIA, PROCESS FLOW DIAGRAM & HYDRAULIC PROFILE

PROJECT NO.: 19-2605 SCALE: NO SCALE DATE: August 2022

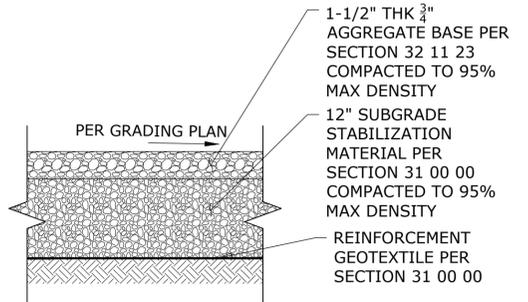
SHEET **G-005**

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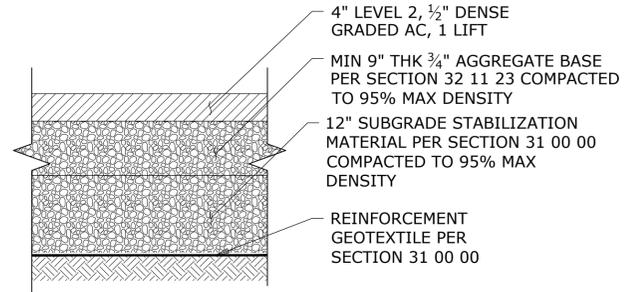
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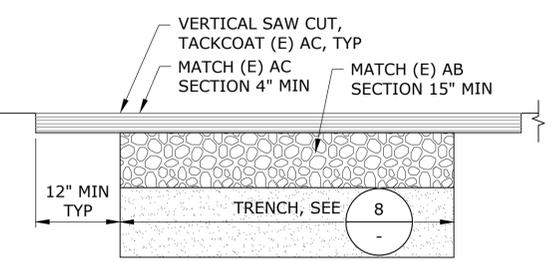
VERTICAL 6" CURB
SCALE: NTS



GRAVEL SECTION
SCALE: NTS

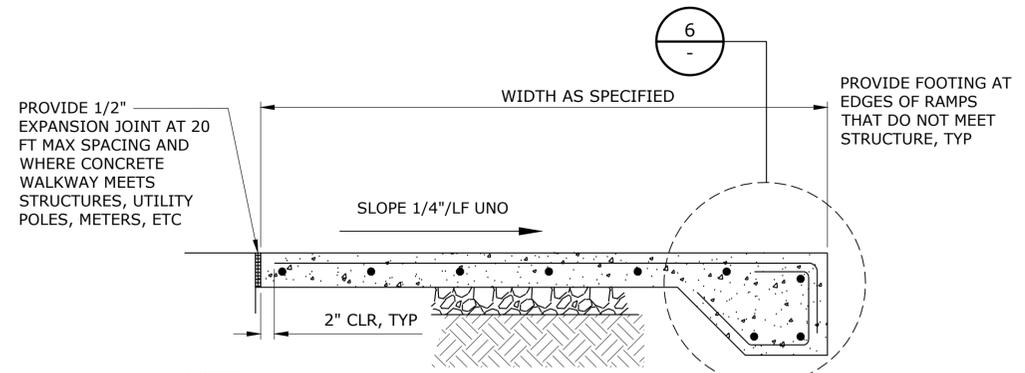


AC PAVEMENT SECTION
SCALE: NTS



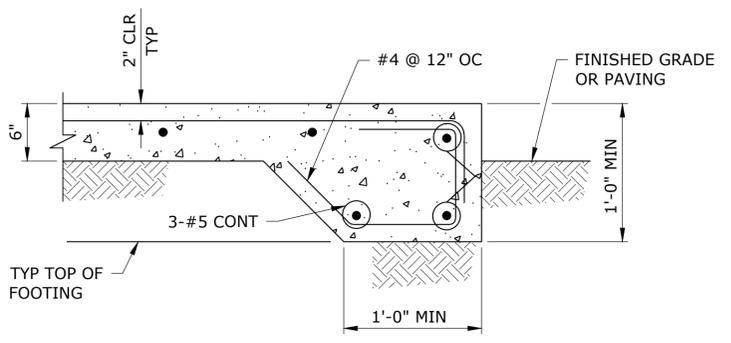
TRENCH PAVEMENT REPAIR NOTES:
1. FOR GRAVEL SURFACE MATCH EXISTING GRAVEL SURFACE SECTION.

TRENCH PAVEMENT REPAIR
SCALE: NTS

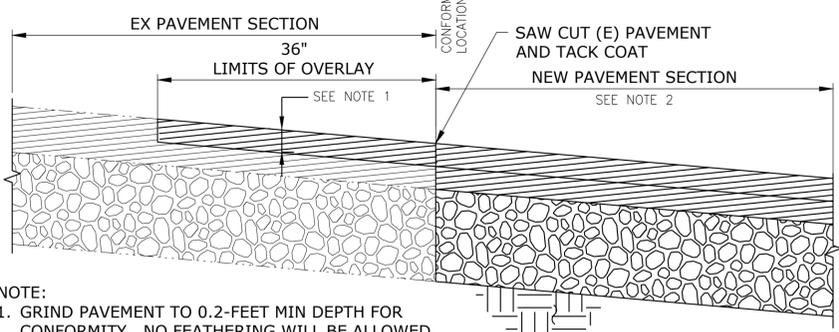


- NOTES:**
1. APPLY STEEL TROWEL SURFACE, THEN A LIGHT HAIRBROOM FINISH TO PRODUCE A PROFILE THAT IS PARALLEL TO THE SLAB DRAINAGE.
 2. PROVIDE TOOLED JOINTS AT 5 FOOT CENTERS IN PERPENDICULAR DIRECTIONS.
 3. PROVIDE 12" GRANULAR FILL UNDER CONCRETE PAVEMENT AND RAMPS.
 4. #5 @ 8" OC EW AT MID-DEPTH AT CONCRETE PAVEMENT AND RAMPS.

CONCRETE SIDEWALK AND RAMP
SCALE: NTS

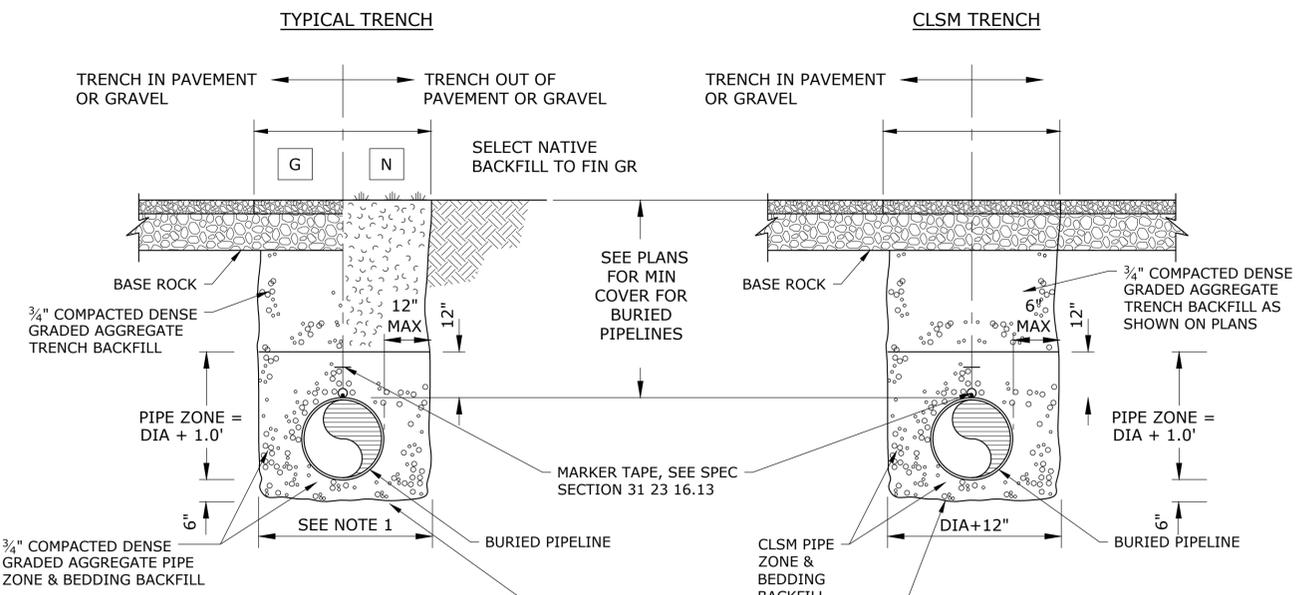


SLAB EDGE
SCALE: NTS



- NOTE:**
1. GRIND PAVEMENT TO 0.2-FOOT MIN DEPTH FOR CONFORMITY. NO FEATHERING WILL BE ALLOWED.
 2. REMOVE AND DISPOSE OF (E) PAVEMENT. REMOVE (E) BASE MATERIAL. BASE MATERIAL MAY BE STOCKPILED AND RE-USED IF IT MEETS REQUIREMENTS FOR NEW AGGREGATE BASE.

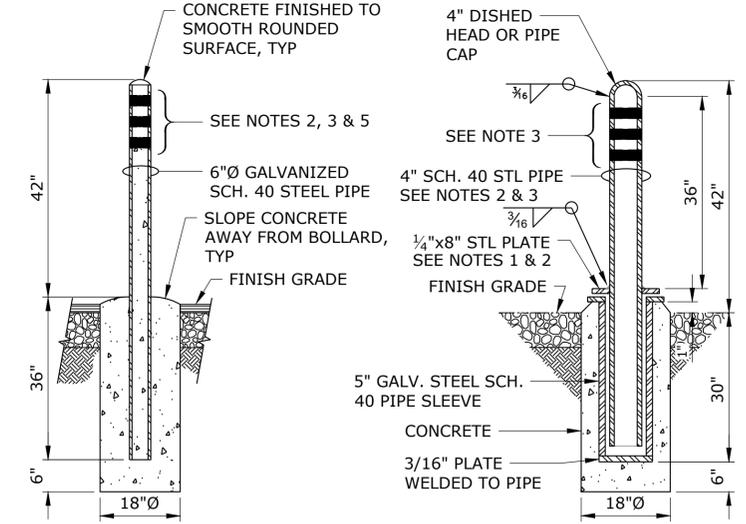
NEW TO EXISTING PAVEMENT CONFORM
SCALE: NTS



- SYMBOL BACKFILL REQUIREMENTS**
- G** FURNISH & INSTALL CRUSHED ROCK BEDDING & PIPE ZONE & CRUSHED ROCK TRENCH BACKFILL AS SHOWN ON PLANS, TO DRIVEWAY BASE. COMPACT MATERIAL IN LIFTS TO ACHIEVE 90% OF MAX DENSITY IN ACCORDANCE W/ AASHTO T-99.
 - N** FURNISH & INSTALL CRUSHED ROCK BEDDING & PIPE ZONE BACKFILL COMPACTED TO 90% OF MAX DENSITY PER AASHTO T-99. FURNISH & INSTALL NATIVE TRENCH BACKFILL. REPLACE TOPSOIL & BACKFILL W/ NATIVE MATERIAL. FINISH TRENCH SURFACE TO MATCH ORIGINAL CONTOURS.

NOTE:
1. TRENCH WIDTH FOR PIPES 24" IN DIA OR GREATER=DIA+24". FOR PIPES LESS THAN 24" IN DIA, TRENCH WIDTH SHALL BE DIA+18".

PIPE TRENCH DETAIL
SCALE: NTS



- TRAFFIC BOLLARD NOTES:**
1. APPLY ZINC PRIMER AFTER WELDING AS NEEDED.
 2. POST TO BE PAINTED YELLOW AFTER FABRICATION.
 3. APPLY 3 STRIPES, 2" WIDE CAUTION TAPE (REFLECTORIZED). START 2" FROM TOP AND SPACE 2" APART.
 4. POST SHALL BE HOT DIPPED GALVANIZED.
 5. PERMANENT POST TO BE FILLED WITH CONCRETE.
 6. USE REMOVABLE BOLLARD UNLESS OTHERWISE SHOWN ON DRAWINGS.

TRAFFIC BOLLARD
SCALE: NTS

NO.	DATE	BY	REVISION

NOTICE

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BVB DESIGNED
LBK DRAWN
WJM CHECKED

MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

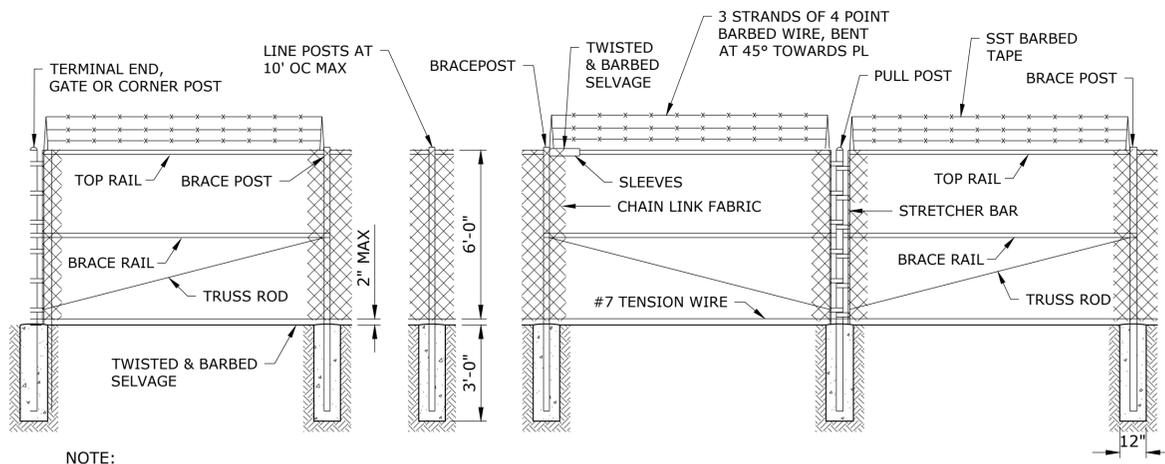
CIVIL DETAILS 1

PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: AUGUST 2022

SHEET **C-001**

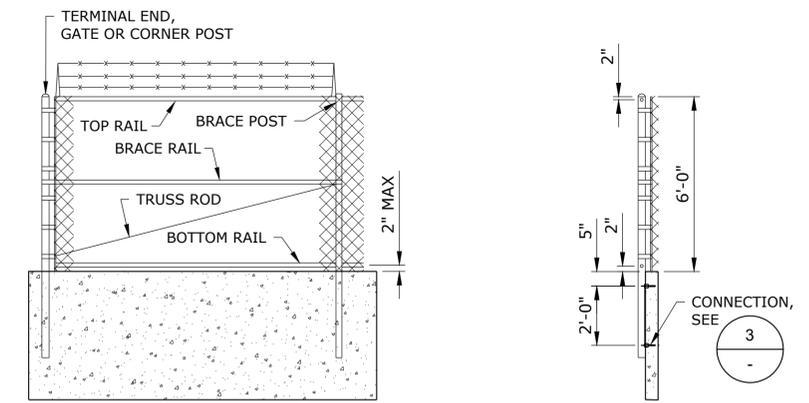
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P:\Clients\936 City Of Sweet Home\50-21-09 WWTP Phase 1 Final Design\CAD\Production\19-2605-OR-C-DET.dwg C-002 7/28/2022 10:56 AM LKERCADO 24.1s (LMS Tech)

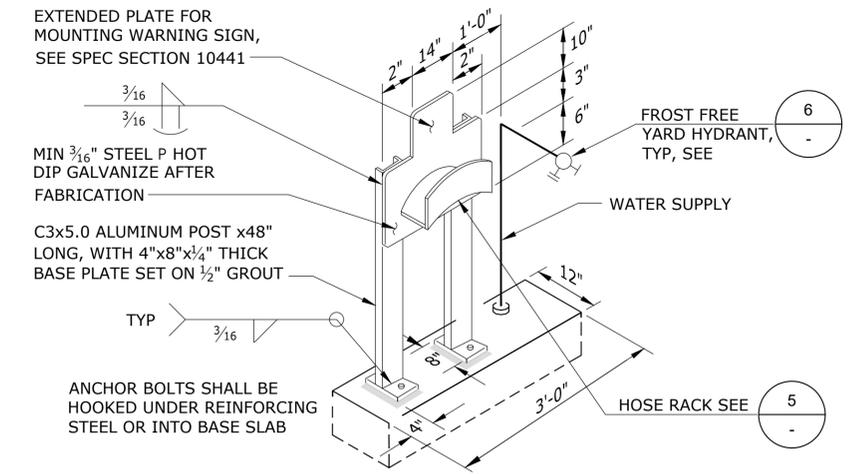


NOTE:
1. LAYOUT AND INSTALL FENCE POSTS TO MAINTAIN MAXIMUM 2" SPACE BETWEEN BOTTOM OF FENCE AND GROUND SURFACE.

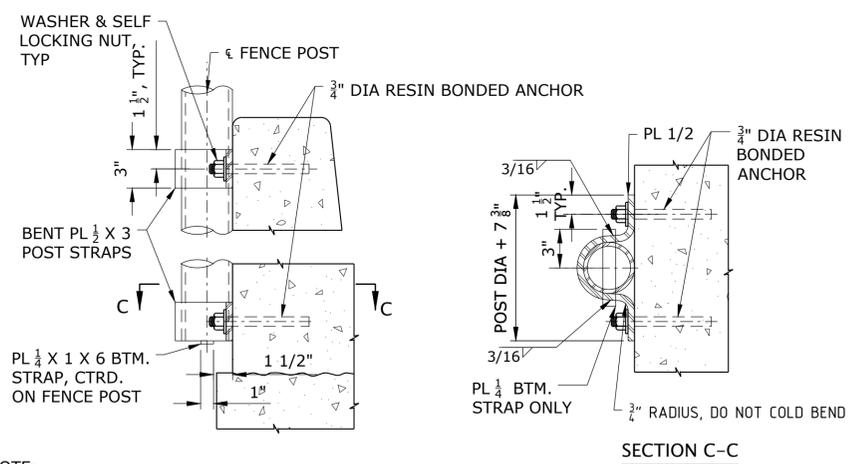
CHAIN LINK FENCE DETAIL
SCALE: NTS



WALL MOUNTED CHAIN LINK FENCE DETAIL
SCALE: NTS

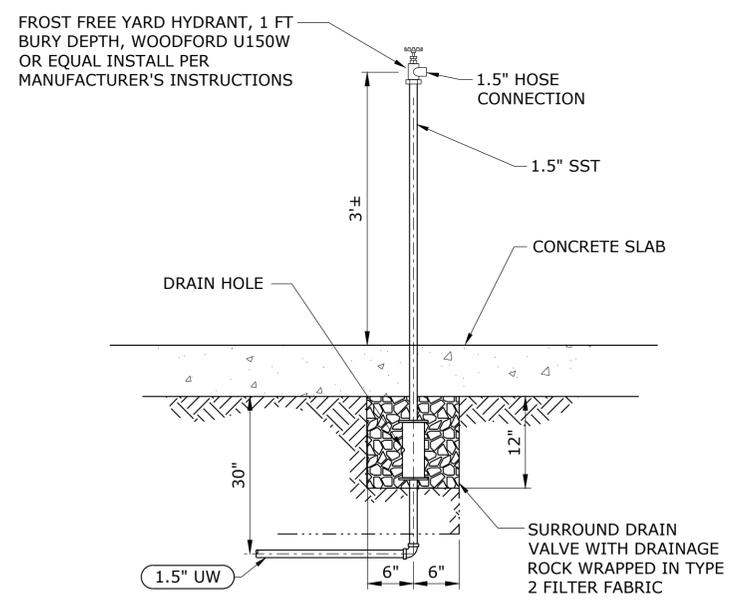


TYPE A POST MOUNTED UTILITY STATION
SCALE: NTS

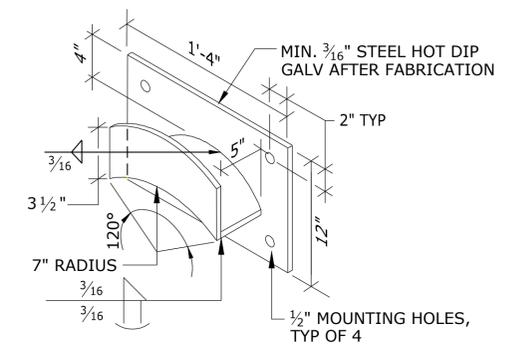


NOTE:
1. AS AN ALTERNATE TO RESIN BONDED ANCHOR USE 2-3/4" DIA. X 5" EMBEDMENT CONCRETE INSERT W/ MIN SAFE WORKING LOADS IN 3300 PSI CONCRETE OF 4.3 KIPS TENSION.

WALL MOUNTED CHAIN LINK FENCE CONNECTION DETAIL
SCALE: NTS



FROST FREE YARD HYDRANT
SCALE: NTS



HOSE RACK
SCALE: NTS

NO.	DATE	BY	REVISION

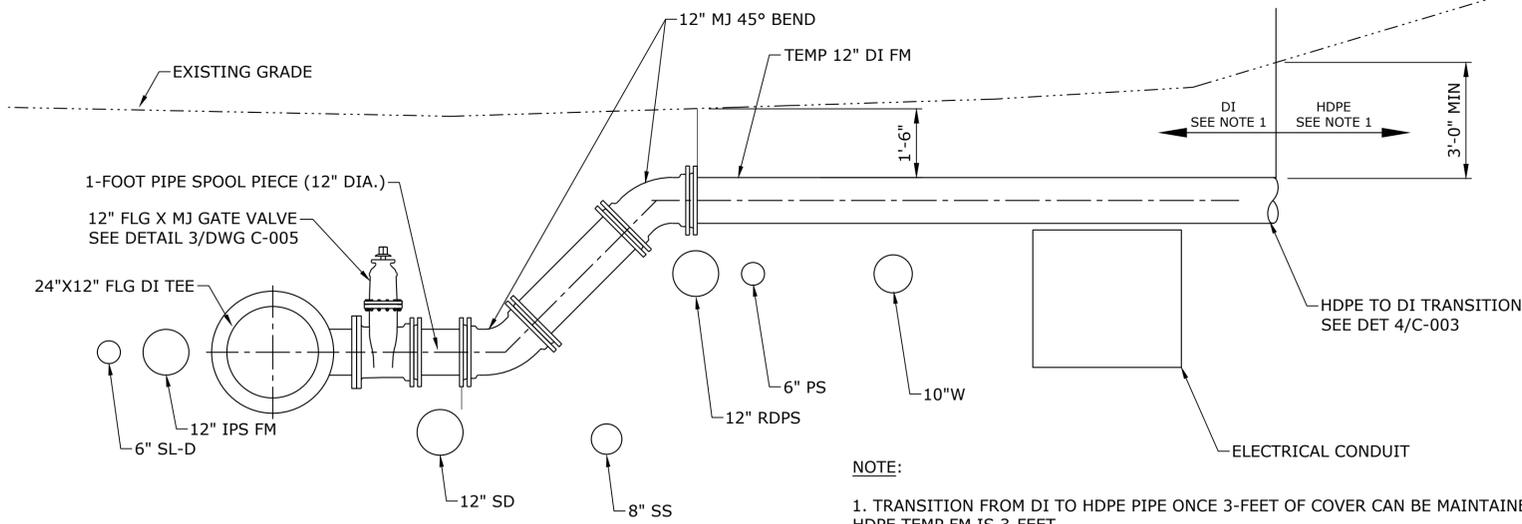
NOTICE
0 1/2 1
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BVB
DESIGNED
LBK
DRAWN
WJM
CHECKED

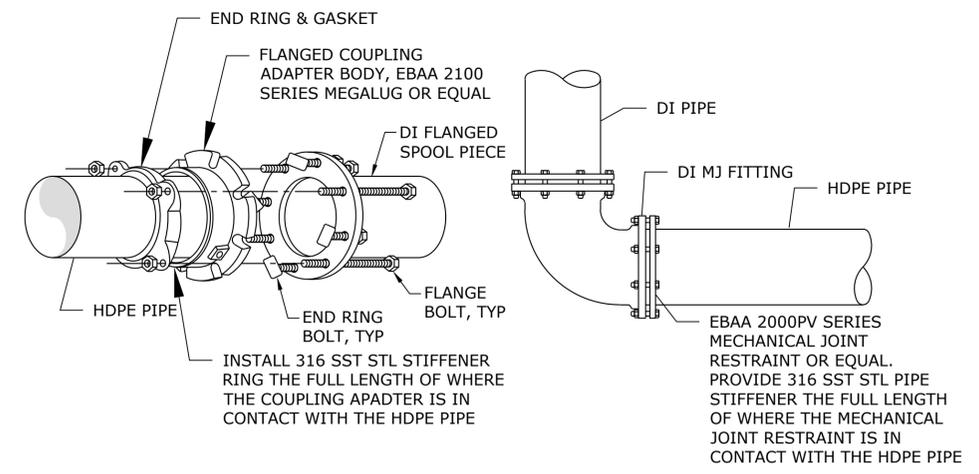


CIVIL DETAILS 2
PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: AUGUST 2022

SHEET
C-002
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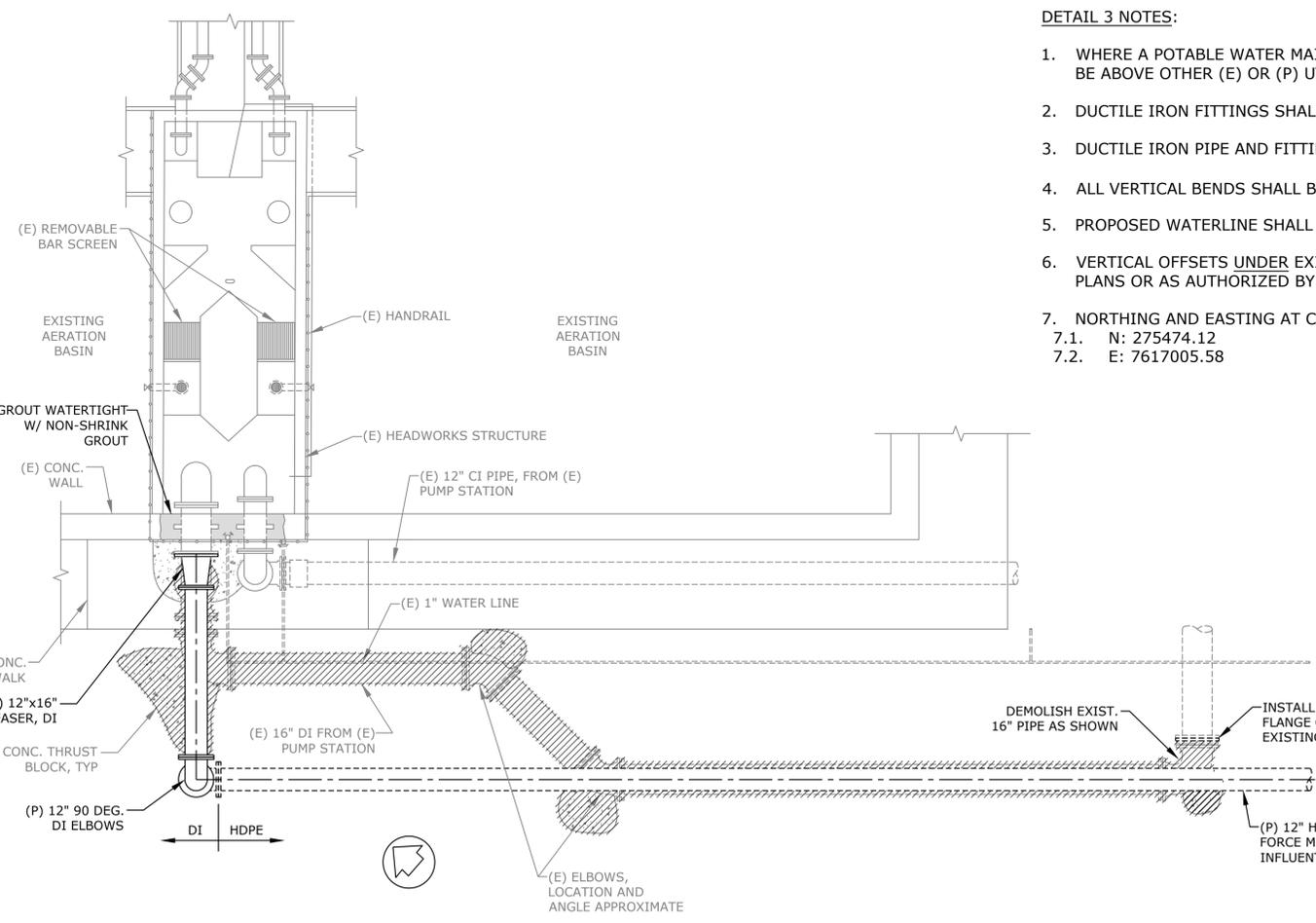


24" FM TO 12" TEMP FM CONNECTION 1
SCALE: NTS



HDPE TO FLANGED DI CONNECTION HDPE TO MECHANICAL JOINT DI CONNECTION

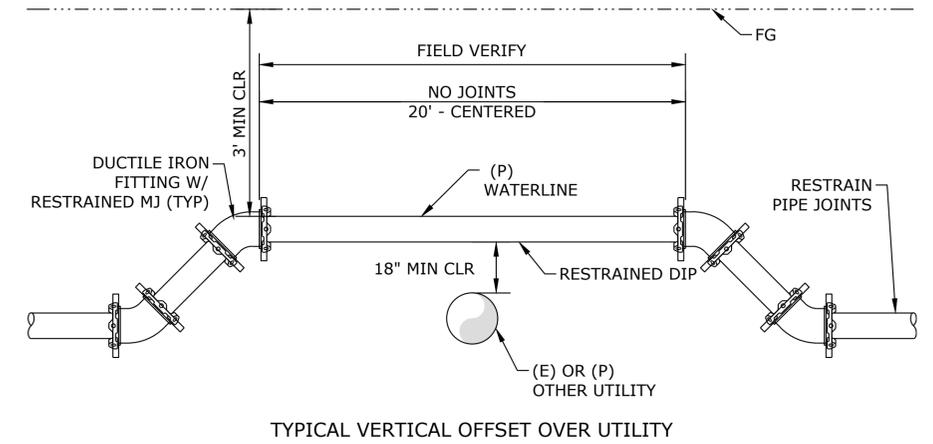
HDPE TO DUCTILE IRON CONNECTION 4
SCALE: NTS



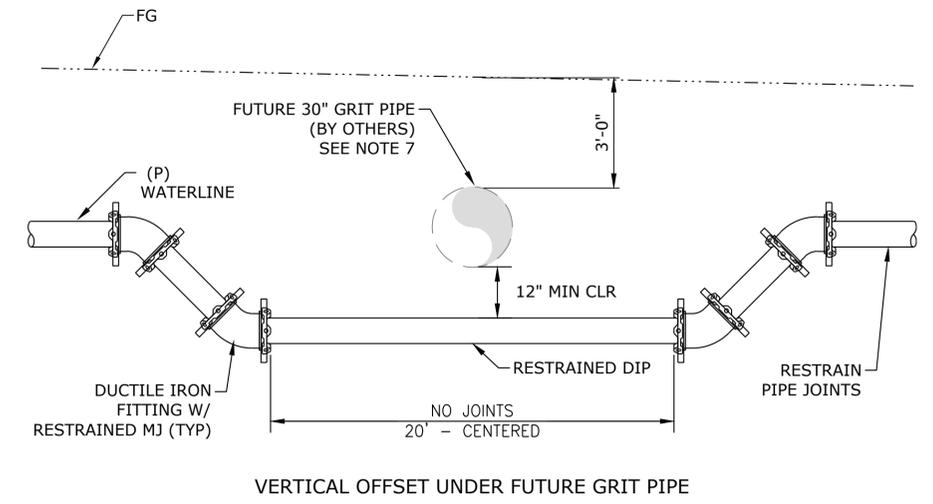
ENLARGEMENT OF TEMPORARY FORCE MAIN CONNECTION TO AERATION BASIN 2
SCALE: 1/4"=1'-0"

DETAIL 3 NOTES:

- WHERE A POTABLE WATER MAIN CROSSES ANOTHER UTILITY, THE POTABLE WATER MAIN SHALL BE ABOVE OTHER (E) OR (P) UTILITIES WITH 18" MINIMUM CLEARANCE.
- DUCTILE IRON FITTINGS SHALL BE RESTRAINED MJ AS SPECIFIED IN SECTION 40 05 10.
- DUCTILE IRON PIPE AND FITTINGS SHALL BE ENCASED PER SECTION 40 05 10.
- ALL VERTICAL BENDS SHALL BE 45 OR 22-1/2 DEGREE BENDS.
- PROPOSED WATERLINE SHALL BE FULLY RESTRAINED.
- VERTICAL OFFSETS UNDER EXISTING UTILITIES CAN BE USED ONLY WHERE CALLED OUT IN THE PLANS OR AS AUTHORIZED BY THE ENGINEER.
- NORTHING AND EASTING AT CROSSING OF 10" WATERLINE AND FUTURE 30" GRIT PIPE:
 - N: 275474.12
 - E: 7617005.58



TYPICAL VERTICAL OFFSET OVER UTILITY



VERTICAL OFFSET UNDER FUTURE GRIT PIPE

WATERLINE UTILITY CROSSINGS 3
SCALE: NTS

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NO.	DATE	BY	REVISION

NOTICE
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BVB
DESIGNED
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DRAWN
WJM
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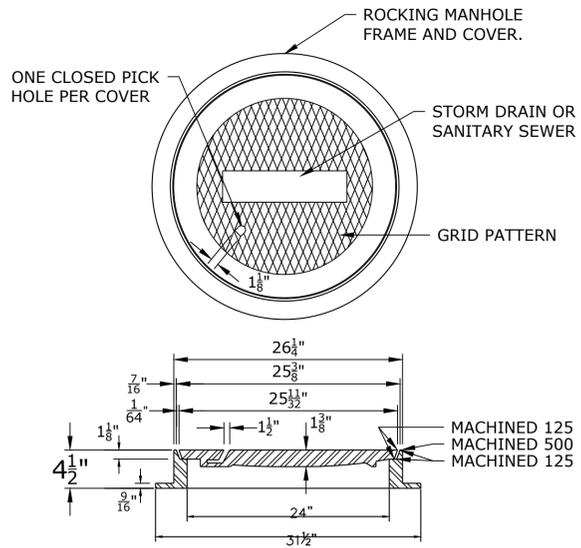


MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

CIVIL DETAILS 3
PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: AUGUST 2022

SHEET
C-003
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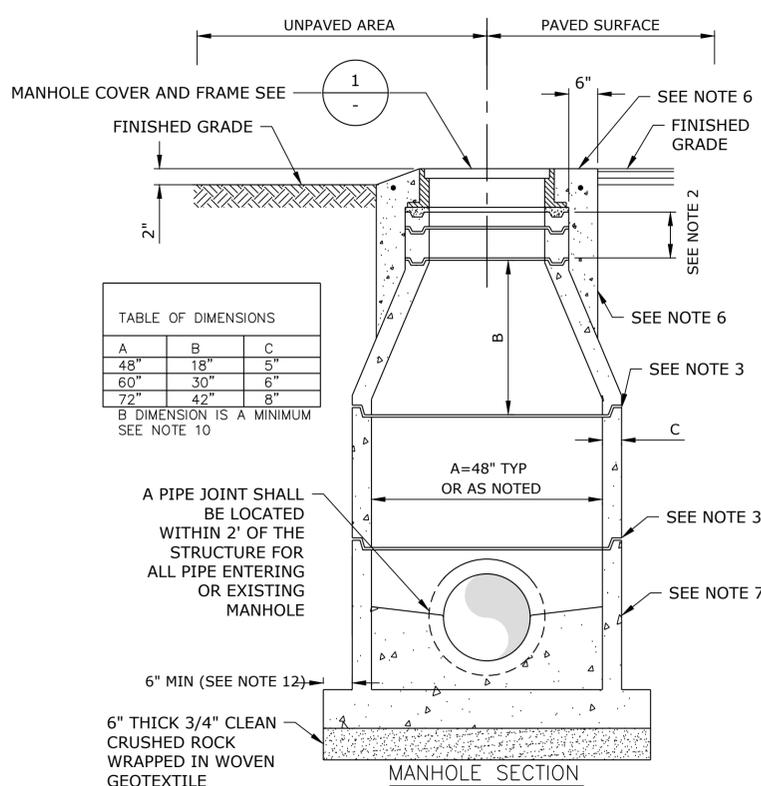
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- NOTES:**
- SPECIFY CASTING OF WORDS "STORM DRAIN" OR "SANITARY SEWER" WHEN ORDERING.
 - ALL MATERIAL USED IN MANUFACTURING SHALL CONFORM TO A.S.T.M. DESIGNATION A-48 CLASS 35 B, OR OF UNITED STATES GOVERNMENT SPECIFICATIONS QQ1-652B
 - MINIMUM WEIGHT COMPONENTS: COVER - 130 POUNDS FRAME - 135 POUNDS
 - 4 FRAME AND COVER SHALL BE H-20 TRAFFIC RATED

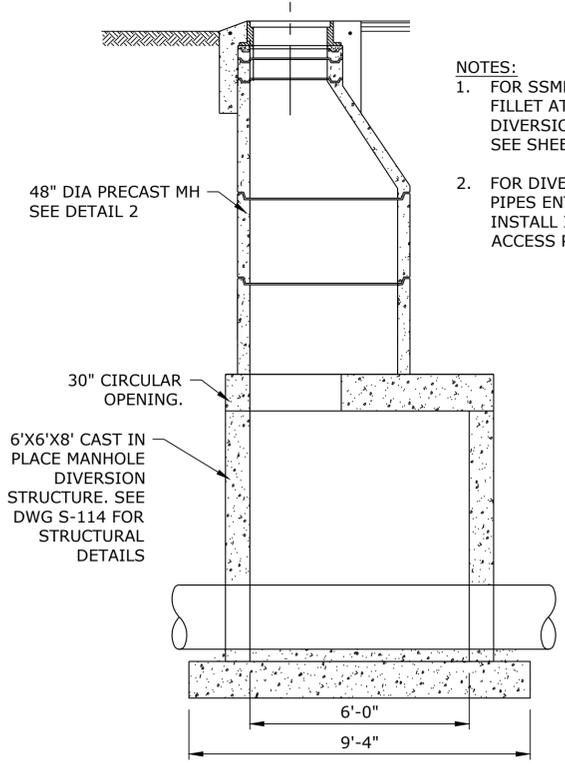
MANHOLE FRAME AND COVER

SCALE: NTS



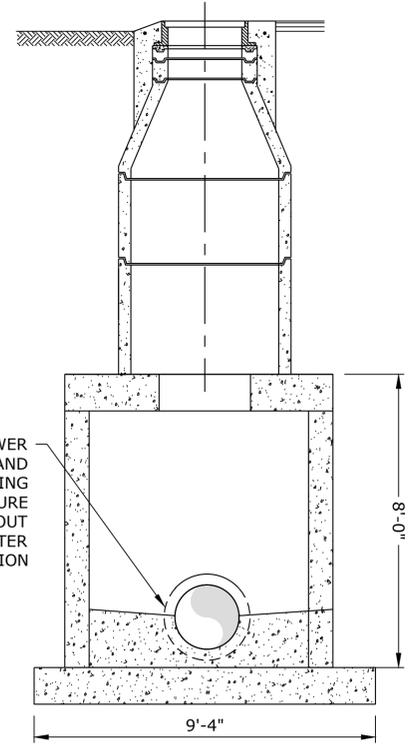
PRECAST ECCENTRIC MANHOLE

SCALE: NTS



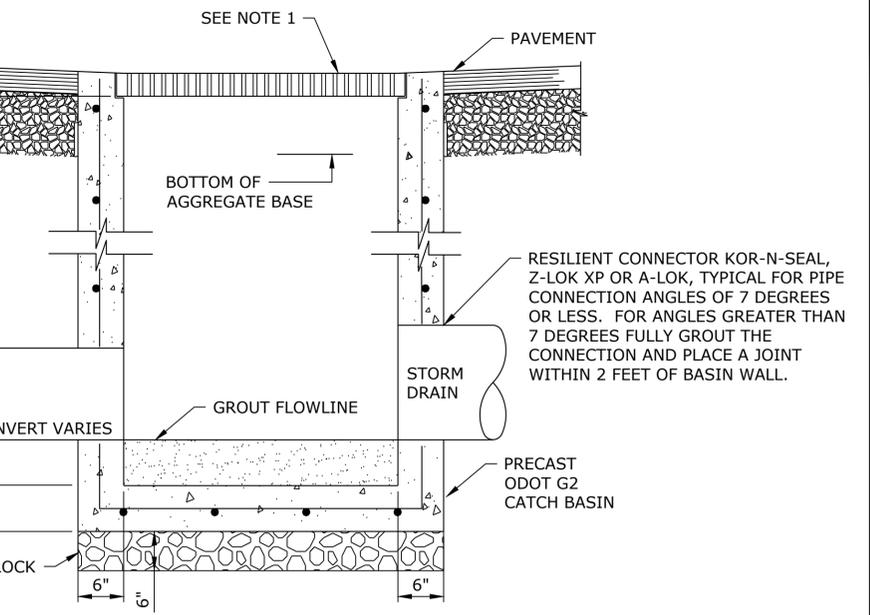
SEWER DIVERSION MANHOLE

SCALE: NTS



SEWER DIVERSION MANHOLE TOP PLAN

SCALE: NTS



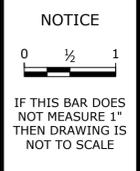
- NOTES:**
- FOR CATCH BASIN LOCATED IN TEMPORARY WASHDOWN BASIN, PROVIDE A GALVANIZED WELDED STEEL GRATE SUITABLE FOR H-20 WHEEL LOADING. FOR CATCH BASINS LOCATED WITHIN THE ACCESS ROADWAY, PROVIDE ASTM A536 DUCTILE IRON SOLID COVERS SUITABLE FOR H-20 LOADING (D&L MODEL I-4500-02, OR EQUAL).

CATCH BASIN / DRAIN INLET

SCALE: NTS



NO.	DATE	BY	REVISION

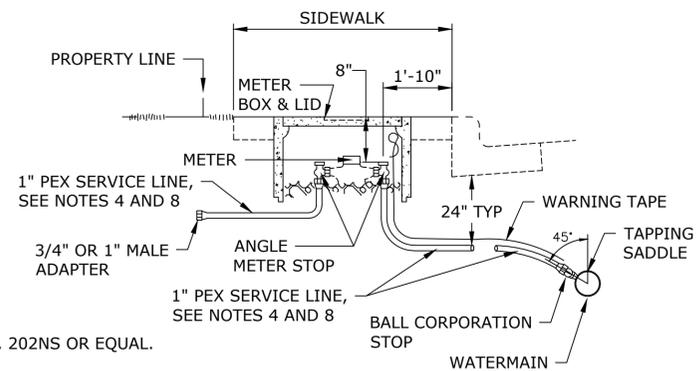


BVB
DESIGNED
LBK
DRAWN
WJM
CHECKED



MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

PROJECT NO.: 936-50-21-09		SCALE: AS SHOWN	DATE: AUGUST 2022	SHEET C-004
				10 of 135

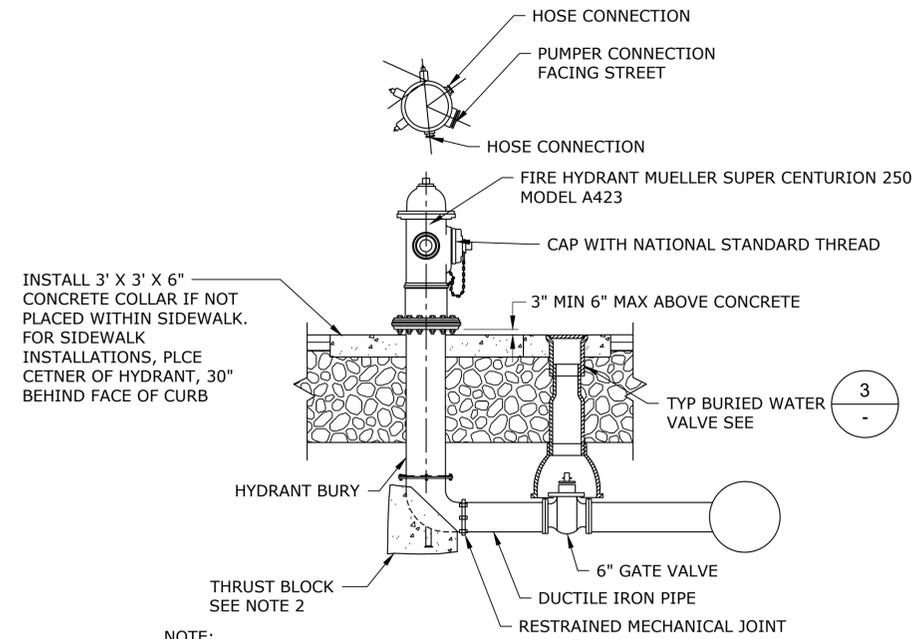


NOTES:

- TAPPING SADDLE SHALL BE ROMAC, 202NS OR EQUAL.
- 1" BALL CORPORATION STOP SHALL BE FB1100-4-Q-NL
- FOR 1" SERVICE PROVIDE LOCKING WING 1"X3/4" FORD BA63-332W-Q-NL METER CURB STOP WITH METER SWIVEL NUT, FORD 3/4" L31-13-NL ANGLE METER COUPLING WITH METER SWIVEL NUT.
- WATER SERVICE LINE SHALL BE 1" AWWA C904-06 CROSS-LINKED POLYETHYLENE (PEX) BLUE WATER SERVICE LINE, SDR 9, CTS MUNICIPEX (PEXA) BY REHAU, OR EQUAL.
- METER BOX SHALL BE DFW 11" X 18" X 12" GRAY "WIDE BODY" METER BOX POLYMER H20 RATED DFW486WBC4-12-BODY, OR APPROVED EQUAL. METER BOX COVER SHALL BE A DFW 11"X18" GRAY SOLID METER BOX COVER WITH MAGNET POLYMER DFW486C-4M-NHK-LID.
- BACKFILL IN METER BOX SHALL BE 3/4"-0 CRUSHED ROCK. MINIMUM THICKNESS SHALL BE 2" BELOW THE BASE OF THE METER BOX.
- PROVIDE AND INSTALL SENSUS 3/4" SR2-ER-TRPL 100 CU.FT. LEAD FREE METER".
- ATTACH COPPERHEAD IND. 12 AWG SUPERFLEX TRACER WIRE TO THE PEX SERVICE LINE WITH ZIP-TIES, AT 10 FOOT INTERVALS, AND BE ROUTED INTO THE METER BOX WITH A MINIMUM OF 12" EXTENDED AND COILED. TRACER WIRE CONNECTION JUNCTIONS SHALL BE COPPERHEAD IND. BLUE SNAKEBITE LOCKING CONNECTORS.
- INCLUDE COMPRESSION JOINT FITTINGS, WITH STAINLESS STEEL INSERT-STIFFENERS FORD INSERT 53-72-Q OR EQUAL.

1" WATER SERVICE

SCALE: NTS

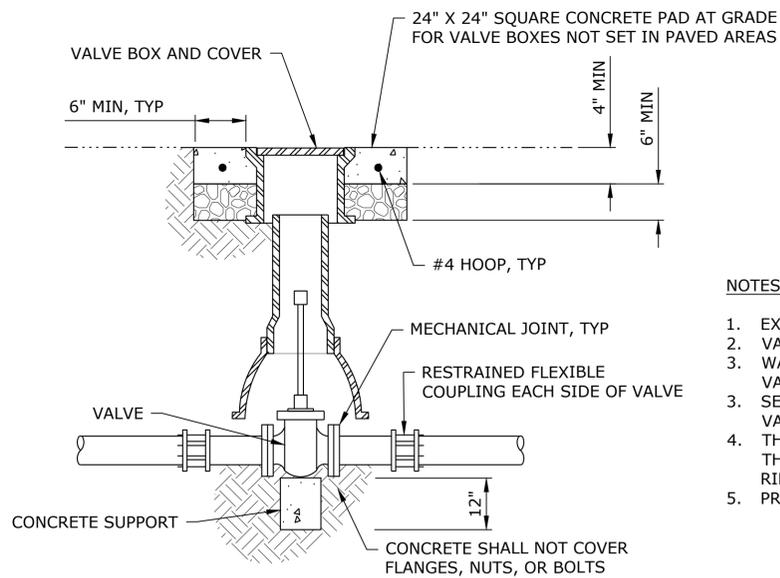


NOTE:

- COAT ALL BURIED BOLTS AND NUTS WITH BITUMASTIC.
- THRUST BLOCK SHALL HAVE A BEARING AREA OF 1.3 CY. BEARING AREA BASED ON ALLOWABLE SOIL BEARING VALUE OF 2,000 PSF PRESSURE, 150 PSI LINE PRESSURE, AND A FACTOR OF SAFETY OF 1.3.
- THE HYDRANT SHALL BE PAINTED A METALLIC SILVER FOR THE BARREL SECTION, AND THE BONNET A COLOR BASED ON POST CONSTRUCTION FLOW TESTS PER NATIONAL STANDARD COLOR CODES.

FIRE HYDRANT

SCALE: NTS



NOTES:

- EXTENSIONS SHALL BE 6" ASTM D3034 SDR PVC PIPE (ONE PIECE).
- VALVE BOX SHALL BE U.S. FILTER/PACIFIC WATER WORKS NO. 910 OR EQUAL.
- WATER MAIN VALVE LIDS SHALL INCLUDE "W" IN THE DESIGN. FOR WATER VALVES PROVIDE VALVE BOX MODEL NO. IVB910WTR, OR EQUAL.
- SEWER VALVE LIDS SHALL BE SHALL INCLUDE "S" IN THE DESIGN. FOR SEWER VALVES PROVIDE VALVE BOX MODEL NO. IVB910SWR, OR EQUAL.
- THE OPERATOR NUT SHALL HAVE A DEPTH FROM 18"-36" FROM FINISH GRADE TO THE OPERATOR NUT. IF DEPTH TO NUT IS GREATER THAN 6- FEET A CENTERING RING ON THE EXTENSION MAY BE REQUIRED AS DETERMINED BY THE ENGINEER.
- PROVIDE VC-212 VALVE CENTERING DEVICE.

TYPICAL BURIED VALVE

SCALE: NTS



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NO.	DATE	BY	REVISION

NOTICE

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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WJM
CHECKED

MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

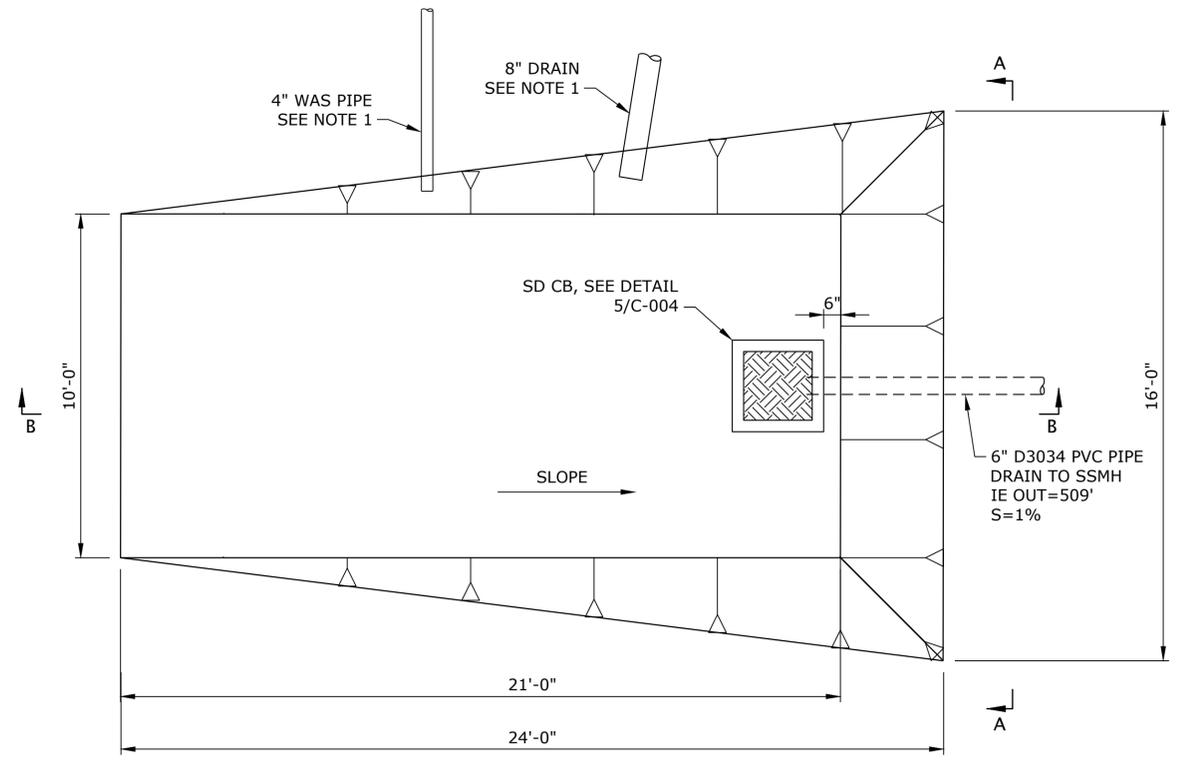
CIVIL DETAILS 5

PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: AUGUST 2022

SHEET **C-005**

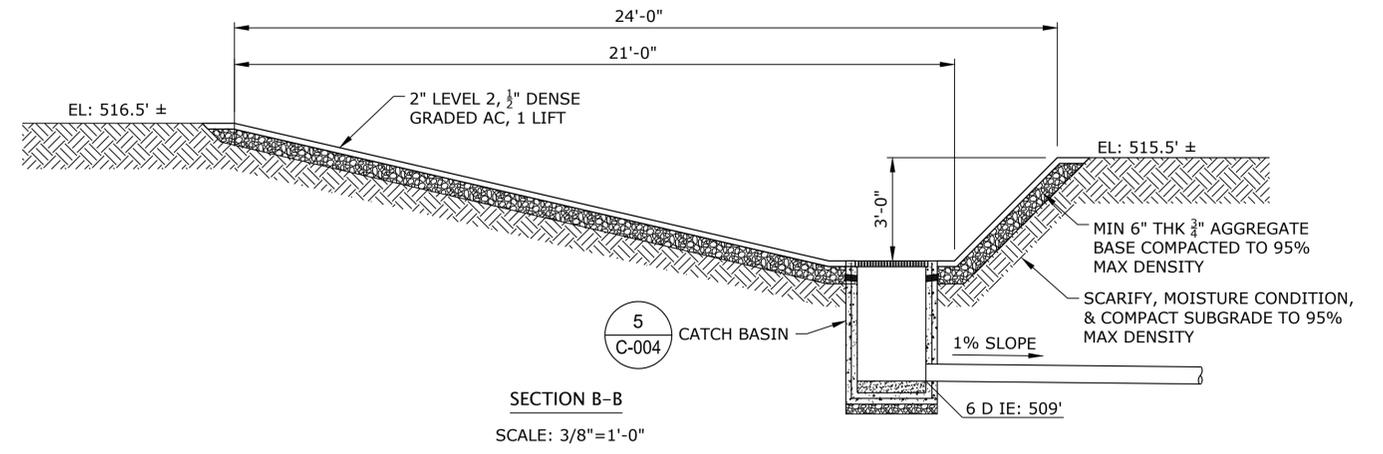
11 of 135

P:\Clients\936 City Of Sweet Home\50-21-09 WWTP Phase 1 Final Design\CAD\Production\19-2605-OR-C-DET.dwg C-006 8/1/2022 12:45 PM BBARRY 24.1s (LMS Tech)

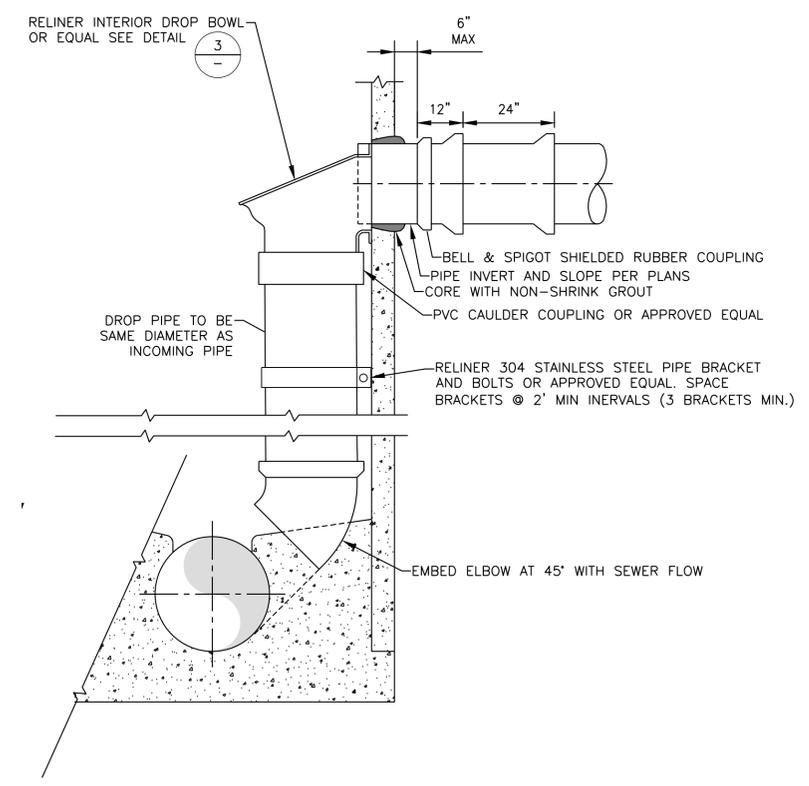


TEMPORARY WASHDOWN BASIN
SCALE: 3/8"=1'-0" 1

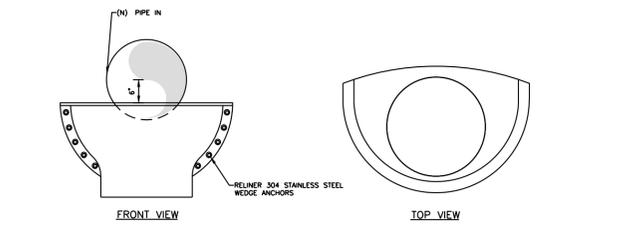
NOTE:
1. CONTRACTOR TO VERIFY AND SUBMIT WAS AND DRAIN EXISTING PIPE DIAMETER, INVERT ELEVATION, AND PROPOSED PIPE LOCATION, EXTENSION LENGTH, ALIGNMENT, INVERT AT WASTE STORAGE BASIN, AND PIPE SLOPE TO ENGINEER.



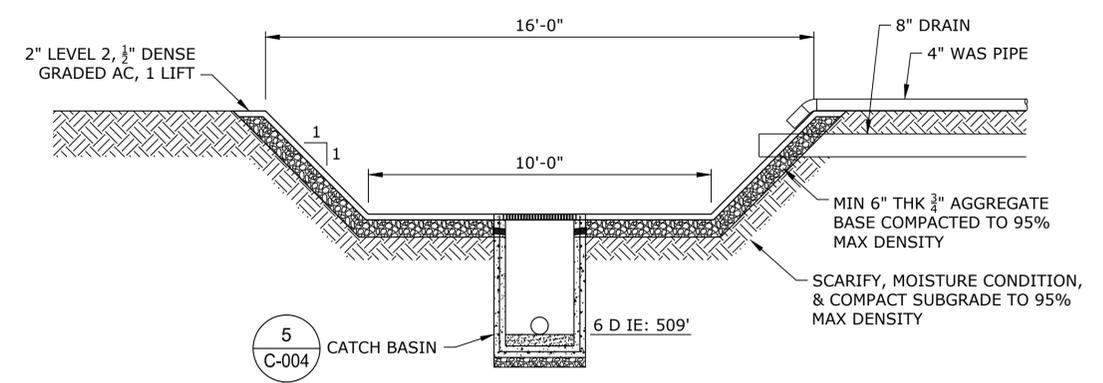
SECTION B-B
SCALE: 3/8"=1'-0" 5



MANHOLE DROP CONNECTION
SCALE: 3/8"=1'-0" 2



INTERIOR DROP BOWL
SCALE: 3/8"=1'-0" 3



SECTION A-A
SCALE: 3/8"=1'-0" 5

NO.	DATE	BY	REVISION

NOTICE
0 1/2 1
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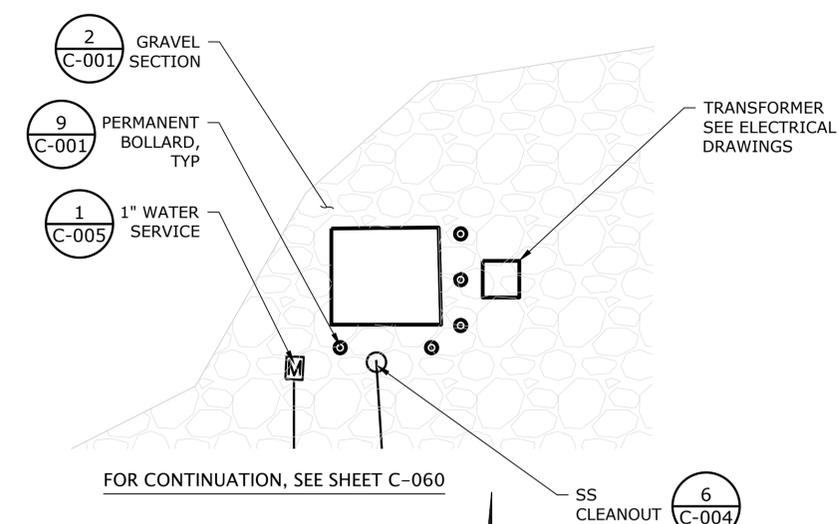
BVB DESIGNED
SMB DRAWN
WJM CHECKED



MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1
CIVIL DETAILS 6
PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: AUGUST 2022

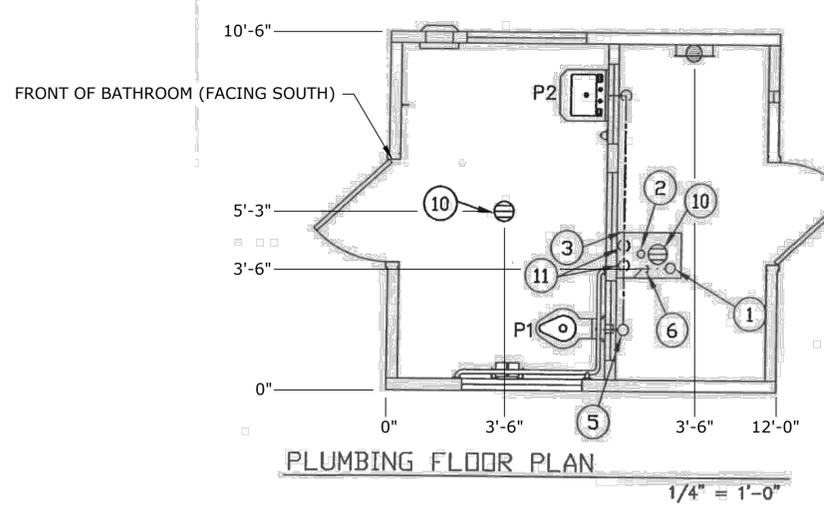
SHEET
C-006
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P:\Clients\936 City Of Sweet Home\50-21-09 WWTP Phase 1 Final Design\CAD\Production\19-2605-OR-C-SITE-BTHRM.dwg C-007 7/27/2022 10:22 AM LKERCADO 24.1s (LMS Tech)



BATHROOM RELOCATION PLAN
SCALE: 1"=10'

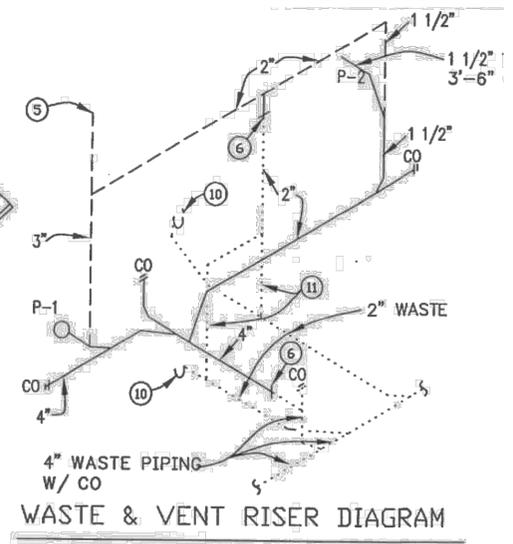
FOR CONTINUATION, SEE SHEET C-060



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

WATER PIPE - KEY NOTES:

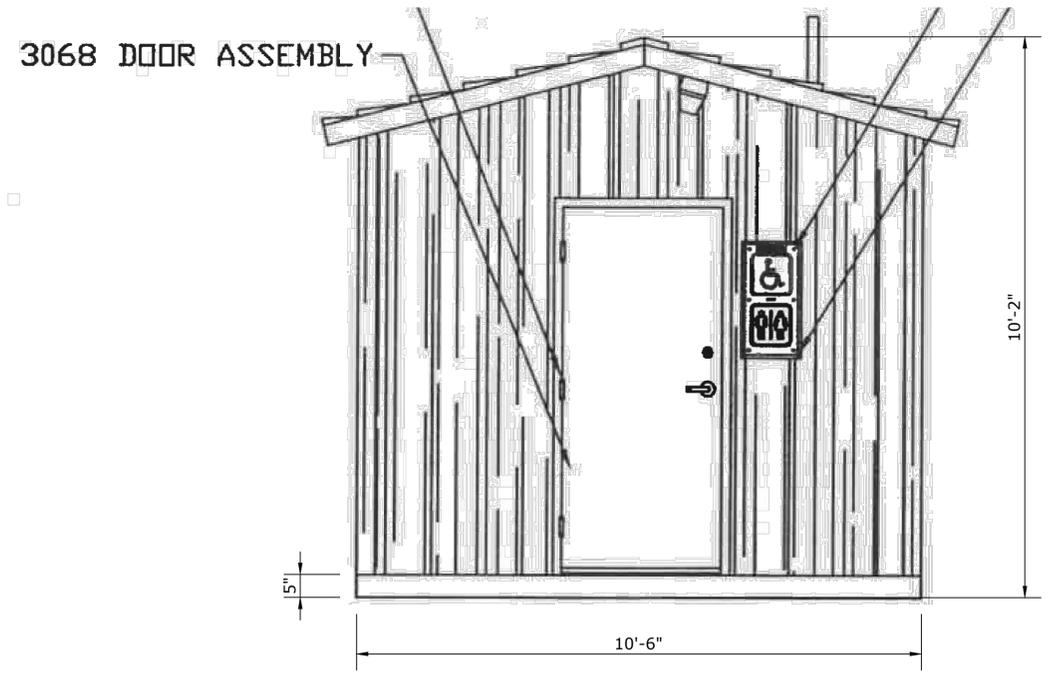
1. 4" WASTE THRU FLOOR. SEE WASTE & VENT DIAGRAM.
2. 1-1/4" COLD WATER THRU FLOOR.
3. VENT, CW & WASTE ALONG WALL. SEE WASTE & VENT AND WATER DIAGRAMS.
4. NOT USED.
5. 3" VENT THRU ROOF.
6. TO THIS POINT.
7. WATER HAMMER ARRESTOR SIOUX CHIEF HYDRA-RESTOR #654-C OR EQUAL.
8. 1/2" AIR QUICK CONNECTION W/ BALL VALVE FOR BLOWING OUT WATER PIPING.
9. 3/4" HOSE BIBB W/ SCREW ON VACUUM BREAKER.
10. OPTIONAL FLOOR DRAIN, FIELD INSTALLED.
11. 2" VENTS, IF FLOOR DRAIN OPTION IS ACCEPTED.



WASTE & VENT RISER DIAGRAM

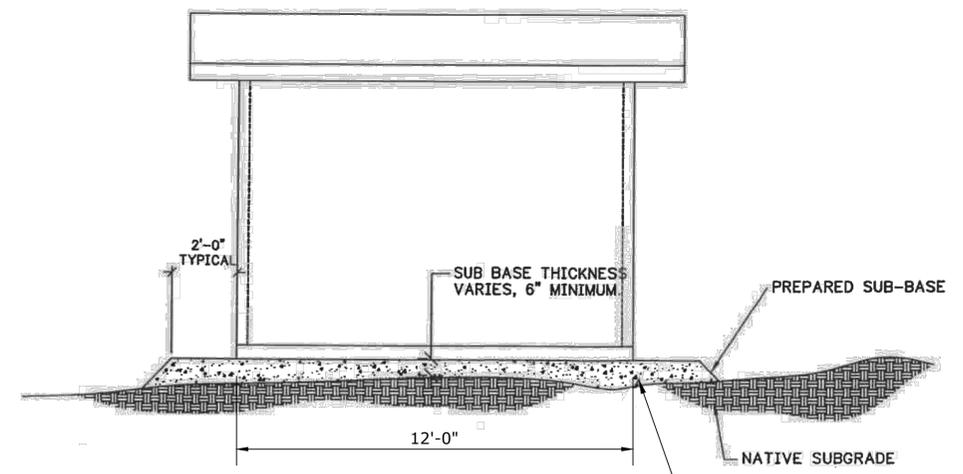
NOTES:

1. CONTRACTOR TO RELOCATE EXISTING BATHROOM TO NEW LOCATION. SEE SHEET C-030 FOR STRUCTURE COORDINATES.
2. CONTRACTOR TO PROTECT EXISTING STRUCTURE DURING RELOCATION.
3. PREPARE NEW LOCATION ACCORDING TO BATHROOM GRAVEL PAD DETAIL ON THIS SHEET.
4. CONTRACTOR TO RECONNECT WATER SERVICE AND SEWER SERVICE. SEE EXISTING BATHROOM PLUMBING PLAN ON THIS SHEET.
5. CONTRACTOR TO RELOCATE AND REINSTALL ALL UTILITIES IN AND UNDERNEATH EXISTING STRUCTURE AND RECONNECT TO NEW WATER SERVICE AND SS CLEANOUT.



EXIST BATHROOM FRONT ELEVATION
SCALE: NTS

EXIST BATHROOM PLUMBING FLOOR PLAN
SCALE: NTS



PRIOR TO PLACEMENT OF BUILDING, A PROPERLY PREPARED SUB-BASE SHALL BE PROVIDED. SUB-BASE SHALL BE A MINIMUM OF 6" THICK AND CONSIST OF 3/4" MINUS CRUSHED ROCK COMPACTED TO 95% OF OPTIMUM DENSITY IN ACCORDANCE WITH ASTM D 1557. FINISHED SURFACE OF SUB-BASE SHALL BE UNIFORMLY LEVEL, NOT VARYING MORE THAN 1/2" FROM A TRUE HORIZONTAL PLANE.

BATHROOM GRAVEL PAD DETAIL
SCALE: NTS

NO.	DATE	BY	REVISION

NOTICE
0 1/2 1
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BVB DRAWN
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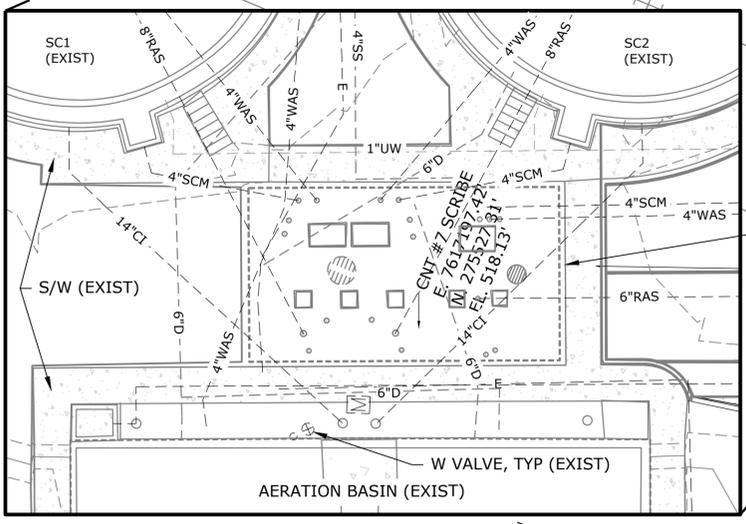
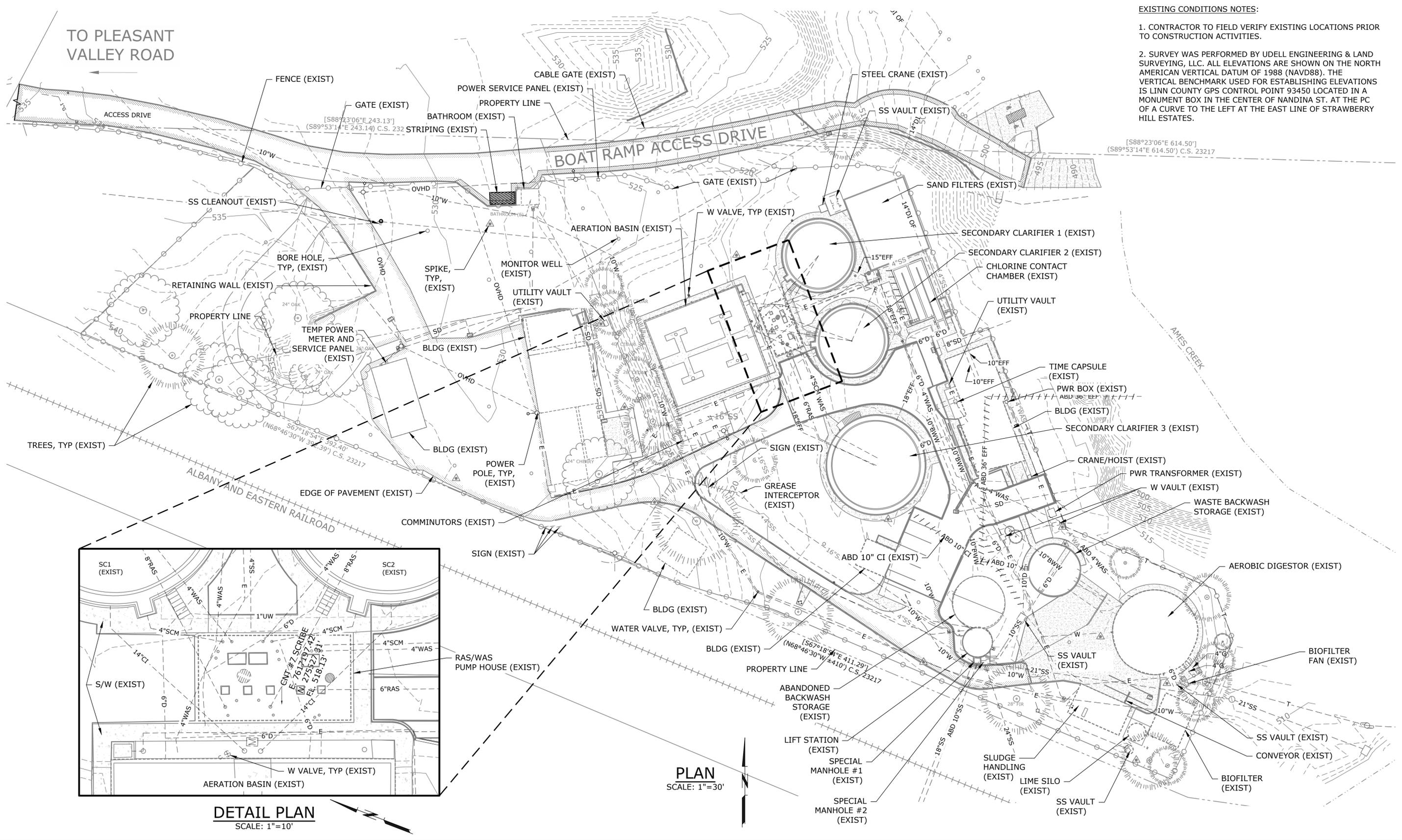


BATHROOM RELOCATION DETAILS
PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: AUGUST 2022

SHEET C-007
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P:\Clients\936 City Of Sweet Home\50-21-09 WWTP Phase 1 Final Design\CAD\Production\19-2605-OR-C-EXIST.dwg C-010 7/27/2022 1:33 PM BBARRY 24.1s (LMS Tech)

- EXISTING CONDITIONS NOTES:**
1. CONTRACTOR TO FIELD VERIFY EXISTING LOCATIONS PRIOR TO CONSTRUCTION ACTIVITIES.
 2. SURVEY WAS PERFORMED BY UDELL ENGINEERING & LAND SURVEYING, LLC. ALL ELEVATIONS ARE SHOWN ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). THE VERTICAL BENCHMARK USED FOR ESTABLISHING ELEVATIONS IS LINN COUNTY GPS CONTROL POINT 93450 LOCATED IN A MONUMENT BOX IN THE CENTER OF NANDINA ST. AT THE PC OF A CURVE TO THE LEFT AT THE EAST LINE OF STRAWBERRY HILL ESTATES.



NO.	DATE	BY	REVISION

NOTICE

0 1/2 1

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BVB DESIGNED
BVB DRAWN
WJM CHECKED



MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

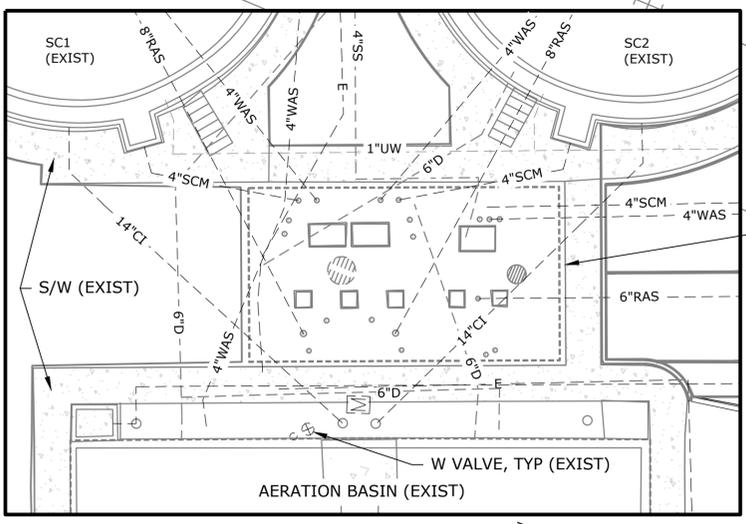
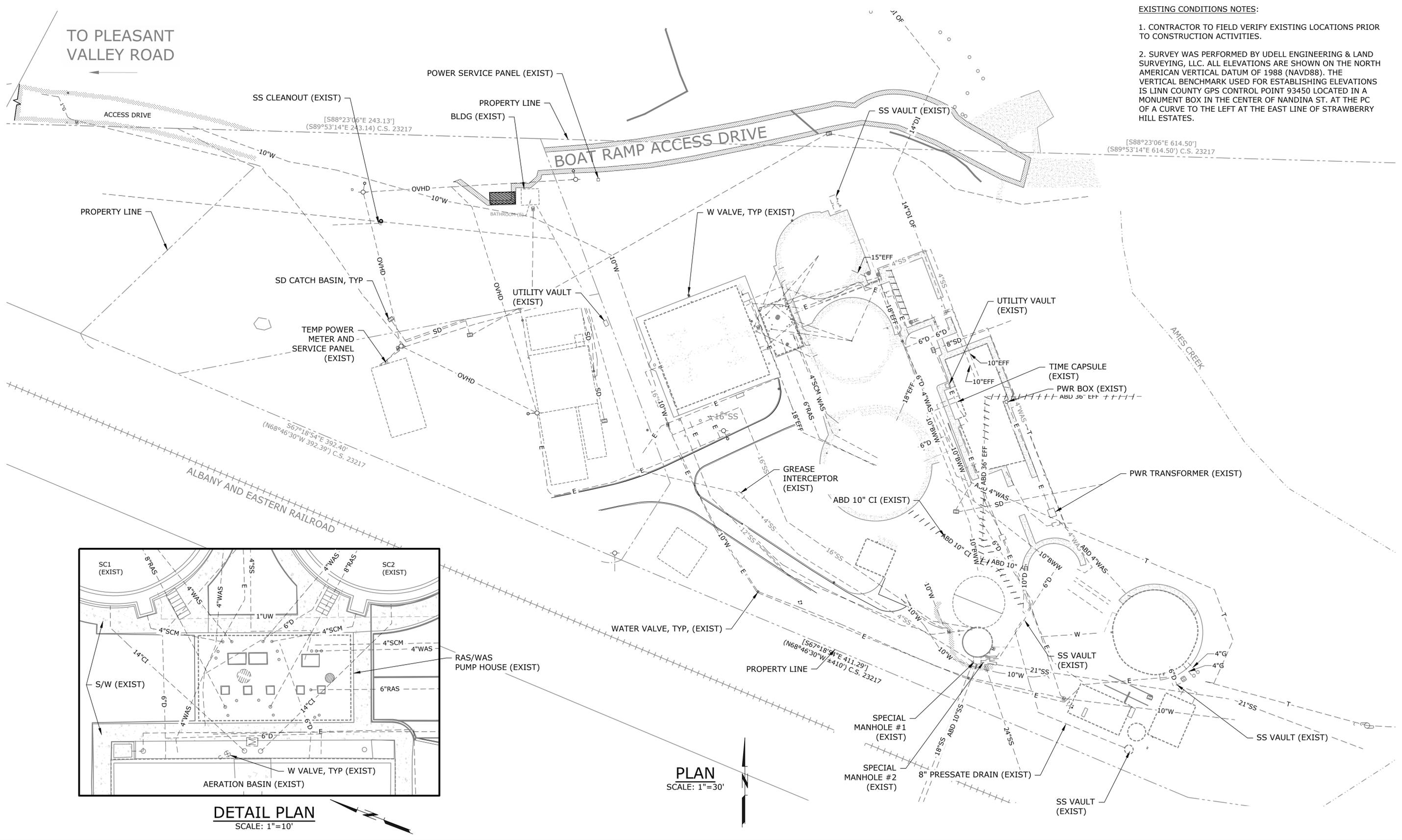
EXISTING CONDITIONS PLAN

PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: AUGUST 2022

SHEET **C-010**
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P:\Clients\936 City Of Sweet Home\50-21-09 WWTP Phase 1 Final Design\CAD\Production\19-2605-OR-C-EXIST-PIPING.dwg C-011 7/21/2022 1:40 PM LKERCADO 24.1s (LMS Tech)

- EXISTING CONDITIONS NOTES:**
1. CONTRACTOR TO FIELD VERIFY EXISTING LOCATIONS PRIOR TO CONSTRUCTION ACTIVITIES.
 2. SURVEY WAS PERFORMED BY UDELL ENGINEERING & LAND SURVEYING, LLC. ALL ELEVATIONS ARE SHOWN ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). THE VERTICAL BENCHMARK USED FOR ESTABLISHING ELEVATIONS IS LINN COUNTY GPS CONTROL POINT 93450 LOCATED IN A MONUMENT BOX IN THE CENTER OF NANDINA ST. AT THE PC OF A CURVE TO THE LEFT AT THE EAST LINE OF STRAWBERRY HILL ESTATES.



NO.	DATE	BY	REVISION

NOTICE

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MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT
PHASE 1

EXISTING UTILITIES PLAN

PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: AUGUST 2022

SHEET
C-011
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P:\Clients\936 City Of Sweet Home\50-21-09 WWTP Phase 1 Final Design\CAD\Production\19-2605-OR-C-DEMO.dwg C-020 7/27/2022 10:40 AM LKERCADO 24.1s (LMS Tech)

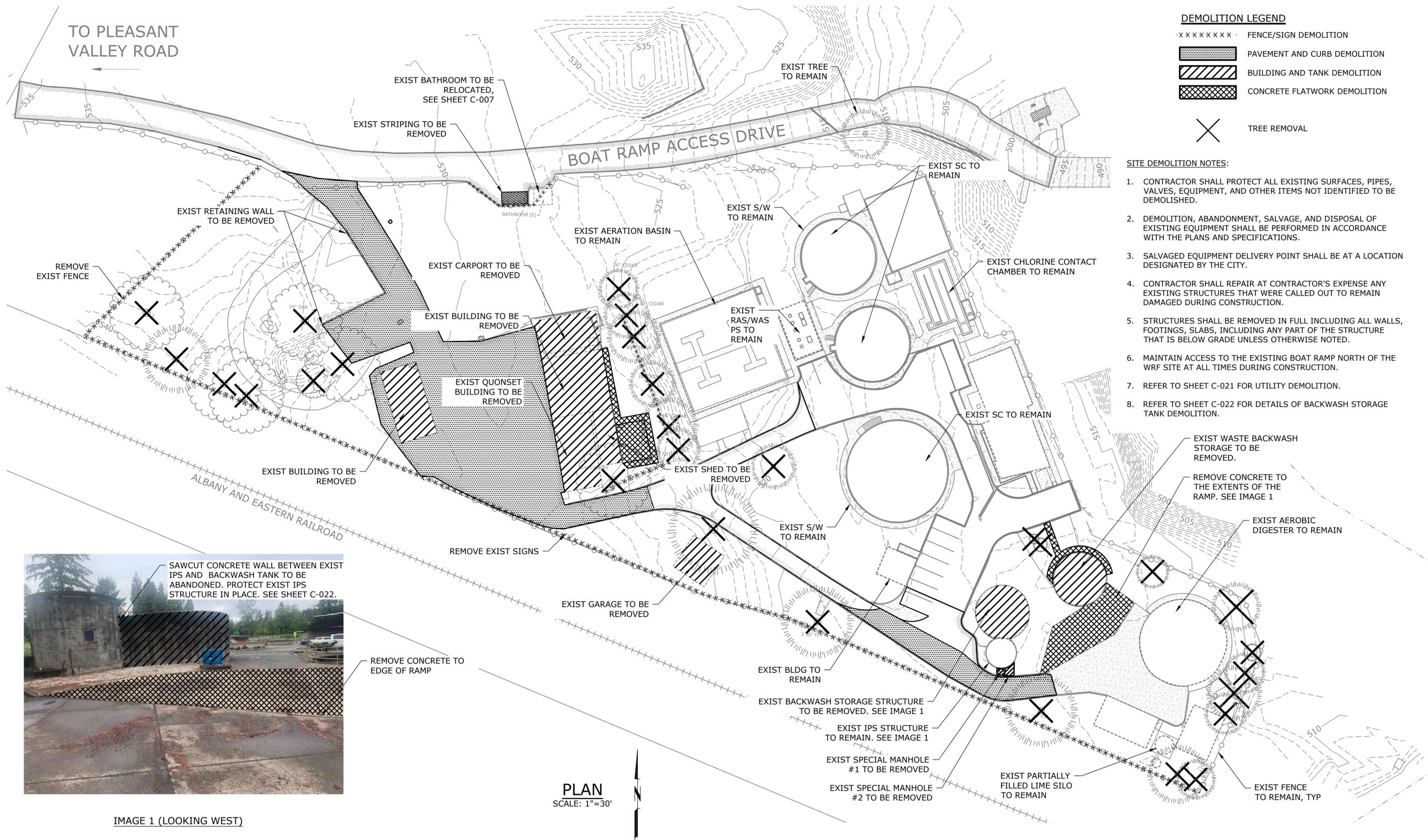


IMAGE 1 (LOOKING WEST)

NO.	DATE	BY	REVISION

NOTICE

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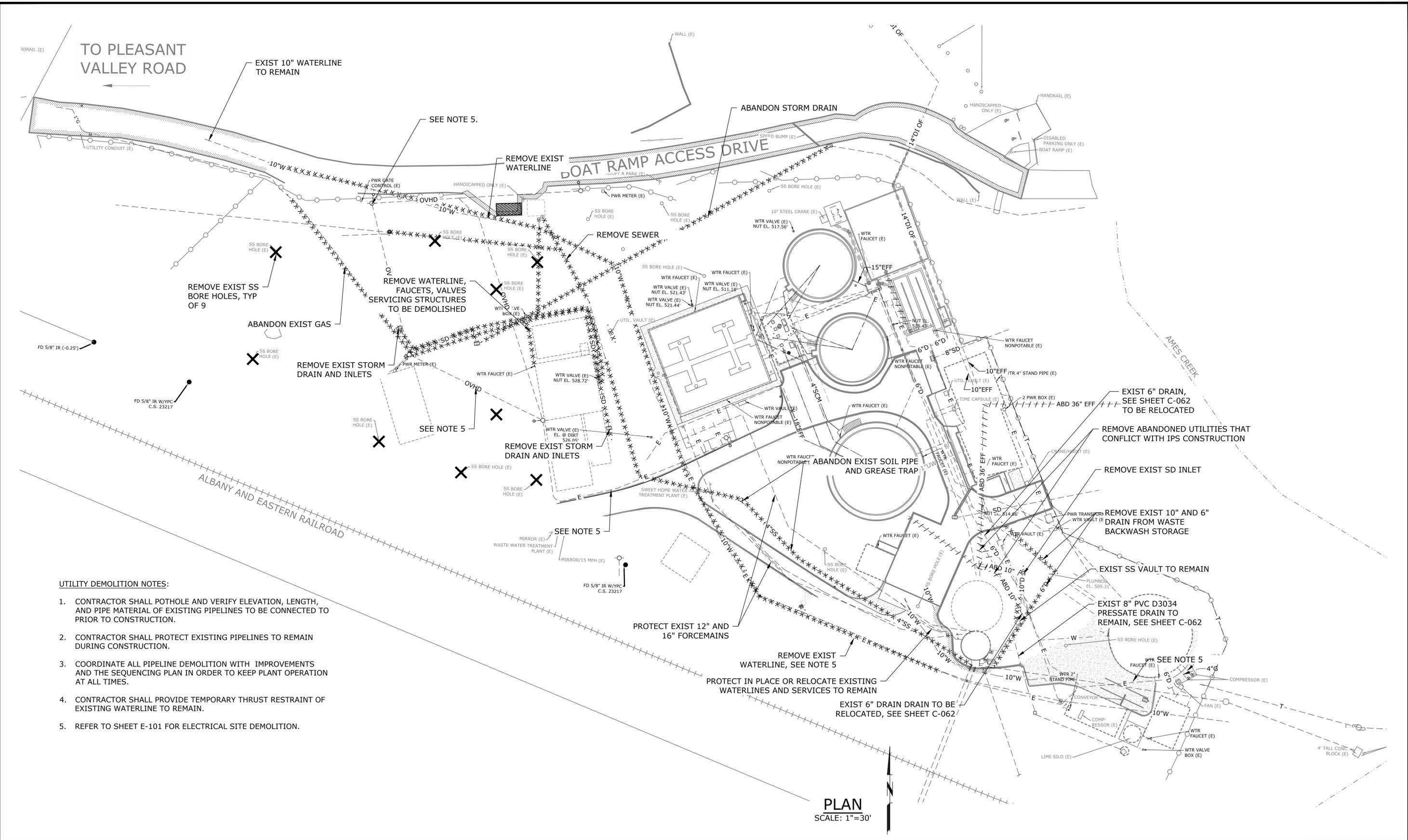
MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

SITE DEMOLITION PLAN

PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: AUGUST 2022

SHEET **C-020**
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P:\Clients\936 City Of Sweet Home\50-21-09 WWTP Phase 1 Final Design\CAD\Production\19-2605-OR-C-UTIL-DEMO.dwg C-021 7/21/2022 1:49 PM BBARRY 24.1s (LMS Tech)



- UTILITY DEMOLITION NOTES:**
1. CONTRACTOR SHALL POTHOLE AND VERIFY ELEVATION, LENGTH, AND PIPE MATERIAL OF EXISTING PIPELINES TO BE CONNECTED TO PRIOR TO CONSTRUCTION.
 2. CONTRACTOR SHALL PROTECT EXISTING PIPELINES TO REMAIN DURING CONSTRUCTION.
 3. COORDINATE ALL PIPELINE DEMOLITION WITH IMPROVEMENTS AND THE SEQUENCING PLAN IN ORDER TO KEEP PLANT OPERATION AT ALL TIMES.
 4. CONTRACTOR SHALL PROVIDE TEMPORARY THRUST RESTRAINT OF EXISTING WATERLINE TO REMAIN.
 5. REFER TO SHEET E-101 FOR ELECTRICAL SITE DEMOLITION.

PLAN
SCALE: 1"=30'

NO.	DATE	BY	REVISION

NOTICE
0 1/2 1
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BVB DRAWN
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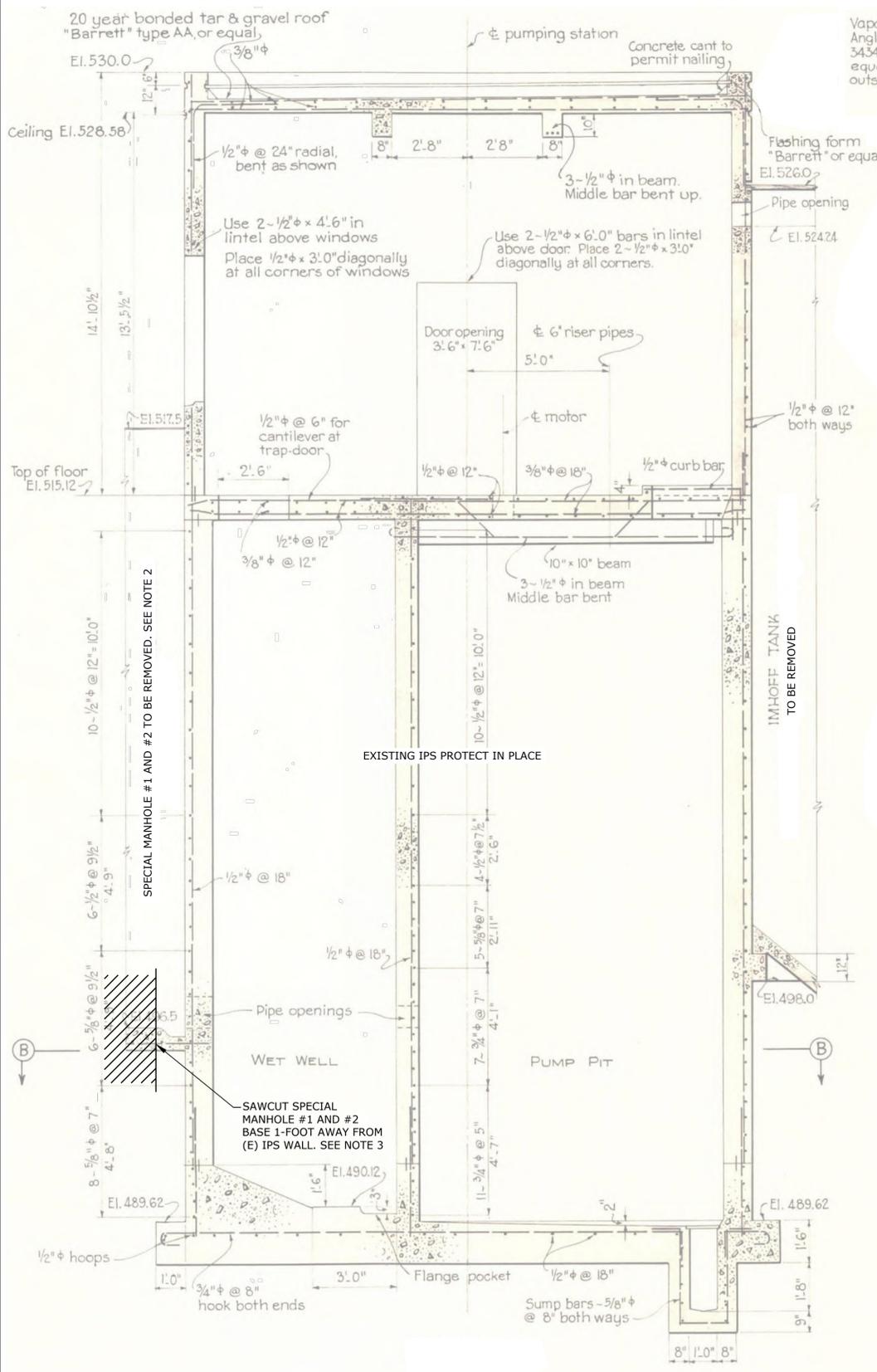


MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

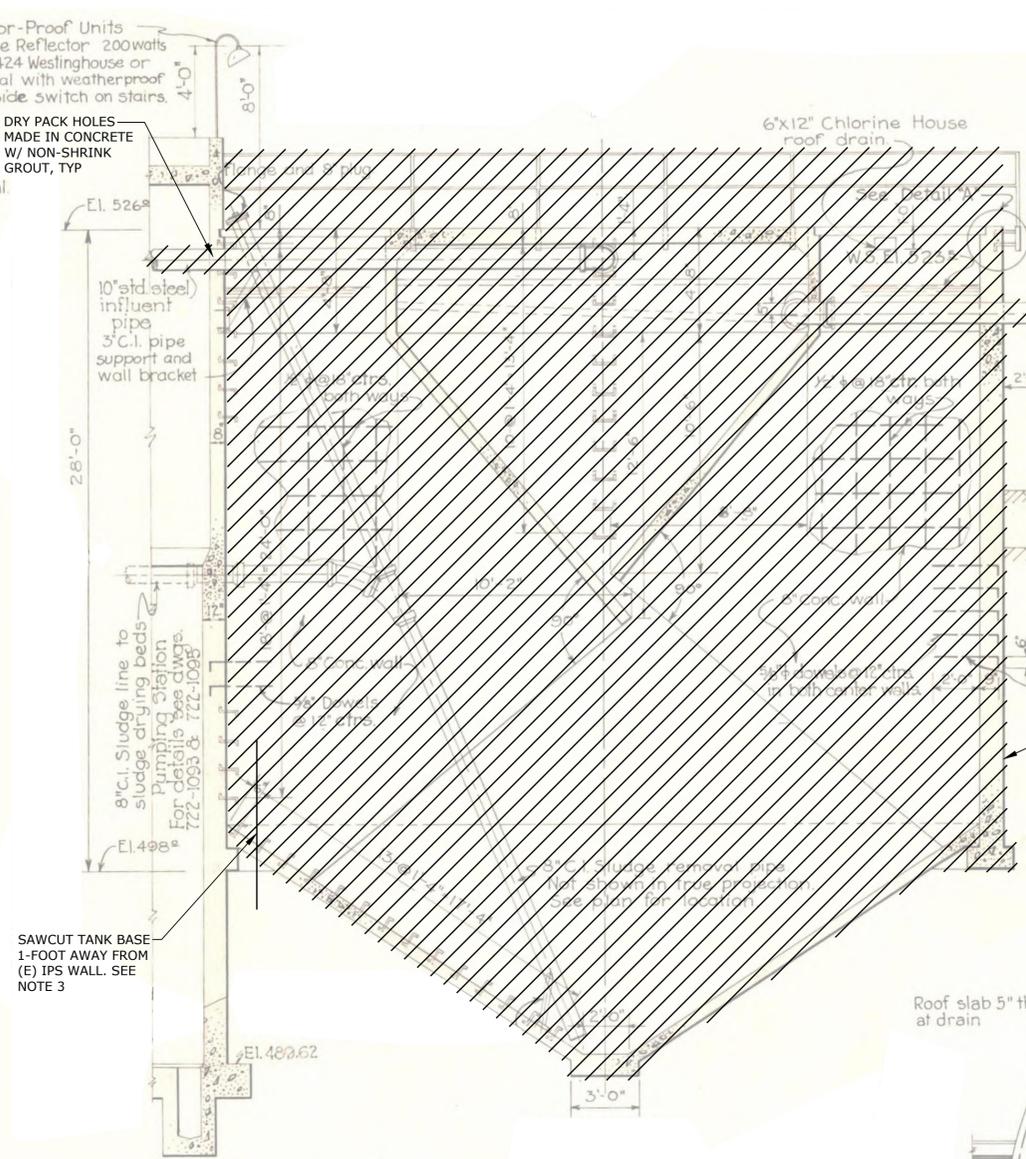
UTILITY DEMOLITION PLAN
PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: AUGUST 2022

SHEET
C-021
17 of 135

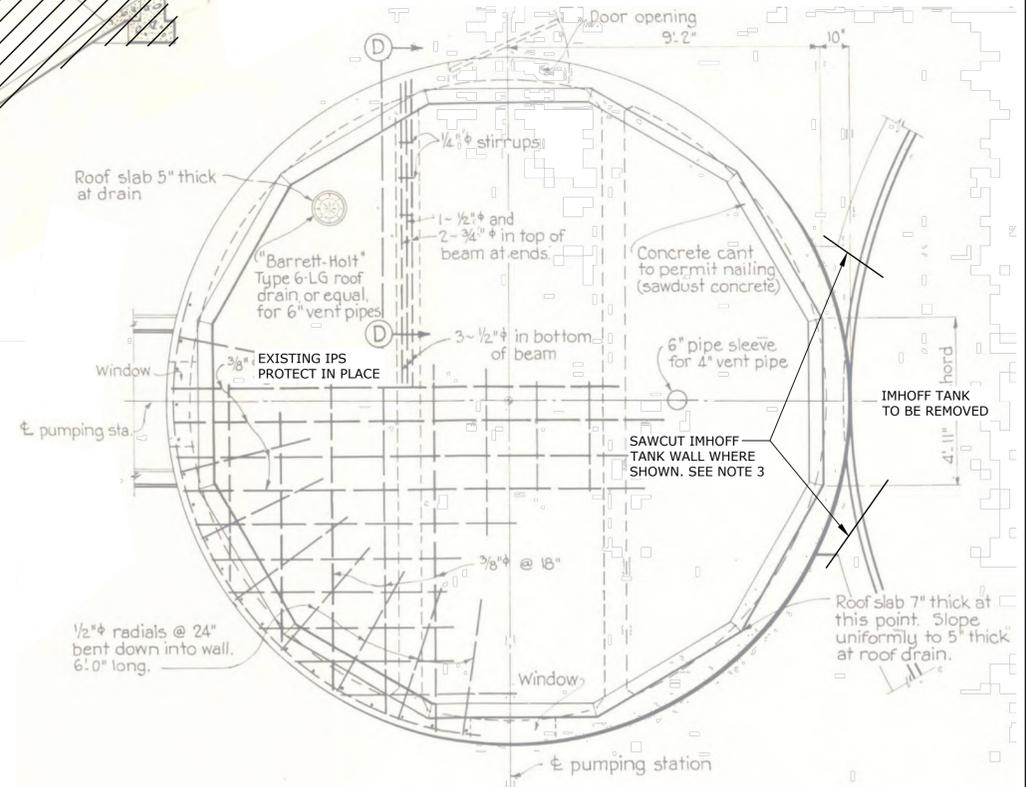
P:\Clients\936 City Of Sweet Home\50-21-09 WWTP Phase 1 Final Design\CAD\Production\19-2605-OR-C-DEMO-BWST.dwg C-022 7/21/2022 1:46 PM LKERCADO 24.1s (LMS Tech)



EXISTING IPS SECTION VIEW
SCALE: NTS



**EXISTING BACKWASH STORAGE/
IMHOFF TANK SECTION VIEW**
SCALE: NTS



EXISTING IPS ROOF PLAN
SCALE: NTS

- NOTES:
1. DEPICTIONS OF EXISTING IPS AND BACKWASH STORAGE/IMHOFF TANK ON THIS SHEET ARE FROM THE 1947 RECORD DRAWINGS. UPGRADES TO THE IPS HAVE OCCURRED AFTER 1947.
 2. PROTECT EXISTING IPS DURING DEMOLITION OF SPECIAL MANHOLES #1 AND #2 AND IMHOFF TANK.
 3. AFTER SAWCUTTING, COAT EXPOSED REBAR WITH A 2-PART CEMENTITIOUS EPOXY COATING.

NO.	DATE	BY	REVISION

NOTICE
0 1/2 1
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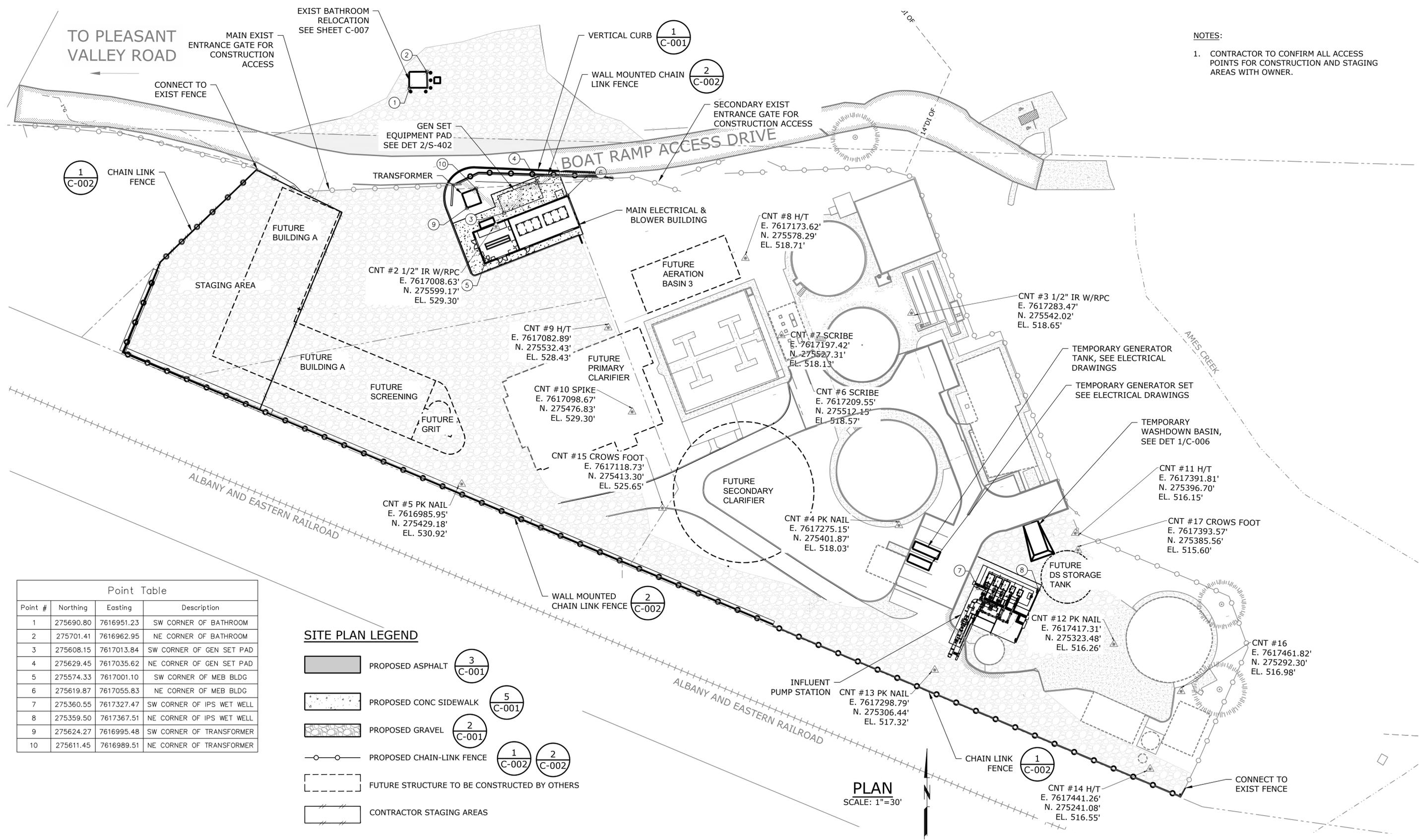


MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

BACKWASH STORAGE/IMHOFF TANK DEMOLITION
PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: AUGUST 2022

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P:\Clients\936 City Of Sweet Home\50-21-09 WWTP Phase 1 Final Design\CAD\Production\19-2605-OR-C-SITE.dwg C-030 7/28/2022 12:40 PM BBARRY 24.1s (LMS Tech)



NOTES:
 1. CONTRACTOR TO CONFIRM ALL ACCESS POINTS FOR CONSTRUCTION AND STAGING AREAS WITH OWNER.

Point Table			
Point #	Northing	Easting	Description
1	275690.80	7616951.23	SW CORNER OF BATHROOM
2	275701.41	7616962.95	NE CORNER OF BATHROOM
3	275608.15	7617013.84	SW CORNER OF GEN SET PAD
4	275629.45	7617035.62	NE CORNER OF GEN SET PAD
5	275574.33	7617001.10	SW CORNER OF MEB BLDG
6	275619.87	7617055.83	NE CORNER OF MEB BLDG
7	275360.55	7617327.47	SW CORNER OF IPS WET WELL
8	275359.50	7617367.51	NE CORNER OF IPS WET WELL
9	275624.27	7616995.48	SW CORNER OF TRANSFORMER
10	275611.45	7616989.51	NE CORNER OF TRANSFORMER

SITE PLAN LEGEND

- PROPOSED ASPHALT (3 C-001)
- PROPOSED CONC SIDEWALK (5 C-001)
- PROPOSED GRAVEL (2 C-001)
- PROPOSED CHAIN-LINK FENCE (1 C-002, 2 C-002)
- FUTURE STRUCTURE TO BE CONSTRUCTED BY OTHERS
- CONTRACTOR STAGING AREAS

NO.	DATE	BY	REVISION

NOTICE

0 1/2 1

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 BVB DRAWN
 WJM CHECKED



Sweet Home
 Oregon... it's best!

MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

OVERALL SITE PLAN, STRUCTURE COORDINATES, STAGING AND ACCESS, SURVEY CONTROL POINTS

PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: AUGUST 2022

EROSION CONTROL NOTES

- CONTRACTOR TO OBTAIN PERMITS FOR STORMWATER MANAGEMENT DURING CONSTRUCTION INCLUDING 1200C STORMWATER DISCHARGE PERMIT.
- SWEEP STREETS AS NEEDED OR WHEN DIRECTED BY OWNER OR OWNER'S REPRESENTATIVE.
- PRIOR TO ANY GROUND DISTURBANCE ON THE SITE, ALL NECESSARY APPROVALS SHALL BE OBTAINED.
- ISSUANCE OF AN EROSION PREVENTION PERMIT APPROVES PROTECTION MEASURES, NOT CONSTRUCTION OR GROUND DISTURBING ACTIVITIES. IT DOES NOT RELIEVE THE CONTRACTOR FROM OTHER PERMITTING REQUIREMENTS. OTHER PERMITS MAY BE REQUIRED.
- CONSTRUCTION SHALL CONFORM TO THE CURRENT EDITION OF THE OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- EROSION AND SEDIMENT CONTROL MEASURES, AND OTHER NATURAL RESOURCE PROTECTION FENCING AND BARRIERS, SHOWN ON THE EROSION CONTROL PLAN (ECP) ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING CONSTRUCTION, MEASURES SHALL BE UPGRADED, AS NEEDED OR AS DIRECTED BY THE CITY OR ENGINEER.
- CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF EROSION AND SEDIMENT CONTROL MEASURES AND PROTECTION FENCING IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED.
- BOUNDARIES OF THE CLEARING AND GRADING LIMITS SHALL BE WITHIN THE SEDIMENT FENCED AREA AND SHALL BE CLEARLY FLAGGED IN THE FIELD PRIOR TO CONSTRUCTION. DURING CONSTRUCTION, NO DISTURBANCE BEYOND THE FLAGGED CLEARING AND GRADING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION. IN ADDITION, WETLAND AND RIPARIAN AREAS SHALL BE IDENTIFIED AND PROTECTED WITH APPROPRIATE FENCING PRIOR TO CONSTRUCTION AND SHALL NOT BE DISTURBED UNLESS THE PROPER PERMITS ARE OBTAINED.
- EROSION AND SEDIMENT CONTROL MEASURES MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DOES NOT ENTER WATERWAYS, THE STORMWATER SYSTEM, ROADWAYS, ADJACENT PROPERTY OR VIOLATE APPLICABLE WATER QUALITY STANDARDS. WHEN DESIGNING AND IMPLEMENTING MEASURES, THE CONTRACTOR SHALL CONSIDER THE SEASONAL VARIATION OF RAINFALL, TEMPERATURE, AND OTHER CLIMATIC FACTORS RELATIVE TO THE TIMING OF LAND DISTURBANCE ACTIVITIES.
- EROSION AND SEDIMENT CONTROL MEASURES ON ACTIVE SITES SHALL BE INSPECTED AND MAINTAINED DAILY AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCHES OF RAIN PER 24 HOUR PERIOD. ANY REQUIRED REPAIRS OR ADJUSTMENTS SHALL BE MADE IMMEDIATELY. THE EROSION AND SEDIMENT CONTROL MEASURES ON INACTIVE SITES SHALL BE INSPECTED A MINIMUM OF ONCE EVERY MONTH AND/OR WITHIN 48 HOURS FOLLOWING STORM EVENTS. ADDITIONALLY, SITES COVERED UNDER DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ) PERMITS (1200-C, 1200-CN) MUST COMPLY WITH THOSE PERMIT MONITORING AND RECORD-KEEPING REQUIREMENTS.
- DURING THE WET WEATHER SEASON (OCTOBER 15 TO APRIL 30), ALL EXPOSED SOIL AND STOCKPILE AREAS SHALL BE COVERED, OR OTHERWISE PROTECTED BY A FACILITY (OR COMBINATION OF FACILITIES) THAT RESULT IN NO STORMWATER RUNOFF LEAVING THE SITE DURING A 5-YEAR STORM EVENT.
- ALL ADJACENT PROPERTIES, WATER FEATURES, AND RELATED NATURAL RESOURCES ARE TO BE KEPT FREE OF DEPOSITS OR DISCHARGES OF SOIL, SEDIMENT OR CONSTRUCTION-RELATED MATERIAL FROM THE CONSTRUCTION SITE.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PROTECTED FROM DAMAGE AT ALL TIMES. EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL VEGETATION HAS BEEN ESTABLISHED AND THE SITE IS PERMANENTLY STABILIZED. ANY MEASURES THAT ARE DAMAGED OR DESTROYED SHALL BE REPAIRED OR REPLACED IMMEDIATELY.
- STABILIZE ALL DISTURBED AREAS WITHIN 50 FEET OF WATERWAYS, WETLANDS OR OTHER SENSITIVE AREAS WITHIN 7 DAYS OF EXPOSURE.
- STREETS ADJACENT TO CONSTRUCTION ENTRANCES AND ALONG HAUL ROUTES SHALL BE SWEEPED AS NEEDED OR WHEN DIRECTED BY THE CITY TO ENSURE PUBLIC RIGHTS-OF-WAY ARE KEPT CLEAN AND FREE OF DEBRIS.
- WHEN TRUCKING SATURATED SOILS TO OR FROM THE SITE, WATER-TIGHT TRUCKS SHALL BE USED. SEDIMENT LADEN WATER WILL NOT BE ALLOWED TO ENTER THE STORMWATER SYSTEM.
- EXTRACTED GROUND WATER FROM EXCAVATED TRENCHES SHALL BE DISPOSED OF IN A SUITABLE MANNER WITHOUT DISCHARGING SEDIMENT TO ADJACENT PROPERTIES, THE CITY'S STORMWATER SYSTEM, WATER FEATURES, OR RELATED NATURAL RESOURCES. DEWATERING SYSTEMS SHALL BE DESIGNED AND OPERATED SO AS TO PREVENT REMOVAL OF THE NATURAL SOILS AND SO THAT THE GROUNDWATER LEVEL OUTSIDE THE EXCAVATION IS NOT REDUCED TO THE EXTENT THAT WOULD DAMAGE OR ENDANGER ADJACENT STRUCTURES OR PROPERTY. APPROVAL OF THE DEWATERING SYSTEM DOES NOT GUARANTEE THAT IT WILL MEET THE OUTCOMES OR BE ACCEPTABLE FOR USE IN ALL SITUATIONS. MODIFICATIONS TO THE SYSTEM WILL BE REQUIRED IF THE OUTCOMES CANNOT BE MET. AT NO TIME WILL SEDIMENT LADEN WATER BE ALLOWED TO LEAVE THE CONSTRUCTION SITE.

- A SUPPLY OF MATERIALS NECESSARY TO MEET THE OUTCOMES AND IMPLEMENT THE EROSION PRACTICES UNDER ALL WEATHER CONDITIONS SHALL BE MAINTAINED AT ALL TIMES ON THE CONSTRUCTION SITE.
- NO HAZARDOUS SUBSTANCES, SUCH AS PAINTS, THINNERS, FUELS AND OTHER CHEMICALS SHALL BE RELEASED ONTO THE SITE, ADJACENT PROPERTIES, OR INTO WATER FEATURES, THE STORMWATER SYSTEM, OR RELATED NATURAL RESOURCES.
- NO DISCHARGE INTO THE STORMWATER SYSTEM OR RELATED NATURAL RESOURCES OF CONSTRUCTION RELATED CONTAMINANTS RESULTING FROM ACTIVITIES SUCH AS, BUT NOT LIMITED TO, CONCRETE SAWING, CLEANING OR WASHING OF EQUIPMENT, TOOLS, OR VEHICLES, SHALL OCCUR.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE ALL WORK PERFORMED BY UTILITY COMPANIES FOR THIS PROJECT, INCLUDING PLACEMENT OF APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES, FINISHED GRADING, SEEDING, MULCHING AND CLEAN UP MEETS THE REQUIREMENTS OF THE PERMIT.
- INSTALL ADDITIONAL EROSION CONTROL DEVICES SUCH AS CHECK DAMS, TIRE WASH FACILITIES, AS NEEDED TO MEET EROSION CONTROL REQUIREMENTS.
- REFER TO EROSION CONTROL DETAILS ON C-042.

MATERIAL DELIVERY AND STORAGE

- TEMPORARY STORAGE AREA SHALL BE LOCATED AWAY FROM VEHICULAR TRAFFIC.
- MATERIAL SAFETY DATA SHEETS (MSDS) SHALL BE SUPPLIED FOR ALL MATERIALS STORED.
- ALL MATERIAL DELIVERY AND STORAGE SHALL TAKE PLACE WITHIN THE DESIGNATED STAGING AREAS.
- STORAGE OF REACTIVE, IGNITABLE, OR FLAMMABLE LIQUIDS MUST COMPLY WITH LOCAL FIRE CODES.
- HAZARDOUS MATERIALS STORAGE ONSITE SHALL BE MINIMIZED.
- HAZARDOUS MATERIALS SHALL BE HANDLED AS INFREQUENTLY AS POSSIBLE.
- DURING THE RAINY SEASON, MATERIALS SHALL BE STORED IN A COVERED AREA. STORE MATERIALS IN SECONDARY CONTAINMENTS SUCH AS EARTHEN DIKE, HORSE TROUGH, OR EVEN A CHILDREN'S WADING POOL FOR NON - REACTIVE MATERIALS SUCH AS DETERGENTS, OIL, GREASE, AND PAINTS. SMALL AMOUNTS OF MATERIAL MAY BE SECONDARILY CONTAINED IN CONCRETE MIXING TRAYS.
- DO NOT STORE CHEMICALS, DRUMS, OR BAGGED MATERIALS DIRECTLY ON THE GROUND. PLACE THESE ITEMS ON A PALLET AND, WHEN POSSIBLE, IN SECONDARY CONTAINMENT.
- IF DRUMS MUST BE KEPT UNCOVERED, USE DOMED PLASTIC COVERS OR STORE THEM AT A SLIGHT ANGLE TO REDUCE PONDING OF RAINWATER ON THE LIDS TO REDUCE CORROSION.
- CHEMICALS SHALL BE KEPT IN THEIR ORIGINAL LABELED CONTAINERS.
- EMPLOYEES AND SUBCONTRACTORS SHALL BE TRAINED ON THE PROPER MATERIAL DELIVERY AND STORAGE PRACTICES.
- EMPLOYEES TRAINED IN EMERGENCY SPILL CLEANUP PROCEDURES MUST BE PRESENT WHEN DANGEROUS MATERIALS OR LIQUID CHEMICALS ARE UNLOADED.
- COVER AND BERM LOOSE STOCKPILED CONSTRUCTION MATERIALS THAT ARE NOT ACTIVELY BEING USED SUCH AS SOILS, SPOILS, AGGREGATE, FLY-ASH, STUCCO AND HYDRATED LIME.
- IMPLEMENT BMPs TO PREVENT THE OFF-SITE TRACKING OF LOOSE CONSTRUCTION AND LANDSCAPE MATERIALS.
- DISCONTINUE THE APPLICATION OF ANY ERODIBLE LANDSCAPE MATERIAL WITHIN 2 DAYS BEFORE A FORECASTED RAIN EVENT OR DURING PERIODS OF PRECIPITATION. APPLY ERODIBLE LANDSCAPE MATERIALS AT QUANTITIES AND APPLICATION RATES ACCORDING TO MANUFACTURER RECOMMENDATIONS OR BASED ON WRITTEN SPECIFICATION BY EXPERIENCED FIELD PERSONNEL.

VEHICLE AND EQUIPMENT CLEANING, FUELING AND MAINTENANCE NOTES

- THE CONTRACTOR SHALL PERFORM ALL CLEANING OFF SITE OR CONTRACT WITH EITHER AN OFFSITE OR MOBILE COMMERCIAL WASHING BUSINESS FOR ALL NECESSARY CLEANING.
- THE CONTRACTOR SHALL USE OFFSITE FUELING STATIONS AND REPAIR SITES AS MUCH AS POSSIBLE.
- THE CONTRACTOR SHALL DISCOURAGE "TOPPING OFF" OF FUEL TANKS.
- THE CONTRACTOR SHALL MAKE AVAILABLE ABSORBENT SPILL CLEANUP MATERIALS AND SPILL KITS IN FUELING AREAS AND ON FUELING TRUCKS.
- THE CONTRACTOR SHALL USE DRIP PANS OR ABSORBENT PADS DURING VEHICLE AND EQUIPMENT FUELING AND MAINTENANCE WORK THAT INVOLVES FLUIDS.
- THE CONTRACTOR SHALL USE ABSORBENT MATERIALS EVEN ON SMALL SPILLS. DO NOT HOSE DOWN OR BURY THE SPILL.
- THE CONTRACTOR SHALL REMOVE THE ABSORBENT MATERIALS PROMPTLY AND DISPOSE OF PROPERLY.
- FUELING AND MAINTENANCE SHALL TAKE PLACE ONLY IN THE DESIGNATED AREA. THE CONTRACTOR SHALL AVOID MOBILE FUELING AND MAINTENANCE OF MOBILE CONSTRUCTION EQUIPMENT AROUND THE SITE; RATHER, TRANSPORT THE EQUIPMENT TO DESIGNATED AREA.
- THE CONTRACTOR SHALL TRAIN EMPLOYEES AND SUBCONTRACTORS IN PROPER FUELING, MAINTENANCE, AND SPILL CLEANUP PROCEDURES.
- FUELING AND MAINTENANCE SHALL BE PERFORMED ON LEVEL-GRADE AREAS.
- THE CONTRACTOR SHALL PROTECT FUELING AND MAINTENANCE AREAS WITH APPROPRIATE BMPs.
- NOZZLES USED IN VEHICLE AND EQUIPMENT FUELING SHALL BE EQUIPPED WITH AN AUTOMATIC SHUTOFF TO CONTROL DRIPS. FUELING OPERATIONS SHALL NOT BE LEFT UNATTENDED.
- THE CONTRACTOR SHALL OBSERVE FEDERAL, STATE, AND LOCAL REQUIREMENTS FOR ANY STATIONARY ABOVE GROUND STORAGE TANKS.
- THE CONTRACTOR SHALL INSPECT ONSITE VEHICLES AND EQUIPMENT DAILY AT STARTUP FOR LEAKS, AND REPAIR IMMEDIATELY. KEEP VEHICLES AND EQUIPMENT CLEAN; DO NOT ALLOW EXCESSIVE BUILD UP OF OIL AND GREASE.
- THE CONTRACTOR SHALL SEGREGATE AND RECYCLE WASTES, SUCH AS GREASES, USED OIL OR OIL FILTERS, ANTIFREEZE CLEANING SOLUTIONS, AUTOMOTIVE BATTERIES, HYDRAULIC AND TRANSMISSION FLUIDS. PROVIDE SECONDARY CONTAINMENT AND COVERS FOR THESE MATERIALS IF STORED ONSITE.
- THE CONTRACTOR SHALL PROPERLY DISPOSE OF USED OILS, FLUIDS, LUBRICANTS, BATTERIES, AND SPILL CLEANUP MATERIALS.

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NOTICE

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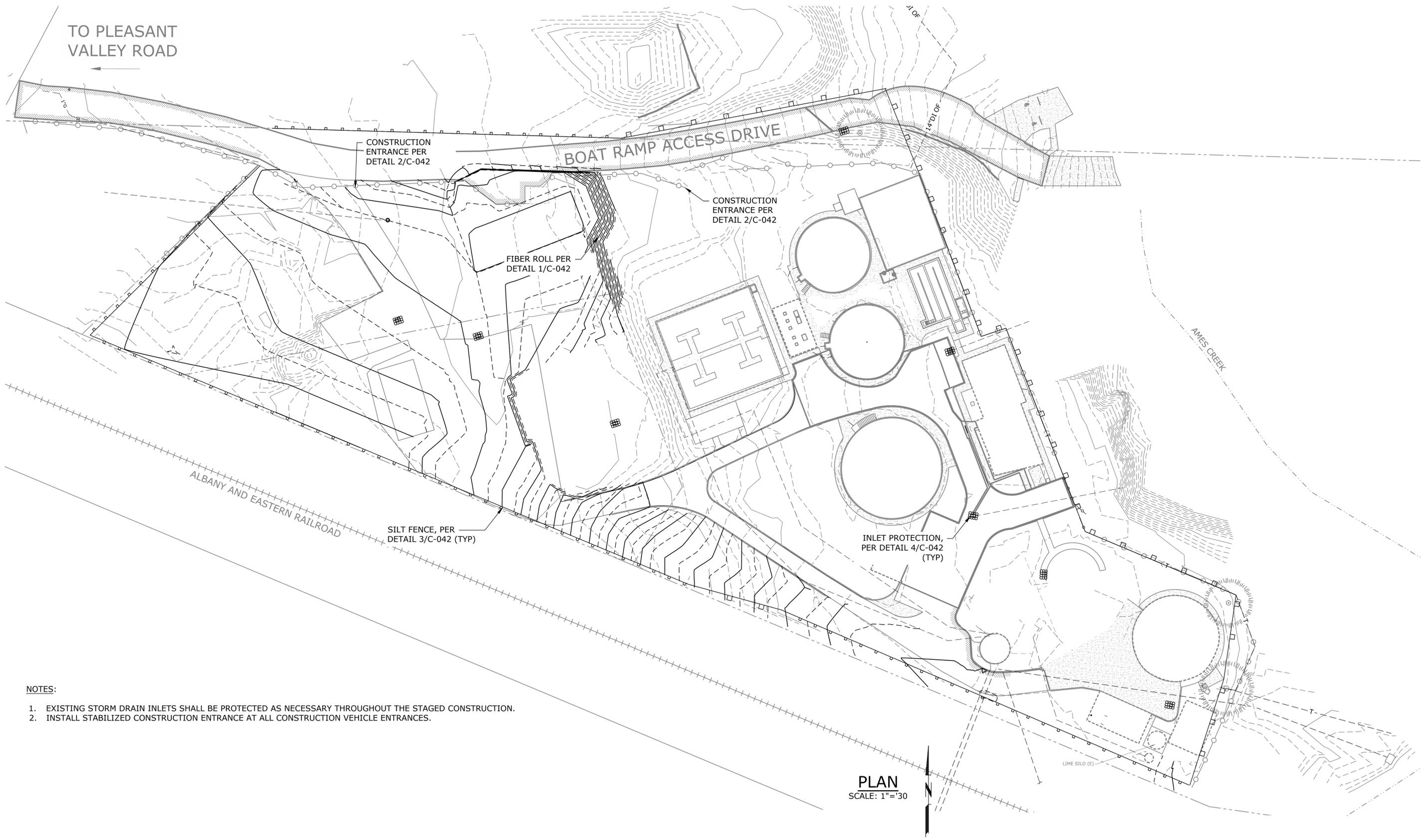
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EROSION CONTROL NOTES			
PROJECT NO.:	936-50-21-09	SCALE:	AS SHOWN
DATE:	AUGUST 2022		

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NOTES:

1. EXISTING STORM DRAIN INLETS SHALL BE PROTECTED AS NECESSARY THROUGHOUT THE STAGED CONSTRUCTION.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE AT ALL CONSTRUCTION VEHICLE ENTRANCES.

PLAN
SCALE: 1"=30'

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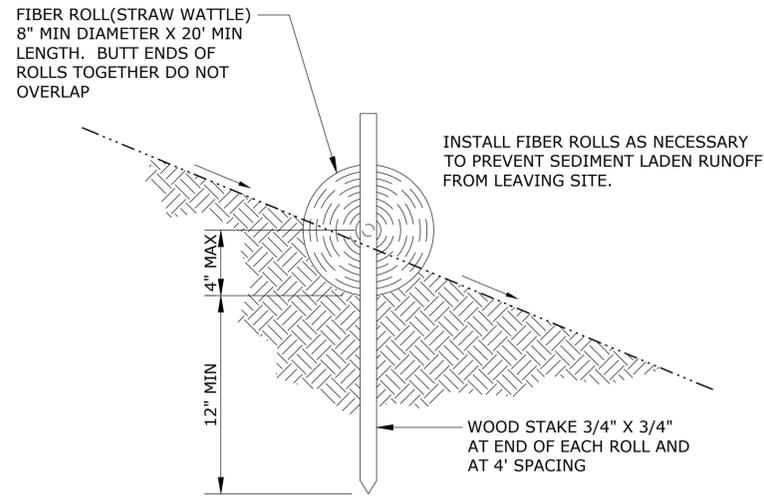


MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

EROSION CONTROL PLAN
PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: AUGUST 2022

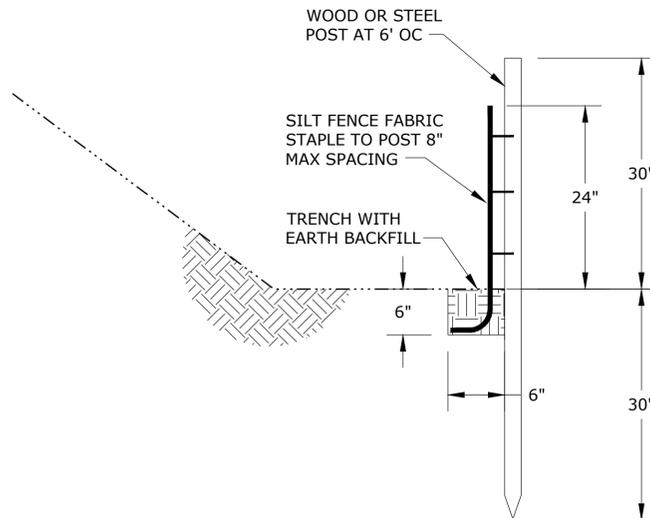
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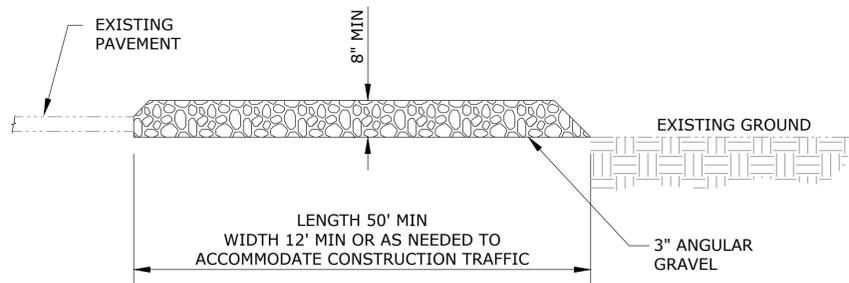
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C-041



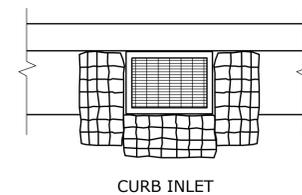
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C-041



STABILIZED CONSTRUCTION ENTRANCE
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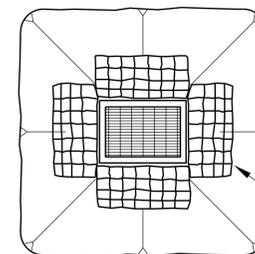
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C-041



CURB INLET

- NOTES:
1. REMOVE SEDIMENT FROM BEHIND BIOBAGS WHEN IT REACHES 2 INCHES IN DEPTH.
 2. INSTALL INLET INSERT SEE

5
-



DRAIN INLET

BIOFILTER BARRIER

INLET PROTECTION
SCALE: NTS

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C-041

NO.	DATE	BY	REVISION

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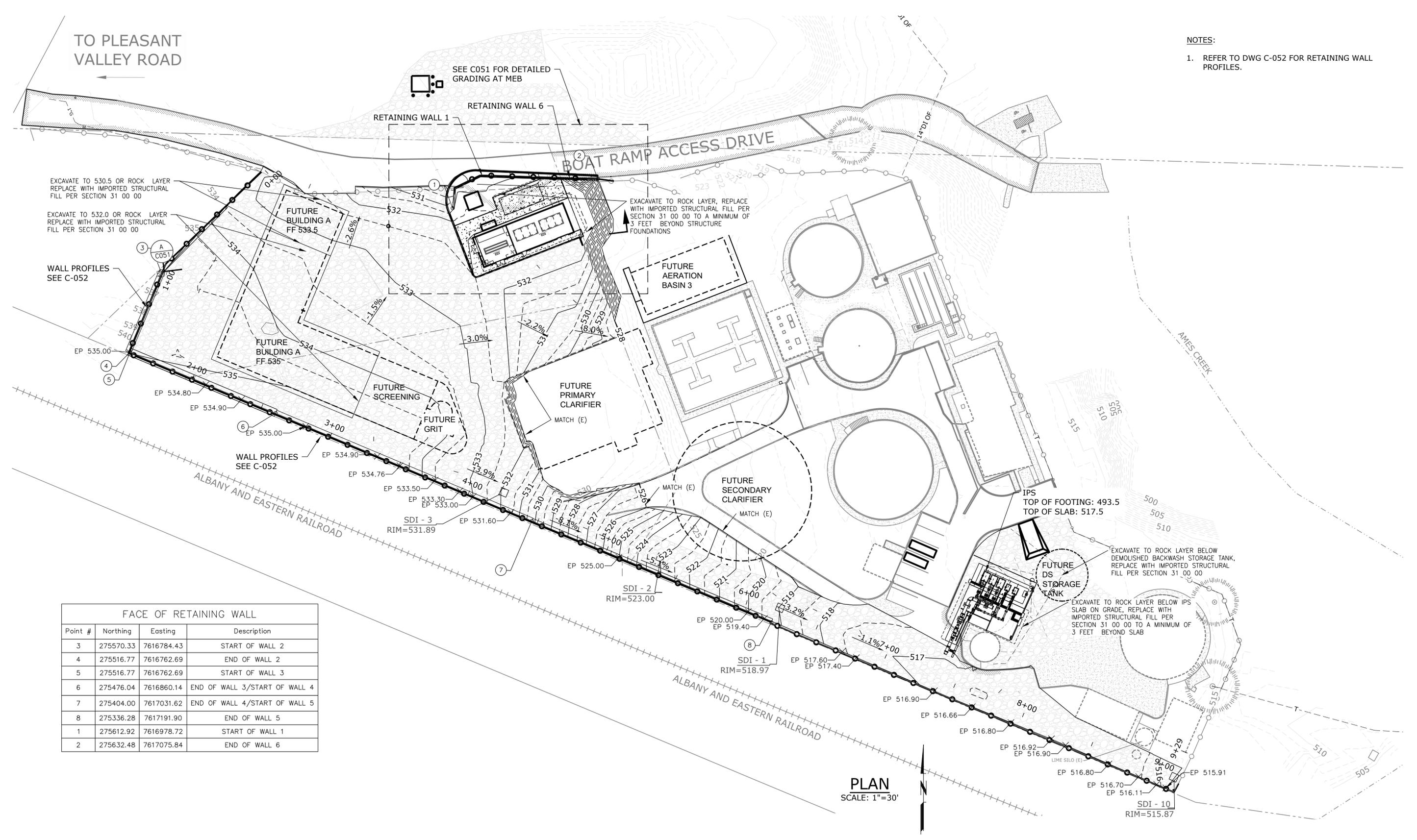
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EROSION CONTROL DETAILS

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NOTES:
 1. REFER TO DWG C-052 FOR RETAINING WALL PROFILES.



FACE OF RETAINING WALL			
Point #	Northing	Easting	Description
3	275570.33	7616784.43	START OF WALL 2
4	275516.77	7616762.69	END OF WALL 2
5	275516.77	7616762.69	START OF WALL 3
6	275476.04	7616860.14	END OF WALL 3/START OF WALL 4
7	275404.00	7617031.62	END OF WALL 4/START OF WALL 5
8	275336.28	7617191.90	END OF WALL 5
1	275612.92	7616978.72	START OF WALL 1
2	275632.48	7617075.84	END OF WALL 6

PLAN
 SCALE: 1"=30'

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NOTICE
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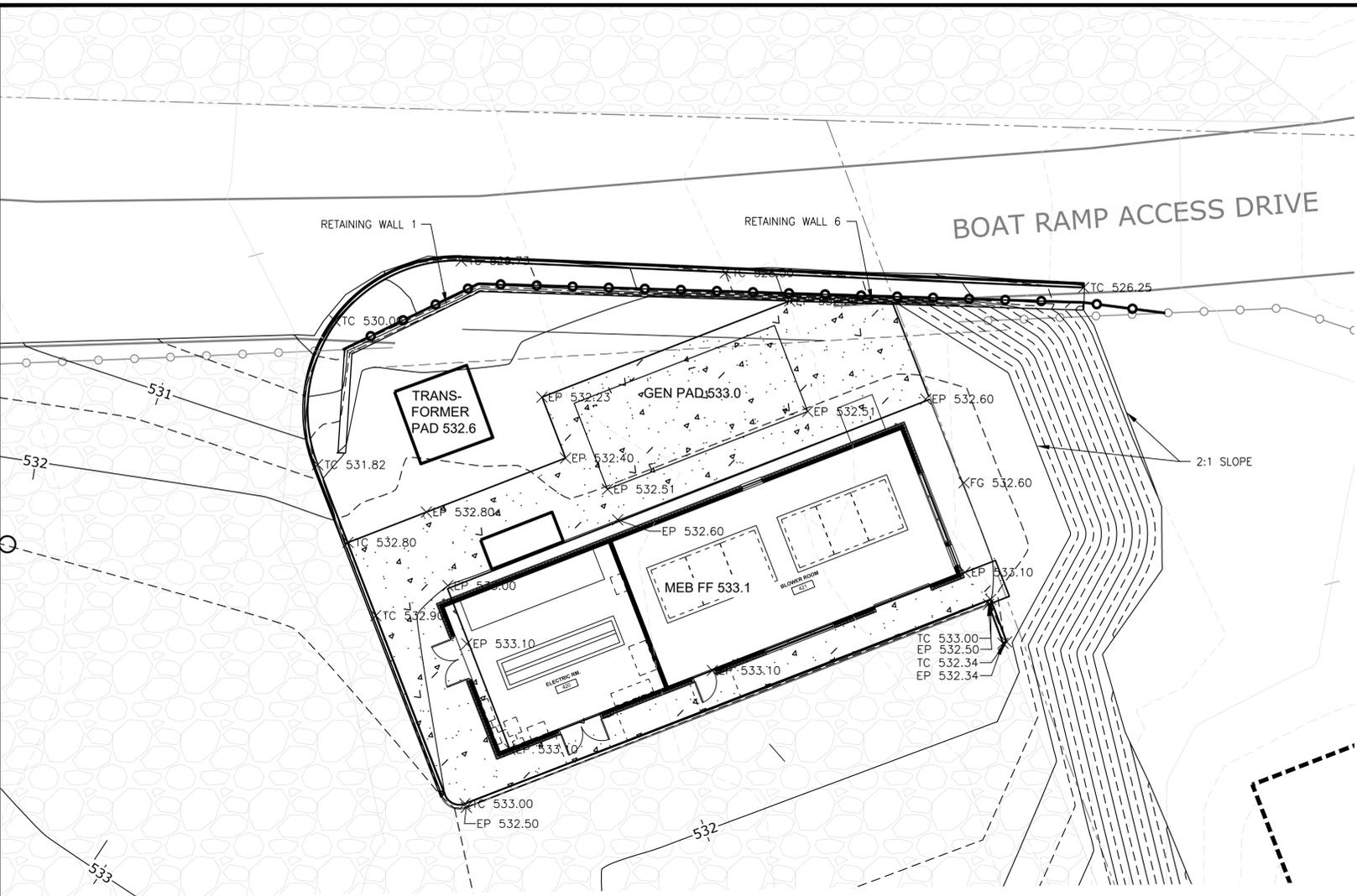


MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

OVERALL GRADING PLAN
 PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: AUGUST 2022

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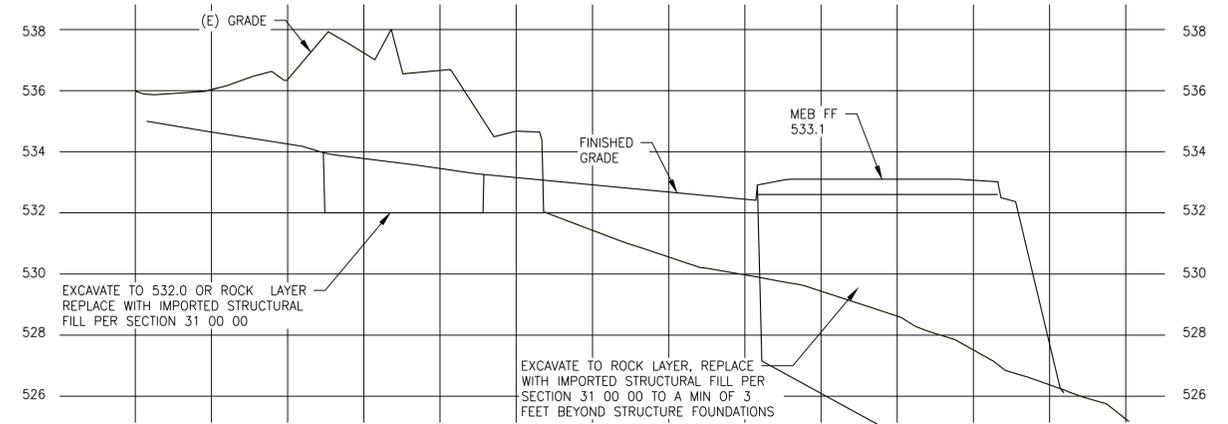


PLAN
SCALE: 1"=10'



NOTES:

1. REFER TO DWG C-052 FOR RETAINING WALL PROFILES.



SECTION A-A
SCALE: 1"=30' HORIZ, 1"=3' VERT

NO.	DATE	BY	REVISION

NOTICE
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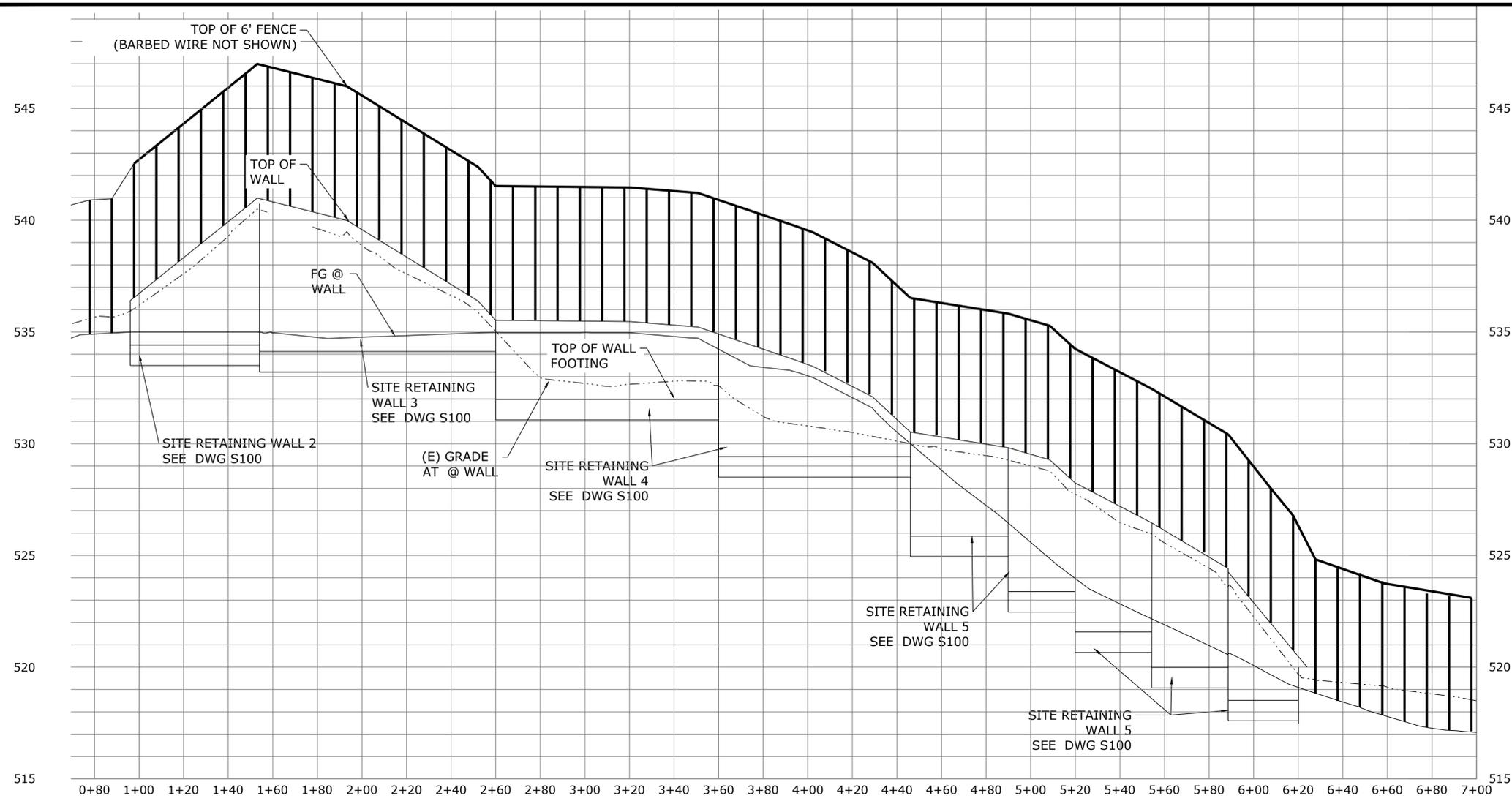
MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

MAIN ELECTRICAL & BLOWER BUILDING AREA GRADING PLAN

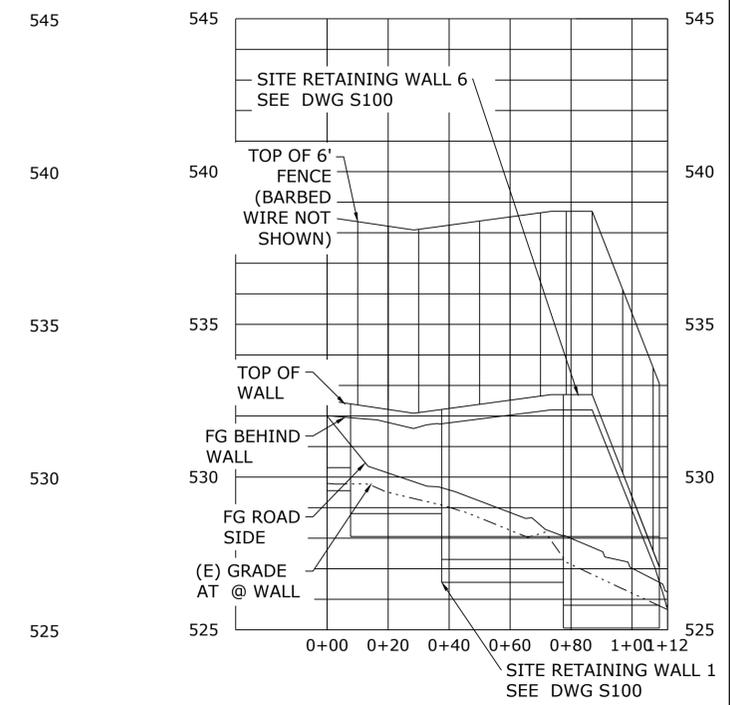
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PROFILE WALLS 2-5
HORZ SCALE: 1"=30' ; VERT SCALE 1"=3'



PROFILE WALLS 1 & 6
HORZ SCALE: 1"=30' ; VERT SCALE 1"=3'

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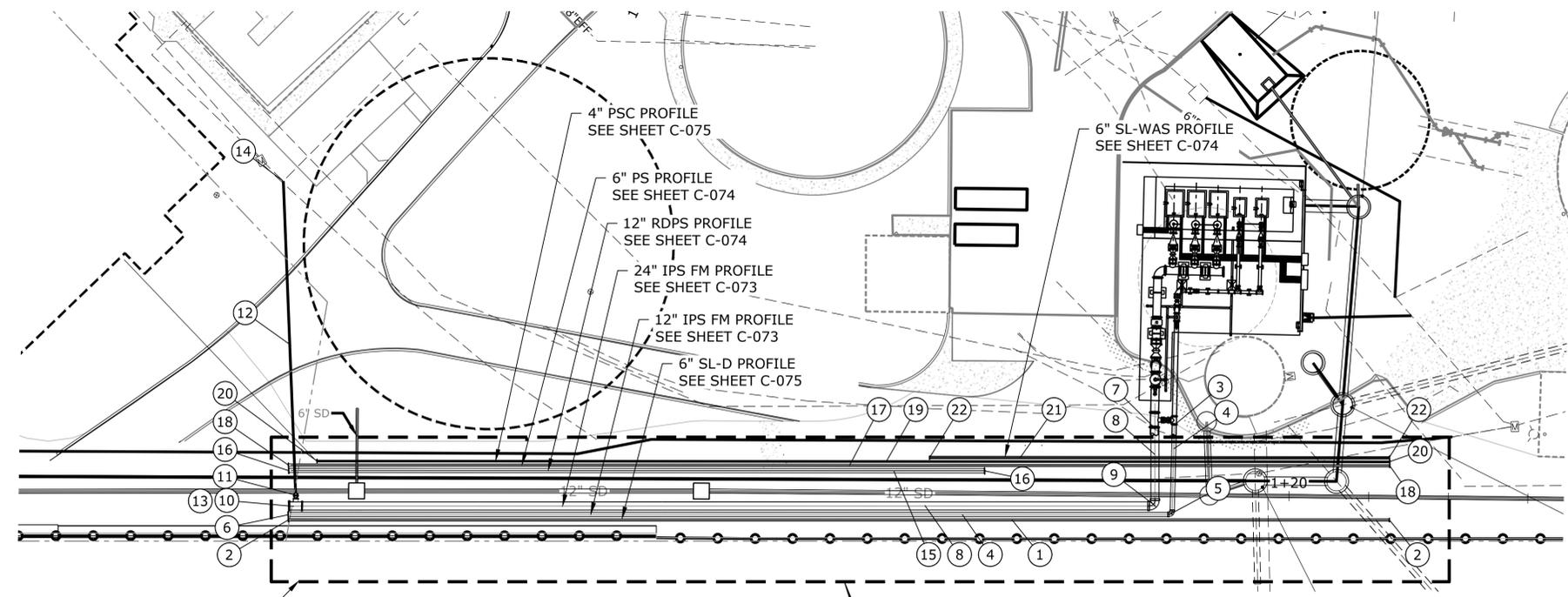


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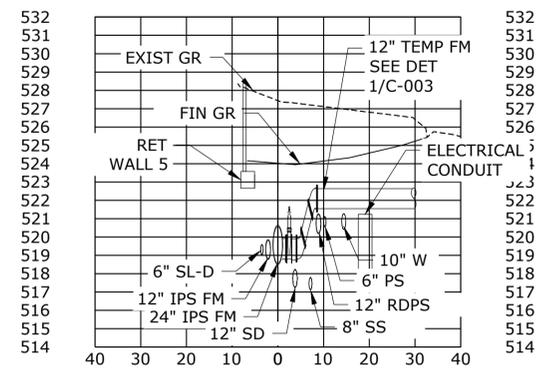
SHEET C-052 25 of 135

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CRITICAL PIPING AREA
SEE NOTE 8 SHEET C-060

ENLARGED PLAN
SCALE: 1"=20'



PIPELINE SECTION
SECTION A
C-060
H: 1"=20' V: 1"=5'

YARD PIPING SCHEDULE (SEE DWG C-060)

- | | |
|---|--|
| <p>10" WATERLINE RELOCATION</p> <ul style="list-style-type: none"> ① CONNECT TO EXIST WATERLINE; SEE NOTES 1-3, DWG C-060 ② FURNISH AND INSTALL: 10" GATE VALVE, MJ ③ FURNISH & INSTALL 10" DI WATER MAIN RESTRAIN ALL PIPE JOINTS MIN COVER 3-FEET ④ FURNISH & INSTALL: 1-10" DI 11.25° HORIZ BEND, MJ ⑤ FURNISH & INSTALL: 1-10" DI 22.5° HORIZ BEND, MJ ⑥ FURNISH & INSTALL: 1-18" DI 45° HORIZ BEND, MJ ⑦ FURNISH & INSTALL: FIRE HYDRANT, SEE DETAIL 2, DWG C-005 ⑧ FURNISH AND INSTALL: 10" DI TEE, MJ ⑨ FURNISH AND INSTALL: 1" WATER SERVICE, SEE DETAIL 1, DWG C-005 ⑩ FURNISH AND INSTALL: 10" BLIND FLANGE ⑪ WATERLINE CROSSING UNDER FUTURE GRIT PIPE SEE DET 3/C-003 | <p>SANITARY SEWER</p> <ul style="list-style-type: none"> ① FURNISH & INSTALL SS CLEANOUT, SEE DETAIL 6, DWG C-004 ② FURNISH & INSTALL D3034/F679 PVC SS PIPE, SIZE AS NOTED ③ FURNISH & INSTALL 48" DIA PRECAST MANHOLE, SEE DETAIL 2, DWG C-004 ④ FURNISH & INSTALL SEWER DIVERSION MANHOLE, SEE DETAIL 3, DWG C-004 <p>STORM DRAIN</p> <ul style="list-style-type: none"> ① FURNISH & INSTALL DRAIN INLET, SEE DETAIL 5, DWG C-004 ② FURNISH & INSTALL D3034/F679 PVC SD PIPE, SIZE AS NOTED ③ FURNISH & INSTALL 48" DIA PRECAST MANHOLE, SEE DETAIL 2, DWG C-004 ④ FURNISH AND INSTALL 10" D3034 PVC TEMPORARY OVERFLOW CONNECTION BETWEEN SD AND SS SEE NOTE 5 DWG C-060 <p>GAS MAIN</p> <ul style="list-style-type: none"> ⑫ RELOCATE 1" GAS MAIN ⑬ INSTALL 1" GAS SERVICE |
|---|--|

YARD PIPING SCHEDULE (THIS SHEET)

- | | |
|--|---|
| <p>6" SL-D FORCEMAIN</p> <ul style="list-style-type: none"> ① FURNISH & INSTALL 6" DIPS HDPE FM ② FURNISH & INSTALL: 6" FCA W/BLIND FLANGE W/LOCATION MARKER AT SURFACE FOR FUTURE TIE-IN <p>12" IPS FORCEMAIN</p> <ul style="list-style-type: none"> ③ CONNECT TO 12" DI TEE; SEE DETAIL 4, DWG C-003 ④ FURNISH & INSTALL 12" DIPS HDPE FM ⑤ FURNISH & INSTALL: 12" HDPE 90° HORIZ BEND ⑥ FURNISH & INSTALL: 12" FCA W/BLIND FLANGE W/LOCATION MARKER AT SURFACE FOR FUTURE TIE-IN <p>24" IPS FORCEMAIN & 12" TEMP FM</p> <ul style="list-style-type: none"> ⑦ CONNECT TO 24" DI TEE; SEE DETAIL 4, DWG C-003 ⑧ FURNISH & INSTALL 24" DIPS HDPE FM ⑨ FURNISH & INSTALL: 24" HDPE 90° HORIZ BEND ⑩ 24" FM TO 12" TEMP FM CONNECTION SEE DETAIL 1, DWG C-003 ⑪ FURNISH & INSTALL: 1- 12" GATE VALVE ⑫ FURNISH & INSTALL 12" TEMP DIPS HDPE FM ⑬ FURNISH & INSTALL: 24" FCA W/BLIND FLANGE W/LOCATION MARKER AT SURFACE FOR FUTURE TIE-IN ⑭ CONNECT TO EXIST 16" FM SEE DETAIL 2, DWG C-003 | <p>12" RDPS FORCEMAIN</p> <ul style="list-style-type: none"> ⑮ FURNISH & INSTALL 12" DIPS HDPE FM ⑯ FURNISH & INSTALL: 12" FCA W/BLIND FLANGE W/LOCATION MARKER AT SURFACE FOR FUTURE TIE-IN <p>6" PS FORCEMAIN</p> <ul style="list-style-type: none"> ⑰ FURNISH & INSTALL 6" DIPS HDPE FM ⑱ FURNISH & INSTALL: 6" FCA W/BLIND FLANGE W/LOCATION MARKER AT SURFACE FOR FUTURE TIE-IN <p>4" PSC FORCEMAIN</p> <ul style="list-style-type: none"> ⑲ FURNISH & INSTALL 4" DIPS HDPE FM ⑳ FURNISH & INSTALL: 4" FCA W/BLIND FLANGE W/LOCATION MARKER AT SURFACE FOR FUTURE TIE-IN <p>6" SL-WAS FORCEMAIN</p> <ul style="list-style-type: none"> ㉑ FURNISH & INSTALL 6" DIPS HDPE FM ㉒ FURNISH & INSTALL: 6" FCA W/BLIND FLANGE W/LOCATION MARKER AT SURFACE FOR FUTURE TIE-IN |
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NO.	DATE	BY	REVISION

NOTICE

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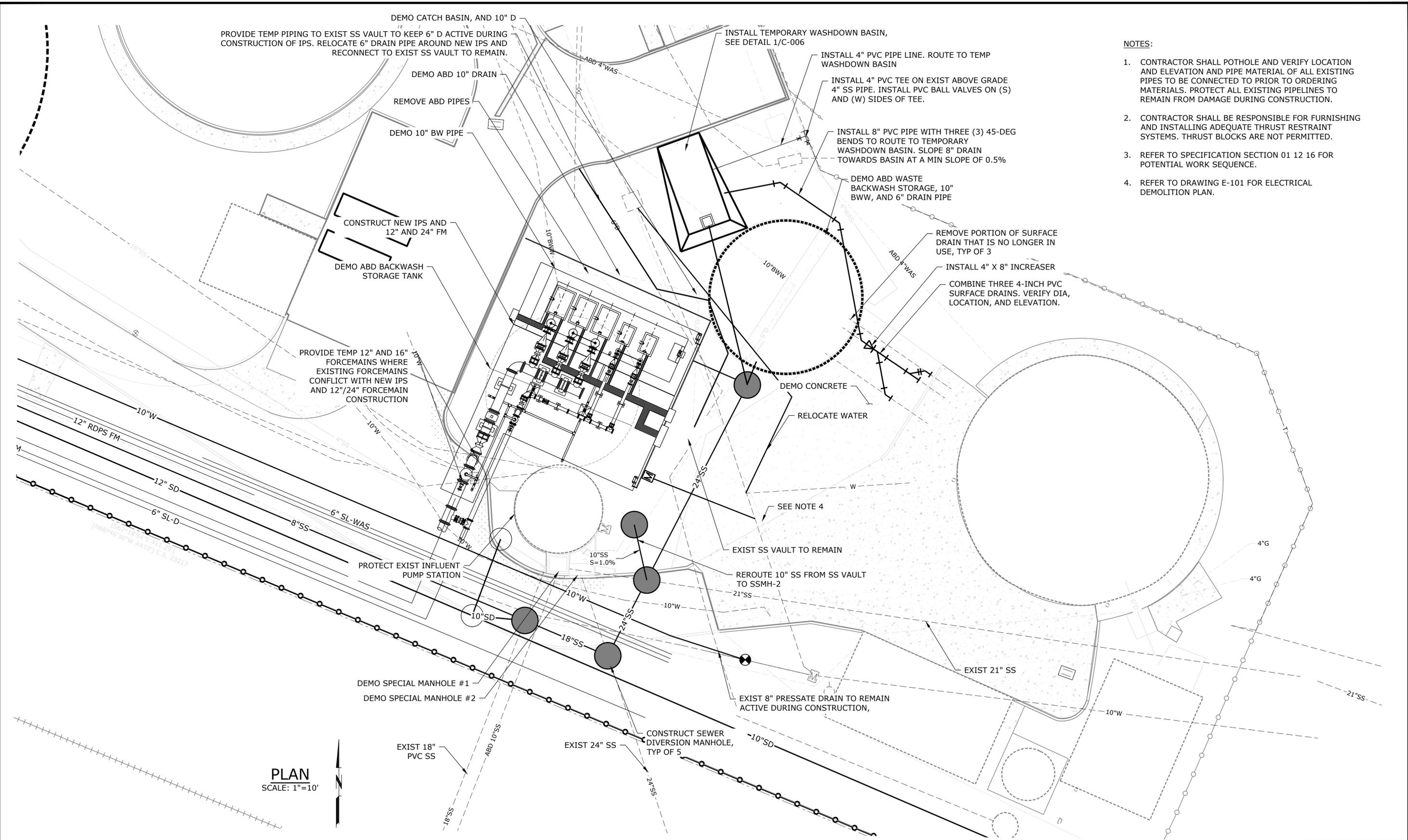


MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

ENLARGED YARD PIPING PLAN, SECTION, AND KEY NOTES

PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: AUGUST 2022

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- NOTES:**
1. CONTRACTOR SHALL POTHOLE AND VERIFY LOCATION AND ELEVATION AND PIPE MATERIAL OF ALL EXISTING PIPES TO BE CONNECTED TO PRIOR TO ORDERING MATERIALS. PROTECT ALL EXISTING PIPELINES TO REMAIN FROM DAMAGE DURING CONSTRUCTION.
 2. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING ADEQUATE THRUST RESTRAINT SYSTEMS. THRUST BLOCKS ARE NOT PERMITTED.
 3. REFER TO SPECIFICATION SECTION 01 12 16 FOR POTENTIAL WORK SEQUENCE.
 4. REFER TO DRAWING E-101 FOR ELECTRICAL DEMOLITION PLAN.

PLAN
SCALE: 1"=10'

NO.	DATE	BY	REVISION

NOTICE

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CHECKED



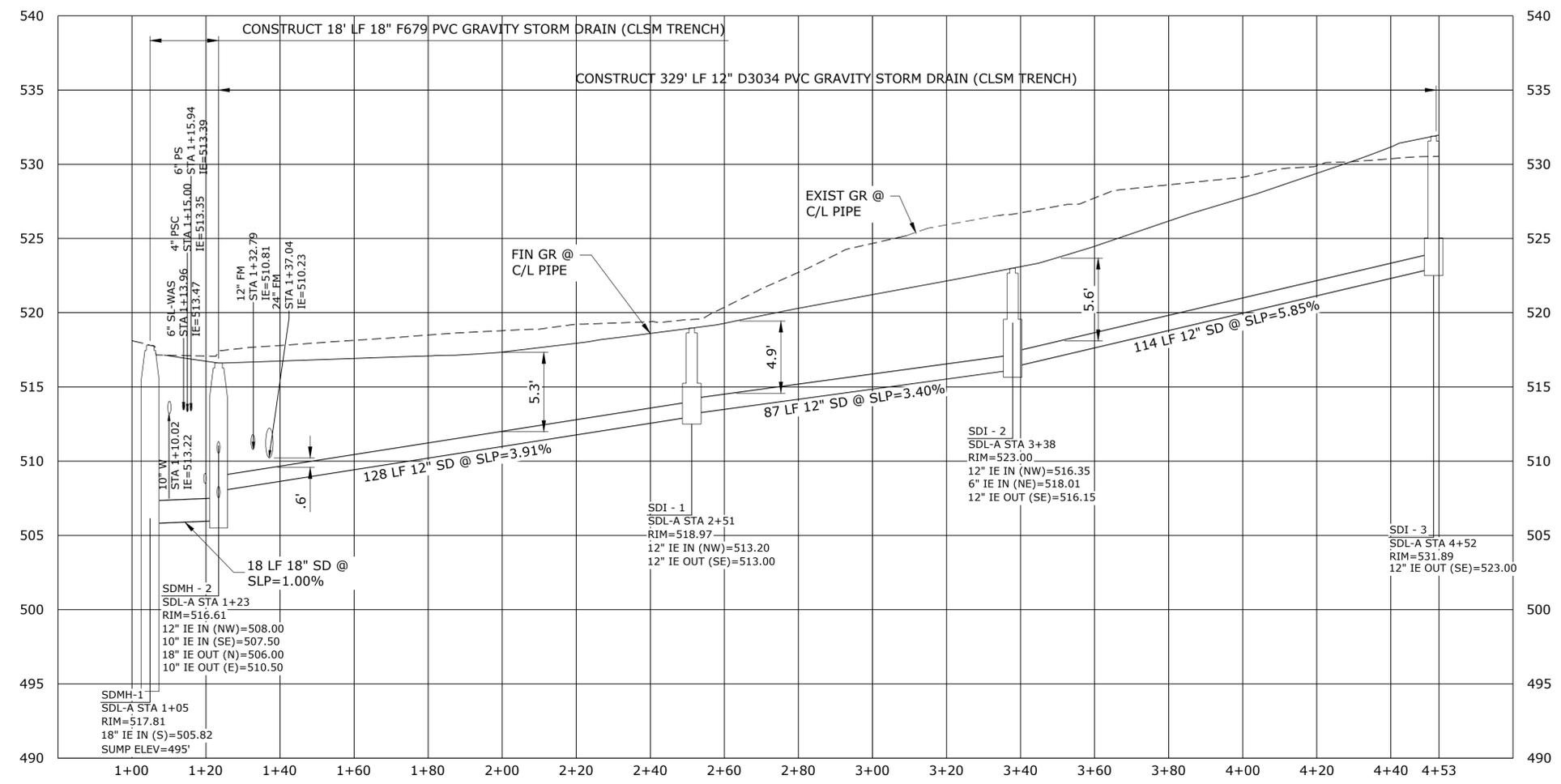
MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

INFLUENT PUMP STATION PIPELINE DEMO AND RELOCATION SEQUENCING PLAN

PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: AUGUST 2022

SHEET
C-062
28 of 135

P:\Clients\936 City Of Sweet Home\50-21-09 WWTP Phase 1 Final Design\CAD\Production\19-2605-OR-C-SITE_SD_PP.dwg C-070 7/28/2022 11:56 AM LKERCADO 24.1s (LMS Tech)



SDL-A PROFILE
SCALE: 1"=20' HORIZ, 1"=5' VERT

NO.	DATE	BY	REVISION

NOTICE
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

BVB
DESIGNED
LBK
DRAWN
WJM
CHECKED

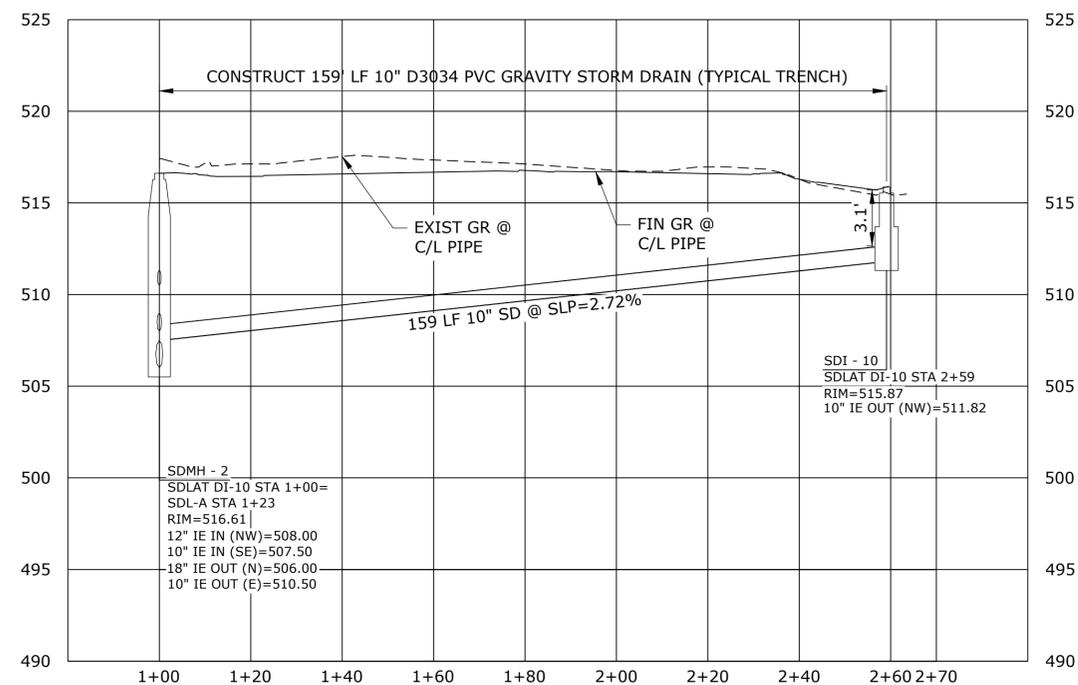


MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

PIPE PROFILES - 1
PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: AUGUST 2022

SHEET
C-070
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SDLAT DI-10 PROFILE
 SCALE: 1"=20' HORIZ, 1"=5' VERT

NO.	DATE	BY	REVISION

NOTICE
 0 1/2 1
 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

BVB
 DESIGNED
 LBK
 DRAWN
 WJM
 CHECKED



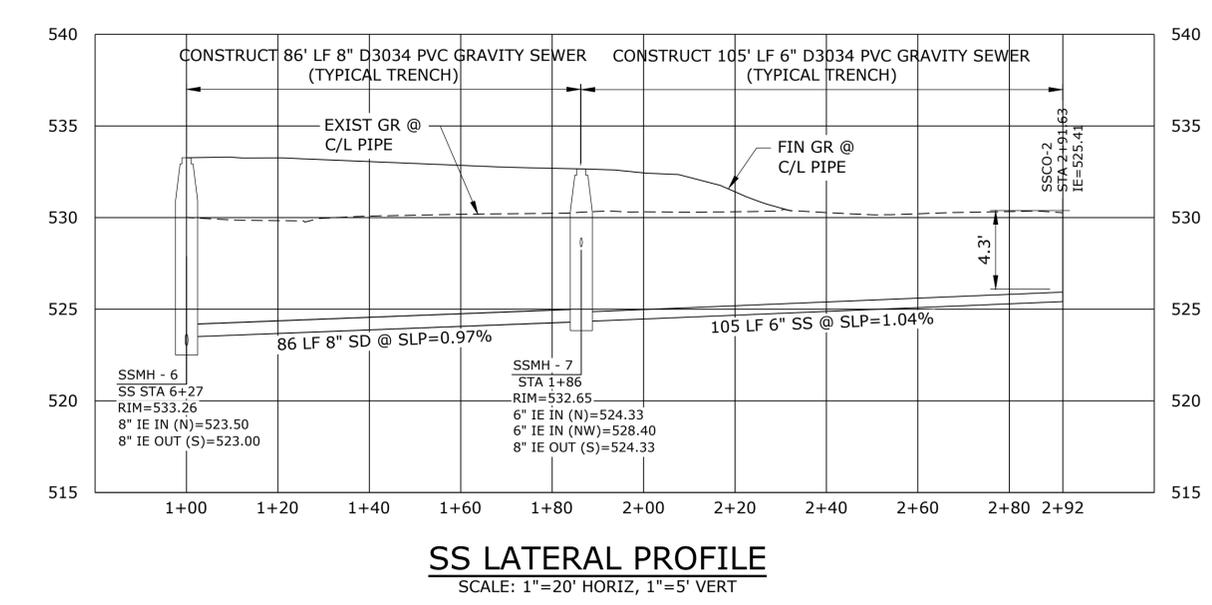
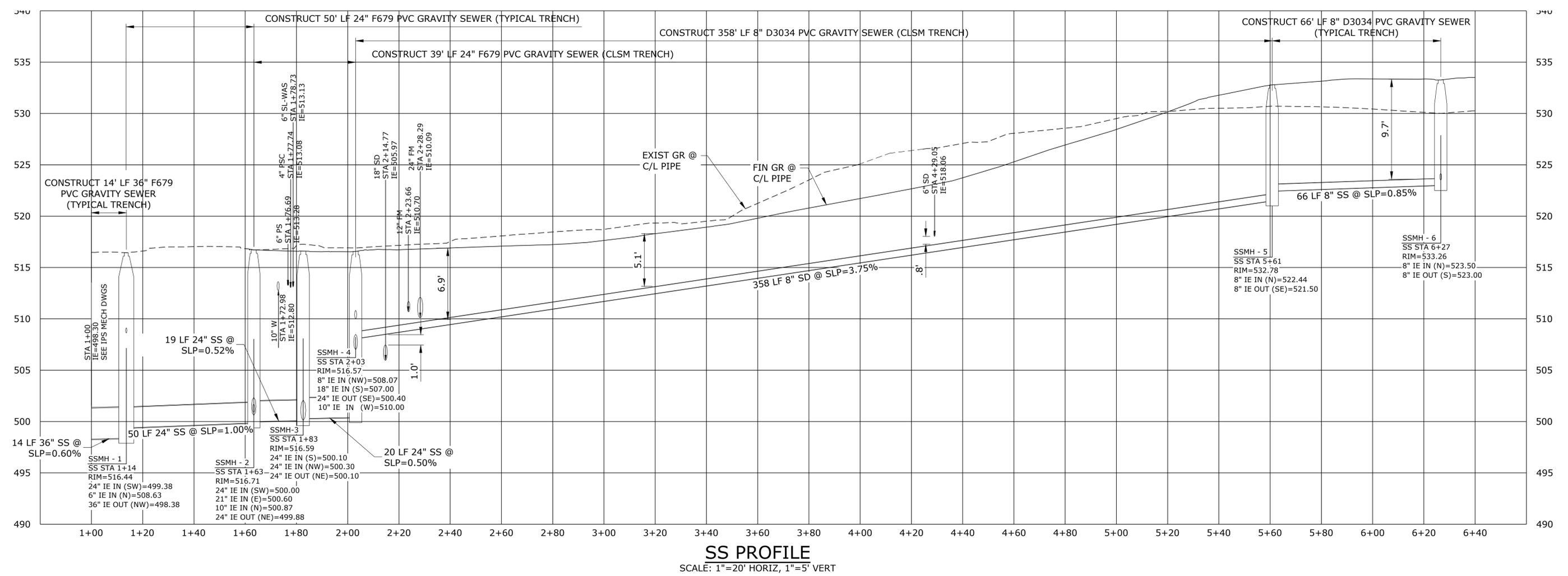
MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

PIPE PROFILES - 2

PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: AUGUST 2022

SHEET
 C-071
 30 of 135

P:\Clients\936 City Of Sweet Home\50-21-09 WWTP Phase 1 Final Design\CAD\Production\19-2605-OR-C-SITE_SD_PP_dwg C-072 7/28/2022 11:56 AM LKERCADO 24.1s (LMS Tech)



NO.	DATE	BY	REVISION

NOTICE
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

BVB
DESIGNED
LBK
DRAWN
WJM
CHECKED

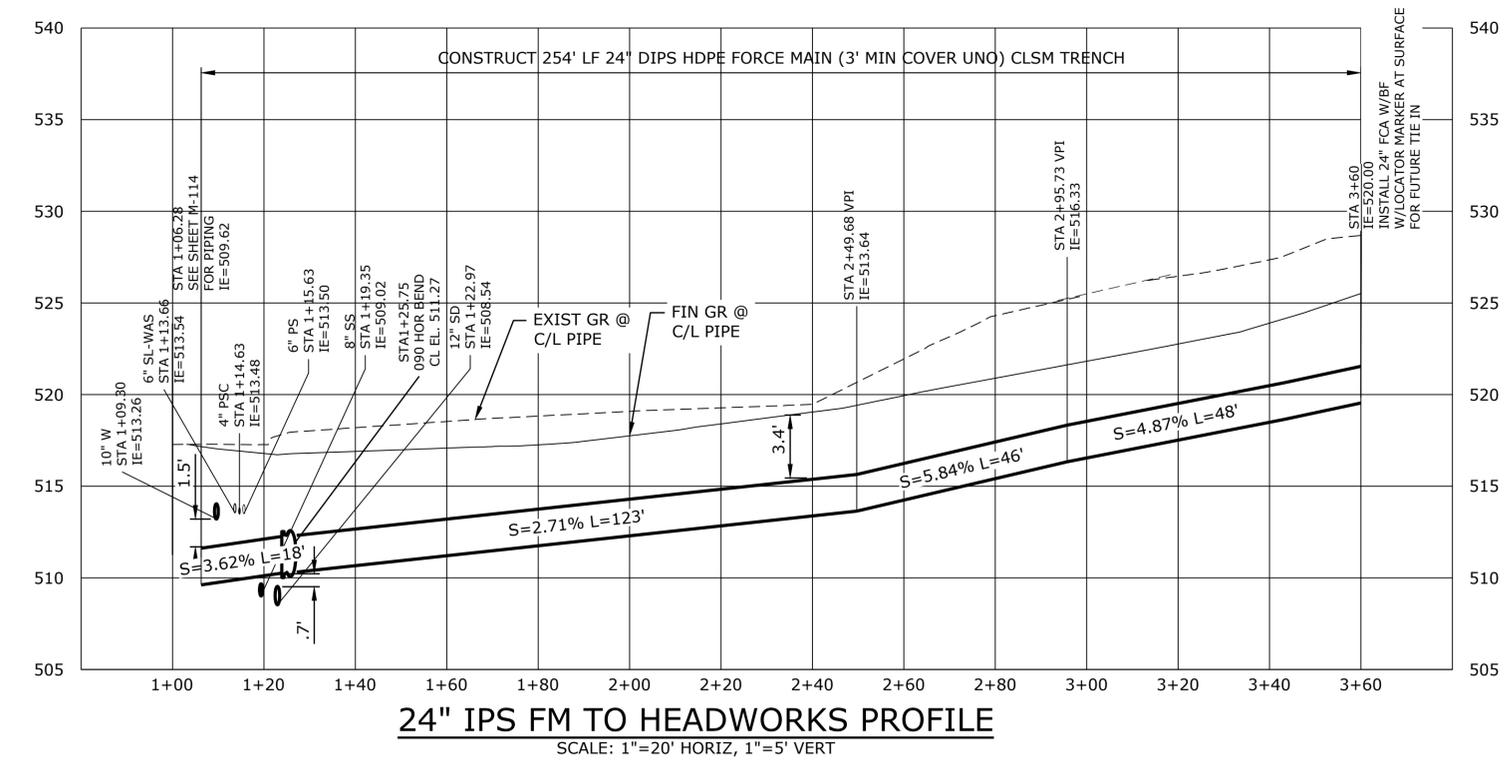
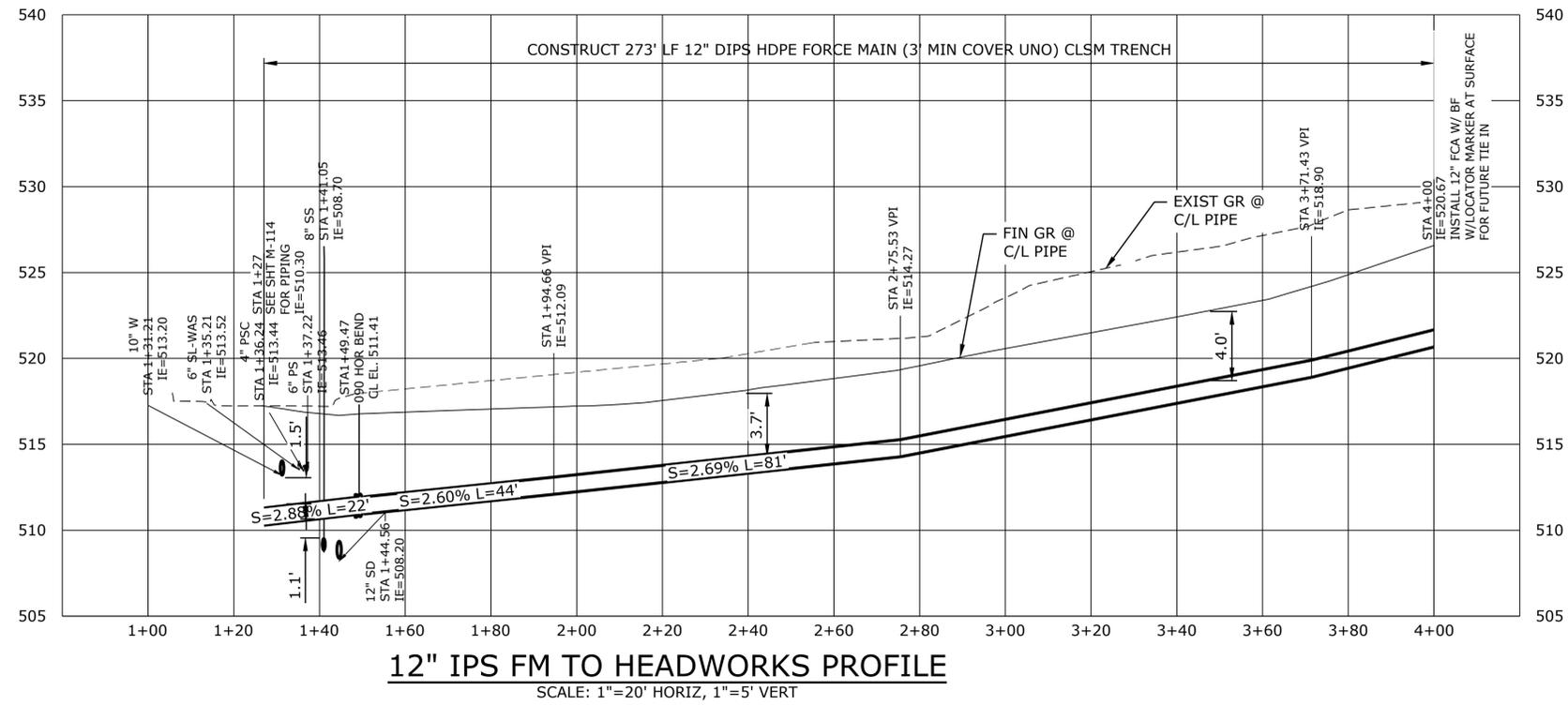


PIPE PROFILES - 3

PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: AUGUST 2022

SHEET
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P:\Clients\936 City Of Sweet Home\50-21-09 WWTP Phase 1 Final Design\CAD\Production\19-2605-OR-C-SITE_FM_PP.dwg C-073 8/1/2022 1:18 PM BBARRY 24.1s (LMS Tech)



NO.	DATE	BY	REVISION

NOTICE
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 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

BVB
DESIGNED
LBK
DRAWN
WJM
CHECKED

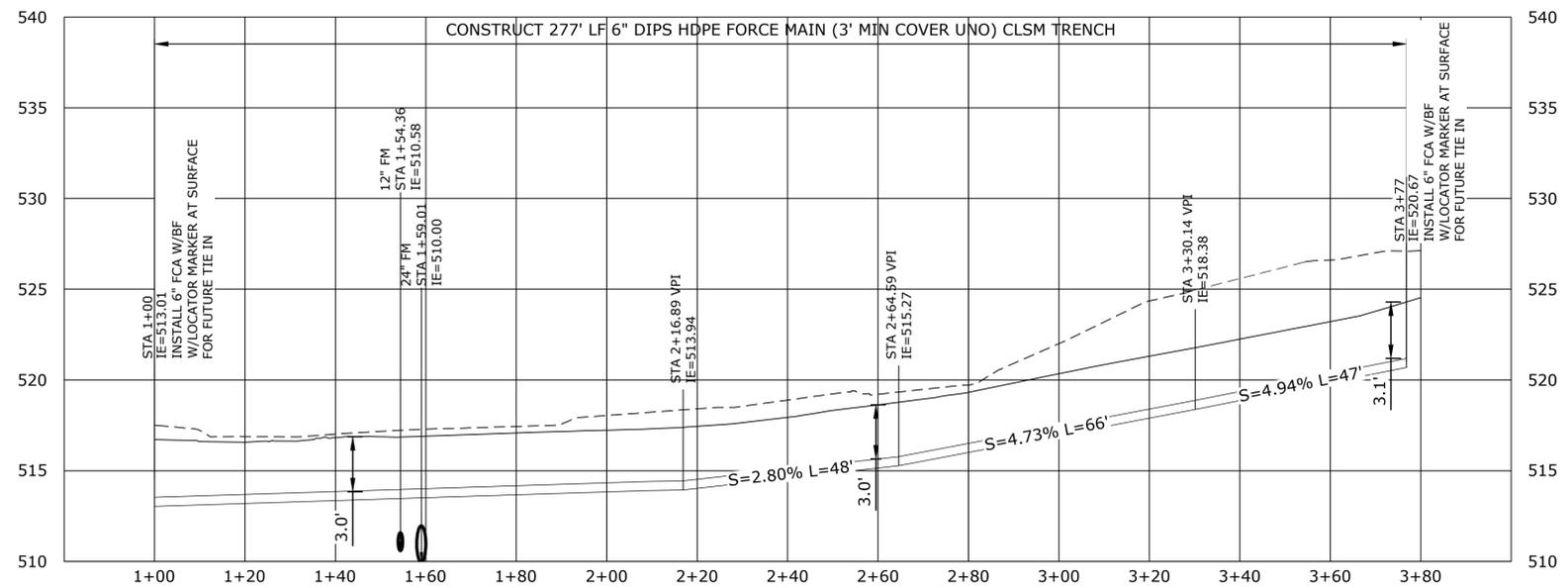


PIPE PROFILES - 4

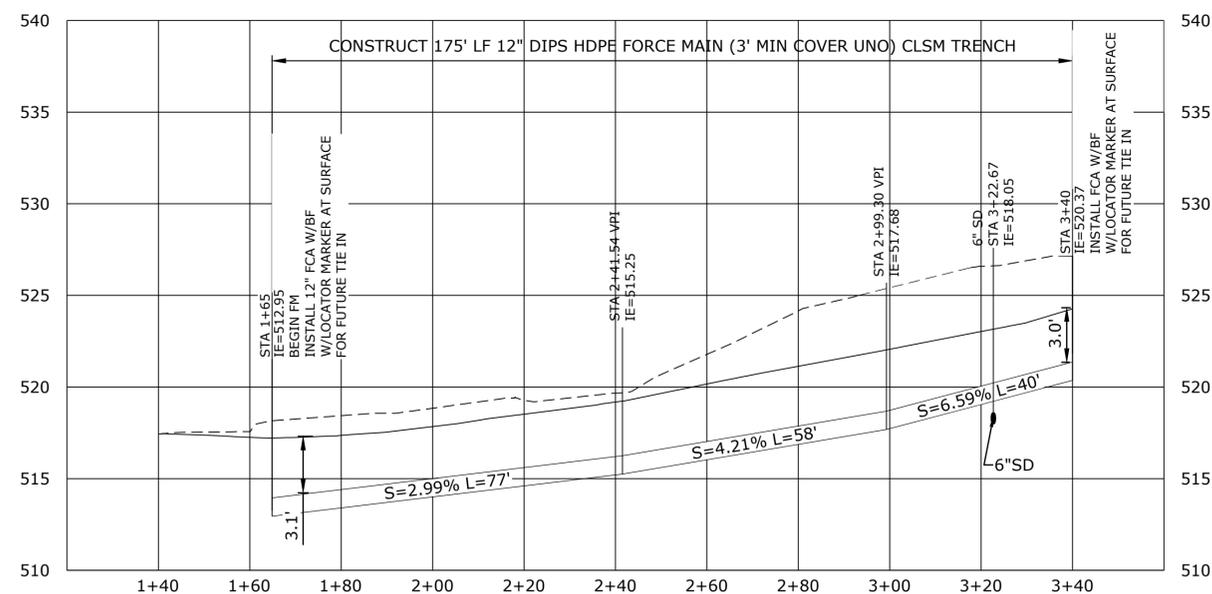
PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: AUGUST 2022

SHEET
C-073
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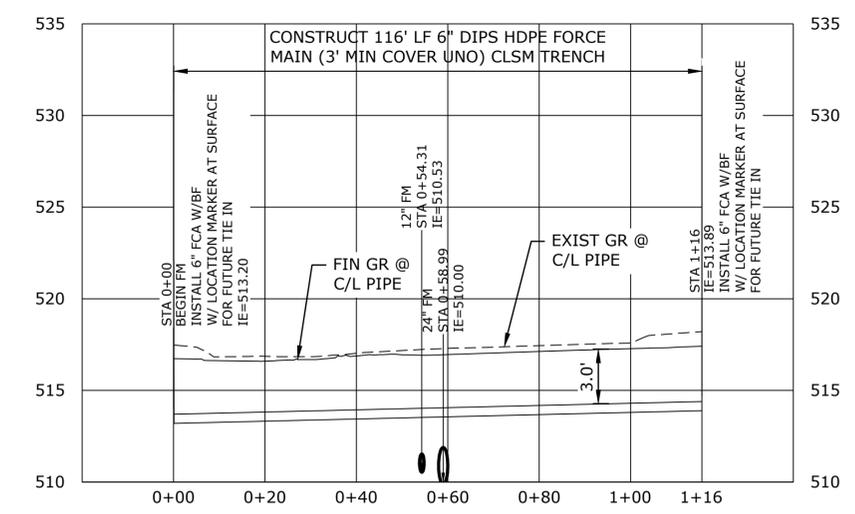
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6" PS FM PROFILE
SCALE: 1"=20' HORIZ, 1"=5' VERT



12" RDPS PROFILE
SCALE: 1"=20' HORIZ, 1"=5' VERT



6" SL-WAS PROFILE
SCALE: 1"=20' HORIZ, 1"=5' VERT

NO.	DATE	BY	REVISION

NOTICE
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

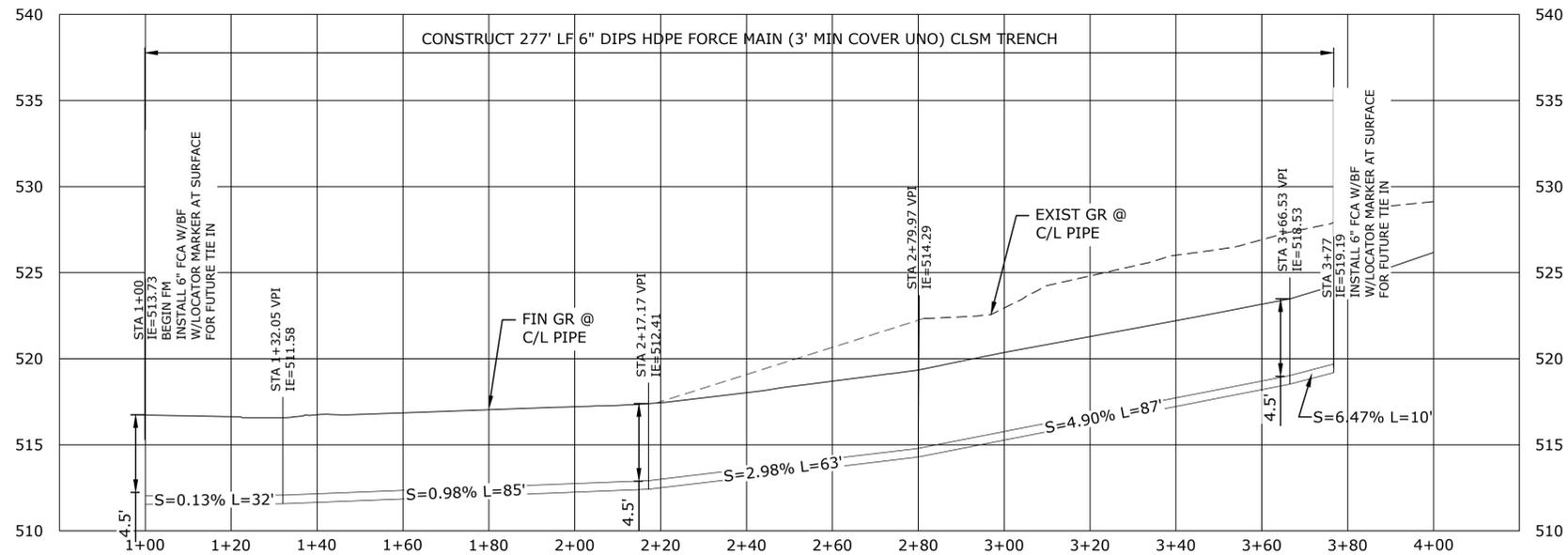
BVB DESIGNED
LBK DRAWN
WJM CHECKED



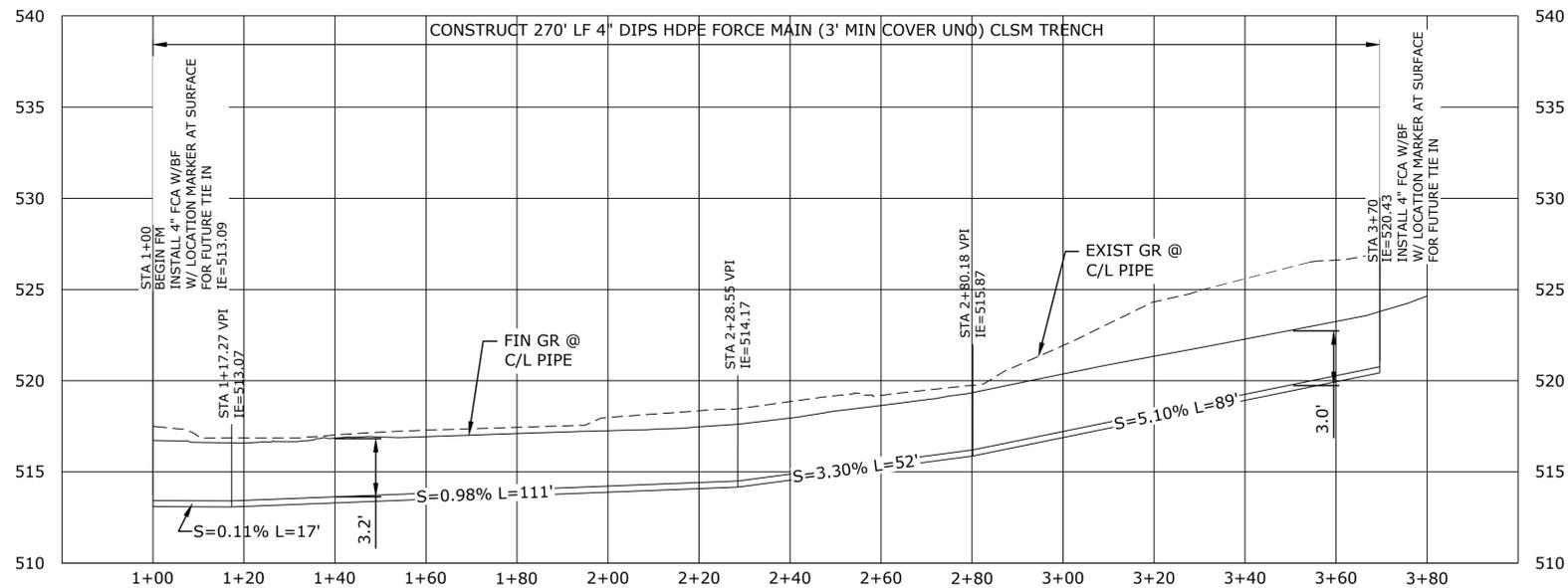
PIPE PROFILES - 5
PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: AUGUST 2022

SHEET C-074
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P:\Clients\936 City Of Sweet Home\50-21-09 WWTP Phase 1 Final Design\CAD\Production\19-2605-OR-C-SITE_FM_PP.dwg C-075 8/1/2022 1:18 PM BBARRY 24.1s (LMS Tech)



6" SL-D FM PROFILE
SCALE: 1"=20' HORIZ, 1"=5' VERT



4" PSC PROFILE
SCALE: 1"=20' HORIZ, 1"=5' VERT

NO.	DATE	BY	REVISION

NOTICE
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

BVB
DESIGNED
LBK
DRAWN
WJM
CHECKED



MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

PIPE PROFILES - 6			
PROJECT NO.: 936-50-21-09	SCALE: AS SHOWN	DATE: AUGUST 2022	SHEET C-075

ABBREVIATIONS

ABV	ABOVE
ACC	ACCESSORY
AFF	ABOVE FINISHED FLOOR
ALUM	ALUMINUM
BLKG	BLOCKING
CLST	CLOSET
C.I.	CONTINUOUS INSULATION
DBL	DOUBLE
DN	DOWN
MSTR	MASTER
	CENTERLINE
CFCI	CONTRACTOR FURNISHED
	CONTRACTOR INSTALLED
	CONCRETE
CONC	CONTINUOUS
CPT	COMMON PATH OF TRAVEL
DEMO	DEMOLISH/DEMOLITION
DS	DOWNSPOUT
(E)	EXISTING
EQ	EQUAL
EN	END NAIL
ETD	EXIT TRAVEL DISTANCE
FLR	FLOOR
GC	GENERAL CONTRACTOR
GLZ	GLAZING
GYP	GYPSUM WALL BOARD
HM	HOLLOW METAL
HT	HEIGHT
HR	HOOR
INFO	INFORMATION
LYR	LAYER
MAX	MAXIMUM
MMCJ	MASONRY CONTROL JOINT
MFR	MANUFACTURER
MIN	MINIMUM
MTL	METAL
(N)	NEW
NTS	NOT TO SCALE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NRCA	NATIONAL ROOFING CONTRACTORS ASSOCIATION
OFOI	OWNER FURNISHED OWNER INSTALLED
OFCI	OWNER FURNISHED OWNER CONTRACTOR INSTALLED
PEMB	PRE ENGINEERED METAL BUILDING
PRE-MFR	PRE-MANUFACTURED
PT	PRESSURE TREATED
REQ'D	REQUIRED
R.O.	ROUGH OPENING
(S)	SIMPSON
SFR	SINGLE FAMILY RESIDENCE
SOG	SLAB ON GRADE
SPEC	SPECIFICATION
T.O.	TOP OF
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VFY	VERIFY
V.O.S.	VERIFY ON SITE
WIN	WINDOW
WRB	WEATHER RESISTIVE BARRIER

LEGEND

	ROOM TAG
	ROOM NUMBER
	ROOM NAME
	AREA
	OCCUPANCY CATEGORY
	NUMBER OF OCCUPANTS
	36" WIDE EXIT EGRESS ROUTE WITH ILLUMINATED EXIT SIGN CPT: COMMON PATH OF TRAVEL ETD: EXIT TRAVEL DISTANCE
	HORIZONTAL OR VERTICAL ASSEMBLY
	DETAIL MARKER
	WINDOW/ DOOR/ LOUVER MARKER
	INDICATES DIRECTIONAL ARROW
	EXIT SIGN
	SHADED AREA INDICATES SIGNAGE FACE
	FIRE EXTINGUISHER

APPLICABLE CODES
 2019 OREGON STRUCTURAL SPECIALTY CODE (OSSC)
 2021 OREGON ENERGY EFFICIENCY SPECIALTY CODE (OEESC)

HEIGHTS AND AREAS
 PER OSSC TABLES 504.3, 504.4, 506.2

F-1 OCCUPANCY
 TYPE V-B CONSTRUCTION (NON SPRINKLERED)
 2 STORIES ALLOWED (B, F-1) / 1 STORIES PROPOSED
 40FT ABOVE GRADE ALLOWED / LESS THAN 35' PROPOSED
 8,500 SF MAX / SEE OCCUPANCY TABLES FOR PROPOSED SF

TYPES OF CONSTRUCTION
BUILDING
 AREA 42 - MAIN ELECTRICAL BLOWER BUILDING
 AREA 87 - SOUTH ELECTRICAL BUILDING

REQUIRED SEPARATION
 NONE REQUIRED

FIRE PROTECTION
 SPRINKLERS NOT REQUIRED
 FIRE ALARMS NOT REQUIRED
 FIRE EXTINGUISHER PER FIRE CODE

DEFERRED SUBMITTALS
 --

AMERICAN'S WITH DISABILITIES ACT (ADA)

BUILDING EXEMPT FROM ADA REQUIREMENTS PER OSSC 1103.2.9 "EQUIPMENT SPACES"

THERMAL ENVELOPE

AREA 42 (MAIN ELECTRICAL BLOWER BUILDING):
 SLAB EDGE INSULATION:
 NOT REQUIRED PER COMCHECK
 EXTERIOR WALLS:
 R-6.3 CONTINUOUS INSULATION; R-20 CAVITY INSULATION
 ROOF:
 R-30 CONTINUOUS INSULATION ABOVE STRUCTURAL DECK

AREA 87 (SOUTH ELECTRICAL BUILDING):
 SLAB EDGE INSULATION:
 NOT REQUIRED PER COMCHECK
 EXTERIOR WALLS:
 R-8 CONTINUOUS INSULATION
 ROOF:
 R-30 CONTINUOUS INSULATION ABOVE STRUCTURAL DECK

NOTE: THERMAL ENVELOPE MEETS BUILDING SYSTEMS COMPLIANCE PATH PER COMCHECK ANALYSIS

ALL BUILDINGS:

- DOORS:**
 SWINGING DOORS: U 0.370 MAX
 NONSWINGING DOORS: U 0.310 MAX
- WINDOWS:**
 METAL FRAMING, FIXED: U 0.36 MAX, SHGC 0.36 MAX, VT/SHGC 1.10 MIN
 METAL FRAMING, OPERABLE: U 0.45 MAX, SHGC 0.33 MAX, VT/SHGC 1.10 MIN
 METAL FRAMING, ENTRANCE: U 0.63 MAX, SHGC 0.33 MAX, VT/SHGC 1.10 MIN
- SKYLIGHTS (0% - 3% ROOF AREA MAX):**
 ALL TYPES U 0.50 MAX, SHGC 0.40 MAX

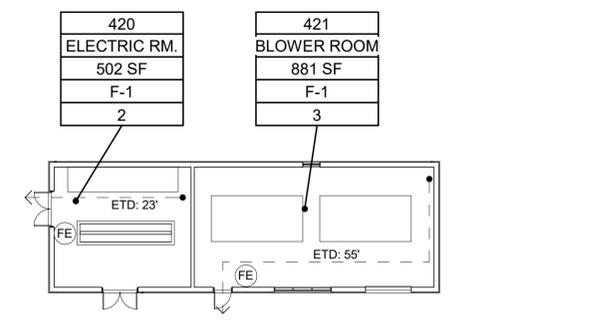
ASHRAE/IES STANDARD 90.1-2019
 SECTION 5.4.3.1 AIR BARRIER COMPLIANCE:
 BUILDING ENVELOPE PER SECTION 5.4.3.1.1 AND 5.4.3.1.2

OCCUPANCY TABLE - MAIN ELECTRICAL & BLOWER BUILDING

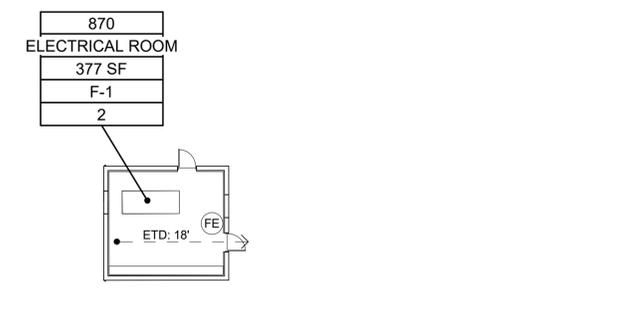
SPACE	OCC CLASS	SF/OCC	AREA	OCCS
BLOWER ROOM	F-1	300	881 SF	3
ELECTRIC RM.	F-1	300	502 SF	2
TOTAL F-1 OCCUPANCY			1383 SF	5

OCCUPANCY TABLE - 870 SOUTH ELECTRICAL BUILDING

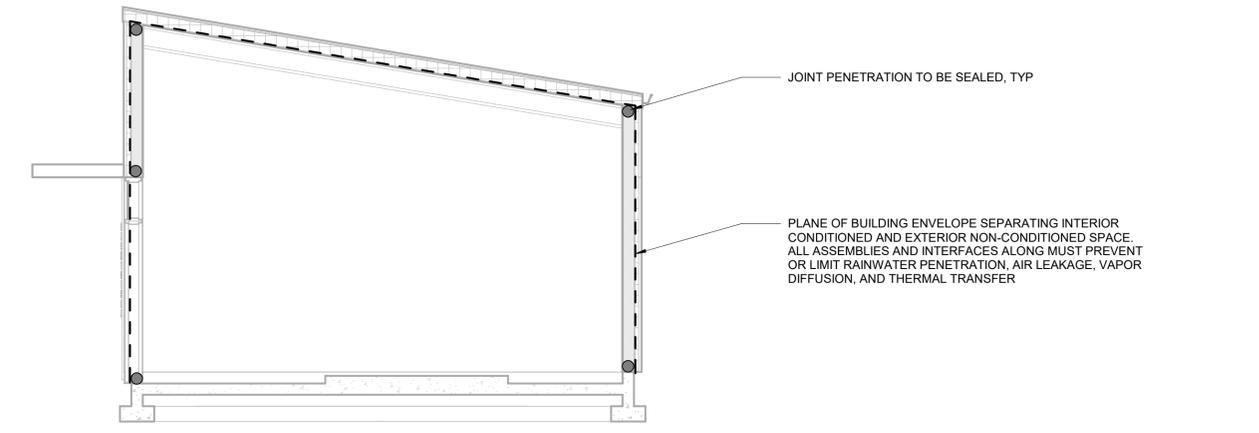
SPACE	OCC CLASS	SF/OCC	AREA	OCCS
ELECTRICAL ROOM	F-1	300	377 SF	2
TOTAL F-1 OCCUPANCY			377 SF	2



AREA 42 - MAIN ELECTRICAL & BLOWER BLDG (MEB) - CODE PLAN
 1/16" = 1'-0"



AREA 87 - SOUTH ELECTRICAL BLDG - CODE PLAN
 1/16" = 1'-0"



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

STRONGWORK ARCHITECTURE

NO.	DATE	BY	REVISION

NOTICE
 0 1/2 1
 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

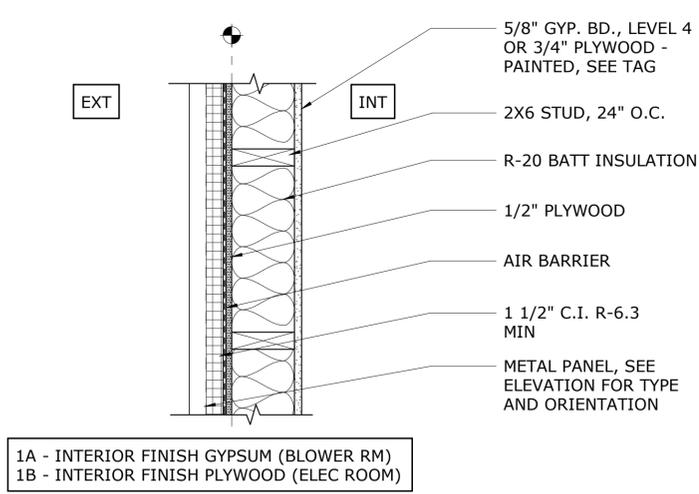
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DH	DRAWN
AA	CHECKED



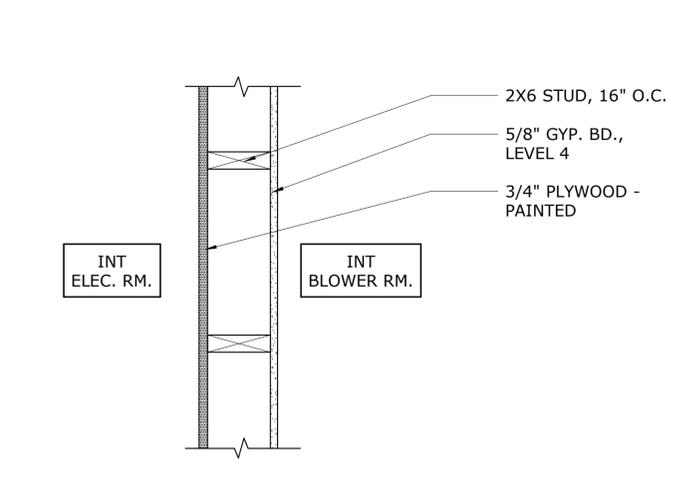
ARCHITECTURAL LEGEND AND CODE INFORMATION

PROJECT NO.:	936-50-21-09	SCALE	As indicated	DATE	August 2022
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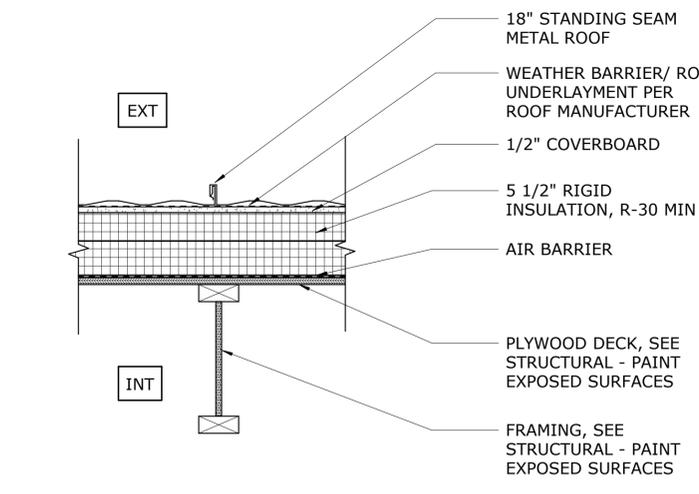
SHEET
A-001
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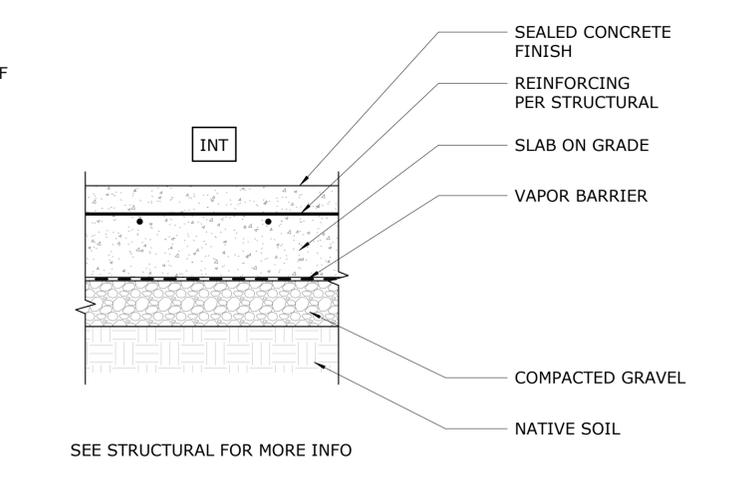
1 TYP EXTERIOR WALL
SCALE: 1 1/2" = 1'-0"



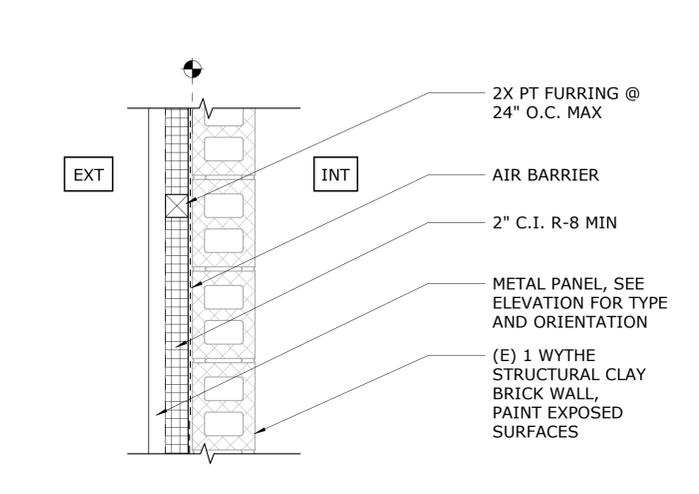
2 TYP INTERIOR WALL
SCALE: 1 1/2" = 1'-0"



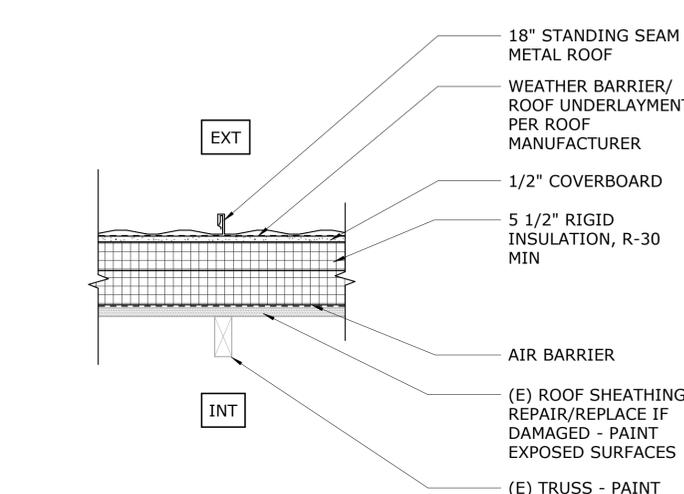
3 TYP ROOF
SCALE: 1 1/2" = 1'-0"



4 TYP SLAB
SCALE: 1 1/2" = 1'-0"



5 SOUTH ELECTRICAL BUILDING WALL
SCALE: 1 1/2" = 1'-0"



6 SOUTH ELECTRICAL BUILDING ROOF
SCALE: 1 1/2" = 1'-0"

DOOR SECURITY SCHEDULE

MARK	ROOM	KEYED	CARD READER	DOOR SWITCH POSITION	REQUEST TO EXIT
420A	ELECTRIC RM.	●	●	●	●
420B	ELECTRIC RM.	●	●	●	●
421A	BLOWER ROOM	●	●	●	●
421B	BLOWER ROOM	●	●	●	●
870A	ELECTRICAL ROOM	●	●	●	●
870B	ELECTRICAL ROOM	●	●	●	●

MEB WINDOW SCHEDULE

#	WINDOW			DETAIL			GLAZING TYPE	FIRE RATING	COMMENTS
	WIDTH	HEIGHT	TYPE	HEAD	JAMB	SILL			
4201	10' - 0"	2' - 0"	A	4/A-003	5/A-003	6/A-003	GLZ-1	N/A	1
4202	10' - 0"	3' - 0"	B	4/A-003	5/A-003	6/A-003	GLZ-1	N/A	1

MEB LOUVER SCHEDULE

#	WIDTH	HEIGHT	TYPE	COMMENTS
4203	3' - 0"	3' - 0"	C	1, 2
4204	3' - 0"	5' - 4"	C	1, 2

MEB DOOR SCHEDULE

MARK	SIZE (FIELD VFY)	DOOR TYPE	DOOR MAT'L	DOOR GLAZING	FRAME TYPE	FRAME MAT'L	FINISH	THICKNESS	HARDWARE SET	NOTES
420A	3' - 0" x 7' - 0"	A	HM	N/A	A	HM	PNT	0' - 1 3/4"	2	1,2,3
420B	6' - 0" x 7' - 0"	C	HM	GLZ-1	B	HM	PNT	0' - 1 3/4"	2	1,2,3
421A	3' - 0" x 7' - 0"	B	HM	GLZ-1	B	HM	PNT	0' - 1 3/4"	3	1,2
421B	8' - 0" x 9' - 0"	E	MTL	N/A	N/A	ST	PNT	0' - 2"	1	

SOUTH ELECTRICAL BUILDING DOOR SCHEDULE

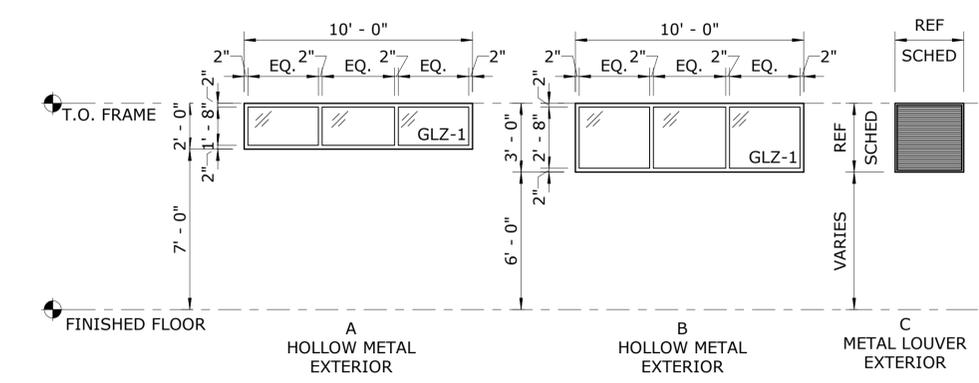
#	SIZE (FIELD VFY)	DOOR TYPE	DOOR MAT'L	DOOR GLAZING	FRAME TYPE	FRAME MAT'L	FINISH	THICKNESS	HARDWARE SET	NOTES
870A	3' - 0" x 6' - 4"	D	HM	N/A	A	HM	PNT	0' - 1 3/4"	4	2, 3, 4
870B	3' - 0" x 6' - 4"	D	HM	N/A	A	HM	PNT	0' - 1 3/4"	4	2, 3, 4

WINDOW AND LOUVER NOTES

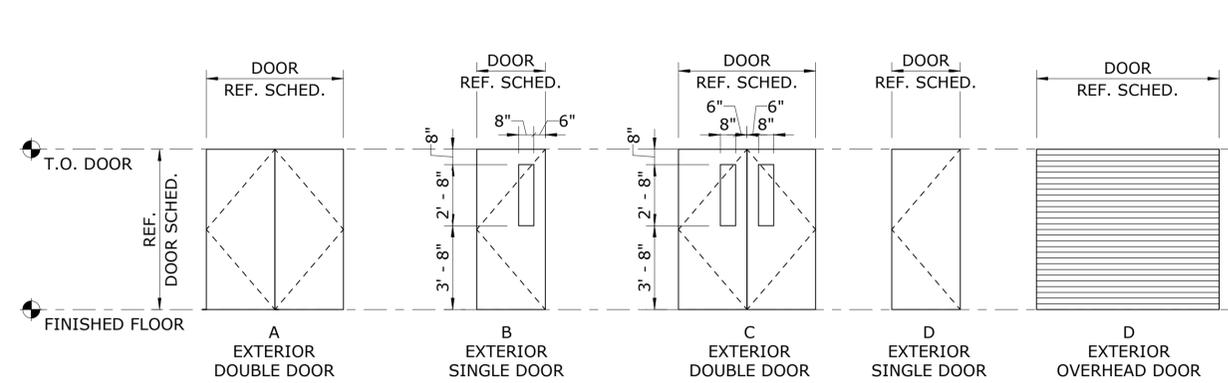
- SEE SPECIFICATION FOR ADDITIONAL INFORMATION
- SEE MECHANICAL FOR ADDITIONAL INFORMATION

DOOR NOTES:

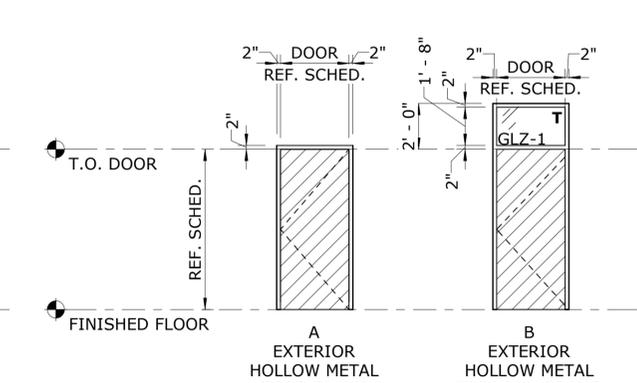
- SEE SPECIFICATION SECTION 08 80 00 FOR GLAZING.
- SEE SPECIFICATION SECTION 08 71 00 FOR DOOR HARDWARE
- DOOR WITH PANIC HARDWARE
- EXISTING DOOR OPENING, FIELD VERIFY SIZE



WINDOW AND LOUVER TYPES
SCALE: 1/4" = 1'-0"



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



DOOR FRAME TYPES
SCALE: 1/4" = 1'-0"

STRONGWORK ARCHITECTURE

NO.	DATE	BY	REVISION

NOTICE
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

SD DESIGNED
DH DRAWN
AA CHECKED

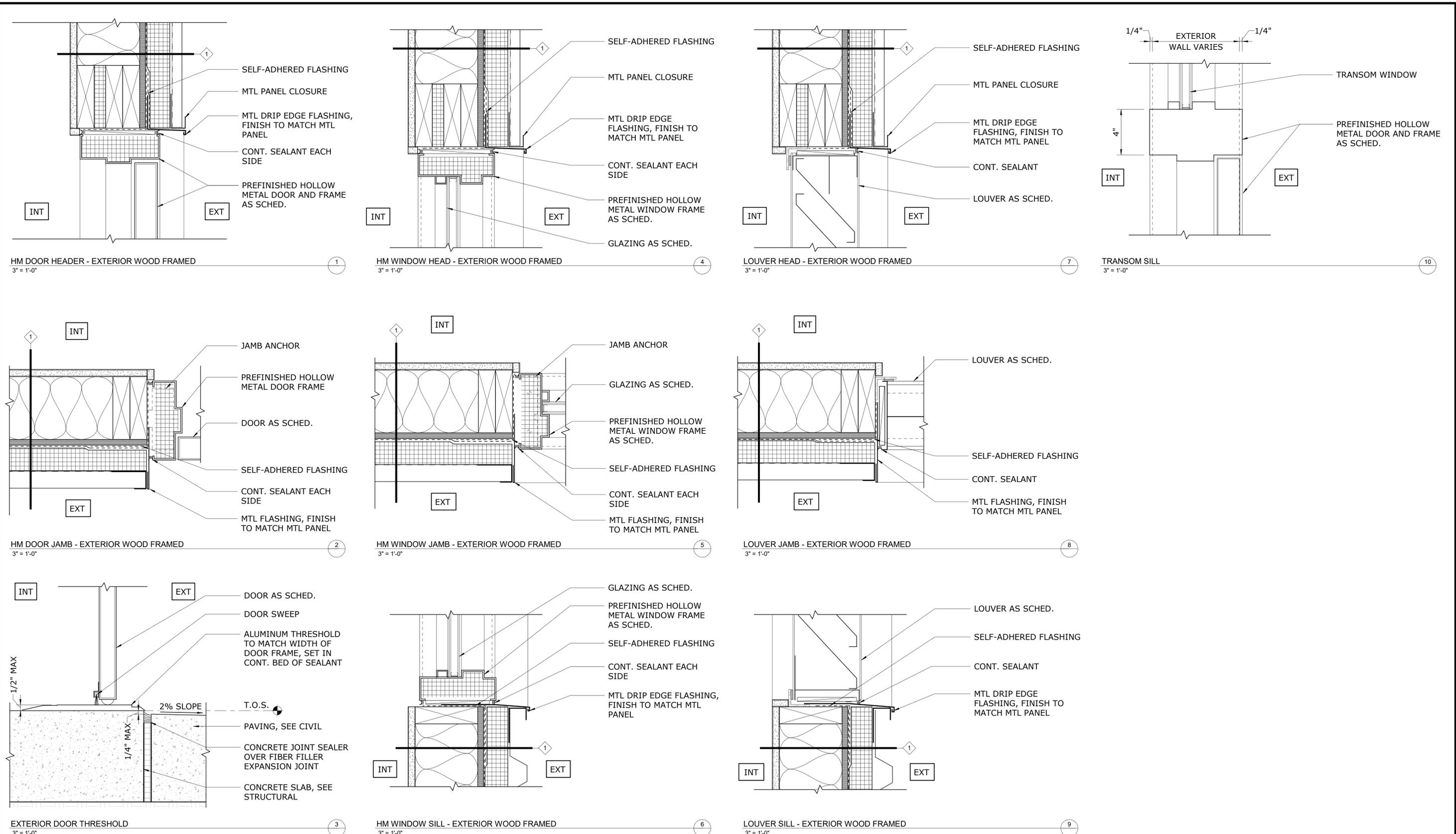


ARCHITECTURAL DETAILS - HORIZONTAL & VERTICAL ASSEMBLIES, DOOR & WINDOW TYPES & SCHEDULES

PROJECT NO.: 936-50-21-09 SCALE: As indicated DATE: August 2022

SHEET **A-002**
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7/29/2022 9:24:26 AM AutodesK Docs://Sweet Home WWTP/21009 Sweet Home WWTP - AREA 42 - BLOWER AND ELECTRIC



7/29/2022 9:24:26 AM AutodesK Docs://Sweet Home WWTP/21009 Sweet Home WWTP - AREA 42 - BLOWER AND ELECT...
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STRONGWORK
ARCHITECTURE

NO.	DATE	BY	REVISION

NOTICE
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DH DRAWN
AA CHECKED

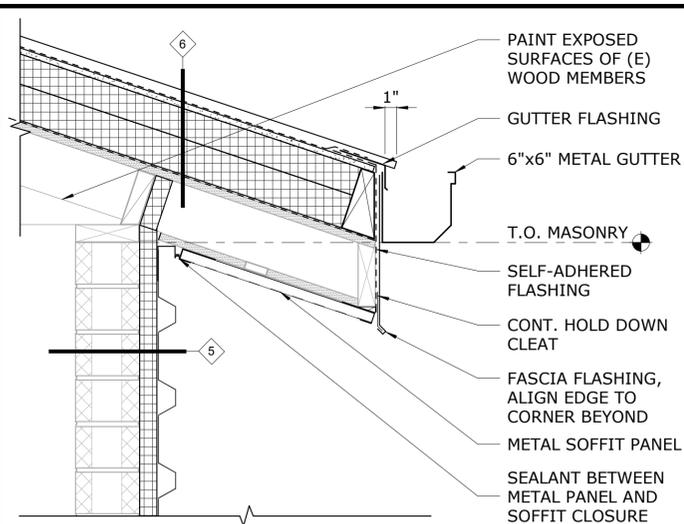


MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

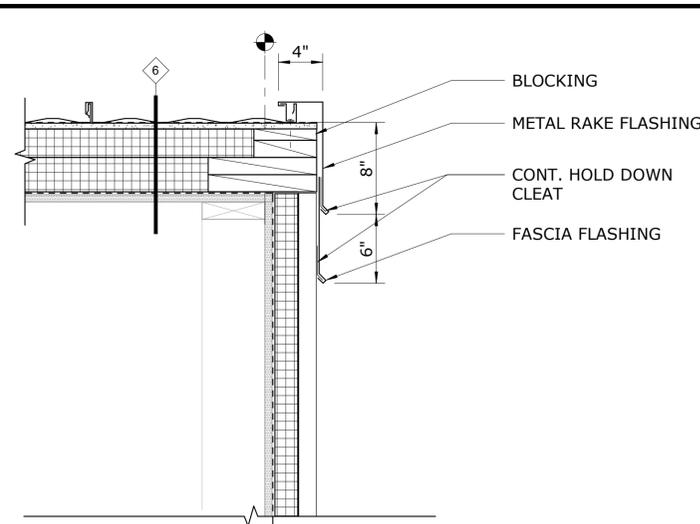
ARCHITECTURAL DETAILS - OPENING DETAILS

PROJECT NO.: 936-50-21-09 SCALE 3" = 1'-0" DATE August 2022

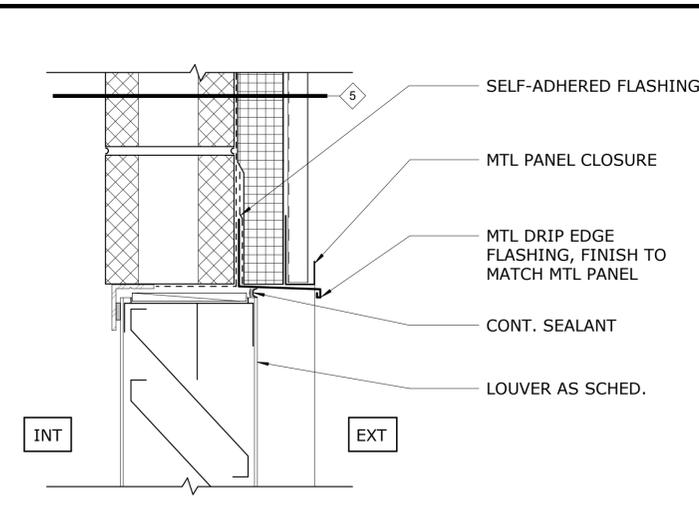
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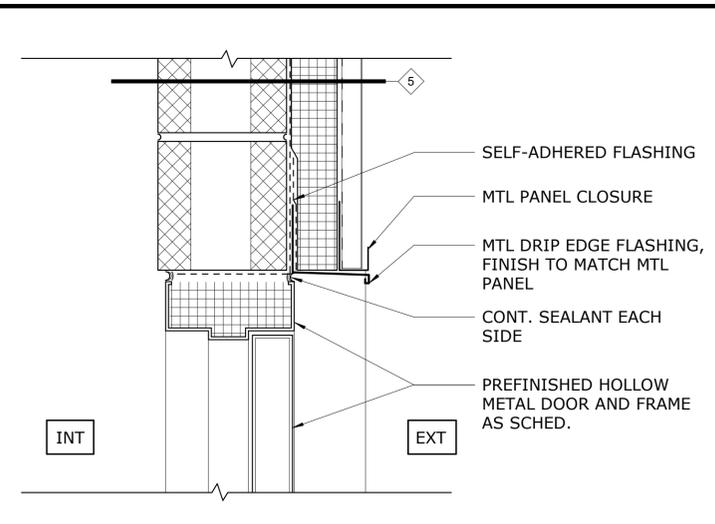
TYP. ROOF EAVE WITH GUTTER @ SOUTH ELECTRICAL BUILDING
 1 1/2" = 1'-0"



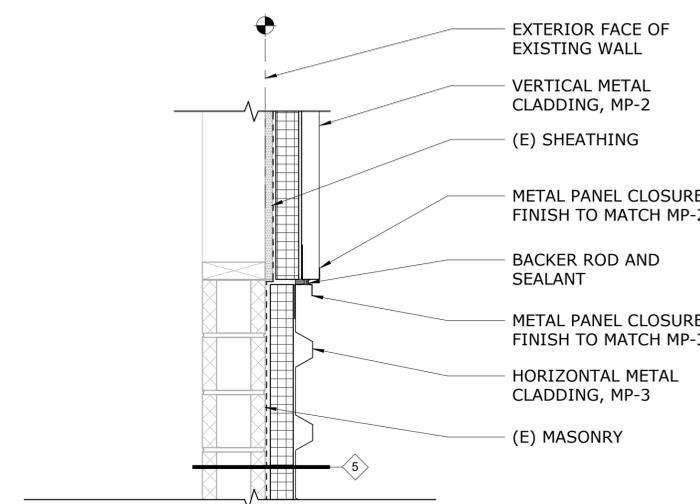
TYP. ROOF RAKE @ SOUTH ELECTRICAL BUILDING
 1 1/2" = 1'-0"



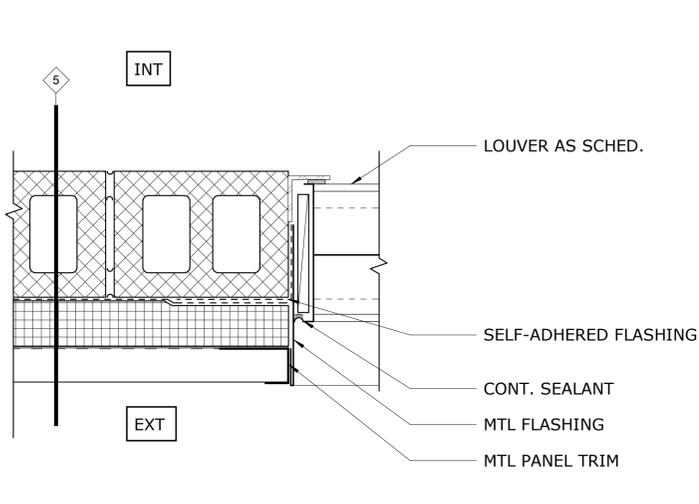
LOUVER HEAD - SOUTH ELECTRICAL BUILDING
 3" = 1'-0"



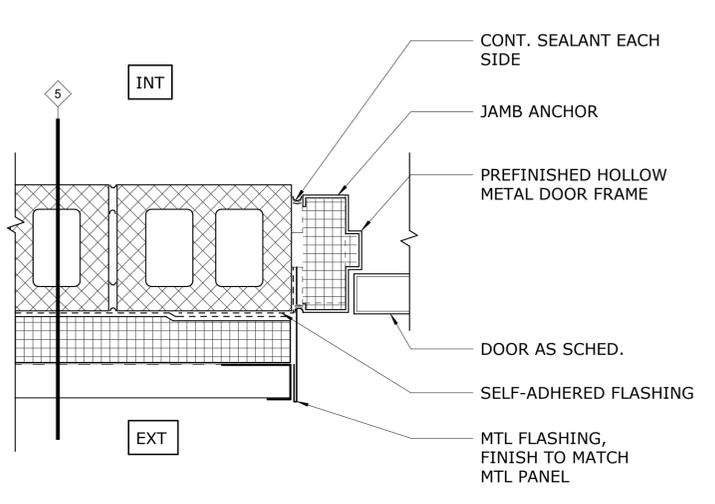
HM DOOR HEADER - SOUTH ELECTRICAL BUILDING
 3" = 1'-0"



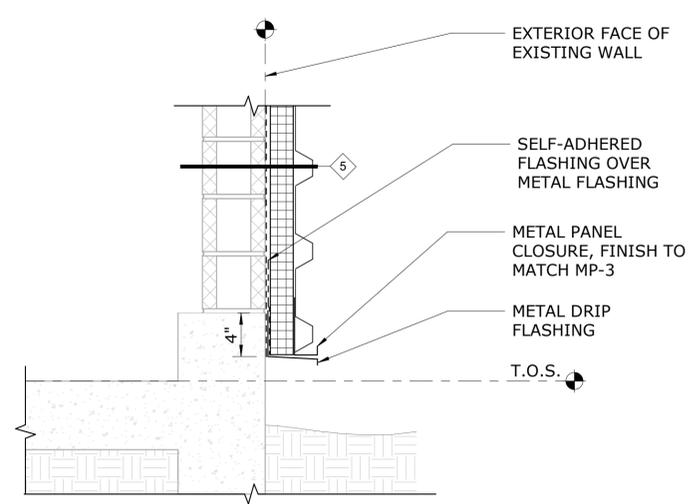
TYP. CLADDING TRANSITION @ SOUTH ELECTRICAL BUILDING
 1 1/2" = 1'-0"



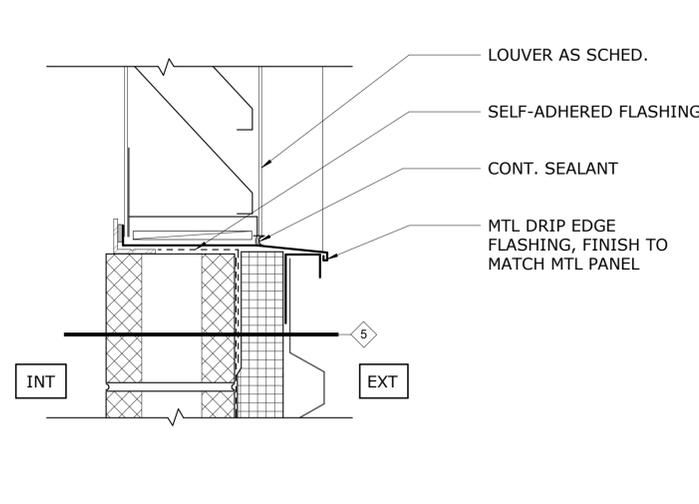
LOUVER JAMB - SOUTH ELECTRICAL BUILDING
 3" = 1'-0"



HM DOOR JAMB - SOUTH ELECTRICAL BUILDING
 3" = 1'-0"



TYP. METAL PANEL BASE TRIM @ SOUTH ELECTRICAL BUILDING
 1 1/2" = 1'-0"



LOUVER SILL - SOUTH ELECTRICAL BUILDING
 3" = 1'-0"

7/29/2022 9:26:33 AM Autodesk Docs://Sweet Home WWTP/21009 Sweet Home WWTP - EXISTING ELECT BLDG.rvt

STRONGWORK ARCHITECTURE

NO.	DATE	BY	REVISION

NOTICE
 0 1/2 1
 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

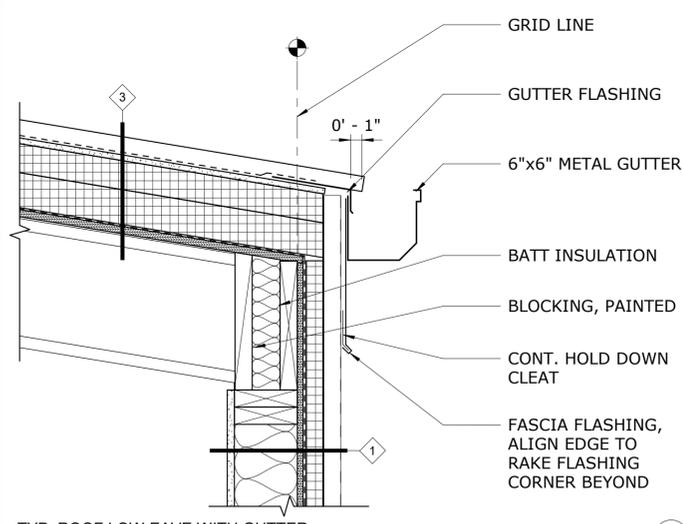
SD DESIGNED
 DH DRAWN
 AA CHECKED



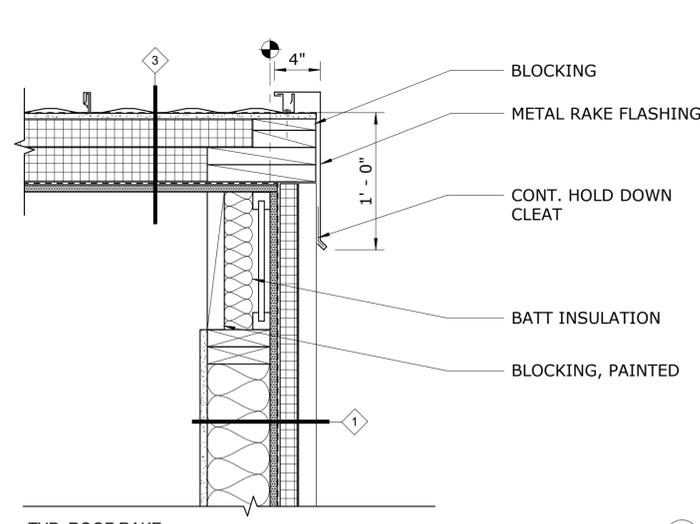
MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

ARCHITECTURAL DETAILS - OPENING AND MICELLANEOUS DETAILS
 PROJECT NO.: 936-50-21-09 SCALE As indicated DATE August 2022

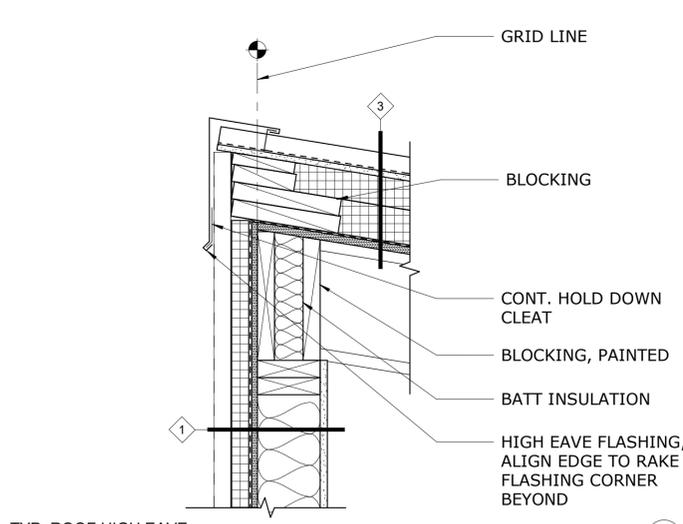
SHEET A-004
 38 of 135



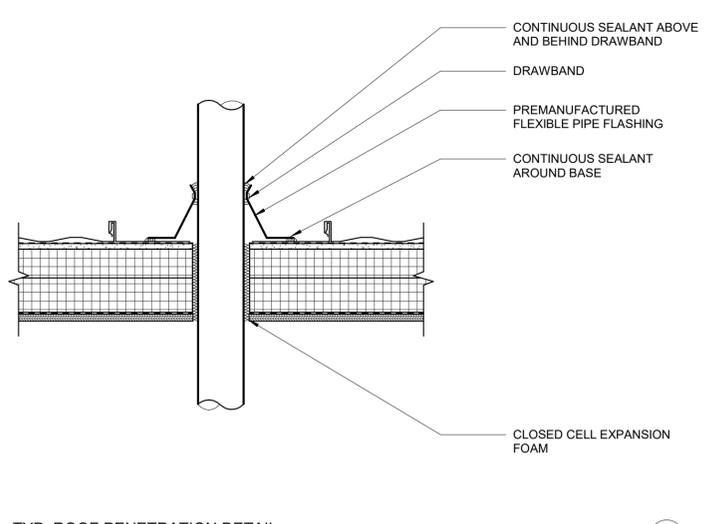
TYP. ROOF LOW EAVE WITH GUTTER
1 1/2" = 1'-0"



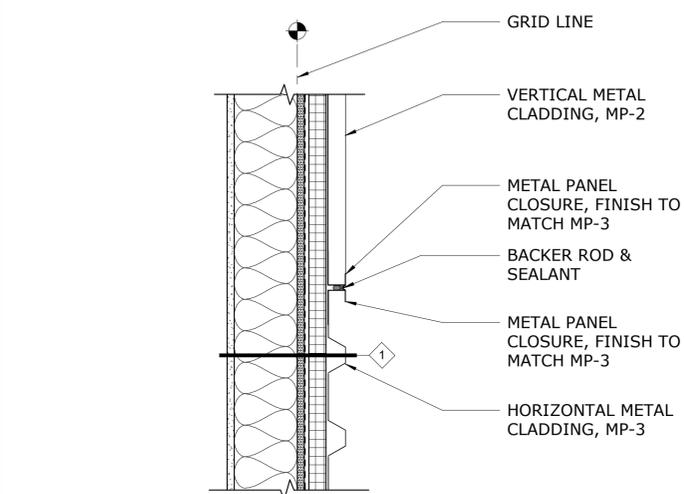
TYP. ROOF RAKE
1 1/2" = 1'-0"



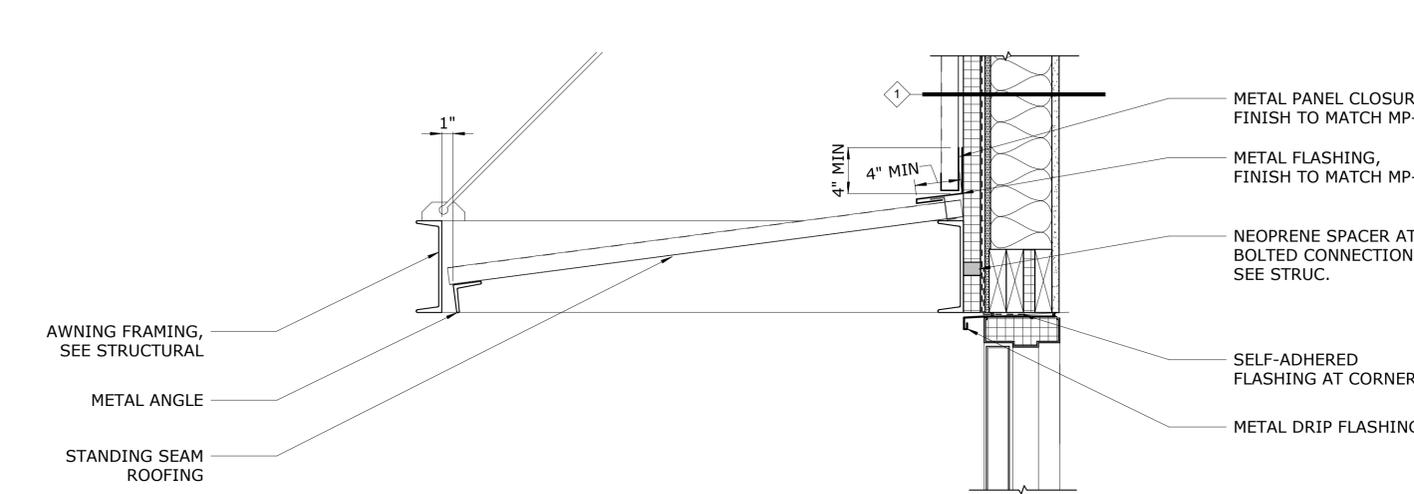
TYP. ROOF HIGH EAVE
1 1/2" = 1'-0"



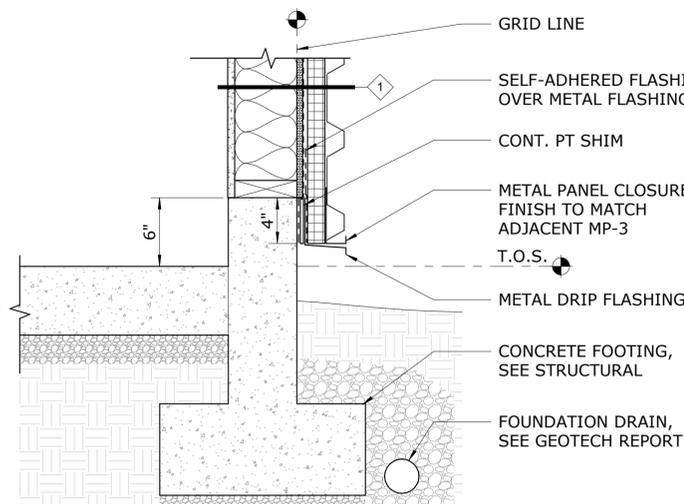
TYP. ROOF PENETRATION DETAIL
1 1/2" = 1'-0"



TYP METAL PANEL TRANSITION
1 1/2" = 1'-0"



CANOPY ABOVE DOOR DETAIL
1 1/2" = 1'-0"



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

STRONGWORK ARCHITECTURE

7/29/2022 9:24:27 AM AutodesK Docs://Sweet Home WWTP/21009 Sweet Home WWTP - AREA 42 - BLOWER AND ELECT.M

NO.	DATE	BY	REVISION

NOTICE
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

SD DESIGNED
DH DRAWN
AA CHECKED

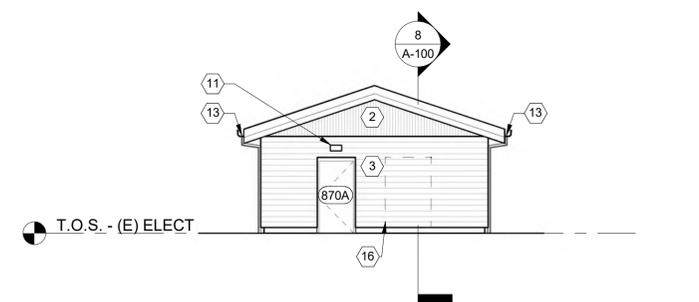


MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

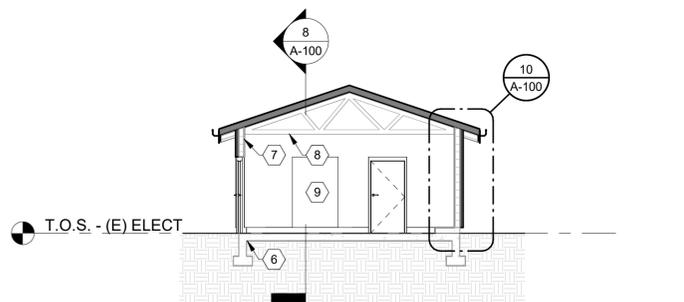
ARCHITECTURAL DETAILS - MISCELLANEOUS DETAILS

PROJECT NO.: 936-50-21-09 SCALE: 1 1/2" = 1'-0" DATE: August 2022

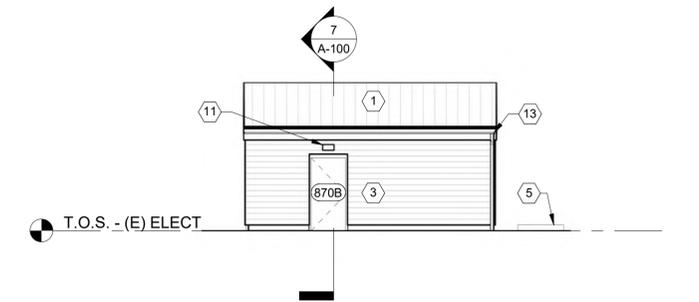
SHEET **A-005**
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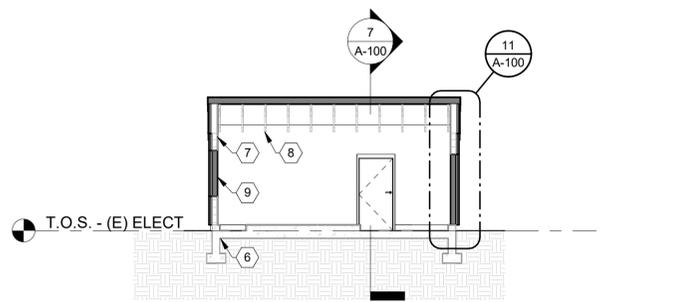
EXTERIOR ELEVATION SE - SOUTH ELECT BLDG
1/8" = 1'-0"



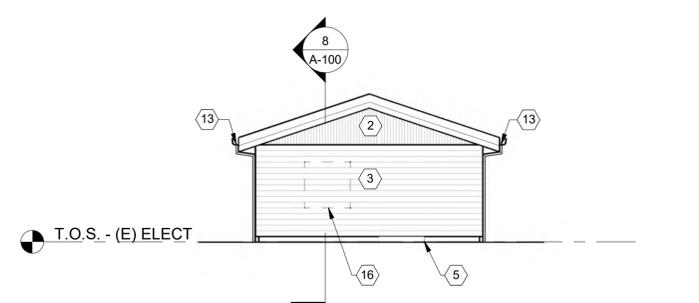
BUILDING SECTION 1 - SOUTH ELECT BLDG
1/8" = 1'-0"



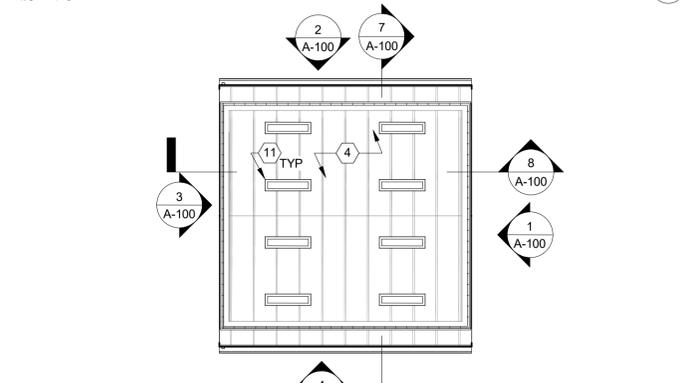
EXTERIOR ELEVATION NE - SOUTH ELECT BLDG
1/8" = 1'-0"



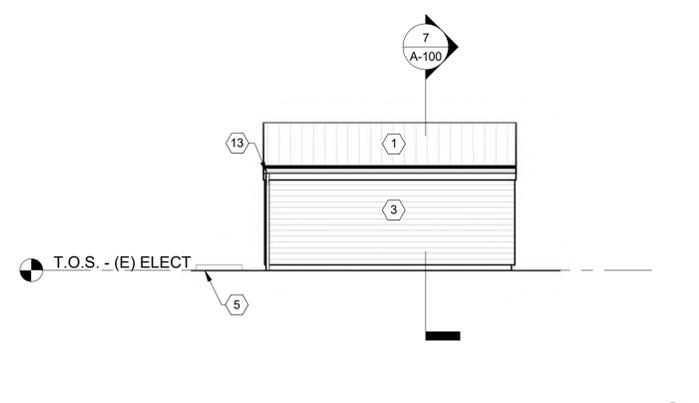
BUILDING SECTION 2 - SOUTH ELECT BLDG
1/8" = 1'-0"



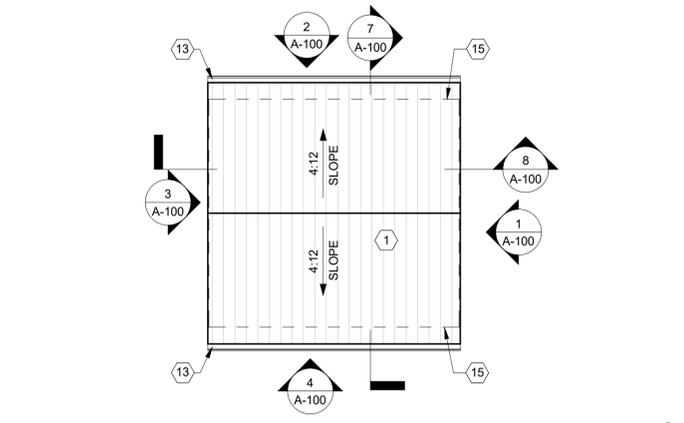
EXTERIOR ELEVATION NW - SOUTH ELECT BLDG
1/8" = 1'-0"



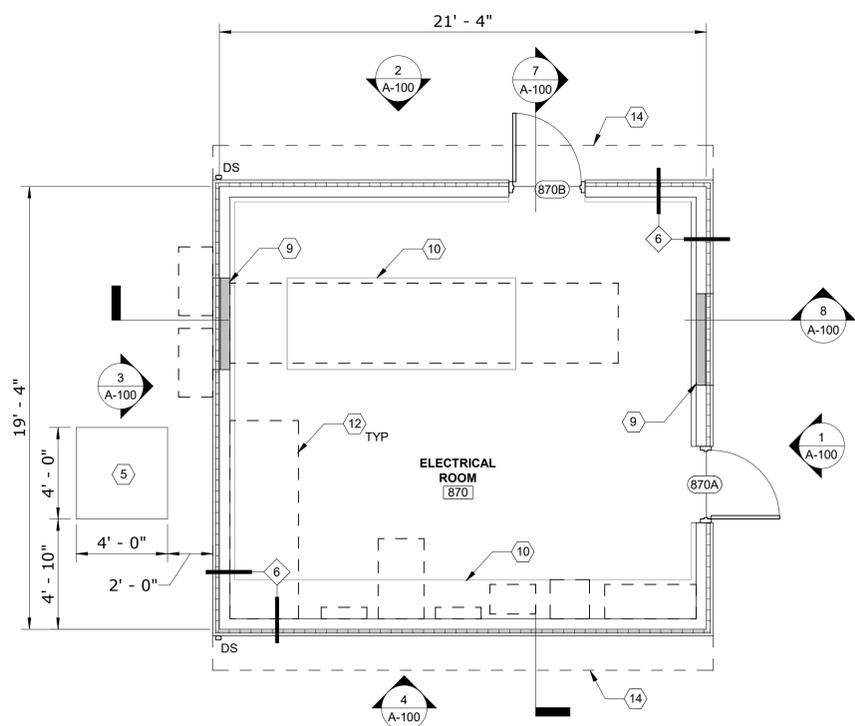
RCP - SOUTH ELECT BLDG
1/8" = 1'-0"



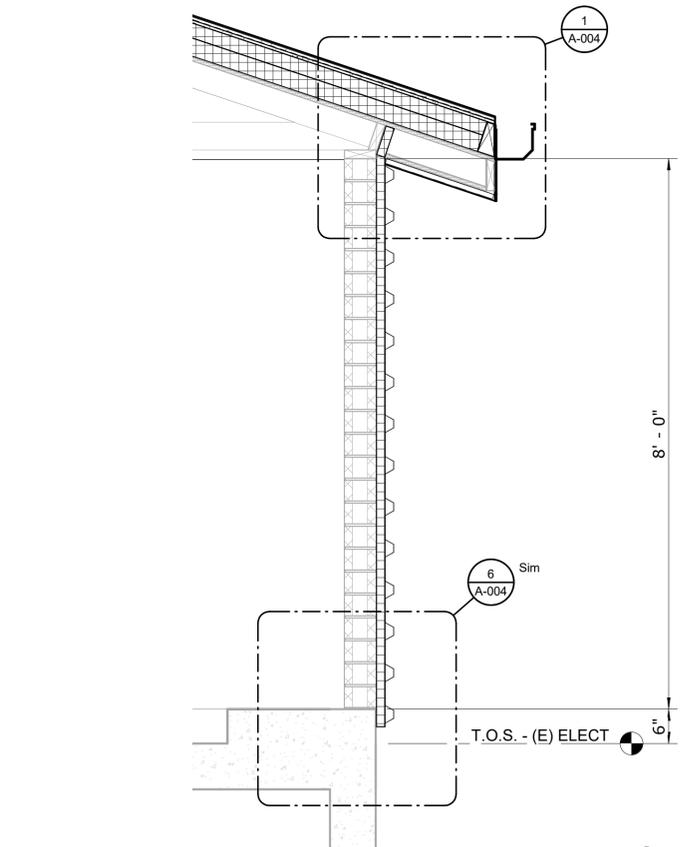
EXTERIOR ELEVATION SW - SOUTH ELECT BLDG
1/8" = 1'-0"



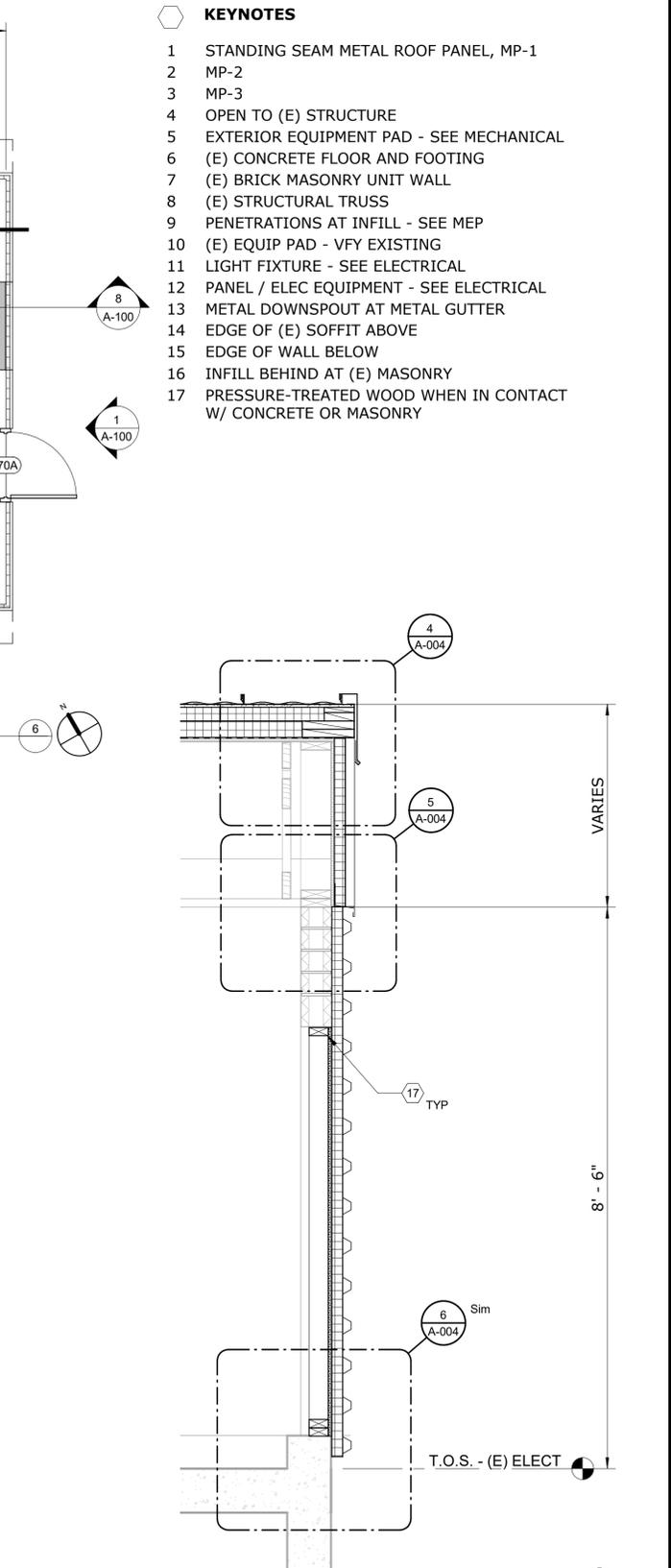
ROOF PLAN - SOUTH ELECT BLDG
1/8" = 1'-0"



FLOOR PLAN - SOUTH ELECT BLDG
1/4" = 1'-0"



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



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

- KEYNOTES**
- 1 STANDING SEAM METAL ROOF PANEL, MP-1
 - 2 MP-2
 - 3 MP-3
 - 4 OPEN TO (E) STRUCTURE
 - 5 EXTERIOR EQUIPMENT PAD - SEE MECHANICAL
 - 6 (E) CONCRETE FLOOR AND FOOTING
 - 7 (E) BRICK MASONRY UNIT WALL
 - 8 (E) STRUCTURAL TRUSS
 - 9 PENETRATIONS AT INFILL - SEE MEP
 - 10 (E) EQUIP PAD - VFY EXISTING
 - 11 LIGHT FIXTURE - SEE ELECTRICAL
 - 12 PANEL / ELEC EQUIPMENT - SEE ELECTRICAL
 - 13 METAL DOWNSPOUT AT METAL GUTTER
 - 14 EDGE OF (E) SOFFIT ABOVE
 - 15 EDGE OF WALL BELOW
 - 16 INFILL BEHIND AT (E) MASONRY
 - 17 PRESSURE-TREATED WOOD WHEN IN CONTACT W/ CONCRETE OR MASONRY

7/29/2022 9:29:39 AM Autodesk Docs://Sweet Home WWT/21009 Sweet Home WWT/FP - EXISTING ELECT BLDG.rvt

STRONGWORK
ARCHITECTURE

NO.	DATE	BY	REVISION

NOTICE
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

SD
DESIGNED
DH
DRAWN
AA
CHECKED



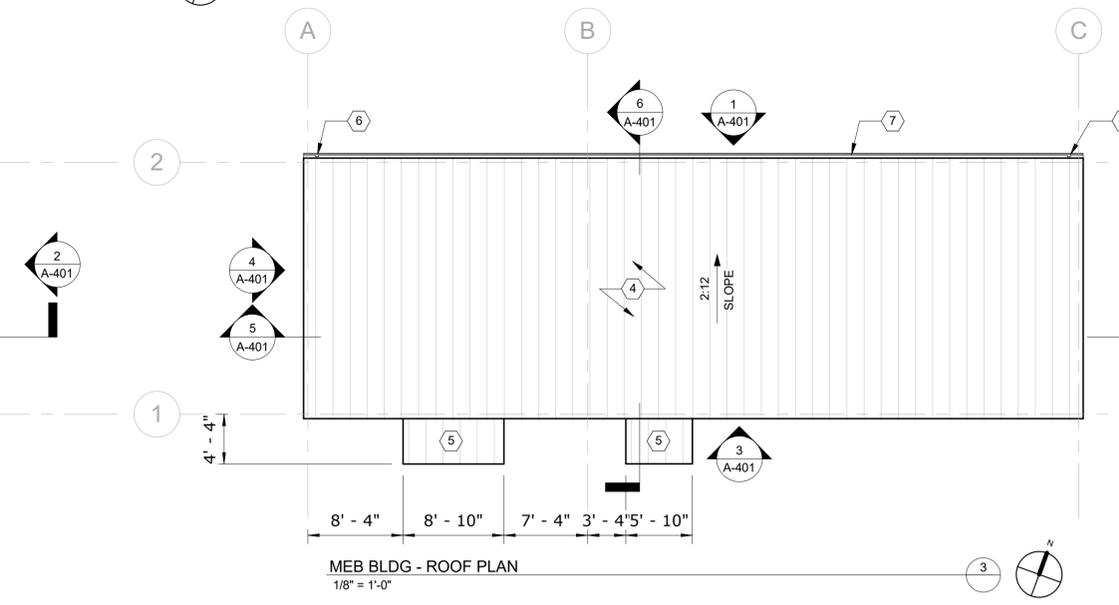
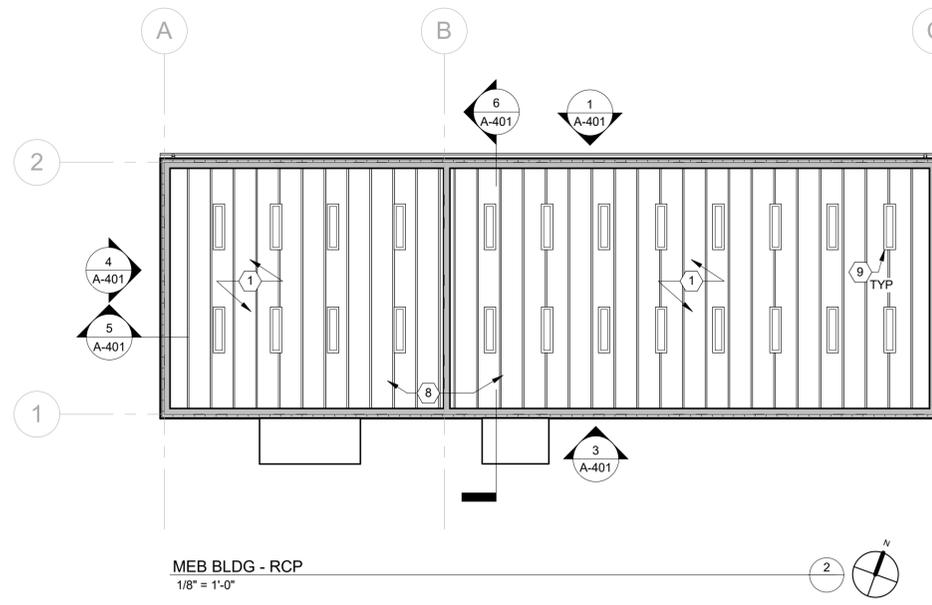
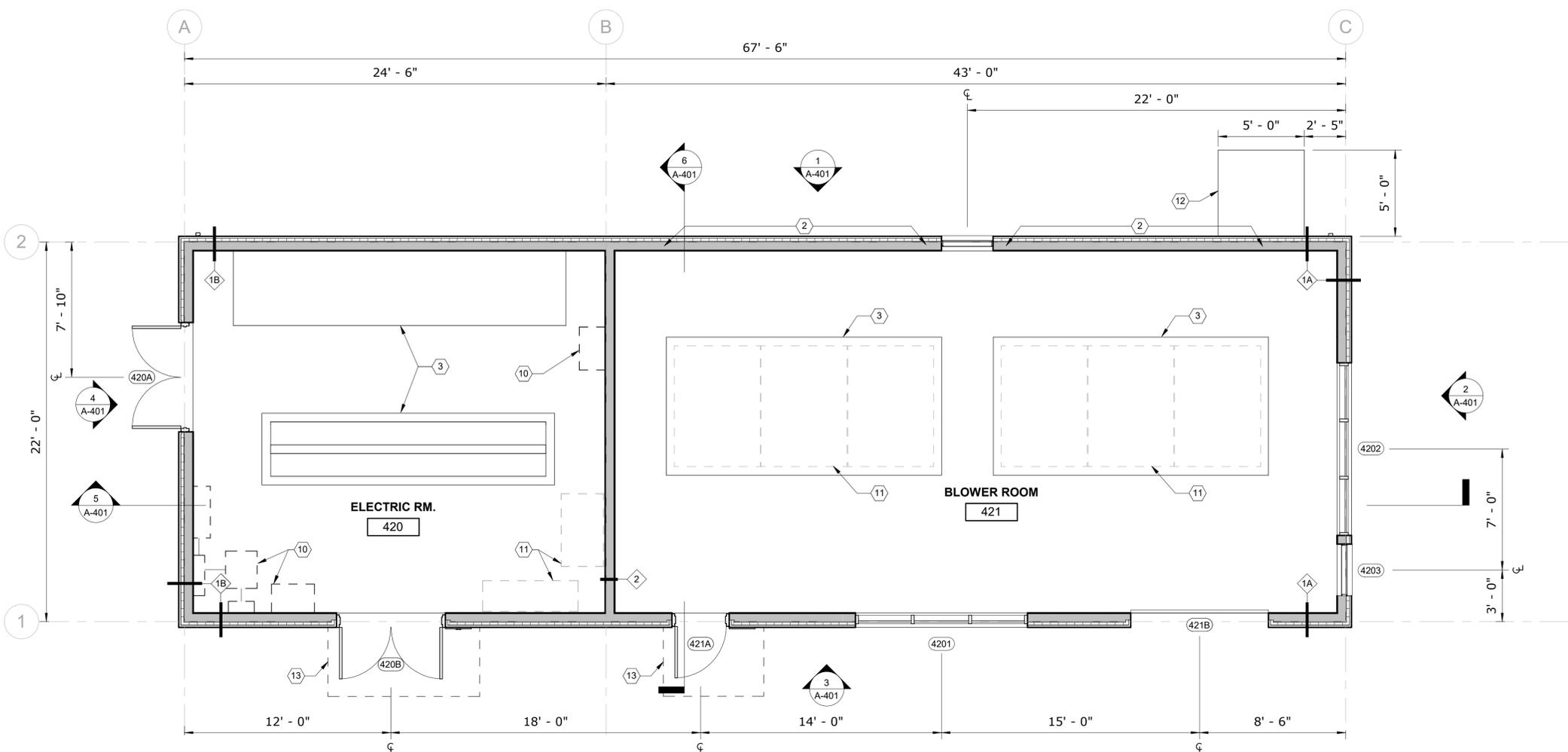
MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

SOUTH ELECTRICAL BUILDING PLAN, ELEVATIONS, & SECTIONS

PROJECT NO.: 936-50-21-09 SCALE: As indicated DATE: August 2022

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- KEYNOTES**
- 1 OPEN TO STRUCTURE
 - 2 FRAMING BLOCKOUTS FOR FUTURE EQUIPMENT - SEE STRUCTURAL
 - 3 EQUIPMENT PAD - SEE STRUCTURAL
 - 4 STANDING SEAM METAL ROOFING PANEL, MP-1
 - 5 STANDING SEAM ROOFING AT STEEL CANOPY - SEE STRUCTURAL
 - 6 METAL DOWNSPOUT
 - 7 METAL GUTTER
 - 8 HVAC - SEE MECHANICAL
 - 9 LIGHT FIXTURE - SEE ELECTRICAL
 - 10 PANEL / ELEC EQUIPMENT - SEE ELECTRICAL
 - 11 FUTURE EQUIPMENT, NIC
 - 12 EXTERIOR EQUIPMENT PAD - SEE MECHANICAL
 - 13 EDGE OF CANOPY ABOVE



STRONGWORK ARCHITECTURE

NO.	DATE	BY	REVISION

NOTICE
0 1/2 1
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AA CHECKED



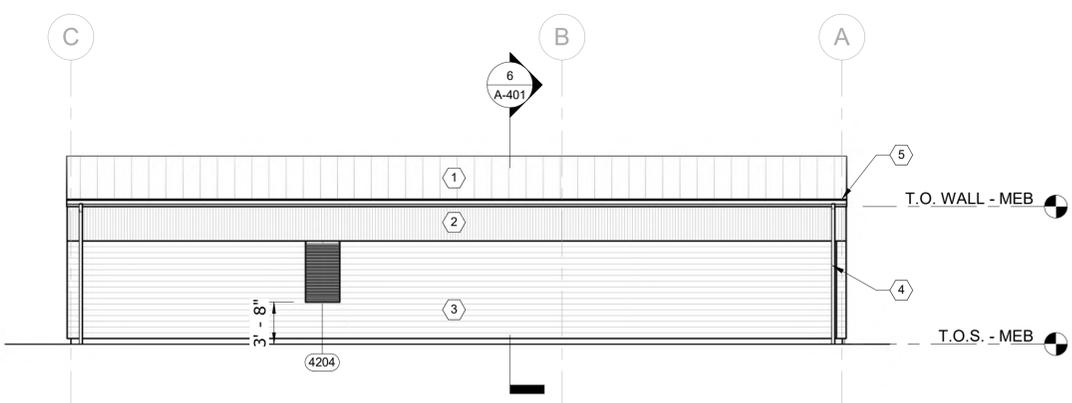
MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

MAIN ELECTRICAL & BLOWER BUILDING FLOOR, ROOF, AND RCP PLAN

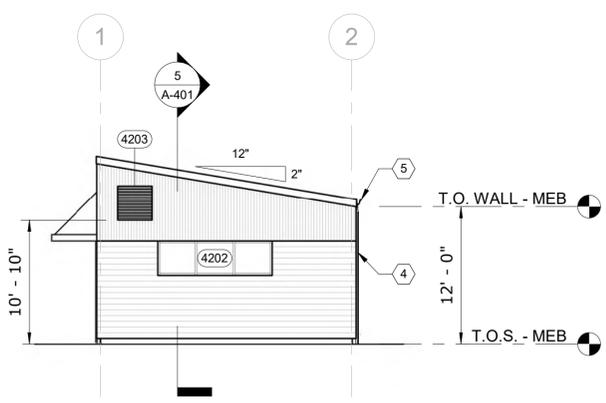
PROJECT NO.: 936-50-21-09 SCALE As indicated DATE August 2022

SHEET **A-400**
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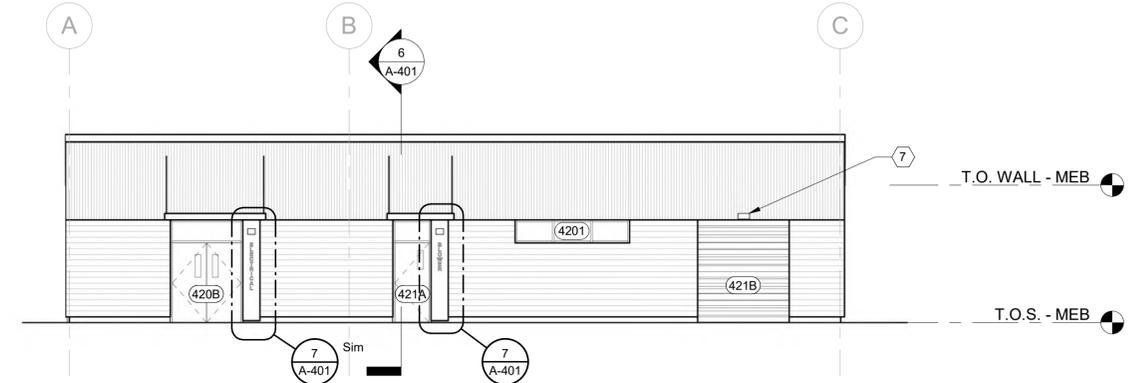
- KEYNOTES**
- 1 STANDING SEAM METAL ROOFING PANEL, MP-1
 - 2 MP-2
 - 3 MP-3
 - 4 DOWNSPOUT
 - 5 GUTTER
 - 6 CANOPY
 - 7 LIGHT FIXTURE - SEE ELECTRICAL



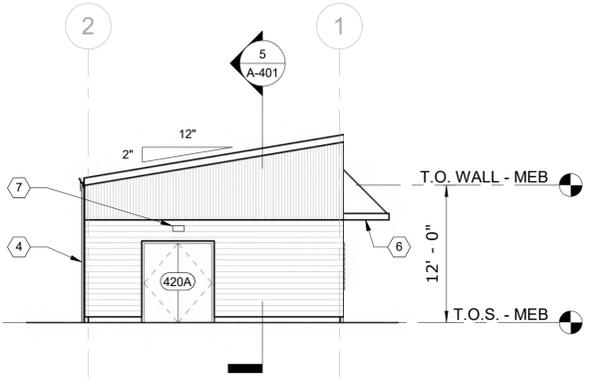
BUILDING ELEVATION - NORTH
1/8" = 1'-0"



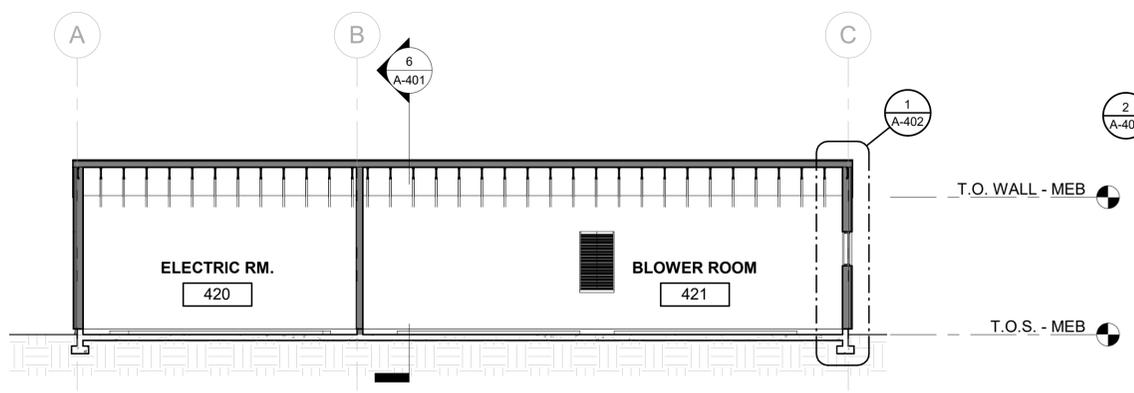
BUILDING ELEVATION - EAST
1/8" = 1'-0"



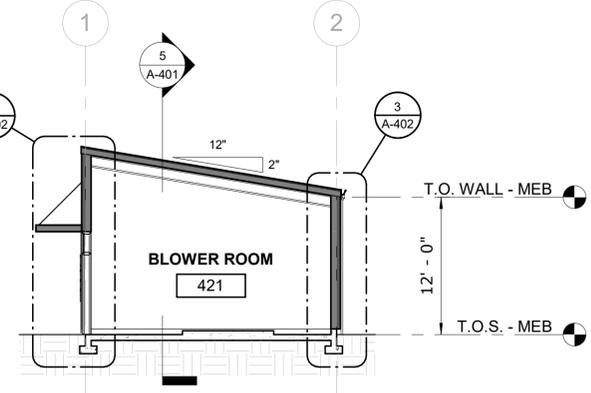
BUILDING ELEVATION - SOUTH
1/8" = 1'-0"



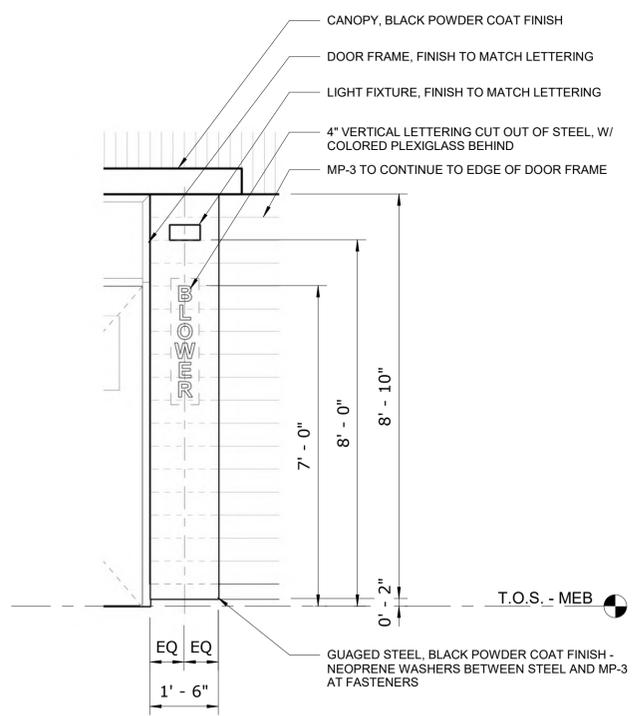
BUILDING ELEVATION - WEST
1/8" = 1'-0"



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



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



TYPICAL ROOM SIGNAGE ELEVATION
1/2" = 1'-0"

STRONGWORK ARCHITECTURE

NO.	DATE	BY	REVISION

NOTICE
0 1/2 1
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SD DESIGNED
DH DRAWN
AA CHECKED

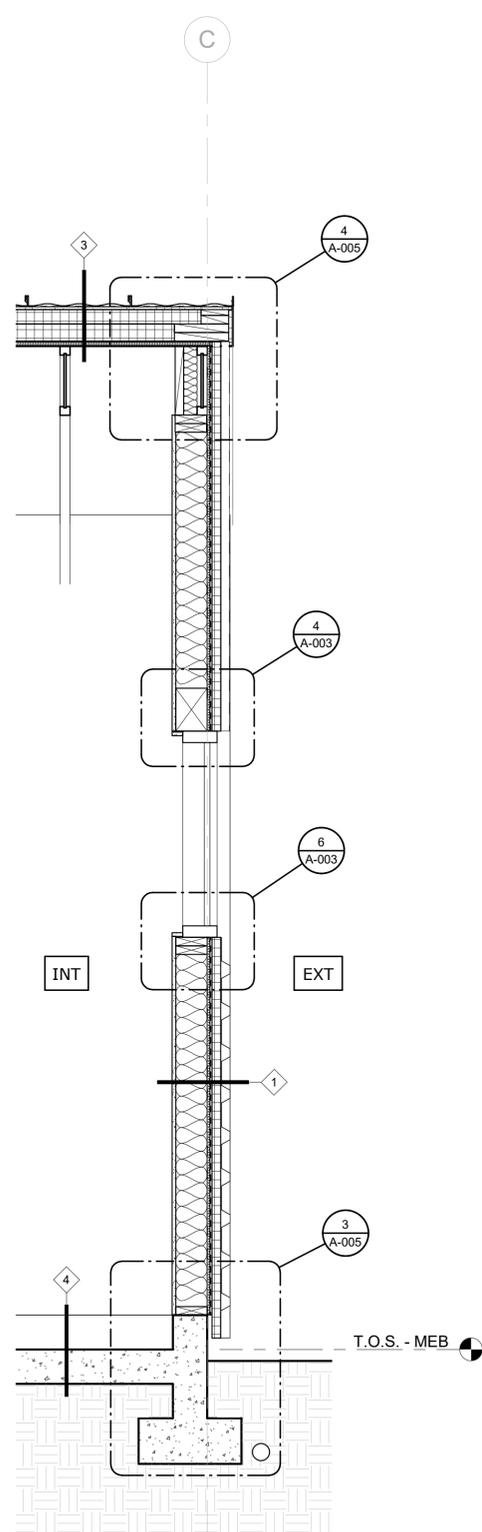


MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

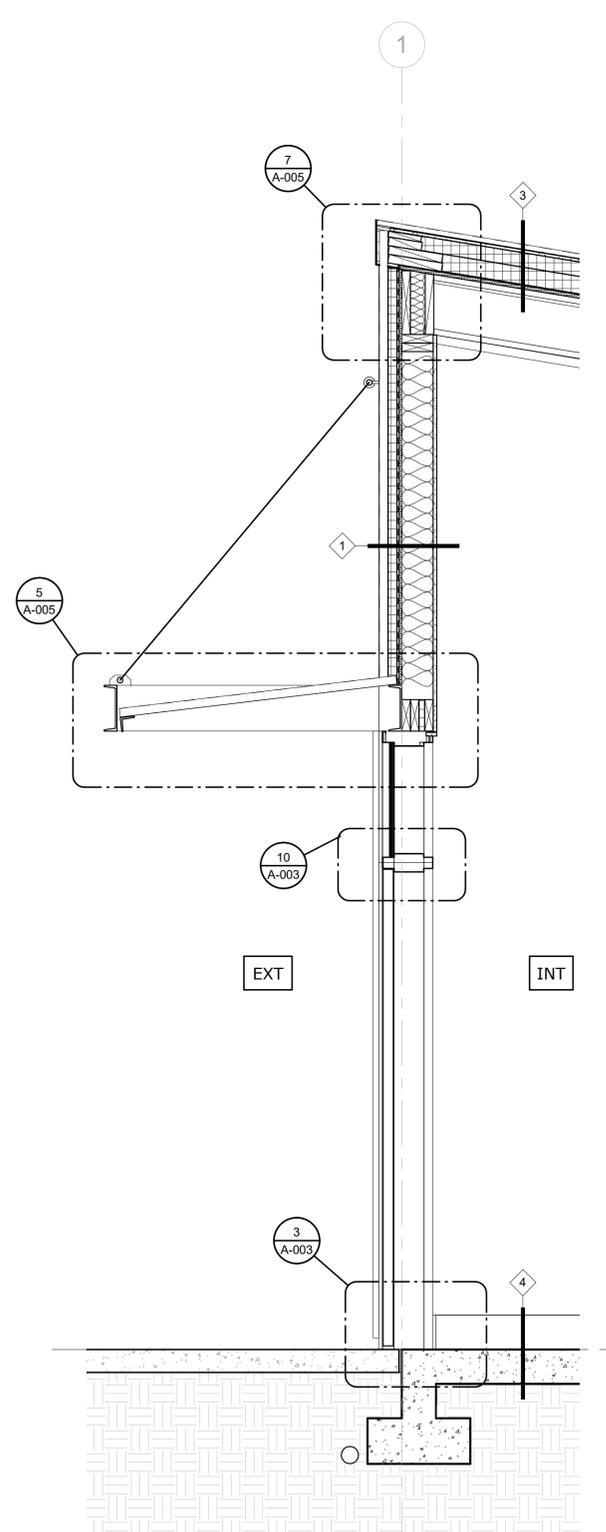
MAIN ELECTRICAL & BLOWER BUILDING ELEVATIONS AND SECTIONS

PROJECT NO.: 936-50-21-09 SCALE As indicated DATE August 2022

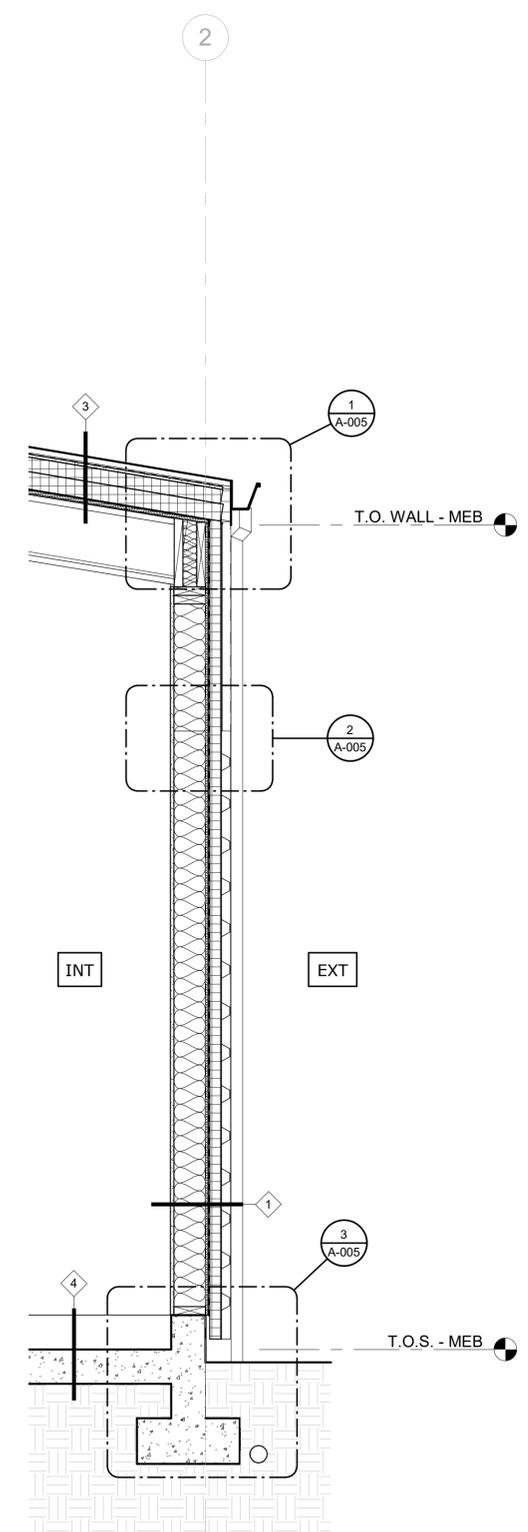
SHEET A-401
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WALL SECTION
3/4" = 1'-0" 1



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



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

STRONGWORK
ARCHITECTURE

NO.	DATE	BY	REVISION

NOTICE
0 1/2 1
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SD
DESIGNED
DH
DRAWN
AA
CHECKED



MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

MAIN ELECTRICAL & BLOWER BUILDING WALL SECTIONS

PROJECT NO.: 936-50-21-09 SCALE 3/4" = 1'-0" DATE August 2022

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STRUCTURAL ABBREVIATIONS

AB	ANCHOR BOLT	FF	FINISHED FLOOR	PCF	POUNDS PER CUBIC FOOT	TRANS	TRANSVERSE
ABV	ABOVE	FG	FINISH GRADE	PDF	POWDER DRIVEN FASTENER	TYP	TYPICAL
AL	ALUMINUM	FNDTN	FOUNDATION	PE	PLAIN END	UNO	UNLESS NOTED OTHERWISE
ALT	ALTERNATE	FOC	FACE OF CONCRETE	PEMB	PRE-ENGINEERED METAL BUILDING	V or VERT	VERTICAL
ARCH	ARCHITECT OR ARCHITECTURE	FOF	FACE OF FINISH	PL	PLATE	W	WEST
ASSY	ASSEMBLY	FOM	FACE OF MASONRY	PLY	PLYWOOD	W/O	WITHOUT
AVG	AVERAGE	FOS	FACE OF STUD	PJP	PARTIAL JOINT PENETRATION	WF	WIDE FLANGE
@	AT	FRP	FIBERGLASS REINFORCED PLASTIC	PRV	PRESSURE RELIEF VALVE	WP	WORK POINT
B-B	BACK TO BACK	FS	FAR SIDE	PSF	POUNDS PER SQUARE FOOT	WT	WEIGHT
BM	BEAM	FTG	FOOTING	PSI	POUNDS PER SQUARE INCH	WWF	WELDED WIRE FABRIC
BOT	BOTTOM	GA	GAUGE	PT	PRESERVATIVE TREATED	<	GREATER THAN
BRG	BEARING	GALV	GALVANIZED	PVC	POLYVINYL CHLORIDE	>	LESS THAN
CC	CENTER TO CENTER	GLB	GLUED LAMINATED BEAM	R	RADIUS		
CIP	CAST-IN-PLACE	GSN	GENERAL STRUCTURAL NOTES	REINF	REINFORCEMENT, REINFORCING		
C-J	CONTROL JOINT	H	HEIGHT	REQD	REQUIRED		
CJ	CONSTRUCTION JOINT	HCA	HEADED CONCRETE ANCHOR	RQMTS	REQUIREMENTS		
CJP	COMPLETE JOINT PENETRATION	HDR	HEADER	REV	REVISED		
CL or ϵ	CENTERLINE	HK	HOOK	RS	ROUGH SAWN		
CLR	CLEAR, CLEARANCE	HORIZ	HORIZONTAL	RT	RIGHT		
CMU	CONCRETE MASONRY UNIT	HSB	HIGH STRENGTH BOLT	S	SOUTH		
COL	COLUMN	HSS	HOLLOW STRUCTURAL SECTION	SC	SLIP CRITICAL		
CONC	CONCRETE	IN	INCH	SCHED	SCHEDULE		
CONST	CONSTRUCTION	INT	INTERIOR	SECT	SECTION		
CONT	CONTINUOUS	ID	INTERIOR DIAMETER	SF	SQUARE FOOT		
CTR	CENTERED	L	LENGTH	SHT	SHEET		
CTRSK	COUNTERSINK	LBS	POUNDS	SHTG	SHEATHING		
DBL	DOUBLE	LL	LIVE LOAD	SIM	SIMILAR		
DEG	DEGREE	LLBB	LONG LEG BACK TO BACK	SLBB	SHORT LEG BACK TO BACK		
DET	DETAIL	LLV	LONG LEG VERTICAL	SL	SNOW LOAD		
DF	DOUGLAS FIR	LOC	LOCATION	SLV	SHORT LEG VERTICAL		
DIAG	DIAGONAL	LT	LEFT	SMS	SHEET METAL SCREW		
DIA or ϕ	DIAMETER	MAX	MAXIMUM	SP	SPACING		
DIMS	DIMENSIONS	MB	MACHINE BOLT	SPEC	SPECIFICATIONS		
DL	DEAD LOAD	MCJ	MASONRY CONTROL JOINT	SPT	SUPPORT		
DN	DOWN	MFR	MANUFACTURER	SQ	SQUARE		
DO	DITTO	MIN	MINIMUM	SS	STAINLESS STEEL		
DWG	DRAWING	MISC	MISCELLANEOUS	STD	STANDARD		
DWL	DOWEL	MJ	MECHANICAL JOINT	STA	STATION		
E	EAST or EASTING	MOD	MODIFY, MODIFIED	STIFF	STIFFENER		
(E)	EXISTING	MPH	MILES PER HOUR	STR	STRUCTURE		
EA	EACH	N	NORTH	STRUCT	STRUCTURAL		
EF	EACH FACE	(N)	NEW	SYM	SYMMETRICAL		
EG	EXISTING GRADE	NO or #	NUMBER	T	TOP		
EL or ELEV	ELEVATION	NS	NEAR SIDE	T&B	TOP AND BOTTOM		
EN	EDGE NAILING	NTS	NOT TO SCALE	T&G	TONGUE AND GROOVE		
ENGR	ENGINEER	OC	ON CENTER	TEMP	TEMPORARY		
EQ	EQUAL OR EQUIVALENT	OD	OUTSIDE DIAMETER	TOC	TOP OF CONCRETE		
EW	EACH WAY	OH	OPPOSITE HAND	TOF	TOP OF FOOTING		
EWEF	EACH WAY, EACH FACE	OPP	OPPOSITE	TOM	TOP OF MASONRY		
EXP JT	EXPANSION JOINT	OWSJ	OPEN WEB STEEL JOIST	TOS	TOP OF STEEL, TOP OF SLAB		

GENERAL STRUCTURAL NOTES

GENERAL: DETAILS AND SECTIONS SHOWN ON THE DRAWINGS ARE TYPICAL AND APPLY TO SIMILAR SITUATIONS ELSEWHERE, EXCEPT AS OTHERWISE INDICATED. ADAPT REQUIREMENTS OF DETAILS, SECTIONS, PLANS, AND NOTES AT LOCATIONS WHERE CONDITIONS ARE SIMILAR.

CENTER ALL FOOTINGS AND PIERS UNDER COLUMNS AND WALLS ABOVE UNLESS SPECIFICALLY DIMENSIONED OTHERWISE.

STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH JOB SPECIFICATIONS AND ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, CIVIL AND LANDSCAPE DRAWINGS. CONSULT THESE DRAWINGS FOR SLEEVES, DEPRESSIONS, AND OTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.

CONTRACTOR SHALL LOCATE ALL CONCEALED UTILITIES PRIOR TO EXCAVATION OR SELECTIVE DEMOLITION WORKS. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED OF POTENTIAL CONFLICTS BETWEEN FOUNDATIONS AND BURIED UTILITIES.

CODE REQUIREMENTS: THE STRUCTURES ARE DESIGNED IN ACCORDANCE WITH THE 2019 OREGON STRUCTURAL SPECIALTY CODE (OSSC) AND REFERENCE DOCUMENTS (ADM, ACI, AISC, AISI, ANSI, APA, ASCE/SEI, ASTM, AWC, AWP, AWS, ICC, SDI, SJI, TMS, UL, WCLIB, ETC). FOLLOW ALL APPLICABLE PROVISIONS FOR ALL PHASES OF CONSTRUCTION.

TEMPORARY CONDITIONS: THE STRUCTURAL INTEGRITY OF THE COMPLETED STRUCTURE DEPENDS ON INTERACTION OF VARIOUS CONNECTED COMPONENTS. PROVIDE ADEQUATE BRACING, SHORING, AND OTHER TEMPORARY SUPPORTS AS REQUIRED TO SAFELY COMPLETE THE WORK. THE STRUCTURE SHOWN ON THE DRAWINGS HAS BEEN DESIGNED FOR STABILITY UNDER FINAL CONFIGURATION ONLY.

WALLS WHICH TIE TO UPPER SLABS SHALL NOT BE BACKFILLED UNTIL THE UPPER SLABS REACH FULL STRENGTH, UNLESS ADEQUATE BRACING IS PROVIDED AT THE TOP OF THE WALL.

EXISTING CONDITIONS: ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS SHALL BE FIELD VERIFIED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY SIGNIFICANT DISCREPANCIES FROM CONDITIONS SHOWN ON THE DRAWINGS.

EXISTING STRUCTURE: INFORMATION SHOWN FOR EXISTING STRUCTURES ON THESE DRAWINGS WAS TAKEN FROM RECORD DRAWINGS PROVIDED BY THE CITY OF SWEET HOME. WORK SHOWN ON THESE PLANS ASSUMES THAT THE ORIGINAL CONSTRUCTION WAS PERFORMED IN ACCORDANCE WITH THE ORIGINAL DRAWINGS INCLUDING, BUT NOT LIMITED TO, DIMENSIONS, ELEVATIONS, MEMBER SIZES, MATERIALS, DETAILS, ETC. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE CONDITIONS RELATING TO THE EXISTING STRUCTURES AND TO NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES OR CONFLICTS.

EXERCISE EXTREME CARE AND CAUTION WHEN EXCAVATING AND FILLING ADJACENT TO EXISTING STRUCTURES. UNDER NO CIRCUMSTANCES SHALL THE STRUCTURAL INTEGRITY OF THE EXISTING STRUCTURES BE IMPAIRED IN ANY WAY BY CONSTRUCTION OPERATIONS AND PROCEDURES. DO NOT EXCAVATE OR DISTURB SOIL ADJACENT TO OR BENEATH EXISTING FOOTINGS.

DESIGN CRITERIA: THE FOLLOWING LOADS AND PARAMETERS WERE USED TO DETERMINE WIND AND SEISMIC LOADS.

VERTICAL LOADS:

DEAD LOADS:

ROOFS:	20 PSF DL (INCLUDES 5 PSF FUTURE PV SOLAR PANELS)
ELEVATED FLOORS:	20 PSF DL
CONCRETE SLABS:	150 PCF DL

GROUND SNOW LOAD: 25 PSF SL

FLOOR LIVE LOADS:

OFFICE	50 PSF LL
CORRIDORS, STAIRS	100 PSF LL
STORAGE	125 PSF LL
PROCESS	125 PSF LL, 2000 LB CONCENTRATED

LATERAL LOADS:

SEISMIC: RISK CATEGORY 3, SITE CLASS B, $S_s=0.63$, $S_1=0.34$, $F_0=0.90$, $F_v=0.80$, $S_{M5}=0.57g$, $S_{M1}=0.27g$, $S_{M2}=0.38g$, $S_{D1}=0.18g$, $MCE_G=0.29g$, $F_{PGA}=0.90$, SEISMIC DESIGN CATEGORY=D.

WIND: WIND SPEED: $V=104$ MPH, $V_{std}=85$ MPH, EXPOSURE B.

SOIL:

ALLOWABLE SOIL BEARING PRESSURE FOR BELOW GRADE STRUCTURES: 5,000 PSF
 ALLOWABLE SOIL BEARING PRESSURE FOR AT-GRADE STRUCTURES: 2,000 PSF
 PREPARE SITE SOILS IN ACCORDANCE WITH GEOTECHNICAL ENGINEERING REPORT BY McMILLEN JACOBS ASSOCIATES, JULY 2022. CONTACT McMILLEN JACOBS ASSOCIATES TO OBSERVE THE FOUNDATION EXCAVATED SURFACE PRIOR TO PLACEMENT OF STRUCTURAL FILL. ALLOW McMILLEN JACOBS TO OBSERVE PLACEMENT OF STRUCTURAL FILL. McMILLEN JACOBS ASSOCIATES: (503) 227-1800.

CONTRACTOR RESPONSIBILITIES

CONTRACTOR RESPONSIBILITIES: CARRY OUT THE REQUIREMENTS OF THESE DOCUMENTS THROUGH THE USE OF THE CONTRACTOR'S EFFORTS OR THAT OF SUB-CONTRACTORS.

PROVIDE ALL CONSTRUCTION METHODS, TECHNIQUES, SEQUENCING AND SAFETY REQUIRED TO COMPLETE THE WORK. ALL INSTRUCTIONS CONTAINED IN THESE DOCUMENTS ARE INTERPRETED TO BE INSTRUCTIONS TO THE CONTRACTOR AND ARE THE RESPONSIBILITY OF THE CONTRACTOR TO FULFIL.

VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING WITH CONSTRUCTION. IMMEDIATELY BRING DISCREPANCIES TO THE ATTENTION OF THE ENGINEER OF RECORD (EOR).

MEASURE DIMENSIONS OF ANY EXISTING STRUCTURES ASSOCIATED WITH THE WORK AND COORDINATE WITH REQUIRED DIMENSIONS FOR NEW CONSTRUCTION. DRAWINGS SCALES ARE INDICATED FOR REFERENCE TO ASSIST WITH CLARIFYING THE WORK AND PROVIDING PROPORTIONS THAT RESEMBLE ACTUAL CONDITIONS. DO NOT MEASURE DRAWINGS FOR CONSTRUCTION. USE TEXT DIMENSIONS PROVIDED. REQUEST UNKNOWN DIMENSIONS FROM THE ENGINEER WITH SUFFICIENT LEAD TIME TO PREVENT CONSTRUCTION DELAYS. FIELD VERIFY DIMENSIONS.

ARRANGE FOR AND COORDINATE WORK BY TRADES AND SUPPLIERS. FACILITATE REQUIRED INSPECTIONS, SPECIAL INSPECTIONS AND TESTS SPECIFIED BY THE CONTRACT DOCUMENTS, BUILDING CODE AND PERMIT. WHERE COVERINGS OR WORK CONCEALS ITEMS OR AREAS TO BE INSPECTED PRIOR TO SATISFACTORY APPROVAL THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF COVERINGS OR WORK AS NECESSARY WITHOUT COST TO THE OWNER OR ENGINEER.

THE STRUCTURES SHALL BE FULLY BRACED FOR WIND AND SEISMIC LOADS DURING CONSTRUCTION. THE CONTRACTOR SHALL BRACE THE WORK UNTIL THE PERMANENT LATERAL FORCE RESISTING SYSTEM IS COMPLETED.

INSTALL ITEMS MANUFACTURED OR SUPPLIED BY OTHERS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

WHERE DETAILS OF CONSTRUCTION ARE NOT EXPLICITLY SHOWN, PROVIDE MATERIALS AND CONSTRUCTION OF THE SAME TYPE AND CHARACTER AS THAT OF SIMILAR CONDITIONS USED ON THE PROJECT. THE ACTUAL DETAILS USED SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING MATERIALS OR BEGINNING CONSTRUCTION.

ANY CONFLICT OR DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD FOR CLARIFICATION AND RESOLUTION PRIOR TO ORDERING MATERIALS OR BEGINNING CONSTRUCTION.

NO.	DATE	BY	REVISION

NOTICE

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

ATG
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MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

GENERAL STRUCTURAL NOTES STRUCTURAL ABBREVIATIONS

PROJECT NO.: 936-50-21-09 | SCALE: NONE | DATE: August 2022

SHEET

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STRUCTURAL MATERIAL NOTES

CONCRETE: ALL CONCRETE TANKS, BASINS, AND CONTAINMENT STRUCTURES ARE WATER-BEARING. WATER-BEARING CONCRETE STRUCTURES, INCLUDING REINFORCING, SHALL COMPLY WITH ACI 350-20, CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES AS WELL AS ACI 318 AND ACI 301 CURRENT EDITIONS. ALL OTHER CONCRETE CONSTRUCTION, INCLUDING REINFORCING, SHALL COMPLY WITH ACI 318 AND ACI 301 CURRENT EDITIONS.

CONCRETE SHALL BE READY MIXED IN ACCORDANCE WITH ASTM C94.

CONCRETE STRENGTHS SHALL BE VERIFIED BY STANDARD 28-DAY CYLINDER TESTS PER ASTM C39, AND SHALL BE AS FOLLOWS:

f'c	MAX W/C	MIN CEMENT	SLUMP	USE
3000 PSI	0.48	560 LBS	5"+/-1"	ALL USES, U.N.O.
4000 PSI	0.40	590 LBS	4"+/-1"	WATER BEARING STRUCTURES (WITH CRYSTALLINE WATERPROOFING ADMIXTURE)

CEMENT SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATION FOR PORTLAND CEMENT AND CONFORM TO ASTM C150, TYPE II. FLY ASH CONFORMING TO ASTM C618, TYPE F OR TYPE C, SHALL BE USED TO REPLACE AT LEAST 10% AND UP TO 50% OF THE CEMENT CONTENT, PROVIDED THAT THE MIX STRENGTH IS SUBSTANTIATED BY TEST DATA. COARSE AGGREGATE SHALL CONFORM TO ASTM C33 WITH A MAXIMUM SIZE OF 3/4". FINE AGGREGATE SHALL BE CLEAN, DURABLE, NATURAL SAND CONFORMING TO ASTM C33.

A WATER-REDUCING ADMIXTURE CONFORMING TO ASTM C494, USED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, SHALL BE INCORPORATED IN CONCRETE DESIGN MIXES. A HIGH-RANGE WATER-REDUCING ADMIXTURE CONFORMING TO ASTM C494, TYPE F OR G, MAY BE USED IN CONCRETE MIXES, PROVIDING THAT THE SLUMP DOES NOT EXCEED 8". SLUMP AT POINT OF TRUCK DISCHARGE SHALL NOT EXCEED THAT INDICATED ABOVE. SUPERPLASTICIZED CONCRETE SLUMP SHALL NOT EXCEED 7" ±1".

AN AIR ENTRAINING ADMIXTURE CONFORMING TO THE LATEST REVISION OF ASTM C260 SHALL BE ADDED TO CONCRETE TO PROVIDE 4% ±1.5% ENTRAINED AIR FOR SLABS, WALKS AND CURBS EXPOSED TO WEATHER.

LOCATION OF ALL CONSTRUCTION, CONTRACTION, AND EXPANSION JOINTS SHALL BE AS SHOWN ON THE DRAWINGS OR APPROVED BY THE ENGINEER. PLACE CONSTRUCTION JOINTS IN SLABS AND BEAMS AT THE SAME TIME AND LOCATION. CONSTRUCTION JOINTS SHALL BE THOROUGHLY CLEANED AND INTENTIONALLY ROUGHENED FOR BOND. PROVIDE WATER STOPS IN ALL CONSTRUCTION JOINTS IN WATER BEARING SLABS AND WALLS.

EMBEDDED ITEMS SHALL BE FIRMLY HELD INTO POSITION IN THE FORMWORK OR MASONRY AND SHALL NOT BE "WET STABBED" INTO FRESHLY PLACED CONCRETE OR GROUT.

EXPANSION JOINTS SHALL HAVE EDGES ROUNDED TO 1/4" RADIUS, USE 1/2" CORK OR CANE-FIBER FORM BOARD, EXCAVATED TO 1/2" DEPTH AND FILLED WITH AN APPROVED POLY-SULFIDE CAULK.

DO NOT PLACE ANY CONCRETE WHOSE TEMPERATURE IS ABOVE 90°F.

DO NOT PLACE ANY CONCRETE THAT IS MORE THAN 90 MINUTES OLD, SINCE BATCH TIME.

UNLESS SELF-CONSOLIDATING CONCRETE IS APPROVED AS SUCH, ALL CONCRETE SHALL BE CONSOLIDATED DURING PLACEMENT. CONSOLIDATION SHALL BE BY INTERNAL VIBRATION, USING A GASOLINE-POWERED OR PLUG-IN VIBRATOR. INSERT VIBRATOR VERTICALLY INTO THE CONCRETE AT A SPACING NOT EXCEEDING 1.5 TIMES THE RADIUS OF INFLUENCE. DO NOT USE VIBRATOR TO MOVE CONCRETE. EXCEPTIONS TO THE ABOVE MAY BE MADE AS FOLLOWS:

- A) SLABS ON GRADE LESS THAN 8" THICK, MAY BE CONSOLIDATED BY TAMPING WITH A COMMERCIAL TAMPER ONLY IF THE CONCRETE SLUMP IS 3" OR LESS.
- B) CURBS 6" OR LESS IN WIDTH AND 12" OR LESS IN HEIGHT MAY BE CONSOLIDATED BY BATTERY-POWERED VIBRATOR OR BY MANUAL RODDING.

HYDRAULIC TESTING OF CONCRETE WATER-RETAINING STRUCTURES (INCLUDING CHEMICAL CONTAINMENT STRUCTURES), SHALL BE PER ACI 350.1-10, WITH A MAXIMUM LOSS OF 0.0125%/ DAY AS THE QUANTITATIVE CRITERION. THE ENGINEER SHALL WITNESS ALL QUANTITATIVE AND QUALITATIVE TESTING AND APPROVE THE WATERTIGHTNESS OF THE TANK PRIOR TO BACKFILL

SLEEVES, OPENINGS, CONDUIT, AND OTHER EMBEDDED ITEMS NOT SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER BEFORE POURING. NO SLEEVE, OPENING, OR INSERT MAY BE PLACED IN BEAMS, JOISTS, OR COLUMNS UNLESS APPROVED BY THE ENGINEER. CONDUITS EMBEDDED IN SLABS SHALL NOT BE LARGER IN OUTSIDE DIMENSION THAN ONE THIRD OF THE THICKNESS OF THE SLAB AND SHALL NOT BE SPACED CLOSER THAN THREE DIAMETERS ON CENTER.

PROVIDE 3/4" CHAMFERS ON ALL EXPOSED CONCRETE EDGES, UNLESS NOTED OTHERWISE. WHERE INDICATED OR REQUIRED, SLOPE CONCRETE SLABS TO DRAINS SHOWN ON PLUMBING AND/OR ARCHITECTURAL DRAWINGS.

ALL CONCRETE SHALL BE CURED IMMEDIATELY AFTER FINISHING OPERATIONS, FOR A PERIOD OF AT LEAST 7 CONSECUTIVE CALENDAR DAYS.

WEATHER RESISTANCE: ALL CONCRETE EXPOSED TO CHLORIDES SHALL CONTAIN A CALCIUM-NITRITE BASED CORROSION-INHIBITING ADMIXTURE. THE DOSAGE FOR CONCRETE EXPOSED TO AIRBORNE CHLORIDES SHALL BE MINIMUM TWO GALLONS PER CUBIC YARD. THE WATER CONTAINED IN THE CORROSION-INHIBITING ADMIXTURE SHALL BE USED IN THE CALCULATION OF THE WATER-TO-CEMENTITIOUS RATIO OF THE CONCRETE. PROVIDE RHEOCRETE CNI BY MASTER BUILDERS OR APPROVED EQUIVALENT.

SHORING AND RESHORING: SHORING AND RESHORING SHALL CONFORM TO ACI 347-01. SHORING AND SUPPORTING FORMWORK SHALL NOT BE REMOVED FROM HORIZONTAL MEMBERS BEFORE CONCRETE STRENGTH IS AT LEAST 70 PERCENT OF DESIGN STRENGTH, AS DETERMINED BY FIELD CURE CYLINDERS. IN ADDITION, SHORING SHALL NOT BE REMOVED SOONER THAN RECOMMENDED BY ACI 347-01, SECTION 3.7.2.3. FORMWORK SHALL NOT BE REMOVED IN LESS THAN TEN (10) DAYS.

REINFORCING STEEL: #4 AND LARGER REINFORCING STEEL FOR COLUMNS, WALLS, BEAMS & ELEVATED SLAB SHALL BE GRADE 60, DEFORMED BARS CONFORMING TO A706. ALL OTHER BARS MAY BE GRADE 60 DEFORMED BARS CONFORMING TO ASTM A706 OR A615. REINFORCING STEEL TO BE WELDED OR FIELD BENT SHALL CONFORM TO ASTM A706. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185, UNLESS OTHERWISE NOTED. REINFORCING STEEL SHALL BE SECURELY TIED IN PLACE WITH #16 ANNEALED IRON WIRE.

ALL DETAILING AND ACCESSORIES SHALL CONFORM TO ACI DETAILING MANUAL SP-66. PROVIDE CHAIRS, SPACERS, BOLSTERS, AND ITEMS IN CONTACT WITH FORMS WITH HOT-DIP GALVANIZED LEGS OR PLASTIC LEGS. ACCURATELY POSITION, SUPPORT, AND SECURE REINFORCEMENT AGAINST DISPLACEMENT BY FORMWORK CONSTRUCTION OR CONCRETE PLACEMENT OPERATIONS. "WET-STICKING" OF REINFORCING IS PROHIBITED.

REQUIRED CONCRETE COVER FOR REINFORCING STEEL (UNLESS NOTED OTHERWISE):

WATER RETAINING STRUCTURES:	
CONCRETE PLACED AGAINST EARTH	3"
PRE-CAST CONCRETE	1½"
OTHER FORMED OR FINISHED SURFACES	2"

OTHER CONCRETE	
FOOTINGS	3" BOTTOM, 2" TOP & SIDES
SLABS	3/4" MINIMUM
COLUMNS	1½" TO TIES, 2" TO PRINCIPLE REINFORCEMENT
BEAMS	1½" TO STIRRUPS, 2" TO PRINCIPLE REINFORCEMENT
WALLS	1½" TO DRY CONDITIONS, 2" TO EARTH, WATER OR WEATHER

LAP SPLICE CONTINUOUS VERTICAL OR HORIZONTAL BARS IN CONCRETE MEMBERS IN ACCORDANCE WITH ACI 318-19, FOR CLASS "B" TENSION LAP SPLICES. DO NOT SPLICE CONTINUOUS TOP BARS IN BEAMS AT ENDS OF CLEAR SPANS. DO NOT SPLICE CONTINUOUS BOTTOM BARS IN BEAMS IN CLEAR SPANS BETWEEN SUPPORTS. AT CYLINDRICAL WALLS, HOOP REINFORCEMENT SPLICES SHALL BE STAGGERED BY NOT LESS THAN ONE LAP LENGTH OR 3 FEET, AND SHALL NOT COINCIDE IN VERTICAL ARRAYS MORE FREQUENTLY THAN EVERY THIRD BAR. SHOW ALL SPLICES ON SHOP DRAWINGS. SPLICE LOCATIONS AND METHODS SUBJECT TO APPROVAL OF STRUCTURAL ENGINEER.

AT SLAB AND WALL OPENINGS PROVIDE A MINIMUM OF (2) #5 BARS ALL FOUR SIDES AND DIAGONALLY; EXTEND THESE BARS A LAP DISTANCE OR A MINIMUM OF 27" PAST THE OPENING OR HOOK BARS IF DISCONTINUOUS.

DOWEL ALL WALLS AND COLUMNS TO FOOTINGS WITH HOOKED BAR SIZE AND SPACING TO MATCH VERTICAL REINFORCING UNLESS OTHERWISE SHOWN.

CONCRETE ACCESSORIES: HEADED SHEAR STUDS SHALL BE NELSON HEADED ANCHORS WITH FLUXED ENDS OR APPROVED EQUAL. DEFORMED BAR ANCHORS (DBA) SHALL BE NELSON, TYPE D2L, OR APPROVED. STUDS AND DBA SHALL BE AUTOMATICALLY END WELDED WITH THE MANUFACTURER'S STANDARD EQUIPMENT IN ACCORDANCE WITH THEIR RECOMMENDATIONS. HAND WELDING NOT PERMITTED.

PERMANENTLY EXPOSED EMBEDDED PLATES AND ANGLES SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION, OR STAINLESS STEEL. ACCURATELY POSITION, SUPPORT, AND SECURE EMBEDDED ITEMS AGAINST DISPLACEMENT BY FORMWORK CONSTRUCTION OR CONCRETE PLACEMENT OPERATIONS. SECURELY ATTACH EMBEDDED ITEMS TO FORMWORK PRIOR TO START OF CONCRETE PLACEMENT. "WET-STICKING" OF EMBEDDED ITEMS IS PROHIBITED. NO LOADS OR WELDS SHALL BE PLACED ON EMBEDDED PLATES OR ANGLES FOR A MINIMUM OF 7 DAYS AFTER CASTING.

WHERE NEW CONCRETE IS PLACED AGAINST EXISTING CONCRETE, THE EXISTING CONCRETE SURFACE SHOULD BE CLEANED AND ROUGHENED TO A MINIMUM ¼" AMPLITUDE.

MECHANICAL ANCHORS: MECHANICAL ANCHORS SHALL HAVE A CURRENT ICC-ES EVALUATION REPORT INDICATING CONFORMANCE WITH CURRENT APPLICABLE ICC-ES ACCEPTANCE CRITERIA (AC193 FOR EXPANSION AND SCREW ANCHOR INSTALLATION IN CONCRETE, AC01 FOR EXPANSION ANCHOR INSTALLATION IN MASONRY OR AC106 FOR SCREW ANCHOR INSTALLATION IN MASONRY). MECHANICAL ANCHORS SHALL BE EXPANSION TYPE OR SCREW TYPE AS NOTED ON THE DRAWINGS. PROVIDE SPECIAL INSPECTION AS MANDATED BY THE APPLICABLE BUILDING CODE AND BUILDING OFFICIAL HAVING JURISDICTION.

EXPANSION STYLE ANCHORS SHALL BE TORQUE-CONTROLLED, WITH IMPACT SECTION TO PREVENT THREAD DAMAGE COMPLETE WITH REQUIRED NUTS AND WASHERS. PROVIDE ANCHORS WITH LENGTH IDENTIFICATION MARKINGS. TYPE AND SIZE AS INDICATED ON DRAWINGS. ACCEPTABLE ANCHORS IN "CRACKED" AND "UN-CRACKED" CONCRETE ARE SIMPSON STRONG-BOLT 2 (ICC-ES ESR-3037), HILTI KWIK-BOLT 3 (ICC-ES ESR-2302) OR POWERS POWER-STUD+ SD2 (ICC-ES ESR-2502); IN SOLID-GROUTED MASONRY ARE SIMPSON STRONG-BOLT 2 (ICC-ES ESR-3037), HILTI KWIK BOLT-TZ (ICC-ES ESR-1917) OR POWERS POWER STUD+ SD1 (ICC-ES ESR-2818). SCREW STYLE ANCHORS SHALL BE ONE PIECE CARBON STEEL SCREW ANCHOR WITH FINISHED HEX HEAD WITH INTEGRAL WASHER, DOUBLE LEAD THREAD, CHAMFERED TIP, RATCHET TEETH ON UNDERSIDE OF HEAD. PROVIDE ANCHORS HEAD STAMPED WITH LENGTH, TYPE AND SIZE AS INDICATED ON DRAWINGS. ACCEPTABLE ANCHORS IN "CRACKED" AND "UN-CRACKED" CONCRETE ARE SIMPSON TITEN HD (ICC-ES ESR-2713), HILTI KWIK HUS-EZ (ICC-ES ESR-3027) OR POWERS WEDGE BOLT+ (ICC-ES ESR-2526). ; IN SOLID-GROUTED MASONRY ARE SIMPSON TITEN HD (ICC-ES ESR-1056), HILTI KWIK HUS-EZ (ICC-ES ESR-3056) OR POWERS WEDGE BOLT+ (ICC-ES ESR-1678).

UNLESS OTHERWISE NOTED, PROVIDE CARBON STEEL ANCHORS, ZINC PLATED IN ACCORDANCE WITH ASTM B633 OR MECHANICALLY GALVANIZED ACCORDING TO ASTM A153. PERMANENTLY EXPOSED ANCHORS AND ANCHORS USED IN WATER BEARING STRUCTURES SHALL BE 316 STAINLESS STEEL.

IDENTIFY POSITION OF REINFORCING STEEL AND OTHER EMBEDDED ITEMS PRIOR TO DRILLING HOLES FOR ANCHORS. EXERCISE CARE IN CORING OR DRILLING TO AVOID DAMAGING EXISTING REINFORCING OR EMBEDDED ITEMS. NOTIFY THE ENGINEER IF REINFORCING STEEL OR OTHER EMBEDDED ITEMS ARE ENCOUNTERED DURING DRILLING.

ADHESIVE ANCHORS: ADHESIVE ANCHORS SHALL HAVE A CURRENT ICC-ES EVALUATION REPORT INDICATING CONFORMANCE WITH CURRENT APPLICABLE ICC-ES ACCEPTANCE CRITERIA (AC308 FOR INSTALLATION IN CONCRETE OR AC58 FOR INSTALLATION IN MASONRY). ADHESIVE SHALL BE INSTALLED IN DRY HOLES AND HAVE PERFORMANCE DATA FOR INSTALLATIONS IN WATER-SATURATED HOLES. CONTRACTOR SHALL NOTIFY THE ENGINEER-OF-RECORD PRIOR TO INSTALLING ADHESIVE ANCHORS IN WATER-SATURATED (DAMP) HOLES. ADHESIVE SHALL BE FULLY-CURED AT 70°F WITHIN 24 HOURS FROM THE TIME OF INSTALLATION. U.N.O. CONCRETE SHALL BE A MINIMUM OF 21 DAYS OLD AT THE TIME OF INSTALLATION PER ACI 318-14 CHAPTER 17.

ACCEPTABLE FAST CURE ADHESIVE IN "CRACKED" AND "UN-CRACKED" CONCRETE ARE SIMPSON AT-XP (IAPMO UES ER-263), HILTI HIT-HY 200 (ICC-ES ESR-3187) OR POWERS AC100+ GOLD (ICC-ES ESR-2582); IN SOLID-GROUTED MASONRY ARE SIMPSON AT-XP (IAPMO UES ER-281) OR HILTI HIT-HY 270 (ICC-ES ESR-4143). DESIGN OF THESE ADHESIVES IS BASED ON CONCRETE TEMPERATURE RANGE "A" OR "1".

ACCEPTABLE SLOW CURE ADHESIVE IN "CRACKED" AND "UNCRACKED" CONCRETE ARE SIMPSON SET-XP (ICC-ES ESR-2508), HILTI HIT-RE 500-SD (ICC-ES ESR-2322) OR POWERS PE1000+ (ICC-ES ESR-2583); IN SOLID-GROUTED MASONRY ARE SIMPSON SET-XP (IAPMO UES ER-265). DESIGN OF THESE ADHESIVES IS BASED ON CONCRETE TEMPERATURE RANGE "A" OR "1".

THREADED STUDS SHALL CONFORM TO ASTM A36, UNLESS NOTED OTHERWISE. PERMANENTLY EXPOSED THREADED STUDS AND THREADED STUDS USED IN WATER BEARING STRUCTURES SHALL BE 316 STAINLESS STEEL. NUTS AND WASHERS SHALL CONFORM TO SAME SPECIFICATION AS THE SUPPLIED ANCHOR RODS.

INSTALLATION SHALL BE IN CONFORMANCE WITH MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII). INSTALLATION SHALL ALSO INCLUDE BRUSHING AND CLEANING OF DRILLED HOLES WITH COMPRESSED AIR AS REQUIRED BY THE APPLICABLE EVALUATION REPORT. INSTALLERS SHALL BE TRAINED BY THE MANUFACTURER'S REPRESENTATIVE. EMBEDMENT SHALL BE AS INDICATED ON THE STRUCTURAL DRAWINGS.

IDENTIFY POSITION OF REINFORCING STEEL AND OTHER EMBEDDED ITEMS PRIOR TO DRILLING HOLES FOR ANCHORS. EXERCISE CARE IN CORING OR DRILLING TO AVOID DAMAGING EXISTING REINFORCING OR EMBEDDED ITEMS. NOTIFY THE ENGINEER IF REINFORCING STEEL OR OTHER EMBEDDED ITEMS ARE ENCOUNTERED DURING DRILLING.

NO.	DATE	BY	REVISION

NOTICE

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

ATG
DESIGNED

ATG
DRAWN

PVM
CHECKED

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MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT
PHASE 1

PROJECT NO.: 936-50-21-09 SCALE: NONE DATE: August 2022

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STRUCTURAL MATERIAL NOTES (Continued)

STRUCTURAL STEEL: STRUCTURAL STEEL AND MISCELLANEOUS IRON SHALL BE CONSTRUCTED IN ACCORDANCE WITH AISC CODE OF STANDARD PRACTICE AND SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS – CURRENT EDITIONS.

WIDE FLANGE & TEE SHAPES SHALL CONFORM TO ASTM A992, GRADE 50. CHANNELS AND ANGLES SHALL CONFORM TO ASTM A36. PLATES SHALL CONFORM TO ASTM A36 OR A572. RECTANGULAR AND SQUARE TUBES SHALL CONFORM TO ASTM A500, GRADE B. ROUND HSS SHALL CONFORM TO ASTM A500, GRADE B. PIPES SHALL CONFORM TO ASTM A53, GRADE B.

WELDING SHALL CONFORM TO THE AWS CODES FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION. WELDS SHALL BE MADE USING E70XX ELECTRODES AND SHALL BE 3/16" MINIMUM UNLESS OTHERWISE NOTED. WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS. PREQUALIFIED WELDING PROCEDURES ARE TO BE USED, UNLESS AWS QUALIFICATION IS SUBMITTED TO THE ENGINEER PRIOR TO FABRICATION.

HIGH STRENGTH BOLTS SHALL BE HEAVY HEX STRUCTURAL BOLTS PER ANSI B18.2.1 AND HSALL CONFORM TO THE REQUIREMENTS OF ASTM A325-X. BOLTS SHALL BE TYPE 1, 2 OR 3 AND SHALL BE USED IN A BEARING TYPE CONNECTION WITH THREADS EXCLUDED FROM THE SHEAR PLANE (X). NUTS SHALL BE HEAVY HEX ASTM A563-C. WASHERS SHALL BE FLAT CIRCULAR, RECTANGULAR OR SQUARE AND SHALL CONFORM TO ASTM F436, TYPE 1. PROVIDE BEVELED WASHERS AS NECESSARY. FINISH SHALL MATCH NUT. WASHERS SHALL BE INSTALLED UNDER THE ELEMENT BEING TURNED. WASHERS OVER OVERSIZED OR SLOTTED HOLES SHALL COMPLY WITH RCSC SPECIFICATIONS. BOLTS PERMANENTLY EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED.

EXCEPT WHERE GALVANIZING IS INDICATED ON THE DRAWINGS, STRUCTURAL STEEL TO RECEIVE ONE SHOP PRIME COAT EXCEPT ON SURFACES RECEIVING FIELD WELDS, EMBEDDED IN CONCRETE OR AT SLIP CRITICAL HIGH STRENGTH BOLTED SURFACES, WHICH SHALL BE TOUCHED UP AFTER CONNECTION IS COMPLETE. STRUCTURAL STEEL EXPOSED TO VIEW OR WEATHER SHALL RECEIVE TWO COATS OF OF APPROVED SEMI-GLOSS ALKYD ENAMEL COMPATIBLE WITH PRIMER.

SHEAR STUD CONNECTORS: SHEAR STUD CONNECTORS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH AWS D1.1 "STRUCTURAL WELDING CODE", SECTION 7 – STUD WELDING. STUDS SHALL BE TYPE "B", HEADED STUDS HAVING A MINIMUM TENSILE STRENGTH OF 60,000 PSI AND SHALL BE OF LENGTH AND DIAMETER SHOWN ON STRUCTURAL DRAWINGS.

MACHINE BOLTS: UNLESS INDICATED OTHERWISE ON THE DRAWINGS, MACHINE BOLTS SHALL BE ASTM A36, A307 GRADE A OR F1554 GRADE 36. NUTS SHALL BE ASTM A563-A HEX WITH FINISH TO MATCH FASTENER.

ANCHOR RODS & THREADED RODS: UNLESS INDICATED OTHERWISE ON THE DRAWINGS, ANCHOR RODS SHALL BE ASTM F1554, GRADE 36 WITH A HEAVY HEX NUT AT THE EMBEDDED END.

STAINLESS STEEL: STAINLESS STEEL SHALL BE CONSTRUCTED IN ACCORDANCE WITH AISC 370 STANDARD SPECIFICATION FOR STAINLESS STEEL BUILDINGS – CURRENT EDITION.

SS WIDE FLANGE, I-BEAM, ANGLE, TEE & CHANNEL SHAPES SHALL CONFORM TO ASTM A479, Fy=30 KSI
 SS PLATE SHALL CONFORM TO ASTM A240, Fy=30 KSI.
 SS RECTANGULAR & SQUARE TUBES SHALL CONFORM TO ASTM A554, Fy=30KSI
 SS PIPES SHALL CONFORM TO ASTM A312, Fy=30 KSI.

STRUCTURAL ALUMINUM: STRUCTURAL ALUMINUM SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT GOVERNING EDITION OF THE OREGON STRUCTURAL SPECIALTY CODE. ALL STRUCTURAL ALUMINUM SHALL BE 6061-T6 ALLOY, Fy=36 KSI. STRUCTURAL ALUMINUM PLATES SHALL CONFORM TO ASTM B209. STRUCTURAL ALUMINUM I-BEAMS, CHANNELS AND ANGLES SHALL CONFORM TO ASTM B308. STRUCTURAL ALUMINUM TUBES SHALL CONFORM TO ASTM B221. ALL ALUMINUM IN CONTACT WITH CEMENT GROUT, CONCRETE OR DISSIMILAR MATERIALS SHALL HAVE A PROTECTIVE COATING.

SAWN LUMBER: SAWN LUMBER SHALL CONFORM TO WEST COAST LUMBER INSPECTION BUREAU STANDARD GRADING AND DRESSING RULE NO. 17 AS AMENDED TO DATE. STRUCTURAL SAWN LUMBER SHALL BE COAST REGION DOUGLAS FIR WITH THE ALLOWABLE FIBER STRESSES PER THE AWC NATIONAL DESIGN SPECIFICATION.

UNLESS NOTED OTHERWISE:
 2x, 3x & 4x PLATES, JOISTS, BEAMS, HEADERS, STUDS & BLOCKING: No. 2.
 6x & LARGER BEAMS, POSTS & COLUMNS: No. 1.

ALL FRAMING LUMBER LARGER THAN 6" IN THE LEAST DIMENSION SHALL BE FOHC.

ALL FRAMING LUMBER SHALL HAVE A MOISTURE CONTENT LESS THAN 19% AT THE TIME OF FRAMING AND LESS THAN 16% AT THE TIME OF CLOSING FRAMING.

ALL LUMBER IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PROTECTED OR PRESSURE PRESERVATIVE TREATED IN ACCORDANCE WITH AITC-109. ALL FRAMING NAILS SHALL BE COMMON NAILS AND SHALL BE OF THE SIZE AND NUMBER INDICATED ON THE DRAWINGS. NAILING NOT SHOWN SHALL BE AS INDICATED IN TABLE 2304.10.1 OF THE IBC. BOLTS AND LAG SCREWS SHALL CONFORM TO ANSI/ASME STANDARD B18.1. ALL BOLTS AND LAG SCREWS SHALL BE INSTALLED WITH STANDARD CUT WASHERS.

SHEATHING: SHEATHING PANELS SHALL CONFORM TO THE REQUIREMENTS OF U.S. PRODUCT STANDARD PS-1 FOR CONSTRUCTION AND INDUSTRIAL PLYWOOD OR APA PRP-108 PERFORMANCE STANDARDS. EACH PANEL SHALL BE STAMPED WITH THE PS AND/OR APA GRADE MARK. ALL SHEATHING SHALL BE RATED EXPOSURE 1.

SHEATHING INSTALLATION SHALL BE IN CONFORMANCE WITH APA RECOMMENDATIONS. FOR ROOF AND WALL SHEATHING ALLOW 1/8" SPACING AT PANEL EDGES, UNLESS OTHERWISE RECOMMENDED BY THE PANEL MANUFACTURER.

ALL FLOOR, ROOF, AND WALL SHEATHING SHALL BE INSTALLED WITH FACE GRAIN PERPENDICULAR TO SUPPORTS, EXCEPT AS INDICATED ON THE DRAWINGS. STAGGER ENDS OF ADJACENT PANELS 4'-0".

ROOF SHEATHING SHALL BE BLOCKED, TONGUE-AND-GROOVE, OR HAVE EDGES SUPPORTED BY PLYWOOD CLIPS, CDX, SPAN RATING 40/20 (5/8" NOMINAL). ATTACH PANELS TO SUPPORTING MEMBERS WITH 10d NAILS SPACED 4" ON CENTER ALONG THE PANEL EDGES AND AT 12" ON CENTER ALONG INTERMEDIATE SUPPORTS, UNLESS NOTED OTHERWISE.

WALL SHEATHING SHALL BE CDX, SPAN RATING 32/16 (1/2" NOMINAL), BLOCK WITH 2x FRAMING AT ALL PANEL EDGES WHERE NOTED. ATTACH PANELS TO SUPPORTING MEMBERS WITH 8d NAILS SPACED 4" ON CENTER ALONG THE PANEL EDGES AND AT 12" ON CENTER ALONG INTERMEDIATE SUPPORTS, UNLESS NOTED OTHERWISE ON DRAWINGS.

ATTACH PLYWOOD PANELS TO SUPPORTING MEMBERS WITH 8d NAILS SPACED 6" ON CENTER ALONG THE PANEL EDGES AND AT 12" ON CENTER ALONG INTERMEDIATE SUPPORTS.

MANUFACTURED WOOD JOISTS: MANUFACTURED WOOD JOISTS SHALL BE OF THE SIZE AND TYPE SHOWN ON THE DRAWINGS, MANUFACTURED BY WEYERHAEUSER, REDBUILT, BOISE CASCADE, OR AN APPROVED EQUAL. PROVIDE BRIDGING IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. JOISTS AND BRIDGING SHALL BE CAPABLE OF RESISTING THE WIND UPLIFT NOTED ON THE DRAWINGS. THE JOIST MANUFACTURER SHALL VISIT THE JOB SITE AS REQUIRED TO VERIFY THE PROPER INSTALLATION OF JOISTS IN WRITING TO THE ENGINEER. ALTERNATES WILL BE CONSIDERED, PROVIDED THE ALTERNATE IS COMPATIBLE WITH THE LOAD CAPACITY, DIMENSIONAL, AND FIRE RATING REQUIREMENTS OF THE PROJECT AND HAS LVL FLANGES.

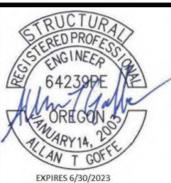
MANUFACTURED WOOD STRUCTURAL COMPONENTS: MEMBERS DESIGNATED LVL SHALL BE LAMINATED VENEER LUMBER AS MANUFACTURED BY WEYERHAEUSER (MICROLLAM), REDBUILT (REDLAM), BOISE CASCADE (VERSA LAM) OR ENGINEER APPROVED SUBSTITUTION WITH Fb = 2600 PSI, E = 1,900,000 PSI, Fv = 285 PSI, Fc (PARALLEL) = 2510 PSI, Fc (PERPENDICULAR) = 750 PSI.

WOOD FRAMING CONNECTORS: FRAMING ACCESSORIES AND STRUCTURAL FASTENERS SHALL BE MANUFACTURED BY SIMPSON STRONG TIE COMPANY (OR APPROVED EQUAL) AND OF THE SIZE AND TYPE SHOWN ON THE DRAWINGS. HANGERS NOT SHOWN SHALL BE SIMPSON HU OF SIZE TO FIT MEMBER. ALL CONNECTORS SHALL BE GALVANIZED. UNLESS SHOWN OTHERWISE, INSTALL MAXIMUM SIZE AND NUMBER OF FASTENERS SHOWN IN LATEST SIMPSON STRONG TIE CATALOG.

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NO.	DATE	BY	REVISION

NOTICE
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 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

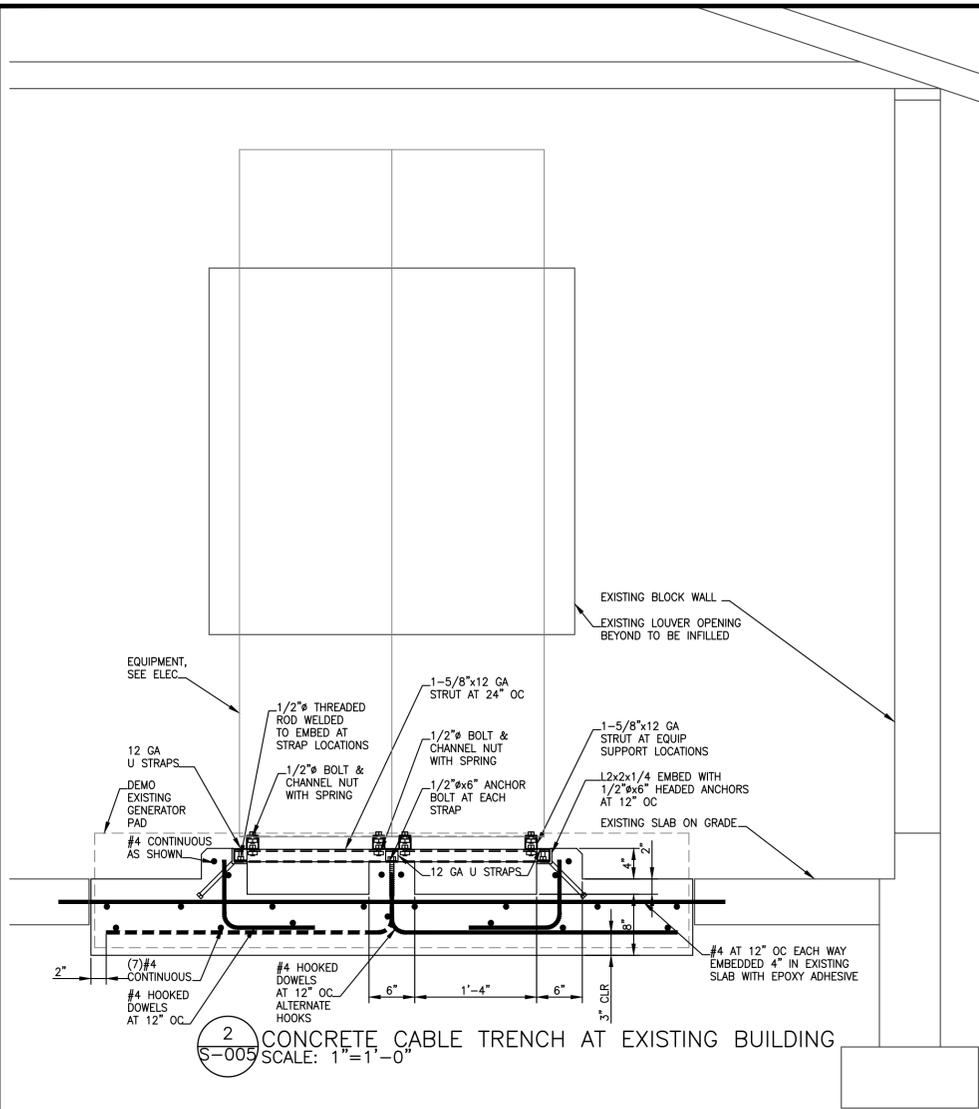
ATG
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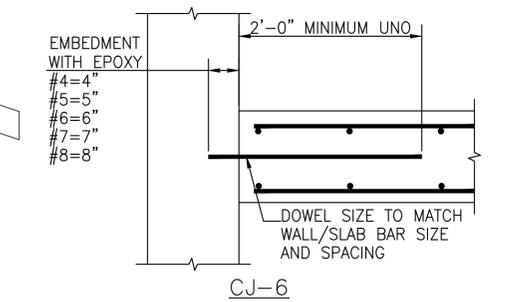
MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

MATERIAL NOTES CONTINUED
 PROJECT NO.: 936-50-21-09 SCALE: NONE DATE: August 2022

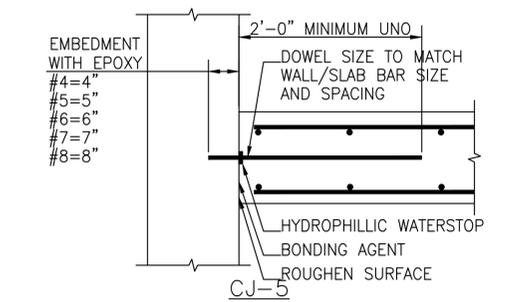
SHEET
 S-004
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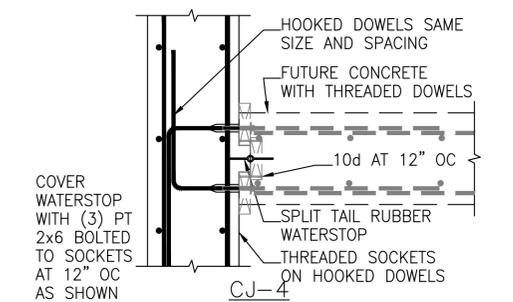
2 CONCRETE CABLE TRENCH AT EXISTING BUILDING
S-005 SCALE: 1"=1'-0"



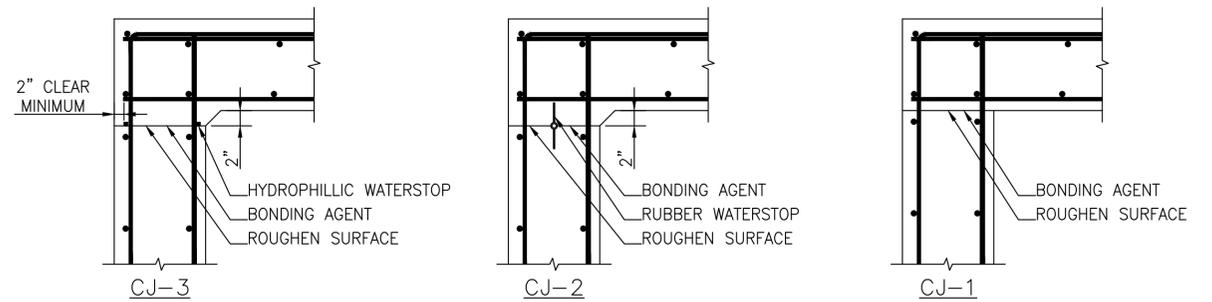
TYPICAL DOWELED CONSTRUCTION JOINTS



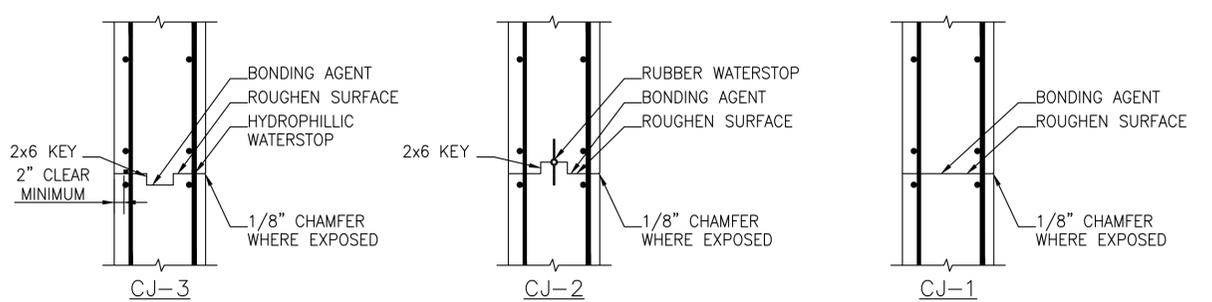
TYPICAL DOWELED CONSTRUCTION JOINTS



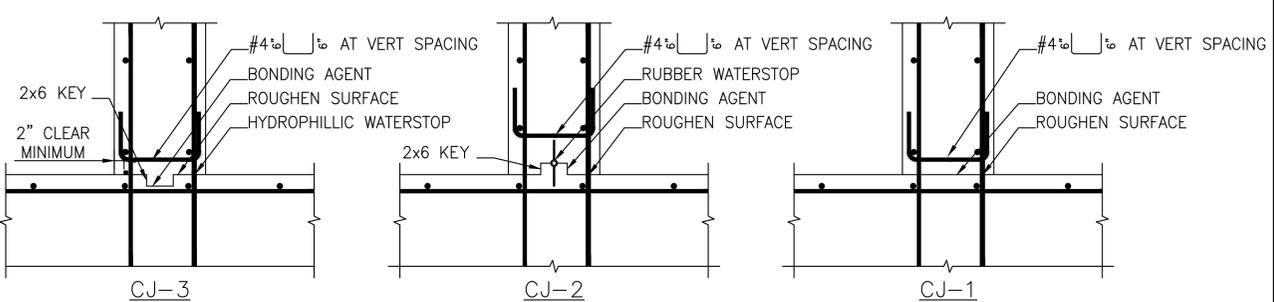
TYPICAL FUTURE CONSTRUCTION JOINTS



TYPICAL WALL TO SLAB HORIZONTAL CONSTRUCTION JOINTS

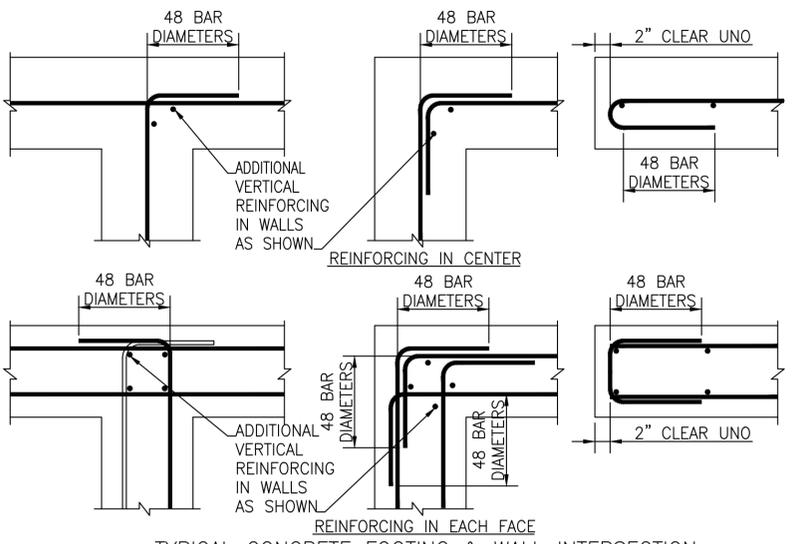


TYPICAL WALL TO WALL HORIZONTAL CONSTRUCTION JOINTS



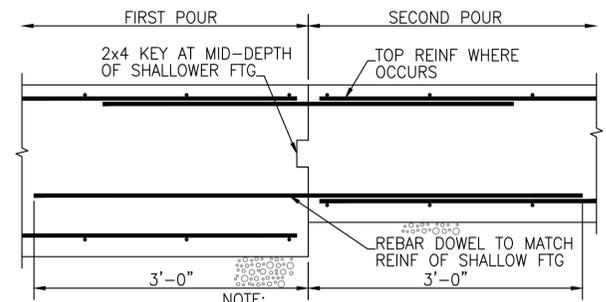
TYPICAL SLAB TO WALL HORIZONTAL CONSTRUCTION JOINTS

1 TYPICAL CONSTRUCTION JOINTS
S-005 SCALE: NONE



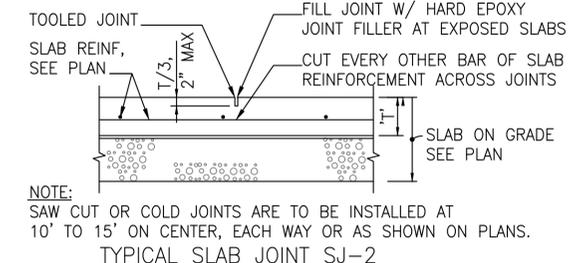
TYPICAL CONCRETE FOOTING & WALL INTERSECTION

6 TYPICAL REINFORCING INTERSECTIONS
S-005 SCALE: NONE

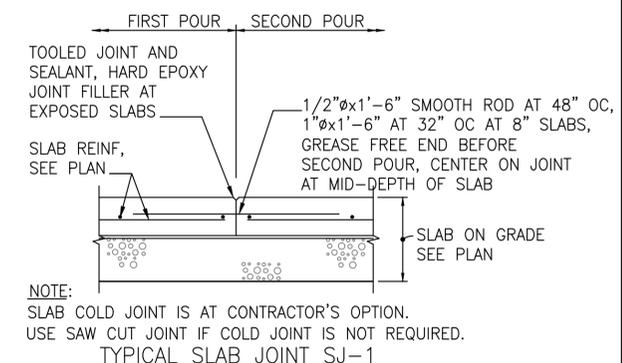


CONSTRUCTION JOINT AT FOOTING

5 TYPICAL FOOTING JOINT
S-005 SCALE: NONE



TYPICAL SLAB JOINT SJ-2

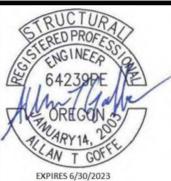


TYPICAL SLAB JOINT SJ-1

4 TYPICAL SLAB JOINTS
S-005 SCALE: NONE

NO.	DATE	BY	REVISION

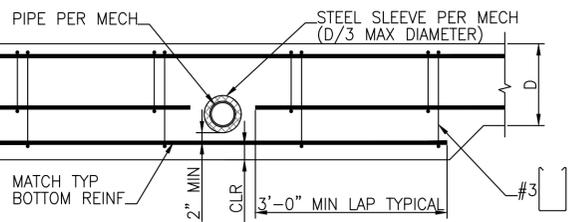
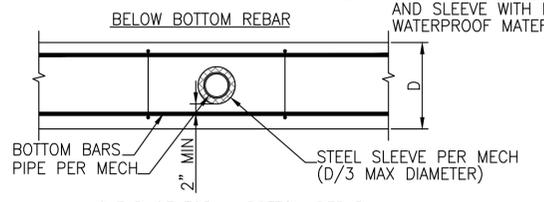
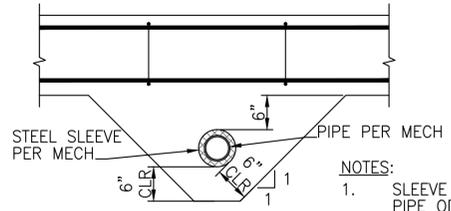
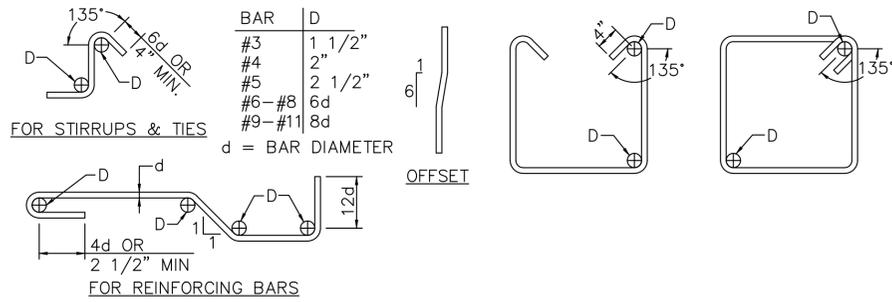
NOTICE
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE



MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

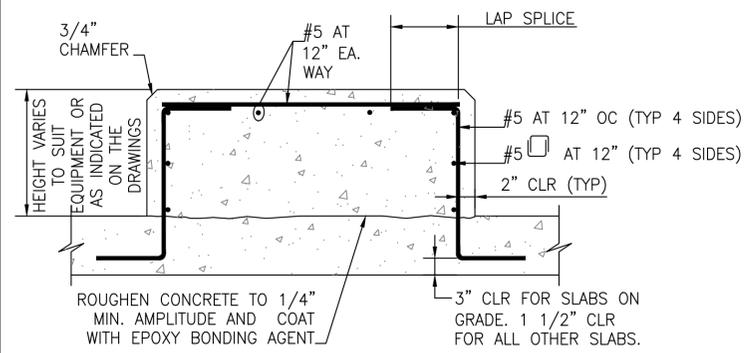
TYPICAL CONCRETE DETAILS
PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: August 2022

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TYPICAL PIPES PERPENDICULAR TO FOOTING

5 TYPICAL PIPE THROUGH FOOTINGS
SCALE: NONE



7 TYPICAL HOUSEKEEPING PAD
SCALE: NONE

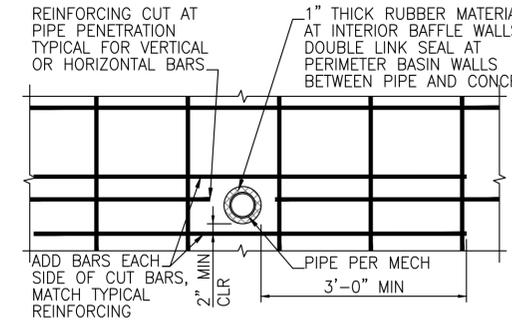
3 TYPICAL REINFORCING BENDS
SCALE: NONE

REINFORCING BAR LAP SPLICE SCHEDULE		
CONCRETE STRENGTH f'c	BAR SIZE	LAP SPLICE LENGTH
4000psi	#3	19"
	#4	26"
	#5	31"
	#6	37"
	#7	54"
	#8	62"
	#9	70"

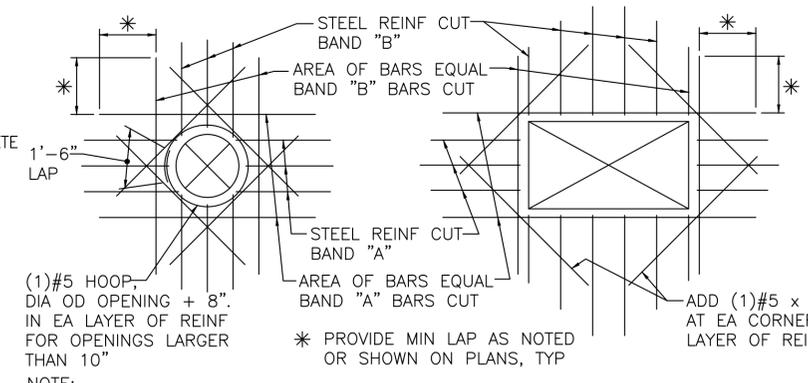
- NOTES:
1. STAGGER LAP SPLICES AT ADJACENT BARS. WHERE SPLICES CANNOT BE STAGGERED, INCREASE ABOVE VALUES BY 30%.
 2. INCREASE LAP SPLICE LENGTH BY 30% FOR EPOXY COATED REINFORCING.

4 TYPICAL REINFORCING LAPS
SCALE: NONE

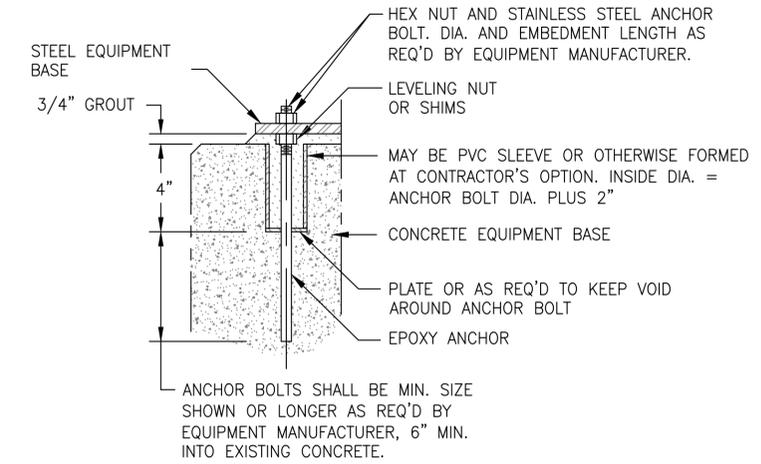
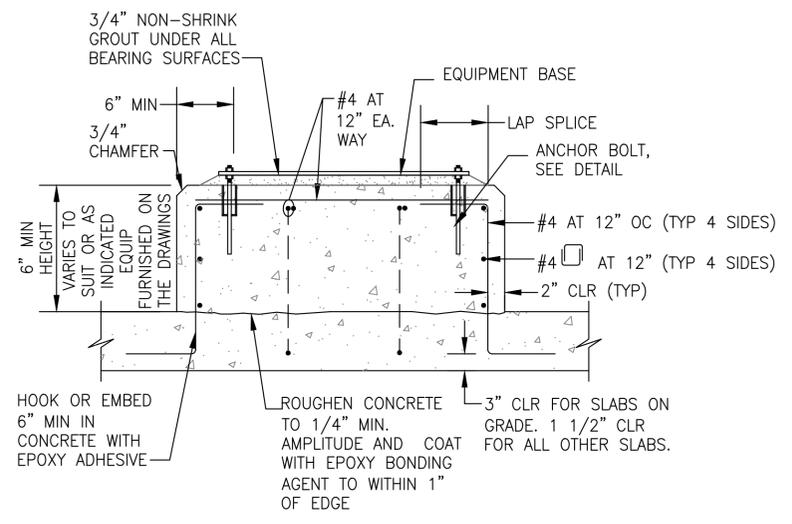
1. THE MINIMUM PAD SIZE SHALL BE AS INDICATED OR AS SHOWN ON THE DRAWINGS OR AS DETERMINED BY THE EQUIPMENT MANUFACTURER.
2. THE SIZE, NUMBER, TYPE, LOCATION AND THREAD PROJECTION OF THE ANCHOR BOLTS SHALL BE DETERMINED BY THE EQUIPMENT MANUFACTURER. HOLD CONCRETE ANCHOR BOLTS IN POSITION WITH A TEMPLATE WHILE PAD IS BEING PLACED.
3. USE ANCHOR BOLT SLEEVES TO PROVIDE THE ANCHOR BOLT A MINIMUM MOVEMENT OF 1/2" IN ALL DIRECTIONS. SLEEVES SHALL BE FILLED WITH NON-SHRINK GROUT.
4. ANCHOR BOLT SLEEVES SHALL HAVE A MINIMUM INTERNAL DIAMETER 1" GREATER AND A MAXIMUM INTERNAL DIAMETER 3" GREATER THAN ANCHOR BOLT DIAMETER.
5. EQUIPMENT BASES SHALL BE INSTALLED LEVEL U.O.N.
6. PROVIDE WEDGES OR SHIMS TO SUPPORT THE BASE WHILE THE NON-SHRINK GROUT IS PLACED. TEMPORARY LEVELING NUTS SHALL BE BACKED OFF. THE WEDGES OR SHIMS THAT REMAIN IN PLACE SHALL NOT BE EXPOSED TO VIEW.
7. WHERE CONCRETE SLAB OR BEAM THICKNESS WILL NOT ACCOMMODATE THE ANCHOR BOLT, PROVIDE EXTRA THICKNESS OF SLAB OR BEAM.
8. CONTRACTOR TO PROVIDE STRUCTURAL CALCULATIONS FOR EQUIPMENT ANCHORAGE STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF OREGON.



2 TYPICAL REINFORCING AT PIPES
SCALE: NONE



1 TYPICAL REINFORCING AT OPENINGS
SCALE: NONE



6 TYPICAL EQUIPMENT BASE
SCALE: NONE

NO.	DATE	BY	REVISION

NOTICE
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

ATG DESIGNED
ATG DRAWN
PVM CHECKED

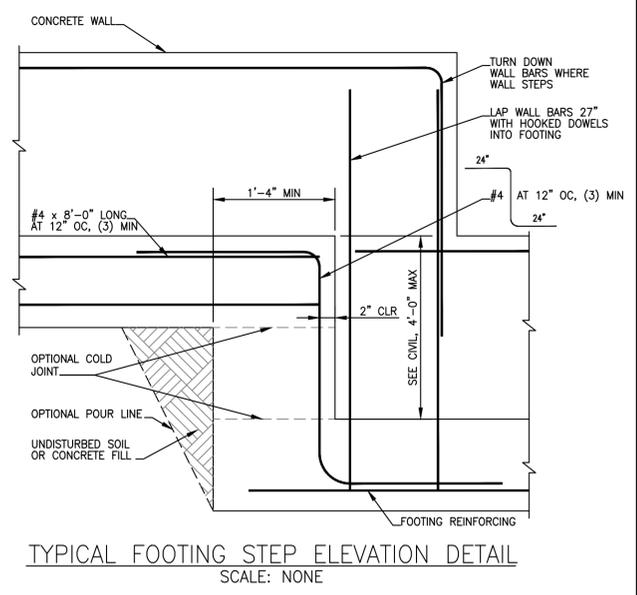
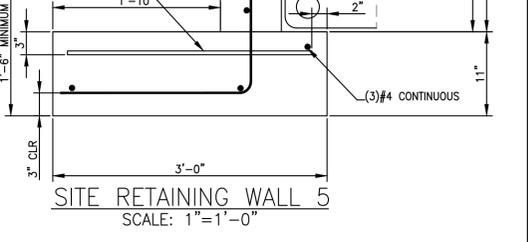
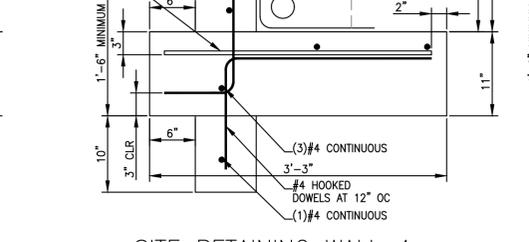
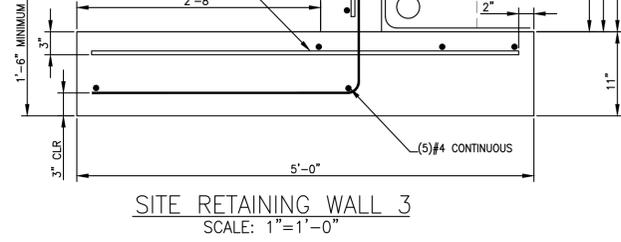
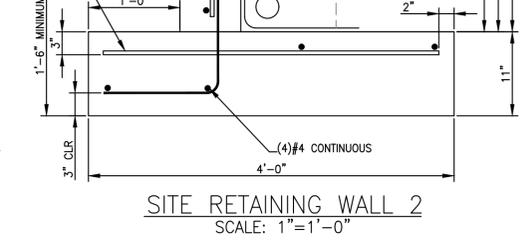
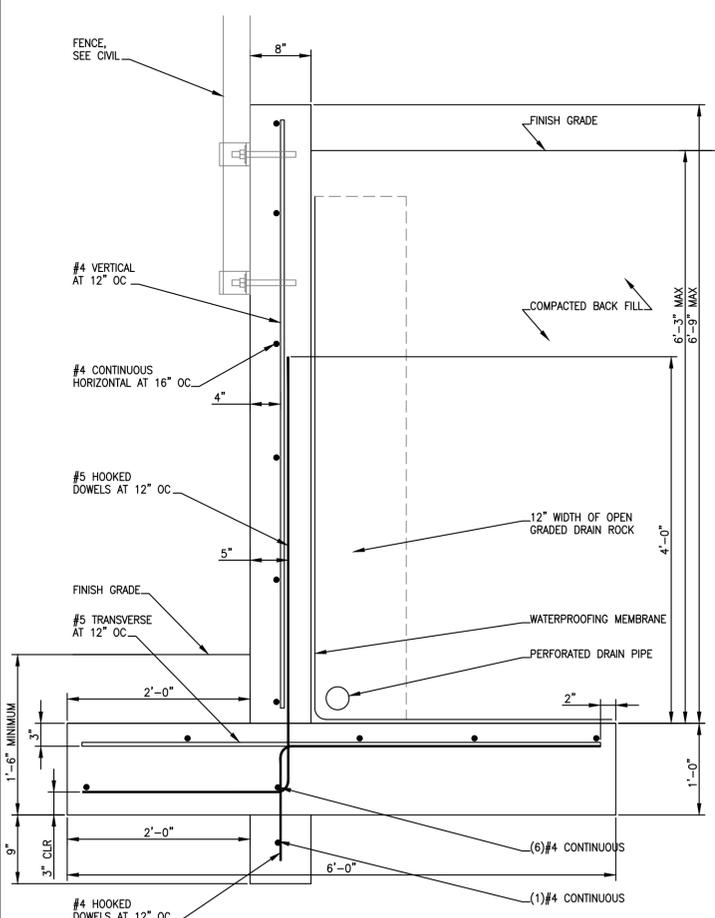
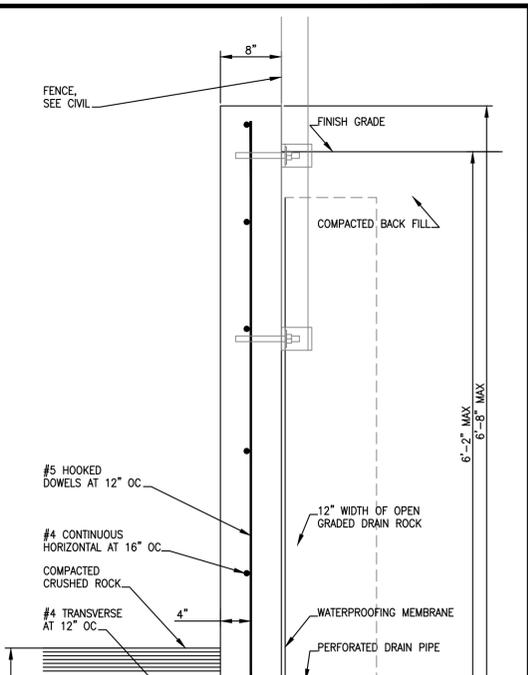
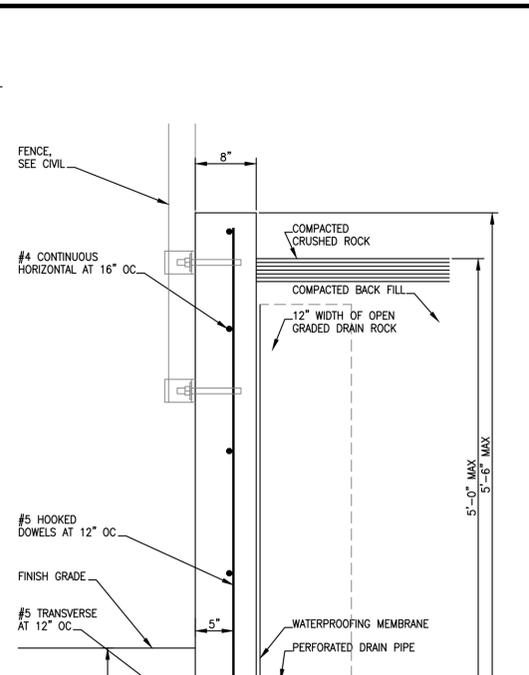
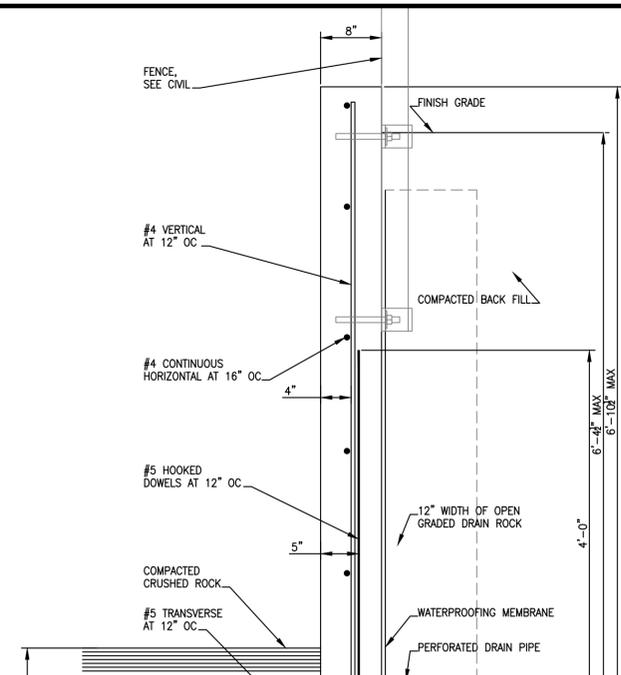
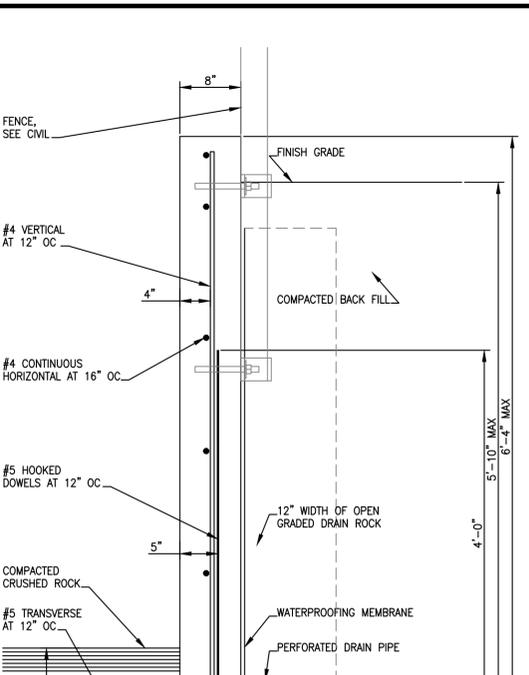
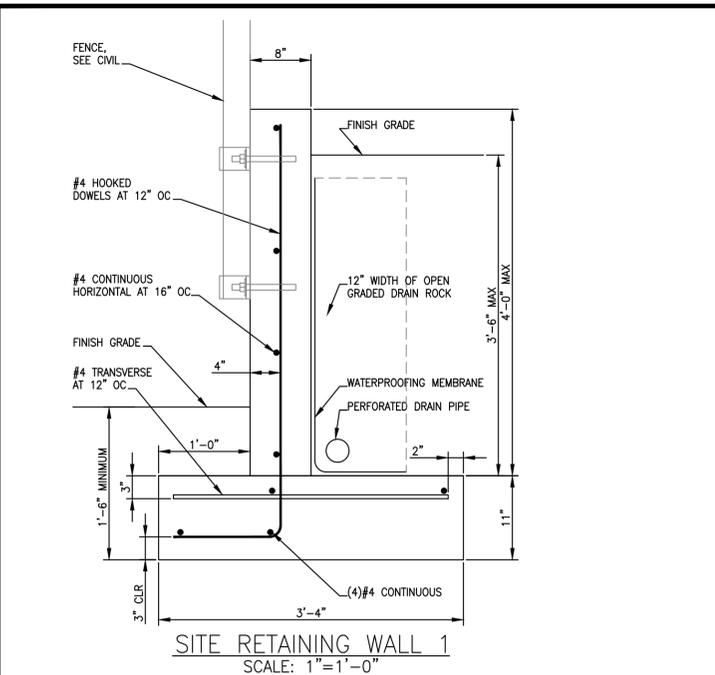


MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

TYPICAL CONCRETE REINFORCING DETAILS

PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: August 2022

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NO.	DATE	BY	REVISION

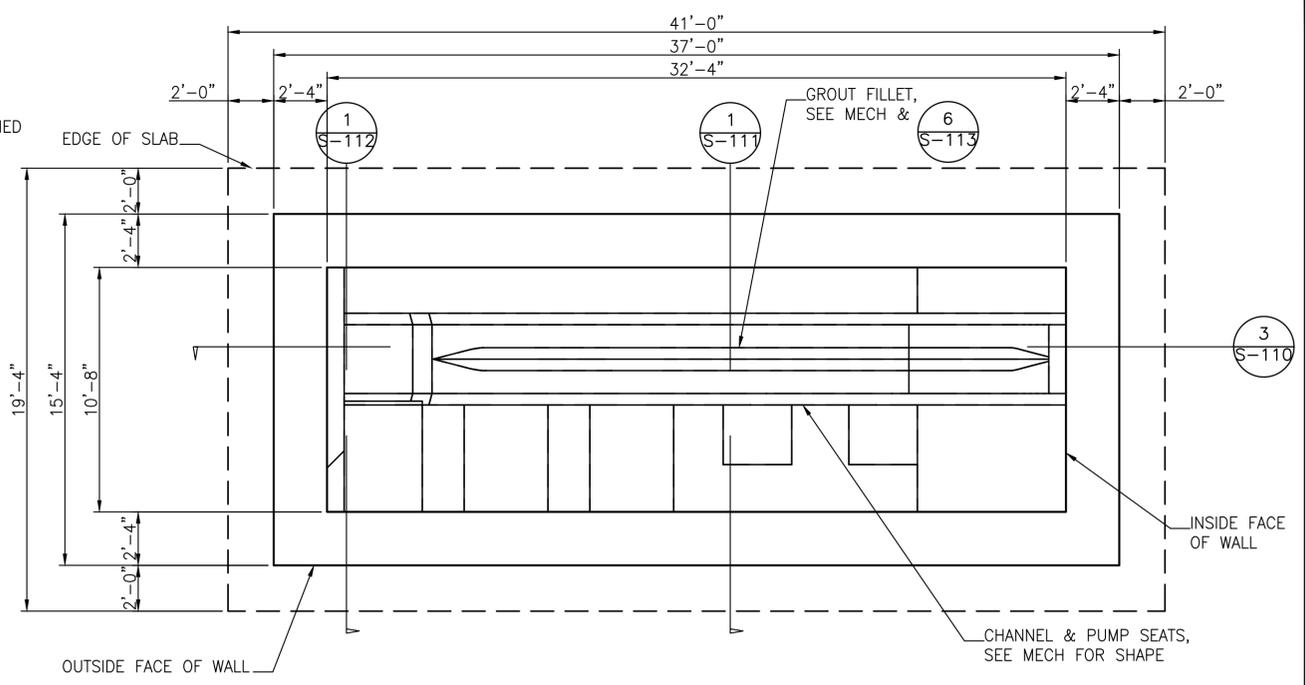
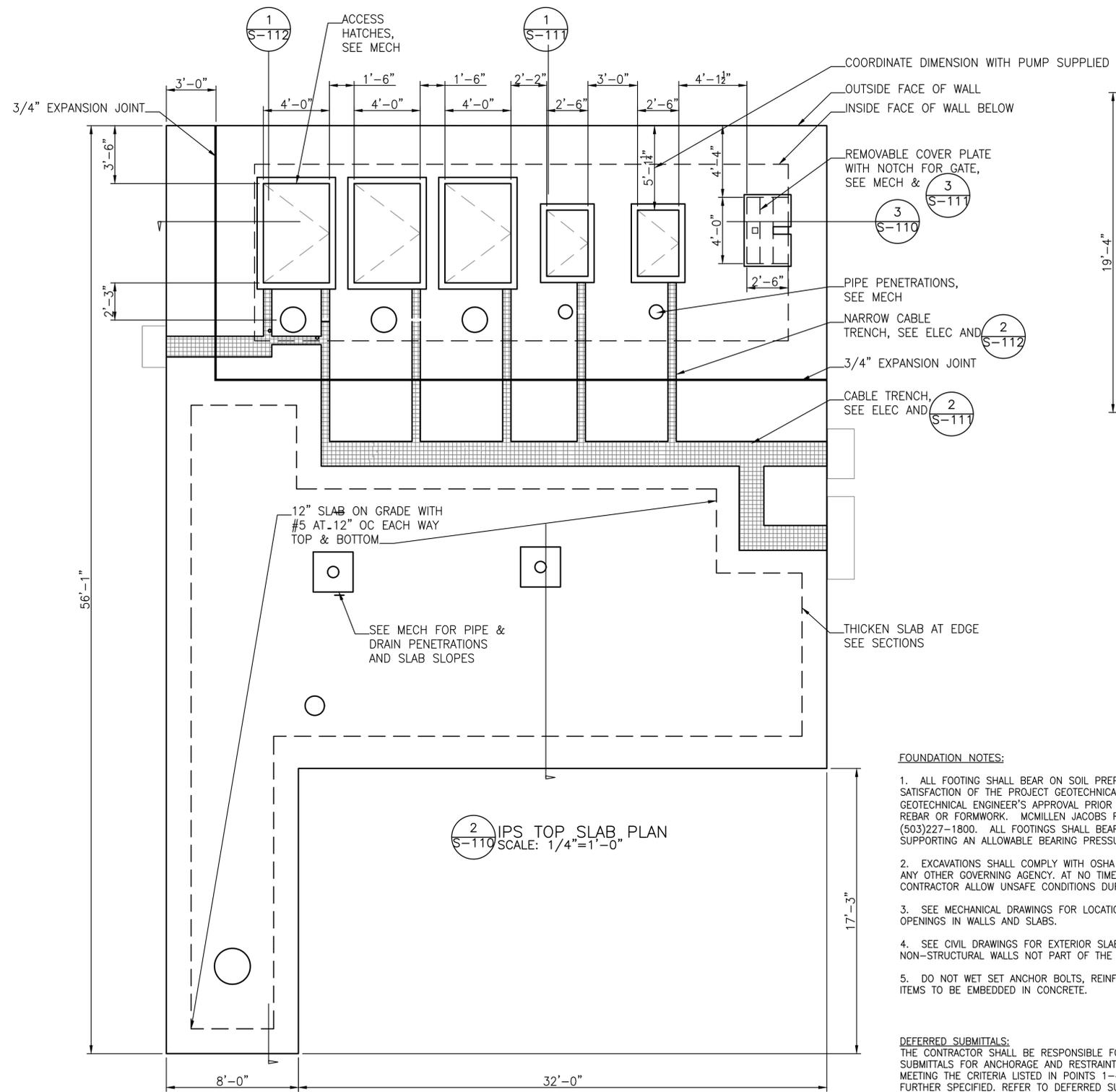
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 IF THIS BAR DOES NOT MEASURE 1\"/>

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MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

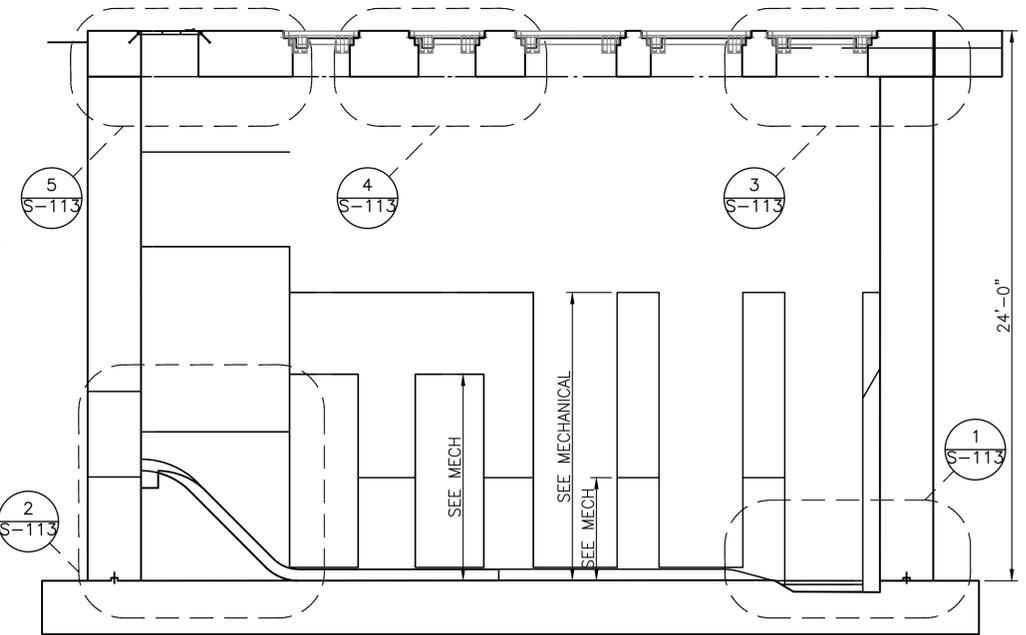
PROJECT NO.: 936-50-21-09		SCALE: AS NOTED	DATE: August 2022
SHEET		S-100	
RETAINING WALL DETAILS		50 of 135	



- FOUNDATION NOTES:**
1. ALL FOOTING SHALL BEAR ON SOIL PREPARED TO THE SATISFACTION OF THE PROJECT GEOTECHNICAL ENGINEER. OBTAIN GEOTECHNICAL ENGINEER'S APPROVAL PRIOR TO PLACING FILL, REBAR OR FORMWORK. MCMILLEN JACOBS REPORT JULY 2022, (503)227-1800. ALL FOOTINGS SHALL BEAR ON SOIL CAPABLE OF SUPPORTING AN ALLOWABLE BEARING PRESSURE OF 2000 PSF.
 2. EXCAVATIONS SHALL COMPLY WITH OSHA REQUIREMENTS AND ANY OTHER GOVERNING AGENCY. AT NO TIME SHALL THE CONTRACTOR ALLOW UNSAFE CONDITIONS DURING CONSTRUCTION.
 3. SEE MECHANICAL DRAWINGS FOR LOCATION AND DIMENSION OF OPENINGS IN WALLS AND SLABS.
 4. SEE CIVIL DRAWINGS FOR EXTERIOR SLABS, SIDEWALKS AND NON-STRUCTURAL WALLS NOT PART OF THE STRUCTURE.
 5. DO NOT WET SET ANCHOR BOLTS, REINFORCING OR OTHER ITEMS TO BE EMBEDDED IN CONCRETE.

DEFERRED SUBMITTALS:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEFERRED SUBMITTALS FOR ANCHORAGE AND RESTRAINT OF EQUIPMENT MEETING THE CRITERIA LISTED IN POINTS 1-4 BELOW AND AS FURTHER SPECIFIED. REFER TO DEFERRED SUBMITTAL LIST FOR SPECIFIC EQUIPMENT. ACCORDING TO SPECIFICATION SECTION 013300, DEFERRED SUBMITTALS MAY REQUIRE 12 OR MORE WEEKS OF REVIEW BY THE PERMITTING AGENCY, FROM CONTRACTOR SUBMISSION TO FINAL DATE OF APPROVAL.

1. 400 POUNDS OR MORE ON GROUND.
2. 75 POUNDS OR MORE SUSPENDED FROM CEILING.
3. 5 POUNDS PER FOOT OR MORE OF PIPING OR CONDUITS.
4. ALL MECHANICAL AND ELECTRICAL COMPONENT SUPPORT AND CONNECTIONS TO THE STRUCTURE UNLESS EXEMPT BY ASCE 7-16 AS MODIFIED BY THE 2019 OSSC.



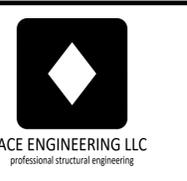
NO.	DATE	BY	REVISION

NOTICE

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DESIGNED: WJS
DRAWN: ATG
CHECKED: PVM

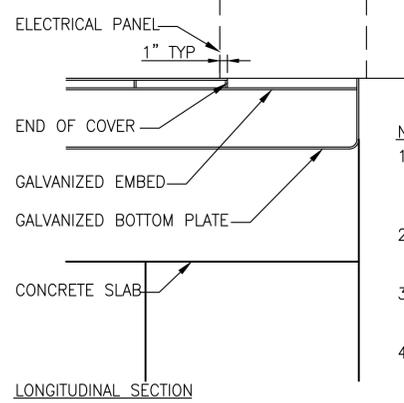


MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

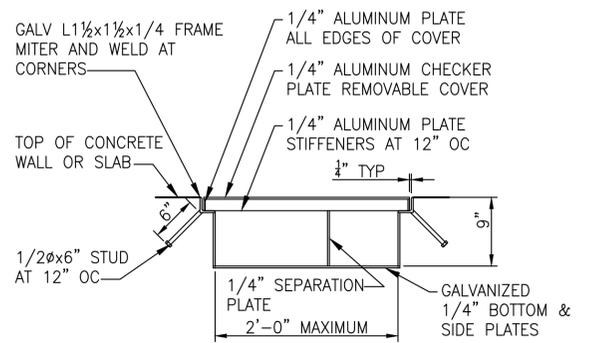
INFLUENT PUMP STATION PLANS & SECTIONS

PROJECT NO.: 936-50-21-09 SCALE: 1/4"=1'-0" DATE: August 2022

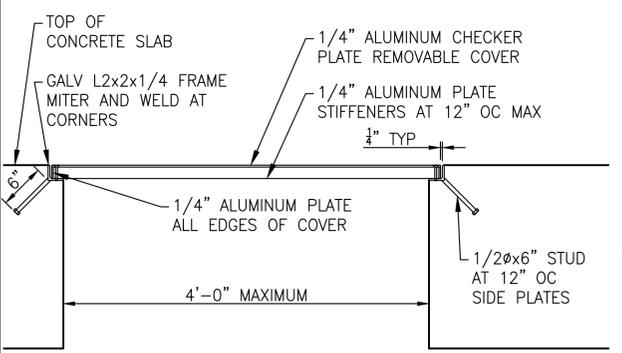
SHEET S-110 51 of 135



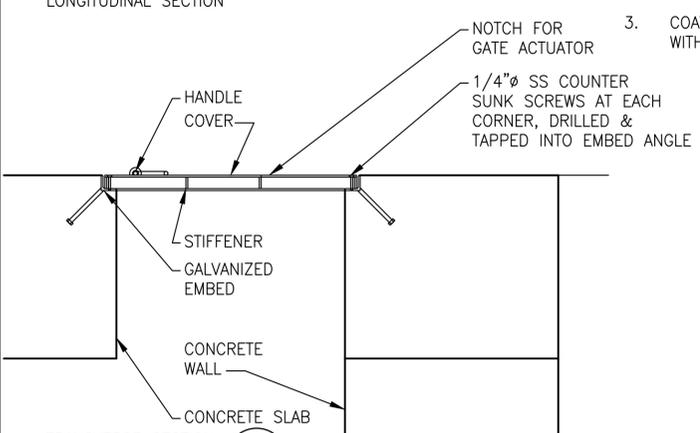
- NOTES:**
1. UNLESS OTHERWISE SPECIFIED, PROVIDE 4 FASTENERS APPROX 4" FROM THE CORNERS OF EACH PIECE OF ALUMINUM COVER.
 2. ALUMINUM COVER SHALL BE REMOVABLE, NO PIECE SHALL WEIGH MORE THAN 80 LBS.
 3. PROVIDE CONTINUOUS 1/8" FILLET WELDS AT ALL JOINTS.
 4. COAT ALL ALUMINUM SURFACE IN CONTACT WITH CONCRETE WITH BITUMASTIC SEALER.



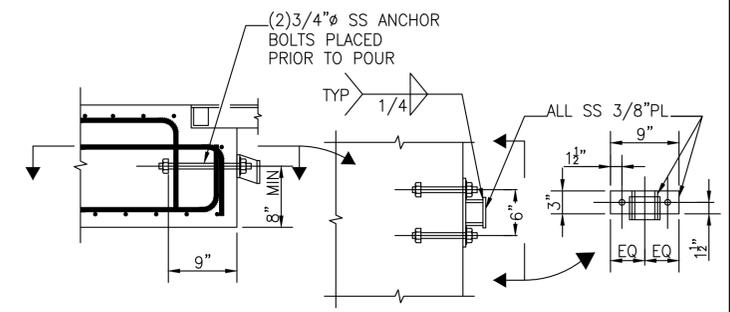
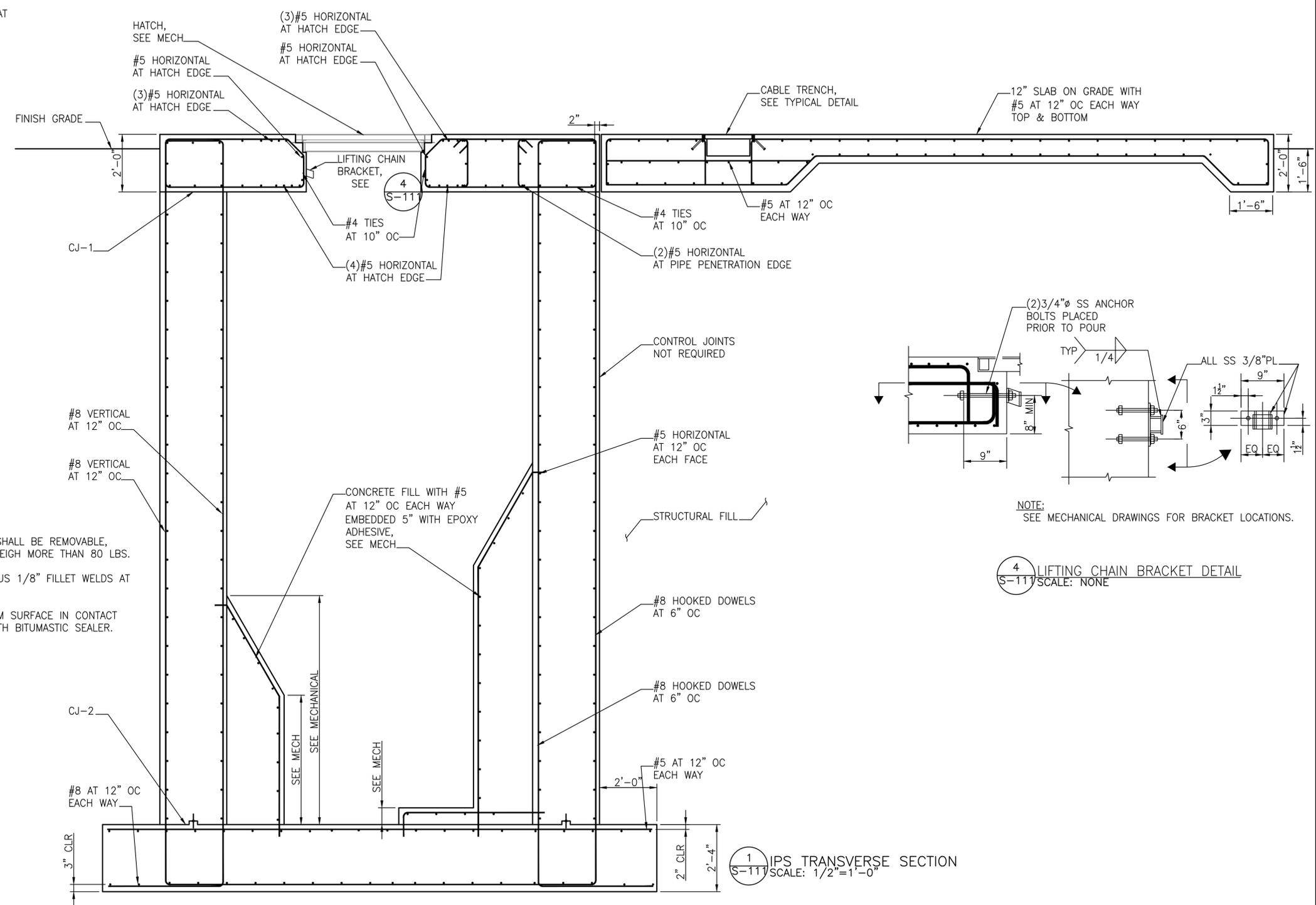
2 TYPICAL CABLE TRENCH DETAIL
S-111 SCALE: NONE



- NOTES:**
1. ALUMINUM COVER SHALL BE REMOVABLE, NO PIECE SHALL WEIGH MORE THAN 80 LBS.
 2. PROVIDE CONTINUOUS 1/8" FILLET WELDS AT ALL JOINTS.
 3. COAT ALL ALUMINUM SURFACE IN CONTACT WITH CONCRETE WITH BITUMASTIC SEALER.



3 TYPICAL REMOVABLE COVER DETAIL
S-111 SCALE: NONE



NOTE: SEE MECHANICAL DRAWINGS FOR BRACKET LOCATIONS.

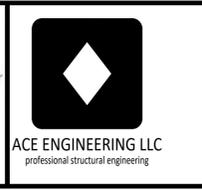
4 LIFTING CHAIN BRACKET DETAIL
S-111 SCALE: NONE

1 IPS TRANSVERSE SECTION
S-111 SCALE: 1/2" = 1'-0"

NO.	DATE	BY	REVISION

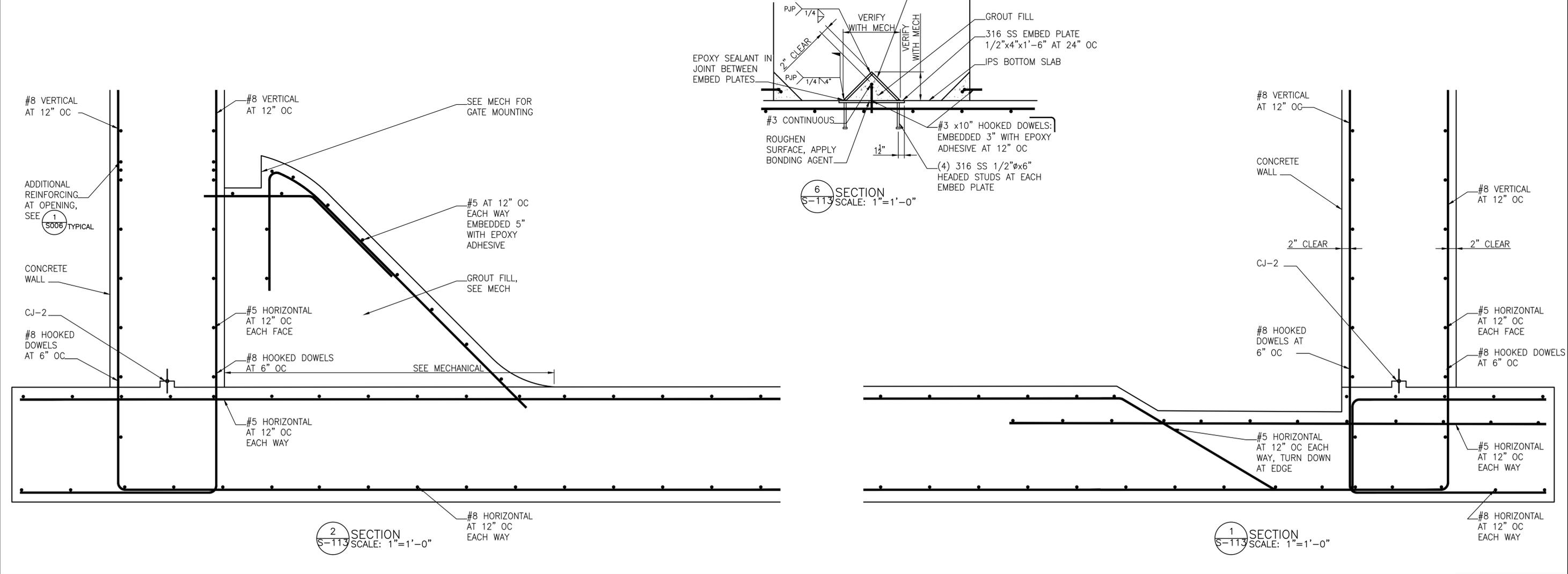
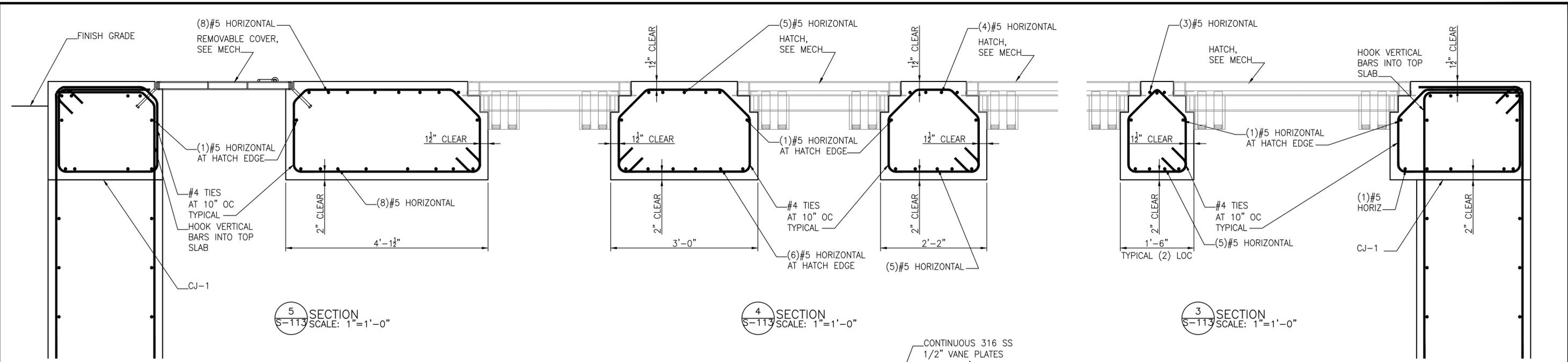
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DRAWN: ATG
CHECKED: PVM



MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

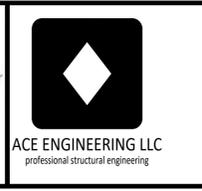
PROJECT NO.: 936-50-21-09		SCALE: AS NOTED		DATE: August 2022	
		SHEET S-111		52 of 135	



NO.	DATE	BY	REVISION

NOTICE
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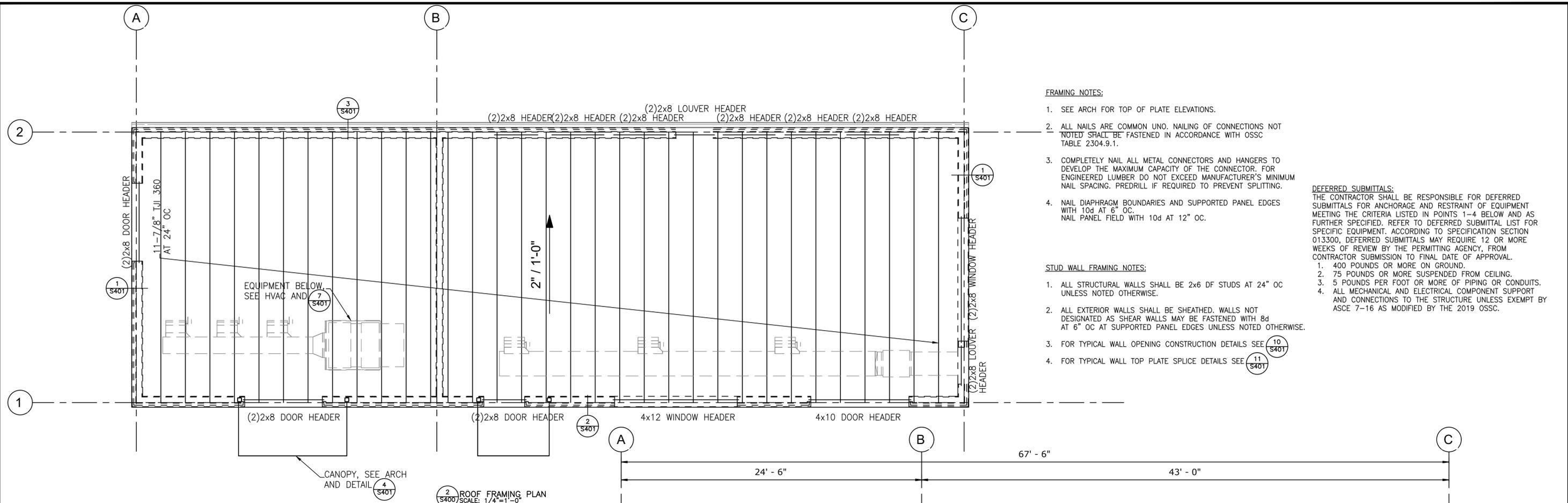
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DESIGNED
ATG
DRAWN
PVM
CHECKED



MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

INFLUENT PUMP STATION SECTIONS & DETAILS
PROJECT NO.: 936-50-21-09 SCALE: 1"=1'-0" DATE: August 2022

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FRAMING NOTES:

1. SEE ARCH FOR TOP OF PLATE ELEVATIONS.
2. ALL NAILS ARE COMMON UNO. NAILING OF CONNECTIONS NOT NOTED SHALL BE FASTENED IN ACCORDANCE WITH OSSC TABLE 2304.9.1.
3. COMPLETELY NAIL ALL METAL CONNECTORS AND HANGERS TO DEVELOP THE MAXIMUM CAPACITY OF THE CONNECTOR. FOR ENGINEERED LUMBER DO NOT EXCEED MANUFACTURER'S MINIMUM NAIL SPACING. PREDRILL IF REQUIRED TO PREVENT SPLITTING.
4. NAIL DIAPHRAGM BOUNDARIES AND SUPPORTED PANEL EDGES WITH 10d AT 6" OC. NAIL PANEL FIELD WITH 10d AT 12" OC.

DEFERRED SUBMITTALS:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEFERRED SUBMITTALS FOR ANCHORAGE AND RESTRAINT OF EQUIPMENT MEETING THE CRITERIA LISTED IN POINTS 1-4 BELOW AND AS FURTHER SPECIFIED. REFER TO DEFERRED SUBMITTAL LIST FOR SPECIFIC EQUIPMENT. ACCORDING TO SPECIFICATION SECTION 013300, DEFERRED SUBMITTALS MAY REQUIRE 12 OR MORE WEEKS OF REVIEW BY THE PERMITTING AGENCY, FROM CONTRACTOR SUBMISSION TO FINAL DATE OF APPROVAL.

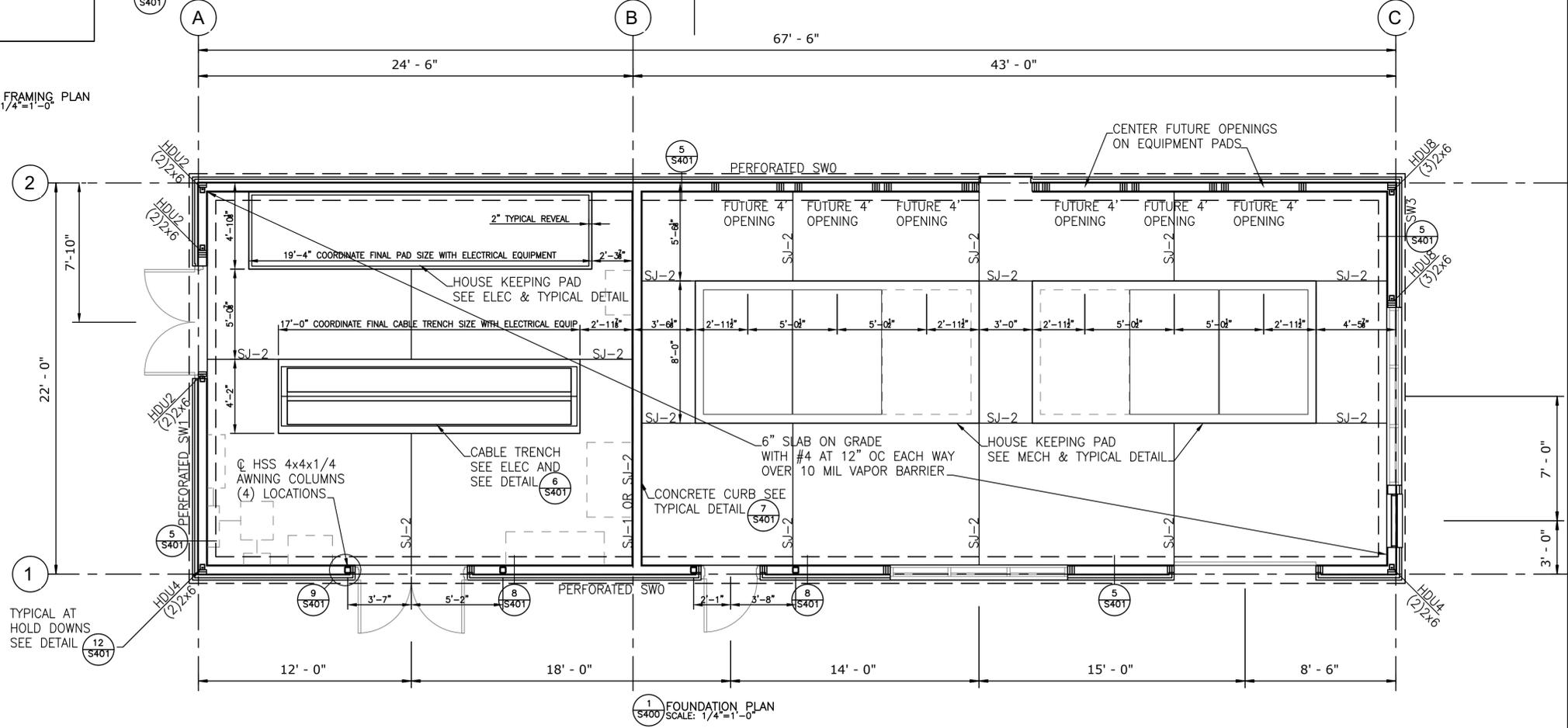
1. 400 POUNDS OR MORE ON GROUND.
2. 75 POUNDS OR MORE SUSPENDED FROM CEILING.
3. 5 POUNDS PER FOOT OR MORE OF PIPING OR CONDUITS.
4. ALL MECHANICAL AND ELECTRICAL COMPONENT SUPPORT AND CONNECTIONS TO THE STRUCTURE UNLESS EXEMPT BY ASCE 7-16 AS MODIFIED BY THE 2019 OSSC.

STUD WALL FRAMING NOTES:

1. ALL STRUCTURAL WALLS SHALL BE 2x6 DF STUDS AT 24" OC UNLESS NOTED OTHERWISE.
2. ALL EXTERIOR WALLS SHALL BE SHEATHED. WALLS NOT DESIGNATED AS SHEAR WALLS MAY BE FASTENED WITH 8d AT 6" OC AT SUPPORTED PANEL EDGES UNLESS NOTED OTHERWISE.
3. FOR TYPICAL WALL OPENING CONSTRUCTION DETAILS SEE 10 S401
4. FOR TYPICAL WALL TOP PLATE SPLICE DETAILS SEE 11 S401

FOUNDATION NOTES:

1. ALL FOOTING SHALL BEAR ON SOIL PREPARED TO THE SATISFACTION OF THE PROJECT GEOTECHNICAL ENGINEER. OBTAIN GEOTECHNICAL ENGINEER'S APPROVAL PRIOR TO PLACING FILL, REBAR OR FORMWORK. MCMILLEN JACOBS REPORT JULY 2022, (503)227-1800. ALL FOOTINGS SHALL BEAR ON SOIL CAPABLE OF SUPPORTING AN ALLOWABLE BEARING PRESSURE OF 2000 PSF.
2. EXCAVATIONS SHALL COMPLY WITH OSHA REQUIREMENTS AND ANY OTHER GOVERNING AGENCY. AT NO TIME SHALL THE CONTRACTOR ALLOW UNSAFE CONDITIONS DURING CONSTRUCTION.
3. SEE ARCHITECTURAL DRAWINGS FOR LOCATION AND DIMENSION OF WALL OPENINGS.
4. SEE ARCHITECTURAL AND CIVIL DRAWINGS FOR EXTERIOR SLABS AND NON-STRUCTURAL WALLS NOT PART OF THE STRUCTURE.
5. DO NOT WET SET ANCHOR BOLTS, REINFORCING OR OTHER ITEMS TO BE EMBEDDED IN CONCRETE OR STRUCTURAL MASONRY.



SHEAR WALL SCHEDULE						
SYMBOL	SHEATHING	EDGE NAILING (EN)	FIELD NAILING (FN)	RIM OR BLOCKING CONNECTION	1/2" # ANCHOR BOLT SPACING	NOTES:
SW0	1 SIDE CDX	8d AT 6" OC	8d AT 12" OC	10d TOE NAILS AT 6" OC	48" OC	UNBLOCKED
SW1	1 SIDE CDX	8d AT 6" OC	8d AT 12" OC	10d TOE NAILS AT 6" OC	48" OC	2x FRAMING & BLOCKING AT ALL PANEL EDGES
SW3	1 SIDE CDX	8d AT 3" OC	8d AT 12" OC	10d TOE NAILS AT 3" OC	20" OC	3x FRAMING & BLOCKING AT ADJOINING PANEL EDGES

- NOTES:**
1. ALL NAILS SHALL BE COMMON OR GALVANIZED BOX AND HAVE 1 1/2" PENETRATION MINIMUM. COMMON: 8d=0.131", 10d=0.148", 16d=0.162". GALVANIZED BOX: 8d=0.113", 10d=0.128", 16d=0.135".
 2. PROVIDE SHEAR WALL SHEATHING CONTINUOUS BETWEEN HOLD DOWNS, UNLESS SPECIFICALLY DETAILED.
 3. PROVIDE EDGE NAILING FULL HEIGHT TO POSTS, JAMB STUDS, TRIMMER STUDS AND STUDS WHICH HOLD DOWNS ARE FASTENED TO. PROVIDE EDGE NAILING CONTINUOUSLY TO ALL WALL TOP AND SILL PLATES.
 4. ALL ANCHOR BOLTS WITHIN SHEAR WALL ZONE SHALL INCLUDE 3/16"x3"x3" PLATE WASHERS. ANCHOR BOLTS SHALL BE LOCATED WITHIN 12" OF END OF EACH SILL PIECE AND AS NOTED.

NO.	DATE	BY	REVISION

NOTICE

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STRUCTURAL REGISTERED PROFESSIONAL ENGINEER

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OREGON

JANUARY 14, 2003

ALLAN T. GORFE

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MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

MAIN ELECTRICAL & BLOWER BUILDING FOUNDATION & ROOF FRAMING PLANS

PROJECT NO.: 936-50-21-09 SCALE: 1/4"=1'-0" DATE: August 2022

SHEET

S-400

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GENERAL MECHANICAL NOTES

- THE MECHANICAL DRAWINGS SHOW ONLY GENERAL ARRANGEMENTS FOR THE PIPING AND EQUIPMENT AND DO NOT INCLUDE ALL THE PIPING LOGIC, VALVES, INSTRUMENTS, CONTROL DEVICES, AND APPURTENANCES THAT ARE INCLUDED IN THE PROCESS AND INSTRUMENTATION DIAGRAMS OR REQUIRED BY THE SPECIFICATIONS. CONTRACTOR SHALL PROVIDE ALL PIPING, EQUIPMENT, AND APPURTENANT DEVICES, INCLUDING ALL THAT ARE INDICATED IN EITHER THE MECHANICAL DRAWINGS, PROCESS AND INSTRUMENTATION DIAGRAMS, OR THE SPECIFICATIONS TO PROVIDE COMPLETE PROCESS SYSTEMS.
- EQUIPMENT AND PIPING COORDINATION AND INSTALLATION DRAWINGS ARE REQUIRED. SEE DIVISION 40 SPECIFICATIONS. THE CIVIL, YARD PIPING, AND MECHANICAL DRAWINGS SHOW ADDITIONAL PIPING DETAILS.
- PIPE SUPPORTS AND SEISMIC RESTRAINTS SHALL BE PROVIDED PER THE MECHANICAL DETAILS AND THE SPECIFICATIONS. AT LOCATIONS WHERE SPECIFIC TYPES OF SUPPORTS OR SEISMIC RESTRAINTS ARE INDICATED, PROVIDE THE INDICATED TYPES. AT LOCATIONS WHERE SUPPORTS OR SEISMIC RESTRAINTS ARE REQUIRED BUT NO SPECIFIC TYPES ARE INDICATED, SELECT AND PROVIDE SUPPORTS AND RESTRAINTS IN ACCORDANCE WITH DETAILS ON DRAWINGS M-001 - M-003. SUPPORTS AND RESTRAINTS SHALL BE SUBMITTED FOR REVIEW AS PART OF THE EQUIPMENT AND PIPING COORDINATION AND INSTALLATION DRAWINGS.
- THE NUMBER OF PIPE SUPPORTS SHOWN IN THE DRAWINGS IS THE MINIMUM. PROVIDE CALCULATIONS SHOWING THE REQUIRED SIZE AND SPACING OF ALL PIPE SUPPORTS.
- PIPE PENETRATIONS THROUGH STRUCTURE WALLS, FLOOR, AND CEILINGS SHALL BE PROVIDED AS SHOWN ON DRAWING M-004 UNLESS OTHERWISE INDICATED.

GENERAL PIPE SUPPORT NOTES

- WHERE NO REFERENCE TO PIPE SUPPORT SYSTEMS IS GIVEN ON THE DRAWINGS, USE APPROPRIATE SYSTEM. SEE TABLE B, THIS DRAWING. PIPE AND CONDUIT SUPPORT SYSTEMS SHALL BE DESIGNED TO MEET THE MINIMUM LOAD AND SPAN REQUIREMENTS SPECIFIED.
- UNLESS OTHERWISE SPECIFIED, HANGERS, ATTACHMENTS AND SUPPORTS SHALL BE TYPE 316 STAINLESS STEEL. NUTS, BOLTS AND WASHERS SHALL BE TYPE 316 STAINLESS STEEL.
- UNLESS OTHERWISE SPECIFIED, EXPANSION ANCHORS SHALL NOT BE USED WITHOUT PRIOR APPROVAL BY THE ENGINEER.
- MSS REFERS TO THE MANUFACTURERS STANDARDIZATION SOCIETY OF THE VALVE AND FITTINGS INDUSTRY, STANDARD PRACTICE SP58 AND SP69.
- HANGER BRACKETS AND SUPPORT COMPONENTS MAY BE INTERCHANGED.
- CONCRETE INSERTS IN AREAS BELOW WATER SURFACE OR NORMALLY SUBJECT TO SUBMERGENCE SHALL BE EMBEDDED ANCHOR BOLTS, EPOXY ANCHORS, OR EQUAL.
- PROVIDE PLASTIC OR RUBBER CHANNEL END CAPS AT EXPOSED ENDS OF CHANNELS 7'-0 OR LESS ABOVE FLOOR.
- MAXIMUM DESIGN WEIGHTS AND LOADS SHALL BE AS SHOWN IN TABLE A OR AS SHOWN IN DETAILS ON THIS DRAWING.
- WHEN SUPPORTING PIPING REQUIRES HORIZONTAL FLEXIBILITY NORMAL TO A STEEL BEAM'S AXIS, USE STRUCTURAL ATTACHMENTS C AND D AS SHOWN ON DRAWING M-003. TYPE F ON DRAWING M-003 SHALL BE USED FOR PARALLEL FLEXIBILITY.
- ALL PIPING SUPPORTED BY HANGERS AND/OR STRUCTURAL ATTACHMENTS SHALL BE BRACED AGAINST HORIZONTAL, VERTICAL, AXIAL, AND LONGITUDINAL SWAY. BRACINGS SHALL BE CALCULATED TO RESIST SEISMIC LOADINGS AS SPECIFIED BY SMACNA AND AS INDICATED IN THE SPECIFICATIONS.
- FITTINGS SHALL NOT BE LESS THAN MSS CL B.
- UNLESS OTHERWISE SPECIFIED, TRAPEZE AND PIPE RACK COMPONENTS SHALL HAVE A MINIMUM STEEL THICKNESS OF 12 GAGE WITH A MAXIMUM DEFLECTION $\frac{1}{240}$ OF THE SPAN. MINIMUM CHANNEL COMPONENT SIZE SHALL BE 1 $\frac{1}{2}$ " SQUARE AS MANUFACTURED BY SUPER STRUT, UNISTRUT, ELCEN, OR EQUAL.
- FOR STRUCTURAL ATTACHMENTS, SEE DWG M-003.
- NOT ALL PIPE HANGERS ARE USED IN THESE CONTRACT DRAWINGS.
- DESIGN ANCHOR BOLTS OR CHEMICAL ANCHORS FOR ALL PIPE SUPPORTS AND SEISMIC RESTRAINTS AS SPECIFIED IN DIVISION 5, DIVISION 40, AND SECTIONS U1 61 10 AND U1 61 11. IF ANCHOR BOLT SIZES AND/OR EMBEDMENTS ARE INDICATED ON DETAILS, THESE ARE THE MINIMUM REQUIREMENTS. PROVIDE CALCULATIONS AS SPECIFIED IN SECTION 01612.

SEISMIC BRACING NOTES

- ALL PIPES SHALL BE BRACED TO RESIST LATERAL AND LONGITUDINAL SEISMIC LOADS IN ACCORDANCE WITH DIVISION 40 SPECIFICATIONS.
- SEE TABLE C FOR MAXIMUM SPACING AND PIPE SIZES
- SEE TABLE D FOR ACCEPTABLE PIPE HANGERS
- PROVIDE $\frac{1}{8}$ " THICK NEOPRENE ISOLATION BETWEEN COPPER PIPING AND HANGERS

TABLE A

HANGER & SUPPORT SPACING AND ALLOWABLE ROD LOADS						
NOMINAL PIPE SIZE (INCHES)	SUPPORT ROD SIZE & MAXIMUM LOAD PER ROD, SEE NOTE 2		MAXIMUM PIPE SPAN (FEET), SEE NOTE 3			
	ROD SIZE (INCHES)	MAXIMUM LOAD (POUNDS)	STEEL	COPPER	PLASTIC, SEE NOTE 4 CONTINUOUS	CAST IRON, SEE NOTE 5
$\frac{3}{8}$ to $\frac{3}{4}$	$\frac{3}{8}$	610	5	5	5	-
1	$\frac{3}{8}$	610	5	5	5	-
$1\frac{1}{4}$	$\frac{3}{8}$	610	5	5	5	-
$1\frac{1}{2}$	$\frac{3}{8}$	610	5	5	5	-
2	$\frac{3}{8}$	610	10	5	5	12 FEET FOR PRESSURE PIPE 10 FEET FOR SOIL PIPE
$2\frac{1}{2}$	$\frac{3}{8}$	610	10	10	5	
3	$\frac{3}{8}$	610	10	20	5	
4	$\frac{3}{8}$	1130	10	20	5	
6	$\frac{5}{8}$	1810	15	20	5	
8	$\frac{3}{4}$	2710	15	20	5	
10	$\frac{3}{4}$	2710	20	-	5	
12	$\frac{7}{8}$	3770	20	-	10	
14	1	4960	20	-	-	
16	1	4960	20	-	-	
18	1	4960	20	-	-	
20	$1\frac{1}{4}$	8000	20	-	-	
24	$1\frac{1}{4}$	8000	20	-	-	

- TABLE A NOTES:**
- DESIGN WEIGHT SHALL BE TWICE THE WEIGHT OF THE PIPE FULL OF WATER PLUS THE WEIGHTS OF VALVES, FITTINGS, INSULATING MATERIALS AND SUSPENDED HANGER COMPONENTS ON THE RUN OF PIPE BEING SUPPORTED.
 - ROD SIZES SHOWN ARE FOR THE SUPPORT OF A SINGLE PIPE. WHEN SUPPORTING MORE THAN ONE PIPE, ROD SHALL BE SIZED USING THE DESIGN WEIGHTS (SEE NOTE 1) TO DETERMINE THE TOTAL DESIGN LOAD. THE TOTAL DESIGN LOAD SHALL NOT EXCEED THE MAXIMUM LOADS IN THE TABLE.
 - PIPE SHALL NOT HAVE POCKETS FORMED IN THE SPAN DUE TO SAGGING OF THE PIPE BETWEEN SUPPORTS CAUSED BY THE WEIGHT OF THE PIPE, MEDIUM IN THE PIPE, INSULATION, VALVES AND FITTINGS.
 - SPAN SHOWN IS FOR SCHEDULE 80 PVC PIPE AT 100'F. SPANS FOR OTHER PLASTICS, OTHER PVC PIPE SCHEDULES AND PIPES AT HIGHER TEMPERATURES SHALL BE SHORTENED IN ACCORDANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATIONS. "CONTINUOUS" MEANS PIPE SHALL BE IN UNISTRUT OR SIMILAR CHANNEL.
 - PROVIDE A MINIMUM OF ONE PIPE HANGER PER PIPE LENGTH, WITHIN 4-INCHES OF THE BELL.
 - PIPE HANGER & SUPPORT SELECTION SHALL BE IN ACCORDANCE WITH TABLE B AND DIVISION 40 SPECIFICATIONS.

TABLE B

HANGER & SUPPORT SELECTION											
SYSTEM TEMP RANGE °F	INSULATION SEE NOTE 1	PIPE ATTACHMENT DETAIL NOS.						BUILDING STRUCTURAL ATTACHMENT TYPES			
		HORIZONTAL			VERTICAL			INSERTS	BEAM CLAMPS	WELDED & BOLTED ATTACHMENTS	BRACKET
		STRAPS	BANDS	CLAMPS	TRAPEZES & RACKS	STANCHIONS	SST RISER CLAMPS				
HOT A-1 120-450	COVERED	13	1,2	3	20	10,10A	11,12	A	C,D	J,M	B,G,H,K
	BARE	6.7 13	1,2	3	20	10,10A					
AMBIENT B 60-119	COVERED	13	1,2	3	20	9,10,10A	11,12	A	C,D	J,M	B,G,H,K
	BARE	6.7 13	1,2	3	20	9,10,10A					
COLD C-1 33-59	COVERED	13	1,2,3	3	20	10,10A	11,12	A	C,D	J,M	B,G,H,K
	BARE	6.7 13	1,2,3	3	20	10,10A					

- TABLE B NOTES:**
- HANGERS ON INSULATED SYSTEMS SHALL INCORPORATE THERMAL HANGER SHIELDS
 - HANGER & SUPPORT SPACING SHALL BE IN ACCORDANCE WITH TABLE A.
 - TYPE 6 AND TYPE 7 HANGERS: FOR COPPER PIPE, SECURE A $\frac{1}{8}$ " THICK NEOPRENE STRIP TO FRAMING CHANNEL WITH A COMPATIBLE WATERPROOF ADHESIVE.
 - TYPE 6 HANGER: DO NOT USE FOR HORIZONTAL PIPES LARGER THAN 2" WHEN FRAMING CHANNEL IS MOUNTED VERTICALLY
 - PROVIDE SAFETY END CAPS TO ALL FRAMING CHANNELS

TABLE C

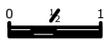
PIPE SPAN FOR SEISMIC BRACING		
NORMAL PIPE SIZES (INCHES)	MAXIMUM PIPE SPAN (FEET)	ROD SIZE (INCHES)
2	15	$\frac{3}{8}$
$2\frac{1}{2}$	15	$\frac{3}{8}$
3	15	$\frac{3}{8}$
4	15	$\frac{3}{8}$
6	20	$\frac{1}{2}$
8	20	$\frac{5}{8}$
10	30	$\frac{1}{2}$
12	30	1
14	30	1
16	35	1
18	35	1

TABLE D

HANGER TEMPERATURE & MATERIALS FOR SEISMIC BRACING												
X INDICATES PIPE HANGERS SUITABLE FOR SEISMIC BRACING AT CONDITIONS LISTED BELOW	SEE DWG M003 FOR PIPE HANGER TYPE											
	1	2	3	6	7	9	10	11	13			
- SERVICE TEMPERATURE -												
33°-59°F INSULATED			X			X		X				
120°-450°F UNINSULATED	X	X	X	X	X	X	X	X	X	X	X	X
60°-119°F	X	X	X	X	X	X	X	X	X	X	X	X
- PIPING MATERIALS -												
STEEL	X	X	X	X	X	X	X	X	X	X	X	X
COPPER		X		X	X							X
PLASTIC	X	X		X	X						X	X
CAST IRON	X	X		X	X				X	X	X	X

NO.	DATE	BY	REVISION

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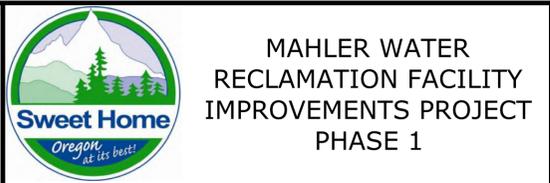
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MECHANICAL DETAILS 1

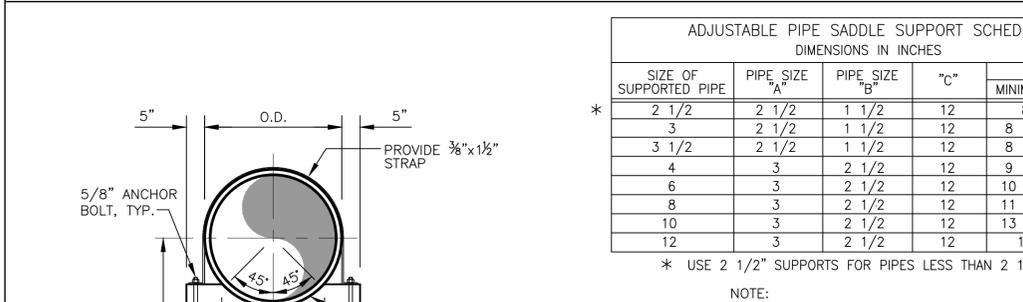
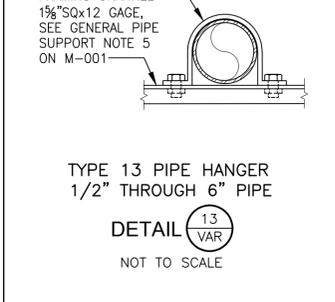
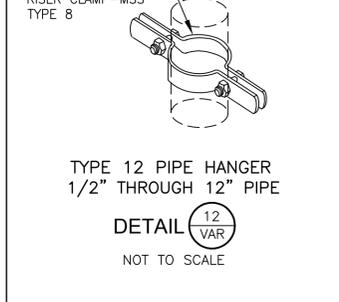
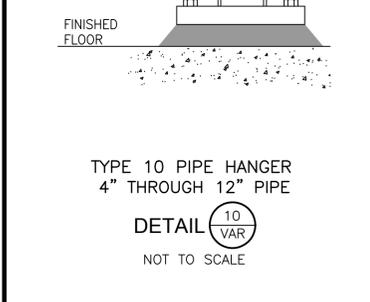
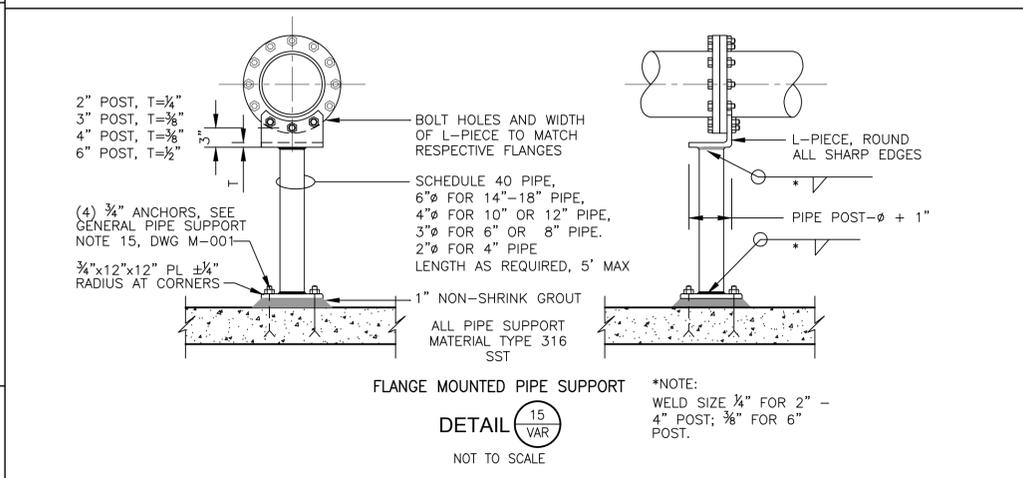
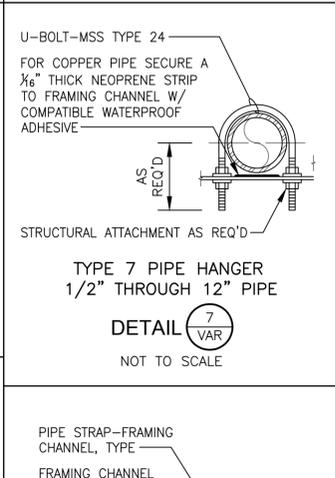
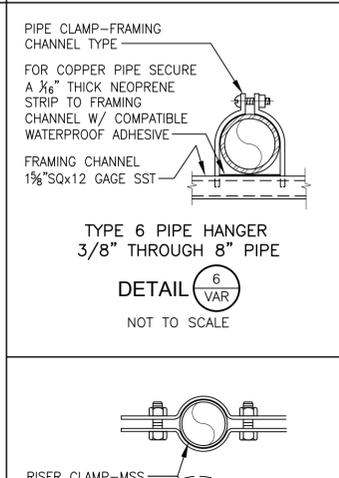
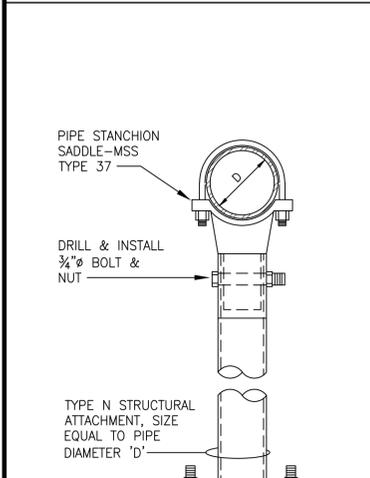
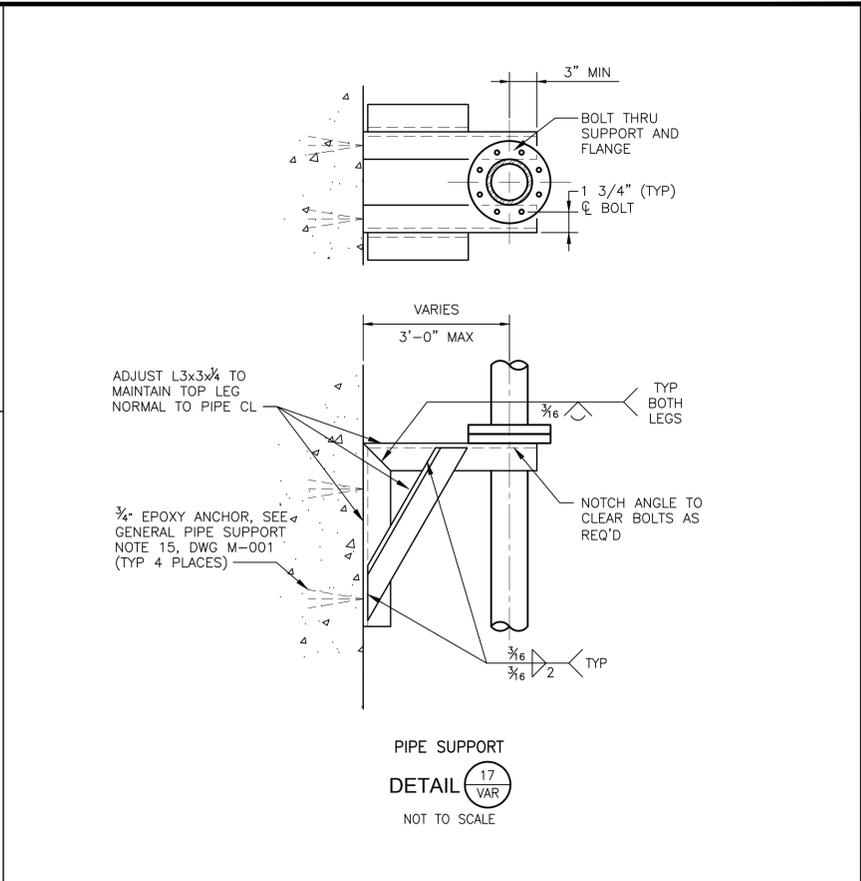
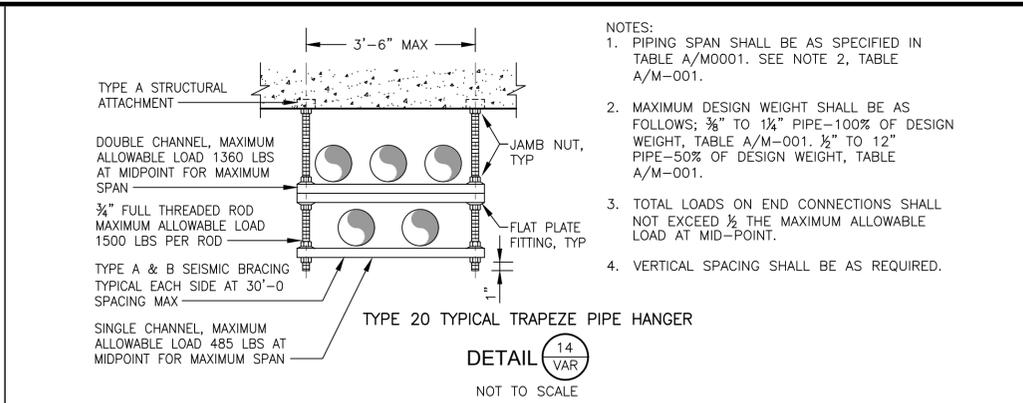
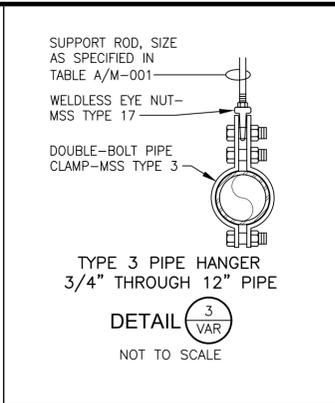
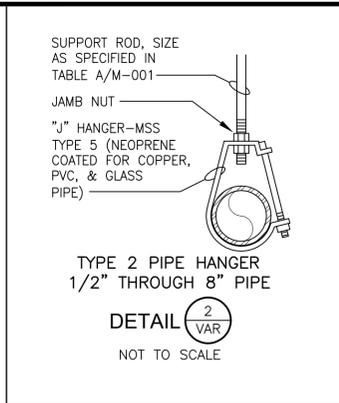
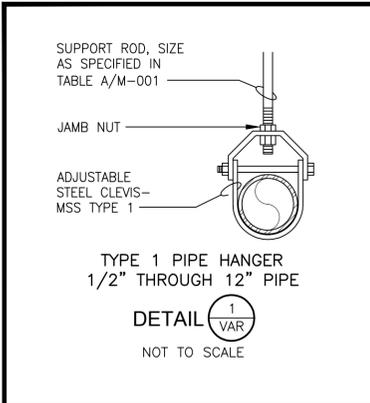
PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: AUGUST 2022

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M-001

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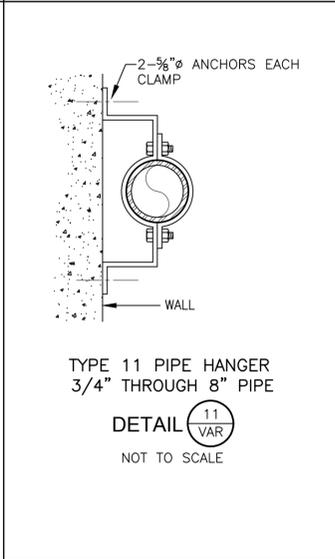
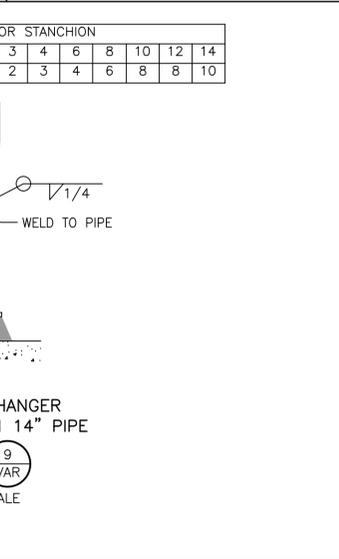
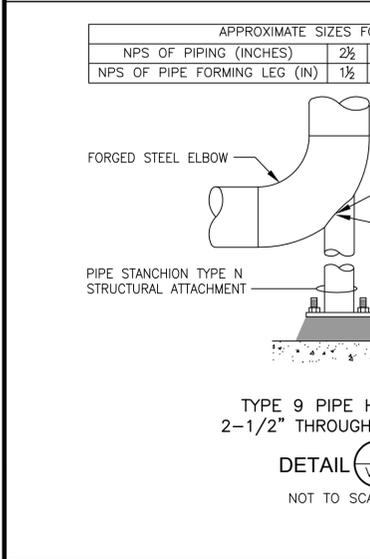


ADJUSTABLE PIPE SADDLE SUPPORT SCHEDULE
DIMENSIONS IN INCHES

SIZE OF SUPPORTED PIPE	PIPE SIZE "A"	PIPE SIZE "B"	"C"	"D"	
				MINIMUM	MAXIMUM
2 1/2	2 1/2	1 1/2	12	8	13
3	2 1/2	1 1/2	12	8 1/2	13 1/2
3 1/2	2 1/2	1 1/2	12	8 1/2	13 1/2
4	3	2 1/2	12	9 1/2	14
6	3	2 1/2	12	10 1/2	15 1/2
8	3	2 1/2	12	11 1/2	16 1/2
10	3	2 1/2	12	13 1/2	18 1/2
12	3	2 1/2	12	15	19 1/2

* USE 2 1/2" SUPPORTS FOR PIPES LESS THAN 2 1/2" DIAMETER

NOTE:
1. FOR CONNECTION TO STEEL DECK, WELD ALL AROUND WITH 1/4" FILLET.



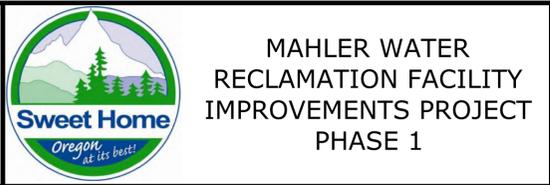
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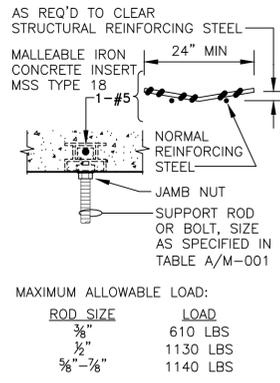
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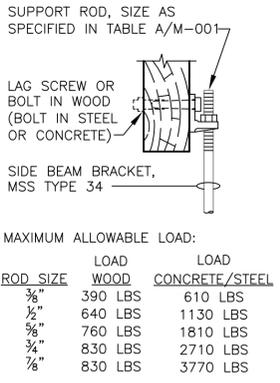
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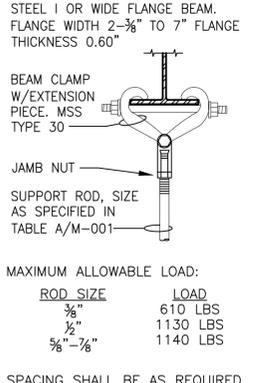
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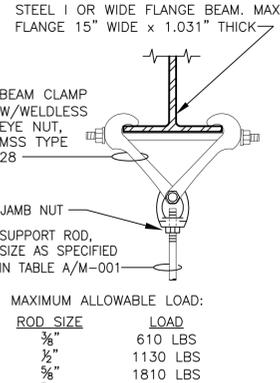
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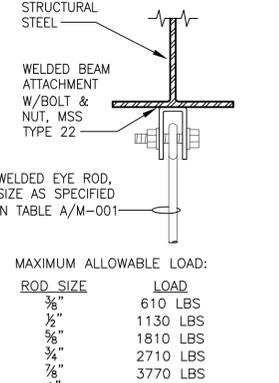
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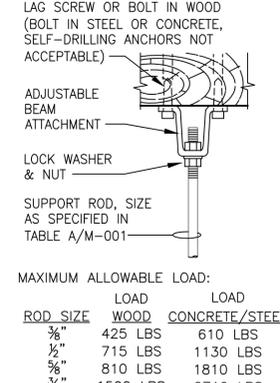
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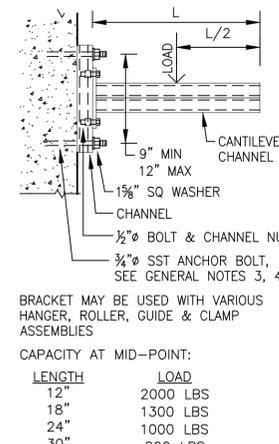
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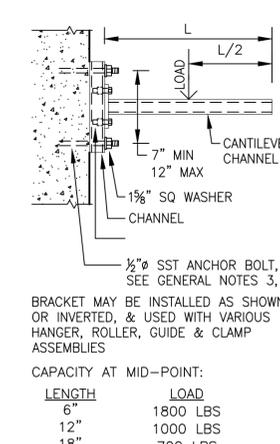
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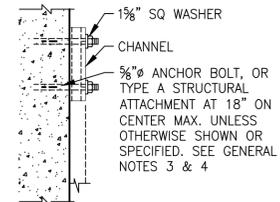
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DETAIL 6 VAR
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TYPE K STRUCTURAL ATTACHMENT
DETAIL 7 VAR
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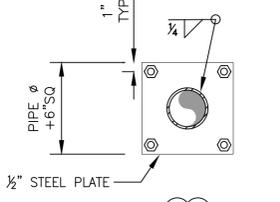


TYPE L STRUCTURAL ATTACHMENT
DETAIL 8 VAR
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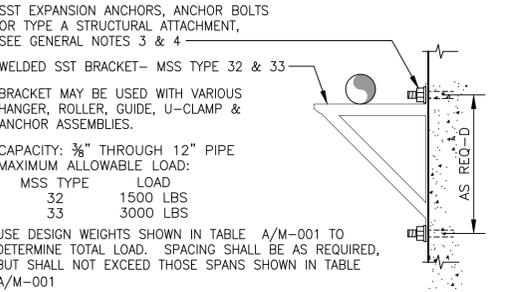
- NOTES:
- EPOXY ANCHORS MAY BE USED IN-LIEU OF EXPANSION ANCHORS WHERE THE ATTACHMENT IS NOT IN TENSION.
 - WHEN THE ATTACHMENTS ARE PLACED IN TENSION, SUCH AS ON A CEILING, A TYPE "A" ON SHEET M-003 STRUCTURAL ATTACHMENT OR A CAST IN ANCHOR BOLT SHALL BE USED.
 - BRACKET MAY BE WALL OR CEILING MOUNTED, AND MAY BE USED WITH VARIOUS HANGER, GUIDE, RACK, OR ANCHOR AND SWAY BRACE ASSEMBLIES.
 - MAXIMUM LOAD CAPACITY SHALL BE AS RECOMMENDED BY THE CHANNEL MANUFACTURER.
 - SPACING SHALL BE AS REQUIRED, BUT SHALL NOT EXCEED THOSE SPANS SHOWN IN TABLE A/M-001.

TYPE M STRUCTURAL ATTACHMENT
DETAIL 9 VAR
NOT TO SCALE

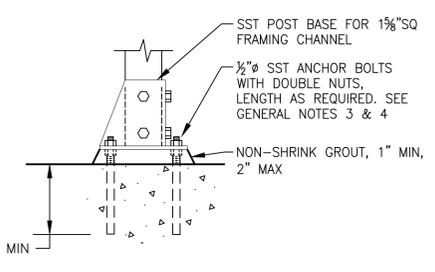


- 5/8" SST ANCHOR BOLT, SEE GENERAL NOTES 3 & 4
- 1" MIN, 2" MAX
- FINISHED FLOOR
- LEVELING NUT
- NON-SHRINK GROUT AFTER LEVELING
- SPACING SHALL BE AS REQUIRED, BUT SHALL NOT EXCEED THOSE SPANS SHOWN IN TABLE A/M-001.

TYPE N STRUCTURAL ATTACHMENT
DETAIL 10 VAR
NOT TO SCALE

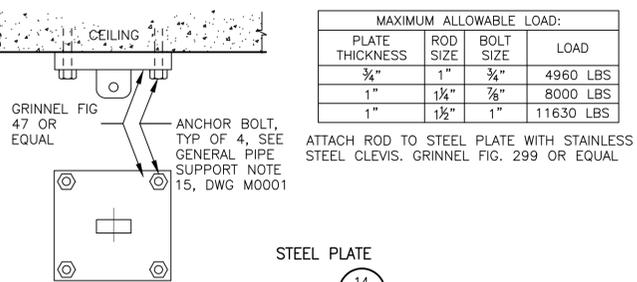


TYPE G STRUCTURAL ATTACHMENT
DETAIL 11 VAR
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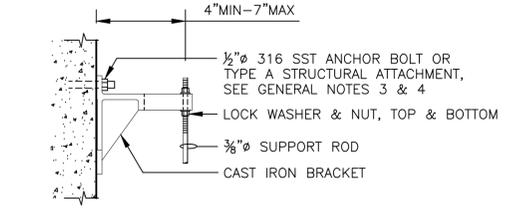


TYPE E STRUCTURAL ATTACHMENT
DETAIL 12 VAR
NOT TO SCALE

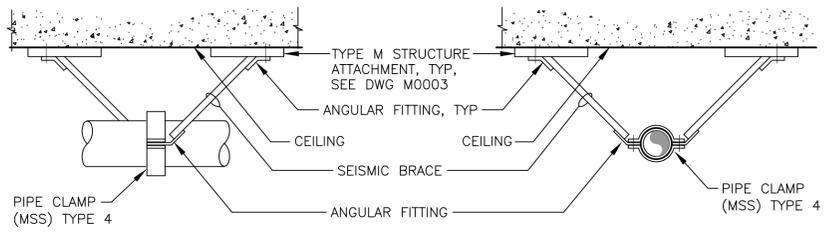
- GENERAL NOTES:
- NOT ALL PIPE ATTACHMENTS ARE USED IN THESE CONTRACT DRAWINGS.
 - SEE GENERAL PIPE SUPPORT NOTES ON DRAWING M-001.
 - ALL ATTACHMENTS, HANGERS, AND SUPPORTS SHALL BE TYPE 316 STAINLESS STEEL. ANCHOR BOLTS, BOLTS, NUTS, AND WASHERS SHALL BE TYPE 316 STAINLESS STEEL.
 - SEE GENERAL PIPE SUPPORT NOTE NOTE 15, DRAWING M-001.



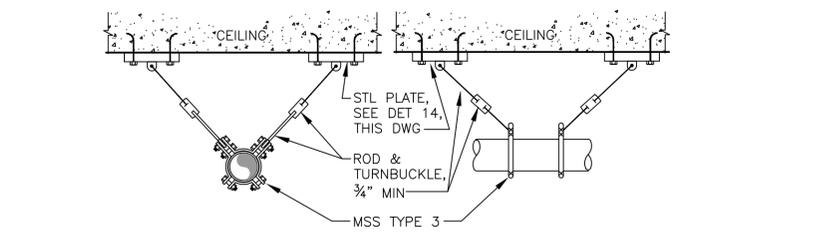
TYPE H STRUCTURAL ATTACHMENT
DETAIL 14 TYP
NOT TO SCALE



TYPE I STRUCTURAL ATTACHMENT
DETAIL 15 VAR
NOT TO SCALE



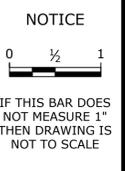
TYPE A SEISMIC LONGITUDINAL BRACING



TYPE B SEISMIC LATERAL BRACING

TYPE B SEISMIC LONGITUDINAL BRACING
DETAIL 13 VAR
NOT TO SCALE

NO.	DATE	BY	REVISION



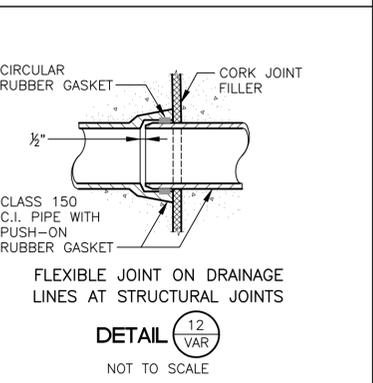
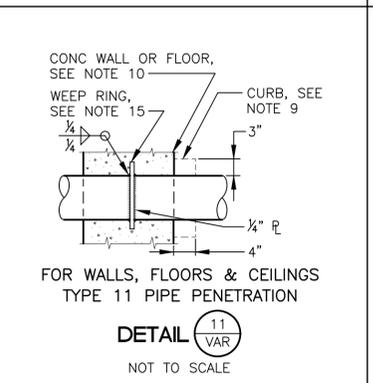
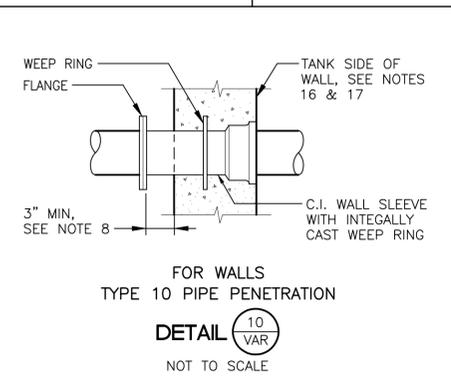
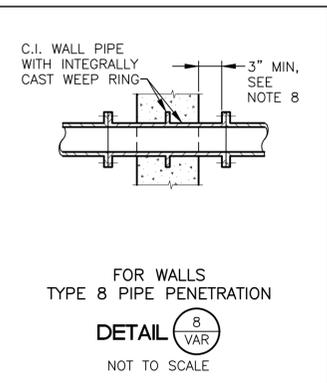
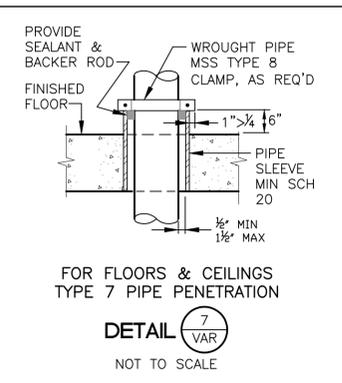
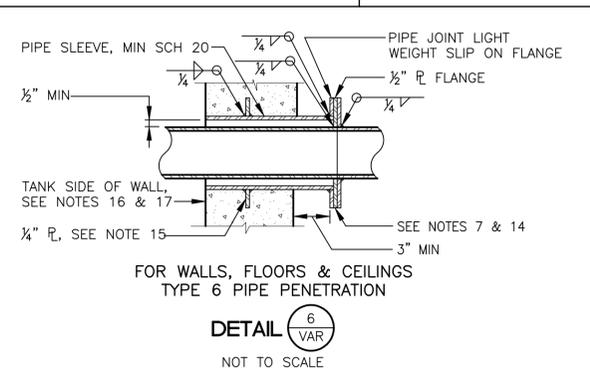
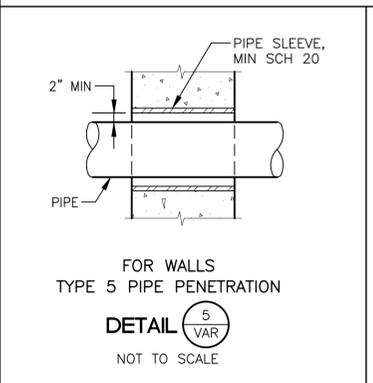
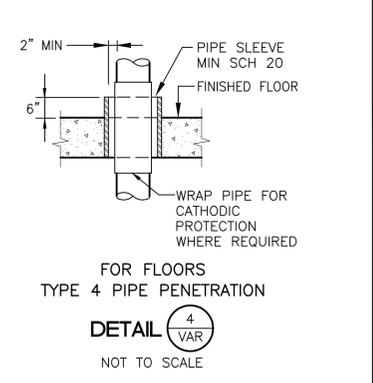
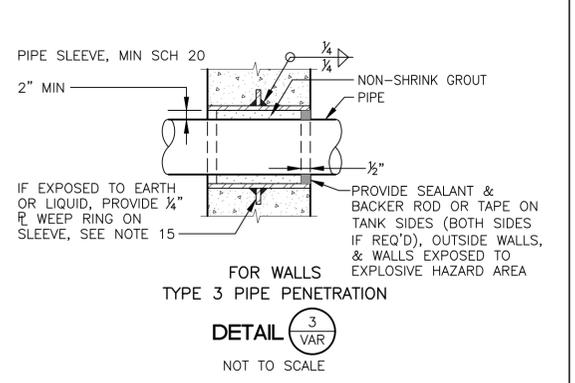
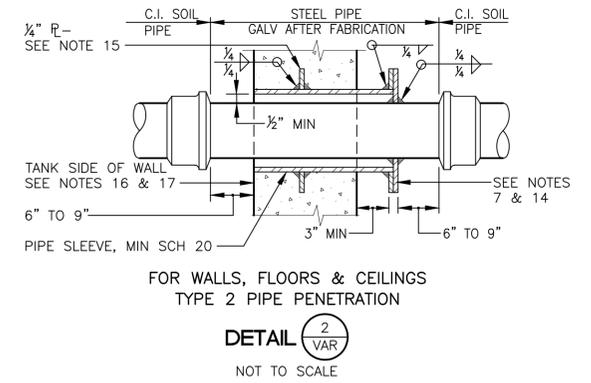
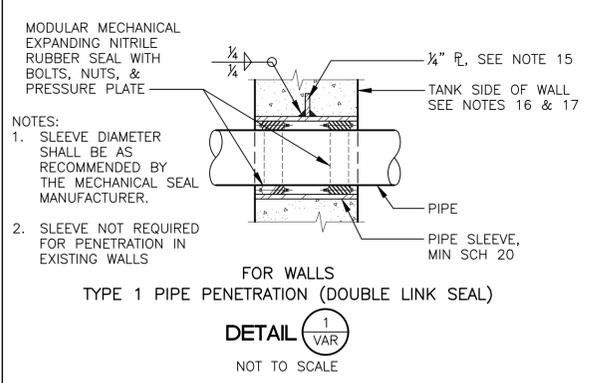
WJS
DESIGNED
SMB
DRAWN
TRB
CHECKED



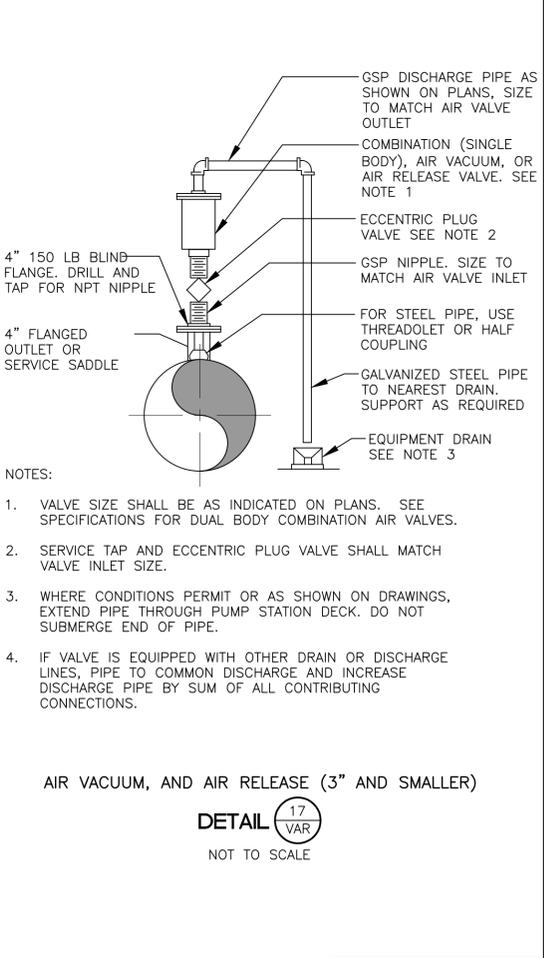
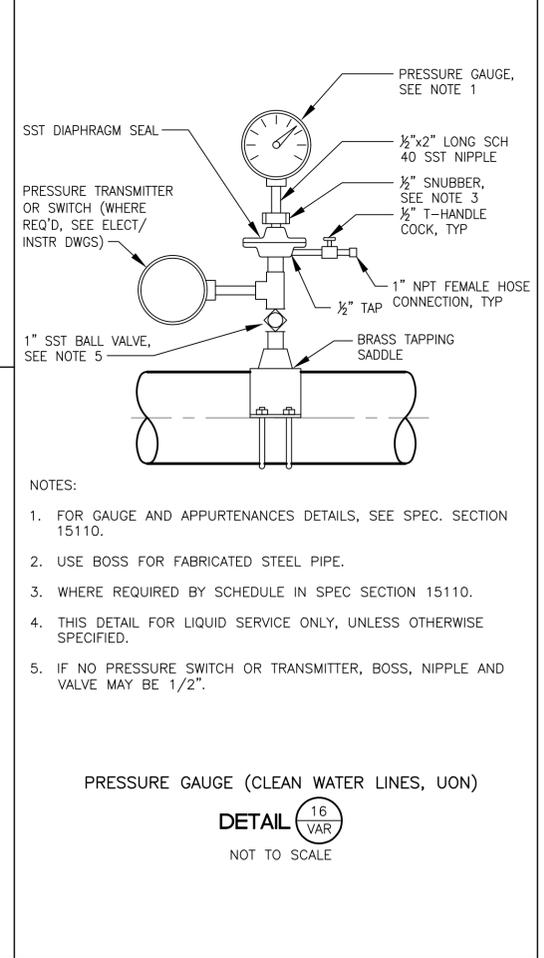
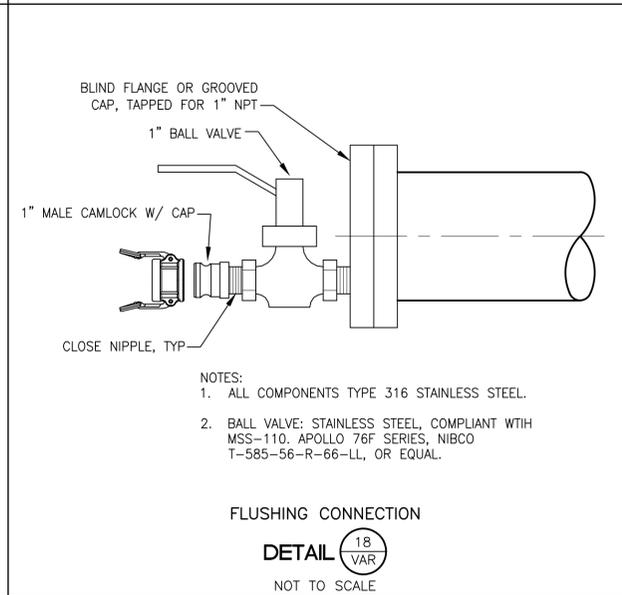
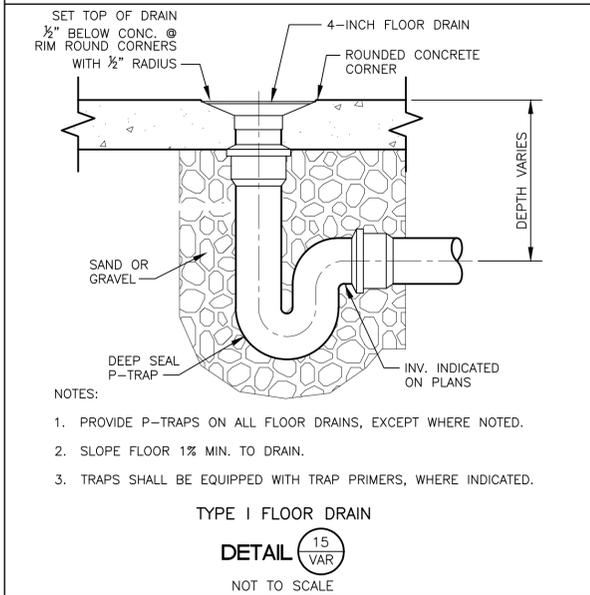
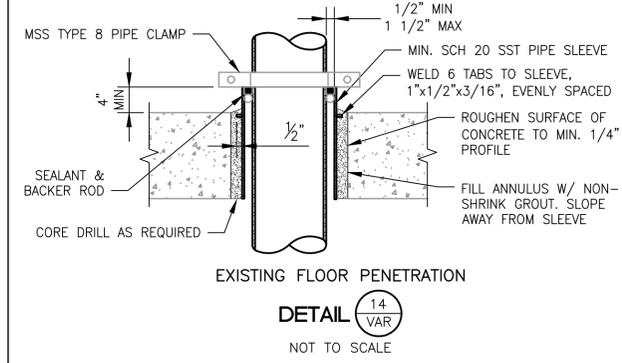
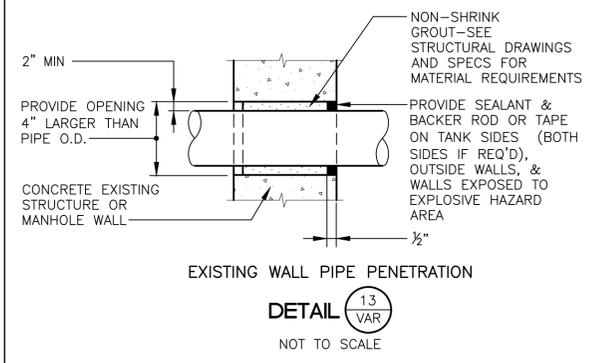
MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

PROJECT NO.: 936-50-21-09	SCALE: AS SHOWN	DATE: AUGUST 2022	SHEET M-003
MECHANICAL DETAILS 3			61 of 135

PIPE PENETRATION TYPES					
CONDITION	TYPE				
	FROM	TO	STEEL PIPE	CAST AND/OR DUCTILE IRON	PLASTIC PIPE
1	TANK	TANK BELOW WS	3, 6, OR 11	3, 10, 2, OR 8	3
2	TANK	TANK ABOVE WS	1 OR 3	1 OR 3	1 OR 3
3	PASSAGE	TANK BELOW WS	11	10, 2, OR 8	3
4	PASSAGE	TANK ABOVE WS	1, 3, OR 7	1, 3, OR 7	1, 3, OR 7
5	PASSAGE	PASSAGE	5 OR 7 SEE NOTE 6	5 OR 7 SEE NOTE 6	5 OR 7 SEE NOTE 6, 20
6	PASSAGE	OUTSIDE WALL	1 OR 3	1, 3 OR 10	1 OR 3 SEE NOTE 20
7	PASSAGE	ROOF	AS SHOWN		
8	TANK	OUTSIDE WALL	8 OR 11	10 OR 8	1 OR 3



- WHERE PIPES PASS THROUGH WALLS, FLOORS OR CEILINGS, PENETRATIONS SHALL CONFORM TO TABLE EXCEPT AS OTHERWISE INDICATED.
- IN TABLE, "TANK" SHALL MEAN ANY PART OF A STRUCTURE CONTAINING LIQUID OR IN CONTACT WITH THE EARTH.
- IN TABLE, "PASSAGE" SHALL MEAN ROOM, GALLERY, TUNNEL OR SIMILAR ENCLOSURE.
- IN TABLE, WATER SURFACE "WS" SHALL MEAN AN ELEVATION 9" ABOVE MAXIMUM WATER SURFACE SHOWN.
- ALL STEEL SLEEVES SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION, UNLESS OTHERWISE INDICATED.
- IN CONDITION 5, PENETRATION TYPES 2, 3, 6, 11, OR 13, SHALL BE USED WHERE ONE SIDE CONTAINS EXPLOSION PROOF EQUIPMENT, WHERE FLOODING IS POSSIBLE OR WHERE INDICATED.
- SEAL FLANGES SHALL BE DRILLED TO 150 POUND STANDARD. EACH JOINT SHALL BE GASKETED.
- WHERE SPECIFIED, CAST IRON FLANGES MAY BE INSTALLED FLUSH WITH WALL AND TAPPED FOR STUDS.
- PROVIDE CURB WHERE PENETRATING FLOOR, EXCEPT FOR PENETRATION TYPES 4 AND 7. CURB SHALL BE 4" HIGH BY 3" WIDE.
- PROVIDE MINIMUM 3" CLEARANCE BETWEEN REINFORCING STEEL AND FERROUS METAL PENETRATIONS.
- FLEXIBLE JOINTS SHALL BE PROVIDED FOR UNDERGROUND PIPING AS SPECIFIED.
- RESTRAINED FLEXIBLE COUPLINGS FOR STEEL PIPE SHALL BE DESIGNED FOR 150 PSI LINE PRESSURE IN ACCORDANCE WITH AWWA MANUAL M11.
- INSULATION SHALL NOT EXTEND THROUGH SLEEVES, UNLESS OTHERWISE INDICATED.
- WHERE CAST IRON PIPE IS EMBEDDED IN CONCRETE AT AN EXPANSION JOINT, USE TYPE 1.
- SEAL WITH MASTIC SEALANT WHERE WALL IS EXPOSED TO LIQUID, EARTH, OR EXPLOSION HAZARD AREA.
- NOT ALL WALL PENETRATIONS ARE USED IN THESE CONTRACT DRAWINGS.
- WHERE PIPES PASS THROUGH FIRE RATED WALLS, FLOORS, OR CEILINGS, THE PENETRATIONS SHALL BE SEALED WITH A LISTED FIRESTOP ASSEMBLY EQUAL TO THE FIRE RATING OF THE WALL, FLOOR OR CEILING, WHETHER THE ASSEMBLY IS SHOWN AS A DETAIL OR NOT.
- WHERE DOUBLE CONTAINMENT PIPE IS REQUIRED, THE OUTER CONTAINMENT PIPE SHALL EXTEND THROUGH THE WALL INTO THE CONTAINMENT AREA.



NO.	DATE	BY	REVISION

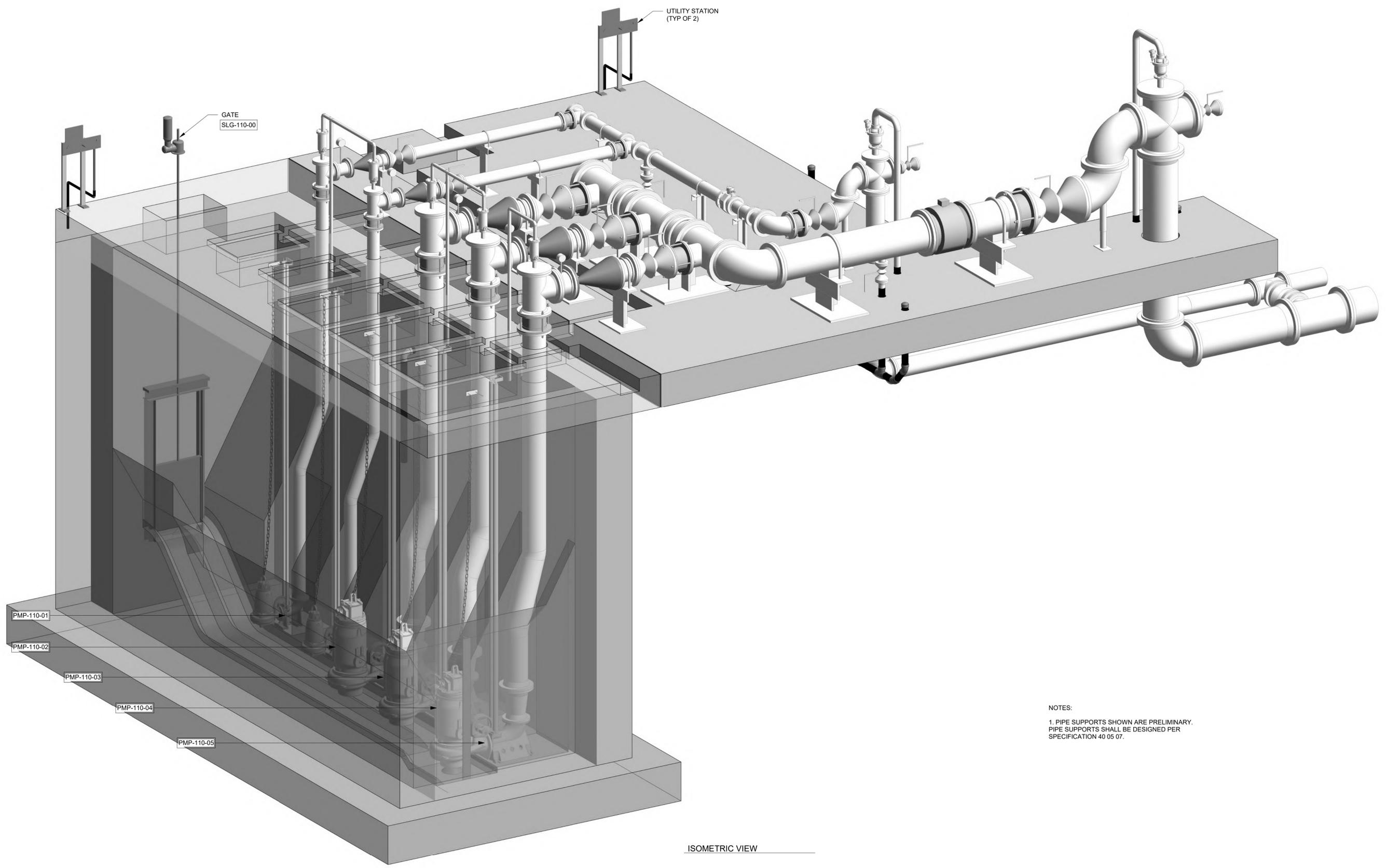
NOTICE
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE



MECHANICAL DETAILS 4
PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: AUGUST 2022

SHEET
M-004
62 of 135

P:\Clients\936 City Of Sweet Home\50-21-09 WWTP Phase 1 Final Design\CAD\Production\93650-2109-M-004.dwg M-004 7/27/2022 8:40 AM SBARBER 23:1s (LMS Tech)



NOTES:
 1. PIPE SUPPORTS SHOWN ARE PRELIMINARY.
 PIPE SUPPORTS SHALL BE DESIGNED PER
 SPECIFICATION 40 05 07.

ISOMETRIC VIEW

7/30/2022 9:57:58 AM Autodesk Docs://Sweet Home WWT/IPS.rvt

NO.	DATE	BY	REVISION

NOTICE
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 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

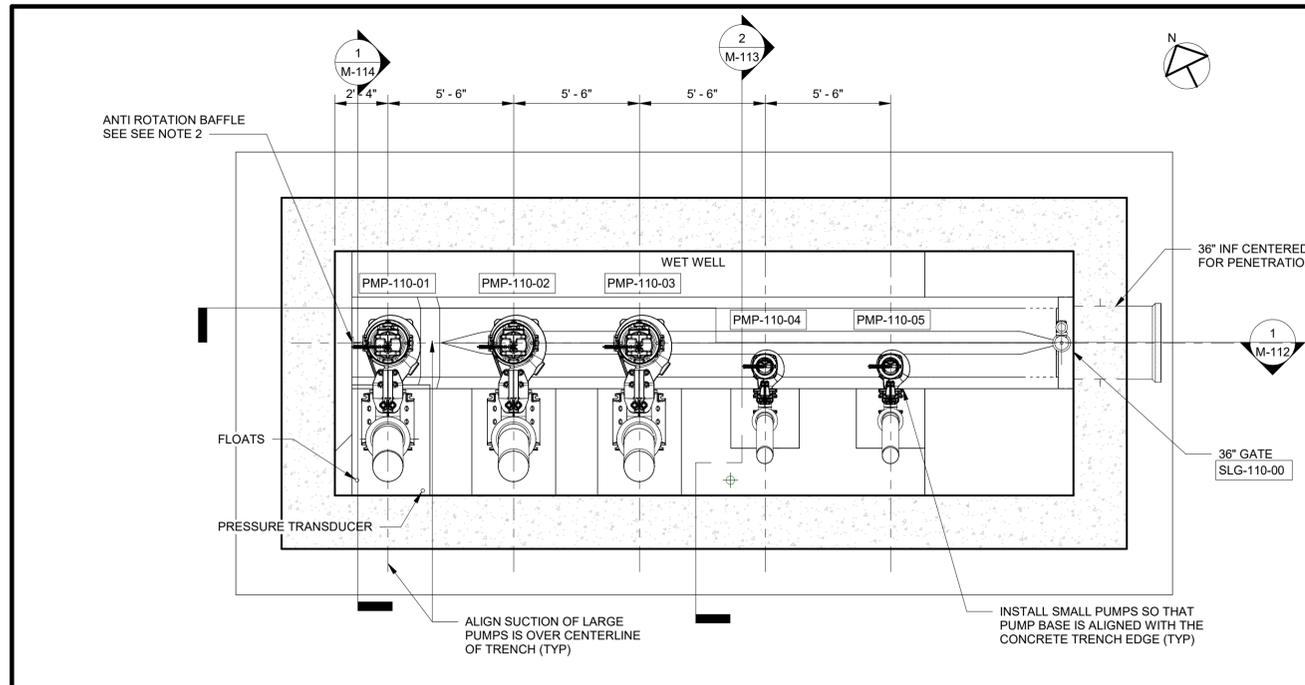
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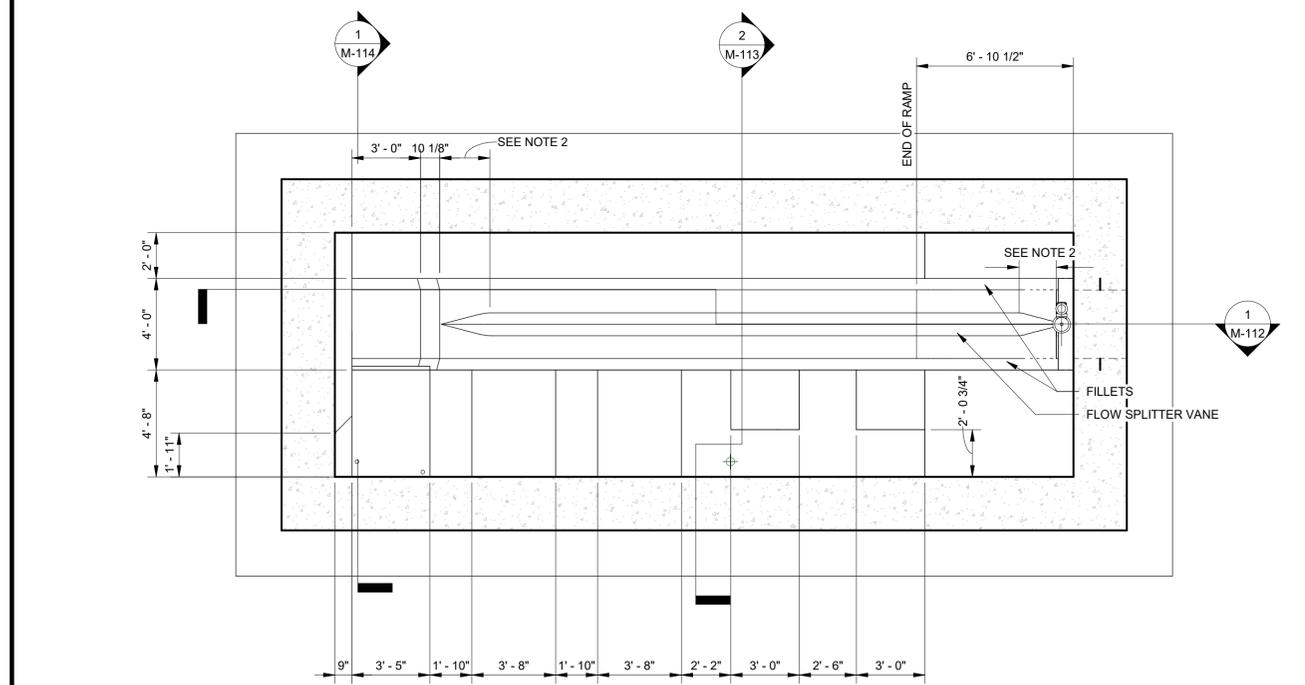
MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

PROJECT NO.: 936-50-21-09		SCALE	DATE August 2022
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SHEET
 M-110
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BOTTOM PLAN - PUMPS
1/4" = 1'-0"



BOTTOM PLAN - TRENCH CONCRETE
1/4" = 1'-0"

- NOTES:**
- PIPE SUPPORTS SHOWN ARE PRELIMINARY. PIPE SUPPORTS SHALL BE DESIGNED PER SPECIFICATION 40 05 07.
 - DIMENSIONS ARE ESTIMATED BASED ON AVAILABLE INFORMATION. WET WELL TRENCH DIMENSIONS SHALL BE COORDINATED WITH PUMP SUPPLIER AND BE IN ACCORDANCE WITH ANSI HI 9.8.6.

NO.	DATE	BY	REVISION

NOTICE

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DESIGNED BY
RD
DRAWN BY
TRB/PLVM
CHECKED BY
PRESTON VAN MEYER
EXPIRES: 6/30/2024

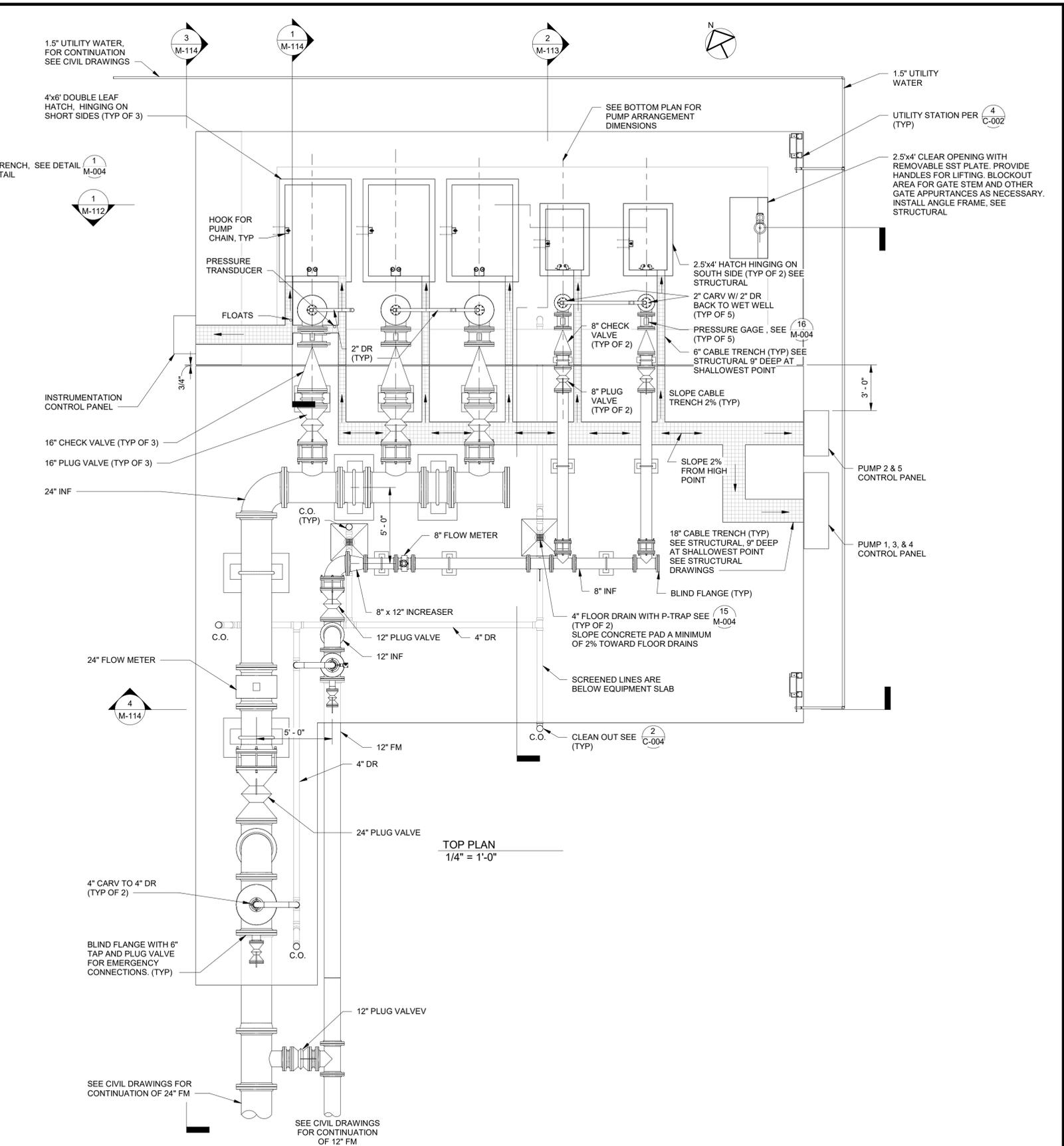
WEST YOST
Water. Engineered.

MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

INFLUENT PUMP STATION PLANS

PROJECT NO.: 936-50-21-09 SCALE: 1/4" = 1'-0" DATE: August 2022

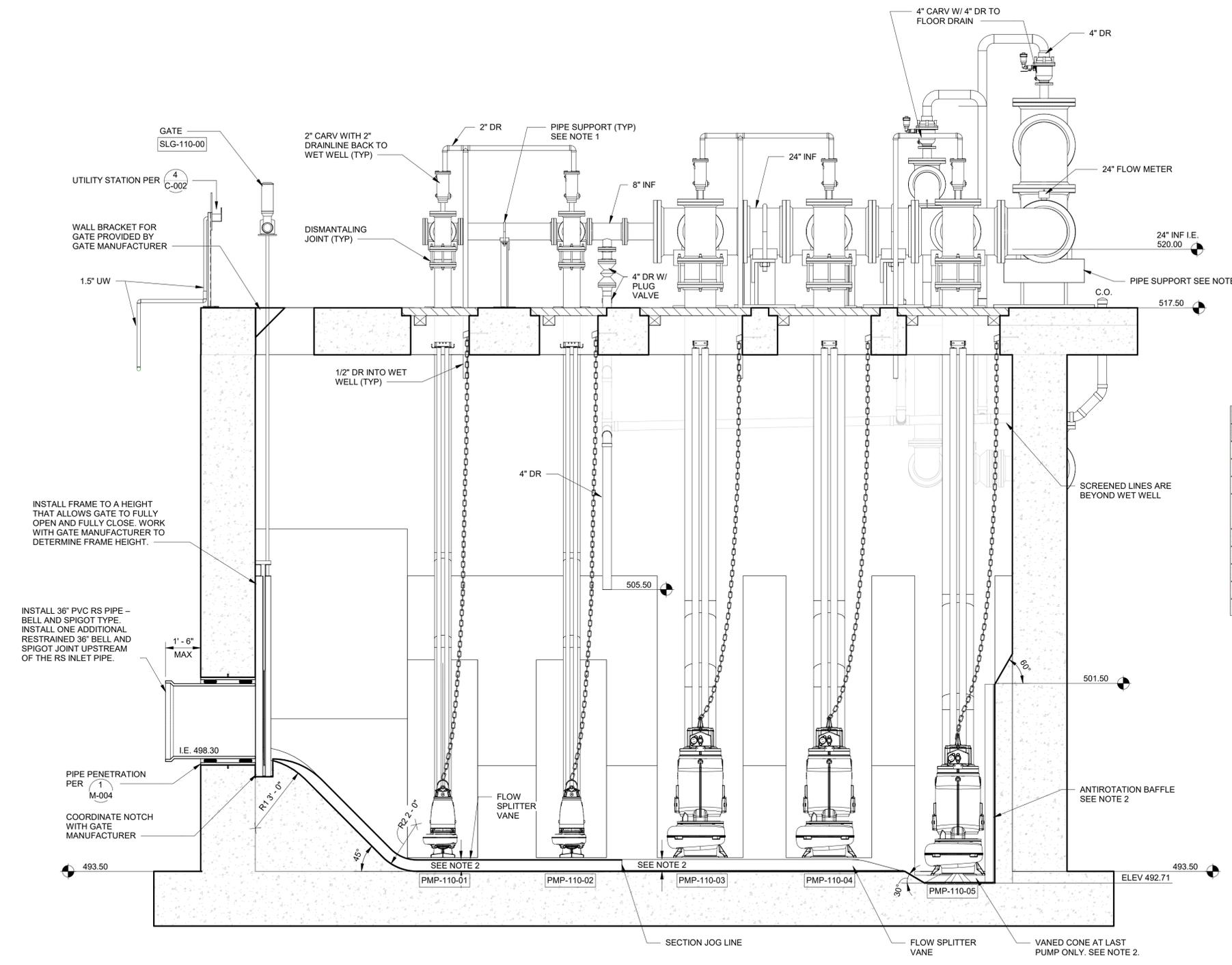
SHEET: **M-111**
64 of 135



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

7/30/2022 9:58:20 AM Autodesk Docs://Sweet Home WWT/IPS.rvt

NOTES:
 1. PIPE SUPPORTS SHOWN ARE PRELIMINARY. PIPE SUPPORTS SHALL BE DESIGNED PER SPECIFICATION 40 05 07.
 2. DIMENSIONS ARE ESTIMATED BASED ON AVAILABLE INFORMATION. WET WELL TRENCH DIMENSIONS SHALL BE COORDINATED WITH PUMP SUPPLIER AND BE IN ACCORDANCE WITH ANSI H1 9.8.6.



Water Surface Elevations			
Operating Condition/Alarm Level	Pumps On	Pumps Off	Alert/Alarm
Low-Low Level Alarm			496.25
Low Level Alarm			497.00
1 Small Pump On	498.50	498.00	
2 Small Pumps On	499.50	500.00	
1 Large Pump On	500.00	499.50	
2 Large Pumps On	500.50	500.00	
Operator Alert			501.50
High Level Alarm			502.50
High-High Level Alarm			503.50

1 SECTION
 M-111 3/8" = 1'-0"

7/30/2022 9:58:42 AM Autodesk Docs://Sweet Home WWT/IPS.rvt

NO.	DATE	BY	REVISION

NOTICE
 0 1/2 1
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NED
 DESIGNED
 RD
 DRAWN
 TRB/PLVM
 CHECKED

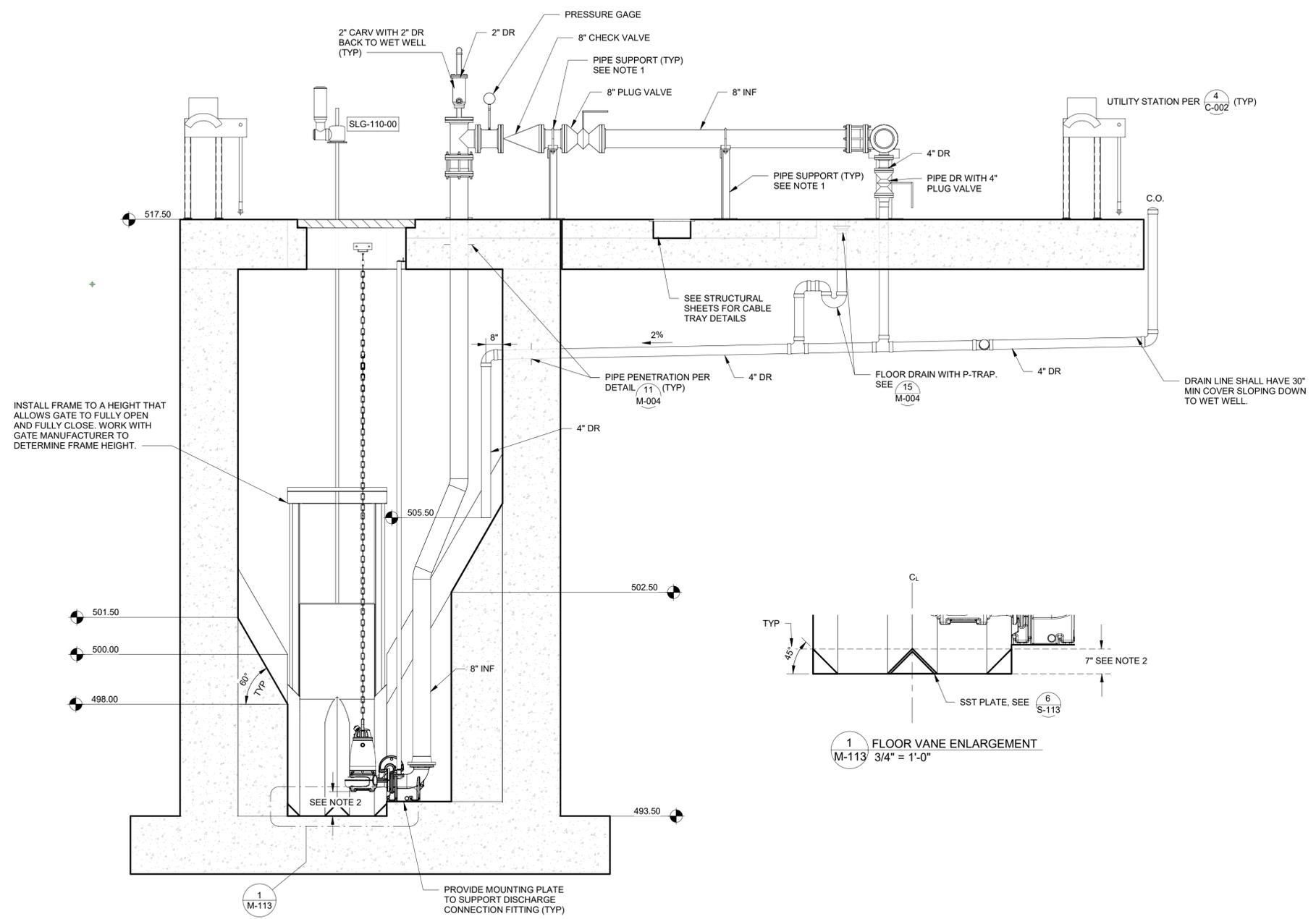


MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

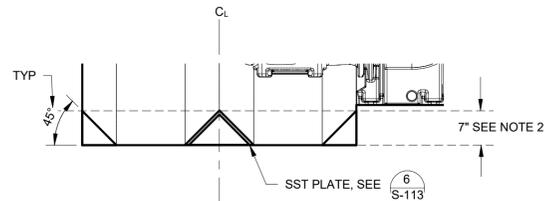
PROJECT NO.: 936-50-21-09 SCALE 3/8" = 1'-0" DATE August 2022

SHEET M-112 65 of 135

NOTES:
 1. PIPE SUPPORTS SHOWN ARE PRELIMINARY. PIPE SUPPORTS SHALL BE DESIGNED PER SPECIFICATION 40 05 07.
 2. DIMENSIONS ARE ESTIMATED BASED ON AVAILABLE INFORMATION. WET WELL TRENCH DIMENSIONS SHALL BE COORDINATED WITH PUMP SUPPLIER AND BE IN ACCORDANCE WITH ANSI HI 9.8.6.



INSTALL FRAME TO A HEIGHT THAT ALLOWS GATE TO FULLY OPEN AND FULLY CLOSE. WORK WITH GATE MANUFACTURER TO DETERMINE FRAME HEIGHT.



1 FLOOR VANE ENLARGEMENT
 M-113 3/4" = 1'-0"

2 SECTION
 M-111 3/8" = 1'-0"

7/30/2022 9:59:06 AM Autodesk Docs://Sweet Home WWT/IPS.rvt

NO.	DATE	BY	REVISION

NOTICE
 0 1/2 1
 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

NED
 DESIGNED
 RD
 DRAWN
 TRB/PLVM
 CHECKED

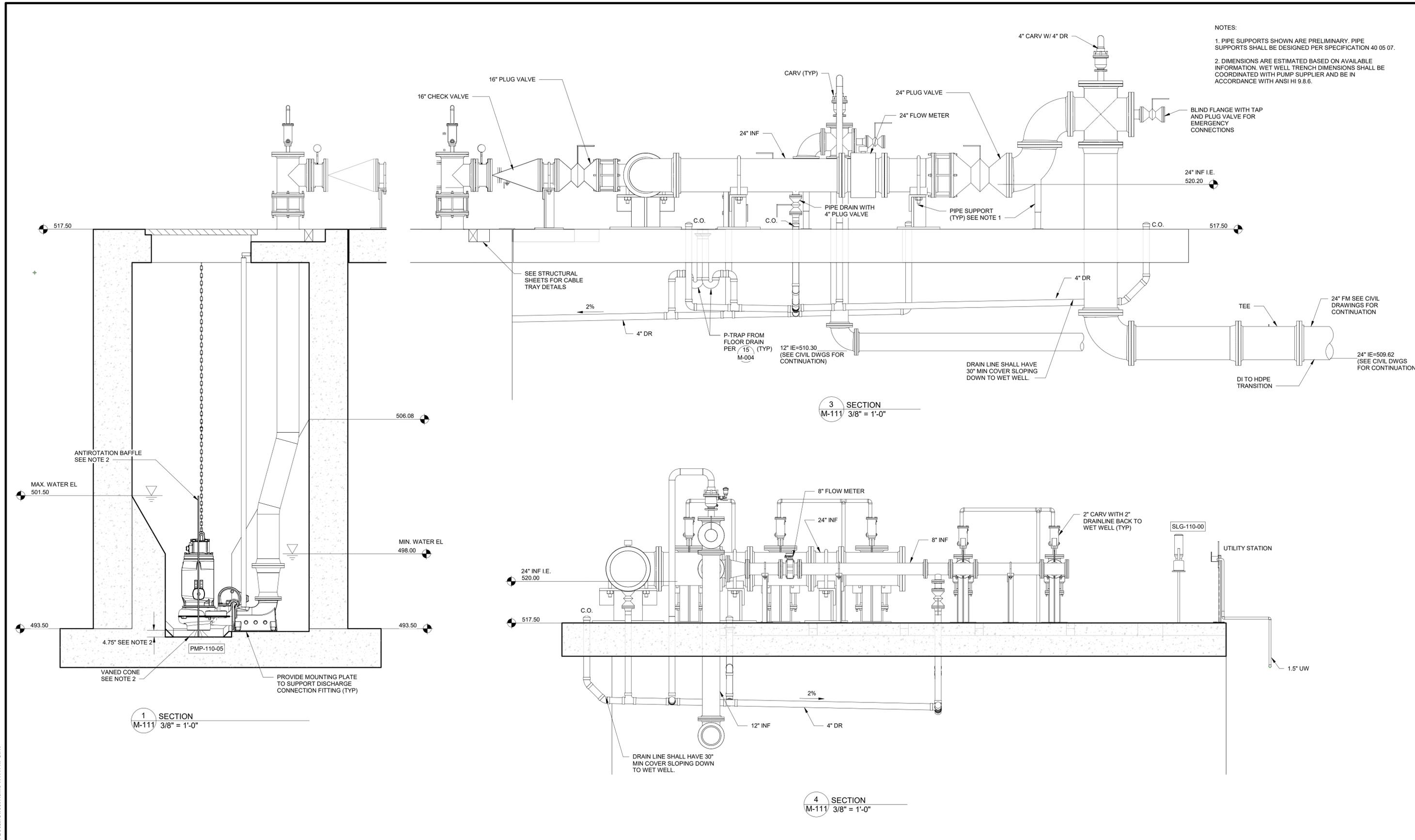


MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

SECTION AND DETAILS 2

PROJECT NO.: 936-50-21-09 SCALE As indicated DATE August 2022

SHEET M-113
 66 of 135



NOTES:
 1. PIPE SUPPORTS SHOWN ARE PRELIMINARY. PIPE SUPPORTS SHALL BE DESIGNED PER SPECIFICATION 40 05 07.
 2. DIMENSIONS ARE ESTIMATED BASED ON AVAILABLE INFORMATION. WET WELL TRENCH DIMENSIONS SHALL BE COORDINATED WITH PUMP SUPPLIER AND BE IN ACCORDANCE WITH ANSI HI 9.8.6.

1 SECTION
 M-111 3/8" = 1'-0"

3 SECTION
 M-111 3/8" = 1'-0"

4 SECTION
 M-111 3/8" = 1'-0"

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NO.	DATE	BY	REVISION

NOTICE
 0 1/2 1
 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

NED
 DESIGNED
 RD
 DRAWN
 TRB/PLVM
 CHECKED



MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

SECTION AND DETAILS 3

PROJECT NO.: 936-50-21-09 SCALE 3/8" = 1'-0" DATE August 2022

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MECHANICAL SYMBOL LIST

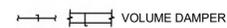
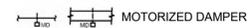
Abbreviations

AFF	ABOVE FINISHED FLOOR
A/C	AIR CONDITION(ED)
BDD	BACKDRAFT DAMPER
BHP	BRAKE HORSEPOWER
CD	CONDENSATE DRAIN
CU	CONDENSING UNIT
CONT.	CONTINUATION
CFM	CUBIC FEET PER MINUTE
(X)	DEMOLISH
DIA	DIAMETER
DX	DIRECT EXPANSION
DB	DRY BULB
EFF	EFFICIENT
ELECT	ELECTRICAL
EER	ENERGY EFFICIENCY RATING
EAT	ENTERING AIR TEMPERATURE
EXH	EXHAUST
EF	EXHAUST FAN
F	FAHRENHEIT
FC	FAN COIL
HP	HORSEPOWER
KW	KILOWATT
MAX	MAXIMUM
MIN	MINIMUM
MD	MOTORIZED DAMPER
N/A	NOT APPLICABLE
NTS	NOT TO SCALE
OSA	OUTSIDE AIR
PH	PHASE
LBS.	POUNDS
PD	PRESSURE DROP
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
RA	RETURN AIR
RPM	REVOLUTIONS PER MINUTE
SEER	SEASONAL ENERGY EFFICIENCY RATING
SF	SQUARE FEET
SP	STATIC PRESSURE
T, TEMP	TEMPERATURE
MBH	THOUSAND BTU'S PER HOUR
V	VOLT
WC	WATER COLUMN
W	WATT
WB	WET BULB
W/	WITH

Control Symbols



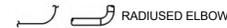
Dampers



Diffusers and Grilles



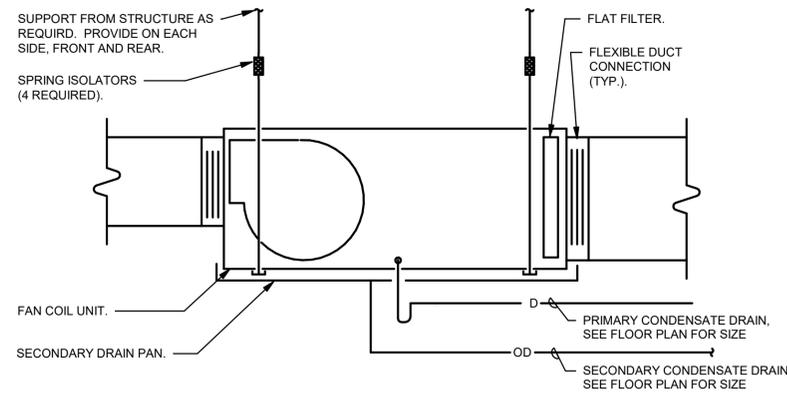
Ductwork Fittings



General

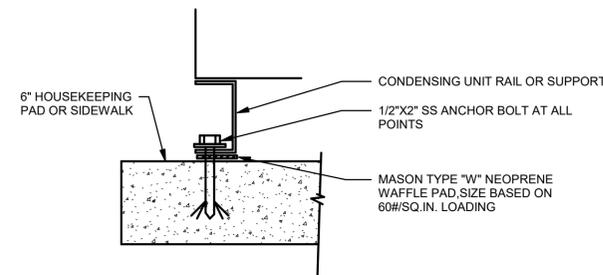


Piping Systems



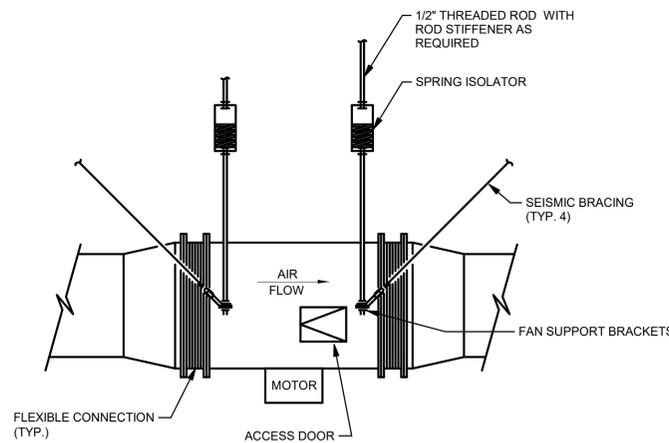
1 FAN COIL INSTALLATION

NO SCALE



2 OUTDOOR CONDENSING UNIT MOUNTING

NO SCALE



3 INLINE EXHAUST FAN DETAIL

NO SCALE



PROJECT 2021-0925
 CONTACT Steve Dacus
 100 SW Main Street, Suite 1600
 Portland, OR 97204
 TEL 503.382.2266
 www.interfaceengineering.com

NOTICE



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GKW
SED
Author
IAB
GKW
AWF



MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

HVAC SYMBOL LIST AND GENERAL NOTES

SHEET

H-001

PROJECT NO.: 936-50-21-09 SCALE NO SCALE DATE August 2022

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FAN COIL SCHEDULE

SYMBOL	LOCATION	SERVING	BASIS OF DESIGN		NOM TONS	RELATED CU	AIR FLOW (CFM)	MIN OSA	FAN ESP (IN H2O)	DX COOLING COIL		HEATING		ELECTRICAL			ECM MOTOR	CONTROLS REF	MAX WT (LBS)	COMMENTS		
			MFR	MODEL						TOTAL CAP (MBH)	SENS CAP (MBH)	CAP (KW)	STAGES	VOLTS	PH	FAN HP					MCA	MOCP
FC-1	EXISTING ELECTRICAL	EXIST ELECTRICAL	TRANE	TAM9	4	CU-1	1600	0	0.375	48.0	36.0	7.2	1	208	3	0.75	31.0	35	YES	THERMOSTAT	180	

CONDENSING UNIT SCHEDULE

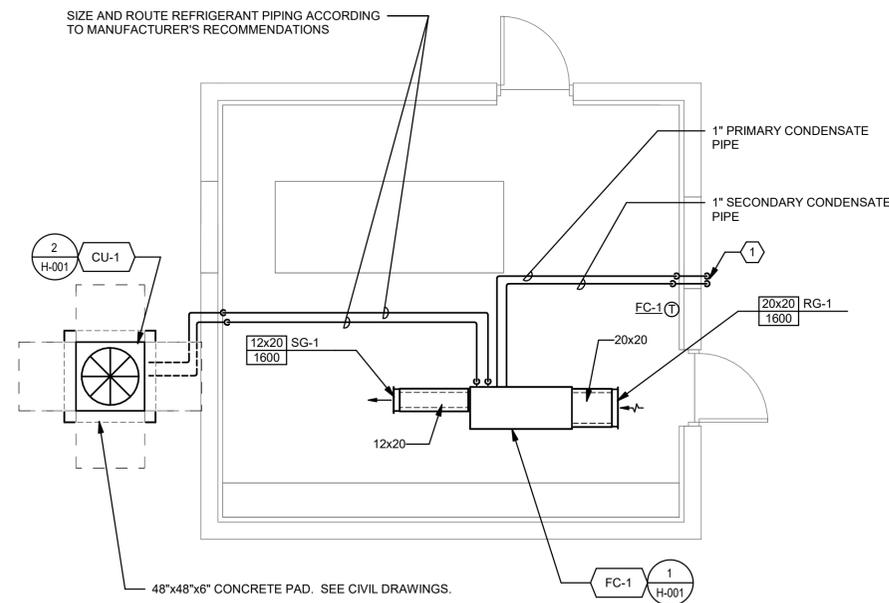
SYMBOL	LOCATION	AREA SERVED	BASIS OF DESIGN		RELATED FAN	AIR SOURCE CONDENSER				ELECTRICAL				CONTROLS REF	APPROX DIMS (LxWxH)	MAX WT (LBS)	COMMENTS
			MFR	MODEL		NOM TONS	CAP (MBH)	AMB TEMP (°F)	MIN EFF (SEER)	VOLTS	PH	MCA	MOCP				
CU-1	AT GRADE	EXIST ELECTRICAL	TRANE	4TTA4	FC-1	4	48.0	95	14	480	3	8.0	15	THERMOSTAT	37"x34"x29"	200	

DIFFUSER, REGISTER AND GRILLE SCHEDULE

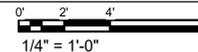
SYMBOL	TYPE	FACE	FRAME	DAMPER	FINISH	BASIS OF DESIGN	NOTES
RG-1	RETURN WALL GRILLE	FIXED BAR 35 DEG. DEFL.	1/4" BORDER	NONE	WHITE	TITUS 350R	
SG-1	SIDEWALL SUPPLY GRILLE	DOUBLE DEFL.	1/4" BORDER	NONE	WHITE	TITUS 300R	

KEYNOTE SHEET KEYNOTES

- ROUTE PRIMARY AND SECONDARY CONDENSATE DRAINS THROUGH EXISTING LOUVER OPENING. SEAL PIPING PENETRATIONS IN NEW SIDING. PRIMARY PIPING ROUTED TO WITHIN 12" OF FINISHED FLOOR WITH 90 DEGREE ELBOW DOWN AT EXTERIOR OF SIDING. SECONDARY PIPING ROUTED THROUGH TOP OF EXISTING OPENING WITH 90 DEGREE ELBOW DOWN.



1 SOUTH ELECTRICAL BUILDING - HVAC FLOOR PLAN



PROJECT 2021-0925
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MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

SOUTH ELECTRICAL BUILDING HVAC FLOOR PLAN

SHEET H-100

NO.	DATE	BY	REVISION

NOTICE

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Designer SED
 Author IAB
 Checker AWF

AHU SCHEDULE

SYMBOL	LOCATION	SERVING	BASIS OF DESIGN		AIR FLOW (CFM)	MIN OSA	FAN ESP (IN H2O)	COOLING			HEATING		ELECTRICAL			ECM MOTOR	CONTROLS REF	MAX WT (LBS)	COMMENTS
			MFR	MODEL				TOTAL CAP (MBH)	ROWS FPI	EDB (°F)	LDB (°F)	MIN CAP (KW)	VOLTS	PH	MCA				
AHU-1	ELECTRICAL RM. 420	ELECTRICAL RM. 420	TRANE	TWE0724B	2400	0	1.5	78.0	4/14	75	55	10.0	460	3	19.0	Y	THERMOSTAT	323	

DIFFUSER, REGISTER AND GRILLE SCHEDULE

SYMBOL	TYPE	FACE	FRAME	DAMPER	FINISH	BASIS OF DESIGN		COMMENTS
						MFR.	MODEL	
EG-1	EXHAUST WALL GRILLE	FIXED BAR 35 DEG. DEFL.	1/4" BORDER	NONE	WHITE	TITUS	350R	
RG-1	RETURN REGISTER	FIXED BAR 35 DEG. DEFL.	1/4" BORDER	NONE	WHITE	TITUS	350R	
SG-1	SUPPLY WALL GRILLE	DOUBLE DEFL.	1/4" BORDER	NONE	WHITE	TITUS	300R	

CONDENSING UNIT SCHEDULE

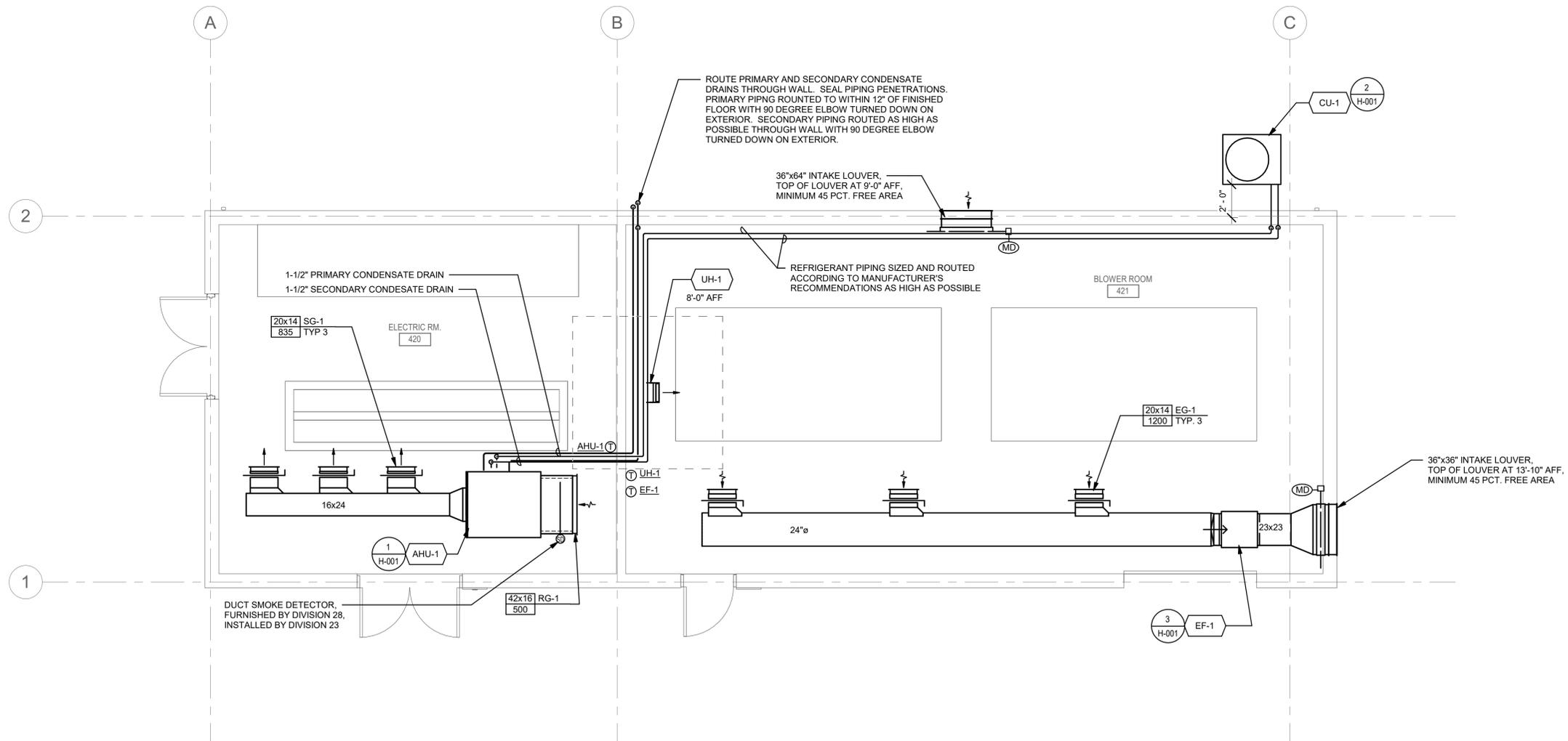
SYMBOL	LOCATION	AREA SERVED	BASIS OF DESIGN		AIR SOURCE CONDENSER				ELECTRICAL				APPROX DIMS (LxWxH)	MAX WT (LBS)	COMMENTS		
			MFR	MODEL	RELATED FAN	NOM TONS	CAP (MBH)	AMB TEMP (°F)	MIN EFF (EER)	VOLTS	PH	MCA				MOCP	CONTROLS REF
CU-1	OUTSIDE	ELECTRIC RM. 420	TRANE	TTA07244D	AHU-1	6	78.0	95	12	460	3	14.0	20	THERMOSTAT	45" x 45" x 38"	155	

UNIT HEATER SCHEDULE

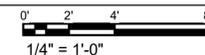
SYMBOL	LOCATION	SERVING	BASIS OF DESIGN		SUPPLY FAN AIR FLOW (CFM)	ELECT RESIST HTG (KW)	STAGES	ELECTRICAL				CONTROLS REF	MAX WT (LBS)	COMMENTS
			MFR	MODEL				VOLTS	PH	MCA	MOCP			
UH-1	BLOWER ROOM 421	BLOWER ROOM 421	QMARK	MWUH	270	1.9	1	208	1	11.3	15	THERMOSTAT	50	THERMOSTAT WITH SUMMER FAN SWITCH

FAN SCHEDULE

SYMBOL	LOCATION	AREA SERVED	BASIS OF DESIGN		TYPE	DRIVE	AIR FLOW (CFM)	TSP (IN H2O)	MAX RPM	SOUNDS SONES	ELECTRICAL				CONTROLS REF	MAX WT (LBS)	COMMENTS
			MFR	MODEL							VOLTS	PH	BHP	MHP			
EF-1	BLOWER ROOM 421	BLOWER ROOM 421	GREENHECK	SQ-160-VG	INLINE	DIRECT	3600	0.375	1350	17	208	3	0.84	2	THERMOSTAT	170	



1 MAIN ELECTRICAL & BLOWER BUILDING - HVAC FLOOR PLAN



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IAB
 Checker
AWF



EXPIRES: 12/31/23



MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

MAIN ELECTRICAL & BLOWER BUILDING HVAC FLOOR PLAN

PROJECT NO.: 936-50-21-09 SCALE 1/4" = 1'-0" DATE August 2022

SHEET

H-400

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Electrical Abbreviations, General Notes, & Symbol Legend

Abbreviations

A	AMPERE	MCA	MINIMUM CIRCUIT AMPACITY
AC	ALTERNATING CURRENT, AIR CONDITIONING UNIT	MCC	MOTOR CONTROL CENTER
AHJ	AUTHORITY HAVING JURISDICTION	MCP	MOTOR CIRCUIT PROTECTOR
AI	ANALOG INPUT	MDF	MAIN DISTRIBUTION FRAME
AIC	AVAILABLE INTERRUPTING CAPACITY	MHz	MEGAHERTZ
AF	AMPERE FRAME / AMPERE FUSED	MISC	MISCELLANEOUS
AFC	ABOVE FINISHED CEILING	MLO	MAIN LUGS ONLY
AFB	ABOVE FINISHED FLOOR	MOC	MAXIMUM OVERCURRENT PROTECTION
AFG	ABOVE FINISHED GRADE		
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	N	NEUTRAL
AO	ANALOG OUTPUT	NAC	NOTIFICATION APPLIANCE CIRCUIT
ARMS	ARC FLASH REDUCTION MAINTENANCE SYSTEM	N/A	NOT APPLICABLE
AT	AMPERE TRIP	NC	NORMALLY CLOSED
AV	AUDIO / VIDEO	NEC	NATIONAL ELECTRICAL CODE
AWG	AMERICAN WIRE GAUGE	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
		NEX	REPLACE EXISTING WIRING DEVICE AND FACEPLATE WITH NEW. BACK BOX AND CONDUIT SHALL REMAIN.
BAS	BUILDING AUTOMATION SYSTEM	NL	NIGHT LIGHT
BFG	BELOW FINISHED GRADE	NO	NORMALLY OPEN
BLDG	BUILDING	NTS	NOT TO SCALE
C	CONDUIT	OC	ON CENTER
CAT	CATEGORY	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
CB	CIRCUIT BREAKER	OFOI	OWNER FURNISHED, OWNER INSTALLED
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED		
CFOI	CONTRACTOR FURNISHED, OWNER INSTALLED		
CKT	CIRCUIT		
CPT	CONTROL POWER TRANSFORMER	Ø	PHASE
CR	CONTROL RELAY		
CU	COPPER	PB	PULL BOX, PANIC BUTTON, PUSH BUTTON
		PE	PHOTO EYE
dB	DECIBAL	PNL	PANEL
DC	DIRECT CURRENT	POE	POWER OVER ETHERNET
DI	DIGITAL INPUT	PTZ	PAN, TILT, ZOOM
DIM	DIMENSION		
DIV	DIVISION	RF	RADIO FREQUENCY
DO	DIGITAL OUTPUT	RFI	REQUEST FOR INFORMATION
DTL	DETAIL		
DWG	DRAWING	SLC	SIGNALING LINE CIRCUIT
		SPD	SURGE PROTECTION DEVICE
EIP	ETHERNET IP	STD	STANDARD
EL	ELEVATION	SW	SWITCH
EMT	ELECTRICAL METALLIC TUBING		
EOLR	END OF LINE RESISTOR	T/M	THERMAL MAGNETIC CIRCUIT BREAKER
		TBD	TO BE DETERMINED
FACP	FIRE ALARM CONTROL PANEL	TV	TELEVISION / MONITOR OUTLET
FF	FINISH FLOOR	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
FLA	FULL LOAD AMPERES	TYP	TYPICAL
FT	FOOT, FEET		
FBO	FURNISHED BY OTHERS	UH	UNIT HEATER
		UG	UNDERGROUND
G, GND	GROUND	UL	UNDERWRITERS LABORATORIES
GD	GAS DETECTOR	UPS	UNINTERRUPTIBLE POWER SUPPLY
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	UON	UNLESS OTHERWISE NOTED
		USB	UNIVERSAL SERIAL BUS
HH	HAND HOLE	V	VOLTS, VOLTAGE
HP	HORSEPOWER	VA	VOLT-AMPERE
		VFD	VARIABLE FREQUENCY DRIVE
ID	IDENTIFICATION		
IDC	INITIATING DEVICE CIRCUIT	W	WATT, WIRE
IDF	INTERMEDIATE DISTRIBUTION FRAME	WAN	WIDE AREA NETWORK
IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS	WAP	WIRELESS ACCESS POINT
IG	ISOLATED GROUND	WI-FI	WIRELESS FIDELITY
IT	INFORMATION TECHNOLOGY	W/	WITH
		W/O	WITHOUT
JB	JUNCTION BOX	XFMR	TRANSFORMER
		Y	WYE
KAIC	THOUSAND AMPS INTERRUPTING CURRENT	1P	ONE POLE
KCMIL	THOUSAND CIRCULAR MILS	2P	TWO POLE
KVA	KILOVOLT-AMPERE	3P	THREE POLE
KW	KILOWATT	4P	FOUR POLE
LAN	LOCAL AREA NETWORK		
LED	LIGHT EMITTING DIODE		
LS	LIMIT SWITCH		
LSI	ELECTRONIC TRIP UNIT ADJUSTABLE LONG TIME DELAY, SHORT TIME DELAY, INSTANTANEOUS TRIP		
LSIG	ELECTRONIC TRIP UNIT WITH ADJUSTABLE LONG TIME DELAY, SHORT TIME DELAY, INSTANTANEOUS TRIP, AND GROUND FAULT		
LV	LOW VOLTAGE		

General Electrical Notes

- ALL LIGHTING BRANCH CIRCUITS SHALL BE 2#10, 1#10G IN 3/4" CONDUIT, UON.
- ALL 20-AMP RECEPTACLE AND HARDWIRED BRANCH CIRCUITS SHALL BE 2#12, 1#12G IN 3/4" CONDUIT, UON.
- ALL EXIT SIGNS SHALL BE WIRED TO THE LOCAL LIGHTING BRANCH CIRCUIT AHEAD OF ALL SWITCHING.
- PROVIDE 0-10V DIMMING CONDUCTORS TO ALL LUMINAIRES WHICH ARE CONTROLLED BY 0-10V DIMMERS SHOWN ON THE DRAWINGS.

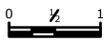
Annotation

- (N) INDICATES NEW EQUIPMENT.
- (E) INDICATES EXISTING EQUIPMENT TO REMAIN.
- (D) INDICATES EXISTING EQUIPMENT TO BE DEMOLISHED.
- (RR)/(RD) INDICATED EXISTING EQUIPMENT OR DEVICE TO BE REMOVED AND REINSTALLED.
-  CONDUIT & CONDUCTOR CALLOUT. REFER TO CONDUIT & CONDUCTOR SCHEDULE.
-  KEYED NOTE CALLOUT. REFER TO CORRESPONDING SHEET KEYNOTES.
-  KEYED NOTE CALLOUT. REFER TO CORRESPONDING SHEET KEYNOTES.
-  KEYED NOTE CALLOUT. REFER TO CORRESPONDING SHEET KEYNOTES.
-  MECHANICAL EQUIPMENT CALLOUT. REFER TO MECHANICAL EQUIPMENT CONNECTION SCHEDULE.
-  DETAIL CALLOUT. REFER TO DETAIL AND SHEET AS INDICATED ON CALLOUT.
-  FIXTURE MOUNTING CALLOUT. HEIGHT ABOVE FINISHED FLOOR (A.F.F.)
-  EQUIPMENT CALLOUT. REFER TO NEMA CONNECTION SCHEDULE.
-  SECTION CALLOUT. REFER TO SECTION AND SHEET AS INDICATED ON CALLOUT.
-  ELEVATION CALLOUT. REFER TO ELEVATION AND SHEET AS INDICATED ON CALLOUT.

G:\PROJECTS\103 - West Yost Associates\1032109 - Sweet Home Wwtp Phase 1 Design\Design(2) Drawings\Current\Sweet Home Wwtp Phase 1 Design\Sheets\1032109-E-001 Electrical Abbreviations.dwg 1032109-E-001 Electrical Abbreviations 7/28/2022 5:46 PM JLUITE 24.1s (LMS Tech)

NO.	DATE	BY	REVISION

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MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT
PHASE 1

ELECTRICAL ABBREVIATIONS

PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

SHEET
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Electrical Symbol Legend

Power Distribution

	DUPLEX RECEPTACLE, MOUNTED AT 18" AFF, UON.
	SIMPLEX RECEPTACLE, MOUNTED AT 18" AFF, UON.
	QUADPLEX RECEPTACLE, MOUNTED AT 18" AFF, UON.
	GFCI DUPLEX RECEPTACLE, MOUNTED AT 18" AFF, UON.
	GFCI QUADPLEX RECEPTACLE, MOUNTED AT 18" AFF, UON.
	TAMPER RESISTANT DUPLEX RECEPTACLE, MOUNTED AT 18" AFF, UON.
	TAMPER RESISTANT QUADPLEX RECEPTACLE, MOUNTED AT 18" AFF, UON.
	SWITCHED DUPLEX RECEPTACLE, MOUNTED AT 18" AFF, UON.
	NEMA SPECIAL RECEPTACLE, MOUNTED AT 18" AFF, UON. NEMA CONFIGURATION AS INDICATED.
	CENTER HATCHED RECEPTACLE TO BE WIRED TO EMERGENCY CIRCUIT.
	RECEPTACLE MOUNTED ON CEILING.
	RECEPTACLE MOUNTED IN-COUNTER.
	DISCONNECT SWITCH.
	FUSED DISCONNECT SWITCH.
	ENCLOSED CIRCUIT BREAKER.
	COMBINATION STARTER.
	FLOORBOX COMBINATION POWER & DATA.
	FLOORBOX POWER.
	POKETHRU COMBINATION POWER & DATA.
	POKETHRU POWER.
	POWER/DATA POLE.
	PANELBOARD SURFACE MOUNT.
	PANELBOARD FLUSH MOUNT.
	MAIN DISTRIBUTION PANEL.
	UTILITY CT METER.
	UTILITY TRANSFORMER.

Drawing Symbol Variables

3	THREE WAY SWITCH.
4	FOUR WAY SWITCH.
#J	QUANTITY OF JACKS AND HORIZONTAL CABLES. J = CAT6, JA = CAT6A, JE = CAT5E
+XX	MOUNTING UNITS EXPRESSED IN INCHES TO CENTERLINE ABOVE FINISHED FLOOR OR GRADE. MOUNTED HORIZONTALLY AT 4" ABOVE COUNTERTOP.
C	CLOCK.
CL	DUAL RELAY.
DR	RED EMERGENCY SWITCH.
E	ELEVATOR RECALL.
EL	EXISTING DEVICE SHALL REMAIN.
ETR	GLASS BREAK SENSOR.
G	KEYED SWITCH.
K	LOW FREQUENCY.
LF	LOW VOLTAGE SWITCH.
LV	MOTOR RATED TOGGLE SWITCH.
M	REPLACE EXISTING WIRING DEVICE AND FACEPLATE WITH NEW. BACK BOX AND CONDUIT SHALL REMAIN.
NEX	INTEGRAL OCCUPANCY SENSOR.
O	ADA PHONE, VERIFY HEIGHT WITH ARCHITECT / OWNER.
P	REMOVE EXISTING DEVICE / EQUIPMENT.
REX	MOUNTED IN TOE KICK OF CASEWORK.
TK	MOUNTED ADJACENT TO TV AT 60" AFF, UON.
TV	VANDAL RESISTANT.
V	WIREGUARD.
WG	WEATHERPROOF.
WP	

Lighting

	TROFFER LUMINAIRE, SURFACE OR RECESS MOUNTED AS INDICATED ON THE DRAWINGS.
	DOWNLIGHT LUMINAIRE, SURFACE, RECESS, OR PENDANT MOUNTED AS INDICATED ON THE DRAWINGS.
	UNDERCABINET LUMINAIRE.
	EMERGENCY BATTERY PACK LUMINAIRE, WALL OR CEILING MOUNTED.
	LINEAR PENDANT MOUNTED LUMINAIRE.
	LINEAR WALL MOUNTED LUMINAIRE.
	BOLLARD LUMINAIRE.
	SITE LUMINAIRE POLE MOUNTED. NUMBER OF HEADS AS SHOWN.
	TRACK LUMINAIRE.
	SPOT LUMINAIRE.
	WALL MOUNTED LUMINAIRE.
	EXIT SIGN, WALL OR CEILING MOUNTED, SINGLE FACE WITH DIRECTIONAL CHEVRONS AS INDICATED ON DRAWINGS.
	EXIT SIGN, WALL OR CEILING MOUNTED, DOUBLE FACE WITH DIRECTIONAL CHEVRONS AS INDICATED ON DRAWINGS.
	HALF HATCHED LUMINAIRE TO BE WIRED TO EMERGENCY CIRCUIT.
	FULL HATCHED LUMINAIRE TO BE WIRED TO NIGHTLIGHT CIRCUIT.
	WALL WASH LUMINAIRE POINTED IN DIRECTION AS SHOWN

Raceways

	CONDUIT AND/OR CONDUCTORS INSTALLED ABOVE GRADE, CONCEALED IN WALL OR CEILING SPACE.
	CONDUIT AND/OR CONDUCTORS INSTALLED BELOW GRADE, BELOW SLAB.
	CONDUIT TURNED DOWN.
	CONDUIT TURNED UP.
	CONDUIT STUBBED AND CAPPED.
	CONDUIT DIRECT CONNECTION TO EQUIPMENT.
	FLEXIBLE CONNECTION TO EQUIPMENT.
	CONDUIT / WIRING CONTINUATION.
	HOMERUN TO PANELBOARD.
	CABLE TRAY. SIZE AND TYPE AS INDICATED ON DRAWINGS.

Switches

	SINGLE POLE SWITCH - MOUNTED AT 42" AFF, UON.
	LOW VOLTAGE 0-10 VOLT DIMMING SWITCH - MOUNTED AT 42" AFF, UON.
	OCCUPANCY SENSOR - CEILING OR WALL MOUNTED.
	OCCUPANCY SENSOR POWER PACK.
	PHOTOCELL - CEILING OR WALL MOUNTED.
	ADA DOOR PUSHPLATE.
	EMERGENCY STOP SWITCH, MUSHROOM HEAD.
	PUSHBUTTON, SINGLE OR DOUBLE.

One-Line Diagram

	CIRCUIT BREAKER.
	DRAWOUT CIRCUIT BREAKER.
	ENCLOSED CIRCUIT BREAKER.
	MOTOR STARTER CONTACT.
	DISCONNECT SWITCH.
	ENCLOSED DISCONNECT SWITCH.
	FUSED DISCONNECT SWITCH.
	ENCLOSED FUSED DISCONNECT SWITCH.
	CURRENT TRANSFORMER METER.
	FUSE, RATING AS SHOWN ON DRAWINGS.
	GENERATOR, CONFIGURATION AS INDICATED ON DRAWING.
	EQUIPMENT GROUND.
	MOTOR, RATED AS INDICATED ON DRAWINGS.
	NEMA CONNECTION.
	PANEL.
	MINI POWER CENTER.
	SHUNT TRIP.
	HEATER.
	REMOTE ANNUNCIATOR.
	BATTERY CHARGER.
	SURGE SUPPRESSION DEVICE.
	DIGITAL METER.
	VARIABLE FREQUENCY DRIVE.
	SOFT STARTER.
	TRANSFER SWITCH, WITH FUSES OR BREAKERS AS SHOWN ON DRAWINGS.
	TRANSFORMER.

Miscellaneous

	JUNCTION BOX (ROUND, SQUARE).
	THERMOSTAT.
	RELAY.
	CORD REEL.
	MOTOR / EXHAUST FAN.
	CEILING FAN.
	UTILITY POLE.
	GROUND ROD.
	GROUND ROD WITH TEST WELL.
	SURFACE RACEWAY / WIREMOLD.
	FIRE RATED BACKBOARD.
	GROUND BUS BAR.

Access Control & Security

	ACCESS CONTROL - DOOR CONTACT. PROVIDE 3/4" CONDUIT FROM DOOR FRAME TO ACCESSIBLE CEILING OR SECURITY JUNCTION BOX AS SHOWN ON THE DRAWINGS.
	ACCESS CONTROL - CARD READER. PROVIDE 3/4" CONDUIT FROM DOOR FRAME TO ACCESSIBLE CEILING OR SECURITY JUNCTION BOX AS SHOWN ON THE DRAWINGS.
	ACCESS CONTROL - ELECTRIC STRIKE. PROVIDE 3/4" CONDUIT FROM DOOR FRAME TO ACCESSIBLE CEILING OR SECURITY JUNCTION BOX AS SHOWN ON THE DRAWINGS.
	ACCESS CONTROL - KEY PAD. PROVIDE 3/4" CONDUIT FROM DOOR FRAME TO ACCESSIBLE CEILING OR SECURITY JUNCTION BOX AS SHOWN ON THE DRAWINGS.
	ACCESS CONTROL - MAGNETIC LOCK. PROVIDE 3/4" CONDUIT FROM DOOR FRAME TO ACCESSIBLE CEILING OR SECURITY JUNCTION BOX AS SHOWN ON THE DRAWINGS.
	ACCESS CONTROL - REQUEST TO EXIT. PROVIDE 3/4" CONDUIT FROM DOOR FRAME TO ACCESSIBLE CEILING OR SECURITY JUNCTION BOX AS SHOWN ON THE DRAWINGS.
	ACCESS CONTROL - ELECTRIFIED PANIC BAR. PROVIDE 3/4" CONDUIT FROM DOOR FRAME TO ACCESSIBLE CEILING OR SECURITY JUNCTION BOX AS SHOWN ON THE DRAWINGS.
	ACCESS CONTROL - SECURITY JUNCTION BOX. SIZED AS RECOMMENDED BY SECURITY SYSTEM MANUFACTURER.
	ACCESS CONTROL - CAMERA / INTERCOM.
	ACCESS CONTROL - PANIC BUTTON.
	SECURITY CAMERA - CEILING MOUNTED. PROVIDE ONE (1) CAT6.
	SECURITY CAMERA - WALL MOUNTED. PROVIDE ONE (1) CAT6.
	INTRUSION SENSOR - CEILING MOUNTED.
	INTRUSION SENSOR - WALL MOUNTED.
	INTRUSION KEYPAD.

Low Voltage

	ETHERNET OUTLET MOUNTED AT 18" AFF, UON.
	COAXIAL OUTLET MOUNTED AT 18" AFF, UON.
	PHONE OUTLET MOUNTED AT 18" AFF, UON.
	LOW VOLTAGE OUTLET CEILING MOUNTED.
	WIRELESS ACCESS POINT CEILING MOUNTED.
	WIRELESS ACCESS POINT WALL MOUNTED.
	DIGITAL CLOCK.
	FLOORBOX DATA.
	POKETHRU DATA.
	IT RACK.
	VERTICAL WIRE MANAGEMENT.

NO.	DATE	BY	REVISION

NOTICE
0 1/2 1
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MB
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JL
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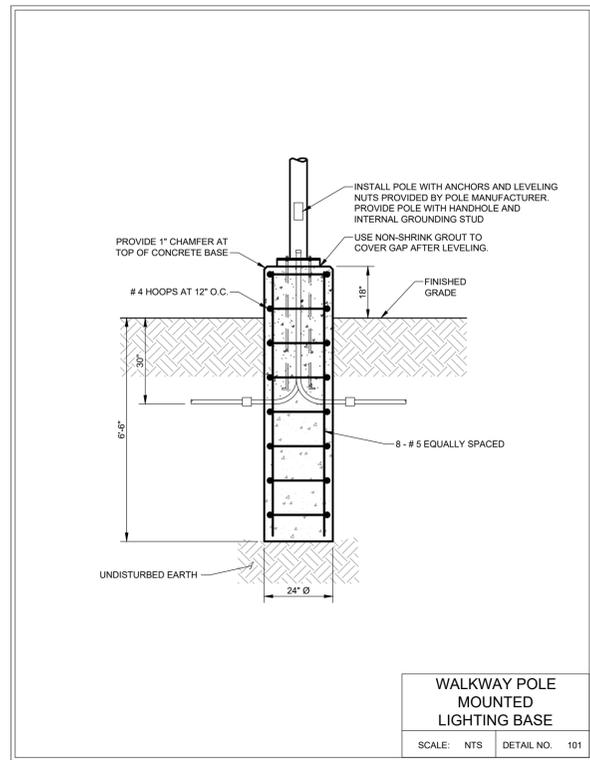


MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

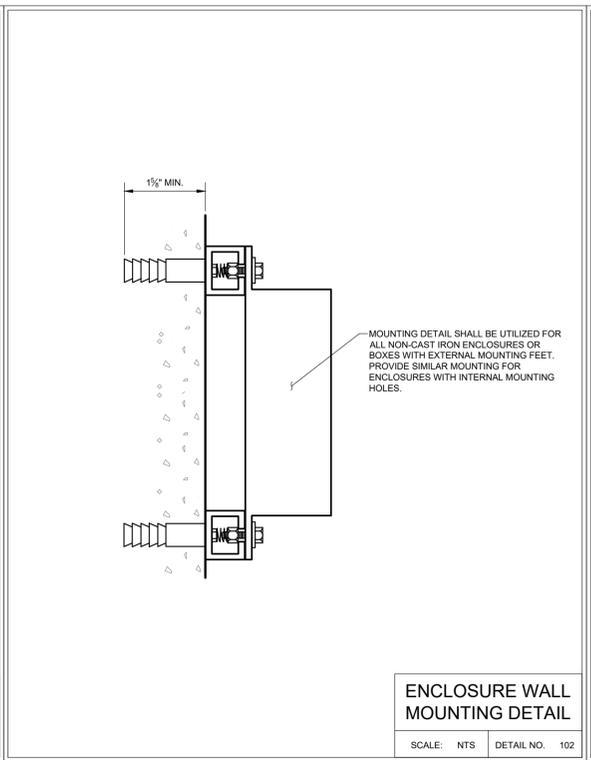
ELECTRICAL SYMBOL LEGEND		
PROJECT NO.: 936-50-21-09	SCALE: AS NOTED	DATE: AUGUST 2022

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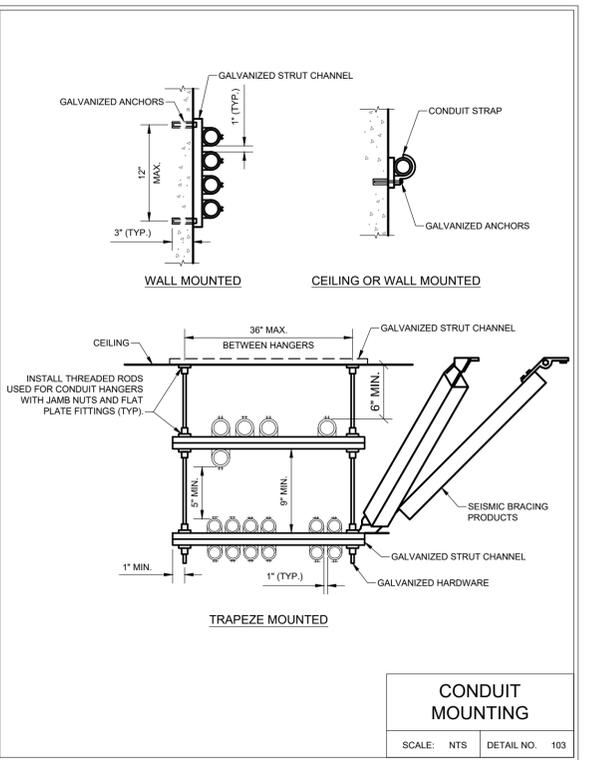
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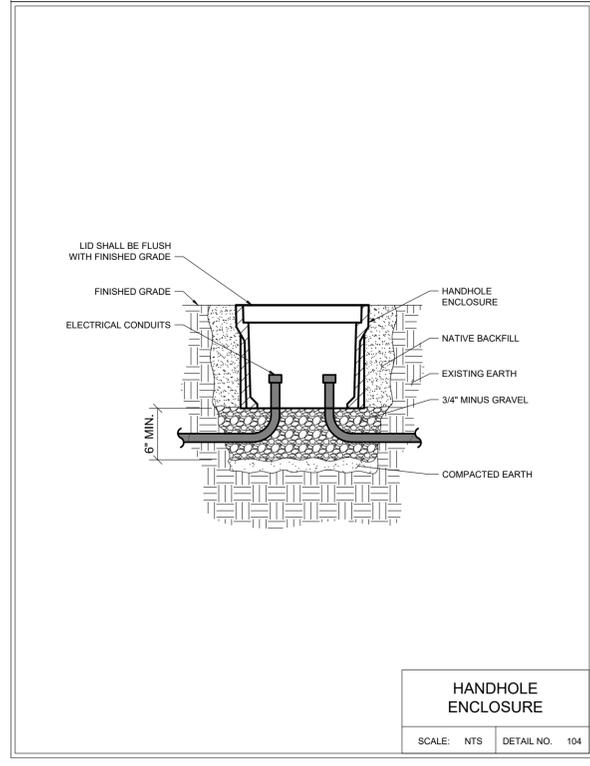
WALKWAY POLE MOUNTED LIGHTING BASE
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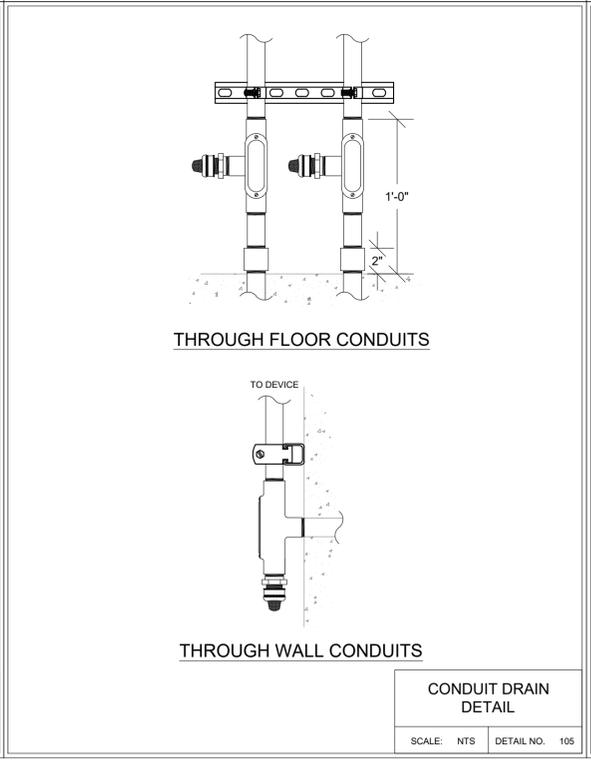
ENCLOSURE WALL MOUNTING DETAIL
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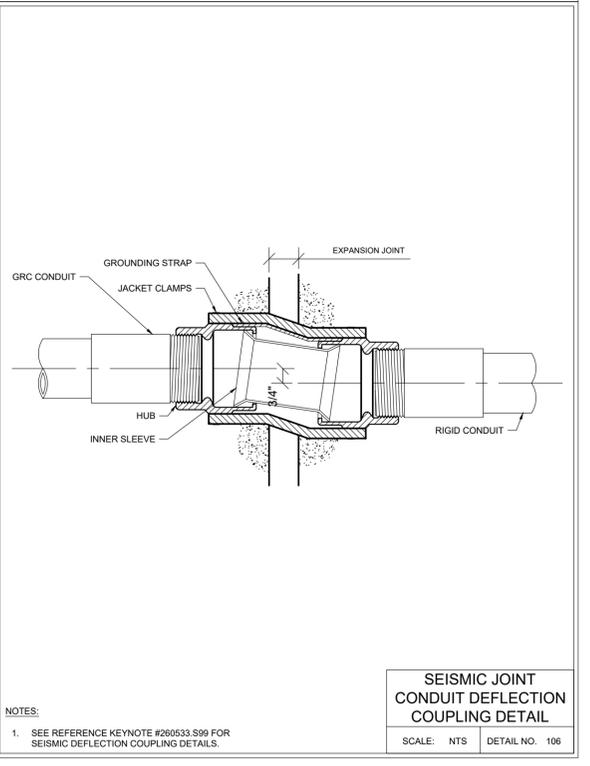
CONDUIT MOUNTING
 SCALE: NTS DETAIL NO. 103



HANDHOLE ENCLOSURE
 SCALE: NTS DETAIL NO. 104



CONDUIT DRAIN DETAIL
 SCALE: NTS DETAIL NO. 105



NOTES:
 1. SEE REFERENCE KEYNOTE #260533.S99 FOR SEISMIC DEFLECTION COUPLING DETAILS.

SEISMIC JOINT CONDUIT DEFLECTION COUPLING DETAIL
 SCALE: NTS DETAIL NO. 106

NO.	DATE	BY	REVISION

NOTICE
 0 1/2 1
 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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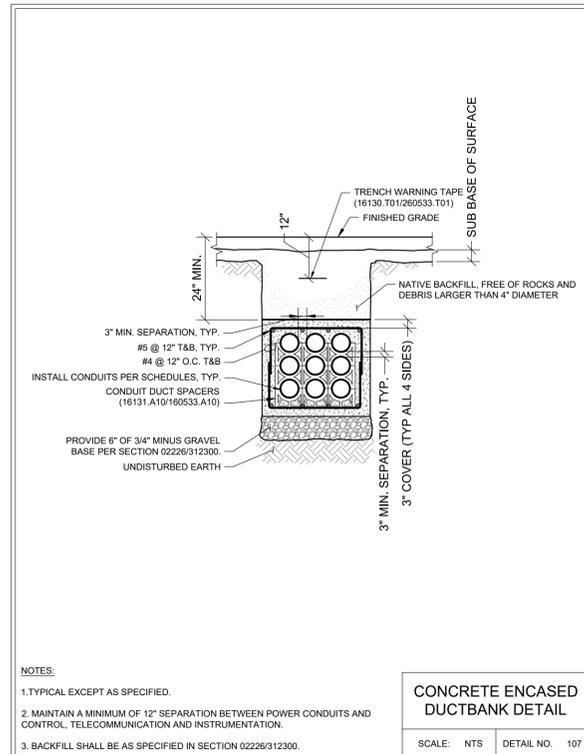
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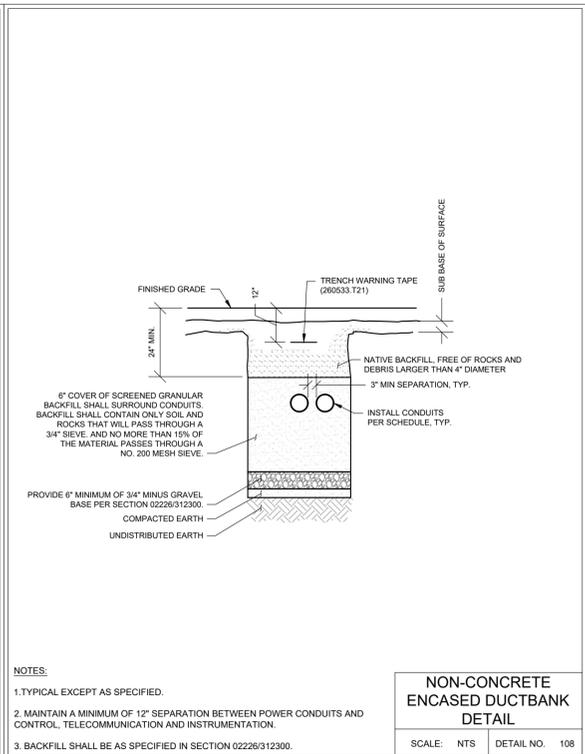
ELECTRICAL DETAILS 1
 PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

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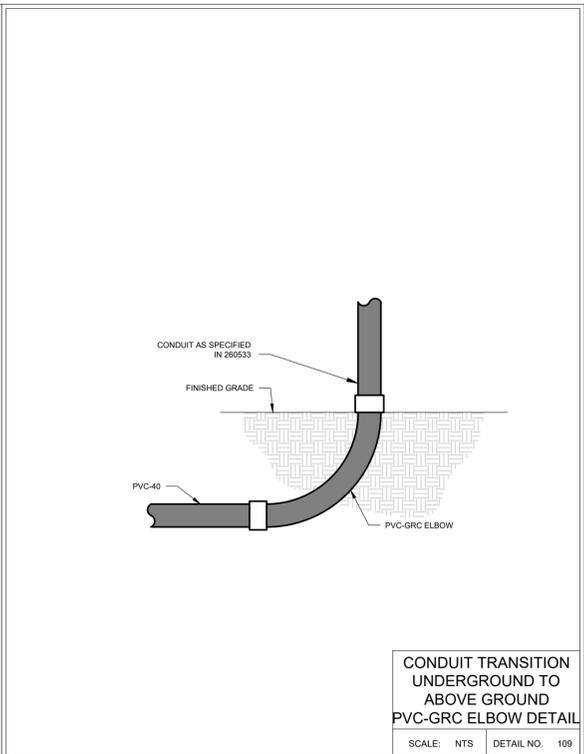
NOTES:
 1. TYPICAL EXCEPT AS SPECIFIED.
 2. MAINTAIN A MINIMUM OF 12\"/>

CONCRETE ENCASED DUCTBANK DETAIL
 SCALE: NTS DETAIL NO. 107

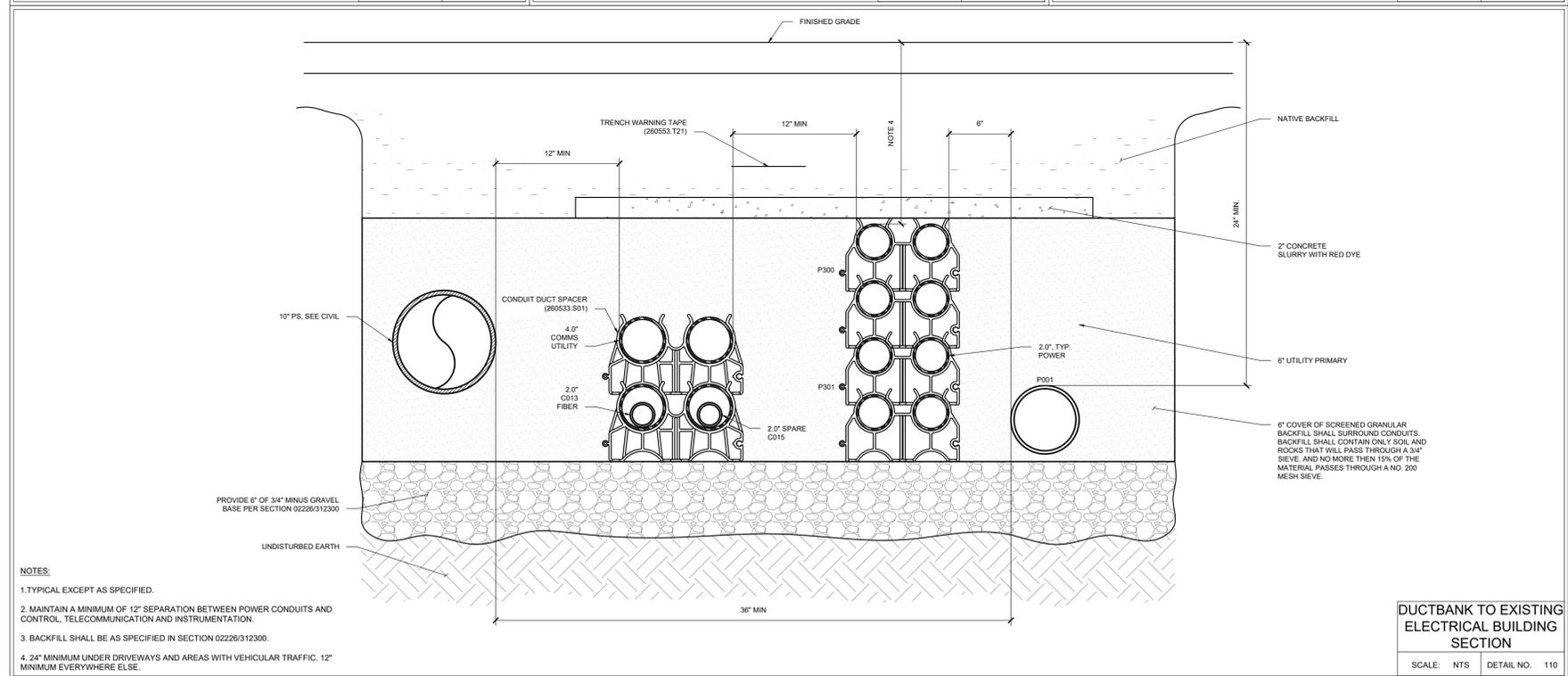


NOTES:
 1. TYPICAL EXCEPT AS SPECIFIED.
 2. MAINTAIN A MINIMUM OF 12\"/>

NON-CONCRETE ENCASED DUCTBANK DETAIL
 SCALE: NTS DETAIL NO. 108



CONDUIT TRANSITION UNDERGROUND TO ABOVE GROUND PVC-GRC ELBOW DETAIL
 SCALE: NTS DETAIL NO. 109



NOTES:
 1. TYPICAL EXCEPT AS SPECIFIED.
 2. MAINTAIN A MINIMUM OF 12\"/>

DUCTBANK TO EXISTING ELECTRICAL BUILDING SECTION
 SCALE: NTS DETAIL NO. 110

NO.	DATE	BY	REVISION

NOTICE

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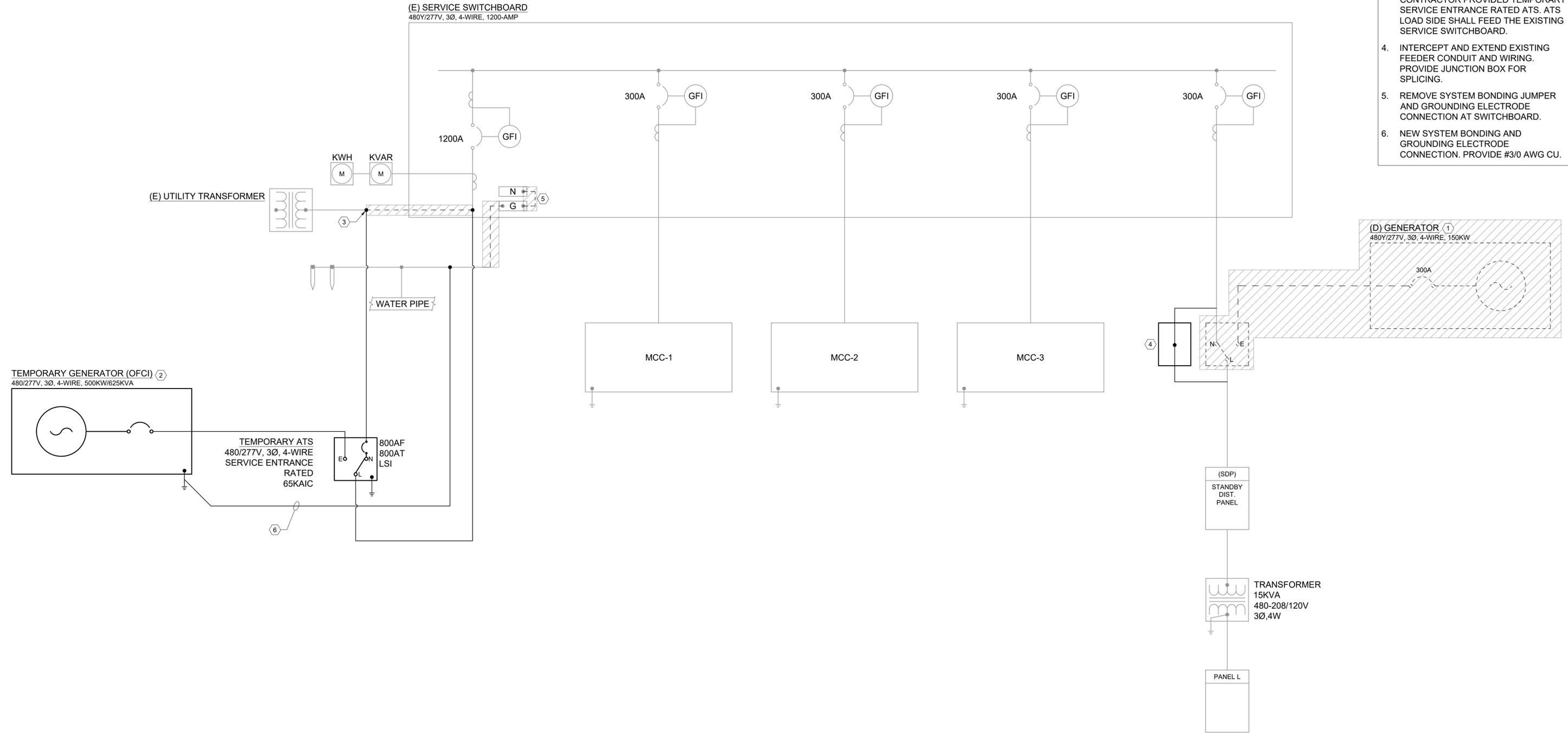
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MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

ELECTRICAL DETAILS 2
 PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

- SHEET KEY NOTES**
1. DEMOLISH EXISTING GENERATOR IN THE EXISTING ELECTRICAL BUILDING.
 2. EXISTING PLANT SHALL HAVE TEMPORARY EMERGENCY POWER FED BY THE OWNER FURNISHED. CONTRACTOR INSTALLED (OFCI) TEMPORARY GENSET DURING CONSTRUCTION OF PHASE 1.
 3. CONTRACTOR SHALL INTERCEPT EXISTING UTILITY FEED AND WIRE TO CONTRACTOR PROVIDED TEMPORARY SERVICE ENTRANCE RATED ATS. ATS LOAD SIDE SHALL FEED THE EXISTING SERVICE SWITCHBOARD.
 4. INTERCEPT AND EXTEND EXISTING FEEDER CONDUIT AND WIRING. PROVIDE JUNCTION BOX FOR SPLICING.
 5. REMOVE SYSTEM BONDING JUMPER AND GROUNDING ELECTRODE CONNECTION AT SWITCHBOARD.
 6. NEW SYSTEM BONDING AND GROUNDING ELECTRODE CONNECTION. PROVIDE #3/0 AWG CU.



NO.	DATE	BY	REVISION

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MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

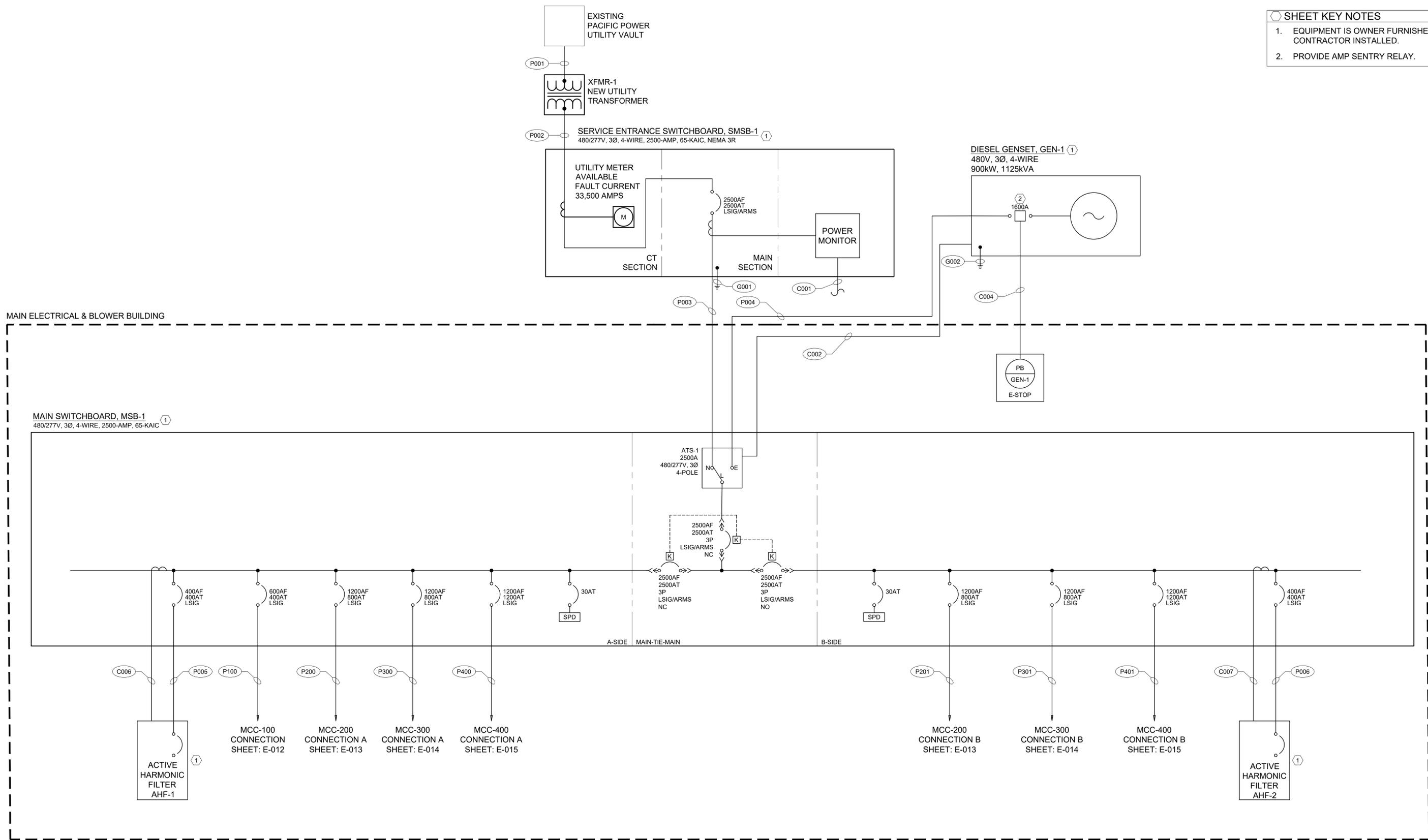
EXISTING CONDITIONS AND DEMOLITION ONE-LINE DIAGRAM

PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

SHEET **E-010**
 75 of 135

G:\PROJECTS\103 - West Yost Associates\1032109 - Sweet Home Wwtp Phase 1 Design\Design(2) Drawings\Current\sweet Home Wwtp Phase 1 Design\Entrance One-Line Diagram.dwg E-011 Service Entrance One-Line Diagram 8/17/2022 8:12 AM JLUITE 24.1s (LMS Tech)

- SHEET KEY NOTES**
- EQUIPMENT IS OWNER FURNISHED, CONTRACTOR INSTALLED.
 - PROVIDE AMP SENTRY RELAY.



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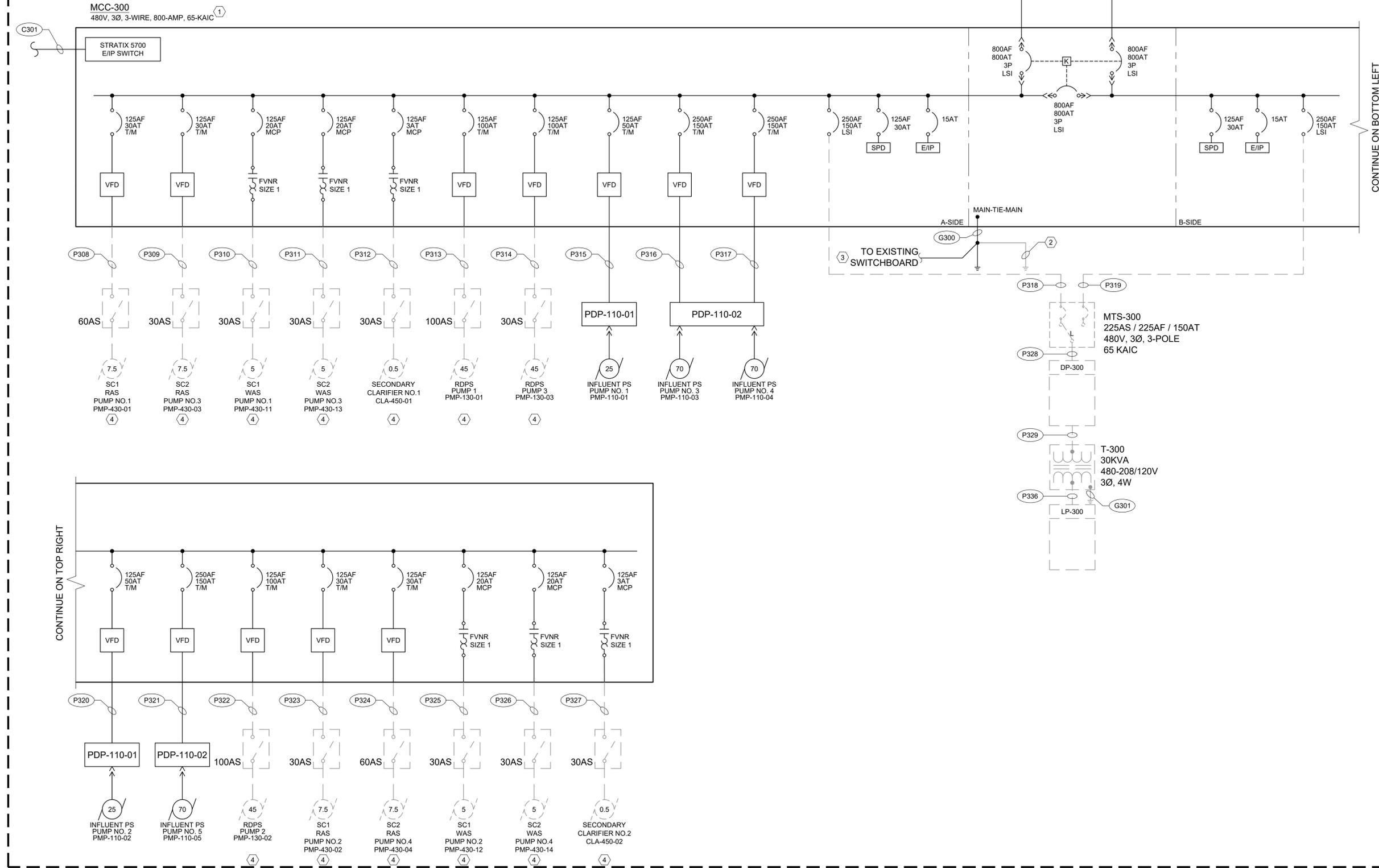
MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

SERVICE ENTRANCE ONE-LINE DIAGRAM

PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

SHEET
E-011
76 of 135

SOUTH ELECTRICAL BUILDING (EXISTING ELECTRICAL ROOM)



- GENERAL SHEET NOTES**
- MCC-300 IS PART OF PHASE 1 SCOPE.
- SHEET KEY NOTES**
- EQUIPMENT IS OWNER FURNISHED, CONTRACTOR INSTALLED.
 - PROVIDE GROUNDING ELECTRODE CONDUCTOR BONDED TO THE EXISTING GROUNDING ELECTRODE SYSTEM. INSTALL NEW GROUND RODS OUTSIDE THE BUILDING AND GROUND MCC-300.
 - EXTEND THE GROUNDING ELECTRODE CONDUCTOR FROM MCC-300 TO THE EXISTING SWITCHBOARD.
 - SECONDARY CLARIFIERS AND RAS/WAS PUMPS ARE PART OF PHASE 2, NOT PART OF THIS SCOPE.

NO.	DATE	BY	REVISION

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MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

MCC-300 ONE-LINE DIAGRAM

SHEET **E-014**

PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022 78 of 135

SERVICE ENTRANCE POWER CONDUIT / CONDUCTOR SCHEDULE											
CONDUIT ID NO.	CONDUIT		CONDUCTORS PER CONDUIT					FROM	TO	DESCRIPTION	NOTES
	QUANTITY	SIZE	UNGROUND	GROUND	GROUNDING	CABLE	SPARE				
P001	1	6.0 INCH	-	-	-	-	-	EXISTING UTILITY VAULT	NEW UTILITY XFMR-1	INSTALL PER UTILITY REQUIREMENTS	-
P002	6	6.0 INCH	-	-	-	-	-	NEW UTILITY XFMR-1	SMSB-1	INSTALL PER UTILITY REQUIREMENTS	-
P003	7	4.0 INCH	3 - #500	1 - #500	1 - #350	-	-	SMSB-1	MSB-1	-	-
P004	5	4.0 INCH	3 - #500	1 - #500	1 - #4/0	-	-	MSB-1	GENSET, GEN-1	-	-
P005	2	2.5 INCH	3 - #3/0	-	1 - #3	-	-	MSB-1	AHF-1	-	-
P006	2	2.5 INCH	3 - #3/0	-	1 - #3	-	-	MSB-1	AHF-2	-	-
P100	2	2.5 INCH	-	-	-	-	-	MSB-1	MCC-100	STUB OUT CONDUIT OUTSIDE OF MAIN ELECTRICAL & BLOWER BUILDING CONCRETE PAD. SEE E-102 FOR SITE PLAN.	-
P200	4	2.5 INCH	3 - #3/0	-	1 - #1/0	-	-	MSB-1	MCC-200	-	-
P201	4	2.5 INCH	3 - #3/0	-	1 - #1/0	-	-	MSB-1	MCC-200	-	-
P300	4	2.5 INCH	3 - #250	-	1 - #3/0	-	-	MSB-1	MCC-300	-	-
P301	4	2.5 INCH	3 - #250	-	1 - #3/0	-	-	MSB-1	MCC-300	-	-
P400	4	3.0 INCH	-	-	-	-	-	MSB-1	MCC-400	STUB OUT CONDUIT OUTSIDE OF MAIN ELECTRICAL & BLOWER BUILDING CONCRETE PAD. SEE E-102 FOR SITE PLAN.	-
P401	4	3.0 INCH	-	-	-	-	-	MSB-1	MCC-400	STUB OUT CONDUIT OUTSIDE OF MAIN ELECTRICAL & BLOWER BUILDING CONCRETE PAD. SEE E-102 FOR SITE PLAN.	-

NOTES:

MCC-100 POWER CONDUIT / CONDUCTOR SCHEDULE											
CONDUIT ID NO.	CONDUIT		CONDUCTORS PER CONDUIT					FROM	TO	DESCRIPTION	NOTES
	QUANTITY	SIZE	UNGROUND	GROUND	GROUNDING	CABLE	SPARE				
P101	1	0.75 INCH	3 - #12	-	1 - #12	-	-	MCC-100	RAW SEWAGE SCREEN NO.1 SCN-230-10	-	1
P102	1	0.75 INCH	3 - #12	-	1 - #12	-	-	MCC-100	RAW SEWAGE SCREEN NO.2 SCN-230-20	-	1
P103	1	0.75 INCH	3 - #12	-	1 - #12	-	-	MCC-100	SCREENINGS WASH PRESS SWP-230-01	-	1
P104	1	0.75 INCH	3 - #12	-	1 - #10	-	-	MCC-100	GRIT PUMP PMP-240-01	-	1
P105	1	0.75 INCH	3 - #12	-	1 - #12	-	-	MCC-100	GRIT BASIN DRIVE MTR-240-01	-	1
P106	1	0.75 INCH	3 - #12	-	1 - #12	-	-	MCC-100	GRIT CLASSIFIER CLS-240-01	-	1
P107	1	0.75 INCH	3 - #12	-	1 - #12	-	-	MCC-100	DEWATERING CONDITIONING TANK MIXER MIX-250-01	-	1
P108	1	0.75 INCH	3 - #12	-	1 - #12	-	-	MCC-100	DEWATERING SCREW PRESS DEW-250-02	-	1
P109	1	0.75 INCH	3 - #12	-	1 - #12	-	-	MCC-100	DEWATERING CONVEYOR 1 INCLINE CON-250-03	-	1
P110	1	0.75 INCH	3 - #12	-	1 - #12	-	-	MCC-100	DEWATERING CONVEYOR 2 HORIZONTAL CON-250-04	-	1
P111	1	0.75 INCH	3 - #12	-	1 - #12	-	-	MCC-100	DEWATERING CONVEYOR 3 LEVEL LODER CON-250-05	-	1
P112	1	0.75 INCH	3 - #12	-	1 - #12	-	-	MCC-100	DEWATERING POLYMER FEED PUMP NO.1 POL-250-04	-	1
P113	1	0.75 INCH	3 - #12	-	1 - #12	-	-	MCC-100	DEWATERING POLYMER FEED PUMP NO.2 POL-250-05	-	1
P114	1	1.5 INCH	3 - #2	-	1 - #6	-	-	MCC-100	TRANSFORMER T-ADMIN	-	1
P115	1	2.5 INCH	3 - #3/0	-	1 - #6	-	-	MCC-100	PANEL DP-100	-	1
P116	2	2.0 INCH	3 - #1/0	-	1 - #6	-	-	TRANSFORMER T-ADMIN	T-ADMIN DS	-	1
P117	1	1.25 INCH	3 - #4	-	1 - #8	-	-	PANEL DP-100	TRANSFORMER T-100	-	1
P118	1	0.75 INCH	3 - #12	-	1 - #12	-	-	PANEL DP-100	HEADWORKS SCREEN NO.1 INFLUENT GATE SLG-230-01	WIRE TO PANEL DP-100, CIRCUIT #13,15,17	1
P119	1	0.75 INCH	3 - #12	-	1 - #12	-	-	PANEL DP-100	HEADWORKS SCREEN NO.1 EFFLUENT GATE SLG-230-02	WIRE TO PANEL DP-100, CIRCUIT #19,21,23	1
P120	1	0.75 INCH	3 - #12	-	1 - #12	-	-	PANEL DP-100	HEADWORKS SCREEN NO.2 INFLUENT GATE SLG-230-03	WIRE TO PANEL DP-100, CIRCUIT #25,27,29	1
P121	1	0.75 INCH	3 - #12	-	1 - #12	-	-	PANEL DP-100	HEADWORKS SCREEN NO.2 EFFLUENT GATE SLG-230-04	WIRE TO PANEL DP-100, CIRCUIT #20,22,24	1
P122	1	0.75 INCH	3 - #12	-	1 - #12	-	-	PANEL DP-100	MAIN CHANNEL GATE SLG-230-05	WIRE TO PANEL DP-100, CIRCUIT #26,28,30	1
P123	1	0.75 INCH	3 - #12	-	1 - #12	-	-	PANEL DP-100	BYPASS CHANNEL GATE SLG-230-06	WIRE TO PANEL DP-100, CIRCUIT #32,34,36	1
P124	1	0.75 INCH	3 - #12	-	1 - #12	-	-	PANEL DP-100	MAIN GATE REMOVAL BASIN EFFLUENT CHANNEL GATE SLG-240-04	WIRE TO PANEL DP-100, CIRCUIT #31,33,35	1
P125	1	0.75 INCH	3 - #12	-	1 - #12	-	-	PANEL DP-100	RAW SEWAGE BYPASS CHANNEL GATE SLG-240-05	WIRE TO PANEL DP-100, CIRCUIT #37,39,41	1
P126	2	2.0 INCH	3 - #1/0	-	1 - #4	-	-	T-ADMIN DS	PANEL ADMIN	-	1
P127	1	2.5 INCH	3 - #2/0	-	1 - #4	-	-	TRANSFORMER T-100	PANEL LP-100	-	1
P128	-	-	-	-	-	-	-	-	-	-	-
P129	-	-	-	-	-	-	-	-	-	-	-
P130	-	-	-	-	-	-	-	-	-	-	-

NOTES:
 [1] EQUIPMENT IS PART OF PHASE 2, NOT PART OF THIS SCOPE.

NO.	DATE	BY	REVISION

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MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT
 PHASE 1

POWER CONDUIT SCHEDULE 1

SHEET
E-020
 79 of 135

MCC-200 POWER CONDUIT / CONDUCTOR SCHEDULE												
CONDUIT ID NO.	CONDUIT		CONDUCTORS PER CONDUIT					FROM	TO	DESCRIPTION	NOTES	
	QUANTITY	SIZE	UNGROUNDED	GROUNDED	GROUNDED	CABLE	SPARE					
P202	1	4.0 INCH	-	-	-	-	-	MCC-200	CONDUIT DUCTBANK	POWER CONDUIT TO PRIMARY CLARIFIERS	2	
P203	1	4.0 INCH	-	-	-	-	-	MCC-200	CONDUIT DUCTBANK	POWER CONDUIT TO AERATION BASINS	2	
P204	1	4.0 INCH	-	-	-	-	-	MCC-200	CONDUIT DUCTBANK	POWER CONDUIT TO ODOR CONTROL	2	
P205	1	2.0 INCH	-	-	-	-	-	DP-200	JB-P200	POWER CONDUIT FOR 480V CIRCUITS	3	
P206	1	2.0 INCH	-	-	-	-	-	LP-200	JB-P201	POWER CONDUIT FOR 120V CIRCUITS	3	
P207	1	2.0 INCH	-	-	-	-	-	LP-200	JB-P201	POWER CONDUIT FOR 120V CIRCUITS	3	
P208	1	0.75 INCH	3 - #12	-	1 - #12	-	-	PRIMARY CLARIFIER JUNCTION BOX	PRIMARY CLARIFIER SLUDGE COLLECTOR NO.1 COL-310-10	(FUTURE)	1	
P209	1	0.75 INCH	3 - #12	-	1 - #12	-	-	PRIMARY CLARIFIER JUNCTION BOX	PRIMARY CLARIFIER SCUM COLLECTOR NO.1 SKM-310-11	(FUTURE)	1	
P210	1	0.75 INCH	3 - #12	-	1 - #12	-	-	PRIMARY CLARIFIER JUNCTION BOX	PRIMARY CLARIFIER SLUDGE COLLECTOR NO.2 COL-310-20	(FUTURE)	1	
P211	1	0.75 INCH	3 - #12	-	1 - #12	-	-	PRIMARY CLARIFIER JUNCTION BOX	PRIMARY CLARIFIER SLUDGE COLLECTOR NO.2 SKM-310-21	(FUTURE)	1	
P212	1	1.0 INCH	3 - #6	-	1 - #10	-	-	PRIMARY CLARIFIER JUNCTION BOX	PRIMARY SLUDGE PUMP NO.1 PMP-310-01	(FUTURE)	1	
P213	1	1.0 INCH	3 - #6	-	1 - #10	-	-	PRIMARY CLARIFIER JUNCTION BOX	PRIMARY SLUDGE PUMP NO.2 PMP-310-02	(FUTURE)	1	
P214	1	0.75 INCH	3 - #10	-	1 - #12	-	-	PRIMARY CLARIFIER JUNCTION BOX	PRIMARY SCUM PUMP NO.1 PMP-310-05	(FUTURE)	1	
P215	1	1.25 INCH	3 - #4	-	1 - #8	-	-	MCC-200	AERATION BLOWER 1 BLO-310-01	INSTALL CONDUIT, CONDUCTORS SHALL BE PART OF PHASE 2.	1	
P216	1	1.25 INCH	3 - #8	-	1 - #10	-	-	MCC-200	AERATION BLOWER 3 BLO-410-03	INSTALL CONDUIT, CONDUCTORS SHALL BE PART OF PHASE 2.	1	
P217	1	0.75 INCH	3 - #10	-	1 - #12	-	-	AERATION BASIN JUNCTION BOX	AB1 SWING-N MIXER 1 MIX-420-03	(FUTURE)	1	
P218	1	0.75 INCH	3 - #10	-	1 - #12	-	-	AERATION BASIN JUNCTION BOX	AB1 SWING-N MIXER 2 MIX-420-04	(FUTURE)	1	
P219	1	1.25 INCH	3 - #4	-	1 - #10	-	-	AERATION BASIN JUNCTION BOX	AB1 IMLR PUMP 1 PMP-430-01	(FUTURE)	1	
P220	1	1.25 INCH	3 - #4	-	1 - #10	-	-	AERATION BASIN JUNCTION BOX	AB2 IMLR PUMP 2 PMP-430-02	(FUTURE)	1	
P221	1	1.5 INCH	3 - #1	-	1 - #10	-	-	ODOR CONTROL JUNCTION BOX	HEADWORKS ODOR FAN NO.1 BLO-320-01	(FUTURE)	1	
P222	1	0.75 INCH	3 - #12	-	1 - #12	-	-	ODOR CONTROL JUNCTION BOX	PRIMARY CLARIFIER ODOR FAN NO.1 BLO-330-01	(FUTURE)	1	
P223	1	2.5 INCH	3 - #3/0	-	1 - #6	-	-	MCC-200	MTS-200	-	-	
P224	1	2.5 INCH	3 - #3/0	-	1 - #6	-	-	MCC-200	MTS-200	-	-	
P225	1	0.75 INCH	3 - #12	-	1 - #12	-	-	PRIMARY CLARIFIER JUNCTION BOX	PRIMARY CLARIFIER SLUDGE COLLECTOR NO.3 COL-310-30	(FUTURE)	1	
P226	1	0.75 INCH	3 - #12	-	1 - #12	-	-	PRIMARY CLARIFIER JUNCTION BOX	PRIMARY CLARIFIER SCUM COLLECTOR NO.3 SKM-310-31	(FUTURE)	1	
P227	1	1.0 INCH	3 - #10	-	1 - #10	-	-	PRIMARY CLARIFIER JUNCTION BOX	PRIMARY SLUDGE PUMP NO.3 PMP-310-03	(FUTURE)	1	
P228	1	1.25 INCH	3 - #4	-	1 - #8	-	-	MCC-200	AERATION BLOWER 2 BLO-410-02	INSTALL CONDUIT, CONDUCTORS SHALL BE PART OF PHASE 2.	1	
P229	1	1.25 INCH	3 - #8	-	1 - #10	-	-	MCC-200	AERATION BLOWER 4 BLO-410-04	INSTALL CONDUIT, CONDUCTORS SHALL BE PART OF PHASE 2.	1	
P230	1	1.25 INCH	3 - #4	-	1 - #8	-	-	MCC-200	AERATION BLOWER 5 BLO-410-05	INSTALL CONDUIT, CONDUCTORS SHALL BE PART OF PHASE 2.	1	
P231	1	1.25 INCH	3 - #4	-	1 - #8	-	-	MCC-200	AERATION BLOWER 6 BLO-410-06	INSTALL CONDUIT, CONDUCTORS SHALL BE PART OF PHASE 2.	1	
P232	1	0.75 INCH	3 - #10	-	1 - #12	-	-	AERATION BASIN JUNCTION BOX	AB3 SWING-S MIXER 1 MIX-420-07	(FUTURE)	1	
P233	1	1.25 INCH	3 - #4	-	1 - #10	-	-	AERATION BASIN JUNCTION BOX	AB3 IMLR PUMP 2 PMP-430-02	(FUTURE)	1	
P240	1	2.5 INCH	3 - #3/0	-	1 - #6	-	-	MTS-200	PANEL DP-200	-	-	
P241	1	1.0 INCH	3 - #6	-	1 - #10	-	-	PANEL DP-200	TRANSFORMER T-200	CKT. 1,3,5	-	
P242	1	0.75 INCH	3 - #10	-	1 - #10	-	-	PANEL DP-200	GEN-1 BLOCK HEATER	CKT. 2,4,6	-	
P243	1	0.75 INCH	3 - #12	-	1 - #12	-	-	PANEL DP-200	MOTORIZED ENTRY GATE	CKT. 7,9,11. INSTALL CONDUIT, CONDUCTORS SHALL BE PART OF PHASE 2.	1	
P244	1	0.75 INCH	3 - #8	-	1 - #10	-	-	PANEL DP-200	TRANSFORMER T-210	CKT. 13,15,17 EXISTING BATHROOM PANEL	-	
P245	-	-	-	-	-	-	-	-	-	-	-	
P246	-	-	-	-	-	-	-	-	-	-	-	
P247	-	-	-	-	-	-	-	-	-	-	-	
P248	-	-	-	-	-	-	-	-	-	-	-	
P249	-	-	-	-	-	-	-	-	-	-	-	
P250	1	2.0 INCH	3 - #1	1 - #1	1 - #6	-	-	TRANSFORMER T-200	PANEL LP-200	-	-	
P251	1	0.75 INCH	1 - #12	1 - #12	1 - #12	-	-	PANEL LP-200	MEB BUILDING EXTERIOR LIGHTS	CKT. 1	-	
P252	1	0.75 INCH	1 - #12	1 - #12	1 - #12	-	-	PANEL LP-200	CONTROL PANEL, CP-200	CKT. 2	-	
P253	1	0.75 INCH	1 - #12	1 - #12	1 - #12	-	-	PANEL LP-200	LIGHTS RM. 420	CKT. 3	-	
P254	1	0.75 INCH	1 - #12	1 - #12	1 - #12	-	-	PANEL LP-200	GEN-1 BATTERY CHARGER	CKT. 4	-	
P255	1	0.75 INCH	1 - #12	1 - #12	1 - #12	-	-	PANEL LP-200	LIGHTS RM. 421	CKT. 5	-	
P256	1	0.75 INCH	2 - #12	-	1 - #12	-	-	PANEL LP-200	GEN-1 COOLANT HEATER	CKT. 6,8	-	
P257	1	0.75 INCH	1 - #12	1 - #12	1 - #12	-	-	PANEL LP-200	RECEPTACLES RM. 420	CKT. 7	-	
P258	1	0.75 INCH	1 - #12	1 - #12	1 - #12	-	-	PANEL LP-200	RECEPTACLES RM. 421 & BUILDING EXTERIOR	CKT. 9	-	
P260	1	0.75 INCH	-	-	-	10/3 TRIPLEX AERIAL	-	PANEL LP-200	EXISTING UTILITY POLE LIGHTS	PROVIDE 10/3 AERIAL TRIPLEX CABLE AS SPECIFIED IN 260519.	4	
P261	1	0.75 INCH	1 - #12	1 - #12	1 - #12	-	-	PANEL LP-200	ENTRY GATE LIGHT	CKT. 16. WIRE ENTRY GATE LIGHT VIA LIGHT SWITCH IN MEB ELECTRICAL ROOM.	-	
P270	1	2.0 INCH	2 - #1/0	-	1 - #6	-	-	TRANSFORMER T-210	EXISTING BATHROOM PANEL	-	-	

NOTES:
 [1] EQUIPMENT IS PART OF PHASE 2. NOT PART OF THIS SCOPE.
 [2] STUB OUT CONDUIT OUTSIDE OF MAIN ELECTRICAL & BLOWER BUILDING CONCRETE PAD. CONDUITS SHALL BE EXTENDED TO THEIR LOCATION AS PART OF PHASE 2.
 [3] STUB OUT CONDUIT OUTSIDE OF MAIN ELECTRICAL & BLOWER BUILDING CONCRETE PAD. TERMINATE CONDUIT AT IN-GROUND POWER JUNCTION BOXES AS IDENTIFIED ON THE SITE PLAN.
 [4] PROVIDE CONDUIT UNDERGROUND TO POLE #1301-312822. PROVIDE CONDUIT RISER UP TO EXISTING LUMINAIRE. EXTEND OVERHEAD WIRING TO POLE #1301-312821.

NO.	DATE	BY	REVISION

NOTICE

 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

POWER CONDUIT SCHEDULE 2

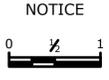
PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

SHEET
E-021
 80 of 135

MCC-300 POWER CONDUIT / CONDUCTOR SCHEDULE											
CONDUIT ID NO.	CONDUIT		CONDUCTORS PER CONDUIT					FROM	TO	DESCRIPTION	NOTES
	QUANTITY	SIZE	UNGROUND	GROUND	GROUNDING	CABLE	SPARE				
P302	1	4.0 INCH	-	-	-	-	-	MCC-300	JB-P303	POWER CONDUIT TO RAS/WAS PUMP STATIONS. ROUTE VIA SST-JB-P302	2
P303	1	4.0 INCH	-	-	-	-	-	MCC-300	JB-P303	POWER CONDUIT TO SECONDARY CLARIFIERS. ROUTE VIA SST-JB-P302	2
P304	1	3.0 INCH	-	-	-	-	-	MCC-300	JB-P303	SPARE POWER CONDUIT. ROUTE VIA SST-JB-P302	2
P305	1	2.0 INCH	-	-	-	-	-	SST-JB-P302	JB-P303	SPARE POWER CONDUIT FOR 480V CIRCUITS	-
P306	1	2.0 INCH	-	-	-	-	-	SST-JB-P302	JB-P303	SPARE POWER CONDUIT FOR 480V CIRCUITS	-
P307	1	2.0 INCH	-	-	-	-	-	SST-JB-P302	JB-P303	SPARE POWER CONDUIT FOR 120V CIRCUITS	-
P308	1	0.75 INCH	3 - #12	-	1 - #10	-	-	MCC-300	SC1 RAS PUMP NO. 1 PMP-430-01	(FUTURE)	1
P309	1	0.75 INCH	3 - #12	-	1 - #10	-	-	MCC-300	SC2 RAS PUMP NO. 3 PMP-430-03	(FUTURE)	1
P310	1	0.75 INCH	3 - #12	-	1 - #12	-	-	MCC-300	SC1 WAS PUMP NO. 1 PMP-430-11	(FUTURE)	1
P311	1	0.75 INCH	3 - #12	-	1 - #12	-	-	MCC-300	SC2 WAS PUMP NO. 3 PMP-430-13	(FUTURE)	1
P312	1	0.75 INCH	3 - #12	-	1 - #12	-	-	MCC-300	SECONDARY CLARIFIER NO. 1 CLA-450-01	(FUTURE)	1
P313	1	1.25 INCH	3 - #3	-	1 - #8	-	-	MCC-300	RDPS PUMP 1 PMP-130-01	(FUTURE)	1
P314	1	1.25 INCH	3 - #3	-	1 - #8	-	-	MCC-300	RDPS PUMP 3 PMP-130-03	(FUTURE)	1
P315	1	1.0 INCH	3 - #6	-	1 - #10	-	-	MCC-300	INFLUENT PS PUMP NO. 1 PMP-110-01	PROVIDE PVC-GRC CONDUIT. ROUTE CONDUIT TO PDP-110-01	3, 4
P316	1	2.0 INCH	3 - #1	-	1 - #6	-	-	MCC-300	INFLUENT PS PUMP NO. 3 PMP-110-03	PROVIDE PVC-GRC CONDUIT. ROUTE CONDUIT TO PDP-110-02	3, 4
P317	1	2.0 INCH	3 - #1	-	1 - #6	-	-	MCC-300	INFLUENT PS PUMP NO. 4 PMP-110-04	PROVIDE PVC-GRC CONDUIT. ROUTE CONDUIT TO PDP-110-02	3, 4
P318	1	2.0 INCH	3 - #1/0	-	1 - #6	-	-	MCC-300	MTS-300	(FUTURE)	1
P319	1	2.0 INCH	3 - #1/0	-	1 - #6	-	-	MCC-300	MTS-300	(FUTURE)	1
P320	1	1.0 INCH	3 - #6	-	1 - #10	-	-	MCC-300	INFLUENT PS PUMP NO. 2 PMP-110-02	PROVIDE PVC-GRC CONDUIT. ROUTE CONDUIT TO PDP-110-01	3, 4
P321	1	2.0 INCH	3 - #1	-	1 - #6	-	-	MCC-300	INFLUENT PS PUMP NO. 5 PMP-110-05	PROVIDE PVC-GRC CONDUIT. ROUTE CONDUIT TO PDP-110-02	3, 4
P322	1	1.25 INCH	3 - #3	-	1 - #8	-	-	MCC-300	RDPS PUMP 2 PMP-130-02	(FUTURE)	1
P323	1	0.75 INCH	3 - #12	-	1 - #10	-	-	MCC-300	SC1 RAS PUMP NO. 2 PMP-430-02	(FUTURE)	1
P324	1	0.75 INCH	3 - #12	-	1 - #10	-	-	MCC-300	SC2 RAS PUMP NO. 4 PMP-430-04	(FUTURE)	1
P325	1	0.75 INCH	3 - #12	-	1 - #12	-	-	MCC-300	SC1 WAS PUMP NO. 2 PMP-430-12	(FUTURE)	1
P326	1	0.75 INCH	3 - #12	-	1 - #12	-	-	MCC-300	SC2 WAS PUMP NO. 4 PMP-430-14	(FUTURE)	1
P327	1	0.75 INCH	3 - #12	-	1 - #12	-	-	MCC-300	SECONDARY CLARIFIER NO. 2 CLA-450-02	(FUTURE)	1
P328	1	2.0 INCH	3 - #1/0	-	1 - #6	-	-	MTS-300	PANEL DP-300	(FUTURE)	1
P329	1	1.0 INCH	3 - #6	-	1 - #10	-	-	PANEL DP-300	TRANSFORMER T-300	(FUTURE)	1
P330	1	0.75 INCH	3 - #12	-	1 - #12	-	-	EXISTING PNL-SDP	INFLUENT ACTUATED GATE SLG-110-00	WIRE TO EXISTING PANEL PNL-SDP. CKT. #26, 28, 30	3
P331	1	0.75 INCH	3 - #12	-	1 - #12	-	-	EXISTING PNL-SDP	UNIT HEATER	WIRE TO EXISTING PANEL PNL-SDP. CKT. #31, 33, 35	-
P332	1	0.75 INCH	3 - #12	-	1 - #12	-	-	EXISTING PNL-SDP	CONDENSING UNIT, CU-1	WIRE TO EXISTING PANEL PNL-SDP. CKT. #32, 34, 36	-
P333	-	-	-	-	-	-	-	-	-	-	-
P334	-	-	-	-	-	-	-	-	-	-	-
P335	-	-	-	-	-	-	-	-	-	-	-
P336	1	1.5 INCH	3 - #2	1 - #2	1 - #8	-	-	TRANSFORMER T-300	PANEL LP-300	(FUTURE)	1
P337	1	0.75 INCH	1 - #12	1 - #12	1 - #12	-	-	EXISTING PNL-L	RECEPTACLE GENERATOR BUILDING	WIRE TO EXISTING PANEL PNL-L. CKT. #2	-
P338	1	0.75 INCH	1 - #12	1 - #12	1 - #12	-	-	EXISTING PNL-L	CP-300	WIRE TO EXISTING PANEL PNL-L. CKT. #14	-
P339	1	0.75 INCH	1 - #12	1 - #12	1 - #12	-	-	EXISTING PNL-L	NIP-300	WIRE TO EXISTING PANEL PNL-L. CKT. #16	-
P340	1	0.75 INCH	1 - #12	1 - #12	1 - #12	-	-	EXISTING PNL-L	PDP-110-01	WIRE TO EXISTING PANEL PNL-L. CKT. #17 120VAC POWER FOR RECEPTACLE & HEATER	3
P341	1	0.75 INCH	1 - #12	1 - #12	1 - #12	-	-	EXISTING PNL-L	MNP-100	WIRE TO EXISTING PANEL PNL-L. CKT. #18	-
P342	1	0.75 INCH	1 - #12	1 - #12	1 - #12	-	-	EXISTING PNL-L	PDP-110-02	WIRE TO EXISTING PANEL PNL-L. CKT. #19 120VAC POWER FOR HEATER	3
P343	1	0.75 INCH	1 - #12	1 - #12	1 - #12	-	-	EXISTING PNL-L	PDP-110-03	WIRE TO EXISTING PANEL PNL-L. CKT. #21 120VAC POWER FOR ISR/ISB, HEATER, & RECEPTACLE	3
P344	1	0.75 INCH	1 - #12	1 - #12	1 - #12	-	-	EXISTING PNL-L	IPS LIGHTS	WIRE TO EXISTING PANEL PNL-L. CKT. 23 PROVIDE SWITCH AT PDP-110-03.	3
P345	1	0.75 INCH	3 - #8	-	1 - #10	-	-	EXISTING PNL-L	FC-1	WIRE TO EXISTING PANEL PNL-L. CKT. #29, 31, 33	-
P346	-	-	-	-	-	-	-	-	-	-	-
P347	-	-	-	-	-	-	-	-	-	-	-
P348	-	-	-	-	-	-	-	-	-	-	-
P349	-	-	-	-	-	-	-	-	-	-	-
P350	-	-	-	-	-	-	-	-	-	-	-

NOTES:
 [1] EQUIPMENT IS PART OF PHASE 2, NOT PART OF THIS SCOPE.
 [2] STUB OUT CONDUIT OUTSIDE OF EXISTING ELECTRICAL BUILDING AND TERMINATE CONDUIT AT IN-GROUND POWER JUNCTION BOXES AS IDENTIFIED ON THE SITE PLAN.
 [3] ROUTE CONDUIT VIA JUNCTION BOX, SST-JB-P303.
 [4] TERMINATE CONDUCTORS AT THE PUMP DISCONNECT PANEL AND ROUTE MSC TO THE PUMP VIA THE CABLE TRAY. SEE DRAWING E-112 FOR REFERENCE.

NO.	DATE	BY	REVISION

NOTICE

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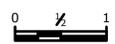
MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

POWER CONDUIT SCHEDULE 3
 PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

GROUNDING CONDUIT / CONDUCTOR SCHEDULE											
CONDUIT ID NO.	CONDUIT		CONDUCTORS PER CONDUIT					FROM	TO	DESCRIPTION	NOTES
	QUANTITY	SIZE	UNGROUNDED	GROUNDED	GROUNDING	CABLE	SPARE				
G001	1	1.0 INCH	-	-	1 - #3/0	-	-	SMSB-1	GROUNDING ELECTRODE SYSTEM	-	2
G002	1	1.0 INCH	-	-	1 - #3/0	-	-	GENSET, GEN-1	GROUNDING ELECTRODE SYSTEM	-	2
G100	1	1.0 INCH	-	-	-	-	-	MCC-100	GROUNDING ELECTRODE SYSTEM	(FUTURE)	1
G101	1	1.0 INCH	-	-	-	-	-	TRANSFORMER T-ADMIN	GROUNDING ELECTRODE SYSTEM	(FUTURE)	1
G102	1	1.0 INCH	-	-	-	-	-	TRANSFORMER T-100	GROUNDING ELECTRODE SYSTEM	(FUTURE)	1
G201	1	1.0 INCH	-	-	1 - #6	-	-	TRANSFORMER T-200	GROUNDING ELECTRODE SYSTEM	-	2
G210	1	1.0 INCH	-	-	1 - #6	-	-	TRANSFORMER T-210	GROUNDING ELECTRODE SYSTEM	-	2
G300	1	1.0 INCH	-	-	1 - #2/0	-	-	MCC-300	GROUNDING ELECTRODE SYSTEM	-	2
G301	1	1.0 INCH	-	-	-	-	-	TRANSFORMER T-300	GROUNDING ELECTRODE SYSTEM	(FUTURE)	1
G400	1	1.0 INCH	-	-	-	-	-	MCC-400	GROUNDING ELECTRODE SYSTEM	(FUTURE)	1
G401	1	1.0 INCH	-	-	-	-	-	TRANSFORMER T-400	GROUNDING ELECTRODE SYSTEM	(FUTURE)	1

NOTES:
 [1] EQUIPMENT IS PART OF PHASE 2, NOT PART OF THIS SCOPE.
 [2] ROUTE GROUNDING ELECTRODE CONDUCTOR IN PVC CONDUIT.

NO.	DATE	BY	REVISION

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MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT
 PHASE 1

GROUNDING CONDUIT SCHEDULE		
PROJECT NO.: 936-50-21-09	SCALE: AS NOTED	DATE: AUGUST 2022

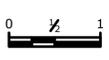
SERVICE ENTRANCE CONTROL CONDUIT / CONDUCTOR SCHEDULE											
CONDUIT ID NO.	CONDUIT		CONDUCTORS PER CONDUIT					FROM	TO	DESCRIPTION	NOTES
	QUANTITY	SIZE	UNGROUND	GROUND	GROUNDING	CABLE	SPARE				
C001A	1	4.0 INCH	-	-	-	-	-	COMMUNICATIONS UTILITY	MNP-100 (PH2 LOCATION)	INSTALL PER UTILITY REQUIREMENTS	3
C001B	1	4.0 INCH	-	-	-	-	-	COMMUNICATIONS UTILITY	MNP-100 (PH2 LOCATION)	INSTALL PER UTILITY REQUIREMENTS	3
C001	1	0.75 INCH	-	-	1 - #14	1 - CAT6	-	SMSB-1	NIP-200	POWER MONITOR E/IP CONNECTION	1
C002	1	0.75 INCH	2 - #14	-	1 - #14	-	-	GEN-1	MSB-1	GENERATOR TO ATS REMOTE START	-
C003	1	0.75 INCH	-	-	1 - #14	1 - CAT6	-	GEN-1	NIP-200	GENERATOR E/IP CONNECTION	1
C004	1	0.75 INCH	2 - #14	-	1 - #14	-	-	GEN-1	GEN-1 E-STOP PUSHBUTTON	EMERGENCY STOP PUSHBUTTON LOCATED IN MEB ELECTRICAL ROOM.	-
C005	1	0.75 INCH	-	-	1 - #14	1 - CAT6	-	MSB-1	NIP-200	ATS E/IP CONNECTION	1
C006	1	1.0 INCH	-	-	1 - #14	3 - TSP	-	MSB-1	AHF-1	ACTIVE HARMONIC FILTER CT's	-
C007	1	1.0 INCH	-	-	1 - #14	3 - TSP	-	MSB-1	AHF-2	ACTIVE HARMONIC FILTER CT's	-
C008	1	0.75 INCH	-	-	1 - #14	1 - CAT6	-	AHF-1	NIP-200	ACTIVE HARMONIC FILTER E/IP CONNECTION	1
C009	1	0.75 INCH	-	-	1 - #14	1 - CAT6	-	AHF-2	NIP-200	ACTIVE HARMONIC FILTER E/IP CONNECTION	1
C010	-	-	-	-	-	-	-	-	-	-	-
C011	1	2.0 INCH	-	-	1 - #14	1 - FIBER (12STR)	-	MNP-100	NIP-100	(FUTURE) NOT PART OF PHASE 1 SCOPE	-
C012	1	2.0 INCH	-	-	1 - #14	1 - FIBER (12STR)	-	MNP-100 (PH2 LOCATION)	NIP-200	-	2
C013	1	2.0 INCH	-	-	1 - #14	1 - FIBER (12STR)	-	MNP-100 (PH2 LOCATION)	NIP-300	-	3
C013A	1	1.0 INCH	-	-	1 - #14	1 - FIBER (12STR)	-	MNP-100 (TEMP. LOCATION)	NIP-300	-	4
C014	1	2.0 INCH	-	-	1 - #14	1 - FIBER (12STR)	-	MNP-100	NIP-400	(FUTURE) NOT PART OF PHASE 1 SCOPE	-
C015	1	2.0 INCH	-	-	-	-	-	MNP-100 (PH2 LOCATION)	NIP-300	SPARE CONDUIT	3
C016	-	-	-	-	-	-	-	-	-	-	-
C017	-	-	-	-	-	-	-	-	-	-	-
C018	-	-	-	-	-	-	-	-	-	-	-
C019	-	-	-	-	-	-	-	-	-	-	-
C020	-	-	-	-	-	-	-	-	-	-	-

NOTES:
 [1] EQUIPMENT IS PART OF PHASE 2, NOT PART OF THIS SCOPE. PROVIDE CONDUIT AND STUB UP AT THE DESIGNATED LOCATION. PROVIDE PULL STRING IN CONDUIT.
 [2] MNP-100 SHALL BE LOCATED IN THE ADMIN BUILDING AS PART OF PHASE 2. STUB OUT CONDUIT OUTSIDE OF MEB BUILDING CONCRETE PAD AS IDENTIFIED ON E-102. CONDUITS SHALL BE EXTENDED TO THEIR LOCATION AS PART OF PHASE 2.
 [3] MNP-100 SHALL BE LOCATED IN THE ADMIN BUILDING AS PART OF PHASE 2. PROVIDE CONDUIT AS IDENTIFIED ON E-102 FROM THE EXISTING ELECTRICAL BUILDING TO THE STUB-OUT LOCATION NEAR THE APPROXIMATE LOCATION OF THE FUTURE FIBER CONDUIT. CONDUCTORS SHALL BE PROVIDED AS PART OF PHASE 2.
 [4] MNP-100 IS TEMPORARILY LOCATED IN THE EXISTING ELECTRICAL BUILDING. PROVIDE CONDUIT FOR FIBER IN TEMPORARY LOCATION.

MAIN ELECTRICAL & BLOWER BUILDING CONTROL CONDUIT / CONDUCTOR SCHEDULE											
CONDUIT ID NO.	CONDUIT		CONDUCTORS PER CONDUIT					FROM	TO	DESCRIPTION	NOTES
	QUANTITY	SIZE	UNGROUND	GROUND	GROUNDING	CABLE	SPARE				
C200	1	1.0 INCH	-	-	1 - #14	3 - CAT6	-	NIP-200	CP-200	(FUTURE) ETHERNET / IP & SCADA CONNECTION	1
C201	1	1.0 INCH	-	-	1 - #14	1 - CAT6	-	NIP-200	MCC-200	(FUTURE) ETHERNET / IP CONNECTION	1
C202	1	1.0 INCH	-	-	-	-	-	CP-200	GEN-1	(FUTURE) ETHERNET / IP CONNECTION	1
C203	1	2.0 INCH	-	-	-	-	-	NIP-200	JB-S400	ROUTE CONDUIT UNDERGROUND. PROVIDE PULL STRING.	-
C204	1	2.0 INCH	-	-	-	-	-	CP-200	JB-C400	ROUTE CONDUIT UNDERGROUND. PROVIDE PULL STRING.	-
C205	1	2.0 INCH	-	-	-	-	-	MCC-200	JB-C400	ROUTE CONDUIT UNDERGROUND. PROVIDE PULL STRING.	-
C206	1	2.0 INCH	-	-	-	-	-	CP-200	CONDUIT DUCTBANK	(FUTURE) CONTROL CONDUITS TO PRIMARY CLARIFIERS	2
C207	1	2.0 INCH	-	-	-	-	-	MCC-200	CONDUIT DUCTBANK	(FUTURE) CONTROL CONDUITS TO PRIMARY CLARIFIERS	2
C208	1	2.0 INCH	-	-	-	-	-	NIP-200	CONDUIT DUCTBANK	(FUTURE) NETWORK CONDUITS TO PRIMARY CLARIFIERS	2
C209	1	2.0 INCH	-	-	-	-	-	NIP-200	CONDUIT DUCTBANK	(FUTURE) NETWORK CONDUITS TO PRIMARY CLARIFIERS	2
C210	1	2.0 INCH	-	-	-	-	-	CP-200	CONDUIT DUCTBANK	(FUTURE) CONTROL CONDUITS TO AERATION BLOWERS	2
C211	1	2.0 INCH	-	-	-	-	-	MCC-200	CONDUIT DUCTBANK	(FUTURE) CONTROL CONDUITS TO AERATION BLOWERS	2
C212	1	2.0 INCH	-	-	-	-	-	NIP-200	CONDUIT DUCTBANK	(FUTURE) NETWORK CONDUITS TO AERATION BLOWERS	2
C213	1	2.0 INCH	-	-	-	-	-	NIP-200	CONDUIT DUCTBANK	(FUTURE) NETWORK CONDUITS TO AERATION BLOWERS	2
C214	1	2.0 INCH	-	-	-	-	-	CP-200	CONDUIT DUCTBANK	(FUTURE) CONTROL CONDUITS TO ODOR CONTROL	2
C215	1	2.0 INCH	-	-	-	-	-	MCC-200	CONDUIT DUCTBANK	(FUTURE) CONTROL CONDUITS TO ODOR CONTROL	2
C216	1	2.0 INCH	-	-	-	-	-	NIP-200	CONDUIT DUCTBANK	(FUTURE) NETWORK CONDUITS TO ODOR CONTROL	2
C217	1	2.0 INCH	-	-	-	-	-	NIP-200	CONDUIT DUCTBANK	(FUTURE) NETWORK CONDUITS TO ODOR CONTROL	2
C218	-	-	-	-	-	-	-	-	-	-	-
C219	-	-	-	-	-	-	-	-	-	-	-

NOTES:
 [1] EQUIPMENT IS PART OF PHASE 2, NOT PART OF THIS SCOPE. PROVIDE CONDUIT AND STUB UP AT THE DESIGNATED LOCATION. PROVIDE PULL STRING IN CONDUIT AND CAP.
 [2] STUB OUT CONDUIT OUTSIDE OF MEB BUILDING CONCRETE PAD. CONDUITS SHALL BE EXTENDED TO THEIR LOCATION AS PART OF PHASE 2.

NO.	DATE	BY	REVISION

NOTICE

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MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

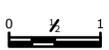
CONTROL CONDUIT SCHEDULE 1

PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

EXISTING ELECTRICAL BUILDING CONTROL CONDUIT / CONDUCTOR SCHEDULE											
CONDUIT ID NO.	CONDUIT		CONDUCTORS PER CONDUIT					FROM	TO	DESCRIPTION	NOTES
	QUANTITY	SIZE	UNGROUND	GROUND	GROUNDING	CABLE	SPARE				
C300	1	0.75 INCH	-	-	1 - #14	3 - CAT6	-	NIP-300	CP-300	ETHERNET / IP & SCADA CONNECTION	-
C301	1	0.75 INCH	-	-	1 - #14	1 - CAT6	-	NIP-300	MCC-300	ETHERNET / IP CONNECTION	-
C302A	1	2.0 INCH	6 - #14	-	3 - #14	-	-	CP-300	JB-C301	SEE CONDUITS C323, C325, AND C327.	2
C302B	1	2.0 INCH	-	-	1 - #14	1 - TSP	-	CP-300	JB-C301	SEE CONDUIT C322.	2
C302C	1	2.0 INCH	-	-	-	-	-	CP-300	JB-C301	(FUTURE) CONDUIT	1, 2
C303A	1	2.0 INCH	-	-	3 - #14	3 - CAT6	-	NIP-300	SST-JB-S301	SEE CONDUITS C305, C324, C326.	2
C303B	1	2.0 INCH	-	-	-	-	-	NIP-300	SST-JB-S301	(FUTURE) CONDUIT	1, 2
C304	1	4.0 INCH	-	-	-	-	-	MCC-300	JB-C301	(FUTURE) CONDUIT	2
C305	1	1.0 INCH	-	-	1 - #14	1 - CAT6	-	NIP-300	SLG-110-00	IPS SLIDE GATE ETHERNET/IP CONNECTION	2
C306	1	1.0 INCH	-	-	1 - #14	1 - TSP	-	MCC-300	PDP-110-01	PUMP PMP-110-01 FLS SENSOR (OVERTEMP & LEAKAGE)	2
C307	1	1.0 INCH	-	-	1 - #14	1 - TRIAD	-	MCC-300	PDP-110-01	PUMP PMP-110-01 SPEED SETPOINT	2
C308	1	1.0 INCH	14 - #14	-	1 - #14	-	-	MCC-300	PDP-110-01	PUMP PMP-110-01 LCS CONTROL DEVICES (2-#14's ARE SPARE)	2,3
C309	1	1.0 INCH	-	-	1 - #14	1 - TSP	-	MCC-300	PDP-110-01	PUMP PMP-110-02 FLS SENSOR (OVERTEMP & LEAKAGE)	2
C310	1	1.0 INCH	-	-	1 - #14	1 - TRIAD	-	MCC-300	PDP-110-01	PUMP PMP-110-02 SPEED SETPOINT	2
C311	1	1.0 INCH	14 - #14	-	1 - #14	-	-	MCC-300	PDP-110-01	PUMP PMP-110-02 LCS CONTROL DEVICES (2-#14's ARE SPARE)	2,3
C312	1	1.0 INCH	-	-	1 - #14	1 - TSP	-	MCC-300	PDP-110-02	PUMP PMP-110-03 FLS SENSOR (OVERTEMP & LEAKAGE)	2
C313	1	1.0 INCH	-	-	1 - #14	1 - TRIAD	-	MCC-300	PDP-110-02	PUMP PMP-110-03 SPEED SETPOINT	2
C314	1	1.0 INCH	18 - #14	-	1 - #14	-	-	MCC-300	PDP-110-02	PUMP PMP-110-03 LCS CONTROL DEVICES (2-#14's ARE SPARE)	2,3
C315	1	1.0 INCH	-	-	1 - #14	1 - TSP	-	MCC-300	PDP-110-02	PUMP PMP-110-04 FLS SENSOR (OVERTEMP & LEAKAGE)	2
C316	1	1.0 INCH	-	-	1 - #14	1 - TRIAD	-	MCC-300	PDP-110-02	PUMP PMP-110-04 SPEED SETPOINT	2
C317	1	1.0 INCH	18 - #14	-	1 - #14	-	-	MCC-300	PDP-110-02	PUMP PMP-110-04 LCS CONTROL DEVICES (2-#14's ARE SPARE)	2,3
C318	1	1.0 INCH	-	-	1 - #14	1 - TSP	-	MCC-300	PDP-110-02	PUMP PMP-110-05 FLS SENSOR (OVERTEMP & LEAKAGE)	2
C319	1	1.0 INCH	-	-	1 - #14	1 - TRIAD	-	MCC-300	PDP-110-02	PUMP PMP-110-05 SPEED SETPOINT	2
C320	1	1.0 INCH	16 - #14	-	1 - #14	-	-	MCC-300	PDP-110-02	PUMP PMP-110-05 LCS CONTROL DEVICES (2-#14's ARE SPARE)	2,3
C321	1	1.0 INCH	10 - #14	-	1 - #14	-	-	MCC-300	PDP-110-03	WET WELL FLOAT SWITCHES LSH-110-01 & LSHH-110-02. SEE DRAWING E-906.	2
C322	1	1.0 INCH	-	-	1 - #14	1 - TSP	-	CP-300	PDP-110-03	WET WELL LEVEL SENSOR, LE/LIT-110-05 (24VDC LOOP POWERED)	-
C323	1	0.75 INCH	2 - #14	-	1 - #14	-	-	CP-300	FE/FIT-110-11	INTEGRAL FLOWMETER TRANSMITTER (24VDC POWER)	-
C324	1	0.75 INCH	-	-	1 - #14	1 - CAT6	-	NIP-300	FE/FIT-110-11	FLOWMETER ETHERNET / IP CONNECTION	-
C325	1	0.75 INCH	2 - #14	-	1 - #14	-	-	CP-300	FE/FIT-110-12	INTEGRAL FLOWMETER TRANSMITTER (24VDC POWER)	-
C326	1	0.75 INCH	-	-	1 - #14	1 - CAT6	-	NIP-300	FE/FIT-110-12	FLOWMETER ETHERNET / IP CONNECTION	-
C327	1	0.75 INCH	2 - #14	-	1 - #14	-	-	CP-300	OVERFLOW MANHOLE	LSH-110-03, OVERFLOW MANHOLE FLOAT SWITCH	4
C328	-	-	-	-	-	-	-	-	-	-	-
C329	-	-	-	-	-	-	-	-	-	-	-
C330	-	-	-	-	-	-	-	-	-	-	-
C331	-	-	-	-	-	-	-	-	-	-	-
C332	-	-	-	-	-	-	-	-	-	-	-
C333	-	-	-	-	-	-	-	-	-	-	-
C334	-	-	-	-	-	-	-	-	-	-	-

NOTES:
 [1] EQUIPMENT IS PART OF PHASE 2, NOT PART OF THIS SCOPE. PROVIDE CONDUIT AND STUB UP AT THE DESIGNATED LOCATION. PROVIDE PULL STRING IN CONDUIT AND CAP.
 [2] ROUTE CONDUIT VIA SST-JB-C300.
 [3] SEE MOTOR CONTROL SCHEMATICS STARTING AT DRAWING E-900 FOR DETAILS ON CONTROL DEVICES.
 [4] ROUTE CONDUIT VIA PDP-110-03 BACK TO CP-300. TERMINATE CONDUCTORS ON INTRINSICALLY SAFE RELAY ISR-110-04 INSIDE PDP-110-03 BEFORE ROUTING BACK TO CP-300.

NO.	DATE	BY	REVISION

NOTICE

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MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

CONTROL CONDUIT SCHEDULE 2
 PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

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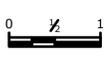
MECHANICAL EQUIPMENT CONNECTION SCHEDULE																				
EQUIPMENT	TAG	SHEET REF	ELECTRICAL								CONDUIT		CONDUCTORS			PANEL	CIRCUIT	LOCAL DISCONNECT	DISCONNECT RATING	NOTES
			VOLTAGE	PHASE	MCA	MOCP	HP	FLA	FLA @ 125%	QTY	SIZE	UNGROUND	GROUND	GROUNDING						
AIR HANDLING UNIT	AHU-1	E-104	480	3	19	25	-	-	-	-	1	0.75 INCH	3 - #10	-	1 - #10	DP-200	8,10,12	Yes	30 AS	1
MEB BUILDING CONDENSING UNIT	CU-1	E-102	480	3	14	20	-	-	-	-	1	0.75 INCH	3 - #12	-	1 - #12	DP-200	14,16,18	Yes	30 AS	1
EXHAUST FAN	EF-1	E-104	208	3	-	-	2	-	-	-	1	0.75 INCH	3 - #12	-	1 - #12	LP-200	10,12,14	No	-	-
EXISTING ELECTRICAL ROOM CONDENSING UNIT	CU-1	E-106	480	3	8	15	-	-	-	-	1	0.75 INCH	3 - #12	-	1 - #12	PNL-SPD	32,34,36	Yes	30 AS	1
FAN COIL UNIT	FC-1	E-106	208	3	31	35	-	-	-	-	1	0.75 INCH	3 - #8	-	1 - #10	PNL-L	28,30,32	No	-	-
UNIT HEATER	UH-1	E-104	208	1	11.3	15	-	-	-	-	1	0.75 INCH	2 - #12	-	1 - #12	LP-200	13,15	Yes	30 AS	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTES:
 [1] PROVIDE FUSED DISCONNECT SWITCH. FUSE RATING SHALL MATCH MOCP RATING.

INTERIOR LUMINAIRE SCHEDULE												
FIXTURE NO.	DESCRIPTION	LAMP TYPE	LUMEN OUTPUT	CRI	COLOR TEMP.	DRIVER	EMERGENCY DRIVER	INTEGRAL MOTION/PHOTO SENSOR	VOLTS	LOAD	MANUFACTURER	MODEL NUMBER
E1	SURFACE MOUNTED EMERGENCY BATTERY PACK WITH THERMOPLASTIC HOUSING, INTEGRAL TEST SWITCH, ADJUSTABLE HEADS, AND WHITE FINISH.	LED	1,100 LM	N/A	N/A	N/A	N/A	N/A	UNV	11 WATT	LITHONIA DUAL LITE EVENLITE	ELM6L SERIES EVHC SERIES TELESIS TEBL6 SERIES
V4	CHAIN MOUNTED 48" x 7" x 6" VAPOR TIGHT LUMINAIRE WITH FIBERGLASS HOUSING, GASKETED FROSTED POLYCARBONATE LENS, STAINLESS STEEL LATCHES, AND WET LOCATION LISTED AND LABEL. PROVIDE 36" CHAIN MOUNT KIT AND BRACKETS.	LED	6,000 LM	80	4000K	STANDARD 0-10V	NO	NO	UNV	49 WATT	LITHONIA	VAP LED
X1	SINGLE FACE EXIT SIGN WITH THERMOPLASTIC HOUSING, SURFACE MOUNTED AS SHOWN ON THE DRAWINGS, LETTERS SHALL BE RED, UL 924 LISTED, INTEGRAL BATTERY, SELF DIAGNOSTICS TEST BUTTON AND DAMP LOCATION LISTED. TWIN, LED INDOOR REMOTE HEAD LAMPS TO OPERATE IN EMERGENCY MODE.	LED	N/A	N/A	N/A	N/A	YES	NO	UNV	1 WATT	LITHONIA	LHQM LED R HO ELA T Q L0309 SD SERIES

EXTERIOR LUMINAIRE SCHEDULE												
FIXTURE NO.	DESCRIPTION	LAMP TYPE	LUMENS	CRI	COLOR TEMP.	DRIVER	EMERGENCY DRIVER	INTEGRAL MOTION/PHOTO SENSOR	VOLTS	LOAD	MANUFACTURER	MODEL NUMBER
S1	21.8"L x 13.3"W x 7.2"H SITE LUMINAIRE WITH DIE-CAST ALUMINUM HOUSING, SINGLE HEAD, TYPE IV DISTRIBUTION, INTEGRAL SURGE PROTECTION, 0-10V DIMMING DRIVER, AND BLACK FINISH. PROVIDE SQUARE POLE MOUNTING ARM. LUMINAIRE SHALL BE MOUNTED ON 25' HIGH X 4" SQUARE 0.12" THICK STEEL POLE WITH HAND HOLE AND BLACK FINISH. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE POLE STYLE TOP AND POLE DRILL PATTERN BASED ON THE NUMBER OF LUMINAIRE HEADS BEING PROVIDED ON THE POLES. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANCHOR BOLTS PER THE MANUFACTURER'S INSTALLATION REQUIREMENTS.	LED	9,972 LM	70	4000K	STANDARD 0-10V	NO	YES	UNV	72 WATTS	LITHONIA	RSX1 SERIES
S2	21.8"L x 13.3"W x 7.2"H SITE LUMINAIRE WITH DIE-CAST ALUMINUM HOUSING, SINGLE HEAD, TYPE IV DISTRIBUTION, INTEGRAL SURGE PROTECTION, 0-10V DIMMING DRIVER, AND BLACK FINISH. PROVIDE SQUARE POLE MOUNTING ARM. LUMINAIRE SHALL BE MOUNTED ON 16' HIGH X 4" SQUARE 0.12" THICK STEEL POLE WITH HAND HOLE AND BLACK FINISH. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE POLE STYLE TOP AND POLE DRILL PATTERN BASED ON THE NUMBER OF LUMINAIRE HEADS BEING PROVIDED ON THE POLES. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANCHOR BOLTS PER THE MANUFACTURER'S INSTALLATION REQUIREMENTS.	LED	7,189 LM	70	4000K	STANDARD 0-10V	NO	YES	UNV	51 WATTS	LITHONIA	RSX1 SERIES
W2	EXTERIOR WALL MOUNTED 7"L x 11.5"W x 9"H TRAPEZOID LUMINAIRE WITH SINGLE PIECE DIE-CAST ALUMINUM HOUSING, TYPE III OPTICS, 350 mA DRIVE CURRENT, BLACK FINISH, BATTERY PACK WITH BACK BOX, MOTION SENSOR FOR DIMMING WITH INTEGRAL PHOTOCCELL, TAMPER RESISTANT HARDWARE, AND WET LOCATION LISTED. WHEN MOUNTED ON SPLIT FACE BLOCK CONTRACTOR SHALL SEAL AROUND ANY OPENING BETWEEN ELECTRICAL BOX AND LUMINAIRE WITH A SILICONE SEALANT WHICH MATCHES THE COLOR OF THE BLOCK. WHEN MOUNTED ON METAL SIDING CONTRACTOR SHALL MOUNT ELECTRICAL BOX ON FLAT PART OF THE SIDING AND BOX SHALL EXTEND BEYOND SIDING A DISTANCE EQUAL TO THE RIBBING ON THE SIDING SO THE LUMINAIRE SEALS PROPERLY AGAINST THE BOX. CONTRACTOR SHALL PROVIDE SILICONE SEALANT AROUND OPENING IN SIDING & ELECTRICAL BOX FOR PROPER SEALING.	LED	3,063 LM	70	3000K	STANDARD 0-10V	YES	YES	UNV	32 WATTS	ACUITY	WDGE2 LED SERIES

NO.	DATE	BY	REVISION

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MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

MECHANICAL & LUMINAIRE SCHEDULE

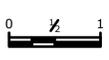
PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

SHEET
E-027
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PANEL NAME: DP-200		LOCATION: MAIN ELECTRICAL ROOM														
VOLT/PHASE: 480V, 3Ø		FED FROM: MTS-200														
NUM. POLES: 42		BREAKER MOUNTING: BOLTED														
AIC RATING: 65,000		MAIN BREAKER AMPS: 200														
NOTES: NEW PANEL		BUS RATING AMPS: 225														
REF. KEY NOTE #:		SPD: YES														
NOTES	LOAD DESCRIPTION	LOAD TYPE	VA L1	VA L2	VA L3	TRIP RATING AMPS	CIRCUIT NUMBER	CIRCUIT NUMBER	TRIP RATING AMPS	VA L1	VA L2	VA L3	LOAD TYPE	LOAD DESCRIPTION	NOTES	
	TRANSFORMER LP-200	T	5,327			50	1	2	30	3,333			H	GEN-1 BLOCK HEATER		
		T		3,837			3	4		3,333	H					
		T			3,635			5		6	3,333	H				
	MOTORIZED ENTRY GATE	M1	1,242			20	7	8	25	3,040			H	AIR HANDLING UNIT AHU-1 RM. 420		
		M1		1,242			9	10		3,040	H					
		M1			1,242			11		12	3,040	H				
	EXISTING BATHROOM TRANSFORMER T-210	T	3,000			40	13	14	20	2,240			H	MEB BUILDING CONDENSING UNIT CU-1		
		T		3,000			15	16		2,240	H					
	SPARE					20	17	18				2,240	H			
	SPARE		-			20	19	20		-				SPARE		
	SPARE			-		20	21	22			-			SPARE		
	SPARE			-		20	23	24			-			SPARE		
	SPARE		-			20	25	26		-				SPARE		
	SPARE			-		20	27	28			-			SPARE		
	SPARE			-		20	29	30			-			SPARE		
	SPARE		-			20	31	32		-				SPARE		
	SPARE			-		20	33	34			-			SPARE		
	SPARE			-		20	35	36			-			SPARE		
	SPARE		-			20	37	38		10			R	SURGE PROTECTION DEVICE		
	SPARE			-		20	39	40			10		R			
	SPARE			-		20	41	42			10		R			
TOTAL LOAD:			9,569	8,079	4,877	TOTAL LOAD:			8,623	8,623	8,623					
COMBINED LOAD:			18,192	16,702	13,500	CONNECTED LOAD:			48,394	DEMAND LOAD:			49,326			
						DEMAND AMPS:			59							
Load Type Key		Demand Factor		Connected Load		Demand Load										
R	General Purpose Receptacle	100% First 10kVA, 50% thereafter	30	30												
L	Lighting	125% Load	0	0												
M1	Largest Motor	125% Load	3,726	4,658												
M	Motor	100% Load	0	0												
A	Appliance	100% Load	0	0												
H	HVAC	100% Load	25,839	25,839												
K	Kitchen	85% Load	0	0	6		- Units of Equipment - See NEC Table 220.56									
E	Equipment	100% Load	0	0												
T	Transformer	100% Load	18,799	18,799												
W	Welder	100% Load	0	0												
RV	Recreational Vehicle	XX% Load	0	0	XX		- RV Sites - See NEC Table 551.71 (A)									
NOTES:																

PANEL NAME: LP-200		LOCATION: MAIN ELECTRICAL ROOM														
VOLT/PHASE: 208/120V, 3Ø		FED FROM: T-200														
NUM. POLES: 42		BREAKER MOUNTING: BOLTED														
AIC RATING: 42,000		MAIN BREAKER AMPS: 125														
NOTES: NEW PANEL		BUS RATING AMPS: 225														
REF. KEY NOTE #:		SPD: NO														
NOTES	LOAD DESCRIPTION	LOAD TYPE	VA L1	VA L2	VA L3	TRIP RATING AMPS	CIRCUIT NUMBER	CIRCUIT NUMBER	TRIP RATING AMPS	VA L1	VA L2	VA L3	LOAD TYPE	LOAD DESCRIPTION	NOTES	
	MEB BUILDING EXTERIOR LIGHTS	L	80			20	1	2	30	2,200			E	CONTROL PANEL 200 CP-200		
	LIGHTS RM. 420	L		558		20	3	4	20		300		E	GEN-1 BATTERY CHARGER		
	LIGHTS RM. 421	L			1,083	20	5	6	20			500	E	GEN-1 COOLANT HEATER		
	RECEPTACLES RM. 420	R	720			20	7	8	20	500			E			
	RECEPTACLES RM. 421, EXTERIOR	R		1,080		20	9	10			652		M	EXHAUST FAN EF-1 RM. 421		
	EXISTING UTILITY POLE LIGHTS	L			500	20	11	12	20			652	M			
	UNIT HEATER UH-1	H	1,175			20	13	14		652			M			
	UNIT HEATER UH-1	H		1,175		20	15	16	20		72		L	ENTRY GATE LIGHT		
	ROOM 420 OVERHEAD DOOR	E			900	20	17	18	20			-		SPARE		
	SPARE		-			20	19	20	20	-				SPARE		
	SPARE			-		20	21	22	20		-			SPARE		
	SPARE			-		20	23	24	20		-			SPARE		
	SPARE		-			20	25	26	20	-				SPARE		
	SPARE			-		20	27	28	20		-			SPARE		
	SPARE			-		20	29	30	20		-			SPARE		
	SPARE		-			20	31	32	20	-				SPARE		
	SPARE			-		20	33	34	20		-			SPARE		
	SPARE			-		20	35	36	20		-			SPARE		
	SPARE		-			20	37	38	20	-				SPARE		
	SPARE			-		20	39	40	20		-			SPARE		
	SPARE			-		20	41	42	20		-			SPARE		
TOTAL LOAD:			1,975	2,813	2,483	TOTAL LOAD:			3,352	1,024	1,152					
COMBINED LOAD:			5,327	3,837	3,635	CONNECTED LOAD:			12,799	DEMAND LOAD:			13,372			
						DEMAND AMPS:			37							
Load Type Key		Demand Factor		Connected Load		Demand Load										
R	General Purpose Receptacle	100% First 10kVA, 50% thereafter	1,800	1,800												
L	Lighting	125% Load	2,293	2,866												
M1	Largest Motor	125% Load	0	0												
M	Motor	100% Load	1,956	1,956												
A	Appliance	100% Load	0	0												
H	HVAC	100% Load	2,350	2,350												
K	Kitchen	XX% Load	0	0	XX		- Units of Equipment - See NEC Table 220.56									
E	Equipment	100% Load	4,400	4,400												
T	Transformer	100% Load	0	0												
W	Welder	100% Load	0	0												
RV	Recreational Vehicle	XX% Load	0	0	XX		- RV Sites - See NEC Table 551.71 (A)									
NOTES:																

NO.	DATE	BY	REVISION

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MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

PANEL SCHEDULES 1

PROJECT NO.: 936-50-21-09 | SCALE: AS NOTED | DATE: AUGUST 2022

SHEET
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PANEL NAME: PNL-SPD		LOCATION: EXISTING ELECTRICAL BUILDING													
VOLT/PHASE: 480/277V, 3Ø		FED FROM: AUTOMATIC TRANSFER SWITCH													
NUM. POLES: 36		BREAKER MOUNTING: BOLTED													
AIC RATINGS: 42,000		MAIN BREAKER AMPS: 400													
NOTES: EXISTING PANEL		BUS RATING AMPS: 400													
REF. KEY NOTE #:		SPD: NO													

NOTES	LOAD DESCRIPTION	LOAD TYPE	VA L1	VA L2	VA L3	TRIP RATING AMPS	CIRCUIT NUMBER	CIRCUIT NUMBER	TRIP RATING AMPS	VA L1	VA L2	VA L3	LOAD TYPE	LOAD DESCRIPTION	NOTES
1	LTG. TRANS.	T	5,000			50	1	2	30	4,000			E	COMM #1	1
		T		5,000				3		4	4,000	E			
		T			5,000			5		6	4,000	E			
3	UNIT HEATER 1					20	7	8	20	1,333			E	COMM #2	1
								9		10	1,333	E			
								11		12	1,333	E			
1	VALVE 1	E	100			20	13	14	20	500			E	MOTORIZED GATE	1
		E		100				15		16	500	E			
		E			100			17		18	500	E			
1	VALVE 2	E	100			20	19	20	15	10			E	POWER FAIL RELAY	1
		E		100				21		22	10	E			
		E			100			23		24	10	E			
1	VFD2	M1	9,333			40	25	26	20	300			E	INFLUENT ACTUATED GATE SLG-110-00	2
		M1		9,333				27		28	300	E			
		M1			9,333			29		30	300	E			
2	UNIT HEATER	H	1,666			20	31	32	15	1,280			M	CONDENSING UNIT CU-1	2
		H		1,666				33		34	1,280	M			
		H			1,666			35		36	1,280	M			

TOTAL LOAD:	16,199	16,199	16,199	TOTAL LOAD:	7,423	7,423	7,423
COMBINED LOAD:	23,622	23,622	23,622	CONNECTED LOAD:	70,866	DEMAND LOAD:	77,866
						DEMAND AMPS:	94

Load Type Key	Demand Factor	Connected Load	Demand Load
R General Purpose Receptacle	100% First 10kVA, 50% thereafter	0	0
L Lighting	125% Load	0	0
M1 Largest Motor	125% Load	27,999	34,999
M Motor	100% Load	3,840	3,840
A Appliance	100% Load	0	0
H HVAC	100% Load	4,998	4,998
K Kitchen	XX% Load	0	0
E Equipment	100% Load	19,029	19,029
T Transformer	100% Load	15,000	15,000
W Welder	100% Load	0	0
RV Recreational Vehicle	XX% Load	0	0

XX - Units of Equipment - See NEC Table 220.56
XX - RV Sites - See NEC Table 551.71 (A)

NOTES:
[1] EXISTING BRANCH CIRCUIT. LOAD VA VALUES BASED ON AS-BUILT DOCUMENTS.
[2] NEW LOAD ON EXISTING PANEL. PROVIDE NEW BREAKER.
[3] DEMOLISH EXISTING BREAKER AND WIRING.

PANEL NAME: PNL-L		LOCATION: EXISTING ELECTRICAL BUILDING													
VOLT/PHASE: 208/120V, 3Ø		FED FROM: 15KVA TRANSFORMER													
NUM. POLES: 42		BREAKER MOUNTING: BOLTED													
AIC RATING: 42,000		MAIN BREAKER AMPS: 60													
NOTES: EXISTING PANEL		BUS RATING AMPS: 100													
REF. KEY NOTE #:		SPD: NO													

NOTES	LOAD DESCRIPTION	LOAD TYPE	VA L1	VA L2	VA L3	TRIP RATING AMPS	CIRCUIT NUMBER	CIRCUIT NUMBER	TRIP RATING AMPS	VA L1	VA L2	VA L3	LOAD TYPE	LOAD DESCRIPTION	NOTES	
1	MAIN BREAKER	R	-	-	-	50	1	2	20	720			R	RECEPTACLE GENERATOR BUILDING	2	
		R						3		4	20			R	GENERATOR LOUVERS	3
		R						5		6	20			R	GENERATOR BATTERY CHARGER	3
1	GENERATOR BUILDING INTERIOR LIGHTING	L	536			20	7	8	20	600			L	INTAKE STATION LIGHTING	1	
1	GENERATOR BUILDING EXTERIOR LIGHT	L		100		20	9	10	20		720		R	INTAKE STATION RECEPTACLE	1	
1	ICP PANEL CONTROL POWER	R			1,000	20	11	12	20			200	H	GENERATOR ROOM EXHAUST FAN	1	
1	EMERGENCY AIR COMPRESSOR	R	1,000			20	13	14	20	2,200			E	CONTROL PANEL CP-300	2	
	SPARE					20	15	16	20		500		E	NETWORK INTERFACE PANEL NIP-300	2	
2	IPS PDP-110-01 RECEPTACLE & HEATER	E			380	20	17	18	20		500		E	MAIN IT/OT SERVER RACK MNP-100	2	
2	IPS PDP-110-02 HEATER	E	200			20	19	20	20	720			E	TEMPORARY GENSET BATTERY CHARGER	2	
2	IPS PDP-110-03 RECEPTACLE & HEATER	E		100		20	21	22	20		1,000		E	TEMPORARY GENSET HEATER	2	
	SPARE					20	23	24	20			500	H	INTAKE STATION SUMP PUMP 240V	1	
1	WELDING OUTLET	R	1,000			50	25	26	20	500			H	SPARE	1	
		R		1,000				27		28		H				
		M			2,149			29		30						
2	FC-1	M	2,149			35	31	32	20					SPARE		
M			2,149				33	34								
M			2,149				35	36								
	SPARE					20	37	38	20					SPARE		
	SPARE					20	39	40	20					SPARE		
	SPARE					20	41	42	20					SPARE		

TOTAL LOAD:	4,885	3,349	3,529	TOTAL LOAD:	4,740	2,220	1,200
COMBINED LOAD:	9,625	5,569	4,729	CONNECTED LOAD:	19,923	DEMAND LOAD:	20,232
						DEMAND AMPS:	56

Load Type Key	Demand Factor	Connected Load	Demand Load
R General Purpose Receptacle	100% First 10kVA, 50% thereafter	5,440	5,440
L Lighting	125% Load	1,236	1,545
M1 Largest Motor	125% Load	0	0
M Motor	100% Load	6,447	6,447
A Appliance	100% Load	0	0
H HVAC	100% Load	1,200	1,200
K Kitchen	XX% Load	0	0
E Equipment	100% Load	5,600	5,600
T Transformer	100% Load	0	0
W Welder	100% Load	0	0
RV Recreational Vehicle	XX% Load	0	0

XX - Units of Equipment - See NEC Table 220.56
XX - RV Sites - See NEC Table 551.71 (A)

NOTES:
[1] EXISTING BRANCH CIRCUIT. LOAD VA VALUES BASED ON AS-BUILT DOCUMENTS.
[2] NEW LOAD ON EXISTING PANEL. UTILIZE EXISTING BREAKER.
[3] DEMOLISH EXISTING BREAKER AND WIRING.

NO.	DATE	BY	REVISION

NOTICE
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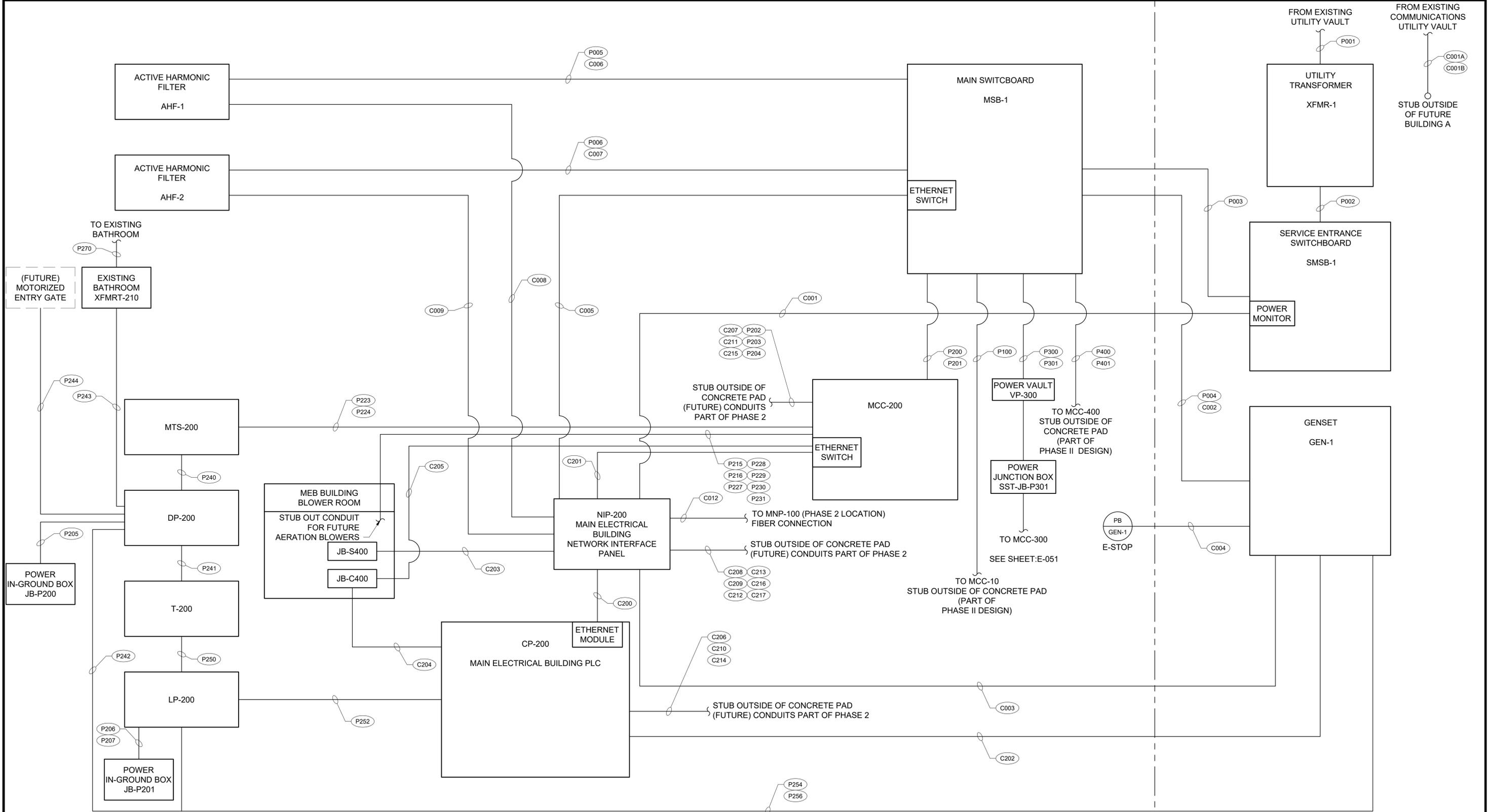
MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

PANEL SCHEDULES 2
PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

SHEET
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MAIN ELECTRICAL & BLOWER BUILDING - ELECTRICAL ROOM

MAIN ELECTRICAL & BLOWER BUILDING EXTERIOR



G:\PROJECTS\103 - West Yost Associates\1032109 - Sweet Home Wwtp Phase 1 Design\Drawings\Current\Sheet\Drawings\Raceway Block Diagram.dwg E-050 Service Entrance - Raceway Block Diagram 8/17/2022 8:21 AM JLUITE 24.1s (LMS Tech)

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SERVICE ENTRANCE RACEWAY BLOCK DIAGRAM

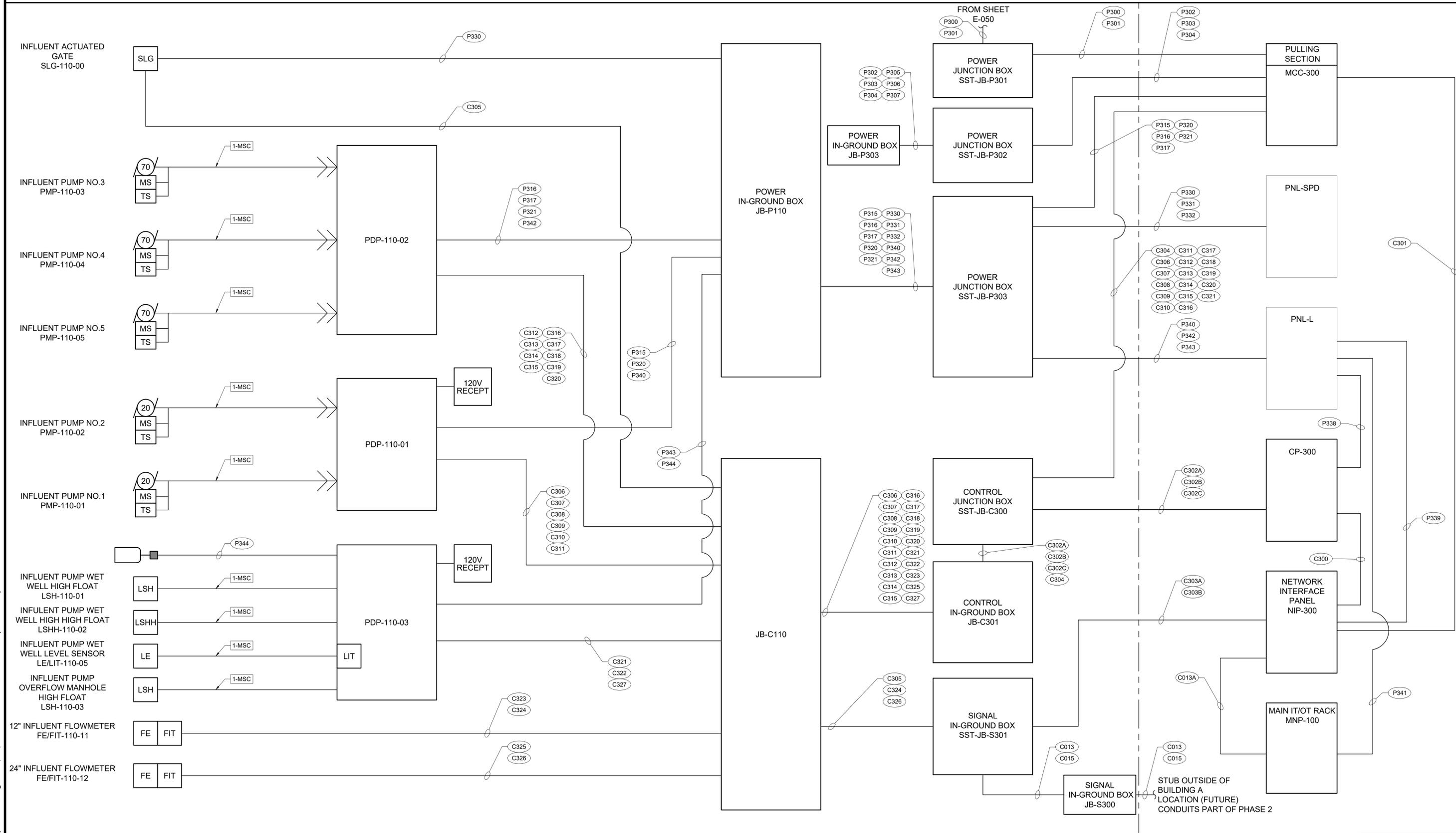
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SHEET E-050 88 of 135

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FIELD

EXISTING ELECTRICAL BUILDING



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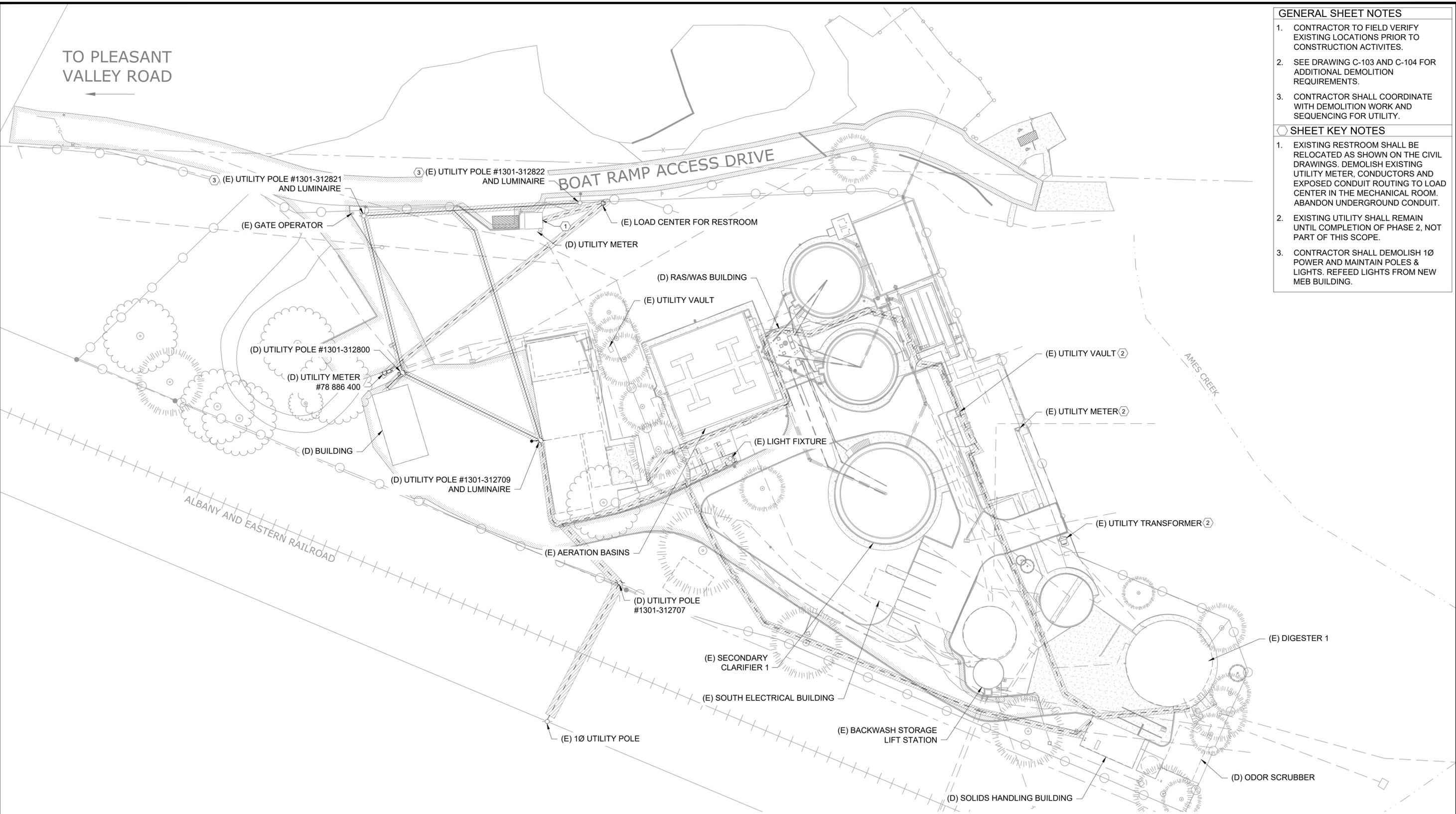
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INFLUENT PUMP STATION RACEWAY BLOCK DIAGRAM

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- GENERAL SHEET NOTES**
- CONTRACTOR TO FIELD VERIFY EXISTING LOCATIONS PRIOR TO CONSTRUCTION ACTIVITIES.
 - SEE DRAWING C-103 AND C-104 FOR ADDITIONAL DEMOLITION REQUIREMENTS.
 - CONTRACTOR SHALL COORDINATE WITH DEMOLITION WORK AND SEQUENCING FOR UTILITY.
- SHEET KEY NOTES**
- EXISTING RESTROOM SHALL BE RELOCATED AS SHOWN ON THE CIVIL DRAWINGS. DEMOLISH EXISTING UTILITY METER, CONDUCTORS AND EXPOSED CONDUIT ROUTING TO LOAD CENTER IN THE MECHANICAL ROOM. ABANDON UNDERGROUND CONDUIT.
 - EXISTING UTILITY SHALL REMAIN UNTIL COMPLETION OF PHASE 2, NOT PART OF THIS SCOPE.
 - CONTRACTOR SHALL DEMOLISH 1Ø POWER AND MAINTAIN POLES & LIGHTS. REFEED LIGHTS FROM NEW MEB BUILDING.

1 ELECTRICAL SITE DEMOLITION PLAN
 SCALE: 1" = 30'
 0' 15' 30'

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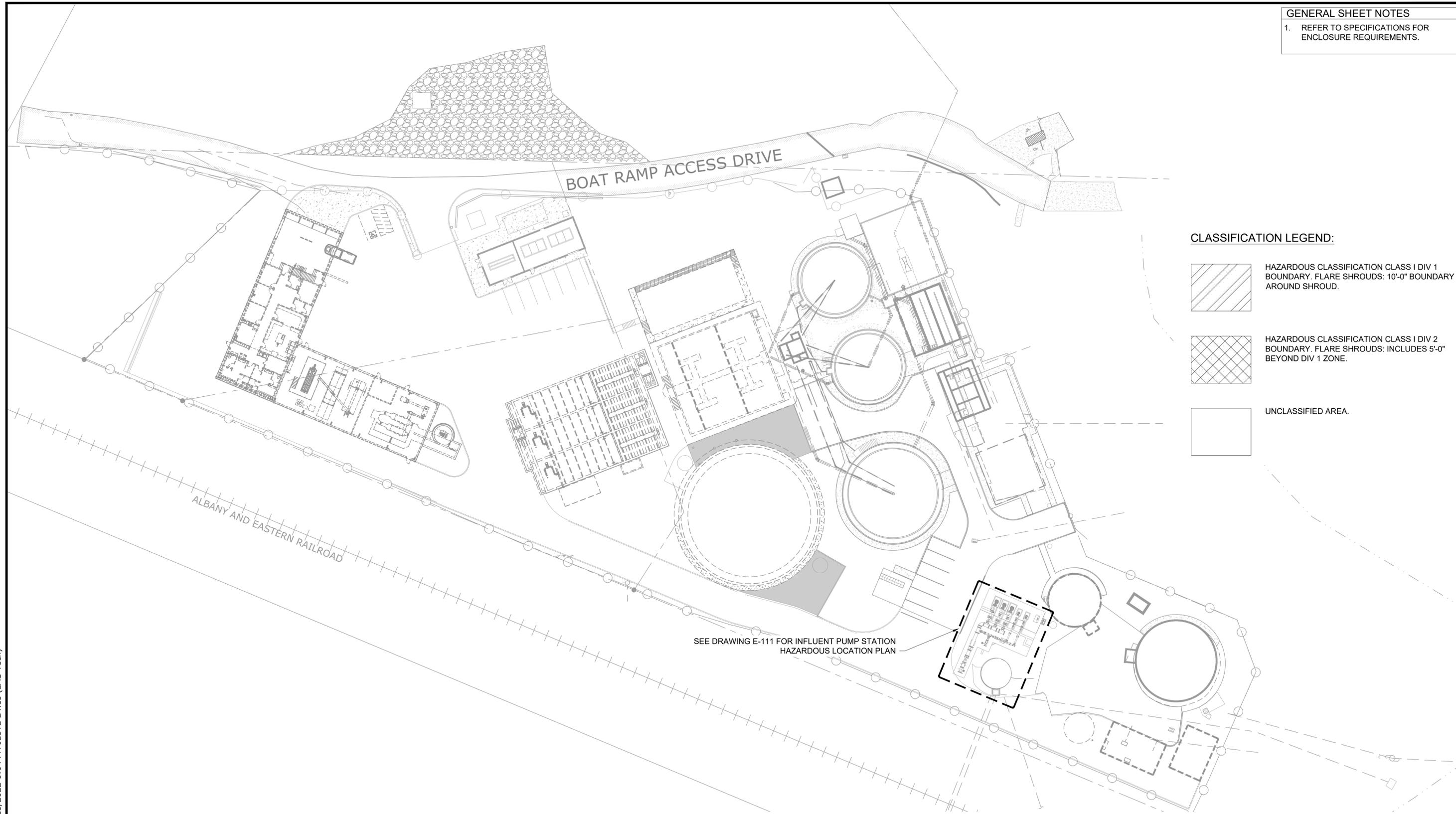
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ELECTRICAL SITE DEMOLITION PLAN
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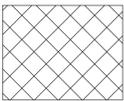
SHEET
E-101
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GENERAL SHEET NOTES
 1. REFER TO SPECIFICATIONS FOR ENCLOSURE REQUIREMENTS.



CLASSIFICATION LEGEND:

-  HAZARDOUS CLASSIFICATION CLASS I DIV 1 BOUNDARY. FLARE SHROUDS: 10'-0" BOUNDARY AROUND SHROUD.
-  HAZARDOUS CLASSIFICATION CLASS I DIV 2 BOUNDARY. FLARE SHROUDS: INCLUDES 5'-0" BEYOND DIV 1 ZONE.
-  UNCLASSIFIED AREA.

1 ELECTRICAL HAZARDOUS LOCATION PLAN
 SCALE: 1" = 30'

NO.	DATE	BY	REVISION

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ELECTRICAL HAZARDOUS LOCATION PLAN

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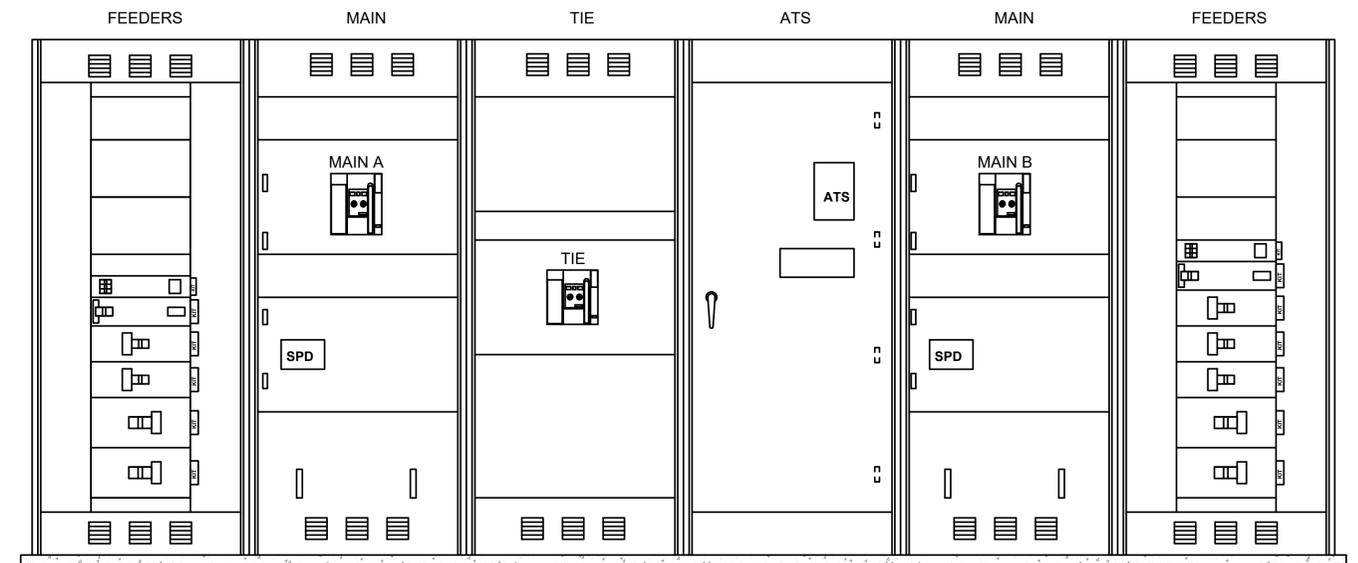
SHEET
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ETHERNET SWITCH	ETHERNET POWER SUPPLY	BLANK			(FUTURE) MS-420-03	(FUTURE) MS-320-01	BLANK		
SPD	MTS-200 FEED A	(FUTURE) MS-310-10	(FUTURE) VFD-310-01	(FUTURE) VFD-430-01	BLANK	BLANK	(FUTURE) MS-320-02		
BLANK		(FUTURE) MS-310-11					(FUTURE) MS-420-04		
MAIN A CIRCUIT BREAKER	BLANK	(FUTURE) MS-310-20	(FUTURE) VFD-310-02	(FUTURE) VFD-430-02	(FUTURE) VFD-410-01	(FUTURE) VFD-410-03	BLANK	FUTURE SECTION	FUTURE SECTION
	BLANK	(FUTURE) MS-310-21					BLANK		
	BLANK	(FUTURE) PMP-310-05	BLANK	BLANK					
	BLANK								

1 MCC-200 NORTH ELEVATION - A-SIDE
SCALE: 3/4" = 1'-0"

		BLANK	BLANK	(FUTURE) MS-420-07			(FUTURE) MS-310-30	ETHERNET POWER SUPPLY	ETHERNET SWITCH
		BLANK	BLANK	BLANK	(FUTURE) VFD-430-02	(FUTURE) VFD-310-03	(FUTURE) MS-310-31	MTS-200 FEED B	SPD
FUTURE SECTION	FUTURE SECTION				BLANK	BLANK	(FUTURE) VFD-410-02	MAIN B CIRCUIT BREAKER	TIE CIRCUIT BREAKER
		(FUTURE) VFD-410-06	(FUTURE) VFD-410-05	(FUTURE) VFD-410-04	BLANK	BLANK			
					BLANK	BLANK			
					BLANK	BLANK			

2 MCC-200 SOUTH ELEVATION - B-SIDE
SCALE: 3/4" = 1'-0"



3 MSB-1 ELEVATION
SCALE: 3/4" = 1'-0"

NO.	DATE	BY	REVISION

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MAIN ELECTRICAL & BLOWER BUILDING MCC-200 & MSB-1 ELEVATIONS

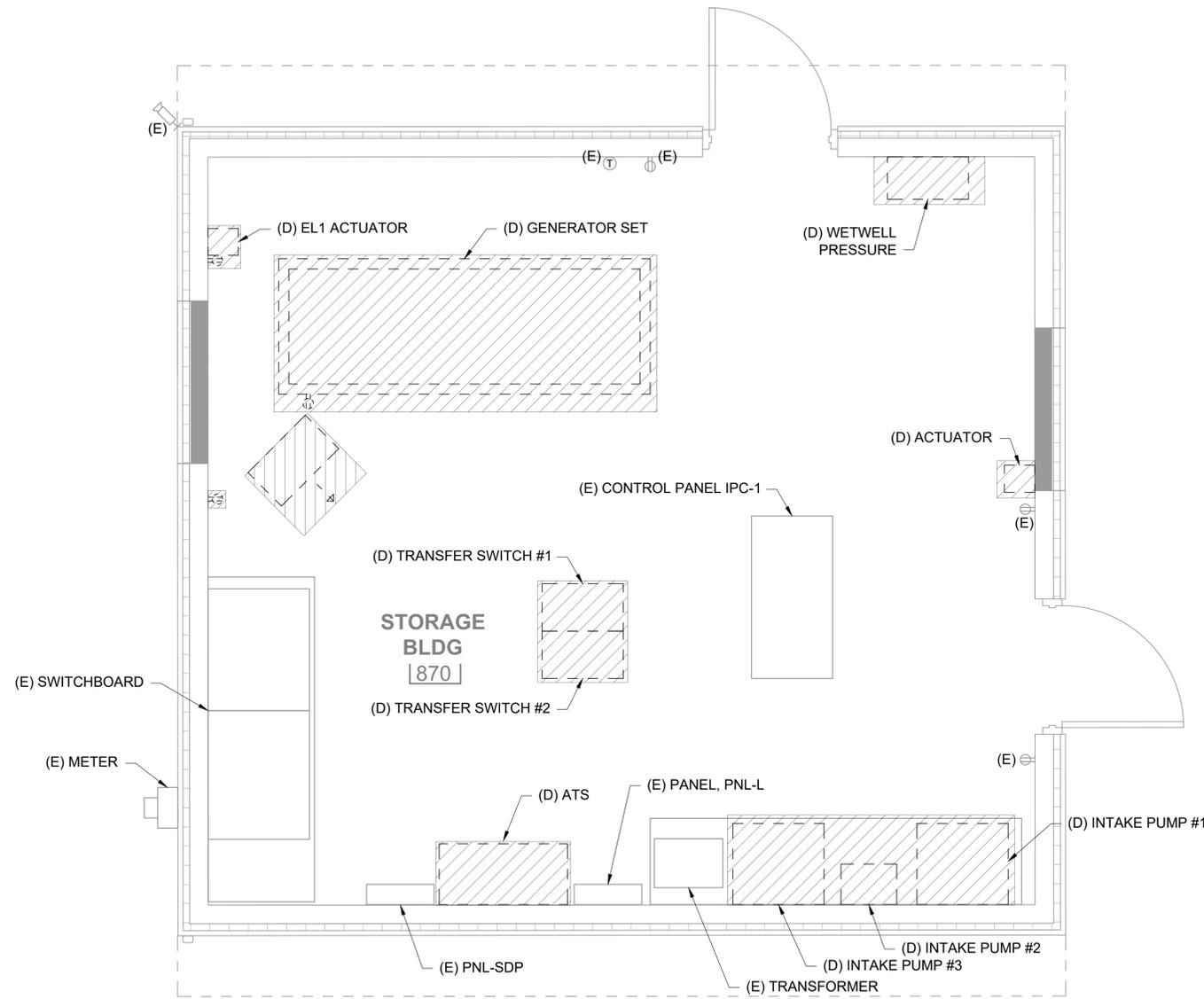
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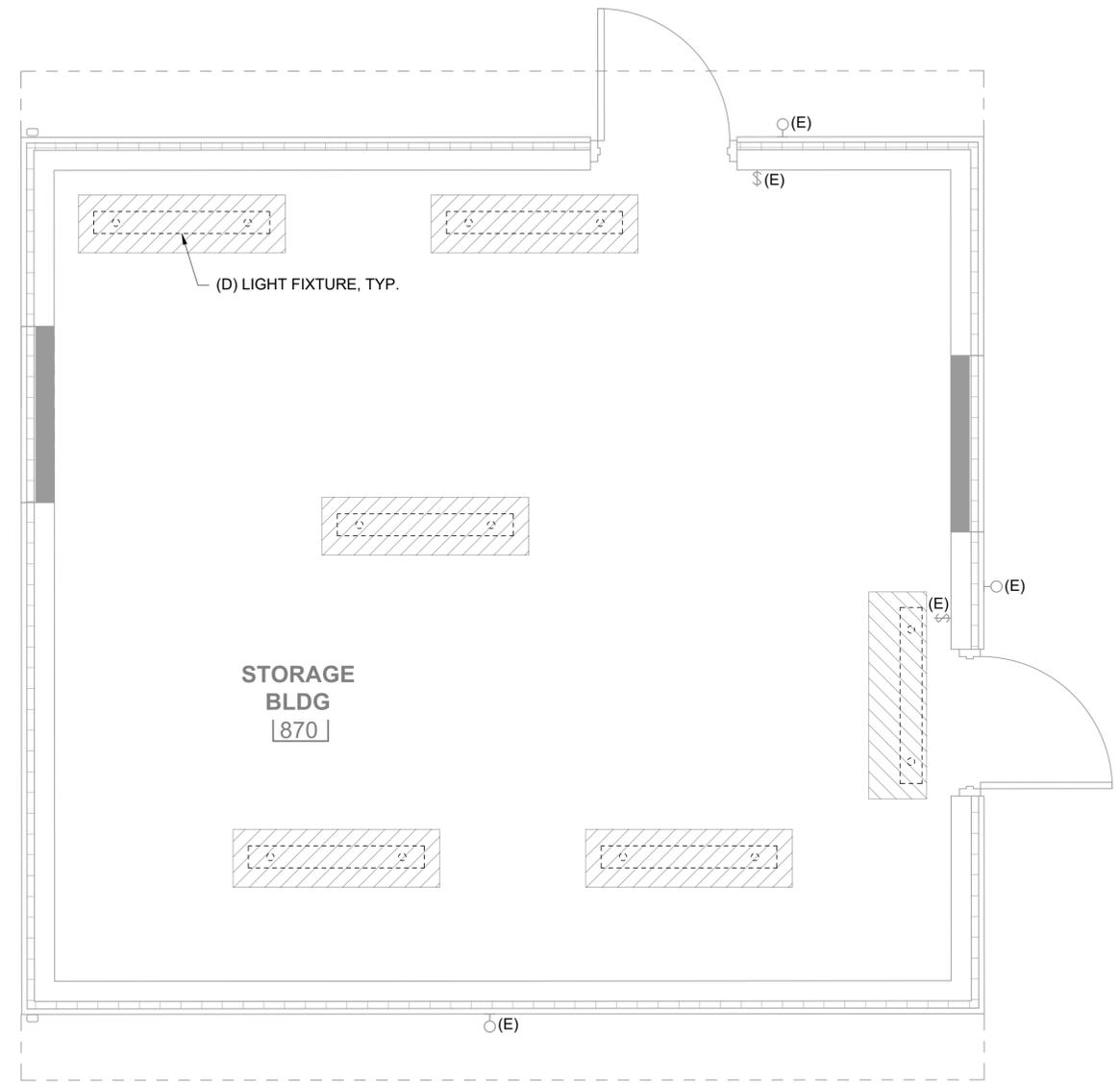
G:\PROJECTS\103 - West Yost Associates\1032109 - Sweet Home Wwtp Phase 1 Design\Design(2) Drawings\Current\sweet Home Wwtp Phase 1 Design\Sheets\E-106 South Electrical Building Demolition Floor Plan.dwg E-106 South Electrical Building Demolition Floor Plan 7/28/2022 6:04 PM JLUTE 24.1s (LMS Tech)

GENERAL SHEET NOTES

- CONTRACTOR SHALL COORDINATE DEMOLITION / SEQUENCING OF THE EXISTING SERVICE AND MAIN FEED TO THE SITE PER THE MECHANICAL AND CIVIL DRAWINGS.



1 SOUTH ELECTRICAL BUILDING DEMOLITION FLOOR PLAN
SCALE: 1/2" = 1'-0"



2 SOUTH ELECTRICAL BUILDING DEMOLITION CEILING PLAN
SCALE: 1/2" = 1'-0"



NO.	DATE	BY	REVISION

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SOUTH ELECTRICAL BUILDING DEMOLITION FLOOR PLAN
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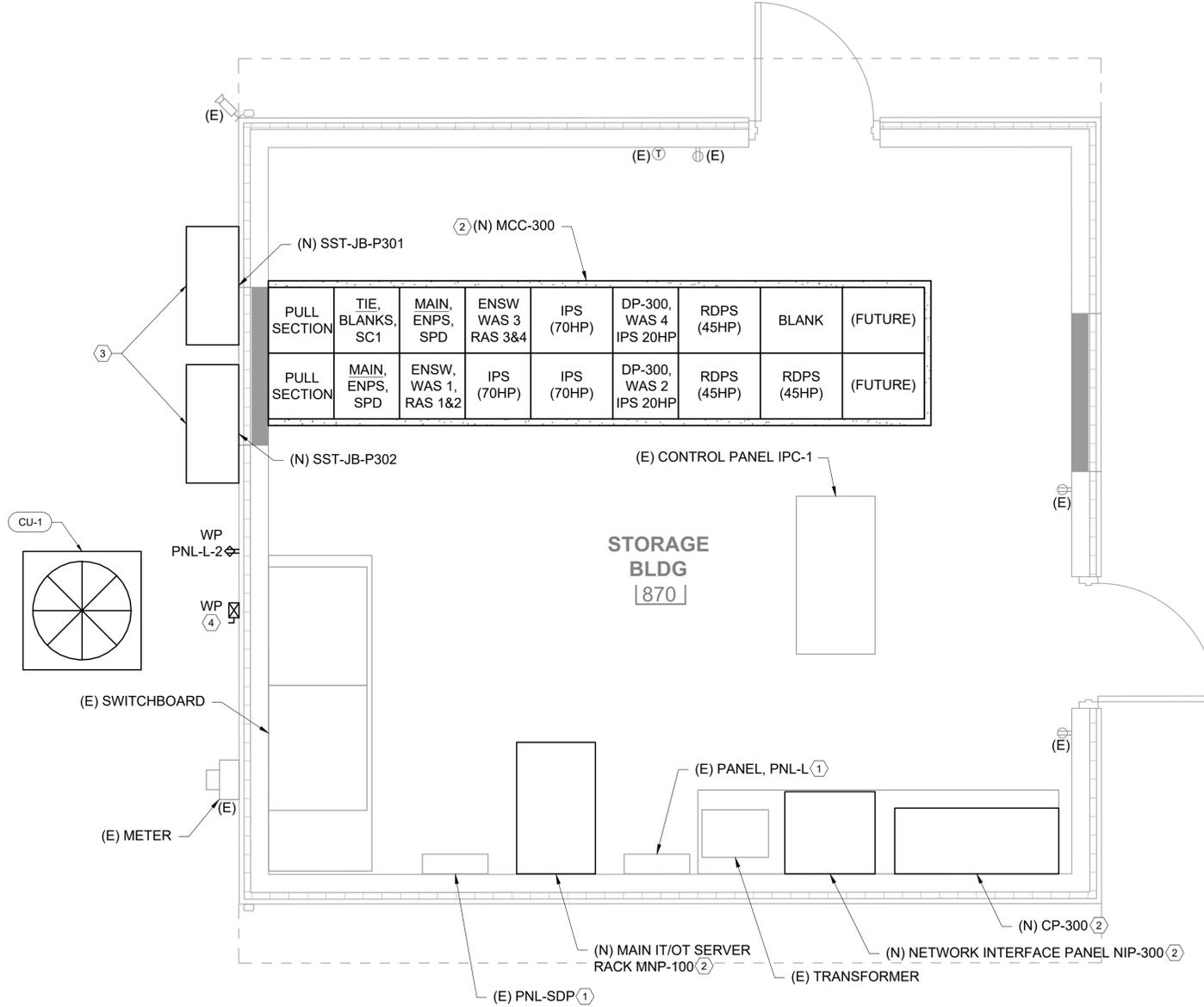
SHEET
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GENERAL SHEET NOTES

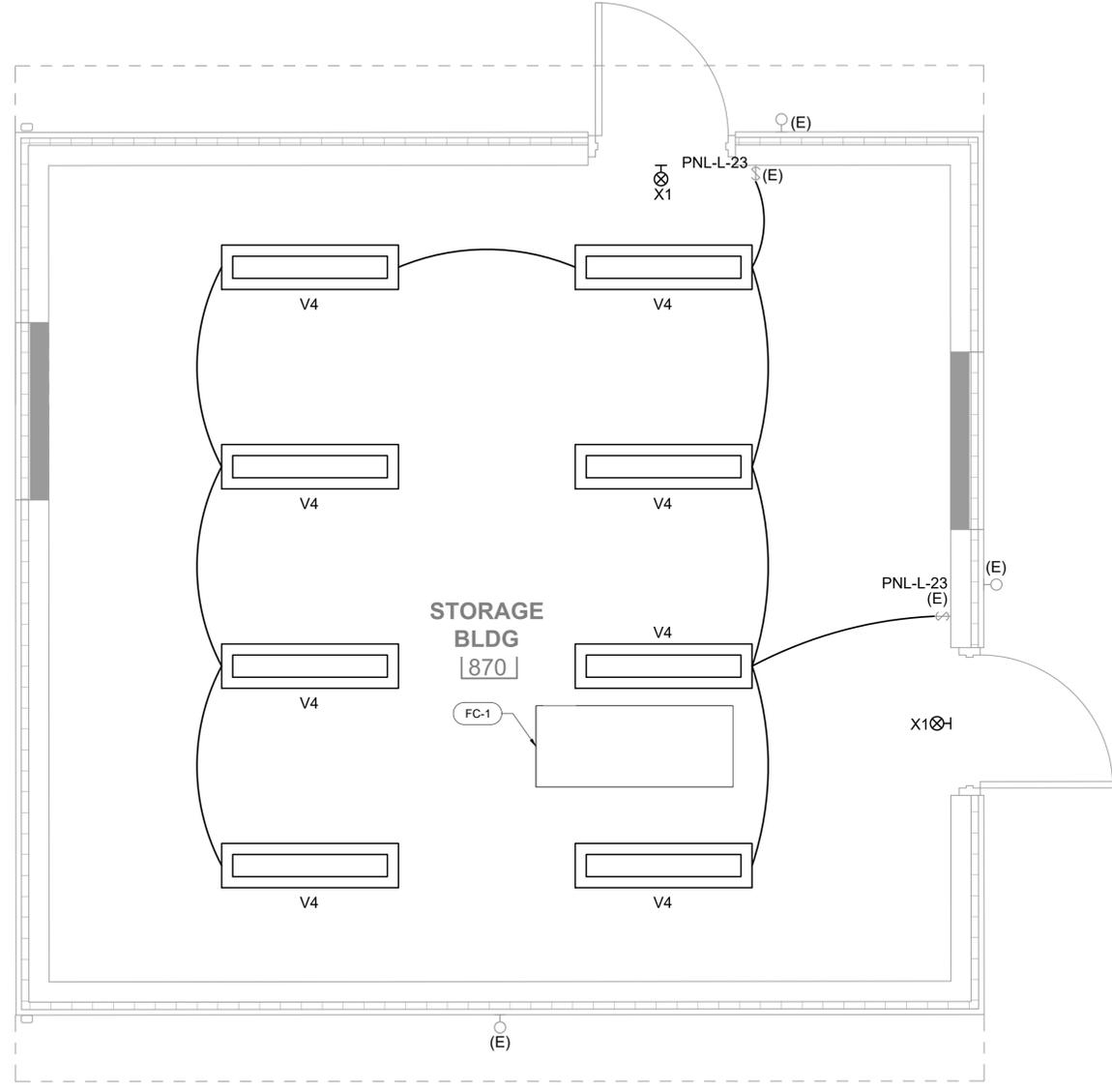
- ALL EXIT SIGNS AND EMERGENCY LIGHTS SHALL BE WIRED TO LOCAL LIGHTING BRANCH CIRCUIT, AHEAD OF ALL SWITCHING.

SHEET KEY NOTES

- REFERENCE PANEL SCHEDULES FOR NEW ELECTRICAL LOADS THAT SHALL BE INSTALLED IN THE EXISTING PANELBOARD. PROVIDING WIRE-LOOP IN THE PANELBOARD FOR EXTENDING AND REFEEDING THESE NEW CIRCUITS AT PHASE 2.
- OWNER FURNISHED, CONTRACTOR INSTALLED EQUIPMENT.
- PROVIDE 48"H X 48"W X 12"D STAINLESS STEEL, NEMA 4X WALL MOUNTED JUNCTION BOX.
- PROVIDE FUSED DISCONNECT FOR CU-1.



1 SOUTH ELECTRICAL BUILDING NEW FLOOR PLAN
SCALE: 1/2" = 1'-0"



2 SOUTH ELECTRICAL BUILDING CEILING PLAN
SCALE: 1/2" = 1'-0"

NO.	DATE	BY	REVISION

NOTICE

0 1/2 1

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SOUTH ELECTRICAL BUILDING NEW FLOOR PLAN

PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

SHEET
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FUTURE SECTION	(FUTURE) VFD-130-01	(FUTURE) VFD-110-04	(FUTURE) MS-430-11	VFD-110-03	ETHERNET SWITCH	ETHERNET POWER SUPPLY	BLANK	PULLING SECTION
			(FUTURE) MS-430-13		(FUTURE) MTS-300 FEED A	SPD	BLANK	
			(FUTURE) VFD-430-03		BLANK	(FUTURE) MS-450-01	BLANK	
			(FUTURE) VFD-430-01		VFD-110-01	MAIN A CIRCUIT BREAKER	MAIN TIE BREAKER	

1 MCC-300 NORTH ELEVATION - A SIDE
SCALE: 3/4" = 1'-0"

PULLING SECTION	ETHERNET POWER SUPPLY	ETHERNET SWITCH	BLANK	VFD-110-05	(FUTURE) MS-430-12	(FUTURE) VFD-130-02	(FUTURE) VFD-130-03	FUTURE SECTION
	SPD	(FUTURE) MTS-300 FEED B	BLANK		(FUTURE) MS-430-14			
	(FUTURE) MS-450-02	BLANK	BLANK		(FUTURE) VFD-430-02			
	MAIN B CIRCUIT BREAKER	VFD-110-02	BLANK		(FUTURE) VFD-430-04			
			BLANK					

2 MCC-300 SOUTH ELEVATION - B SIDE
SCALE: 3/4" = 1'-0"

NO.	DATE	BY	REVISION

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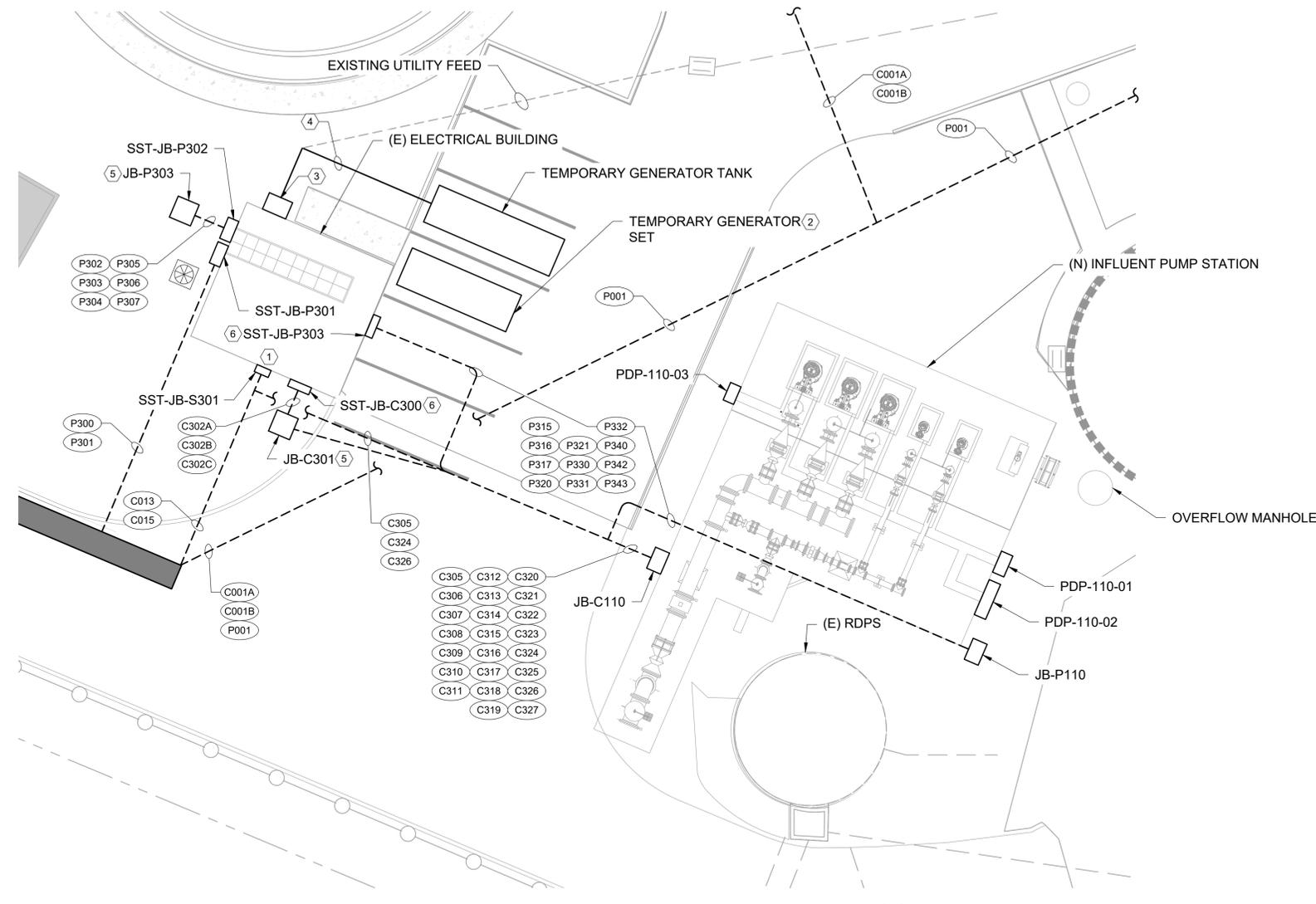
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PHASE 1

SOUTH ELECTRICAL BUILDING
MCC-300 ELEVATIONS

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- GENERAL SHEET NOTES**
- REFERENCE SECTION 260500 FOR ADDITIONAL REQUIREMENTS FOR TEMPORARY POWER INSTALLATION.
- SHEET KEY NOTES**
- STUB UP CONDUIT TO JB-S300 AND PENETRATE WALL TO NIP-300. PROVIDE 24"W X 24"H X 12"D STAINLESS STEEL NEMA 4X WALL MOUNTED ENCLOSURE.
 - TEMPORARY GENERATOR (OFCI).
 - TEMPORARY ATS (CFCI).
 - CONTRACTOR SHALL INTERCEPT EXISTING UTILITY FEED AND WIRE TO CONTRACTOR PROVIDED TEMPORARY SERVICE ENTRANCE RATED ATS. ATS LOAD SIDE SHALL FEED THE EXISTING SERVICE SWITCHBOARD.
 - PROVIDE LARGE IN-GROUND BOX. REFERENCE KEYNOTE (260533.M02).
 - PROVIDE 30"W X 36"H X 12"D STAINLESS STEEL NEMA 4X WALL MOUNTED ENCLOSURE FOR JUNCTION BOX.



1 INFLUENT PUMP STATION - OVERALL SITE PLAN
 SCALE: 1" = 10'
 0' 5' 10'

NO.	DATE	BY	REVISION

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INFLUENT PUMP STATION OVERALL SITE PLAN

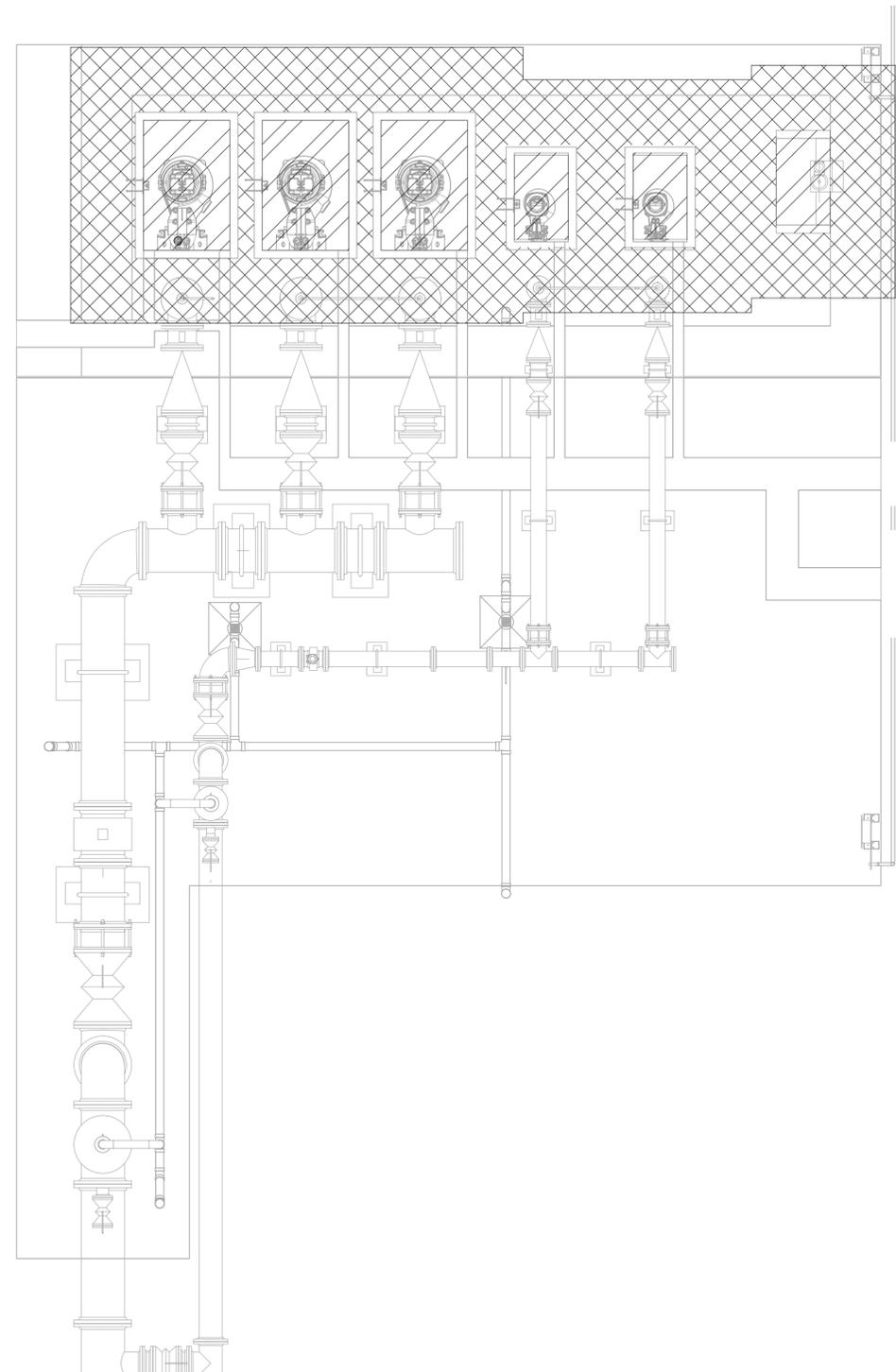
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 1032109-E-111 Influent Pump Station Hazardous Location Plan 7/28/2022 6:02 PM JLUJE 24.1s (LMS Tech)

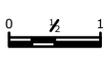
CLASSIFICATION LEGEND:

-  HAZARDOUS CLASSIFICATION CLASS 1 DIV 1 BOUNDARY. INSIDE WET WELL.
-  HAZARDOUS CLASSIFICATION CLASS 1 DIV 2 BOUNDARY. WET WELL OPENING: INCLUDES 3'-0" BEYOND DIV 1 ZONE AND VERTICALLY 1'-6".
-  UNCLASSIFIED AREA.



1 INFLUENT PUMP STATION HAZARDOUS LOCATION PLAN
 SCALE: 1/4" = 1'-0" 

NO.	DATE	BY	REVISION

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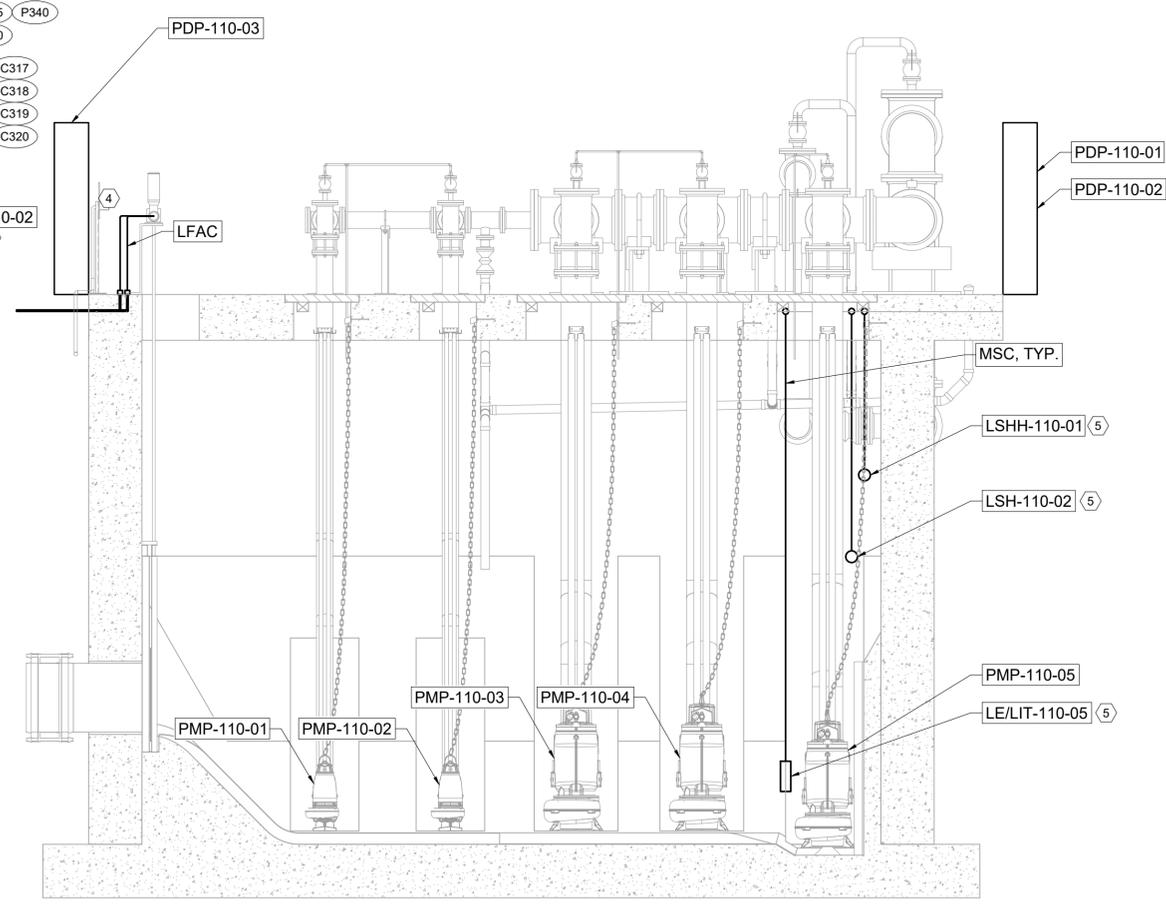
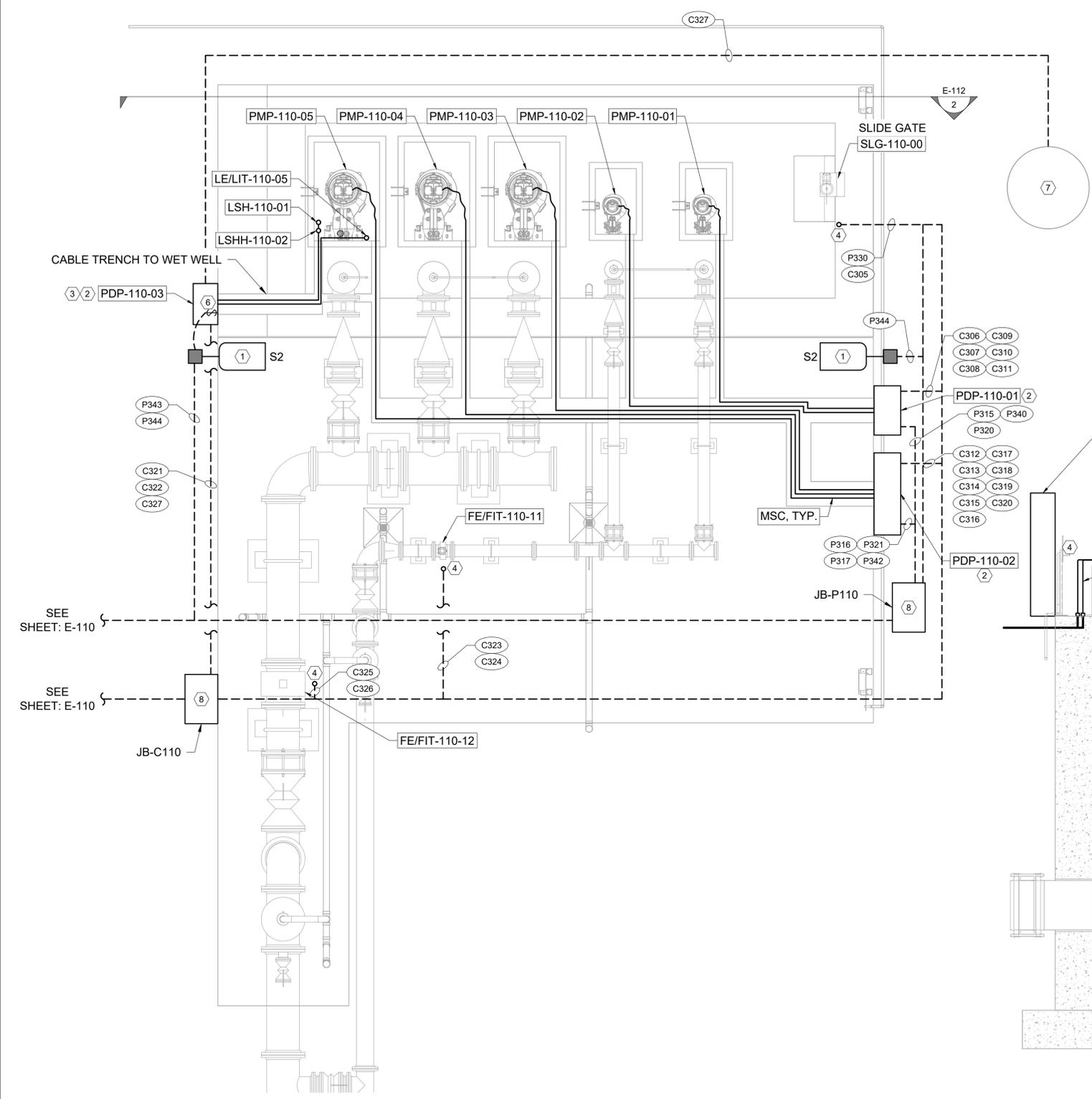


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INFLUENT PUMP STATION HAZARDOUS LOCATION PLAN
 PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

SHEET
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- SHEET KEY NOTES**
1. SITE LIGHT. PROVIDE LIGHT POLE BASE PER DRAWING E-003, DETAIL 101.
 2. REFERENCE SHEET E-113 FOR PDP STAND AND DETAILS.
 3. REFERENCE SHEET E-906 FOR DETAILS ON INTRINSICALLY SAFE RELAY / BARRIER TERMINATIONS.
 4. STUB UP CONDUIT AND PROVIDE LIQUID TIGHT ALUMINUM FLEX TO THE EQUIPMENT / INSTRUMENT.
 5. COORDINATE DEPTHS OF LEVEL INSTRUMENTS WITH CIVIL / MECHANICAL.
 6. PROVIDE SWITCH FOR IPS LIGHTS, PER P334.
 7. OVERFLOW MANHOLE. COORDINATE LOCATION PER CIVIL DRAWINGS.
 8. PROVIDE LARGE IN-GROUND BOX. REFERENCE KEYNOTE (260533.M21).



1 INFLUENT PUMP STATION ELECTRICAL TOP PLAN
SCALE: 1/4" = 1'-0"

2 INFLUENT PUMP STATION ELECTRICAL SECTION DETAIL
SCALE: 1/4" = 1'-0"

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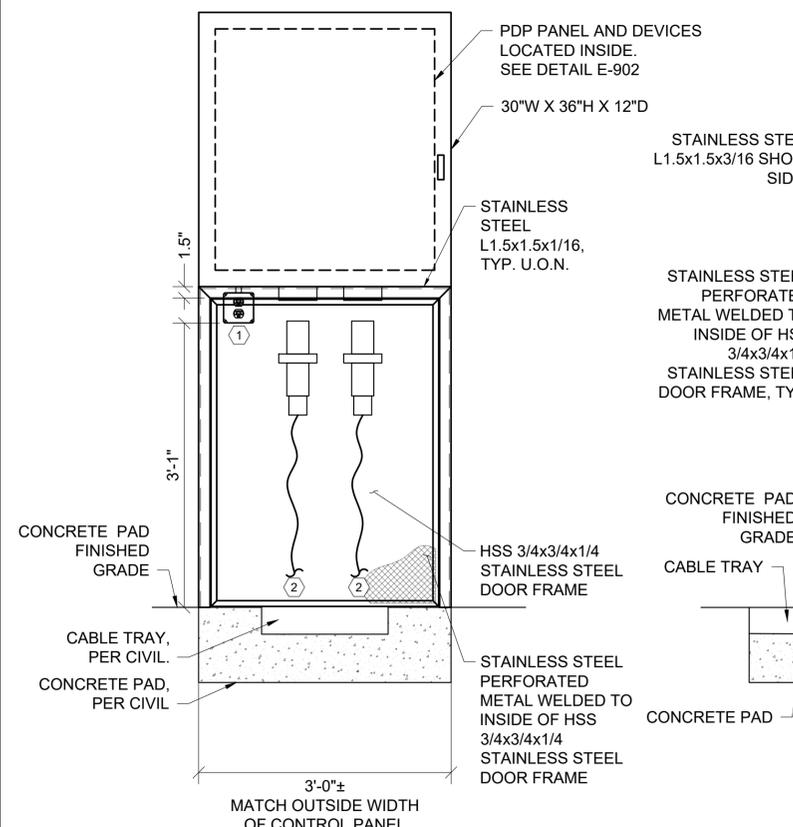
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INFLUENT PUMP STATION ELECTRICAL PLAN & SECTION

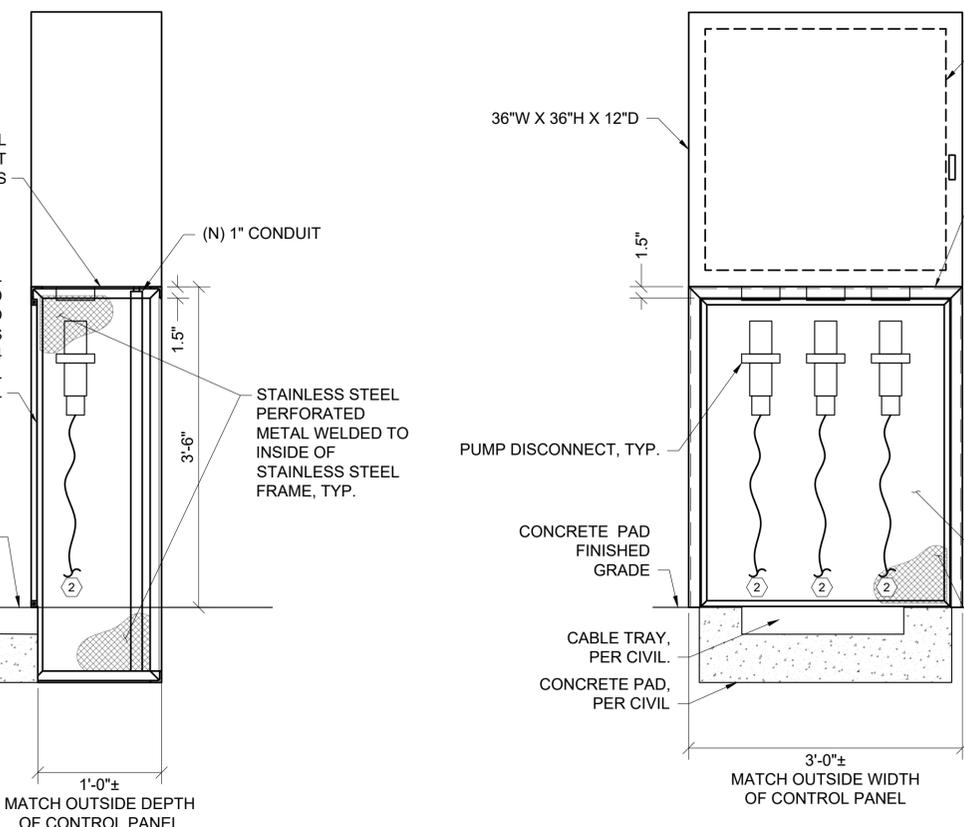
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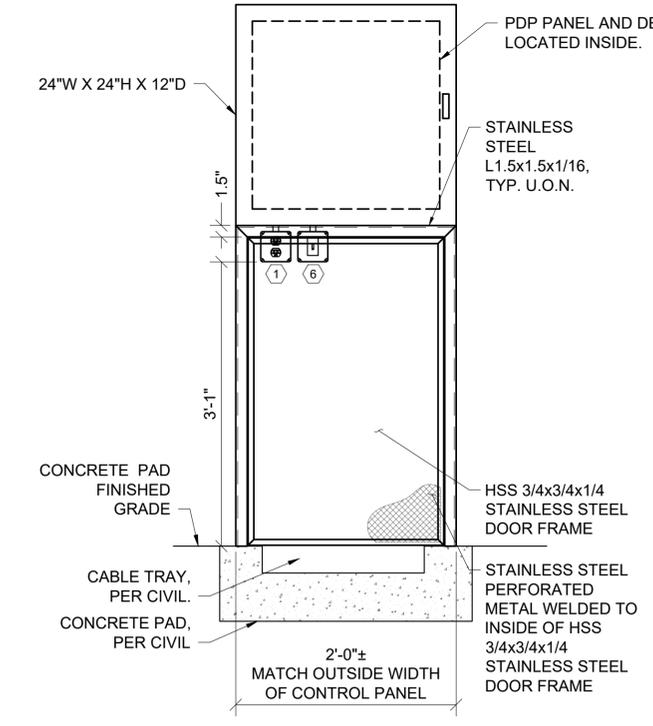
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 Influent Pump Station - Pump Panel & Stand Elevations 7/28/2022 6:50 PM JLUJE 24.1s (LMS Tech)



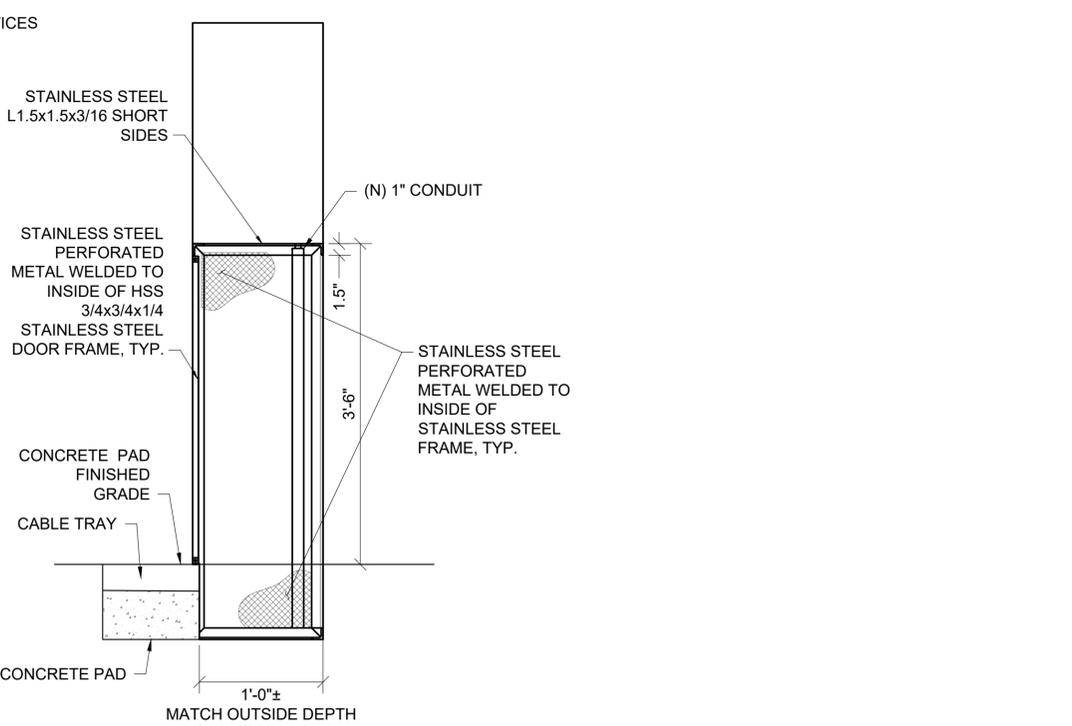
1 PDP-110-01 ELEVATION DETAIL
 SCALE: NTS



2 PDP-110-02 ELEVATION DETAIL
 SCALE: NTS



3 PDP-110-03 ELEVATION DETAIL
 SCALE: NTS



- SHEET KEY NOTES**
1. CONVENIENCE RECEPTACLE WITH WP COVER. THE RECEPTACLE SHALL BE MOUNTED DIRECTLY BELOW THE PUMP DISCONNECT PANEL (PDP) VIA A CLOSE NIPPLE. THE DEVICE BOX AND COVER SHALL BE PVC COATED GRC TYP. THE RECEPTACLE COVER SHALL BE IN-USE TYPE.
 2. CABLES ROUTE TO WET WELL VIA CABLE TRAY, SEE SHEET E-112.
 3. REFERENCE DRAWING E-902 FOR PDP-110-01 LOCAL CONTROL STATION ELEVATION DETAIL.
 4. REFERENCE DRAWING E-904 FOR PDP-110-02 LOCAL CONTROL STATION ELEVATION DETAIL.
 5. REFERENCE DRAWING E-905 PDP-110-03 LOCAL CONTROL STATION ELEVATION AND INTRINSICALLY SAFE WIRING DETAIL.
 6. PROVIDE LIGHT SWITCH WITH WP COVER. WIRE TO EXTERIOR LIGHTS AT THE INFLUENT PUMP STATION.

NO.	DATE	BY	REVISION

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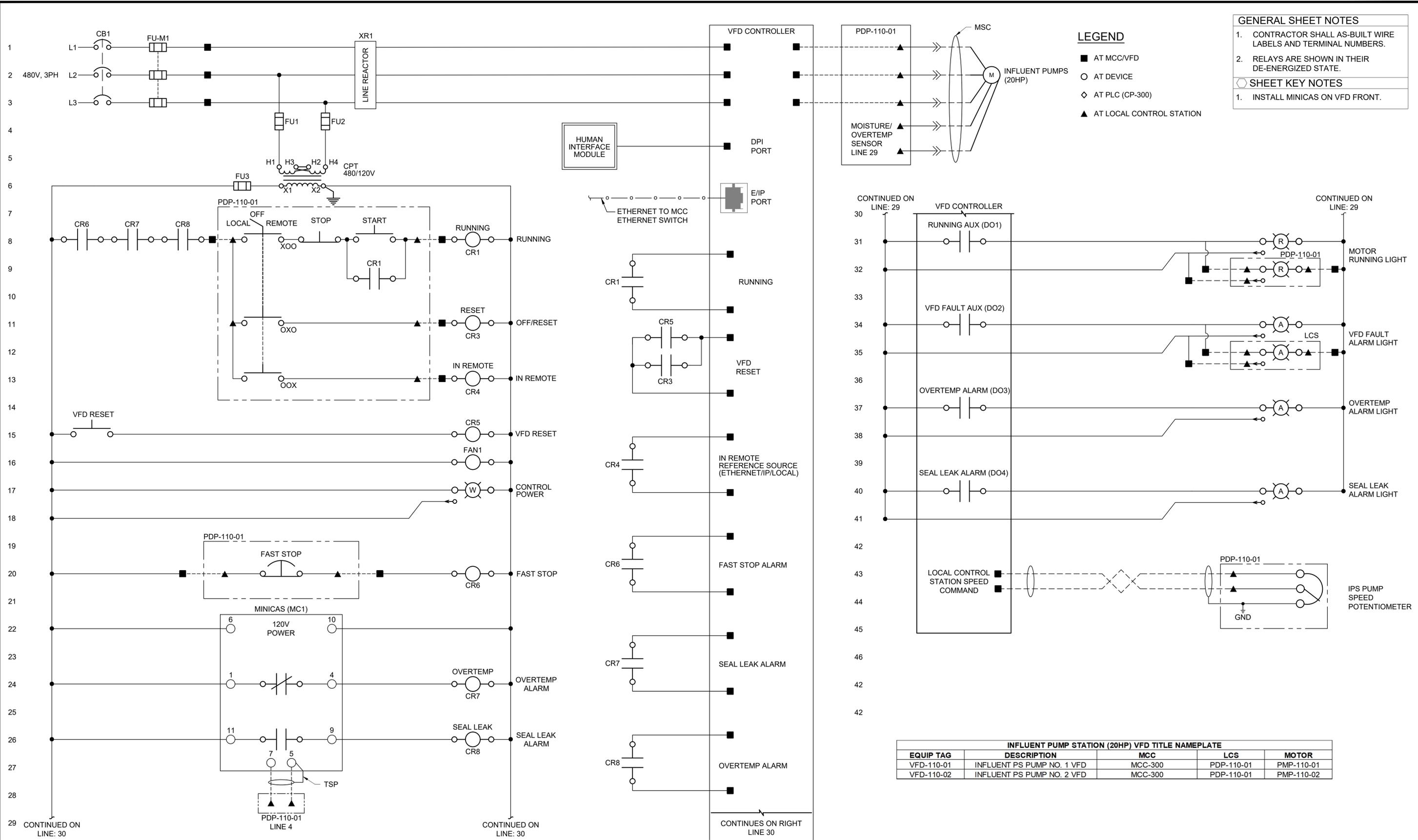
MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

INFLUENT PUMP STATION PUMP DISCONNECT PANEL & STAND ELEVATIONS

PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

SHEET
E-113
 101 of 135

G:\PROJECTS\103 - West Yost Associates\1032109 - Sweet Home Wwtp Phase 1 Design\Sheets\E-901 Influent Pump Station - Motor Schematic 1.dwg E-901 Influent Pump Station - Motor Schematic 1 7/28/2022 6:02 PM JLUTE 24.1s (LMS Tech)



LEGEND

- AT MCC/VFD
- AT DEVICE
- ◇ AT PLC (GP-300)
- ▲ AT LOCAL CONTROL STATION

GENERAL SHEET NOTES

1. CONTRACTOR SHALL AS-BUILT WIRE LABELS AND TERMINAL NUMBERS.
2. RELAYS ARE SHOWN IN THEIR DE-ENERGIZED STATE.

SHEET KEY NOTES

1. INSTALL MINICAS ON VFD FRONT.

INFLUENT PUMP STATION (20HP) VFD TITLE NAMEPLATE

EQUIP TAG	DESCRIPTION	MCC	LCS	MOTOR
VFD-110-01	INFLUENT PS PUMP NO. 1 VFD	MCC-300	PDP-110-01	PMP-110-01
VFD-110-02	INFLUENT PS PUMP NO. 2 VFD	MCC-300	PDP-110-01	PMP-110-02

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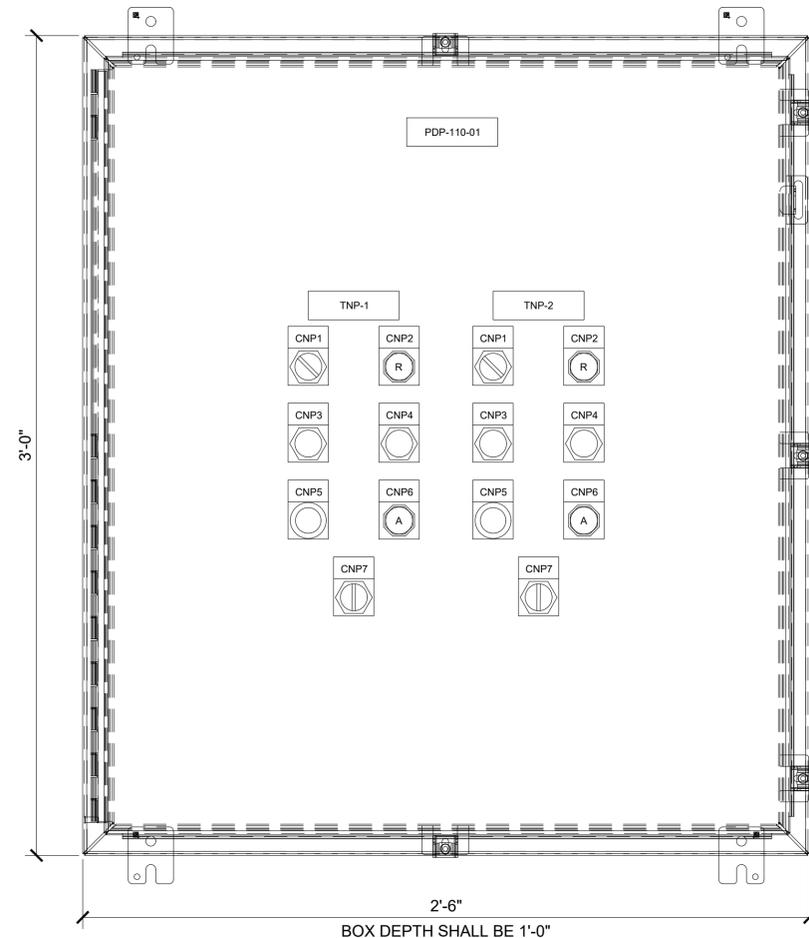
MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

INFLUENT PUMP STATION MOTOR SCHEMATIC 1

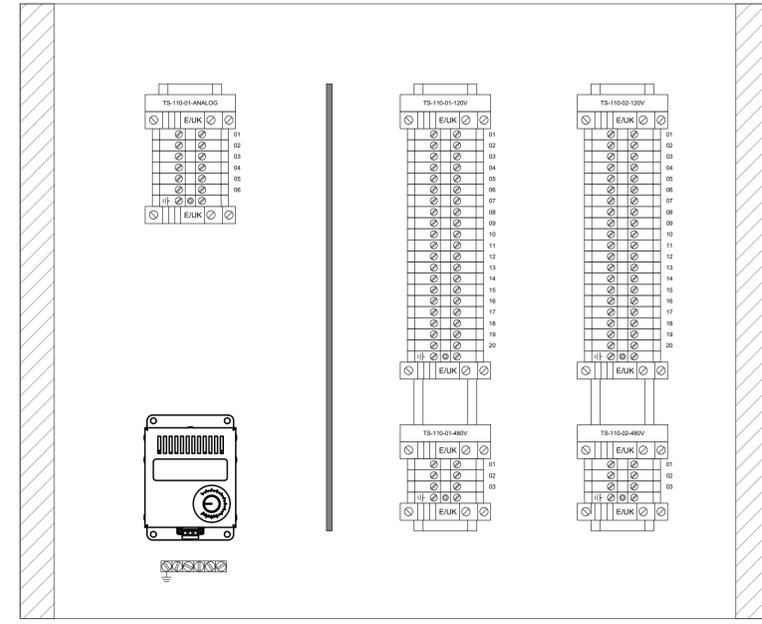
PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

SHEET
E-901
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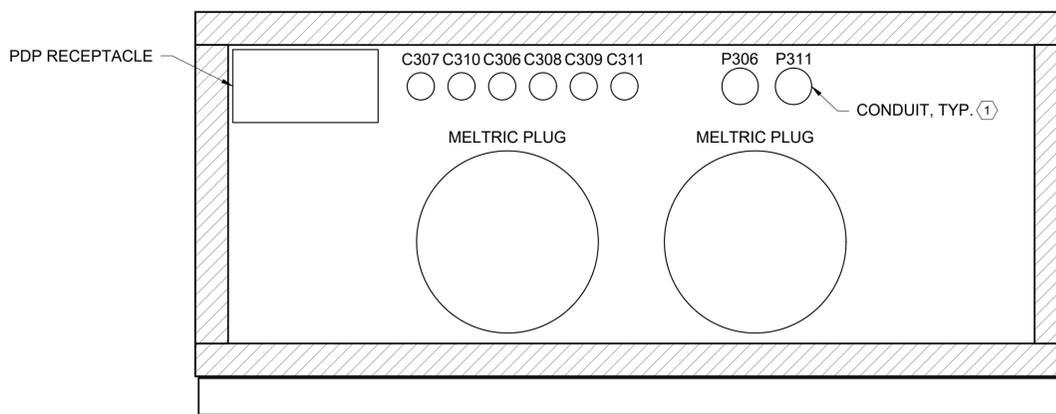
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1 PDP-110-01 FRONT ELEVATION
SCALE: NTS



2 PDP-110-01 INTERIOR ELEVATION
SCALE: NTS



3 PENETRATION DRAWING VIEW
SCALE: NTS

TNP	EQUIPMENT TAG	DESCRIPTION
1	INFLUENT PUMP NO.1	INFLUENT PUMP NO.1 LCS
2	INFLUENT PUMP NO.2	INFLUENT PUMP NO.2 LCS

CNP	INSCRIPTION
1	LOCAL / OFF / REMOTE (3-POS)
2	RUNNING INDICATOR LIGHT (RED)
3	START PUSHBUTTON
4	STOP PUSHBUTTON
5	FAST STOP
6	VFD FAULT ALARM (AMBER)
7	SPEED SETPOINT

QUANTITY	REFERENCE KEYNOTE #	DESCRIPTION
1	407800.E01	STAINLESS STEEL, NEMA 4X ENCLOSURES
1	407800.H17	ENCLOSURE HEATER (100W)
2	407800.S01	SELECTOR SWITCHES
2	407800.S04	MUSHROOM STYLE PUSHBUTTON SWITCH
2	407800.L20	INDICATOR LIGHTS
2	407800.P20	POTENTIOMETERS
AS REQ'D	407800.D10	DIN MOUNTING RAIL
AS REQ'D	407800.W21	NARROW SLOT WIRE DUCTS (NARROW SLOT)
48	407800.T10	LOW CURRENT TERMINAL BLOCKS
2	407800.T60	GROUNDING TERMINAL BLOCKS
2	407800.T15	TERMINAL STRIP IDENTIFICATION BLOCK
1	407800.G06	GROUND BARS

4 PDP-110-01 NAMEPLATE & PARTS LISTS
SCALE: NTS

- GENERAL SHEET NOTES**
- REFERENCE DRAWING E-112 FOR PDP STAND DETAILS FOR PDP-110-01.
- SHEET KEY NOTES**
- SEE POWER AND CONTROL CONDUIT SCHEDULES FOR DETAILS ON CONDUITS / CABLES ENTERING AND EXITING THE PUMP DISCONNECT PANEL.
 - ALL PILOT DEVICES SHALL BE INSTALLED ON A MANUFACTURER SUPPLIED SWING-OUT DEADFRONT DOOR THE NAMEPLATE SHALL BE INSTALLED ON THE EXTERIOR DOOR OF THE ENCLOSURE.

NO.	DATE	BY	REVISION

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REGISTERED PROFESSIONAL ENGINEER
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Digitally Signed
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BERNARD E. PERRY
OREGON
EXPIRES: 12-31-2022

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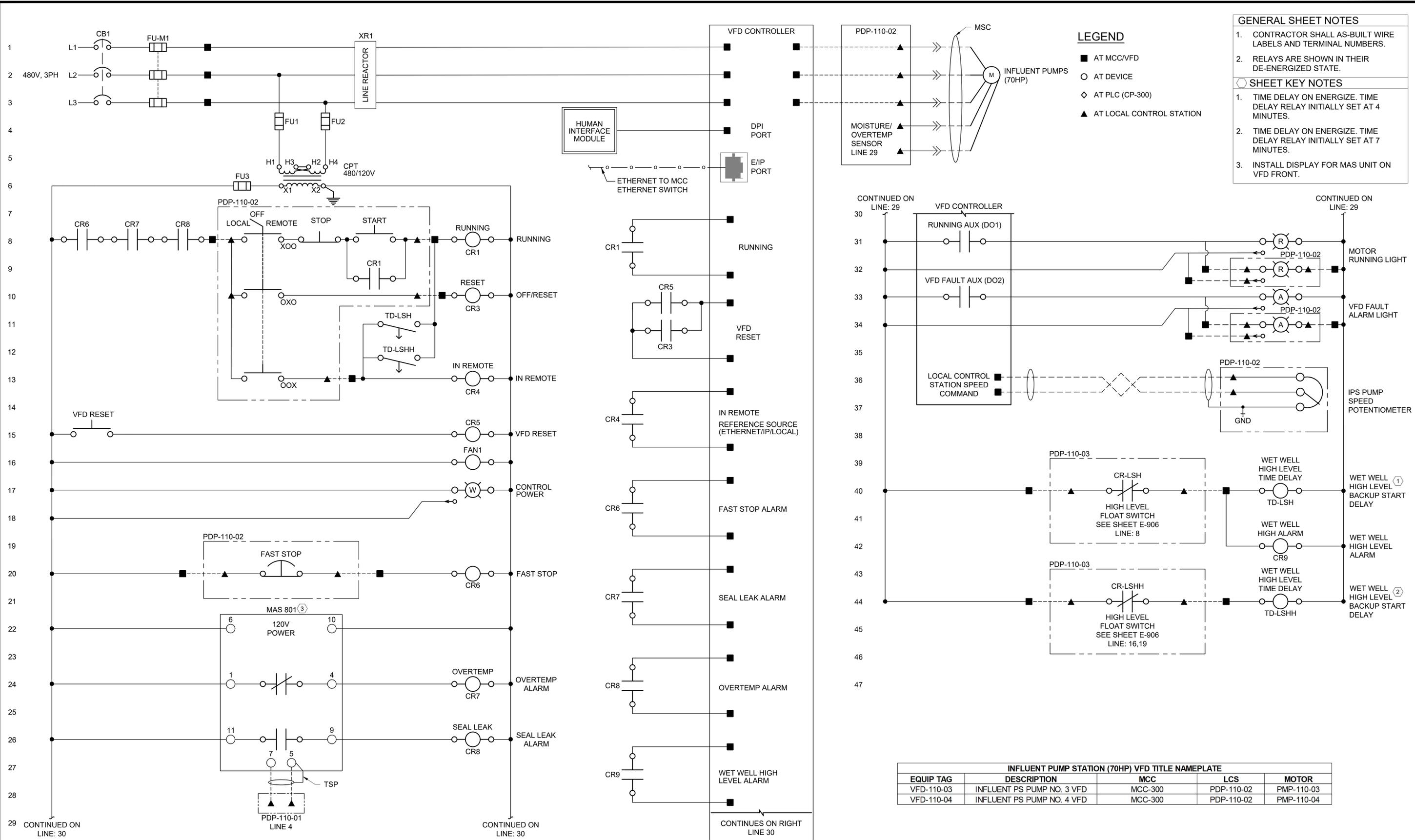
Sweet Home
Oregon... it's best!

MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

INFLUENT PUMP STATION PDP-110-01 LCS

PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

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LEGEND

- AT MCC/VFD
- AT DEVICE
- ◇ AT PLC (CP-300)
- ▲ AT LOCAL CONTROL STATION

GENERAL SHEET NOTES

1. CONTRACTOR SHALL AS-BUILT WIRE LABELS AND TERMINAL NUMBERS.
2. RELAYS ARE SHOWN IN THEIR DE-ENERGIZED STATE.

SHEET KEY NOTES

1. TIME DELAY ON ENERGIZE. TIME DELAY RELAY INITIALLY SET AT 4 MINUTES.
2. TIME DELAY ON ENERGIZE. TIME DELAY RELAY INITIALLY SET AT 7 MINUTES.
3. INSTALL DISPLAY FOR MAS UNIT ON VFD FRONT.

INFLUENT PUMP STATION (70HP) VFD TITLE NAMEPLATE				
EQUIP TAG	DESCRIPTION	MCC	LCS	MOTOR
VFD-110-03	INFLUENT PS PUMP NO. 3 VFD	MCC-300	PDP-110-02	PMP-110-03
VFD-110-04	INFLUENT PS PUMP NO. 4 VFD	MCC-300	PDP-110-02	PMP-110-04

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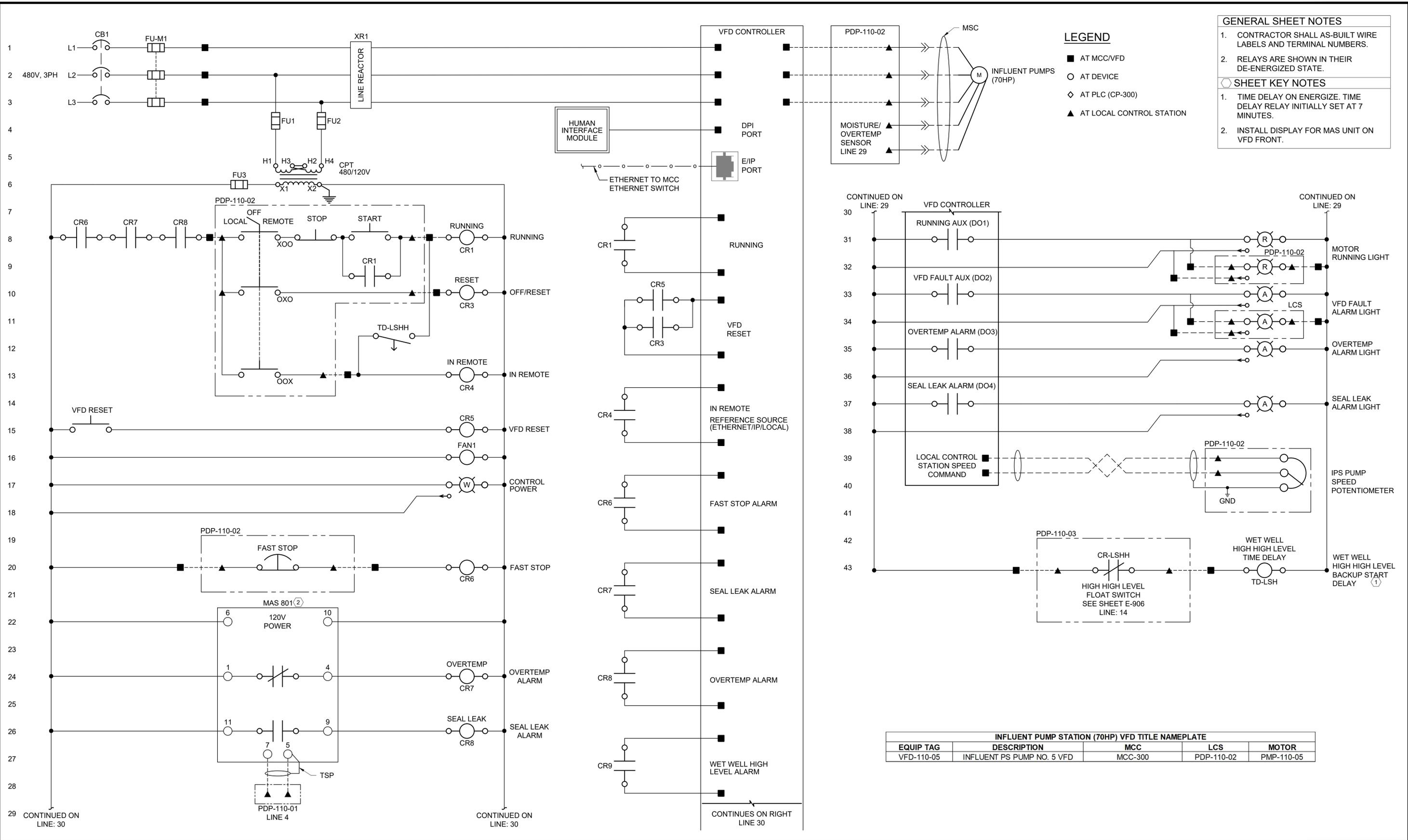
MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

INFLUENT PUMP STATION MOTOR SCHEMATIC 2

PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

SHEET **E-903** 104 of 135

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- LEGEND**
- AT MCC/VFD
 - AT DEVICE
 - ◇ AT PLC (CP-300)
 - ▲ AT LOCAL CONTROL STATION
- GENERAL SHEET NOTES**
1. CONTRACTOR SHALL AS-BUILT WIRE LABELS AND TERMINAL NUMBERS.
 2. RELAYS ARE SHOWN IN THEIR DE-ENERGIZED STATE.
- SHEET KEY NOTES**
1. TIME DELAY ON ENERGIZE. TIME DELAY RELAY INITIALLY SET AT 7 MINUTES.
 2. INSTALL DISPLAY FOR MAS UNIT ON VFD FRONT.

INFLUENT PUMP STATION (70HP) VFD TITLE NAMEPLATE				
EQUIP TAG	DESCRIPTION	MCC	LCS	MOTOR
VFD-110-05	INFLUENT PS PUMP NO. 5 VFD	MCC-300	PDP-110-02	PMP-110-05

NO.	DATE	BY	REVISION

NOTICE

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REGISTERED PROFESSIONAL ENGINEER
86683
Digitally Signed
OREGON
MAY 08 2012
BENJAMIN E.
EXPIRES: 12-31-2022

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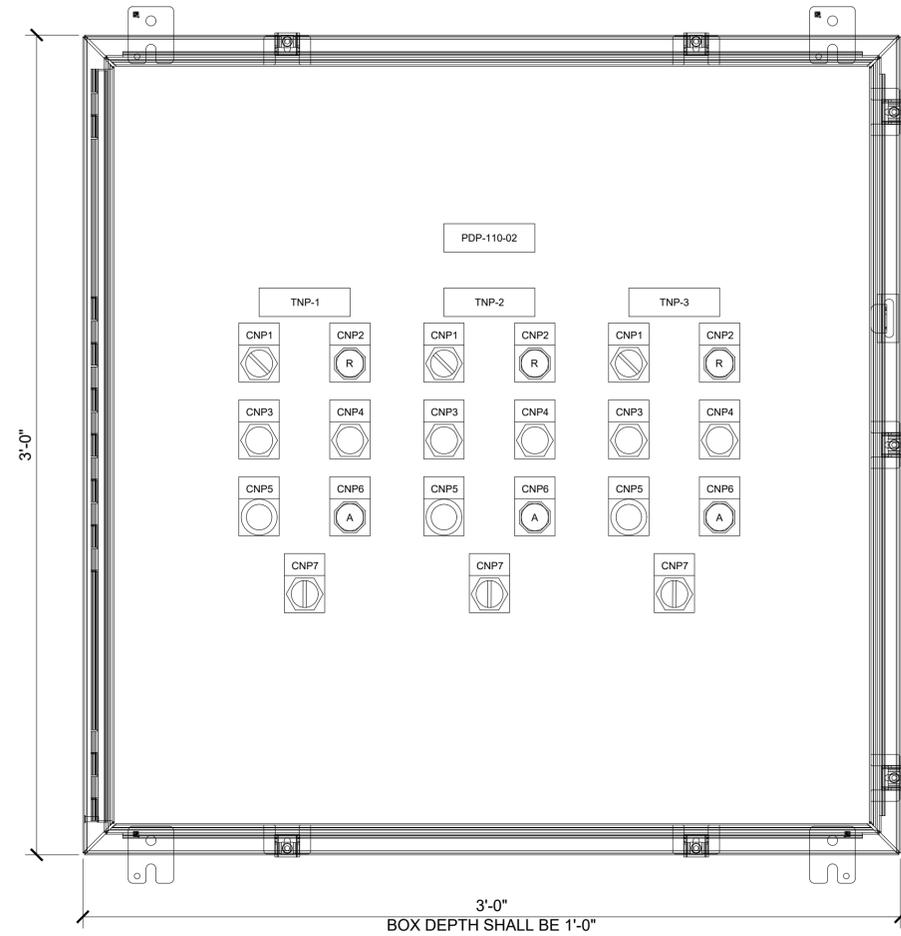
MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

INFLUENT PUMP STATION MOTOR SCHEMATIC 3

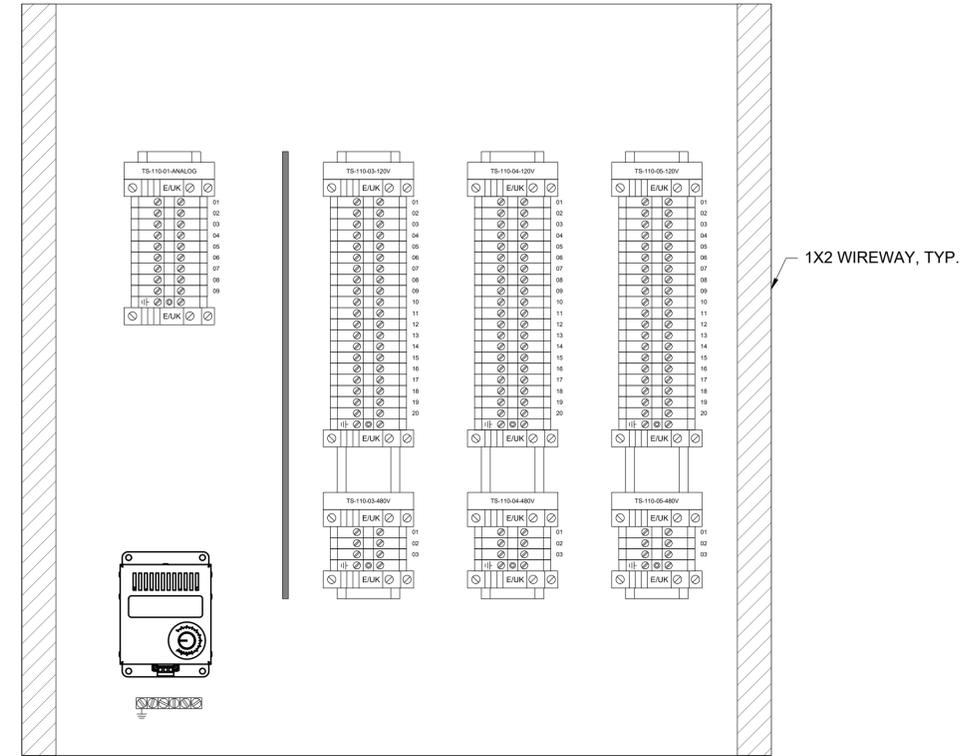
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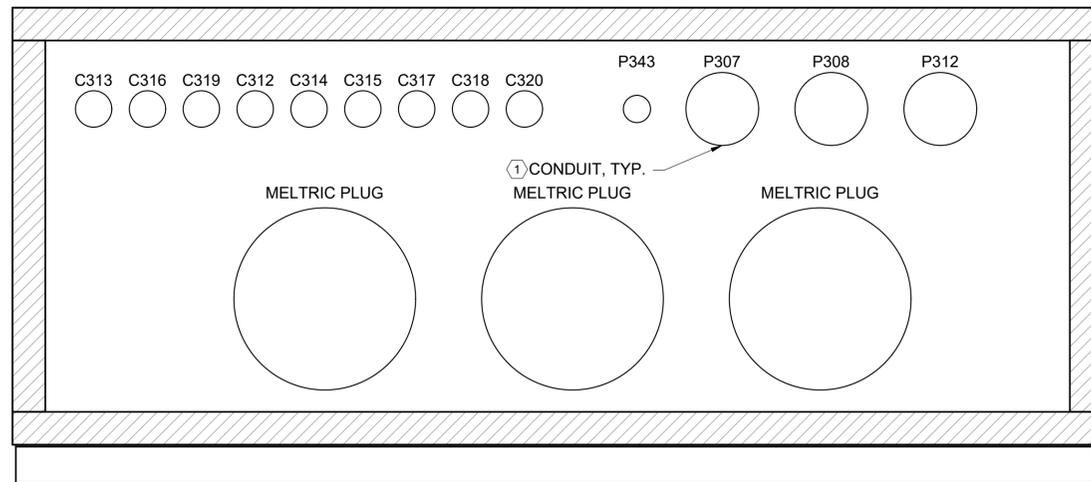
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1 PDP-110-02 FRONT ELEVATION
SCALE: NTS



2 PDP-110-02 INTERIOR ELEVATION
SCALE: NTS



3 PENETRATION DRAWING VIEW
SCALE: NTS

INFLUENT PUMP STATION LCS TITLE NAMEPLATE		
TNP	EQUIPMENT TAG	DESCRIPTION
1	INFLUENT PUMP NO.3	INFLUENT PUMP NO.3 LCS
2	INFLUENT PUMP NO.4	INFLUENT PUMP NO.4 LCS
3	INFLUENT PUMP NO.5	INFLUENT PUMP NO.5 LCS

INFLUENT PUMP STATION LCS DEVICE TITLE NAMEPLATE	
CNP	INSCRIPTION
1	LOCAL / OFF / REMOTE (3-POS)
2	RUNNING INDICATOR LIGHT (RED)
3	START PUSHBUTTON
4	STOP PUSHBUTTON
5	FAST STOP
6	VFD FAULT ALARM (AMBER)
7	SPEED SETPOINT

INFLUENT PUMP STATION LOCAL CONTROL STATION PARTS LIST		
QUANTITY	REFERENCE KEYNOTE #	DESCRIPTION
1	407800.E01	STAINLESS STEEL, NEMA 4X ENCLOSURES
1	407800.H17	ENCLOSURE HEATER (100W)
3	407800.S01	SELECTOR SWITCHES
6	407800.S02	PUSHBUTTONS
3	407800.S04	MUSHROOM STYLE PUSHBUTTON SWITCH
6	407800.L20	INDICATOR LIGHTS
3	407800.P20	POTENTIOMETERS
AS REQ'D	407800.D10	DIN MOUNTING RAIL
AS REQ'D	407800.W21	NARROW SLOT WIRE DUCTS (NARROW SLOT)
48	407800.T10	LOW CURRENT TERMINAL BLOCKS
2	407800.T60	GROUNDING TERMINAL BLOCKS
2	407800.T15	TERMINAL STRIP IDENTIFICATION BLOCK
1	407800.G06	GROUND BARS

4 PDP-110-02 NAMEPLATE & PARTS LISTS
SCALE: NTS

- GENERAL SHEET NOTES**
- REFERENCE DRAWING E-112 FOR PDP STAND DETAILS FOR PDP-110-02.
- SHEET KEY NOTES**
- SEE POWER AND CONTROL CONDUIT SCHEDULES FOR DETAILS ON CONDUITS / CABLES ENTERING AND EXITING THE PUMP DISCONNECT PANEL.
 - ALL PILOT DEVICES SHALL BE INSTALLED ON A MANUFACTURER SUPPLIED SWING-OUT DEADFRONT DOOR THE NAMEPLATE SHALL BE INSTALLED ON THE EXTERIOR DOOR OF THE ENCLOSURE.

NO.	DATE	BY	REVISION

NOTICE
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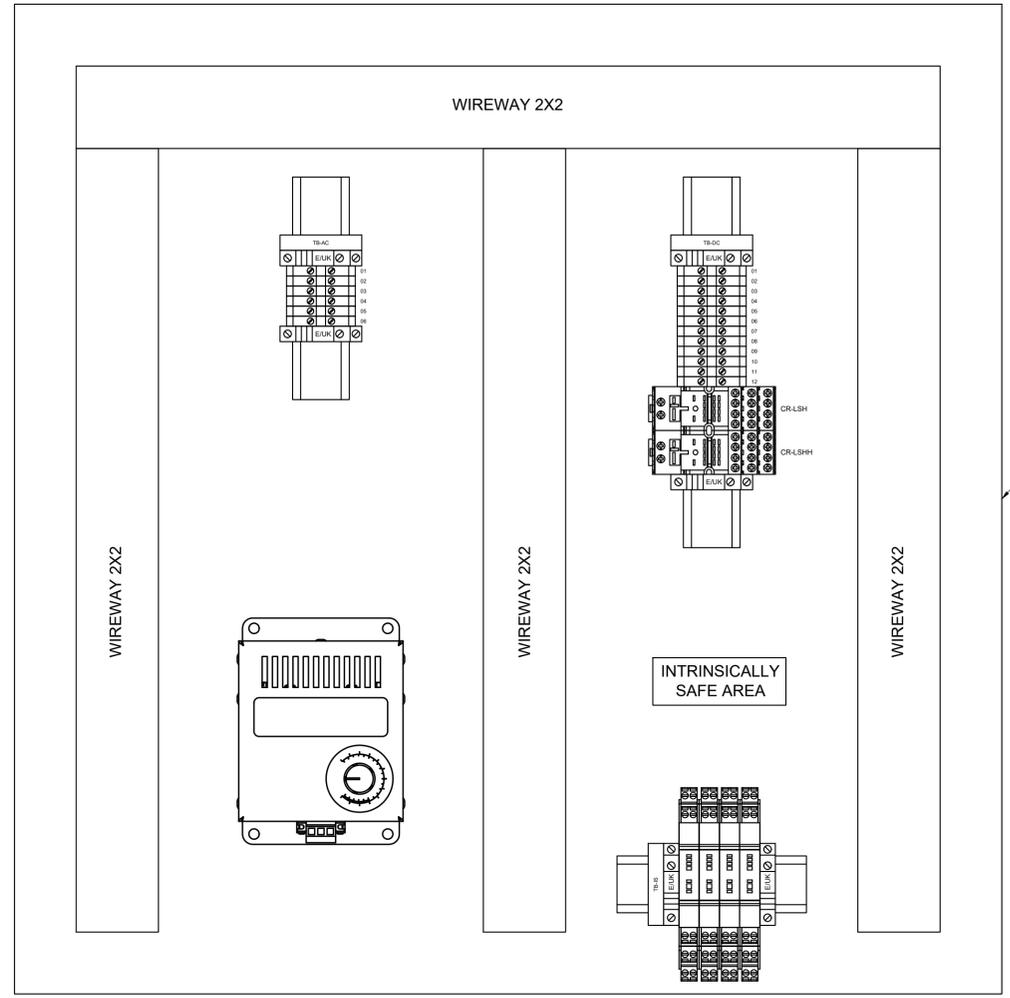
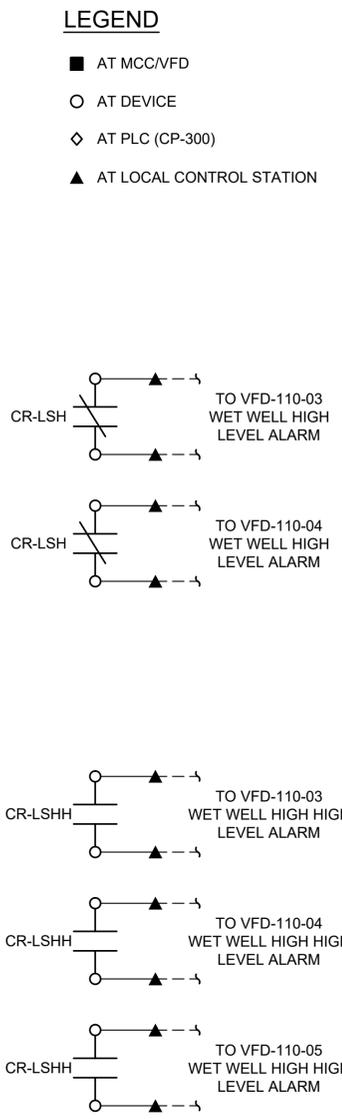
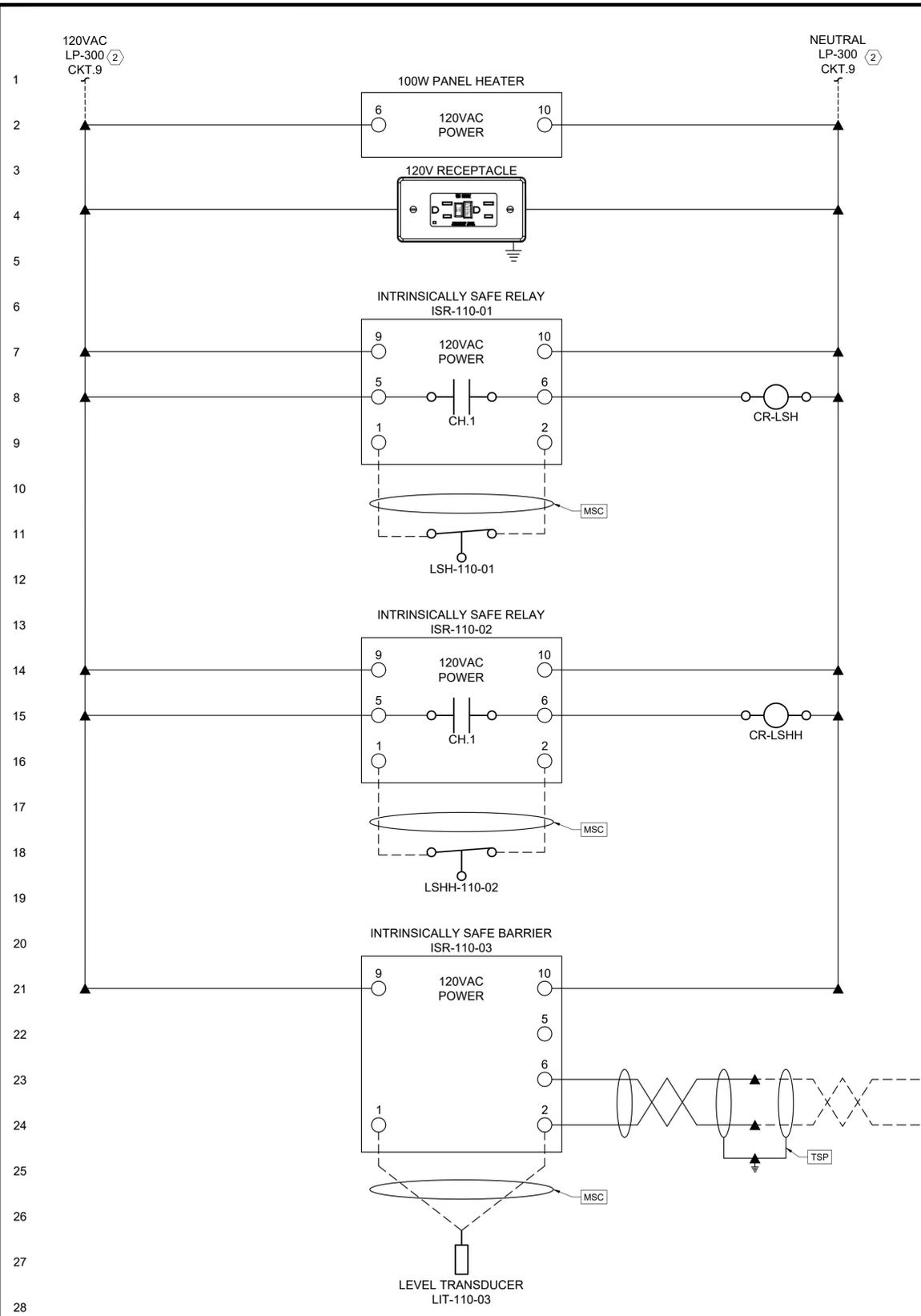
MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT
PHASE 1

INFLUENT PUMP STATION
PDP-110-02 LCS

PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

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- #### GENERAL SHEET NOTES
- REFERENCE DRAWING E-112 FOR PDP STAND DETAILS FOR PDP-110-03.
 - IN PHASE 1, WIRE THIS PANEL TO PNL-L, CIRCUIT #21.
- #### SHEET KEY NOTES
- PROVIDE 24"W X 24"H X 12"D NEMA 4X STAINLESS STEEL ENCLOSURE. PROVIDE A MANUFACTURER SUPPLIED SWING-OUT DEADFRONT DOOR. THE NAMEPLATE OF PDP-110-03 SHALL BE INSTALLED ON THE EXTERIOR DOOR OF THE ENCLOSURE.
 - REFERENCE IC-340 FOR LEVEL TRANSMITTER DISPLAY THAT SHALL BE MOUNTED ON THE FRONT OF PDP-110-03. THE LEVEL TRANSMITTER SHALL BE INSTALLED ON THE DEADFRONT DOOR.

INFLUENT PUMP STATION LOCAL CONTROL STATION PARTS LIST		
QUANTITY	REFERENCE KEYNOTE #	DESCRIPTION
1	407800.E01	STAINLESS STEEL, NEMA 4X ENCLOSURES
1	407800.H17	ENCLOSURE HEATER (100W)
2	407800.R90	INTRINSICALLY SAFE RELAY
1	407800.B90	INTRINSICALLY SAFE HART BARRIER
AS REQ'D	407800.D10	DIN MOUNTING RAIL
AS REQ'D	407800.W21	NARROW SLOT WIRE DUCTS (NARROW SLOT)
2	407800.R01	ICE CUBE RELAYS
48	407800.T10	LOW CURRENT TERMINAL BLOCKS
2	407800.T60	GROUNDING TERMINAL BLOCKS
2	407800.T15	TERMINAL STRIP IDENTIFICATION BLOCK
1	407800.G06	GROUND BARS
1	262726.R10	GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE

1 PDP-110-03 INTRINSICALLY SAFE RELAY / BARRIER WIRING
SCALE: NTS

2 PDP-110-03 INTERIOR ELEVATION
SCALE: NTS

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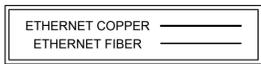
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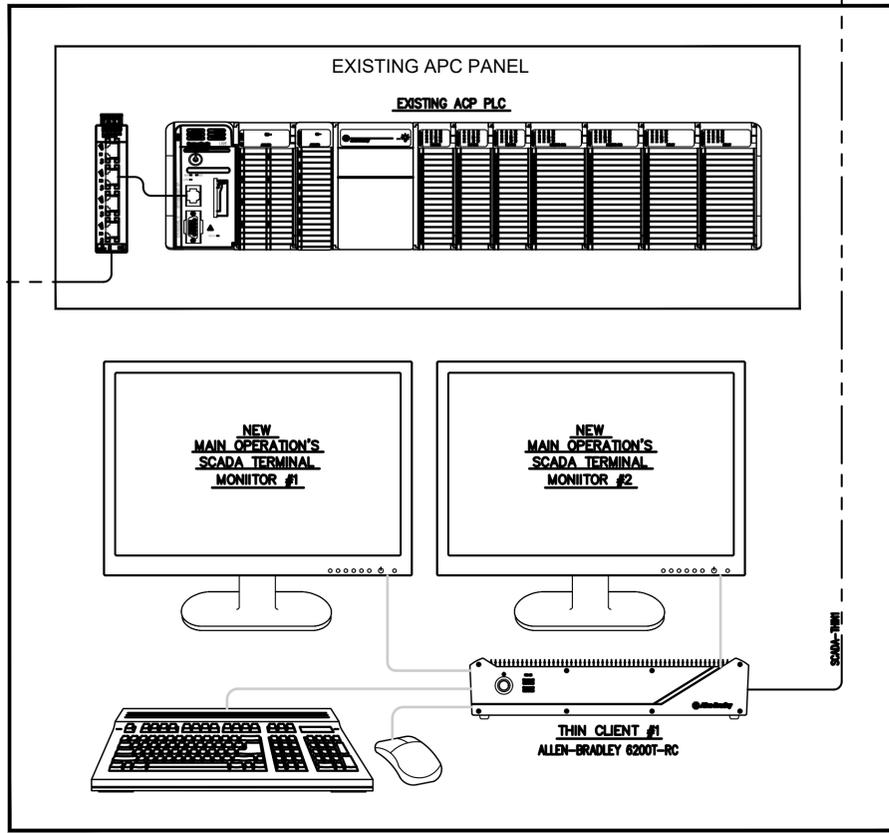
MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT
PHASE 1

INFLUENT PUMP STATION
PDP-110-03 LCS

PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022



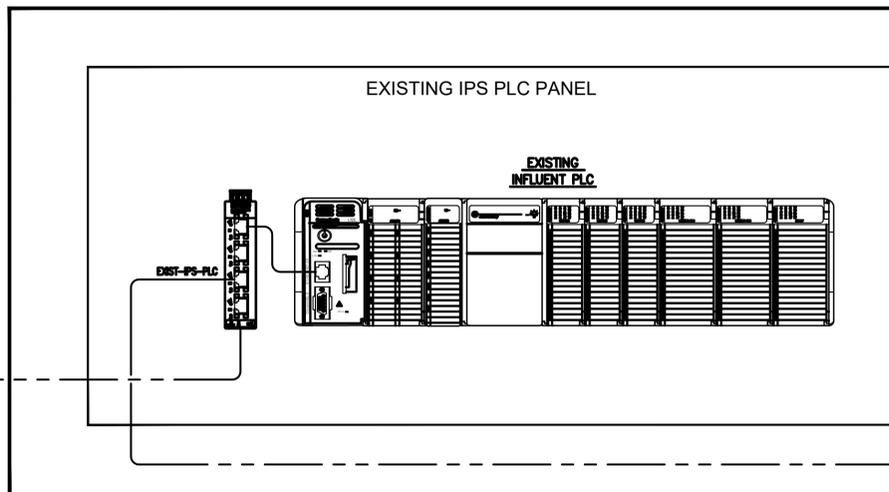
EXISTING ADMIN. BUILDING CONTROL ROOM



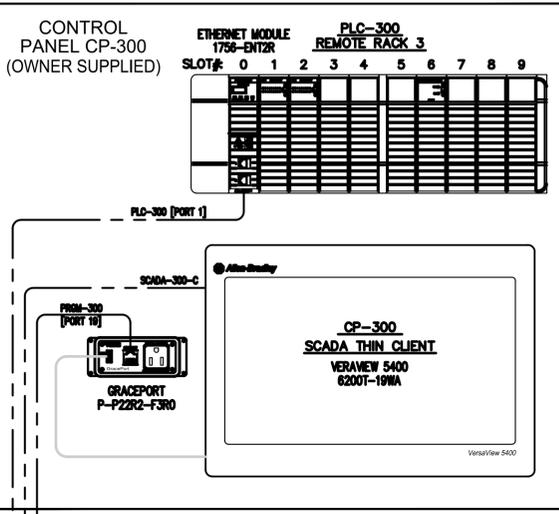
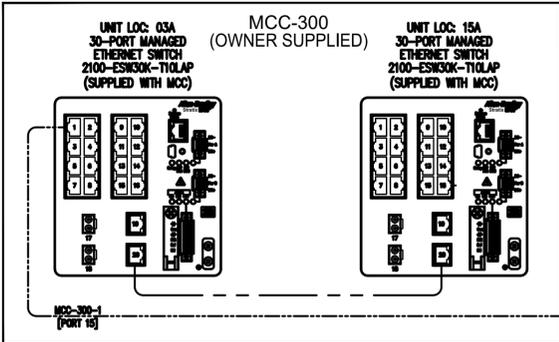
EXISTING CAT5 CABLE

CP-300 FIELD ETHERNET DEVICES

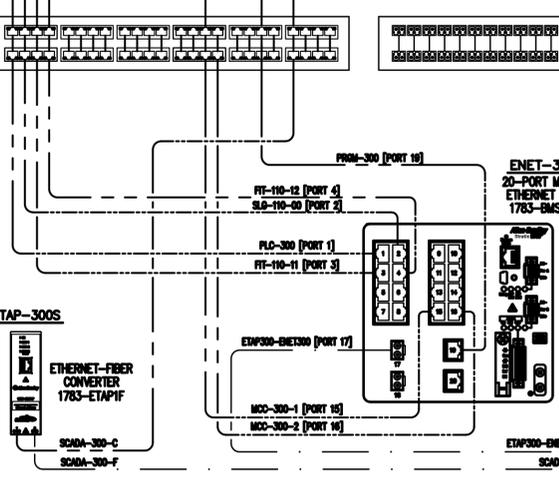
- ▶ FIT-110-12 [PORT 4]
- ▶ FIT-110-11 [PORT 3]
- ▶ SLG-110-00 [PORT 2]



NEW CAT5 CABLE

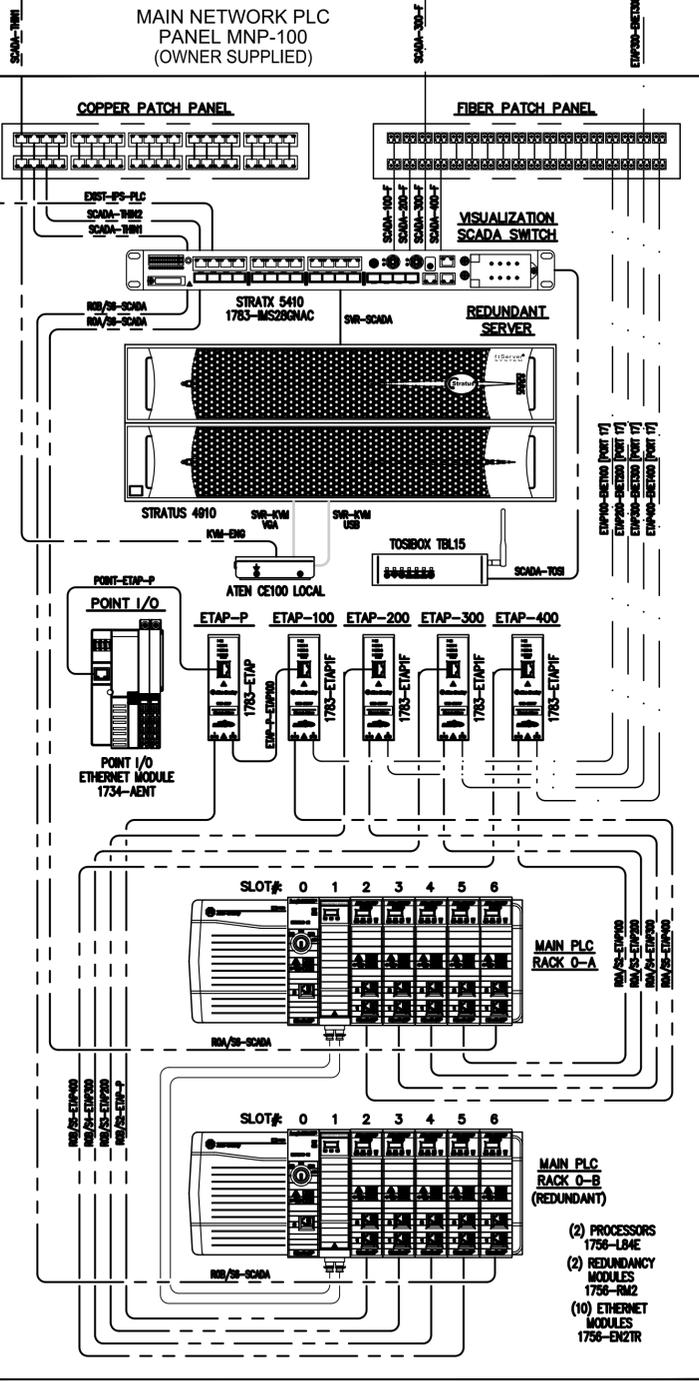


NETWORK INTERFACE PANEL NIP-300 (OWNER SUPPLIED)



EXISTING ELECTRICAL BUILDING

NOTE: MAIN NETWORK PLC PANEL WILL BE MOVED TO THE NEW BUILDING-A FOR PHASE 2



NO.	DATE	BY	REVISION

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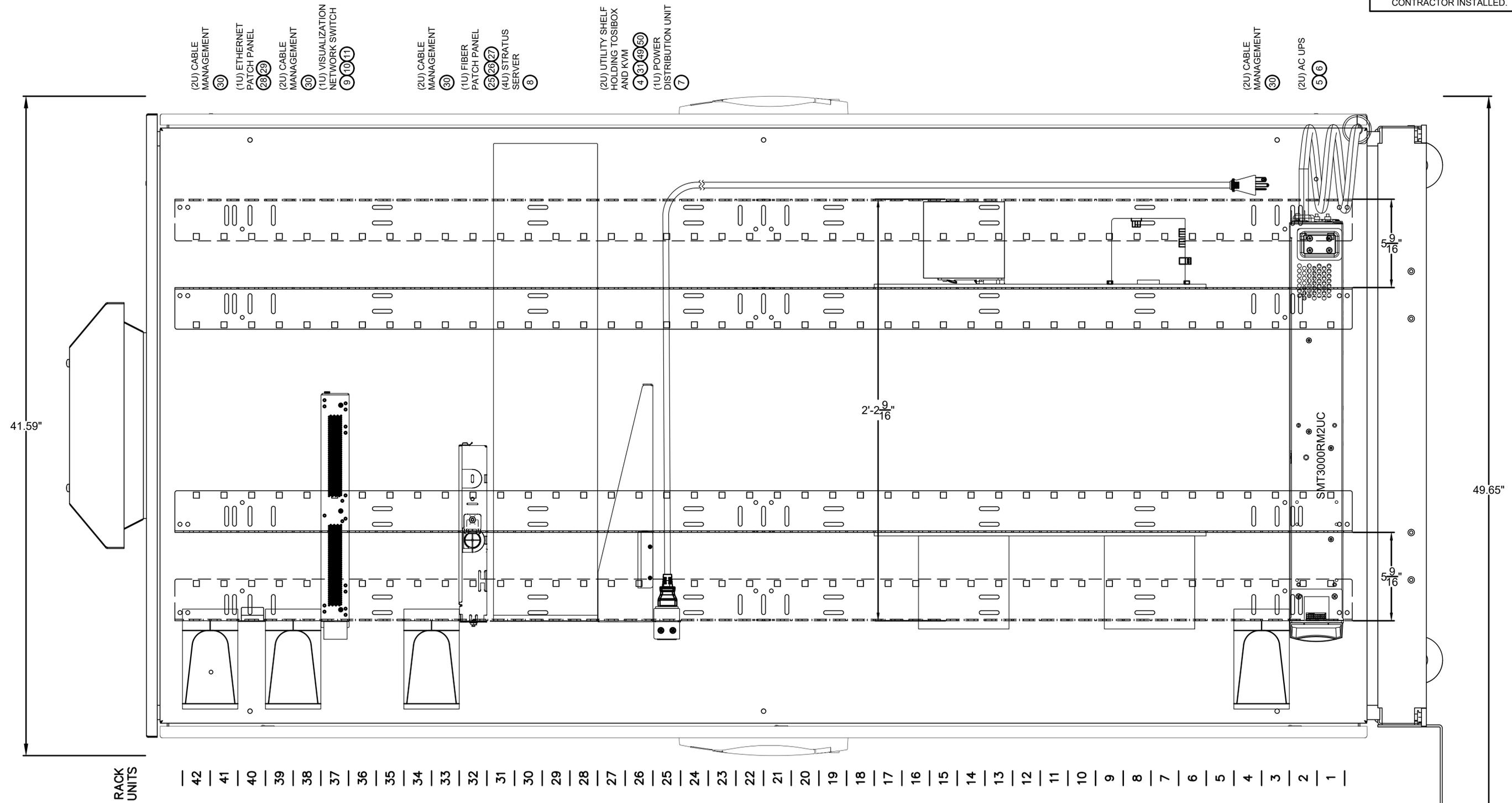


MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

IPS - PANEL NIP-300 ETHERNET COMMUNICATIONS INTERCONNECT DIAGRAM

PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

GENERAL SHEET NOTES
 1. MNP-100 SHALL BE OWNER FURNISHED
 CONTRACTOR INSTALLED.



NO.	DATE	BY	REVISION

NOTICE
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MNP-100 MAIN PLC / OT NETWORK PANEL LAYOUT - SIDE VIEW
 PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

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IC-011
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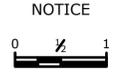
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GENERAL SHEET NOTES
 1. MNP-100 SHALL BE OWNER FURNISHED CONTRACTOR INSTALLED.

BILL OF MATERIAL

ITEM	QTY	PART #	MANUFACTURER	DESCRIPTION
1	1	PSC20610BFP	HOFFMAN	ENCLOSURE, PROLINE V/D, SERVER CABINET FAN/FILTER TYPE 1, 2000X600X1000MM
2	1	PRA1920THL1	HOFFMAN	RACK ANGLES, COLOC, THOLE (2), BULLETIN DPC, SIZE/DIMS: 42 UNIT, FULL HT
3	2			[[12U panel]] - CUSTOM ORDER
4	1	RASU190315BK1	HAMMOND MFG.	UTILITY SHELF, 2U, 15" DEPTH, 14 GAUGE STEEL NON-VENTED, 100LB CAPACITY
5	1	SMT3000RM2UC	APC	SMART-UPS, 300VA, RACK MOUNT, 8 OUTLET, SMARTCONNECT
6	1	AP9613	APC	RELAY CARD
7	1	P12B19M	PANDUIT	PDU, 12x 5-20R outlets, 15A 5-15P inlet
8	2	4910 FT	STRATUS	STRATUS SERVER (REDUNDANT)
9	1	1783-IMS28GNAC	ALLEN BRADLEY	STRATIX 5410, DISTRIBUTION SWITCH
10	4	1783-SFP1GSX	ALLEN BRADLEY	FIBER SFPs 1Gig
11	1	1783-IMXAC	ALLEN BRADLEY	POWER SUPPLY MODULE - STRATIX 5410
12	2	1758-A7	ALLEN BRADLEY	7-SLOT CHASSISS
13	2	1756-PA72	ALLEN BRADLEY	75W, 120VAC, POWER SUPPLY
14	2	1756-L84E	ALLEN BRADLEY	CONTROLLOGIX CPU, 20MBYTES MEMORY
15	2	1756-RM2	ALLEN BRADLEY	REDUNDANCY MODULE
16	1	1756-RMC1	ALLEN BRADLEY	REDUNDANCY MODULE FIBER JUMPER - 1M
17	10	1756-EN2TR	ALLEN BRADLEY	ETHERNET REDUNDANT BRIDGE MODULE
18				
19	4	1783-ETAP1F	ALLEN BRADLEY	FIBER TO COPPER CONVERTER
20	1	1734-AENT	ALLEN BRADLEY	POINT IO MODULE
21	2	1734-IB4	ALLEN BRADLEY	POINT IO DIGITAL INPUT MODULE
22	2	1734-TOP	ALLEN BRADLEY	POINT IO TERMINAL BASE WITH SCREW CLAMP, 8 TERMINATIONS
23	2	2904600	PHOENIX CONTACT	QUINT POWER SUPPLY, 24VDC, 5A
24	1	2320173	PHOENIX CONTACT	REDUNDANCY MODULE WITH PROTECTIVE COATING, 24VDC
25	1	FMT1	PANDUIT	OPTICOM RACK MOUNT FIBER TRAY
26	1	CFAPPBL1	PANDUIT	OPTICOM RACK MOUNT FIBER ADAPTER PATCH PANELS, FITS 4 FAP'S OR CASSETTES
27	4	FAP6WAQDLCZ	PANDUIT	LC FIBER ADAPTER PANEL, 6 PORT, DUPLEX, MULTIMODE, OM3/OM4
28	1	CP48HDBL	PANDUIT	PATCH PANEL, MINI-COM, HIGH DENSITY, SHIELDED, 48-PORT, FLAT, 1 RU, STAINLESS STEEL
29	48	CJS688TGY	PANDUIT	MINI-COM, CAT6, SHIELDED RJ45, JACK MODULE
30	3	NMF2	PANDUIT	CABLE MANAGER, HORIZONTAL, FRONT ONLY, HIGH CAPACITY, 3.5"H x 19"W x 6.2"D, 2 RU
31	1	CE100L	ATEN	MINI USB KVM EXTENDER, TRANSMITTER
32	1	1489-M1C150	ALLEN BRADLEY	CIRCUIT BREAKER, 15 AMP, 277VAC/48VDC, C-TRIP CURVE, 1-POLE DIN MOUNT
33	6	1492-H5	ALLEN BRADLEY	FUSE HOLDER
34	1	1492-N37	ALLEN BRADLEY	END BARRIER
35				
36	6	ABC-1-R	BUSSMANN	FUSE, 1A, 1/4"x1-1/4", VDC
37	1	199-DR1	ALLEN BRADLEY	DIN RAIL
38	9	1492-EAJ35	ALLEN BRADLEY	END ANCHOR
39	5	1492-J3	ALLEN BRADLEY	TERMINAL STRIP
40	6	1492-J3-B	ALLEN BRADLEY	TERMINAL STRIP, BLUE
41	2		ALLEN BRADLEY	JUMPER, 10P (CUT-ABLE)
42	3	1492-EBJ3	ALLEN BRADLEY	END BARRIER
43	3	1492-JG4	ALLEN BRADLEY	GROUND TERMINAL BLOCK
44	2	17517-10-B1	VOLEX	CORDSET, 5-15P TO STRIPPED LEADS, SJT 14 AWG 3C, RATED 15A/125V, 9'-10"
45		FX2ERLNLNSNM001	PANDUIT	FIBER OPTIC PATCH CORDS
46		STP6X0.5MIG	PANDUIT	COPPER 10GIG PATCH CORDS
47		CMBBL-X	PANDUIT	MINI-COM BLANK MODULE, 1-POS
48	4	PVCM207	HOFFMAN	VERTICAL CABLE MANAGER, BLACK STEEL, NARROW PROFILE FOR 600mm ENCLOSURES
49	1	TBL15	TOSIBOX	LOCK 150, INDUSTRIAL FIREWALL ROUTER, SECURE REMOTE CONNECTIVITY
50	1	TBK2	TOSIBOX	CRYPTOPROCESSING DEVICE KEY
51	2	1489-M1C010	ALLEN BRADLEY	CIRCUIT BREAKER, 1 AMP, 277VAC/48VDC, C-TRIP CURVE, 1-POLE DIN MOUNT
52	2	1489-M1C060	ALLEN BRADLEY	CIRCUIT BREAKER, 6 AMP, 277VAC/48VDC, C-TRIP CURVE, 1-POLE DIN MOUNT
53	1	1783-ETAP	ALLEN BRADLEY	ETHERNET/IP TAP 3 COPPER PORTS
54	1	RGS134B-1	PANDUIT	GROUNDING KIT

NO.	DATE	BY	REVISION

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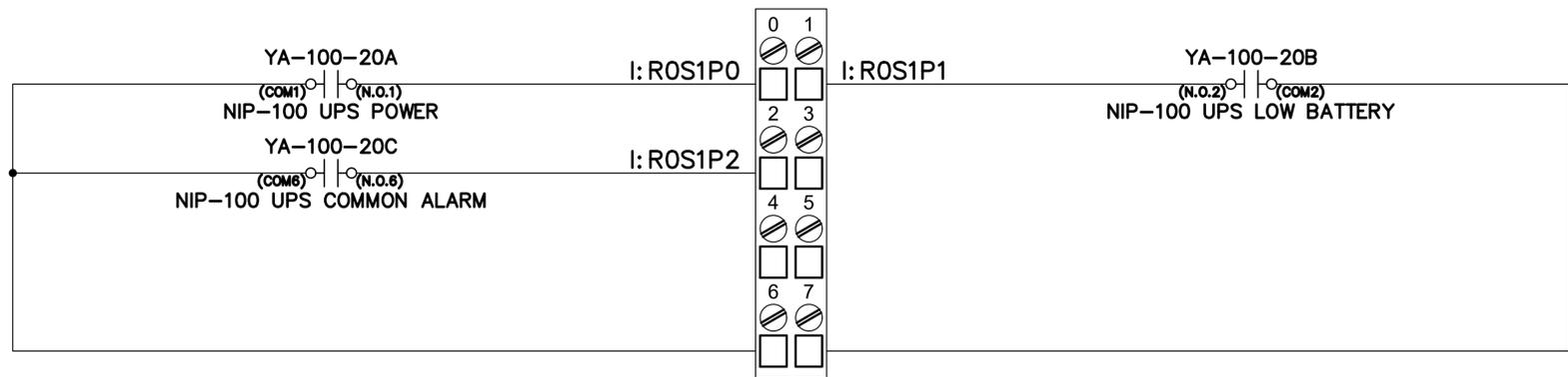
MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

MNP-100
 MAIN PLC / OT NETWORK PANEL
 BILL OF MATERIAL
 PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

SHEET
IC-012
 111 of 135

G:\PROJECTS\103 - West Yost Associates\1032109 - Sweet Home Wwtp Phase 1 Design\Design(2) Drawings\Current\sweet Home Wwtp Phase 1 Design\Sheets\1032109-IC-014 MNP-100 Main PLC OT Network Panel IO Slot 1 Input Module.dwg 1032109-IC-014 MNP-100 Main PLC OT Network Panel IO Slot 1 Input Module 7/28/2022 6:17 PM JLUITE 24.1s (LMS Tech)

GENERAL SHEET NOTES
 1. MNP-100 SHALL BE OWNER FURNISHED CONTRACTOR INSTALLED.
 2. ALL FIELD WIRING SHALL BE PROVIDED BY THE CONTRACTOR.



**SLOT 1
 POINT I/O
 4 POINT SINK INPUT MODULE
 AB 1734-IB4**

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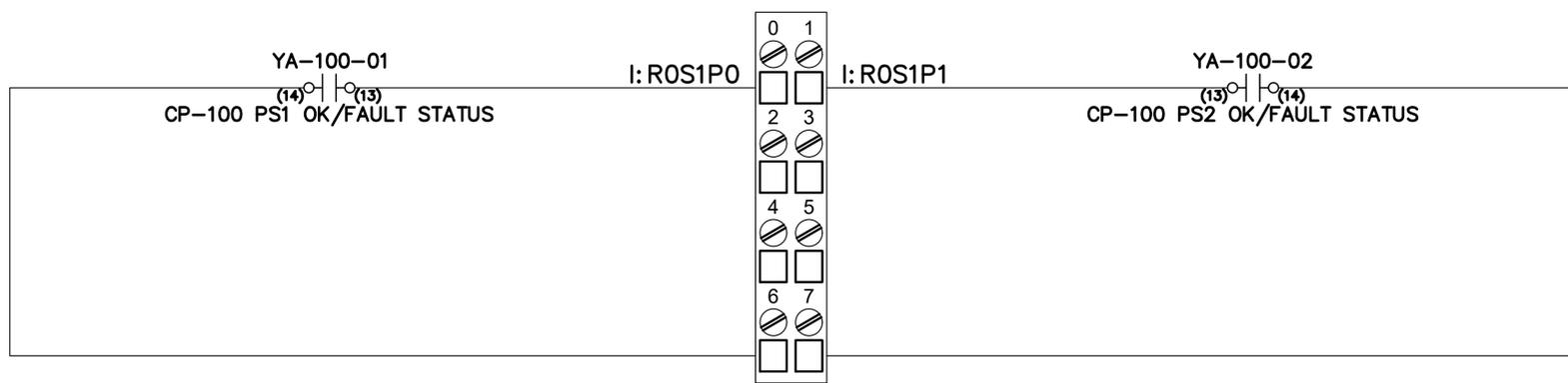
MNP-100 MAIN PLC / OT NETWORK PANEL POINT I/O SLOT 1 INPUT MODULE

PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

SHEET
IC-014
 113 of 135

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GENERAL SHEET NOTES
 1. MNP-100 SHALL BE OWNER FURNISHED CONTRACTOR INSTALLED.
 2. ALL FIELD WIRING SHALL BE PROVIDED BY THE CONTRACTOR.



**SLOT 2
 POINT I/O
 4 POINT SINK INPUT MODULE
 AB 1734-IB4**

NO.	DATE	BY	REVISION

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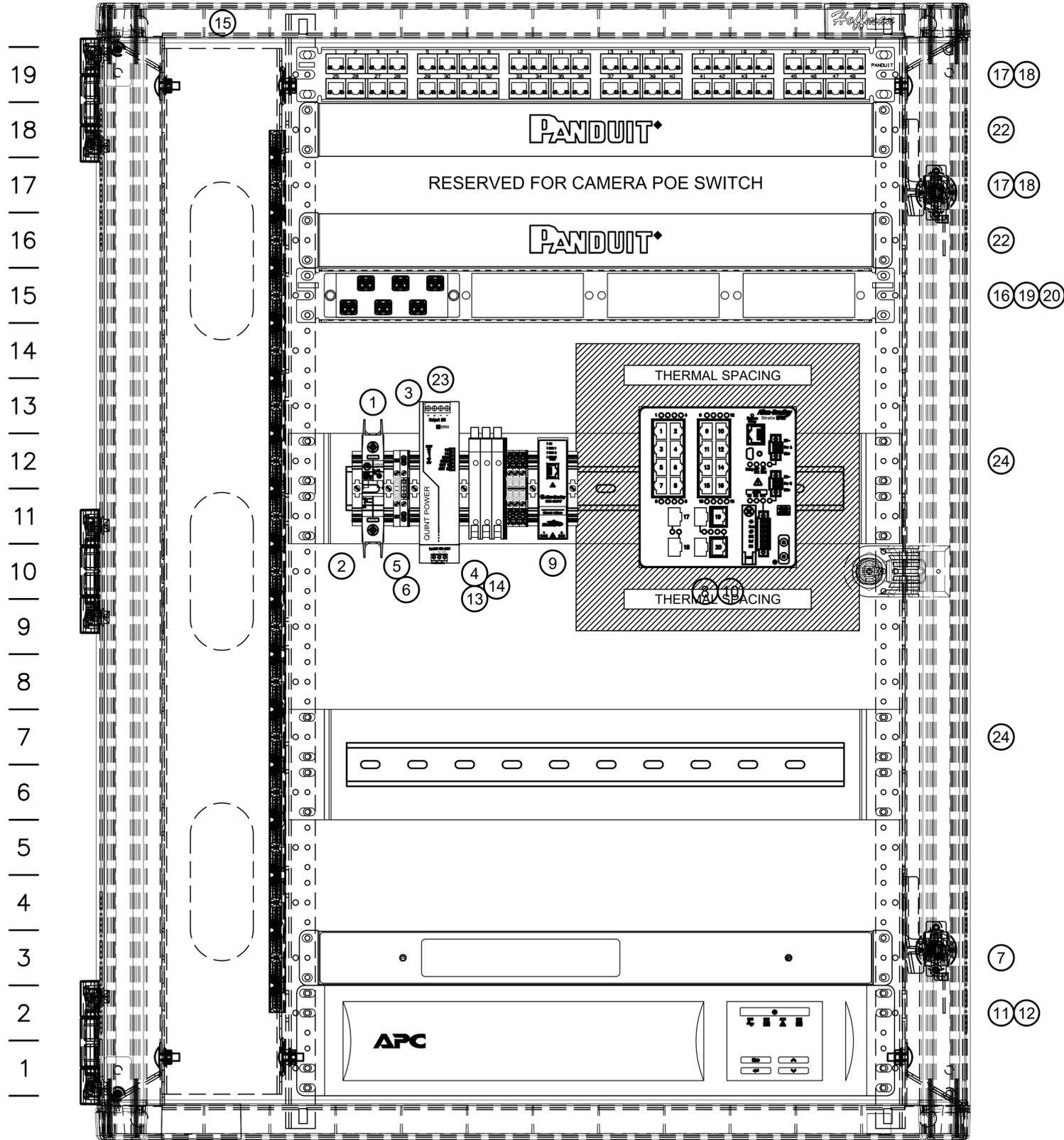


MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

MNP-100 MAIN PLC / OT NETWORK PANEL POINT I/O SLOT 2 INPUT MODULE

PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

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IC-015
 114 of 135



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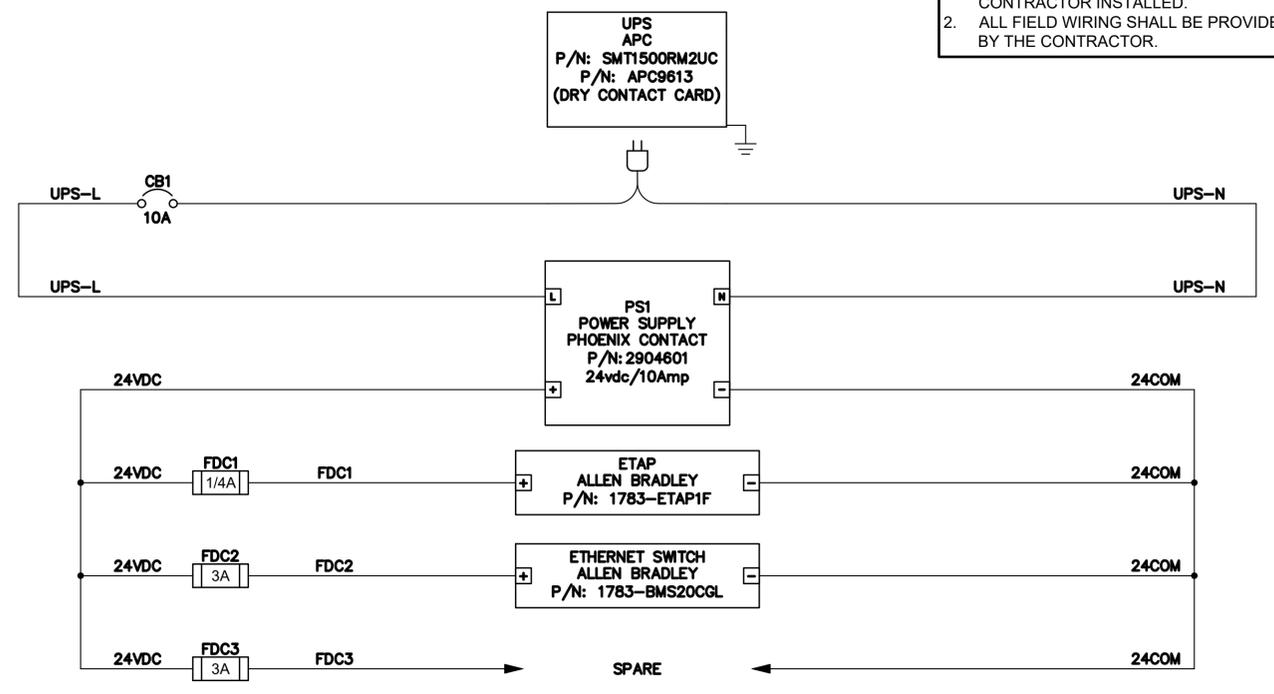


MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT
 PHASE 1

NIP-300 NETWORK INTERFACE PANEL LAYOUT (FOR CP-300)
 PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

SHEET
 IC-022
 115 of 135

- NIP-300 SHALL BE OWNER FURNISHED CONTRACTOR INSTALLED.
- ALL FIELD WIRING SHALL BE PROVIDED BY THE CONTRACTOR.

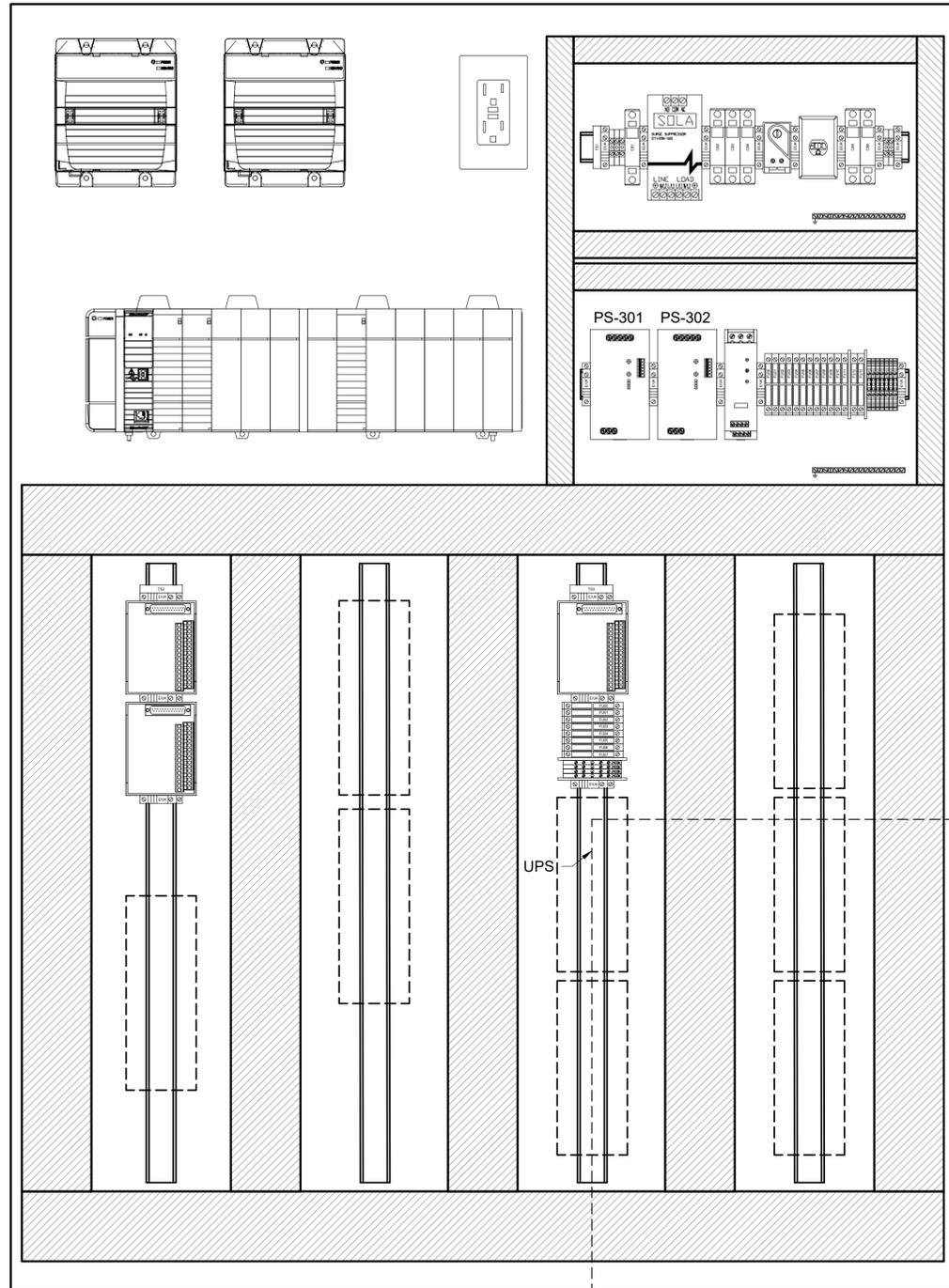


BILL OF MATERIAL

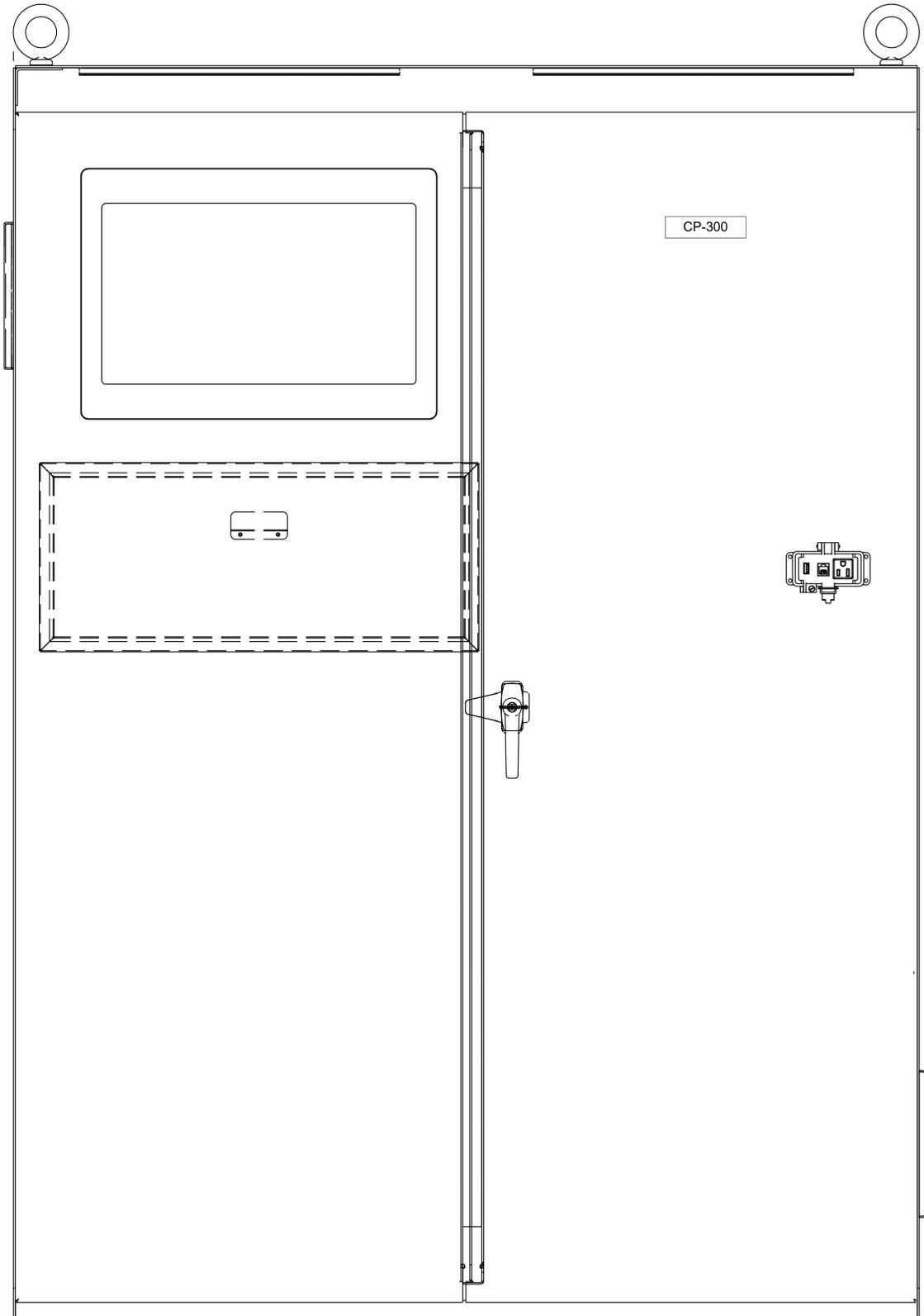
ITEM	QTY	PART #	MANUFACTURER	DESCRIPTION
1	1	1489-M1C100	ALLEN BRADLEY	CIRCUIT BREAKER, 10 AMP, 277VAC/48VDC, C-TRIP CURVE, 1-POLE DIN MOUNT
2	8	1492-EAJ35	ALLEN BRADLEY	END ANCHOR
3	2	1492-EBJ3	ALLEN BRADLEY	END BARRIER, 1492-J SERIES
4	3	1492-H5	ALLEN BRADLEY	FUSE HOLDER, 10-57V AC/DC, RED LED, 1/4 X 1-1/4
5	4	1492-J3	ALLEN BRADLEY	TERMINAL BLOCK, GRAY, 0.20"
6	1	1492-JG3	ALLEN BRADLEY	TERMINAL BLOCK, GREEN/YELLOW, GROUND
7	1	1492-N37	ALLEN BRADLEY	END BARRIER, 1492-H SERIES
8	3	1783-BMS20CGL	ALLEN BRADLEY	STRATIX 5700 ETHERNET SWITCH, MANAGED, 16 FAST COPPER PORTS, 2 GIGABIT ETHERNET COMBO PORTS, 2 GIGABIT ETH FIBER SFP SLOTS, LITE SOFTWARE, DLR
9	1	1783-ETAP1F	ALLEN BRADLEY	ETHERNET/IP TAP2 COPPER PORTS, 1 FIBER PORT
10	1	1783-SFP1GSX	ALLEN BRADLEY	STRATIX FIBER SFP, LC, 1000 MBIT CONNECTIVITY OVER MULTI-MODE FIBER
11	1	AP9613	APC	RELAY CARD
12	1	SMT1500RM2UC	APC	SMART-UPS, 1500VA, RACK MOUNT, 8 OUTLET, SMARTCONNECT
13	1	ABC-1/4-R	BUSSMANN	FUSE, ABC SERIES, 1/4 AMP, 1/4"x1-1/4", FAST-ACTING, CERAMIC
14	2	ABC-3-R	BUSSMANN	FUSE, ABC SERIES, 3 AMP, 1/4"x1-1/4", FAST-ACTING, CERAMIC
15	1	EWMW362825	HOFFMAN	COMMUNICATION CABINET, 19 RACK UNITS
16	1	CFAPPBL1	PANDUIT	OPTICOM RACK MOUNT FIBER ADAPTER PATCH PANELS, FITS 4 FAP'S OR CASSETTES
17	48	CJ688TGBL	PANDUIT	SNAP IN CONNECTOR, MINI-COM, TX6 PLUS UTP, CAT6 RJ45 MODULAR JACK, 8POS, 1-PORT
18	1	CPP48HDWBLY	PANDUIT	PATCH PANEL, MINI-COM, HIGH DENSITY, 48-PORT, FLAT, 1RMU, 1.72"H x 19"W x 1.08"D, STAINLESS STEEL
19	4	FAP6WAQDL CZ	PANDUIT	LC FIBER ADAPTER PANEL, 6 PORT, DUPLEX, MULTIMODE, OM3/OM4
20	1	FMT1	PANDUIT	OPTICOM RACK MOUNT FIBER TRAY
21	1	P12B19M	PANDUIT	POWER DISTRIBUTION UNIT, 1U, INPUT: 5-20P, OUTPUT: (12)5-20R
22	1	WMPLFSE	PANDUIT	CABLE MANAGEMENT, 1 RACK UNIT, 2.7" DEEP
23	1	2904601	PHOENIX CONTACT	POWER SUPPLY - QUINT4-PS/1AC/24DC/10
24	2	RLH-DRB-2	RLH INDUSTRIES	RACK MOUNT DIN RAIL BRACKET, 2 RU, 19" RACK WIDTH

G:\PROJECTS\103 - West Yost Associates\1032109 - Sweet Home Wwtp Phase 1 Design\Design(2) Drawings\Current\sweet Home Wwtp Phase 1 Design\Sheets\IC-300 CP-300 Elevation View.dwg IC-300 CP-300 Elevation View 7/28/2022
 6:16 PM JLUITE 24.1s (LWS Tech)

- GENERAL SHEET NOTES**
- CP-300 SHALL BE OWNER FURNISHED CONTRACTOR INSTALLED.
- SHEET KEY NOTES**
- DIN RAILS FOR POWER STORAGE DEVICES SHALL BE ATTACHED TO THE BACK PANEL USING MACHINE SCREWS, ONE SCREW PER DIN RAIL HOLE.



1 CONTROL PANEL CP-300 INTERIOR ELEVATION
 SCALE: NTS



2 CONTROL PANEL CP-300 EXTERIOR ELEVATION
 SCALE: NTS

NO.	DATE	BY	REVISION

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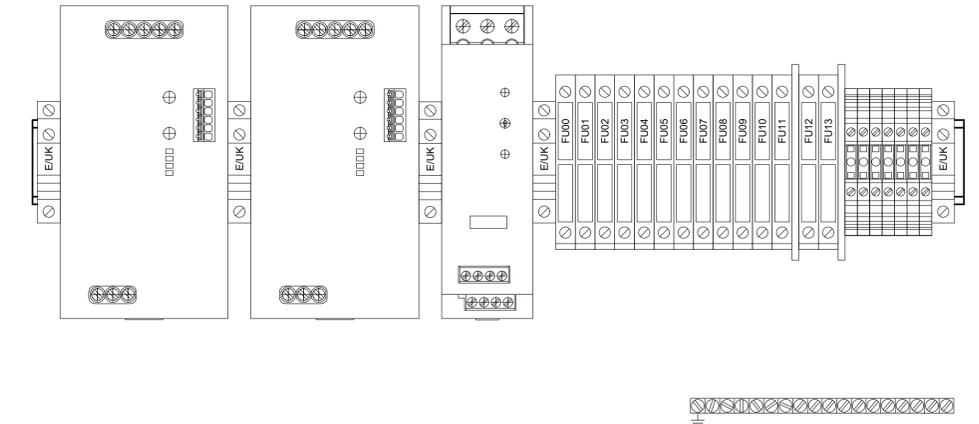
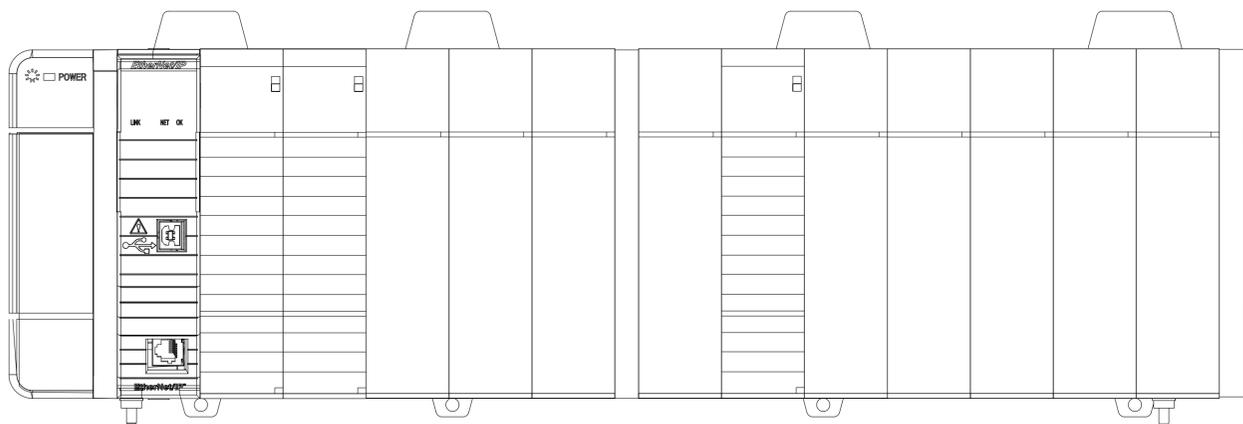
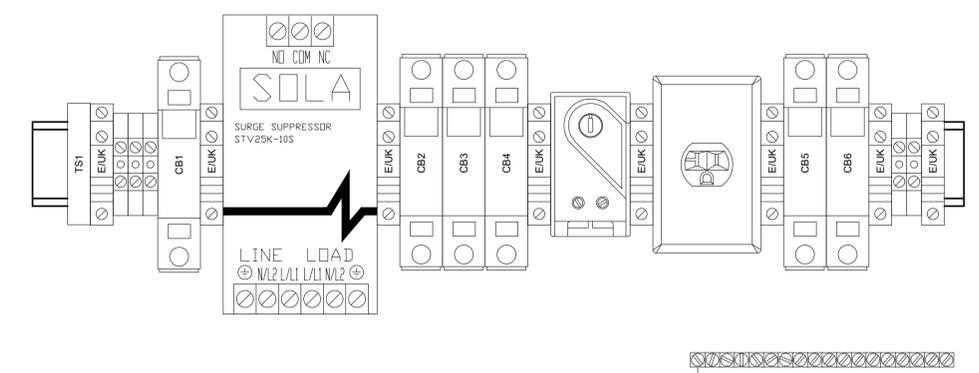
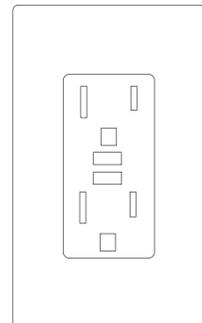
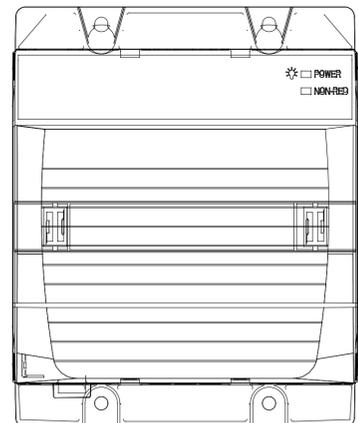
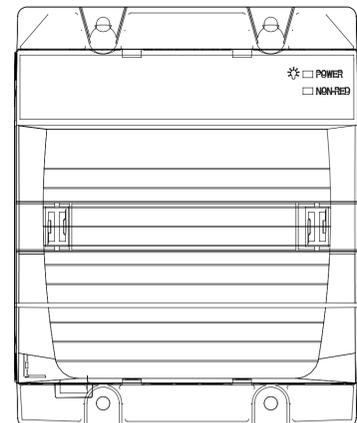


MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

SHEET
IC-300
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G:\PROJECTS\103 - West Yost Associates\1032109 - Sweet Home Wwtp Phase 1 Design\Design(2) Drawings\Current\sweet Home Wwtp Phase 1 Design\Sheets\IC-302 CP-300 Terminal Strip Detail.dwg IC-302 CP-300 Terminal Strip Detail
7/28/2022 6:16 PM JLUITE 24.1s (LMS Tech)



GENERAL SHEET NOTES

1. REFER TO SHEET ##### FOR SPECIFIC DIN RAIL LENGTHS.
2. CP-300 SHALL BE OWNER FURNISHED CONTRACTOR INSTALLED.

1 PLC ELEVATION
SCALE: NTS

2 TERMINAL STRIP TS1
SCALE: NTS

NO.	DATE	BY	REVISION

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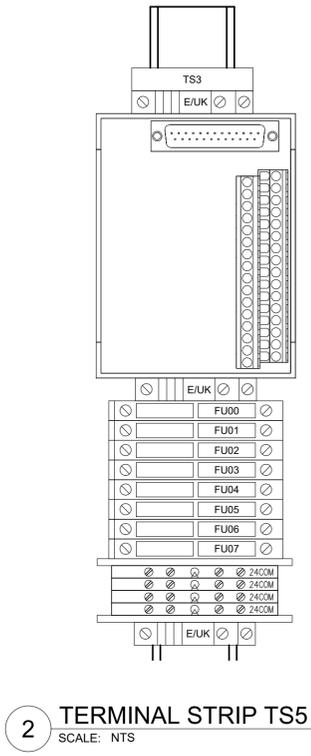
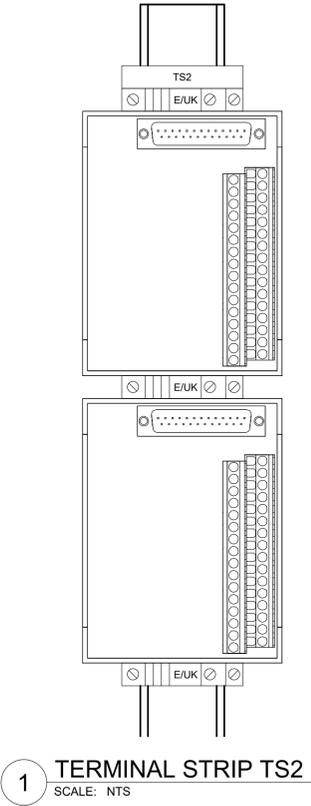
CP-300 TERMINAL STRIP DETAIL

PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

SHEET
IC-302
117 of 135

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7/28/2022 6:16 PM JLUITE 24.1s (LMS Tech)

- GENERAL SHEET NOTES**
- REFER TO SHEET ##### FOR SPECIFIC DIN RAIL LENGTHS.
 - CP-300 SHALL BE OWNER FURNISHED CONTRACTOR INSTALLED.



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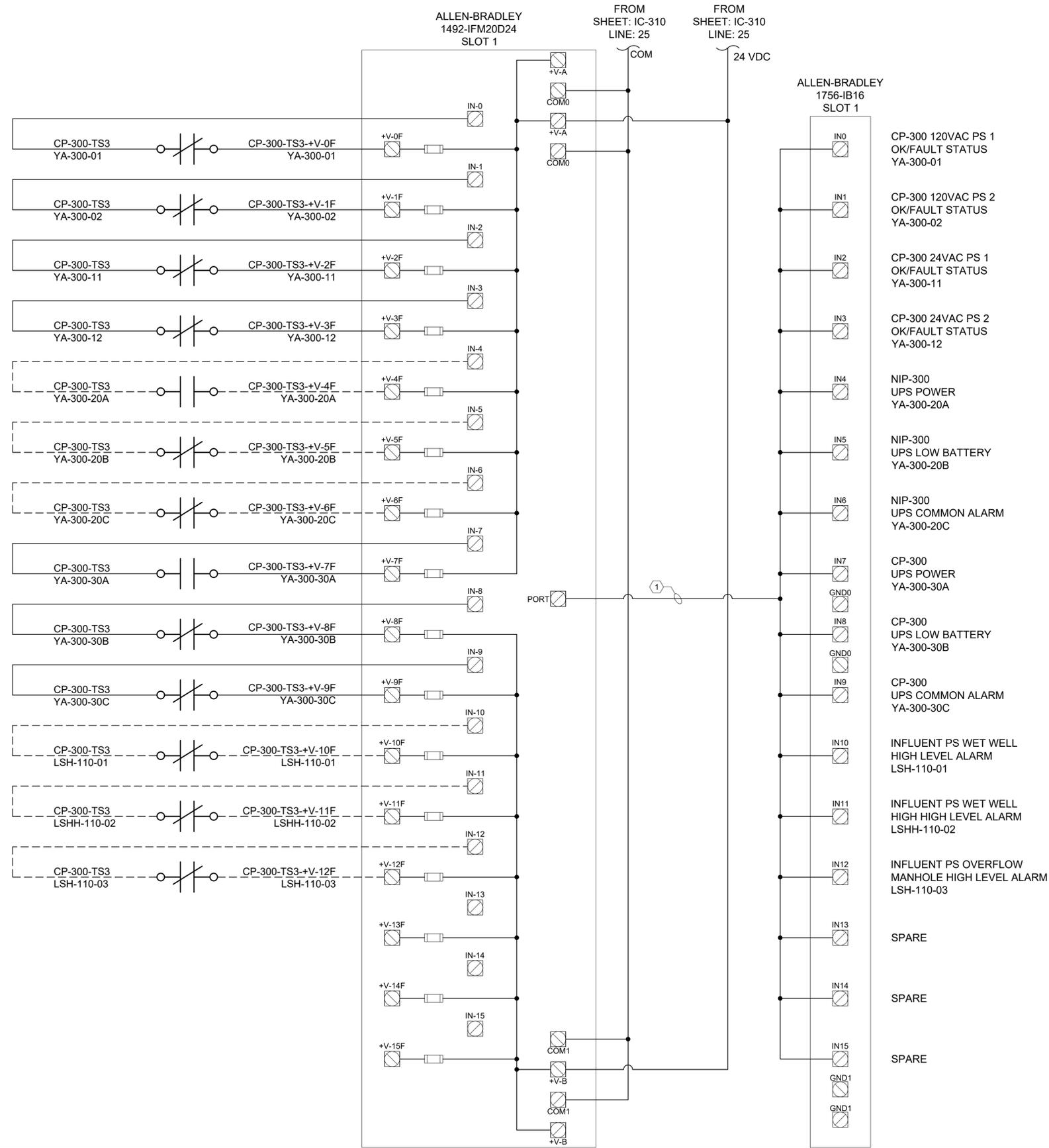
CP-300 TERMINAL STRIP DETAIL

PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

SHEET
IC-303
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- GENERAL SHEET NOTES**
- CONTRACTOR SHALL INDICATE INSTRUMENT TERMINAL BLOCK NUMBERS ON AS-BUILT DRAWINGS.
 - CP-300 SHALL BE OWNER FURNISHED CONTRACTOR INSTALLED.
 - ALL FIELD WIRING SHALL BE PROVIDED BY THE CONTRACTOR.
- SHEET KEY NOTES**
- INTERFACE MODULE TO I/O MODULE AB 1492-CABLE010X.

- CP-300 120VAC PS 1 OK/FAULT STATUS YA-300-01
- CP-300 120VAC PS 2 OK/FAULT STATUS YA-300-02
- CP-300 24VAC PS 1 OK/FAULT STATUS YA-300-11
- CP-300 24VAC PS 2 OK/FAULT STATUS YA-300-12
- NIP-300 UPS POWER YA-300-20A
- NIP-300 UPS LOW BATTERY YA-300-20B
- NIP-300 UPS COMMON ALARM YA-300-20C
- CP-300 UPS POWER YA-300-30A
- CP-300 UPS LOW BATTERY YA-300-30B
- CP-300 UPS COMMON ALARM YA-300-30C
- INFLUENT PS WET WELL HIGH LEVEL ALARM LSH-110-01
- INFLUENT PS WET WELL HIGH HIGH LEVEL ALARM LSHH-110-02
- INFLUENT PS OVERFLOW MANHOLE HIGH LEVEL ALARM LSH-110-03
- SPARE
- SPARE
- SPARE

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MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

CP-300 DIGITAL INPUTS SLOT 1

PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

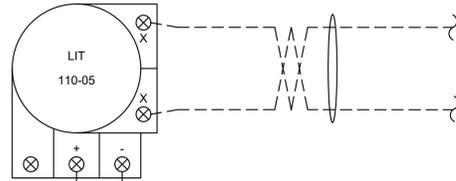
SHEET
IC-320
120 of 135

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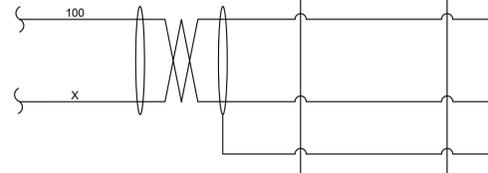
FIELD

CP-300

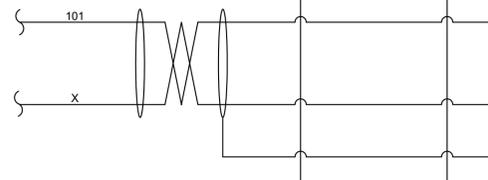
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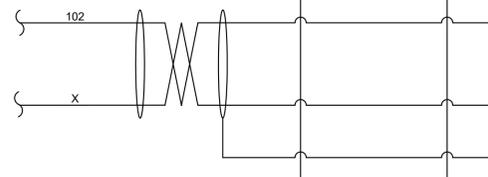
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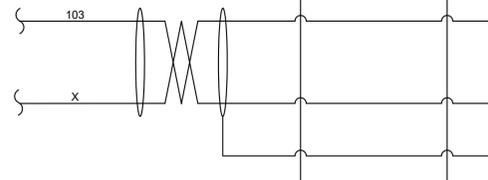
REFERENCE DRAWING IC-341 FOR CONNECTION DETAILS



REFERENCE DRAWING IC-342 FOR CONNECTION DETAILS



REFERENCE DRAWING IC-343 FOR CONNECTION DETAILS



ALLEN-BRADLEY 1492-AIFM8-3 RACK 0 SLOT 6

ALLEN-BRADLEY 1756-IF8H RACK 0 SLOT 6

GENERAL SHEET NOTES

1. CONTRACTOR SHALL INDICATE INSTRUMENT TERMINAL BLOCK NUMBERS ON AS-BUILT DRAWINGS.
2. THE CABLE BETWEEN THE 1756-IF8H AND THE 1492-AIFM8 IS MANUFACTURER SUPPLIED CABLE.
3. CP-300 SHALL BE OWNER FURNISHED CONTRACTOR INSTALLED.
4. ALL FIELD WIRING SHALL BE PROVIDED BY THE THE CONTRACTOR.

INFLUENT PS WET WELL LEVEL INDICATOR LIT-110-05

SPARE

SPARE

SPARE

FROM SHEET: IC-310 LINE: 27

FROM SHEET: IC-310 LINE: 27

24 VDC

COM

TO SHEET: IC-331 LINE: 1

TO SHEET: IC-331 LINE: 1

TO SHEET: IC-331 LINE: 1

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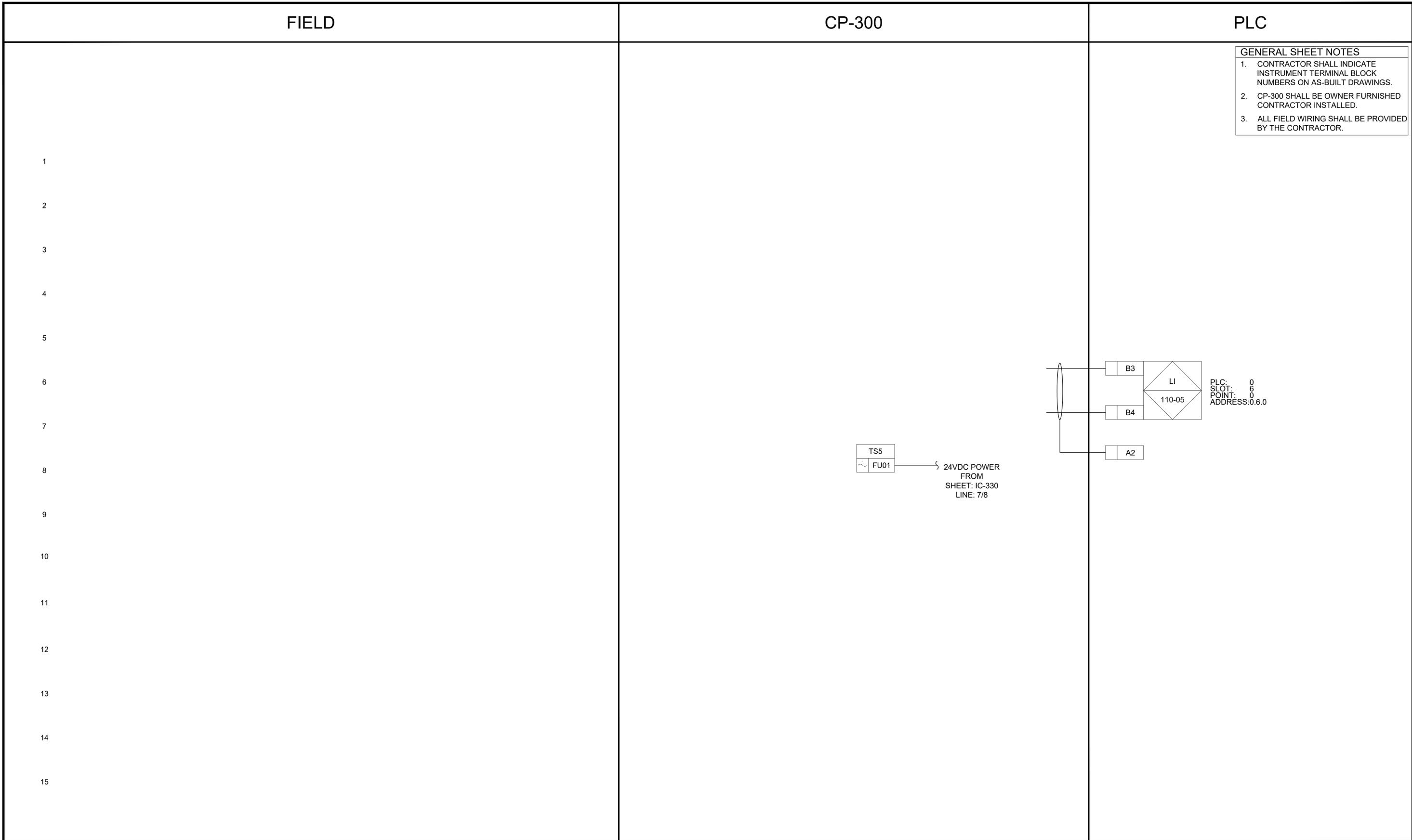


MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

CP-300 ANALOG INPUTS SLOT 6 (1 OF 2)

PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

SHEET
IC-330
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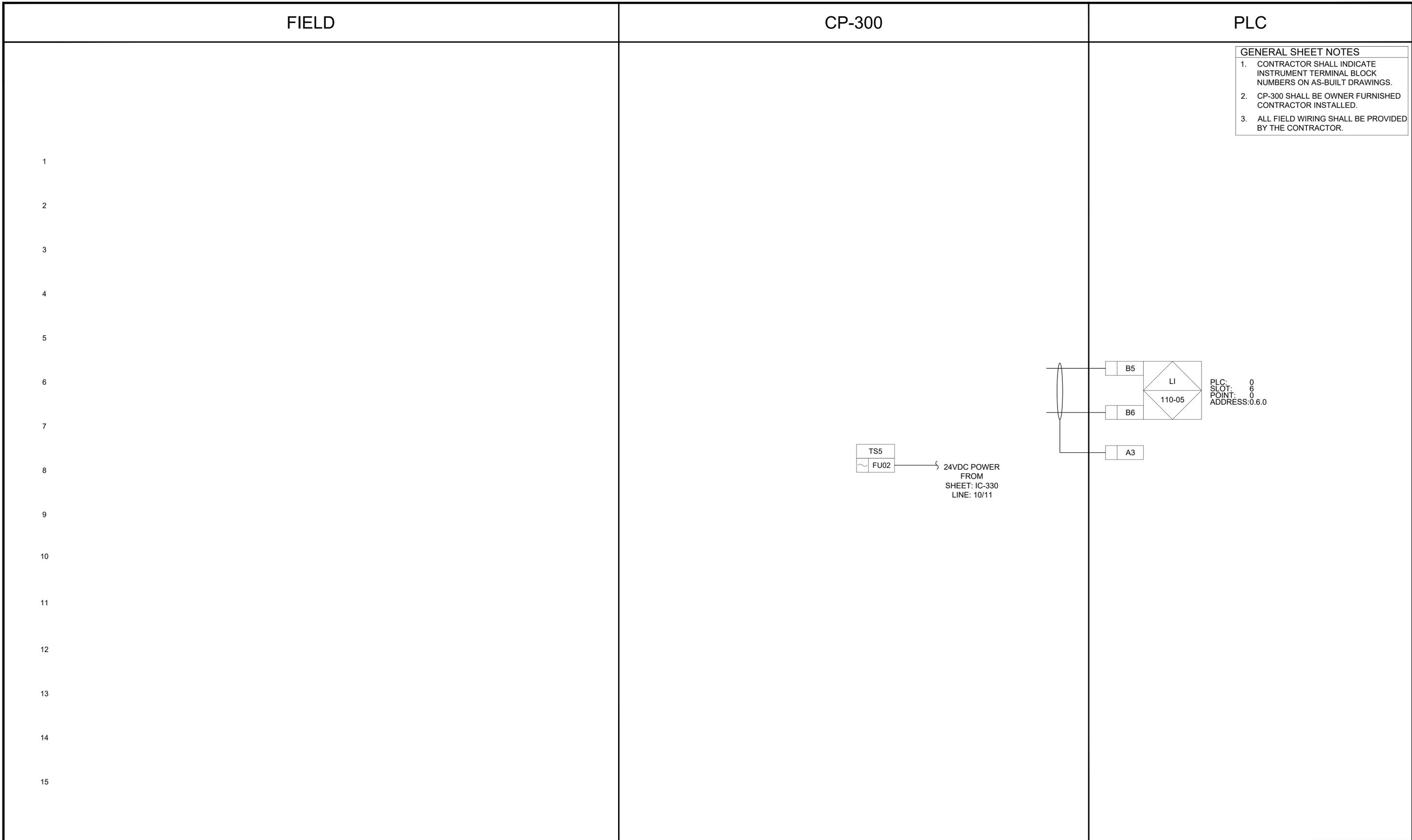


MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

**CP-300 INSTRUMENT LOOP DIAGRAM
SLOT 6 POINT 1**

PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

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IC-341
125 of 135



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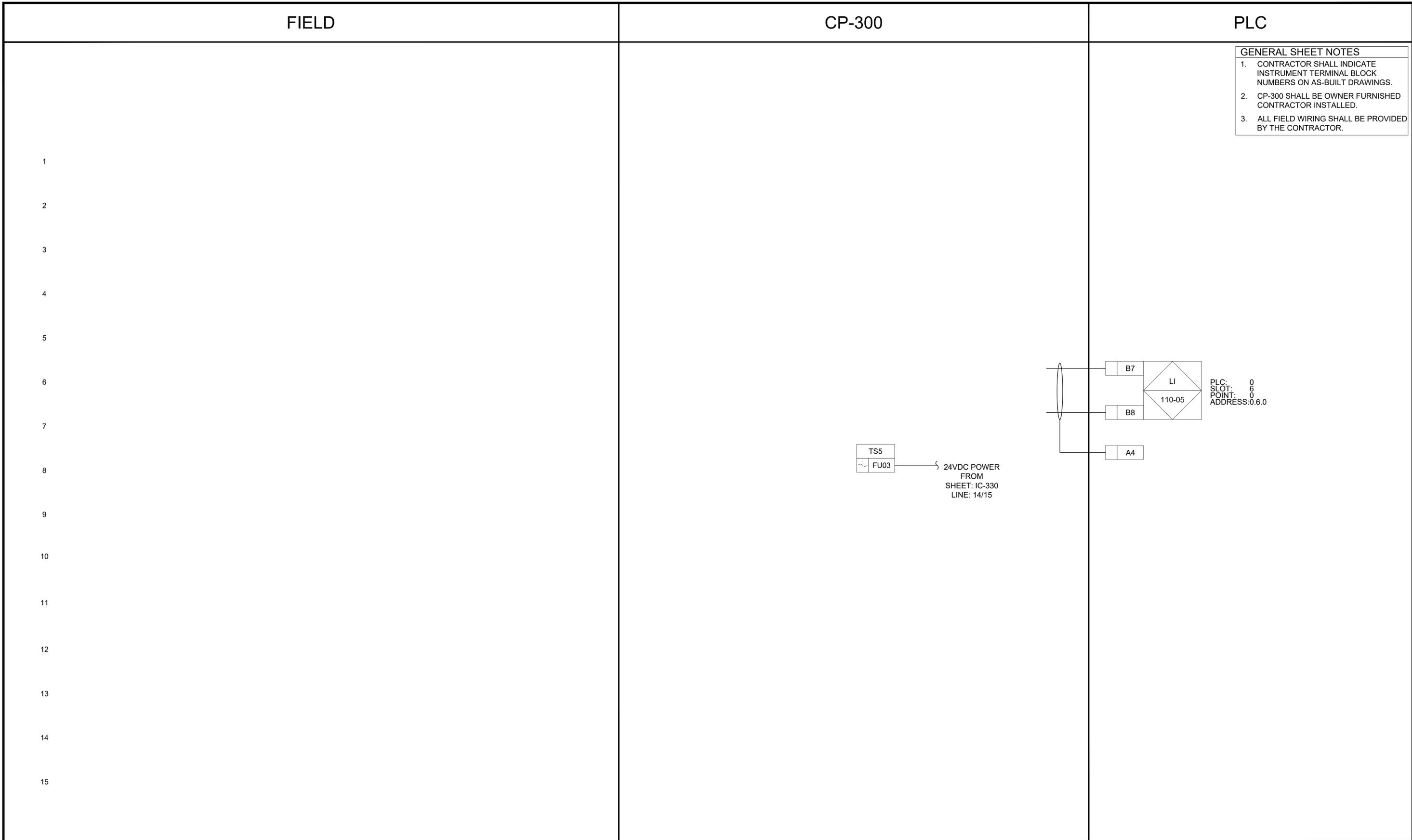


MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

**CP-300 INSTRUMENT LOOP DIAGRAM
 SLOT 6 POINT 2**

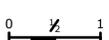
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IC-342
 126 of 135



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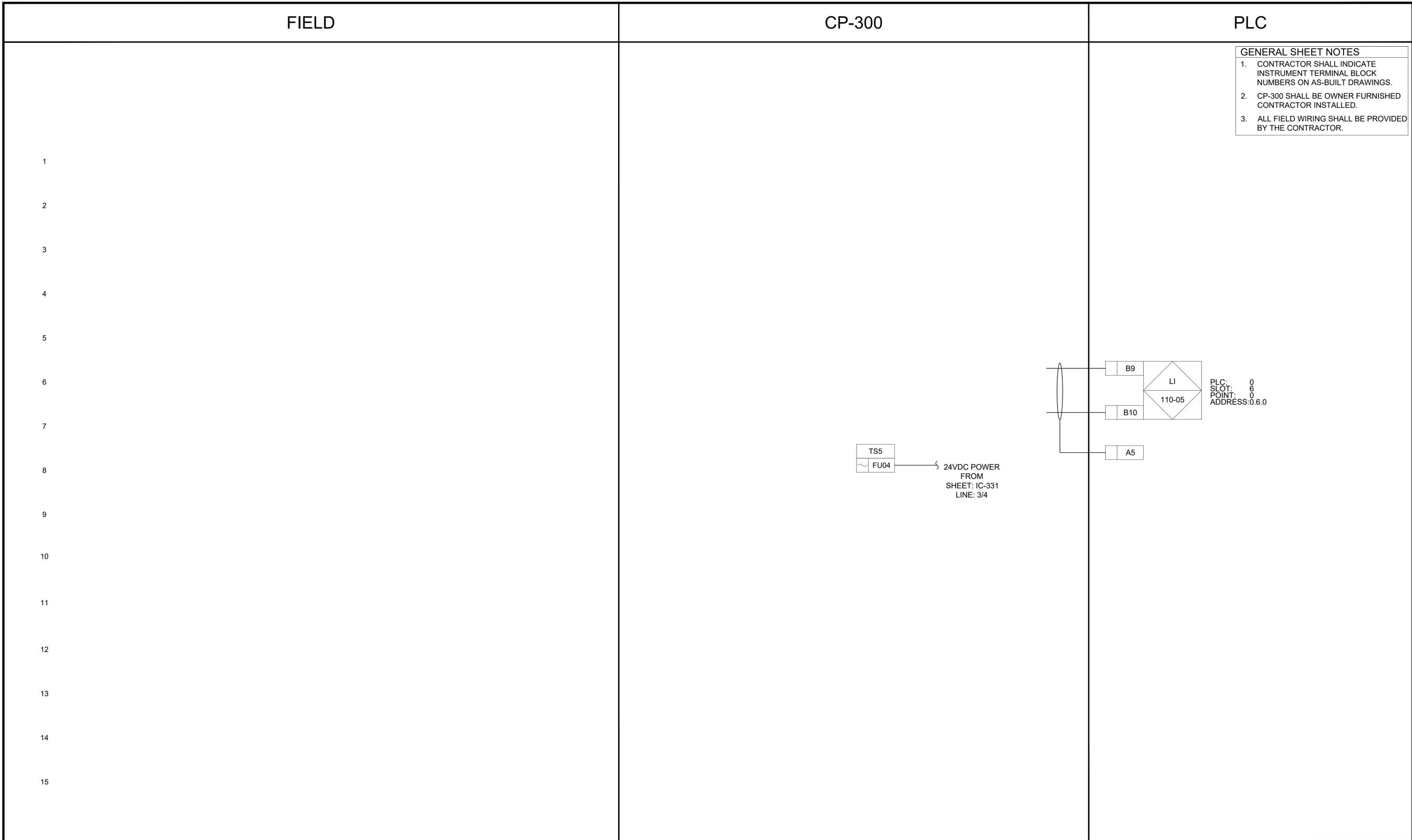


MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

**CP-300 INSTRUMENT LOOP DIAGRAM
SLOT 6 POINT 3**

PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

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127 of 135



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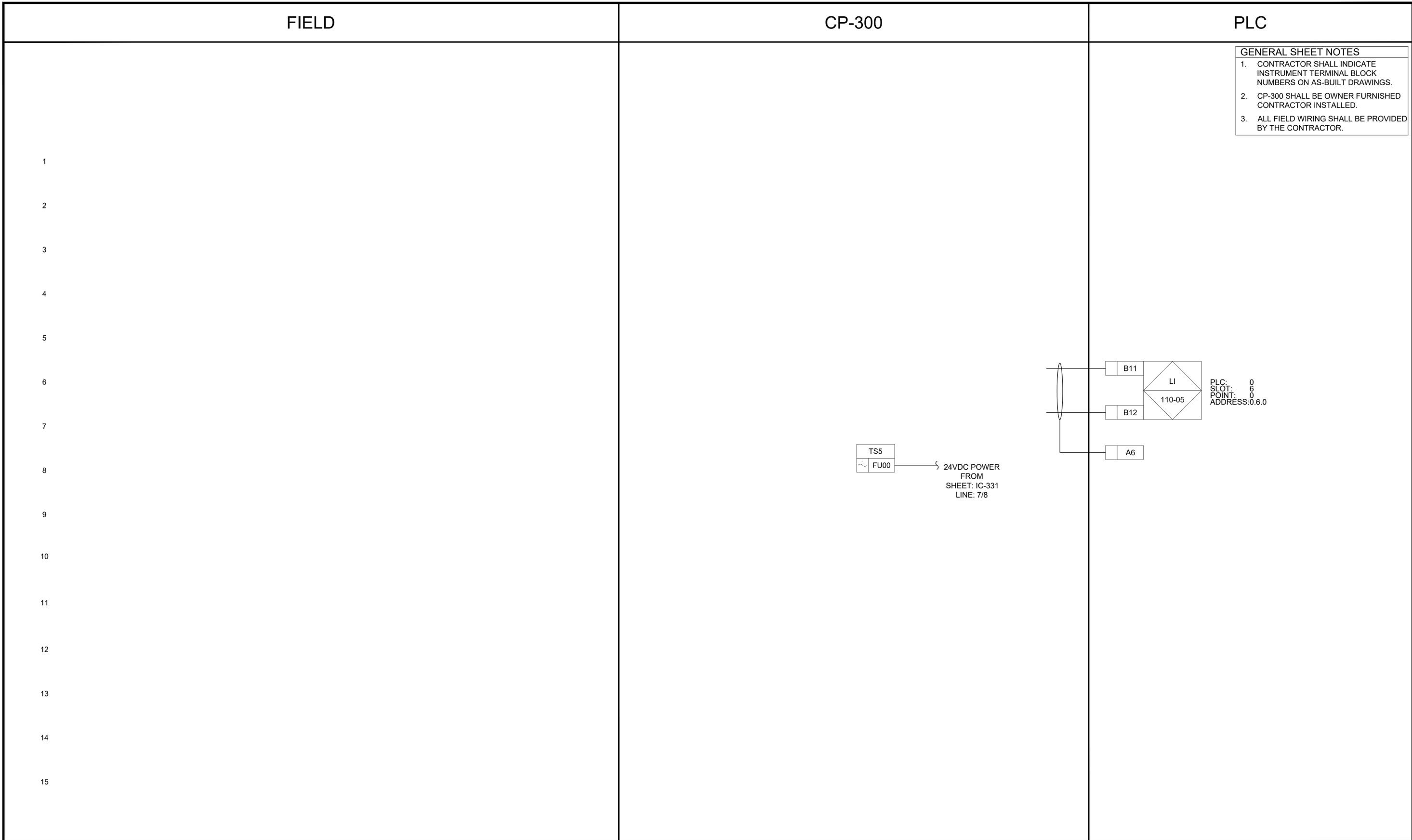


MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

**CP-300 INSTRUMENT LOOP DIAGRAM
SLOT 6 POINT 4**

PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

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128 of 135



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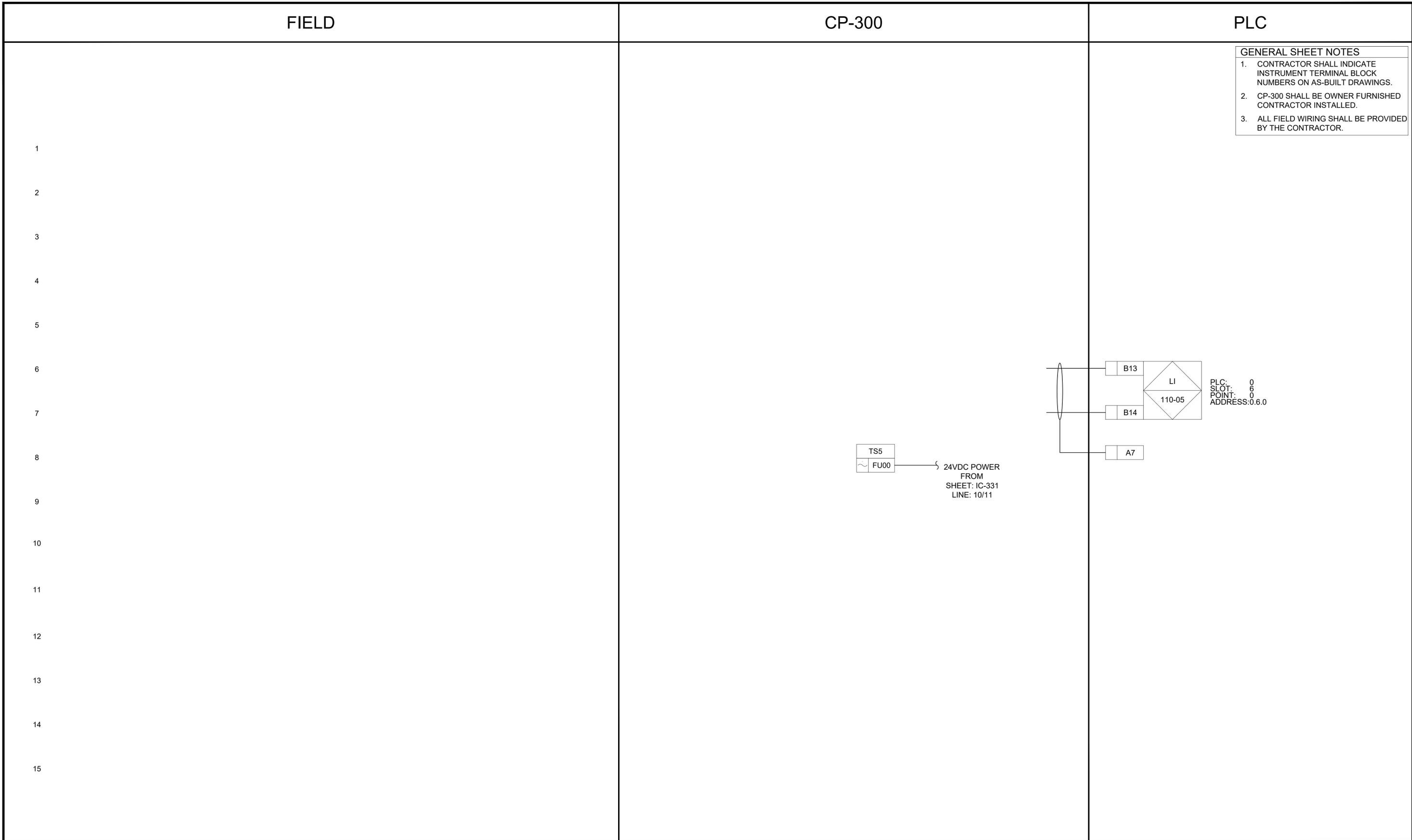


MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

**CP-300 INSTRUMENT LOOP DIAGRAM
SLOT 6 POINT 5**

PROJECT NO.: 936-50-21-09 SCALE: AS NOTED DATE: AUGUST 2022

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129 of 135



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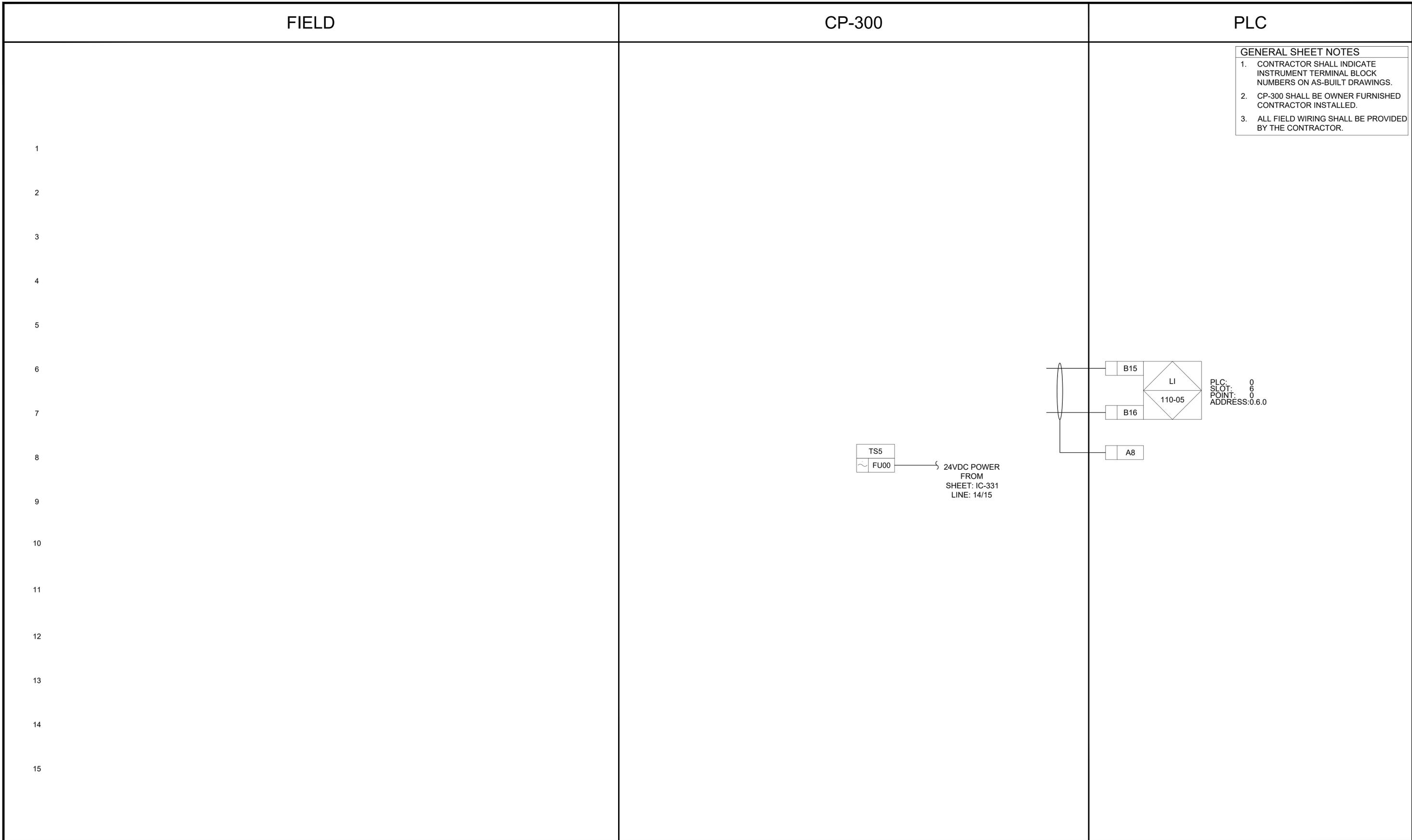


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**CP-300 INSTRUMENT LOOP DIAGRAM
 SLOT 6 POINT 6**

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 130 of 135



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**CP-300 INSTRUMENT LOOP DIAGRAM
 SLOT 6 POINT 7**

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GENERAL INSTRUMENT SYMBOLS

LOCATION/ACCESSIBILITY	DISCRETE INSTRUMENTS	SHARED DISPLAY AND CONTROL (DCS)	PLC	DISCRETE HARDWARE INTERLOCK
FIELD MOUNTED 1. FIELD OR LOCALLY MOUNTED. 2. ACCESSIBLE TO AN OPERATOR AT DEVICE.				
PRIMARY LOCATION NORMALLY ACCESSIBLE TO AN OPERATOR 1. CENTRAL OR MAIN CONTROL ROOM. 2. FRONT OF MAIN PANEL OR CONSOLE MOUNTED. 3. VISIBLE ON VIDEO DISPLAY. 4. ACCESSIBLE TO AN OPERATOR AT DEVICE OR CONSOLE.				
PRIMARY LOCATION NORMALLY INACCESSIBLE TO AN OPERATOR 1. CENTRAL OR MAIN CONTROL ROOM. 2. REAR OF PANEL OR CABINET MOUNTED. 3. NOT VISIBLE ON VIDEO DISPLAY. 4. NOT NORMALLY ACCESSIBLE TO AN OPERATOR AT DEVICE OR CONSOLE.				
AUXILIARY LOCATION NORMALLY ACCESSIBLE TO AN OPERATOR 1. SECONDARY OR LOCAL CONTROL ROOM. 2. FIELD OR LOCAL CONTROL PANEL. 3. FRONT OF SECONDARY OR LOCAL PANEL MOUNTED. 4. VISIBLE ON VIDEO DISPLAY.				
AUXILIARY LOCATION NORMALLY INACCESSIBLE TO AN OPERATOR 1. SECONDARY OR LOCAL CONTROL ROOM. 2. FIELD OR LOCAL CONTROL PANEL. 3. REAR OF SECONDARY OR LOCAL PANEL OR CABINET MOUNTED. 4. NOT VISIBLE ON VIDEO DISPLAY. 5. NOT NORMALLY ACCESSIBLE TO AN OPERATOR AT DEVICE OR CONSOLE.				

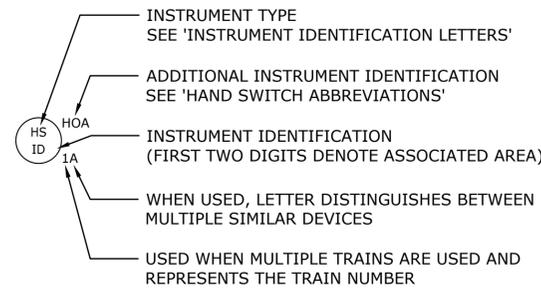
ABBREVIATIONS

AG ABOVE GROUND	MAX MAXIMUM
ATM ATMOSPHERE	MCC MOTOR CONTROL CENTER
BL BATTERY LIMIT	MCP MAIN CONTROL PANEL
BTL BOTTOM TANGENT LINE	MIN MINIMUM
BYP BYPASS	MOV MOTOR OPERATED VALVE
CC CHEMICAL CLEANOUT	MW MANWAY
CL CENTERLINE	NC NORMALLY CLOSED
CO CLEANOUT	NNF NORMALLY NO FLOW
CONN CONNECTION	NO NORMALLY OPEN
CSC CAR SEAL CLOSED	NOZ NOZZLE
CSO CAR SEAL OPEN	O/C OPEN/CLOSE
CTR CENTER	O/O ON/OFF
DCS DISTRIBUTED CONTROL SYSTEM	OIT OPERATOR INTERFACE TERMINAL
DES DESIGN	OP OUTPUT
DIA DIAMETER	OSBL OUTSIDE BATTERY LIMITS
DP DESIGN PRESSURE	OVHD OVERHEAD
D/P DIFFERENTIAL PRESSURE	PLC PROGRAMMABLE LOGIC CONTROLLER
DRN DRAIN	PRESS PRESSURE
DT DESIGN TEMPERATURE	PV PROCESS VARIABLE
DWG DRAWING	(R) RELOCATED
(E) EXISTING	REQD REQUIRED
EL ELEVATION	RIO REMOTE IO PANEL
ESD EMERGENCY SHUTDOWN	RTD RESISTANCE TEMPERATURE DETECTOR
FOF FACE OF FLANGE	SC SAMPLE CONNECTION
(F) FURNISHED	SCH SCHEDULE
FC FAIL CLOSED	SD SHUTDOWN
FI FAIL INDETERMINATE	SG SPECIFIC GRAVITY
FL FAIL LOCKED (LAST POSITION)	SIS SAFETY INSTRUMENTED SYSTEM
FLG FLANGE	SO STEAM OUT
FO FAIL OPEN	SP SET POINT
FP FULL PORT	SS STAINLESS STEEL S/S START/STOP
FV FULL VACUUM	STD STANDARD
GO GEAR OPERATED	T/C THERMOCOUPLE
GR GRADE	TDH TOTAL DIFFERENTIAL HEAD
HC HOSE CONNECTION	TEMP TEMPERATURE
HDR HEADER	THRD THREADED
HH HAND HOLE	TYP TYPICAL
HOA HAND/OFF/AUTOMATIC	UG UNDERGROUND
HP HIGH PRESSURE	UV ULTRAVIOLET
HPT HIGH POINT	UVT ULTRAVIOLET TRANSMITTANCE
IAS INSTRUMENT AIR SUPPLY	UVI ULTRAVIOLET INTENSITY
ISBL INSIDE BATTERY LIMITS	VENT VENT
LC LOCKED CLOSED	VAC VACUUM
LCP LOCAL CONTROL PANEL	VB VORTEX BREAKER
LO LOCKED OPEN	VFD VARIABLE FREQUENCY DRIVE
LP LOW PRESSURE	W/ WITH
LPT LOW POINT	W/O WITHOUT
MTL MATERIAL	

INSTRUMENT IDENTIFICATION LETTERS

FIRST LETTER	SUCCEEDING LETTERS				
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, FLAME, COMBUSTION		USER'S CHOICE	USER'S CHOICE	
C	USER'S CHOICE (TYPICALLY CONDUCTIVITY - ELECTRICAL)			CONTROL, COMMAND	CLOSED
D	USER'S CHOICE (TYPICALLY DENSITY OR SPECIFIC GRAVITY)	DIFFERENTIAL			DIVERT
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO (FRACTION)			
G	USER'S CHOICE OR GAUGING (DIMENSIONAL)		GLASS, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	USER'S CHOICE (TYPICALLY MOISTURE OR HUMIDITY)	MOMENTARY			MIDDLE, INTERMEDIATE
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION		OPEN
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY OR HEAT DUTY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	THROUGH
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE, TORQUE		WELL		
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

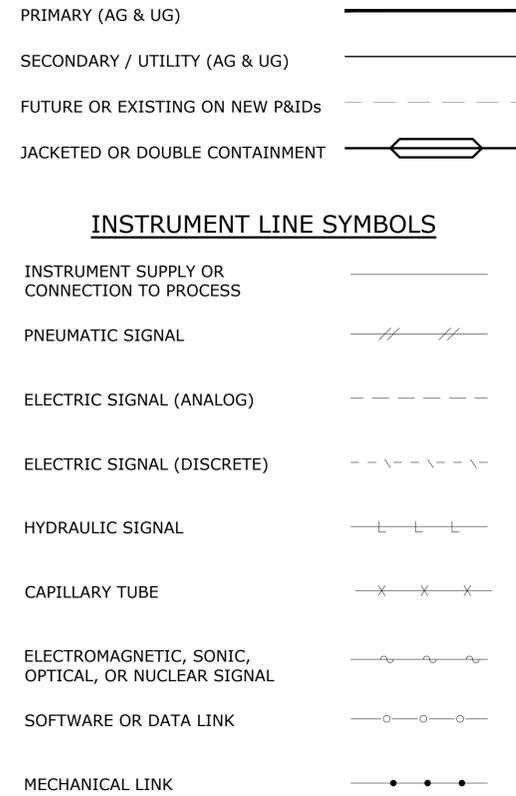
TYPICAL INSTRUMENT TAG NUMBERS & DESIGNATION



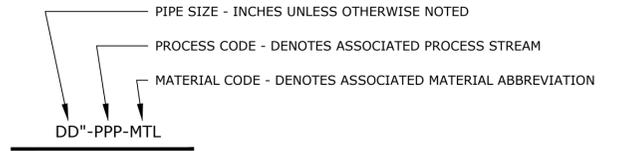
HAND SWITCH ABBREVIATIONS

AO = AUTO/OFF	LOS = LOCKOUT/STOP
AM = AUTO/MANUAL	LA = LOCAL/AUTO
CM = COMPUTER/MANUAL	LR = LOCAL/REMOTE
CL = COMPUTER LOCAL	OC = OPEN/CLOSE
ES = EMERGENCY STOP	OCA = OPEN/CLOSE/AUTO
FR = FORWARD/REVERSE	OO = ON/OFF
FOR = FORWARD/OFF/REVERSE	OOA = ON/OFF/AUTO
FOS = FAST/SLOW	OSC = OPEN/STOP/CLOSE
FOS = FAST/OFF/SLOW	RES = RESET
HOA = HAND/OFF/AUTOMATIC	RSL = RAISE/STOP/LOWER
LLS = LEAD/LAG/STANDBY	SS = START/STOP
LOC = LOCAL/OFF/COMPUTER	SOR = START/OFF/RESET
LOR = LOCAL/OFF/REMOTE	V/B = VFD/BYPASS

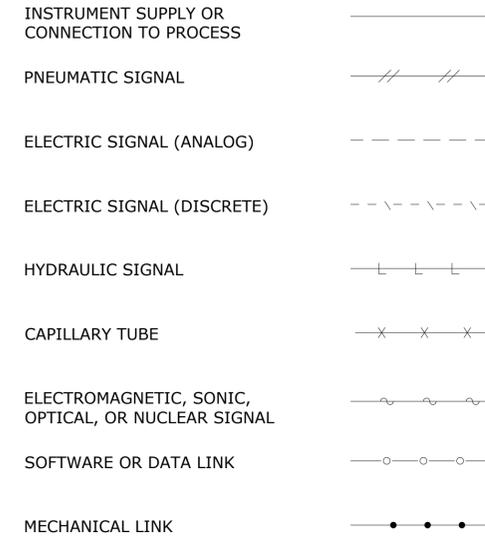
PIPING LINE SYMBOLS



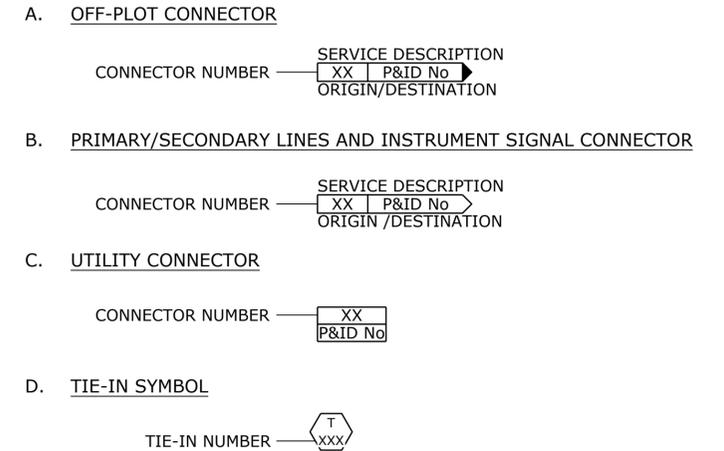
PIPELINE IDENTIFICATION DESCRIPTION



INSTRUMENT LINE SYMBOLS



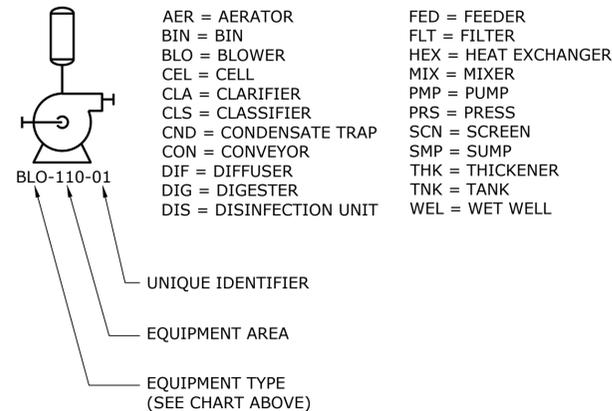
OFF-PAGE CONNECTORS AND TIE-IN SYMBOL



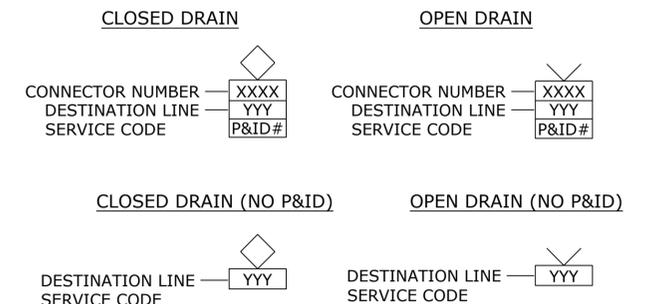
FLOW STREAM IDENTIFIERS

CS = COMBINED SLUDGE	PI = PRIMARY INFLUENT
CAS = CAUSTIC SODA	POL = POLYMER
DG = DIGESTER GAS	PS = PRIMARY SLUDGE
DR = DRAIN	RAS = RETURN ACTIVATED SLUDGE
DS = DIGESTER SOLIDS	RS = RAW SEWAGE
FA = FOUL AIR	SCM = SCUM
FBW = FILTER BACKWASH	SCRN = SCREENINGS
FE = FINAL EFFLUENT	SE = SECONDARY EFFLUENT
GR = GRIT	TE = TERTIARY EFFLUENT
HW = HOT WATER	TWAS = THICKENED WASTE ACTIVATED SLUDGE
ML = MIXED LIQUOR	UW = UTILITY WATER
PA = PROCESS AIR	WAS = WASTE ACTIVATED SLUDGE
PDR = PLANT DRAIN	
PE = PRIMARY EFFLUENT	

TYPICAL EQUIPMENT TAG NUMBERS & DESIGNATION



DRAIN CONNECTORS



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LEGENDS, SYMBOLS AND ABBREVIATIONS 1

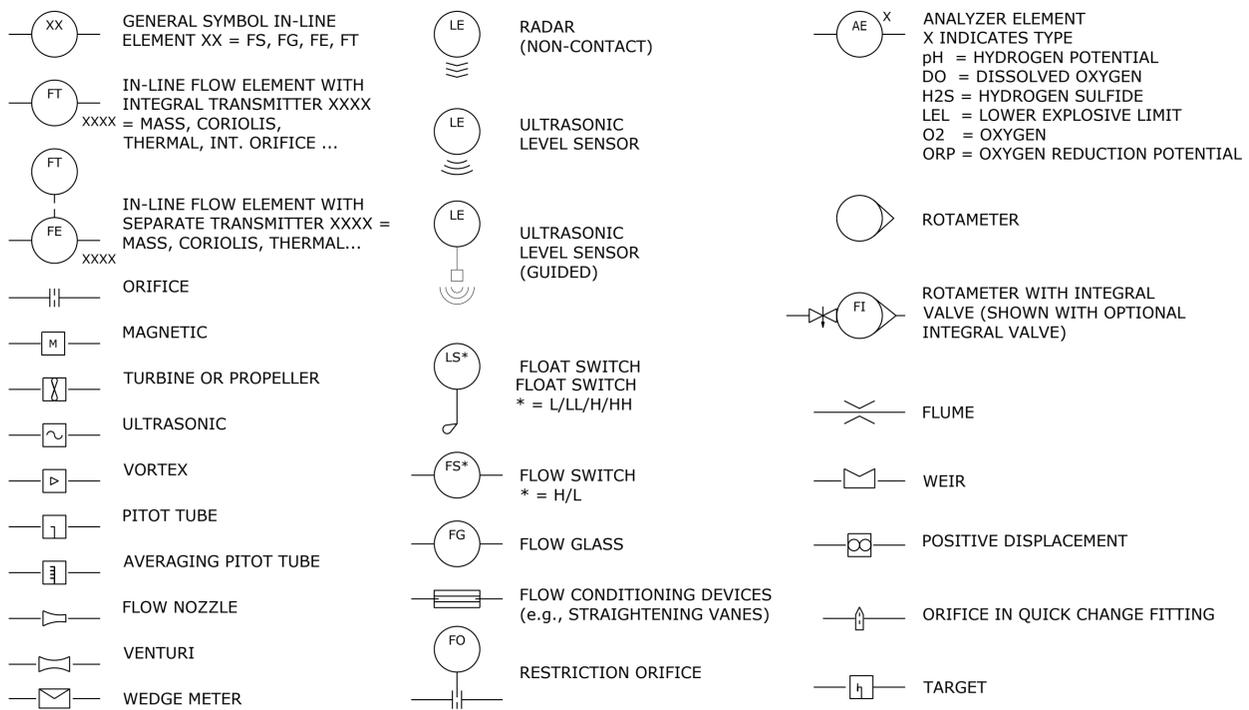
PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: August 2022

SHEET I-001

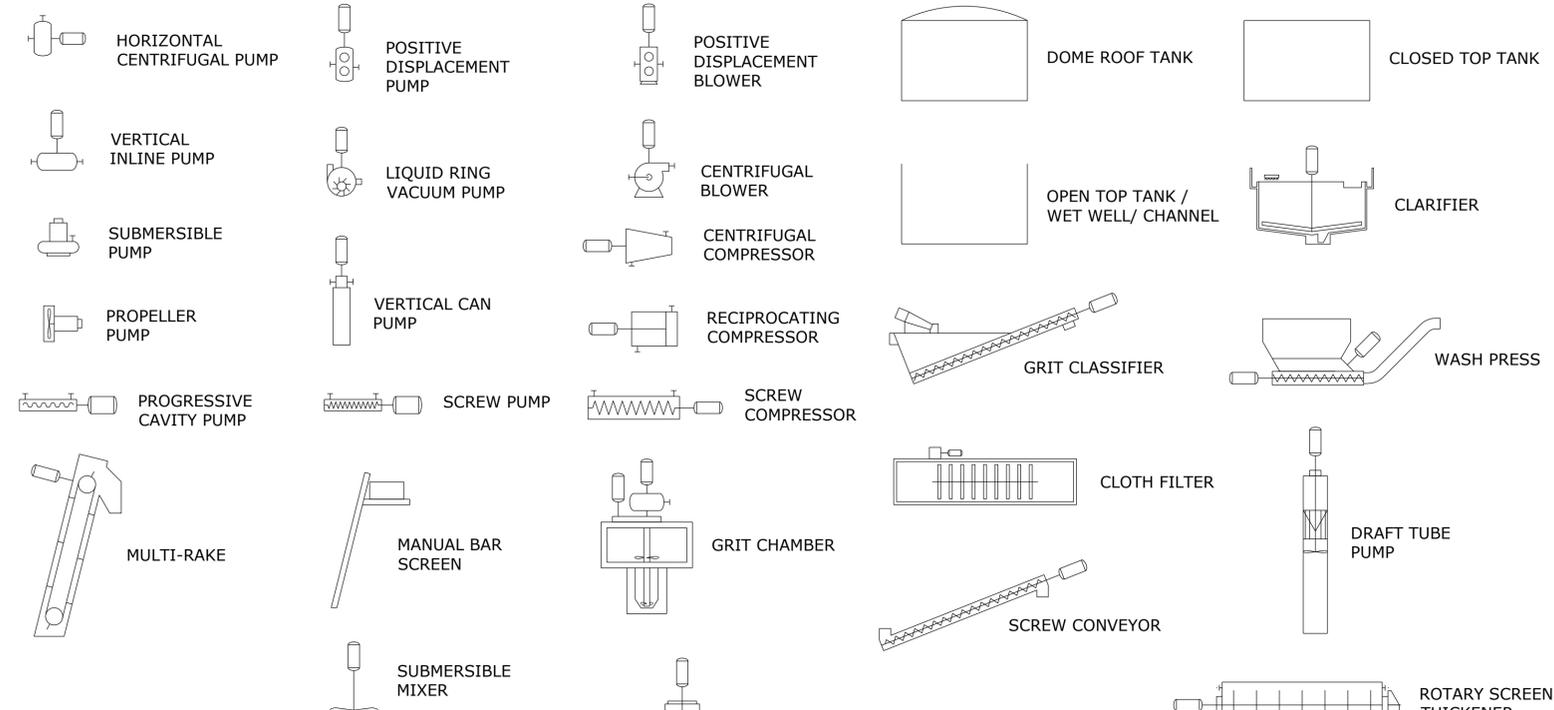
132 of 135

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PRIMARY ELEMENT SYMBOLS



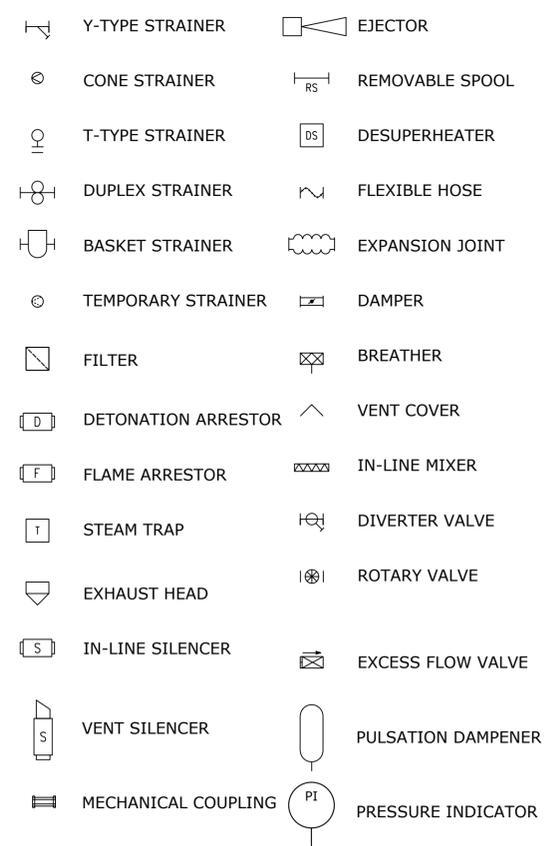
PROCESS EQUIPMENT



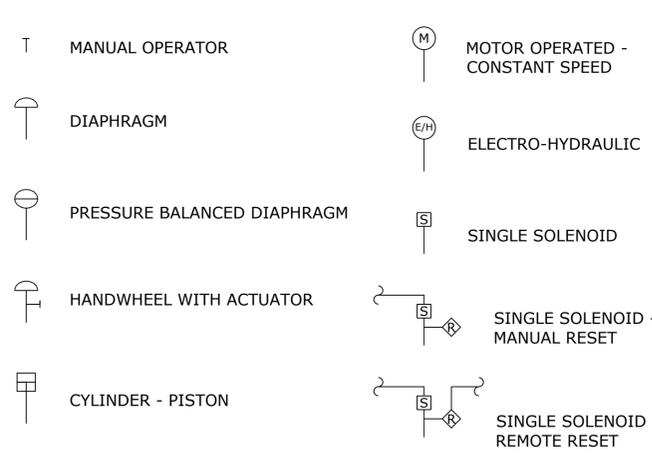
VALVE SYMBOLS (N.C. WHEN SHADED)



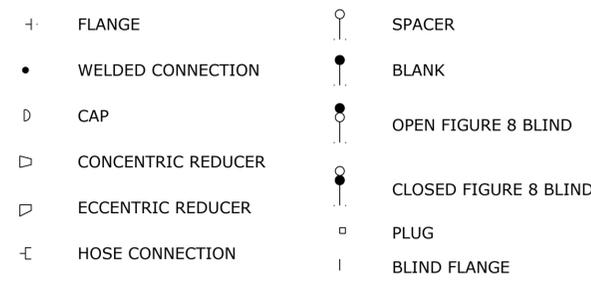
PIPING SPECIALTY ITEMS



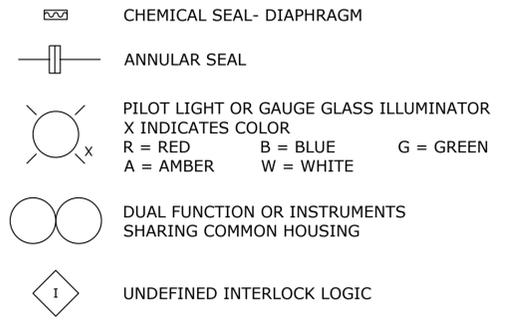
CONTROL VALVE ACTUATOR SYMBOLS



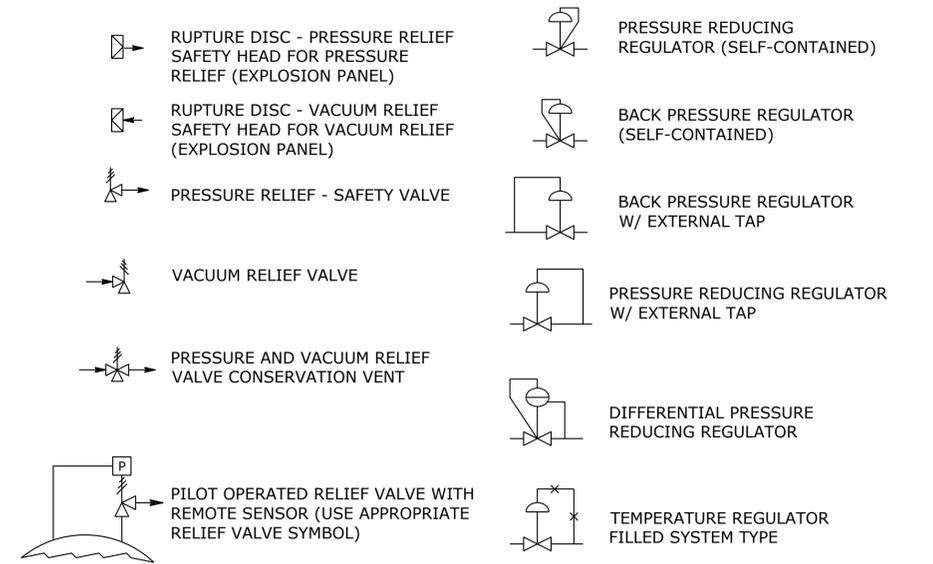
PIPING FITTINGS



MISCELLANEOUS INSTRUMENT SYMBOLS



SELF-ACTUATED DEVICES



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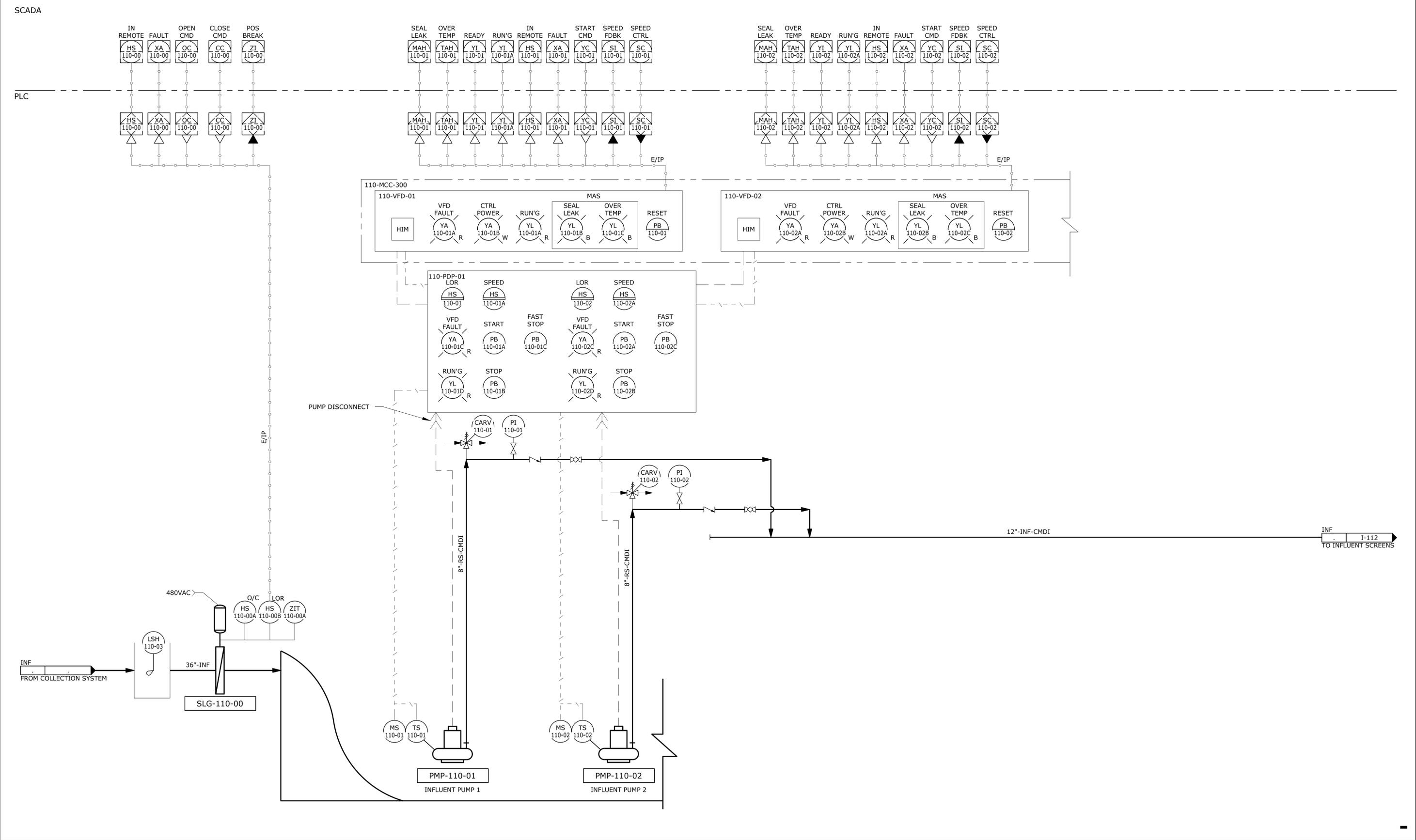
LEGENDS, SYMBOLS AND ABBREVIATIONS 2

PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: August 2022

SHEET **I-002**

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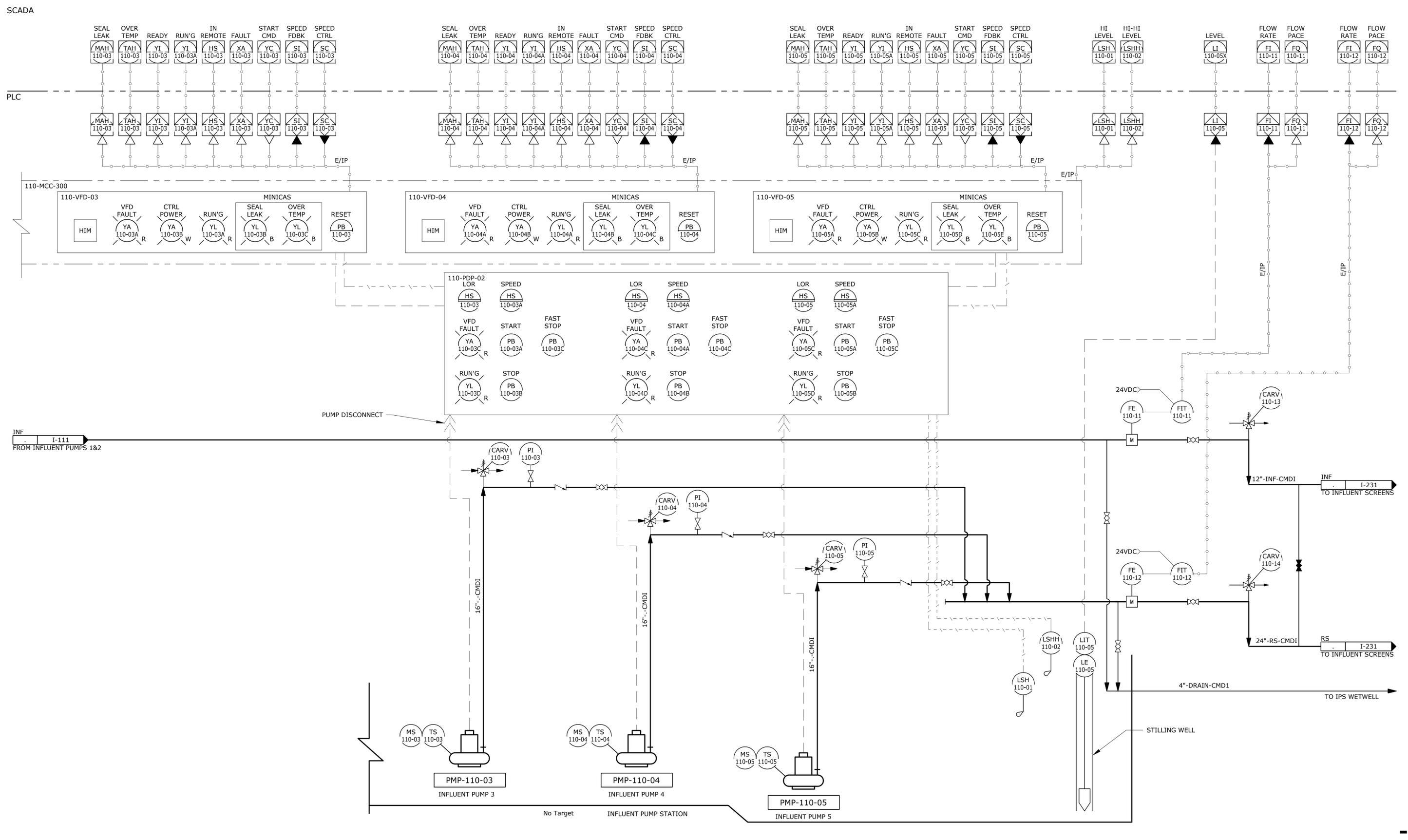


MAHLER WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT PHASE 1

INFLUENT PUMP STATION 1

PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: August 2022

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Sweet Home
Oregon... it's best!

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INFLUENT PUMP STATION 2

PROJECT NO.: 936-50-21-09 SCALE: AS SHOWN DATE: August 2022

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