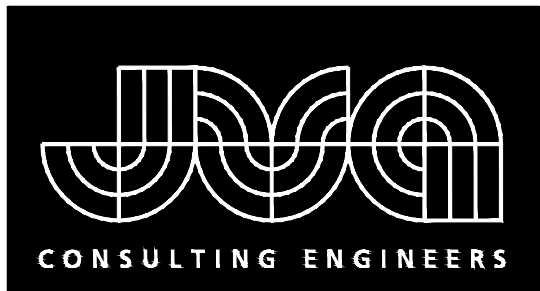


Set No._____

CITY OF IDAHO SPRINGS
WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO
CMAR BID SET

CONTACTS

OWNER:	CITY OF IDAHO SPRINGS 1711 MINER STREET IDAHO SPRINGS, CO 80452	DAN WOLF, SUPERINTENDENT (303) 567-2400 WWSUPER@IDAHOSPRINGS.CO.COM
ENGINEER:	JVA, INC 1319 SPRUCE STREET BOULDER, CO 80302	MICHAEL KATALINICH, P.E. (303) 444-1951 MKATALINICH@JVAJVA.COM
STRUCTURAL ENGINEER:	JVA, INC 1319 SPRUCE STREET BOULDER, CO 80302	ADAM TEUNISSEN, P.E. (303) 444-1951 ATEUNISSEN@JVAJVA.COM
ELECTRICAL ENGINEER:	BROWNS HILL ENGINEERING AND CONTROLS 8119 SHAFFER PARKWAY, #C LITTLETON, CO 80127	BRANT HEATON (720) 402-3754 BHEATON@BROWNSHILLENG.COM
MECHANICAL ENGINEER:	MEC, INC 4640 N PECOS STREET, UNIT F DENVER, CO 80211	BRYAN MOEN, P.E. (303) 907-4285 BMOEN@MECENGR.COM



JVA, Inc. 1319 Spruce Street
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Boulder Fort Collins Winter Park
Glenwood Springs Denver

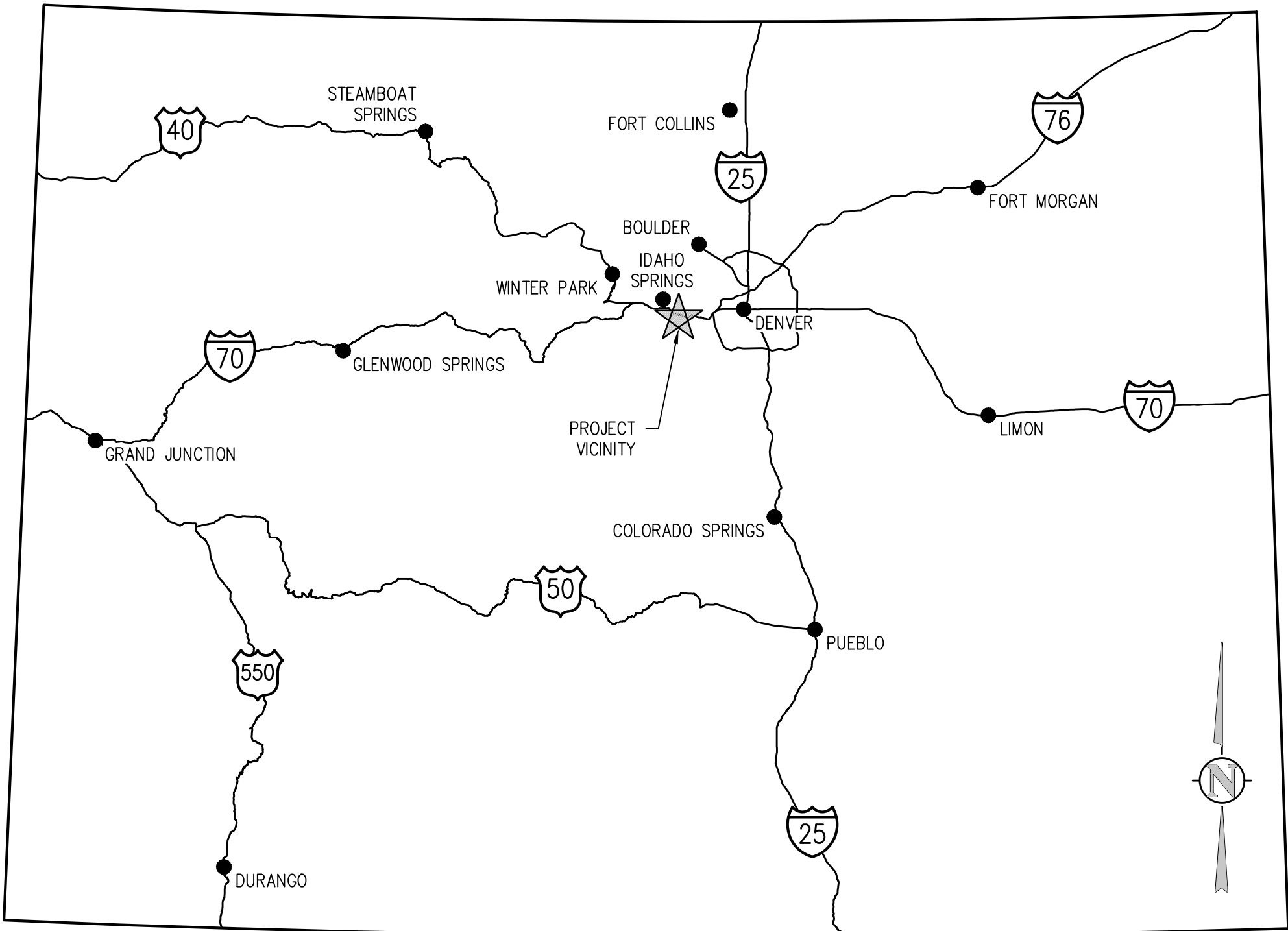
NOVEMBER 2018

PREPARED UNDER THE SUPERVISION OF

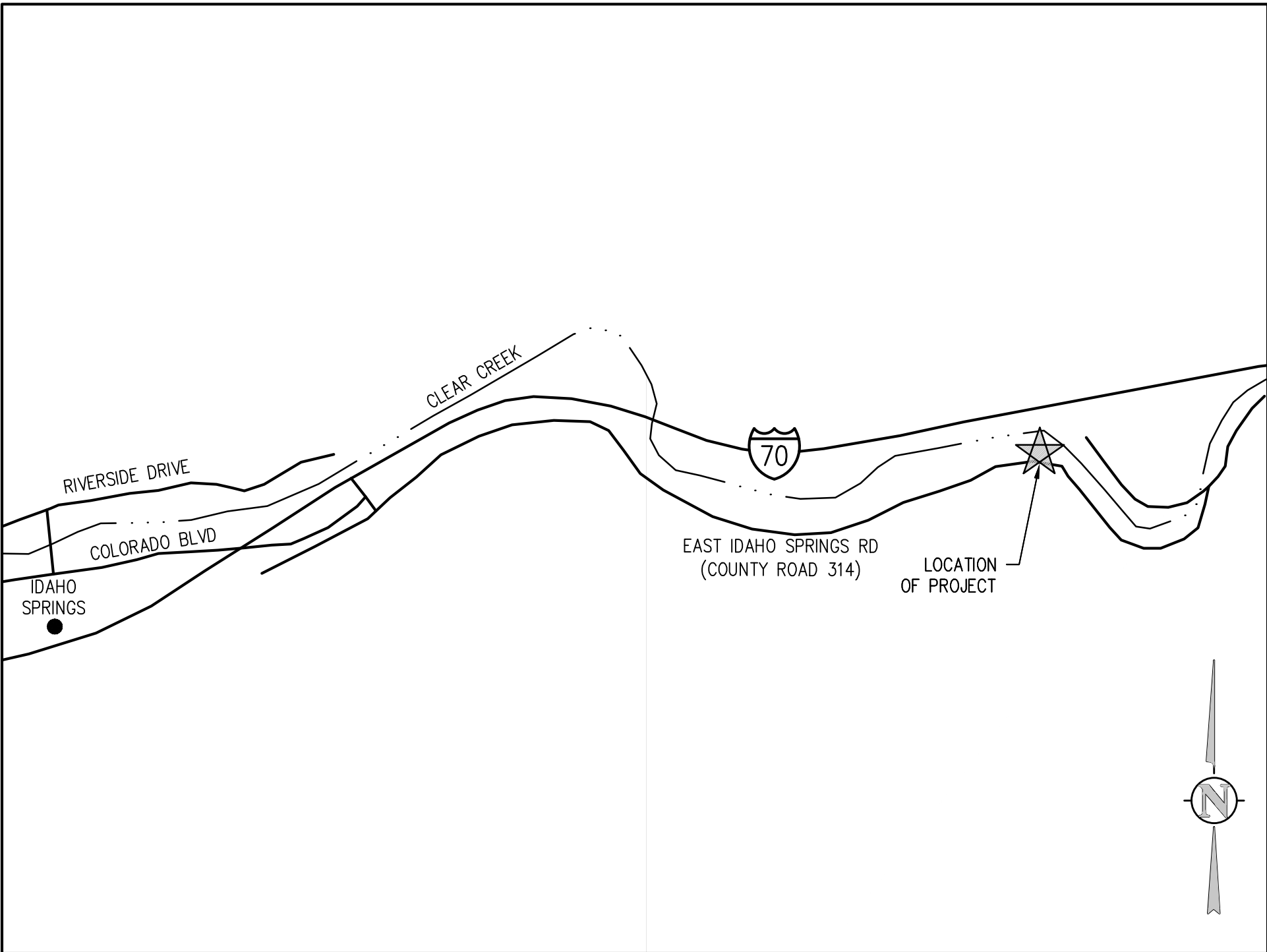
JVA, Inc.

DRAWING INDEX

SHEET NO.	TITLE		
G000	COVER PAGE	P301	PUMP ROOM PLAN
G001	LEGEND, NOTES, AND ABBREVIATIONS	P302	PUMP ROOM SECTIONS
G002	DESIGN CRITERIA AND HYDRAULIC PROFILE	P303	PUMP ROOM ISOMETRIC
G003	P&ID – LEGEND	P501	DIGESTER PLAN
G101	P&ID – HEADWORKS	P502	DIGESTER SECTIONS
G201	P&ID – PRE-EQUALIZATION TANK	P503	DIGESTER ISOMETRIC
G501	P&ID – DIGESTER	P801	DEWATERING BUILDING PLAN
G801	P&ID – DEWATERING	P802	DEWATERING BUILDING SECTIONS
CE001	EROSION CONTROL PLAN	P803	DEWATERING BUILDING ISOMETRIC
CE002	EROSION CONTROL DETAILS	PD001	PROCESS DETAILS
CE003	EROSION CONTROL DETAILS	PD002	PROCESS DETAILS
C001	SITE DEMOLITION PLAN	A101	HEADWORKS ARCHITECTURAL PLAN, SECTIONS & 3D VIEWS
C002	CIVIL SITE PLAN	A102	HEADWORKS ELEVATIONS
C003	SITE PIPING PLAN	A801	DEWATERING ARCHITECTURAL PLAN
C004	SANITARY SEWER PLAN AND PROFILE	A802	DEWATERING SECTIONS AND ELEVATIONS
C005	STORM DRAIN PLAN AND PROFILE	A803	DEWATERING ELEVATIONS
CD001	CIVIL SITE DETAILS	A804	SECTIONS
CD002	SITE PIPING DETAILS	AD001	ARCHITECTURAL SCHEDULES AND DETAILS
CD003	SITE PIPING DETAILS	S001	GENERAL NOTES
P101	HEADWORKS PLAN	S101	HEADWORKS PLAN
P102	HEADWORKS SECTIONS	S102	HEADWORKS SECTIONS
P103	HEADWORKS ISOMETRIC	S501	DIGESTER FOUNDATION PLAN
P201	PRE-EQUALIZATION PLAN	S502	DIGESTER PLAN
P202	PRE-EQUALIZATION SECTIONS	S503	DIGESTER SECTIONS
P203	PRE-EQUALIZATION ISOMETRIC	S801	DEWATERING BUILDING PLAM AND SECTION
		S802	DEWATERING BUILDING SECTIONS AND DETAILS
		SD001	STRUCTURAL SCHEDULES AND DETAILS
		SD002	STRUCTURAL SECTIONS, SCHEDULES AND DETAILS
		SD003	PILASTER DETAILS
		M101	HEADWORKS MECHANICAL PLAN
		M102	HEADWORKS SCHDULES
		M103	HEADWORKS NOTES
		M104	HEADWORKS MECHANICAL DETAILS
		M801	DEWATERING MECHANICAL PLAN
		M802	DEWATERING SCHEDULES
		E001	ELECTRICAL LEGEND
		E002	HEADWORKS ELECTRICAL ONE-LINE
		E003	PRE-EQUALIZATION ELECTRICAL ONE-LINE
		E004	DIGESTER ELECTRICAL ONE-LINE
		E005	DEWATERING ELECTRICAL ONE-LINE
		E101	HEADWORKS ELECTRICAL PLAN
		E201	PRE-EQUALIZATION TANK ELECTRICAL PLAN
		E301	PUMP ROOM ELECTRICAL PLAN
		E501	DIGESTER ELECTRICAL PLAN
		E801	DEWATERING ELECTRICAL PLAN



VICINITY MAP
NTS



PROJECT LOCATION MAP
NTS

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ABBREVIATIONS

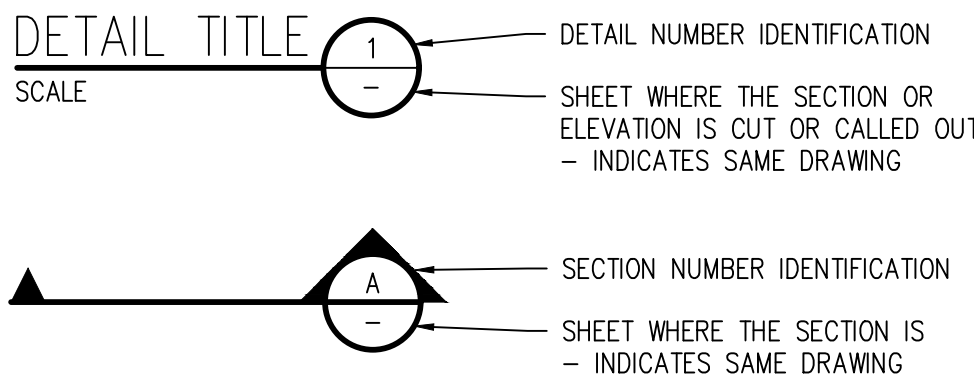
AASHTO	AMERICAN ASSOC. OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS	INCL	INCLUDED
ABAN	ABANDON	ID	INSIDE DIAMETER
AC	ASPHALTIC CONCRETE PAVING	IN	INLET
ADDL	ADDITIONAL	INSUL	INSULATION
ADDM	ADDENDUM	INV	INVERT
ADJ	ADJUSTABLE	IRR	IRRIGATION
AL	ALUMINUM		
ALT	ALTERNATE	JTS	JOINTS
AMT	AMOUNT		
APPROX	APPROXIMATE	KO	KNOCKOUT
ARCH	ARCHITECT(URAL)	KPL	KICK PLATE
ARY	AIR RELIEF VALVE	KWY	KEYWAY
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS		
ASPH	ASPHALT	L	LEFT OR LITER
ASSY	ASSEMBLY	LSCAPE	LANDSCAPE(ING)
ASYM	ASYMMETRICAL	LF	LINEAR FOOT
AUTO	AUTOMATIC	LP	LOW POINT
AVG	AVERAGE	LT	LIGHT
AWWA	AMERICAN WATER WORKS ASSOC.	LWL	LOW WATER LEVEL
BC	BACK OF CURB	MAINT	MAINTENANCE
BFV	BUTTERFLY VALVE	MAN	MANUAL
BLDG	BUILDING	WATL	MATERIAL
BLK	BLOCK	MAX	MAXIMUM
BM	BENCH MARK	ME	MATCH EXISTING
BMP	BEST MANAGEMENT PRACTICE	MECH	MECHANICAL
BS	BACKSIGHT	MFR	MANUFACTURER
BOS	BOTTOM OF STEP	MH	MANHOLE
BOT	BOTTOM	MIN	MINIMUM
BSMT	BASEMENT	MISC	MISCELLANEOUS
BVCE	BEGIN VERTICAL CURVE ELEVATION	MJ	MECHANICAL JOINT
BVCS	BEGIN VERTICAL CURVE STATION		
BW	BOTTOM OF WALL	N	NORTH
		NA	NOT APPLICABLE
CB	CATCH BASIN	NIC	NOT IN CONTRACT
CCW	COUNTER CLOCKWISE	NPT	NATIONAL PIPE THREAD
CDOT	COLORADO DEPARTMENT OF TRANSPORTATION	NTS	NOT TO SCALE
CIP	CAST IRON PIPE		
CJ	CONSTRUCTION JOINT	OC	ON CENTER
CL	CENTER LINE OR CHAIN LINK	OD	OUTSIDE DIAMETER
CLR	CLEAR	OPP	OPPOSITE
CMP	CORRUGATED METAL PIPE	OPT	OPTIONAL
CMU	CONCRETE MASONRY UNIT		
CO	CLEANOUT	PC	POINT OF CURVATURE
CONC	CONCRETE	PCO	PRESSURE CLEAN OUT
CONST	CONSTRUCTION	PCR	POINT OF CURVE RETURN
CONT	CONTINUOUS(ATION)	PI	POINT OF INTERSECTION
COR	CORNER	PVI	POINT OF VERTICAL INTERSECTION
CR	CONCENTRIC REDUCER	PL	PROPERTY LINE
CTR	CENTER	PE	POLYETHYLENE
CY	CUBIC YARDS	PREFAB	PREFABRICATED
		PRELIM	PRELIMINARY
DEMO	DEMOLITION	PREP	PREPARATION
DIA	DIAMETER	PROP	PROPOSED
DIAG	DIAGONAL	PRV	PRESSURE REDUCING VALVE OR PRESSURE RELIEF VALVE
DIP	DUCTILE IRON PIPE		
DOM	DOMESTIC	PSF	POUNDS PER SQUARE FOOT
DOWN	DOWN	PSI	POUNDS PER SQUARE INCH
DR	DRAIN	PT	POINT OF TANGENCY
DWG	DRAWING	PV	PLUG VALVE
DWL	DOWEL	PVC	POLYVINYL CHLORIDE OR POINT OF VERTICAL CURVATURE PAVEMENT
		PWMT	
E	EAST	QTY	QUANTITY
EA	EACH		
ECC	ECCENTRIC	R	RIGHT
EJ	EXPANSION JT	RAD	RADIUS
EL	ELEVATION	RCP	REINFORCED CONCRETE PIPE
ELB	ELBOW	RD	ROOF DRAIN
ELEC	ELECTRICAL	RE	REFERENCE
ENGR	ENGINEER	RECT	RECTANGULAR
EOP	EDGE OF PAVEMENT	REINF	REINFORCE (D) (ING) (MENT)
EQ	EQUAL	REQD	REQUIRED
EQUIP	EQUIPMENT	REQD	REQUIRED
EQUIV	EQUIVALENT	ROW	RIGHT OF WAY
ESMT	EASEMENT		
EST	ESTIMATE	SAN	SANITARY
EVCE	END VERTICAL CURVE ELEVATION	SD	STORM DRAIN
EVCS	END VERTICAL CURVE STATION	SECT	SECTION
EW	EACH WAY	SPD	STANDARD PROCTOR DENSITY
EXP-JT	EXPANSION JOINT	SPEC	SPECIFICATION
EXIST	EXISTING	SQ	SQUARE
		SQ IN	SQUARE INCH
FND	FOUNDATION	SQ FT	SQUARE FOOT
FES	FLARED END SECTION	SQ YD	SQUARE YARD
FF	FINISH FLOOR	SS	SANITARY SEWER
FG	FINISH GRADE	SST	STAINLESS STEEL
FH	FIRE HYDRANT	STA	STATION
FL	FLOW LINE	STD	STANDARD
FN	FENCE	STL	STEEL
FOC	FACE OF CONCRETE	STRUCT	STRUCTURAL
FBM	FEET PER MINUTE	SWMP	STORMWATER MANAGEMENT PLAN
FFS	FEET PER SECOND	SYM	SYMMETRICAL
FT	FEET		
FTG	FOOTING OR FITTING	TB	THRUST BLOCK
		TBC	TOP BACK OF CURB
G	GAS	TBM	TEMPORARY BENCH MARK
GA	GAUGE	TEMP	TEMPORARY
GAL	GALLON	THK	THICK
GALV	GALVANIZED	TOB	TOP OF BANK
GCO	GRADE CLEANOUT	TOC	TOP OF CONCRETE OR TOP OF CURB
GIP	GALVANIZED IRON PIPE	TOS	TOP OF STEP
GND	GROUND	TOT	TOTAL
GPD	GALLONS PER DAY	TW	TOP OF WALL
GPM	GALLONS PER MINUTE	TYP	TYPICAL
GR	GRATE		
GRTG	GRATING	UBC	UNIFORM BUILDING CODE
GSP	GALVANIZED STEEL PIPE	UGE	UNDERGROUND ELECTRIC
GV	GATE VALVE	UTIL	UTILITY
H	HIGH	VERT	VERTICAL
HB	HOSE BIB	VC	POINT OF VERTICAL CURVATURE
HE	HORIZONTAL ELLIPTICAL	VCP	VITRIFIED CLAY PIPE
HDWL	HEADWALL		
HNDRL	HAND RAIL	W	WIDE OR WIDTH
HORIZ	HORIZONTAL	W/O	WITHOUT
HP	HIGH POINT	WOCE	WATER QUALITY CONTROL ELEVATION
HR	HOUR	WSE	WATER SURFACE ELEVATION
HVAC	HEATING, VENTILATION, AIR CONDITIONING	WW	WASTEWATER
HWY	HIGHWAY		
HWL	HIGH WATER LINE	X SECT	CROSS SECTION
HYD	HYDRANT	YH	YARD HYDRANT

DESIGN LEGEND

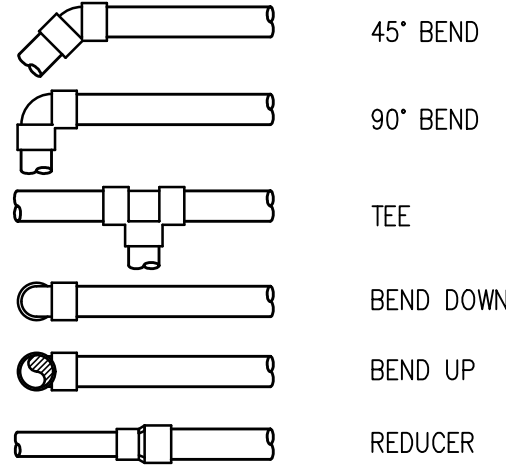
	BENCHMARK
	MANHOLE
	AREA DRAIN
	COMBINATION INLET
	TYPE R INLET
	TYPE 13 FIELD INLET
	FLARED END SECTION W/ RIPRAP
	TEE W/ THRUST BLOCK
	BEND W/ THRUST BLOCK
	END CAP W/ THRUST BLOCK
	GATE VALVE
	REDUCER/INCREASER
	WATER METER
	FIRE HYDRANT
	STORM - 12" AND SMALLER
	STORM - LARGER THAN 12"
	ROOF DRAIN
	TRENCH DRAIN
	UNDERDRAIN
	SANITARY SEWER
	FORCE MAIN
	WATER
	NON POTABLE WATER
	POTABLE WATER
	IRRIGATION
	IRRIGATION - LARGER THAN 12"
	CABLE TV
	DRAIN
	ELECTRIC
	UNDERGROUND ELECTRIC
	OVERHEAD ELECTRIC
	TELEPHONE
	FIBER OPTIC
	FUEL
	GAS
	PVC PIPE (MISC)

	FENCE
	FLOW LINE OF DITCH OR WASH
	SLOPE ARROW
	PROPOSED SPOT ELEVATION
	EXIST SPOT ELEVATION
	EXIST INDEX CONTOUR
	EXIST INTERMEDIATE CONTOUR
	PROPOSED INDEX CONTOUR
	PROPOSED INTERMEDIATE CONTOUR
	EXIST DRAINAGE FLOW DIRECTION
	DEVELOPED DRAINAGE FLOW DIRECTION
	CURB AND GUTTER
	SPILL/CATCH CURB TRANSITION
	SIGN W/ POST
	CONCRETE PAVING
	HEAVY DUTY CONCRETE PAVING
	GRAVEL
	PROPOSED BUILDING
	BUILDING ACCESS
	RETAINING WALL
	BOULDER/ROCK WALL
	LIMITS OF SAWCUT
	LIMITS OF WORK
	EASEMENT LINE
	PROPERTY LINE
	ADJACENT PROPERTY LINE/ROW
	MATCHLINE

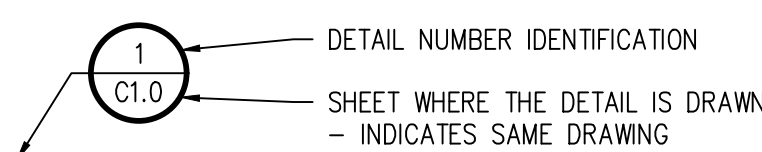
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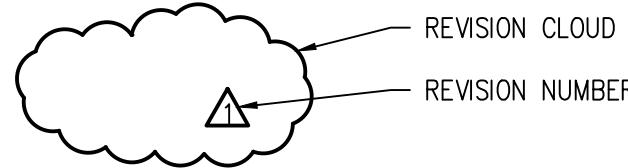
PVC LEGEND



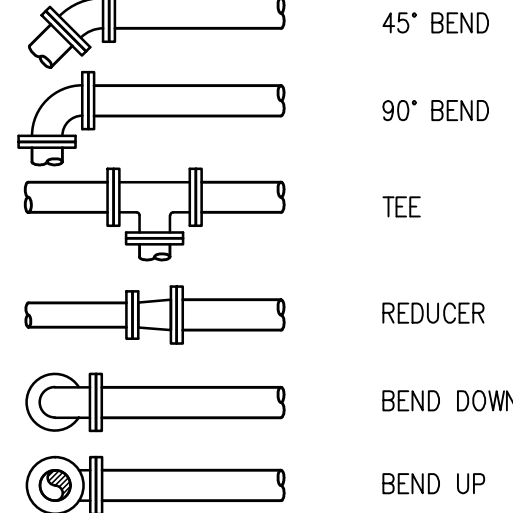
SECTION CALLOUT



DETAIL MARKER

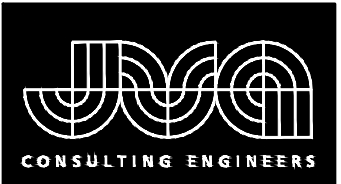


DIP LEGEND



GENERAL NOTES

- ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF THE CITY OF IDAHO SPRINGS AND CLEAR CREEK COUNTY, COLORADO DEPARTMENT OF TRANSPORTATION, CLEAR CREEK FIRE AUTHORITY REQUIREMENTS, AND APPLICABLE STATE AND LOCAL STANDARDS AND SPECIFICATIONS. THE CONTRACTOR SHALL HAVE IN POSSESSION AT THE JOB SITE AT ALL TIMES ONE (1) SIGNED COPY OF APPROVED PLANS, STANDARDS AND SPECIFICATIONS. CONTRACTOR SHALL CONSTRUCT AND MAINTAIN EMERGENCY ACCESS ROUTES TO THE SITE AND STRUCTURE AT ALL TIMES PER THE APPLICABLE CLEAR CREEK FIRE AUTHORITY REQUIREMENTS. THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FOR ANY VARIANCE TO THE ABOVE DOCUMENTS. NOTIFY ENGINEER OF ANY CONFLICTING STANDARDS OR SPECIFICATIONS. IN THE EVENT OF ANY CONFLICTING STANDARD OR SPECIFICATION, THE MORE STRINGENT OR HIGHER QUALITY STANDARD, DETAIL OR SPECIFICATION SHALL APPLY.
- THE CONTRACTOR SHALL OBTAIN, AT HIS OWN EXPENSE, ALL APPLICABLE CODES, BUILDING PERMIT, LICENSES, STANDARD SPECIFICATIONS, PERMITS, BONDS, ETC., WHICH ARE NECESSARY TO PERFORM THE PROPOSED WORK, INCLUDING, BUT NOT LIMITED TO A LOCAL AND STATE GROUNDWATER DISCHARGE AND COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT (CDPHE) STORMWATER DISCHARGE PERMIT ASSOCIATED WITH CONSTRUCTION ACTIVITY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE REQUIRED PARTY (OWNER AND ENGINEER) AT LEAST 48 HOURS PRIOR TO START OF ANY CONSTRUCTION, PRIOR TO BACKFILLING, AND AS REQUIRED BY JURISDICTIONAL AUTHORITY AND/OR PROJECT SPECIFICATIONS. THE CONTRACTOR SHALL CONTINUE WITH NOTIFICATIONS THROUGHOUT THE PROJECT AS REQUIRED BY THE STANDARDS AND SPECIFICATIONS.
- THE LOCATIONS OF EXISTING UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION BASED ON INFORMATION BY OTHERS. NOT ALL UTILITIES MAY BE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT SIZE, LOCATION, AND TYPE OF ALL EXISTING UTILITIES, WHETHER SHOWN OR NOT, BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY AND SOLELY RESPONSIBLE FOR ANY AND ALL DAMAGES AND COSTS WHICH MIGHT OCCUR BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES. THE CONTRACTOR SHALL NOTIFY ALL PUBLIC AND PRIVATE UTILITY COMPANIES AND DETERMINE THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO PROCEEDING WITH GRADING AND CONSTRUCTION. ALL WORK PERFORMED IN THE AREA OF UTILITIES SHALL BE PERFORMED AND INSPECTED ACCORDING TO THE REQUIREMENTS OF THE UTILITY OWNER. LIKEWISE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND MAPPING ANY EXISTING UTILITY (INCLUDING DEPTH) WHICH MAY CONFLICT WITH THE PROPOSED CONSTRUCTION, AND FOR RELOCATING ENCOUNTERED UTILITIES AS DIRECTED BY THE ENGINEER. CONTRACTOR SHALL CONTACT AND RECEIVE APPROVAL FROM CITY AND ENGINEER BEFORE RELOCATING ANY ENCOUNTERED UTILITIES. CONTRACTOR RESPONSIBLE FOR SERVICE CONNECTIONS, AND RELOCATING AND RECONNECTING AFFECTED UTILITIES AS COORDINATED WITH UTILITY OWNER AND/OR ENGINEER, INCLUDING NON-MUNICIPAL UTILITIES (TELEPHONE, GAS, CABLE, ETC., WHICH SHALL BE COORDINATED WITH THE UTILITY OWNER). THE CONTRACTOR SHALL IMMEDIATELY CONTACT ENGINEER UPON DISCOVERY OF A UTILITY DISCREPANCY OR CONFLICT. AT LEAST 48 HOURS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY NOTIFICATION CENTER OF COLORADO (1-800-922-1987, WWW.UNCC.ORG).
- THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS AT AND ADJACENT TO THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL PREPARE A TRAFFIC CONTROL PLAN FOR OWNER AND/OR CITY APPROVAL AND PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FENCING, FLAGMEN OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR AGREES TO COMPLY WITH THE PROVISIONS OF THE TRAFFIC CONTROL PLAN AND THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," PART VI, FOR CONSTRUCTION SIGNAGE AND TRAFFIC CONTROL. ALL TEMPORARY AND PERMANENT TRAFFIC SIGNS SHALL COMPLY TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) WITH REGARD TO SIGN SHAPE, COLOR, SIZE, LETTERING, ETC. UNLESS OTHERWISE SPECIFIED. IF APPLICABLE, PART NUMBERS ON SIGNAGE DETAILS REFER TO MUTCD SIGN NUMBERS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ANY GROUNDWATER ENCOUNTERED DURING THE CONSTRUCTION OF ANY PORTION OF THIS PROJECT. GROUNDWATER SHALL BE PUMPED, PIPED, REMOVED AND DISPOSED OF IN A MANNER WHICH DOES NOT CAUSE FLOODING OF EXISTING STREETS NOR EROSION ON ABUTTING PROPERTIES IN ORDER TO CONSTRUCT THE IMPROVEMENTS SHOWN ON THESE PLANS.
- RIM AND GRATE ELEVATIONS SHOWN ON PLANS ARE APPROXIMATE ONLY AND ARE NOT TO BE TAKEN AS FINAL ELEVATIONS. THE CONTRACTOR SHALL ADJUST RIMS AND OTHER IMPROVEMENTS TO MATCH FINAL PAVEMENT AND FINISHED GRADE ELEVATIONS.
- THE EXISTING AND PROPOSED ELEVATIONS OF FLATWORK, SIDEWALKS, CURBS, PAVING, ETC. AS SHOWN HEREON ARE BASED ON EXTRAPOLATION OF FIELD SURVEY DATA AND EXISTING CONDITIONS. AT CRITICAL AREAS (WEIRS, CHANNELS, AND STAIR LANDINGS) AND SITE FEATURES, CONTRACTOR SHALL HAVE FORMWORK INSPECTED AND APPROVED BY OWNER, OWNER'S REPRESENTATIVE, OR ENGINEER PRIOR TO PLACING CONCRETE. MINOR ADJUSTMENTS, AS APPROVED, TO PROPOSED GRADES, INVERTS, ETC. MAY BE REQUIRED TO PREVENT PONDING OR SLOPE NOT IN CONFORMANCE WITH MUNICIPAL STANDARDS. ALL FLATWORK MUST PREVENT PONDING AND PROVIDE POSITIVE DRAINAGE AWAY FROM EXISTING AND PROPOSED BUILDINGS, WALLS, ROOF DRAIN OUTFALLS, ACROSS DRIVES AND WALKS, ETC., TOWARDS THE PROPOSED INTENDED DRAINAGE FEATURES AND CONVEYANCES.
- ANY EXISTING MONITORING WELLS, CLEANOUTS, VALVE BOXES, ETC. TO BE PROTECTED AND TO REMAIN IN SERVICE. IF FEATURES EXIST, EXTEND OR LOWER TO FINAL SURFACE WITH LIKE KIND CAP WITH STANDARD CAST ACCESS LID WITH SAME MARKINGS. IN LANDSCAPED AREAS PROVIDE A CONCRETE COLLAR (18"x18"x6" THICK) AT ALL EXISTING AND PROPOSED MONITORING WELLS, CLEANOUTS, VALVE BOXES, ETC.
- OWNER TO APPROVE ALL PRIVATE CONCRETE FINISHING, JOINT PATTERNS AND COLORING REQUIREMENTS PRIOR TO CONSTRUCTION. SUBMIT JOINT LAYOUT PLAN TO OWNER FOR APPROVAL PRIOR TO CONSTRUCTION.
- PIPE LENGTHS AND HORIZONTAL CONTROL POINTS SHOWN ARE FROM CENTER OF STRUCTURES, END OF FLARED END SECTIONS, ETC. SEE STRUCTURE DETAILS FOR EXACT HORIZONTAL CONTROL LOCATION. CONTRACTOR IS RESPONSIBLE FOR ADJUSTING ACTUAL PIPE LENGTHS TO ACCOUNT FOR STRUCTURES AND LENGTH OF FLARED END SECTIONS.
- ALL SURPLUS MATERIALS, TOOLS, AND TEMPORARY STRUCTURES, FURNISHED BY THE CONTRACTOR, SHALL BE REMOVED FROM THE PROJECT SITE BY THE CONTRACTOR. ALL DEBRIS AND RUBBISH CAUSED BY THE OPERATIONS OF THE CONTRACTOR SHALL BE REMOVED, AND THE AREA OCCUPIED DURING CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO ITS ORIGINAL CONDITION, WITHIN 48 HOURS OF PROJECT COMPLETION, UNLESS OTHERWISE DIRECTED BY THE MUNICIPALITY OR OWNER'S REPRESENTATIVE.
- THE CONTRACTOR IS REQUIRED TO PROVIDE AND MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE LOCAL JURISDICTION, THE STATE OF COLORADO, URBAN DRAINAGE AND FLOOD CONTROL DISTRICT "URBAN STORM DRAINAGE CRITERIA MANUAL VOLUME 3", THE M-STANDARD PLANS OF THE COLORADO DEPARTMENT OF TRANSPORTATION, AND THE APPROVED EROSION CONTROL PLAN. JURISDICTIONAL AUTHORITY MAY REQUIRE THE CONTRACTOR TO PROVIDE ADDITIONAL EROSION CONTROL MEASURES AT THE CONTRACTOR'S EXPENSE DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE PLANS DO NOT FUNCTION AS INTENDED. THE CONTRACTOR IS RESPONSIBLE FOR PROHIBITING SILT AND DEBRIS LADEN RUNOFF FROM LEAVING THE SITE, AND FOR KEEPING ALL PUBLIC AREAS FREE OF MUD AND DEBRIS. THE CONTRACTOR IS RESPONSIBLE FOR RE-ESTABLISHING FINAL GRADES AND FOR REMOVING ACCUMULATED SEDIMENTATION FROM ALL AREAS INCLUDING SWALES AND DETENTION/WATER QUALITY AREAS. CONTRACTOR SHALL REMOVE TEMPORARY EROSION CONTROL MEASURES AND REPAIR AREAS AS REQUIRED AFTER VEGETATION IS ESTABLISHED AND ACCEPTED BY OWNER AND MUNICIPALITY.
- BENCHMARK INFORMATION: TOPOGRAPHIC INFORMATION WAS PROVIDED BY DAVID EVANS AND ASSOCIATES, INC. SEE TOPOGRAPHIC SURVEY DATED FEBRUARY 2017. THE BASIS OF COORDINATES AND ELEVATIONS FOR THIS MAP ARE BASED ON THE COLORADO DEPARTMENT OF TRANSPORTATION PROJECT CONTROL DIAGRAM PREPARED BY MOUNTAIN SURVEYING AND MAPPING INC, CDOT PROJECT NUMBER NH 0404-039. DEA RECOVERED TYPICAL CDOT TYPE 5 MONUMENTS FOR MSS POINTS CP-2355, CP-2950, CP-3825, CP-1103, CP-250, CP-6757AND CP-5100. ON-SITE ELEVATIONS WERE TRANSFERRED BY RTK METHODS. CONTROL POINTS ARE IN DANGER OF BEING DESTROYED BY SIDEWALK AND ROADWAY CONSTRUCTION ALONG COLORADO AVENUE IN IDAHO SPRINGS. THE BASIS OF BEARINGS SHOWN ON THIS MAP ARE BASED ON THE ASSUMPTION THAT THE BEARING BETWEEN POINT 9637 AND 9623 ON THE SOUTHERLY RIGHT OF WAY LINE OF EAST IDAHO SPRINGS ROAD (COUNTY ROAD 314) BEARS S74°25'54"W AS MONUMENTED AND SHOWN HEREON, DATUM PER SURVEY. COORDINATE AND VERIFY ALL VERTICAL AND HORIZONTAL DATA SHOWN IN SURVEY AND REPORT ANY IRREGULARITIES OR DISCREPANCIES TO ENGINEER PRIOR TO CONSTRUCTION.
- HORIZONTAL CONTROL INFORMATION: HORIZONTAL CONTROL COORDINATES ARE BASED ON THE REFERENCED SURVEY AND ARE PROVIDED BY THE FOLLOWING POINTS AS SHOWN ON THE PLANS:
DEA CP=6920: 3.25" ALUMINUM CAP MARKED "COLO DEPT OF TRANSPORTATION PT 275"
N=695803.74 E=1005990.22 EL=7387.52
DEA CP=9623: 2" ALUMINUM CAP MARKED "PUBLIC SERVICE CO PE/PLS 25775"
N=695543.93 E=1005982.80 EL=7418.15
DEA CP=9624: #5 REBAR W/ 1.5" YELLOW PLASTIC CAP SMASHED
N=695741.73 E=1006387.70 EL=7393.00
- THE CONTRACTOR SHALL FURNISH THE ENGINEER OF RECORD A COMPLETE SET OF CONSTRUCTION RECORD DRAWINGS ("AS-BUILTS"), FOR THE CONSTRUCTED IMPROVEMENTS. THE PLANS SHALL SHOW SUFFICIENT DIMENSION TIES TO PERMANENT SURFACE FEATURES FOR ALL BURIED FACILITIES TO ALLOW FOR FUTURE LOCATING. THE PLANS SHALL SHOW FINAL PAVEMENT, FLOW LINE ELEVATIONS, CONTOURS AT POND/DRAINAGE FEATURES (AS SURVEYED AND CERTIFIED BY A COLORADO P.L.S.), MANHOLE, PIPE, AND INLET LOCATIONS, INVERTS, GRATE ELEVATIONS, SIZES OF ALL UTILITIES, AND ANY VARIATIONS FROM THE APPROVED PLAN. ENGINEER WILL PRODUCE FINAL RECORD DRAWINGS.



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DRAWN BY:	LLG
CHECKED BY:	MK
JOB #:	1529.32c
DATE:	NOVEMBER 2018
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CITY OF IDAHO SPRINGS
WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO
LEGEND, NOTES, AND ABBREVIATIONS

SHEET NO.

G001

DESIGN FLOWS & LOADING

INFLUENT FLOWS	
QMAX MONTH (MAX 30 DAY AVERAGE FLOW):	0.995 MGD
QPEAK DAY:	1.5 MGD
QPEAK HOUR:	2.6 MGD

INFLUENT WASTEWATER CHARACTERISTICS

AVERAGE BOD (MAX 30 DAY AVG):	776 mg/L
AVERAGE TSS (MAX 30 DAY AVG):	851 mg/L
AVERAGE TKN (MAX 30 DAY AVG):	82 mg/L
MINIMUM TEMPERATURE:	9 °C

PRELIMINARY EFFLUENT LIMITATIONS

AVERAGE BOD (7 DAY):	45 mg/L
AVERAGE BOD (30 DAY):	30 mg/L
MINIMUM BOD REMOVAL (%):	85%
AVERAGE TSS (7 DAY):	30 mg/L
AVERAGE TSS (30 DAY):	45 mg/L
MINIMUM TSS REMOVAL (%):	85%
MINIMUM DISSOLVED OXYGEN:	6 mg/L
MAXIMUM OIL AND GREASE:	10 mg/L
pH:	6.5-9
TOTAL INORGANIC NITROGEN AS N (DAILY MAX):	208 mg/L
TOTAL NITROGEN:	60 mg/L
TOTAL PHOSPEROUS:	5.7 mg/L
E. COLI (7 DAY, GEOMEAN):	4000 #/100 mL
E. COLI (30 DAY, GEOMEAN):	2000 #/100mL
Cd (DAILY MAXIMUM):	9.4 ug/L
Cd (DAILY MAXIMUM):	.009 LBS/DAY
AVERAGE Cd (30 DAY):	035 ug/L
Pb (DAILY MAXIMUM):	534 ug/L
Pb (DAILY MAXIMUM):	0.01 LBS/DAY
AVERAGE Pb (30 DAY):	18 ug/L
Zn (DAILY MAXIMUM):	1029 ug/L
Zn (DAILY MAXIMUM):	1.5 LBS/DAY
AVERAGE Zn (30 DAY):	709 ug/L
AVERAGE CHLORIDE (3 DAY):	5794 mg/L
TRC (DAILY MAX):	0.41 mg/L
TRC (30 DAY):	0.28 mg/L
TEMPERATURE:	MONITOR

HEADWORKS

MANUAL BAR SCREEN

NUMBER:	1
BAR SPACING:	1 INCH

MECHANICAL FINE SCREEN

TYPE:	TRAVELING BAND SCREEN
PERFORATED PLATE OPENING:	6 MM
CAPACITY:	2.6 MGD

GRIT CHAMBER

NUMBER:	1
TYPE:	VORTEX
CAPACITY:	4.0 MGD
DIAMETER:	8 FT

GRIT PUMP

NUMBER:	1
TYPE:	NON-CLOG, CENTRIFUGAL
CAPACITY:	250 GPM
TDH:	20 FEET
HORSEPOWER:	7.5 HP
RPM:	1200

GRIT CLASSIFIER

NUMBER:	1
TYPE:	TANK, SHAFTLESS SCREW, HYDROCYCLONE
CAPACITY:	250 GPM
HORSEPOWER:	0.5 HP
RPM:	900

INFLUENT METERING FLUME

NUMBER:	1
TYPE:	CUTTHROAT
SIZE:	12 INCHES
CAPACITY:	0.05 - 5.17 MGD

PRE-EQUALIZATION

PRE-EQUALIZATION TANK

NUMBER:	1
TYPE:	RECTANGULAR, CONCRETE TANK (30'x60') + (31'x32')
DIMENSIONS:	
DEPTH AT HIGH WATER LEVEL:	17.5 FT
DEPTH AT MINIMUM WATER LEVEL:	1 FT
MINIMUM OPERATING VOLUME:	21,500 GAL
MAXIMUM OPERATING VOLUME:	355,000 GAL

AERATION

TYPE:	COARSE BUBBLE AERATION
AERATION SOURCE:	SECONDARY TREATMENT BLOWERS
DESIGN AIRFLOW:	0 - 1,500 SCFM
PIPE MATERIAL:	304 SS

PUMPS

NUMBER:	3
TYPE:	NON-CLOG, CENTRIFUGAL
CAPACITY:	800 GPM
TDH:	22.5 FT
HORSEPOWER:	15 HP
RPM:	1800

BYPASS

NUMBER:	1
TYPE:	RECTANGULAR, CONCRETE TANK
DIMENSIONS:	
DEPTH AT HIGH WATER LEVEL:	15' W x 8' L x 11.5' H
DEPTH AT MINIMUM WATER LEVEL:	9 FT
MINIMUM OPERATING VOLUME:	2 FT
MAXIMUM OPERATING VOLUME:	1,795 GAL
	8,079 GAL

DESIGN CRITERIA

SOLIDS HANDLING

AEROBIC DIGESTER

NUMBER:	2
DIMENSIONS PER DIGESTER:	50' x 50' x 15.5'
WORKING VOLUME, PER DIGESTER:	252,450 GAL
INFLUENT DESIGN FLOW:	45,000 GPD
INFLUENT DESIGN BODS:	3,000 LBS/DAY
INFLUENT SOLIDS DESIGN CONC:	0.80%

AERATION SYSTEM

HP:	COARSE BUBBLE AERATION
DESIGN AIRFLOW (EACH DIGESTER):	470 (50%) - 1,175 (125%) SCFM
PIPE MATERIAL:	304 SS

MIXER

TYPE:	SUBMERSIBLE
HP:	20 HP
NUMBER (PER DIGESTER):	1

DECANTER

TYPE:	FLOATING
HP:	2 HP
NUMBER (PER DIGESTER):	1

BLOWER

NUMBER:	2 (1 DUTY, 1 STANDBY)
TYPE:	POSITIVE DISPLACEMENT
MOTOR:	100 HP
AIR FLOW:	1,620 SCFM
DISCHARGE PRESSURE:	9.5 PSI

DEWATERING FEED PUMP

NUMBER:	2
TYPE:	ROTARY LOBE
MOTOR:	5 HP
CAPACITY:	150 GPM
TDH:	43 FT

EXIST DEWATERING

POLYMER FEED SYSTEM

MANUFACTURER:	VELODYNE
MODEL:	VM-10P-1800-RP-1-A-2
POLYMER FLOW RANGE:	0.5 TO 10 GPH
DILUTION WATER FLOW RANGE:	3 TO 30 GPM

SCREW PRESS

MANUFACTURER:	ISHIGAKI
MODEL:	ISOK-A-0806
DESIGN SOLIDS LOADING:	732 LBS/HR
DESIGN DEWATERING FLOW RATE:	73 GPM
INFLUENT SOLIDS CONCENTRATION:	1 TO 3%
MIN.CAKE SOLIDS CONCENTRATION:	16%
MIN. CAPTURE RATE:	95%

AIR COMPRESSOR

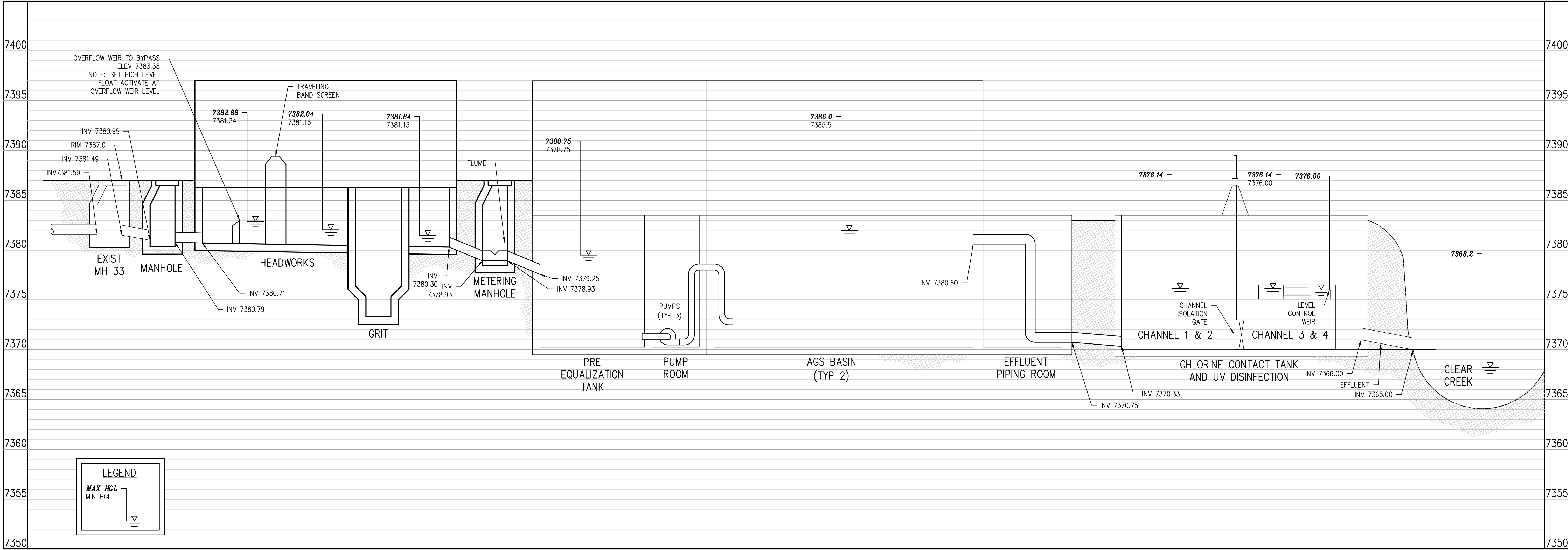
MANUFACTURER:	SPEEDAIRE
MODEL:	527M09
DESIGN AIR FLOW:	5.5 CFM @ 90 PSI
HORSEPOWER:	2 HP

CAKE PUMP

NUMBER:	1
TYPE:	PROGRESSIVE CAVITY
CAPACITY:	40 GPM
MOTOR:	10 HP
TDH:	150 PSIG

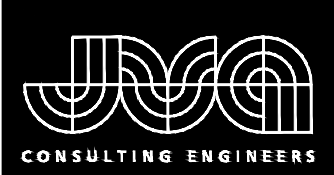
EXIST UV DISINFECTION (PRIMARY)

NUMBER:	1
TYPE:	LOW PRESSURE/HIGH INTENSITY
NUMBER OF BANKS:	2
NUMBER OF MODULES PER BANK:	10 (20 TOTAL MODULES DUTY, 1 SHELF SPARE)
NUMBER OF LAMPS PER MODULE:	4 (80 TOTAL LAMPS DUTY, 4 SHELF SPARE)
CAPACITY:	1,600 GPM
MINIMUM TRANSMITTANCE:	65%
MINIMUM DOSE AT QMAX MONTH:	30,000 MICROWATTS/CM²/SEC
MIN. RETENTION TIME AT QMAX MONTH:	5.0 SEC



HYDRAULIC PROFILE

SCALE: VERT. 1" = 5'
HORIZ. NO SCALE



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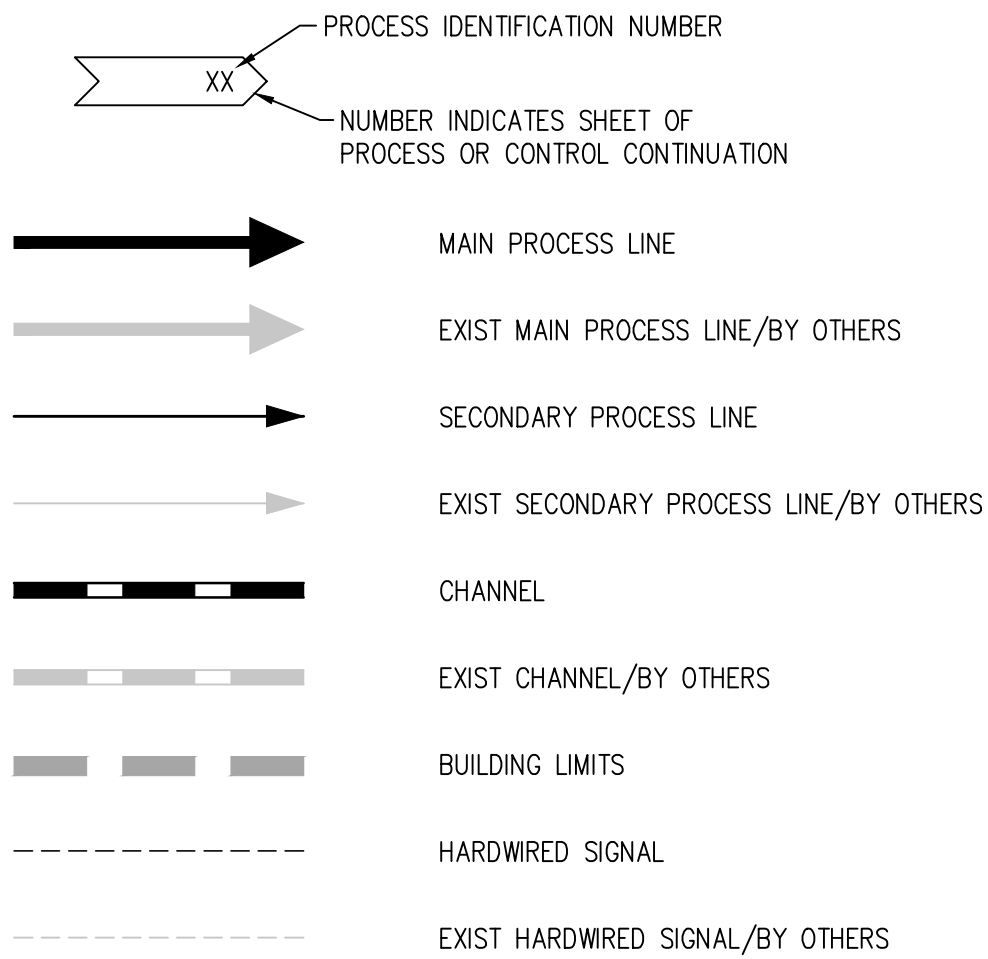
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WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO
DESIGN CRITERIA AND
HYDRAULIC PROFILE

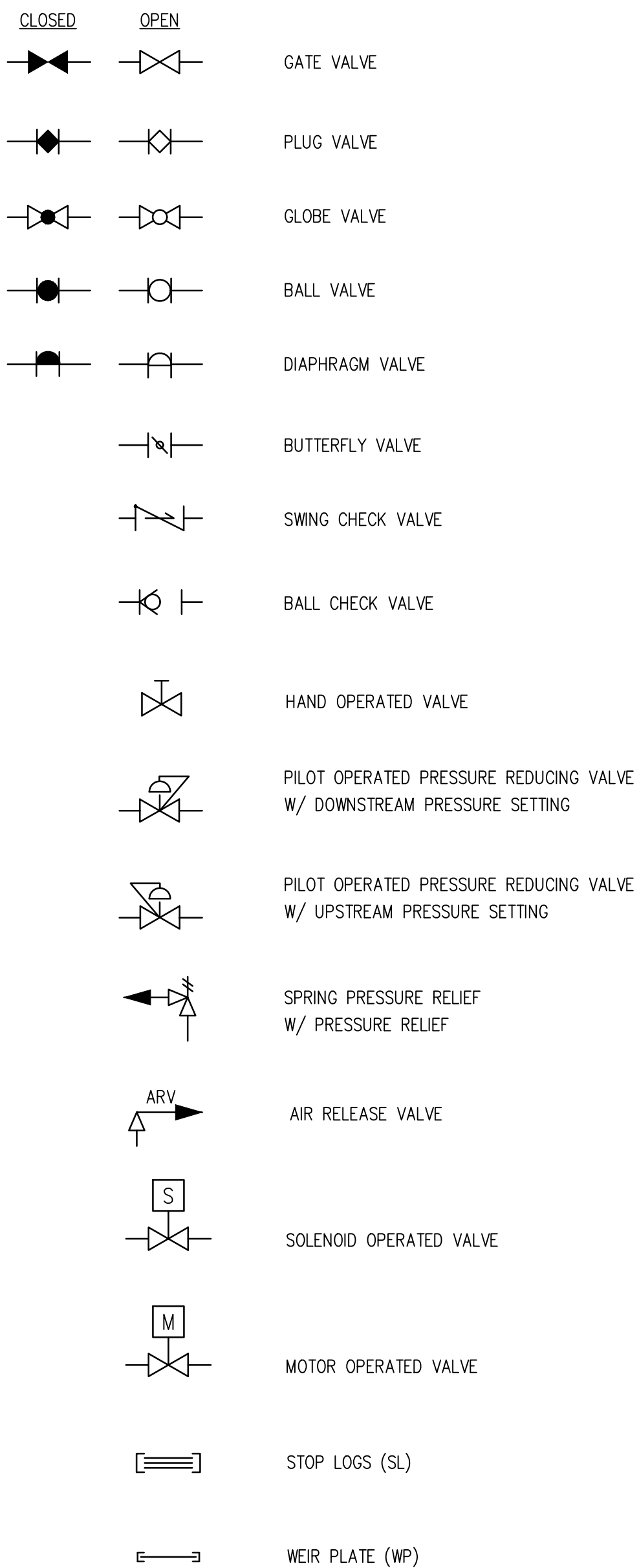
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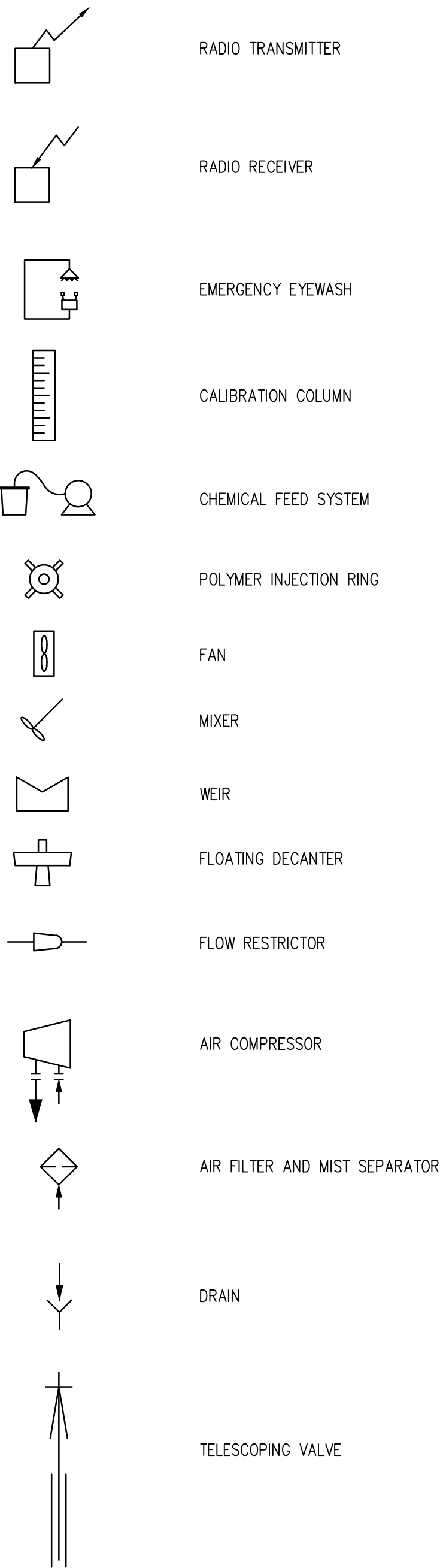
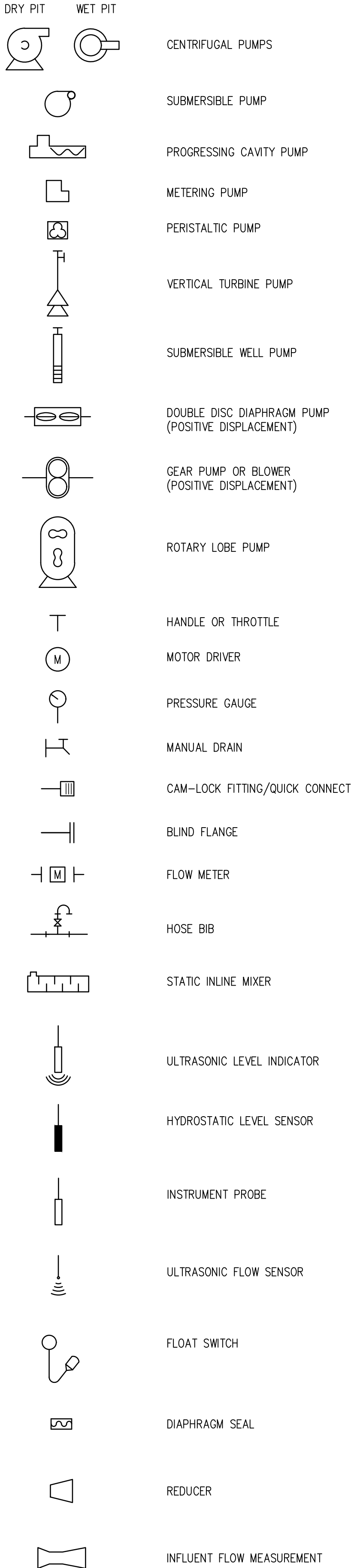
PROCESS LEGEND



VALVE SYMBOLS



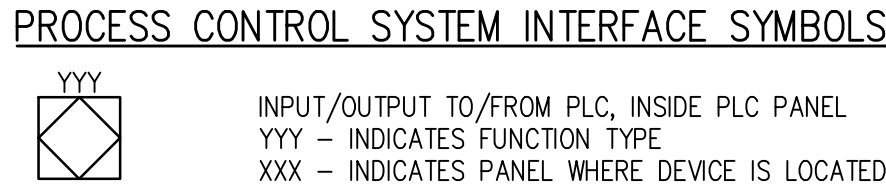
P&ID EQUIPMENT SYMBOLS



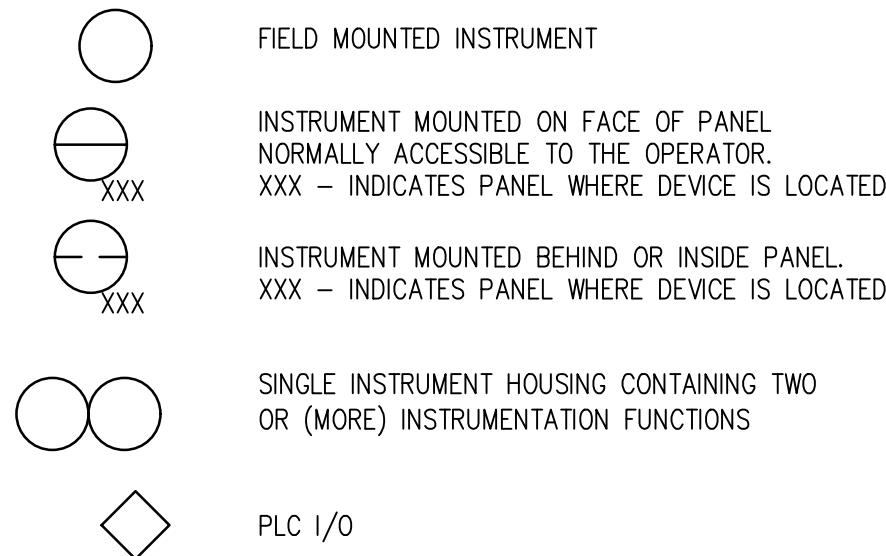
INSTRUMENT IDENTIFICATION LETTERS
(INSTRUMENT SOCIETY OF AMERICA)

FIRST – LETTER			SUCCEEDING – LETTERS		
	MEASURED OR INITIATING VARIABLE		READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	CONTROL			CONTROL SWITCH	CLOSED
D	USER'S CHOICE	DIFFERENTIAL			
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO (FRACTION)			
G	USER'S CHOICE		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	MOMENTARY			MIDDLE
N	TORQUE		USER'S CHOICE	USER'S CHOICE	INTERMEDIATE
O	USER'S CHOICE		ORIFICE, RESTRICTION		USER'S CHOICE
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		OPEN
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	FAILURE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	COMMAND
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

P&ID INSTRUMENT SYMBOLS



GENERAL INSTRUMENT SYMBOLS



PANEL NOMENCLATURE

CP-XXX: CONTROL PANEL (AREA CONTROL)

LCP-XXXX: LOCAL CONTROL PANEL (SPECIFICATION PROCESS CONTROL) LETTERS A, B, C DENOTES VENDER SUPPLIED EQUIPMENT

LP-X LIGHTING PANEL

GENERAL NOTES:

- THIS IS A STANDARD LEGEND, THEREFORE NOT ALL OF THIS INFORMATION MAY BE USED ON THIS PROJECT.
- P & ID INSTRUMENTATION DETAILS DO NOT REPRESENT INSTRUMENTS AND CONTROLS INTEGRAL TO VENDOR SUPPLIED CONTROL PANELS OR EQUIPMENT. SEE EQUIPMENT SPECIFICATIONS FOR THIS INFORMATION.
- P & ID DOES NOT REPRESENT CONTROL STRATEGIES OR INTERACTIONS. REFERENCE SECTION 16950, CONTROL NARRATIVES, FOR THIS INFORMATION.
- P & ID DOES NOT REPRESENT EQUIPMENT HARDWIRED INTERLOCK AND ENABLE CIRCUITRY, REFER TO SECTION 16950 FOR COMPLETE DESCRIPTION.

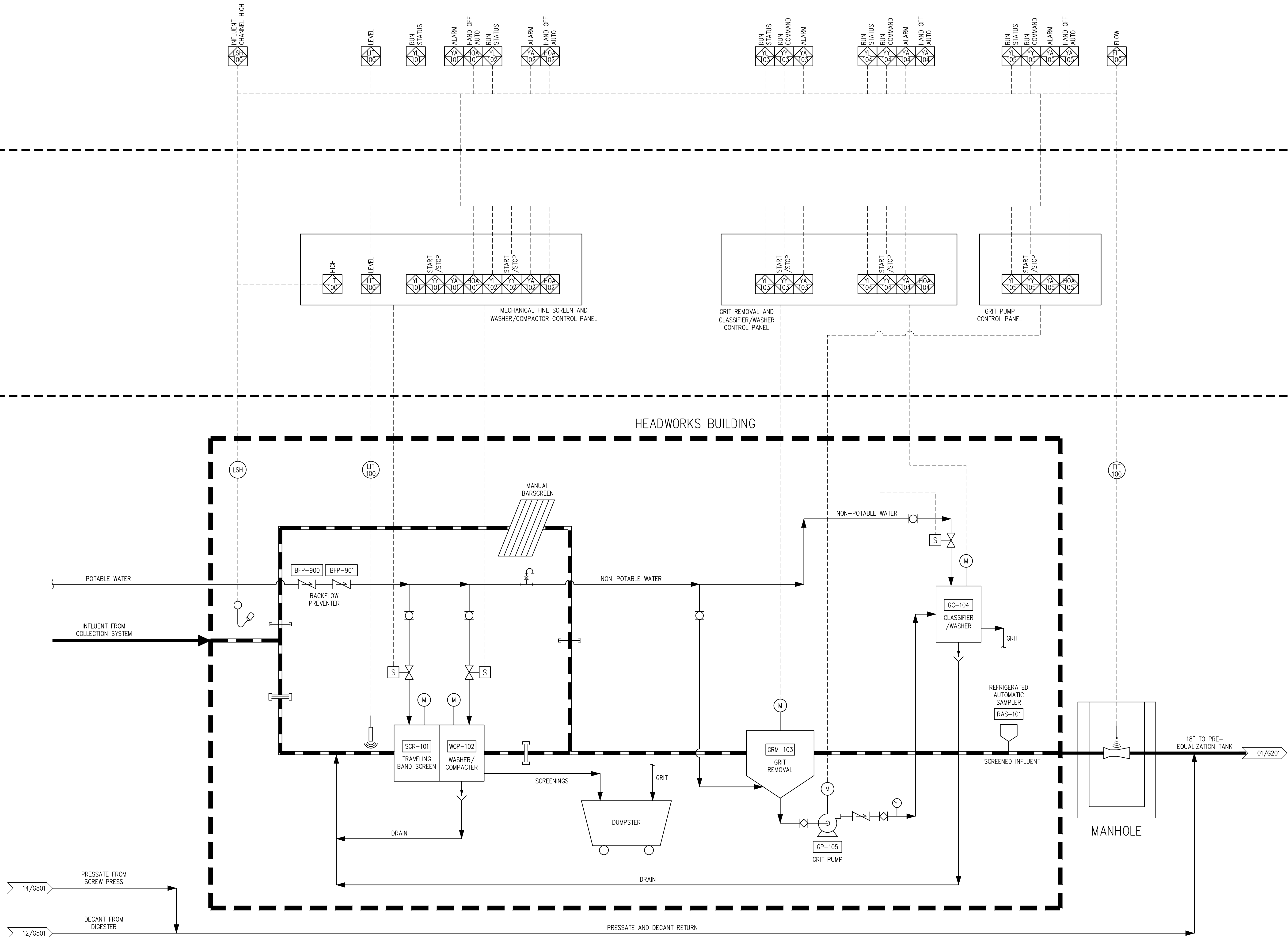
COMMON INSTRUMENT DESIGNATIONS

TAG	DESIGNATION
YL	EQUIPMENT RUNNING STATUS
YS	EQUIPMENT IN AUTO OR REMOTE STATUS
YY	EQUIPMENT RUN COMMAND
UA	EQUIPMENT FAULT STATUS
HC	HAND CONTROL
HS	HAND SWITCH
SI	SPEED INDICATION
SC	SPEED COMMAND
PSL	PRESSURE SWITCH LOW
PSH	PRESSURE SWITCH HIGH
FE	FLOW ELEMENT
FIT	FLOW INDICATOR/TRANSMITTER
ZSO	VALVE POSITION FULL OPEN
ZSC	VALVE POSITION FULL CLOSE
ZSI	VALVE POSITION INDICATOR
SP	SET POINT
PID	PROPORTIONAL-INTEGRAL-DERIVATIVE
HOA	HAND-OFF-AUTO
OCA	OPEN-CLOSE-AUTO
LCP	LOCAL CONTROL PANEL

PLANT AREA TAGS

TAG	DESIGNATION
100	HEADWORKS
200	PRIMARY TREATMENT
300	SECONDARY TREATMENT
400	TERTIARY TREATMENT
500	DIGESTION
600	CHEMICAL FEED
700	DISINFECTION
800	DEWATERING
900	ANCILLARY

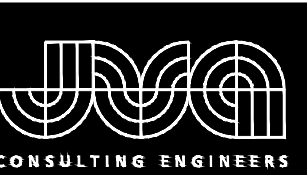
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SCADA

LCP

FIELD



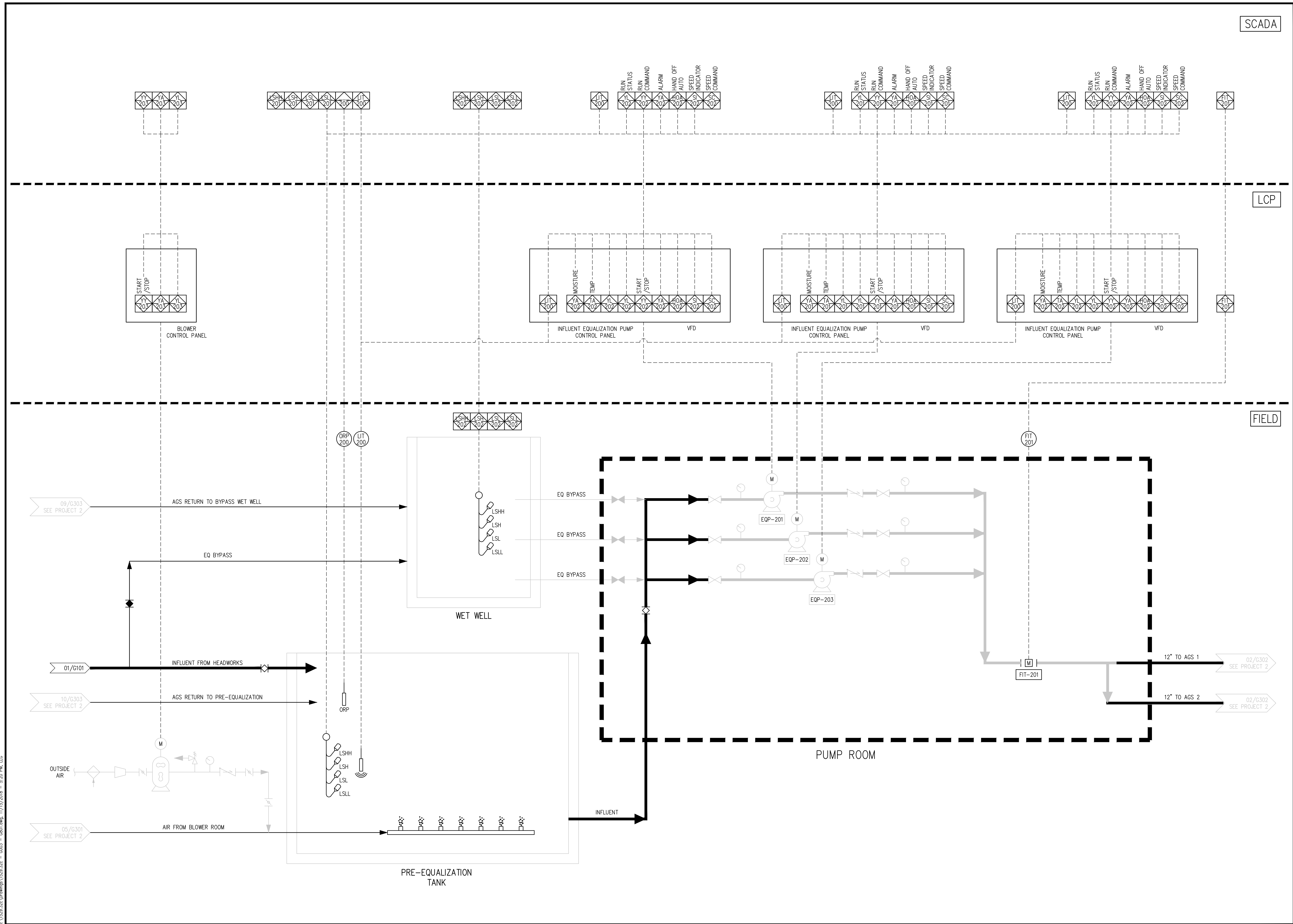
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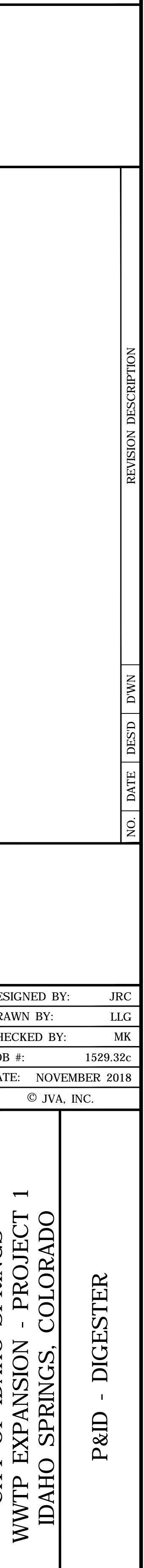
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WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO
P&ID - HEADWORKS

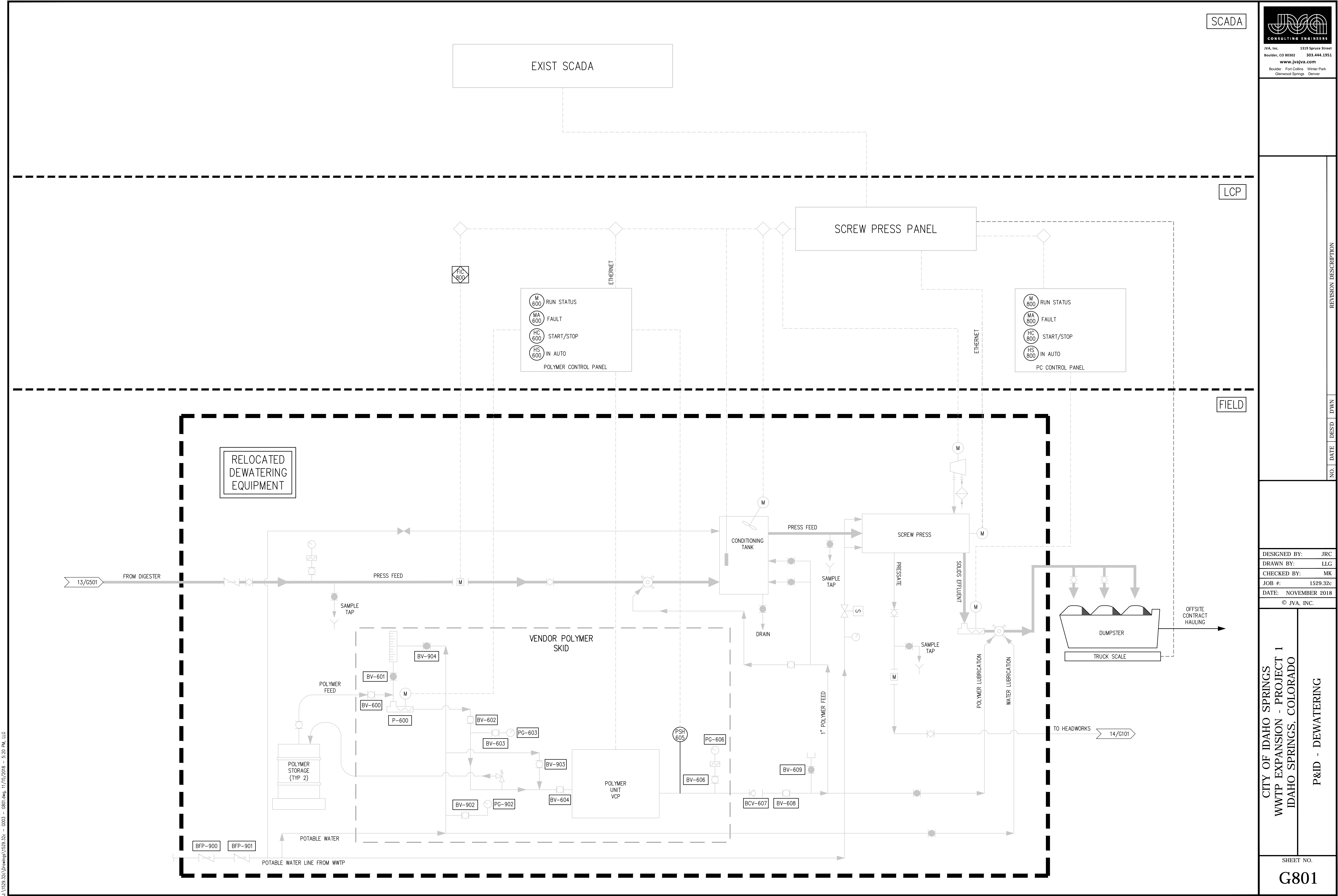
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SCADA

LCP

FIELD

EXIST SCADA

SCREW PRESS PANEL

POLYMER CONTROL PANEL

PC CONTROL PANEL

RELOCATED DEWATERING EQUIPMENT

CONDITIONING TANK

SCREW PRESS

POLYMER STORAGE (TYP 2)

POTABLE WATER

POTABLE WATER LINE FROM WWT

VENDOR POLYMER SKID

POLYMER UNIT VCP

DUMPSTER

TRUCK SCALE

OFFSITE CONTRACT HAULING

TO HEADWORKS

DESIGNED BY: JRC

DRAWN BY: LLG

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CITY OF IDAHO SPRINGS

WWTP EXPANSION - PROJECT 1

IDAHO SPRINGS, COLORADO

P&ID - DEWATERING

SHEET NO.

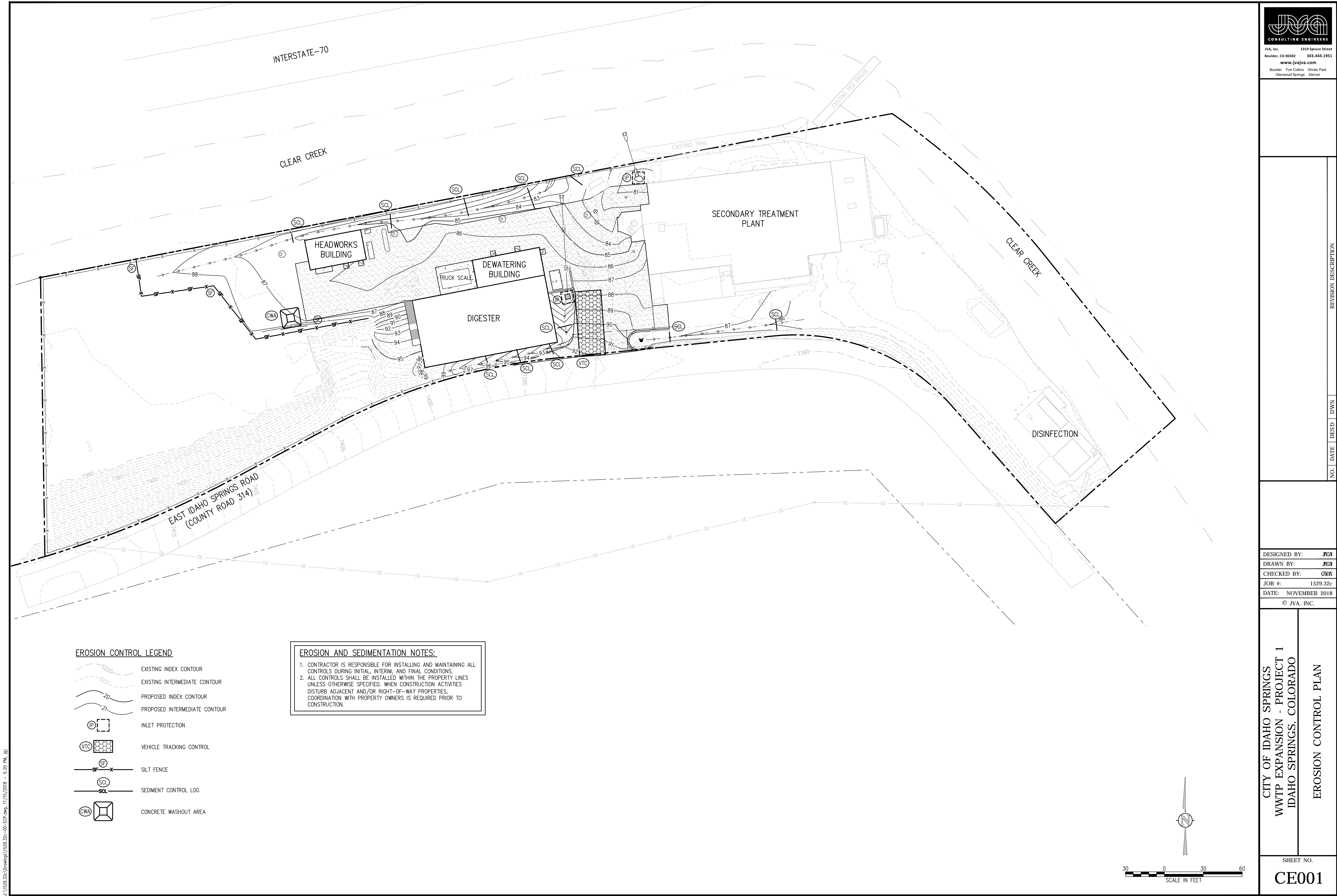
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IDAHO SPRINGS, COLORADO	
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CITY OF IDAHO SPRINGS
WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO

EROSION CONTROL PLAN

SHEET NO.

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STORMWATER MANAGEMENT PLAN (SWMP)

THIS STORMWATER MANAGEMENT PLAN IS TO BE RETAINED AND MAINTAINED ONSITE INCLUDING FINAL LANDSCAPING PLANS AND ANY OTHER EROSION CONTROL DOCUMENTATION. A SWMP ADMINISTRATOR WILL BE DESIGNATED BY THE CONTRACTOR AND IS RESPONSIBLE FOR DEVELOPING, IMPLEMENTING, MAINTAINING, AND REVISING THIS SWMP. THE SWMP ADMINISTRATOR IS THE CONTACT FOR ALL SWMP-RELATED ISSUES AND IS RESPONSIBLE FOR ITS ACCURACY, COMPLETENESS, AND IMPLEMENTATION. THE FOLLOWING HAS BEEN DESIGNATED AS THE SWMP ADMINISTRATOR FOR THIS PROJECT:

NAME: _____

CONTACT INFO: _____

THE SITE IS LOCATED AT <STREET ADDRESS, CROSS STREETS, OTHER>, AND AT APPROXIMATELY ____° ____' ____" LATITUDE, ____° ____' ____" LONGITUDE. THE PROPOSED PROJECT CONSISTS OF <PARKING, UTILITY SERVICE CONNECTIONS, OVERLOT GRADING, BUILDING CONSTRUCTION, PAVING OF SIDEWALKS, PLAY AREAS, PARKING LOTS, ENTRANCE DRIVES, UTILITY INFRASTRUCTURE, OTHER> CONSTRUCTION IN THE <CITY, TOWN, COUNTY, OTHER>. THE TOTAL SITE AREA IS APPROXIMATELY <XX.XX> ACRES WITH AT TOTAL DISTURBANCE OF <XX.XX> ACRES. NO AREAS GREATER THAN 40 ACRES SHALL BE DISTURBED AT ANY GIVEN TIME. NO CONSTRUCTION ACTIVITIES SHALL OCCUR OFFSITE OR OUTSIDE OF THE CONSTRUCTION LIMITS SHOWN ON THE CONSTRUCTION DOCUMENTS. THE SEQUENCE OF CONSTRUCTION STARTS IS AS FOLLOWS:

PHASE	ESTIMATED	ACTUAL
CONSTRUCTION START	MONTH, YEAR	_____
ROAD AND OVERLOT GRADING	MONTH, YEAR	_____
UTILITY CONSTRUCTION	MONTH, YEAR	_____
BUILDING CONSTRUCTION	MONTH, YEAR	_____
PAVING	MONTH, YEAR	_____
SITE RESTORATION	MONTH, YEAR	_____

THE EXISTING SITE CONSISTS OF <DEVELOPED LAND, NATIVE GRASSLAND, VEGETATION, OPEN RANGE, OTHER> AND IS APPROXIMATELY ____% COVERED WITH VEGETATIVE GROUND COVER
. THE ESTIMATED HISTORIC AND DEVELOPED RUNOFF COEFFICIENTS ARE _____ AND _____ (COPY FROM DRAINAGE REPORT) RESPECTIVELY.

OFFSITE RUNOFF FLOWS ONTO THE PROPERTY (FROM WHERE?, IF APPLICABLE _____) ONSITE FLOWS ARE _____ ONSITE DETENTION IS _____ STORMWATER IS DISCHARGED FROM THIS SITE TO _____ (____ CREEK/RIVER, REGIONAL DETENTION POND, _____ PUBLIC STORM SYSTEM THAT ULTIMATELY OUTFALLS TO _____) A DRAINAGE REPORT FOR THIS DEVELOPMENT HAS BEEN SUBMITTED TO THE ENGINEER (OF CITY/TOWN/COUNTY/OTHER? OF _____)

OTHER POTENTIAL POLLUTION SOURCES SUCH AS (VEHICLE FUELING, STORAGE OF FERTILIZER OR CHEMICALS, VEHICLE WASHING, WASTE INCINERATION, HAUL--ROADS, LOADING/ UNLOADING AREAS OTHER? _____) ARE LOCATED _____ (OR DO NOT EXIST AT THIS SITE)
NON--STORMWATER COMPONENTS OF THE DISCHARGE, SUCH AS SPRINGS, LANDSCAPE IRRIGATION RETURN FLOW, OTHER? _____) ARE LOCATED _____) (IF NONE, SAY SO. DO NOT JUST DELETE THIS SENTENCE).

(ADD ANY SPECIFIC TEXT DESCRIBING THE SOIL, SOIL EROSION POTENTIAL, OR QUALITY OF ANY DISCHARGE FROM THE SITE.)

BEST MANAGEMENT PRACTICES FOR STORMWATER MANAGEMENT

NON STRUCTURAL BMPs WILL BE IMPLEMENTED TO THE MAXIMUM EXTENT POSSIBLE. THE UTILIZATION OF NON STRUCTURAL BMPs WILL BE AN ONGOING PROCESS DIRECTED AT PREVENTING EROSION. THE NON STRUCTURAL BMPs WILL RECEIVE CONTINUOUS EMPHASIS THROUGHOUT CONSTRUCTION BECAUSE THEY AVERT PROBLEMS BEFORE THEY OCCUR AND REDUCE THE NEED FOR STRUCTURAL BMPs. NON STRUCTURAL BMPs WILL CONSIST PRIMARILY OF PRESERVATION OF EXISTING MATURE VEGETATION AND TREES, PLANNING AND SCHEDULING CONSTRUCTION ACTIVITIES AIMED AT ACHIEVING THE GOAL OF MINIMIZING EROSION. FURTHERMORE, CONSTRUCTION PERSONNEL WILL BE INSTRUCTED AND SUPERVISED IN CONSTRUCTION METHODS CONSISTENT WITH EROSION PREVENTION PRACTICES.

PLANNED STRUCTURAL BMPs FOR EROSION AND SEDIMENT CONTROL ARE SHOWN ON THE EROSION AND SEDIMENTATION CONTROL PLAN. IMPLEMENTING THESE MEASURES SHOULD MINIMIZE NUISANCE SILT AND SEDIMENTATION EXITING THE SITE AND PREVENT CLOGGING EXISTING STORM SEWERS AND STREET OUTFITTERS.

APPLICATION OF THESE BMPs FOR STORMWATER MANAGEMENT ARE FOR CONSTRUCTION PERIODS AND ARE CONSIDERED TEMPORARY. POST-DEVELOPMENT STORMWATER MANAGEMENT IS PROVIDED THROUGH (VEGETATED LANDSCAPED AREAS, GRASSED SWALES, RIPRAP PROTECTION, STORM COLLECTION SYSTEM, AND THE UTILIZATION OF THE PERMANENT DETENTION AND WATER QUALITY POND, OTHER? _____)

VEHICLE TRACKING CONTROL (VTC):

A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED AT (STREET NAME _____). THE CONSTRUCTION ACCESS AND PARKING WILL BE GRADED AND COVERED WITH A CRUSHED STONE BASE COURSE DURING CONSTRUCTION. THE VEHICLE TRACKING CONTROL WILL BE RELOCATED WITH THE CONSTRUCTION ACCESS AS NECESSARY.

SILT FENCING (SF) AND SEDIMENT CONTROL LOGS (SCL):

SILT FENCING AND SEDIMENT CONTROL LOGS SHALL BE INSTALLED WITH RESPECT TO PROPOSED DRAINAGE PATTERNS. SILT FENCE AND SEDIMENT CONTROL LOGS SHALL BE CONSTRUCTED ALONG THE PORTIONS OF THE (EAST, WEST, SOUTH, NORTH, OTHER? _____) SIDE OF THE PROPERTY AND ALONG ANY DRAINAGE AREAS SUBJECT TO EROSION. THE SILT FENCING AND SEDIMENT CONTROL LOGS SHALL BE INSTALLED AT THE DOWNHILL SIDE OF THE EXISTING SLOPES ACROSS THE SITE AND AT ALL POINT DISCHARGE AREAS WHETHER SHOWN OR NOT. SILT FENCE AND SEDIMENT CONTROL LOGS SHALL BE MAINTAINED AS NEEDED THROUGHOUT THE CONSTRUCTION PROCESS. THE TEMPORARY SILT FENCE AND SEDIMENT CONTROL LOGS WILL REMAIN UNTIL THE STORM SEWER STRUCTURES ARE COMPLETED AND GROUND COVER IS EFFECTIVE.

INLET PROTECTION (IP):

THE INLET PROTECTION WILL BE INSTALLED AS THE STORM SEWER STRUCTURES ARE CONSTRUCTED. EACH INLET ON THE PROPOSED STORM SEWER SYSTEM WILL HAVE A TEMPORARY INLET SEDIMENT TRAP CONSTRUCTED AROUND IT. IN PAVED AREAS, THIS TRAP CONSISTS OF (WIRE MESH SOCKS, CONCRETE BLOCKS, AND/OR SCREENS, OTHER? _____) TO FILTER THE STORM RUNOFF AND ALLOW ANY SILT TO SETTLE OUT. IN FIELDS OR LANDSCAPED AREAS THIS TRAP CONSISTS OF (WIRE MESH SOCKS, STRAW BALE BARRIERS, OTHER? _____).

DUST CONTROL MEASURES:

DISTURBED AREAS NOT YET READY TO BE SEEDED, LANDSCAPES, PAVED, OR OTHERWISE STABILIZED SHALL BE WATERED, OR RIPPED AS NECESSARY TO PRECLUDE VISIBLE DUST EMISSIONS.

ITEMS ARE SCHEDULED TO BE IMPLEMENTED ACCORDING TO THE CONSTRUCTION SCHEDULE. AS WORK PROCEEDS, IMPLEMENTATION OF INDIVIDUAL BMPs IS TO COINCIDE WITH THE CONSTRUCTION THEREBY MINIMIZING THE EXPOSURE OF UNPROTECTED AREAS. THE SILT FENCE, INLET PROTECTION (FOR EXISTING INLETS), AND GRAVELING OF THE CONSTRUCTION ENTRANCE WILL BE PERFORMED WHEN THE GRADING BEGINS. THE INLET PROTECTION WILL BE INSTALLED AS THE STORM SEWER STRUCTURES ARE CONSTRUCTED. THE RIPRAP PROTECTION WILL BE INSTALLED AS THE STORM SEWER OUTFALLS OR CULVERTS ARE CONSTRUCTED. THE STRUCTURAL BMPs THAT DO NOT BECOME PART OF THE PERMANENT STORMWATER MANAGEMENT PLAN ARE TO BE REMOVED, AS THE PAVING, LANDSCAPING, AND OTHER PERMANENT GROUNDCOVER INSTALLATIONS ARE COMPLETED. FUGITIVE DUST EMISSIONS RESULTING FROM GRADING ACTIVITIES AND/OR WIND SHALL BE CONTROLLED USING THE BEST AVAILABLE CONTROL TECHNOLOGY AS DEFINED BY THE COLORADO DEPARTMENT OF HEALTH AT THE TIME OF GRADING. THE GRAVELING IS TO BE MAINTAINED AND EXTENDED CONSTRUCTION PROGRESSES ESPECIALLY AROUND THE BUILDING SITE. THE STRUCTURAL BMPs ARE TO BE REMOVED, AS THE PERMANENT LANDSCAPING INSTALLATIONS ARE COMPLETED.

THE EROSION AND SEDIMENT CONTROL PLAN MAY BE MODIFIED BY THE (DEPARTMENT OF HIGHWAYS AND TRANSPORTATION, OWNER'S ENGINEER, COUNTY ENGINEERING INSPECTORS, MUNICIPALITY, OTHER? OF _____) OR ITS AUTHORIZED REPRESENTATIVE AS FIELD CONDITIONS WARRANT.

STORMWATER DETENTION AND WATER QUALITY:

STORMWATER DETENTION IS NOT PROVIDED.

MATERIALS AND SPILL PREVENTION:

THE CONTRACTOR WILL STORE CONSTRUCTION MATERIALS AND EQUIPMENT IN CONFINED AREAS ON SITE FROM WHICH RUNOFF WILL BE CONTAINED AND FILTERED. MATERIALS WILL BE STORED OFF THE GROUND AND PROTECTED FROM THE WEATHER BY A COVER OR STORED IN A CONTAINER SUCH AS A VAN OR TRAILER. AN EARTHEN DIKE WILL BE CONSTRUCTED AROUND THE FUEL STORAGE AREA TO PREVENT MATERIALS FROM CONTACT WITH SURFACE RUNOFF. EQUIPMENT MAINTENANCE WILL BE PERFORMED IN A DESIGNATED AREA AND STANDARD MAINTENANCE PROCEDURES, SUCH AS THE USE OF DRIP PANS, WILL BE USED TO CONTAIN PETROLEUM PRODUCTS.

INSPECTION AND MAINTENANCE:

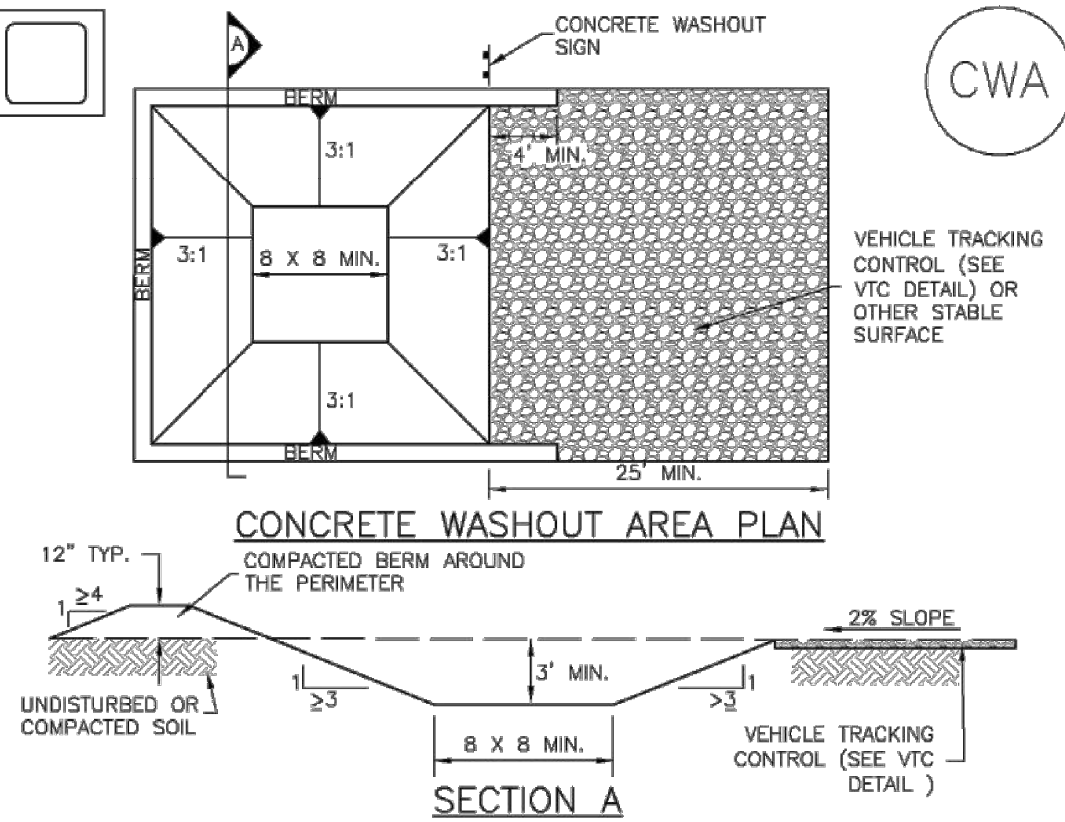
THE EROSION CONTROL MEASURES WILL BE INSPECTED DAILY DURING CONSTRUCTION BY THE CONTRACTOR AND AFTER EACH RAIN EVENT. ALL INSPECTIONS SHALL BE DOCUMENTED AND SHALL INCLUDE THE DATE OF INSPECTION, ANY INCIDENCE OF NON-COMPLIANCE, SIGNED CERTIFICATION THAT THE SITE IS IN COMPLIANCE, AND ANY NOTES, DRAWINGS, MAPS, ETC. PERTAINING TO REPAIRS. COPIES OF ALL DOCUMENTATION SHALL BE DISTRIBUTED TO MUNICIPALITIES AND OWNER ON A REGULAR BASIS AS SPECIFIED BY OWNER. SILT FENCE AND STRAW BALE BARRIERS WILL BE CHECKED FOR UNDERMINING AND BYPASS AND REPAIRED OR EXPANDED AS NEEDED. SEDIMENT SHOULD BE REMOVED FROM INLET FILTERS AND SILT FENCING BEFORE ONE HALF OF THE DESIGN DEPTH HAS BEEN FILLED. SEDIMENTS DEPOSITED IN THE PUBLIC RIGHTS-OF-WAY WILL BE REMOVED IMMEDIATELY. THE TEMPORARY VEGETATION OF BARE SOILS WILL BE CHECKED REGULARLY AND AREAS WHERE IT IS LOST OR DAMAGED WILL BE RESEDED. AT MINIMUM THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL BMPs EVERY 14 DAYS AND AFTER SIGNIFICANT PRECIPITATION OR SNOWMELT EVENTS. INSTALLATIONS AND MODIFICATIONS AS REQUIRED BY THE (CITY/TOWN/COUNTY/OTHER? OF _____) WILL BE IMPLEMENTED WITHIN 48 HOURS OF NOTIFICATION. CONTRACTOR SHALL REMOVE TEMPORARY EROSION CONTROL MEASURES AND REPAIR AREAS AS REQUIRED AFTER VEGETATION IS ESTABLISHED AND ACCEPTED BY OWNER AND MUNICIPALITY.

FINAL STABILIZATION AND LONG-TERM STORMWATER QUALITY:

FINAL STABILIZATION IS REACHED WHEN ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED. CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL STABILIZATION REGARDLESS OF ACCEPTANCE BY OWNER OF THE CONTRACTOR ITEM.

Concrete Washout Area (CWA)

MM-1



CWA-1. CONCRETE WASHOUT AREA

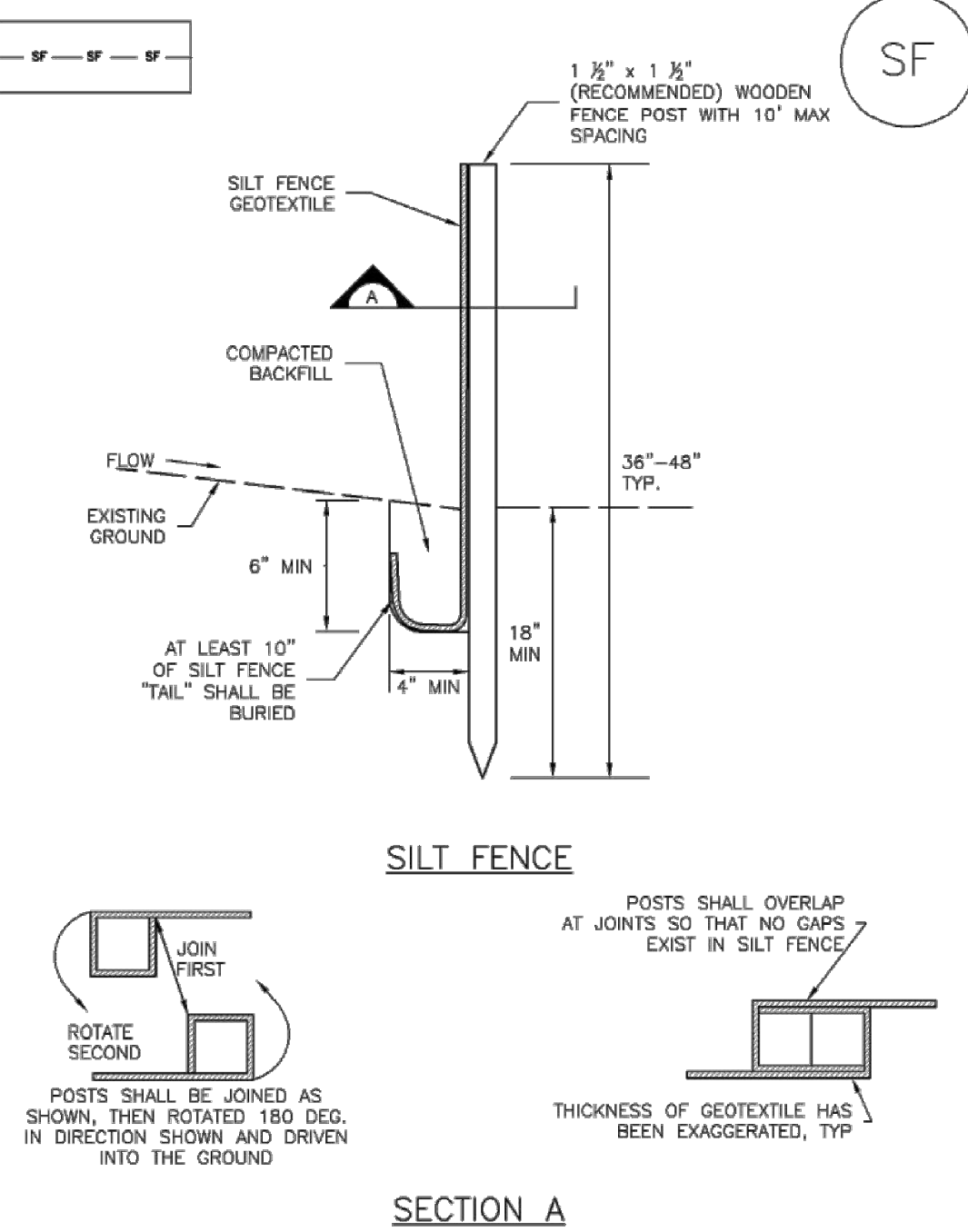
CWA INSTALLATION NOTES

- SEE PLAN VIEW FOR: -CWA INSTALLATION LOCATION.
- DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.
- THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
- CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
- BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.
- VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
- SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
- USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

November 2010	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	CWA-3
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Silt Fence (SF)

SC-1



SILT FENCE

SF-1. SILT FENCE

November 2010	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	SF-3
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MM-1

Concrete Washout Area (CWA)

CWA MAINTENANCE NOTES

- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
 - FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
 - WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
 - THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS, ACCUMULATED IN PIT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2'.
 - CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER-TIGHT CONTAINER AND DISPOSED OF PROPERLY.
 - THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
 - WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.
- (DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD).
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

CWA-4	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	November 2010
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SC-1

Silt Fence (SF)

SILT FENCE INSTALLATION NOTES

- SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2-5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITION.
- A UNIFORM 6\"/>
- COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTOR SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.
- SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.
- SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1\"/>
- AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TURNED PERPENDICULAR TO THE CONTOUR TO CREATE A "J-HOOK." THE "J-HOOK" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' - 20').
- SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

SILT FENCE MAINTENANCE NOTES

- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
 - FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
 - WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
 - SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 6\"/>
 - REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.
 - SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.
 - WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.
- (DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, NOT AVAILABLE IN AUTOCAD)
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

SF-4	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	November 2010
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DRAWN BY:	JVA
CHECKED BY:	JVA
JOB #:	1529.32c
DATE:	NOVEMBER 2018
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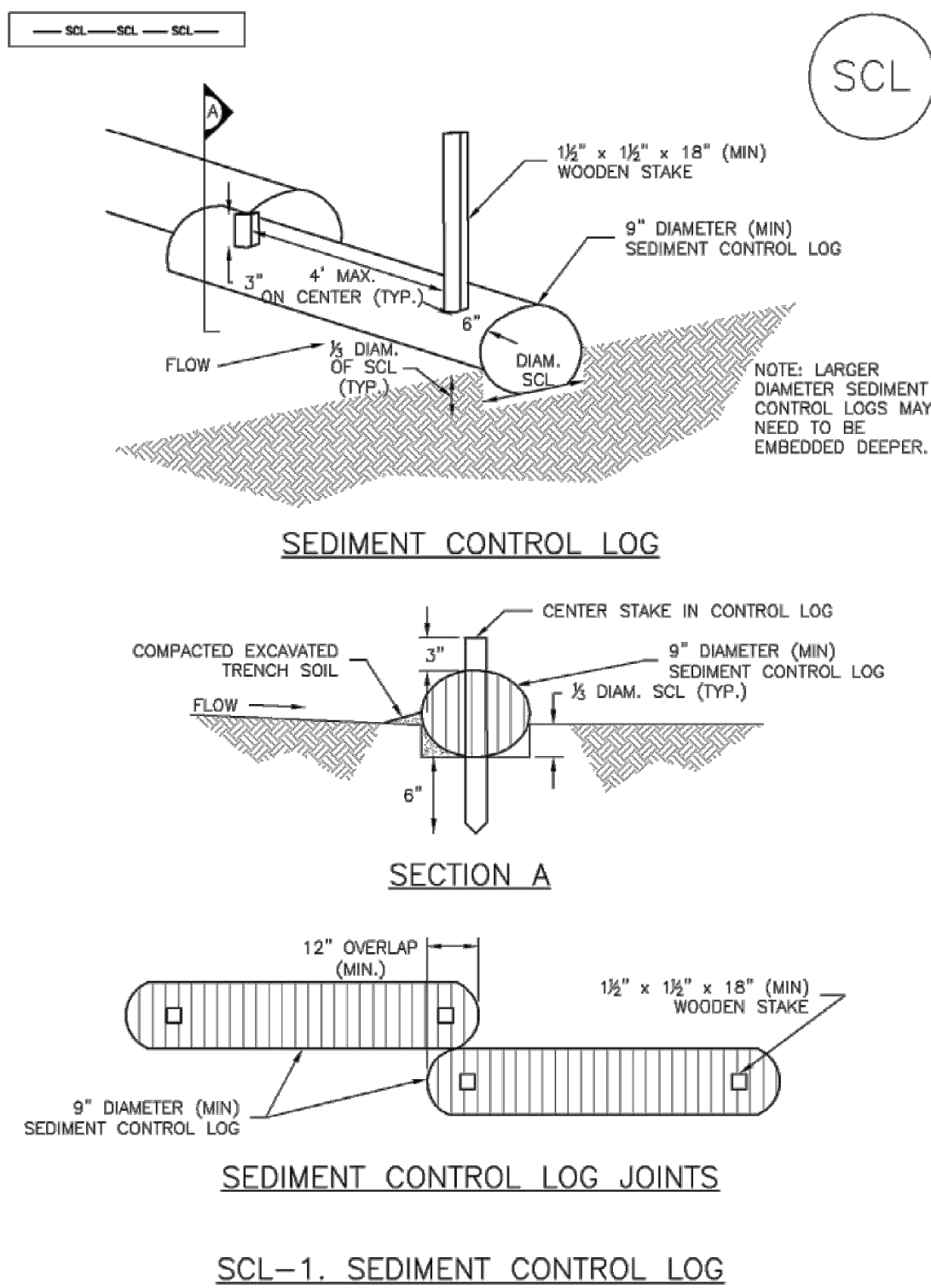
CITY OF IDAHO SPRINGS
WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO
EROSION CONTROL DETAILS

SHEET NO.

CE002

Sediment Control Log (SCL)

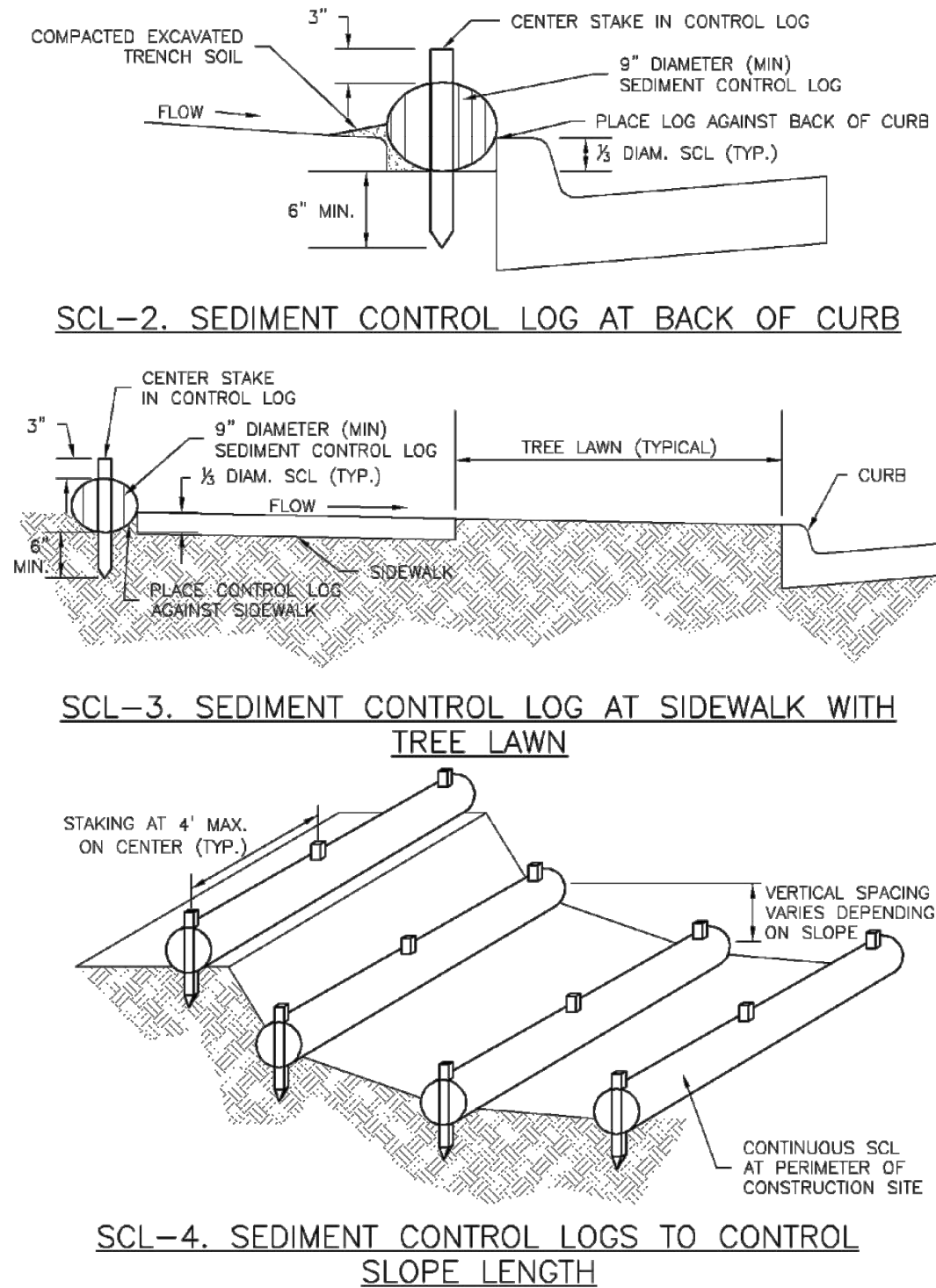
SC-2



November 2010 Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3 SCL-3

SC-2

Sediment Control Log (SCL)



SCL-4 Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3 November 2010

Sediment Control Log (SCL)

SC-2

SEDIMENT CONTROL LOG INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATION AND LENGTH OF SEDIMENT CONTROL LOGS.
2. SEDIMENT CONTROL LOGS THAT ACT AS A PERIMETER CONTROL SHALL BE INSTALLED PRIOR TO ANY UPGRADE LAND-DISTURBING ACTIVITIES.
3. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR OR COCONUT FIBER, AND SHALL BE FREE OF ANY NOXIOUS WEED SEEDS OR DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.
4. SEDIMENT CONTROL LOGS MAY BE USED AS SMALL CHECK DAMS IN DITCHES AND SWALES. HOWEVER, THEY SHOULD NOT BE USED IN PERENNIAL STREAMS OR HIGH VELOCITY DRAINAGE WAYS.
5. IT IS RECOMMENDED THAT SEDIMENT CONTROL LOGS BE TRENCHED INTO THE GROUND TO A DEPTH OF APPROXIMATELY 1/2 OF THE DIAMETER OF THE LOG. IF TRENCHING TO THIS DEPTH IS NOT FEASIBLE AND/OR DESIRABLE (SHORT TERM INSTALLATION WITH DESIRE NOT TO DAMAGE LANDSCAPE) A LESSER TRENCHING DEPTH MAY BE ACCEPTABLE WITH MORE ROBUST STAKING.
6. THE UPHILL SIDE OF THE SEDIMENT CONTROL LOG SHALL BE BACKFILLED WITH SOIL THAT IS FREE OF ROCKS AND DEBRIS. THE SOIL SHALL BE TIGHTLY COMPACTED INTO THE SHAPE OF A RIGHT TRIANGLE USING A SHOVEL OR WEIGHTED LAWN ROLLER.
7. FOLLOW MANUFACTURERS' GUIDANCE FOR STAKING. IF MANUFACTURERS' INSTRUCTIONS DO NOT SPECIFY SPACING, STAKES SHALL BE PLACED ON 4' CENTERS AND EMBEDDED A MINIMUM OF 6" INTO THE GROUND. 3" OF THE STAKE SHALL PROTRUDE FROM THE TOP OF THE LOG. STAKES THAT ARE BROKEN PRIOR TO INSTALLATION SHALL BE REPLACED.

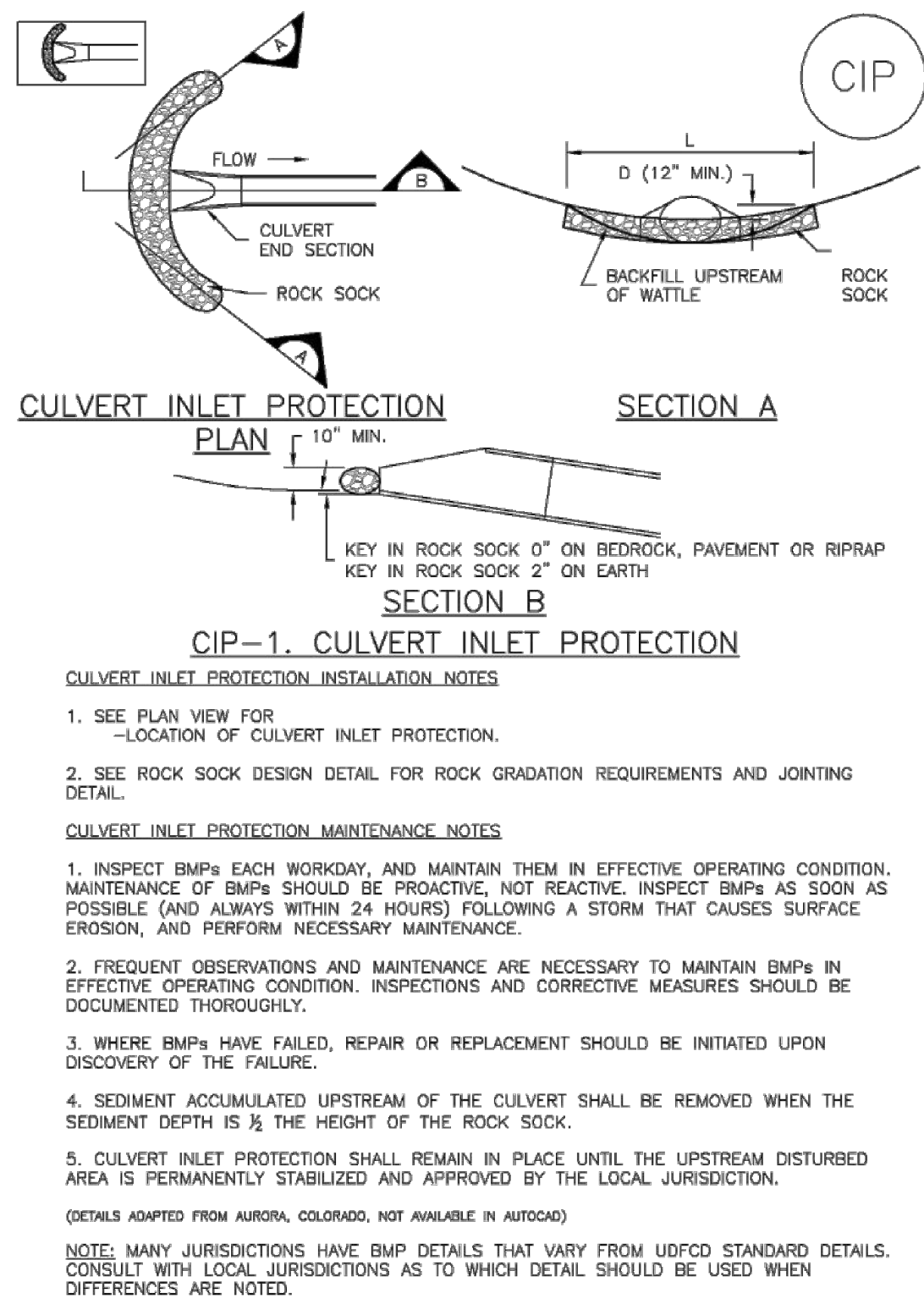
SEDIMENT CONTROL LOG MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
 2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
 3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
 4. SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOG SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP. TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 1/2 OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.
 5. SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION. IF DISTURBED AREAS EXIST AFTER REMOVAL, THEY SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.
- (DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO, JEFFERSON COUNTY, COLORADO, DOUGLAS COUNTY, COLORADO, AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)
- NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

November 2010 Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3 SCL-5

Inlet Protection (IP)

SC-6



August 2013 Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3 IP-7

SC-6

Inlet Protection (IP)

GENERAL INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
-LOCATION OF INLET PROTECTION.
-TYPE OF INLET PROTECTION (IP-1, IP-2, IP-3, IP-4, IP-5, IP-6)
2. INLET PROTECTION SHALL BE INSTALLED PROMPTLY AFTER INLET CONSTRUCTION OR PAVING IS COMPLETE (TYPICALLY WITHIN 48 HOURS). IF A RAINFALL/RUNOFF EVENT IS FORECAST, INSTALL INLET PROTECTION PRIOR TO ONSET OF EVENT.
3. MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

INLET PROTECTION MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED AS NECESSARY TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN STORAGE VOLUME REACHES 50% OF CAPACITY, A DEPTH OF 6" WHEN SILT FENCE IS USED, OR 1/2 OF THE HEIGHT FOR STRAW BALES.
5. INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED, UNLESS THE LOCAL JURISDICTION APPROVES EARLIER REMOVAL OF INLET PROTECTION IN STREETS.
6. WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

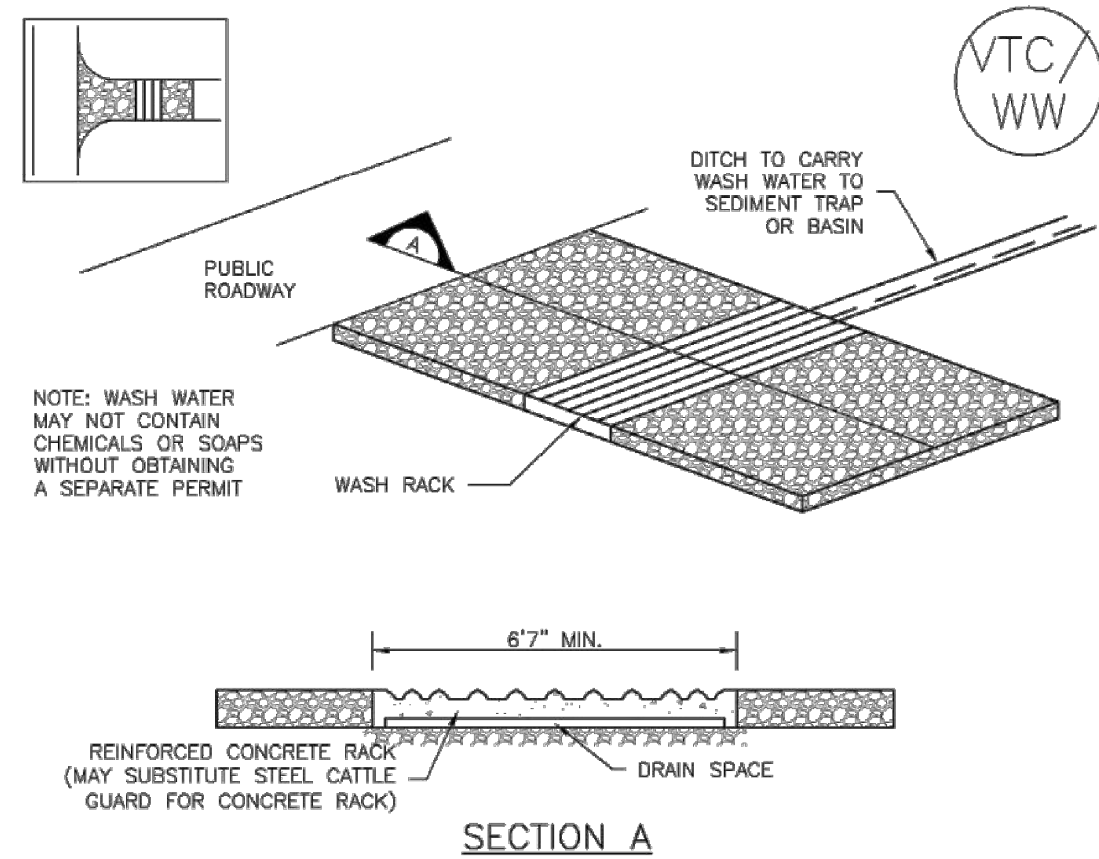
NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF INLET PROTECTION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY PROPRIETARY INLET PROTECTION METHODS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY INLET PROTECTION; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.

NOTE: SOME MUNICIPALITIES DISCOURAGE OR PROHIBIT THE USE OF STRAW BALES FOR INLET PROTECTION. CHECK WITH LOCAL JURISDICTION TO DETERMINE IF STRAW BALE INLET PROTECTION IS ACCEPTABLE.

IP-8 Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3 August 2013

SM-4

Vehicle Tracking Control (VTC)



VTC-4 Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3 November 2010

SM-4

Vehicle Tracking Control (VTC)

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
-LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S).
-TYPE OF CONSTRUCTION ENTRANCE(S)/EXIT(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM).
2. CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.
3. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS.
4. STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
5. A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.
6. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, MS10 TO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.
5. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SWEEPING. SEDIMENT MAY NOT BE WASHED DOWN STORM SEWER DRAINS.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM CITY OF BROOMFIELD, COLORADO, NOT AVAILABLE IN AUTOCAD)

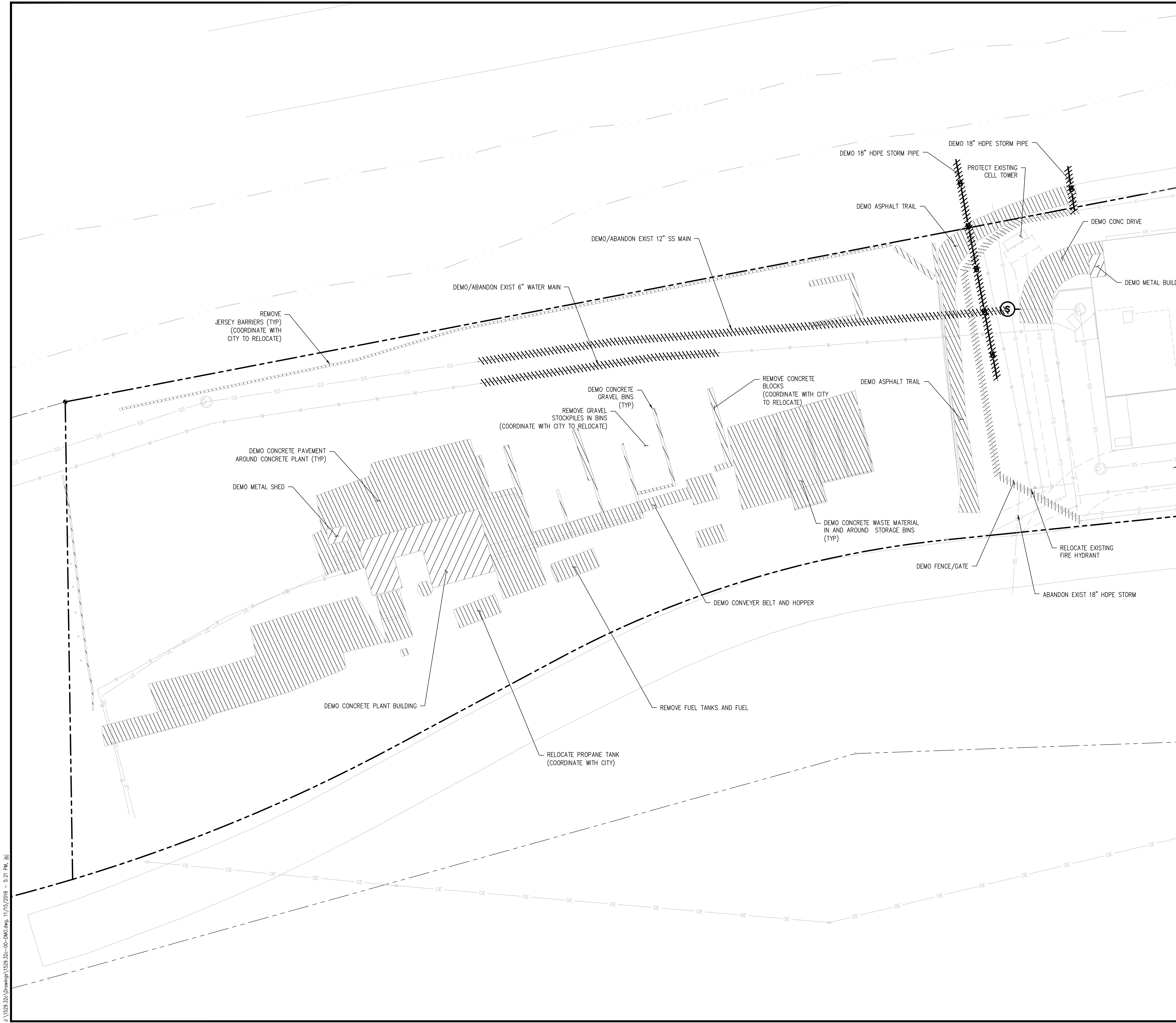
VTC-6 Urban Drainage and Flood Control District
Urban Storm Drainage Criteria Manual Volume 3 November 2010

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CITY OF IDAHO SPRINGS
WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO
EROSION CONTROL DETAILS

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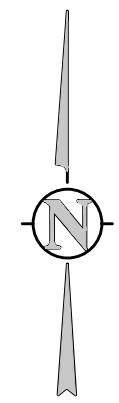


DEMOLITION LEGEND

- DEMO SUBSURFACE FEATURE
- DEMO SURFACE FEATURE
- DEMO BUILDING
- ABANDON SUBSURFACE FEATURE
- LIMITS OF SAWCUT
- REMOVE EXISTING TREE
- PROTECT EXISTING TREE

DEMOLITION NOTES:

- CONTRACTOR TO FIELD VERIFY ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. REFER TO GENERAL NOTES FOR UTILITY LOCATION AND PROTECTION.
- ACTUAL LIMITS MAY VARY, CONTRACTOR IS RESPONSIBLE FOR ADJUSTING LIMITS OF DEMOLITION AND CONSTRUCTION AS NECESSARY. COORDINATE DEMOLITION REQUIREMENTS, LIMITS OF DEMOLITION, SALVAGE ITEMS, PROTECTION OF ITEMS TO REMAIN, TREES, FENCING, ETC. WITH OWNER, ARCHITECT, ENGINEER, AND RELEVANT CONSTRUCTION AND PHASING PLANS.
- COORDINATE BUILDING DEMOLITION AND SALVAGE OF ANY MATERIALS WITH CITY.
- REPLACE EXISTING FLATWORK AT UTILITY TRENCHES AS REQUIRED.
- ALL SAWCUTTING AND PAVEMENT REMOVAL SHOULD BE TO THE NEAREST JOINT.
- ALL DRY UTILITY AND ELECTRIC DEMOLITION OR RELOCATION SHOULD BE COORDINATED WITH PROPERTY OWNER, UTILITY OWNER, MECHANICAL ENGINEER, AND ARCHITECT PRIOR TO CONSTRUCTION.
- ALL NECESSARY EROSION AND SEDIMENTATION CONTROLS MUST BE INSTALLED PRIOR TO CONSTRUCTION.
- CONTRACTOR TO COMPLY WITH ALL REGULATORY REQUIREMENTS FOR HAZARDOUS MATERIAL REMOVAL AND DISPOSAL.
- REFER TO GENERAL NOTES FOR TREE PROTECTION. COORDINATE WITH LANDSCAPE ARCHITECT FOR TREE REMOVAL.
- CONTRACTOR TO MAINTAIN SAFE PEDESTRIAN ACCESS. PROVIDE TEMPORARY ROUTE AND SIGNAGE AS NEEDED.
- CONTRACTOR TO TAKE NECESSARY PRECAUTIONS TO PROTECT AND MAINTAIN SERVICES DURING CONSTRUCTION.



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CHECKED BY: CEC

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WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO

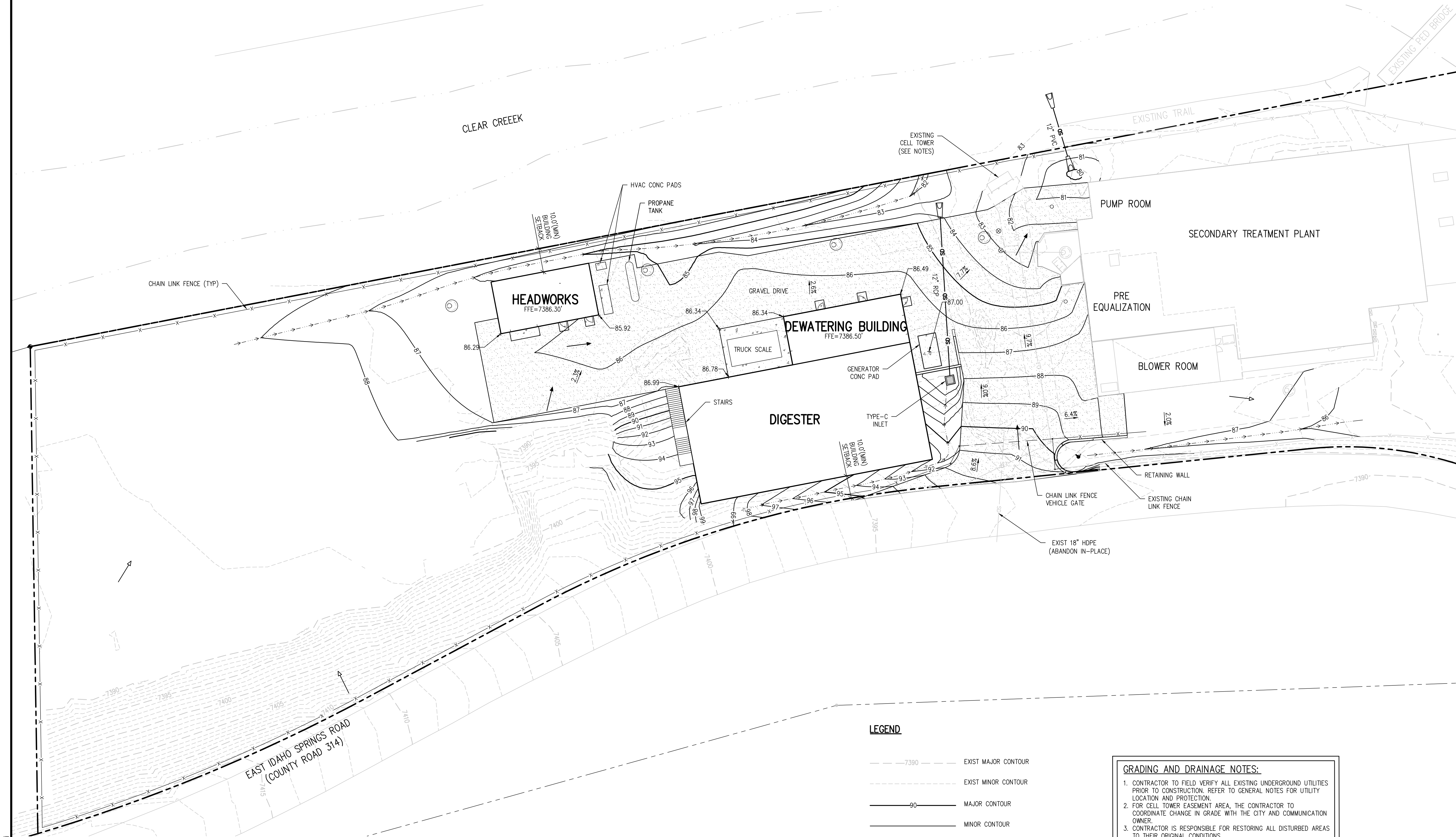
SITE DEMOLITION PLAN

SHEET NO.
C001

REVISION DESCRIPTION

NO. DATE DESD DWN

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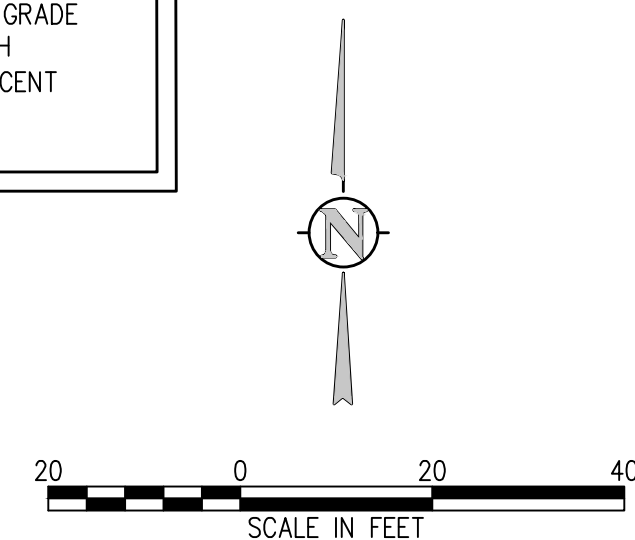


LEGEND

- 7390--- EXIST MAJOR CONTOUR
- EXIST MINOR CONTOUR
- 90--- MAJOR CONTOUR
- MINOR CONTOUR
- EXISTING DRAINAGE FLOW DIRECTION
- DEVELOPED DRAINAGE FLOW DIRECTION
- DRAINAGE SWALE
- SD EXIST STORM PIPE
- SD NEW STORM PIPE

GRADING AND DRAINAGE NOTES:

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. REFER TO GENERAL NOTES FOR UTILITY LOCATION AND PROTECTION.
2. FOR CELL TOWER EASEMENT AREA, THE CONTRACTOR TO COORDINATE CHANGE IN GRADE WITH THE CITY AND COMMUNICATION OWNER.
3. CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITIONS.
4. ALL SPOT ELEVATIONS ARE TO FINISHED GRADE OR FLOWLINE UNLESS OTHERWISE SPECIFIED.
5. IF WALL IS SHOWN, TW DENOTES THE FINISHED GRADE ADJACENT TO THE HIGH SIDE OF THE WALL. BW DENOTES THE FINISHED GRADE ADJACENT TO THE LOW SIDE OF THE WALL. REFER TO ARCH PLANS/DETAILS FOR WALL ELEVATIONS BEYOND THE ADJACENT FINISHED GRADES (EXPOSED WALL CAP/FOOTER, ETC.)



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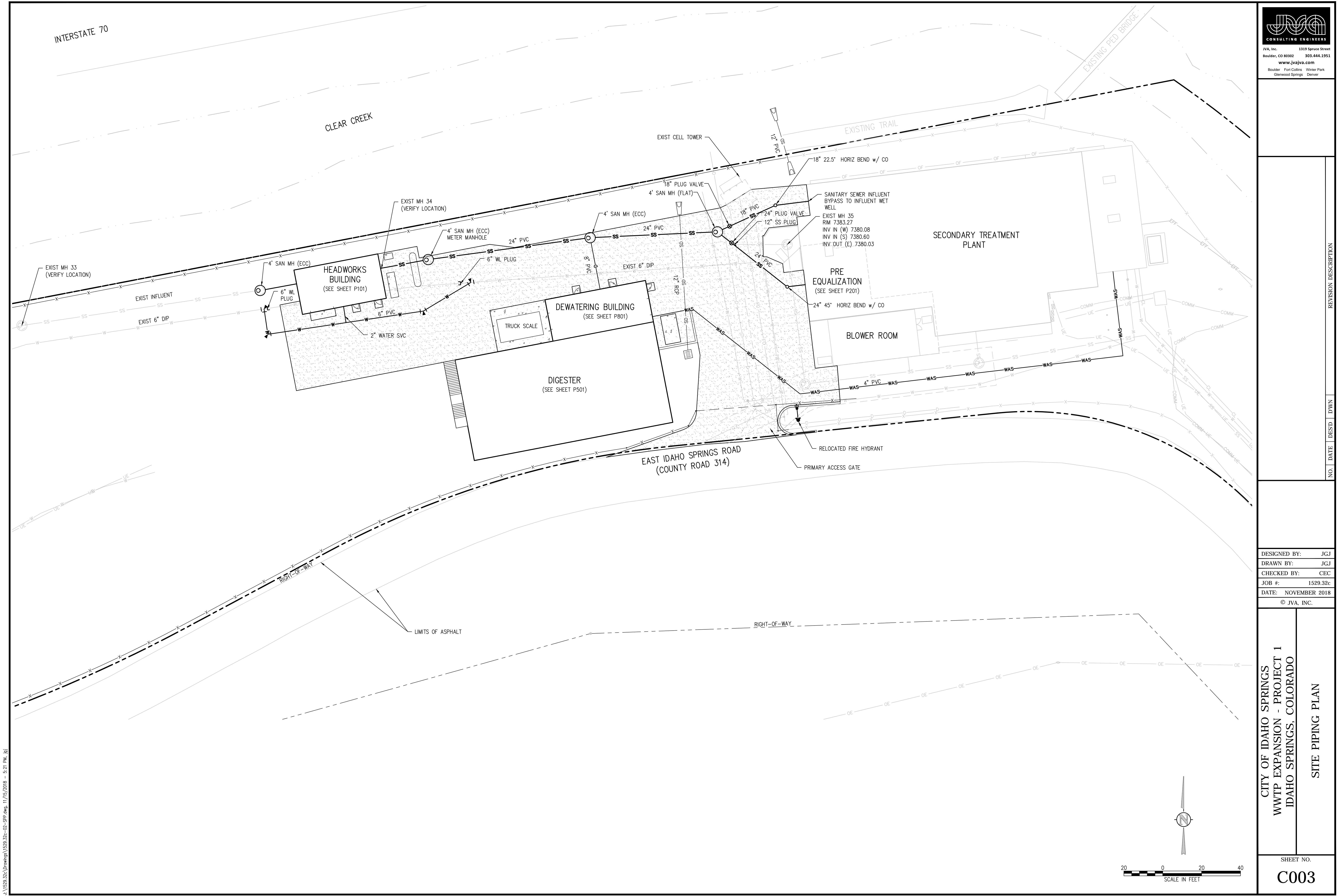
CIVIL SITE PLAN

SHEET NO.

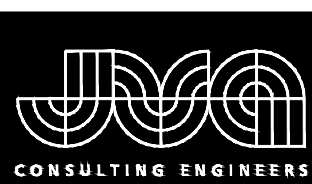
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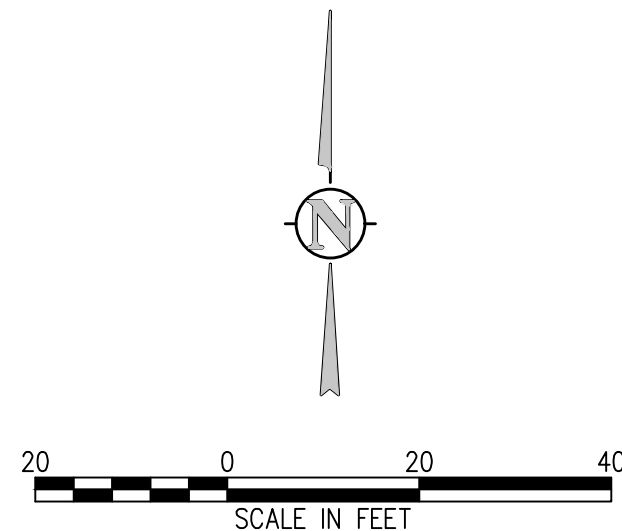
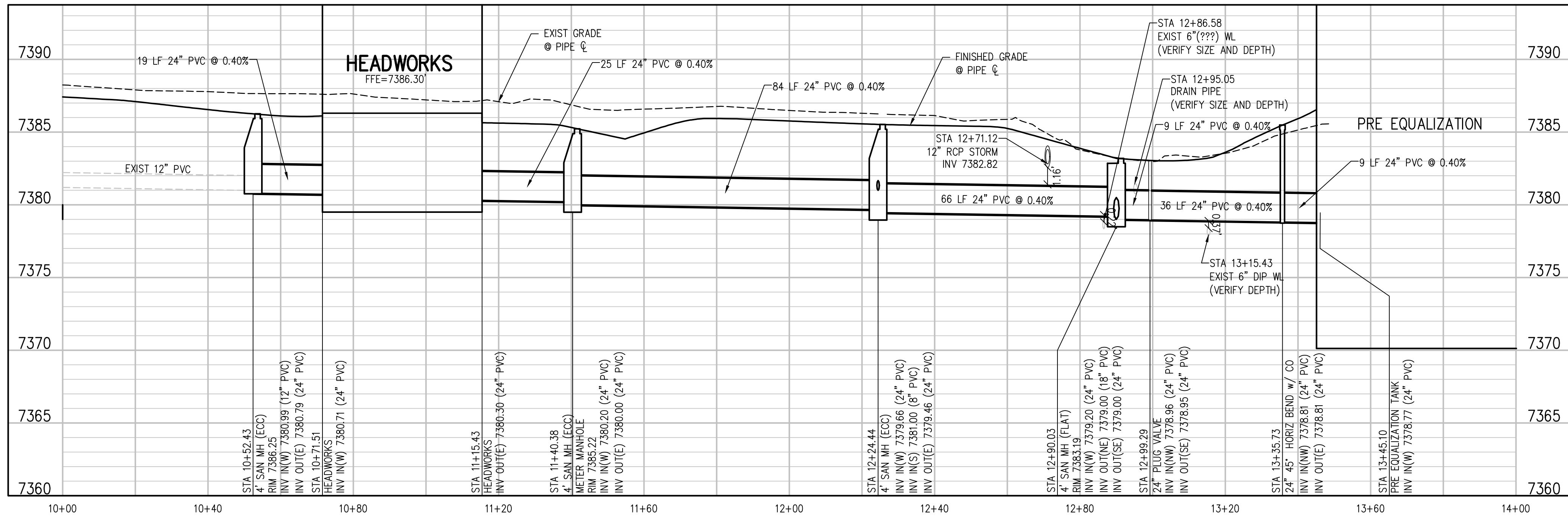
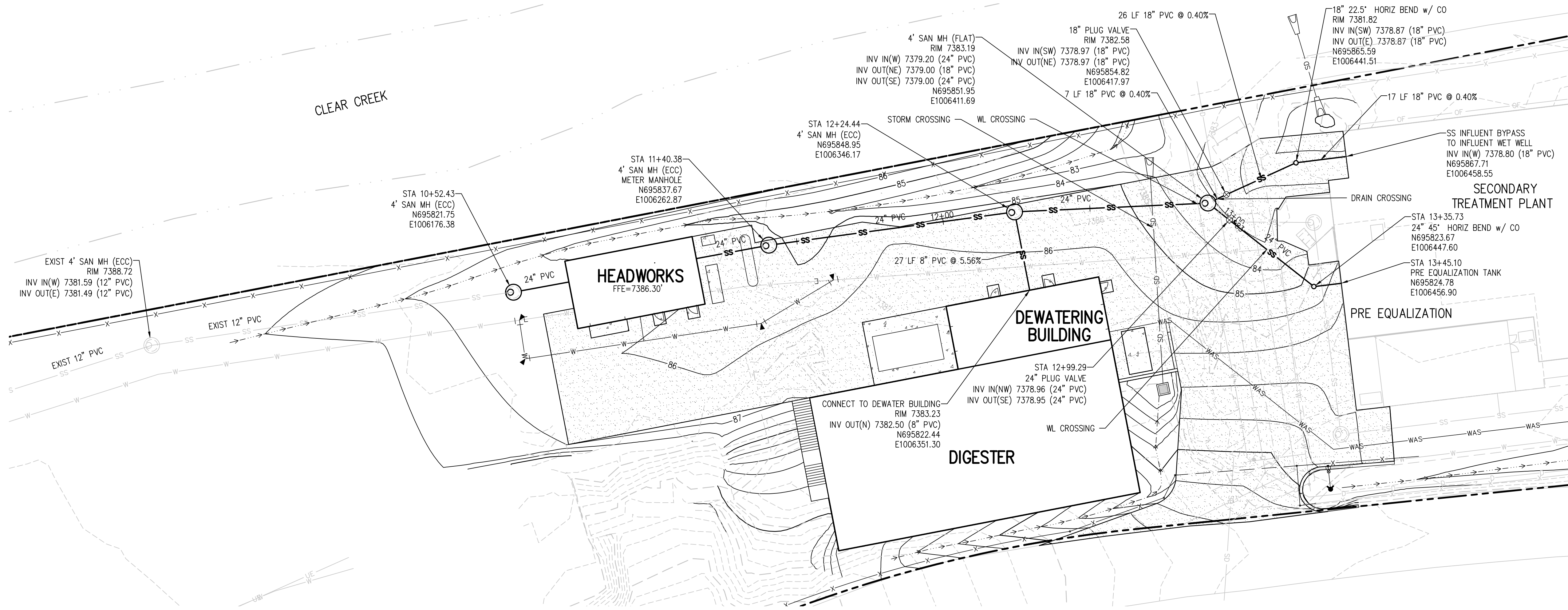
CITY OF IDAHO SPRINGS
WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO

SITE PIPING PLAN

SHEET NO.

C003

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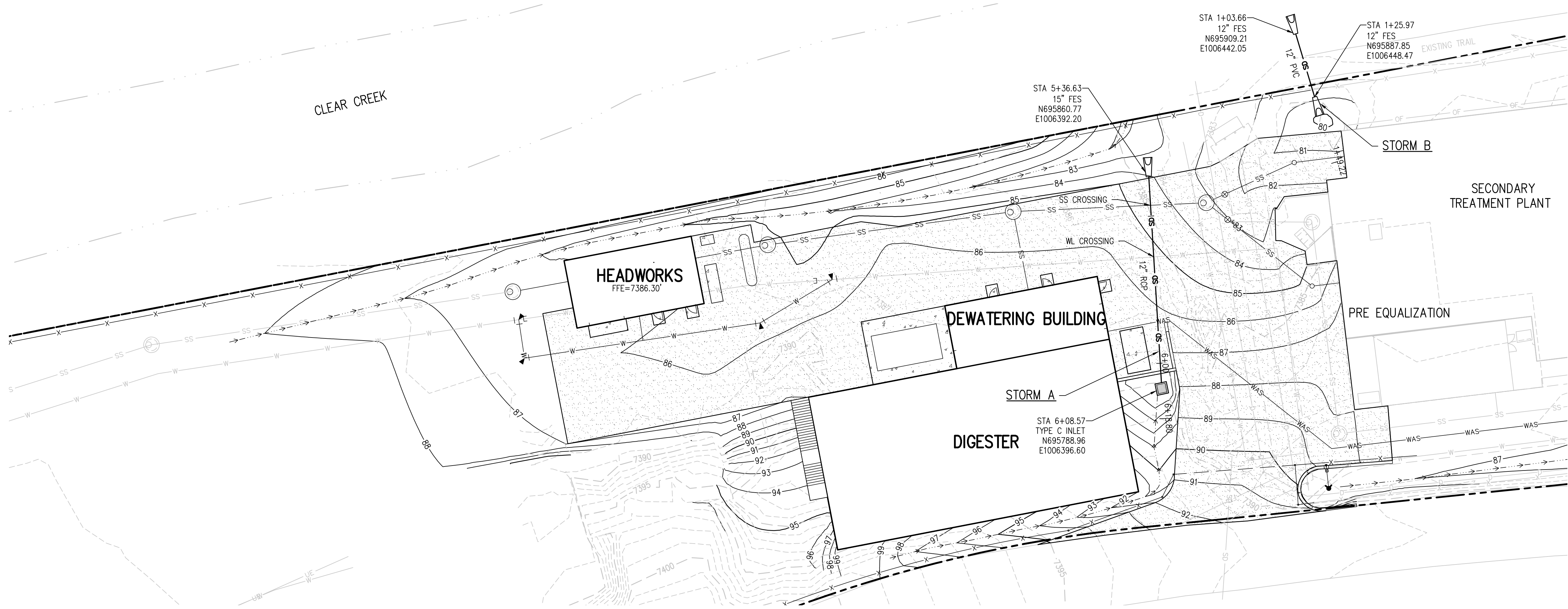
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C004

SANITARY SEWER PLAN AND PROFILE

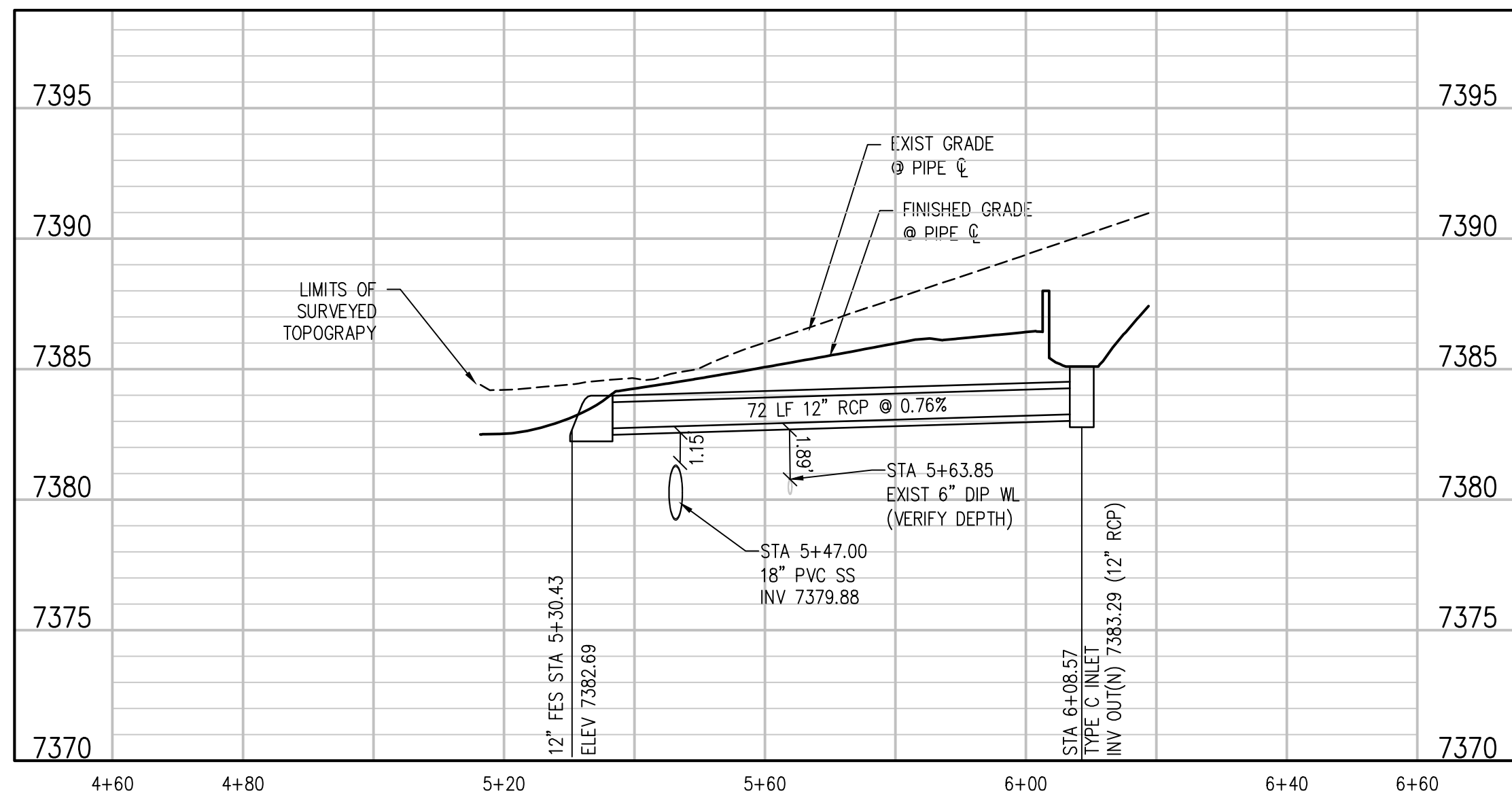
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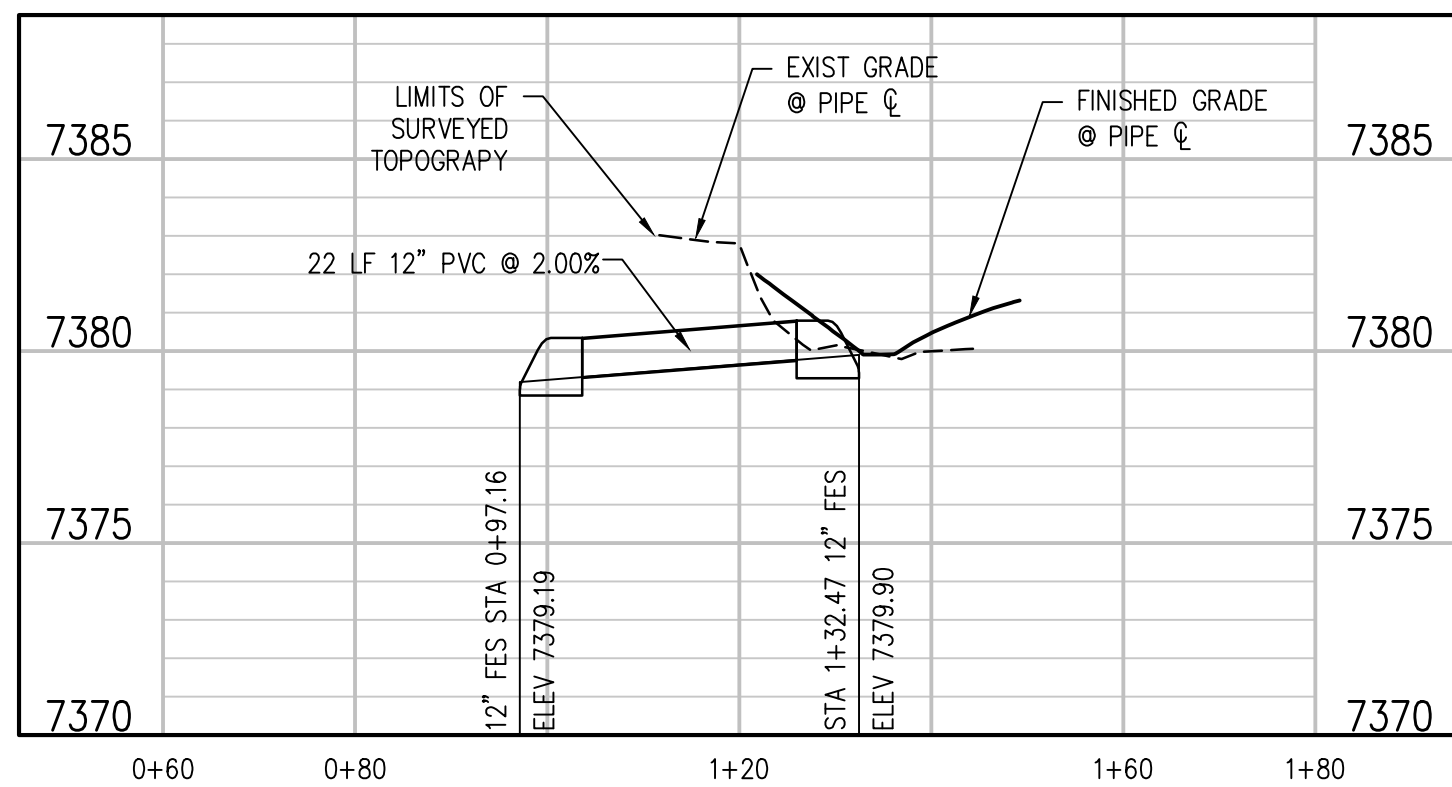
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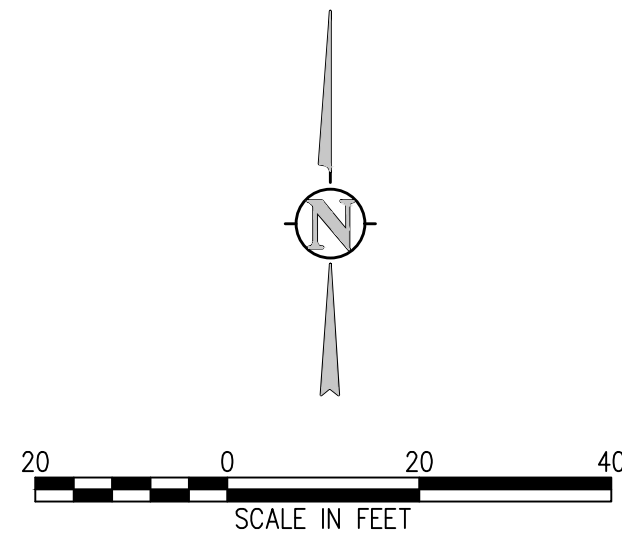
SANITARY SEWER PLAN
SCALE: 1"=20'

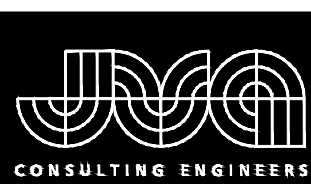


STORM A PROFILE
SCALE: 1"=20' HORIZ
1"=5' VERT



STORM B PROFILE
SCALE: 1"=20' HORIZ
1"=5' VERT



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CITY OF IDAHO SPRINGS WWTP EXPANSION - PROJECT 1 IDAHO SPRINGS, COLORADO	STORM DRAIN PLAN AND PROFILE
SHEET NO. C005	



ROADBASE SECTION DETAIL

NTS



NTS

FENCE MATERIAL

ALL POSTS 3 IN CLEAR FROM BOTTOM OF CONCRETE BASE

FABRIC HEIGHT	END, CORNER & LINE BRACE POSTS		LINE POSTS		TOP & BRACE RAILS	
<i>H</i>	ROUND PIPE I.D.	ROLL-FORMED STEEL	ROUND PIPE I.D.	ROLL-FORMED STEEL	ROUND PIPE I.D.	ROLL-FORMED STEEL
FEET	INCHES		INCHES		INCHES	
3 THRU 6	2.5	3.5 x 3.5	1.5	1.875 x 1.625	1.25	1.25 x 1.625
> 6 THRU 8	2.5	3.5 x 3.5	2.0	1.875 x 1.625	1.25	1.25 x 1.625
> 8 THRU 12	2.5	3.5 x 3.5	2.25	3.00 x 1.625	1.50	1.875 x 1.625

CHAIN LINK FENCE


NTS


3

- GENERAL NOTES:

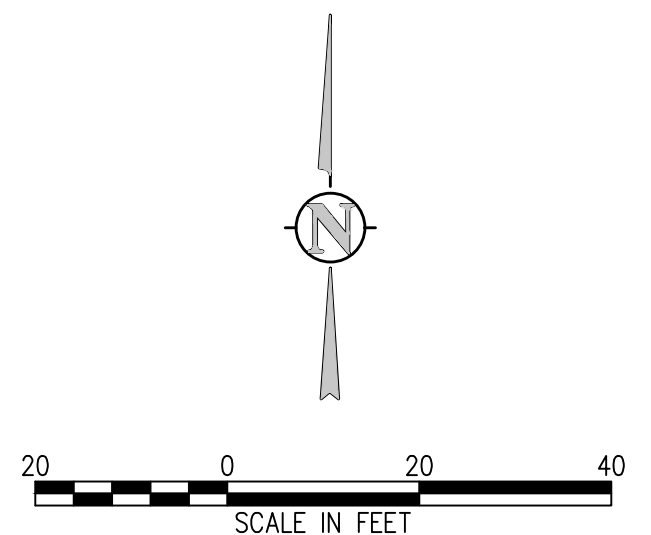
1. H (HEIGHT OF FABRIC) SHALL BE 72".
2. CHAIN LINK FENCE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 181.
3. CHAIN LINK FABRIC SHALL BE 2" MESH NO. 9 GAGE GALVANIZED OR ALUMINUM COATED WIRE SECURELY FASTENED TO TENSION WIRE, LINE POSTS, RAILS, BRACES AND STRETCHER BARS SPACED AS SHOWN HEREON. WIRE FASTENERS AND THE CUPS SHALL BE NO. 11 GAGE (W&M) GALVANIZED STEEL WIRE OR NO. 7 GAGE (B&S) ALUMINUM WIRE, AND HOG RINGS SHALL BE NO. 9 GAGE, ALL IN CONFORMANCE WITH ASTM F 626.
4. STEEL POSTS, RAILS AND GATE FRAMES SHALL CONFORM TO AASHTO M 181 TYPE 1, GRADE 40 OR GRADE 2.
5. AT THE CONTRACTOR'S OPTION, PIPE USED FOR FENCE CONSTRUCTION SHALL CONFORM TO THE DIMENSIONS AND WEIGHTS FOR EITHER "ORDINARY PIPE" OR "ALTERNATIVE PIPE" AS SHOWN ON SHEET 2. "ALTERNATIVE PIPE" SHALL BE HIGH STRENGTH STEEL PIPE MEETING THE REQUIREMENTS OF FED. SPEC. RR-F-191/3C.
6. TENSION WIRE SHALL BE CONTINUOUS BETWEEN END OR CORNER POST AND LINE BRACE POST. A TURNBUCKLE OR OTHER APPROVED TIGHTENING DEVICE SHALL BE USED FOR EACH CONTINUOUS SPAN OF TENSION WIRE.
7. TENSION WIRE SHALL BE AS SPECIFIED IN AASHTO M 181. CONCRETE FOOTINGS SHALL HAVE TOPS CROWNED AT GROUND LEVEL AND SHALL BE CLASS B.
8. CONCRETE WITH LIGHTWEIGHT AGGREGATE CONFORMING TO AASHTO M 195, WILL BE PERMITTED.
9. TERMINATION OF FENCE AT BRIDGES OR OTHER STRUCTURES SHALL BE AS SHOWN ON PLANS.
10. CHAIN LINK FABRIC UP TO 5 FEET HIGH SHALL BE KNUCKLED AT THE TOP AND BOTTOM SELVAGES. FABRIC OVER 5 FEET HIGH SHALL BE TWISTED AND BARBED ON THE TOP SELVAGE AND KNUCKLED ON THE BOTTOM SELVAGE.
11. FENCE MAY BE CONSTRUCTED WITH EITHER ROUND PIPE OR ROLL-FORMED STEEL COMPONENTS. THE CONTRACTOR SHALL STATE THE TYPE OF CONSTRUCTION AND TYPE OF LINE POST TO BE USED THROUGHOUT THE PROJECT, AT THE PRECONSTRUCTION CONFERENCE.

* ATTACH FABRIC TO ALL FENCE & GATE STRUCTURES AT 12" INTERVALS VERTICALLY & AT 20" HORIZONTALLY.

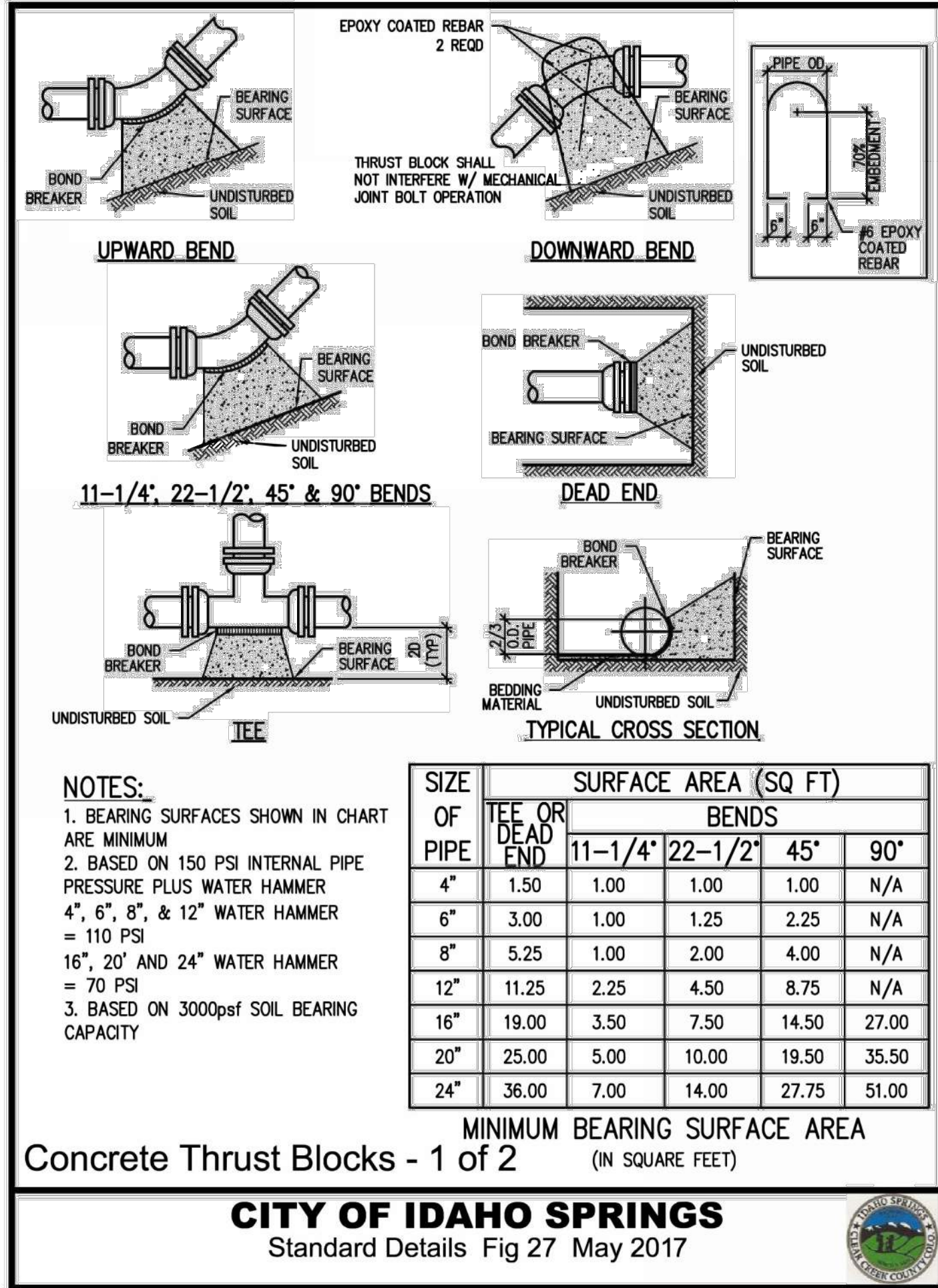
 TIGHTENER OR TURNBUCKLE SYMBOL,
 (SEE DETAILS ON SHEETS 2 & 3)

 TYPE OF LINE POST (ROUND PIPE OR ROLL-FORMED STEEL)
 SHALL BE AT THE OPTION OF THE CONTRACTOR
 UNLESS OTHERWISE SHOWN ON THE PLANS.

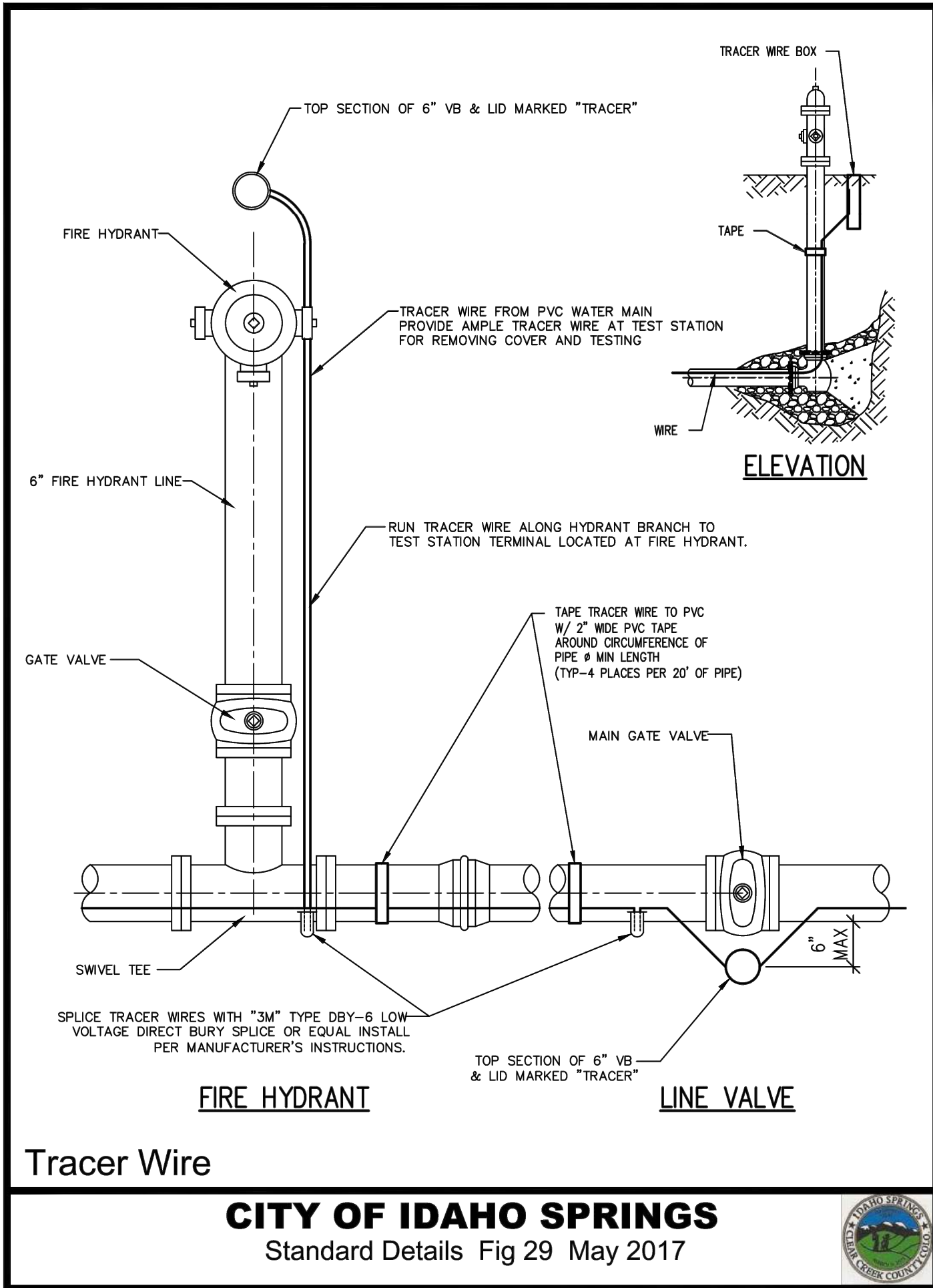
+ BRACE RAIL WILL NOT BE REQUIRED FOR 36", 42" OR 48" FABRIC HEIGHTS. BRACE RAIL FOR FENCE WITH ROLL-FORMED STEEL ELEMENTS IS 12" BELOW THE TOP RAIL, (SEE SHEET 3).



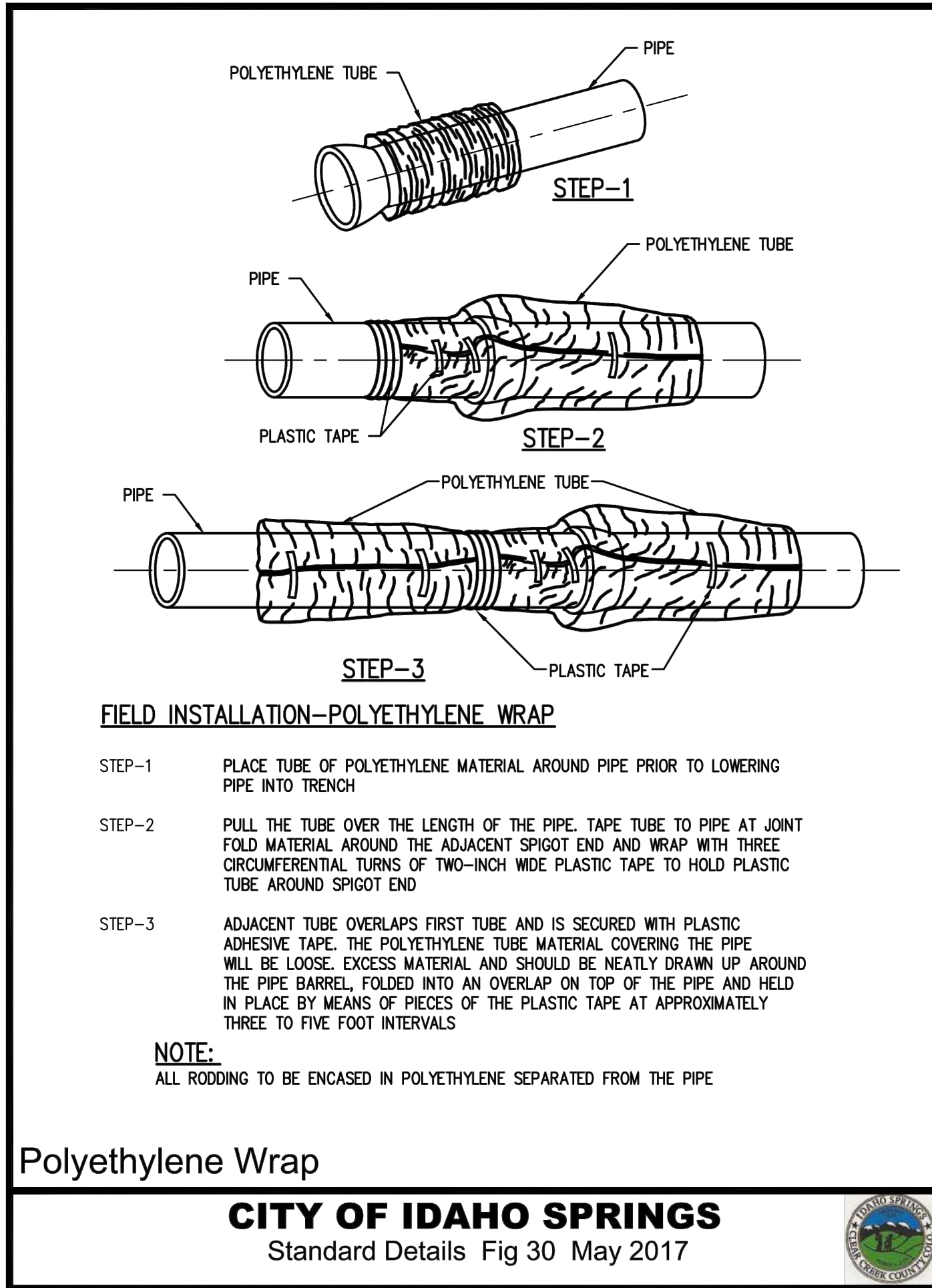
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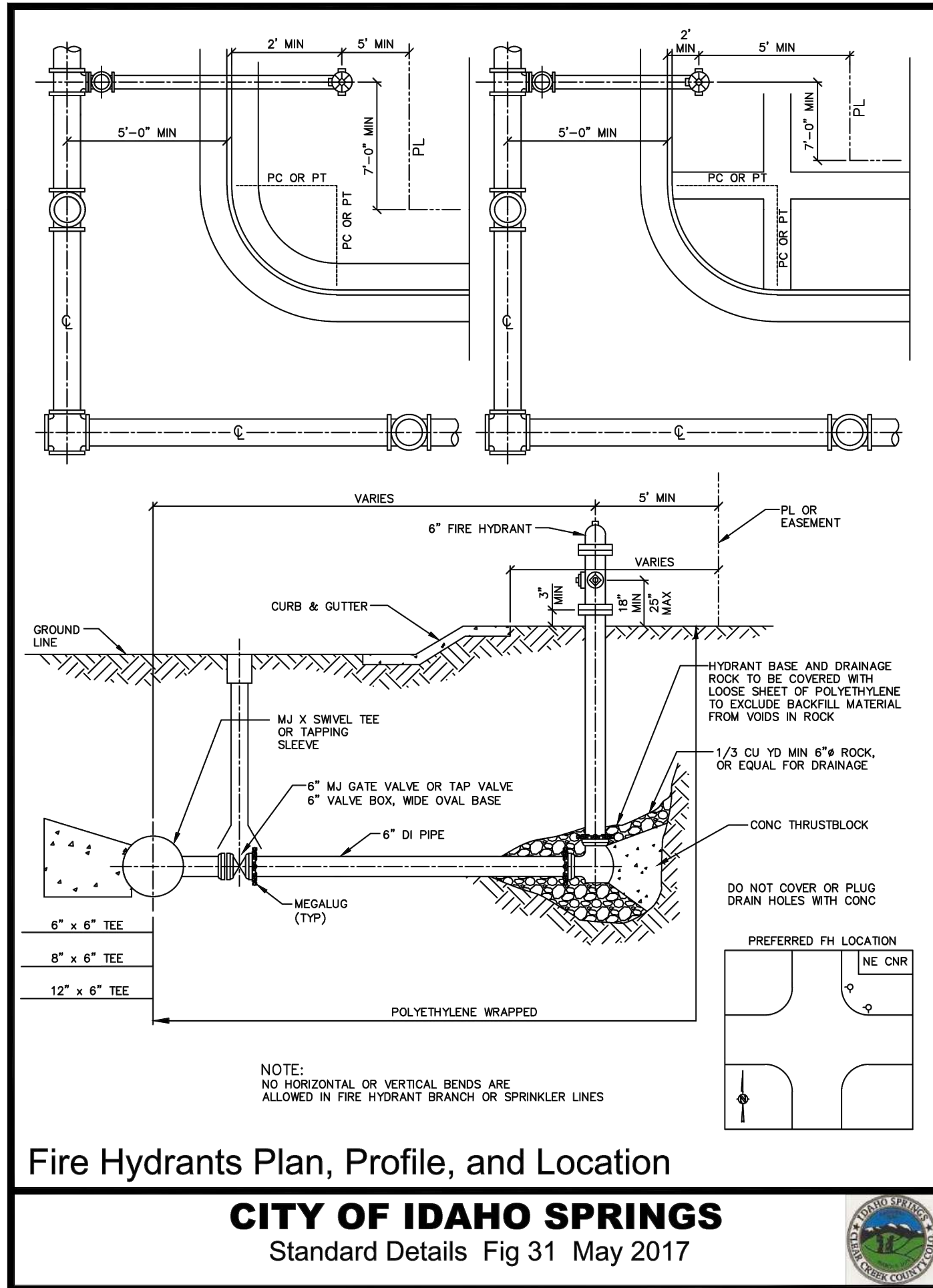
FILENAME: FIG 27 - CONCRETE THRUST BLOCKS.DWG



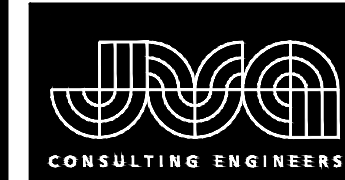
FILENAME: FIG 29 - TRACER WIRE.DWG



FILENAME: FIG 30 - POLYETHYLENE WRAP.DWG



FILENAME: FIG 31 - FIRE HYDRANTS PLAN.DWG



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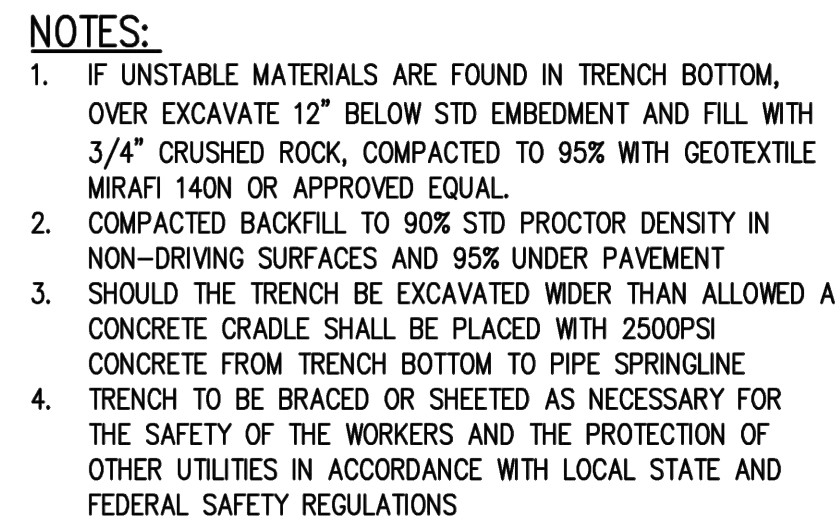
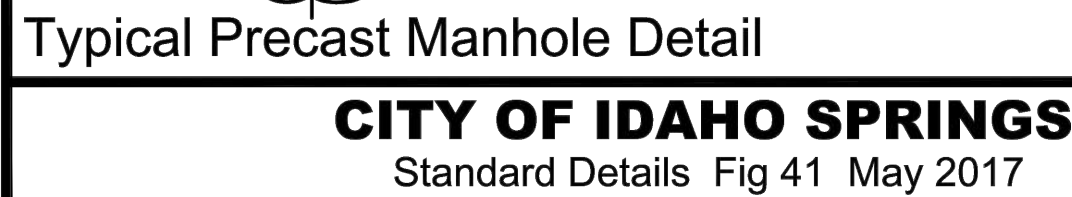
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WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO

SITE PIPING DETAILS

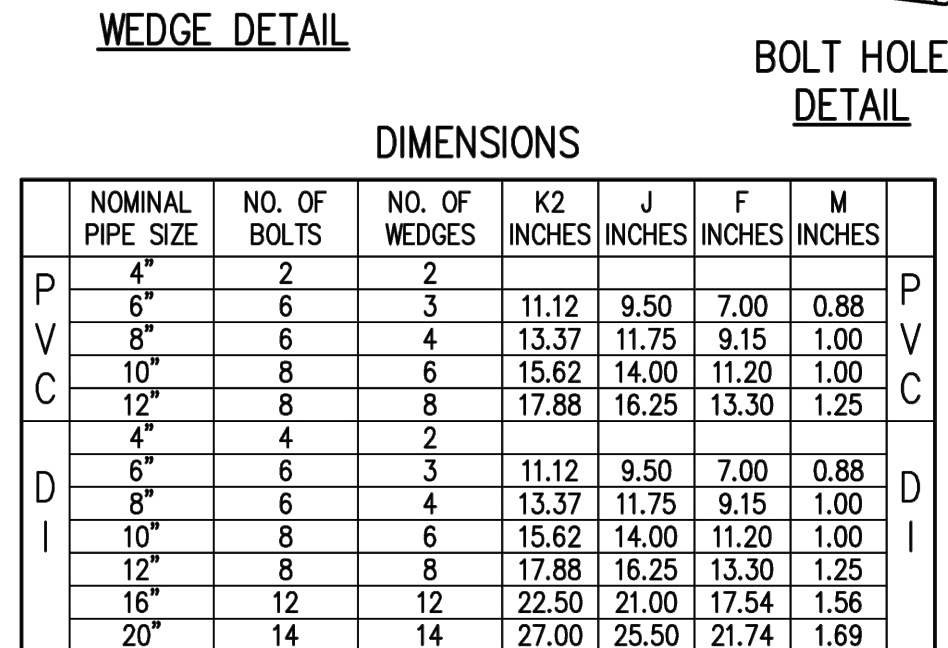
SHEET NO.

CD002



Typical Water & Sanitary Sewer Trench

CITY OF IDAHO SPRINGS
Standard Details Fig 45 May 2017



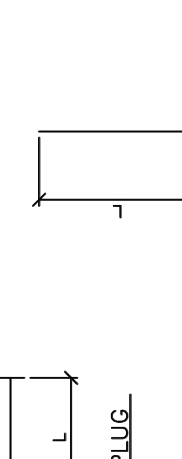
Mechanical Joint Restraint

CITY OF IDAHO SPRINGS
Standard Details Fig 24 May 2017

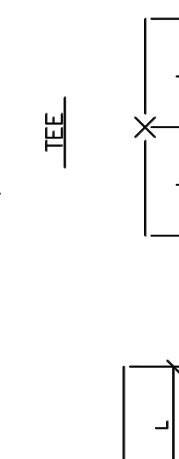


NOTES:


1. LENGTH OF RESTRAINED PIPE MEASURED EACH WAY FROM VALVES AND BENDS.
2. CLAMPS, RODS & MEGALUGS NOT ALLOWED FOR 24" & LARGER PIPES.
3. CHROMIUM, L42000H, C61000H, 90000M2 STEEL, HIGH STRENGTH.
4. MIN 4.5" GROUND COVER REDD.
5. BASED ON 150 PSI INTERNAL PRESSURE.
6. MS = MILD STEEL ROD ASTM A 36.
7. HS = HIGH STRENGTH ROD ASTM A 193 GRADE B7.
8. NUTS SHALL BE ASTM A 597 GRADE A, OR B HEXAGON HEAVY SERIES. HS NUTS SHALL BE ASTM A 597 GRADE B.
9. SEE THE ROD DETAIL DRAWING, ALSO, THE ROD COUPLING DETAILS, CLAMP DETAILS AND SET CLAMP DETAILS.
10. THE MINIMUM JOINT LENGTH OF PIPE WHICH MUST BE RESTRAINED TOGETHER AND IS NOT NECESSARILY THE LENGTH OF THE RODS.
11. LENGTH OF RESTRAINED PIPE CHART IS ALSO FOR THE LENGTH OF JOINT RESTRAINT FOR MEGALUGS.
12. CROSSES MUST BE RESTRAINED IN ALL APPLICABLE DIRECTIONS.
13. 12" AND SMALLER IN LINE VALVES AND TEES SHALL HAVE A MECHANICAL JOINT RESTRAINT DEVICE ON EACH SIDE OF THE FITTING OR VALVE.
14. A SECOND VALVE WILL BE REDD TO BE CLOSED WHEN EXCAVATING NEXT TO A EXIST. VALVE.
15. ON PLUGS, TEES AND BENDS KIDCOCK SHALL BE USED IN ADDITION TO RESTRAINT.
16. WHEN REDDERS ARE USED ON VALVE INSTALLATIONS THE LENGTH OF RESTRAINT SHALL BE BASED ON THE FOLLOWING CHARTS:



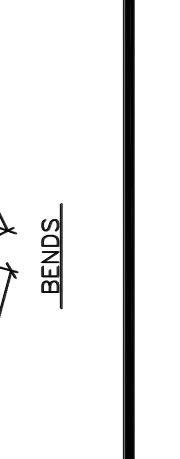
PLUG




TEE



90° BEND



VALVE



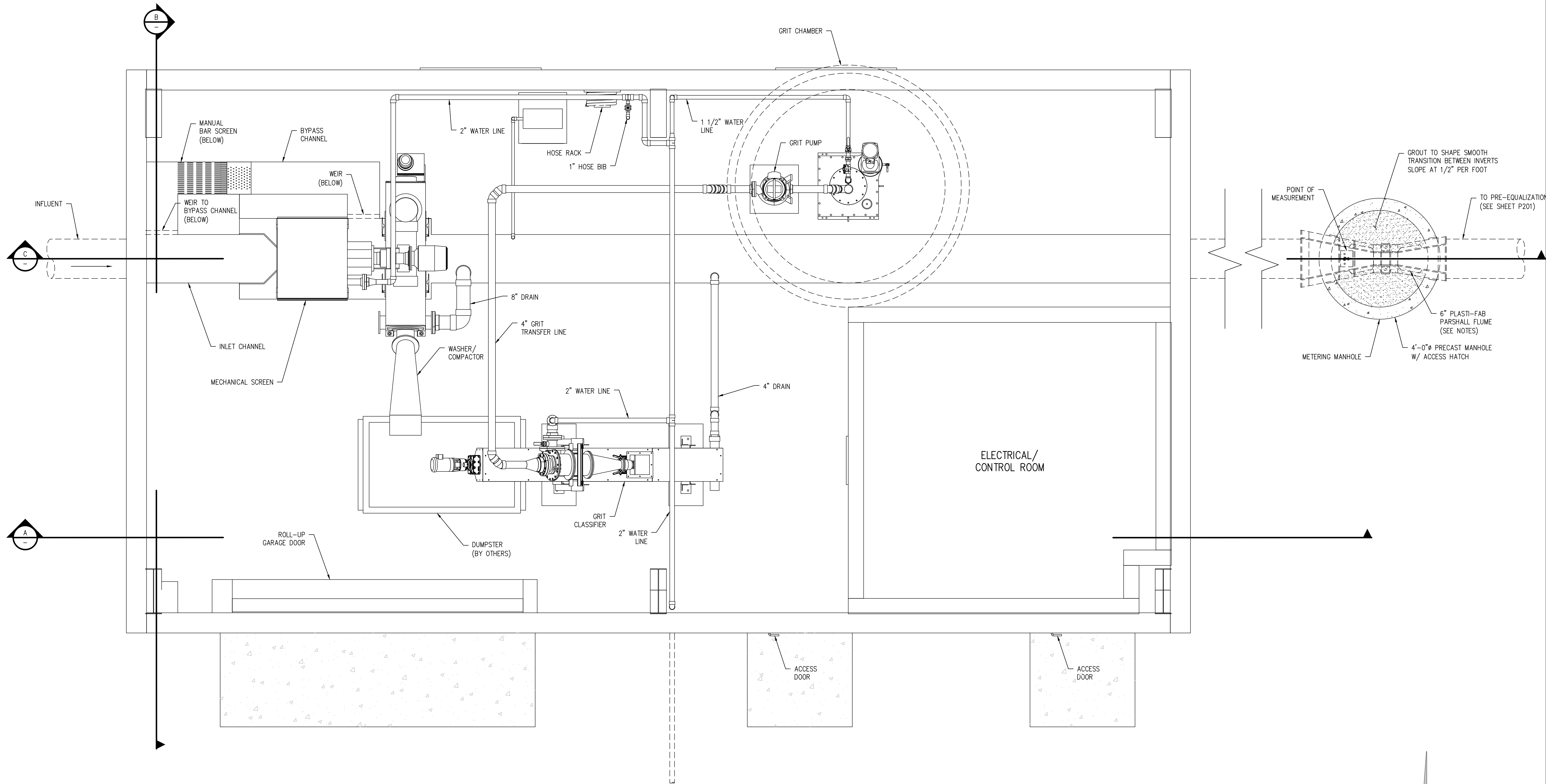
BENDS

Length of Restrained Pipe

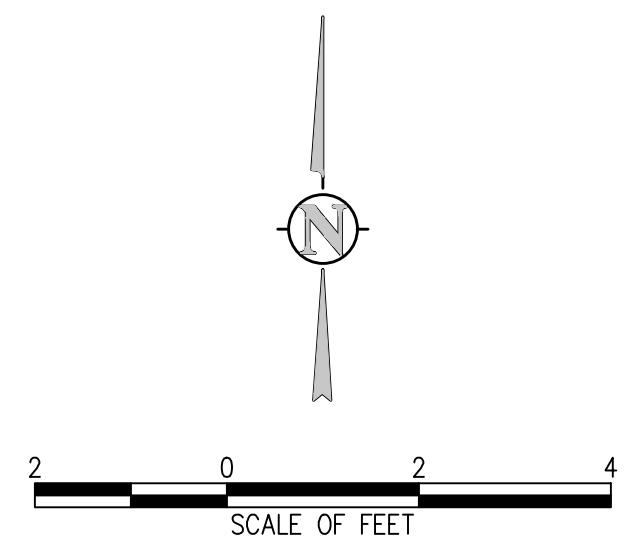
CITY OF IDAHO SPRINGS
Standard Details Fig 25 May 2017

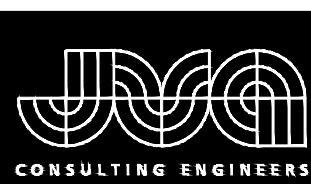


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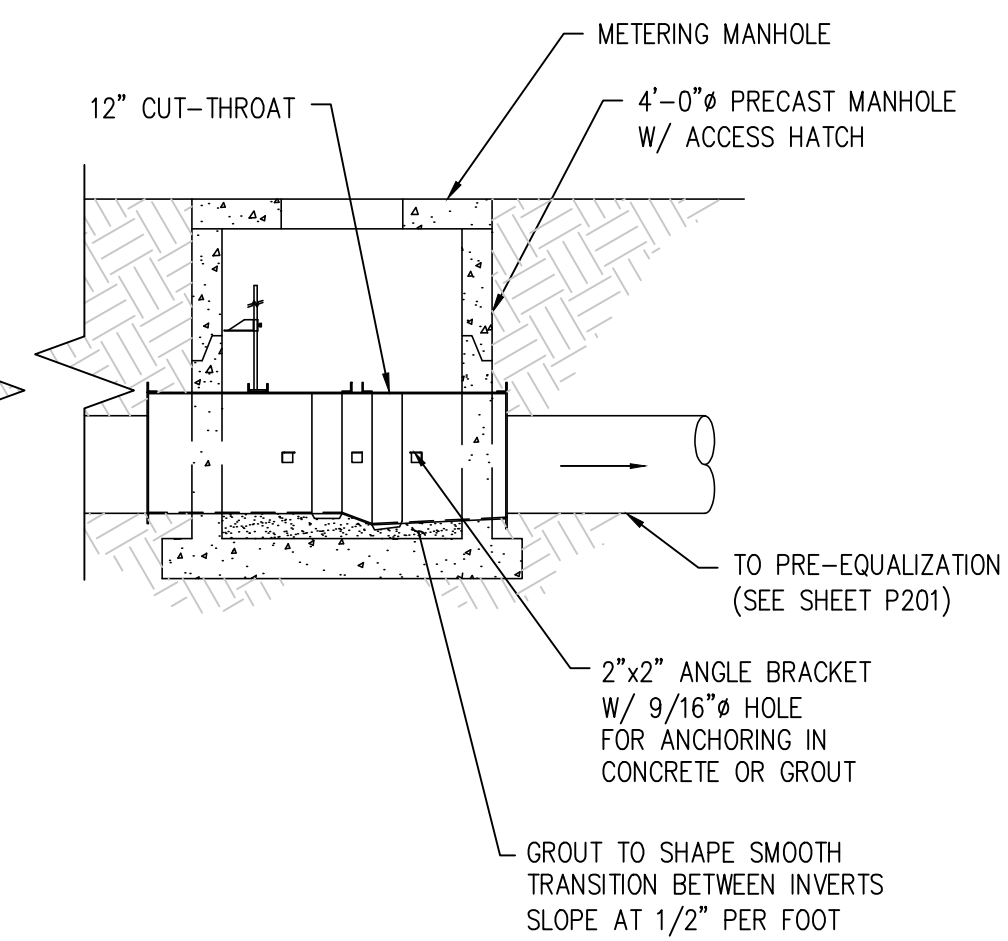
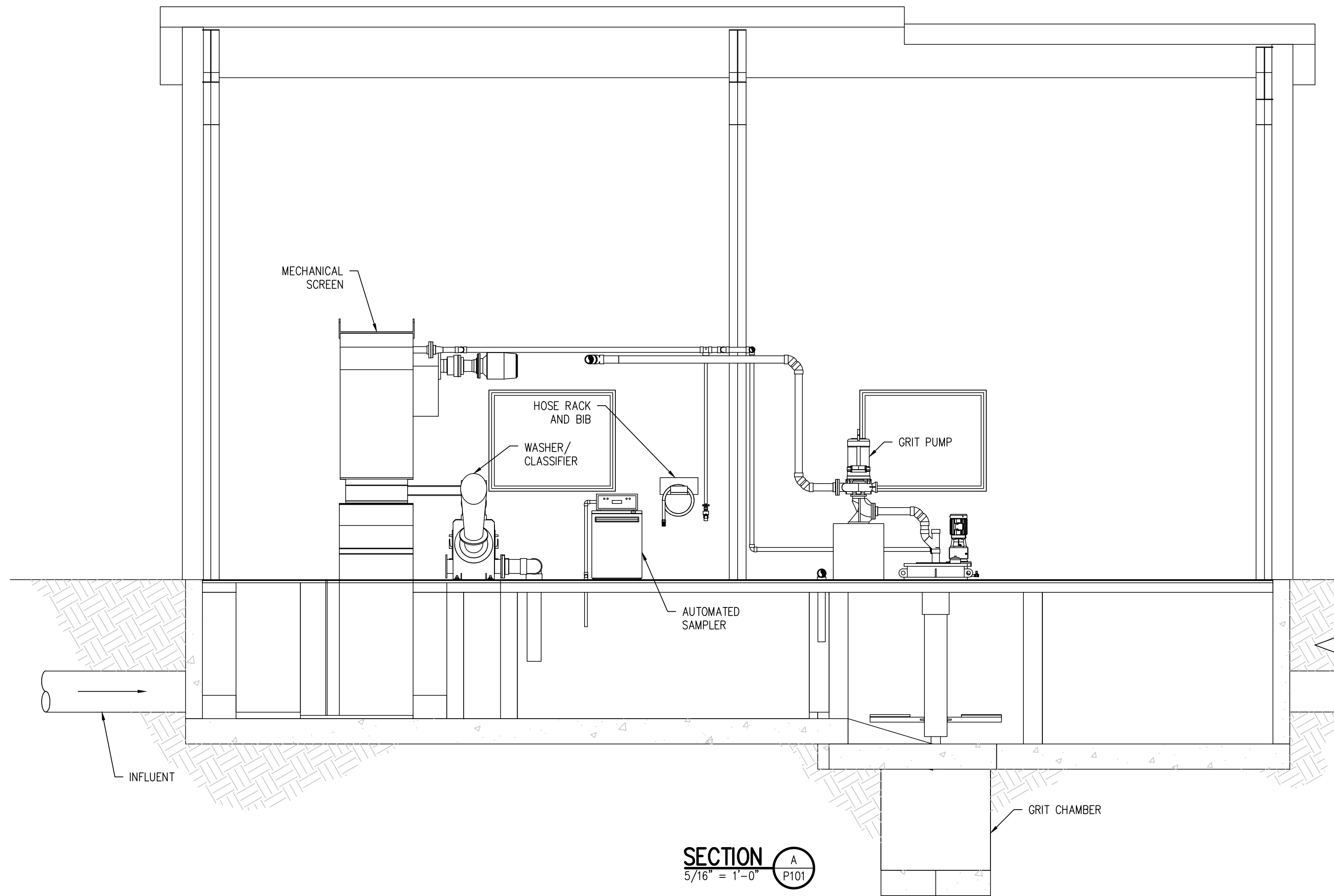
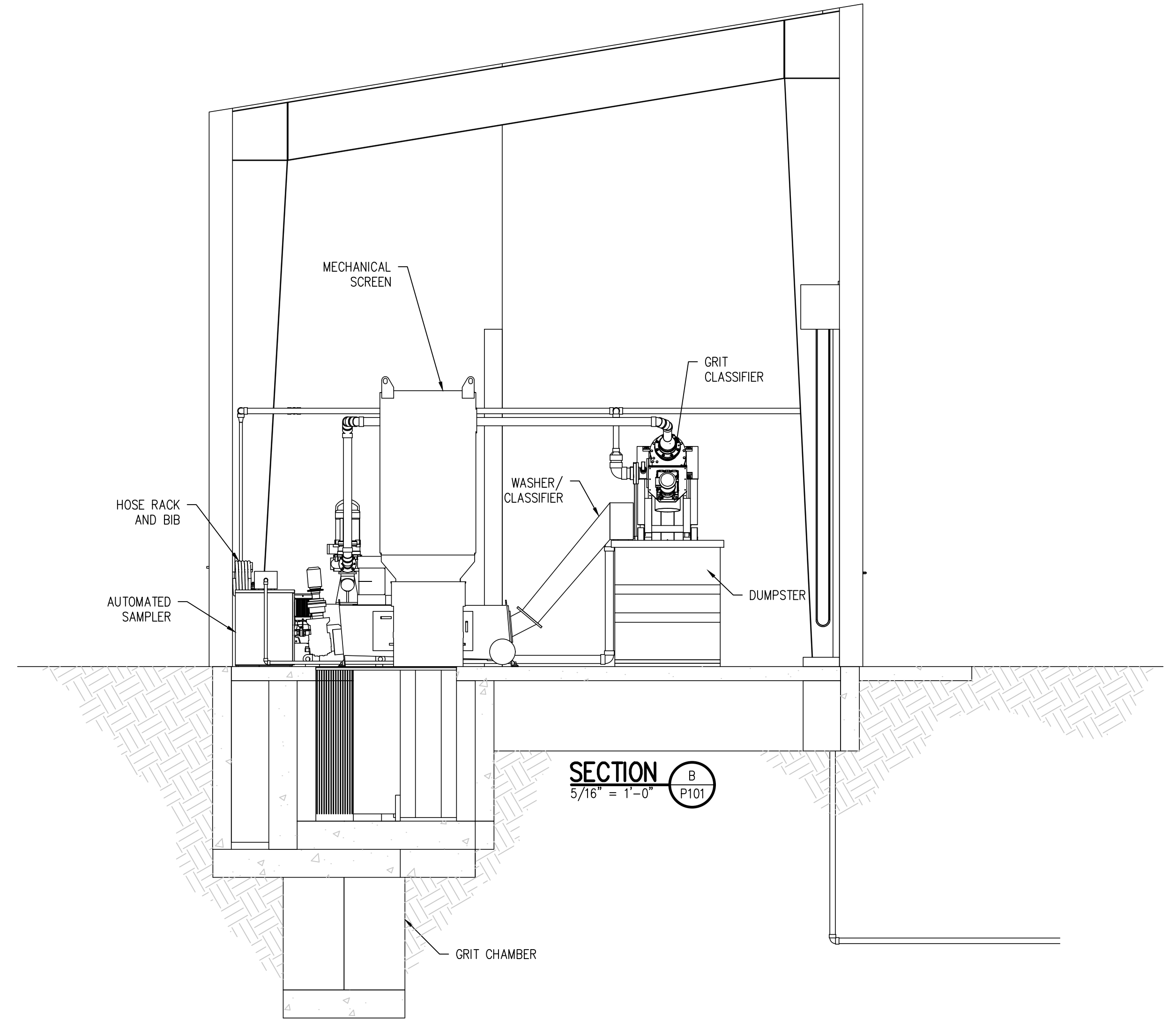
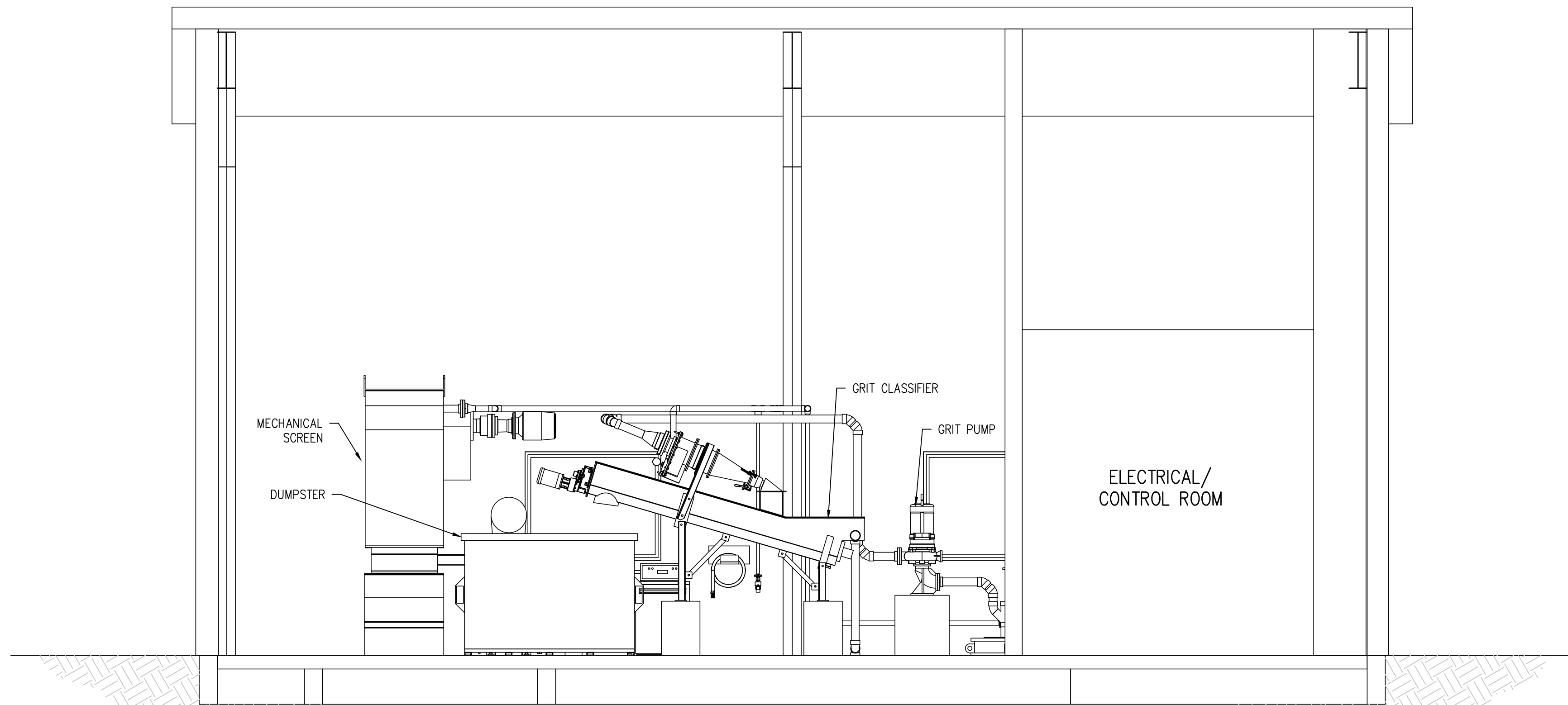


HEADWORKS PLAN
1/2" = 1'-0"



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CITY OF IDAHO SPRINGS WWTP EXPANSION - PROJECT 1 IDAHO SPRINGS, COLORADO	HEADWORKS PLAN
SHEET NO. P101	

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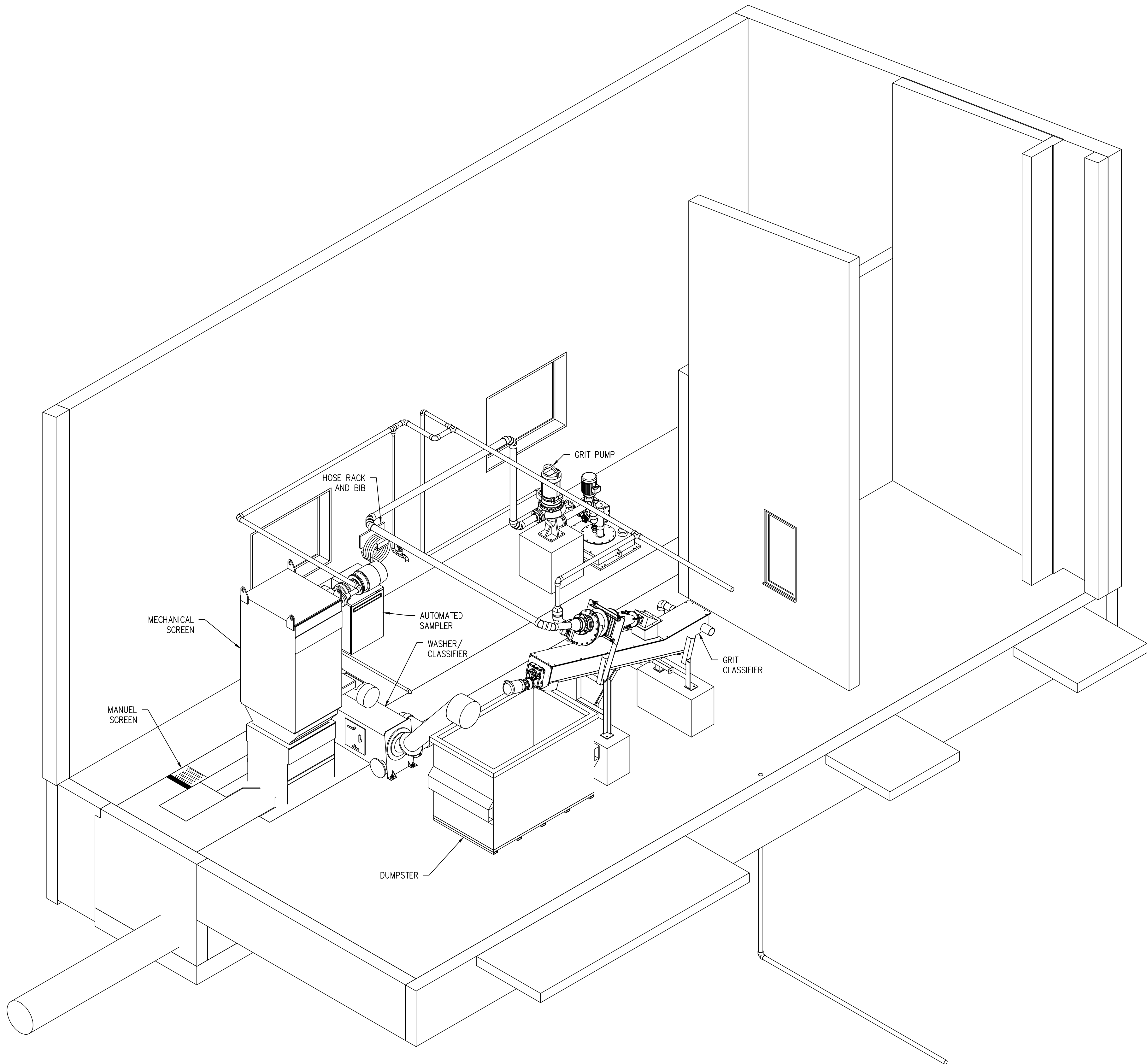
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WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO

HEADWORKS SECTIONS

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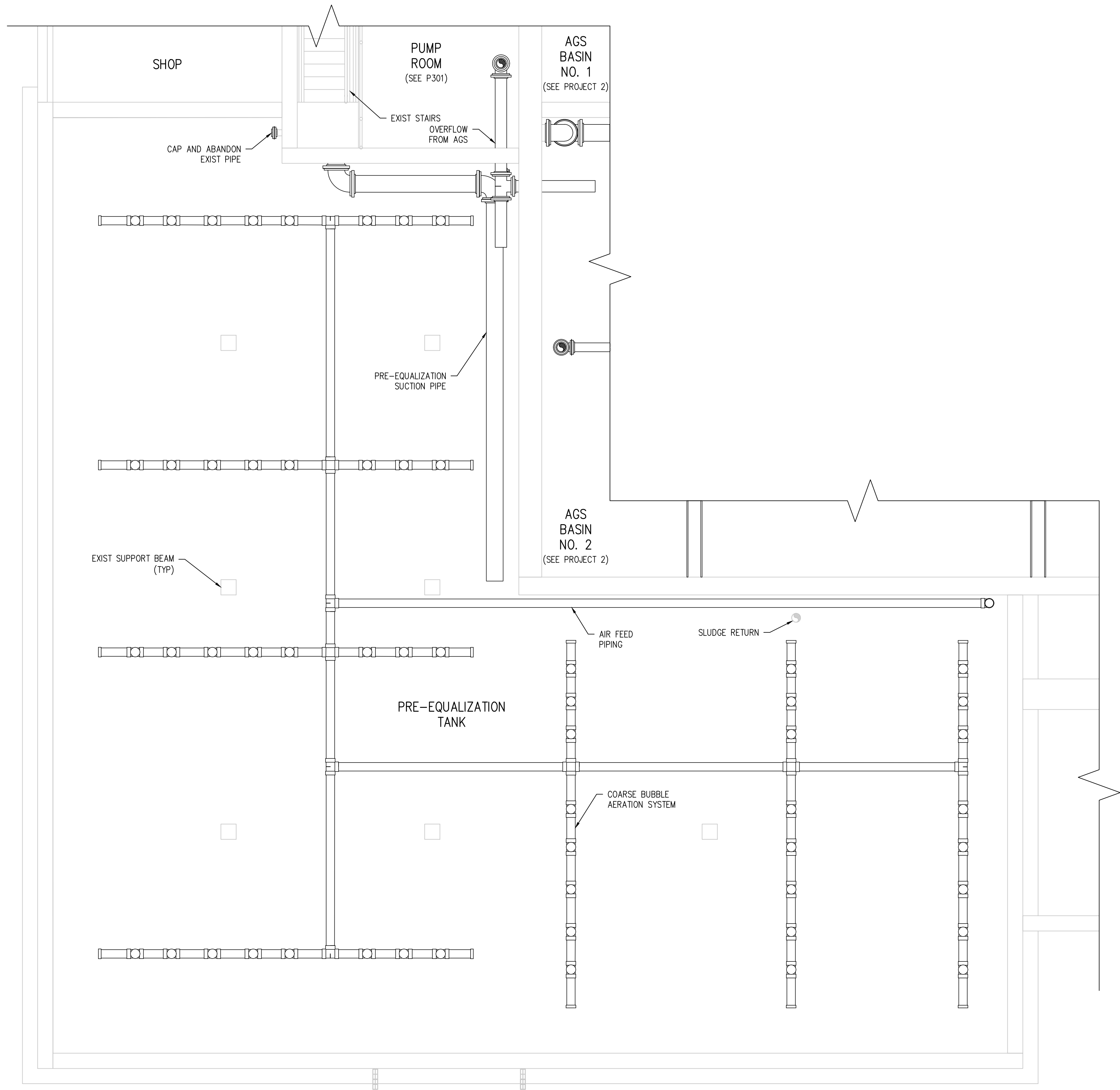
HEADWORKS ISOMETRIC
3/8" = 1'-0"

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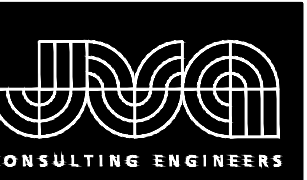
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CITY OF IDAHO SPRINGS WWTP EXPANSION - PROJECT 1 IDAHO SPRINGS, COLORADO	HEADWORKS ISOMETRIC

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PRE-EQUALIZATION TANK PLAN
1/4" = 1'-0"



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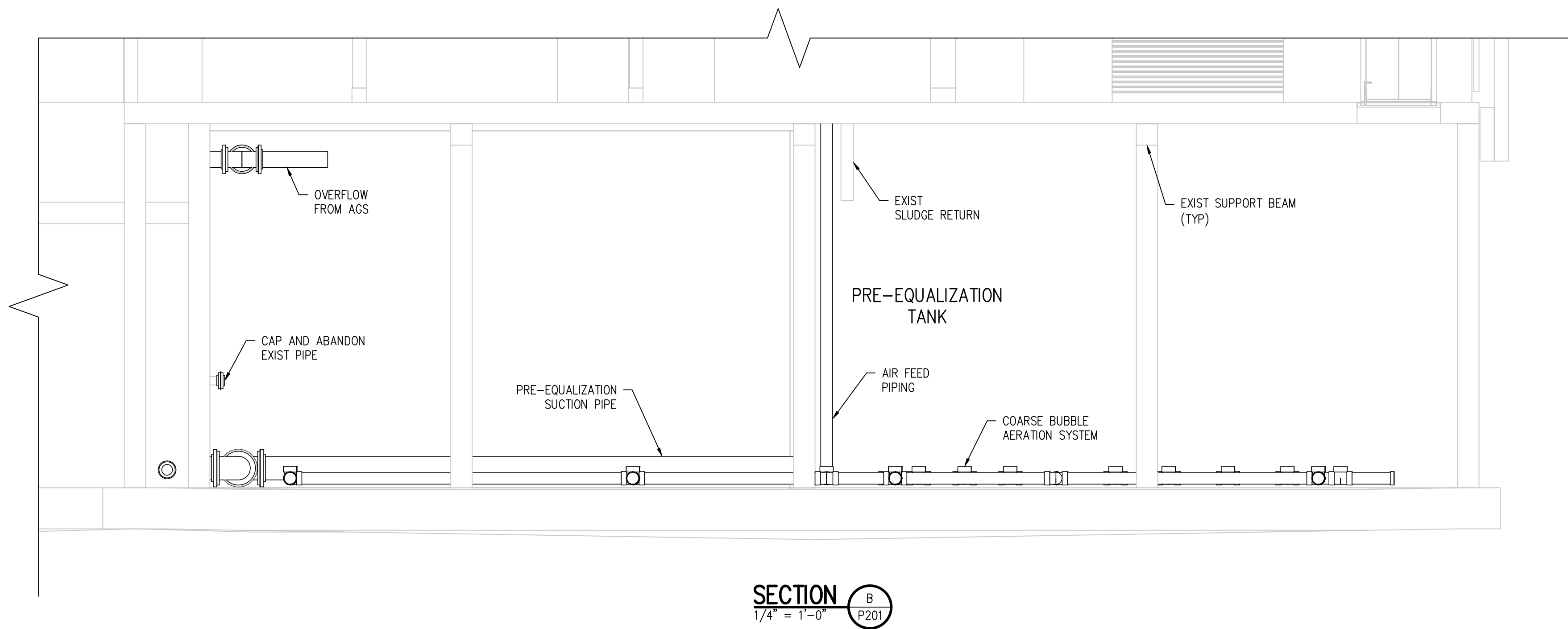
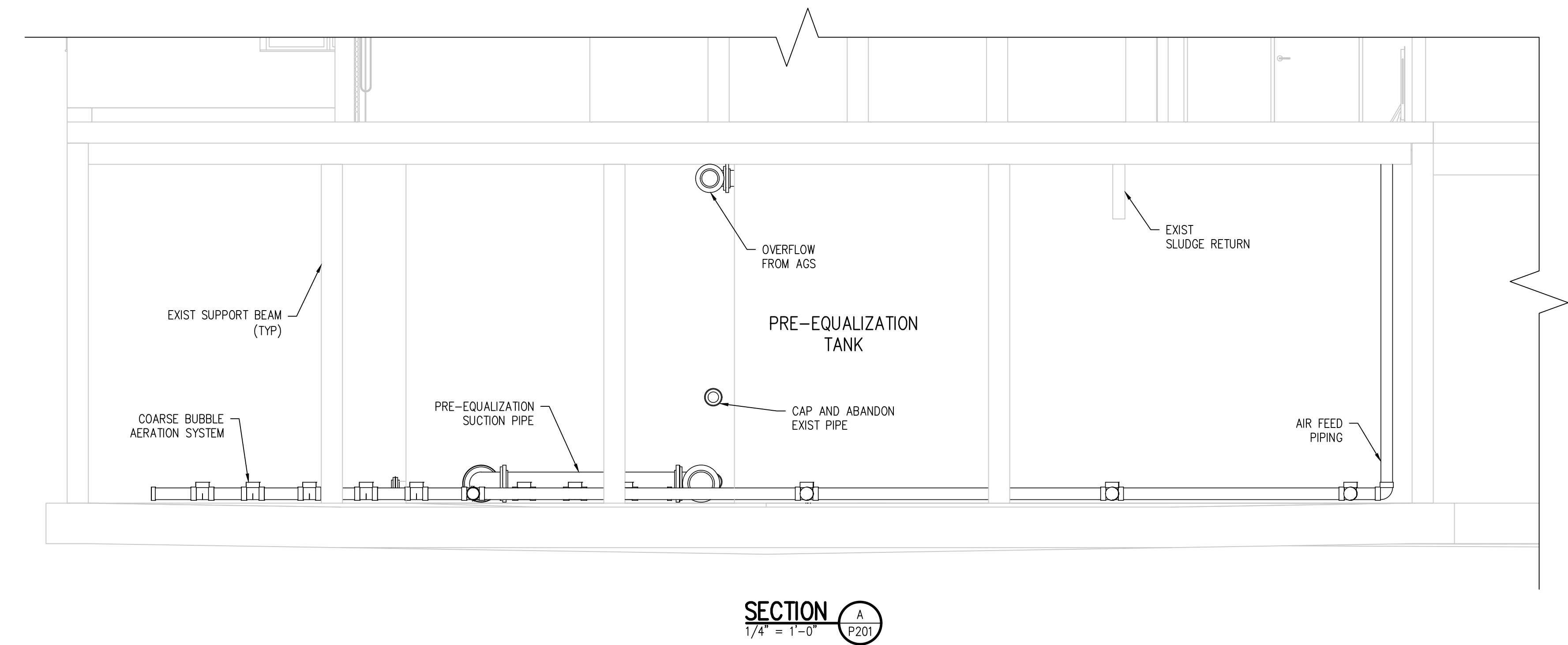
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WWTP EXPANSION - PROJECT 1
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PRE-EQUALIZATION PLAN

SHEET NO.
P201

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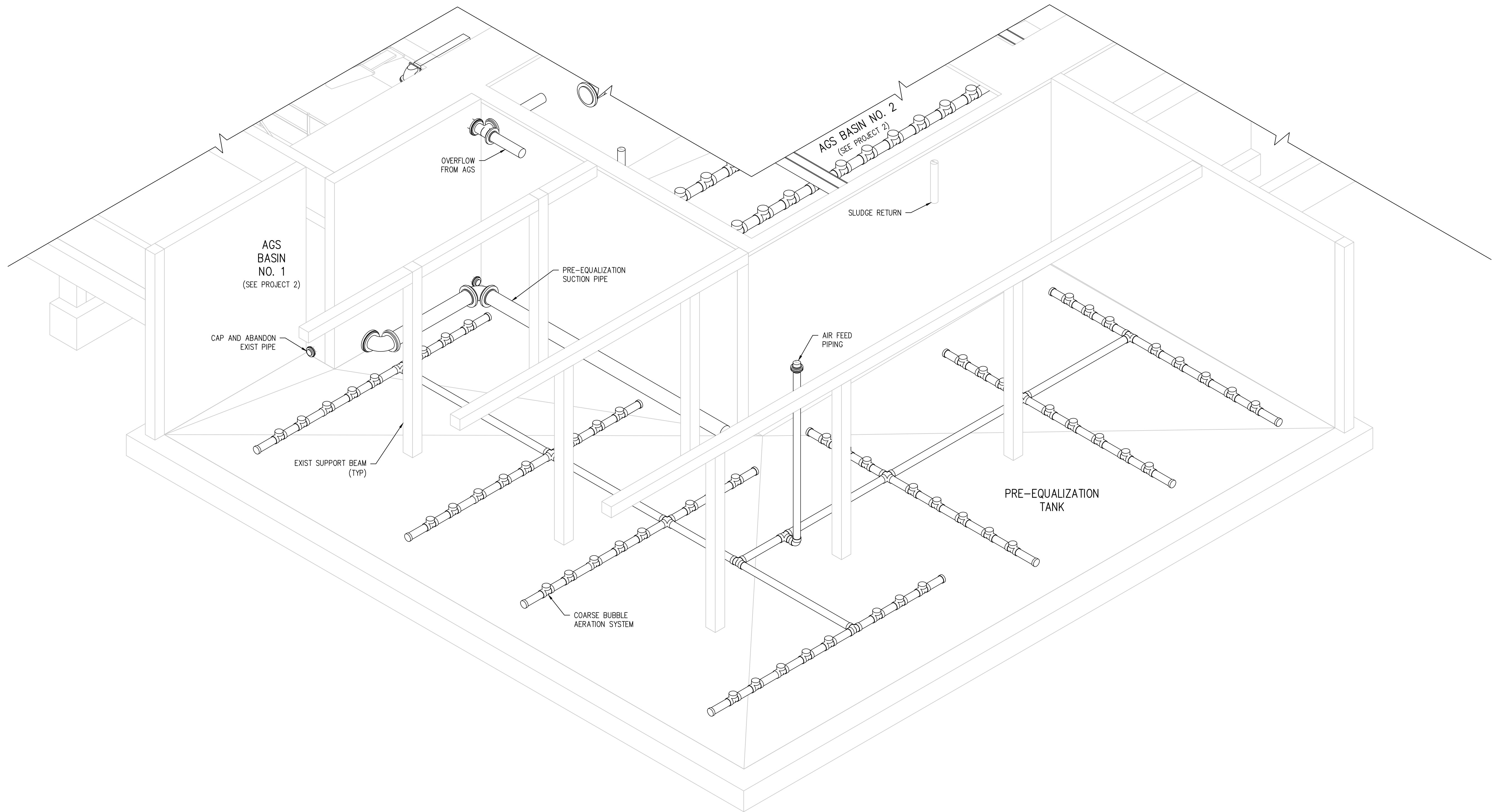
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WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO

PRE-EQUALIZATION SECTIONS

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PRE-EQUALIZATION TANK ISOMETRIC
1/4" = 1'-0"

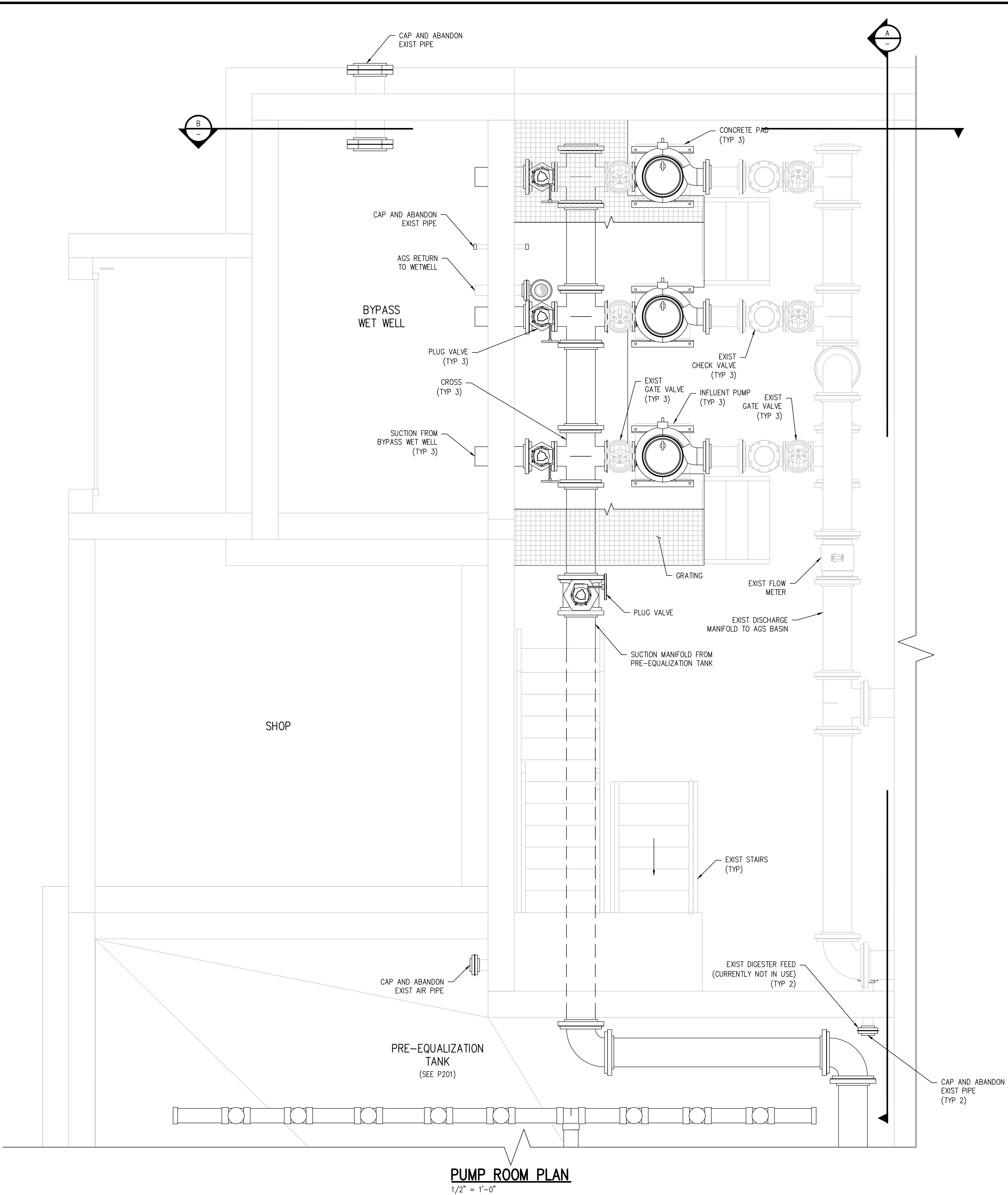
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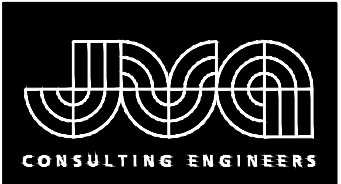
CITY OF IDAHO SPRINGS
WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO

PRE-EQUALIZATION ISOMETRIC

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PUMP ROOM PLAN
1/2" = 1'-0"

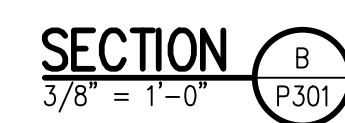
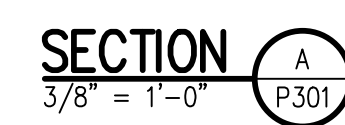


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CITY OF IDAHO SPRINGS WWTP EXPANSION - PROJECT 1 IDAHO SPRINGS, COLORADO	PUMP ROOM PLAN
SHEET NO. P301	



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PUMP ROOM SECTIONS

SHEET NO.

P302

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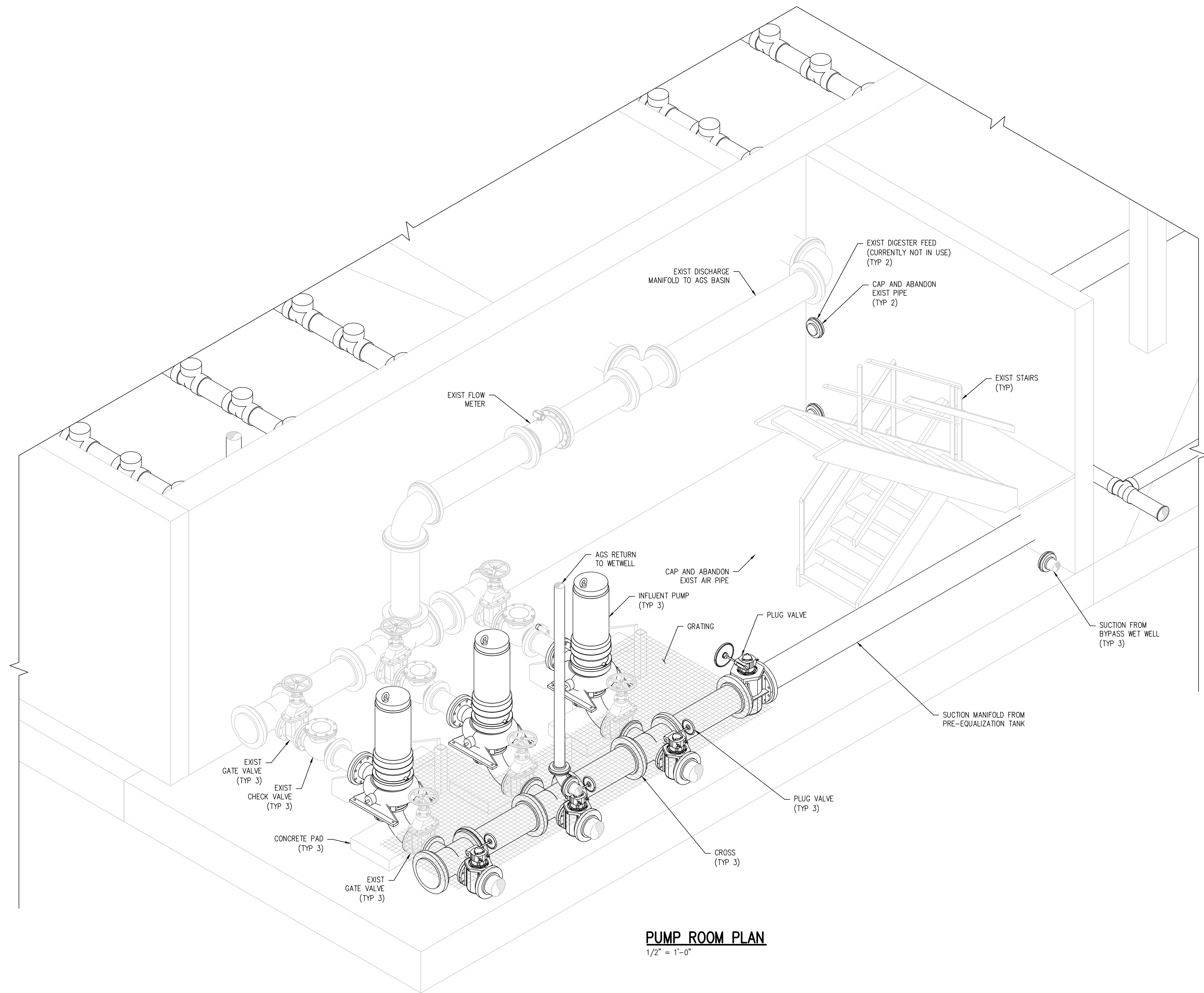
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CHECKED BY:	MK
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WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO

PUMP ROOM ISOMETRIC

SHEET NO.

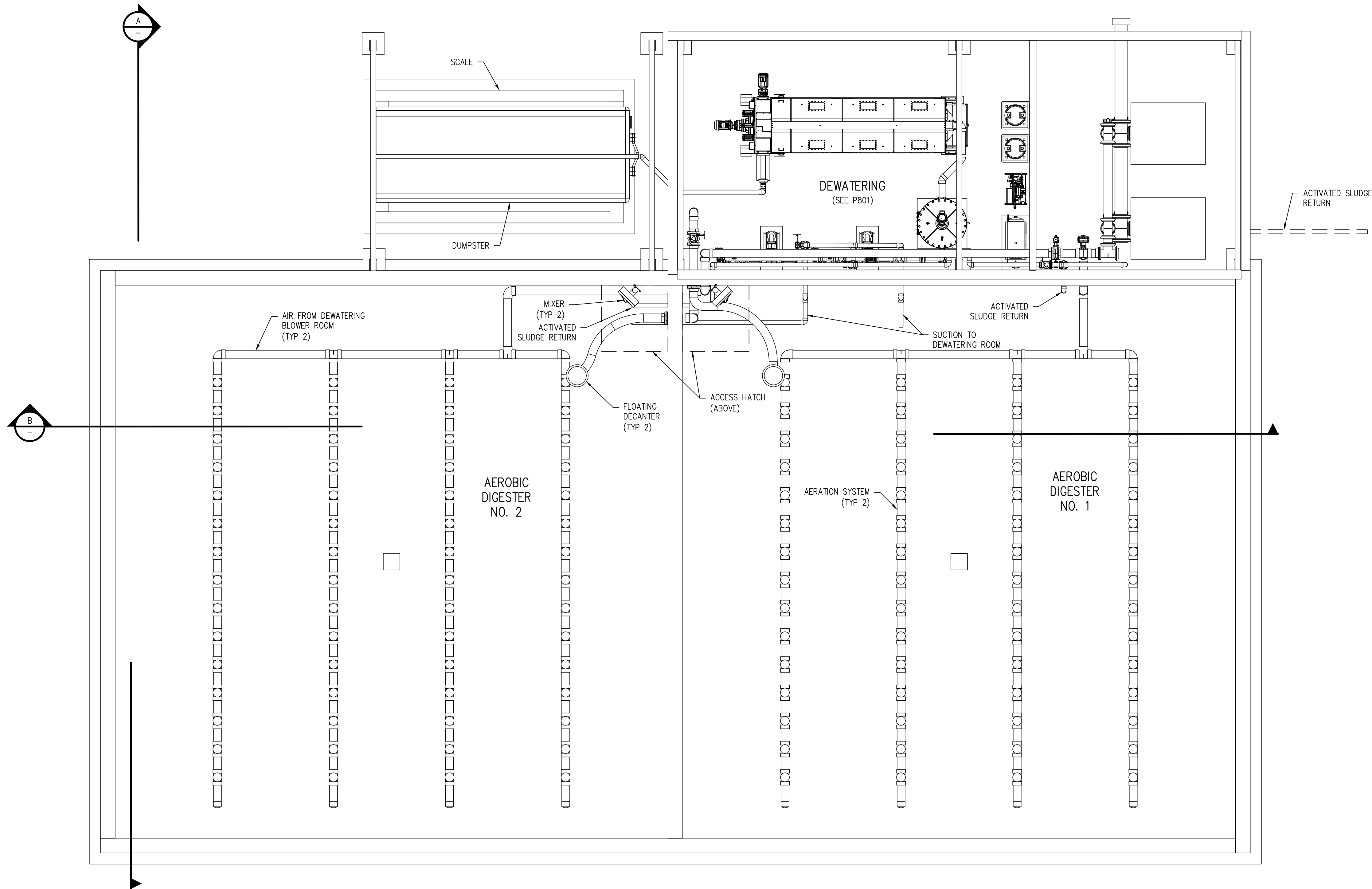
P303



PUMP ROOM PLAN
1/2" = 1'-0"

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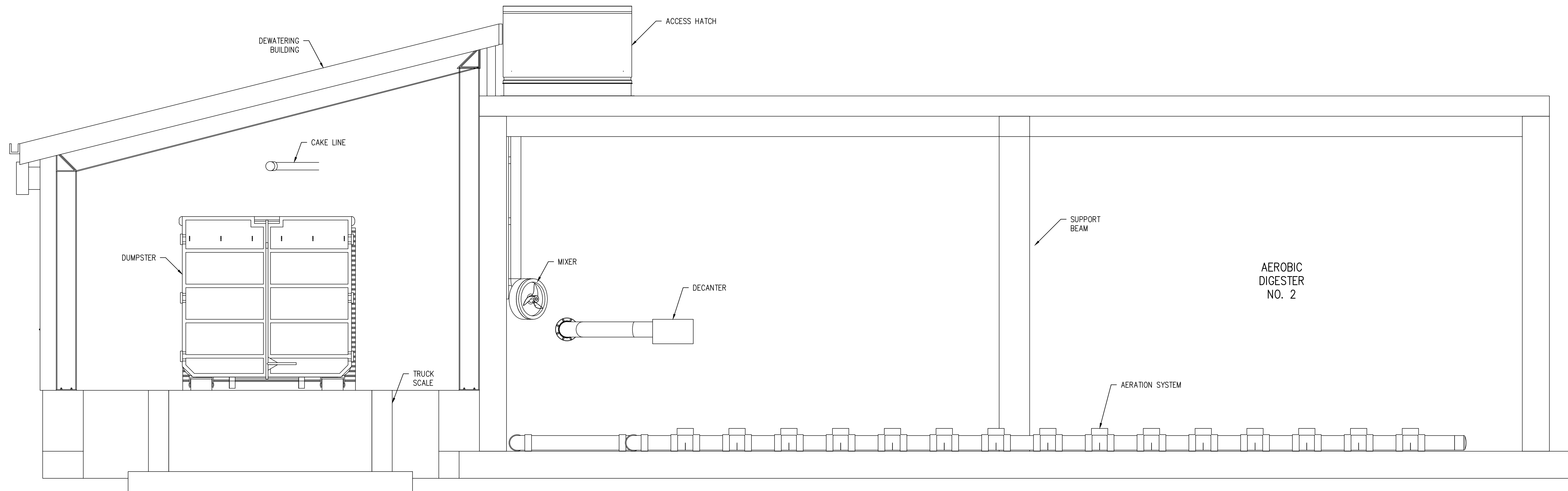
DIGESTER TANK PLAN
3/16" = 1'-0"

REVISION DESCRIPTION				
NO.	DATE	DESIGNED	DRAWN	DESCRIPTION

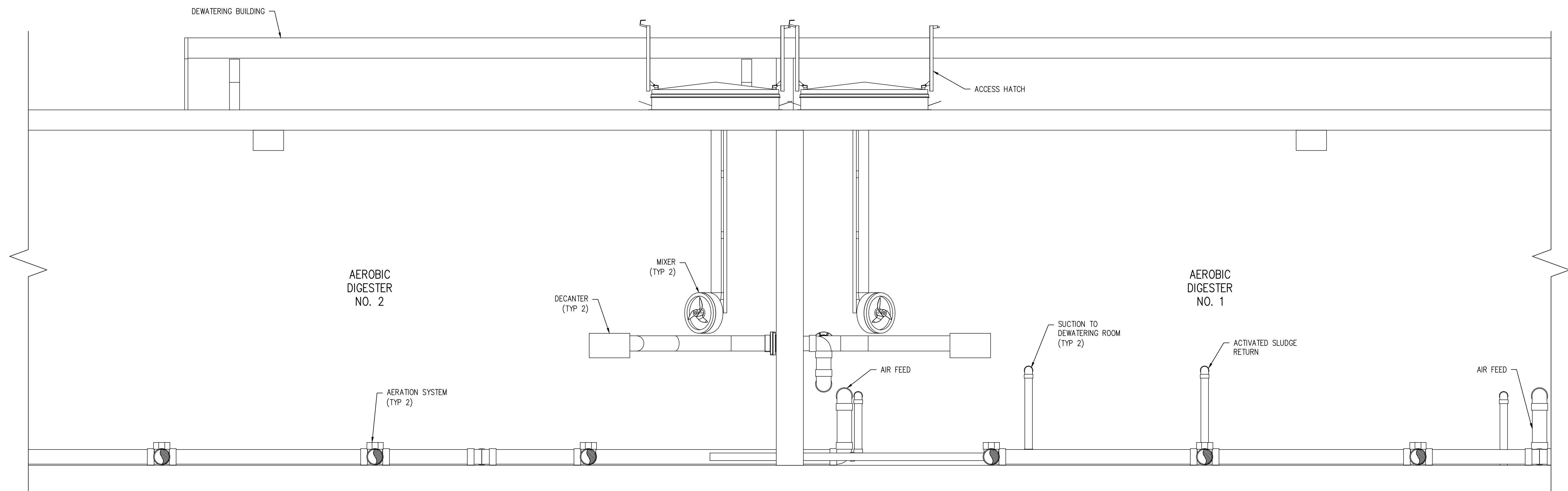
DESIGNED BY:	JRC
DRAWN BY:	LLG
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CITY OF IDAHO SPRINGS WWTP EXPANSION - PROJECT 1 IDAHO SPRINGS, COLORADO	DIGESTER PLAN
	SHEET NO. P501

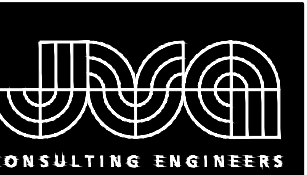
J:\1529.32c\Drawings\Plant_3D\1529.32.c - Idaho Springs WWTF Expansion\Orthos\DWGs\P501 - Digester.dwg, 11/15/2018 - 5:23 PM, lig



SECTION A
3/8" = 1'-0" P501



SECTION B
3/8" = 1'-0" P501



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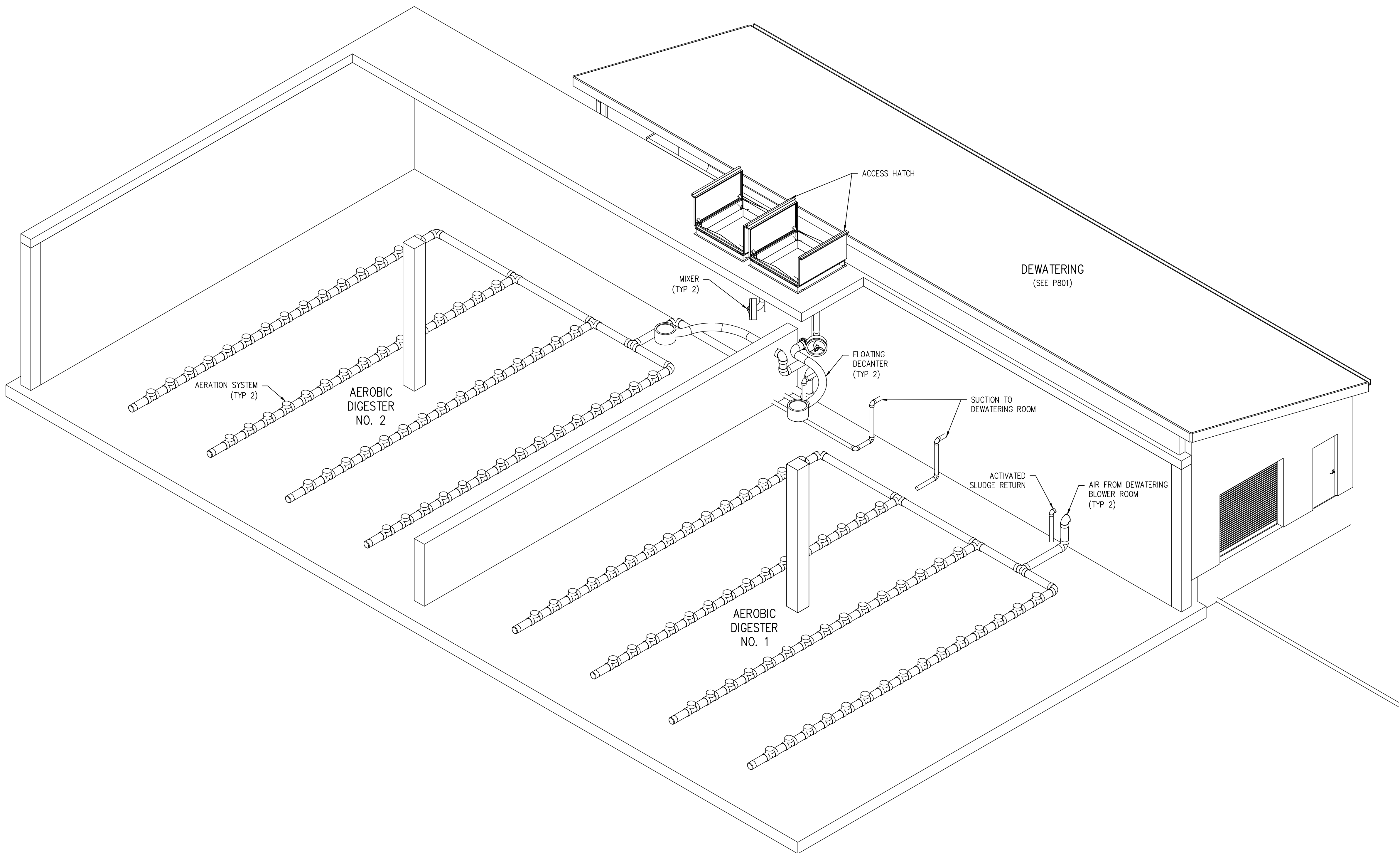
NO.	DATE	DESIGNED	DRAWN	DESCRIPTION

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CITY OF IDAHO SPRINGS
WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO
DIGESTER SECTIONS

SHEET NO.
P502

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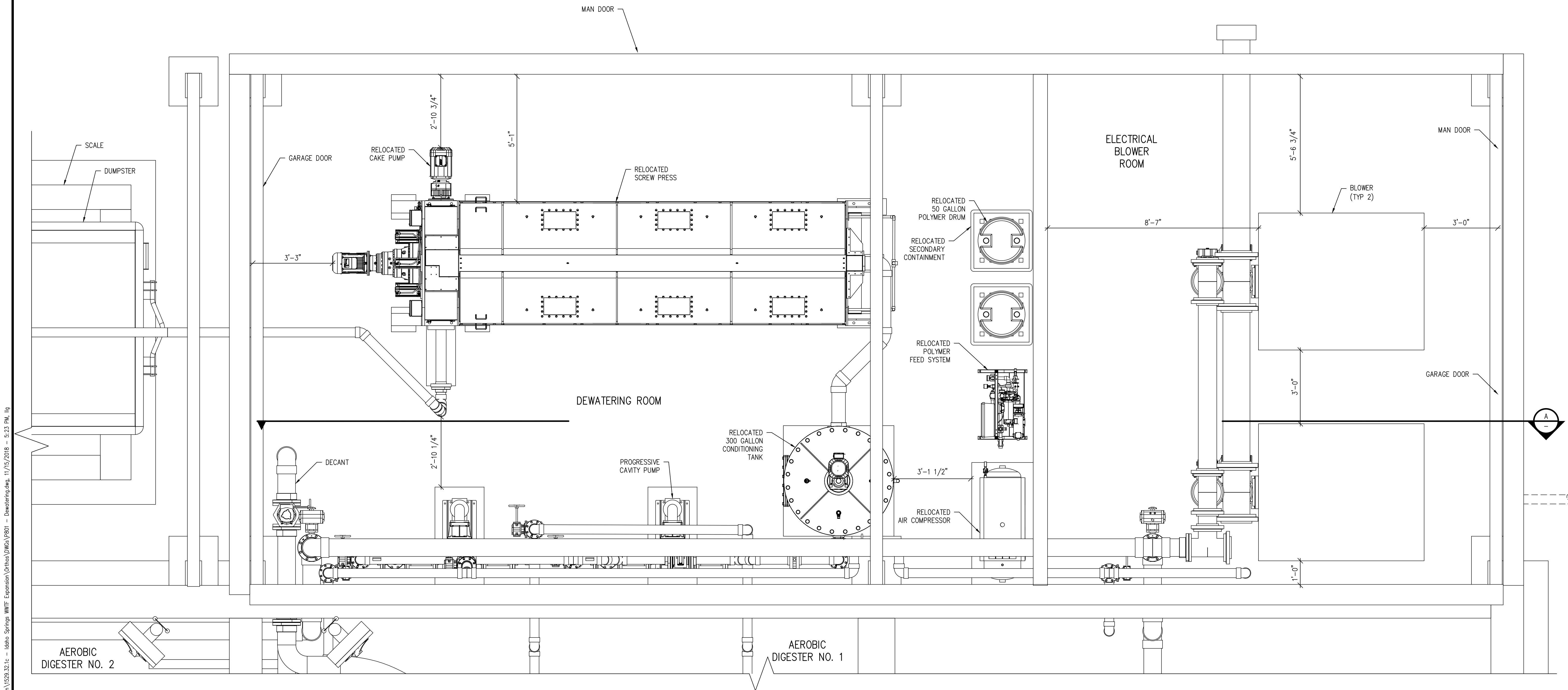
DIGESTER TANK ISOMETRIC
3/16" = 1'-0"

REVISION DESCRIPTION				
NO.	DATE	DESIGNED	DRAWN	DESCRIPTION

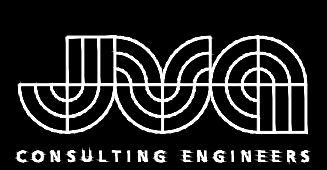
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CITY OF IDAHO SPRINGS WWTP EXPANSION - PROJECT 1 IDAHO SPRINGS, COLORADO	DIGESTER ISOMETRIC
	SHEET NO. P503

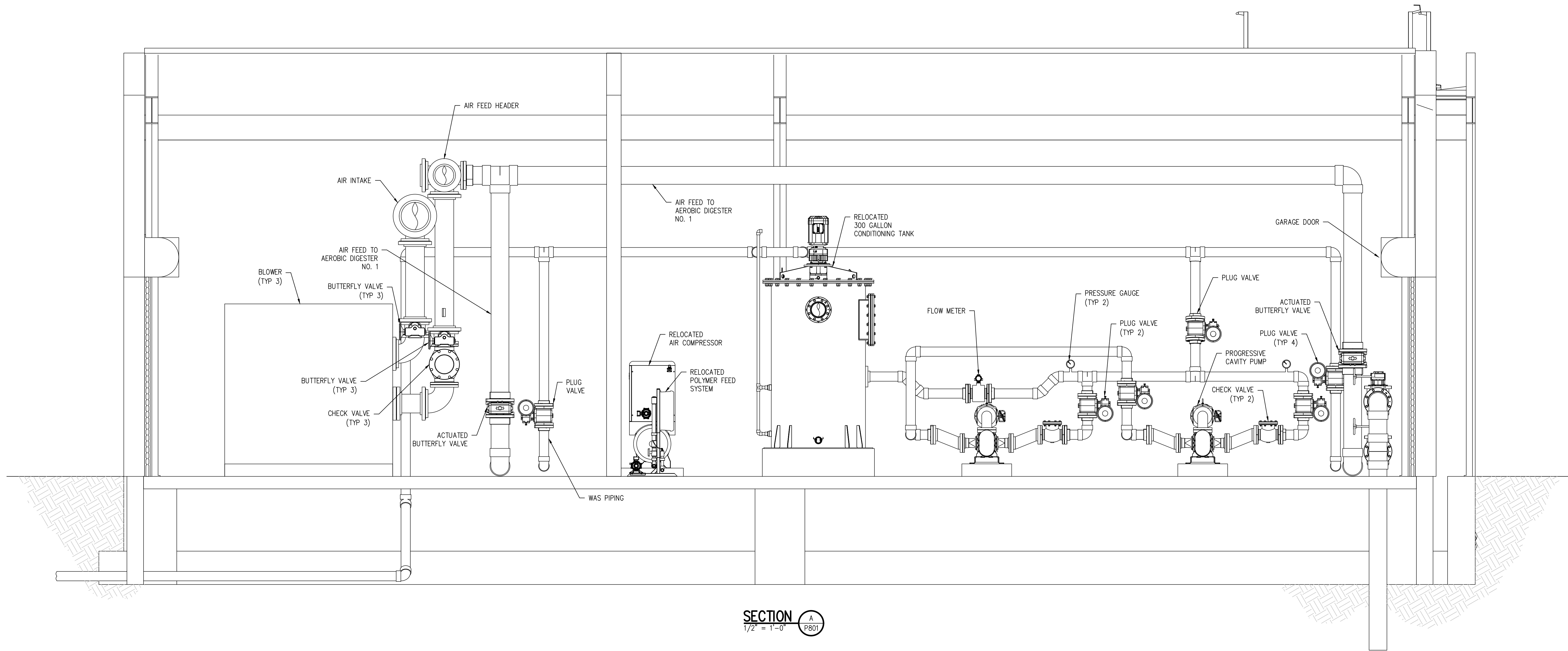
J:\1529.32c\Drawings\Plant_3D\1529.32.c - Idaho Springs WWTF Expansion\1529.32.c - Idaho Springs WWTF Expansion\Orthos\DWG\801 - Dewatering.dwg, 11/15/2018 - 5:23 PM, llg



DEWATERING BUILDING PLAN
1/2" = 1'-0"

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CITY OF IDAHO SPRINGS WWTP EXPANSION - PROJECT 1 IDAHO SPRINGS, COLORADO	DEWATERING BUILDING PLAN
SHEET NO. P801	

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SECTION A-A
1/2" = 1'-0" P801

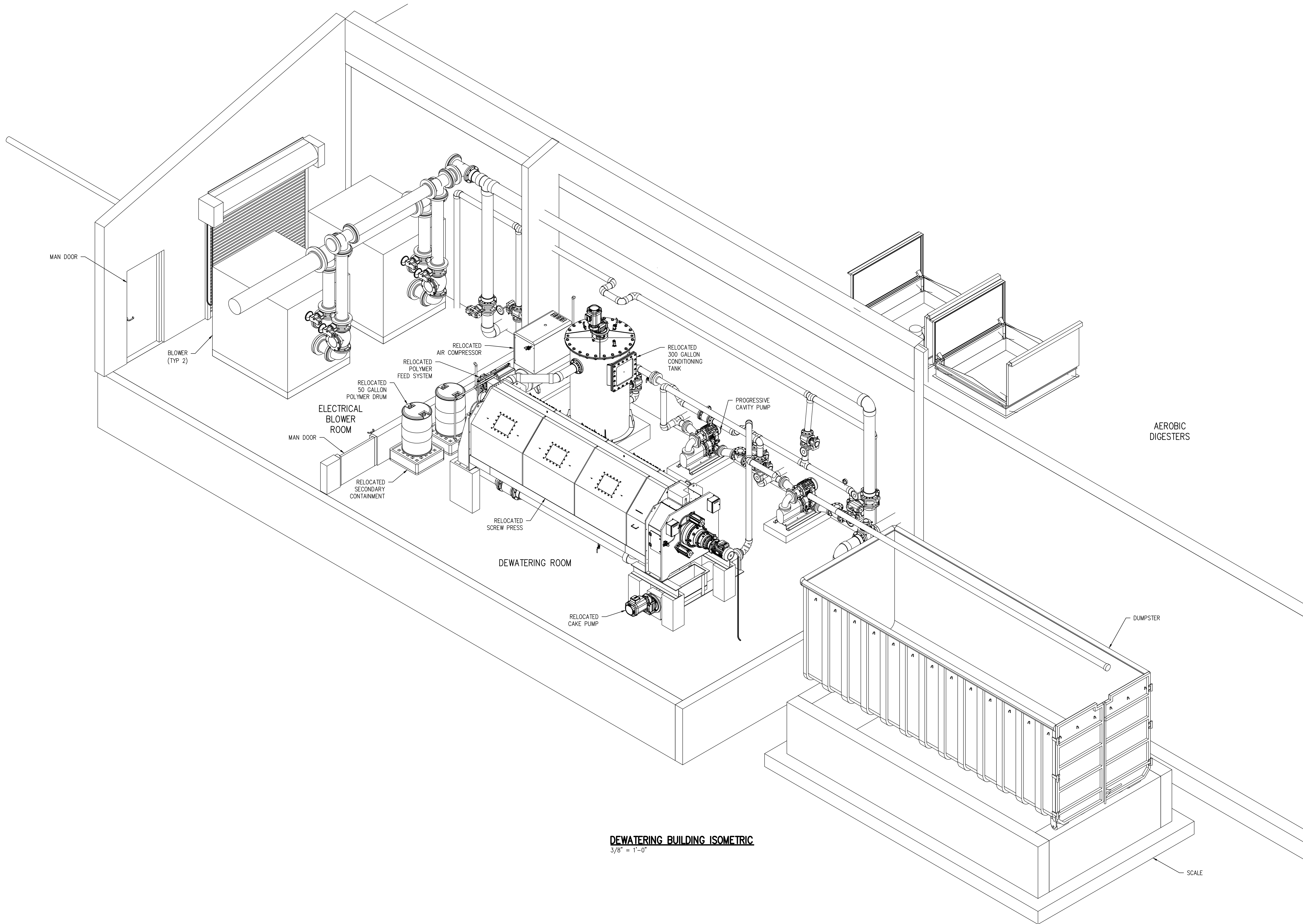
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CITY OF IDAHO SPRINGS
WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO
DEWATERING BUILDING SECTIONS

SHEET NO.

P802

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DEWATERING BUILDING ISOMETRIC
3/8" = 1'-0"

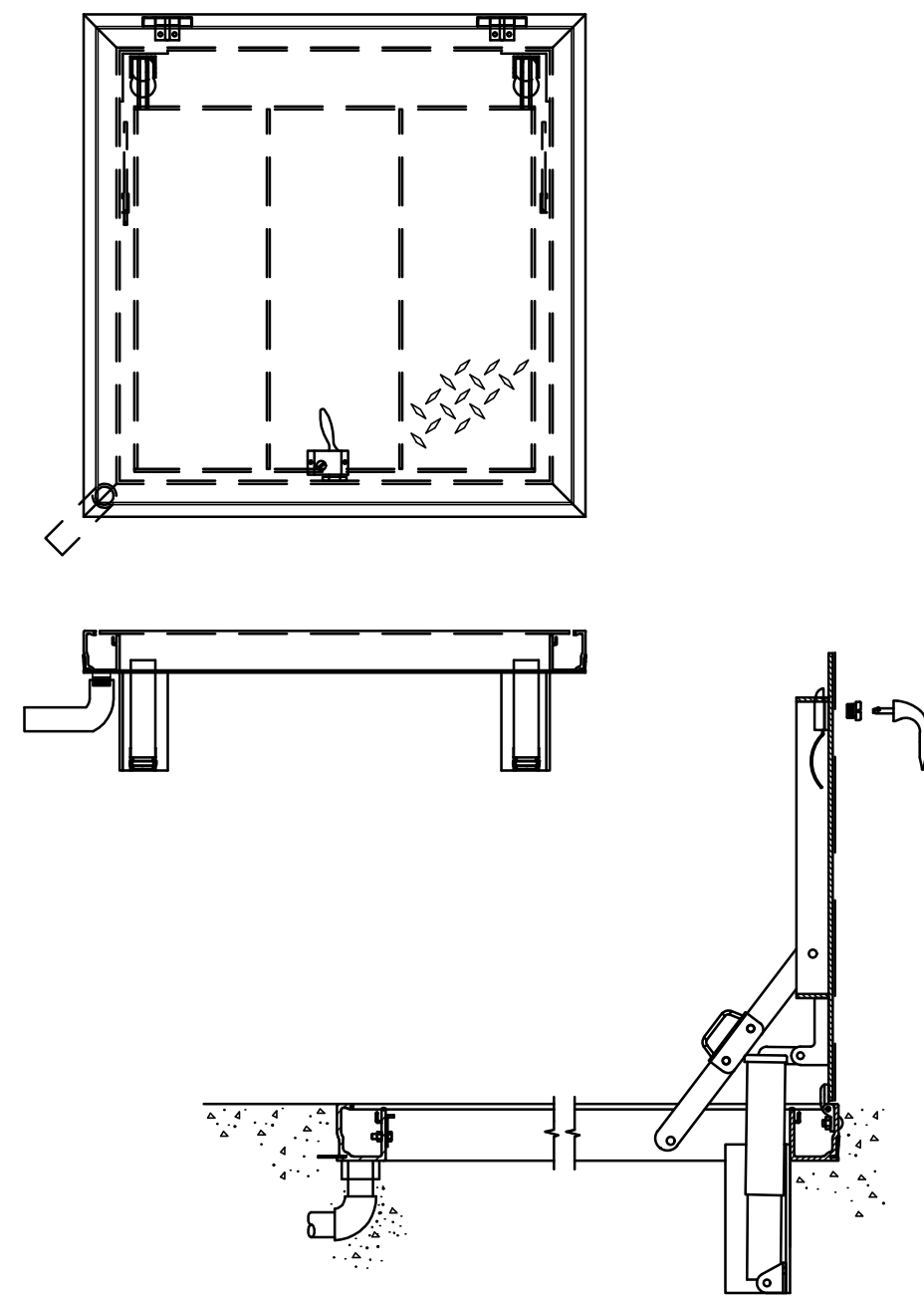
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WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO

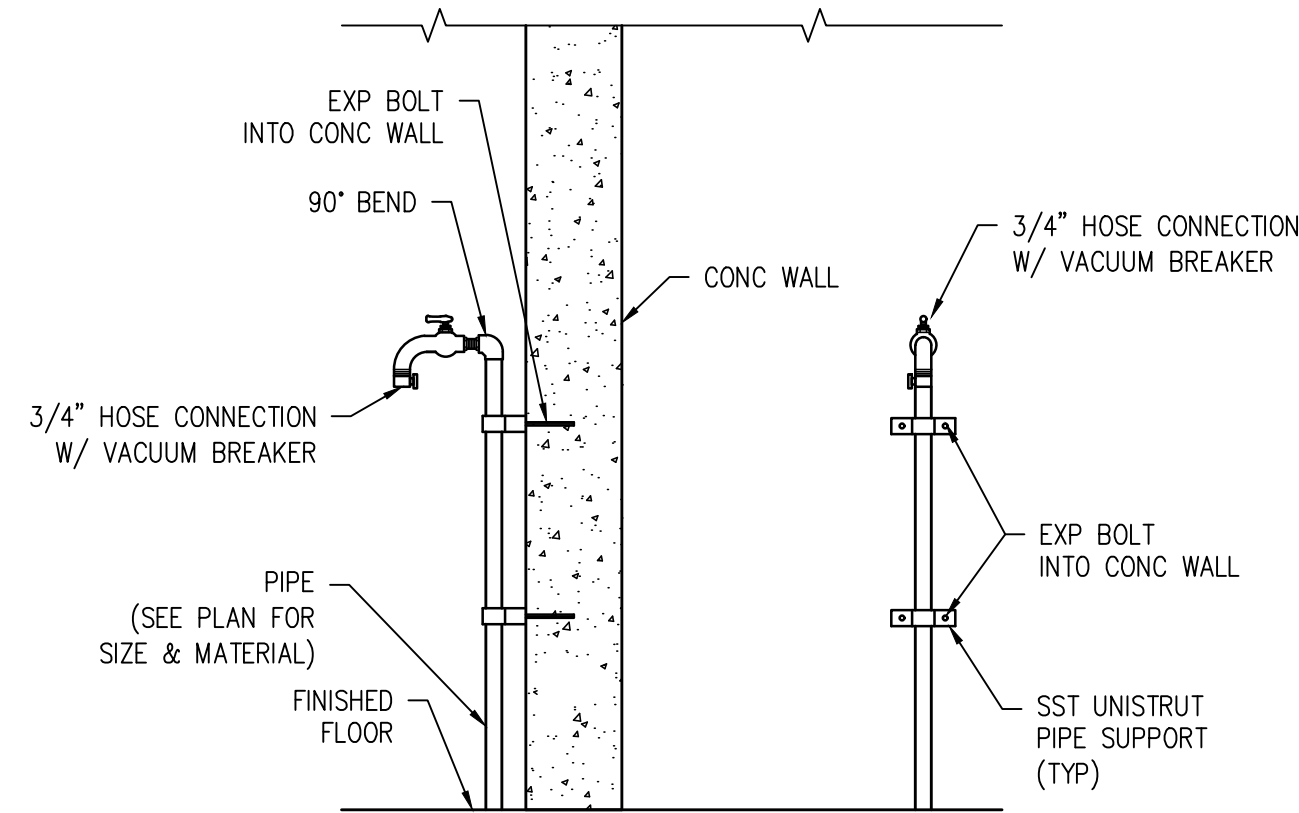
DEWATERING BUILDING ISOMETRIC

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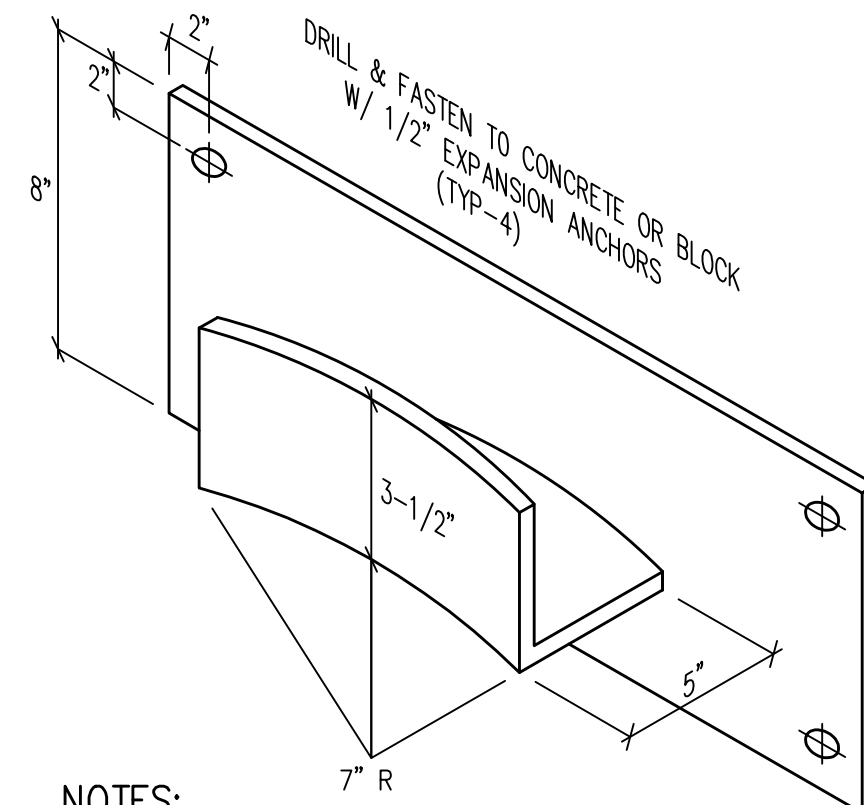
BILCO ACCESS HATCH
NTS

1
P1.0



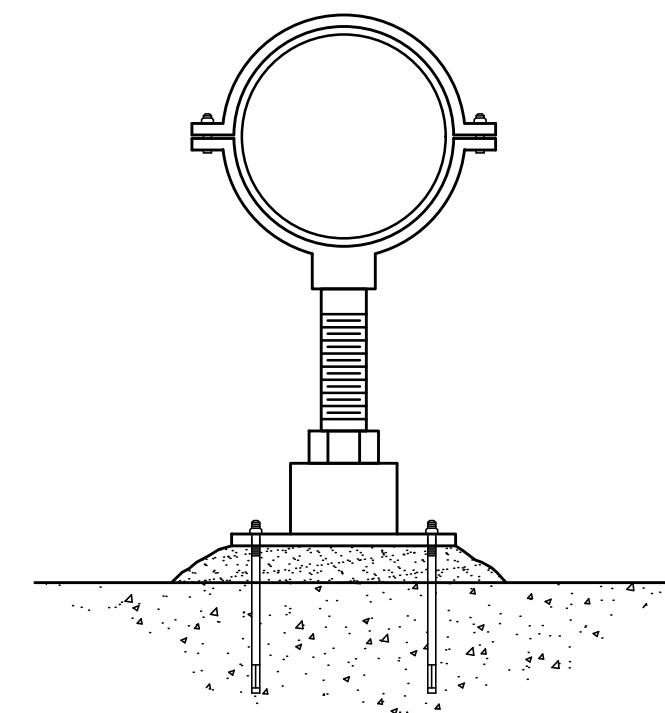
TYPICAL HOSE BIBB DETAIL
NTS

5
P1.0



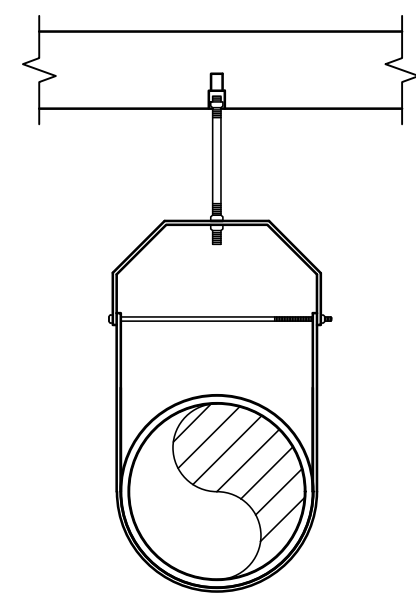
- NOTES:
- HOSE RACK WELDED CONSTRUCTION, ALL MATL NO 8 GA STL PL GALVANIZED AFTER FABRICATION.
 - PROVIDE HOSE RACK WITH EACH INTERIOR HOSE BIB
 - PROVIDE 50' WASHDOWN HOSE WITH EACH HOSE RACK

HOSE RACK DETAIL
NTS



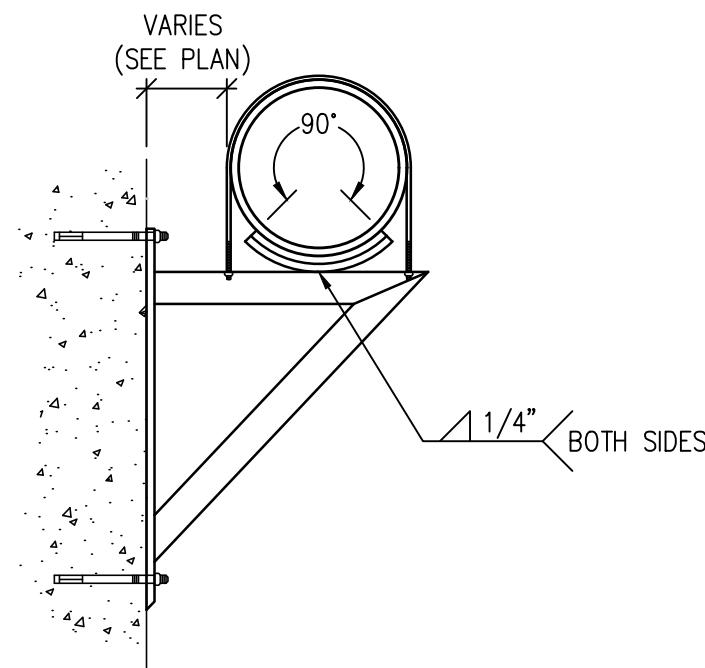
PIPE SIZE	CLAMP SIZE	THREADED STUD Ø	BASE PLATE	BASE PIPE
2" - 3"	.375 x 1.5"	.75"	6" x 6"	2"
4" - 12"	.5" x 2"	1"	8" x 8"	2"
14" - 16"	.625 x 3"	1.5"	12" x 12"	3"
18" - 24"	.75" x 4"	2"	12" x 12"	4"

FLOOR PIPE SUPPORT DETAIL
NTS

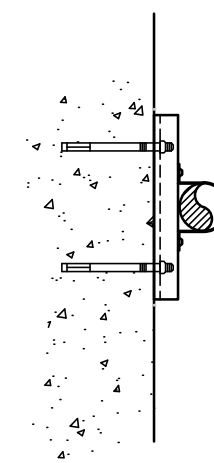


PIPE SIZE	HANGER ROD Ø
2" & SMALLER	3/8"
2 1/2"	1/2"
3" & 4"	5/8"
6" THRU 12"	3/4"

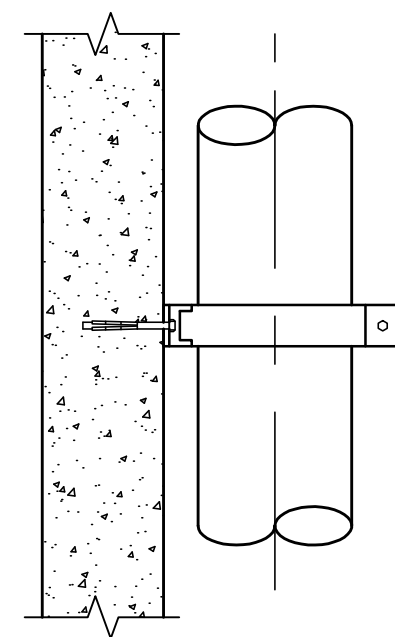
PIPE HANGER DETAIL
NTS



WALL PIPE SUPPORT DETAIL
NTS



UNISTRUT WALL PIPE SUPPORT DETAIL
NTS



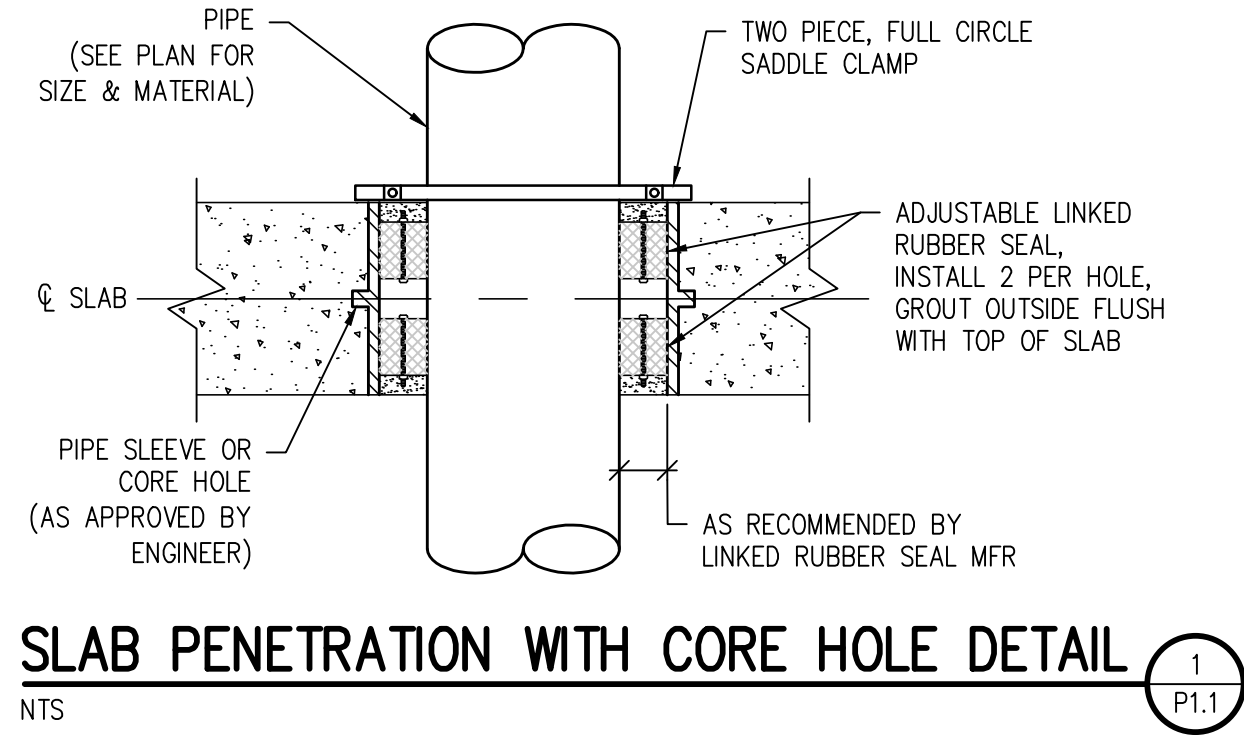
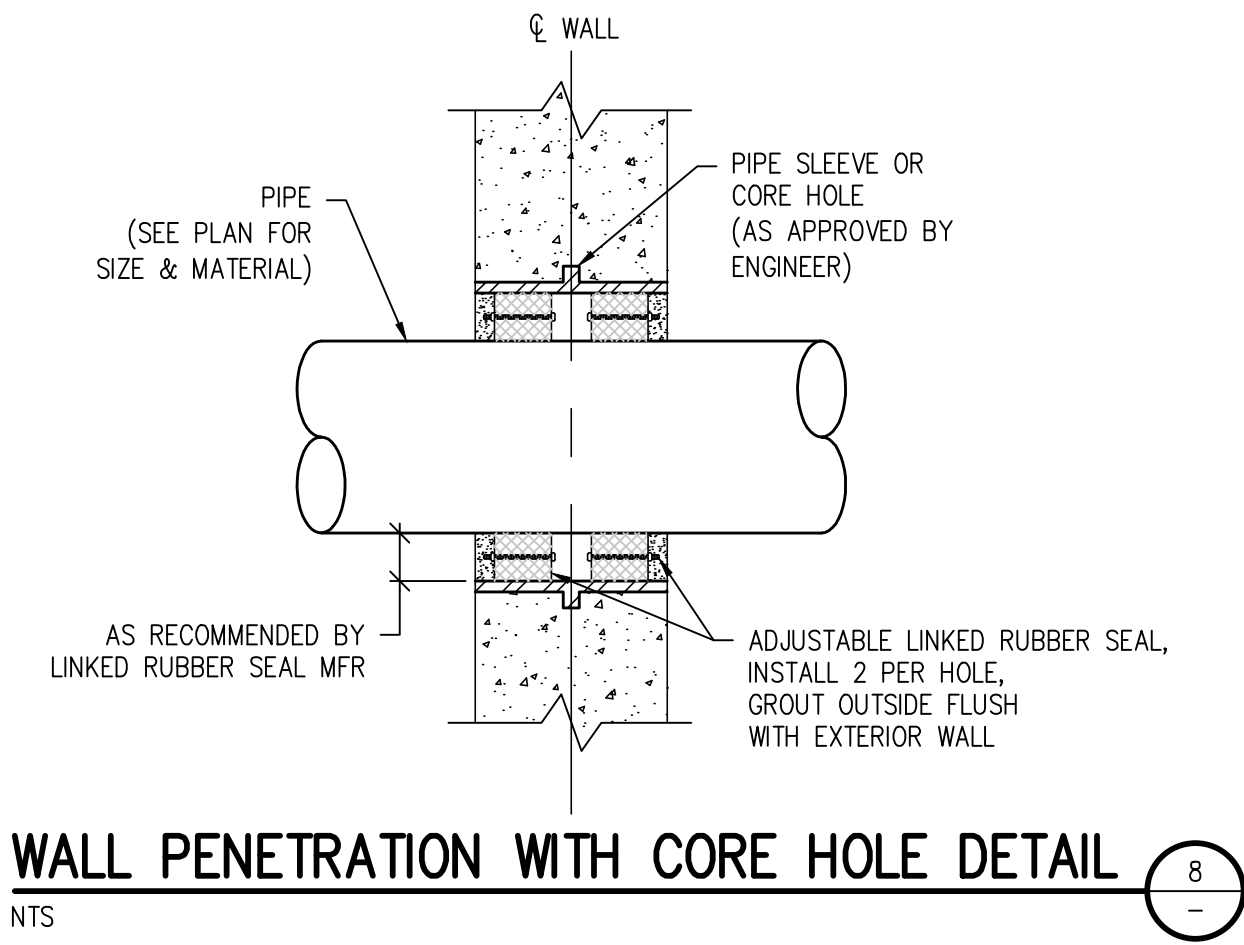
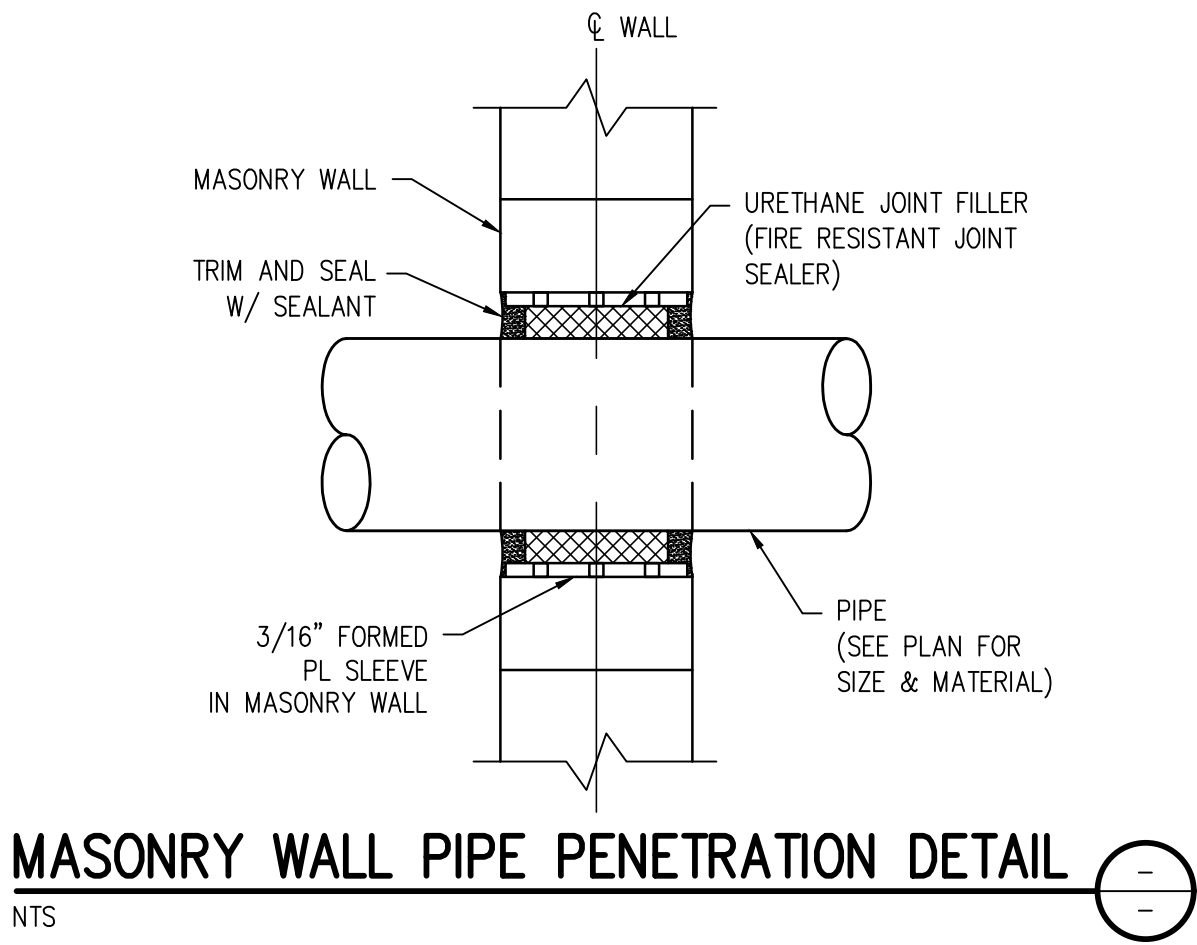
VERTICAL PIPE WALL SUPPORT DETAIL
NTS

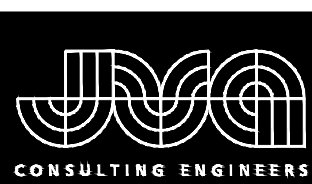
REVISION DESCRIPTION				
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CHECKED BY:	JVA
JOB #:	1529.32c
DATE:	NOVEMBER 2018
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CITY OF IDAHO SPRINGS WWTP EXPANSION - PROJECT 1 IDAHO SPRINGS, COLORADO	PROCESS DETAILS
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CITY OF IDAHO SPRINGS WWTP EXPANSION - PROJECT 1 IDAHO SPRINGS, COLORADO	PROCESS DETAILS
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SHEET NO.

PD002



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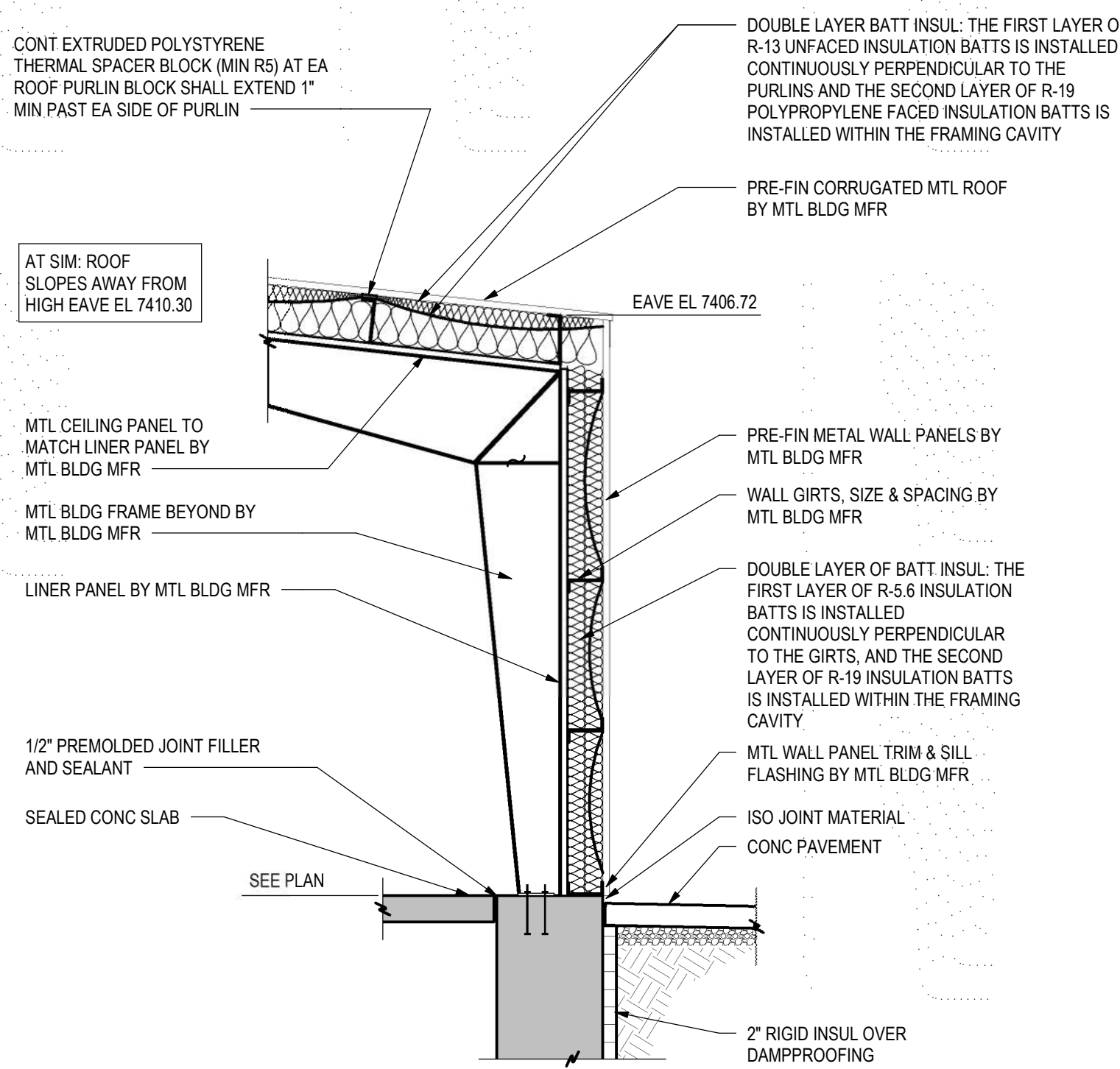
NO. DATE DESD DWN

DESIGNED BY: KLB
DRAWN BY: KLB
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JOB #: 19178
DATE: NOVEMBER 2018
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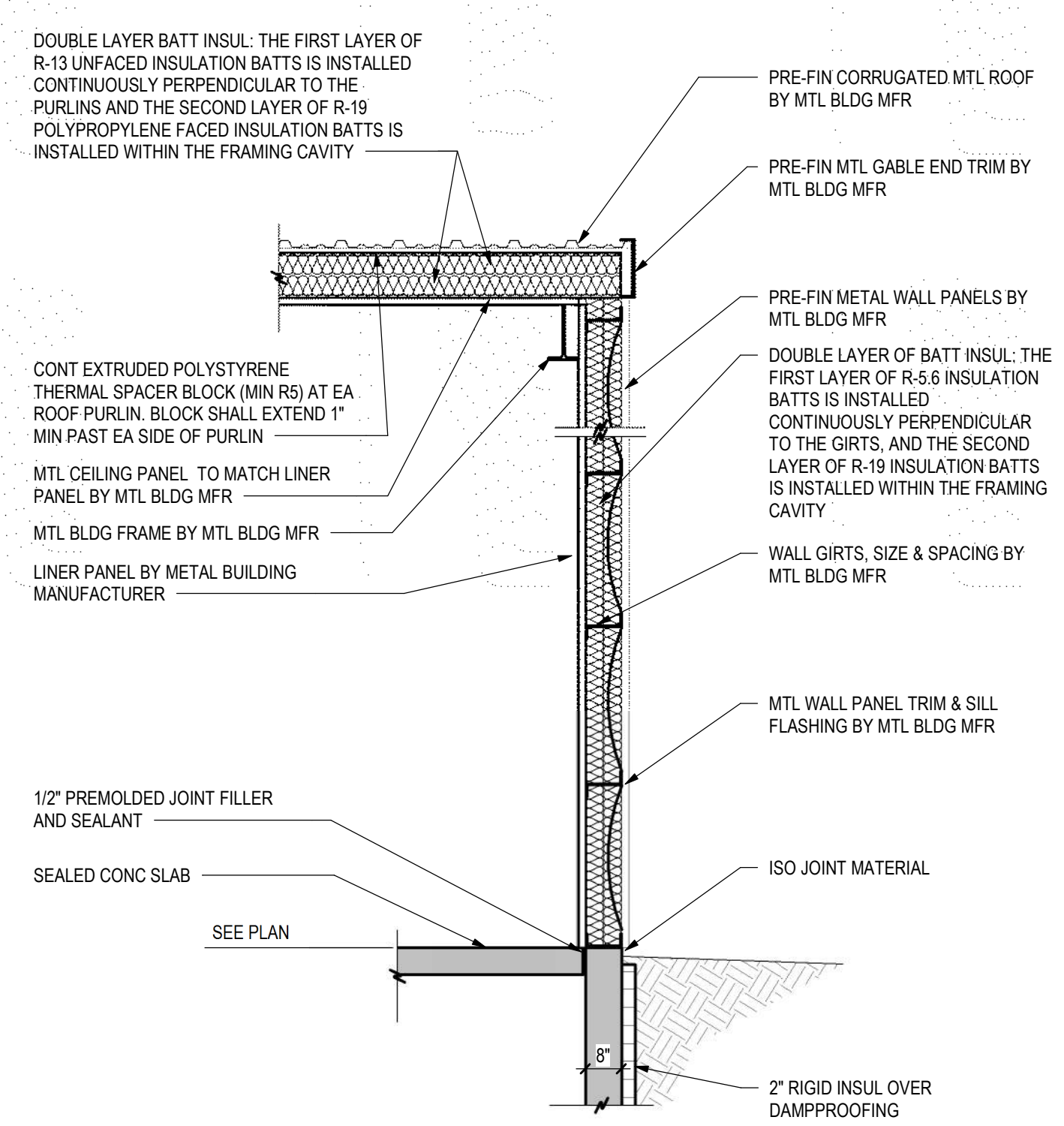
CITY OF IDAHO SPRINGS
WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO

HEADWORKS ARCHITECTURAL PLAN,
SECTIONS & 3D VIEWS

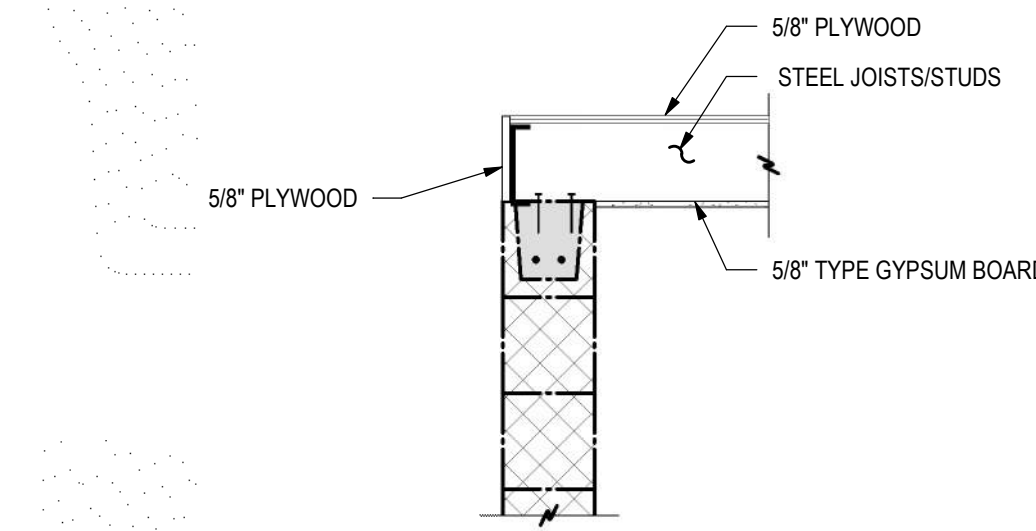
SHEET NO.
A101



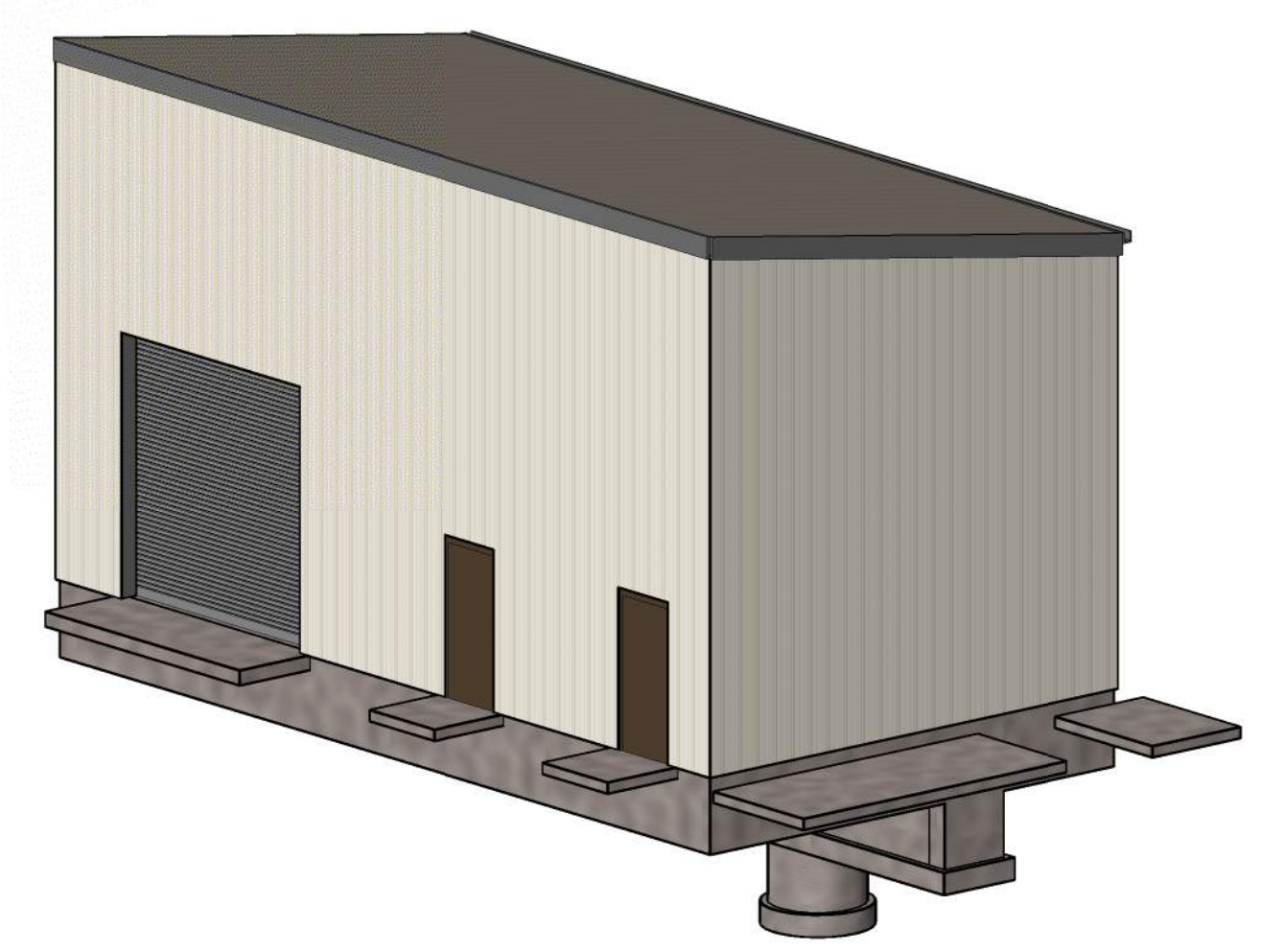
1 SECTION
A101 3/8" = 1'-0"



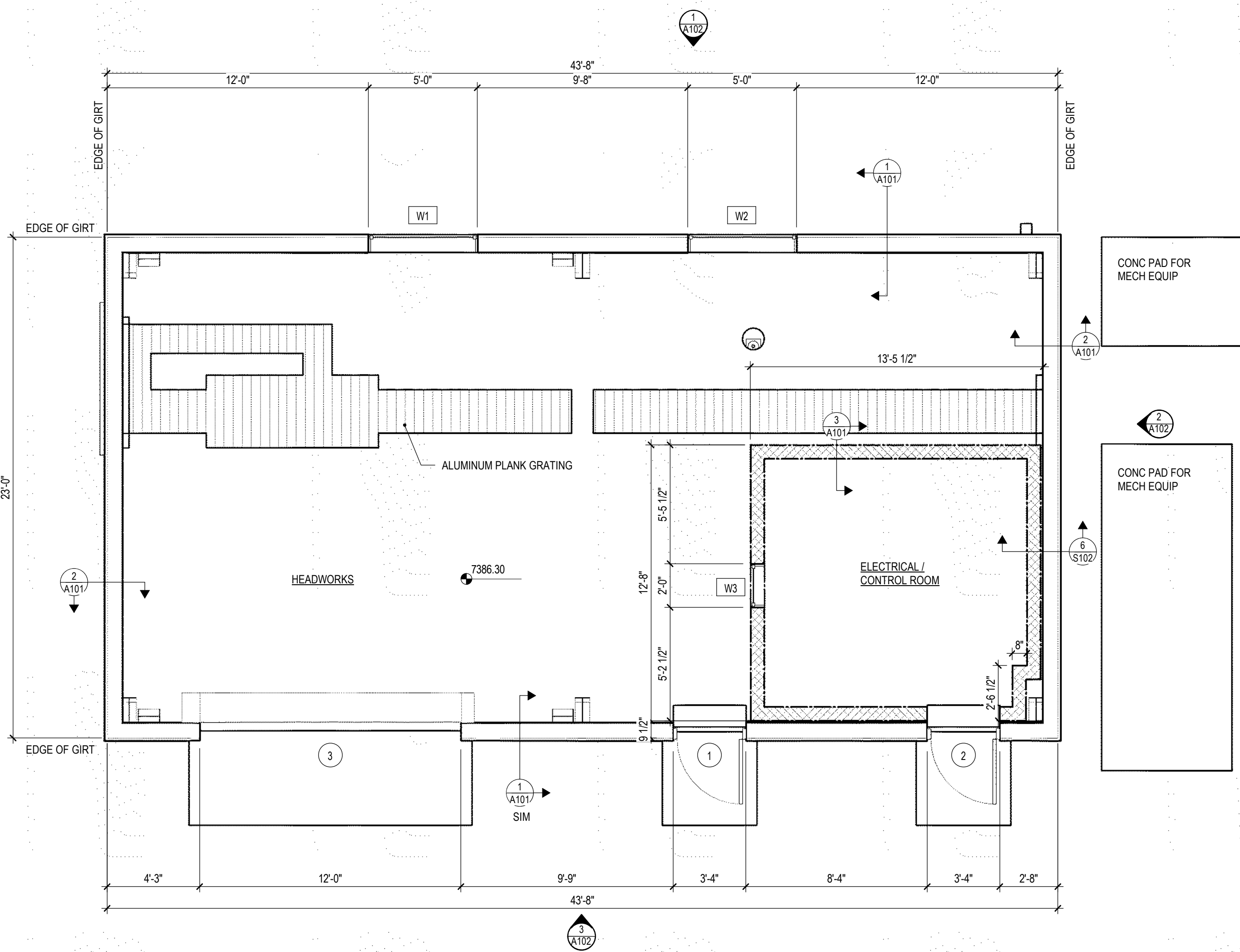
2 SECTION
A101 3/8" = 1'-0"



3 ELECTRICAL/CONTORL ROOM CEILING DETAIL
A101 3/4" = 1'-0"



3D BUILDING HEADWORKS

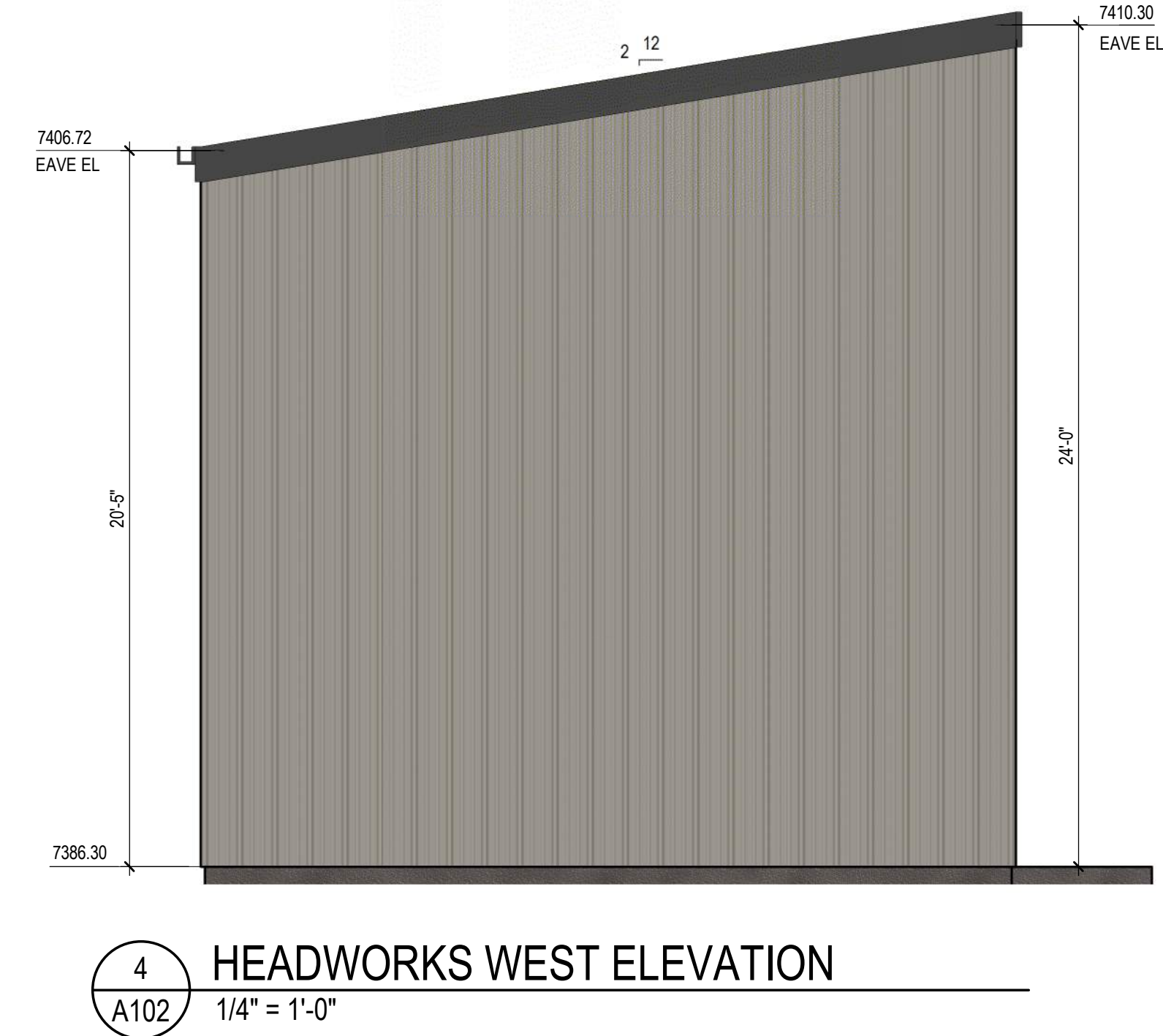
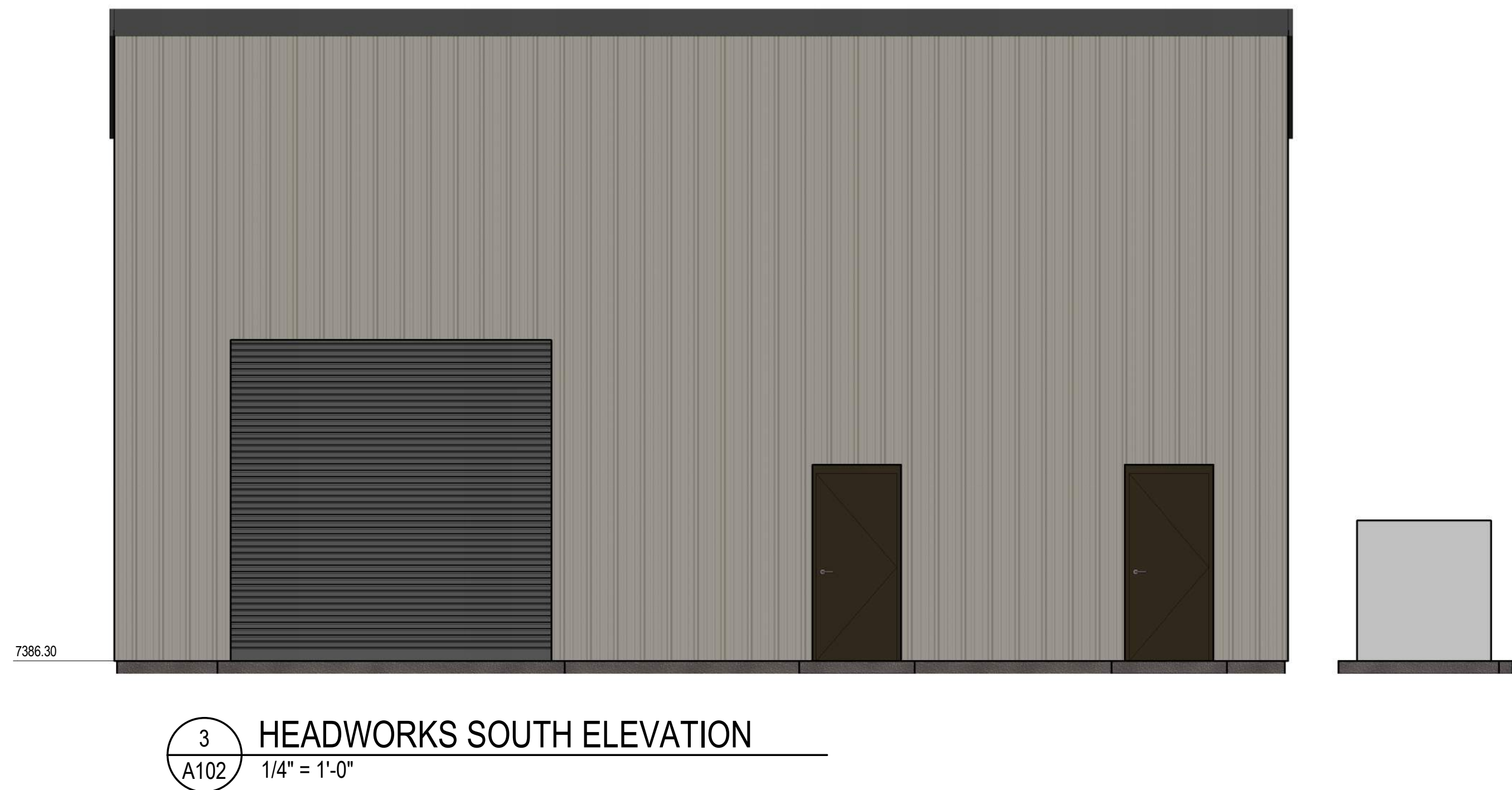
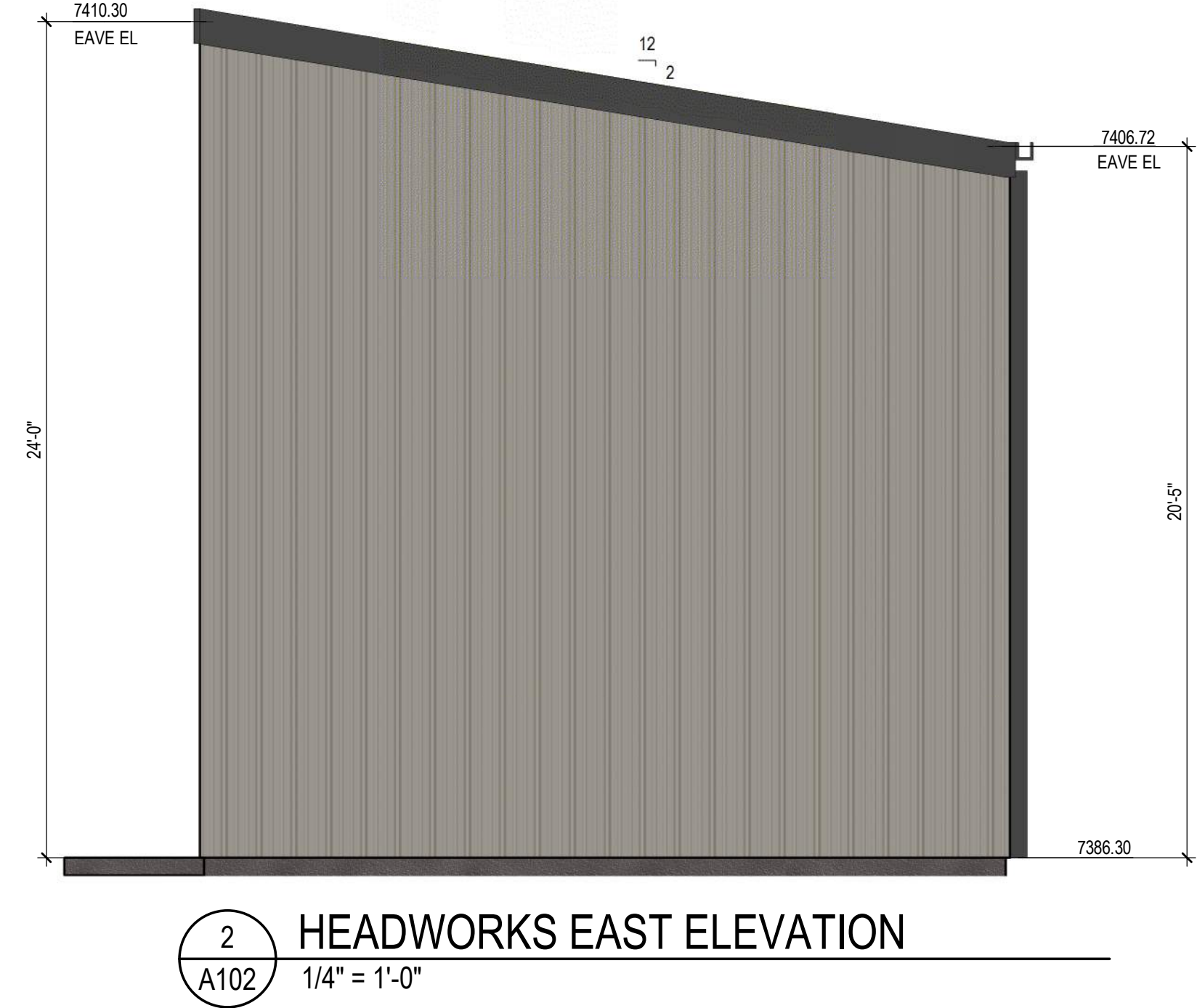


HEADWORKS ARCHITECTURAL PLAN

1/4" = 1'-0"

0 1' 2' 4' 8'

2006 IBC CODE ANALYSIS	
SITE ADDRESS:	980 CO Rd 314 IDAHO SPRINGS, CO 80452
CLIMATE ZONE:	7
OCCUPANCY CLASSIFICATION:	F-2
CONSTRUCTION TYPE:	TYPE V-B
BUILDING AREA:	1,005 SF MAIN LEVEL 1,005 SF < 13,000 SF ALLOWABLE (PER TABLE 503)
NO. OF STORIES	1 1-2 ALLOWABLE STORIES ABOVE GRADE (PER TABLE 503)
BUILDING HEIGHT:	24'-0" PROPOSED HEIGHT AT TALLEST POINT 24'-0" < 55'-0" ALLOWABLE HEIGHT (PER TABLE 503)
FIRE RATINGS:	NO REQUIRED BUILDING ELEMENT RATINGS PER TABLE 601
FIRE PROTECTION:	NO AUTOMATIC SPRINKLER SYSTEM IS REQUIRED FOR F-2 OCCUPANCY PER SECTION 903 NO FIRE ALARM IS REQUIRED FOR THIS BUILDING DUE TO SIZE OR NUMBER OF OCCUPANTS PER SECTION 907.2.4
OCCUPANT LOAD:	1,005 SF/300 SF PER OCC = 4 OCCUPANTS
EXITS:	1 EXIT IS REQUIRED FOR EACH SPACE PER TABLE 1015.1 AS OCCUPANCY < 49 2 EXITS ARE PROVIDED AT MAIN LEVEL (1 IN THE CONTROL ROOM, AND 1 IN THE HEADWORKS ROOM)
ADA ACCESSIBILITY:	THE NEW HEADWORKS BUILDING IS NOT REQUIRED TO BE ADA ACCESSIBLE. THE OCCUPANTS OF THIS BUILDING, BY NATURE OF THEIR JOBS, CANNOT PERFORM THEIR WORK WITH DISABILITIES. PER SECTION 1103.2.9, SPACES FREQUENTED ONLY BY PERSONNEL FOR MAINTENANCE, REPAIR AND MONITORING OF EQUIPMENT ARE NOT REQUIRED TO BE ACCESSIBLE. SUCH SPACES INCLUDE WATER AND WASTEWATER TREATMENT FACILITIES



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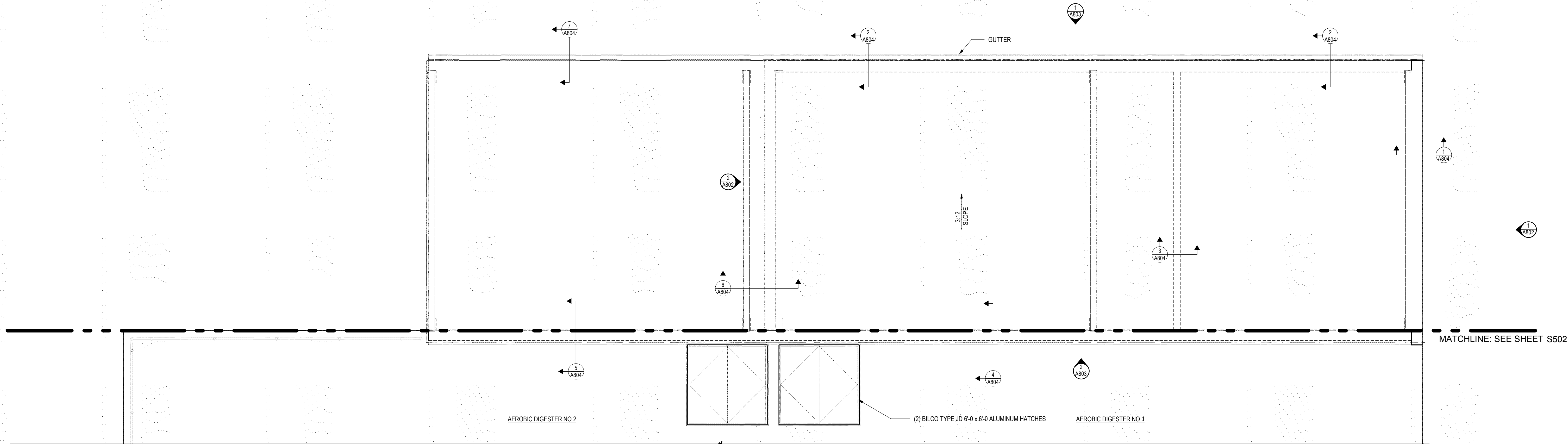
NO. DATE DESD DWN

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CITY OF IDAHO SPRINGS
WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO
DEWATERING ARCHITECTURAL PLAN

SHEET NO.

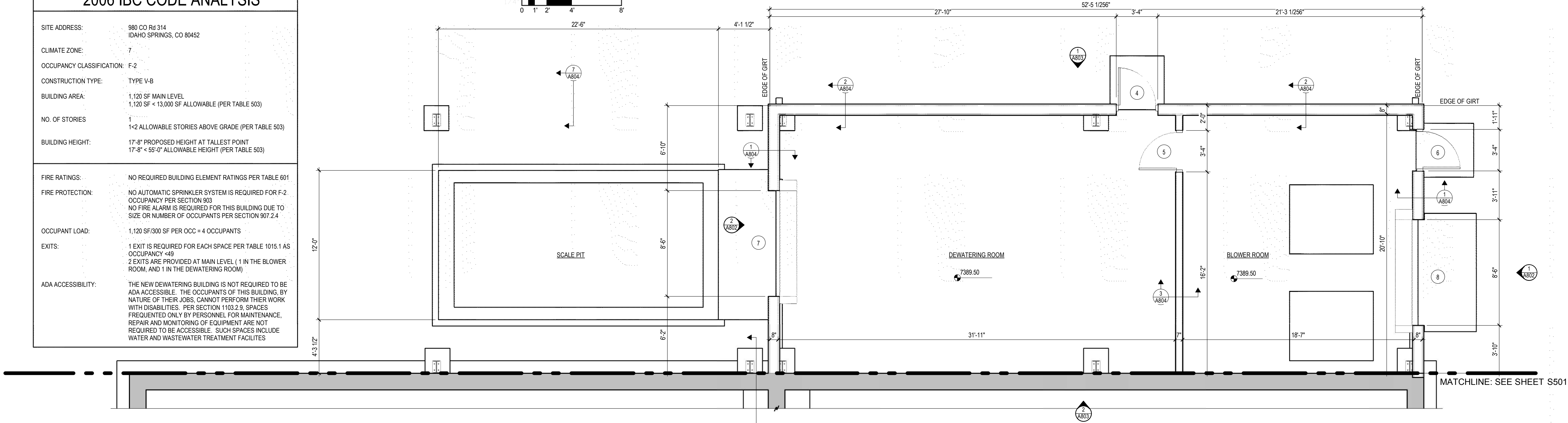
A801



SOLIDS HANDLING BUILDING ROOF

1/4" = 1'-0"
0 1' 2' 4' 8'

2006 IBC CODE ANALYSIS	
SITE ADDRESS:	980 CO Rd 314 IDAHO SPRINGS, CO 80452
CLIMATE ZONE:	7
OCCUPANCY CLASSIFICATION:	F-2
CONSTRUCTION TYPE:	TYPE V-B
BUILDING AREA:	1,120 SF MAIN LEVEL 1,120 SF < 13,000 SF ALLOWABLE (PER TABLE 503)
NO. OF STORIES:	1<2 ALLOWABLE STORIES ABOVE GRADE (PER TABLE 503)
BUILDING HEIGHT:	17'-8" PROPOSED HEIGHT AT TALLEST POINT 17'-8" < 55'-0" ALLOWABLE HEIGHT (PER TABLE 503)
FIRE RATINGS:	NO REQUIRED BUILDING ELEMENT RATINGS PER TABLE 601
FIRE PROTECTION:	NO AUTOMATIC SPRINKLER SYSTEM IS REQUIRED FOR F-2 OCCUPANCY PER SECTION 903 NO FIRE ALARM IS REQUIRED FOR THIS BUILDING DUE TO SIZE OR NUMBER OF OCCUPANTS PER SECTION 907.2.4
OCCUPANT LOAD:	1,120 SF/300 SF PER OCC = 4 OCCUPANTS
EXITS:	1 EXIT IS REQUIRED FOR EACH SPACE PER TABLE 1015.1 AS OCCUPANCY <49 2 EXITS ARE PROVIDED AT MAIN LEVEL (1 IN THE BLOWER ROOM, AND 1 IN THE DEWATERING ROOM)
ADA ACCESSIBILITY:	THE NEW DEWATERING BUILDING IS NOT REQUIRED TO BE ADA ACCESSIBLE. THE OCCUPANTS OF THIS BUILDING, BY NATURE OF THEIR JOBS, CANNOT PERFORM THEIR WORK WITH DISABILITIES. PER SECTION 1103.2.3, SPACES FREQUENTED ONLY BY PERSONNEL FOR MAINTENANCE, REPAIR AND MONITORING OF EQUIPMENT ARE NOT REQUIRED TO BE ACCESSIBLE. SUCH SPACES INCLUDE WATER AND WASTEWATER TREATMENT FACILITIES



SOLIDS HANDLING BUILDING FOUNDATION

1/4" = 1'-0"

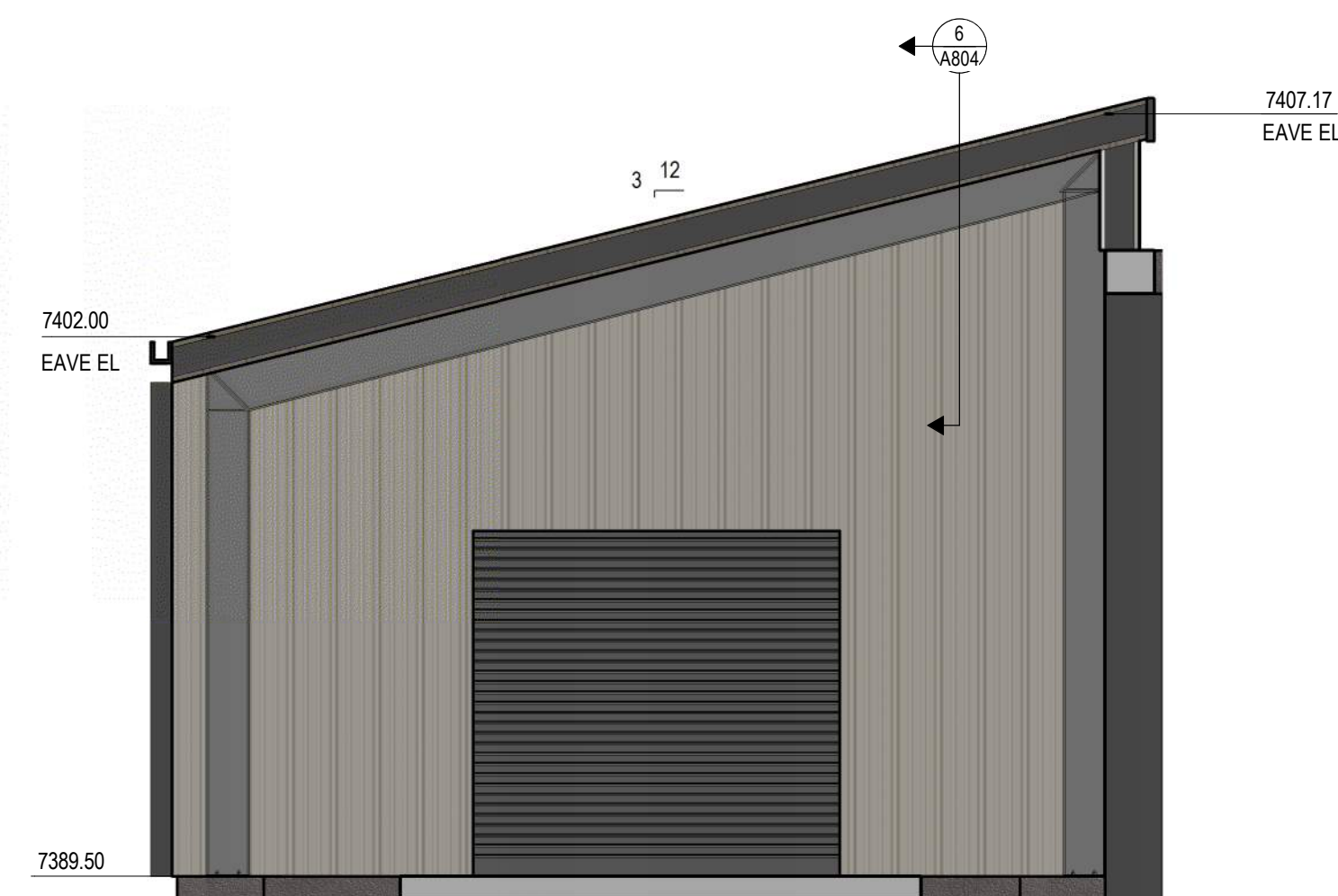


1
A802

DIGESTER EAST ELEVATION

1/4" = 1'-0"

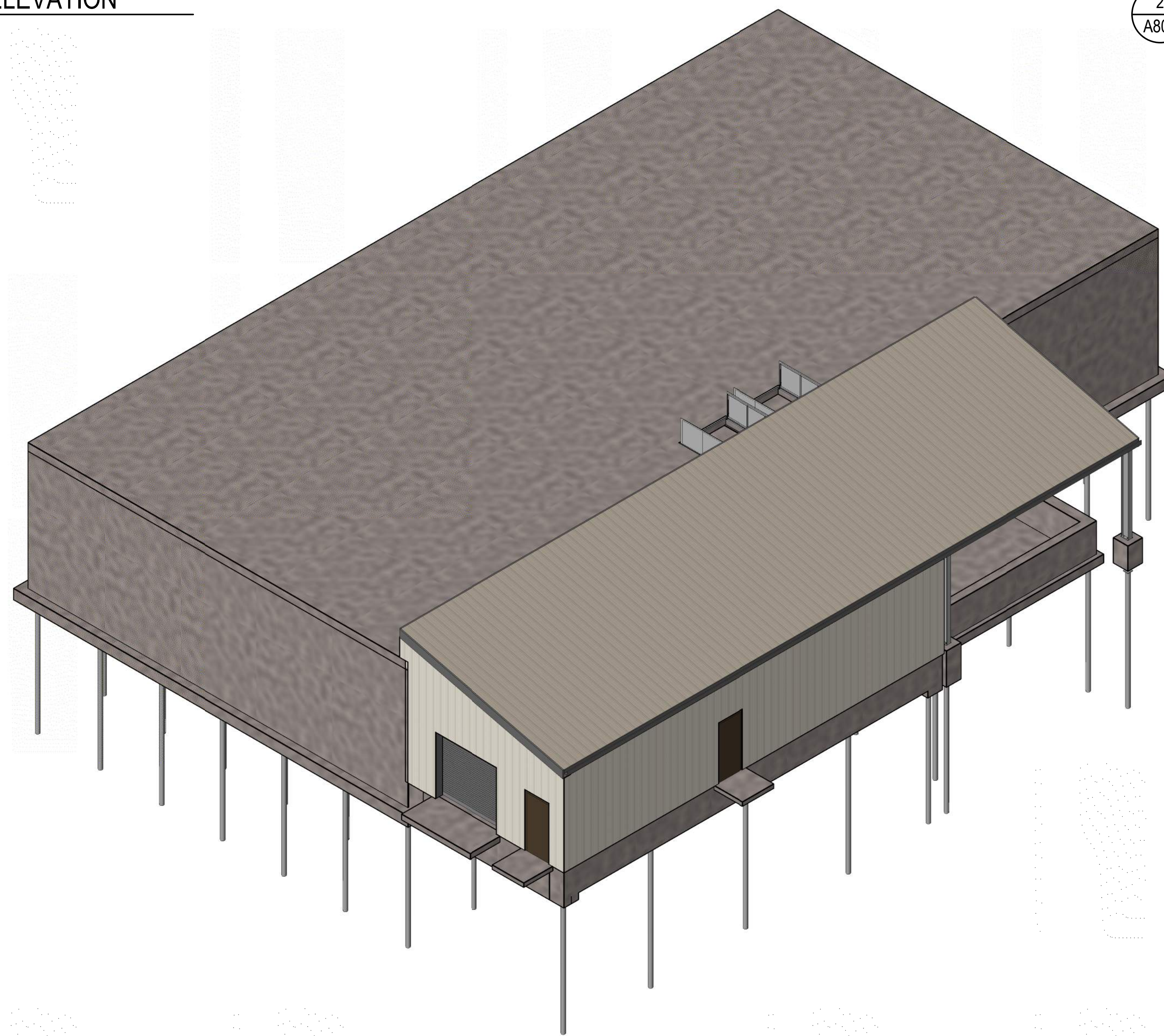
01'2'4'8'



2
A802

DIGESTER WEST ELEVATION

1/4" = 1'-0"



3D VIEW

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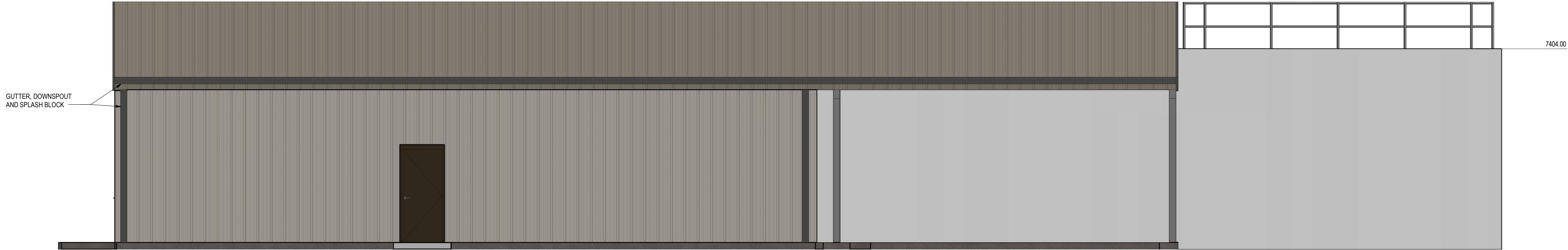
CITY OF IDAHO SPRINGS WWTP EXPANSION - PROJECT 1 IDAHO SPRINGS, COLORADO	DEWATERING SECTIONS AND ELEVATIONS
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SHEET NO.

A802

REVISION DESCRIPTION				
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JOB #:	19178
DATE:	NOVEMBER 2018
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1
A803

DIGESTER NORTH ELEVATION

1/4" = 1'-0"

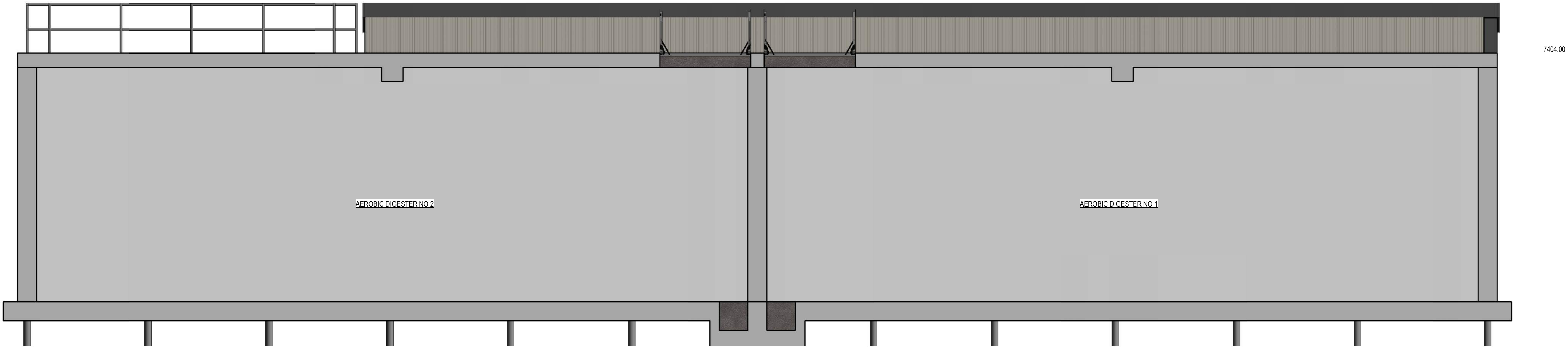
0

1'

2'

4'

8'



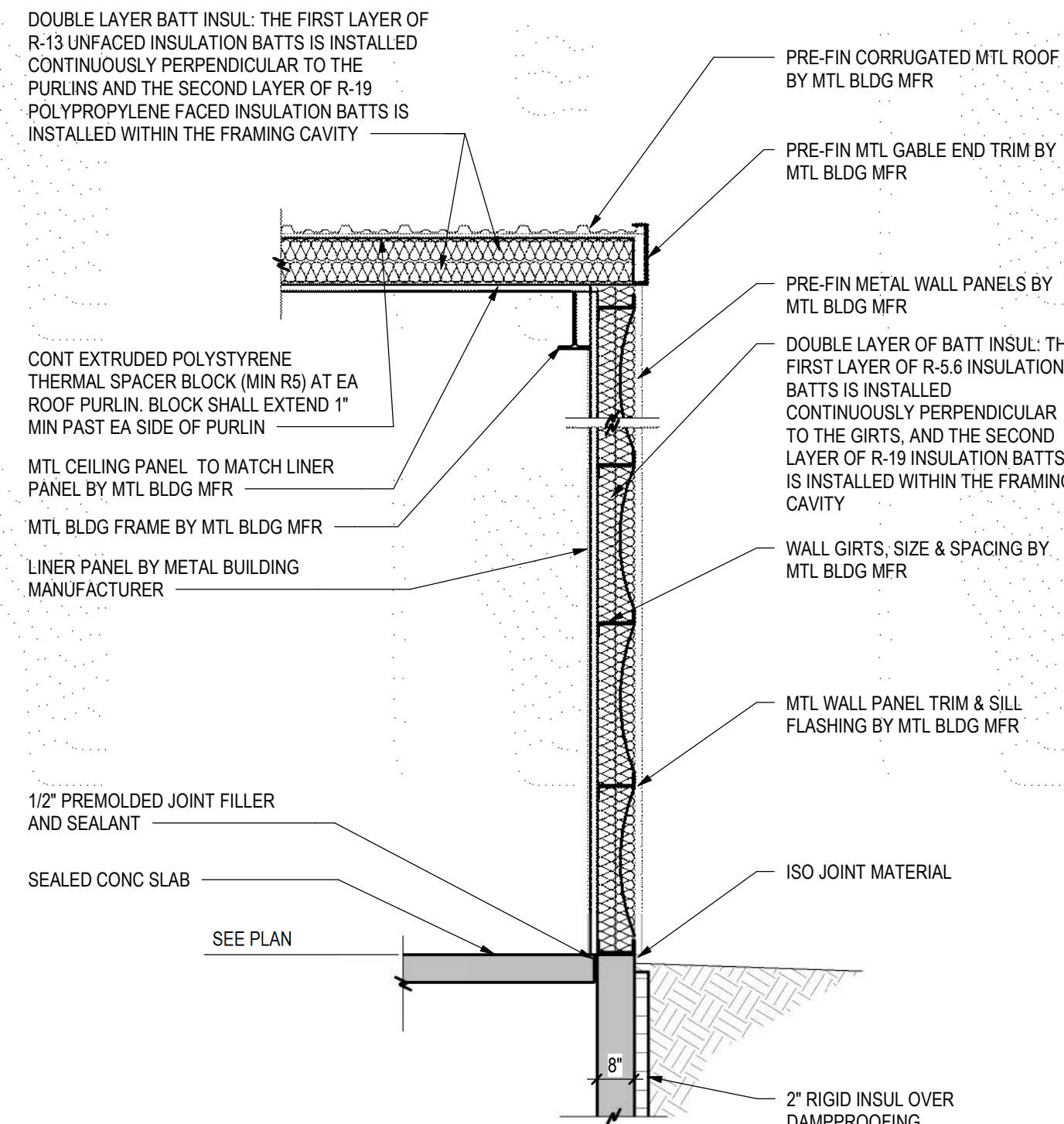
2
A803

DIGESTER SOUTH ELEVATION

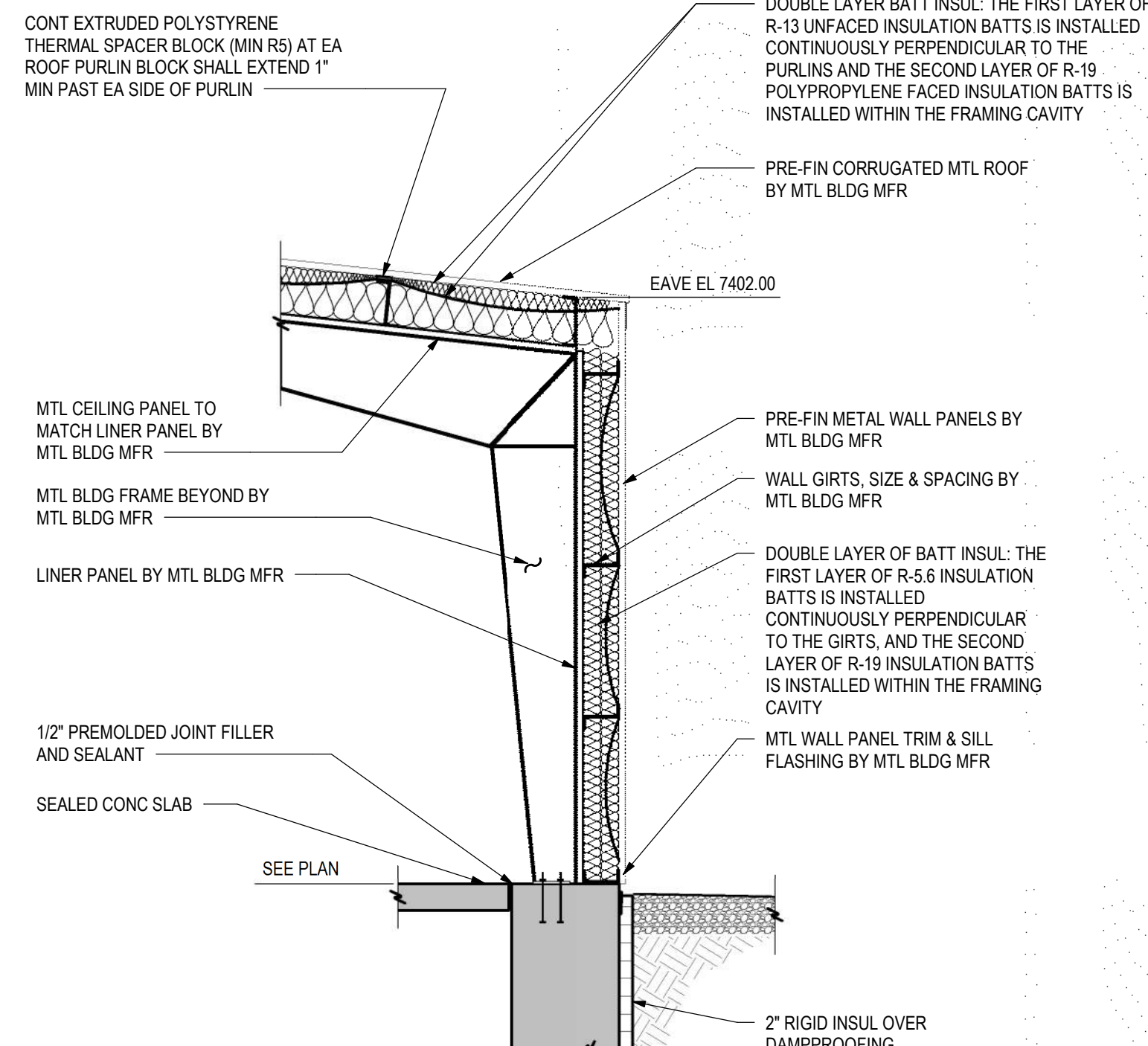
1/4" = 1'-0"



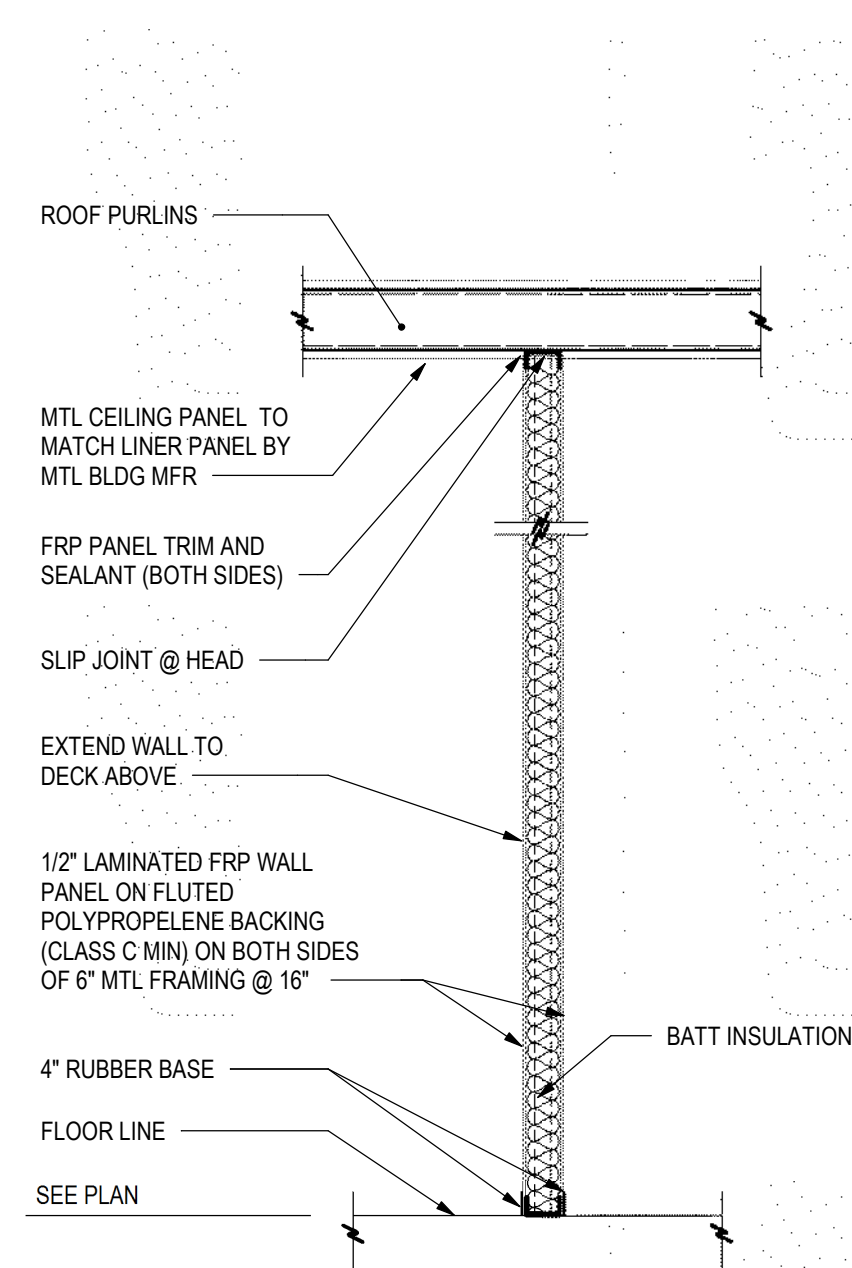
JVA, Incorporated 1319 Spruce Street
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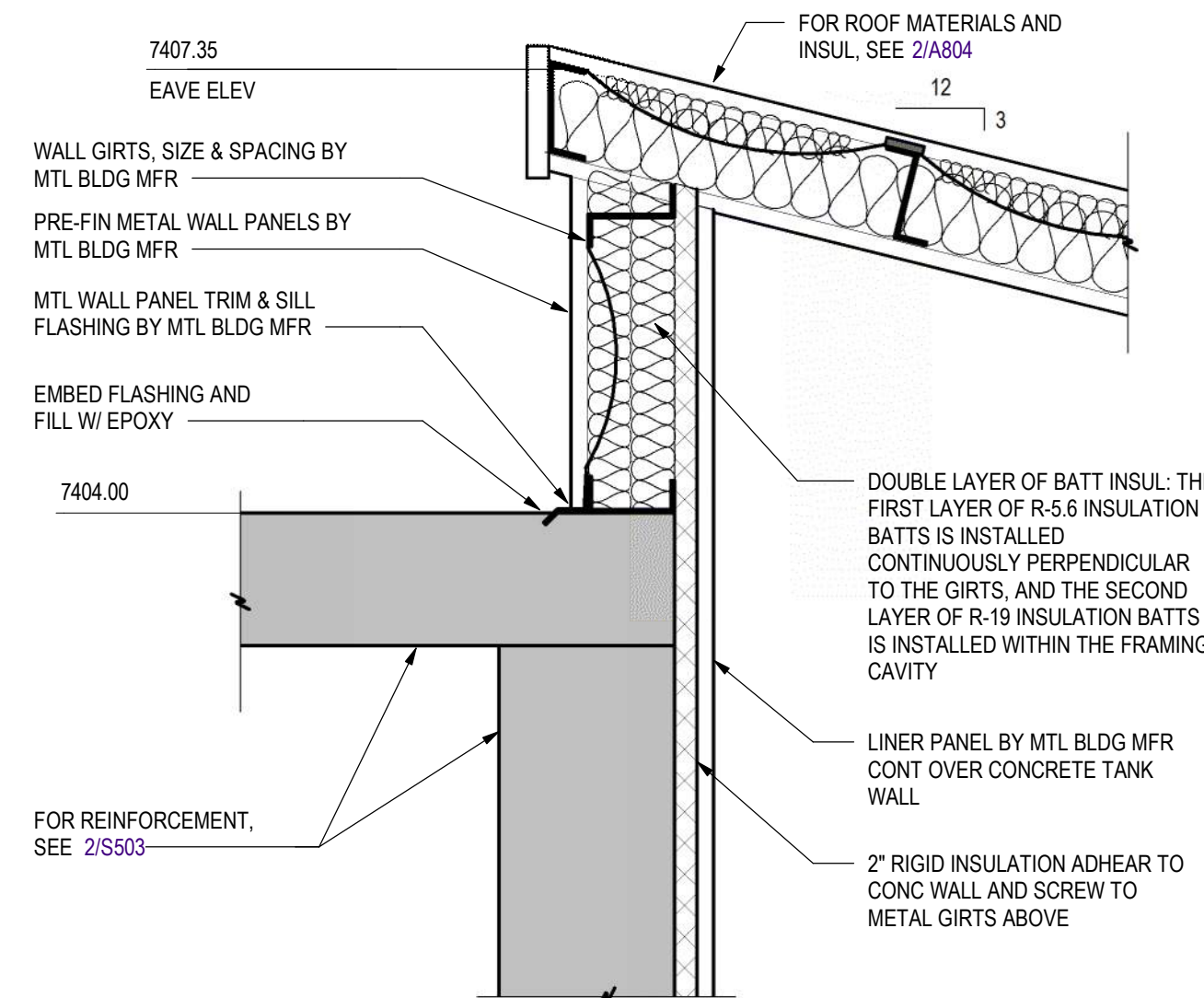
1 SECTION
A804 3/8" = 1'-0"
0 1' 2' 4' 6'



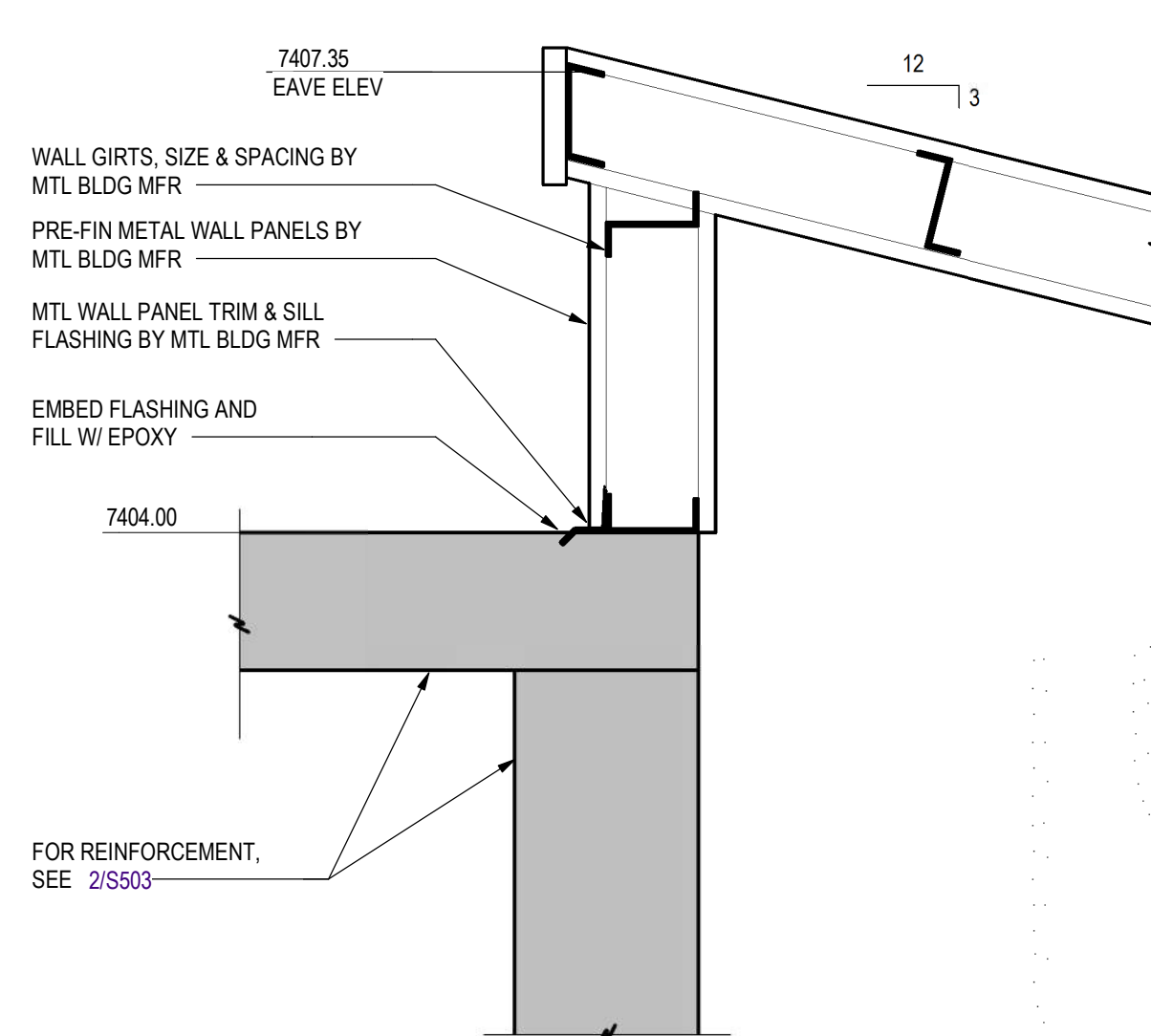
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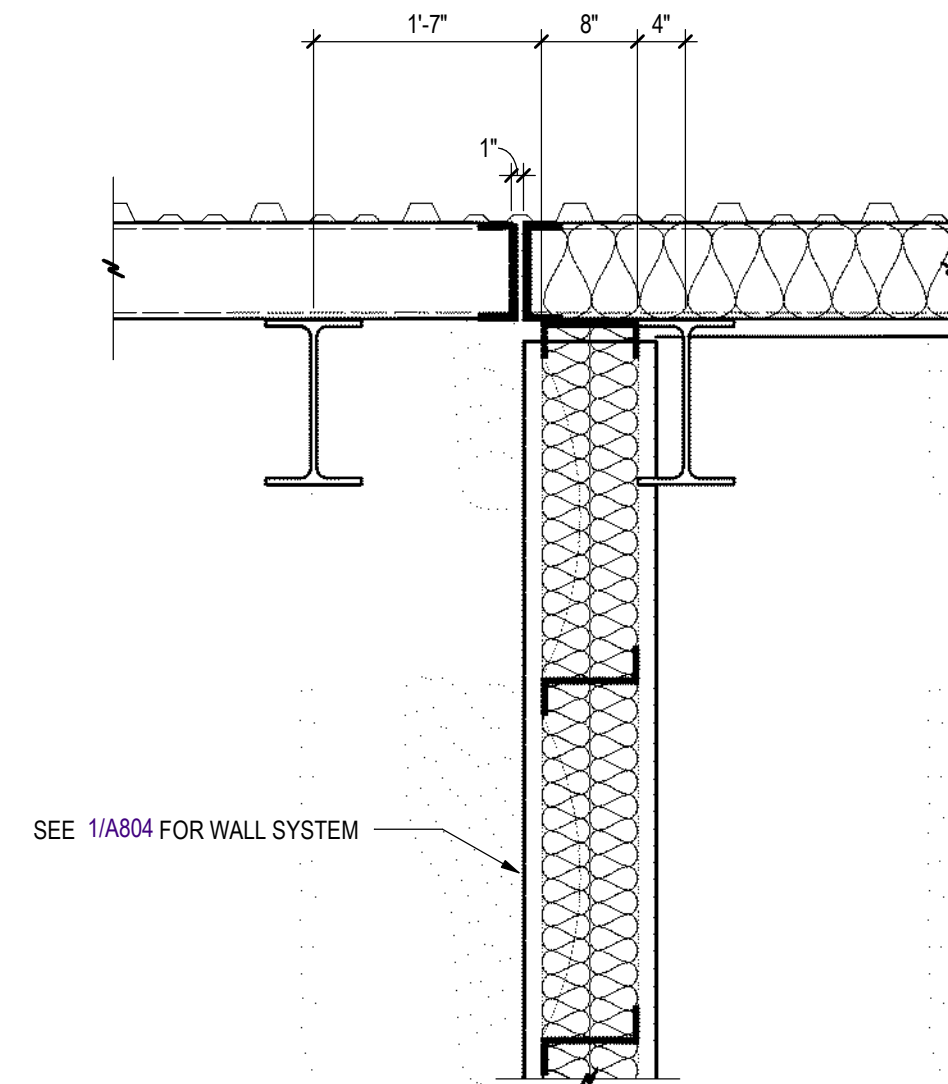
3 SECTION
A804 3/8" = 1'-0"



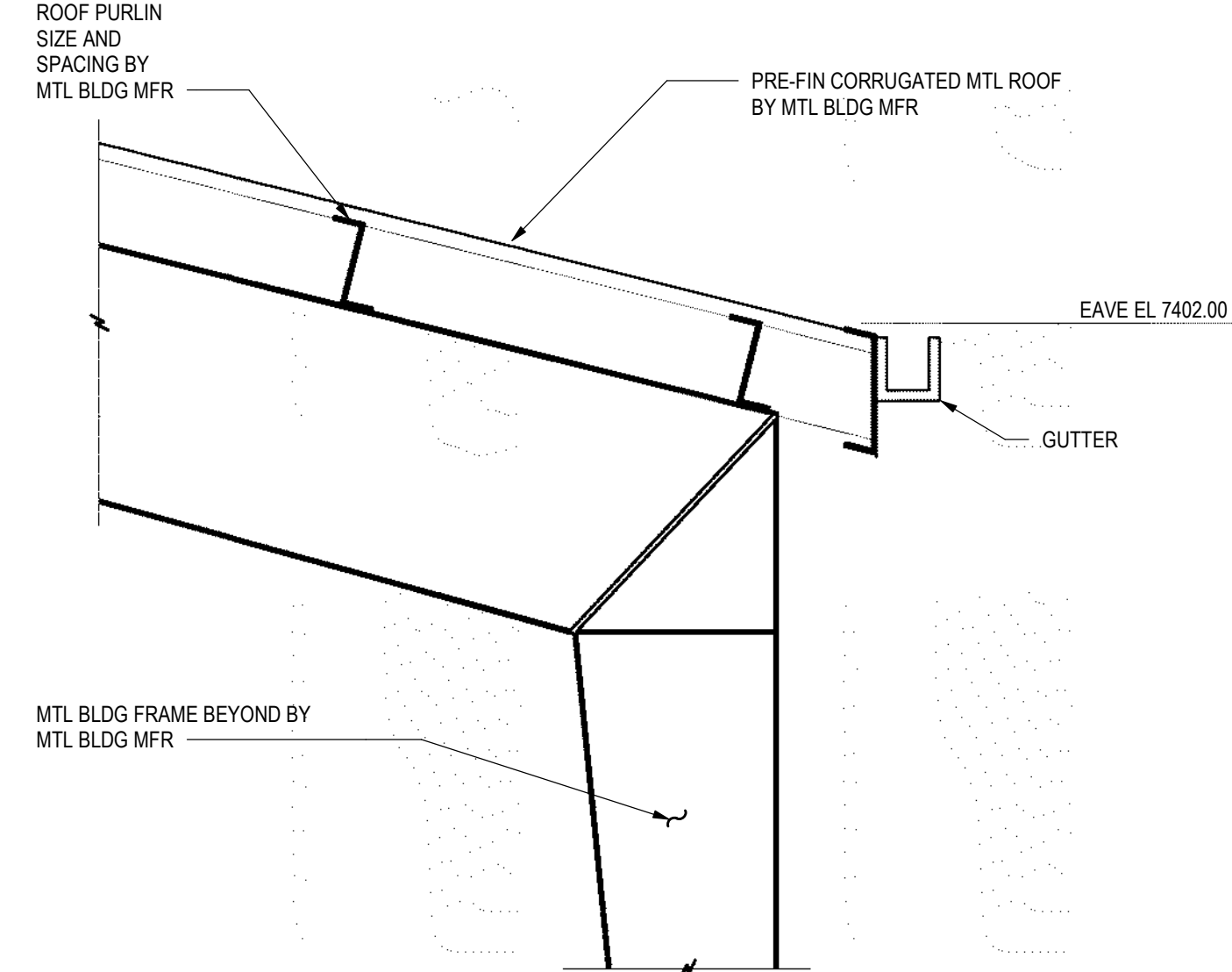
4 SECTION
A804 3/4" = 1'-0"
0 6\"/>



5 SECTION
A804 3/4" = 1'-0"



6 SECTION
A804 3/4" = 1'-0"



7 SECTION
A804 3/4" = 1'-0"

REVISION DESCRIPTION			
NO	DATE	DES	DWN

DESIGNED BY:	KL B
DRAWN BY:	KL B
CHECKED BY:	AJT
JOB #:	19178
DATE:	NOVEMBER 2018
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CITY OF IDAHO SPRINGS
WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO

SECTIONS

SHEET NO.

A804



5'-0" MAX SPACING

RAILING

TOE PLATE

TOP OF FLOOR

3'-6"

HORIZONTAL RAILING ELEVATION



Diagram showing two window types (1 and 2) with dimensions and labels:

- Window 1: Dimensions are 2'-11 1/2" (width) and 5'-11 1/2" (height). It is labeled "1" below.
- Window 2: Dimensions are 4'-11 1/2" (width) and 5'-11 1/2" (height). It is labeled "2" below.
- Labels: "SILL HT" (Sill Height) and "FINISHED FLOOR" are indicated on the left side.
- Legend: A box labeled "X" is defined as "WINDOW TYPE".

[illegible]

DESIGNED BY:	KLB
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JOB #:	19178
DATE:	NOVEMBER 2018
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CITY OF IDAHO SPRINGS
WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO

ARCHITECTURAL SCHEDULES AND
DETAILS

SHEET NO.

AD001

STRUCTURAL GENERAL NOTES

DESIGN LOADS:

- DESIGN LOADS: 2006 INTERNATIONAL BUILDING CODE, ASCE 7-05
- RISK CATEGORY: III SUBSTANTIAL HAZARD
- ROOFS:
 - GROUND SNOW LOAD, P_g 60 PSF
 - FLAT-ROOF SNOW LOAD, P_f 56 PSF, 47 PSF FOR ROOFS OVER ENCLOSED SPACES
 - SNOW EXPOSURE FACTOR, C_e 1.0
 - SNOW IMPORTANCE FACTOR, I_s 1.1
 - THERMAL FACTOR, C_t 12, 1.0 FOR ROOF ENCLOSING INTERIOR SPACE
- FLOOR LIVE LOADS:
 - SLAB ON GRADE FLOORS 150 PSF
 - DIGESTER SLAB 100 PSF
- WIND:
 - NOMINAL DESIGN WIND SPEED, V_{ASD} (3-SECOND GUST) 135 MPH
 - WIND IMPORTANCE FACTOR 1.15
 - INTERNAL PRESSURE COEFFICIENT 0.18 (ENCLOSED)
 - WIND EXPOSURE 8
 - AIR DENSITY COEFFICIENT 0.81
 - COMPONENTS AND CLADDING ULTIMATE DESIGN WIND PRESSURES
 - WALLS:
 - WITHIN 3 FEET OF CORNERS +22.7 PSF -25.4 PSF
 - AWAY FROM CORNERS +22.7 PSF -25.3 PSF
 - ROOFS:
 - WITHIN 3 FEET OF CORNERS +17.5 PSF -71.5 PSF
 - WITHIN 3 FEET OF EDGES +17.5 PSF -48.4 PSF
 - AWAY FROM EDGES +17.5 PSF -27.8 PSF
 - PRESSURES MAY BE REDUCED FOR EFFECTIVE WIND AREAS LARGER THAN 10 SQUARE FEET, BUT NOT BELOW 10 PSF.
- SEISMIC:
 - SPECTRAL RESPONSE ACCELERATION PARAMETERS
 - SHORT PERIOD
 - S_s 0.250g
 - $S_{0.05}$ 0.267g
 - ONE SECOND
 - S_1 0.062g
 - $S_{0.1}$ 0.099g
 - SOIL SITE CLASS D
 - SEISMIC IMPORTANCE FACTOR 1.25
 - SEISMIC DESIGN CATEGORY B

FOUNDATION DESIGN:

- REFER TO SOILS REPORT NO. 25185147 BY TERRACON, DATED OCTOBER 3, 2018.
- GEOTECHNICAL ENGINEER SHALL VERIFY SOIL CONDITIONS AND TYPES DURING EXCAVATION AND PRIOR TO PLACEMENT OF FORMWORK OR CONCRETE.
- MINIMUM FROST DEPTH SHALL BE 3'-0" BELOW EXTERIOR GRADE.

FOOTINGS:

- DESIGN OF FOOTINGS IS BASED ON
 - MAXIMUM ALLOWABLE BEARING PRESSURE 2,000 PSF
- BEAR ON 3'-0" COMPACTED STRUCTURAL FILL OR MICROPILES. EXTERIOR FOOTINGS SHALL BEAR BELOW FROST DEPTH.

MICROPILES:

- PILES SHALL BE INSTALLED BY A CONTRACTOR CERTIFIED BY THE MANUFACTURER AND INSTALLED TO SATISFY THE LOAD REQUIREMENTS GIVEN ON IN THE STRUCTURAL DRAWINGS.
- SHAFT DIMENSION, DIAMETER, AND INSTALLATION DEPTH SHALL BE DETERMINED BY THE MICROPILE DESIGNER BASED ON THE INFORMATION PRESENTED IN THE SOILS REPORT AND THE MANUFACTURER'S OWN REQUIREMENTS.
- THE SOILS ENGINEER SHALL BE PRESENT DURING PIER INSTALLATION TO CONFIRM THAT THE PROPER INSTALLATION PROCEDURES ARE USED AND TO MONITOR INSTALLATION.

EARTH RETAINING STRUCTURES:

- EARTH EQUIVALENT FLUID LATERAL PRESSURE:
 - WALLS RESTRAINED AT TOP (AT REST) 60 PCF
 - CANTILEVERED WALLS (ACTIVE) 40 PCF
 - PASSIVE RESISTING 360 PCF
- COEFFICIENT OF SLIDING FRICTION 0.4

REINFORCED CONCRETE:

- DESIGN IS BASED ON ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE."
- CONCRETE WORK SHALL CONFORM TO ACI 301 "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE."
- STRUCTURAL CONCRETE SHALL HAVE THE FOLLOWING PROPERTIES:

INTENDED USE	EXPOSURE CLASS	f'_c , PSI 28 DAYS	MAX. W/CM RATIO	MAXIMUM AGGREGATE	SLUMP, INCHES (+/- 1")	AIR CONTENT PERCENT (+/- 1.5%)	CEMENT TYPE
BASE SLABS	F0-S0-W0-C1	4000	0.45	3/4" STONE	4	2%	III
STEM WALLS	F2-S0-W0-C1	4500	0.45	3/4" STONE	4	6%	III
GRADE BEAMS	F2-S0-W0-C1	4500	0.45	3/4" STONE	4	6%	III
WALLS	F0-S0-W0-C0	4500	0.45	3/4" STONE	4	6%	III
FORMED STRUCTURAL SLAB	F0-S0-W0-C0	4500	0.45	3/4" STONE	4	3%	III
INTERIOR SLAB ON GRADE	F0-S0-W0-C0	4000	0.45	3/4" STONE	4	3%	III
EXTERIOR SLAB ON GRADE	F3-S0-W0-C2	5000	0.40	3/4" STONE	4	6%	III
BEAMS & COLUMNS	F2-S0-W0-C1	4500	0.45	3/4" STONE	4	6%	III

- DETAILING, FABRICATION, AND PLACEMENT OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ACI 318 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT."
- REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60.
- AT CORNERS AND INTERSECTIONS, MAKE HORIZONTAL BARS CONTINUOUS OR PROVIDE MATCHING CORNER BARS FOR EACH LAYER OF REINFORCEMENT.
- TRIM OPENINGS IN WALLS AND SLABS WITH (2)-#5 FOR EACH LAYER OF REINFORCEMENT, FULLY DEVELOPED BY EXTENSION OR HOOK.
- IN CONTINUOUS MEMBERS, SPLICE TOP BARS AT MID-SPAN AND SPLICE BOTTOM BARS OVER SUPPORTS.
- FORM INTERMITTENT SHEAR KEYS AT ALL CONSTRUCTION JOINTS AND AS SHOWN ON THE STRUCTURAL DRAWINGS.
- EXCEPT AS NOTED ON THE DRAWINGS, CONCRETE PROTECTION FOR REINFORCEMENT IN CAST-IN-PLACE CONCRETE SHALL BE AS FOLLOWS:
 - CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"
 - EXPOSED TO EARTH OR WEATHER: 3"
 - #6 THROUGH #18 BARS
 - #5 BAR, W31 OR D31 WIRE, AND SMALLER
 - NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
 - SLABS, WALLS, JOISTS: #11 BARS AND SMALLER
 - BEAMS AND COLUMNS:
 - PRIMARY REINFORCEMENT 1-1/2"
 - STIRRUPS, TIES, SPIRALS 1-1/2"
 - FIBER ADMIXTURE SHALL BE 100% VIRGIN POLYPROPYLENE, FIBRILLATED FIBERS, TYPE III 4.1.3, PERFORMANCE LEVEL ONE, PER ASTM C1116.
 - ANCHOR BOLTS AND RODS FOR BEAM AND COLUMN-BEARING PLATES SHALL BE PLACED WITH SETTING TEMPLATES.

POST-INSTALLED METAL ANCHORS

- ALL CAST IN PLACE ANCHORS DESIGNED IN ACCORDANCE WITH ACI 318.
- POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER-OF-RECORD PRIOR TO INSTALLING POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS.
- CARE SHALL BE TAKEN IN PLACING ANCHORS TO AVOID CONFLICTS WITH EXISTING REBAR. EXISTING REINFORCING BARS SHALL NOT BE CUT UNLESS APPROVED BY THE EOR.
- ALL ANCHORS MUST BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INFORMATION (MPII) IN CONJUNCTION WITH EDGE DISTANCE, SPACING, AND EMBEDMENT DEPTH AS INDICATED ON THE DRAWINGS. HOLES SHALL BE DRILLED AND CLEANED IN ACCORDANCE WITH THE MPII.
- SUBSTITUTION REQUESTS, FOR PRODUCTS OTHER THAN THOSE SPECIFIED, SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER-OF-RECORD ALONG WITH CALCULATIONS THAT ARE PREPARED & SEALED BY A REGISTERED PROFESSIONAL ENGINEER. REGISTRATION MUST BE IN THE STATE IN WHICH THE PROJECT IS LOCATED. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING EQUIVALENT PERFORMANCE VALUES (MINIMUM) OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARD(S) AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
- THE CONTRACTOR SHALL ARRANGE FOR A MANUFACTURER'S FIELD REPRESENTATIVE TO PROVIDE INSTALLATION TRAINING FOR ALL PRODUCTS TO BE USED, PRIOR TO THE ANCHOR INSTALLATION. A RECORD OF TRAINING SHALL BE KEPT ON SITE AND MADE AVAILABLE TO THE EOR/ SPECIAL INSPECTOR AS REQUESTED.
- ADHESIVE ANCHORS INSTALLED IN HORIZONTAL TO VERTICALLY OVERHEAD ORIENTATION THAT SUPPORT SUSTAINED TENSION LOADS SHALL BE DONE BY A CERTIFIED ANCHOR INSTALLER (AAI) AS CERTIFIED THROUGH ACICRS (ACI 318-11 D.9.2.2, ACI 318-14 D.17.8.2.2). PROOF OF CURRENT CERTIFICATION SHALL BE SUBMITTED TO THE EOR FOR APPROVAL PRIOR TO COMMENCEMENT OF INSTALLATION.
- ADHESIVE ANCHORS MUST BE INSTALLED IN CONCRETE AGED A MINIMUM OF 21 DAYS (ACI 318-11 D.2.2, ACI 318-14 D.17.1.2)
- ALL POST INSTALLED ANCHORS SHALL BE INSTALLED IN DRY HOLES THAT HAVE BEEN DRILLED, CLEANED, AND PREPARED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INFORMATION AND THE RESPECTIVE ICCES EVALUATION REPORTS.
- SPECTRAL RESPONSE ACCELERATION PARAMETERS

STRUCTURAL MASONRY:

- DESIGN IS BASED ON ACI 530/ASCE 5/TMS 402, "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES," ALLOWABLE STRESS DESIGN.
- 28-DAY COMPRESSIVE STRENGTH OF MASONRY ASSEMBLY USED FOR DESIGN IS 2,000 PSI, BASED ON NET-BEDDED AREA.
- EXCEPT AT MASONRY UNTELS USING STANDARD UNTEL UNITS, BOND BEAM UNITS SHALL BE PRODUCED FROM STANDARD VERTICALLY VOIDED UNITS WITH PRE-CUT KNOCKOUT CROSS WALLS.
- HOLLOW LOAD-BEARING CONCRETE MASONRY UNITS (CMU) SHALL BE LIGHTWEIGHT, 85 TO 105 PCF DENSITY, CONFORMING TO ASTM C90, WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 2,000 PSI BASED ON AVERAGE NET AREA.
- MORTAR SHALL BE TYPE S CONFORMING TO ASTM C270.
- MASONRY CEMENT SHALL NOT BE USED UNLESS PART OF A PRE-PACKAGED MORTAR OR GROUT MIX APPROVED BY THE STRUCTURAL ENGINEER.
- ADMIXTURES SHALL NOT BE USED UNLESS APPROVED BY THE ARCHITECT AND/OR STRUCTURAL ENGINEER.
- GROUT USED IN MASONRY WALLS AND BLOCK CELLS SHALL BE COARSE GROUT, AS DEFINED BY ARTICLE 2.2 OF TMS 602/ACI 530.1/ASCE 6, WITH A MINIMUM CUBE STRENGTH = 2,000 PSI OR 3,000 PSI CONCRETE USING 3/8" DIAMETER AGGREGATE AND PLACED BY VIBRATING UNLESS AN APPROVED SELF-CONSOLIDATING MIX IS USED.
- PLACEMENT OF MORTAR, GROUT, MASONRY UNITS AND WALL TIES SHALL COMPLY WITH TMS 602.1/ASCE 6.
- PROVIDE FULL SHOVED MORTAR IN ALL HEAD AND BED JOINTS.
- LOW-LIFT GROUTING SHALL NOT EXCEED 5 FEET IN HEIGHT UNLESS ACI 530.1 HIGH-LIFT GROUTING PROCEDURES ARE REVIEWED AND APPROVED BY THE ARCHITECT AND STRUCTURAL ENGINEER.
- VERTICALLY SPACE CONTINUOUS HORIZONTAL JOINT REINFORCING AT 16" MAXIMUM IN ALL CMU WALLS. JOINT REINFORCING SHALL BE WELDED TYPE WITH 9 GAGE SIDE RODS AND 9 GAGE LADDER CROSS RODS. IN EXTERIOR WALLS, JOINT REINFORCEMENT SHALL BE STAINLESS STEEL OR HOT-DIP GALVANIZED. ALL OTHER JOINT REINFORCEMENT SHALL BE MILL GALVANIZED, HOT-DIP GALVANIZED, OR STAINLESS STEEL.
- REINFORCING BARS SHALL BE AS FOR REINFORCED CONCRETE EXCEPT AS NOTED. UNLESS OTHERWISE NOTED ON THE STRUCTURAL DRAWINGS, LAP BARS 50 DIAMETERS (MINIMUM) AT SPLICES. REINFORCEMENT SHALL BE SECURED AGAINST DISPLACEMENT PRIOR TO GROUTING BY WIRE BAR LOCATORS OR OTHER SUITABLE DEVICES AT INTERVALS NOT EXCEEDING 200 BAR DIAMETERS OR 10 FEET.
- REINFORCE AND GROUT VERTICAL CELLS AT CORNERS, ENDS OF WALLS, JAMBS OF OPENINGS, EACH SIDE OF VERTICAL CONTROL JOINTS, AND AT SPACING SHOWN ON DRAWINGS.
- WHERE NOTED ON THE DRAWINGS, PROVIDE CLEARANCE BETWEEN MASONRY AND STRUCTURAL ELEMENTS, OR WRAP STEEL WITH POLYETHYLENE FILM.
- LOCATE VERTICAL CONTROL JOINTS IN ALL MASONRY WALLS AS SHOWN ON THE ARCHITECTURAL DRAWINGS, STRUCTURAL DRAWINGS, OR SPACED HORIZONTALLY AT 25'-0" MAXIMUM SPACINGS WHERE NOT SHOWN.

STRUCTURAL STEEL:

- STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" (AISC 360) AND THE "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" (AISC 303) BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC).
- STRUCTURAL STEEL WIDE FLANGE BEAMS SHALL CONFORM TO ASTM A992, 50 KSI YIELD.
- OTHER ROLLED SHAPES, INCLUDING PLATES, CHANNELS, WTS, AND ANGLES SHALL CONFORM TO ASTM A36, 36 KSI YIELD.
- HOLLOW STRUCTURAL SECTION (HSS) RECTANGULAR SHAPES SHALL CONFORM TO ASTM A500, GRADE C, 50 KSI YIELD.
- HSS ROUND SHAPES SHALL CONFORM TO ASTM A500, GRADE C, 46 KSI YIELD.
- PIPE SHAPES SHALL CONFORM TO ASTM A53, GRADE B, 35 KSI YIELD.
- EXCEPT AS NOTED, FRAMED BEAM CONNECTIONS SHALL BE BEARING-TYPE WITH 3/4" DIAMETER, SNUG TIGHT, ASTM A325 BOLTS, DETAILED IN ACCORDANCE WITH THE STRUCTURAL DRAWINGS AND THE STEEL CONSTRUCTION MANUAL, BY THE AISC. INSTALL BOLTS IN ACCORDANCE WITH AISCS' SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS.
- ALL BEAMS SHALL HAVE FULL DEPTH WEB STIFFENERS EACH SIDE OF WEBS ABOVE AND BELOW COLUMNS.
- ANCHOR RODS SHALL CONFORM TO ASTM F1554, GRADE (36, 55, AND/OR 105) AS NOTED ON THE STRUCTURAL DRAWINGS WITH WELDABILITY SUPPLEMENT S1.
- WELDING SHALL BE DONE BY A CERTIFIED WELDER IN ACCORDANCE WITH THE AISC DOCUMENTS LISTED ABOVE, THE AMERICAN WELDING SOCIETY (AWS) D1.1: STRUCTURAL WELDING CODE, AND THE RECOMMENDATIONS FOR USE OF WELD E70 ELECTRODES. WHERE NOT SPECIFICALLY NOTED, MINIMUM WELD SHALL BE 3/16" FILLET BY LENGTH OF CONTACT EDGE.
- ALL POST-INSTALLED ANCHORS SHALL HAVE CURRENT INTERNATIONAL CODE COUNCIL EVALUATION SERVICE (ICC-ES) REPORTS AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.
- EXPANSION ANCHORS SHALL BE APPROVED "WEDGE" TYPE UNLESS SPECIFICALLY NOTED TO BE "SLEEVE" TYPE AS NOTED ON THE STRUCTURAL DRAWINGS.
- CHEMICAL ANCHORS SHALL BE APPROVED EPOXY OR SIMILAR ADHESIVE TYPE AS APPROPRIATE FOR INSTALLATION IN SOLID AND NON-SOLID BASE MATERIALS.

COLD-FORMED STEEL FRAMING:

- MEMBER FORMING SHALL CONFORM TO THE AISI NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS.
- ALL STRUCTURAL FRAMING (STUDS, JOISTS, TRACK, RUNNERS, BRACING, AND BRIDGING) SHALL BE GALVANIZED G-60 SHEET STEEL CONFORMING TO ASTM A1003.
- STUDS AND JOISTS 54 MILS (16 GAUGE) AND HEAVIER SHALL BE 50 KSI YIELD. 43 MILS (18 GAUGE) AND LIGHTER SHALL BE 33 KSI YIELD (16 GAUGE).
- SUBCONTRACTOR SHALL PROVIDE BRIDGING AND BLOCKING AT A MAXIMUM OF 6 FOOT SPACING OR AS REQUIRED FOR STABILITY AND STIFFNESS OF THE FINAL ASSEMBLY WHEREVER SHEATHING DOES NOT PROVIDE ADEQUATE BRACING.
- WHERE PUNCHOUTS ARE WITHIN 8" OF MEMBER ENDS, INSTALL UNPUNCHED STIFFENERS WITH (4) #10 SCREWS EACH EDGE TO THE STIFFENING MEMBER.
- PARALLEL MEMBERS IN CONTACT SHALL HAVE #10 SCREWS @ 16" MAX ALONG EACH CONTACT EDGE IN THE FIELD OF THE MEMBER.
- COLD FORMED STEEL FRAMING STUDS AND FRAMING ATTACHMENT IS DESIGNED FOR THE TRIBUTARY WIND AND GRAVITY LOAD OF THE STUD SPACING. CLADDING SUPPLIER TO DESIGN CLADDING TO ATTACH AT EACH STUD. CLADDING ATTACHMENT SPACING WHICH EXCEEDS THE STUD SPACING IS NOT ACCEPTABLE WITHOUT APPROVAL FROM THE METAL STUD SUPPLIER/DESIGNER AND THE PROJECT EOR. IF THE CLADDING SUPPLIER DOES NOT ATTACH TO EACH STUD, THE LOADS FROM THE CLADDING SUPPLIER MUST BE PROVIDED TO THE METAL STUD FRAMING SUPPLIER. THE METAL STUD FRAMING SUPPLIER WILL NEED TO INCORPORATE THESE LOADS INTO THE METAL STUD FRAMING DESIGN. GC TO COORDINATE BETWEEN METAL STUD FRAMING SUPPLIER AND CLADDING SUPPLIER AS REQUIRED.
- THE SSMA PRODUCT IDENTIFICATION CODES ARE USED TO LABEL MEMBERS ON THE DRAWINGS: [MEMBER DEPTH IN 1/100 INCHES][STYLE][FLANGE WIDTH IN 1/100 INCHES][MATERIAL THICKNESS IN MILS][YIELD STRENGTH KSI]

STYLE	SECTION	THICKNESS (MILS)	REFERENCE ONLY GAUGE NO.
S	STUD OR JOIST	33	20 - STRUCTURAL
T	TRACK	43	18
U	CHANNEL	54	16
F	FURRING CHANNEL	68	14
		97	12

PRE-ENGINEERED METAL BUILDING

- METAL BUILDING COLUMN REACTIONS:
 - THESE CONSTRUCTION DOCUMENTS WERE PREARED USING PRELIMINARY METAL BUILDING COLUMN REACTIONS.
 - FOUNDATIONS SUPPORTING THE METAL BUILDING COLUMNS WERE DESIGNED AND DETAILED USING THESE PRELIMINARY REACTIONS AND AUGMENTED BY ENGINEERING JUDGMENT OF THE INCOMPLETE INFORMATION.
- ALTHOUGH A CONSCIENTIOUS EFFORT WAS MADE TO CONSERVATIVELY ESTIMATE THE INCOMPLETE METAL BUILDING DESIGN INFORMATION, THE CONTRACTOR SHOULD ASSUME THAT SOME RE-DESIGN AND RE-DETAILING OF FOUNDATIONS SUPPORTING THE METAL BUILDING COMPONENTS WILL BE REQUIRED AFTER THE COMPLETED METAL BUILDING INFORMATION IS PROVIDED. JVA INC WILL REVIEW THE COMPLETED METAL BUILDING DESIGN INFORMATION WHEN IT BECOMES AVAILABLE AND WILL RE-ISSUE UPDATED FOUNDATION DOCUMENTS INCORPORATING ANY REQUIRED REVISIONS. DO NOT INSTALL FOUNDATIONS UNTIL METAL BUILDING SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED.
- THE PRE-ENGINEERED METAL BUILDINGS SHALL BE DESIGNED TO MEET THE FOLLOWING CRITERIA:
 - SNOW, WIND, AND SEISMIC LOADS AS NOTED.
 - COLLATERAL LOAD: 5 PSF
 - BUILDING DRAFT: H/240
 - MEMBER DEFLECTIONS:
 - ROOF PURLINS - TOTAL LOAD - L/90
 - WIND GIRTS - L/90
 - METAL PANELS - L/240
 - WIND COLUMNS - L/240
- HOT-DIP GALVANIZE PRE-ENGINEERED METAL BUILDING STEEL MEMBERS FOR HEADWORKS BUILDING AND STRUCTURE OVER SCALE.

CORROSION CONTROL:

- ALL STEEL MEMBERS EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED PER ASTM A123.
- FASTENERS AND HARDWARE SHALL BE HOT DIPPED GALVANIZED PER ASTM A153 OR ASTM B695 CLASS 50 (A490 BOLTS SHALL NOT BE HOT DIPPED GALVANIZED). STAINLESS STEEL FASTENERS AND HARDWARE MAY ALSO BE USED.
- ALL FIELD CUT OR DAMAGED SURFACES, FIELD WELDED AREAS AND AUTHORIZED NON-GALVANIZED MEMBERS AS INDICATED ON THE STRUCTURAL DRAWINGS SHALL BE REPAIRED WITH (2) COATS OF A 95% ZINC RICH PAINT PER ASTM A780 (ZRC PREFERRED).

FIELD VERIFICATION OF EXISTING CONDITIONS:

- THE GENERAL CONTRACTOR SHALL THOROUGHLY INSPECT AND SURVEY THE EXISTING STRUCTURE TO VERIFY CONDITIONS THAT AFFECT THE WORK SHOWN ON THE DRAWINGS.
- THE GENERAL CONTRACTOR SHALL REPORT ANY VARIATIONS OR DISCREPANCIES TO THE ARCHITECT AND STRUCTURAL ENGINEER BEFORE PROCEEDING.

STRUCTURAL ERECTION AND BRACING REQUIREMENTS

- THE STRUCTURAL DRAWINGS ILLUSTRATE AND DESCRIBE THE COMPLETED STRUCTURE WITH ELEMENTS IN THEIR FINAL POSITIONS, PROPERLY SUPPORTED, CONNECTED, AND/OR BRACED.
- THE STRUCTURAL DRAWINGS ILLUSTRATE TYPICAL AND REPRESENTATIVE DETAILS TO ASSIST THE GENERAL CONTRACTOR. DETAILS SHOWN APPLY AT ALL SIMILAR CONDITIONS UNLESS OTHERWISE INDICATED. ALTHOUGH DUE DILIGENCE HAS BEEN APPLIED TO MAKE THE DRAWINGS AS COMPLETE AS POSSIBLE, NOT EVERY DETAIL IS ILLUSTRATED AND NOT EVERY EXCEPTIONAL CONDITION IS ADDRESSED.
- ALL PROPRIETARY CONNECTIONS AND ELEMENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS' RECOMMENDATIONS.
- ALL WORK SHALL BE ACCOMPLISHED IN A WORKMANLIKE MANNER AND IN ACCORDANCE WITH THE APPLICABLE CODES AND LOCAL ORDINANCES.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL WORK, INCLUDING LAYOUT AND DIMENSION VERIFICATION, MATERIALS COORDINATION, SHOP DRAWING REVIEW, AND THE WORK OF SUBCONTRACTORS. ANY DISCREPANCIES OR OMISSIONS DISCOVERED IN THE COURSE OF THE WORK SHALL BE IMMEDIATELY REPORTED TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR RESOLUTION.
- CONTINUATION OF WORK WITHOUT NOTIFICATION OF DISCREPANCIES RELIEVES THE ARCHITECT AND STRUCTURAL ENGINEER FROM ALL CONSEQUENCES.
- UNLESS OTHERWISE SPECIFICALLY INDICATED, THE STRUCTURAL DRAWINGS DO NOT DESCRIBE METHODS OF CONSTRUCTION.
- THE GENERAL CONTRACTOR, IN THE PROPER SEQUENCE, SHALL PERFORM OR SUPERVISE ALL WORK NECESSARY TO ACHIEVE THE FINAL COMPLETED STRUCTURE, AND TO PROTECT THE STRUCTURE, WORKMEN, AND OTHERS DURING CONSTRUCTION. SUCH WORK SHALL INCLUDE, BUT NOT BE LIMITED TO TEMPORARY BRACING, SHORING FOR CONSTRUCTION EQUIPMENT, SHORING FOR EXCAVATION, FORMWORK, SCAFFOLDING, SAFETY DEVICES AND PROGRAMS OF ALL KINDS, SUPPORT AND BRACING FOR CRANES AND OTHER ERECTION EQUIPMENT.
- DO NOT BACKFILL AGAINST BASEMENT OR RETAINING WALLS UNTIL SUPPORTING SLABS AND FLOOR FRAMING ARE IN PLACE AND SECURELY ANCHORED, UNLESS ADEQUATE TEMPORARY BRACING IS PROVIDED.
- TEMPORARY BRACING SHALL REMAIN IN PLACE UNTIL ALL FLOORS, WALLS, ROOFS AND ANY OTHER SUPPORTING ELEMENTS ARE IN PLACE.
- THE ARCHITECT AND STRUCTURAL ENGINEER BEAR NO RESPONSIBILITY FOR THE ABOVE ITEMS, AND OBSERVATION VISITS TO THE SITE DO NOT IN ANY WAY INCLUDE INSPECTIONS OF THESE ITEMS.

DEFERRED SUBMITTALS

- PORTIONS OF THE STRUCTURE HAVE ELEMENTS OF PROPRIETARY DESIGN AND FABRICATION, WHICH SHALL BE SUBMITTED BY THE SUPPLIER FOR APPROVAL AFTER AWARD OF CONTRACT.
- THESE ITEMS SHALL CONFORM TO THE LOAD, CAPACITY, SIZE, GEOMETRY, CONNECTION, AND SUPPORT CRITERIA NOTED ON THE STRUCTURAL DRAWINGS.
- SHOP DRAWINGS AND CALCULATIONS SHALL BE PREPARED BY AN ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECT IS LOCATED. FINAL SHOP DRAWING SUBMITTALS SHALL BE STAMPED AND SIGNED. FURNISH DEFERRED SUBMITTALS FOR:
 - MICROPILES
 - PRE-ENGINEERED METAL BUILDING SYSTEMS
- SUBMITTALS WILL BE REVIEWED BY THE STRUCTURAL ENGINEER OF RECORD FOR COMPLIANCE WITH THE SPECIFIED DESIGN REQUIREMENTS, STAMPED AS "REVIEWED," AND FORWARDED TO THE LOCAL BUILDING AUTHORITY FOR REVIEW AS REQUIRED.
- FINAL ISSUE OF THE BUILDING PERMIT MAY, AT THE APPROVAL AUTHORITY'S OPTION, BE CONTINGENT ON ITS APPROVAL OF THE DEFERRED SUBMITTAL DOCUMENTS.
- DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN CALCULATIONS AND DRAWINGS HAVE BEEN REVIEWED BY THE ARCHITECT, STRUCTURAL ENGINEER, AND/OR LOCAL BUILDING AUTHORITY AS REQUIRED.

LETTERS OF CONSTRUCTION COMPLIANCE:

- THE GENERAL CONTRACTOR SHALL DETERMINE FROM THE LOCAL BUILDING AUTHORITY, AT THE TIME THE BUILDING PERMIT IS OBTAINED, WHETHER ANY LETTERS OF CONSTRUCTION COMPLIANCE WILL BE REQUESTED FROM THE STRUCTURAL ENGINEER.
- THE CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER OF ALL SUCH REQUIREMENTS IN WRITING PRIOR TO THE START OF CONSTRUCTION.
- TWO-DAY ADVANCE NOTICE SHALL BE GIVEN WHEN REQUESTING SITE VISITS NECESSARY AS THE BASIS FOR THE COMPLIANCE LETTER.
- THE GENERAL CONTRACTOR SHALL PROVIDE COPIES OF ALL THIRD-PARTY TESTING AND INSPECTION REPORTS TO THE ARCHITECT AND STRUCTURAL ENGINEER A MINIMUM OF ONE WEEK PRIOR TO THE DATE THAT THE COMPLIANCE LETTER IS NEEDED.

SPECIAL INSPECTIONS:

- THE FOLLOWING SPECIAL INSPECTIONS AND TESTING SHALL BE PERFORMED BY A QUALIFIED SPECIAL INSPECTOR, RETAINED BY THE OWNER, IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF IBC CHAPTER 17:
 - SECTION 1704 SPECIAL INSPECTIONS AND THE FOLLOWING SUB-SECTIONS:
 - 1704.2 INSPECTION OF FABRICATORS
 - 1704.3 STEEL CONSTRUCTION INCLUDING:
 - 1704.3.1 WELDING
 - 1704.3.2 DETAILS
 - 1704.3.3 HIGH STRENGTH BOLTS
 - 1704.4 CONCRETE CONSTRUCTION
 - 1704.7 SOILS
- THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION. THE APPROVED INSPECTOR MUST BE INDEPENDENT FROM THE CONTRACTOR RESPONSIBLE FOR THE WORK BEING INSPECTED.
- DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR SHALL BE TO INSPECT AND/OR TEST THE WORK OUTLINED ABOVE AND WITHIN THE STATEMENT OF SPECIAL INSPECTIONS IN ACCORDANCE WITH CHAPTER 17 OF THE IBC FOR CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.
- ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.
- PER SECTION 1704.2.4 THE SPECIAL INSPECTOR SHALL FURNISH REGULAR REPORTS TO THE BUILDING OFFICIAL AND THE STRUCTURAL ENGINEER. PROGRESS REPORTS FOR CONTINUOUS INSPECTION SHALL BE FURNISHED WEEKLY. INDIVIDUAL REPORTS OF PERIODIC INSPECTIONS SHALL BE FURNISHED WITHIN ONE WEEK OF INSPECTION DATES. THE REPORTS SHALL NOTE UNCORRECTED DEFICIENCIES, CORRECTION OF PREVIOUSLY REPORTED DEFICIENCIES, AND CHANGES TO THE APPROVED CONSTRUCTION DOCUMENTS AUTHORIZED BY THE STRUCTURAL ENGINEER OF RECORD.
- THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT WITHIN 10 DAYS OF THE FINAL SPECIAL INSPECTION STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE IBC. WORK NOT IN COMPLIANCE SHALL BE NOTED IN THE REPORT.
- THE CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON A MAIN WIND- OR SEISMIC-FORCE-RESISTING SYSTEM PER SECTION 1704.4. THE STATEMENT SHALL ACKNOWLEDGE THE AWARENESS OF THE SPECIAL LISTED REQUIREMENTS OF DESIGNATED SEISMIC SYSTEM OR A WIND- OR SEISMIC-RESISTING COMPONENT IN THE STATEMENT OF SPECIAL INSPECTIONS PER SECTION 1705.
- EXCEPT AS NOTED, THE SPECIAL INSPECTIONS OUTLINED ABOVE ARE IN ADDITION TO, AND BEYOND THE SCOPE OF, PERIODIC STRUCTURAL OBSERVATIONS AS DEFINED IN SECTION 1704.5. STRUCTURAL OBSERVATIONS ARE INCLUDED IN THE STRUCTURAL ENGINEERING DESIGN AND CONSTRUCTION ADMINISTRATION SERVICES PROVIDED BY THE STRUCTURAL ENGINEER.

ABBREVIATIONS KEY									
@	ON CENTER SPACING	DWG	DRAWING	LGS	LIGHT GAGE STEEL	REIN	REINFORCE, _ED, _ING		
(E)	EXISTING	DWL	DOWEL	LL	LIVE LOAD	REQ	REQUIRED		
(N)	NEW	EA	EACH	LLH	LONG LEG HORIZONTAL	REQMT	REQUIREMENT		
(R)	REMOVE	ECC	ECCENTRIC	LLV	LONG LEG VERTICAL	RET	RETAINING		
AB	ANCHOR ROD (BOLT)	E-E	END TO END	LOC	LOCATION	RM	ROOM		
ADDL	ADDITIONAL	EF	EACH FACE	LP	LOW POINT	RMO	ROUGH MASONRY OPENING		
ADJ	ADJUSTABLE	EJ	EXPANSION JOINT	LSL	LAMINATED STRAND LUMBER (GENERIC TERM)	RO	ROUGH OPENING		
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL	EL	ELEVATION	LT	LIGHT	SC	SLIP-CRITICAL		
AFF	ABOVE FINISHED FLOOR	ELEC	ELECTRIC, ELECTRICAL	LVL	LAMINATED VENEER LUMBER (GENERIC TERM)	SCH	SCHEDULE		
ALT	ALTERNATE	EMBED	EMBEDMENT	MACH	MACHINE	SOST	SELF-DRILLING/ SELF-TAPPING		
AMT	AMOUNT	ENGR	ENGINEER	MASY	MASONRY	SECT	SECTION		
ANCH	ANCHOR, ANCHORAGE	EQ	EQUAL	MATL	MATERIAL	SF	SQUARE FEET, SUB-FLOOR		
APPROX	APPROXIMATE	EQUIP	EQUIPMENT	MAX	MAXIMUM	SHT	SHEET		
ARCH	ARCHITECT, _URAL	EQUIV	EQUIVALENT	MB	MACHINE BOLT	SHTG	SHEATHING		
ATR	ALL THREAD ROD	ES	EACH SIDE	MECH	MECHANICAL	SIM	SIMILAR		
AVG	AVERAGE	EST	ESTIMATE	MEZZ	MEZZANINE	SLH	SHORT LEG HORIZONTAL		
BC	BOTTOM OF CONCRETE	E-W	EAST TO WEST	MFR	MANUFACTURE, _ER, _ED	SLV	SHORT LEG VERTICAL		
BL	BRICK LEDGE	EXC	EXCAVATE	MIN	MINIMUM	SOG	SLAB ON GRADE		
BLK	BLOCK	EXP	EXPANSION	ML	MICROLLAM (TRUS-JOIST BRAND LVL), MASONRY LINTEL	SP	SPACES, SPACED		
BLKG	BLOCKING	EXT	EXTERIOR	MO	MASONRY OPENING	SPEC	SPECIFICATIONS		
BM	BEAM	FD	FLOOR DRAIN	MTL	METAL	SQ	SQUARE		
BOT	BOTTOM	FDN	FOUNDATION	NF	NEAR FACE	SSR	SHEAR STUD RAIL		
BRG	BEARING	FF	FINISHED FLOOR, FAR FACE	NIC	NOT IN CONTACT	ST	SNUG-TIGHT		
BW	BOTTOM OF WALL	F-F	FACE TO FACE	NS	NEAR SIDE	STD	STANDARD		
CB	COUNTERBORE	FIG	FIGURE	N-S	NORTH TO SOUTH	STIFF	STIFFENER		
CF	CUBIC FOOT	FL	FLUSH	NTS	NOT TO SCALE	STL	STEEL		
CG	CENTER OF GRAVITY	FLG	FLANGE	OCJ	OSHA COLUMN JOIST	STRUCT	STRUCTURE, _AL		
CIP	CAST-IN-PLACE	FLR	FLOOR	OD	OUTSIDE DIAMETER	SUPT	SUPPORT		
CJ	CONSTRUCTION JOINT, CONTROL JOINT	FO	FACE OF	OH	OPPOSITE HAND	SY	SQUARE YARD		
CJP	COMPLETE JOINT PENETRATION	FP	FULL PENETRATION	OPNG	OPENING	SYM	SYMMETRICAL		
CL	CENTER LINE	FS	FOOTING STEP, FAR SIDE	OPP	OPPOSITE	T&B	TOP AND BOTTOM		
CLG	CEILING	FTG	FOOTING	OSB	ORIENTED STRAND BOARD	T&G	TONGUE AND GROOVE		
CLR	CLEAR	GA	GAGE, GAUGE	PAF	POWDER ACTUATED FASTENER	TB	TOP OF BEAM		
CM	CONSTRUCTION MANAGER, _MENT	GALV	GALVANIZED	PC	PRECAST	TC	TOP OF CONCRETE		
CMU	CONCRETE MASONRY UNIT	GC	GENERAL CONTRACTOR	PCF	POUNDS PER CUBIC FOOT	TCA	TORQUE-CONTROLLED ANCHOR		
COL	COLUMN	GEN	GENERAL	PE	PRE-ENGINEERED	TD	TOP OF DECK		
COM	COMMON	GL	GLUED LAMINATED, GLULAM	PEN	PENETRATION	THD	THREAD		
COMB	COMBINATION	GND	GROUND	PERP	PERPENDICULAR	THK	THICK, _NESS		
CONC	CONCRETE	GR	GRADE	PJP	PARTIAL JOINT PENETRATION	TJ	TOP OF JOIST		
CONN	CONNECTION	GT	GRIDER TRUSS	PL	PLATE	TL	TOTAL LOAD		
CONT	CONTINUOUS, CONTINUE	GYP BD	GYPSUM BOARD	PLF	POUND PER LINEAR FOOT	TPG	TOPPING		
COORD	COORDINATE, COORDINATION	HAS	HEADED ANCHOR STUD	PNL	PANEL	TRANS	TRANSVERSE		
CS	COUNTERSINK	HDG	HOT-DIP GALVANIZED	PP	PANEL POINT	TW	TOP OF WALL		
CTR	CENTER	HDR	HEADER	PS	PRESTRESSED	TYP	TYPICAL		
CY	CUBIC YARD	HORIZ	HORIZONTAL	PSF	POUNDS PER SQUARE FOOT	ULT	ULTIMATE		
DAB	DEFORMED ANCHOR BAR	HP	HIGH POINT	PSI	POUNDS PER SQUARE INCH	UNO	UNLESS NOTED OTHERWISE		
DET	DETAIL	HT	HEIGHT	PSL	PARALLEL STRAND LUMBER (GENERIC TERM)	VERT	VERTICAL		
DEV	DEVELOP	ID	INSIDE DIAMETER	PT	POST TENSIONED, PRESSURE TREATED	VIF	VERIFY IN FIELD		
DIA	DIAGONAL	INT	INTERIOR, INTERMEDIATE	PTN	PARTITION	WP	WORK POINT		
DIM	DIMENSION	IT	INVERTED TEE	PWD	PLYWOOD	WT	WEIGHT		
DL	DEAD LOAD	_JB	JOIST BEARING	QTY	QUANTITY	WWF	WELDED WIRE FABRIC		
DN	DOWN	JST	JOIST	R	RADIUS	XS	EXTRA STRONG		
DP	DRILLED PIER	JT	JOINT	RE	REFERENCE, REFER TO	XSECT	CROSS SECTION		
DT	DOUBLE TEE	K	KIP (1,000 LBS)	RECT	RECTANGLE	XXS	DOUBLE EXTRA STRONG		



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Fax: 303.444.1957 E-mail: info@jva.com

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CHECKED BY: AJT
JOB #: 19178
DATE: NOVEMBER 2018
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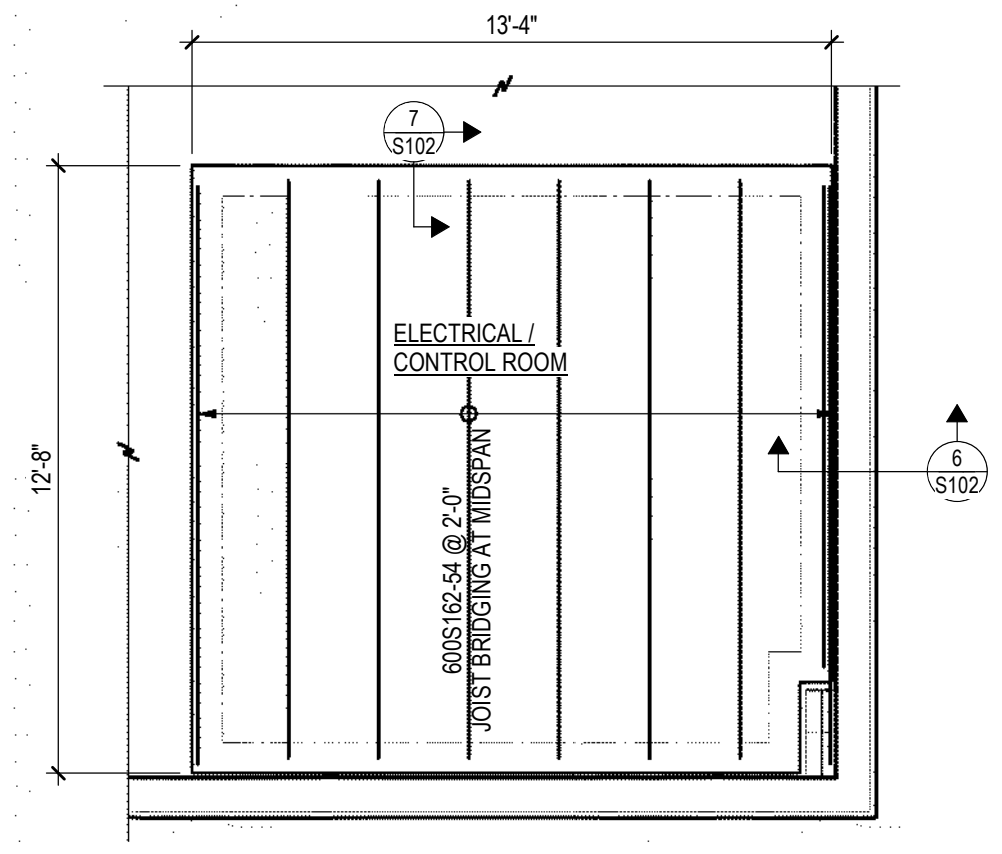
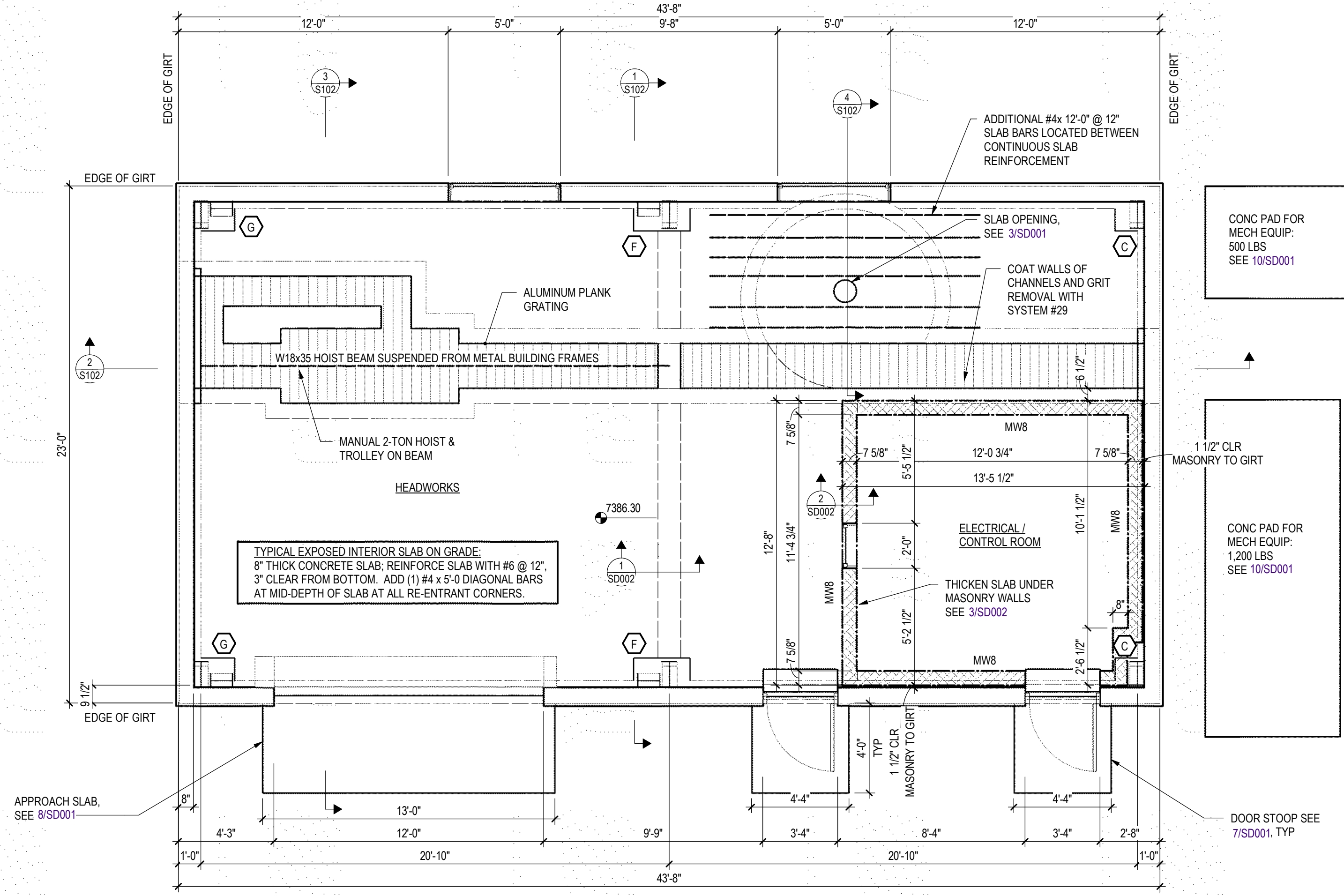
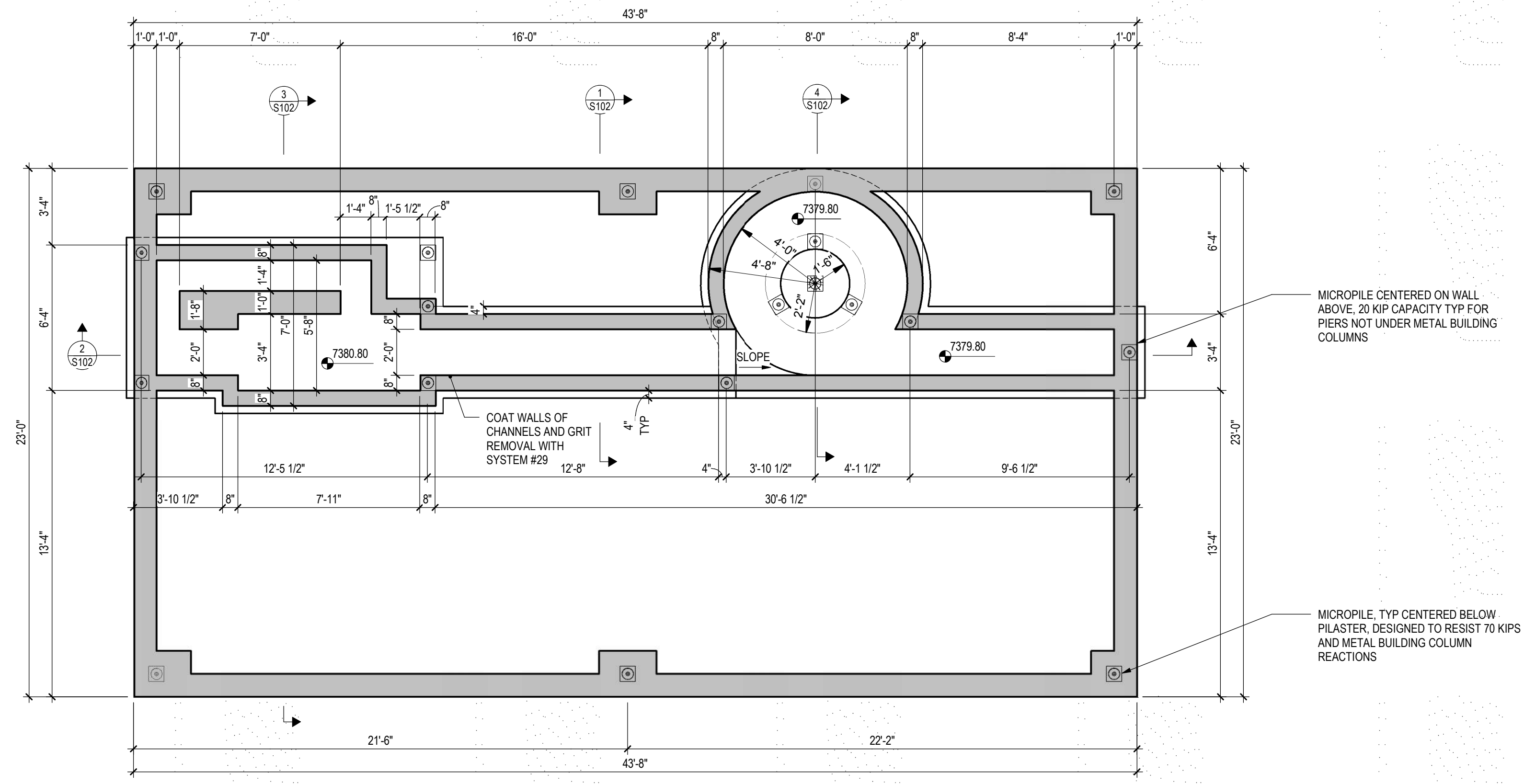
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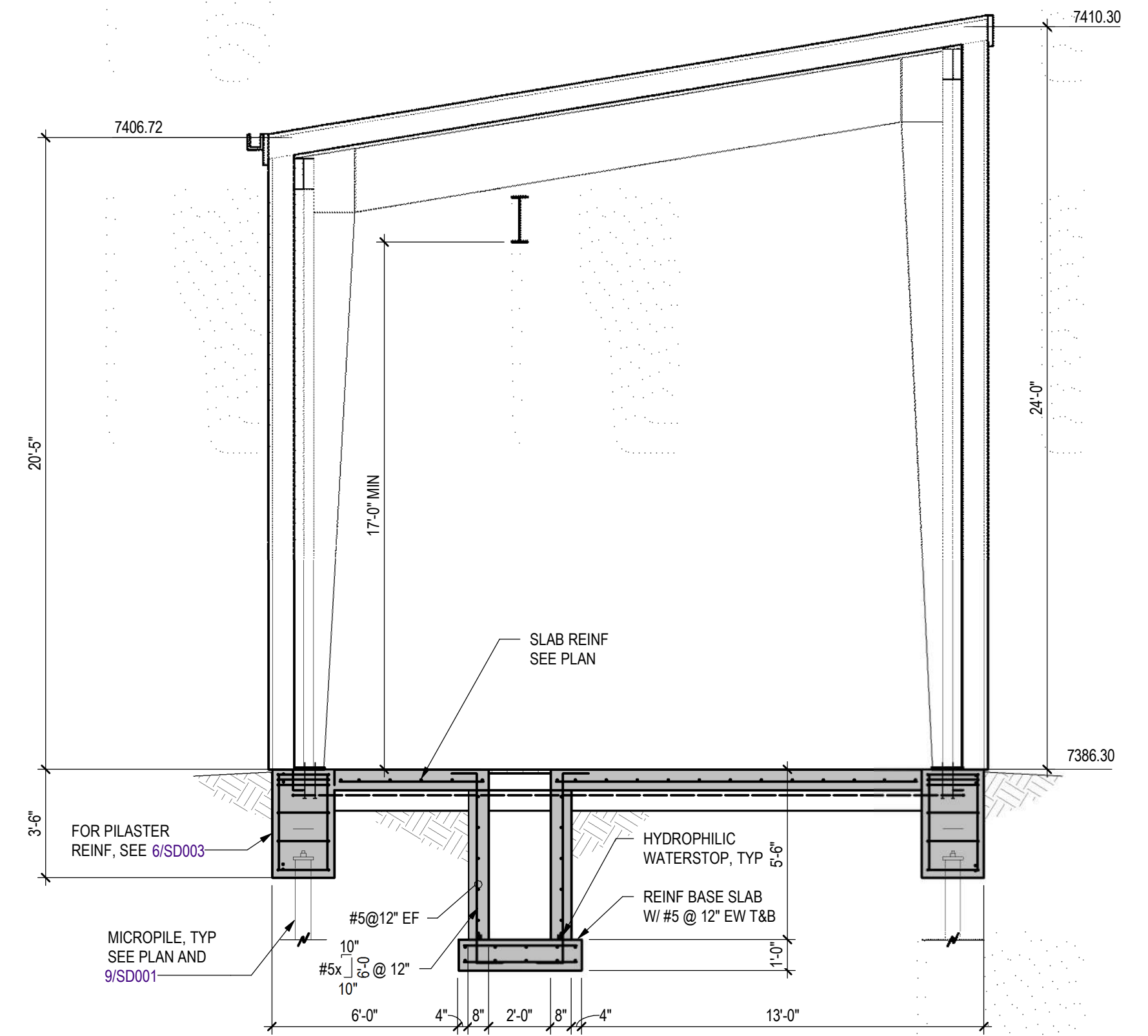
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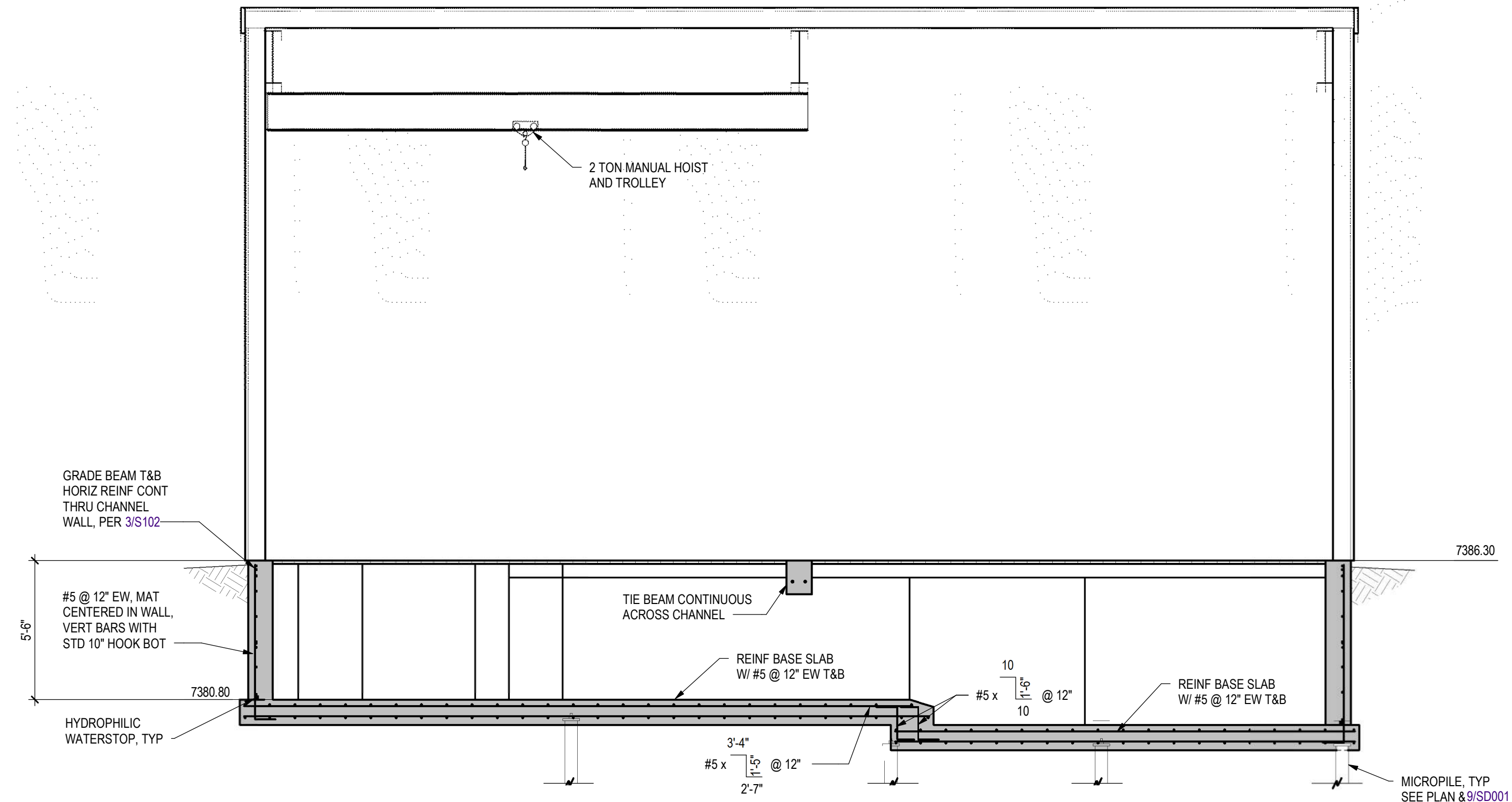
3 S101 ELECTRICAL / CONTROL ROOM CEILING PLAN
1/4" = 1'-0"



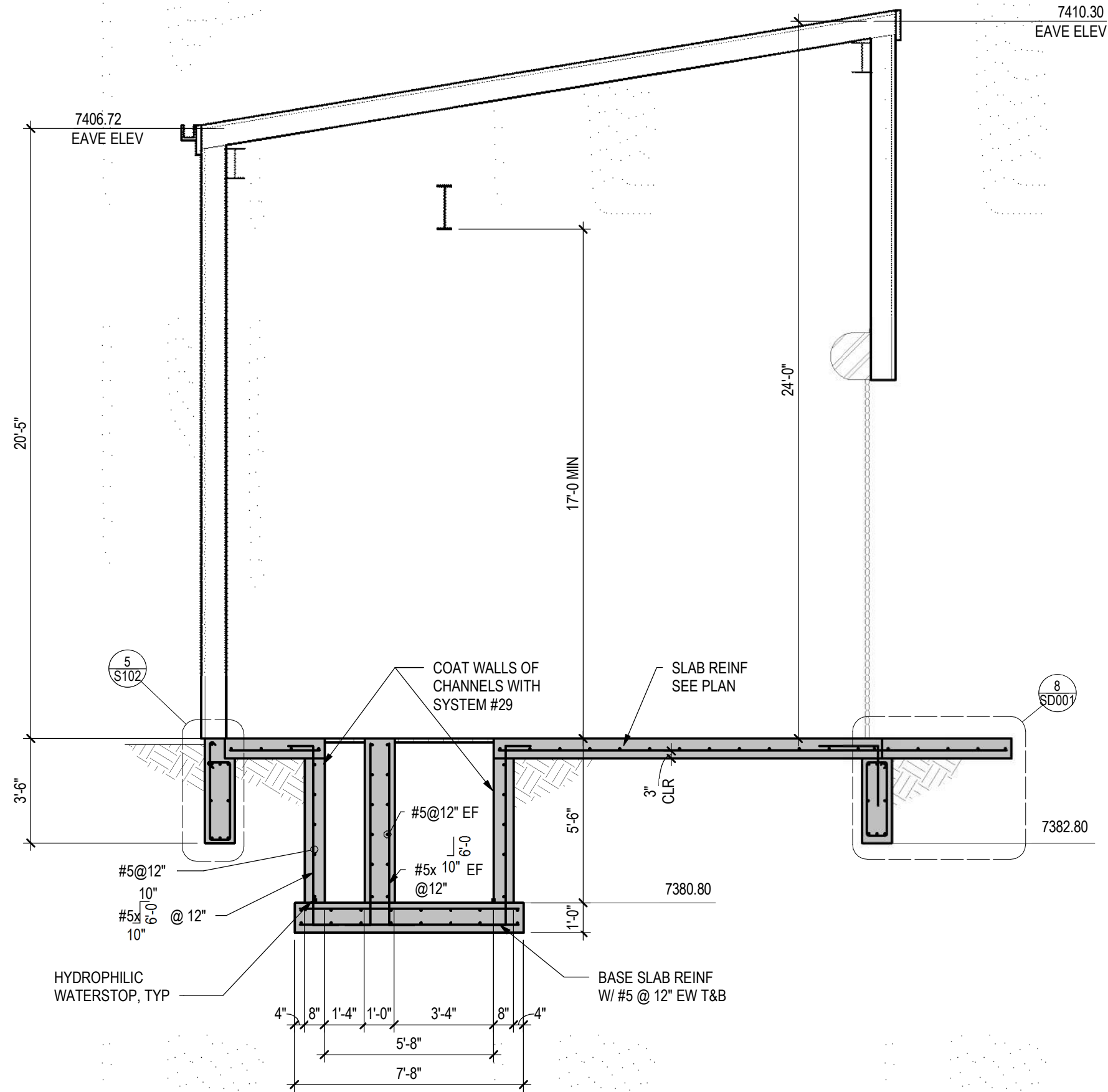
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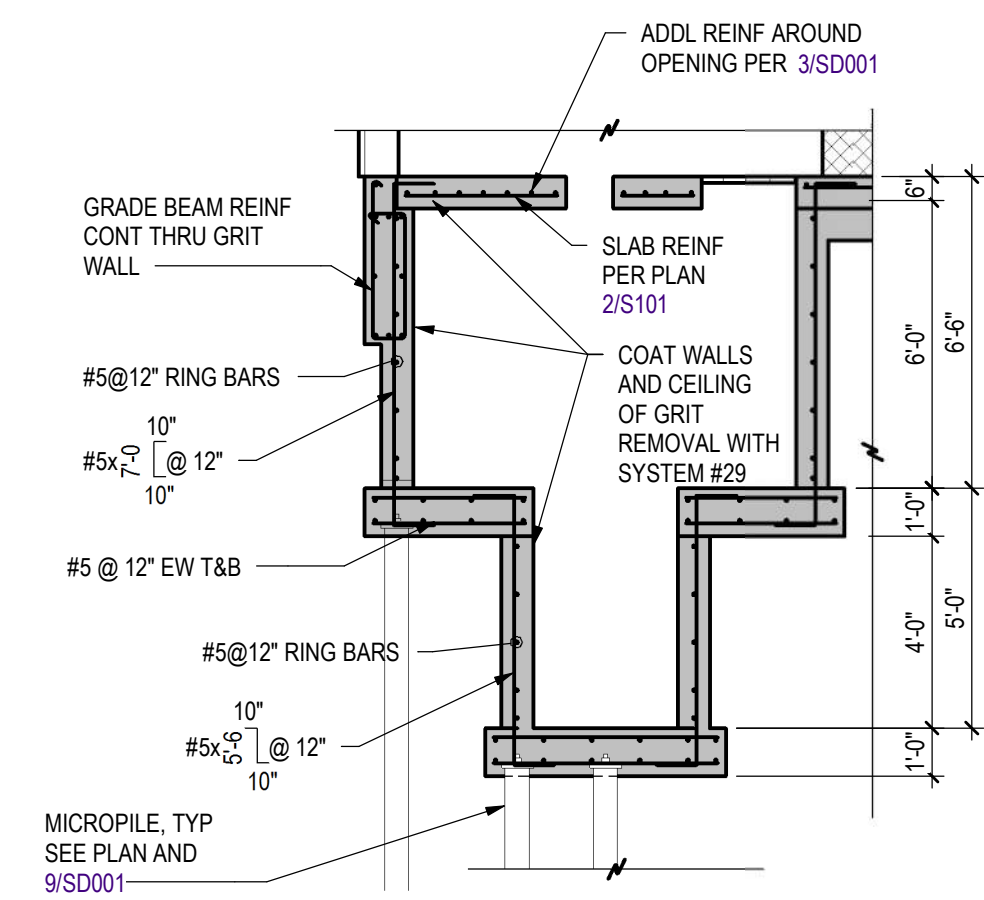
1 SECTION
S102 1/4" = 1'-0"



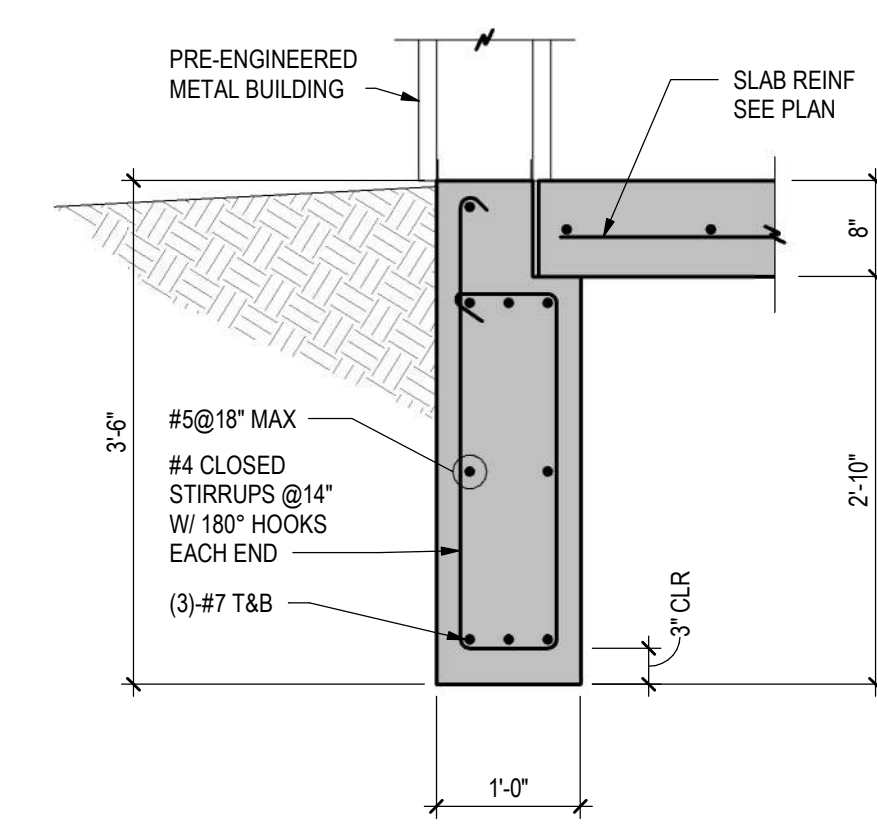
2 SECTION
S102 1/4" = 1'-0"



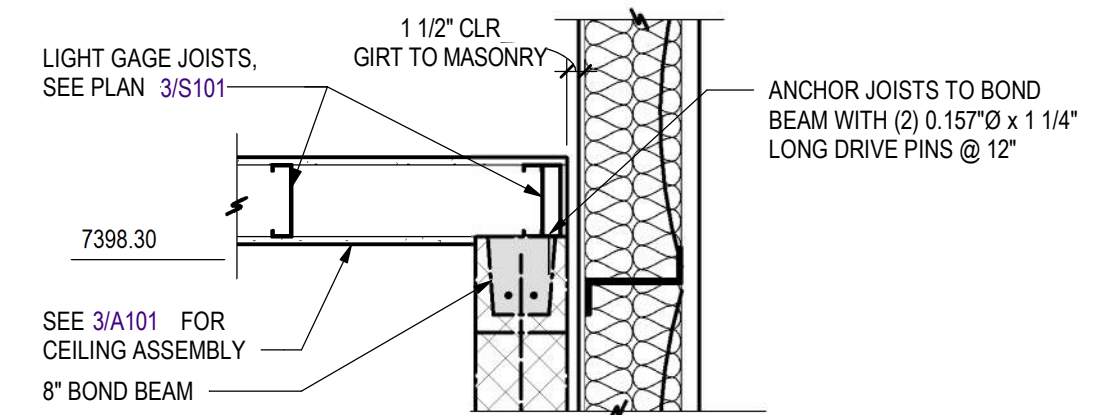
3 SECTION
S102 1/4" = 1'-0"



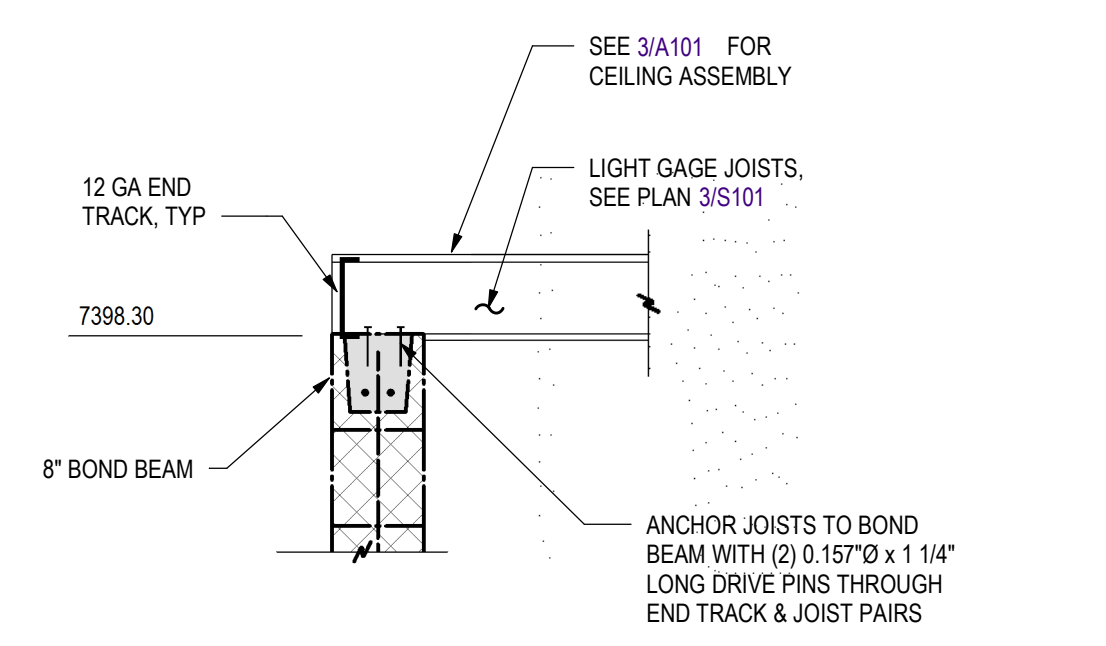
4 SECTION
S102 1/4" = 1'-0"



5 SECTION
S102 3/4" = 1'-0"



6 SECTION
S102 3/4" = 1'-0"



7 SECTION
S102 3/4" = 1'-0"

CITY OF IDAHO SPRINGS
WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO

HEADWORKS SECTIONS

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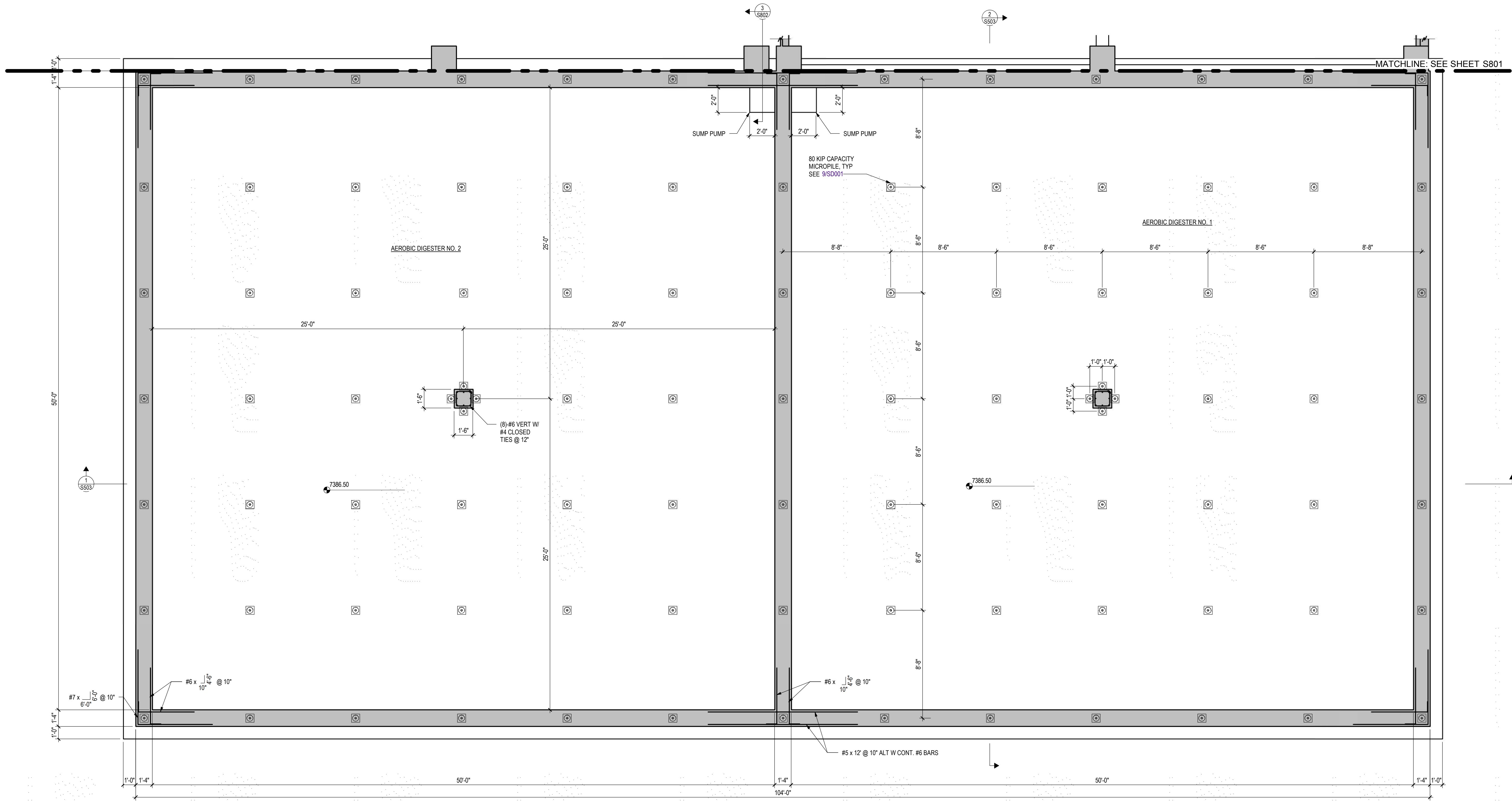
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CITY OF IDAHO SPRINGS
WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO
DIGESTER FOUNDATION PLAN

SHEET NO.

S501



DIGESTER AND SOLIDS HANDLING FOUNDATION

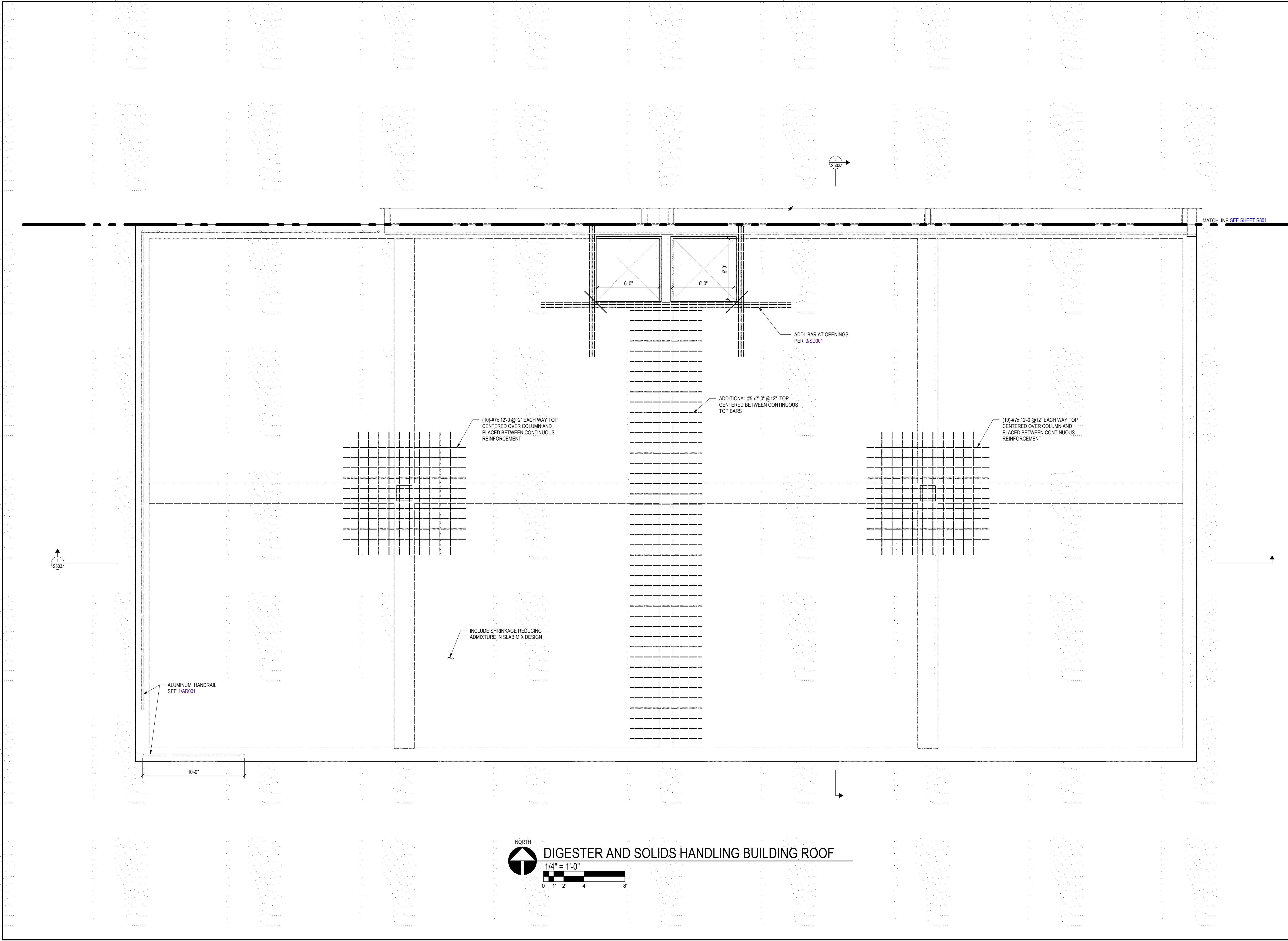
1/4" = 1'-0"
0 1' 2' 4' 8'

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CITY OF IDAHO SPRINGS
WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO

DIGESTER PLAN





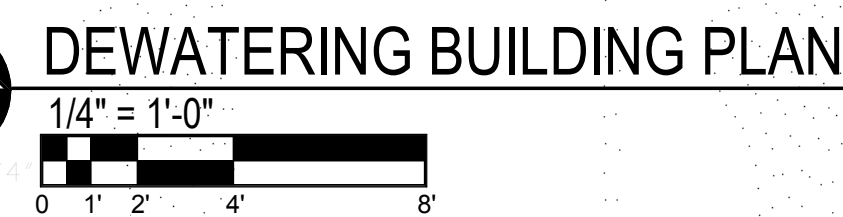
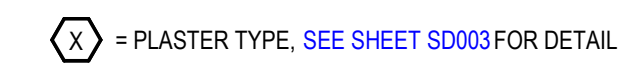
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DIGESTER SECTIONS

SHEET NO.

S503



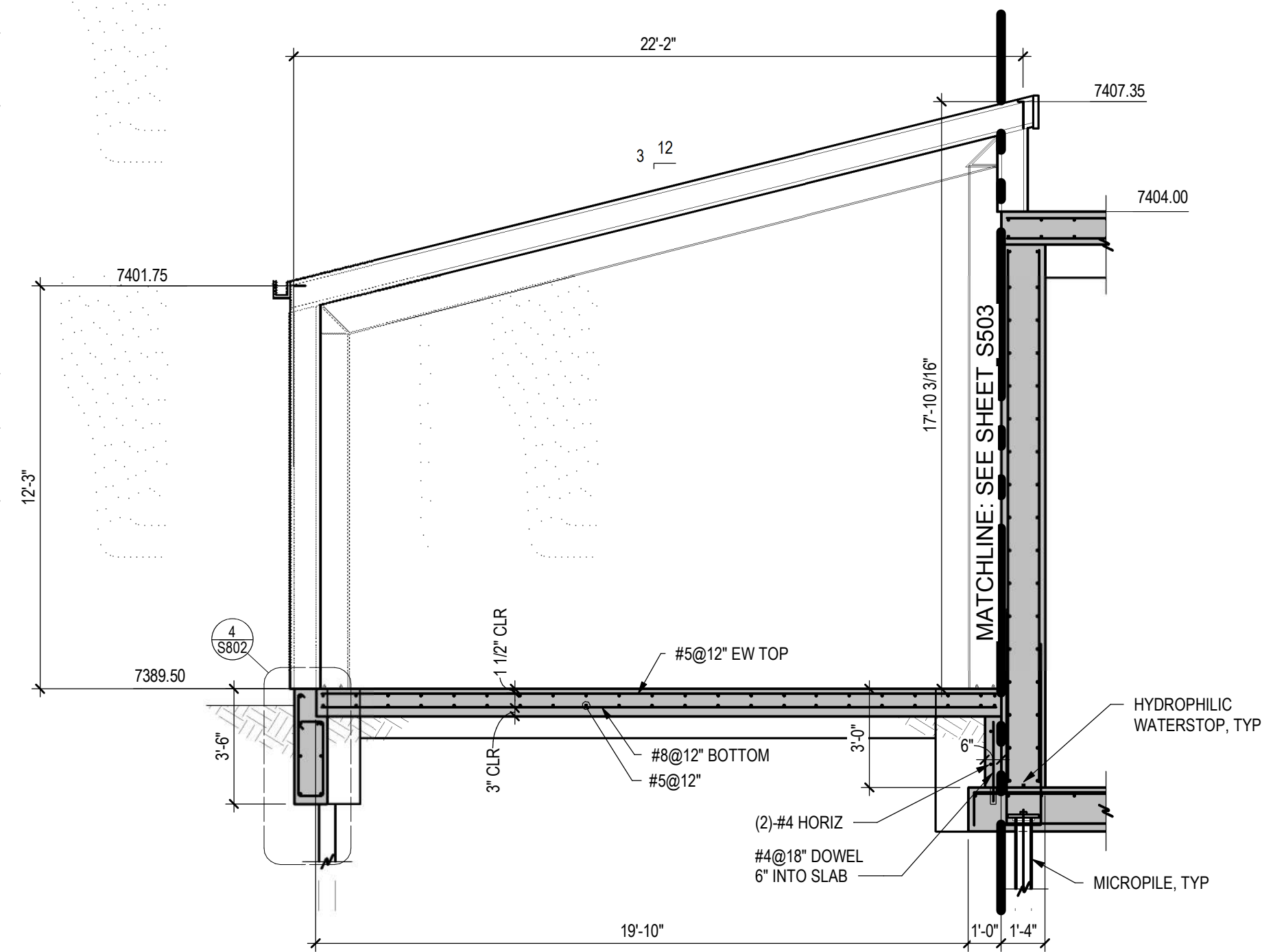
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IDAHO SPRINGS, COLORADO

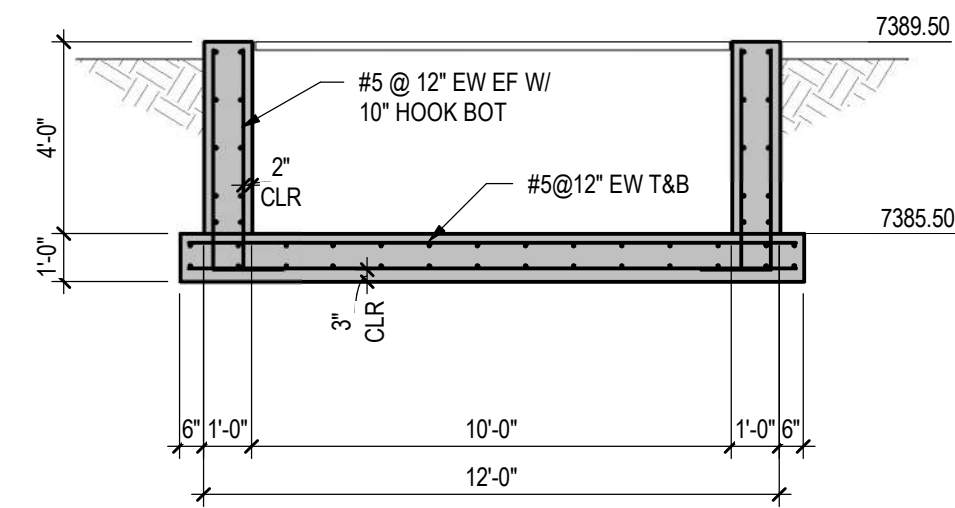
DEWATERING BUILDING PLAN AND
SECTION

SHEET NO.

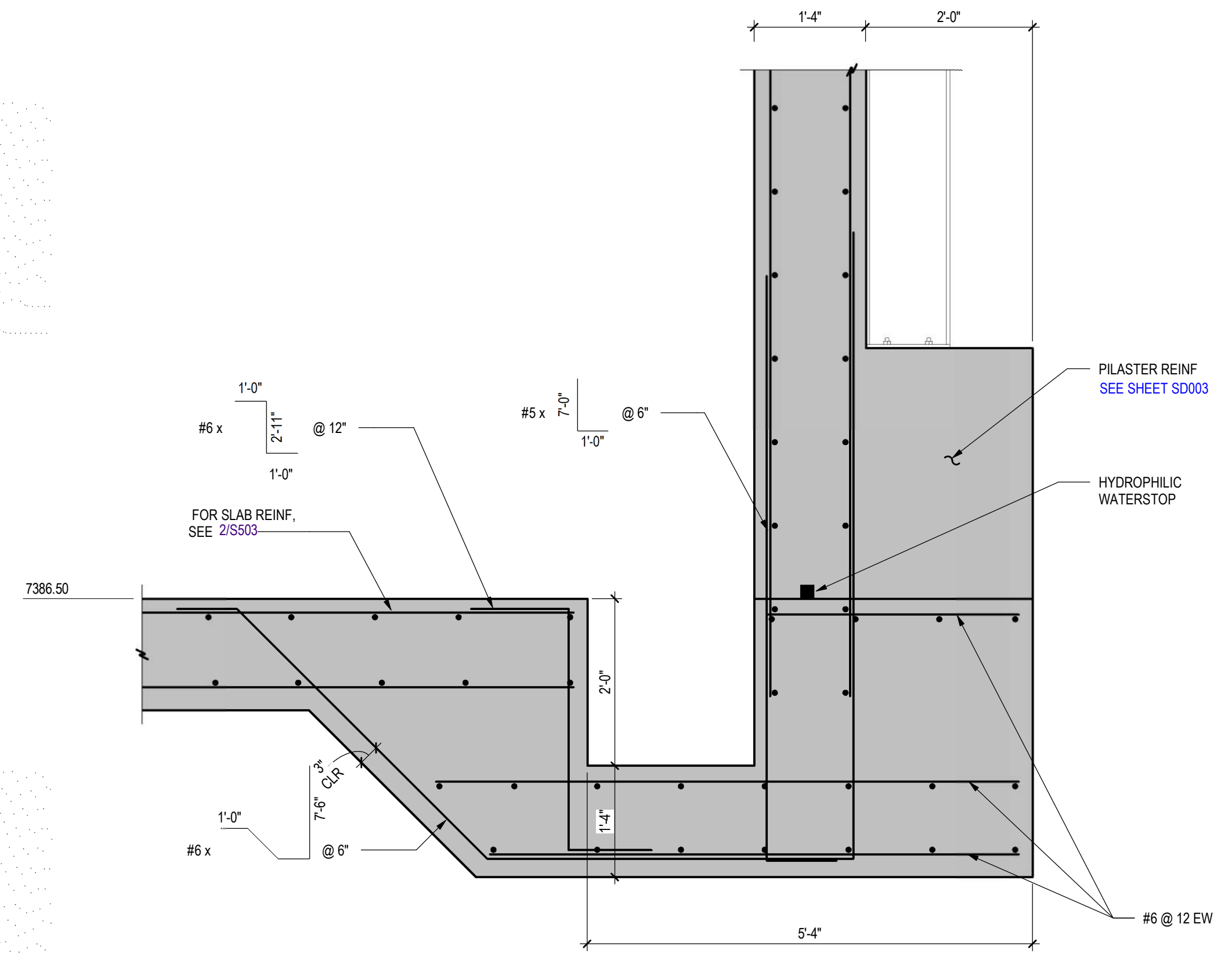
S801



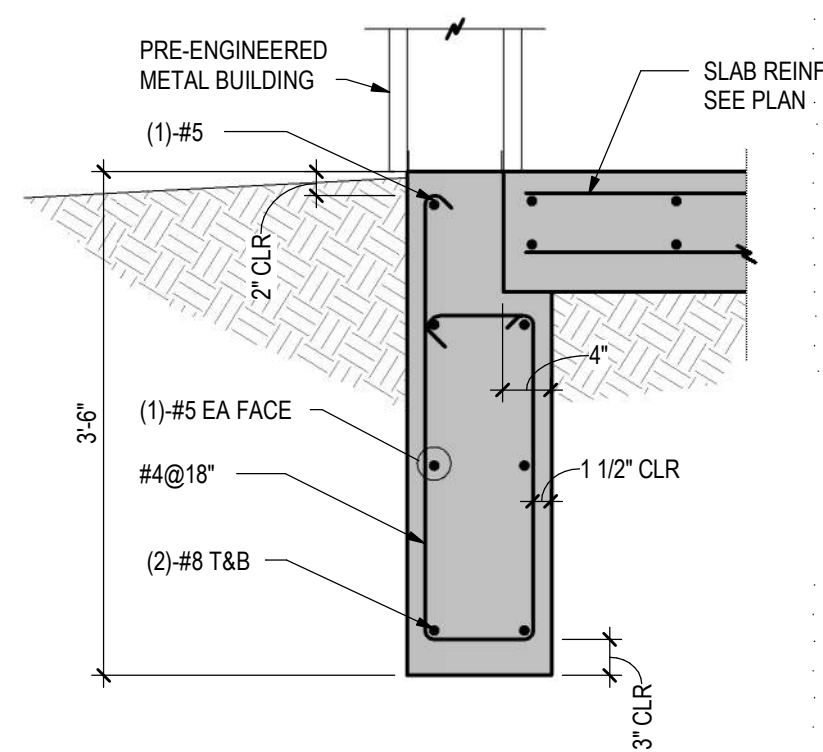
1 SECTION
S802 1/4" = 1'-0"



2 SECTION
S802 1/4" = 1'-0"



3 SECTION
S802 3/4" = 1'-0"



4 SECTION
S802 3/4" = 1'-0"

REVISION DESCRIPTION			
NO.	DATE	DESIGNED	DESCRIPTION

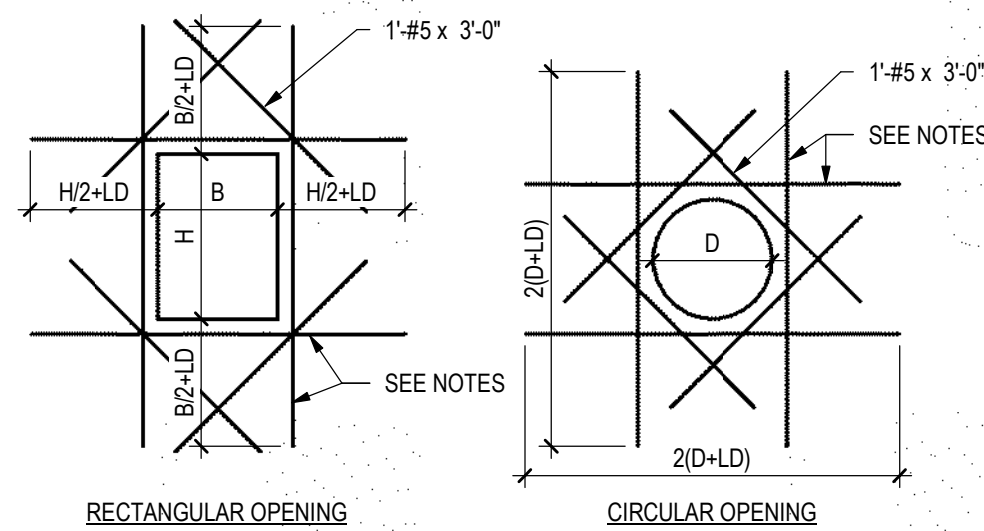
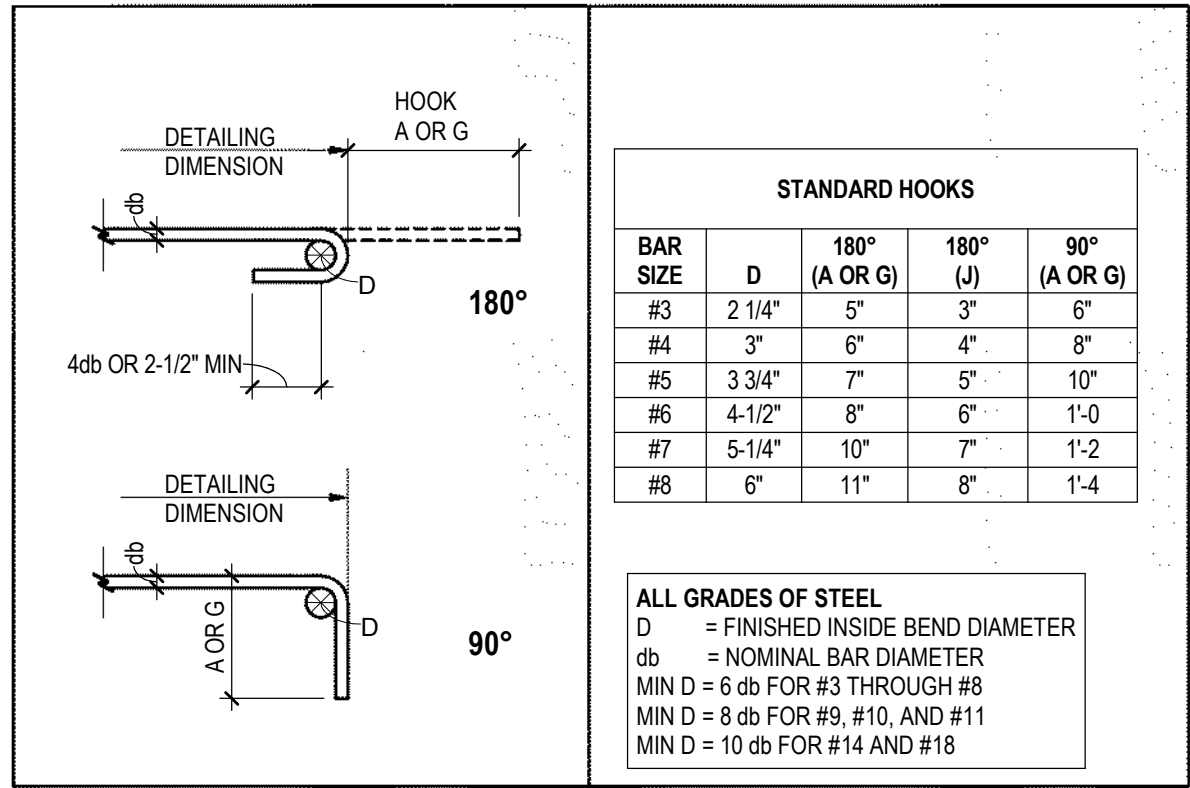
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CITY OF IDAHO SPRINGS
WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO

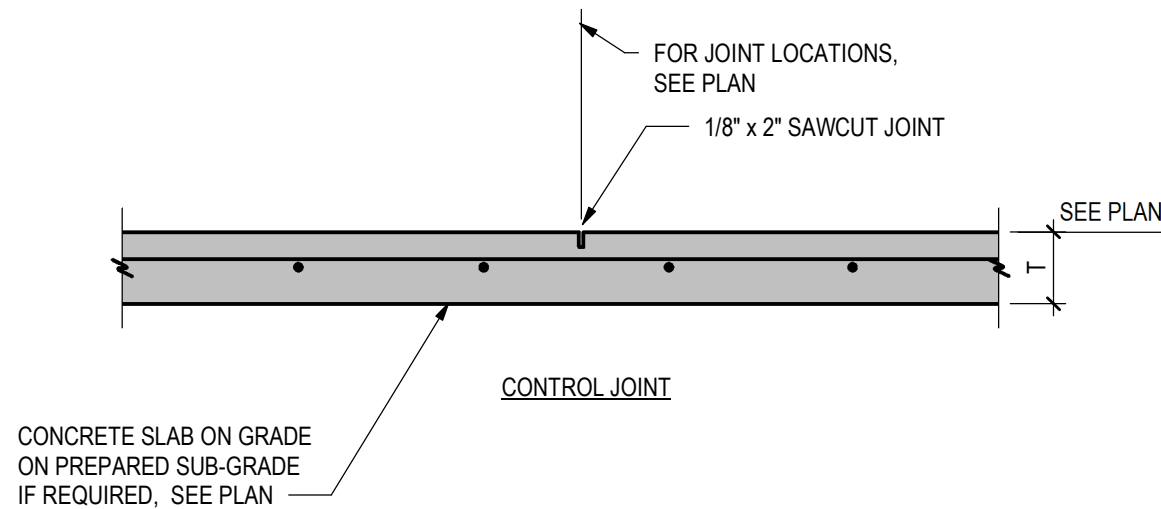
DEWATERING BUILDING SECTIONS
AND DETAILS

TYPICAL CONCRETE REINFORCING LAP & EMBEDMENT LENGTHS (UNO)							
BAR SIZE	TYPE	F _c = 3000 PSI (TOP)	F _c = 3000 PSI (OTHER)	F _c = 4000 PSI (TOP)	F _c = 4000 PSI (OTHER)	F _c = 5000 PSI (TOP)	F _c = 5000 PSI (OTHER)
#4	EMBED	29	22	25	19	22	17
	LAP	37	29	32	25	29	22
#5	EMBED	36	28	31	24	28	22
	LAP	47	36	40	31	36	28
#6	EMBED	43	33	37	29	33	26
	LAP	56	43	48	37	43	33
#7	EMBED	63	48	54	42	49	37
	LAP	81	63	70	54	63	49
#8	EMBED	72	55	62	48	55	43
	LAP	93	72	80	62	72	55

NOTES:
1. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF FRESH CONCRETE CAST BELOW BAR
2. TABULATED VALUES ARE BASED ON GRADE 60 NON-EPOXY-COATED REINFORCING BARS AND NORMAL WEIGHT CONCRETE
3. VALUES ARE IN INCHES

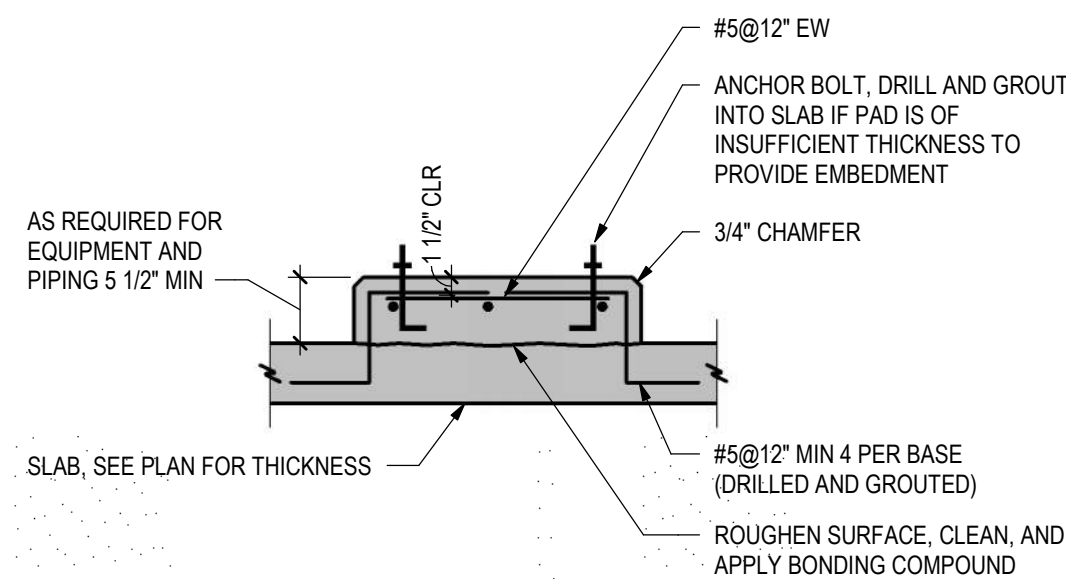


- NOTES:
1. THESE DETAILS APPLY TO ALL OPENINGS IN CONCRETE WALLS AND SLABS WHEN THE LARGEST OPENING DIMENSION IS GREATER THAN TWO TIMES SECTION THICKNESS OR GREATER THAN REINFORCING SPACING IN THE SECTION, UNLESS OTHERWISE INDICATED IN THE DRAWINGS.
2. THE AREA OF ADDITIONAL REINFORCING REQUIRED IN EACH FACE ON EACH SIDE OF AN OPENING SHALL EQUAL OR EXCEED ONE HALF OF THE AREA OF THE INTERCEPTED BARS IN EACH FACE, IN EACH DIRECTION, RESPECTIVELY WITH A MINIMUM OF (1)-#5 BAR EACH FACE.
3. PLACE THE ADDED BARS IN THE SAME LAYERS AS THE WALL OR SLAB REINFORCING.
4. LD = EMBEDMENT LENGTH, SEE 1/SD001



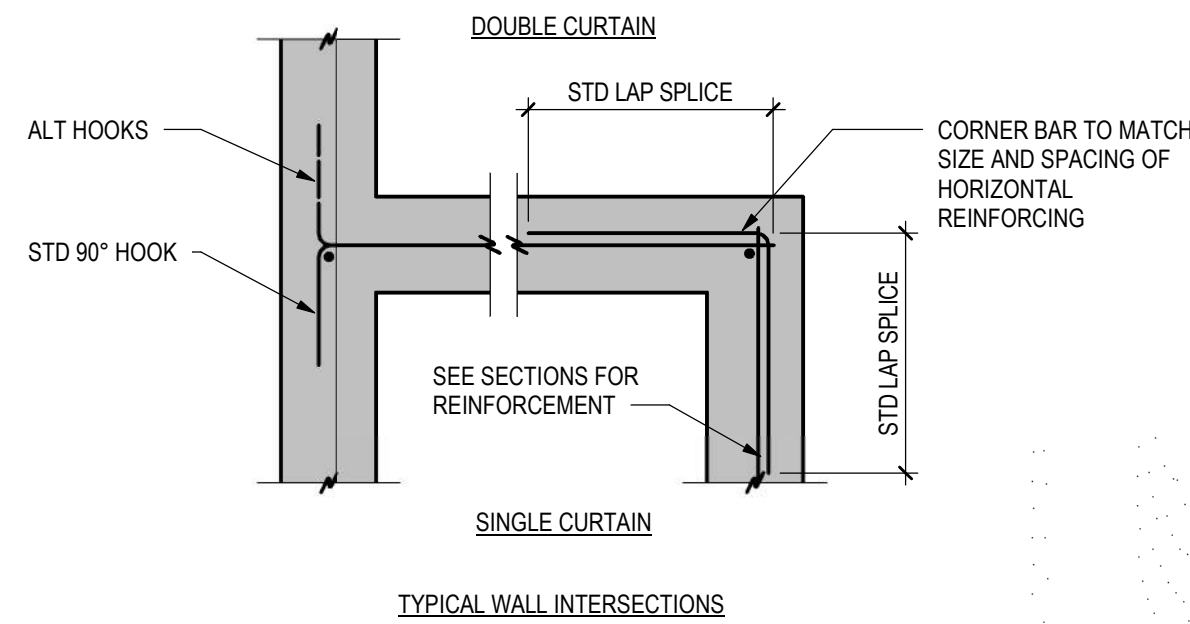
1 BAR LAP SCHEDULE

SD001 3/4" = 1'-0"



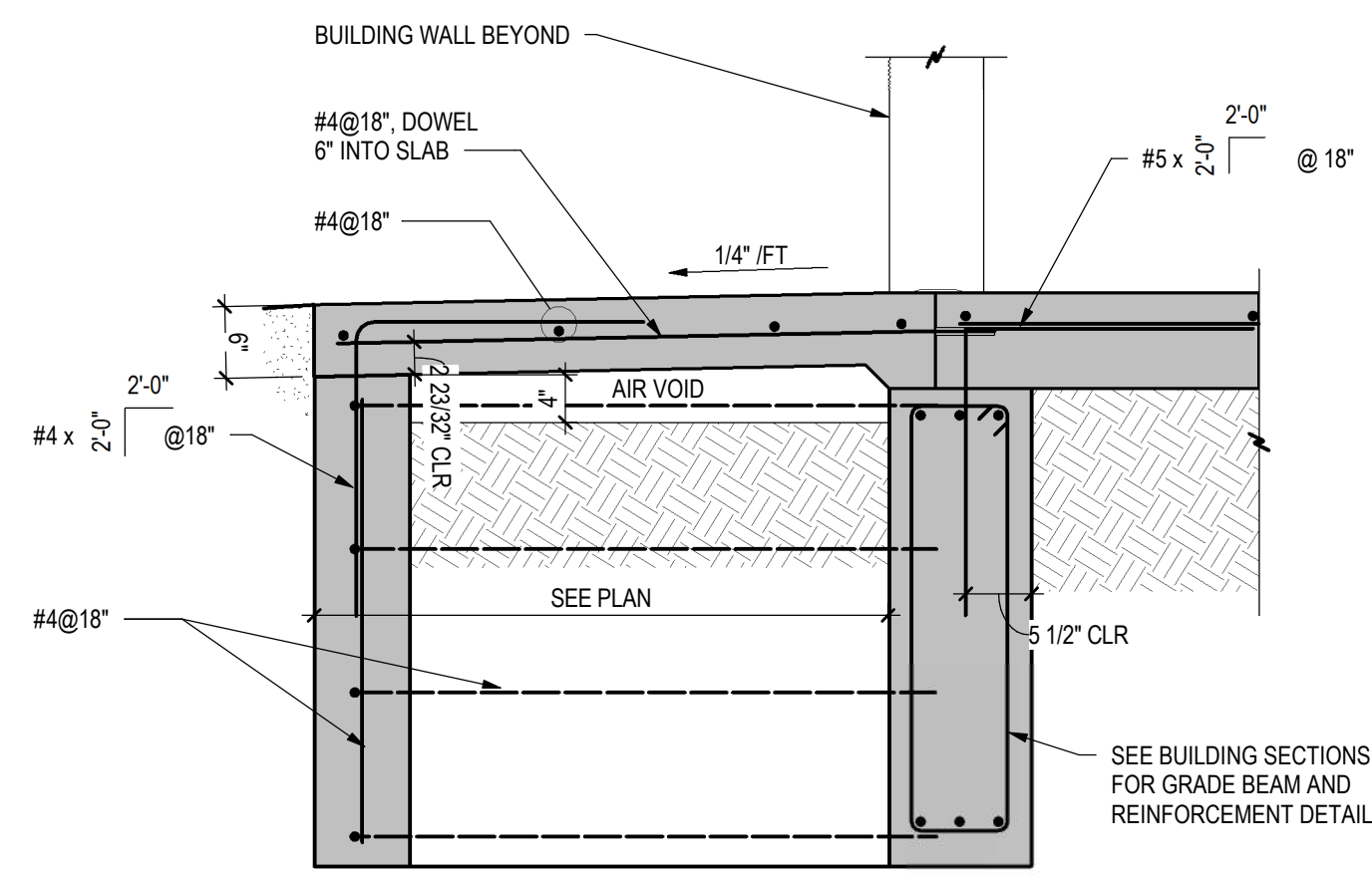
2 STANDARD HOOK SCHEDULE

SD001 3/4" = 1'-0"



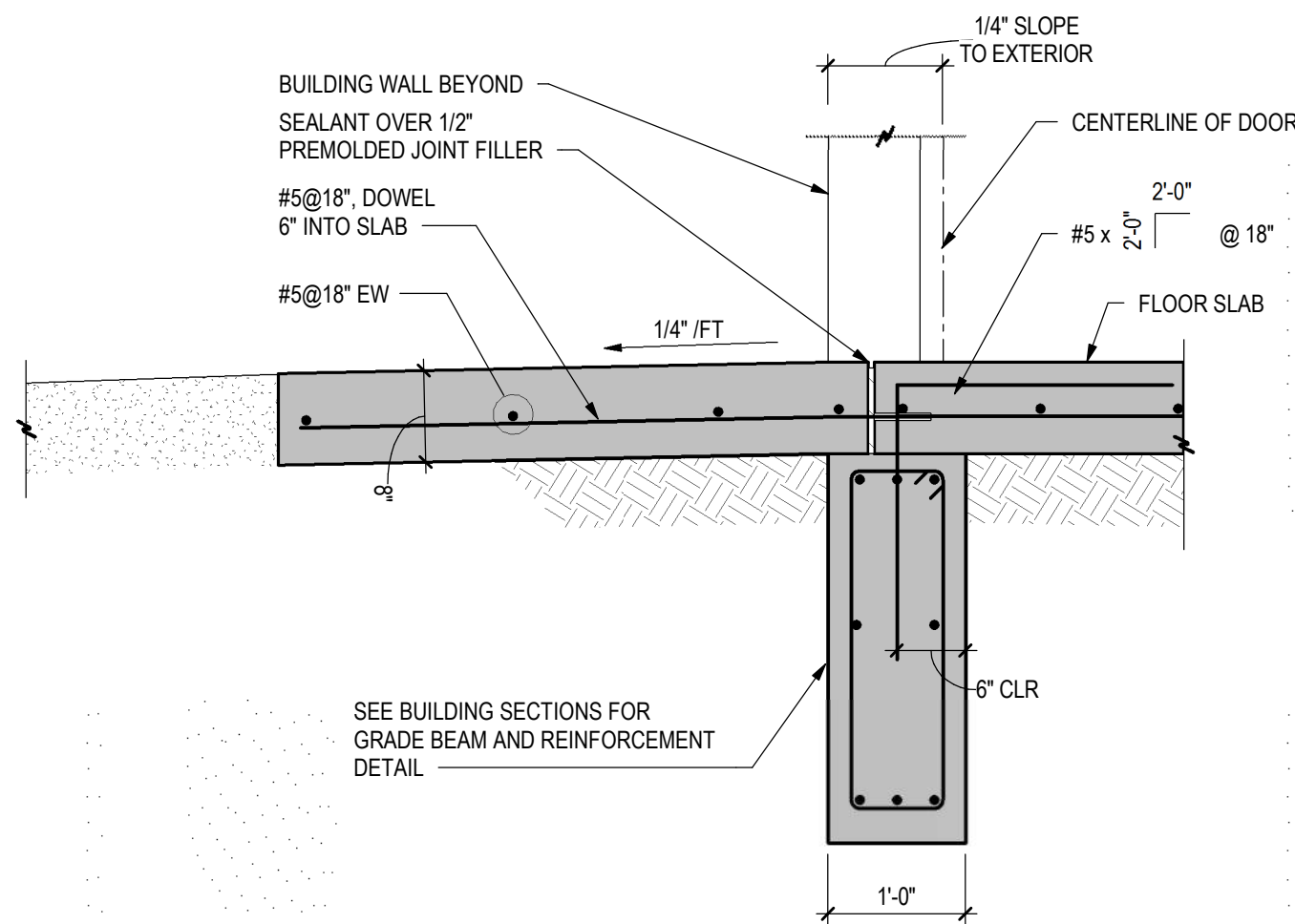
3 OPENING THROUGH WALLS OR SLABS

SD001 3/8" = 1'-0"



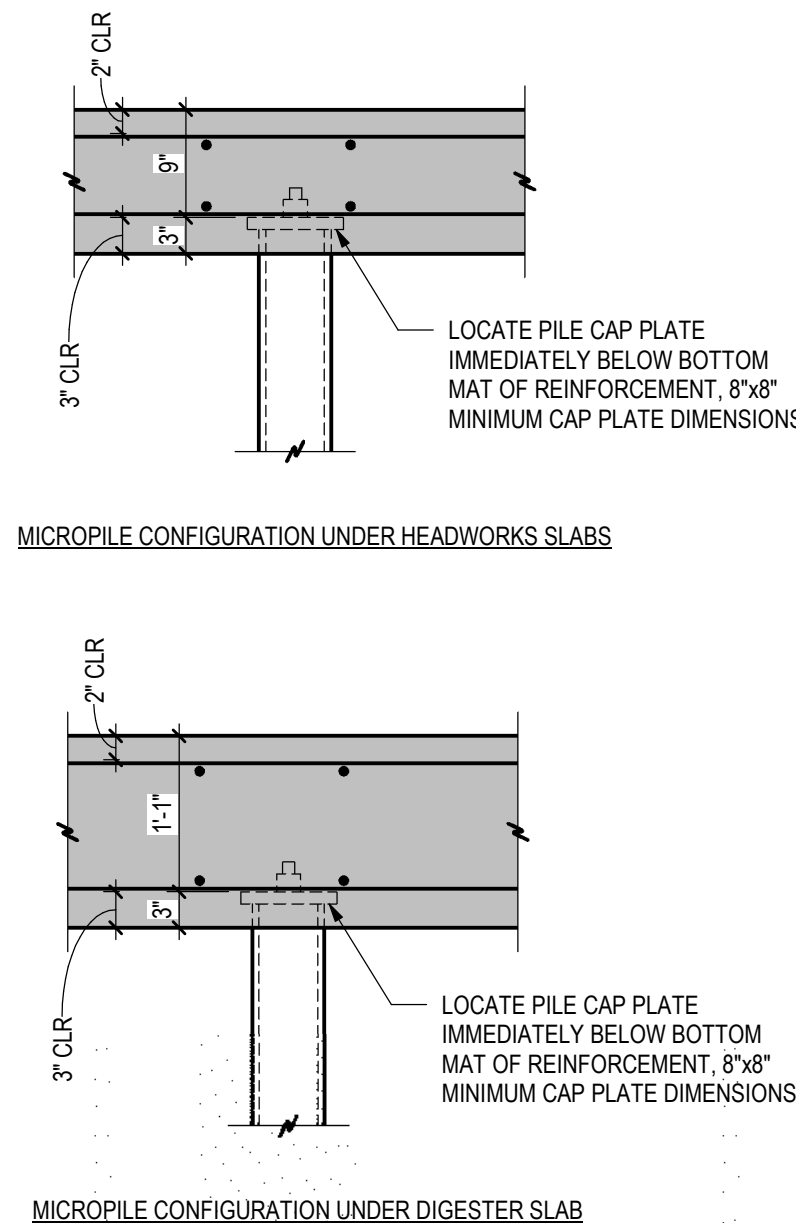
4 DETAIL

SD001 3/4" = 1'-0"



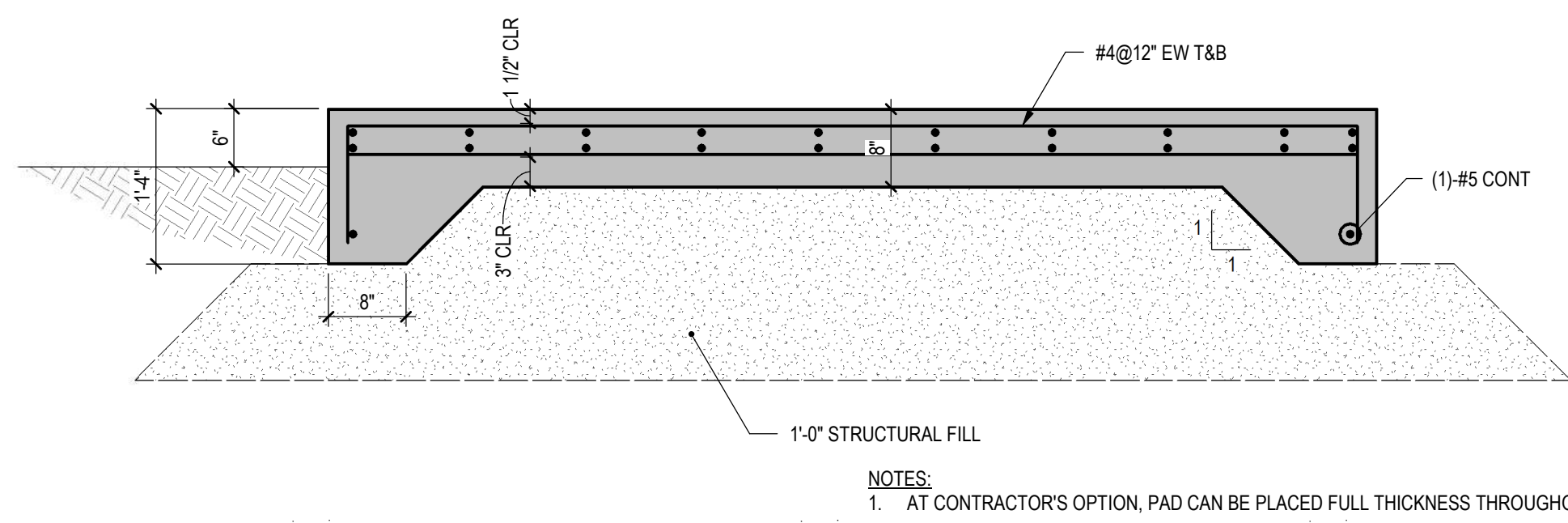
5 EQUIPMENT PAD DETAIL

SD001 3/4" = 1'-0"



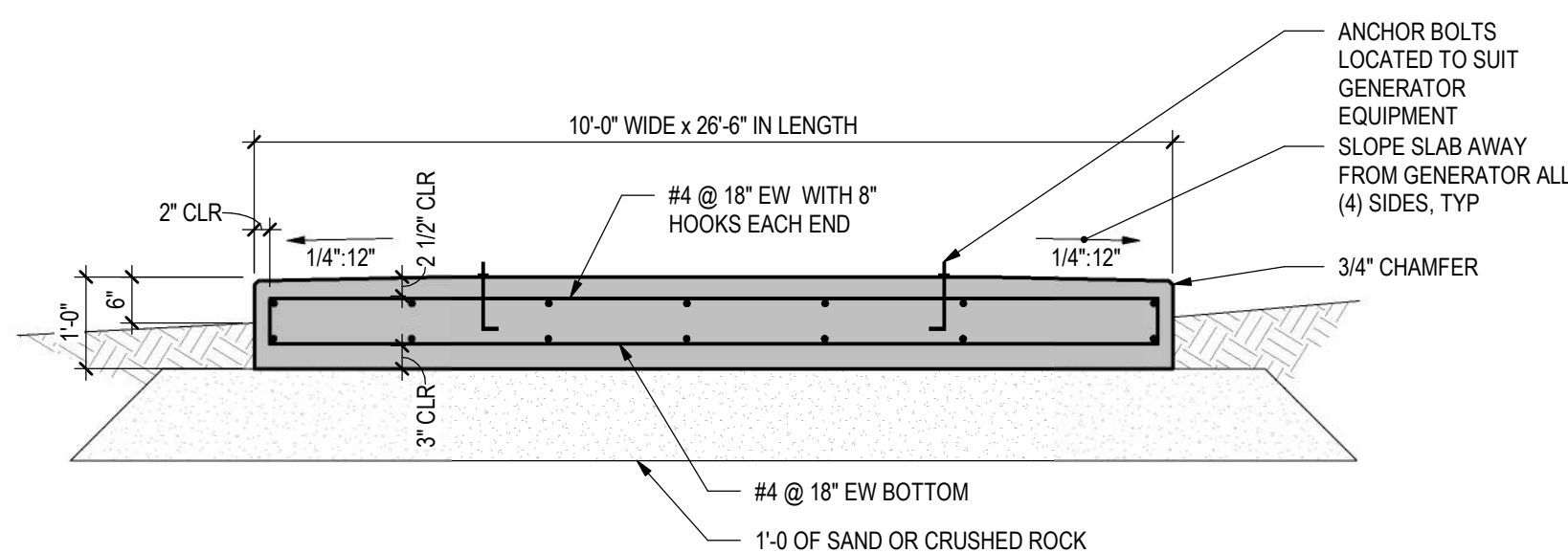
6 CORNER REINFORCEMENT

SD001 3/4" = 1'-0"



7 DOOR STOOP DETAIL

SD001 3/4" = 1'-0"



8 APPROACH SLAB DETAIL

SD001 3/4" = 1'-0"

9 MICROPILES

SD001 3/4" = 1'-0"

10 SITE EQUIPMENT PAD

SD001 3/4" = 1'-0"

11 GENERATOR PAD DETAIL

SD001 1/2" = 1'-0"


REVISION DESCRIPTION

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CITY OF IDAHO SPRINGS
WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO
STRUCTURAL SCHEDULES AND DETAILS

SHEET NO.
SD001



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SD002

TYPICAL THICKENED SLAB AT NON-LOAD-BEARING CMU WALLS

Diagram illustrating the cross-section of a concrete slab and beam. The slab is 7386.30 units wide. The beam is 1'-0" wide. The slab thickness is 8". The beam height is 4". The beam is reinforced with (2) #7 tie beam reinforcement. The slab is reinforced with SLAB REINFORCEMENT, SEE PLAN. The beam is 3" from the left and right edges of the slab. The beam is 6" from the center of the slab.

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TYPICAL WALL VERTICAL REINFORCING

Two diagrams illustrating vertical reinforcing for a typical wall. The left diagram shows 'VERT REINFORCING CENTERED' with vertical bars labeled 'EQ' at the top and bottom. The right diagram shows 'VERT REINFORCING EACH FACE' with vertical bars labeled '2 17/32\"

1. VERTICAL REINFORCING INSTALLED FULL HEIGHT IN SOLID GROUTED VERTICAL CELLS AT SPACING SHOWN AND LOCATED AT OPENING JAMBS, VERTICAL CONTROL JOINTS (AS IN _____), WALL ENDS, CORNERS, AND INTERSECTIONS
2. STANDARD LADDER-TYPE CONTINUOUS HORIZONTAL JOINT REINFORCING VERTICALLY @ 16" UNLESS OTHERWISE NOTED
3. ADD BOND BEAMS AT ALL FLOOR AND ROOF ELEVATIONS AS NOTED IN SECTIONS AND AT ALL TOP OF WALL LOCATIONS, MAXIMUM VERTICAL SPACING = 8'-0"

Diagram illustrating the section view of a wall and floor slab, showing reinforcement details:

- H. SEE SCHEDULE FOR GROUTING REQUIREMENTS**: Points to the grouted joint between the wall and the floor slab.
- (2) #5 BARS IN LOWEST COURSE, TYPICAL. EXTEND FULL WIDTH OF GROUTED JAMB**: Points to the vertical reinforcement bars in the lowest course of the wall.
- MAX VERT BAR SPACING SEE WALL SCHEDULE**: Points to the vertical spacing of the reinforcement bars in the wall.
- VERTICAL BARS IN EACH 8" OF JAMB WIDTH. BAR SIZE, LOCATION, & NUMBER TO MATCH TYPICAL WALL REINFORCING. SEE PLAN & SECTIONS**: Points to the vertical reinforcement bars in the jamb.
- W (MIN) SEE SCHEDULE**: Points to the minimum width of the wall.
- L**: Points to the length of the wall.
- NO CONTROL JOINTS**: Points to the section of the wall without control joints.
- SEE SCHEDULE**: Points to the reinforcement schedule.

TYPICAL MASONRY LINTEL IN CMU WALL:
OPENING WIDTH 4'-1 TO 10'-0

SD002



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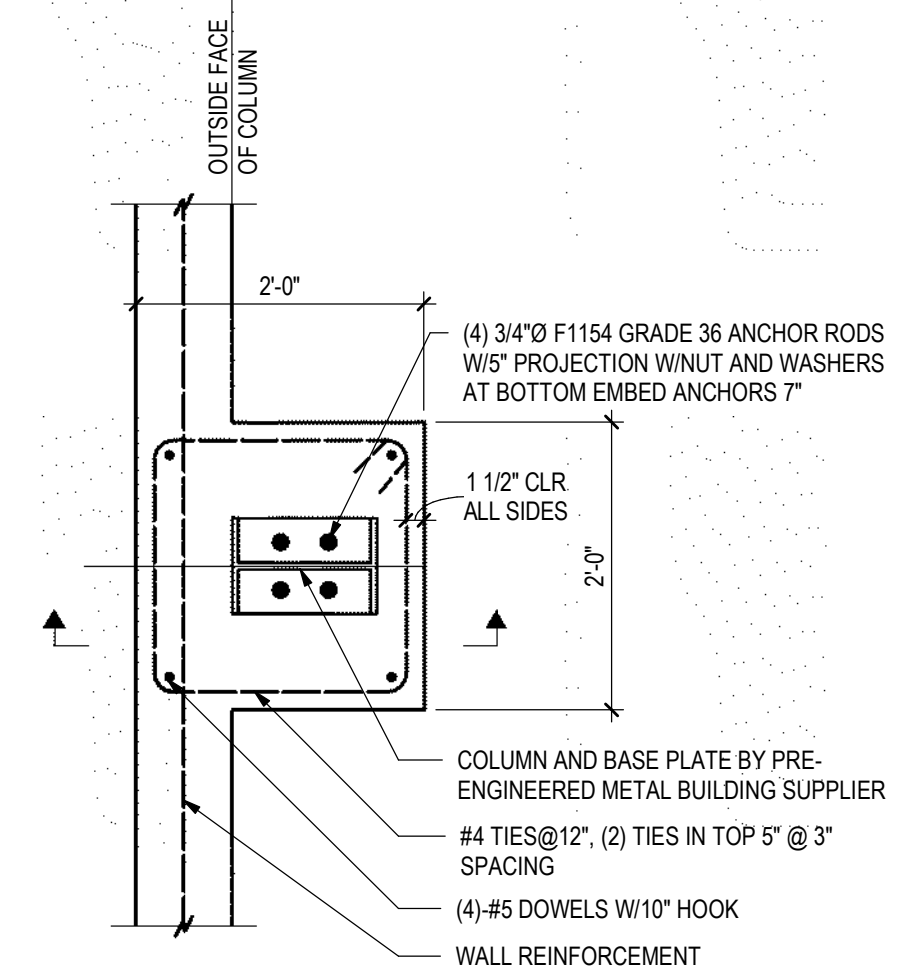
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DRAWN BY:	KLB
CHECKED BY:	AJT
JOB #:	19178
DATE:	NOVEMBER 2018
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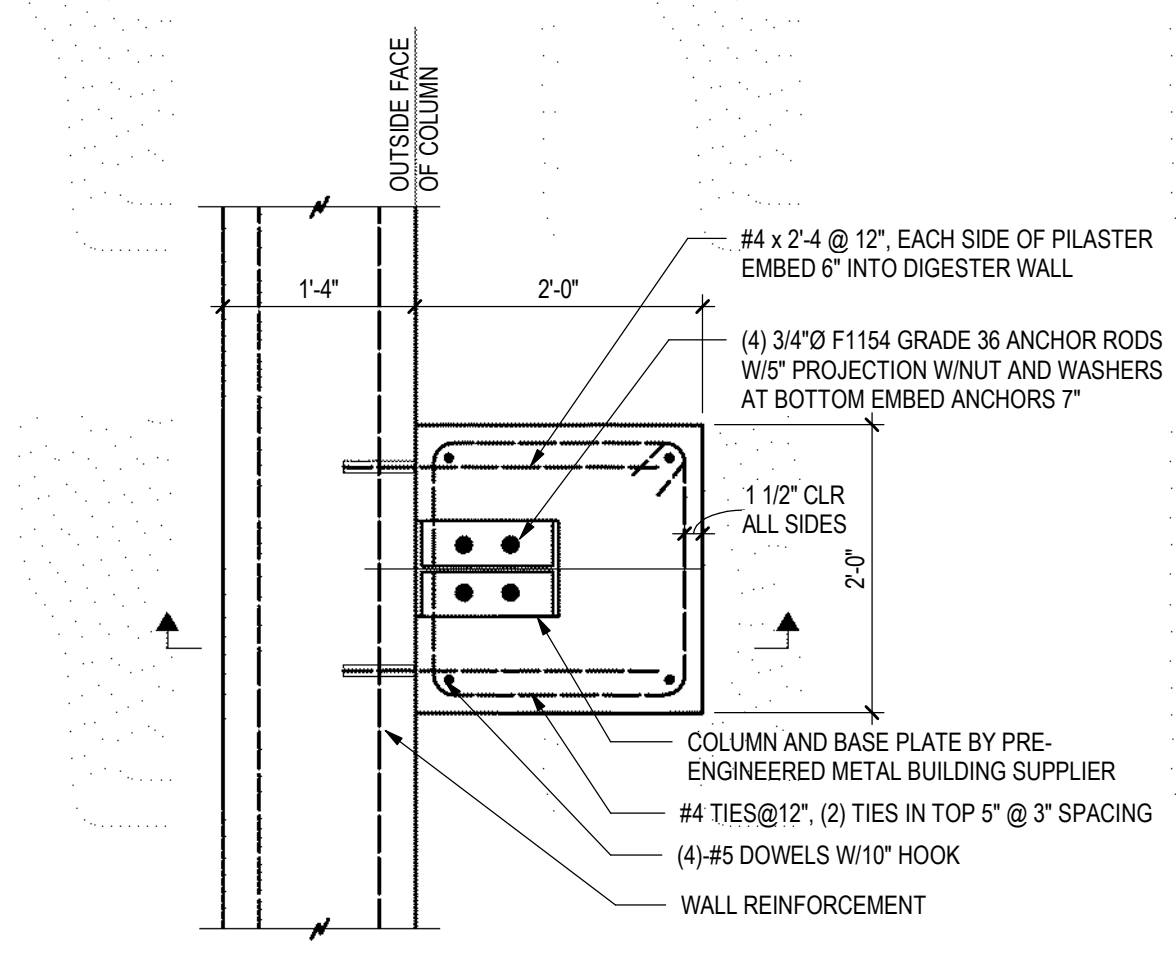
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PILASTER DETAILS

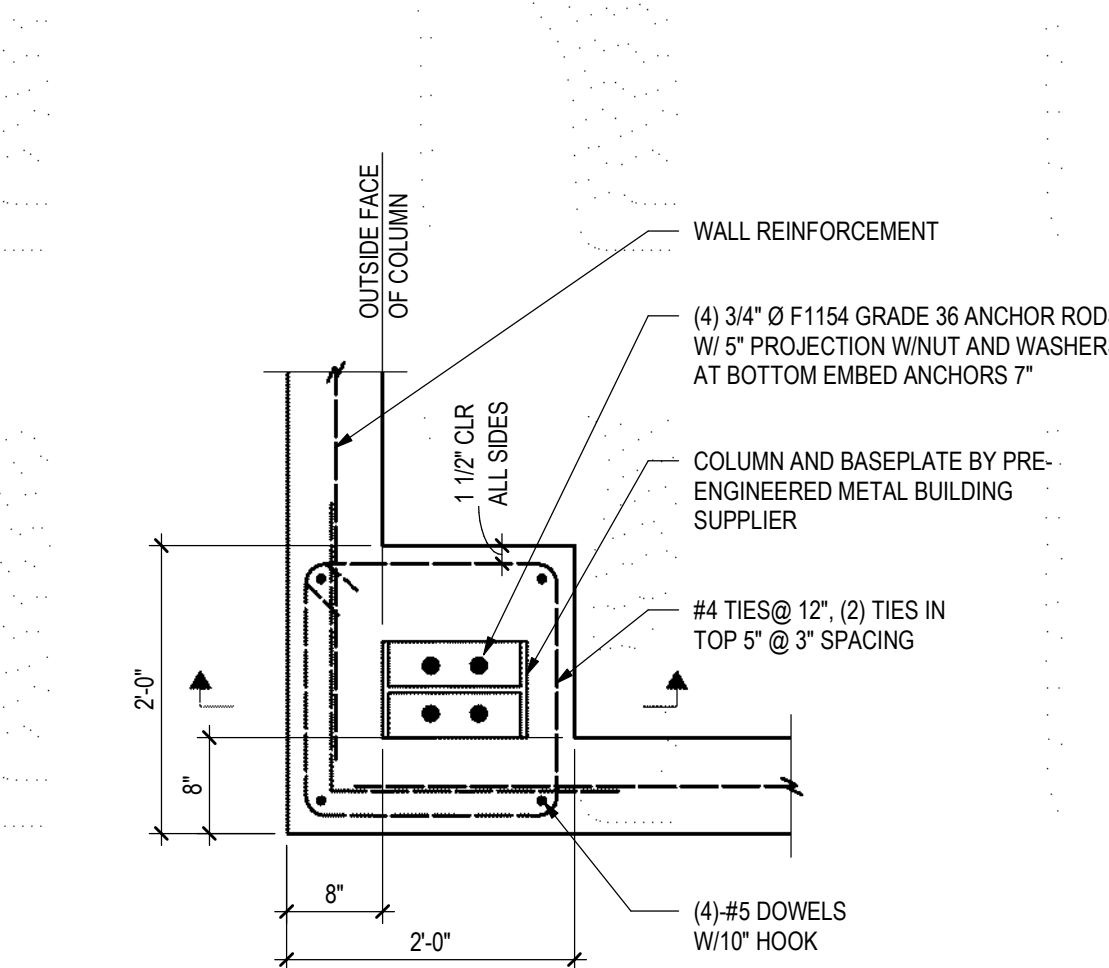
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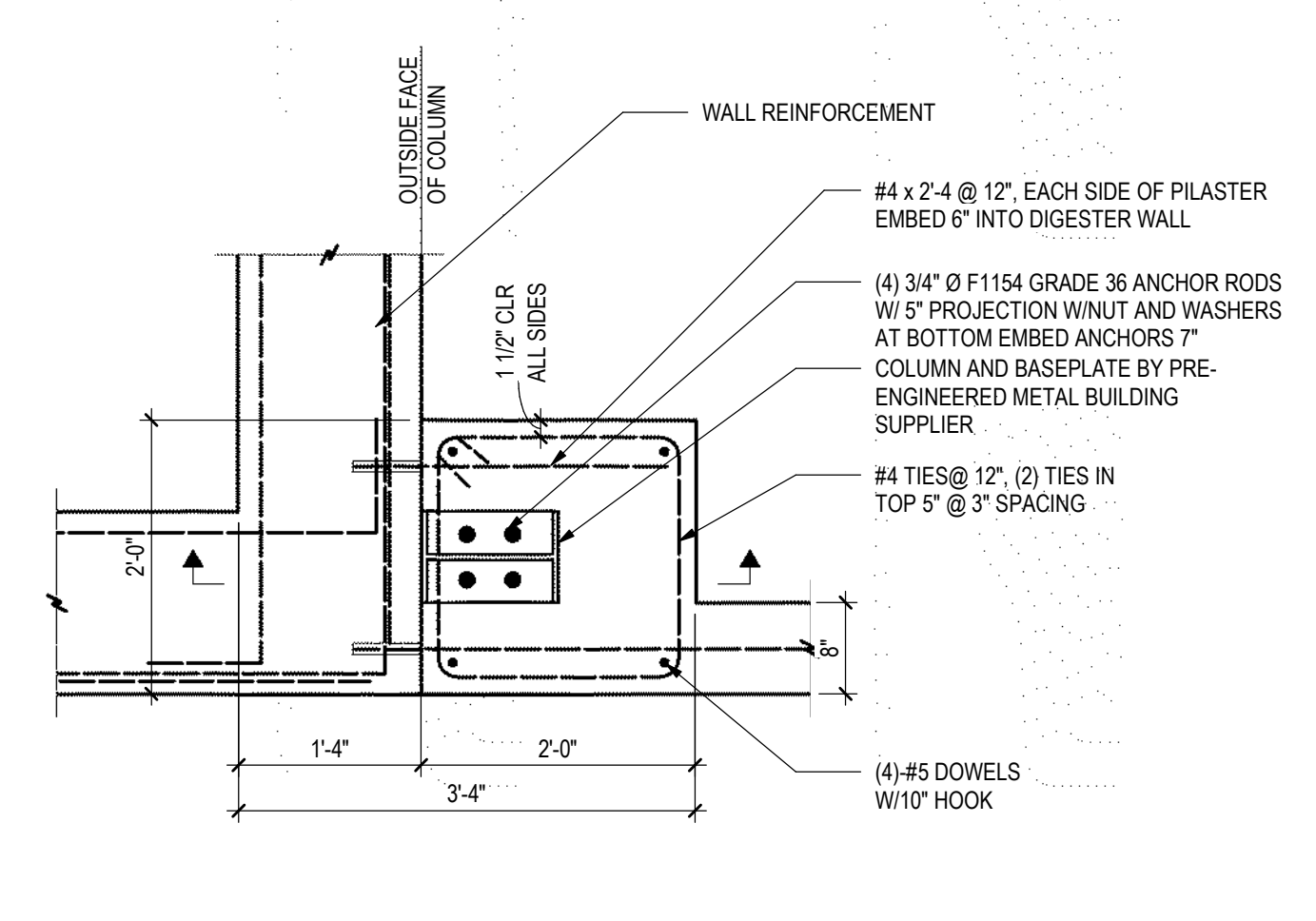
1 PILASTER DETAIL
SD003 3/4" = 1'-0"



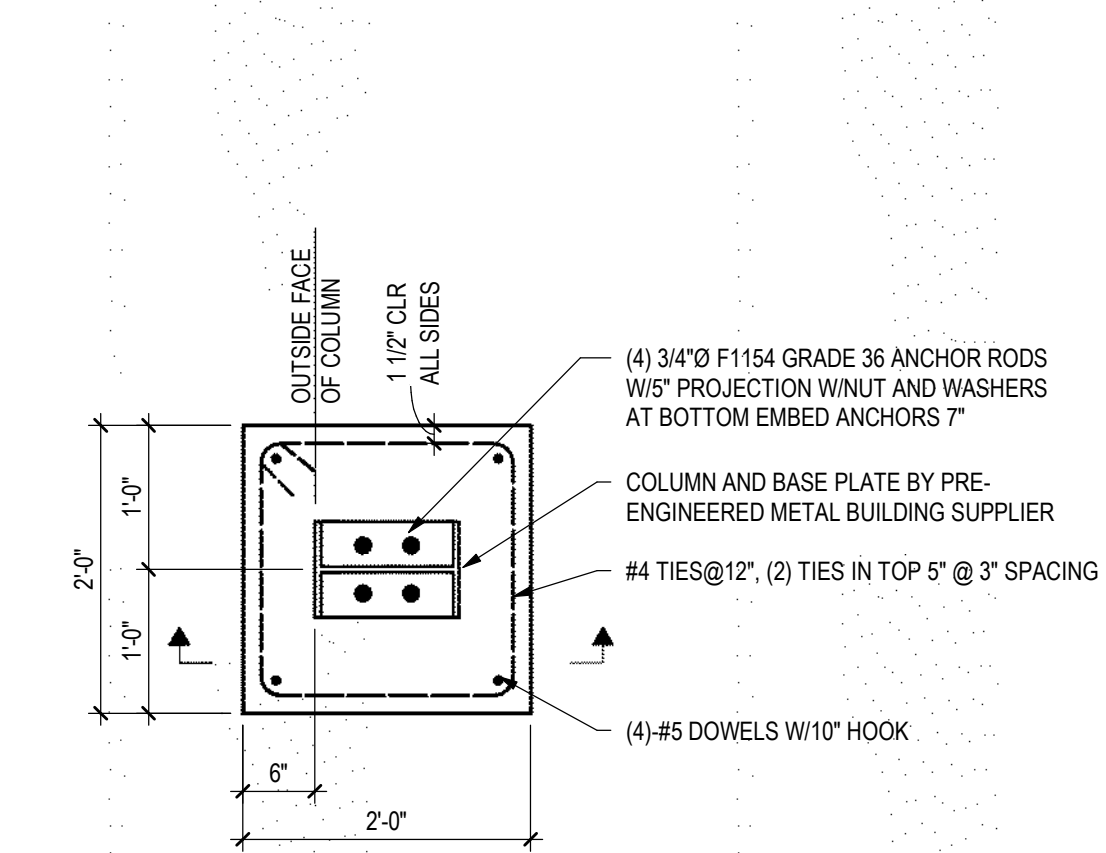
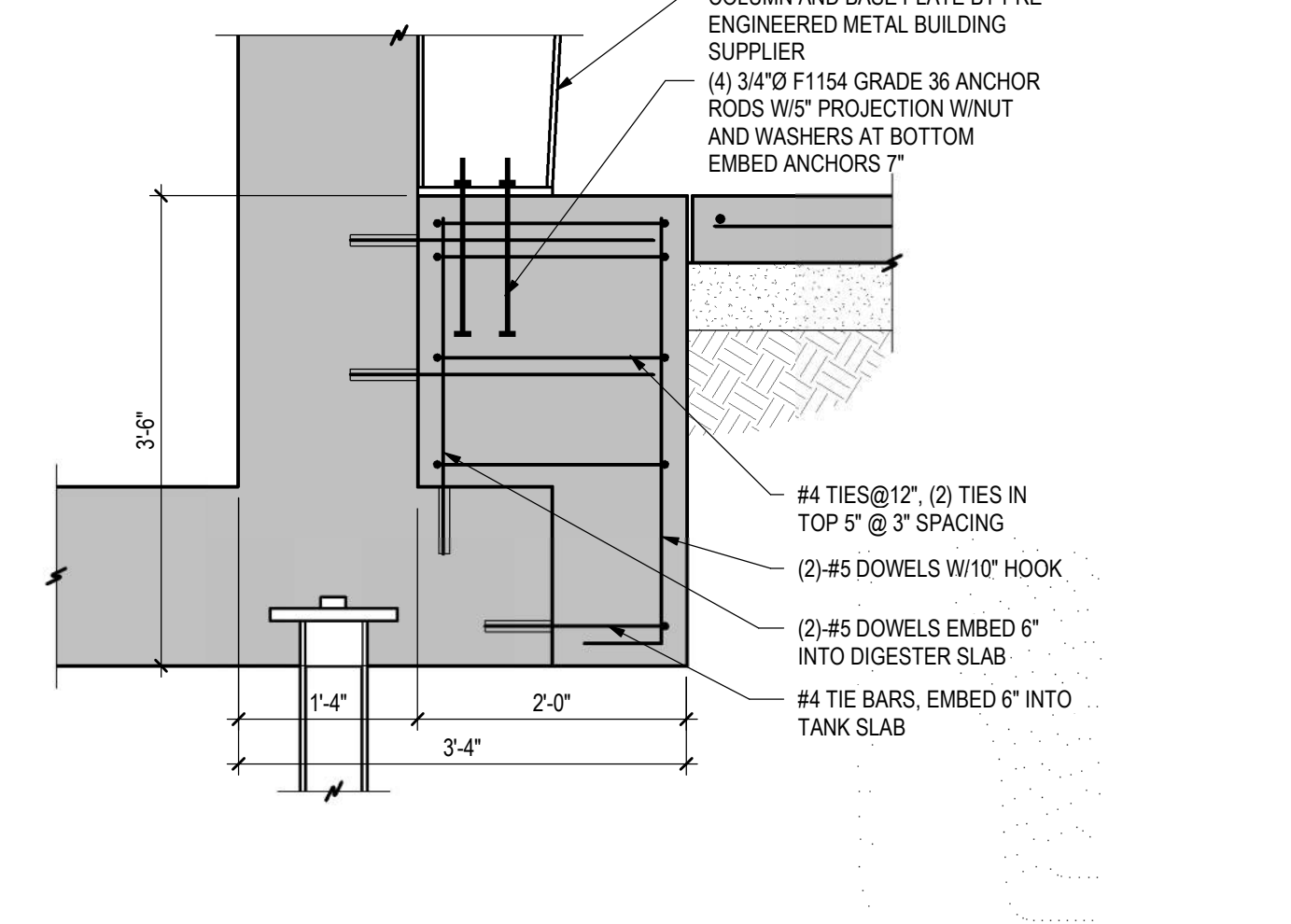
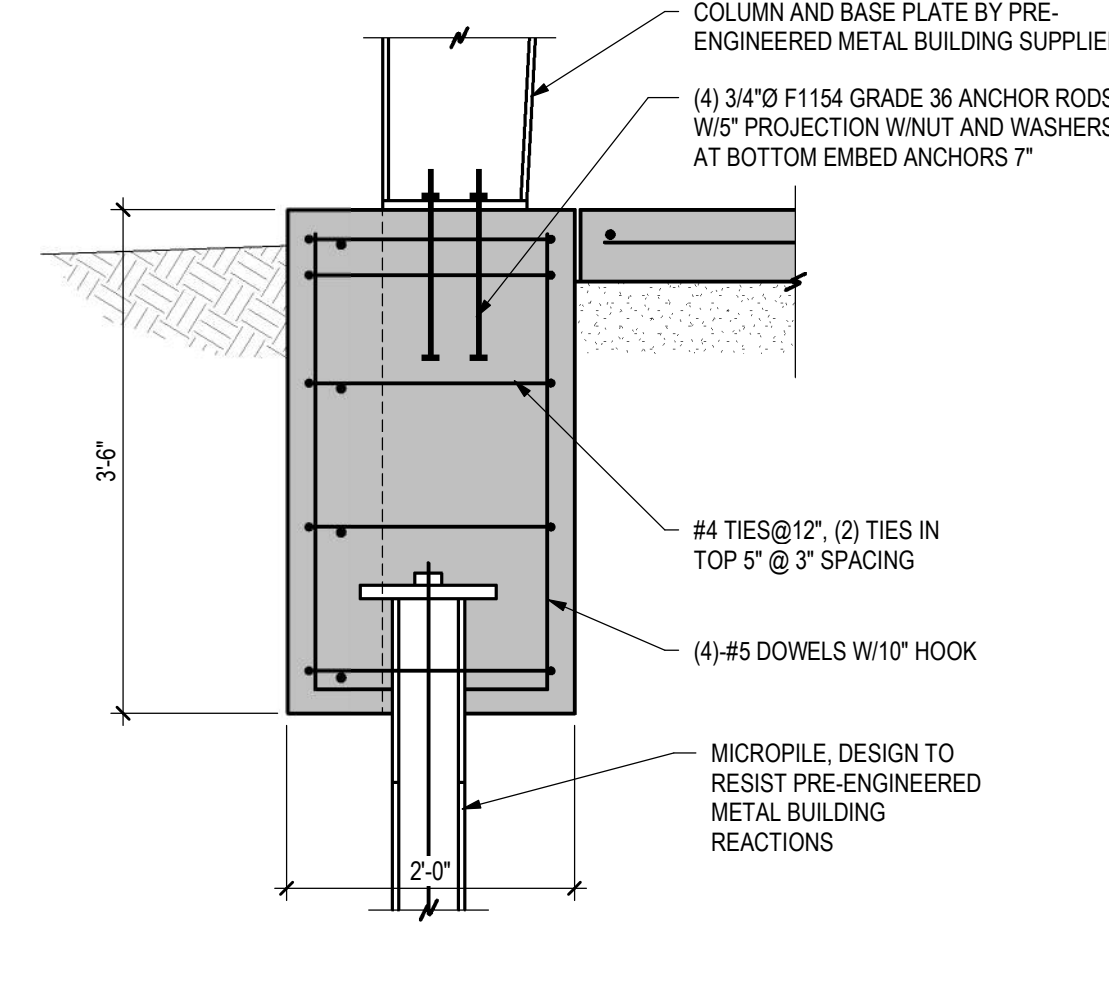
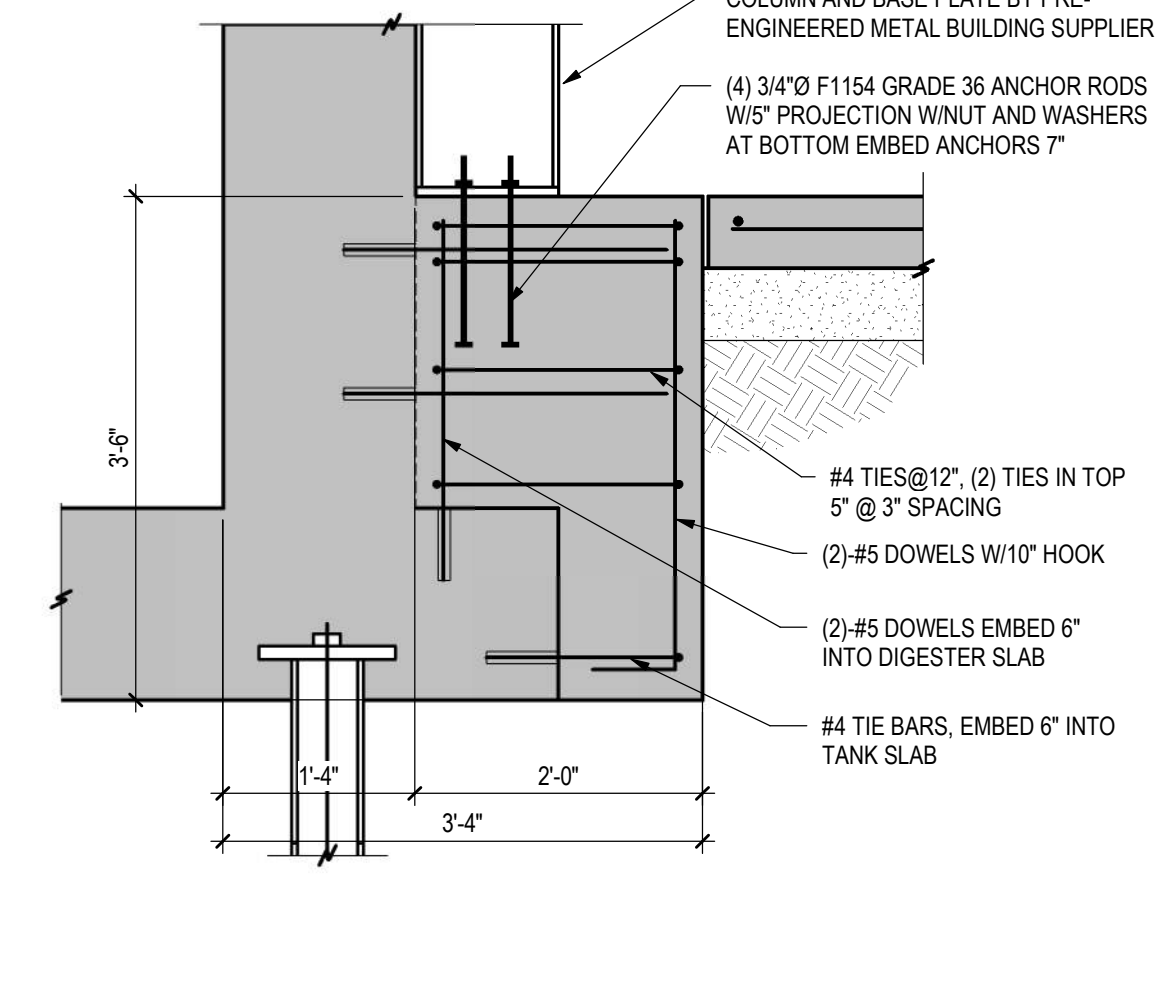
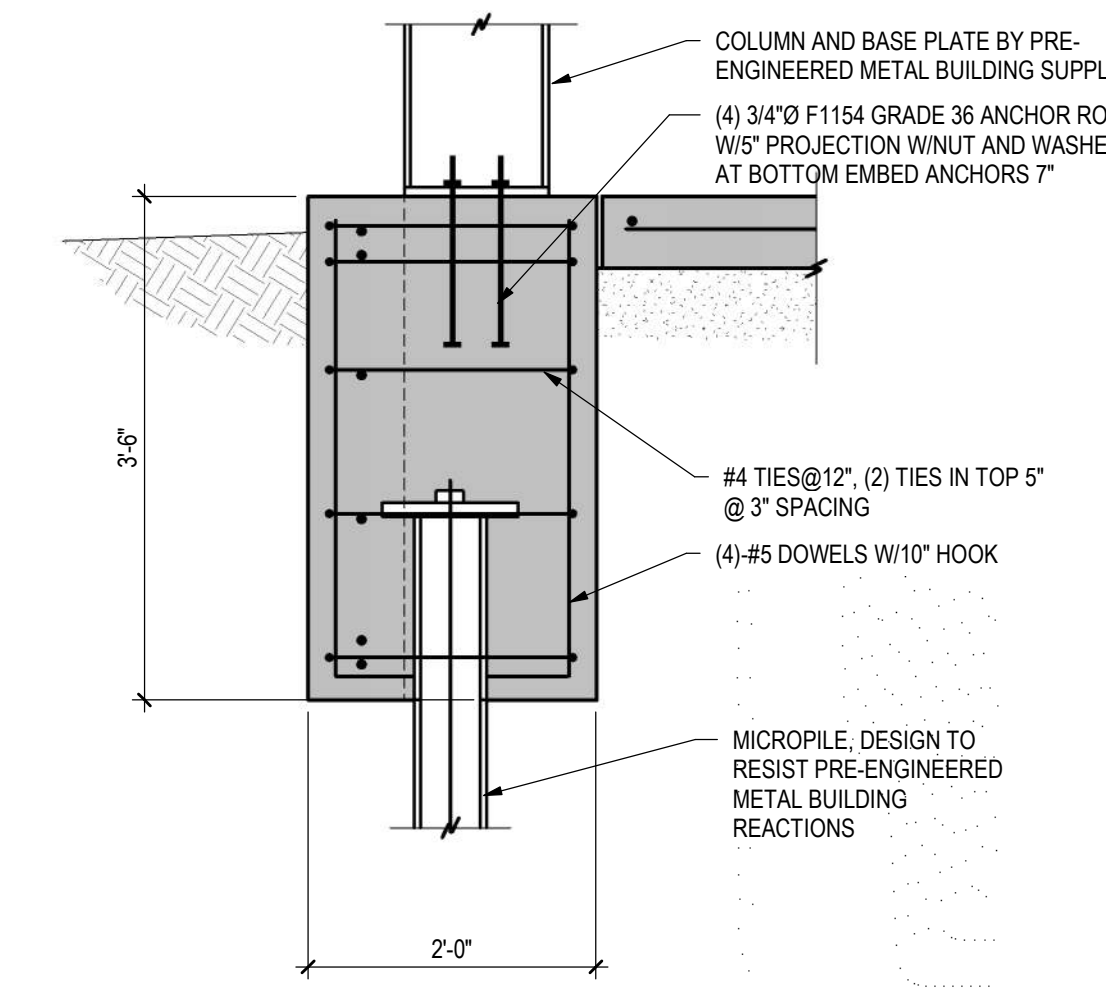
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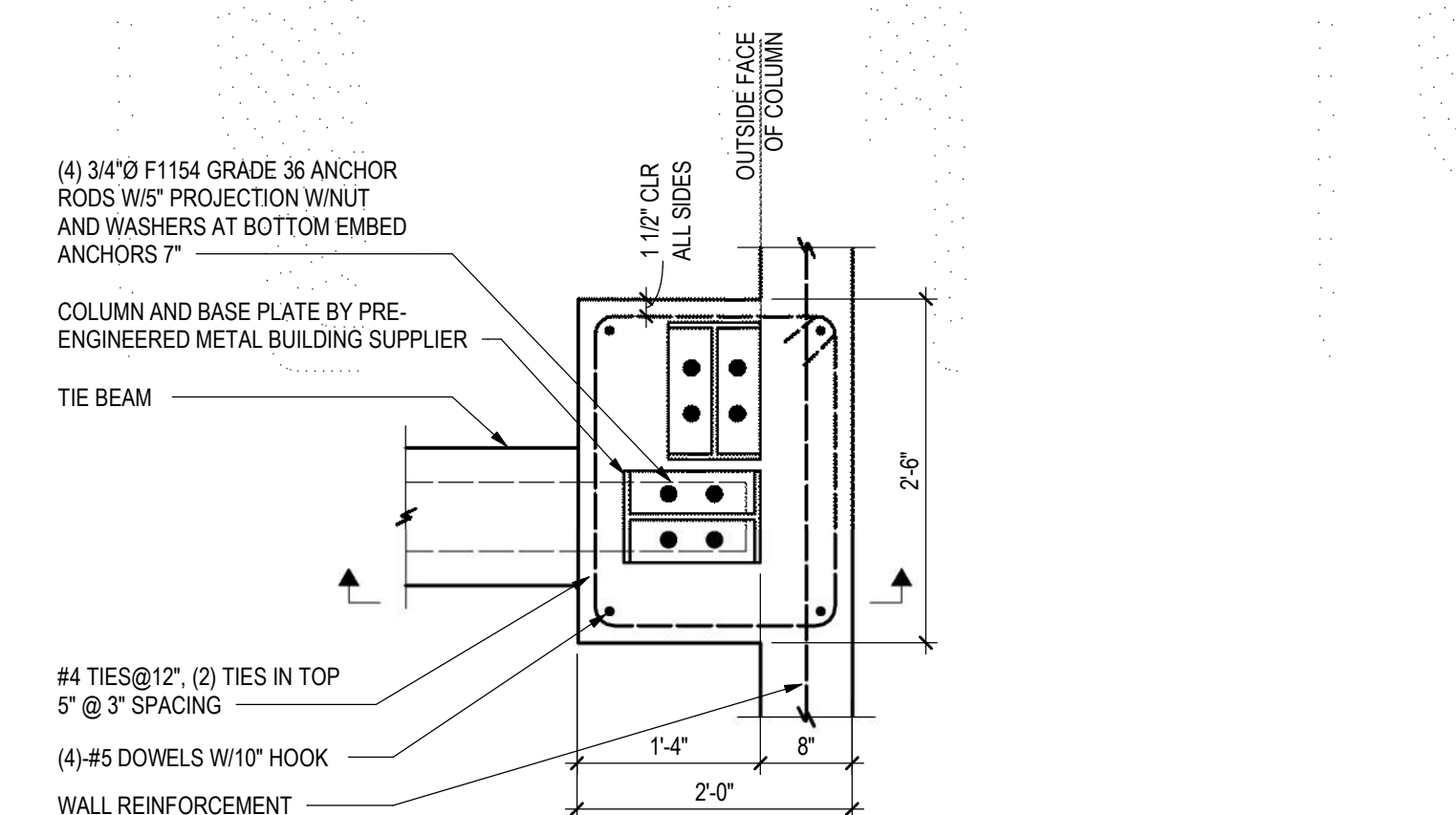
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SD003 3/4" = 1'-0"



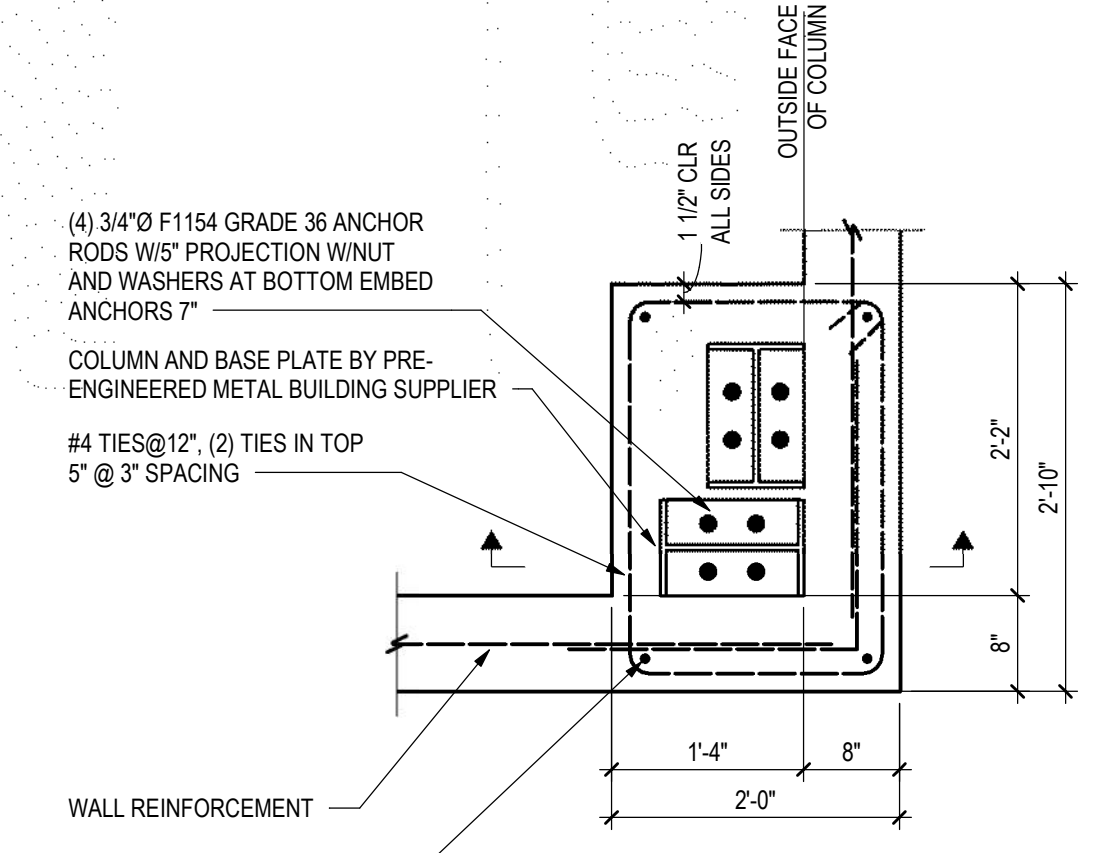
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SD003 3/4" = 1'-0"



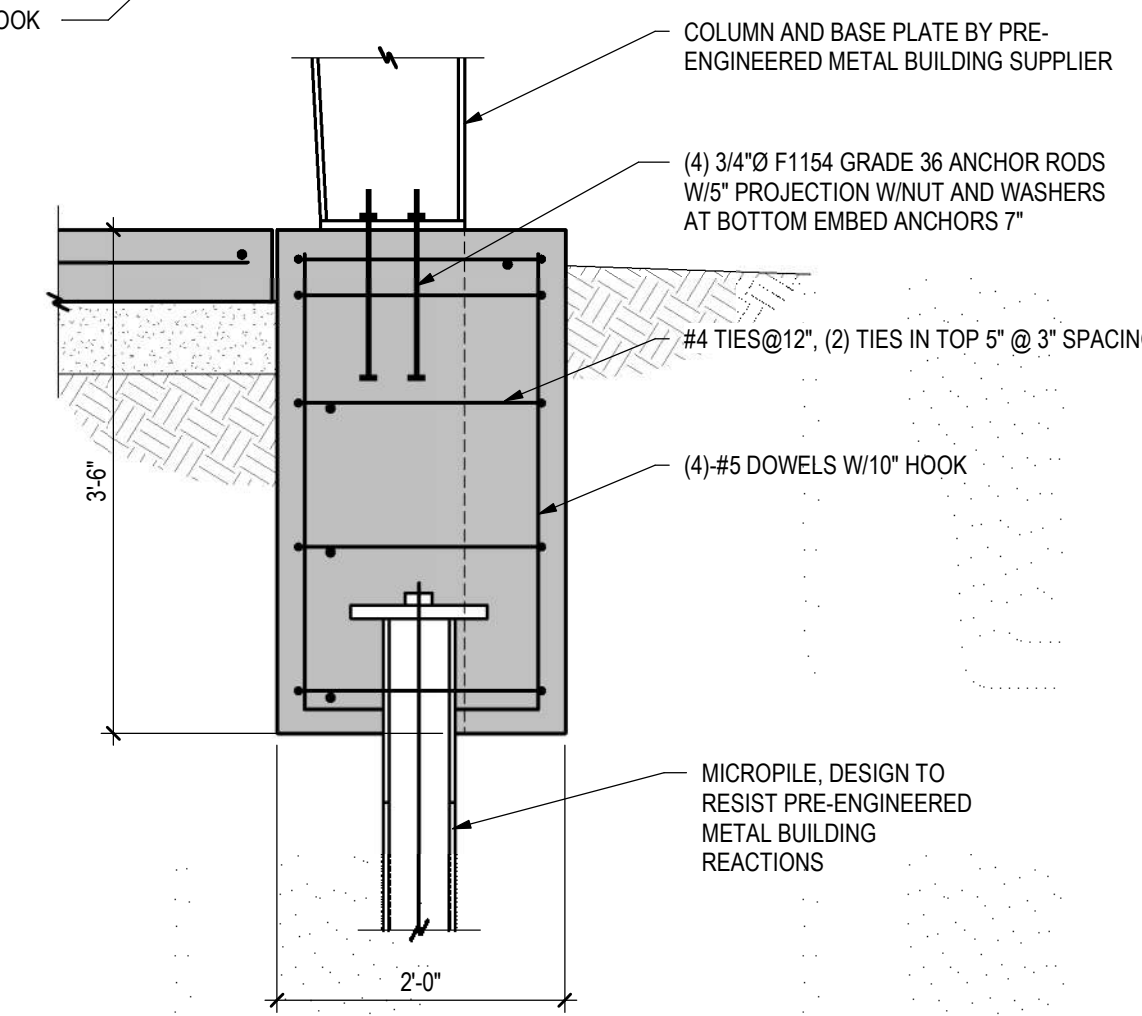
5 PILASTER DETAIL
SD003 3/4" = 1'-0"



6 PILASTER DETAIL
SD003 3/4" = 1'-0"



7 PILASTER DETAIL
SD003 3/4" = 1'-0"

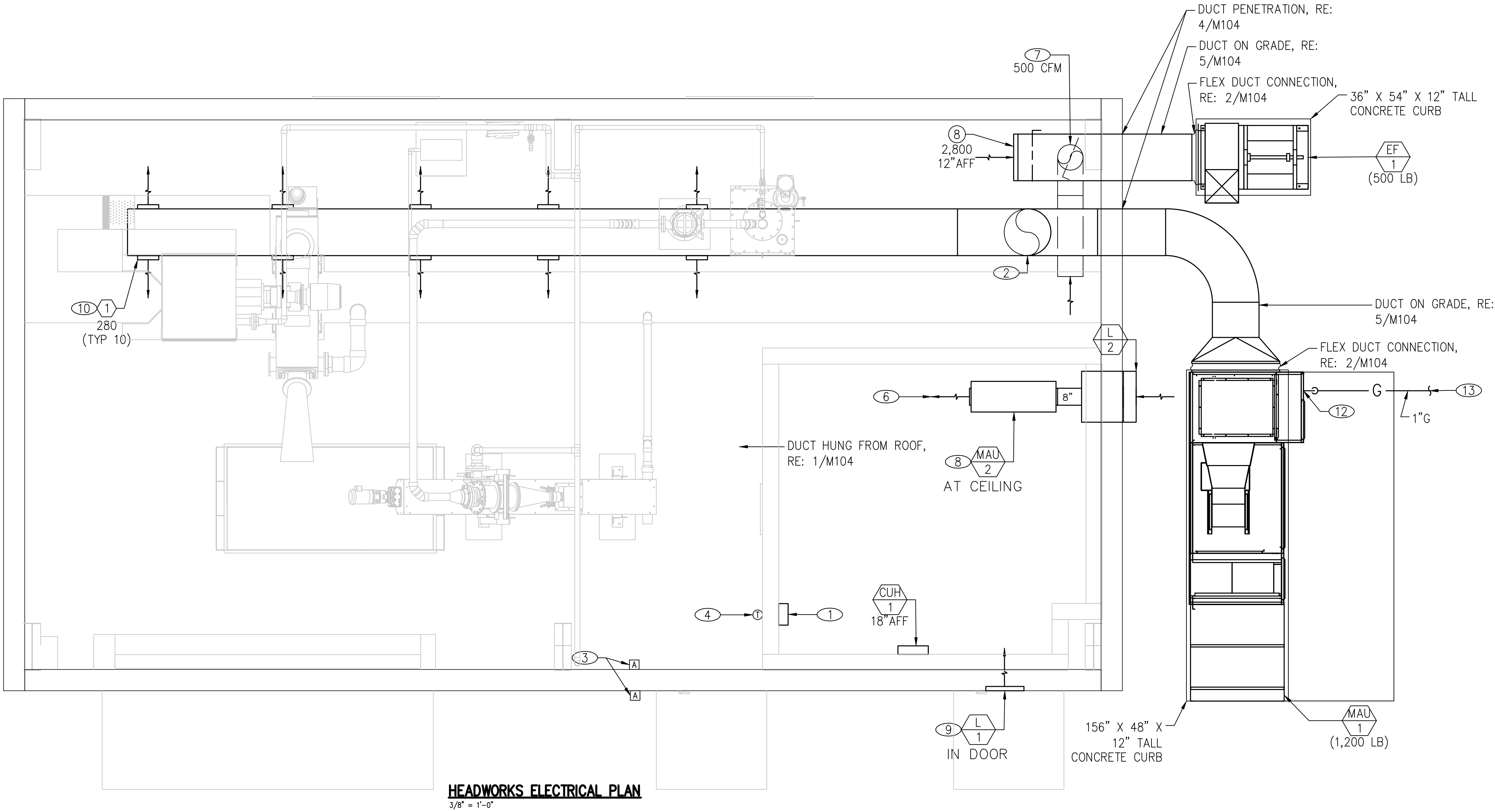


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OPERATING SEQUENCE: START-UP OF SYSTEMS TO CONSIST OF STARTING EF-1 AND RUNNING CONTINUOUSLY FOR 15 MINUTES TO PURGE ROOM. IF COMBUSTIBLE GAS LEVELS ARE BELOW 30% OF LEL AND EF-1 HAS RUN FOR 15 MINUTES THEN MAU-1 SUPPLY FAN WILL BE STARTED. MAU-1 DISCHARGE AIR TEMP WILL BE MODULATED TO MEET 55 DEG SETPOINT, IF ROOM OVERRIDE THERMOSTAT IS BELOW SETPOINT MAU-1 DISCHARGE AIR TEMP SETPOINT WILL BE INCREASED TO 80 DEG F.

NOTES

- 1 MAU-1 REMOTE CONTROL PANEL MOUNTED AT 60" AFF.
- 2 18"SA UP ON WALL TO CEILING, ROUTE DUCT AS HIGH IN CEILING AS POSSIBLE.
- 3 MAU-1 AND EF-1 LOW AIRFLOW ALARM HORN AND LIGHT.
- 4 MAU-1 ROOM OVERRIDE THERMOSTAT MOUNTED AT 60" AFF.
- 5 20"EA UP ON WALL TO CEILING, ROUTE DUCT AS HIGH IN CEILING AS POSSIBLE.
- 6 FREE DISCHARGE TO CONTROL ROOM.
- 7 12" PVC EXHAUST AIR DUCT DOWN BELOW FLOOR, EXTEND INTO CHANNEL. TERMINATE WITH ALUMINUM BIRDSCREEN AT OPEN END IN CHANNEL. BALANCE TO CFM INDICATED.
- 8 MAKE-UP AIR HEATER SUSPENDED FROM ROOF WITH VIBRATION ISOLATION.
- 9 COMBINATION STORM LOUVER AND MANUAL DAMPER INSTALLED IN DOOR, REFER TO ARCHITECTURAL DOOR SCHEDULE FOR DETAILS.
- 10 DUCT MOUNTED SA DIFFUSER SET TO DISCHARGE HORIZONTALLY.
- 11 CONNECT 1" G (6 "WC) TO MAU, RE: GAS CONNECTION DETAIL 6/M104.
- 12 1" G (6"WC) FROM METER, CONFIRM LOCATION WITH OWNER AND GAS COMPANY.












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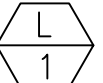





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JOB #: 1529.32c					
DATE: NOVEMBER 2018					
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HEADWORKS MECHANICAL PLAN					
SHEET NO.					
M101					











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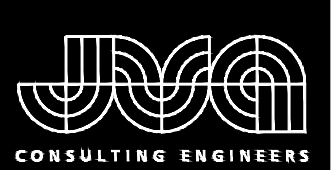
AIR HANDLER SCHEDULE (INDIRECT NATURAL GAS HEATING – NO COOLING)																		
ITEM	LOCATION/ SERVICE	MANUFACTURER/ MODEL	HEATING CAPACITY					SUPPLY FAN					MINIMUM CIRCUIT AMPACITY	MAXIMUM OVERCURRENT PROTECTION	VOLTS/PH	MAX OPER. WT. (LBS.)	OVERALL DIMENSIONS	NOTES
			INPUT @ SL (MBH)	OUTPUT @ SL (MBH)	CFM	EAT	MIN LAT	CFM	SUPPLY ESP (N. WC)	MAX. FAN RPM	SIZE TYPE	MIN. MOTOR HP						
 1	ROOF/ MAKE-UP AIR	GREENHECK/ IGX-112-H22	350.0	280.0	2,800	-10	75	2,800	0.50	1200	CENTR FC	3/4	2.8	15	460/3	1,200	156" LONG X 54" WIDE X 45" TALL	
<div>NOTES:</div> <div><div>1</div>FURNISH UNIT CONFIGURED FOR OUTDOOR OPERATION WITH ETL OR UL LISTED NON-FUSED DISCONNECT SWITCH, WEATHERPROOF INSULATED CABINET, TEFC SUPPLY FAN MOTOR, WEATHERHOOD WITH BIRDSCREEN, REUSABLE ALUMINUM FILTER, FREEZE PROTECTION AND DISCHARGE DAMPER. REFER TO FLOOR PLANS FOR UNIT CONFIGURATION AND DUCT CONNECTIONS.</div> <div><div>2</div>FURNISH 8 STAGE GAS FURNACE WITH STAINLESS STEEL HEAT EXCHANGER CONFIGURED FOR NATURAL GAS AT 8,700 FT ALTITUDE.</div> <div><div>3</div>PROVIDE 24 INCH TALL CURB.</div> <div><div>4</div>FURNISH UNIT WITH INDUSTRIAL REMOTE CONTROL PANEL WITH LOCKABLE NEMA 3R ENCLOSURE. UNIT TO BE INTERLOCKED WITH <u>EF-1</u>. PROVIDE EXPLOSION PROOF ROOM OVERRIDE THERMOSTAT.</div> <div><div>5</div>PROVIDE AIRFLOW MONITORING SWITCH IN SUPPLY AIR DISCHARGE SET TO ALARM IF NO AIRFLOW IS DETECTED IN SUPPLY AIR STREAM. ALARMS TO BE LOCATED AT EACH ENTRANCE TO SPACE, INTERNAL TO SPACE, AND A SET OF CONTACTS FOR CONNECTION TO A CENTRAL MONITORING SYSTEM PER NFPA 820.</div>																		

FAN SCHEDULE												
ITEM	MANUFACTURER/ MODEL	LOCATION/ SERVICE	CFM	ESP	FAN RPM	MAX FAN SONES	ELEC. DATA			MAX OPERATING WEIGHT (LBS)	OVERALL DIMENSIONS	NOTES
							SIZE	VOLT	PH			
<div>EF</div> <div>1</div>	GREENHECK/ FJI-20-BI-X	HEADWORKS/ EXHAUST	3,300	.5	890	20.0	3/4 HP	460	3	500	52"W X 50"L X 99" TALL	<div>①②③⑤</div>
<div>SF</div> <div>1</div>	GREENHECK/ CSP-A390	CONTROL ROOM/ SUPPLY	300	.25	1,146	5.0	150 WATTS	115	1	29	16"W X 12"L X 12" DEEP	<div>④</div>
<div>NOTES:</div> <div><div>①</div>FAN TO BE INTERLOCKED TO OPERATE WITH MAU-1.</div> <div><div>②</div>AMCA TYPE B SPARK RESISTANCE CONSTRUCTION WITH ALUMINUM WHEEL AND CORROSION RESISTANT ELECTROSTATIC POLYESTER COATING ON ALL STEEL PARTS. ALL CONTROLS AND EQUIPMENT LOCATED WITHIN SPACE TO BE EXPLOSION PROOF RATED FOR CLASS 1 DIVISION 1 ATMOSPHERE.</div> <div><div>③</div>PROVIDE MOTOR STARTER AND PRE-WIRED NEMA 3R DISCONNECT SWITCH, DRAIN, ELECTRIC MOTOR WITH THERMAL OVERLOAD, NEOPRENE SHAFT SEAL, WEATHERPROOF MOTOR AND BELT HOOD, ROTARY BELT TENSIONER, BOLTED ACCESS DOOR, INLET FLANGE CONNECTION, 56" TALL EXHAUST FAN DISCHARGE WITH ADJUSTABLE NOZZLE AT DISCHARGE DESIGNED TO WITHSTAND 22 PSF (92 MPH WIND) WITHOUT NEED FOR GUY WIRES AND SPRING VIBRATION ISOLATION MOUNTS.</div> <div><div>④</div>INLINE FAN WITH SPEED CONTROLLER AND RIS VIBRATOIN ISOLATORS SET TO OPERATE CONTINUOUSLY.</div> <div><div>⑤</div>PROVIDE CORROSION RESISTANT AIRFLOW MONITORING SWITCH IN EXHAUST AIR INLET SET TO ALARM IF NO AIRFLOW IS DETECTED IN AIR STREAM. ALARMS TO BE LOCATED AT EACH ENTRANCE TO SPACE, INTERNAL TO SPACE, AND A SET OF CONTACTS FOR CONNECTION TO A CENTRAL MONITORING SYSTEM PER NFPA 820.</div>												


MECHANICAL EQUIP SCHEDULE	
ITEM	DESCRIPTION
 1	MARKEL #G3325TD-RP 3KW WALL HEATER WITH FACTORY INSTALLED DISCONNECT AND INTEGRAL THERMOSTAT. PHYSICAL DATA: 4" DEEP X 14-3/16" WIDE X 19-7/16" TALL AND 26 LB OPERATING WEIGHT. ELECTRICAL: 3KW 460/3 VAC.
 2	ELECTRO INDUSTRIES EM-MA05-240-1-08, 5 KW PACKAGED MAKE-UP AIR HEATER. 350 CFM @ 0.03" ESP, 70° TEMP RISE, 17,070 BTU WITH INTEGRAL THERMOSTAT SET TO TURN HEATER ELEMENT ON WHEN OUTSIDE AIR TEMPERATURE IS BELOW 55° F, UNIT TO RUN CONTINUOUSLY. PROVIDE UNIT WITH VARIABLE HEAT OUTPUT AND VARIABLE FAN SPEED. ADJUST FAN SPEED TO MAINTAIN 0.1" WC PRESSURE DIFFERENCE BETWEEN ELECTRICAL ROOM AND HEADWORKS PROCESS AREA. PHYSICAL DATA: 14-1/2" WIDE x 13-1/2" DEEP x 40" LONG AND 60 LB OPERATING WEIGHT. ELECTRICAL: 5 KW 240/1/60, 20.8 AMP FLA, 30 AMP OCP

LOUVER SCHEDULE								
ITEM	MANUFACTURER/ MODEL	LOCATION/ SERVICE	CFM	MAX. PD (IN)	% FREE AREA	WIDTH (IN)	HEIGHT (IN)	NOTES
 1	COORD WITH DOOR MANUFACTURER	DOOR/ EXHAUST	300	.1	-	18	12	
 2	GREENHECK/ ESD-603	WALL/ INTAKE	350	.1	-	24	12	
<div>NOTES:</div> <div><div>1</div>FURNISH WITH 18 GUAGE MINIMUM GALVANIZED STEEL DRAINABLE BLADES AND MANUAL DAMPER,</div> <div><div>2</div>FURNISH WITH 18 GUAGE MINIMUM GALVANIZED STEEL DRAINABLE BLADES, BAROMETRIC BACKDRAFT DAMPER, AND BIRDSCREEN,</div>								

DIFFUSER & REGISTER SCHEDULE							
SUPPLY AIR				RETURN/EXHAUST AIR			
ITEM	MODULE – NECK SIZE	CFM RANGE	TYPE	ITEM	NECK SIZE	CFM RANGE	TYPE
 1	10/6	0 – 250	S1	 1	8"	0 – 500	R1
 2	14/6	0 – 340	S1	 2	10"	0 – 700	R1
				 3	12"	0 – 1,000	R1
				 4	14"	0 – 1,300	R1
				 5	16"	0 – 1,600	R1
				 6	18"	0 – 2,000	R1
				 7	20"	0 – 2,300	R1
				 8	22"	0 – 3,000	R1
DIFFUSER & REGISTER SPECIFICATIONS							
<div>SUPPLY AIR</div> <div><div><u>TYPE S1:</u></div>KRUEGER MODEL DMGDU DOUBLE DEFLECTION STEEL SUPPLY GRILL, 3/4" BLADE SPACING, OBD, CLEAR ANODIZED FINISH. DIFFUSER TO BE BALANCED WITH DEFLECTION VANES ARRANGED TO DIFFUSE AIR WITH HALF OF VANES DISCHARGING AT 30 DEGREE ANGLE TO TOP LEFT AND HALF OF VANES DISCHARGING AT 30 DEGREE ANGLE TO BOTTOM RIGHT.</div> <div><div><u>RETURN/EXHAUST AIR</u></div><div><div><u>TYPE R1:</u></div>KRUEGER MODEL REGC5RD, ALUMINUM GRILLE, 1/2" EGGRATE, CLEAR ANODIZED FINISH.</div></div>							



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CITY OF IDAHO SPRINGS
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IDAHO SPRINGS, COLORADO

HEADWORKS SCHEDULES

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MECHANICAL SPECIFICATIONS

SUPPLY AND EXHAUST AIR DUCTWORK IN NON–CLASSIFIED AREAS SHALL BE CONSTRUCTED OF GALVANIZED STEEL PER SMACNA DUCT CONSTRUCTION STANDARDS. SUPPLY AND EXHAUST AIR DUCTWORK SHALL BE CONSTRUCTED FOR 2” W.C. STATIC PRESSURE. RADIUS ED ELBOWS (R/D=1.5) OR MITERED ELBOWS WITH SINGLE THICKNESS TURNING VANES SHALL BE UTILIZED. TURNING VANES SHALL BE SUPPORTED AT INTERVALS OF 36” MAXIMUM. TURNING VANE RUNNERS SHALL HAVE A VANE IN EVERY SLOT AND SHALL CONFORM TO SMACNA DUCT CONSTRUCTION STANDARDS FOR STANDARD SPACING.

SUPPLY AND EXHAUST AIR DUCTWORK IN CLASSIFIED AREAS OF THE HEADWORKS BUILDING SHALL BE CONSTRUCTED FOR 2” W.C. STATIC PRESSURE WITH ALUMINUM OR STAINLESS STEEL PER SMACNA DUCT CONSTRUCTION STANDARDS.

SUPPLY AIR DUCTWORK SHALL BE INSULATED WITH R–12 WHEN LOCATED OUTSIDE OF THE BUILDING.

DUCT HANGERS SHALL BE CONSTRUCTED OF ALUMINUM OR GALVANIZED STEEL TO MATCH DUCT MATERIAL. DUCTS SHALL BE SUPPORTED AND CONNECTED TO THE STRUCTURE PER IMC AND SMACNA DUCT CONSTRUCTION STANDARDS.

MANUAL VOLUME DAMPERS SHALL BE FURNISHED AND INSTALLED WHERE INDICATED AT SUPPLY AIR DUCT RUNOUTS TO AIR DIFFUSERS AND GRILLES AS NEAR AS POSSIBLE TO THE TRUNK DUCT. MANUAL VOLUME DAMPERS FOR RECTANGULAR DUCT SHALL BE CONSTRUCTED OF GALVANIZED STEEL OR ALUMINUM TO MATCH DUCT MATERIAL AND BE THE OPPOSED BLADE TYPE. STAND–OFFS TO OUTSIDE OF INSULATION SHALL BE PROVIDED FOR MANUAL VOLUME DAMPERS IN INSULATED DUCT. LOCKING AND INDICATING QUADRANTS SHALL BE PROVIDED WHERE DAMPER IS ACCESSIBLE.

AIR DEVICES SHALL BE AS SCHEDULED. EXPOSED SCREWS SHALL BE THE FINISHING TYPE AND PAINTED TO MATCH THE AIR DEVICE. SQUARE TO ROUND ADAPTORS SHALL BE PROVIDED WHERE REQUIRED FOR AIR DEVICES IN CEILINGS. AIR DEVICES SHALL BE FINISHED WITH WHITE BAKED ENAMEL UNLESS NOTED OTHERWISE.

REFRIGERANT PIPING SHALL BE ASTM B 280 TYPE ACR HARD DRAWN COPPER TUBING WITH B16.22 WROUGHT COPPER FITTINGS. COPPER TUBING SHALL BE BRAZED WITH AWS A5.8 BCuP SILVER BASED FILLER METAL. REFRIGERANT PIPING SYSTEM, INCLUDING FITTINGS, VALVES AND APPURTENANCES SHALL BE TESTED FOR LEAKAGE AT 200 PSI WORKING PRESSURE WITH DRY NITROGEN.

INSULATE ALL REFRIGERANT SUCTION GAS AND LIQUID DISCHARGE TUBING WITH 1–1/2” MINIMUM THICKNESS FLEXIBLE CLOSED CELL ELASTOMERIC INSULATION. PROVIDE TYPE R–374 PROTECTIVE COATING (2 COATS MINIMUM) TO INSULATION INSTALLED OUTSIDE OF BUILDING WHERE EXPOSED TO ATMOSPHERE.

MECHANICAL EQUIPMENT SHALL BE SECURED AND INSTALLED PER MANUFACTURERS RECOMMENDATIONS AND APPLICABLE SECTIONS OF THE JURISDICTIONAL BUILDING AND MECHANICAL CODES.

ROOF CURB ASSEMBLIES SHALL CONSIST OF HEAVY GAUGE GALVANIZED STEEL CONSTRUCTION, WITH INTEGRAL BASE PLATE, 3# DENSITY INSULATION AND 2 X 2 NAILER.

EQUIPMENT RAIL SUPPORTS 18 GA. GALVANIZED STEEL, UTILIZED CONSTRUCTION WITH INTEGRAL BASE PLATE, CONTINUOUS WELDED CORNER SEAMS PRESSURE TREATED WOOD NAILER, COUNTERFLASHING WITH LAG SCREWS. INTERNALLY REINFORCED TO CONFORM WITH LOAD BEARING FACTORS. STANDARD WOOD NAILER SHALL HAVE A OVERHANGING UNLESS OTHERWISE SPECIFIED.

AN INDEPENDENT TEST AND BALANCE FIRM WHICH IS AABC OR NEBB CERTIFIED SHALL BE RETAINED FOR CHECK/TEST–START–UP AND TESTING AND BALANCING OF AIR AND WATER SYSTEMS. THE TEST REPORT SHALL BE IN A FORMAT APPROVED BY AABC FOR SYSTEMS OF THIS TYPE AND COMPLEXITY. QUALIFICATIONS OF INDEPENDENT TEST AND BALANCE FIRM SHALL BE SUBMITTED FOR REVIEW.

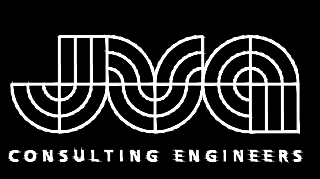
GAS PIPING ABOVE GRADE SHALL BE SCHEDULE 40 BLACK STEEL. GAS PIPING 2” AND SMALLER SHALL HAVE 150LB BLACK MALLEABLE IRON SCREWED FITTINGS. SHUT–OFF VALVES FOR GAS PIPING SHALL BE CLASS 125, 175 LB. WOG CAST IRON, SCREWED OR FLANGED WITH LOW FRICTION COATED PLUG. GAS PIPING SHALL BE TESTED IN ACCORDANCE WITH APPLICABLE SECTIONS OF THE NFPA 54 AND JURISDICTIONAL FUEL GAS AND PLUMBING CODES. EXTERIOR GAS PIPING SHALL BE PAINTED WITH A CORROSION RESISTANT COATING. BELOW GRADE GAS PIPING SHALL BE 150 LB. FORGED STEEL FITTINGS AND WELDED JOINTS WITH CATHODIC PROTECTION AS REQUIRED AND A FACTORY APPLIED COATING OF EITHER FUSION BONDED EPOXY OR TAPE WRAP (15 MIL. MINIMUM) OR POLYETHYLENE PLASTIC WITH HEAT FUSION JOINTS PE 2306, ASTM D–2513, NO MORE THAN 2 YEARS OLD. DUPONT, NIPAK, PHILLIPS, OR PLEXCO. BELOW GRADE PIPING TO BE BURIED 24” MINIMUM BELOW FINISHED GRADE.

MECHANICAL LEGEND

ABBR	SYMBOL	DESCRIPTION
SA		EXISTING SUPPLY AIR
RA		EXISTING RETURN AIR
EA		EXISTING EXHAUST AIR
OA		EXISTING OUTSIDE AIR
SA		SUPPLY AIR
RA		RETURN AIR
EA		EXHAUST AIR
OA		OUTSIDE AIR
S		SPACE TEMP SENSOR W/ OVERRIDE & LCD SETPOINT ADJUSTMENT
T–STAT		THERMOSTAT
MVD		MANUAL VOLUME DAMPER
UNO		UNLESS NOTED OTHERWISE
AFF		ABOVE FINISHED FLOOR
E		EXISTING
D		DEMO
		POINT OF CONNECTION NEW TO EXISTING
		ITEMS TO BE DEMOLISHED

GENERAL NOTES

- ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE STATE CODES, LOCAL CODES, AND OWNER’S STANDARDS INDICATED BY THE CONSTRUCTION DOCUMENTS.
- MECHANICAL DRAWINGS ARE DIAGRAMMATIC AND DO NOT NECESSARILY INDICATE EVERY REQUIRED OFFSET, FITTING, ETC. DRAWINGS ARE NOT TO BE SCALED FOR DIMENSIONS. TAKE ALL DIMENSIONS FROM ARCHITECTURAL DRAWINGS, CERTIFIED EQUIPMENT DRAWINGS AND FROM THE STRUCTURE ITSELF BEFORE FABRICATING ANY WORK, VERIFY ALL SPACE REQUIREMENTS COORDINATING WITH OTHER TRADES, AND INSTALL THE SYSTEMS IN THE SPACE PROVIDED WITHOUT EXTRA CHARGES TO THE OWNER.
- CONTRACTOR SHALL COORDINATE WORK INDICATED WITH PLUMBING, ELECTRICAL, STRUCTURAL, AND ARCHITECTURAL DIVISIONS. VERIFY FIT OF MECHANICAL SYSTEMS PRIOR TO FABRICATION. COORDINATE ALL CHASE, SLEEVE, AND SLAB SAWCUT/COREDRIILL REQUIREMENTS BEFORE CONSTRUCTION.
- PROVIDE ALL EQUIPMENT SCHEDULED OR INDICATED ON THE DRAWINGS BUT NOT INCLUDED WITHIN THE SPECIFICATIONS INCLUDING ANY REQUIRED BUT NOT LISTED MISC ITEMS NEEDED TO PROVIDE COMPLETELY OPERATIONAL SYSTEMS AS INDICATED WHETHER SPECIFICALLY CALLED FOR OR NOT. INSTALLATION SHALL CONFORM TO MANUFACTURERS RECOMMENDATIONS AND APPLICABLE CODES. PROVIDE SUBMITTALS FOR ALL PROPOSED EQUIPMENT AND MATERIALS TO BE UTILIZED. PROVIDE OPERATION AND MAINTENANCE MANUAL FOR ALL SYSTEMS AND EQUIPMENT AT END OF PROJECT.
- ELECTRICAL CHARACTERISTICS OF MECHANICAL EQUIPMENT SHALL BE VERIFIED WITH ELECTRICAL DRAWINGS AND ELECTRICAL CONTRACTOR PRIOR TO EQUIPMENT ORDER RELEASE. ADDITIONAL ELECTRICAL WORK RESULTING FROM EQUIPMENT SUBSTITUTION IS THE RESPONSIBILITY OF THIS CONTRACTOR.
- PROVIDE 18” X 18” MINIMUM ACCESS DOOR IN INACCESSIBLE CEILINGS AND WALLS FOR EQUIPMENT AND VALVES REQUIRING ACCESS OR ADJUSTMENT. COORDINATE LOCATIONS AND SUBMIT TO ARCHITECT FOR APPROVAL PRIOR TO BEGINNING WORK.
- DUCT SIZES INDICATED ARE OUTSIDE DIMENSIONS, BRANCH RUN–OUT DUCTS TO DIFFUSERS AND GRILLES TO BE SAME SIZE AS DIFFUSER OR GRILLE CONNECTION SIZE UNLESS OTHERWISE NOTED.
- PROVIDE CEILING OPERATORS FOR INACCESSIBLE MVD’S WHERE INDICATED, EQUAL TO YOUNG REGULATOR, REMOTE GEAR OPERATED, WITH CEILING ESCUTCHEON.
- AT THE COMPLETION OF WORK, PROVIDE TESTING AND BALANCING SERVICES FOR MECHANICAL SYSTEM. SUBMIT WRITTEN REPORT TO ARCHITECT LISTING SYSTEM AIRFLOWS, ELECTRIC DATA, TEMPERATURES, AND PRESSURE DROPS. AIR BALANCE REPORT REQUIRED PRIOR TO SCHEDULING FINAL MECHANICAL INSPECTION.
- AT THE COMPLETION OF THE WORK AND PRIOR TO FINAL ACCEPTANCE, ALL PARTS OF THE WORK INSTALLED UNDER THIS SPECIFICATION SHALL BE THOROUGHLY CLEANED.
- ALL EQUIPMENT, MATERIALS, AND INSTALLATION IS TO BE WARRANTEED FOR ONE YEAR TO BE FREE FROM DEFECT. PROVIDE WRITTEN WARRANTY TO OWNER.
- THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR’S SAFETY PRECAUTIONS OR TO MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM HIS WORK.
- THIS CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND SIZES OF ALL EXISTING EQUIPMENT, DUCTWORK, PIPING, ELECTRICAL CONDUIT, STRUCTURAL MEMBERS, ETC., PRIOR TO STARTING OF CONSTRUCTION. COORDINATE CONFLICTS WITH THE GENERAL CONTRACTOR.
- THIS CONTRACTOR SHALL COORDINATE ALL REQUIRED EXISTING BUILDING SERVICE SYSTEM OUTAGES WITH BUILDING MANAGEMENT.
- ALL MECHANICAL SYSTEMS ARE REQUIRED TO BE INSTALLED PER BASE BUILDING REQUIREMENTS, LOCAL AND STATE JURISDICTIONAL CODES, ORDINANCES, AND APPLICABLE REGULATIONS.
- PATCH AND REPAIR TO MATCH EXISTING, ANY WALL/CEILINGS TO BE ACCESSED TO ROUTE PIPING AND DUCTWORK.
- EXISTING DUCTWORK, PIPING, AND EQUIPMENT TO REMAIN IS SHOWN LIGHT. NEW DUCTWORK, PIPING, AND EQUIPMENT IS SHOWN HEAVY. EXISTING DUCTWORK, PIPING, AND EQUIPMENT TO BE REMOVED IS SHOWN WITH X OVER ITEM.



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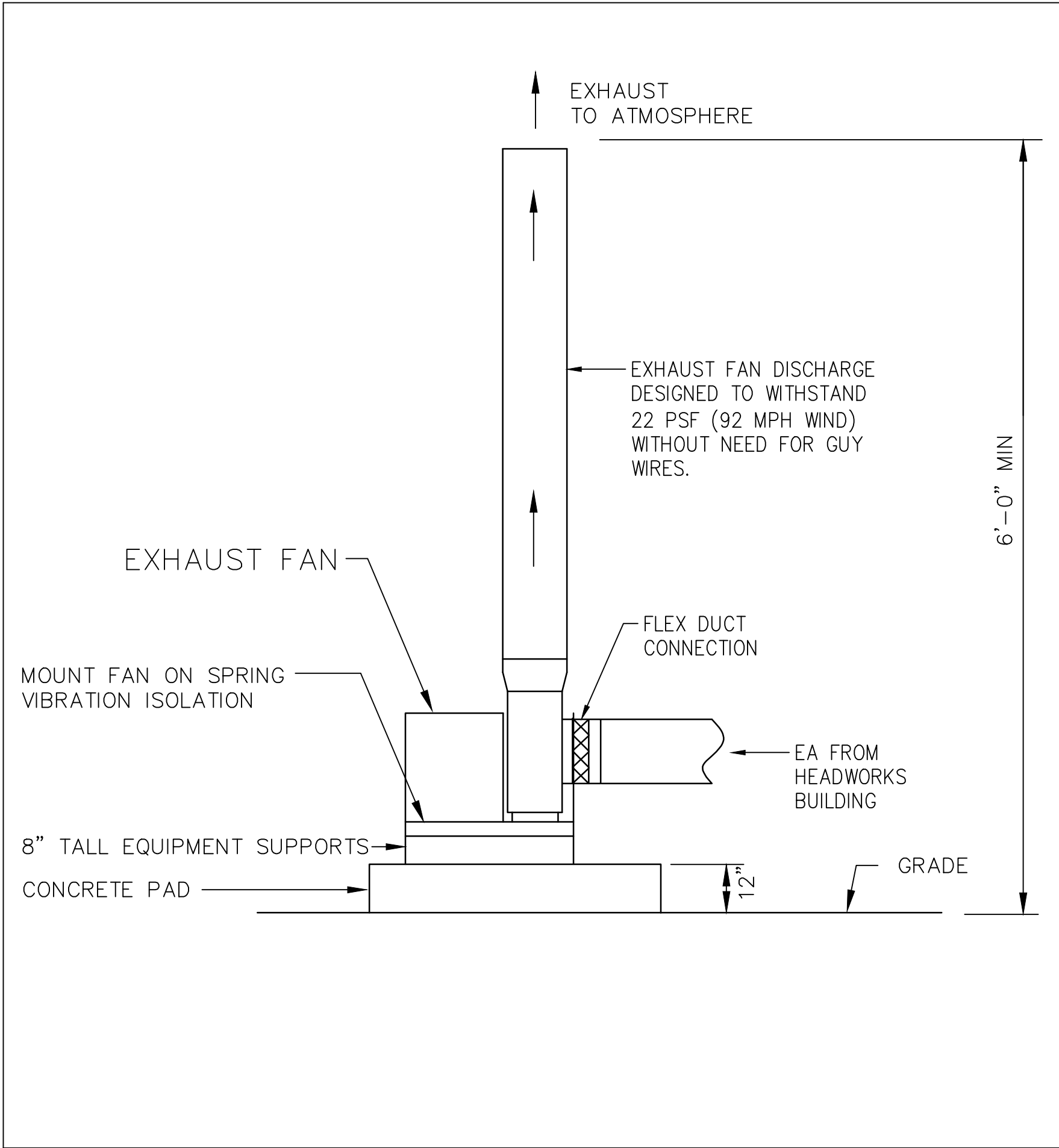
CITY OF IDAHO SPRINGS
WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO

HEADWORKS NOTES

SHEET NO.

M103

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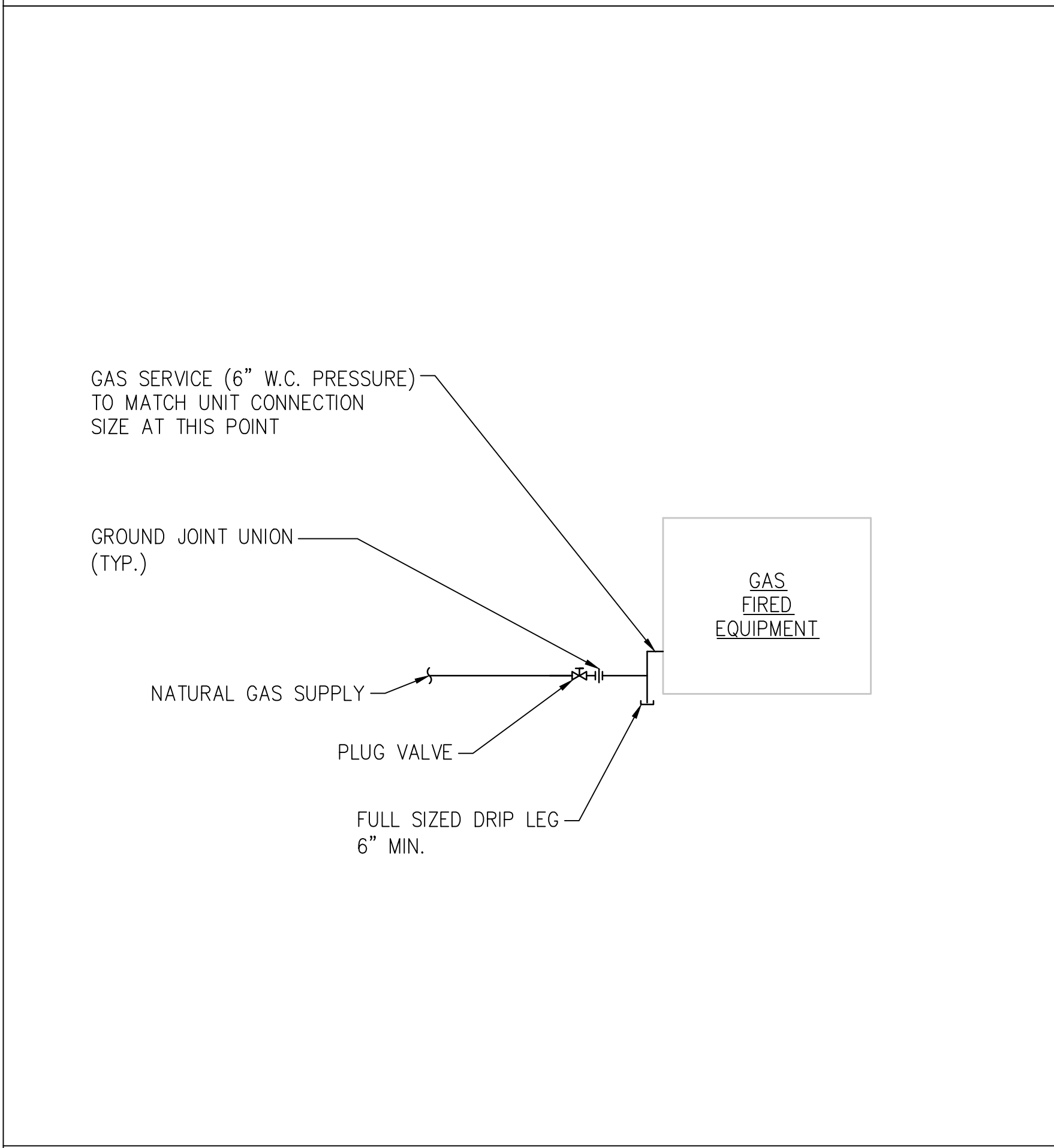


EXHAUST FAN DETAIL

NO SCALE

3

M104

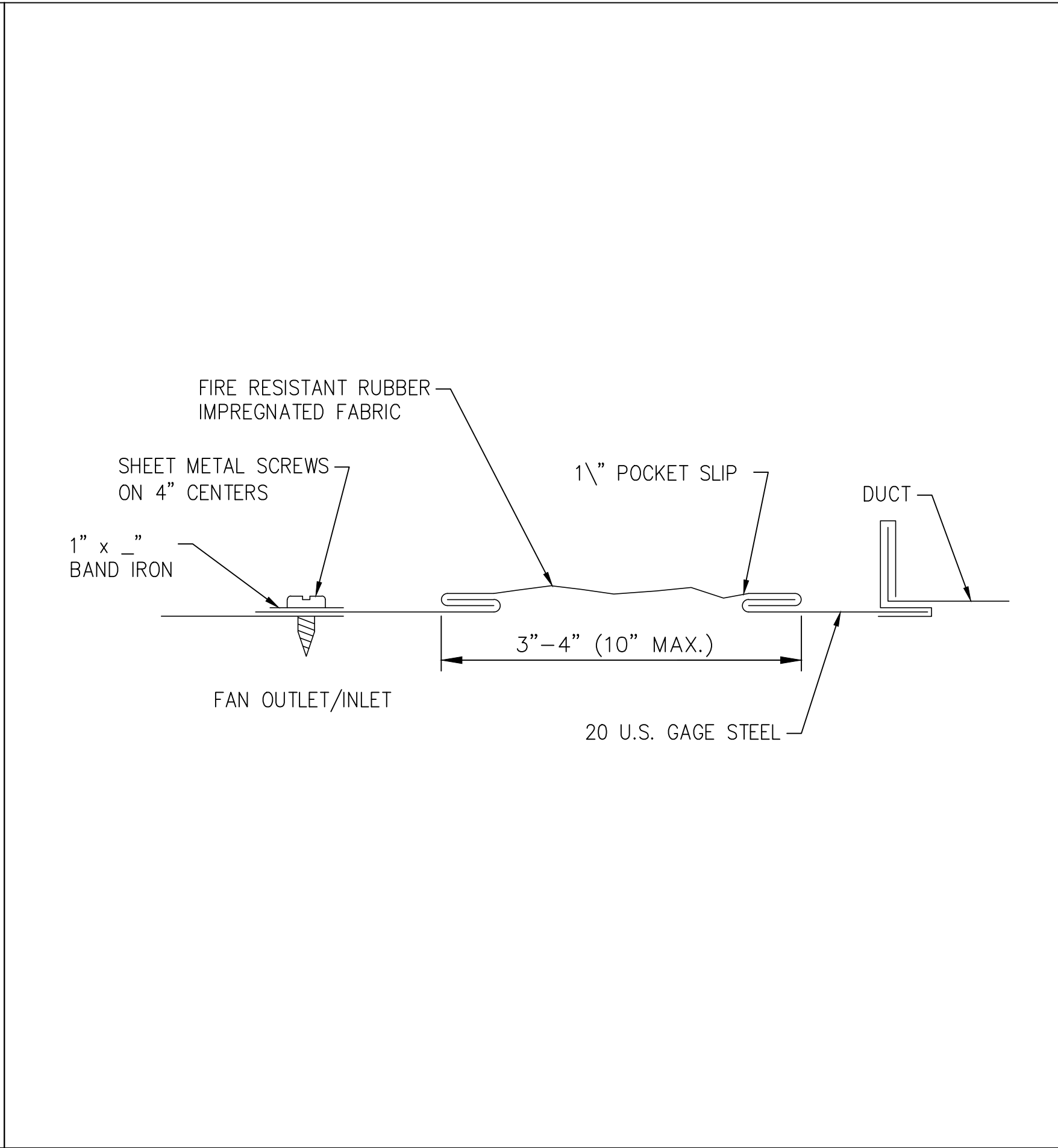


GAS CONNECTION DETAIL

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M104

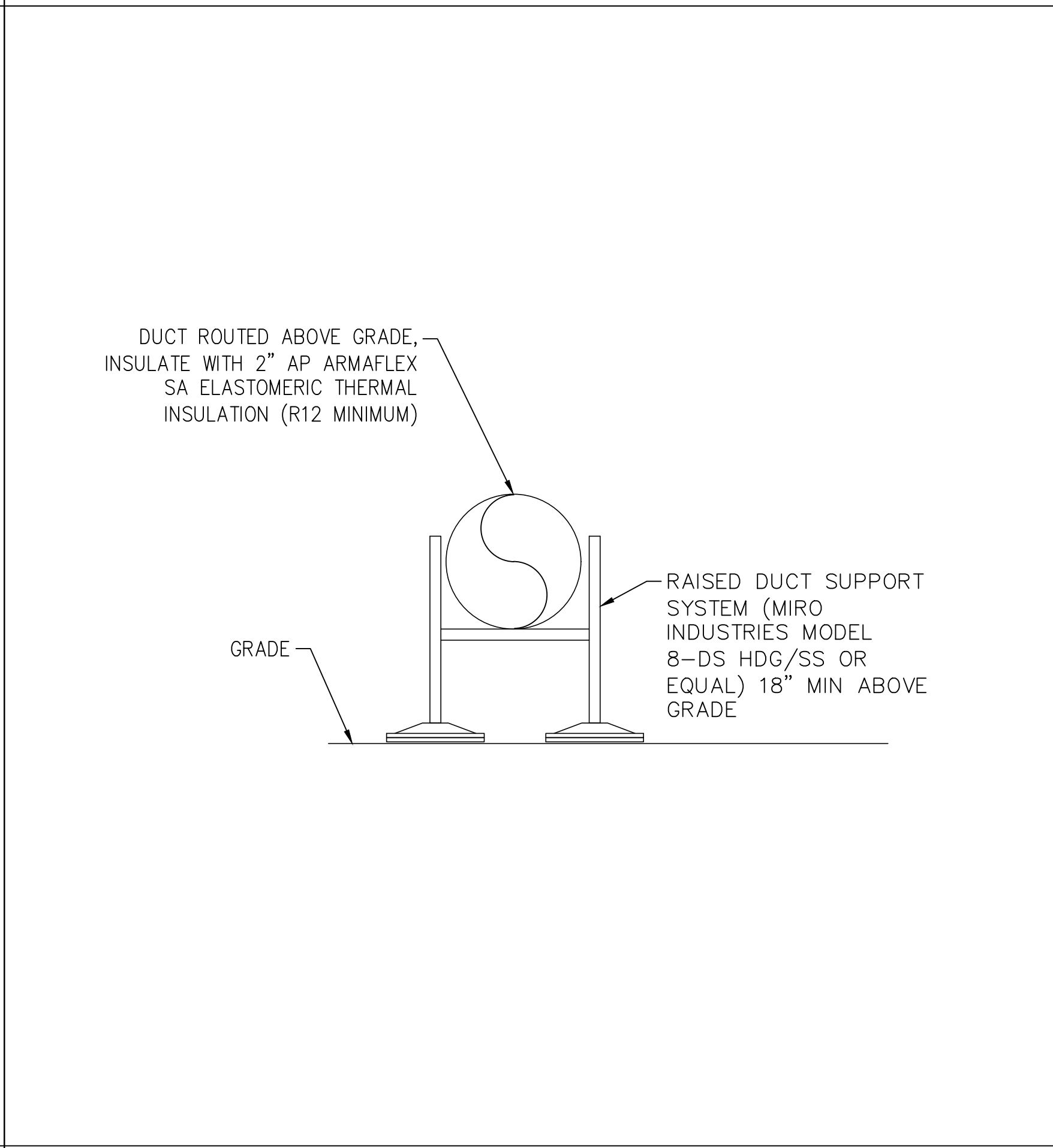


FLEXIBLE CONNECTION DETAIL

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M104

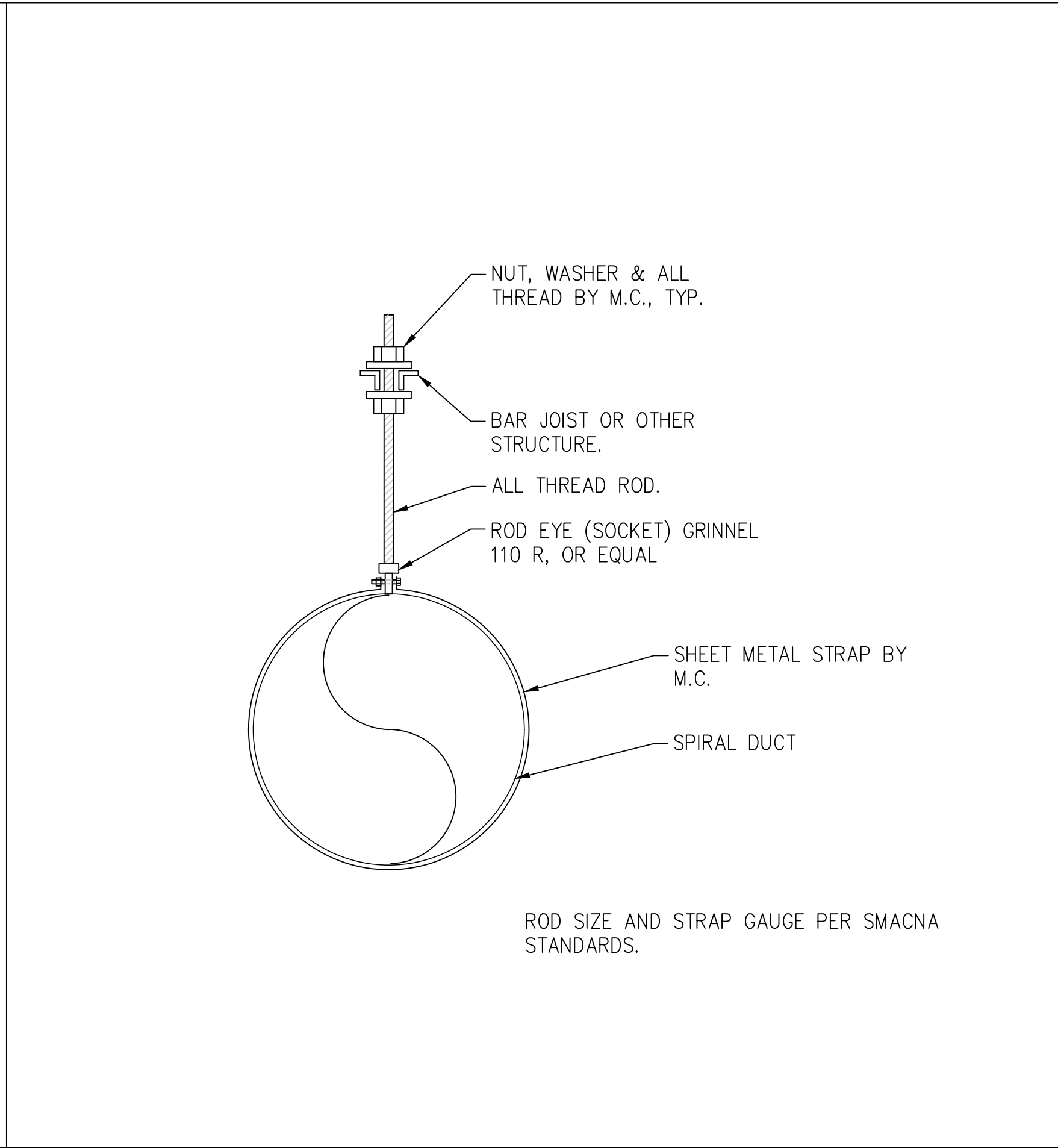


EXTERIOR DUCT ON GRADE SUPPORT DETAIL

NO SCALE

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M104

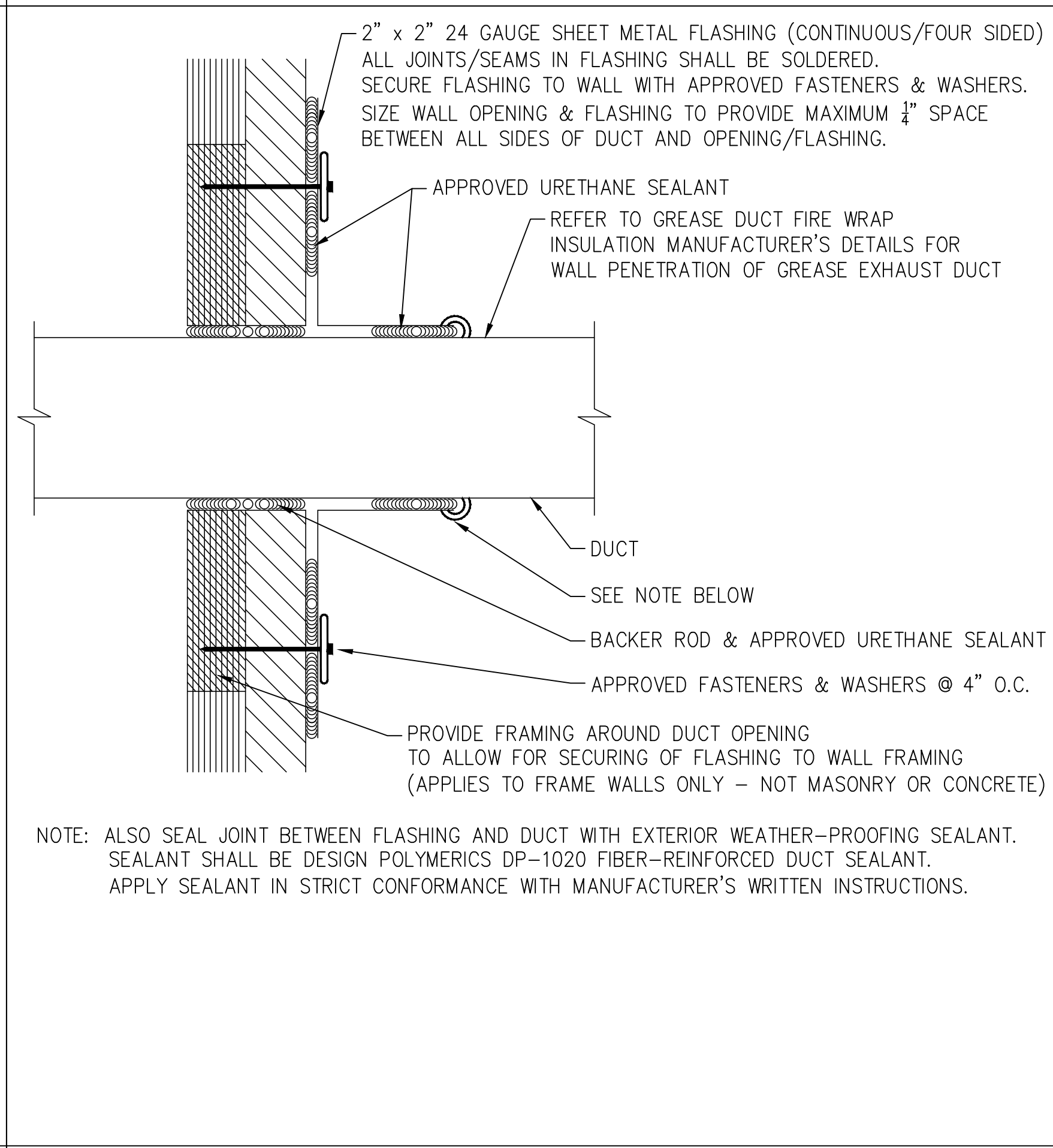


DUCT HANGER DETAIL

NO SCALE

1

M104



DUCT THRU VERT WALL FLASH DETAIL

NO SCALE

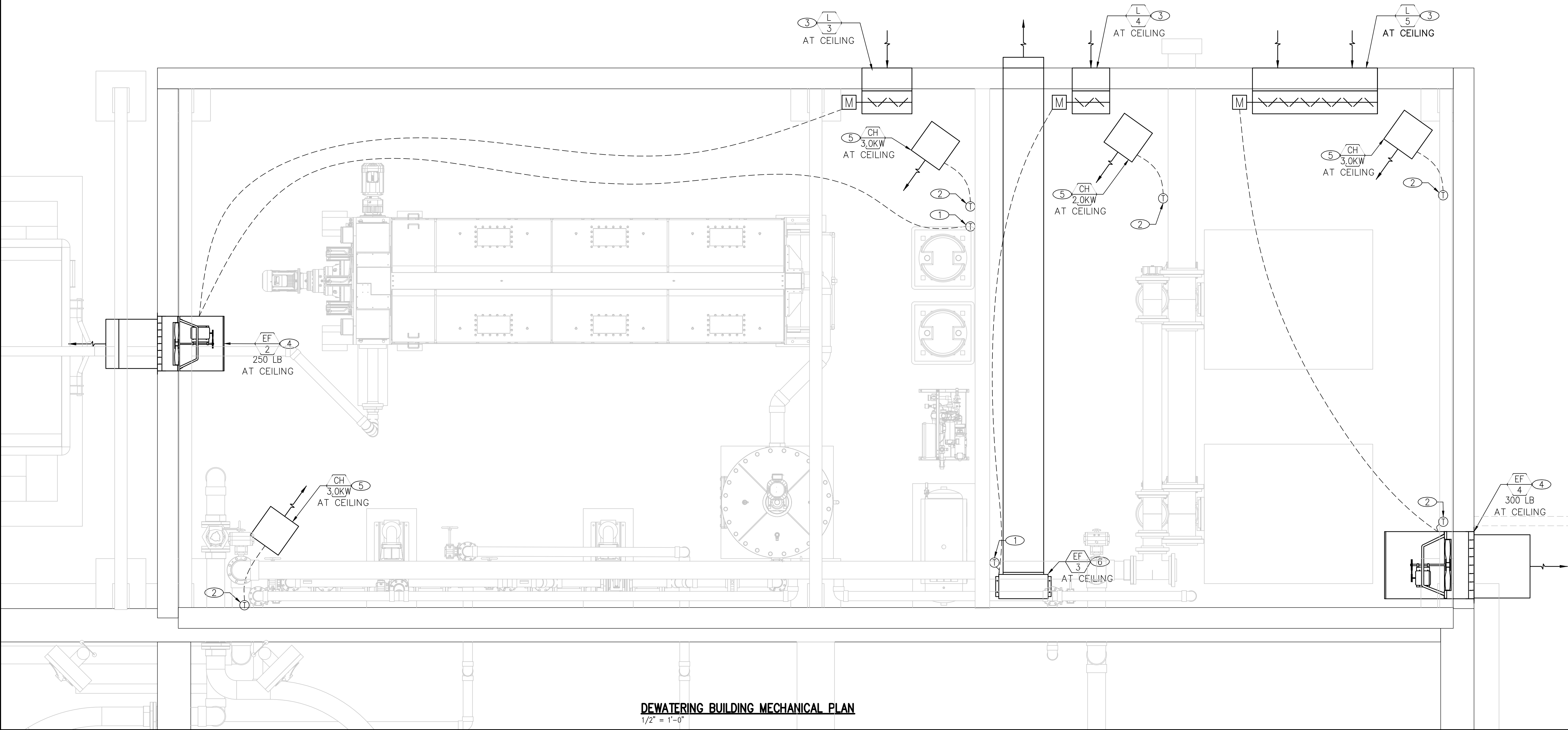
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DEWATERING BUILDING MECHANICAL PLAN
1/2" = 1'-0"

NOTES

- 1 WALL MOUNTED COOLING THERMOSTAT AT 60°F AFF.
- 2 WALL MOUNTED HEATING THERMOSTAT AT 60°F AFF.
- 3 WALL MOUNTED STATIONARY INTAKE LOUVER MOUNTED AS HIGH AS POSSIBLE IN WALL.
- 4 WALL MOUNTED EXHAUST FAN MOUNTED AS HIGH AS POSSIBLE IN WALL.
- 5 UNIT HEATER SUSPENDED FROM STRUCTURE AS HIGH AS POSSIBLE IN CEILING SPACE.
- 6 EXHAUST FAN SUSPENDED FROM STRUCTURE HIGH IN CEILING SPACE. EXTEND 20/8EA FROM FAN THROUGH OUTSIDE WALL AND TERMINATE WITH VENT CAP.



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CITY OF IDAHO SPRINGS WWTP EXPANSION - PROJECT 1 IDAHO SPRINGS, COLORADO	
DEWATERING MECHANICAL PLAN	
SHEET NO. M801	

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EXHAUST FAN SCHEDULE												
ITEM	MANUFACTURER/ MODEL	LOCATION/ SERVICE	CFM	ESP	FAN RPM	MAX FAN SONES	ELEC. DATA			MAX OPERATING WEIGHT (LBS)	OVERALL DIMENSIONS	NOTES
							SIZE	VOLT	PH			
EF 2	GREENHECK/ SBE-1H20	WALL/ EXHAUST	1,300	.15	735	11.0	1/4 HP	115	1	250	26.25"W X 26.25"H X 38"L	①②
EF 3	GREENHECK/ SP-A700	CEILING/ EXHAUST	600	.25	981	5.0	350 WATTS	115	1	250	25.125"W X 11.625"L X 11.625"H	②③
EF 4	GREENHECK/ SBE-1L24	WALL/ EXHAUST	5,700	.20	810	13.0	3/4 HP	115	1	300	32.25"W X 32.25"H X 43"L	①②
NOTES:												
① WALL MOUNTED BELT DRIVE FAN TO BE INSTALLED ON INSIDE OF WALL. PROVIDE ODP MOTOR WITH THERMAL OVERLOAD, ALUMINUM FAN BLADES, FLUSH EXTERIOR WALL HOUSING, INLET GUARD, BACKDRAFT DAMPER, 45 DEGREE WEATHERHOOD WITH GALVANIZED BIRDSCREEN AND FACTORY WIRED NEMA 1 DISCONNECT.												
② PROVIDE REVERSE ACTING THERMOSTAT SET TO TURN FAN ON WHEN SPACE TEMPERATURE EXCEEDS 80 DEG. F.												
③ CEILING MOUNTED EXHAUST FAN WITH ALUMINUM INTAKE GRILLE BACKDRAFT DAMPER, MOTOR THERMAL OVERLOAD, RIS VIBRATION ISOLATORS AND PLASTIC WHEEL.												

UNIT HEATER (ELECTRIC)								
ITEM	MANUFACTURER/ MODEL	LOCATION/ SERVICE	HEATING CAP. (KW)	MAX. CFM	VOLTS/PHASE	MAX. OPER. WT. (LBS.)	OVERALL DIMENSIONS	NOTES
<div>UH</div> <div>2KW</div>	INDEECO/ UCI	CEILING/ HEAT	2.0	700	460/3	50	17" DEEP X 16-1/2" WIDE X 12" TALL	①
<div>UH</div> <div>3KW</div>	INDEECO/ UCI	CEILING/ HEAT	3.0	700	460/3	50	17" DEEP X 16-1/2" WIDE X 12" TALL	①
<div>NOTES:</div> <div>① FURNISH FACTORY INSTALLED DISCONNECT AND REMOTE THERMOSTAT SET AT 65 DEG F</div>								

LOUVER SCHEDULE								
ITEM	MANUFACTURER/ MODEL	LOCATION/ SERVICE	CFM	MAX. PD (IN)	% FREE AREA	WIDTH (IN)	HEIGHT (IN)	NOTES
<div>L</div> <div>3</div>	GREENHECK/ ESD-635	WALL/ INTAKE	1,300	.10	45	24	24	<div>1</div>
<div>L</div> <div>4</div>	GREENHECK/ ESD-635	WALL/ INTAKE	600	.10	45	18	18	<div>1</div>
<div>L</div> <div>5</div>	GREENHECK/ ESD-635	WALL/ INTAKE	5,700	.10	45	60	36	<div>1</div>
<div>NOTES:</div> <div><div>1</div>FURNISH WITH HEAVY GUAGE EXTRUDED ALUMINUM DRAINABLE BLADES, 120VAC MOTORIZED DAMPER, AND BIRDSCREEN.</div>								

GENERAL NOTES	
<div>1. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE STATE CODES, LOCAL CODES, AND OWNER'S STANDARDS INDICATED BY THE CONSTRUCTION DOCUMENTS.</div> <div>2. MECHANICAL DRAWINGS ARE DIAGRAMMATIC AND DO NOT NECESSARILY INDICATE EVERY REQUIRED OFFSET, FITTING, ETC. DRAWINGS ARE NOT TO BE SCALED FOR DIMENSIONS. TAKE ALL DIMENSIONS FROM ARCHITECTURAL DRAWINGS, CERTIFIED EQUIPMENT DRAWINGS AND FROM THE STRUCTURE ITSELF BEFORE FABRICATING ANY WORK, VERIFY ALL SPACE REQUIREMENTS COORDINATING WITH OTHER TRADES, AND INSTALL THE SYSTEMS IN THE SPACE PROVIDED WITHOUT EXTRA CHARGES TO THE OWNER.</div> <div>3. CONTRACTOR SHALL COORDINATE WORK INDICATED WITH OTHER DIVISIONS INCLUDING ELECTRICAL, STRUCTURAL, AND ARCHITECTURAL DIVISIONS. VERIFY FIT OF MECHANICAL SYSTEMS PRIOR TO FABRICATION. COORDINATE ALL CHASE, SLEEVE, AND SLAB SAWCUT/COREDRIILL REQUIREMENTS BEFORE CONSTRUCTION.</div> <div>4. PROVIDE ALL EQUIPMENT SCHEDULED OR INDICATED ON THE DRAWINGS BUT NOT INCLUDED WITHIN THE SPECIFICATIONS INCLUDING ANY REQUIRED BUT NOT LISTED MISC ITEMS NEEDED TO PROVIDE COMPLETELY OPERATIONAL SYSTEMS AS INDICATED WHETHER SPECIFICALLY CALLED FOR OR NOT. INSTALLATION SHALL CONFORM TO MANUFACTURERS RECOMMENDATIONS AND APPLICABLE CODES. PROVIDE SUBMITTALS FOR ALL PROPOSED EQUIPMENT AND MATERIALS TO BE UTILIZED. PROVIDE OPERATION AND MAINTENANCE MANUAL FOR ALL SYSTEMS AND EQUIPMENT AT END OF PROJECT.</div> <div>5. ELECTRICAL CHARACTERISTICS OF MECHANICAL EQUIPMENT SHALL BE VERIFIED WITH ELECTRICAL DRAWINGS AND ELECTRICAL CONTRACTOR PRIOR TO EQUIPMENT ORDER RELEASE. ADDITIONAL ELECTRICAL WORK RESULTING FROM EQUIPMENT SUBSTITUTION IS THE RESPONSIBILITY OF THIS CONTRACTOR.</div> <div>6. AT THE COMPLETION OF WORK, PROVIDE TESTING AND BALANCING SERVICES FOR MECHANICAL SYSTEM. SUBMIT WRITTEN REPORT TO ARCHITECT LISTING SYSTEM AIRFLOWS, ELECTRIC DATA, TEMPERATURES, AND PRESSURE DROPS. AIR BALANCE REPORT REQUIRED PRIOR TO SCHEDULING FINAL MECHANICAL INSPECTION.</div> <div>7. AT THE COMPLETION OF THE WORK AND PRIOR TO FINAL ACCEPTANCE, ALL PARTS OF THE WORK INSTALLED UNDER THIS SPECIFICATION SHALL BE THOROUGHLY CLEANED.</div> <div>8. ALL EQUIPMENT, MATERIALS, AND INSTALLATION IS TO BE WARRANTEED FOR ONE YEAR TO BE FREE FROM DEFECT. PROVIDE WRITTEN WARRANTY TO OWNER.</div> <div>9. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR TO MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM HIS WORK.</div> <div>10. THIS CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND SIZES OF ALL EXISTING EQUIPMENT, DUCTWORK, PIPING, ELECTRICAL CONDUIT, STRUCTURAL MEMBERS, ETC., PRIOR TO STARTING OF CONSTRUCTION. COORDINATE CONFLICTS WITH THE GENERAL CONTRACTOR.</div> <div>11. PATCH AND REPAIR TO MATCH EXISTING, ANY WALL/CEILINGS TO BE ACCESSED TO ROUTE PIPING AND DUCTWORK.</div>	

MECHANICAL SPECIFICATIONS	
<div>EXHAUST AIR DUCTWORK IN NON-CLASSIFIED AREAS SHALL BE CONSTRUCTED OF GALVANIZED STEEL PER SMACNA DUCT CONSTRUCTION STANDARDS. SUPPLY AND EXHAUST AIR DUCTWORK SHALL BE CONSTRUCTED FOR 2" W.C. STATIC PRESSURE. RADIUSED ELBOWS (R/D=1.5) OR MITERED ELBOWS WITH SINGLE THICKNESS TURNING VANES SHALL BE UTILIZED. TURNING VANES SHALL BE SUPPORTED AT INTERVALS OF 36" MAXIMUM. TURNING VANE RUNNERS SHALL HAVE A VANE IN EVERY SLOT AND SHALL CONFORM TO SMACNA DUCT CONSTRUCTION STANDARDS FOR STANDARD SPACING.</div> <div>DUCT HANGERS SHALL BE CONSTRUCTED OF ALUMINUM OR GALVANIZED STEEL TO MATCH DUCT MATERIAL. DUCTS SHALL BE SUPPORTED AND CONNECTED TO THE STRUCTURE PER IMC AND SMACNA DUCT CONSTRUCTION STANDARDS.</div> <div>MECHANICAL EQUIPMENT SHALL BE SECURED AND INSTALLED PER MANUFACTURERS RECOMMENDATIONS AND APPLICABLE SECTIONS OF THE JURISDICTIONAL BUILDING AND MECHANICAL CODES.</div> <div>AN INDEPENDENT TEST AND BALANCE FIRM WHICH IS AABC OR NEBB CERTIFIED SHALL BE RETAINED FOR CHECK/TEST-START-UP AND TESTING AND BALANCING OF AIR AND WATER SYSTEMS. THE TEST REPORT SHALL BE IN A FORMAT APPROVED BY AABC FOR SYSTEMS OF THIS TYPE AND COMPLEXITY. QUALIFICATIONS OF INDEPENDENT TEST AND BALANCE FIRM SHALL BE SUBMITTED FOR REVIEW.</div>	

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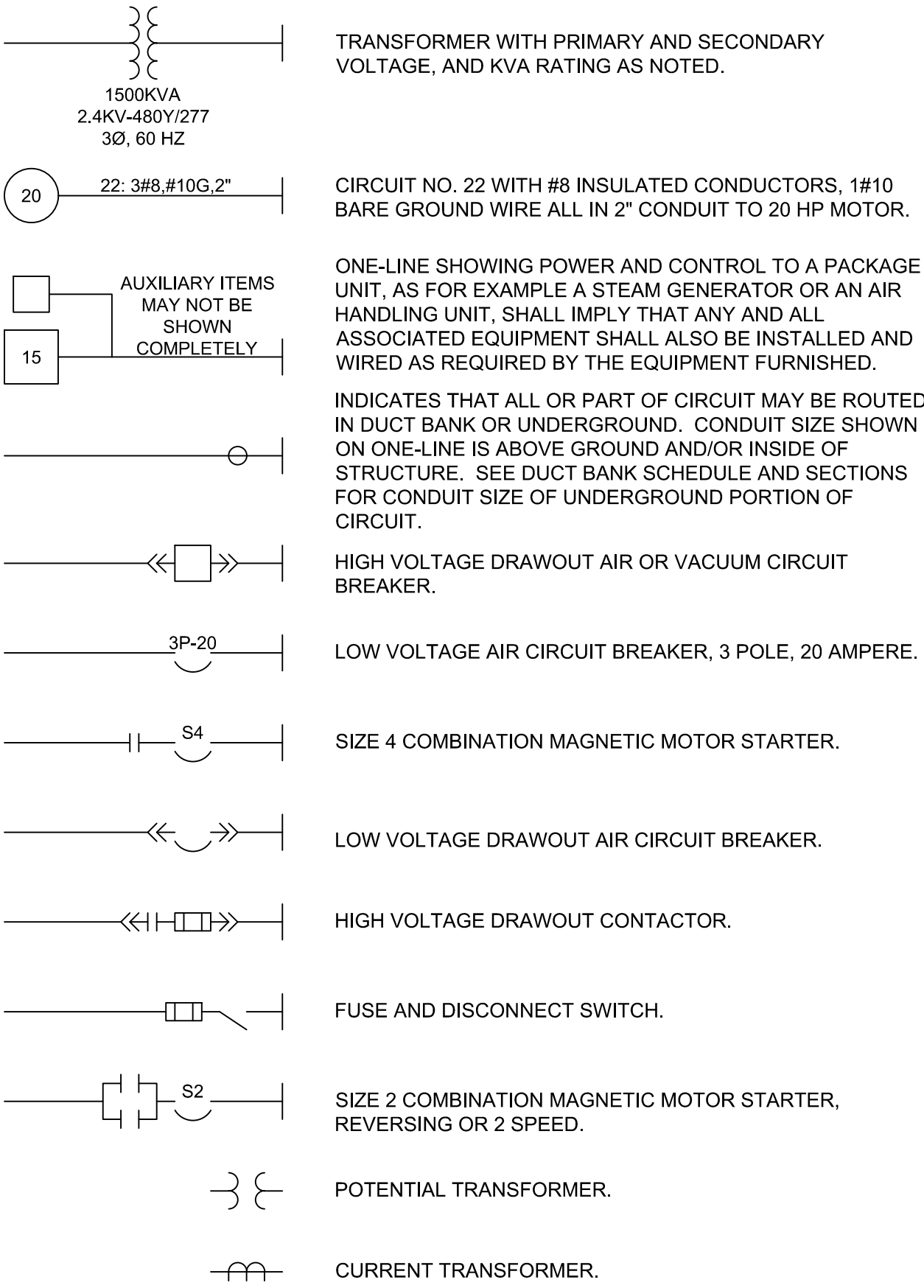
DEWATERING SCHEDULES

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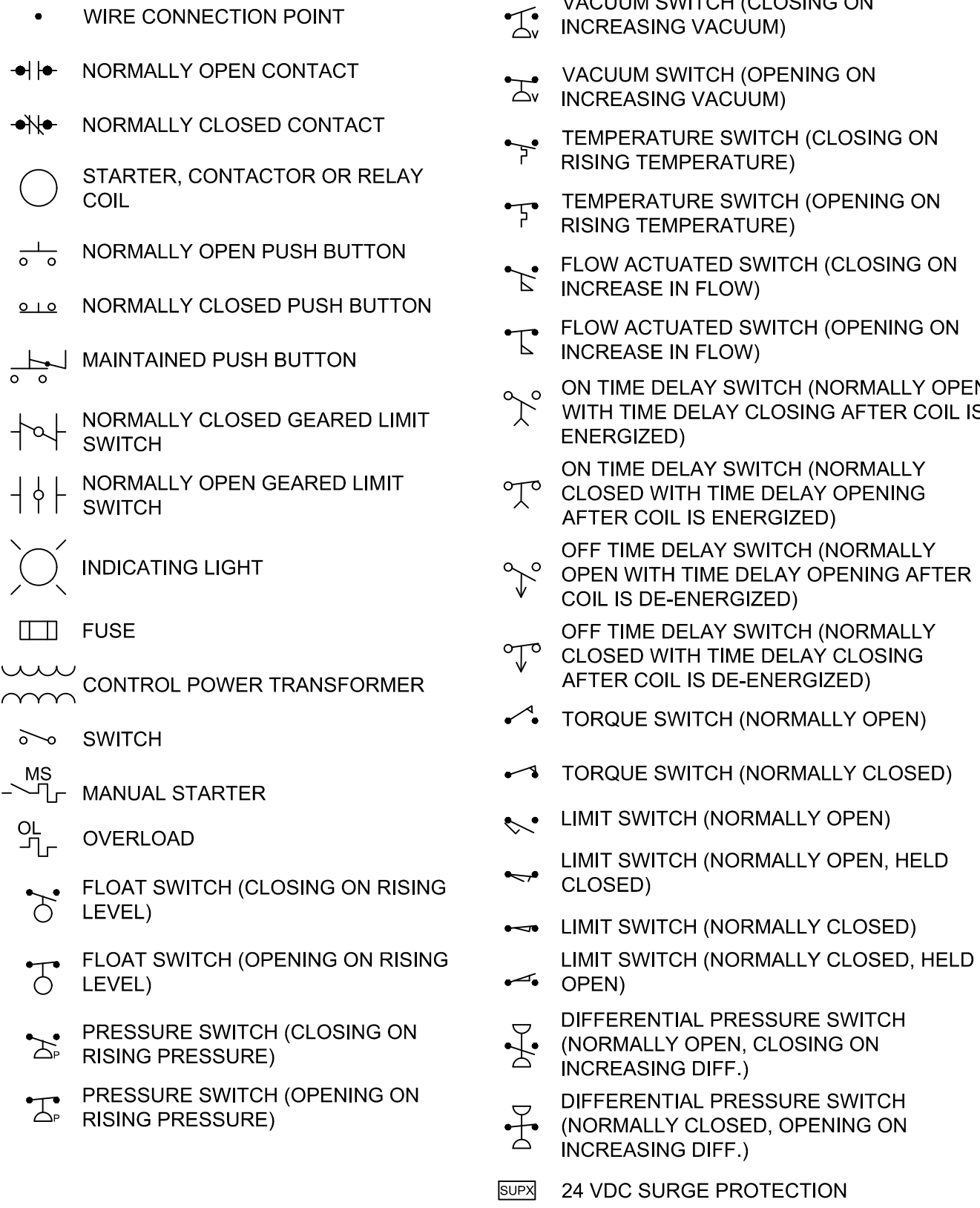
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ONE LINE DIAGRAM LEGEND



SCHEMATIC SYMBOLS



ABBREVIATIONS

A	AMBER, AMPERE, ALARM	RECP	RECEPTACLE
AC	ALTERNATING CURRENT	RGS	RIGID GALVANIZED STEEL
AFD	ADJUSTABLE FREQUENCY DRIVE	RTD	RESISTANCE TYPE TEMP DETECTOR
AFF	ABOVE FINISHED FLOOR	RTU	REMOTE TERMINAL UNIT
AM	AMMETER	RVSS	REDUCED VOLTAGE SOLID STATE STARTER
ATO	AUTOMATIC THROWOVER	S2	SIZE 2 STARTER
AWG	AMERICAN WIRE GAUGE	SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
C	CLOSE, COUNTER, CONTACTOR	SP	SINGLE POLE
CAP	CAPACITOR	SPDT	SINGLE POLE DOUBLE THROW
CB	CIRCUIT BREAKER	SPST	SINGLE POLE SINGLE THROW
CD	CONTROL DAMPER	SS	SELECTOR SWITCH
CKT	CIRCUIT	SV	SOLENOID VALVE
CL2	CHLORINE	SWB	SWITCHBOARD
CP	CONTROL PANEL	SWGR	SWITCHGEAR
CPT	CONTROL POWER TRANSFORMER	T	TEMPERATURE, TIMER, TOTALIZER
CS	CONTROL STATION	TACH	TACHOMETER
CT	CYCLE TIMER, CURRENT TRANSFORMER	TB	TERMINAL BLOCK
CTM	CYCLE TIMER MOTOR	TD	TIME DELAY RELAY
2/C	2 CONDUCTOR	TEMP	TEMPERATURE
4"C	4" CONDUIT	TQ	TORQUE
DC	DIRECT CURRENT	TS	TEMPERATURE SWITCH
DM	DAMPER MOTOR, DEMAND METER	UG	UNDERGROUND
DPDT	DOUBLE POLE DOUBLE THROW	UPS	UNINTERRUPTIBLE POWER SUPPLY
DPST	DOUBLE POLE SINGLE THROW	V	VOLTS
DPS	DIFFERENTIAL PRESSURE SWITCH	VA	VOLT AMPERE
DS	DISCONNECT SWITCH	VLS	VALVE LIMIT SWITCH
E	ELECTRIC OPERATOR FOR CONTROL DAMPER OR VALVE	VM	VOLTMETER
EMH	ELECTRICAL MANHOLE	W	WHITE, WATTS
ETM	ELAPSED TIME METER	WH	WATTHOUR METER
EX	EXISTING	WM	WATT METER
F	FORWARD	WP	WEATHERPROOF
FS	FLOW SWITCH	XFMR	TRANSFORMER
G	GREEN, GROUND	XP	EXPLOSION PROOF
GFI	GROUND FAULT INTERRUPTER	Y	YELLOW
GLS	GEARED LIMIT SWITCH	Z	AUXILIARY RELAY
#BG	#8 GROUND WIRE	ZS	POSITION SWITCH
H	HIGH, HUMIDISTAT		
HH	HANDHOLE		
HMT	HIGH MOTOR TEMPERATURE		
HOA	HAND-OFF-AUTO		
HOR	HAND-OFF-REMOTE		
HP	HORSEPOWER		
HWCO	HIGH WATER CUTOFF		
HZ	HERTZ (CYCLE)		
I/O	INPUT/OUTPUT		
J	JUNCTION BOX		
KV	KILOVOLT		
KVA	KILOVOLT AMPERE		
KVAR	KILOVAR		
KW	KILOWATT		
KWH	KILOWATT HOUR		
L	LOW, LEVEL		
LA	LIGHTNING ARRESTOR		
LAN	LOCAL AREA NETWORK		
LP	LIGHTING PANEL		
LS	LIMIT SWITCH, LEVEL SWITCH		
LWCO	LOW WATER CUTOFF		
M	MAGNETIC MOTOR STARTER		
MA	MILLIAMPERE		
MCB	MAIN CIRCUIT BREAKER		
MCC	MOTOR CONTROL CENTER		
MCM	THOUSAND CIRCULAR MIL		
MD	MOISTURE DETECTOR		
MH	MANHOLE, MOUNTING HEIGHT		
MOV	MOTOR OPERATED VALVE		
MS	MANUAL MOTOR STARTER		
MSH	MOTOR SPACE HEATER		
N	NEUTRAL		
NC	NORMALLY CLOSED		
NO	NORMALLY OPEN, NUMBER		
O	OPEN		
OL	OVERLOAD		
PB	PUSH BUTTON, PULL BOX		
PF	POWER FACTOR METER		
PH	PHASE (CHEMICAL TERM)		
PLC	PROGRAMMABLE LOGIC CONTROLLER		
PP	POWER PANEL		
PS	PRESSURE SWITCH		
PT	POTENTIAL TRANSFORMER, PROGRAM TIMER		
2P	2 POLE		
R	RED, RAISE, RELAY, REVERSE		

AREA DESIGNATIONS

THE SPECIAL AREA DESIGNATION BOXES, AS DEFINED BELOW, ARE LOCATED ON THE PLAN DRAWINGS TO DEFINE ELECTRICAL INSTALLATION REQUIREMENTS. DESIGNATION BOXES ARE LOCATED WITHIN ROOM OR BELOW ROOM NUMBER. ALL INDOOR AREAS NOT INDICATED OTHERWISE ARE AREA TYPE 1 AND MINIMUM NEMA TYPE 1 ENCLOSURES.

AREA TYPE 1A	CORROSIVE CHEMICAL FEED AND STORAGE ROOMS. CONDUIT SYSTEM SHALL BE EXPOSED PVC RIGID NON-METALLIC CONDUIT WITH PVC FITTINGS, BOXES, AND ACCESSORIES.
AREA TYPE 4	INDOOR WET LOCATIONS SUCH AS VAULTS, HOSEDOWN AREAS, BASEMENTS, ETC. MINIMUM NEMA TYPE 4 ENCLOSURE FOR EQUIPMENT AND GASKETED FITTINGS IN A CONDUIT SYSTEM.
AREA TYPE 7A	CLASS 1, DIVISION 1 AREA AS DEFINED BY NEC. ALL EQUIPMENT AND CONDUIT SYSTEMS SHALL BE RATED FOR USE IN THIS AREA.
AREA TYPE 7B	CLASS 1, DIVISION 2, GROUP C AND D (METHANE, GASOLINE) AS DEFINED BY NEC. EQUIPMENT AND CONDUIT SYSTEMS SHALL BE RATED FOR USE IN THIS AREA.
AREA TYPE 12	INDOOR, DRY, DIRTY AREA. REQUIRES MINIMUM NEMA TYPE 12 GASKETED ENCLOSURES FOR ALL EQUIPMENT AND GASKETED FITTINGS IN CONDUIT SYSTEMS.
AREA TYPE 4X	OUTDOOR AND INDOOR WET LOCATIONS SUBJECT TO CORROSION. CONDUIT SYSTEM SHOULD BE PVC COATED RIGID GALVANIZED STEEL WITH PVC COATED FITTINGS, BOXES, AND STAINLESS STEEL HARDWARE.

GENERAL REQUIREMENTS

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ROUTING ALL CONDUITS NOT SHOWN ON THE PLANS. THIS SHALL INCLUDE ALL CONDUITS SHOWN ON THE ONE-LINES AND HOME-RUNS SHOWN ON THE PLAN DRAWINGS. CONDUITS SHALL BE ROUTED AS DEFINED IN THE SPECIFICATIONS.
- SPARE WIRES SHALL BE TAPED AND COILED.
- IF EQUIPMENT SUPPLIED BY MANUFACTURER HAS A LARGER LOAD THAN VALUE SHOWN, THE CABLE CONDUIT AND ELECTRICAL EQUIPMENT SHALL BE ENLARGED, AS REQUIRED, TO ACCOMODATE THE HIGHER VALUE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING PROPERLY SIZED STARTER OVERLOADS FOR EQUIPMENT FURNISHED.
- LIGHTING AND RECEPTACLE CIRCUITS DESIGNATED ON THE FLOOR PLANS ARE NOT SHOWN ON THE ONE-LINES. CONDUCTORS FOR LIGHTING, RECEPTACLES, AND MISCELLANEOUS 120VAC CIRCUITS SHALL BE MINIMUM NO. 12 AWG. CONDUIT FOR LIGHTING, RECEPTACLES, AND MISCELLANEOUS 120VAC CIRCUITS SHALL BE MINIMUM ¾".
- IN AREAS WHERE THERE ARE OVERHEAD BRIDGE CRANES, HOISTS, ETC., NO CONDUITS SHALL BE RUN OVERHEAD THAT WILL INTERFERE WITH THE OPERATION OF THE EQUIPMENT.

GENERAL NOTES

- SOLID LINES ——— INDICATE NEW WORK OR EQUIPMENT.
- DOTTED LINES INDICATE EXISTING WORK OR EQUIPMENT.
- DASHED LINES - - - - INDICATE FUTURE WORK OR EQUIPMENT.
- THIS IS A GENERAL LEGEND SHEET. SOME SYMBOLS AND ABBREVIATIONS MAY NOT BE UTILIZED ON THIS SPECIFIC PROJECT.
- INFORMATION RELATED TO CIRCUIT IDENTIFICATION, WIRE & CONDUIT SIZES, AND ROUTING, IS ON THE FOLLOWING DRAWING TYPES.
 - ONE-LINE DIAGRAMS SHOW CIRCUIT IDENTIFICATION, WIRE QUANTITY AND SIZES, AND CONDUIT SIZE WITHIN STRUCTURES. ONE-LINE DIAGRAMS ALSO INDICATE ORIGIN AND DESTINATION OF CIRCUITS, AND IDENTIFY CIRCUITS ROUTED UNDERGROUND.
 - FOR CIRCUITS WITHOUT UNDERGROUND PORTIONS, BUILDING FLOOR PLANS SHOW LOCATION OF EQUIPMENT FOR DETERMINING CIRCUIT LENGTH WITHIN THE STRUCTURE. FOR CIRCUITS WITH UNDERGROUND PORTIONS, ANTICIPATED PENETRATION OF UNDERGROUND CONDUITS ARE SHOWN ON STRUCTURE PLANS FOR DETERMINING THE LENGTH OF IN-STRUCTURE PORTIONS OF CIRCUITS. BUILDING FLOOR PLANS MAY ALSO SHOW HOME RUNS FOR LIGHTING, RECEPTACLE, AND OTHER MISCELLANEOUS EQUIPMENT CIRCUITS.
 - SITE PLANS INDICATE THE GENERAL ROUTING OF UNDERGROUND CONDUITS AND DUCT BANKS. CIRCUITS ROUTED IN UNDERGROUND CONDUITS OR DUCT BANKS ARE INDICATED IN DUCT BANK SECTIONS REFERENCED ON THE SITE PLAN.
 - DUCT BANK SECTIONS AND SCHEDULES IDENTIFY CONDUIT SIZE, CONDUIT MATERIAL, ARRANGEMENT OF THE UNDERGROUND CONDUITS, AND CIRCUITS ROUTED IN EACH UNDERGROUND CONDUIT.
- CLOUDED MARKINGS INDICATE WORK IN EXISTING AREAS THAT IS NEW OR NEW WORK ON AN EXISTING PIECE OF EQUIPMENT.

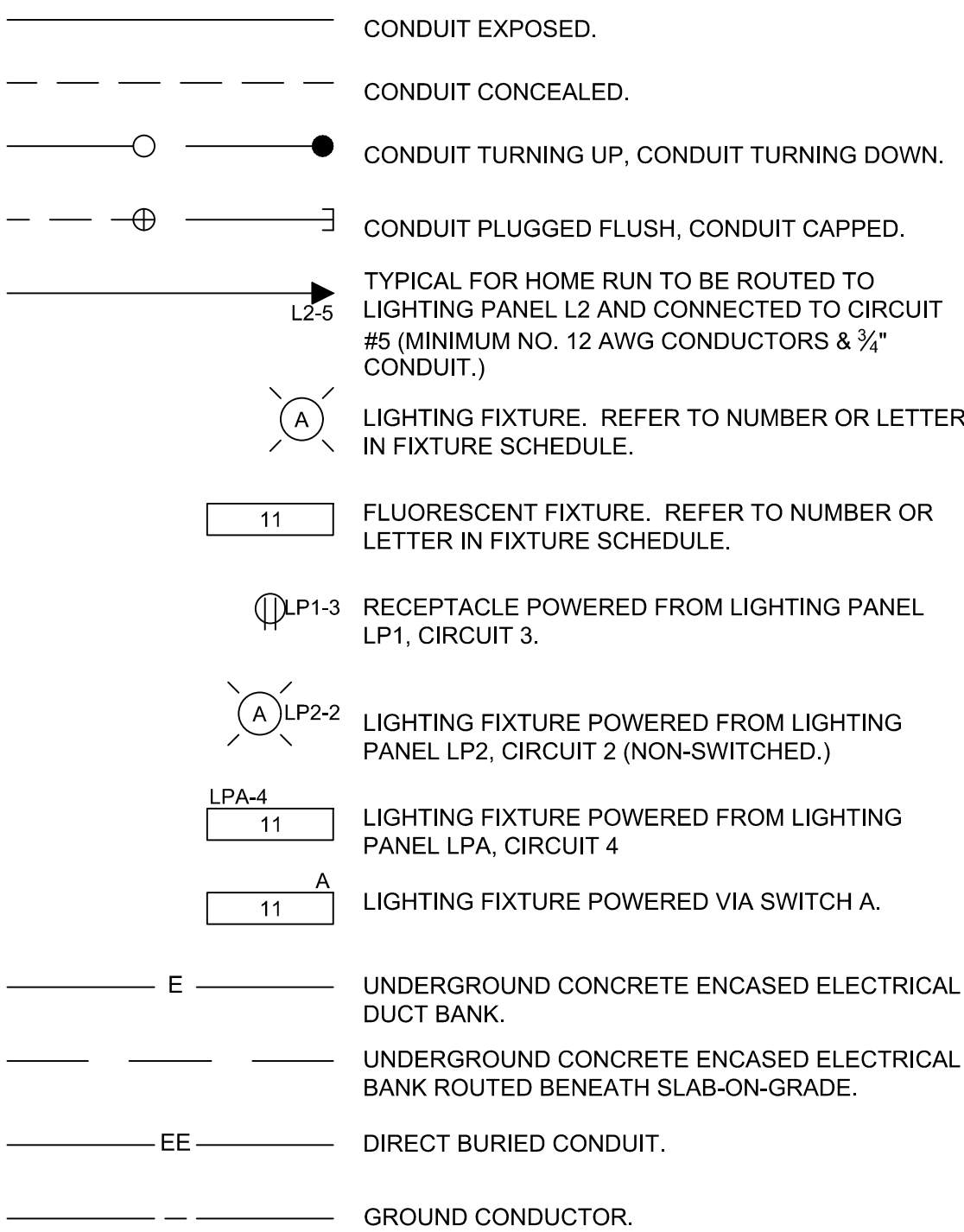
SWITCH & OUTLET SYMBOLS

S ^A	SINGLE POLE SWITCH, A=SWITCH DESIGNATION
S ²	TWO POLE SWITCH, A=SWITCH DESIGNATION
S ³	THREE-WAY SWITCH, A=SWITCH DESIGNATION
S ⁴	FOUR-WAY SWITCH, A=SWITCH DESIGNATION
S ^{WP}	WEATHERPROOF SWITCH, A=SWITCH DESIGNATION
S ^{KO}	KEY OPERATED SWITCH, A=SWITCH DESIGNATION
S ^{EP}	EXPLOSION PROOF SWITCH, A=SWITCH DESIGNATION
⊖	DUPLEX RECEPTACLE 120 VOLT
⊖ ₂₄₀	240V, 1 PHASE RECEPTACLE, TYPICAL AMPERE RATING NOTED
⊖ ₄₈₀	480V, 3 PHASE WELDING RECEPTACLE, TYPICAL AMPERE RATING NOTED

MISCELLANEOUS SYMBOLS

Ⓔ	ETHERNET PORT
Ⓓ	THERMOSTAT
⓵	JUNCTION BOX
Ⓛ	DISCONNECT SWITCH
Ⓛ	COMBINATION STARTER
▨	POWER PANEL
■	LIGHTING PANEL
□	MISCELLANEOUS PANEL

CONDUIT & WIRING INSTALLATION LEGEND



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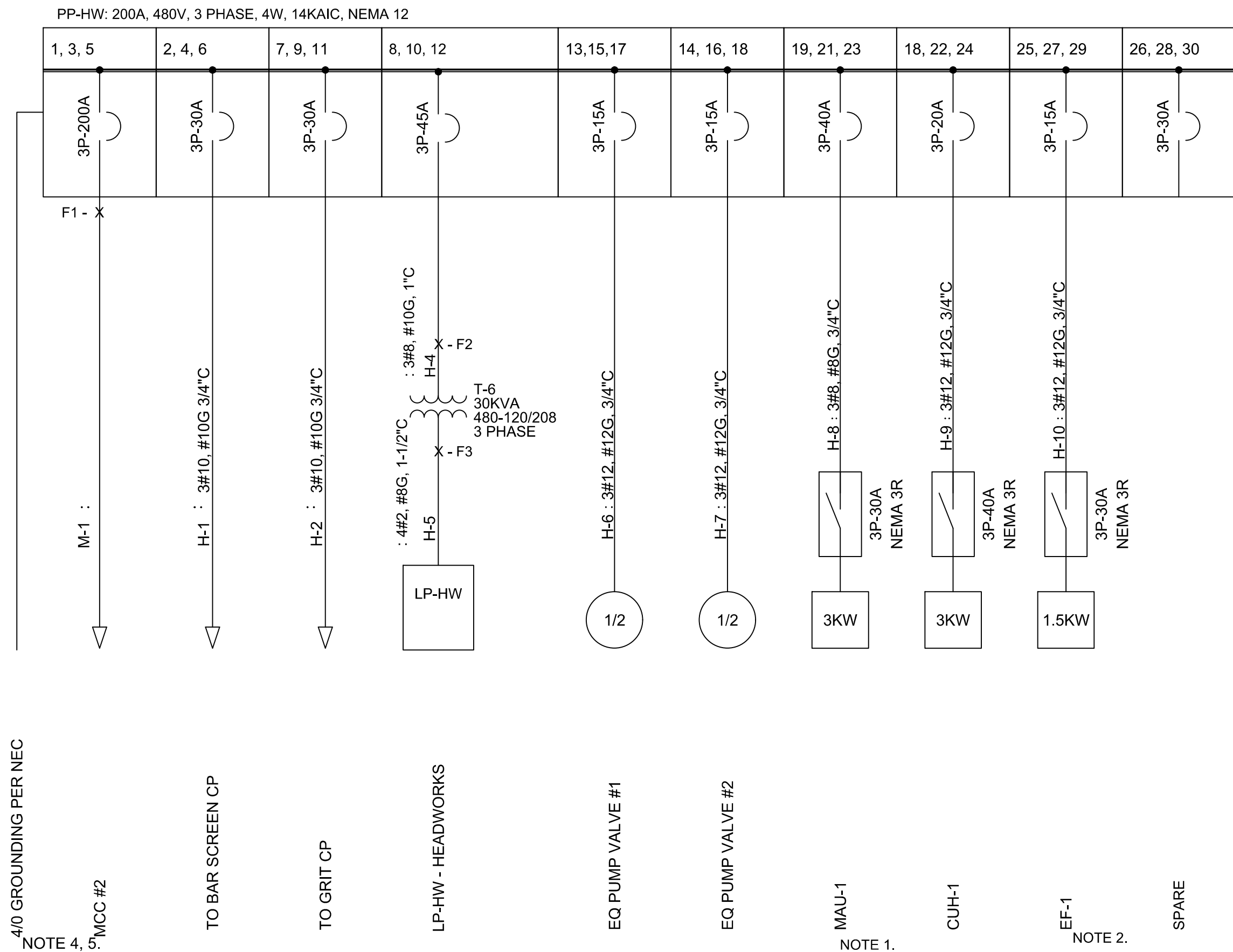
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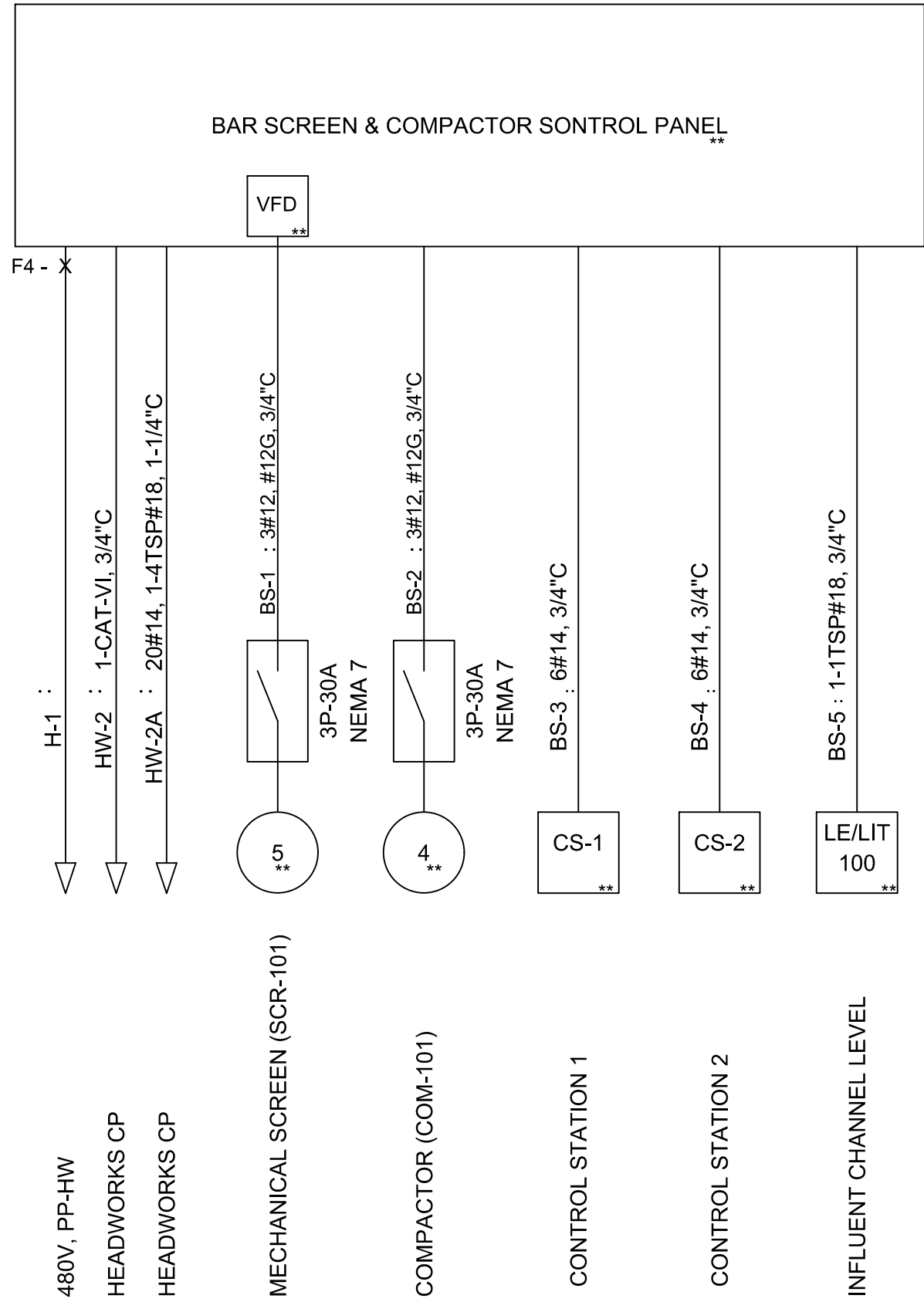
CITY OF IDAHO SPRINGS
WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO
ELECTRICAL LEGEND

SHEET NO.
E001

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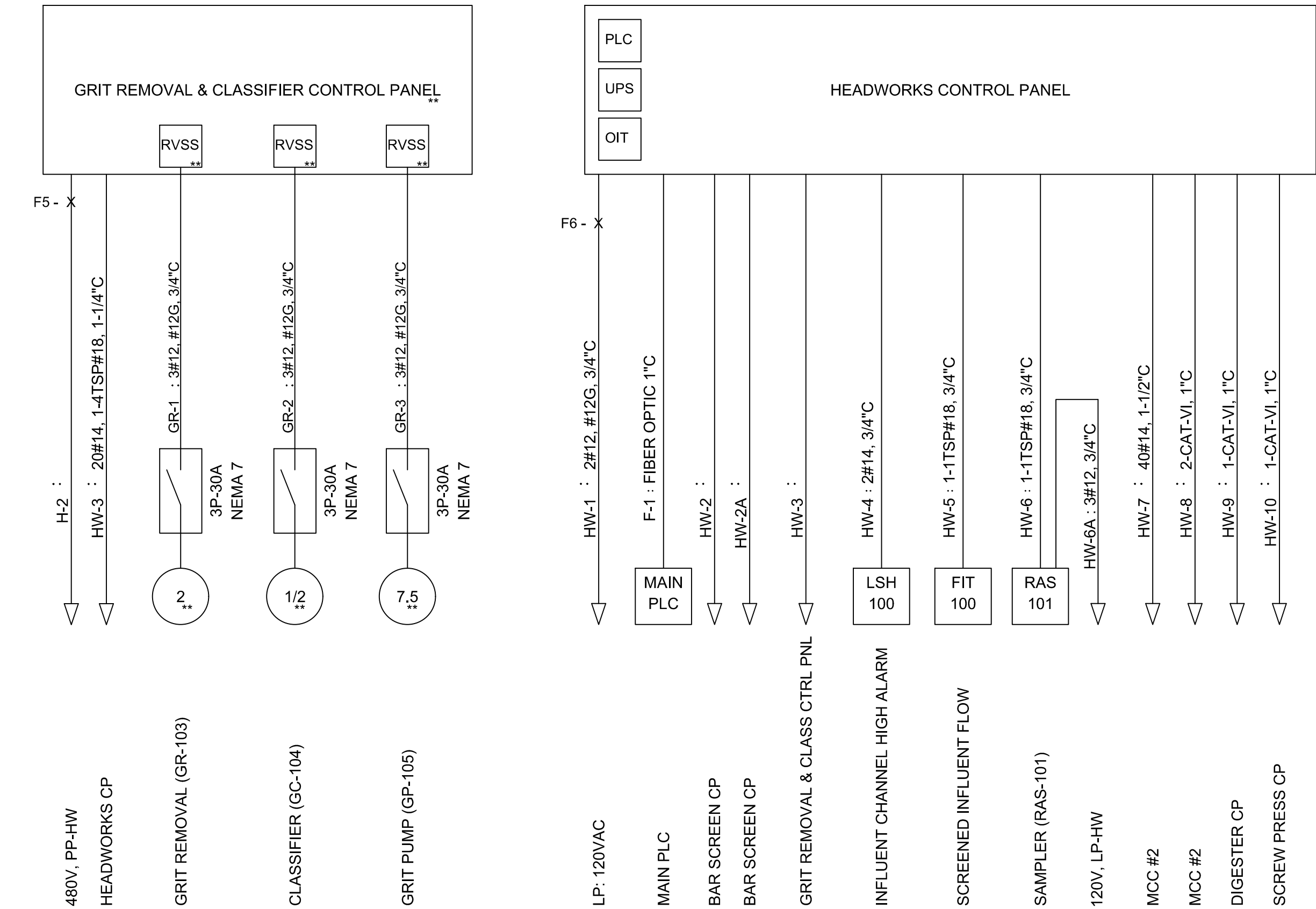
PP-HW, ONE-LINE
HEADWORKS POWER PANEL



BAR SCREEN & COMPACTOR
ONE-LINE DIAGRAM

- NOTES:
- MAU-1 FURNISHED WITH INDUSTRIAL REMOTE CONTROL PANEL. UNITE TO BE INTERLOCKED WITH EF-1. FURNISHED WITH ONE (1) EXPLOSION PROOF ROOM OVERRIDE THERMOSTAT.
 - EF-1 SHALL BE INTERLOCKED WITH MAU-1. SHALL BE PROVIDED WITH MOTOR STARTER, NEMA 3R PREWIRED DISCONNECT SWITCH, AND ELECTRIC MOTOR WITH THERMAL OVERLOAD.
 - ** INDICATES EQUIPMENT INCLUDED IN PACKAGE SYSTEM.
 - BONDING AND GROUNDING SHALL INCLUDE BUILDING STEEL AND PROCESS PIPE AS PER N.E.C.
 - GROUNDING RING SHALL BE EXOTHERMICALLY BONDED.

AVAILABLE FAULT CURRENT	
F1	19287
F2	17354
F3	4610
F4	12932
F5	10366
F6	9929



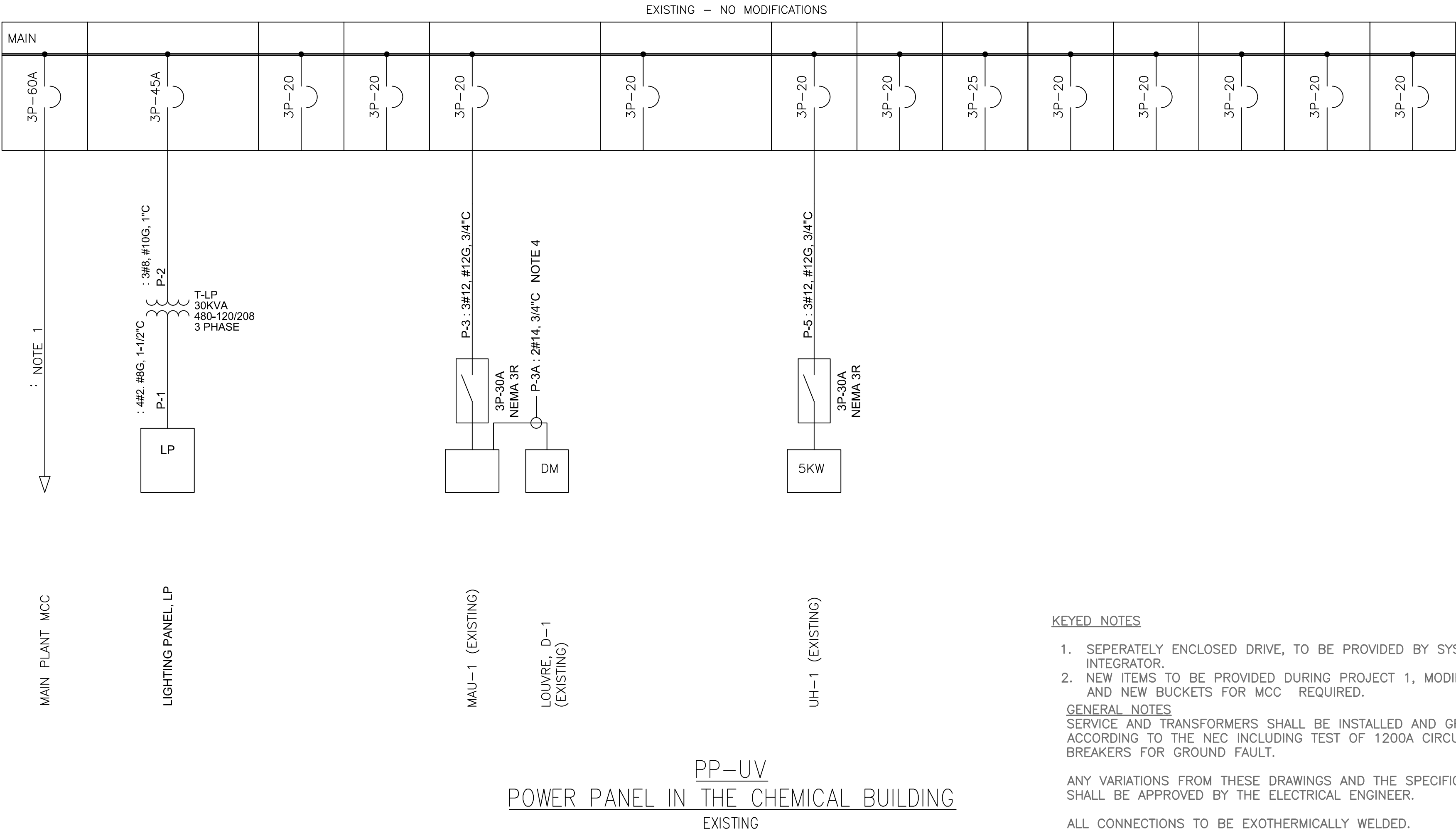
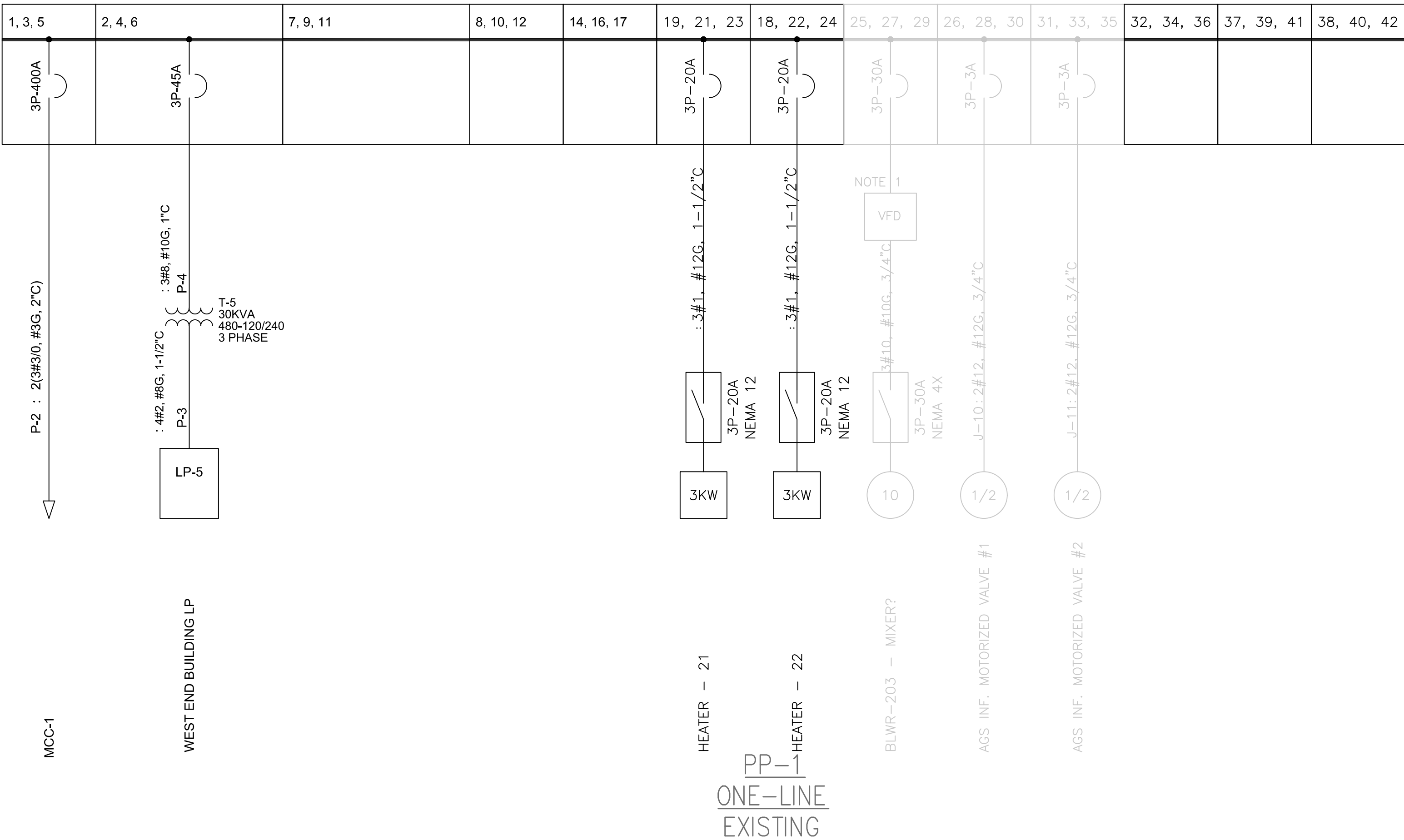
GRIT REMOVAL &
CLASSIFIER
ONE-LINE DIAGRAM

HEADWORKS CONTROL PANEL
ONE-LINE DIAGRAM

NAME: LP-HW					BUS:		COPPER				MAINS:		3P-100A														
SERVICE			120/208 VAC		RATING:		225A				LOCATION:		HW ELECTRICAL														
MOUNTING			SURFACE, NEMA 12		AIC RATING:		10,000A																				
V.A.			LOAD		PHASE		BREAKER		CIRCUIT BREAKER		BREAKER		PHASE		LOAD		V.A.										
A	B	C															A	B	C								
500			HEADWORKS CP		1		20		1		2		20		1		LIT/FIT100		150								
500			BAR SCREEN CP		1		20		3		4		20		1		GRIT REMOVAL CP			500							
			500		EXT. LIGHTS		1		20		5		6		15		1		SF-1			150					
1100					HW LIGHTS		1		20		7		8		20		3		MAU-2		1667						
			500		ELEC. LIGHTS		1		20		9		10				-					1667					
			540		ELEC. RECEPIS		1		20		11		12				-						1667				
500					RAS-101 (INF. SAMP)		1		20		13		14		20		1				0						
			0				1		20		15		16		20		1					0					
			0				1		20		17		18		20		1						0				
0							1		20		19		20		20		1				0						
			0				1		20		21		22		20		1					0					
			0				1		20		23		24		20		1						0				
0							1		20		25		26		20		1				0						
			0				1		20		27		28		20		1					0					
			0				1		20		29		30		20		1						0				
0							1		20		31		32		20		1				0						
			0				1		20		33		34		20		1					0					
			0				1		20		35		36		20		1						0				
0							1		20		37		38		20		1				0						
			0				1		20		39		40		20		1					0					
			0				1		20		41		42		20		1						0				
2100			1000		1040		TOTALS PER PHASE PER SIDE															1817		2167		1817	
3917			3167		3207		TOTALS PER PHASE																				
7124							PANEL TOTAL																				

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PP-1: 400A, 480V, 3 PHASE, 3W, 25KAIC, NEMA 12




KEYED NOTES

- SEPERATELY ENCLOSED DRIVE, TO BE PROVIDED BY SYSTEMS INTEGRATOR.
- NEW ITEMS TO BE PROVIDED DURING PROJECT 1, MODIFICATIONS AND NEW BUCKETS FOR MCC REQUIRED.


GENERAL NOTES
SERVICE AND TRANSFORMERS SHALL BE INSTALLED AND GROUNDED ACCORDING TO THE NEC INCLUDING TEST OF 1200A CIRCUIT BREAKERS FOR GROUND FAULT.

ANY VARIATIONS FROM THESE DRAWINGS AND THE SPECIFICATIONS SHALL BE APPROVED BY THE ELECTRICAL ENGINEER.

ALL CONNECTIONS TO BE EXOTHERMICALLY WELDED.



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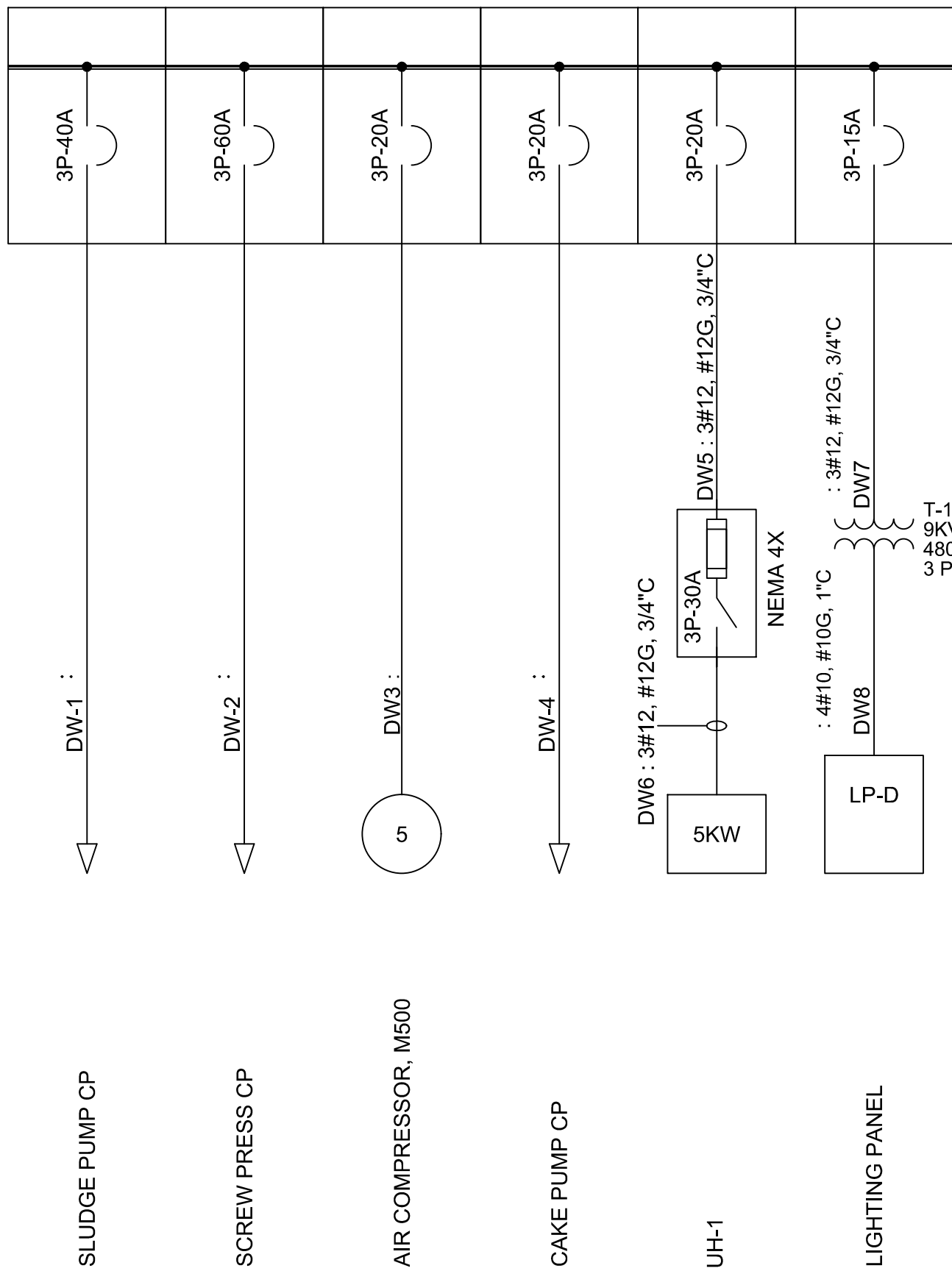
CITY OF IDAHO SPRINGS
WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO

PRE-EQUALIZATION ELECTRICAL ONE-LINE

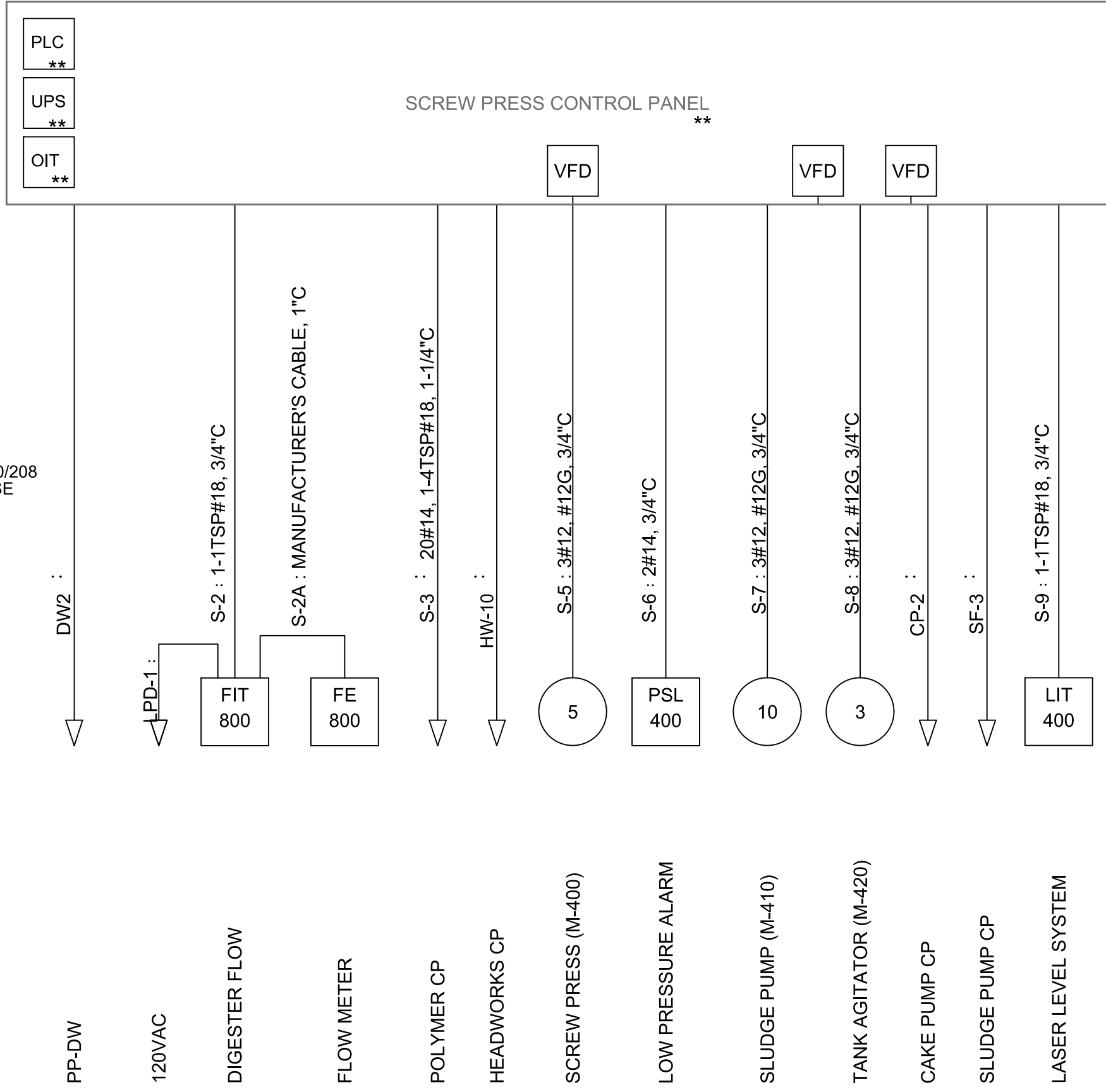
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E004				

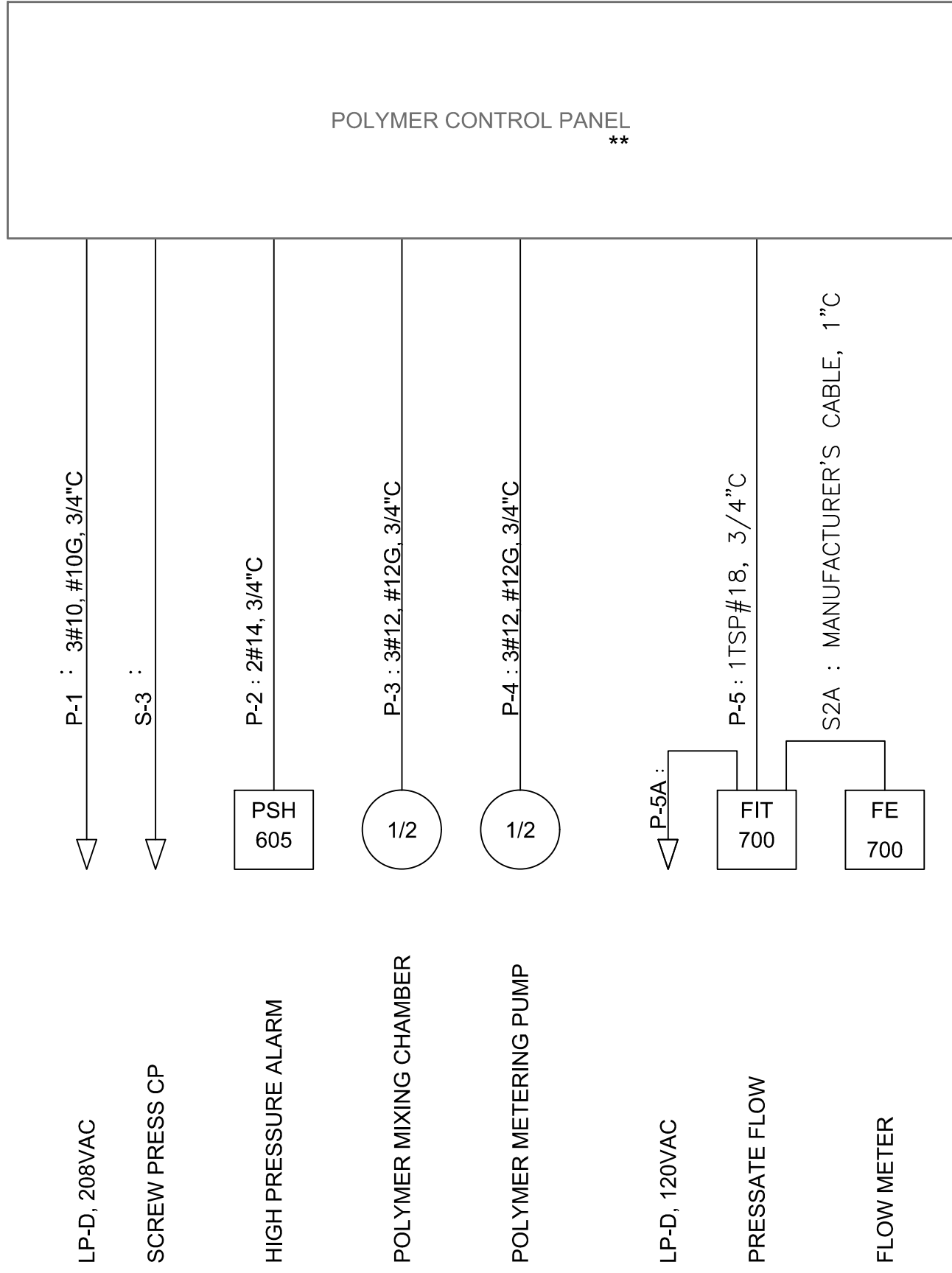
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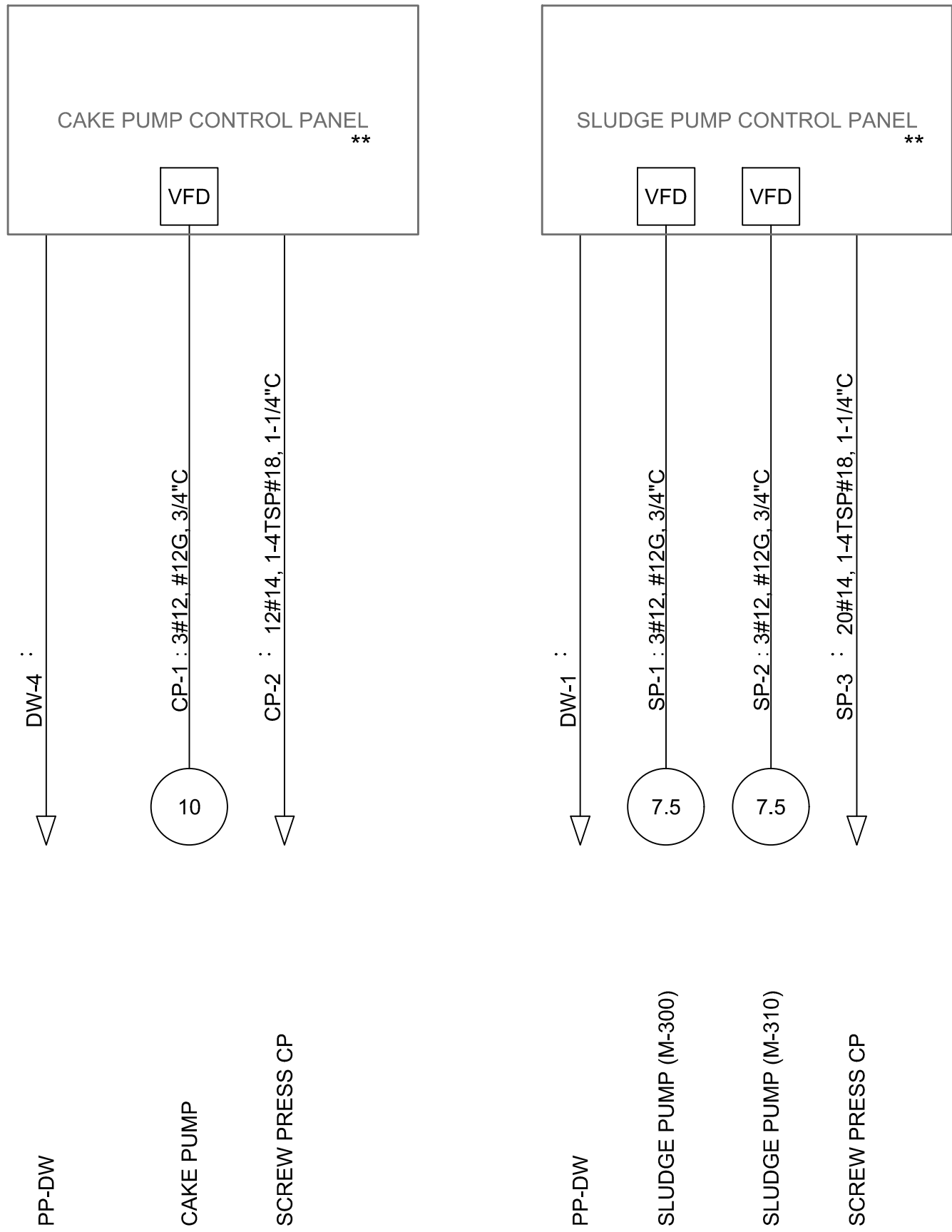
PP-D, POWER PANEL D ONE-LINE DIAGRAM
EXISTING (SHOWN FOR REFERENCE, ALL LOADS TO BE RELOCATED TO
MCC-D IN DEWAT. BLDG.)



SCREW PRESS CONTROL PANEL
ONE-LINE DIAGRAM



POLYMER CONTROL PANEL
ONE-LINE DIAGRAM



CAKE PUMP
CONTROL PANEL
ONE-LINE DIAGRAM

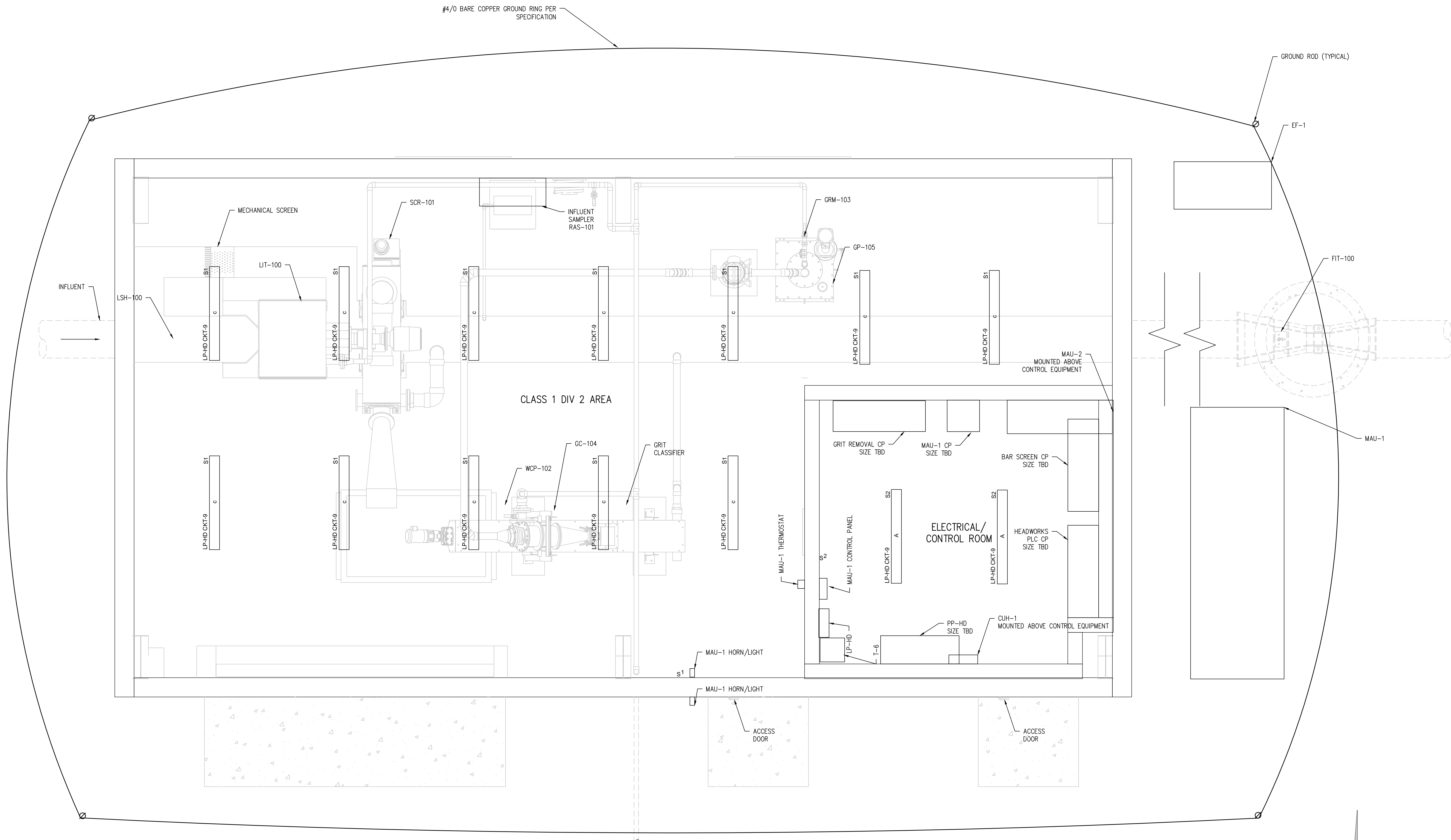
SLUDGE FEED PUMP
CONTROL PANEL
ONE-LINE DIAGRAM

NAME:			LP-D		BUS:		COPPER					MAINS:		3P-30A											
SERVICE			120/208 VAC		RATING:		100A					LOCATION:		DEWAT. BLD											
MOUNTING			SURFACE, NEMA 3R		AIC RATING:		10,000A																		
V.A.			LOAD		PHASE		BREAKER		CIRCUIT BREAKER		BREAKER		PHASE		LOAD		V.A.								
A	B	C															A	B	C						
80			FIT-400		1		20		1		2		20		1		EF-1		696						
			80				FIT-700		1		20		3		4		30		1		POLYMER PANEL			3600	
					600		INTERIOR LIGHTS		1		20		5		6		20		1		RECEPTACLES				1260
100							EXTERIOR LIGHTS		1		20		7		8		20		1						
									1		20		9		10		20		1						
									1		20		11		12		20		1						
									1		20		13		14		20		1						
									1		20		15		16		20		1						
									1		20		17		18		20		1						
									1		20		19		20		20		1						
									1		20		21		22		20		1						
									1		20		23		24		20		1						
									1		20		25		26		20		1						
									1		20		27		28		20		1						
									1		20		29		30		20		1						
180			80		600		TOTALS PER PHASE PER SIDE										696		3600		1260				
876			3680		1860		TOTALS PER PHASE																		
6416			PANEL TOTAL																						

LP-D
EXISTING (SHOWN FOR REFERENCE, TO BE
REPLACED BY LP-DG IN DEWAT. BLDG.)

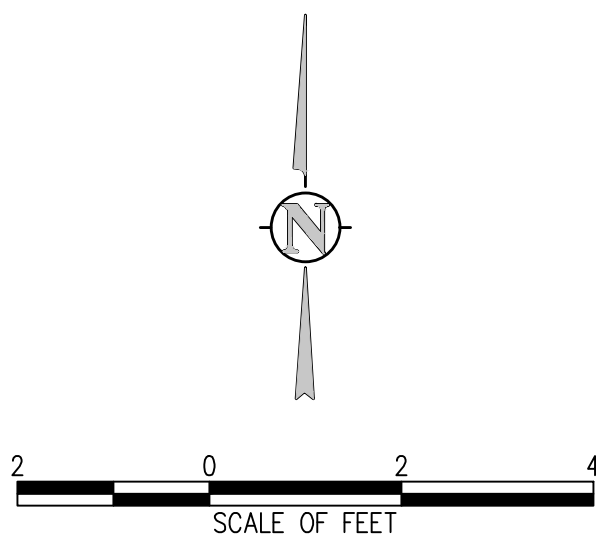
- NOTES:
- EVERYTHING ON THIS PAGE SHALL BE RELOCATED TO THE DEWATERING BUILDING.
 - ** PACKAGE SYSTEM.
 -

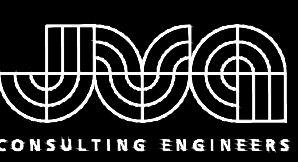
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HEADWORKS ELECTRICAL PLAN
3/8" = 1'-0"

LIGHTING FIXTURE SCHEDULE					
SYMBOL	LAMP	MTG HEIGHT	DESCRIPTION	MANUFACTURER	CIRCUIT & SWITCH NOTE
A	LED, 120V	MOUNT AT 10' AFF	4 FOOT FIXTURE-HEAVY DUTY AND MOUNTING HARDWARE SUITABLE FOR WET LOCATIONS	DUROSITE: LPM3C4D2P	LP-HD-9 S2,
B	LED, 120V	1 FT ABOVE DOOR	DIE CAST ALUMINUM FOR RUGGED MOUNTING AND HEAT DISSIPATION, SPECULAR REFLECTOR, VERTICAL LAMP AND REFRACTOR WITH PHOTOELECTRIC CONTROL	HUBBELL: LNC2-12LU-4K-4-BBU	
C	LED, 120V	MOUNT AT 10' AFF	4 FOOT FIXTURE-HEAVY DUTY AND MOUNTING HARDWARE SUITABLE FOR CLASS 1 DIV 2 LOCATIONS	CROUSE-HINDS: M14/UNV1-S903	LP-HD-9 S1





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DATE: NOVEMBER 2018

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WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO

HEADWORKS ELECTRICAL PLAN

SHEET NO.

E101

NO.

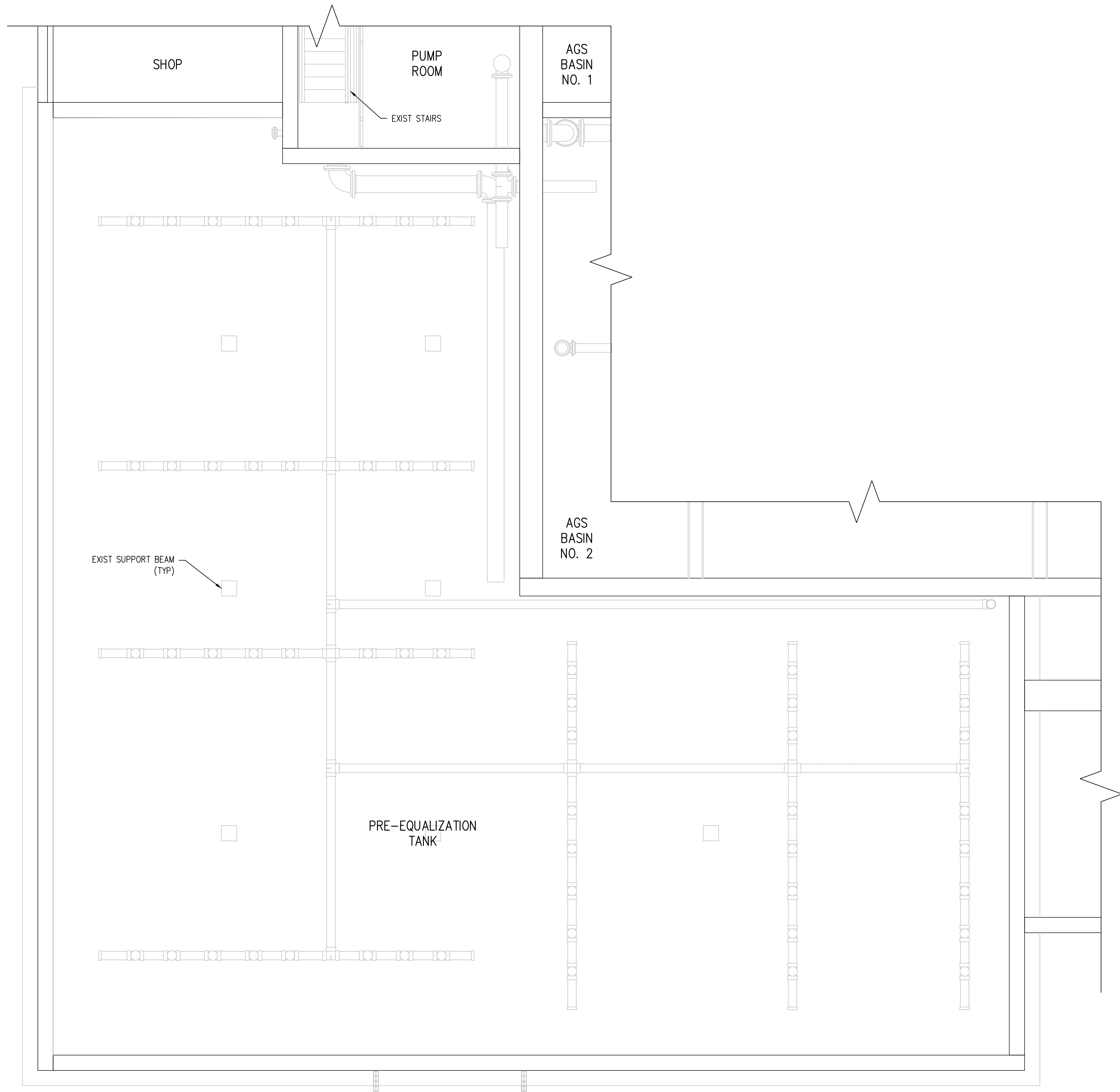
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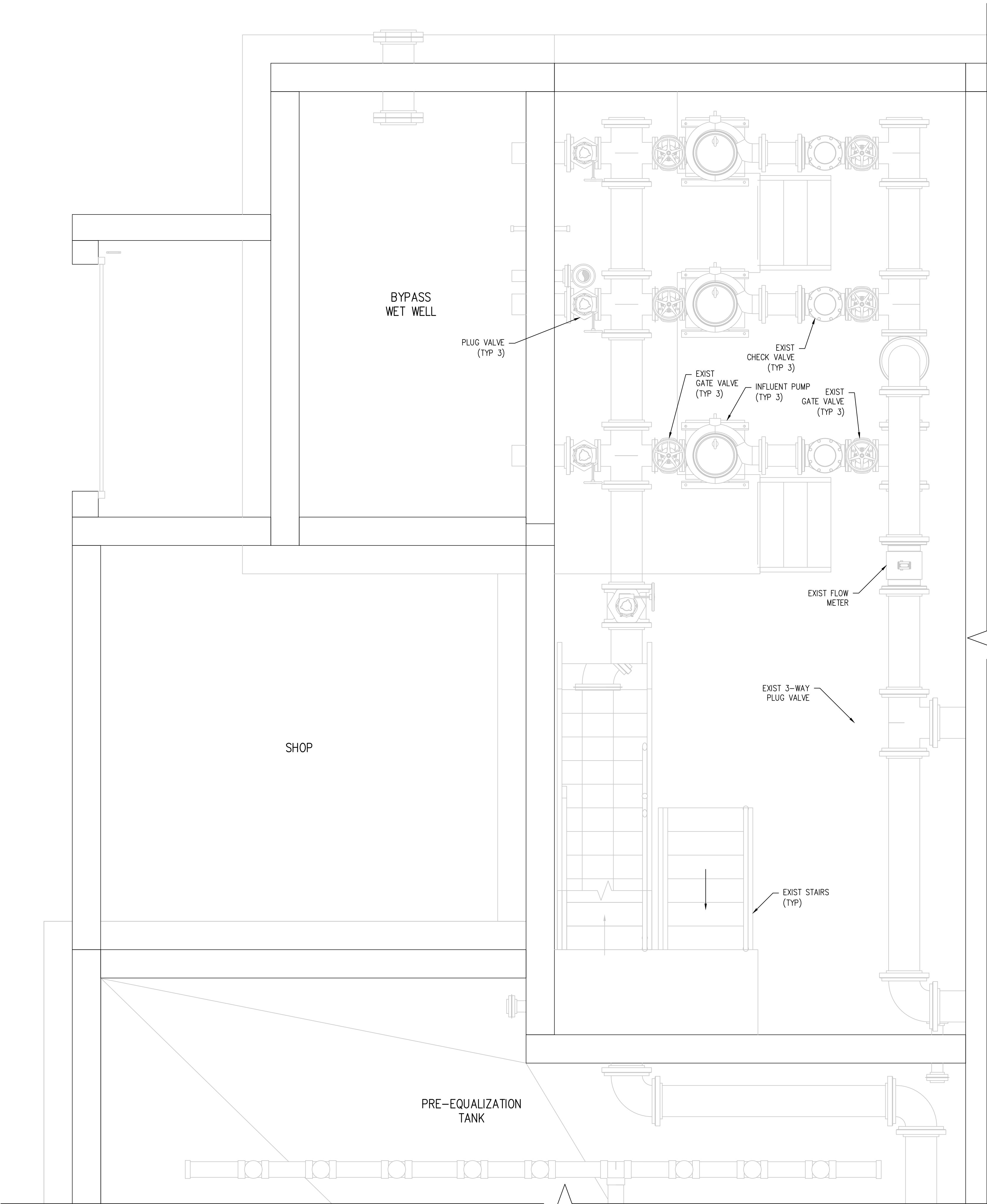
PRE-EQUALIZATION TANK ELECTRICAL PLAN
1/4" = 1'-0"

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CITY OF IDAHO SPRINGS WWTP EXPANSION - PROJECT 1 IDAHO SPRINGS, COLORADO	PRE-EQUALIZATION TANK ELECTRICAL PLAN

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PUMP ROOM ELECTRICAL PLAN

1/2" = 1'-0"

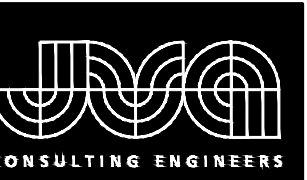
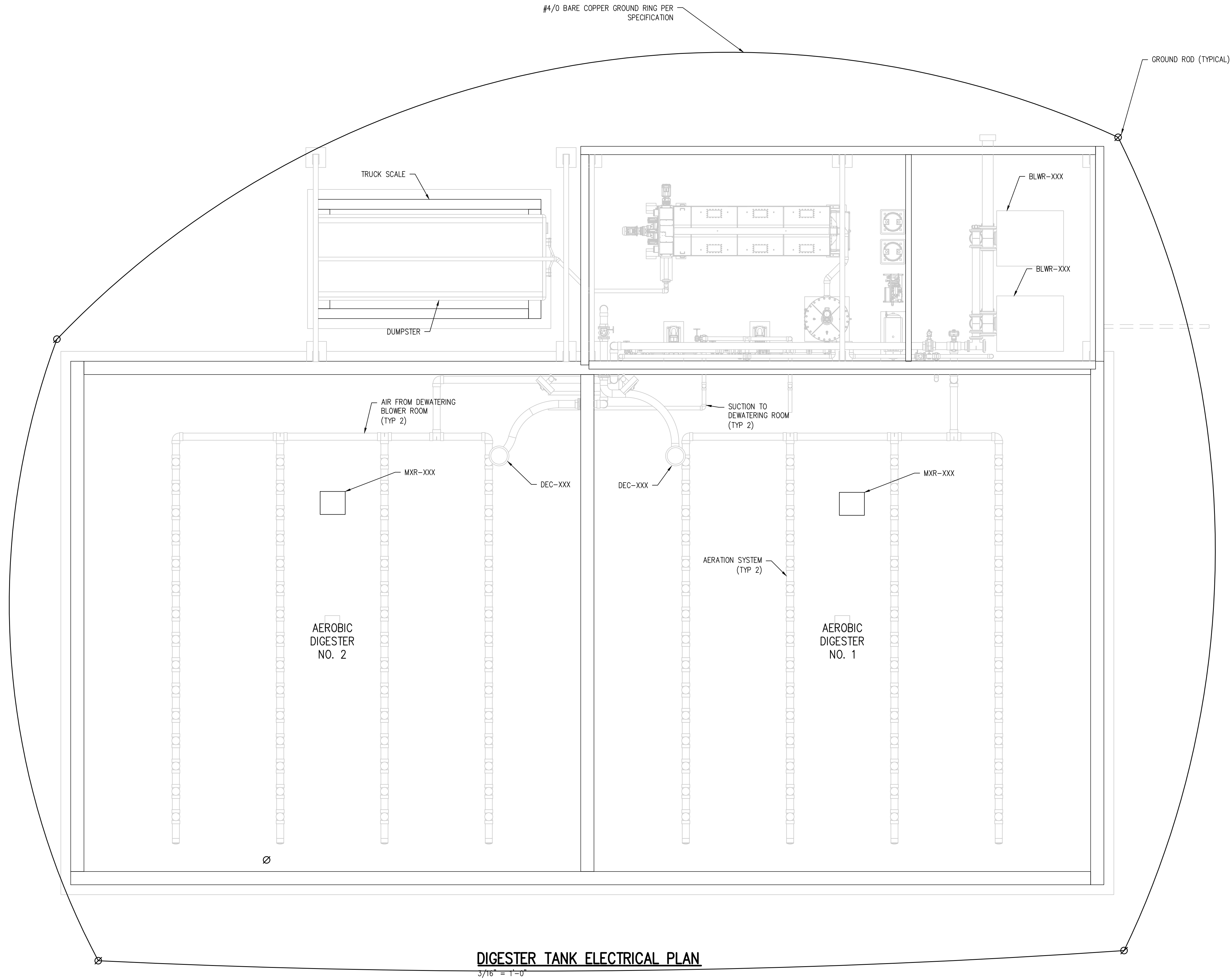
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CITY OF IDAHO SPRINGS
WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO

PUMP ROOM ELECTRICAL PLAN

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CITY OF IDAHO SPRINGS
WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO
DIGESTER ELECTRICAL PLAN

SHEET NO.
E501

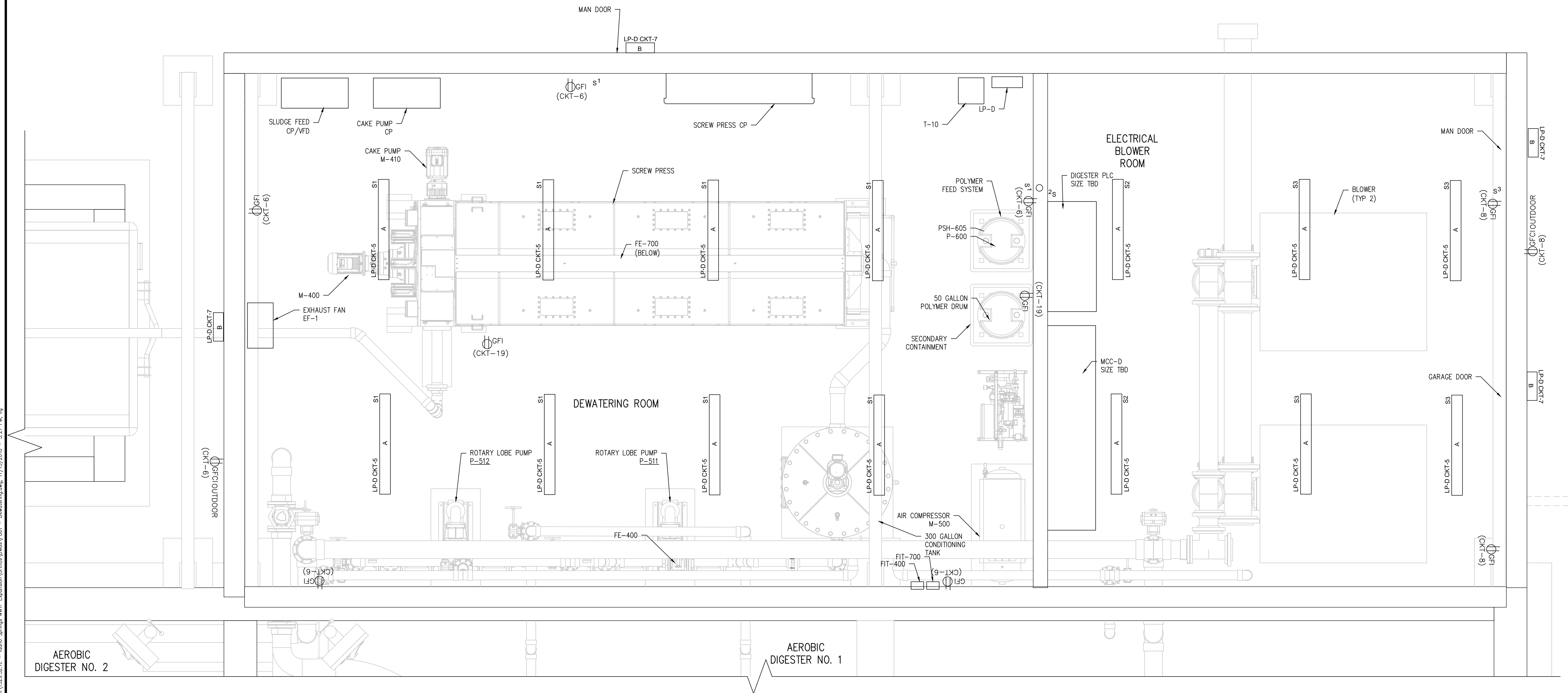


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WWTP EXPANSION - PROJECT 1
IDAHO SPRINGS, COLORADO
DEWATERING ELECTRICAL PLAN

SHEET NO.
E801



DEWATERING BUILDING ELECTRICAL PLAN
1/2" = 1'-0"

$$1/2'' = 1'-0''$$