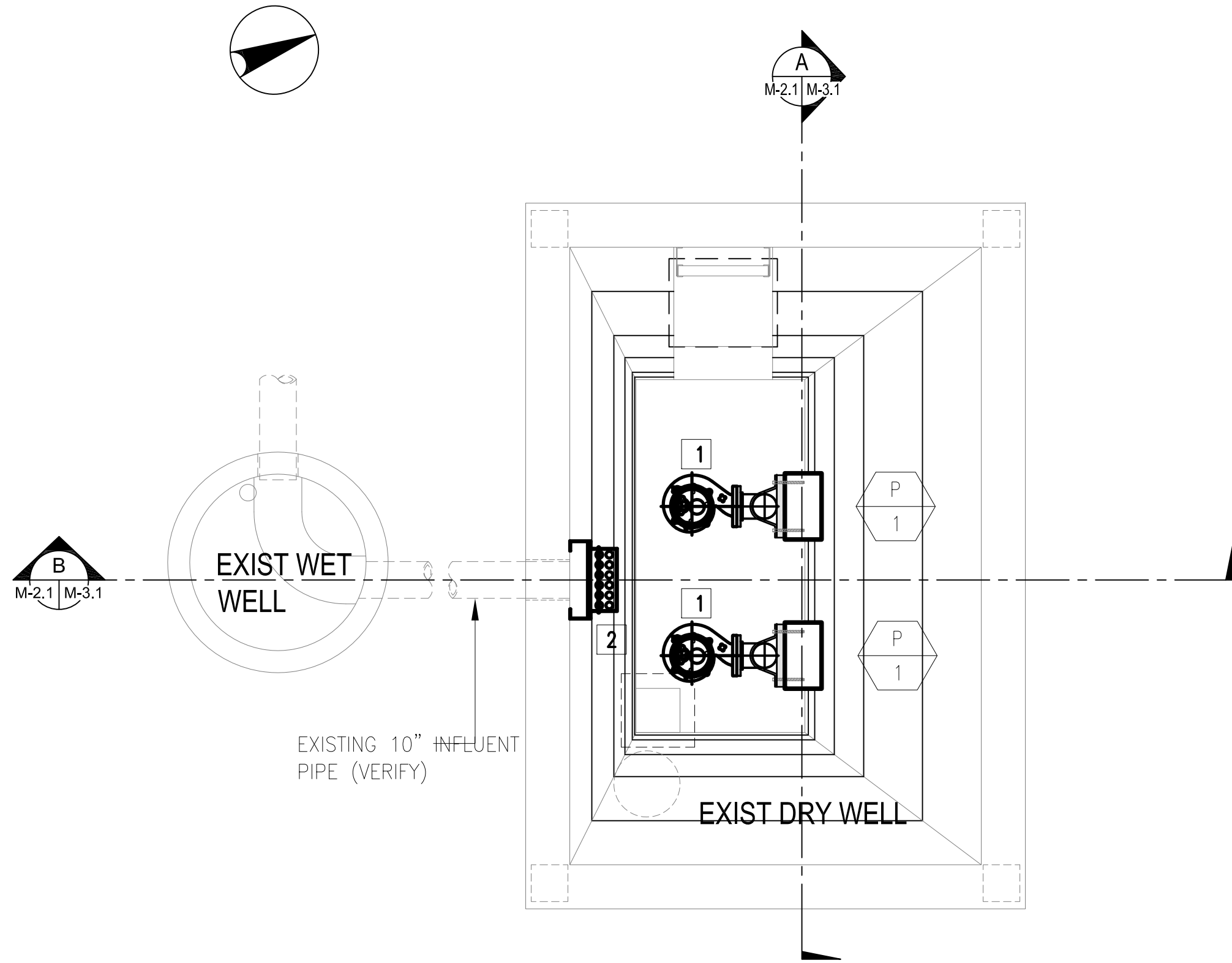
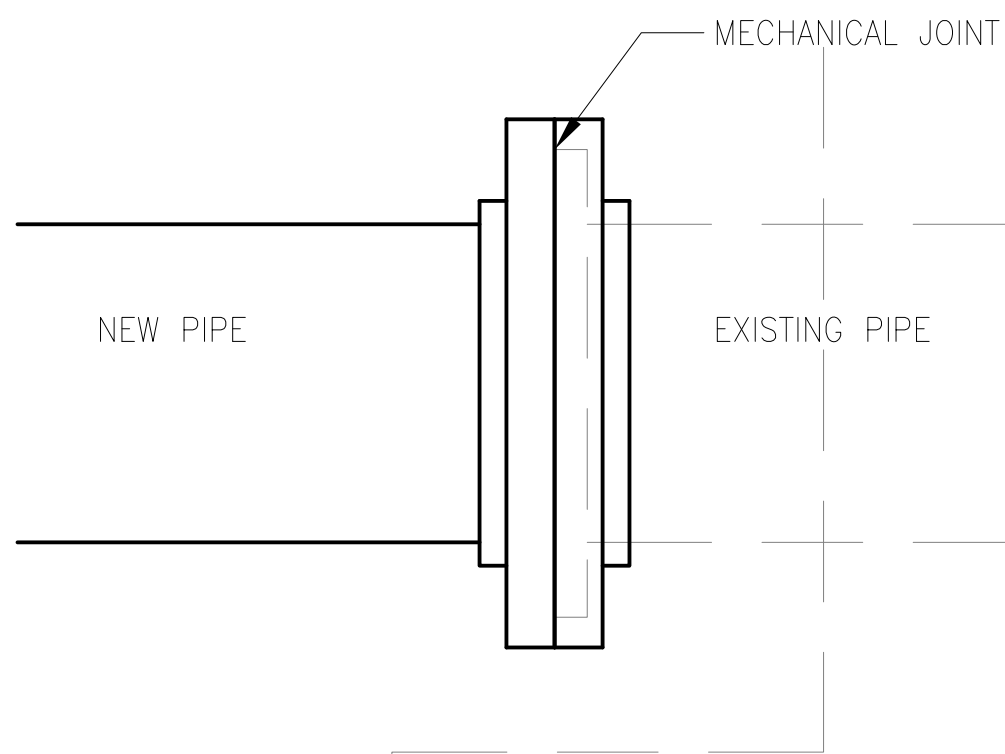


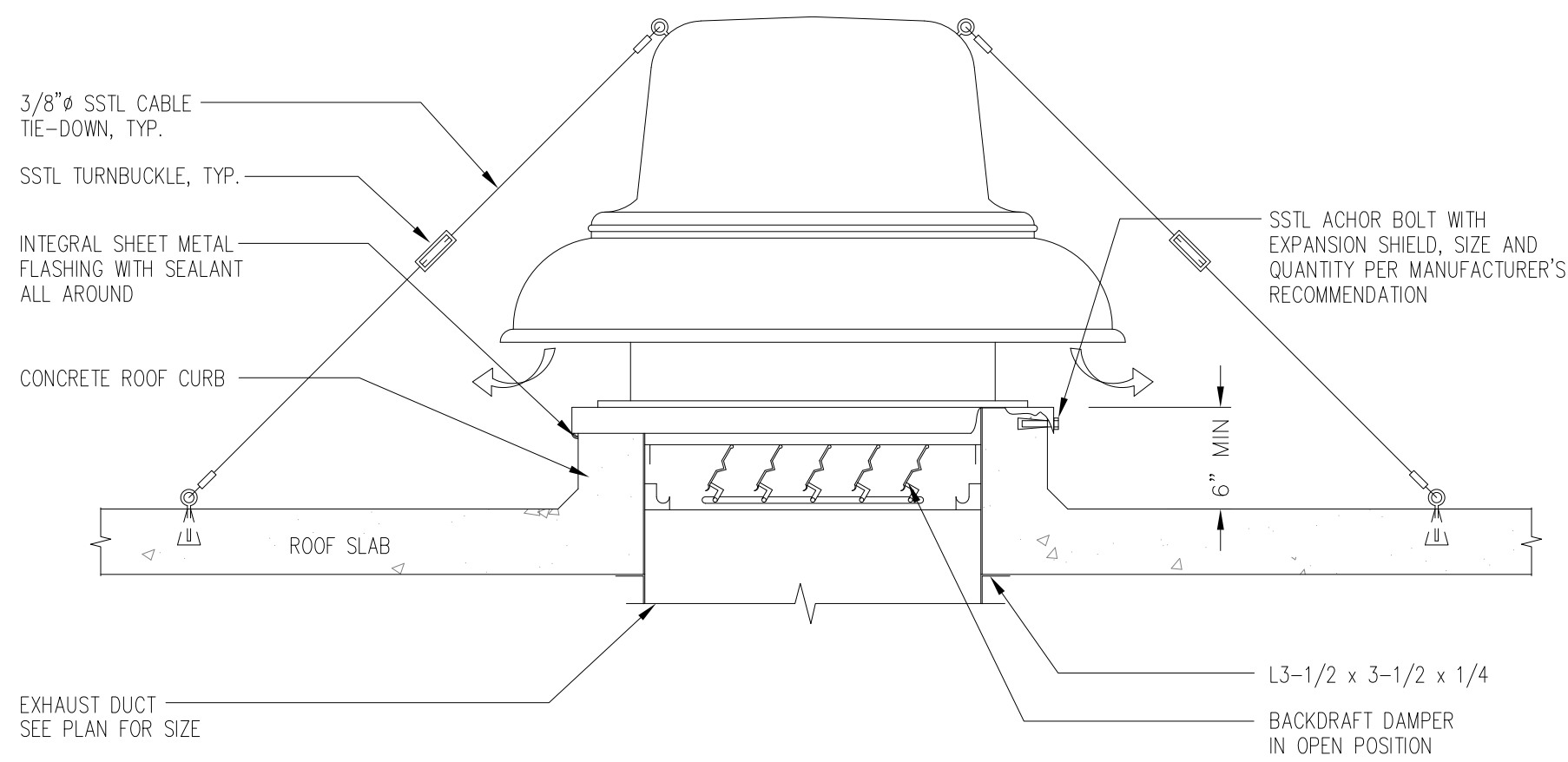
7/10/2017 2:50:05 PM



1 MECHANICAL PLAN-WELL LEVEL
SCALE: 3/8" = 1'-0"



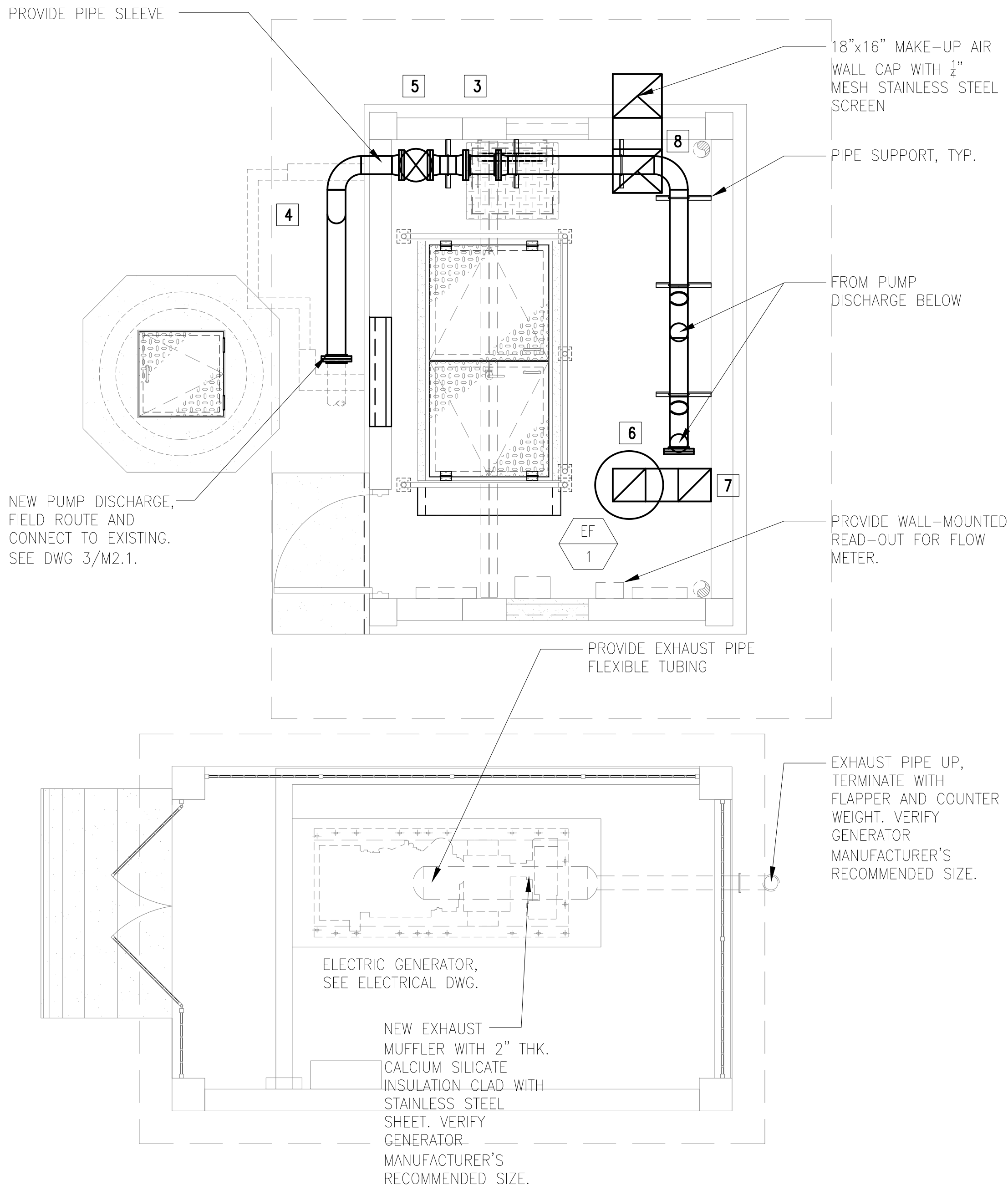
3 PIPE CONNECTION DETAIL
SCALE: NOT TO SCALE



ROOF MOUNTED EXHAUST FAN

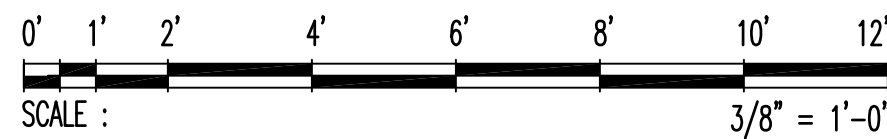
NOTE:
1. WHERE DISCONNECT IS EXPOSED
TO WEATHER, PROVIDE NEMA 4
ENCLOSURE.

4 MISCELLANEOUS DETAILS
SCALE: NOT TO SCALE



2 MECHANICAL PLAN-GROUND LEVEL
SCALE: 3/8" = 1'-0"

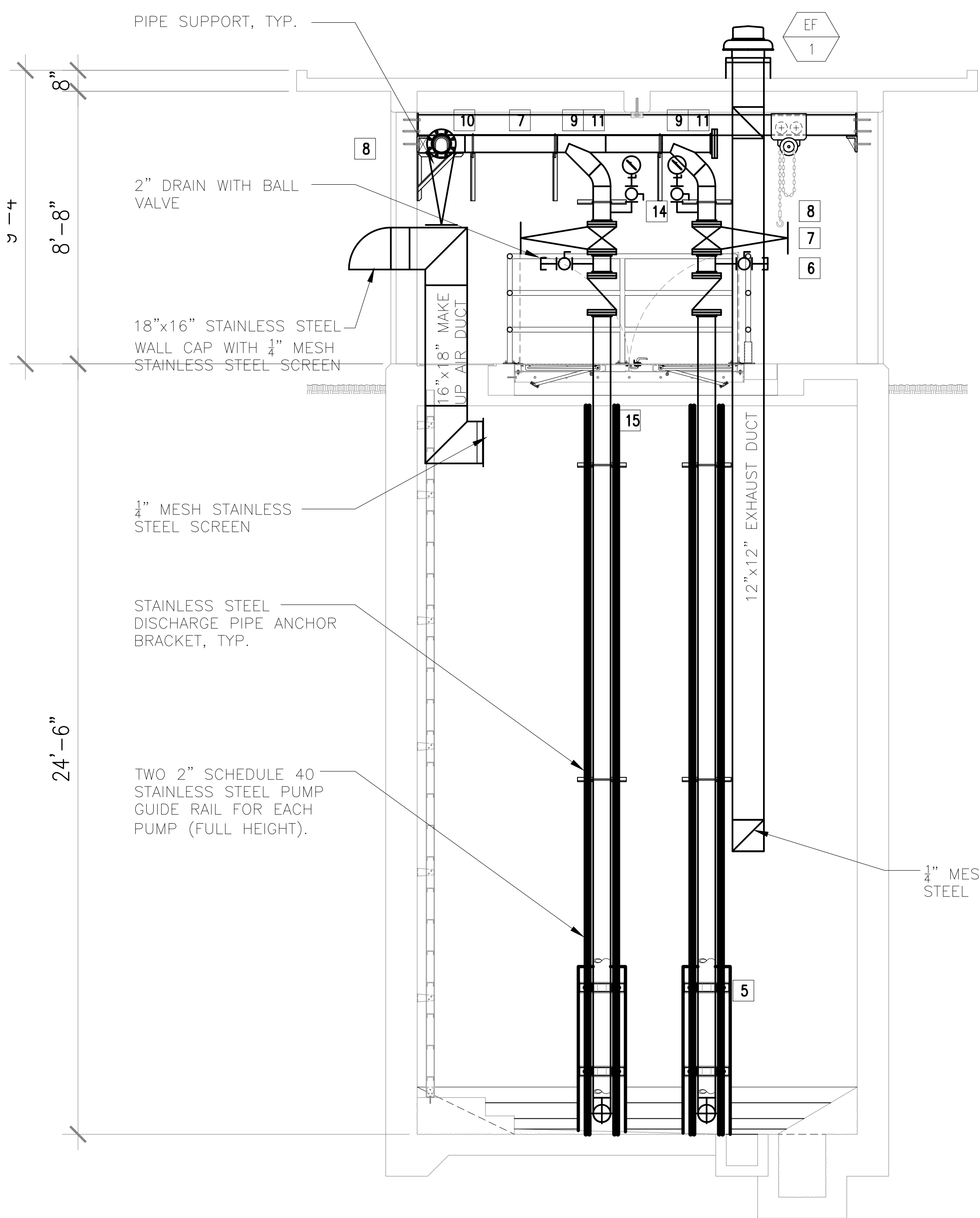
GRAPHIC SCALE:



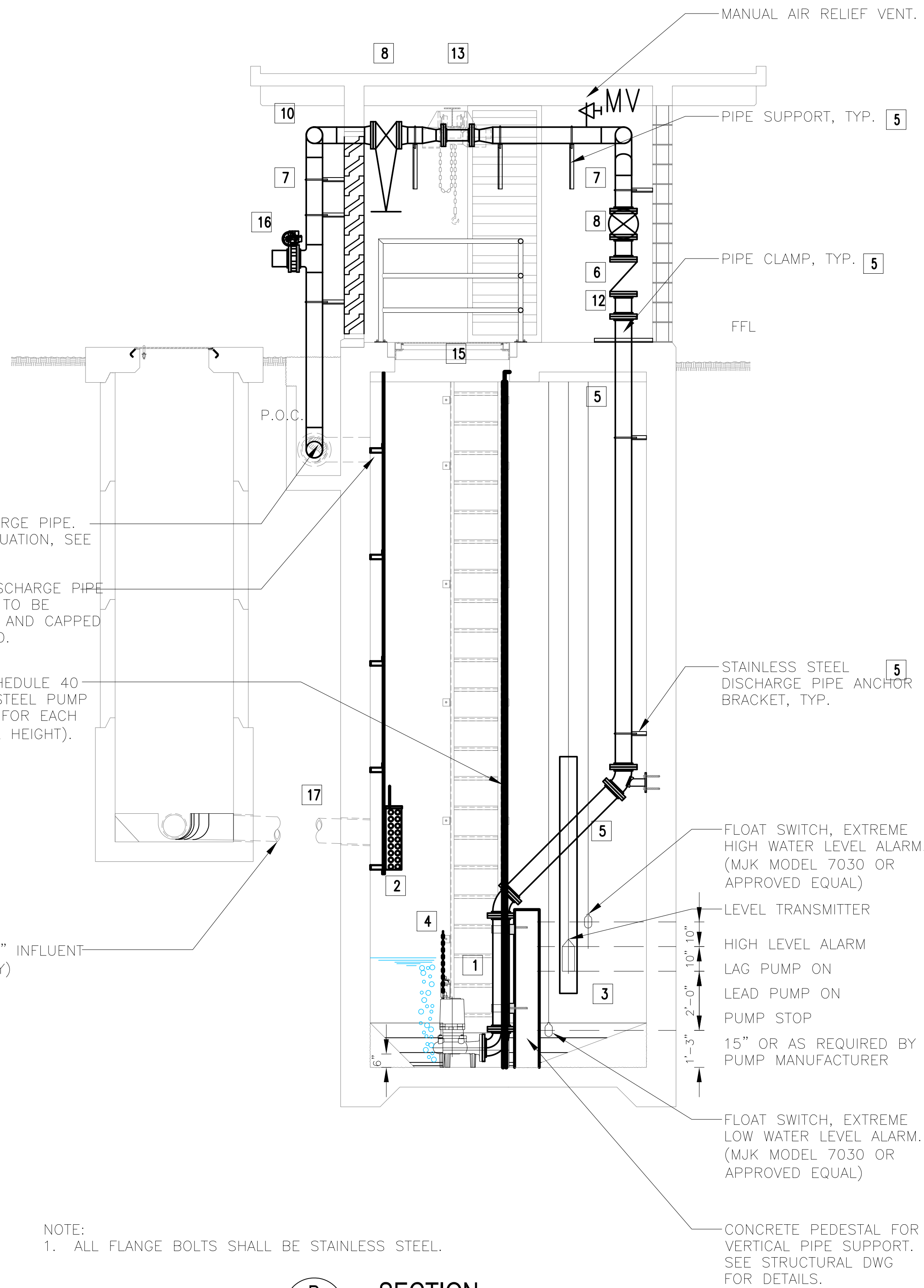
NEW WORKS KEYED NOTES:

- 1 SUBMERSIBLE NON-CLOG SEWAGE PUMPS.
- 2 STAINLESS STEEL BASKET SCREEN, HALLIDAY SERIES B4A TRASH BASKET OR APPROVED EQUAL.
- 3 NEW 6" MAGNETIC FLOW METER. PROVIDE SPARE DI FLANGED SPOOL OF SAME SIZE AND LENGTH AS METER FOR FUTURE MAINTENANCE.
- 4 CAM LOCK COUPLING WITH LOCKING DUST CAP ON BUTTERFLY VALVE.
- 5 6" GATE VALVE.
- 6 ROOF MOUNTED EXHAUST FAN.
- 7 12"x12" EXHAUST AIR DUCT, STAINLESS STEEL. GOING DOWN TO WELL LEVEL. TERMINATE WITH 1/4" MESH STAINLESS STEEL SCREEN.
- 8 18"x16" MAKE UP AIR DUCT, STAINLESS STEEL. GOING DOWN TO WELL LEVEL, TERMINATE 6" BELOW GROUND FLOOR WITH 1/4" MESH STAINLESS STEEL SCREEN.

 Engineering Management & Planning Services Corporation 1708 ADAMI DRIVE, 2ND FLOOR, SUITE 204 ROOSEVELT, GUAM 96920 TEL: (671) 438-2716 / 438-4716 FAX: (671) 438-2124						
	REV	DATE	BY	DESCRIPTION	APPROVED BY	
	GWA NO.			 GUAM WATERWORKS AUTHORITY GOVERNMENT OF GUAM ENGINEERING DIVISION		
	GRANT ID NO.					
	CONTRACT NO.					
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION DATE: _____	PROJECT NO.		PROJECT: BAYSIDE PUMP STATION REHABILITATION CAMP WATKINS ROAD, TAMUNING, GUAM			
DES. BY: JBE	CHIEF ENGR:		CONTENTS: MECHANICAL PLAN, MISCELLANEOUS DETAILS			DRAWING NO. M-2.1
DRN. BY: JBE	ENGR. SUP:					SHT. 23 OF 27
CHK. BY: JBE	PROJ. ENGR:					



A SECTION
M-2.1 | M-3.1
SCALE: 3/8" = 1'-0"



NOTE:
1. ALL FLANGE BOLTS SHALL BE STAINLESS STEEL.

B SECTION
M-2.1 | M-3.1
SCALE: 3/8" = 1'-0"

SEQUENCE OF OPERATION:

WHEN THE WATER LEVEL REACHES THE LEAD PUMP ON LEVEL, THE LEAD PUMP MOTOR IS ENERGIZED AND THE LEAD PUMP STARTS PUMPING DOWN.

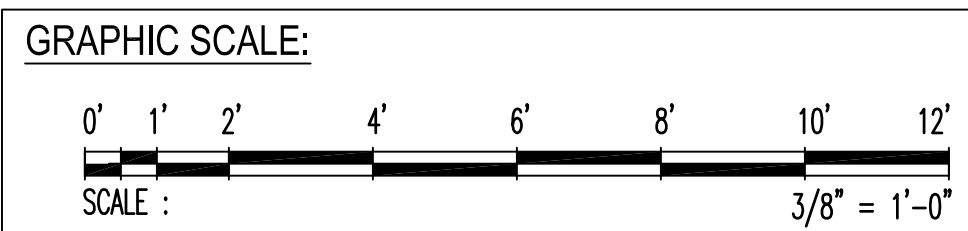
WHEN THE WATER LEVEL FALLS BELOW THE PUMP STOP LEVEL, THE LEAD PUMP MOTOR MOTOR IS DE-ENERGIZED AND THE LEAD PUMP STOPS.

IF THE WATER LEVEL KEEP RAISING ONCE THE LEAD PUMP IS ON AND IT REACHES THE LAG PUMP ON LEVEL, THE LAG PUMP MOTOR IS ENERGIZED AND THE LAG PUMP STARTS PUMPING DOWN.

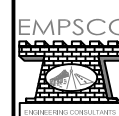
ONCE THE WATER LEVEL FALLS BELOW THE PUMP STOP LEVEL LEVEL, BOTH LEAD AND LAG PUMP MOTORS ARE DE-ENERGIZED AND BOTH PUMPS STOP.

THE PUMP STOP FLOAT SWITCH TRIGGERS THE ALTERNATOR AND REVERSE THE ORDER OF LEAD AND LAG PUMPS.

IF THE WATER LEVEL KEEP RAISING AND IT REACHES THE HIGH LEVEL ALARM, THE HIGH LEVEL ALARM BEACON WILL LIGHTS UP AND HORN WILL SOUND. DEPRESSED RESET BUTTON FOR HIGH LEVEL ALARM WILL TURN OFF THE ALARM.



- NEW WORKS KEYED NOTES:**
- 1 SUBMERSIBLE NON-CLOG SEWAGE PUMPS.
 - 2 STAINLESS STEEL BASKET SCREEN, HALLIDAY SERIES B4A TRASH BASKET OR APPROVED EQUAL.
 - 3 LEVEL TRANSMITTER INSIDE 12" STILLING WELL (PVC) WITH 1/2" PERFORATIONS AT 16" ON CENTER.
 - 4 1/4" STAINLESS STEEL CHAIN FOR PUMP RETRIEVAL. ATTACHED TO PUMP LIFTING HANDLE.
 - 5 6" PVC DISCHARGE PIPING (ASTM D1785). SEE STRUCTURAL DWG FOR SUPPORT DETAIL.
 - 6 6" CHECK VALVE. IT SHALL CONFORM TO AWWA C-508 AND SHALL HAVE IRON BODY, BRONZED MOUNTED, FULL OPENING WITH ADJUSTABLE TENSION LEVER AND SPRING TO PROVIDE NON-SLAMMING ACTION UNDER ALL CONDITIONS. VALVES SHALL BE SUITABLE FOR CONTROLLING SEWAGE.
 - 7 6" CLASS 52 DUCTILE IRON DISCHARGE PIPING.
 - 8 6" GATE VALVE.
 - 9 6" 45 DEG LATERAL STRAIGHT DUCTILE IRON FLANGED FITTING.
 - 10 6" 90 DEG STRAIGHT ELBOW DUCTILE IRON FLANGED FITTING.
 - 11 6" 45 DEG ELBOW DUCTILE IRON FLANGED FITTINGM.
 - 12 DUCTILE IRON TRANSITION ADAPTERS.
 - 13 NEW 4" MAGNETIC FLOW METER. PROVIDE SPARE D.I. FLANGE SPOOL OF SAME SIZE AND LENGTH AS METER FOR FUTURE MAINTENANCE. PROVIDE REMOTE READ-OUT/MONITOR ON NORTHEAST WALL.
 - 14 PRESSURE GAUGE
 - 15 NEW ALUMINUM FLOOR HATCH. BILCO ANGLE FRAME TYPE KD OR APPROVED EQUAL (DOUBLE LEAF), SEE ARCHITECTURAL DWG.).
 - 16 CAM LOCK COUPLING WITH LOCKING DUST CAP ON PLUG VALVE.
 - 17 EXISTING EMBEDDED SECTION OF PIPE TO REMAIN; CLEAN INTERNAL DIRT AND DEBRIS, PROVIDE CCTV INSPECTION/DATA FOR GWA REVIEW. PROVIDE CIPP LINING INTO ENTIRE PIPE AFTER CLEANING.

 Engineering Management & Planning Services Corporation 1708 ARROYO DRIVE, SUITE 200, SAN JOSE, CA 95128 PHONE: (408) 251-1616 / (408) 471-1616 FAX: (408) 251-1616	REV	DATE	BY	DESCRIPTION	APPROVED BY
	GWA NO.				
	GRANT ID NO.				
	CONTRACT NO.				
	PROJECT NO.				
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION DATE: _____	 GUAM WATERWORKS AUTHORITY GOVERNMENT OF GUAM				
	ENGINEERING DIVISION				
	PROJECT: BAYSIDE PUMP STATION REHABILITATION CAMP WATKINS ROAD, TAMUNING, GUAM				
	DES. BY: JBE	CHIEF ENGR:	CONTENTS: SECTIONS		DRAWING NO. M-3.1
	DRN. BY: JBE	ENGR. SUP:			SHT. 24 OF 27
	CHK. BY: JBE	PROJ. ENGR:			

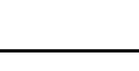
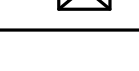
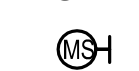
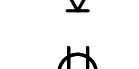
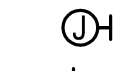
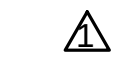
GENERAL NOTES

- ELECTRICAL LAYOUT DRAWINGS ARE PARTIALLY DIAGRAMMATIC. REFER TO ARCHITECTURAL, STRUCTURAL, MECHANICAL AND HVAC FOR GUIDANCE ON DIMENSIONS, CEILING HEIGHTS, DOOR SWINGS, ROOM FINISHES, STRUCTURAL AND ARCHITECTURAL DETAILS, AND LOCATIONS OF PIPES AND STRUCTURAL STEEL. INSTALL THE ELECTRICAL SYSTEMS WITHOUT INTERFERING WITH PIPES, STRUCTURAL STEEL OR OTHER SYSTEMS. LOCATE LIGHTING SYSTEMS SYMMETRICALLY IN PROPER RELATION TO FINISHED AREAS EXCEPT WHERE DIMENSIONED ON THE DRAWINGS OR LOCATED ON REFLECTED CEILING PLANS. COORDINATE WITH OTHER TRADES FOR PROPER INSTALLATION OF WORK AND FOR TIMELY EXECUTION OF CONSTRUCTION.
- FURNISH ALL LABOR, EQUIPMENT, APPLIANCES, MATERIALS AND PERFORM OPERATIONS REQUIRED FOR COMPLETE INSTALLATION OF SYSTEMS SPECIFIED IN ACCORDANCE WITH DRAWINGS, CODES, ORDINANCES AND TERMS AND CONDITIONS OF CONTRACT.
- COMPLY WITH THE LATEST EDITION OF ALL APPLICABLE CODES, ORDINANCES AND REGULATIONS.
- SYMBOLS IN THE LEGEND ARE APPLICABLE GENERALLY. FOR EXACT REQUIREMENTS, REFER TO THE SCHEDULES, LAYOUTS, AND DETAILS. THE APPEARANCE OF A PARTICULAR SYMBOL DOES NOT NECESSARILY IMPLY THAT THE ITEM IS INCLUDED IN THE CONTRACT.
- PROVIDE ADDITIONAL SUPPORTS FOR SWITCHES, STARTERS, RACEWAYS AND OTHER ELECTRICAL EQUIPMENT WHEREVER THE BUILDING STRUCTURE IS NOT SUITABLE FOR DIRECT MOUNTING.
- VERIFY CEILING SUSPENSION SYSTEMS IN THE VARIOUS AREAS AND PROVIDE THE PROPER MOUNTING ACCESSORIES, TRIMS, ETC. TO SUIT THE PARTICULAR AREA. SUPPORT RACEWAYS WITH APPROVED TYPES OF WALL BRACKETS OR CEILING TRAPEZE HANGER. DO NOT SUSPEND FROM DROPPED CEILING, TIE WIRE OR T-BAR. PROVIDE SAFETY WIRES FOR EACH LIGHTING FIXTURE IN NEW DROPPED CEILING SO THAT IN THE EVENT OF CEILING FAILURE, NO PART OF THE FIXTURE WILL DROP MORE THAN 12" BELOW NORMAL CEILING HEIGHT.
- PROVIDE SEAL FITTINGS IN CONDUITS THAT ENTER CONDITIONED AREAS FROM NON-CONDITIONED AREAS.
- PROPERLY GROUND CONDUIT SYSTEM, OUTLETS, FIXTURES, ETC. IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, SECTION 250. PROVIDE ALL BONDING JUMPERS AND WIRE, GROUNDING BUSHINGS, CLAMPS, ETC. REQUIRED FOR COMPLETE GROUNDING. PROVIDE GREEN GROUND WIRE IN EACH RACEWAY.
- CONNECT BRANCH CIRCUIT NEUTRAL TO RECEPTACLE TERMINAL BY MEANS OF A SHORT "PIGTAIL" PERMANENTLY SPLICED TO THE NEUTRAL.
- PROVIDE 3/4" CONDUIT FROM EACH THERMOSTAT TO THE EQUIPMENT THAT IT CONTROLS. SEE MECHANICAL PLANS FOR THERMOSTAT LOCATIONS.
- ALL WIRING SHALL BE COPPER. ALL POWER WIRING #10 AND SMALLER SHALL BE SOLID. #8 AND LARGER MAY BE STRANDED. COLOR CODE ALL WIRING BY SYSTEM. FOR 120/208V SYSTEMS, PHASE A SHALL BE BLACK, PHASE B SHALL BE RED AND PHASE C SHALL BE BLUE. FOR 277/480V SYSTEMS, PHASE A SHALL BE BROWN, PHASE B SHALL ORANGE AND PHASE C SHALL BE YELLOW.
- NEW SERVICE TO BE PROVIDED BY GPA (E) SERVICE TO REMAIN UNTIL NEW SERVICE IS AVAILABLE.

EXISTING SYSTEM NOTES

- USE MATERIALS TO MATCH EXISTING CONSTRUCTION UNLESS SPECIFIED ELSEWHERE IN THESE CONTRACT DOCUMENTS. MATERIALS SHALL COMPLY TO LOCAL CODES AND UL AND SHALL BE PROPERLY APPLIED TO THEIR INTENDED FUNCTION.
- RELOCATE ALL EXISTING EQUIPMENT AND DEVICES REQUIRED TO ACCOMMODATE THE NEW CONSTRUCTION AS SHOWN ON THE DRAWINGS. EXISTING WORK WHICH, IN THE OPINION OF THE ARCHITECT, IS TO REMAIN, SHALL BE RELOCATED IF NECESSARY.
- EXISTING ELECTRICAL EQUIPMENT, WIRING AND INSTALLATION WHICH ARE TO BE REMOVED, SHALL BE REMOVED AS A PART OF THIS CONTRACT AND SHALL BE DISPOSED OF PROPERLY. VERIFY WHICH MATERIALS ARE CONSIDERED SALVAGE AND THESE SHALL BE TURNED OVER TO THE OWNER FOR HIS USE.
- EXTEND EXISTING CIRCUITS SERVING EQUIPMENT TO BE RELOCATED, MATCHING EXISTING WIRE AND CONDUIT SIZE.
- RE-USE EXISTING RACEWAYS WHERE POSSIBLE AND WHERE PERMITTED BY CODE. RE-WORK EXISTING RACEWAYS WHERE REQUIRED. SECURE ALL REUSED RACEWAYS WHICH ARE LOOSE OR NOT PROPERLY CONNECTED.
- INSPECT ALL WIRE CONNECTIONS AND RETIGHTEN WHERE REQUIRED.
- CHECK CONTINUITY OF THE EXISTING GROUNDING AND RECONNECT AND RETIGHTEN ALL CONNECTIONS TO ESTABLISH A SAFE AND CONTINUOUS GROUNDING SYSTEM THROUGHOUT THE SYSTEM.

LEGEND

- 

REVISION SYMBOL

JUNCTION BOX

SINGLE POLE SWITCH

BRANCH CIRCUIT PANEL

VOICE DROP WALL MTD.

RECEPTACLE FLUSH MOUTED,15AMPS.

GROUND FAULT CIRCUIT INTERRUPTER

MOTION SENSOR

EXHAUST FAN

ANTENNA

COMBINATION MOTOR STARTER DISCONNECT
- 

HLS - HIGH LEVEL SWITCH

LLS - LOW LEVEL SWITCH

T - TRANSDUCER

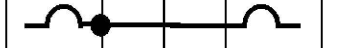
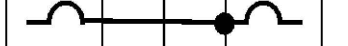
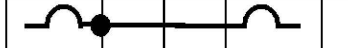
LIGHT FIXTURE SCHEDULE

SYMBOL	LAMP	VOLTS	DESCRIPTION	MFR CAT NUMBER
A	LED 31W PER FIXTURE 4000K	MVOLT	A GENERAL PURPOSE AND ENERGY-EFFICIENT SURFACE MOUNTED OR SUSPENDED LIGHT FIXTURE.	LITHONIA LIGHTING #FEM-L48-4000LM-LPPCL-WD-MVOLT-GZ10-90CRI OR APPROVED EQUAL
B	LED 60W PER FIXTURE 3300K	MVOLT	TEMPERED AND IMPACT RESISTANT GLASS GLOBE, HEAT AND CORROSION PROOF	LITHONIA LIGHTING #LPL04-C60-60W-3300K OR APPROVED EQUAL
C	LED 19W PER FIXTURE 5000K	MVOLT	WALL MOUNTED LED FIXTURE WITH BUILT-IN PHOTOCELL INLINE WITH MOTION SENSOR AND WIRE TO MANUAL BYPASS SWITCH.	LITHONIA LIGHTING #LPL04-C60-60W-3300K OR APPROVED EQUAL

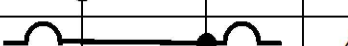
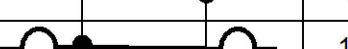
LOAD CALCULATIONS

BUS LOAD "A" =	12,199
BUS LOAD "B" =	10,958
BUS LOAD "C" =	8,691
TOTAL BUS LOAD (W) =	31,848
TOTAL LOAD (A) =	38.4

NEW PANELBOARD "PH" SCHEDULE

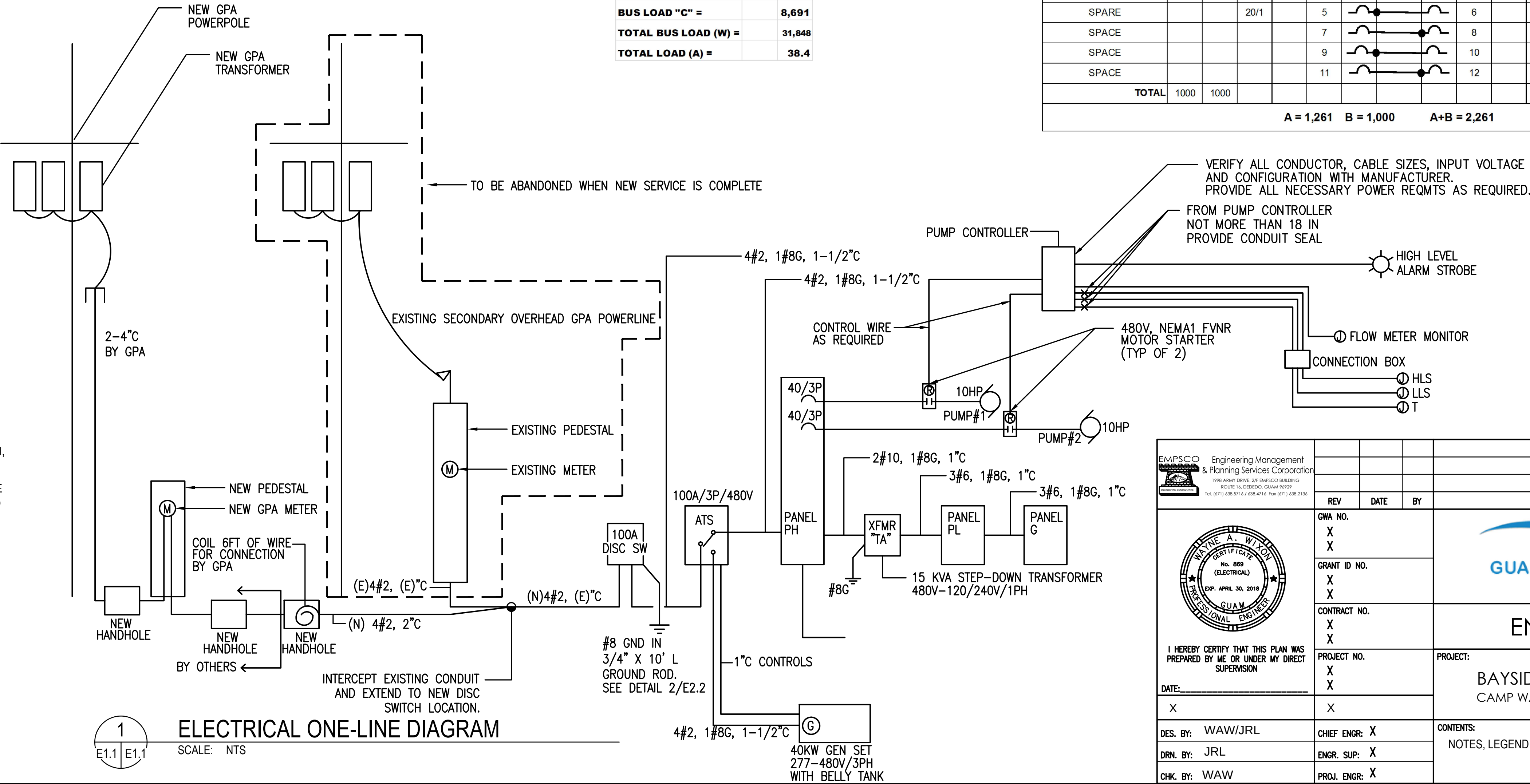
100A MCB, 480/277V, 3 PHASE, 4 WIRE, 10KAIC MINIMUM, SURFACE MOUNTED																
LOAD SERVED	LOAD (VA)			BKR TRIP	WIRE SIZE	CKT #	LOAD (VA)			CKT #	WIRE SIZE	BKR TRIP	LOAD (VA)			LOAD SERVED
	A	B	C				A	B	C				A	B	C	
PUMP#1	3875			40/3	#8	1				2	#10	30/2	2841			TRANSFORMER "TA"
		3875				3				4				1564		
			3875			5				6					941	
PUMP#2	3875			40/3	#8	7				8	#12	20/3	941			HOIST
		3875				9				10				941		
			3875			11				12						
SPARE										8						SPARE
SPARE										10						SPARE
SPACE										12						SPACE
TOTAL	7750	7750	7750										3782	2505	941	TOTAL
A = 11,532 B = 10,255 C = 8,691 A+B+C = 30,478																

NEW PANELBOARD "PL" SCHEDULE

60A MCB, 240/120V, 1 PHASE, 4 WIRE, 10KAC MINIMUM, SURFACE MOUNTED														
LOAD SERVED	LOAD (VA)		BKR TRIP	WIRE SIZE	CKT #	LOAD (VA)		CKT #	WIRE SIZE	BKR TRIP	LOAD (VA)		LOAD SERVED	
	A	B				A	B				A	B		
LIGHTING	220		20/1	#12	1			2	#12	20/1	360		OUTLET	
FLOW METER MONITOR		300	20/1	#12	3			4	#12	20/1		667	EF#1	
HIGH LEVEL ALARM PANEL	1000		20/1	#12	5			6		20/1			SPARE	
HOIST CONTROL		300	20/1	#12	7			8		20/1			SPARE	
SPARE			20/1		9			10	#10	30/2	1261		PANEL G	
SPARE			20/1		11			12			1000			
TOTAL	1220	600									1621	1667	TOTAL	
A = 2,841 B = 2,267 A+B = 5,108														

NEW PANELBOARD "G" SCHEDULE

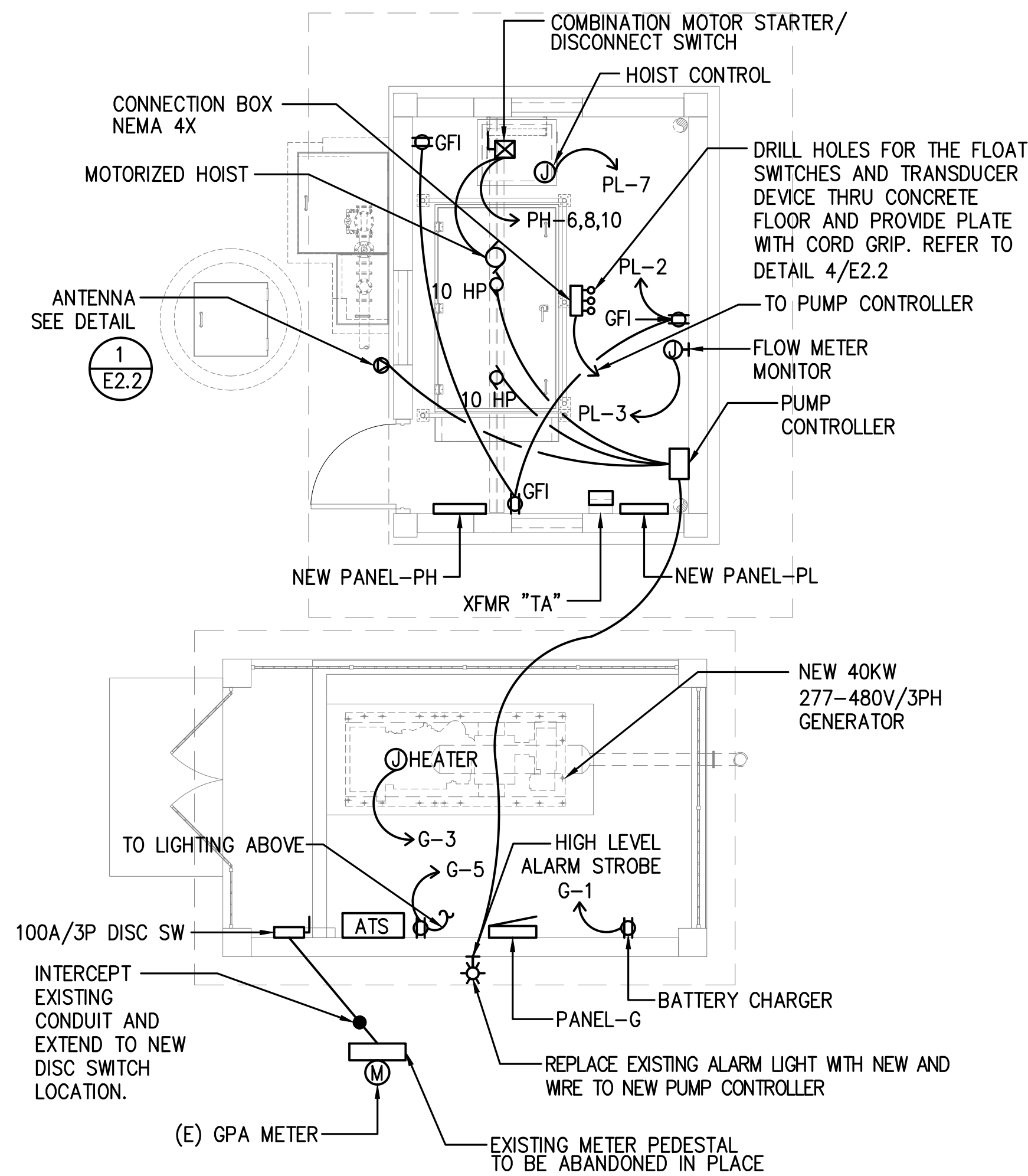
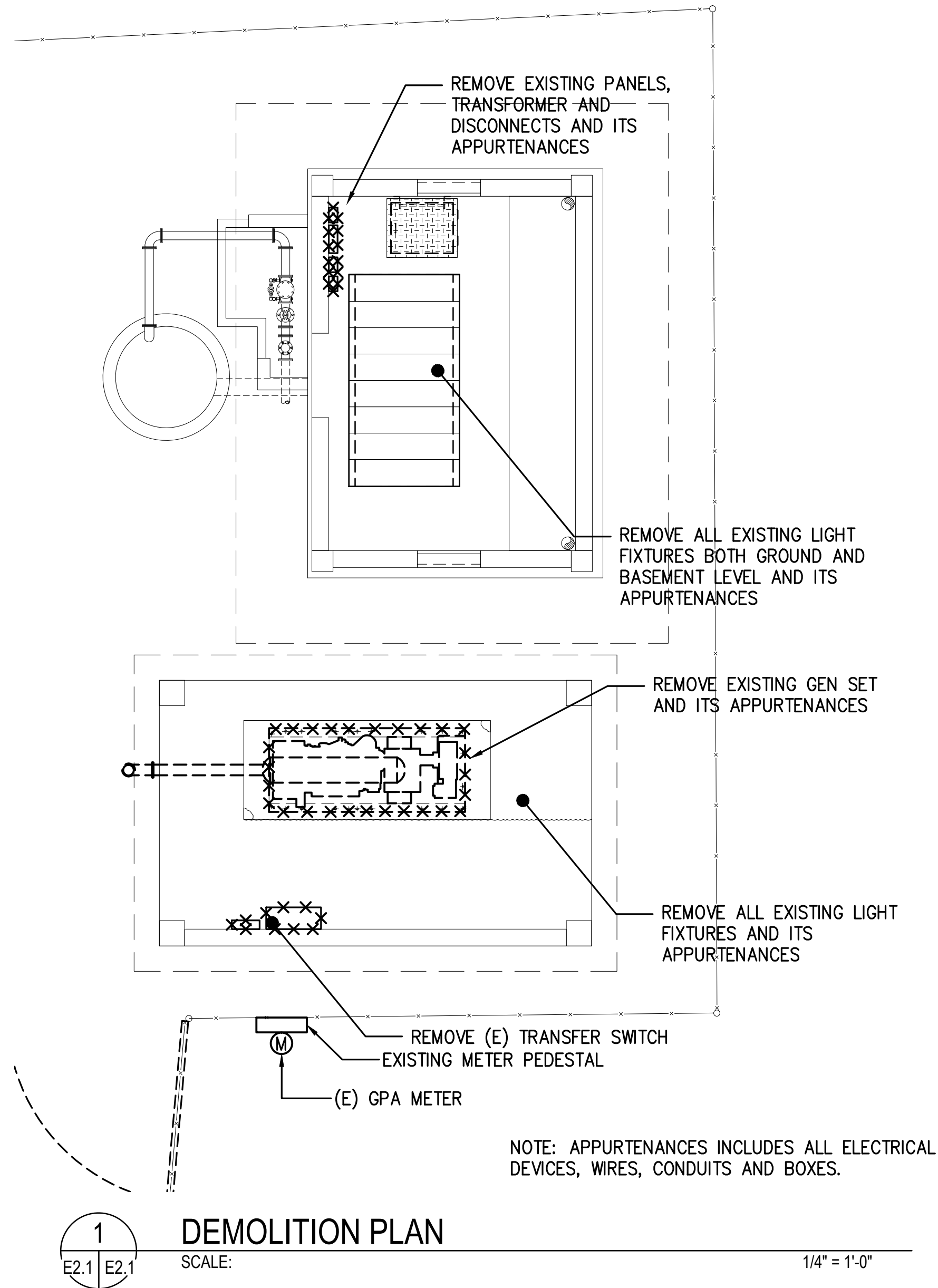
60A MCB, 240/120V, 1 PHASE, 4 WIRE, 10KAIC MINIMUM, SURFACE MOUNTED													
LOAD SERVED	LOAD (VA)		BKR TRIP	WIRE SIZE	CKT #	LOAD (VA)		CKT #	WIRE SIZE	BKR TRIP	LOAD (VA)		LOAD SERVED
	A	B				A	B				A	B	
BATTERY CHARGER	1000		20/1	#12	1			2	#12	20/1	261		LTG AND RECEPT
HEATER		1000	20/1	#12	3			4		20/1			SPARE
SPARE			20/1		5			6		20/1			SPARE
SPACE					7			8					SPACE
SPACE					9			10					SPACE
SPACE					11			12					SPACE
TOTAL	1000	1000									261	0	TOTAL
A = 1,261 B = 1,000 A+B = 2,261													



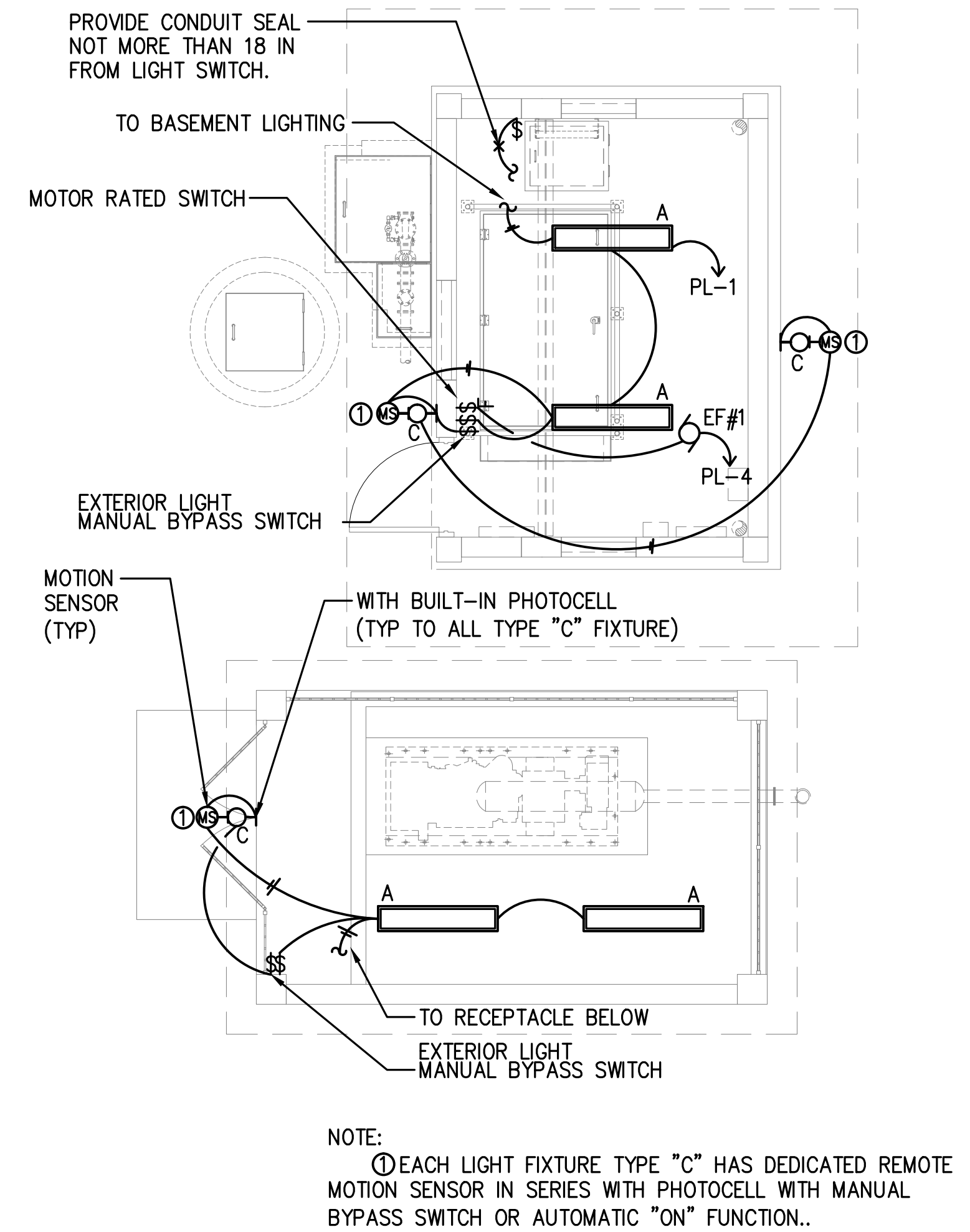
ELECTRICAL ONE-LINE DIAGRAM

SCALE: NTS

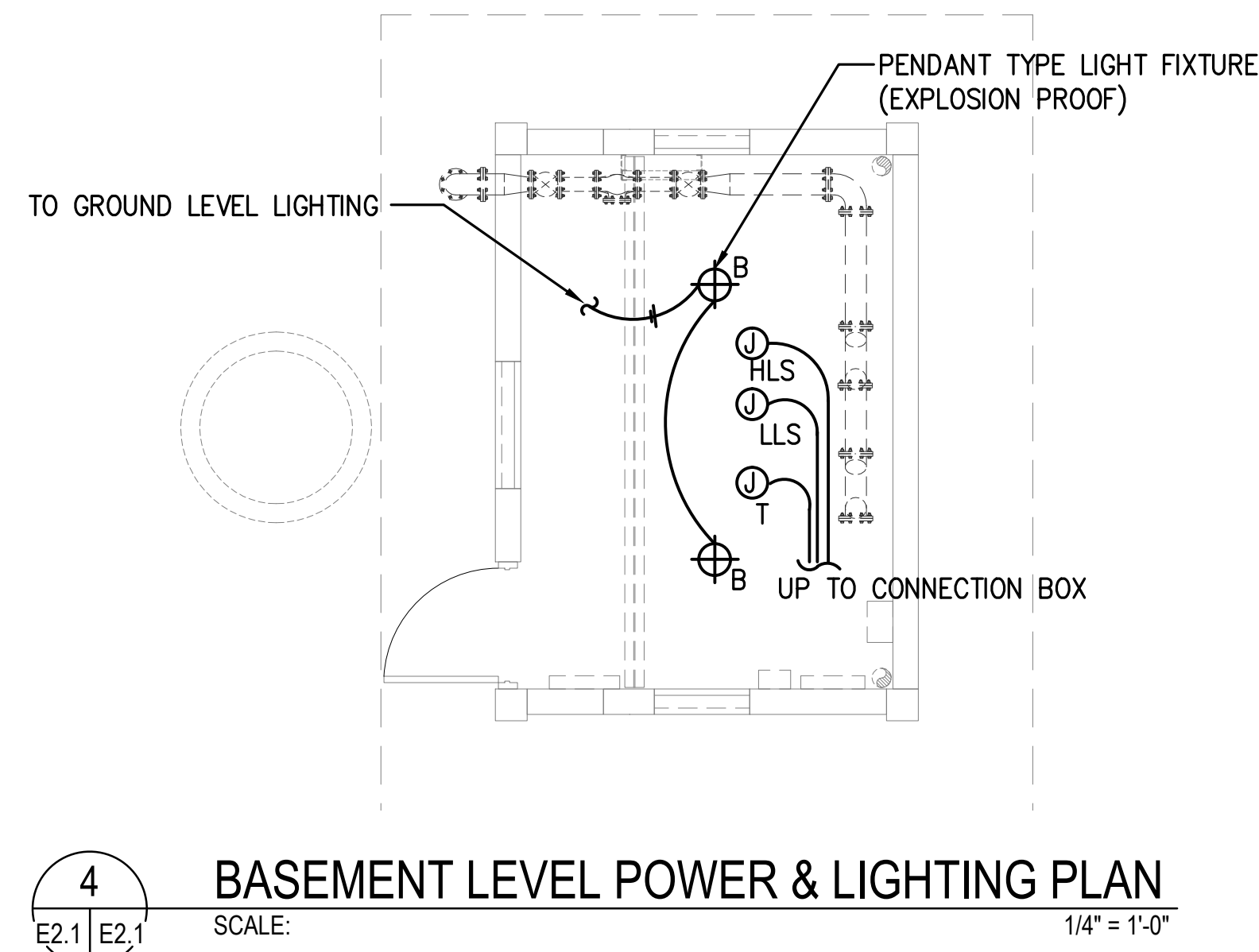
 Engineering Management & Planning Services Corporation 198 ADAM DRIVE, 2ND FLOOR, SUITE 202 SUITE 10, BETHLEHEM, GUAM 96922 TEL: (671) 428-5716 / 428-4716 Fax: (671) 428-2154							
 I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION	CWA NO. X X GRANT ID NO. X X CONTRACT NO. X X PROJECT NO. X X		DESIGNATION		APPROVED BY		
DES. BY: WAW/JRL DRN. BY: JRL CHK. BY: WAW	CHIEF ENGR: X ENGR. SUP: X PROJ. ENGR: X		PROJECT: BAYSIDE PUMP STATION REHABILITATION CAMP WATKINS ROAD, TAMUNING, GUAM		CONTENTS: NOTES, LEGEND AND SCHEDULES		
				DRAWING NO. E1.1		SHT. 25 OF 27	



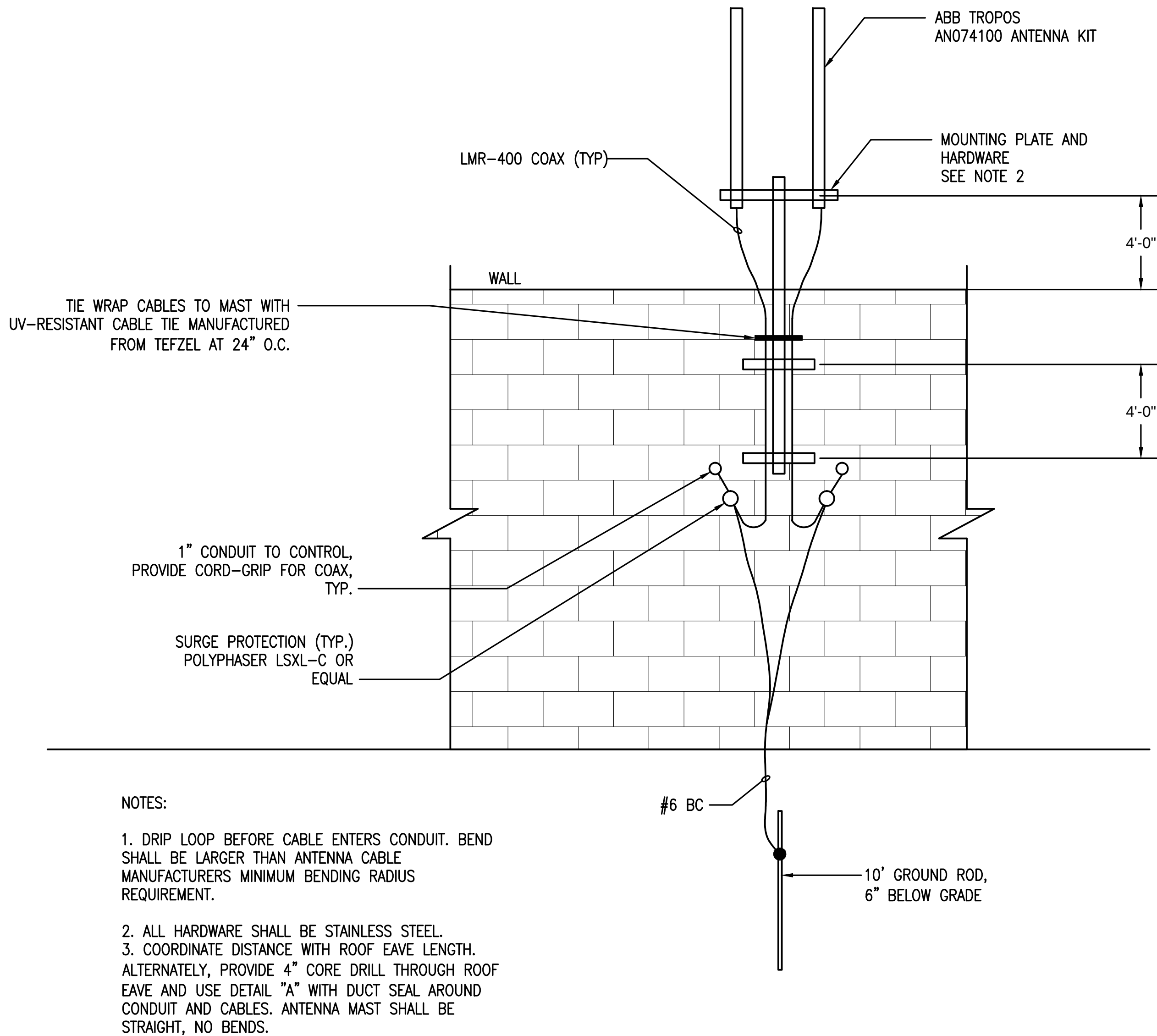
2 GROUND LEVEL POWER PLAN
SCALE: 1/4" = 1'-0"



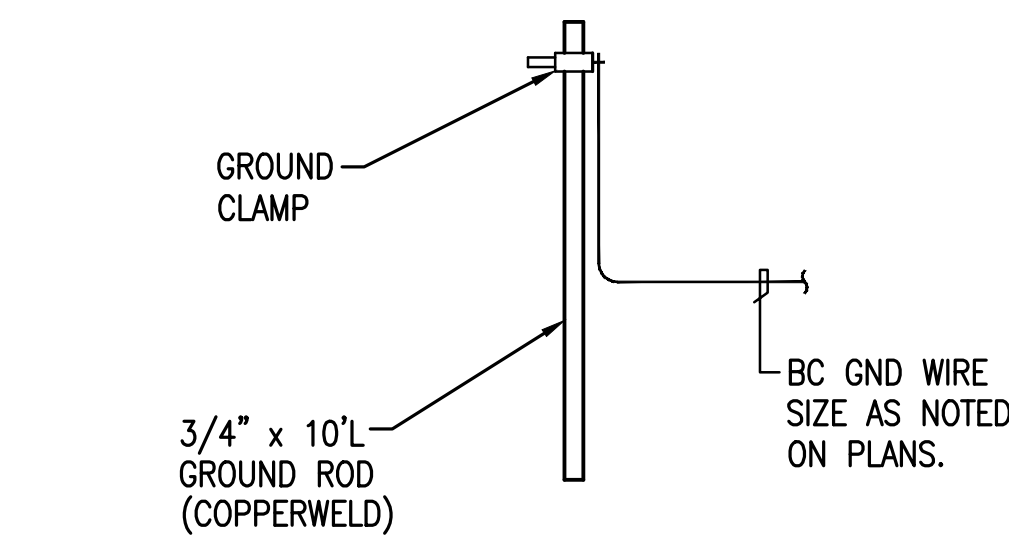
3 GROUND LEVEL LIGHTING PLAN
SCALE: 1/4" = 1'-0"



EMPSCO Engineering Management & Planning Services Corporation 1988 ADAM DRIVE, 2ND EMPSCO BUILDING SUITE 10, TIERRELO, GUAM 96929 Tel: (671) 628-2116 / 628-4716 Fax: (671) 628-2134							
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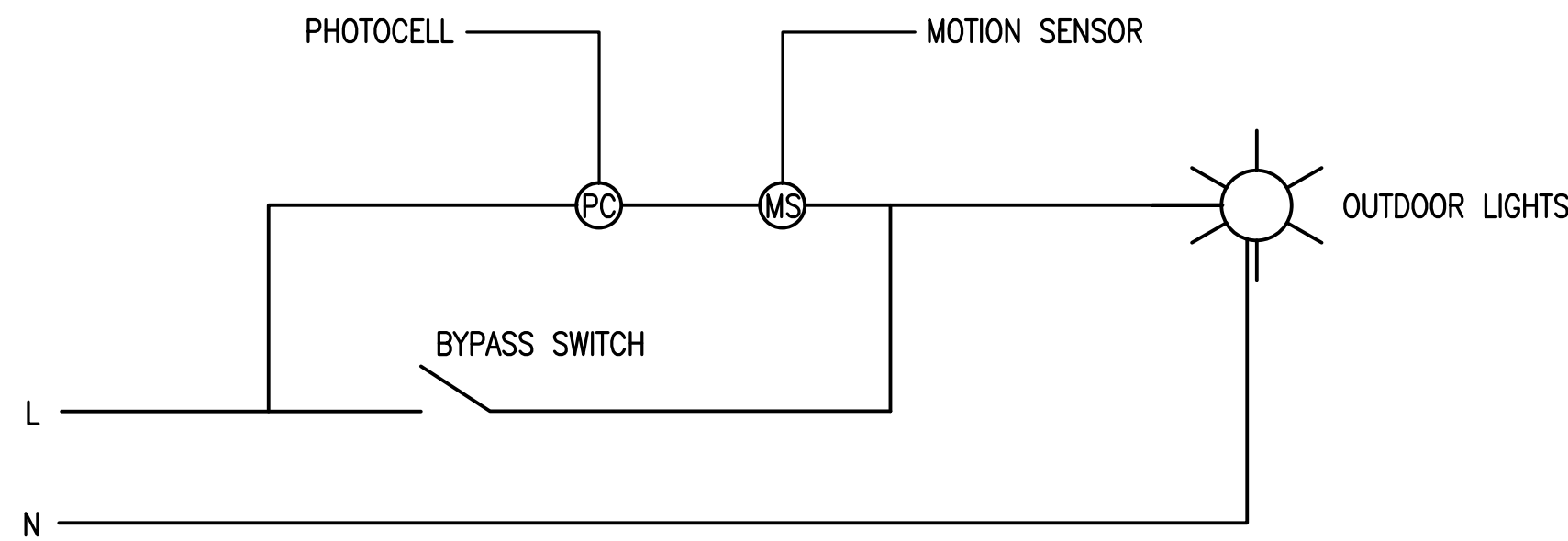


1 TROPOS ROUTER ANTENNA INSTALLATION
SCALE: NTS

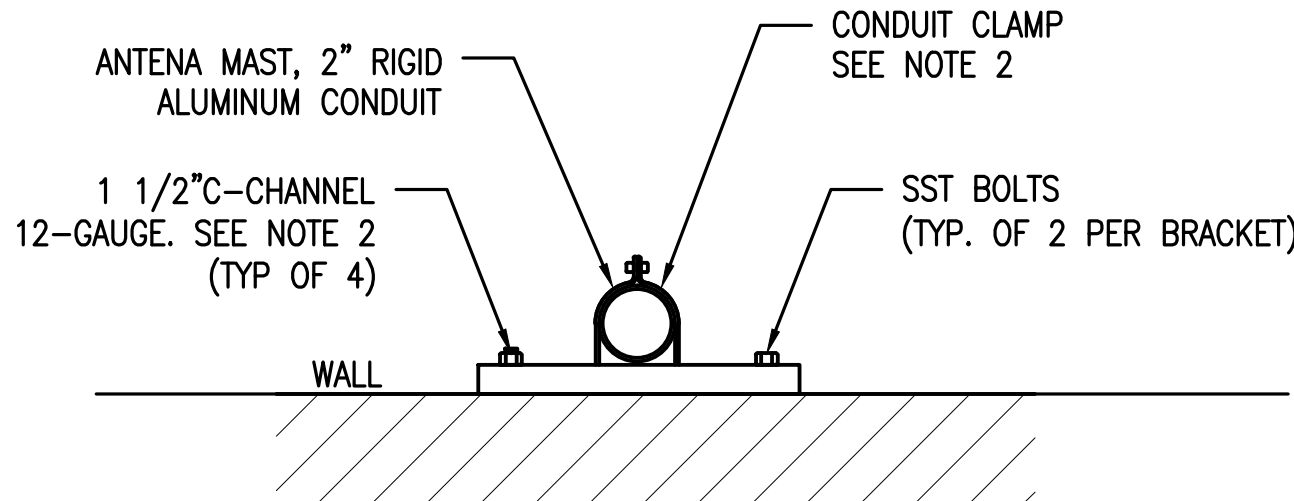


SECTION A-A

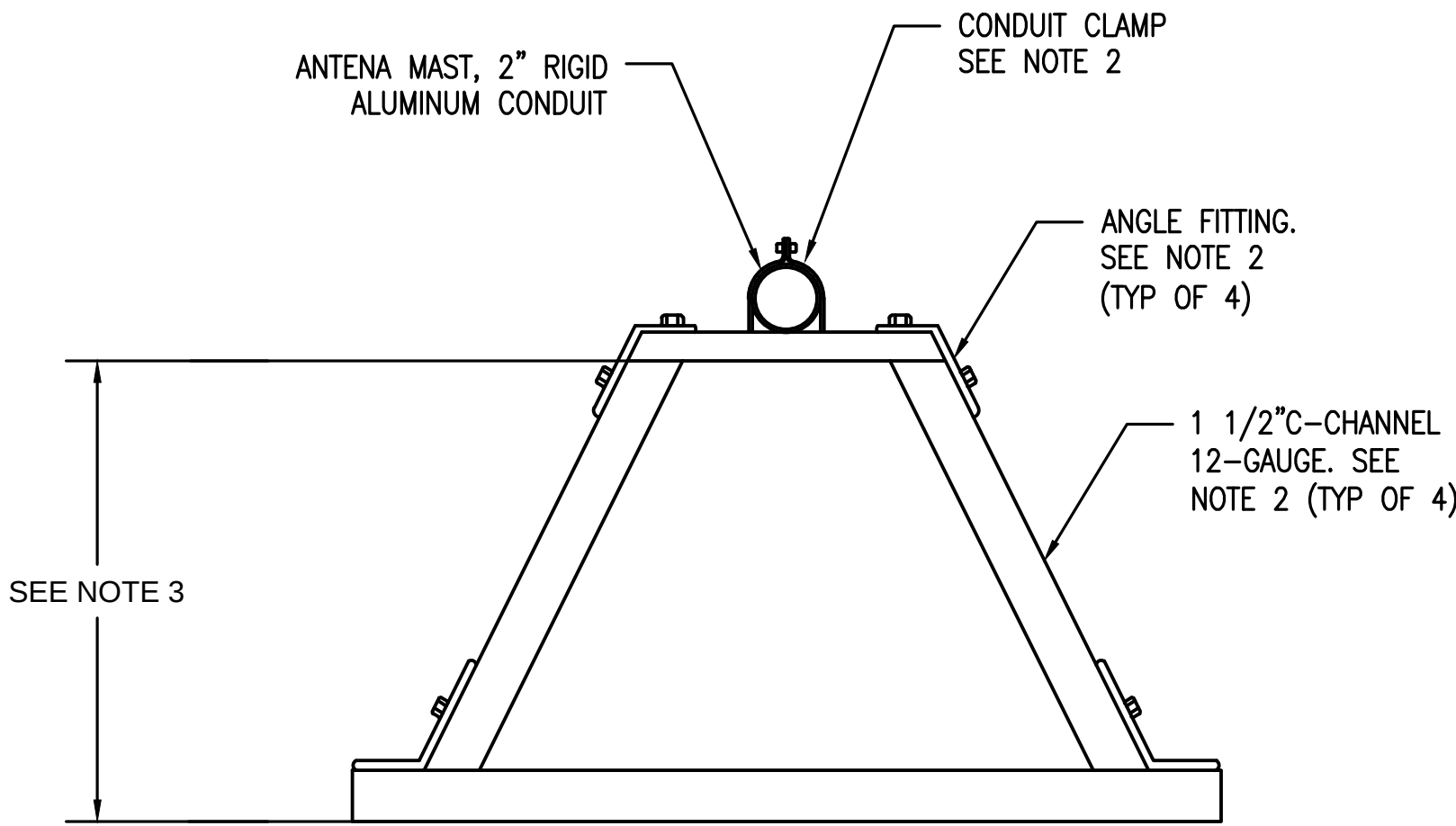
2 GROUNDING DETAIL
SCALE: NTS



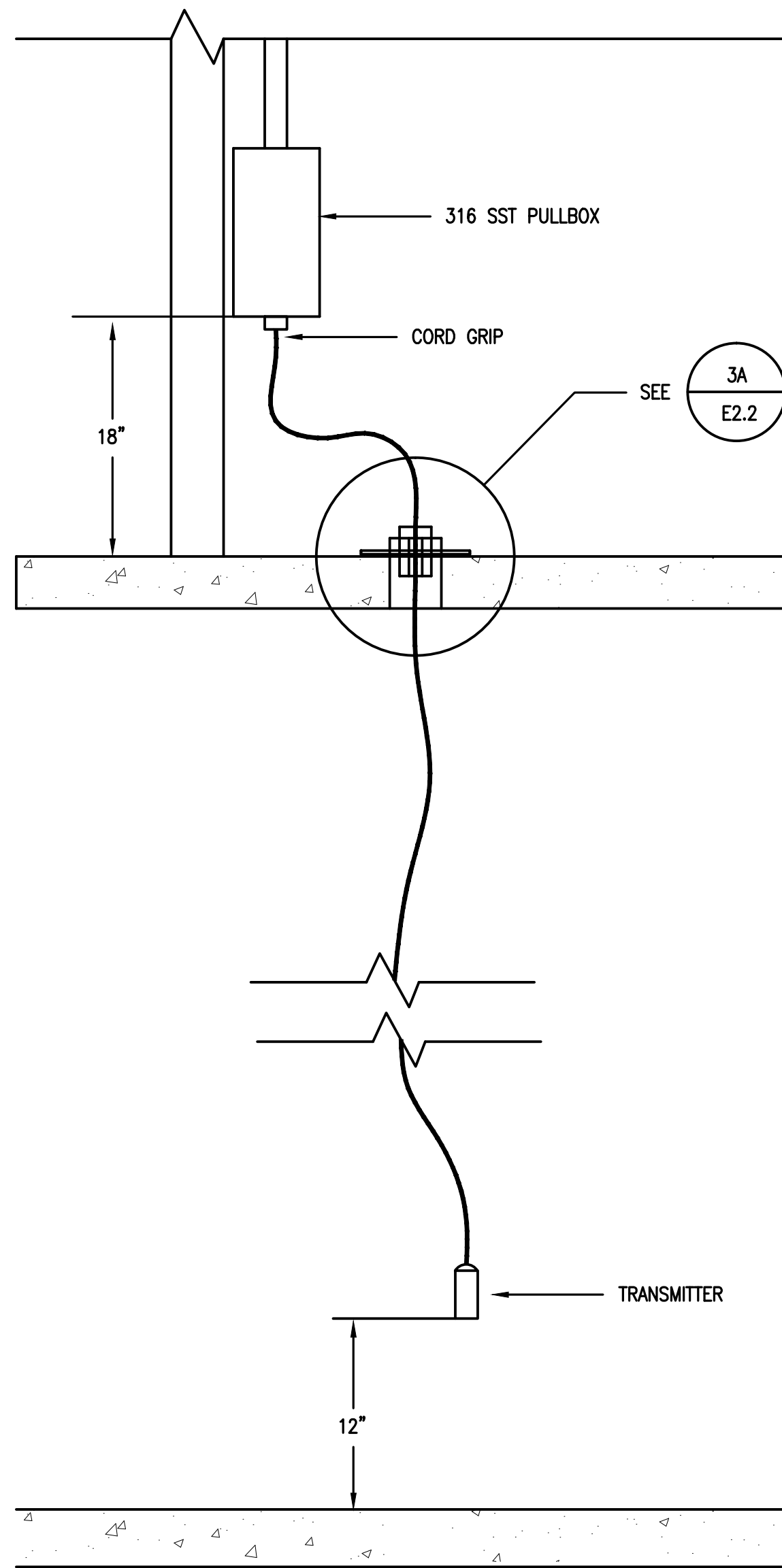
3 OUTDOOR LIGHTING CONTROL DIAGRAMS
SCALE: NTS



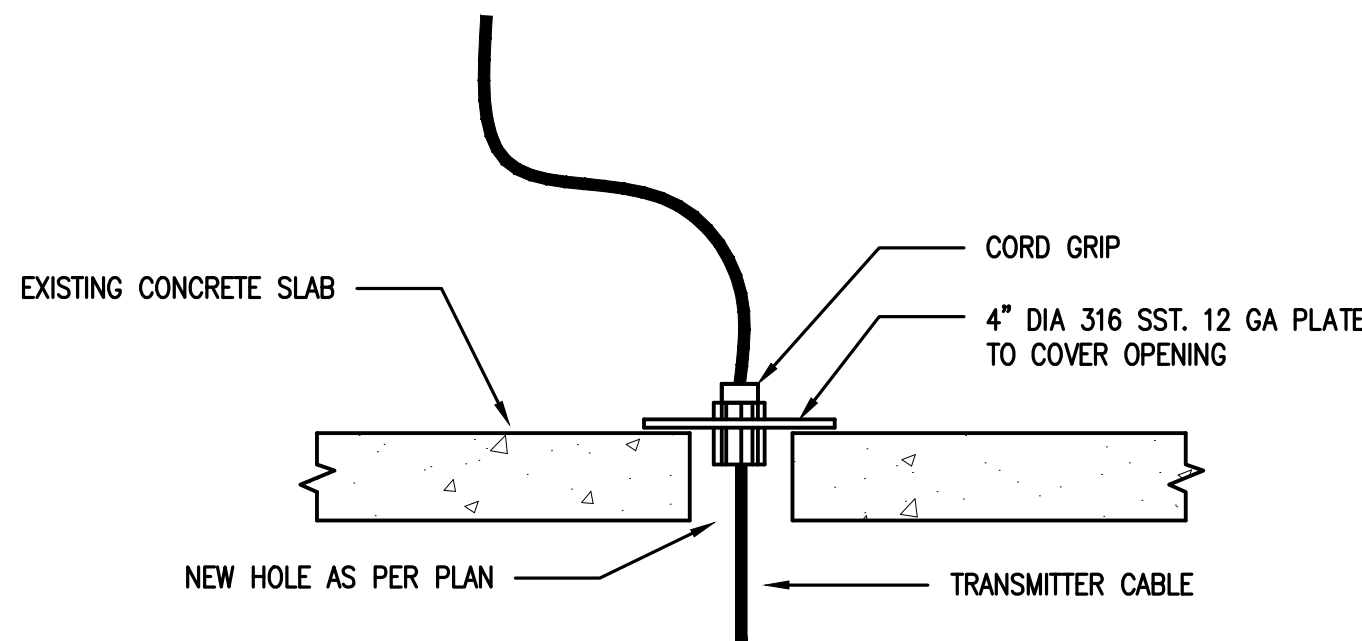
A STEEL CONDUIT SUPPORT
SCALE: NTS



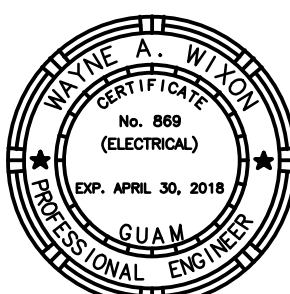
A ALTERNATE MAST SUPPORT TO CLEAR BUILDING ROOF
SCALE: NTS



4A TRANSMITTER CABLE SUPPORT
SCALE: NTS



4 TRANSMITTER DETAIL
SCALE: NTS

 EMPSCO Engineering Management & Planning Services Corporation 198 ADAMS DRIVE, STE 200, BAYVIEW ROOSE 16, GUAM 96909 Tel: (671) 638-5116 / 638-4716 Fax (671) 638-2134							
	REV	DATE	BY	DESCRIPTION			APPROVED BY
 I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION DATE: _____ X	CNA NO.		 GUAM WATERWORKS AUTHORITY GOVERNMENT OF GUAM				
	GRANT ID NO.						
	CONTRACT NO.		ENGINEERING DIVISION				
	PROJECT NO.						
	DATE: _____						
DES. BY: WAW/JRL	CHIEF ENGR: X		PROJECT: BAYSIDE PUMP STATION REHABILITATION CAMP WATKINS ROAD, TAMUNING, GUAM				
DRN. BY: JRL	ENGR. SUP: X						
CHK. BY: WAW	PROJ. ENGR: X						
			CONTENTS: DETAILS			DRAWING NO. E2.2	
						SHT. 27 OF 27	