

DESCRIPTION OF WORK

Improve control of Pond evaporation by bringing power to the ponds and having the ability to transfer and re-circulate water. L300B will be tapped to provide power for a natural gas electric turbine generator. Liquid level monitors shall be added to the ponds. Security cameras and lights for observation from the Topock Control Room. Valve actuator shall be added to improve control of discharge automatically. Two (2) pontoon pumps will have the ability to increase evaporation by spreading the water over the western pond slopes.

GENERAL NOTES

Site Location shall be the North of Topock Compressor Station, 145453 National Trails Hwy, Needles Ca. 92363 at the Ponds located approximately 1 mile north. Vicinity and site location are provided on this sheet.

Notify Underground Service Alert (USA) or "Dig Alert". Hand Dig Policy Utility Work Procedure WP4412-05 outlines the procedure to follow for excavation at the Station.

- The new building, associated equipment, and containment will be designed to applicable PG&E and industry standards, including but not limited to:
- a. 2013 California Building Code and be considered Risk Category IV, for non-building structures.
 - b. Minimum Design Loads for Buildings and Other Structures. American Society of Civil Engineers (ASCE-7), 2010 edition.
 - c. Institute for Electrical and Electronic Engineers (IEEE) C2; National Electrical Safety Code MG 1, National Electrical Manufacturers Association (NEMA)
 - d. National Fire Protection Association 10, Standard for Portable Fire Extinguishers
 - e. NFPA 70E; Standard for Electrical Safety in the Workplace
 - f. California Mechanical Code, 2010 or latest adopted edition
 - g. California Plumbing Code, 2010 or latest adopted edition
 - h. U.S. Occupational Safety and Health Administration Rulemakings
 - i. California Health and Safety Code (H&SC) (Sections 25270-25270.13).
 - j. Seismic Loads Shall meet or exceed CBC and as amended by San Bernardino County and/or ASCE 7-10 Minimum Design Loads for Buildings and Other Structures.
 - k. Winds Loads Shall meet or exceed CBC and as amended by San Bernardino County and/or ASCE 7-10 Minimum Design Loads for Buildings and Other Structures.

USA Clearance: All excavation shall be first surveyed and cleared by Underground Service Alert (USA). PG&E requires notification and clearance by USA for all digs.

Hot Work Permit: Each day welding or hot work is to be performed a PG&E hot work permit is required. A PG&E employee will use gas detectors to determine the area is safe for welding with one person to remain on site on fire watch with appropriate fire control equipment during welding activities and 30 minutes after all welding is completed. Planning when hot work will take place is important and requires advanced notice of at least two days.

CONCRETE SPECIFICATIONS

- a. Cement shall be clean, fresh, Type II, low alkali, Portland cement conforming to ASTM C150. With strength of poured-in-place concrete shall be a minimum of 3,000 psi at 28 days, or as specified by drawings.
- b. Aggregate shall be non-reactive. Cement content shall be a minimum of 4 sacks per cubic yard of concrete. Slump of concrete shall be as low as practicable to produce a dense, well consolidated concrete and not exceed 4" unless otherwise authorized by PG&E Project Engineer.
- c. Finish of formed surfaces shall be smooth and free of fins, honeycomb, or segregation. Proper curing compound conforming to ASTM C309 may be used in-lieu of wetting surfaces. Curing agent shall be W.R. Meadows 1100 Clear Series or equal. Forms to remain in place five or more days to minimize cracks.
- d. Reinforcing steel shall be deformed, Grade 60, conforming to ASTM A615, and be free from coating, which will reduce the bond. Reinforcing steel shall be sized in accordance with the ultimate strength method. Reinforcing steel splices shall be 40 bar diameters. Cover shall be specified in drawings.

STEEL SPECIFICATIONS

- A. CODES
 - AISC Manual of Steel Construction - 14th Edition CBC Building Code 2013
- B. STRUCTURAL STEEL
 - a. CONNECTIONS
 - i. Shop connections shall be welded unless shown or otherwise noted.
 - ii. 3/4" A307 bolts shall be used for field connections, except where details or notes specify otherwise.
 - iii. Field welding shall be used only as indicated on the drawings or as described in the other sections of these notes and the specifications.
 - iv. Galvanized American Standard Machine bolts with hexagon heads and nuts shall be used for field connections or shop connections where noted on individual drawings, details, or the specifications.
 - b. COATINGS
 - i. Hot dipped galvanized all steel components
 - c. MATERIAL
 - i. Hot rolled structural shapes: ASTM A992/ A992M
 - ii. Structural Tubing: ASTM A500
 - iii. Pipe: ASTM A53/ A53M GR. B
 - iv. Plates: ASTM A36/ A36M
 - v. Welding electrode: AWS A5.1 (E70XX)
- C. WELDING
 - a. Welding Procedure Specifications (WPS)
 - i. Groove welding procedure shall be in accordance with AWS D1.1-08 Code and also specification.
 - ii. Prequalified groove welded joints shall conform to AWS D1.1-08 Code, Section 3 and also specification.
 - iii. Other than prequalified groove joints shall be tested and qualified in accordance with AWS D1.1-08 Code, Section 4.
 - iv. Welders and welding operators that use prequalified WPS shall be qualified in conformance with AWS Code Section 4, Part C.
 - b. Start welding at the most central beam and progress towards the exterior columns. One end of each beam shall be allowed to cool before the other end is welded. Bolted web connectors shall be tensioned at least 24 hours after the welding of flanges shear tabs shall be welded (if required) after tab bolts are tensioned.
 - c. The following AWS D1.1-08 Sections shall be given special attention:
 - i. Section 4, Part C for qualified welders
 - ii. Section 3.5 for preheat and interpass temperature requirements
 - iii. Section 6 for inspection
 - d. Welder shall be qualified as an AWS certified welder
 - e. Back-up bars, run-off tabs, welding electrode, bead size and thickness, method of testing, etc. shall conform to AWS D1.1-08
 - f. Electrode diameter, type and toughness shall conform to FEMA Guidelines and AWS Code
 - g. All applicable AWS D1.1-08 Code Sections 3.7, 3.8, 3.9, 3.10, 3.11, 3.12, 3.13 on WPS requirements shall be followed using E 70XX electrode
 - h. Field Welding (not apply)
 - i. All welding shall be performed by flux corded arc. (ACAW)
 - ii. Welding and welding procedures shall be in accordance with AWS D1.1-08
 - iii. Procedures other than those prequalified shall be qualified by test as specified in Section 4 of AWS D1.1-08
 - iv. Welding shall be performed only by welders who have been qualified in accordance with Section 4, Part C of AWS D1.1-08

GEOTECHNICAL

- The following criteria will be used as a basis of design for remediation facilities.
- a. Unit soil weight = 120 lbs/cu ft. with friction angle varies from 32 to 35 degrees.
 - b. Shallow foundations for buildings with support extending 2 feet below grade. Slabs and footings set on 6" layer of granular base leveling course.
 - c. Allowable bearing capacity = 2,000 lbs/sq ft. Allowable settlement = 1 inch
 - d. Temporary cut and fill slopes to be 2H:1V
 - e. Pipe design based on depth of fill, weight of fill, compaction of fill and modulus of soil reaction (E' = 1,000 psi).
 - f. Native onsite materials may be considered for backfill if they have an expansion index (EI) less than 50 and contain less than 8 percent fines as determined by ASTM D4829 and D422.
 - g. Utility trenches shall be excavated a minimum of three inches deeper than the bottom of installed pipe or conduits. All lines shall have a minimum cover of six inches of compacted sand and a minimal burial depth of 18 inches unless otherwise noted.
 - h. Trenches shall be backfilled with native material. If placed on slope must install trench breakers at spacing specified by ACOE.
 - i. Compaction standard shall be ASTM D1557.

ELECTRICAL

- a. All 208 and 480V conduits shall have red concrete covers to alert future excavation.
- b. See drawing E-09-01

ENVIRONMENTAL

- a. A dust control plan is "not" required. Best Management Practices (BMPs) will be used such as keeping concrete and soil wet to minimize fugitive dust.
- b. Volatile Organic Compounds (VOCs) in coatings must comply with California Air resource Board (CARB) VOC limits addressed under MAQMD Rule 442.
- c. The equipment must be registered as portable equipment with the District per Rule 2280 - Portable Equipment Registration or with the state through the ARB Portable Equipment Registration Program or portable engine equipment shall all be under 50 Bhp to avoid CARB certification requirements. Any off-road, self-propelled, diesel-powered equipment 25 hp or greater must be registered with ARB.
- d. Erosion Control: Comply to Station Requirements.

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WALNUT CREEK, CALIFORNIA

2737 N. MAIN STREET, SUITE 200, WALNUT CREEK, CALIFORNIA 94597
OFFICE TEL# (925)279-5000 FAX# (925)279-5001 WWW.ALISTO.COM

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								0	9/8/14	PRE-FINAL (90%) DESIGN					

APPROVED BY	SO
	SUPV RB
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	DATE 9/8/14
	NTS

TOPOCK GROUNDWATER REMEDIATION PROJECT
COMPRESSOR STATION PONDS UPGRADES

GENERAL NOTES

GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

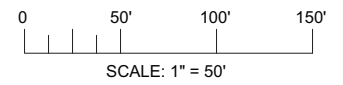
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- LEGEND:**
- PULL BOX
 - 1" OR 1-1/2" CONDUIT STUB UP
 - GFCI OUTLET
 - LIQUID LEVEL SENSOR
 - GUY WIRE ANCHOR
 - 2" PVC-COATED (RMC) RIGID-METALLIC CONDUIT
 - 1 1/2" PVC COATED RMC RIGID-METALLIC CONDUIT
 - 1" PVC-COATED (RMC) RIGID-METALLIC CONDUIT
 - ELECTRICAL SUPPLY CABLE

TRENCH DETAIL
(SCALE: 1" = 50')



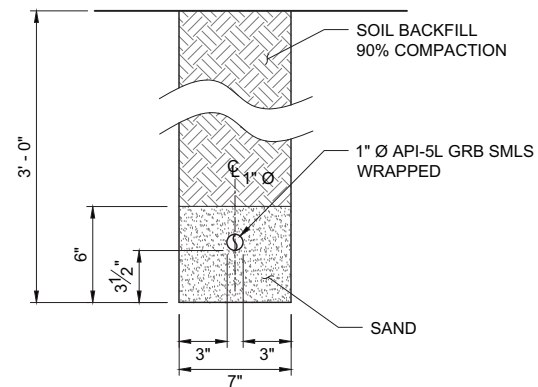
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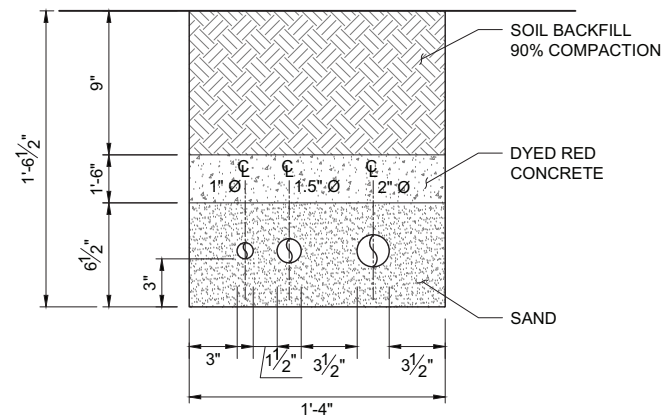
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TOPOCK GROUNDWATER REMEDIATION PROJECT
COMPRESSOR STATION PONDS UPGRADES
TRENCH DETAILS
GAS TRANSMISSION & DISTRIBUTION
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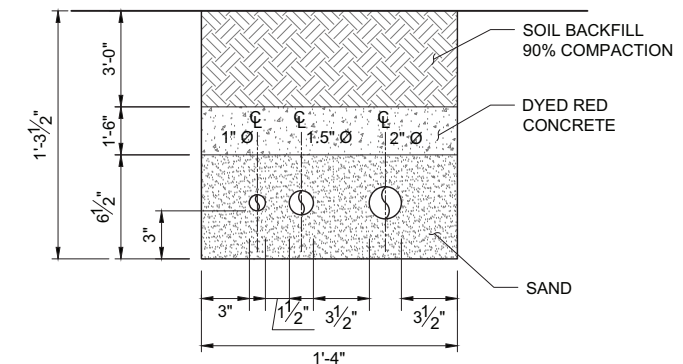
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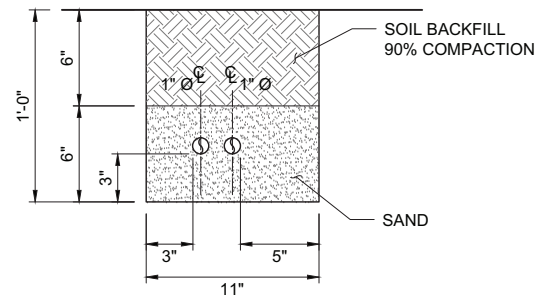
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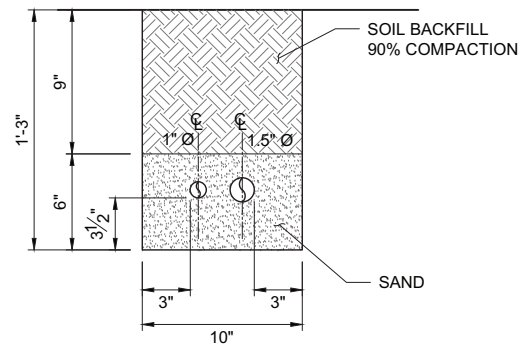
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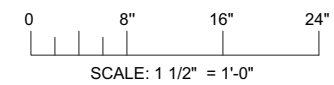
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D SECTION
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E SECTION
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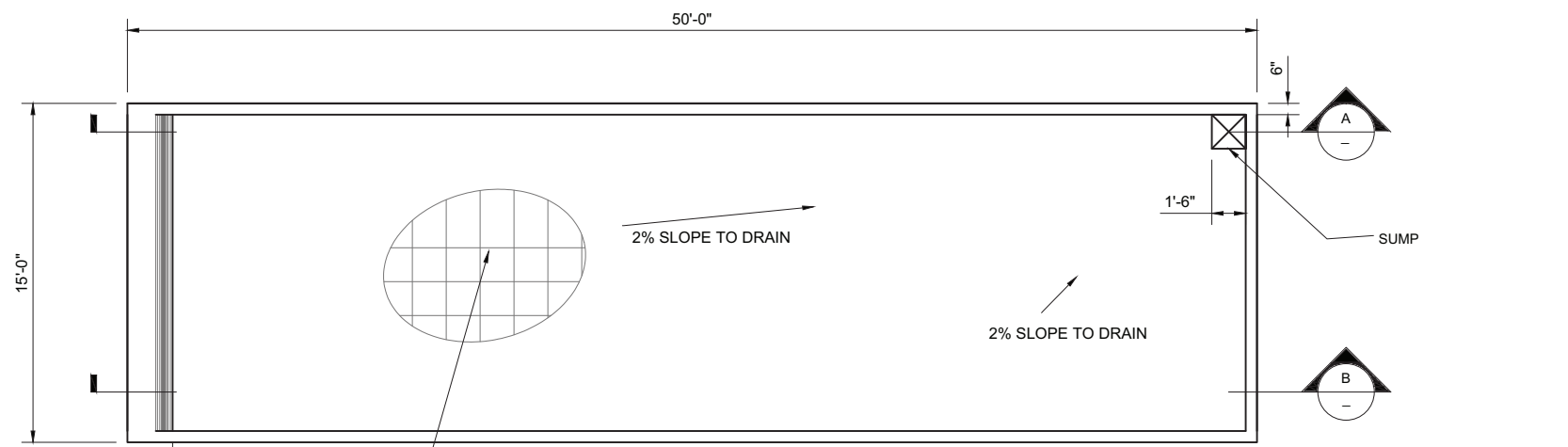
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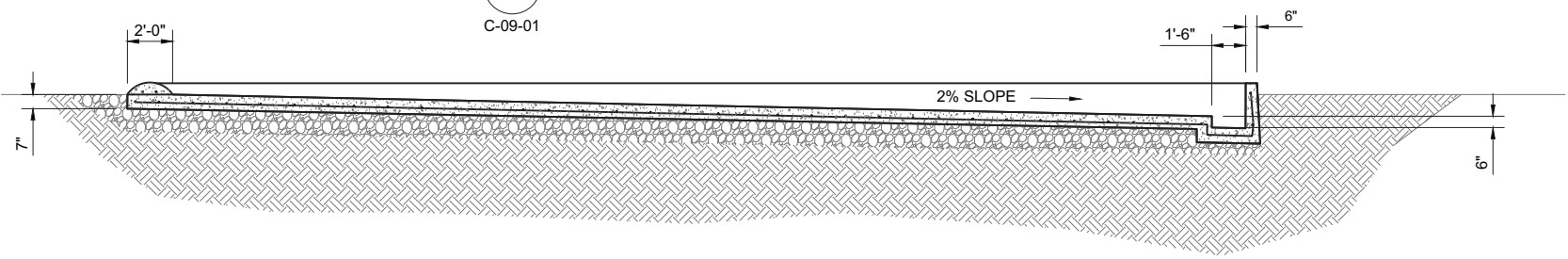
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COMPRESSOR STATION PONDS UPGRADES
TRENCH SECTIONS
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
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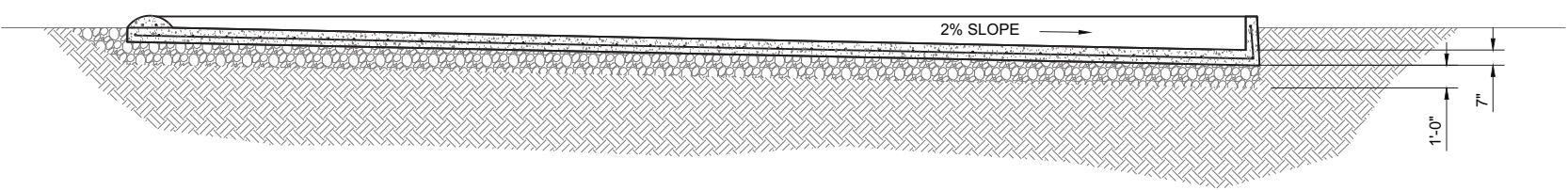


CONCRETE PAD
#5 REBAR
18" O.C. TWO WAYS
OVER 12" COMPACTED BASE

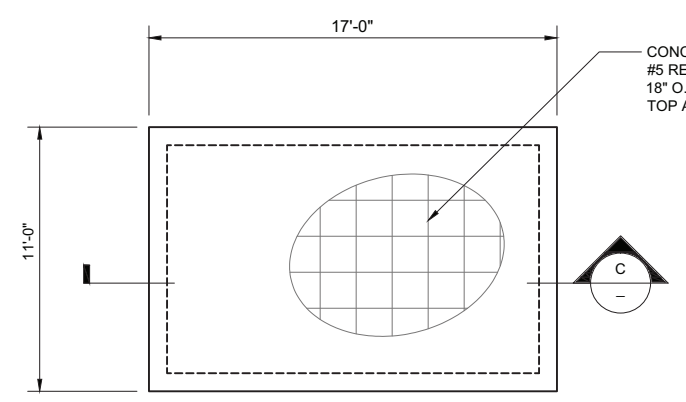
1 WASTE REMOVAL CONTAINMENT PAD
1/4" = 1'-0"
C-09-01



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

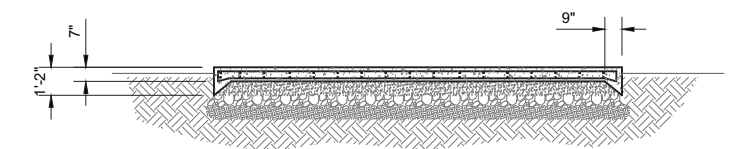


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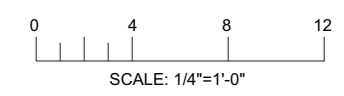


CONCRETE PAD
#5 REBAR
18" O.C. TWO WAYS
TOP AND BOTTOM

2 GENERATOR SHED PAD DETAIL
1/4" = 1'-0"
C-09-01



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



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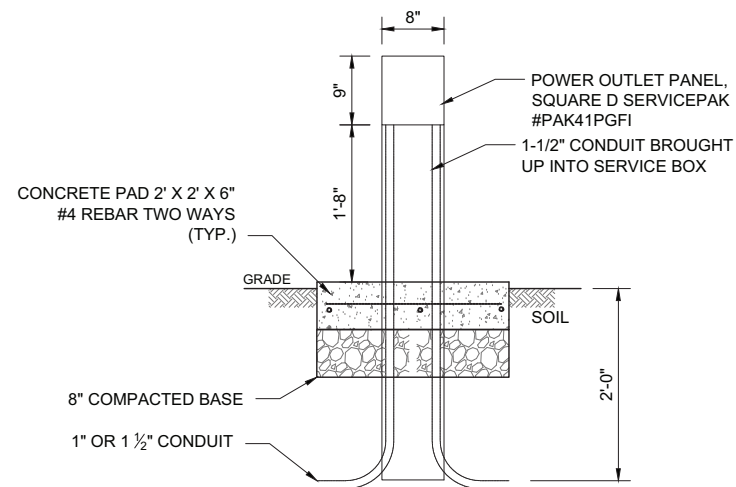
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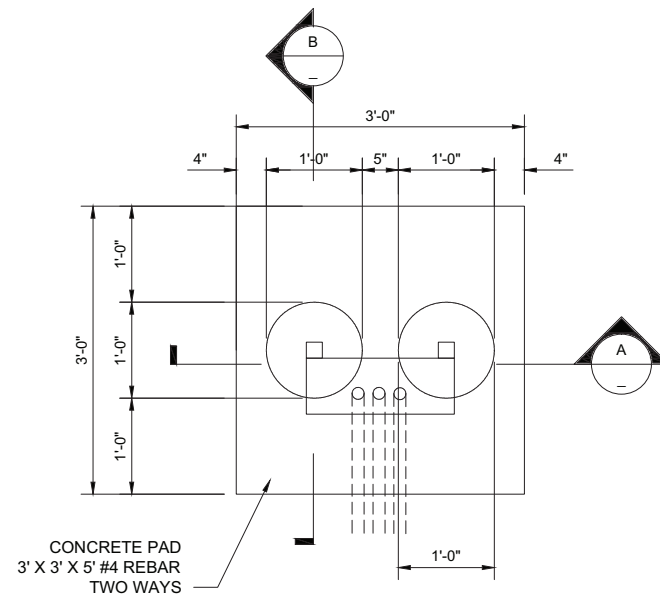
TOPOCK GROUNDWATER REMEDIATION PROJECT
COMPRESSOR STATION PONDS UPGRADES
CONCRETE DETAILS
GAS TRANSMISSION & DISTRIBUTION
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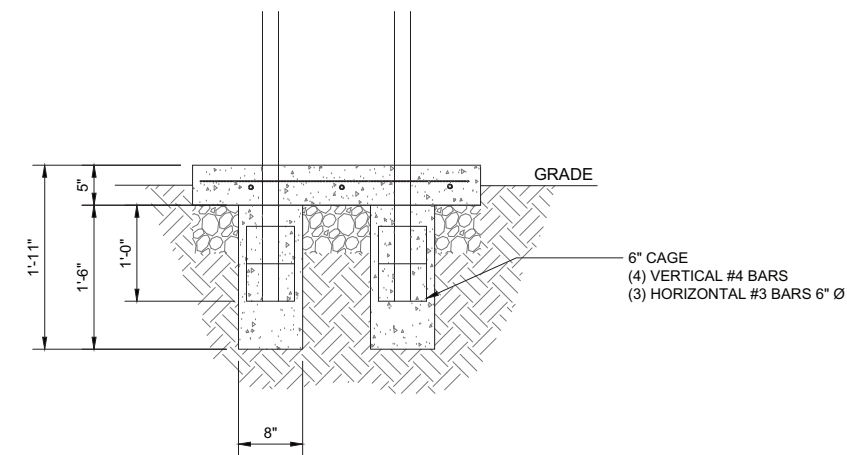
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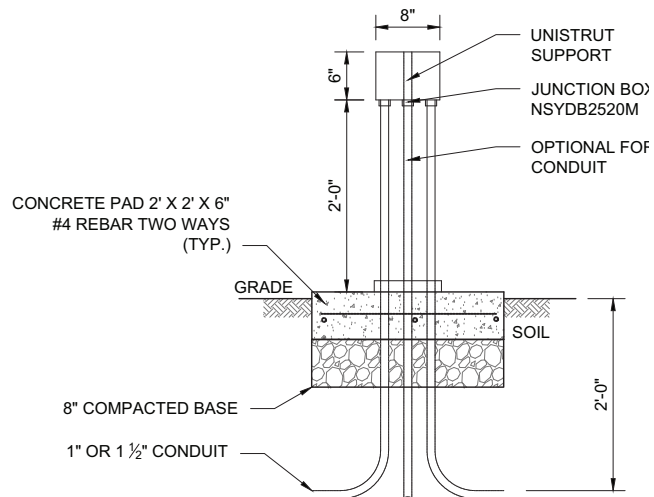
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C-09-01



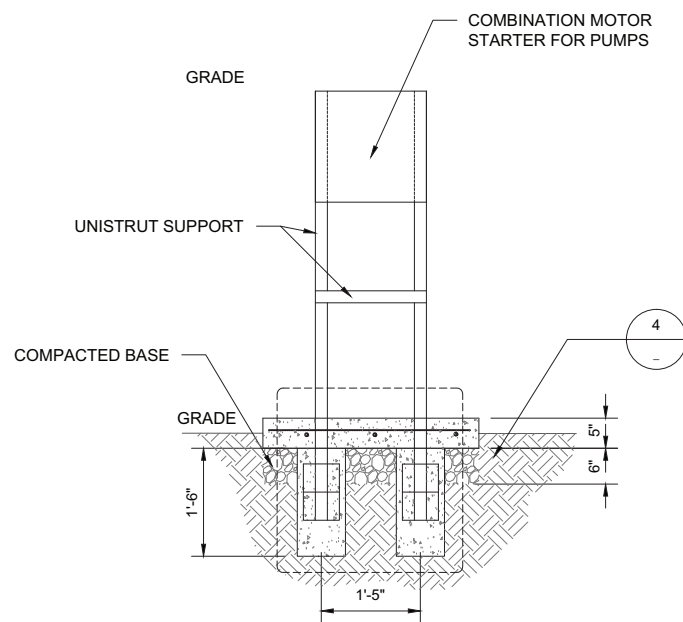
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C-09-01



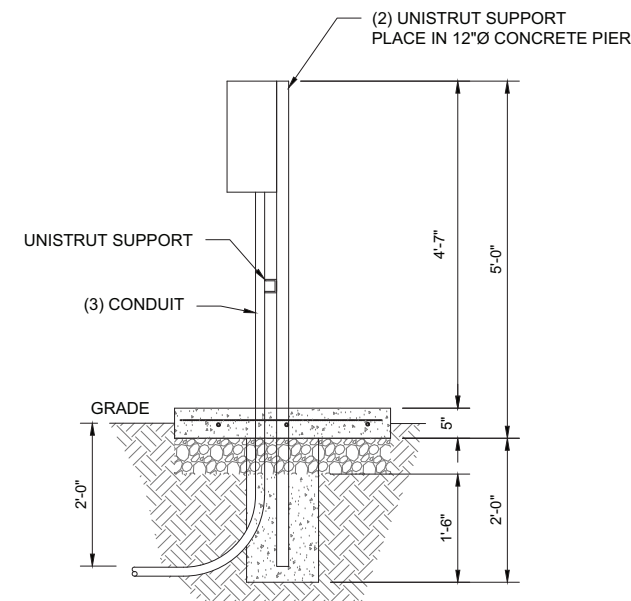
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C-09-01



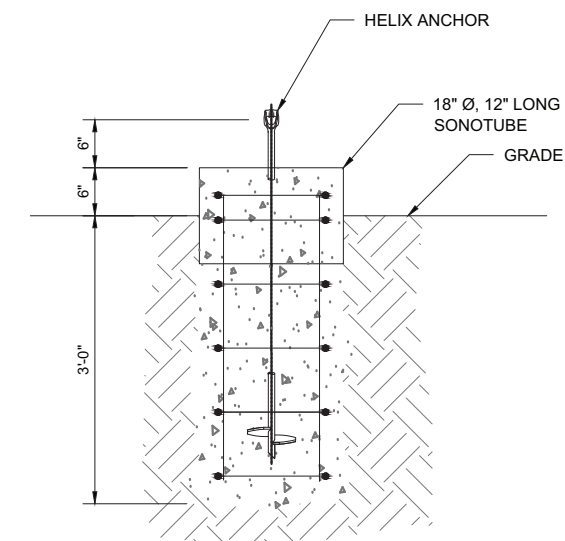
2 CONDUIT RISER DETAIL (TYP.)
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C-09-01



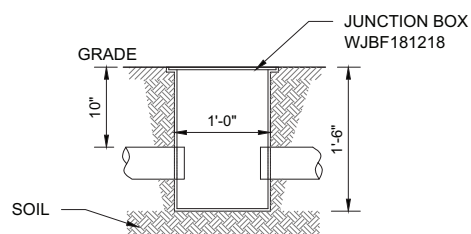
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3/4" = 1'-0"



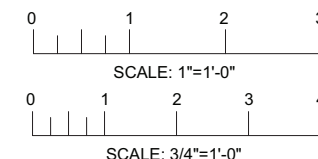
B SECTION
3/4" = 1'-0"



6 GUY WIRE ANCHOR DETAIL
1" = 1'-0"
C-09-01



3 PULLBOX DETAIL (TYP.)
1" = 1'-0"
C-09-01



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SCALES	AS SHOWN

TOPOCK GROUNDWATER REMEDIATION PROJECT
COMPRESSOR STATION PONDS UPGRADES
CONDUIT DETAILS
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
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MICROFILM	
BILL OF MATL	
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SHEET NO.	
C-09-04	REV 0

ANCHOR DETAILS

LOCATIONS: POND 3 & 4
(4) EACH FOR PONTOON, (1) AT LADDER

CONCRETE AND REINFORCING:

GENERAL

- Design, materials, and workmanship shall be in accordance with applicable federal, state, and local codes, and the latest edition of the following standards:
 - ACI 301 specification for structural concrete.
 - ACI 318 - building code requirements for reinforced concrete.
 - SP66 - ACI detailing manual
 - CRSI- recommended practice for placing reinforcing steel.
- Concrete materials shall conform to the latest revision of the following specifications:
 - Aggregates, per ASTM c33
 - Cement, per astm C150, type i, unless noted otherwise
 - Deformed reinforcing bars, per A615, grade 60
 - Welded wire fabric, per A82 and A185
- Concrete work performed below 40 degrees F shall be in accordance with ACI standard 306
- Concrete work performed above 90 degrees F shall be in accordance with ACI standard 305

MIX DESIGN

- Concrete exposure shall be f1 and develop a minimum compressive strength of 4000 psi at 28 days, unless noted otherwise.
- Maximum course aggregate size shall be 3/4".
- Water/cement ratio shall not exceed 0.45.
- Fly ash content shall not exceed 20% of total cementitious material.
- Air entrainment in mix design for footings, piers, walls, and beams shall be 5% plus or minus 1%.
- Air entrainment in mix design for exterior slabs on grade and sidewalks shall be 6% plus or minus 1.5%.
- Slump shall be less than or equal to 4".
- Mix designs shall incorporate admixtures as appropriate for environmental conditions.

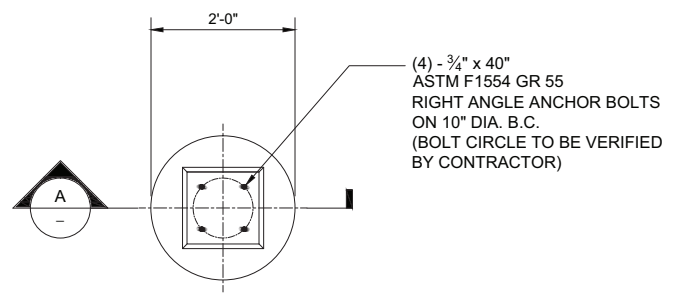
DRILLED PIERS

- Non-corrosive spacers shall be used at the exterior of the reinforcing cage bottom and at sufficient intervals along the side of the cage for the entire length within the shaft excavation. spacers shall be of adequate dimensions to ensure a minimum 3" annular space between outside of cage and excavated shaft.
- Free fall placement of concrete shall only be permitted in dry excavations where free water accumulation of 3" or less of water can be maintained prior to concrete placement. concrete placed by free fall methods shall be directed in the center of the shaft to avoid contact with the reinforcing steel cage, shaft side walls and form. drop chutes are recommended if water cannot be maintained due to high water table. tremie pour methods must be used.
- The owner shall be provided access to inspect shaft excavation and rebar cage prior to concrete placement. all shaft excavations shall have concrete placed within 24 hours of excavation, except as approved by owner.
- Concrete piers shall be cast around undisturbed earth. formwork shall extend 1'-0" below grade.
- Anchor rod threads shall be covered with duct tape or other suitable means to keep the threads clean and prevent damage.
- Circular columns to have 135 degree hooks on alternate bars with a min. 6" overlap per ACI 7.10.5.4.

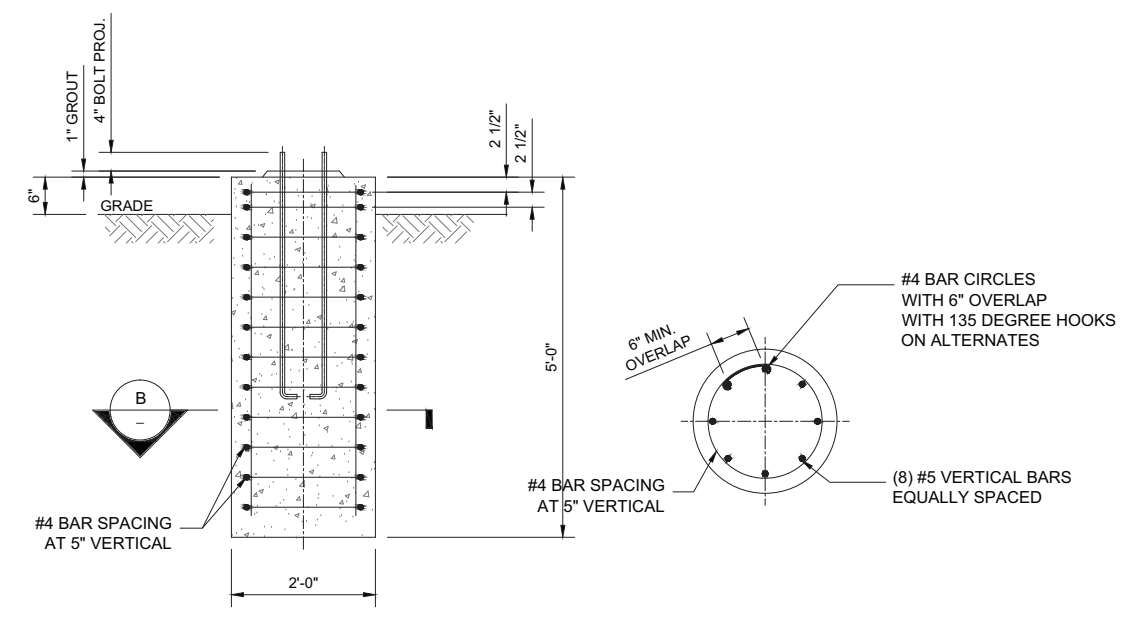
DESIGN ASSUMPTIONS

- Wind load criteria based on 2013 california building code:
 - Wind speed = 115 mph.
 - Exposure category = c.
 - K = 1.0.
- Load-bearing values per 2013 california building code table 1806.2, class 5 material.
 - Vertical foundation pressure = 1500 psf.
 - Lateral bearing pressure = 100 psf/ft.
 - Contractor shall verify code minimum capacities above are satisfied.

ANTENNA POLE FOUNDATION PLAN

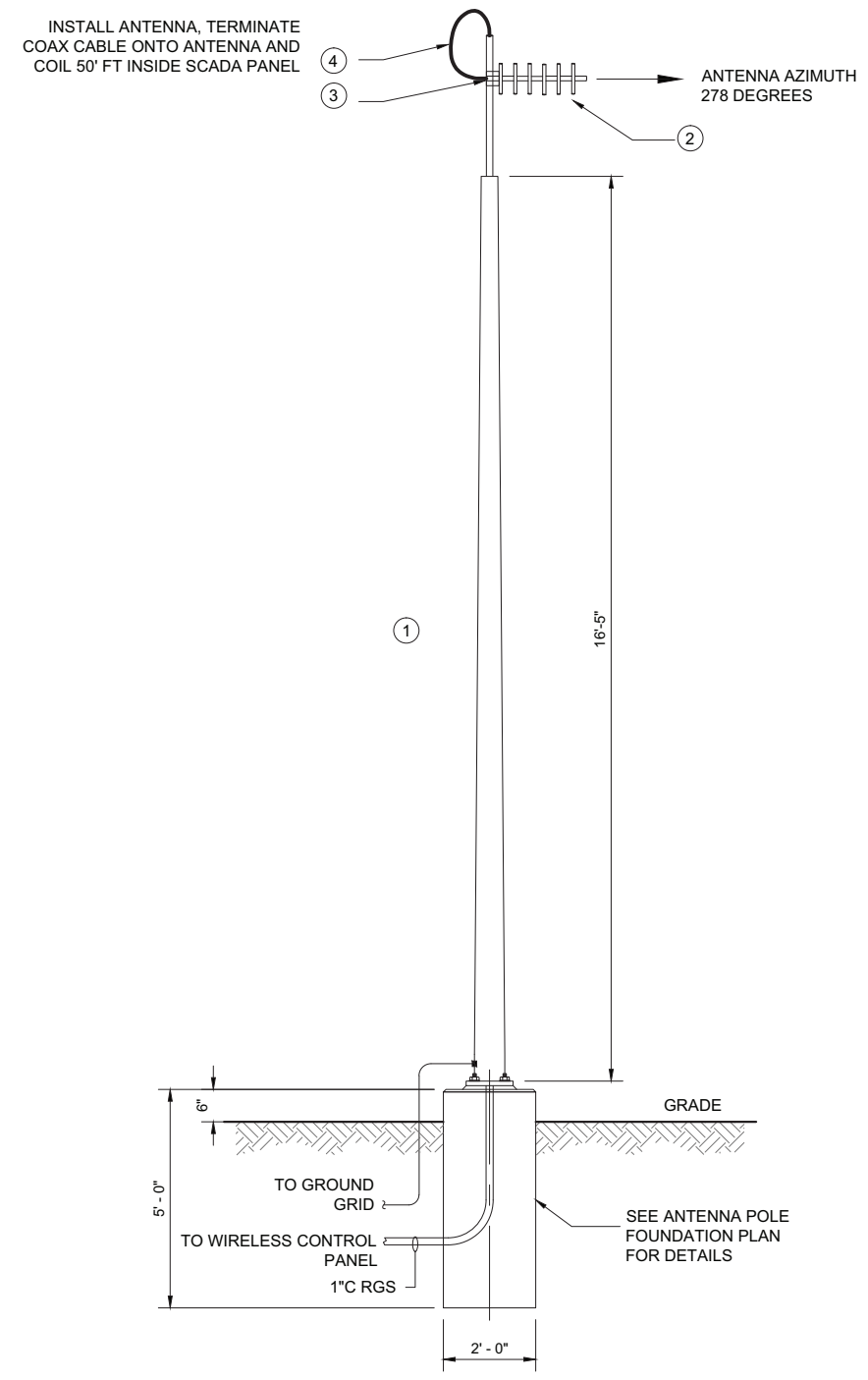


3/4" = 1'-0"

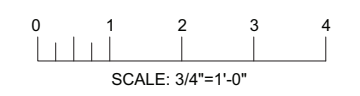


A SECTION
3/4" = 1'-0"

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



1 ANTENNA POLE DETAIL
3/4" = 1'-0"



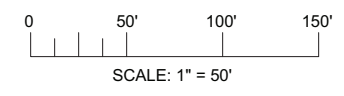
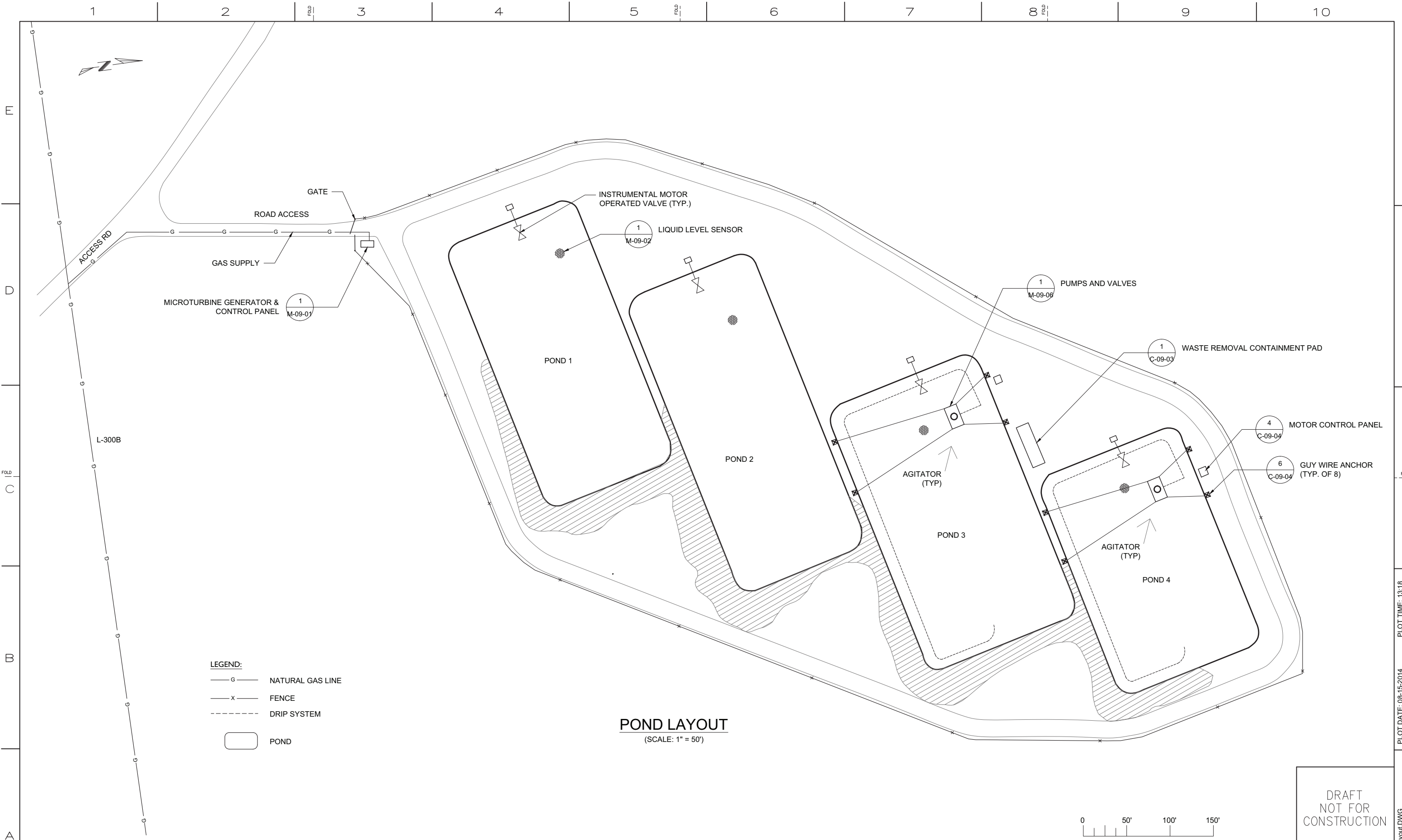
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REVISIONS										REVISIONS									
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0	9/8/14	PRE-FINAL (90%) DESIGN					MJY	RB	RB										

APPROVED BY	SO
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	DSGN MJY
	DWN MJY
	CHKD RB
	OK
	DATE 9/8/14
	SCALE AS NOTED

TOPOCK GROUNDWATER REMEDIATION PROJECT
COMPRESSOR STATION PONDS UPGRADES
POLE AND GUY ANCHORING
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

MICROFILM	
BILL OF MATL	
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SHEET NO.	
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WALNUT CREEK, CALIFORNIA

2737 N. MAIN STREET, SUITE 200, WALNUT CREEK, CALIFORNIA 94597
OFFICE TEL.# (925)279-5000 FAX# (925)279-5001 WWW.ALISTO.COM

NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY	NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
0	9/8/14	PRE-FINAL (90%) DESIGN													

APPROVED BY	SO
	SUPV RB
	DSGN RB
	DWN DSA
	CHKD RB
	OK
DATE	9/8/14
SCALE	1" = 50'

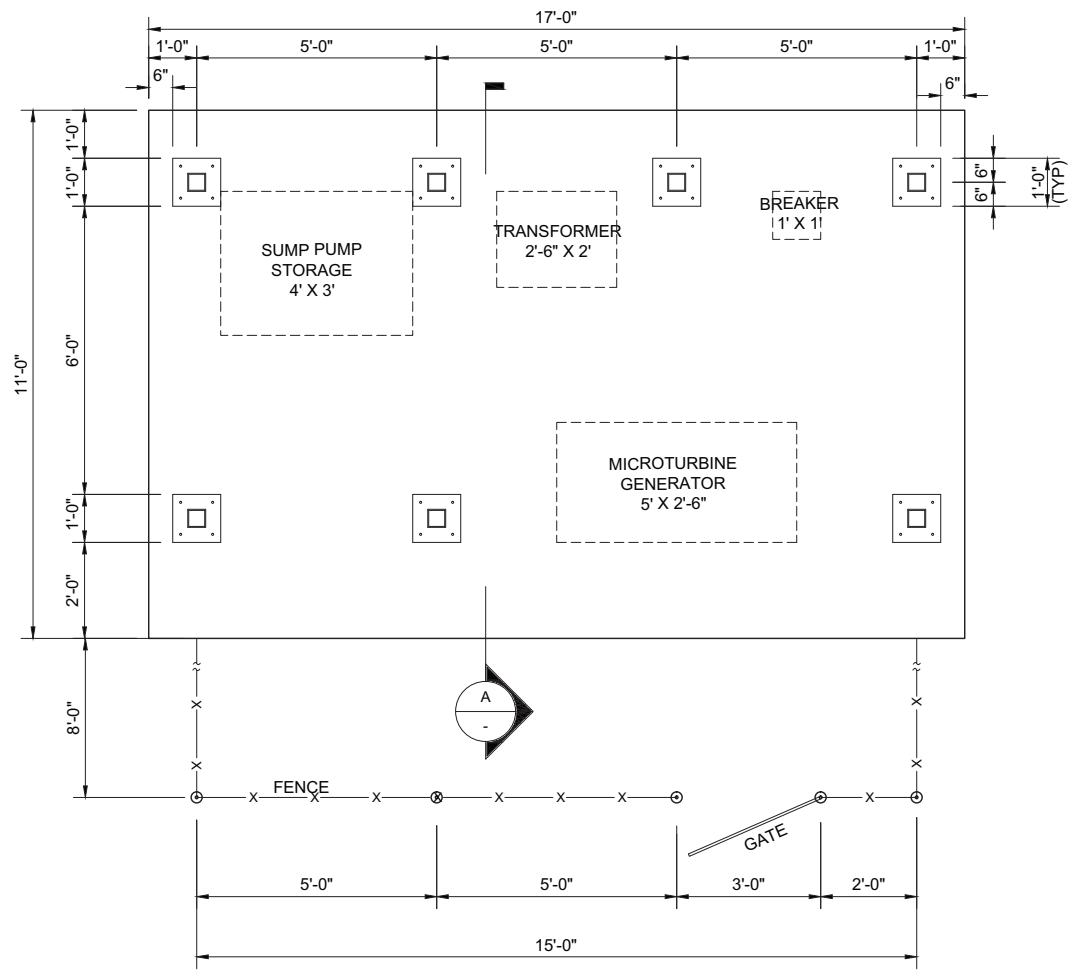
TOPOCK GROUNDWATER REMEDIATION PROJECT
COMPRESSOR STATION PONDS UPGRADES

POND LAYOUT

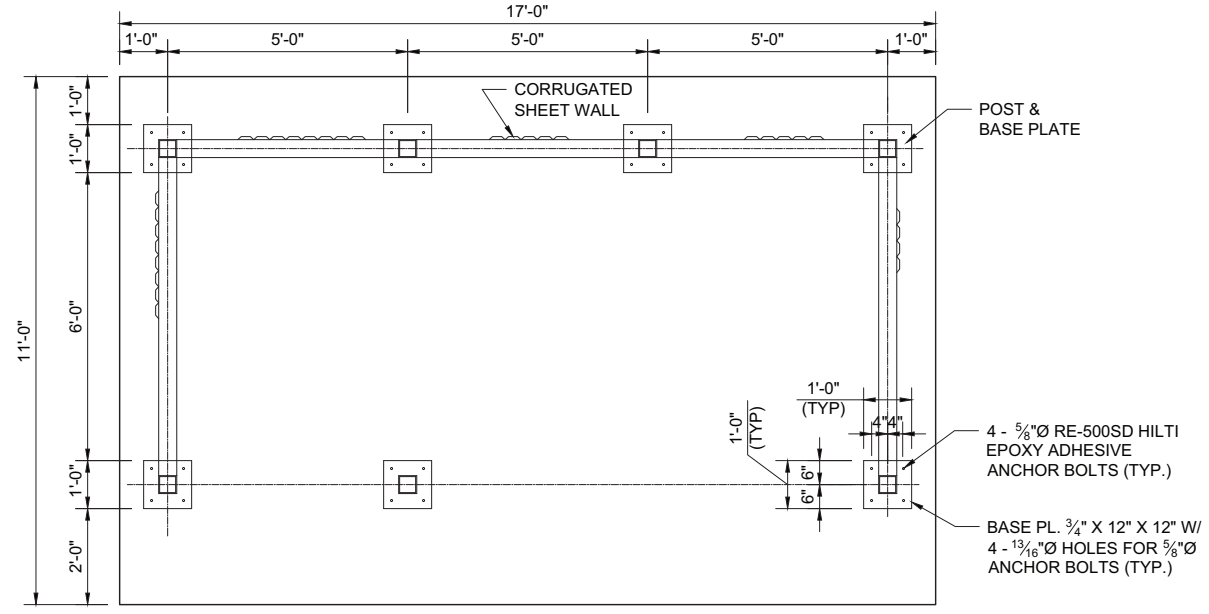
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	
A-09-01	REV 0

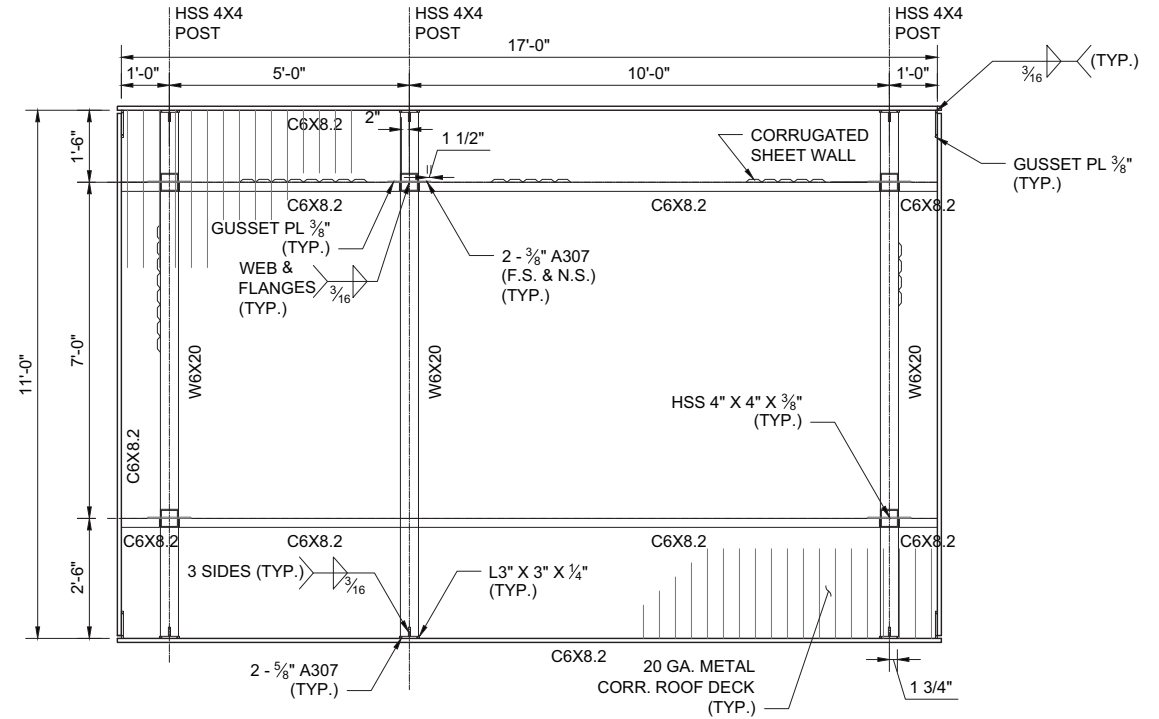
PLOT DATE: 08-15-2014 PLOT TIME: 13:18 FILENAME: A-09-01_Pond_Layout.DWG



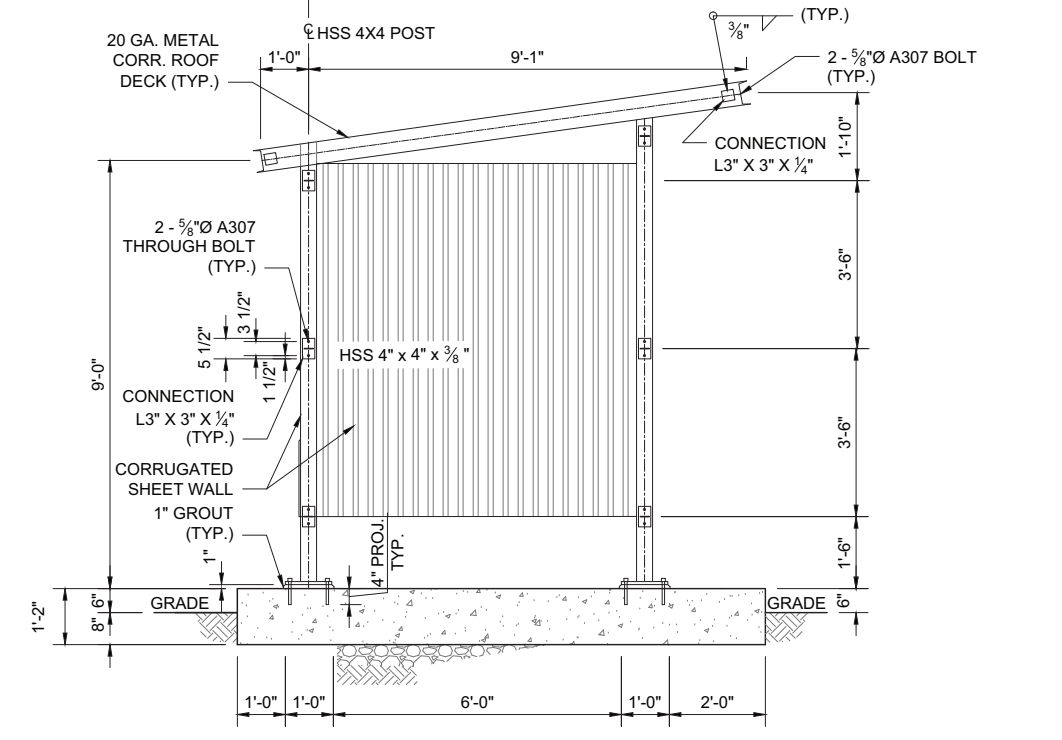
BUILDING PLAN
(SCALE: 1/2" = 1')



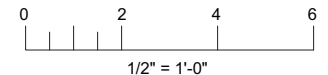
COLUMN BASE PLAN
(SCALE: 1/2" = 1')



ROOF FRAMING PLAN
(SCALE: 1/2" = 1')



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



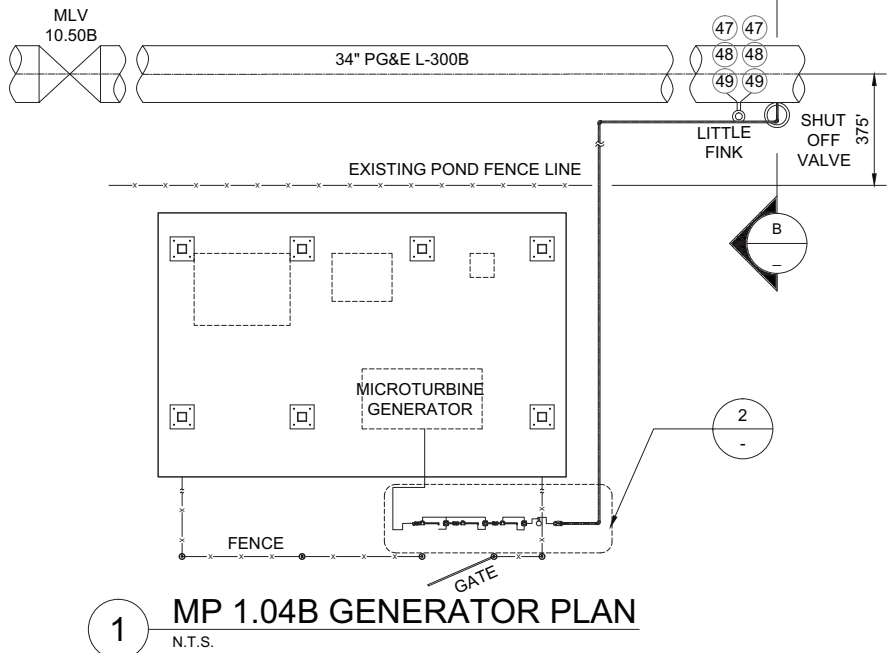
DRAFT
NOT FOR
CONSTRUCTION

REVISIONS		REVISIONS													
NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY	NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
								0	9/8/14	PRE-FINAL (90%) DESIGN		DSA	RB	RB	

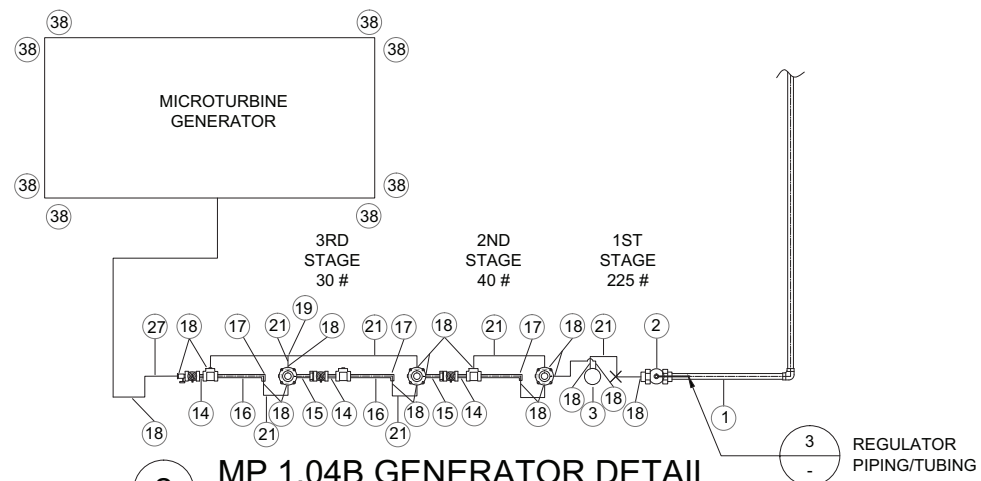
APPROVED BY	SO
	SUPV RB
	DSGN RB
	DWN DSA
	CHKD RB
	OK
DATE	9/8/14
SCALES	1/2" = 1'

TOPOCK GROUNDWATER REMEDIATION PROJECT
COMPRESSOR STATION PONDS UPGRADES
BUILDING
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

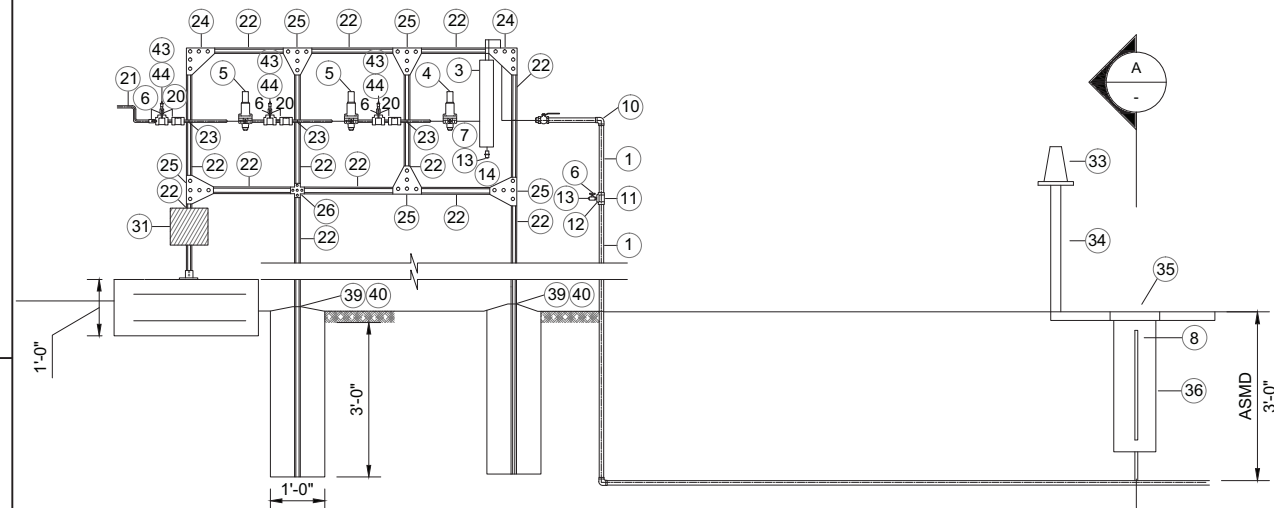
MICROFILM	BILL OF MATL
	DWG LIST
	SUPSDS
	SUPSD BY
	SHEET NO.
A-09-02	REV 0



1 MP 1.04B GENERATOR PLAN
N.T.S.



2 MP 1.04B GENERATOR DETAIL
N.T.S.



3 MP 1.04B GENERATOR ELEVATION
N.T.S.

STA. N/A
JOB NO. _____
B/M ITEM NO. 1

DESIGN CRITERIA
LOCATION CLASS 1
DESIGN FACTOR 0.72
FDP 894 PSIG 6.71 % SMYS
MAOP 894 PSIG 6.71 % SMYS
STRENGTH TEST PRESSURE
MAX. 1541 PSIG 15.01% SMYS
MIN. 1341 PSIG 13.06% SMYS
9240 PSIG 90 % SMYS
TEST MEDIUM WATER
PIPE SPEC API51 GRB SMLS
O.D. 1.050
W.T. 0.154 INCHES

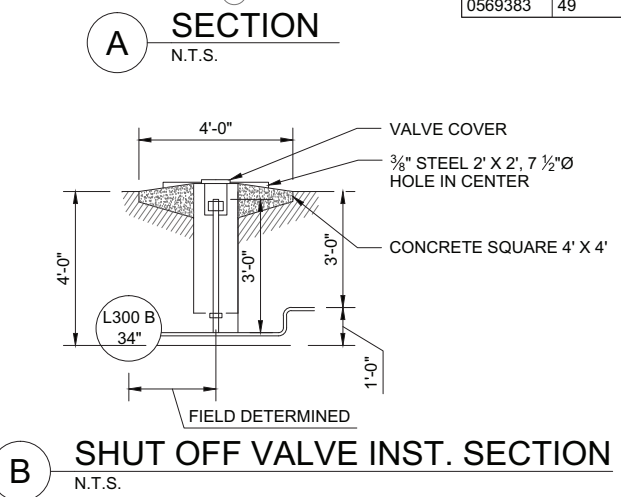
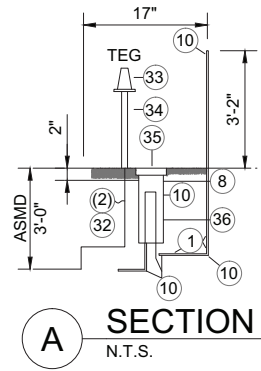
WELD INSPECTION GAS (STD.D -40)*
 RADIOGRAPHIC
 20% MIN 1% OF EACH WELDERS
 100% DAILY WORK

* VISUALLY INSPECT 100% OF ALL WELDS THAT ARE NOT RADIOGRAPHICALLY INSPECTED (THIS REQUIREMENT APPLIES EVEN IF NO RADIOGRAPHIC INSPECTIONS ARE REQUIRED).

GM 134616 1956

EXIST PIPE SPECS
HEADER SIZE: 34.00
PIPE SPECS: API5L - X52 SAWL (DSA)
WALL THICKNESS: 0.406 INCHES
PRESENT MAOP: 867
% SMYS @ MAOP: 69.81

MAXIMUM ALLOWABLE PRESSURE DURING WELDING (G.S. & S. D-22) (**620 PSIG)
***240 PSIG IF WELDING WITHIN 3" OF A LONGITUDINAL SEAM, CIRCUMFERENTIAL, AND ANY BRANCH WELD ON ANY TYPE OF PIPE EXCEPT THE LONGITUDINAL SEAM OF QSAW PIPE PER GAS STD D-22 PAGE 3 OF 14 SECT 3-B



- NOTES:**
- HANDY CAPS SHALL BE INSTALLED PER GS:S E-27.
 - NO UNDERGROUND WIRE SPLICES SHALL BE USED EXCEPT AT THE ANODE AND THE PIPELINE.
 - BURIED WIRE SPLICES UP TO NO. 10 WIRE SHALL BE INSTALLED PER GS:S O-12.
 - BURIED WIRE SPLICES GREATER THAN NO. 10 WIRE SHALL BE MADE USING SPLIT BOLT CONNECTORS AND A DRYCON WATER PROOFING KIT FROM FARWEST CORROSION CONTROL.

PG&E CODE	ITEM NO.	QUANTITY	ORDER NO. PM 30944033	DESCRIPTION	CATALOG OR DWG REF.
011036	1	50'		PIPE STEEL SEAMLESS 1.050" OD x D154" WALL. STANDARD. API-5L. GR B. SMLS. WRAP	GAS STD A-15
034459	2	1		VALVE. 3/4" BALL. THREADED. 2500 PIC. MARPAC	GAS STD F-20
870001	3	1		FILTER. WELKER. SULFUR REMOVAL. 1/4" FNPT	WELKER
030550	4	1		PILOT. MOONEY. SERIES 20. HP BK SPRING 200-500#	GAS STD HBO 1
446P52	5	2		PILOT. MOONEY. SERIES 20. HP BK SPRING 25-90#	GAS STD HBO 1
035156	6	3		VALVE NEEDLE. 1/4" MNPT X 1/4" FNPT PN H1VDC-22	GAS STD F-70
035153	7	1		VALVE NEEDLE. 1/4" MNPT X 1/4" FNPT PN H1VDC-2	GAS STD F-70
442573	8	1		MUELLER, 1" CURB VALVE TEE, MODEL No. H-17800	GAS STD A43.1
022445	9	1		MUELLER, TEE, 1" MODEL No. H-17656	GAS STD C-11
022588	10	7		ELBOW, 3/4" SOCKET WELD, 3000#	GAS STD B-21
021195	11	1		TEE, 3/4" THREADED, 3000#	GAS STD B-14
022268	12	2		BUSHING, 3/4" MNPT X 1/4" FNPT	INDUSTRIAL
021247	13	6		PLUG, 1/4" FORGED STEEL. HEX HEAD	GAS STD B10.1
870002	14	3		NIPPLE, 1/4". EXTRA STRONG. 2" LONG	GAS STD B13.1
870003	15	3		NIPPLE, 1/4". EXTRA STRONG. 6" LONG	GAS STD B13.1
870004	16	2		NIPPLE, 1/4". EXTRA STRONG. 18" LONG	GAS STD B13.1
870005	17	3		ELBOW, 1/4". SWAGelok. SS-4-E, 7200 PSIG RATING	SWAGelok
028140	18	19		MALE CONNECTOR, 3/8" TUBING X 1/4" PIPE THD	GAS STD B-62
028197	19	1		CONNECTER, ALL TUBE TEE, 3/8" TUBING	GAS STD B-62
870006	20	6		TEE, 1/4". SWAGelok. SS-4-T, 7200 PSIG RATING	SWAGelok
011015	21	5'		TUBING, 304SS, 3/8" OD, 0.035" WT	GAS STD A-22
870007	22	30'		STRUT, CHANNEL, SINGLE, 1-5/8" X 1-5/8", PN 3310T2	McMASTERCARR
870008	23	4		STRUT, CHANNEL, MOUNT CLAMPS, 3/8", PN 3115T13	McMASTERCARR
870009	24	2		STRUT CHANNEL, 5-HOLE GUSSET CORNER PLATE, PN 33125T22	McMASTERCARR
870010	25	5		STRUT CHANNEL, 5-HOLE GUSSET T-PLATE, 33125T92	McMASTERCARR
870011	26	1		STRUT, CHANNEL, CROSS PLATE, 33125T92	McMASTERCARR
870012	27	1		STRUT, SUPPORT BASE, 33145T32	McMASTERCARR
870013	28	1 PNG		STRUT, CLAMPING NUTS WITH SPRING, 3259T15	McMASTERCARR
561444	29	1		DEEPWELL ANODE, MATCOR, PL-SP-120-200-2BW, 30AMP. W/ STRANDED 50" ADD'L DUAL LEADS	GAS STD 013.5
870015	31	1		OMNIMETRIX RECTIFIER, REMOTE MON. DC POWER. Iridium COMM. 6" PIGTAIL, 60AMP RELAY, RM 200	OMNIMETRIX
294991	32	AS REQ'D		WIRE, #10 HMWPE WITH 47 MIL THICKNESS 600 VOLTS, SOLID COPPER, BLACK INSULATION	GAS STD 0-10
569382	33	1		LITTLE FINK, TEST LEAD BOX, 2-TERMINAL ORANGE	GAS STD 0-10.1
360469	34	1		CONDUIT, 1-1/4" PVC, SCHEDULE 40 (FOR LITTLE FINK)	GAS STD 0-10.1
043039	35	1		COVER, CONCRETE, W/ GAS VALVE" MARKING	GAS STD K-40
043493	36	1		VALVE BOX, BODY, 3' LONG	GAS STD K-40
870016	37	256'		#5 REINFORCING BAR	
870017	38	8		ANCHOR BOLT, 1/2" DIA X 12" LONG	
870018	39	6'		SONATUBE. 12" DIAMETER	
870019	40	3 YD		CONCRETE, FC= 3500 PSI	
043271	41	1		BODY, CONCRETE VALVE FRAME, 10-3/8" X 12", GR-5	GAS STD K-40
043225	42	1		CONCRETE, VALVE CAST IRON 11-1/8" DIA, FULL TRAFFIC	GAS STD K-40
870020	43	3		QUICK CONNECT FITING, SS-0C6-B-4PM, SWAGelok	SWAGelok
870021	44	3		BODY PROTECTOR, SS-QC4-BP, SWAGelok	SWAGelok
870022	45	1		JUNCTION BOX-(FOR MAPS) DIMENSIONS TO SUIT	LOCAL VENDOR
870023	46	1		JUNCTION BOX-(FOR MISC) DIMENSIONS TO SUIT	LOCAL VENDOR
159260	47	4		CARTRIDGE, CALDWELD OR THERMOWELD 15 GRAM	GAS STD 0-10
0303755	48	4		SLEEVE, COPPER, THERMOWELD A200 OR EQUIVALENT	GAS STD 0-10
0569383	49	4		HANDY CAP, ROYSTON, 4" X 4" PATCH	GAS STD F-27

ALISTO ENGINEERING GROUP
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NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY	NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
								0	9/8/14	PRE-FINAL (90%) DESIGN		DSA	RB	RB	

APPROVED BY	SO
	SUPV RB
	DSGN RB
	DWN DSA
	CHKD RB
	OK
	DATE 9/8/14
	NTS

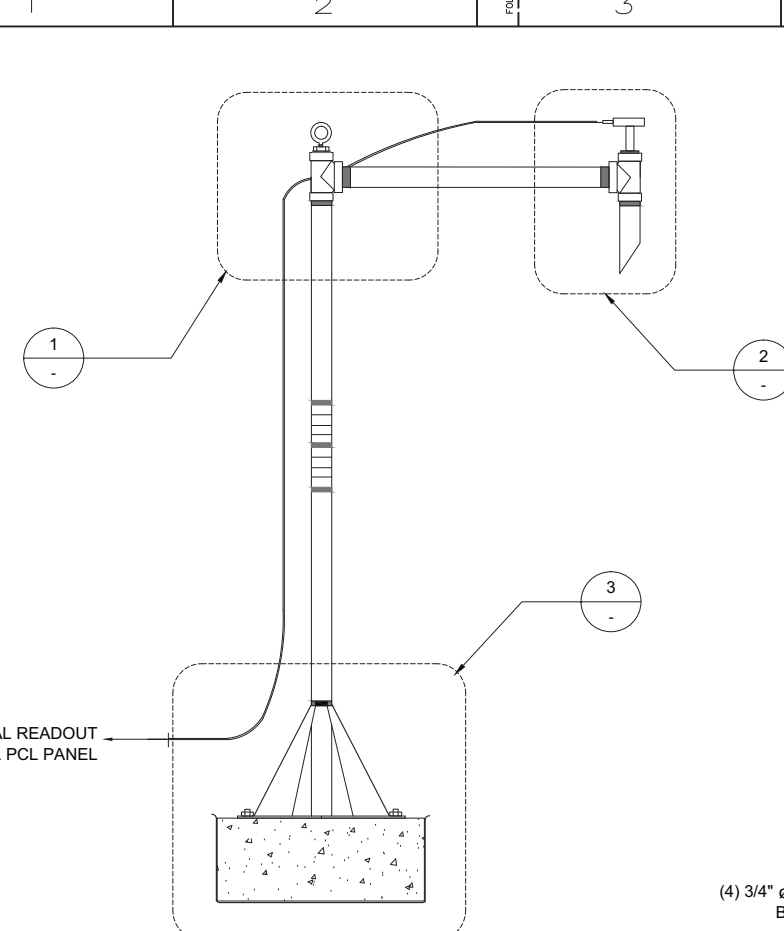
TOPOCK GROUNDWATER REMEDIATION PROJECT
COMPRESSOR STATION PONDS UPGRADES

GAS SUPPLY TAP PLAN AND DETAILS

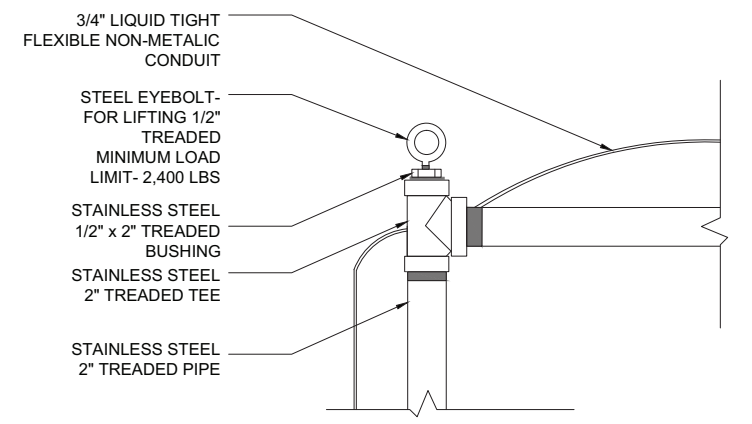
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

MICROFILM	
BILL OF MATL.	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	
M-09-01	REV 0

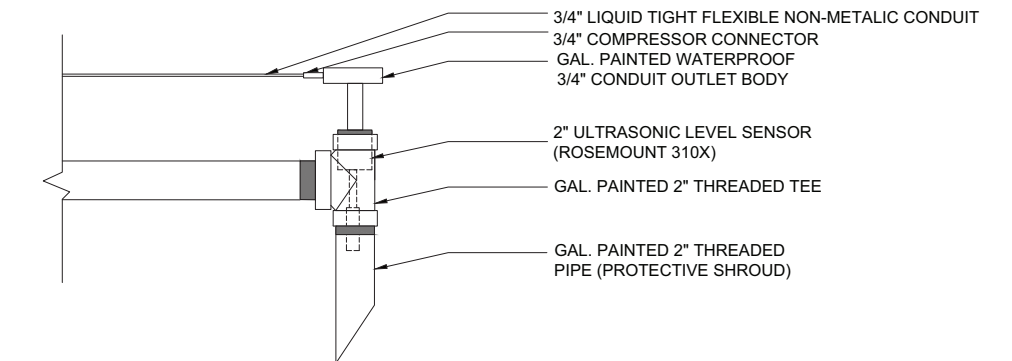
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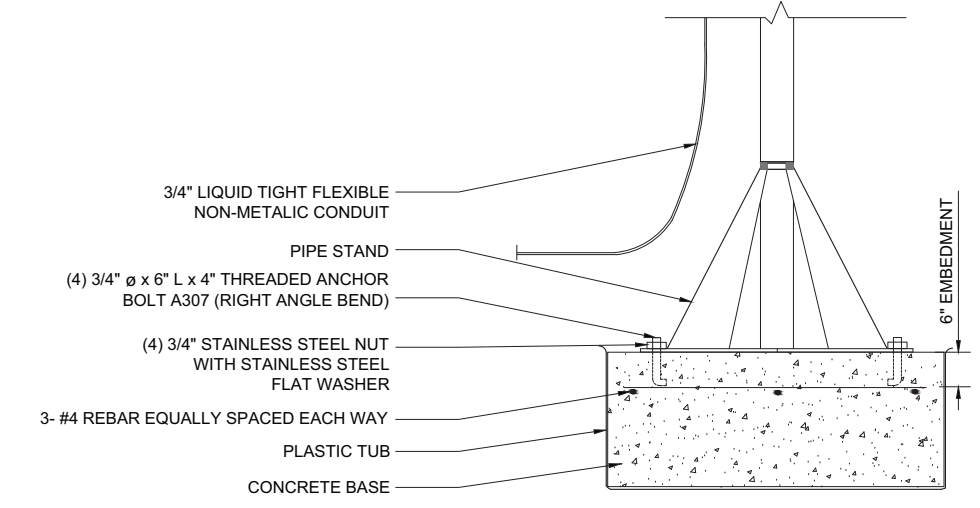
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N.T.S.
C-09-01



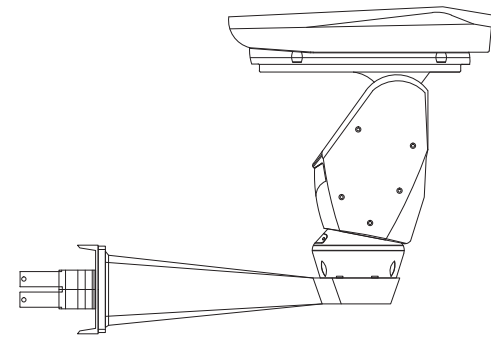
2 LIFTING EYEBOLT DETAIL
N.T.S.



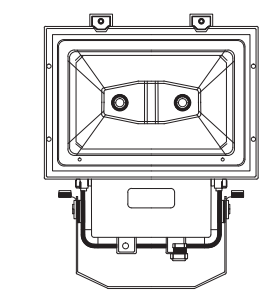
3 LEVEL SENSOR DETAIL
N.T.S.



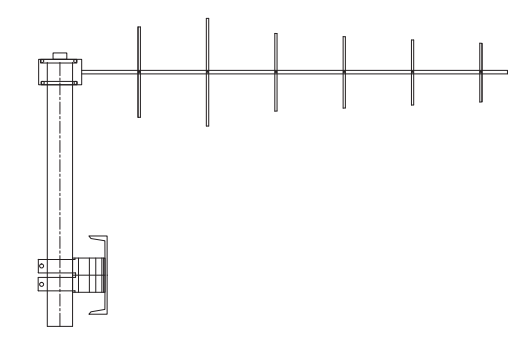
4 LIQUID LEVEL SENSOR BASE DETAIL
N.T.S.



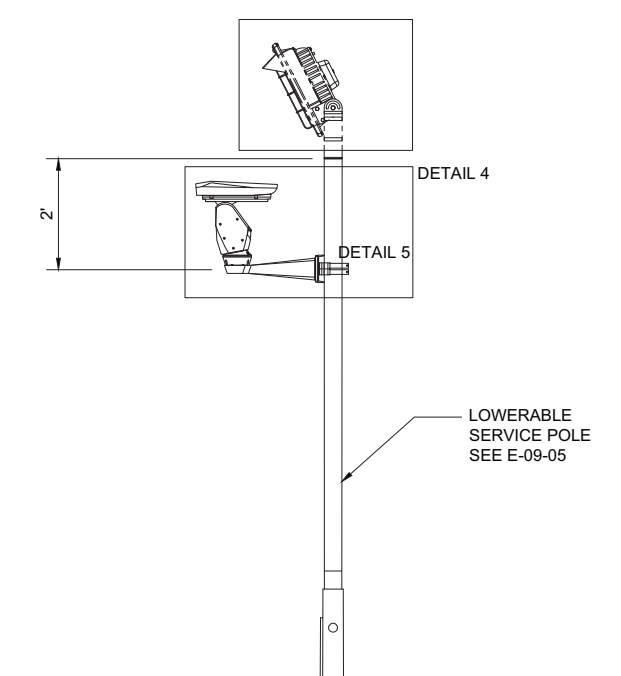
5 BOSCH HIGH SPEED POS. SYSTEM DETAIL
N.T.S.



6 120W/ 110V LED DUAL FLD LIGHT DETAIL
N.T.S.



7 WIFI ANTENNA DETAIL
N.T.S.



8 WIFI ANTENNA CAMERA & LIGHT DETAIL
N.T.S.

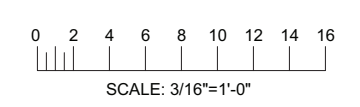
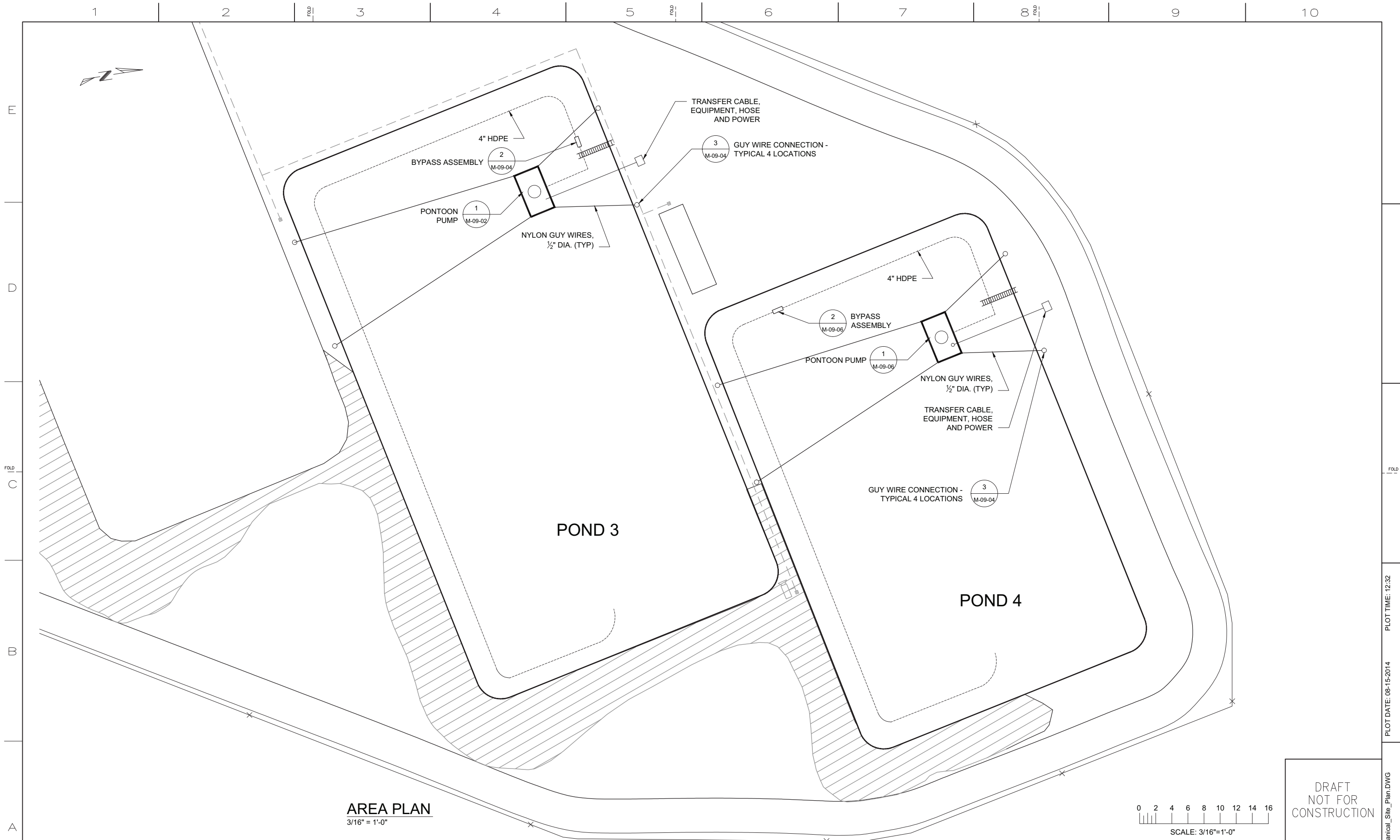
DRAFT
NOT FOR
CONSTRUCTION

NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY	NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
								0	9/8/14	PRE-FINAL (90%) DESIGN		RL	RB	RB	

APPROVED BY	SO
	SUPV RB
	DSGN RB
	DWN RL
	CHKD RB
	OK
DATE	9/8/14
SCALES	N.T.S.

TOPOCK GROUNDWATER REMEDIATION PROJECT
COMPRESSOR STATION PONDS UPGRADES
AUXILIARY EQUIPMENT
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	
M-09-02	REV 0



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CONSTRUCTION

MICROFILM
BILL OF MATL
DWG LIST
SUPSDS
SUPSD BY
SHEET NO.
M-09-03
REV 0

TOPOCK GROUNDWATER REMEDIATION PROJECT
COMPRESSOR STATION PONDS UPGRADES

MECHANICAL SITE PLAN

GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

2737 N. MAIN STREET, SUITE 200, WALNUT CREEK, CALIFORNIA 94597
OFFICE TEL# (925)279-5000 FAX# (925)279-5001 WWW.ALISTO.COM

NO.		DATE		DESCRIPTION		GM/SPEC	DWN	CHKD	SUPV	APVD BY	NO.		DATE		DESCRIPTION		GM/SPEC	DWN	CHKD	SUPV	APVD BY
		0 9/8/14		PRE-FINAL (90%) DESIGN																	

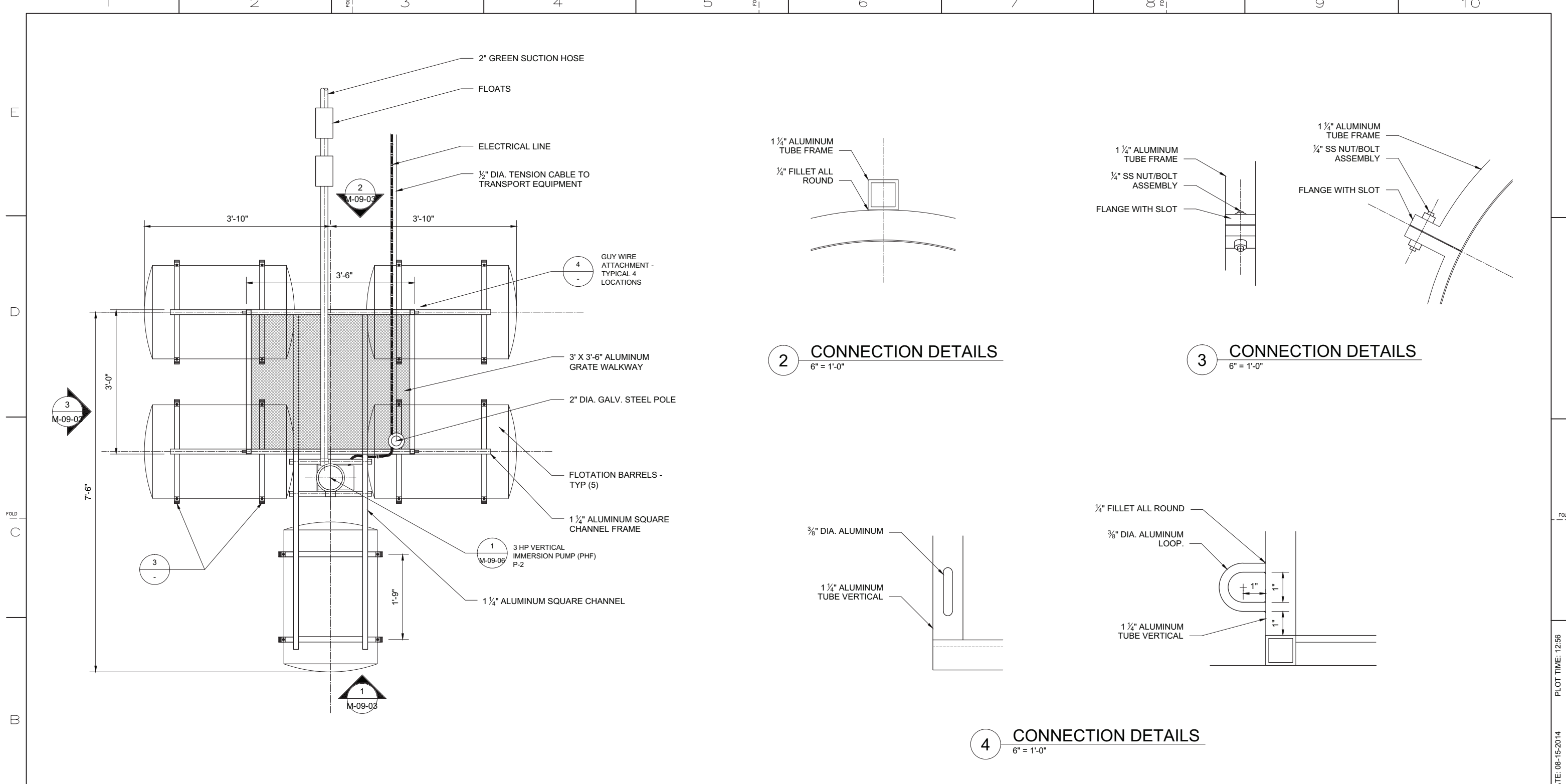
APPROVED BY	SO
	SUPV RB
	DSGN MM
	DWN MM
	CHKD RB
	OK
DATE	9/8/14
SCALE	3/16" = 1'

A B C D E

FOLD FOLD FOLD FOLD FOLD

PLOT DATE: 08-15-2014 PLOT TIME: 12:32

N1808

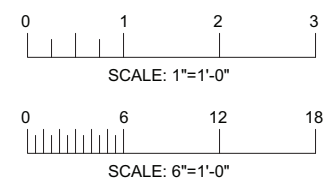


1 FLOAT STRUCTURE PLAN
1" = 1'-0"
M-09-03

2 CONNECTION DETAILS
6" = 1'-0"

3 CONNECTION DETAILS
6" = 1'-0"

4 CONNECTION DETAILS
6" = 1'-0"

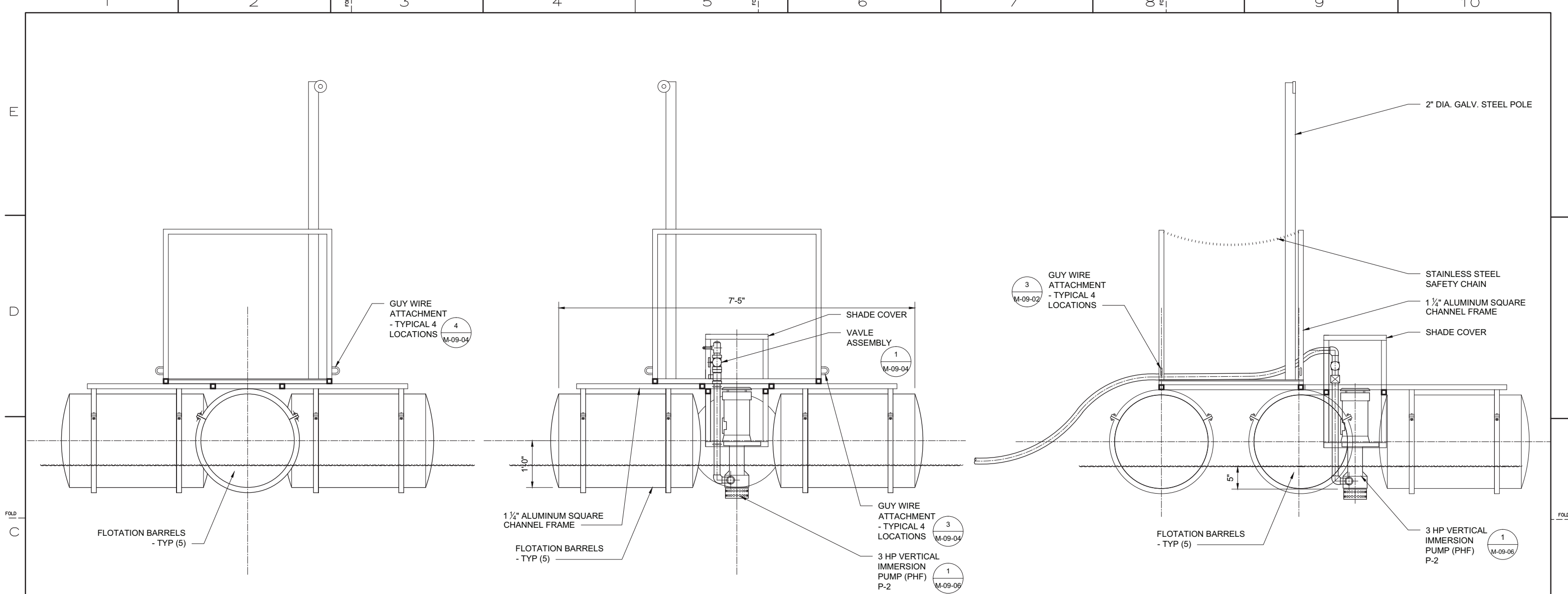


DRAFT NOT FOR CONSTRUCTION

MICROFILM	REV 0
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	
M-09-04	

NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY	NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
0	9/8/14	PRE-FINAL (90%) DESIGN					MM RB RB								

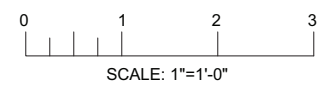
APPROVED BY	SO
	SUPV RB
	DSGN MM
	DWN MM
	CHKD RB
	OK
DATE	9/8/14
SCALE	AS NOTED



1 ELEVATION
1" = 1'-0"
M-09-04

2 ELEVATION
1" = 1'-0"
M-09-04

3 ELEVATION
1" = 1'-0"
M-09-04



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WALNUT CREEK, CALIFORNIA
2737 N. MAIN STREET, SUITE 200, WALNUT CREEK, CALIFORNIA 94597
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		0	9/8/14								PRE-FINAL (90%) DESIGN		MM	RB	RB	
REVISIONS																

APPROVED BY	SO
	SUPV RB
	DSGN MM
	DWN MM
	CHKD RB
	OK
DATE	9/8/14
SCALE	3/16" = 1'

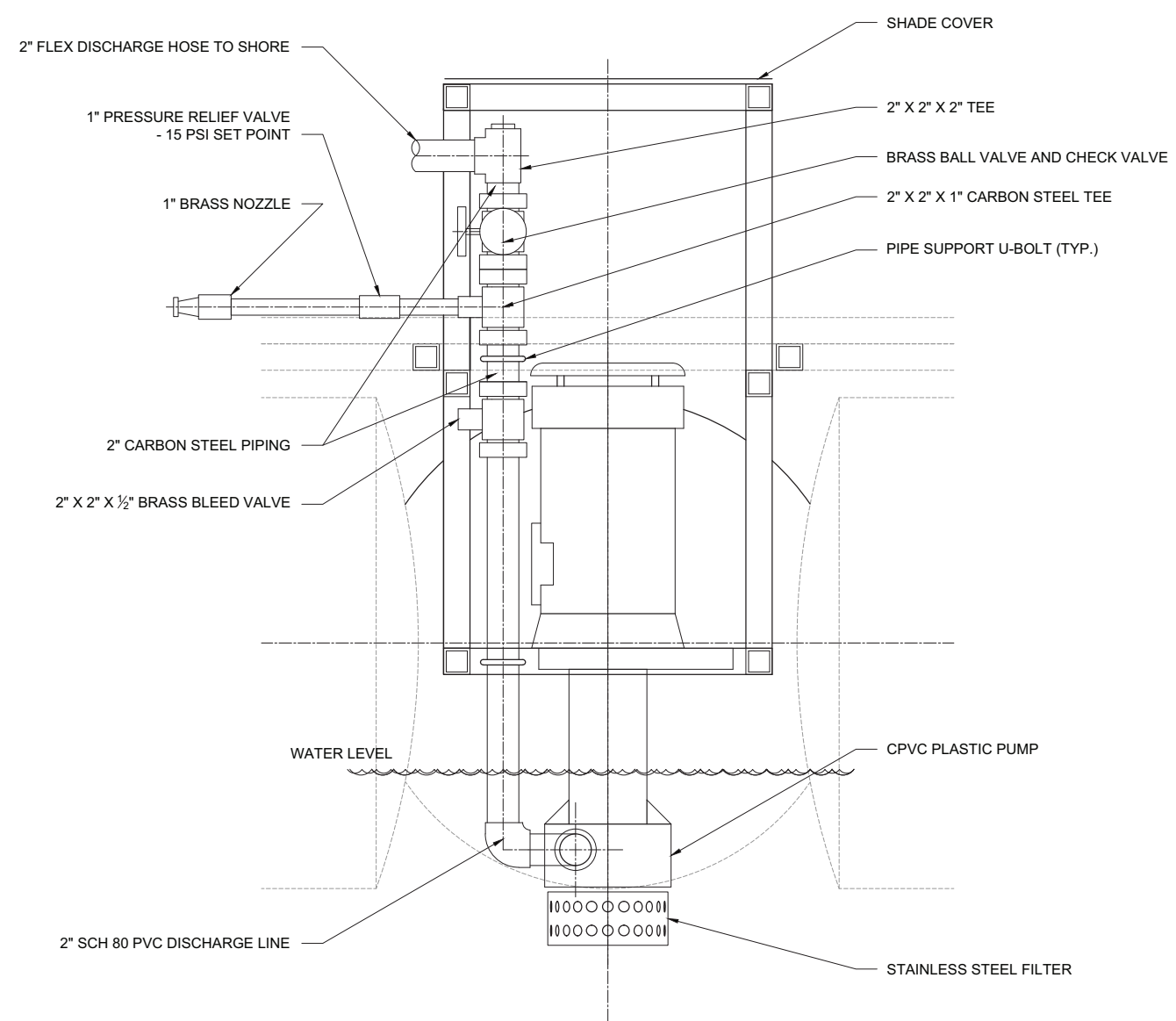
TOPOCK GROUNDWATER REMEDIATION PROJECT
COMPRESSOR STATION PONDS UPGRADES
PONTOON ELEVATIONS
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	
M-09-05	REV 0

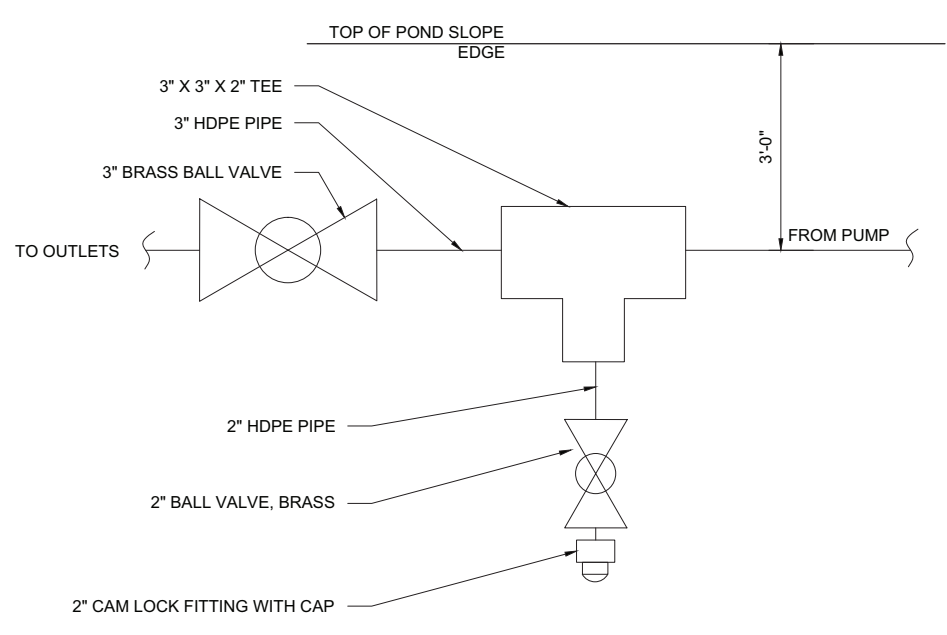
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E
D
C
B
A

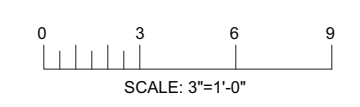
1 2 3 4 5 6 7 8 9 10



1 PUMP AND VALVES
3" = 1'-0"
M-09-05



2 BYPASS ASSEMBLY
N.T.S.



DRAFT
NOT FOR
CONSTRUCTION

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA
2737 N. MAIN STREET, SUITE 200, WALNUT CREEK, CALIFORNIA 94597
OFFICE TEL# (925)279-5000 FAX# (925)279-5001 WWW.ALISTO.COM

REVISIONS				REVISIONS											
NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY	NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
0	9/8/14	PRE-FINAL (90%) DESIGN													

APPROVED BY	SO
	SUPV RB
	DSGN MM
	DWN MM
	CHKD RB
	OK
DATE	9/8/14
SCALE	NTS

TOPOCK GROUNDWATER REMEDIATION PROJECT
COMPRESSOR STATION PONDS UPGRADES
PONTOON PUMPS AND VALVES
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	
M-09-06	REV 0

PLOT DATE: 08-15-2014 PLOT TIME: 13:09 FILENAME: M-09-06_Pontoon_Pumps_and_Valves.DWG

ELECTRICAL NOTES:

1. ALL ELECTRICAL WORK SHALL COMPLY WITH THE CURRENT EDITION OF THE NATIONAL ELECTRICAL CODE, CEC, UBC, STATE AND LOCAL CODES AND REGULATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE ELECTRICAL CODE REQUIREMENTS WITH THE AUTHORITY HAVING JURISDICTION.
2. ALL WORK SHOWN OR DRAWINGS IN PART SCHEMATIC, INTENDED TO CONVEY SCOPE OF WORK AND GENERAL LAYOUT. CONDUIT ROUTING SHOWN IS ESSENTIALLY DIAGRAMMATIC. CONTRACTOR SHALL LAYOUT RUNS TO SUIT FIELD CONDITIONS AND THE CO ORDINATION REQUIREMENTS OF OTHER TRADES. ALL EXPOSED CONDUIT, BOXES, FITTINGS, SUPPORT ETC. SHALL BE PAINTED TO MATCH ADJACENT SURFACES.
3. ALL LIGHTED FIXTURES SHALL BE PROVIDED WITH FACTORY INSTALLED GROUND STUD.
4. RECEPTACLES SHALL BE MOUNTED AT +15" AFF UNLESS OTHERWISE NOTED. SUBSCRIPTED NUMERAL INDICATES SWITCH TYPE. SUPERSCRIPTEED LETTER INDICATES LIGHT FIXTURE SERIES CONTROLLED.
5. SWITCHES SHALL BE MOUNTED AT +48" AFF UNLESS OTHERWISE NOTED. SUBSCRIPTED NUMERAL INDICATES SWITCH TYPE. SUPERSCRIPTEED LETTER INDICATES LIGHT FIXTURE SERIES CONTROLLED.
6. NO PIPING, DUCTS OR EQUIPMENT FOREIGN TO ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE LOCATED WITHIN 25 FEET OF THE FLOOR OR TO THE SRUCTURAL CEILING ABOVE THE SPACCE OF ELECTRICAL EQUIPMENT.
7. CONTRACTOR SHALL PROVIDE UPDATED / CORRECTED AND TYPEWRITTEN PANEL DIRECTIONS IN EACH PANELBOARD PRIOR TO FINAL ACCEPTANCE OF WORK IN PLACE.
8. ALL CONDUITS SHALL BE 1" DIA. MINIMUM, ELECTRICAL METALLIC TUBING (EMT) FOR INDOOR AND RIGID GALVANIZED STEEL (RGS) FOR OUTDOOR, UNLESS OTHERWISE NOTED. ROUTE CONDUIT IN CEILING SPACES OR CONCEALED IN WALLS. WHERE APPROPRIATE, EXPOSED CONDUIT SHALL BE ROUTED AT RIGHT ANGLES, PLUMB AND PERPENDICULAR TO HORIZONTAL SURFACE, AND PARALLEL TO WALL LINES, DUCTS, FIXTURES, AND OTHER LINEAR EDGES AND OBJECTS. PROVIDE NYLON PULL ROPE INSIDE SPARE CONDUIT AND END CAP.
9. ALL INTERIOR CONVENIENCE OUTLETS, JUNCTION AND PULL BOXES SHALL BE METALLIC, SIZED PER CODE FOR THE NUMBER OF CONDUCTORS THEREIN. LABEL CIRCUIT NUMBERS/PANEL NUMBERS SHALL BE WRITTEN IN 1/4" HIGH LETTERS INDELIBLE INK ON THE BOX COVER. USE PREPRINTED, ADHESIVE BACKED CLOTH MARKERS TO IDENTIFY EACH UNGROUNDED CIRCUIT CONDUCTOR AT EACH BOX OR PANEL LOCATION.
10. PROVIDE FLEXIBLE CONDUIT AT BUILDING SEISMIC JOINTS.
11. ELECTRICAL EQUIPMENT AND FEEDERS SHALL BE SUPPORTED AND/OR ANCHORED IN ACCORDANCE WITH THE LATEST IBC/UBC SEISMIC REQUIREMENTS.
12. SEAL AIRTIGHT ALL CONDUIT PENETRATIONS THROUGH ALL INTERIOR AND EXTERIOR.
13. ALL FLOOR CONDUIT PENETRATIONS SHALL BE CORE DRILLED AND SEALED.
14. KEEP ALL SHAFT AREAS CLEAR OF ALL CONDUIT, PIPING, DUCTWORK, AND OTHER SERVICES OR EQUIPMENT STRUCTURES CROSSING IN ANY DIRECTION.
15. ALL EXPOSED RACEWAY RUNS ABOVE GRADE SHALL BE GRID STEEL (NOT INTERMEDIATE STEEL), HOT DIPPED GALVANIZED AND SHALL BE ROUTED AT RIGHT ANGLES TO OR PARALLEL WITH THE STRUCTURE. CONDUITS SHALL BE SECURED AT 8'-0" MINIMUM INTERVALS, AND WITHIN 3'-0" OF EVERY TERMINATION.
16. GREEN INSULATED GROUND CONDUCTORS SHALL BE INSTALLED IN ALL FEEDER AND BRANCH CIRCUIT WIRING. A SHARED NEUTRAL CONDUCTOR OF ONE SIZE LARGER THAN THE PHASE CONDUCTORS SHOWN SHALL BE PROVIDED FOR RECEPTACLE CIRCUITS, U.O.N.
17. PROVIDE KELLEEM CABLE GRIPS IN EACH FEEDER RISER FOR SUPPORT OF FEEDER CABLES.
18. WIRE SPLICES SHALL BE MADE WITH INSULATED SPRING-TYPE CONNECTORS FOR COPPER CONDUCTORS #8AWG AND SIMILAR (3M) "SCOTCHLOK", IDEAL "WING-NUT", OR APPROVED EQUAL.
19. ALL CONDUCTORS SHALL BE #12AWG MINIMUM, UNLESS OTHERWISE NOTED.
20. BONDING OF ALL INTERIOR METAL PIPING SHALL BE IN ACCORDANCE WITH NATIONAL ELECTRIC CODE.
21. ALL CONNECTIONS TO MECHANICAL EQUIPMENT SHALL BE MADE WITH A MINIMUM OF 24 " OF WEATHERPROOF FLEXIBLE CONDUIT TO PREVENT SOUND AND VIBRATION TRANSMISSION TO THE STRUCTURE.
22. ALL MATERIALS INSTALLED OUTDOORS SHALL BE WEATHERPROOF TYPE.
23. ALL BUILDING WIRES SHALL BE COPPER, STRANDED, INSULATED. CONDUCTORS SHALL BE THHN/THWN, COLOR CODING AS FOLLOWS:

120/240V, 3PH, 4W

PHASE	COLOR
A	BLACK
B	RED
C	BLUE
N	WHITE
G	GREEN

24. PROVIDE LABELS ON ALL EQUIPMENT AND DEVICES. LABELS SHALL BE SELF-ADHESIVE PHENOLIC TYPE WITH WHITE LETTERS ON BLACK BACKGROUND, PROVIDE BRADY OR BROTHER TYPE LABELS (CIRCUIT IDENTIFICATION) FOR ALL LIGHT SWITCHES AND RECEPTACLES.

TOPOCK GENERATOR DRIVEN LOAD CALCULATIONS

	V	A	PH	QTY	VA PHASE A	VA PHASE B	VA PHASE C	TOTAL VA	KVA TOTAL	I/PHA AMPS
PSPRO-AC-18, 200W	120	9	1	1			1080			
POND LIGHT 1&2, 120W	120	1.3	1	1			150			
POND LIGHT 3&4, 120W	120	1.3	1	1			150			
BUILDING LIGHT	120	1.3	1	1			150			
POND 1&2 SUMP PUM RECEPTACLE	120	16	1	1	1920					
POND 3&4 SUMP PUM RECEPTACLE	120	16	1	1		1920				
FLOOD LIGHT 120W POND 1&2	120	2	1	1			240			
FLOOD LIGHT 120W POND 3&4	120	2	1	1			240			
VALVE ACTUATORS POND 1,2 ,3 &4	120	1	1	4			480			
PANTOON PUMP 3HP 240 V 3PH.	240	9.6	3	2	2657.28	2657.28	2657.28			
TOTAL					4577.28	4577.28	5147.28	14302	14.3	34.4
TOTAL LOAD KW					12.9					
TOTAL LOAD CURRENT @240V, AMPS					33.1					
TOTAL LOAD CURRENT @480V, AMPS					16.6					
GENERATOR PROPSD KW					30					
CURRENT CAPACITY OF GENERATOR IN KW@ 480V					46					

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NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY	NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
								0	9/8/14	PRE-FINAL (90%) DESIGN					

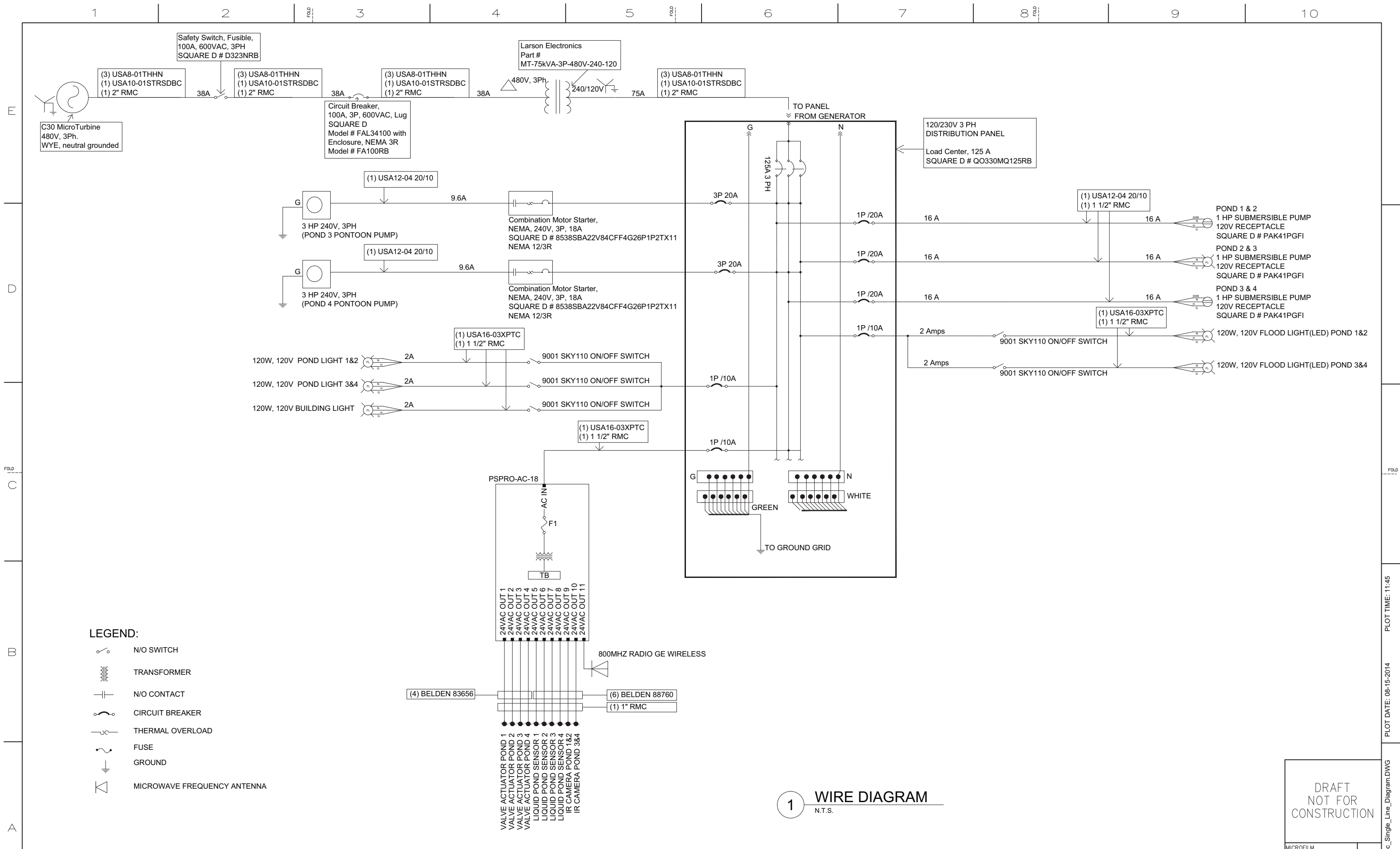
TOPOCK GROUNDWATER REMEDIATION PROJECT
COMPRESSOR STATION PONDS UPGRADES

ELECTRICAL NOTES

GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	
E-09-01	0

PLOT DATE: 08-15-2014 PLOT TIME: 14:45 FILENAME: E-09-01_Electrical_Notes.DWG



LEGEND:

- N/O SWITCH
- TRANSFORMER
- N/O CONTACT
- CIRCUIT BREAKER
- THERMAL OVERLOAD
- FUSE
- GROUND
- MICROWAVE FREQUENCY ANTENNA

1 WIRE DIAGRAM
N.T.S.

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NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY	NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
0	9/8/14	PRE-FINAL (90%) DESIGN	DSA	RB	RB										

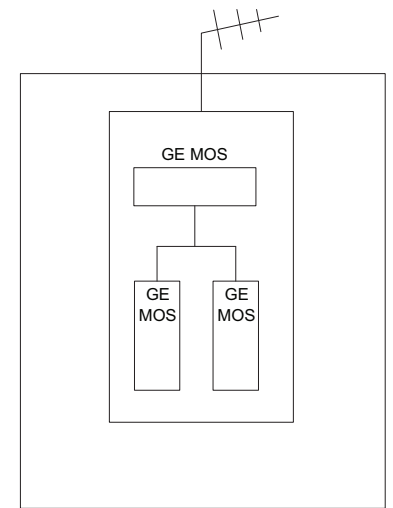
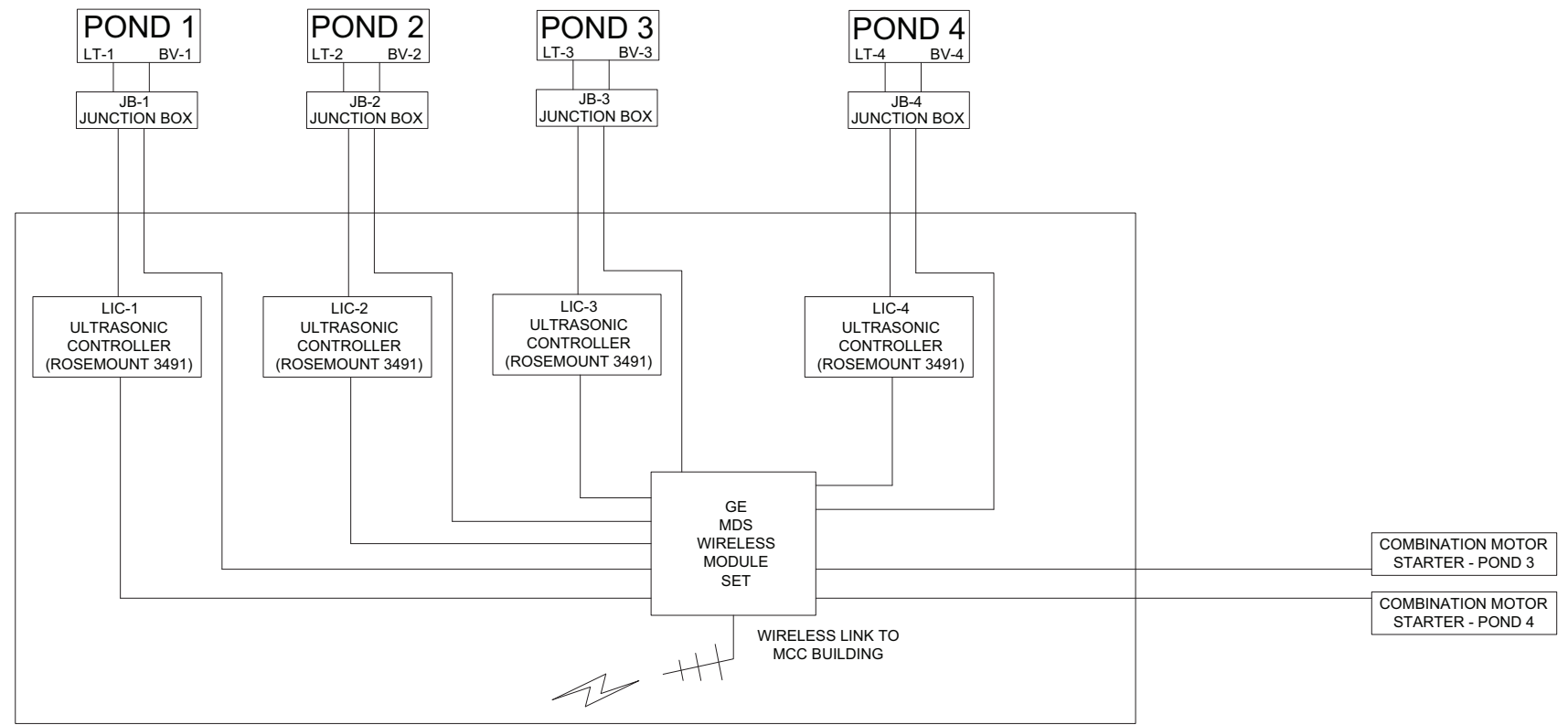
APPROVED BY	SO
	SUPV RB
	DSGN MK
	DWN DSA
	CHKD RB
	OK
DATE	9/8/14
SCALE	NTS

TOPOCK GROUNDWATER REMEDIATION PROJECT
COMPRESSOR STATION PONDS UPGRADES
ELECTRICAL SINGLE LINE DIAGRAM
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	
E-09-02	REV 0

E
D
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1 2 3 4 5 6 7 8 9 10



WIRELESS CONTROL PANEL
N.T.S.

LEGEND:
LT - LEVEL TRANSMITTER
BV - BUTTERFLY VALVE
JB - JUNCTION BOX

CONTROL BUILDING (EXISTING)
N.T.S.

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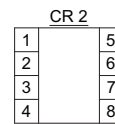
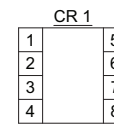
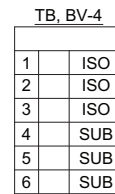
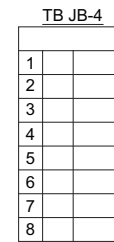
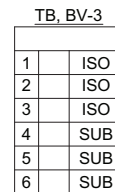
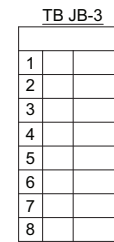
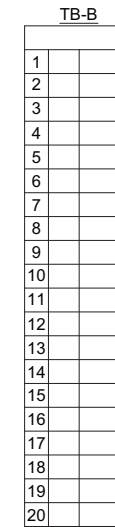
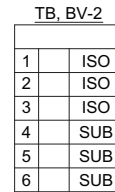
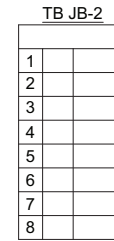
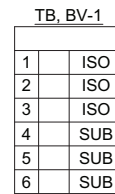
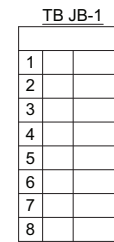
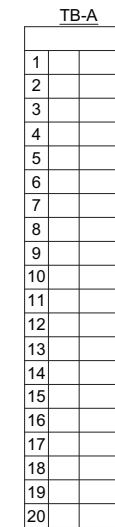
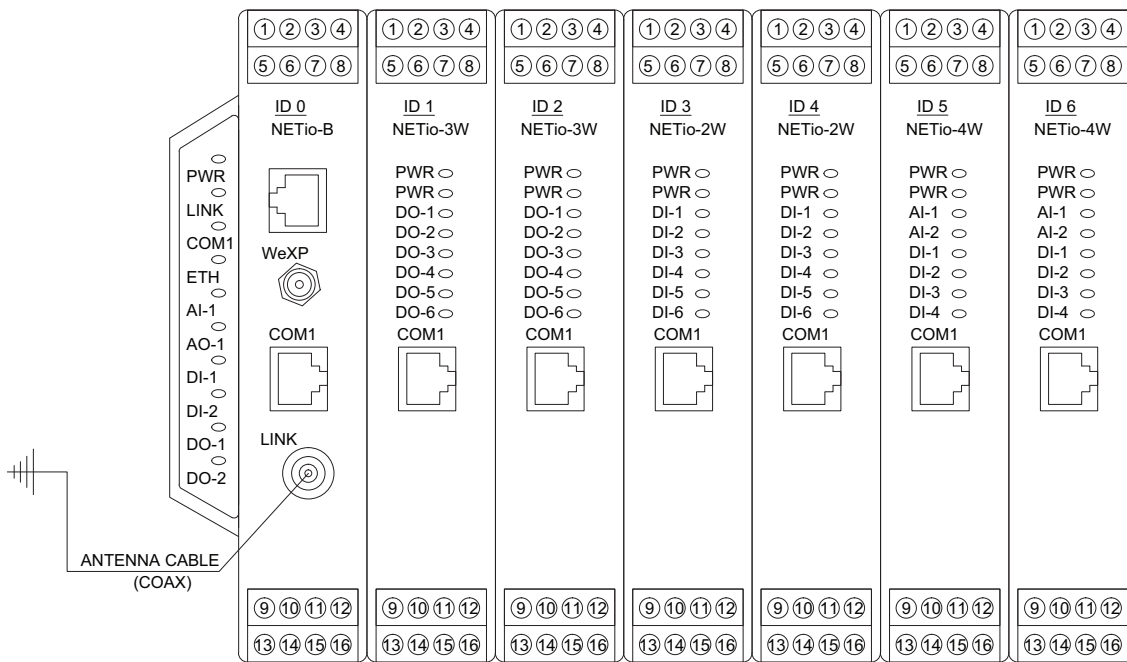
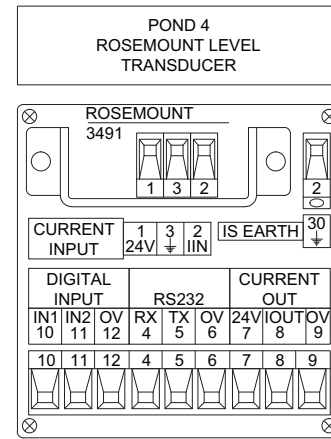
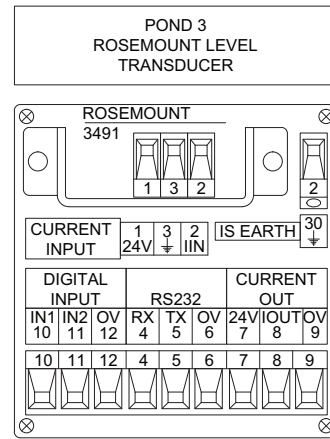
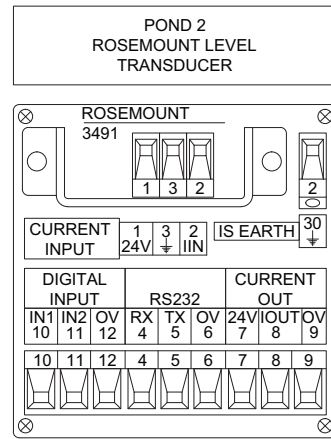
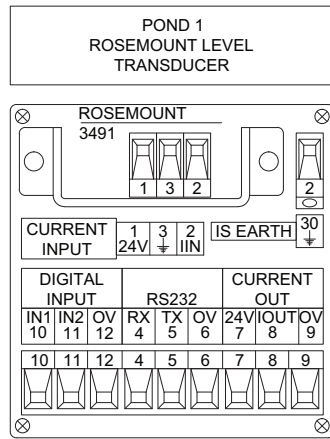
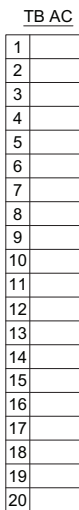
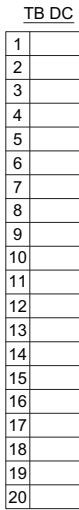
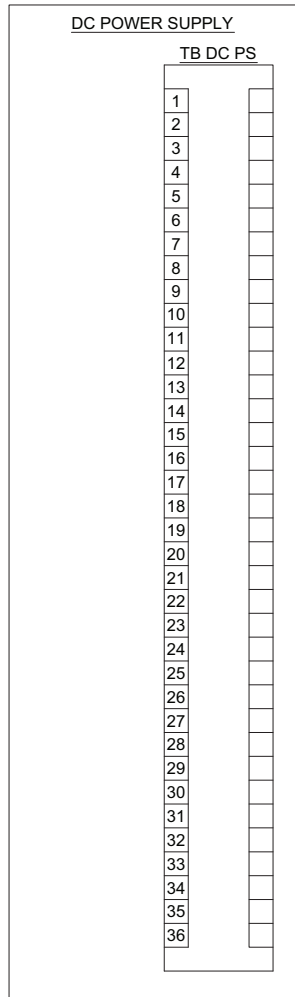
NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY	NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
0	9-8-14	PRE-FINAL (90%) DESIGN					MJY MK RB								

APPROVED BY	ISO
	SUPV RB
	DSGN MJY
	DWN MJY
	CHKD RB
	OK
DATE	9-8-14
SCALE	NTS

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	E-09-03
REV	0

PLOT DATE: 08-15-2014 PLOT TIME: 14:27 FILENAME: E-09-03_Comm_Block_Diagram.DWG

NOTES



GE MDS: NETioE MODULE CONFIGURATION

TAG	I/O	DESCRIPTION	CKT
ID0	AI1		---
	AO1		---
	DI1		---
	DI2		---
	DO1		---
	DO2		---
ID1	DO1	BV-1 OPEN	---
	DO2	BV-1 CLOSE	---
	DO3	BV-2 OPEN	---
	DO4	BV-2 CLOSE	---
	DO5	BV-3 OPEN	---
	DO6	BV-3 CLOSE	---
ID2	DO1	BV-4 OPEN	---
	DO2	BV-4 CLOSE	---
	DO3		---
	DO4		---
	DO5	CR 1 - POND 3 PUMP RUN	---
	DO6	CR 2 - POND 4 PUMP RUN	---
ID3	DI1	BV-1 OPEN	---
	DI2	BV-1 CLOSE	---
	DI3	BV-2 OPEN	---
	DI4	BV-2 CLOSE	---
	DI5	BV-3 OPEN	---
	DI6	BV-3 CLOSE	---

TAG	I/O	DESCRIPTION	CKT
ID4	DI1	BV-4 OPEN	---
	DI2	BV-4 CLOSE	---
	DI3		---
	DI4		---
	DI5		---
	DI6		---
ID5	AI1	POND 1 LEVEL	---
	AI2	POND 2 LEVEL	---
	DI1		---
	DI2		---
	DI3		---
	DI4		---
ID6	AI1	POND 3 LEVEL	---
	AI2	POND 4 LEVEL	---
	DI1		---
	DI2		---



NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY	NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
0	9/8/14	PRE-FINAL (90%) DESIGN					MJY	MJY	RB						

APPROVED BY	ISO
	SUPV RB
	DSGN MJY
	DWN MJY
	CHKD RB
	OK
DATE	9/8/14
SCALE	NTS

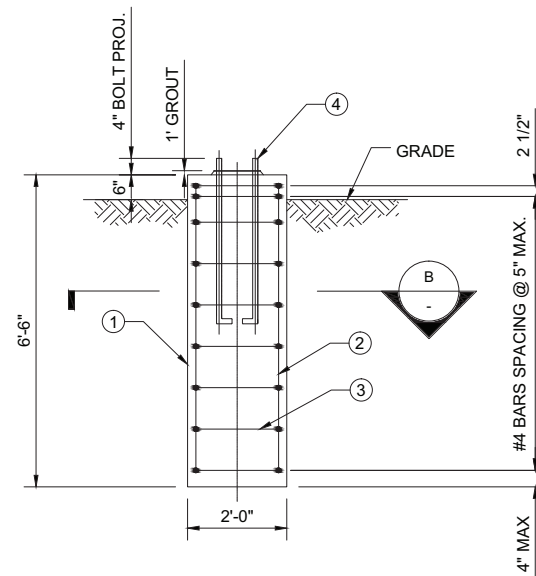
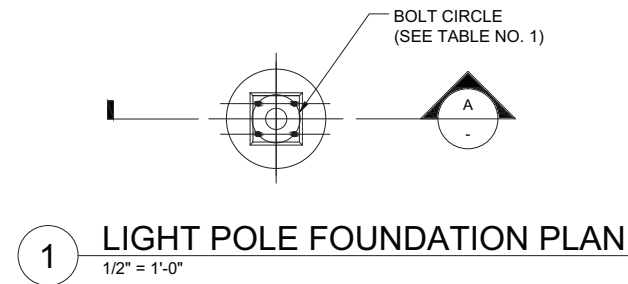
TOPOCK GROUNDWATER REMEDIATION PROJECT
 COMPRESSOR STATION PONDS UPGRADES
COMMUNICATIONS PANEL DETAILS
 GAS TRANSMISSION & DISTRIBUTION
 PACIFIC GAS AND ELECTRIC COMPANY
 SAN FRANCISCO, CALIFORNIA

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MICROFILM	BILL OF MATL
	DWG LIST
	SUPSDS
	SUPSD BY
	SHEET NO.
E-09-04	REV 0

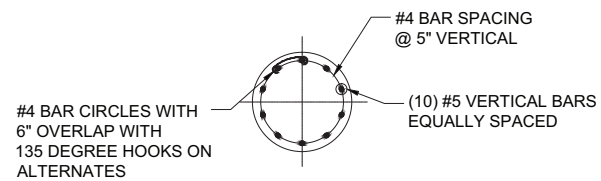
PLOT DATE: 08-15-2014 PLOT TIME: 14:52 FILENAME: E-09-04_Comm_Panel_Details.DWG

BILL OF MATERIAL			
ITEM	QTY	DESCRIPTION	NOTES
1	SEE TABLE 1	CONCRETE - 4000 PSI MIN. COMP. STR.	
1	SEE TABLE 2	LONGITUDINAL REBAR ASTM A65, GR. 60	
1	SEE TABLE 3	PIER TIE REBAR ASTM A65, GR. 61	
1	4	RIGHT ANGLE ANCHOR BOLT, 1" DIA. X 40" L, ASTM F1554 GR. 55	REFER TO APPLETON ROUND TAPERED STEEL POLES INSTALLATION REQTS.
1	1	APPLETON - 20' HINGED STEEL POLE #G-PHSH-20-GAL	
1	1	CROUSE-HINDS SLIPFITTER - #SFA6	
1	1	CROUSE-HINDS LED LAMP - #FMV-5L-C-Y/NV1, W/VISOR #DSV1	
1	1	CROUSE-HINDS 3/4", 20A, 1 POLE, GENERAL USE SNAP SWITCH - #EDS2129	
1	1	CROUSE-HINDS 3/4" CONDUIT SEAL - #EYS21	
1	AS REQ'D.	TSC EPOXY SEALING COMPOUND	
1	1	CROUSE-HINDS 3/4" CONDUIT SERVICE ENTRANCE ELBOW - #LBY25	

TABLE NO. 1				
POLE HEIGHT	CONCRETE QTY.	LONGITUDINAL REBAR	PIER TIE REBAR	BOLT CIRCLE
20' - 0"	0.52 C.Y.	(10) #5	(9) #3	DETERMINED BY FIELD CONTRACTOR

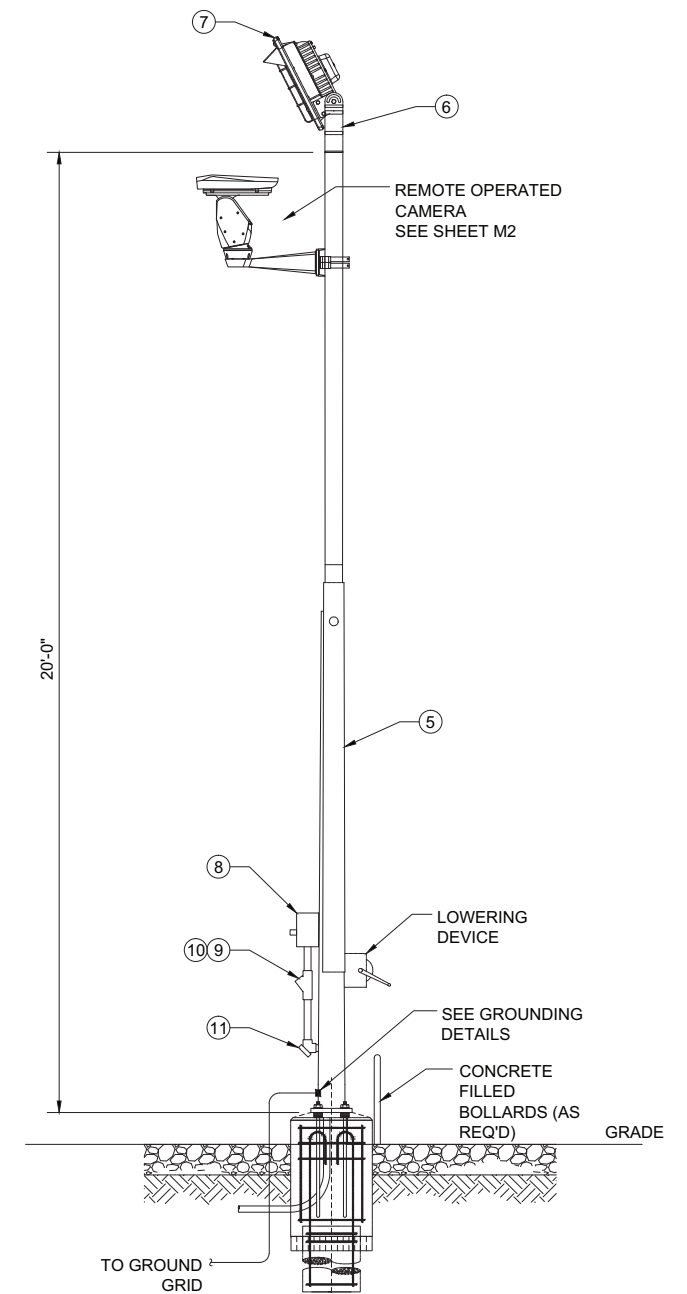


A SECTION
1/2" = 1'-0"

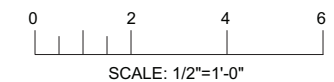


B SECTION
1/2" = 1'-0"

CONCRETE CLEAR COVER:
2" - TOP
2" - SIDE
3" - BOTTOM



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



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NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY	NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
								0	9/8/14	PRE-FINAL (90%) DESIGN		MJY	RB	RB	

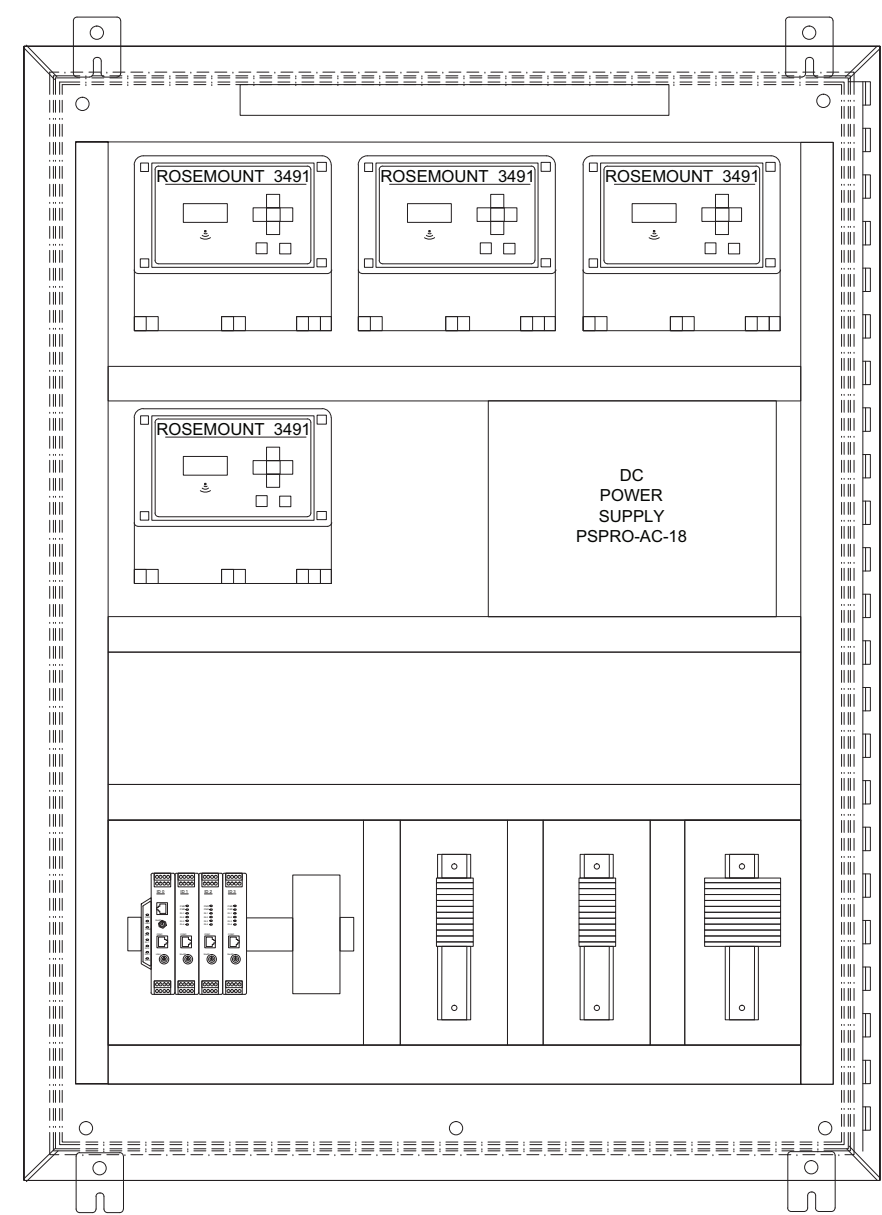
APPROVED BY	SO
	SUPV RB
	DSGN MJY
	DWN MJY
	CHKD RB
	OK
DATE	9/8/14
SCALE	1/2" = 1'

TOPOCK GROUNDWATER REMEDIATION PROJECT
COMPRESSOR STATION PONDS UPGRADES
AUX. EQUIPMENT DETAILS
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	
E-09-05	REV 0

1 2 3 4 5 6 7 8 9 10

E
D
C
B
A



CONTROLS CABINET DETAIL
N.T.S.

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ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA
2737 N. MAIN STREET, SUITE 200, WALNUT CREEK, CALIFORNIA 94597
OFFICE TEL# (925)279-5000 FAX# (925)279-5001 WWW.ALISTO.COM

NO.		DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY	NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
		0	9/8/14								PRE-FINAL (90%) DESIGN					

APPROVED BY	SO
	SUPV RB
	DSGN MK
	DWN MJY
	CHKD MK
	OK
DATE	9/8/14
SCALES	NTS

TOPOCK GROUNDWATER REMEDIATION PROJECT
COMPRESSOR STATION PONDS UPGRADES
ELECTRICAL DISTRIBUTION PANEL
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	
E-09-06	REV 0

FILENAME: E-09-06_Elec_Distribution_Panel.DWG PLOT DATE: 08-15-2014 PLOT TIME: 15:27