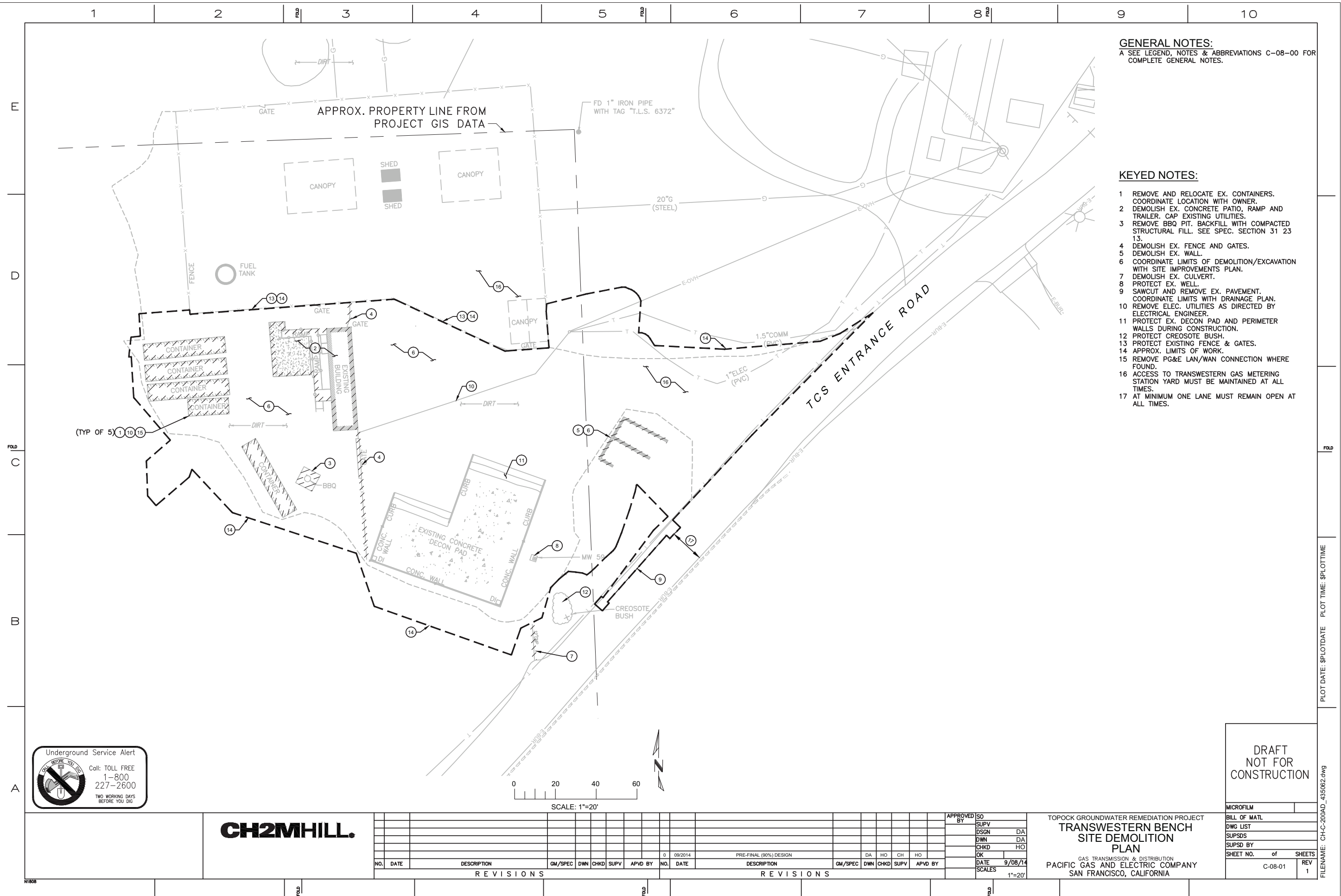
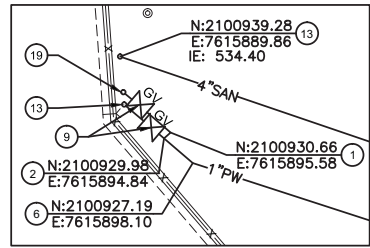
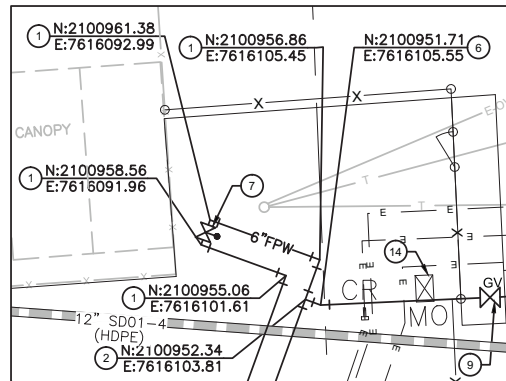


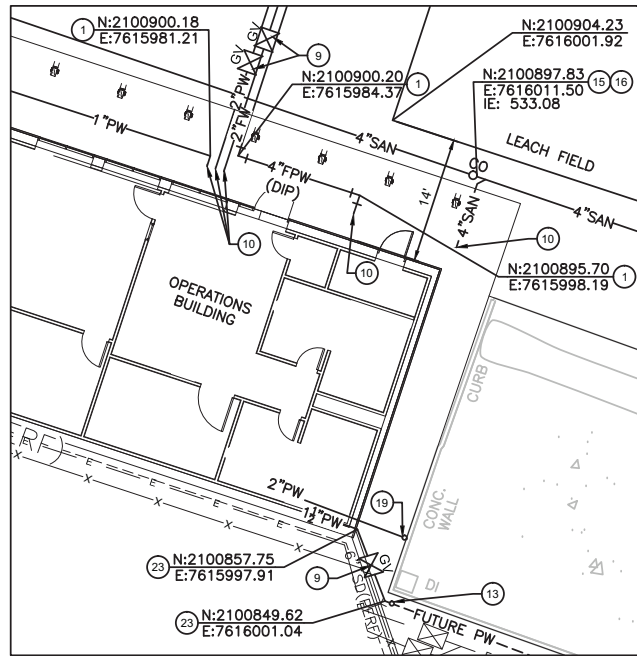




ENLARGED PLAN 3
(SCALE: 1" = 10' H)



ENLARGED PLAN 2
(SCALE: 1" = 10' H)



ENLARGED PLAN 1
(SCALE: 1" = 10' H)

GENERAL NOTES:

- SEE LEGEND, NOTES & ABBREVIATIONS C-08-00 FOR COMPLETE GENERAL NOTES.
- THE USE OF MECHANICAL RESTRAINTS IS RECOMMENDED BASED ON UNKNOWN SITE SOIL CHARACTERISTICS. THRUST BLOCK INSTALLATION IS BASED ON INSTALLING THRUST BLOCKS AGAINST UNDISTURBED SITE SOILS. CONTRACTOR IS RESPONSIBLE FOR ADEQUATE THRUST RESTRAINTS ON ALL PRESSURE LINES TO BE INSTALLED. THRUST RESTRAINT SYSTEMS SHALL BE SUBMITTED AND APPROVED BY ENGINEER.
- FOR UTILITY CROSSINGS, SEE DETAILS 4,7/C-08-07.

KEYED NOTES:

- INSTALL 90° BEND. SEE PLAN FOR ASSOCIATED SIZE.
- INSTALL TEE. SEE PLAN FOR ASSOCIATED SIZE.
- INSTALL REDUCER. SEE PLAN FOR ASSOCIATED SIZE.
- INSTALL 22.5° BEND AND 11.25° FOR TOTAL BEND OF 33.75°. SEE PLAN FOR ASSOCIATED SIZE.
- INSTALL 45° BEND AND 11.25° FOR TOTAL BEND OF 56.25°. SEE PLAN FOR ASSOCIATED SIZE.
- INSTALL 22.5° BEND. SEE PLAN FOR ASSOCIATED SIZE.
- INSTALL POST INDICATOR VALVE. SEE DETAIL 2/C-08-07.
- INSTALL FIRE HYDRANT. SEE DETAIL 12/C-08-07.
- INSTALL GATE VALVE AND VALVE BOX. SEE DETAIL 3/C-08-07.
- INSTALL BUILDING UTILITY PIPE CONNECTION. SEE 6/C-08-07. COORDINATE LOCATION WITH PLUMBING DRAWING P-08-01.
- APPROXIMATE CONNECTION TO TRENCH F PENDING FINAL DESIGN BY ARCADIS, SEE DWG C-07-52 AND DETAIL 10/C-07-117. COORDINATE FIELD ADJUSTMENT AS NEEDED WITH ARCADIS.
- VAULTS AND ALIGNMENT OF TRENCH F BY ARCADIS, SEE DWG C-07-52.
- CAP SERVICE AT 6" ABOVE FINISHED GRADE.
- APPROX. PULL BOX LOCATION. COORDINATE LOCATION PER ELECTRICAL DRAWING E-08-01.
- INSTALL CLEANOUT. SEE DETAIL 9/C-08-08.
- INSTALL WYE CONNECTION. SEE PLAN FOR ASSOCIATED SIZE.
- FOR SEPTIC SYSTEM DESIGN SEE DRAWING C-08-20.
- REROUTE EX. TELECOM SERVICE. PROVIDE 12" MIN. HORIZONTAL AND VERTICAL CLEARANCE. COORDINATE RELOCATION WITH FRONTIER.
- INSTALL HOSE BIB. SEE DETAIL 1/C-08-08.
- FOR PIPE MATERIAL OF WATER DISTRIBUTION LINES 2" DIAMETER OR LESS, SEE PLUMBING SPEC. SECTION 22 10 01.
- EXTEND WATER SERVICE TO WELLS. COORDINATE WELL LOCATION WITH ARCADIS DRAWING C-07-36.
- FOR ELECTRICAL SERVICE ROUTING TO WELL, SEE ELECTRICAL DRAWING E-08-01.
- INSTALL 45° BEND. SEE PLAN FOR ASSOCIATED SIZE.



CH2MHILL.

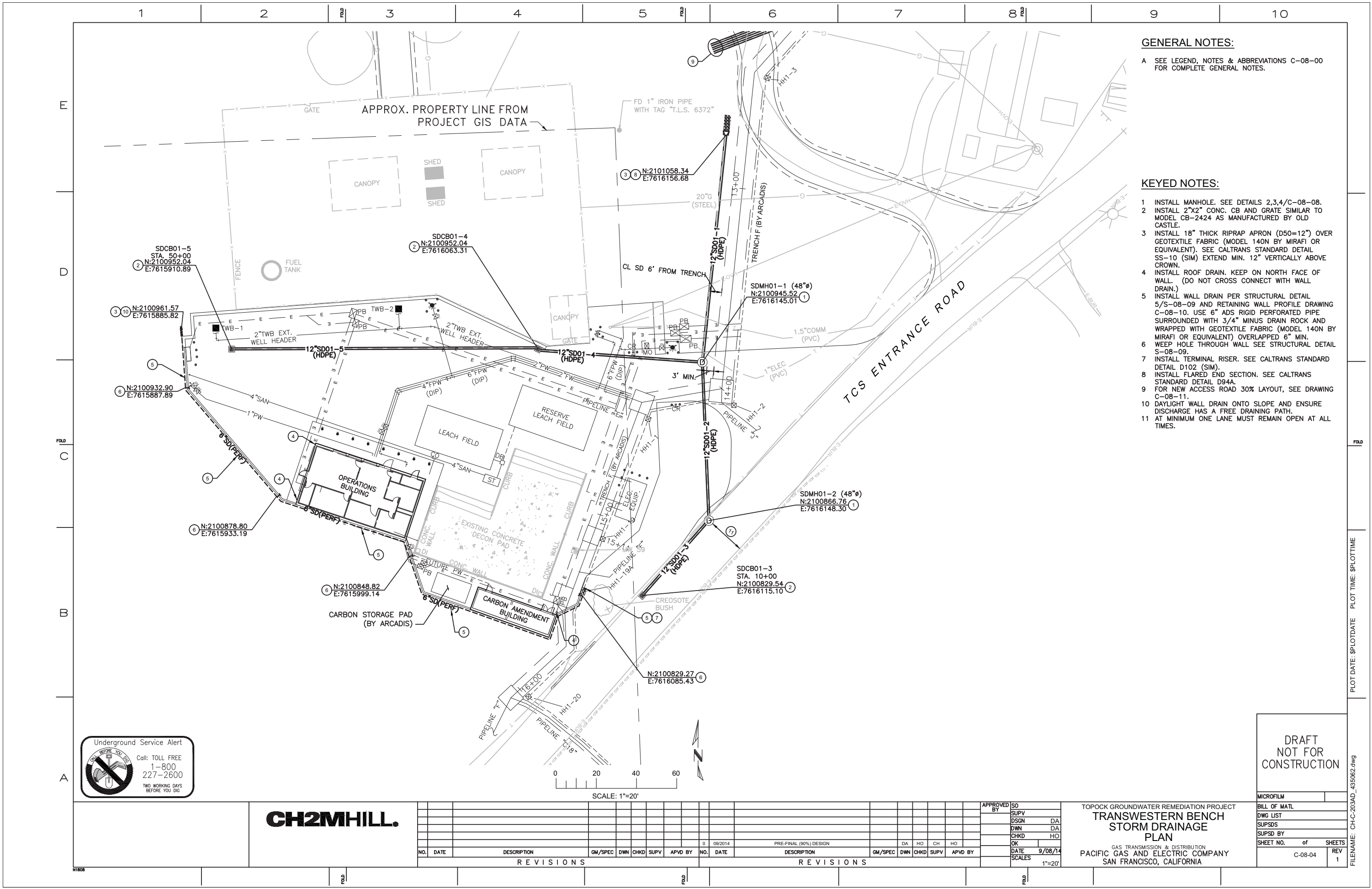
REVISIONS						REVISIONS					
NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY	NO.	DATE	DESCRIPTION	GM/SPEC
0	09/2014	PRE-FINAL (90%) DESIGN									

APPROVED BY	SO
	SUPV
	DSGN
	DA
	DWN
	DA
	CHKD
	HO
	OK
DATE	9/08/14
SCALE	1"=20'

TOPOCK GROUNDWATER REMEDIATION PROJECT
TRANSWESTERN BENCH
SITE UTILITIES
PLAN
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

DRAFT
NOT FOR
CONSTRUCTION

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	of SHEETS
C-08-03	REV 1



GENERAL NOTES:

A SEE LEGEND, NOTES & ABBREVIATIONS C-08-00 FOR COMPLETE GENERAL NOTES.

- KEYED NOTES:**
- 1 INSTALL MANHOLE. SEE DETAILS 2,3,4/C-08-08.
 - 2 INSTALL 2"x2" CONC. CB AND GRATE SIMILAR TO MODEL CB-2424 AS MANUFACTURED BY OLD CASTLE.
 - 3 INSTALL 18" THICK RIPRAP APRON (D50=12") OVER GEOTEXTILE FABRIC (MODEL 140N BY MIRAFI OR EQUIVALENT). SEE CALTRANS STANDARD DETAIL SS-10 (SIM) EXTEND MIN. 12" VERTICALLY ABOVE CROWN.
 - 4 INSTALL ROOF DRAIN. KEEP ON NORTH FACE OF WALL. (DO NOT CROSS CONNECT WITH WALL DRAIN.)
 - 5 INSTALL WALL DRAIN PER STRUCTURAL DETAIL 5/S-08-09 AND RETAINING WALL PROFILE DRAWING C-08-10. USE 6" ADS RIGID PERFORATED PIPE SURROUNDED WITH 3/4" MINUS DRAIN ROCK AND WRAPPED WITH GEOTEXTILE FABRIC (MODEL 140N BY MIRAFI OR EQUIVALENT) OVERLAPPED 6" MIN.
 - 6 WEEP HOLE THROUGH WALL SEE STRUCTURAL DETAIL S-08-09.
 - 7 INSTALL TERMINAL RISER. SEE CALTRANS STANDARD DETAIL D102 (SIM).
 - 8 INSTALL FLARED END SECTION. SEE CALTRANS STANDARD DETAIL D94A.
 - 9 FOR NEW ACCESS ROAD 30% LAYOUT, SEE DRAWING C-08-11.
 - 10 DAYLIGHT WALL DRAIN ONTO SLOPE AND ENSURE DISCHARGE HAS A FREE DRAINING PATH.
 - 11 AT MINIMUM ONE LANE MUST REMAIN OPEN AT ALL TIMES.



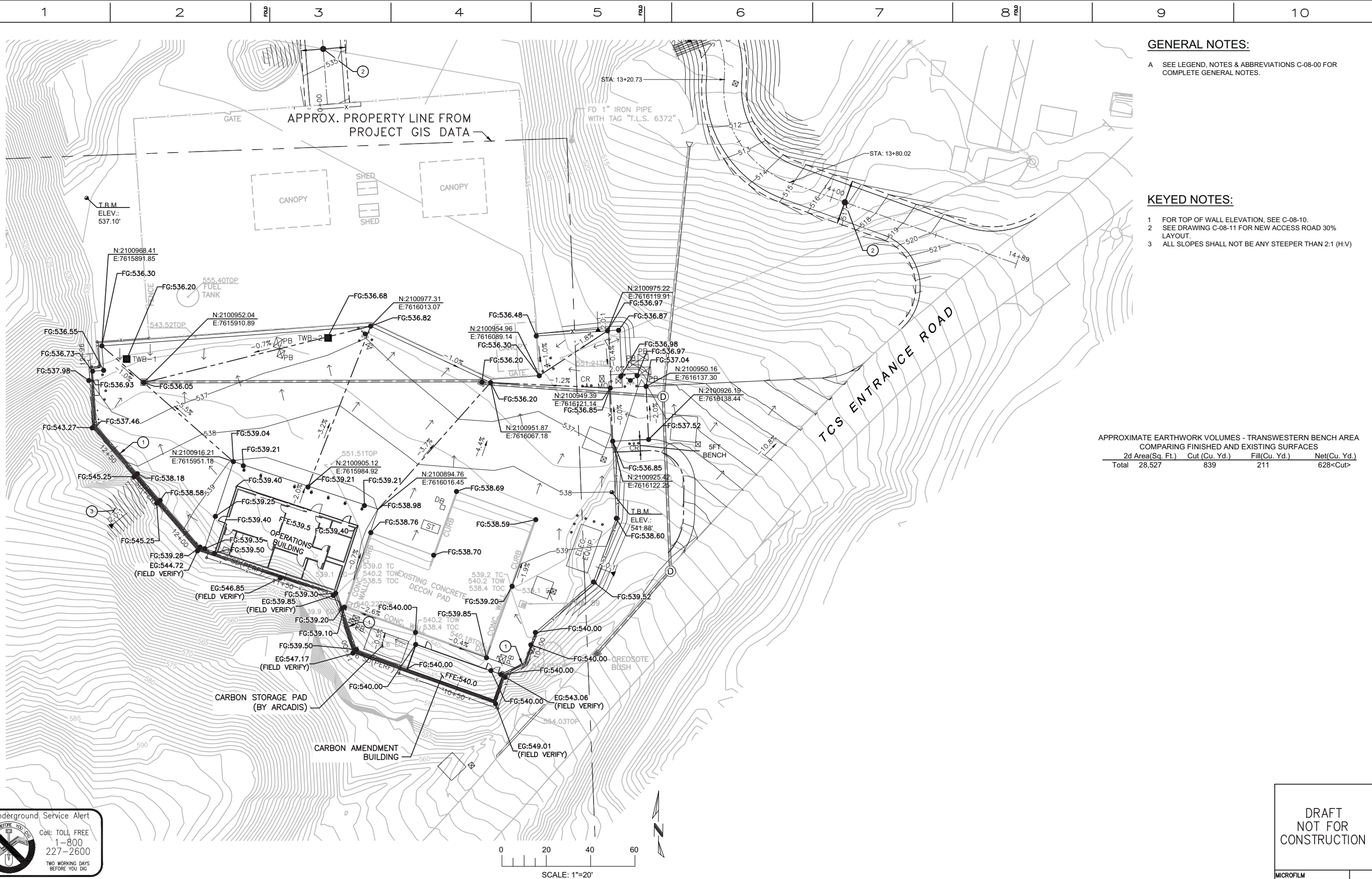
Underground Service Alert

Call: TOLL FREE
1-800
227-2600

TWO WORKING DAYS
BEFORE YOU DIG

CH2MHILL.

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--



- GENERAL NOTES:**
- A SEE LEGEND, NOTES & ABBREVIATIONS C-08-00 FOR COMPLETE GENERAL NOTES.
- KEYED NOTES:**
- 1 FOR TOP OF WALL ELEVATION. SEE C-08-10.
2 SEE DRAWING C-08-11 FOR NEW ACCESS ROAD 30% LAYOUT.
3 ALL SLOPES SHALL NOT BE ANY STEEPER THAN 2:1 (H:V)

APPROXIMATE EARTHWORK VOLUMES - TRANSWESTERN BENCH AREA
COMPARING FINISHED AND EXISTING SURFACES

	2d Area(Sq. Ft.)	Cut (Cu. Yd.)	Fill(Cu. Yd.)	Net(Cu. Yd.)
Total	28,527	839	211	628<Cut>



CH2MHILL.

E

D

FOLD

C

B

A

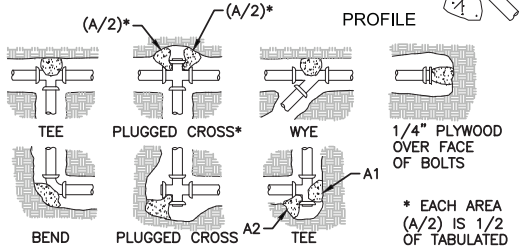
- NOTES:
- KEEP CONCRETE CLEAR OF JOINT AND JOINT ACCESSORIES.
 - CONCRETE THRUST BLOCKING SHALL BE POURED AGAINST UNDISTURBED EARTH.
 - REQUIRED VOLUMES OR BEARING AREAS AT FITTINGS SHALL BE AS SPECIFIED, AND ADJUSTED AS NECESSARY, TO CONFORM TO THE TEST PRESSURE(S) AND ALLOWABLE SOIL BEARING PRESSURE(S).
 - THRUST BLOCK VOLUMES FOR VERTICAL BENDS HAVING UPWARD RESULTANT THRUSTS ARE BASED ON TEST PRESSURE OF 200 PSIG AND THE WEIGHT OF CONCRETE = 4050 LBS/CU YD. TO COMPUTE VOLUMES FOR DIFFERENT TEST PRESSURES, USE THE FOLLOWING EQUATION :VOLUME = (TEST PRESS./200) x (TABLE VALUE)
 - BEARING AREAS FOR HORIZONTAL BEND THRUST BLOCKS ARE BASED ON TEST PRESSURE OF 200 PSIG AND AN ALLOWABLE SOIL BEARING STRESS OF 2000 LBS/SQ FT. TO COMPUTE BEARING AREAS FOR DIFFERENT TEST PRESSURES AND SOIL BEARING PRESSURE, USE THE FOLLOWING EQUATION: BEARING AREA = (TEST PRESS./200) x (2000/SOIL BEARING PRESSURE) x (TABLE VALUE).
 - THRUST BLOCKS FOR VERTICAL BENDS HAVING DOWNWARD RESULTANT THRUSTS SHALL BE THE SAME AS FOR HORIZONTAL BENDS.
 - BEARING AREAS, VOLUMES, AND SPECIAL BLOCKING DETAILS SHOWN ON PLANS TAKE PRECEDENCE OVER THIS STANDARD.
 - BEARING AREA OF THRUST BLOCK SHALL NOT BE LESS THAN 1.0 SQ FT.
 - VERTICAL BENDS THAT REQUIRE A THRUST BLOCK VOLUME EXCEEDING 5 CUBIC YARDS REQUIRE SPECIAL BLOCKING. SEE PLANS.

BEARING AREA OF THRUST BLOCKS IN SQUARE FEET (HORIZONTAL BENDS)								
FITTING SIZE	TEE, WYE, PLUG OR CAP	90° BEND, PLUGGED CROSS	TEE PLUGGED ON RUN		BEND ANGLE			
			A ₁	A ₂	45°	22 1/2°	11 1/4°	
4	1.4	1.9	2.5	1.9	1.4	—	—	
6	2.8	4.0	5.7	4.0	2.1	1.4	—	
8	5.1	7.1	10.1	7.2	3.9	2.0	1.4	
10	7.9	11.2	15.7	11.2	6.1	3.2	1.6	
12	11.3	16.0	22.7	16.0	8.8	4.5	2.3	
14	15.3	21.7	30.7	21.2	11.9	6.1	3.1	
16	20.0	28.4	40.0	28.4	15.5	8.0	4.0	
18	25.3	36.0	50.7	36.0	19.5	10.1	5.1	
20	31.3	44.4	62.7	44.4	24.1	12.5	6.3	
24	45.3	64.0	90.1	64.0	34.9	18.1	9.1	

VOLUME OF THRUST BLOCK IN CUBIC YARDS (VERTICAL BENDS)				
FITTING SIZE	BEND ANGLE			
	45°	22 1/2°	11 1/4°	
4	1.5	0.6	0.3	
6	3.6	1.4	0.6	
8	5.3	2.0	0.8	
10	8.0	3.1	1.2	
12	11.3	4.3	1.6	
14	15.3	5.7	2.4	
16	19.7	7.5	3.1	

FITTING SIZE	ROD SIZE	EMBEDMENT
12" AND LESS	#6	30"
14" - 16"	#8	36"

GALVANIZED RODS OVER FITTING AND EMBEDDED IN CONCRETE (SEE TABLE FOR SIZES)



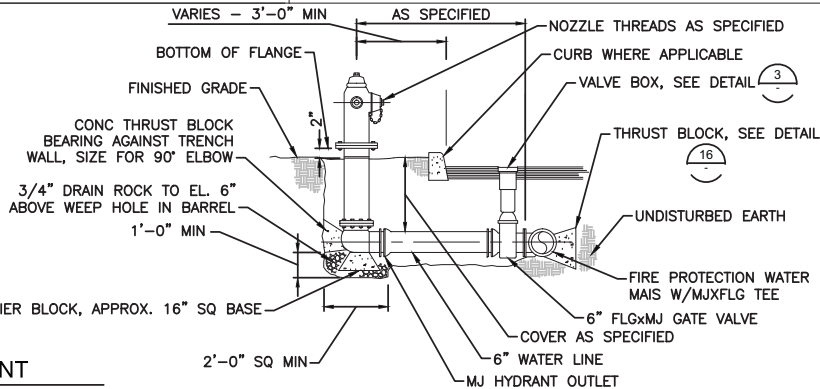
16 THRUST BLOCK DETAILS AND NOTES
SCALE: NTS

- SAN BERNARDINO COUNTY FIRE DEPARTMENT - NFPA 24 NOTES [SIC]
- VEHICULAR ACCESS MUST BE PROVIDED AND MAINTAINED SERVICEABLE THROUGHOUT CONSTRUCTION.
 - THE INSPECTION, HYDROSTATIC TEST AND FLUSH OF THE FIRE HYDRANTS OR SPRINKLER SYSTEM SHALL BE WITNESSED BY A FIRE DEPARTMENT REPRESENTATIVE.
 - NO UNDERGROUND PIPING SHALL BE COVERED WITH EARTH OR HIDDEN FROM VIEW UNTIL THE FIRE DEPARTMENT REPRESENTATIVE HAS BEEN NOTIFIED AND GIVEN NO LESS THAN 48 HOURS NOTICE IN WHICH TO INSPECT SUCH INSTALLATION.
 - PIPING SHALL BE LISTED FOR FIRE PROTECTION SERVICES AND COMPLY WITH AWWA STANDARDS, WHERE APPLICABLE (NFPA 24 SECTION 7-1.1).
 - PIPE USED IN PRIVATE FIRE SERVICE SHALL BE DESIGNED TO WITHSTAND A WORKING PRESSURE OF NOT LESS NA 150 PSI (NFPA 24 SECTION 7-1.3).
 - PIPE, VALVES, HYDRANTS, AND FITTINGS SHALL BE INSPECTED FOR DAMAGE WHEN RECEIVED AND SHALL BE INSPECTED PRIOR TO INSTALLATION.
 - BOLTED JOINTS SHALL BE CHECKED FOR PROPER TORQUING OF BOLTS. PIPE, VALVES, HYDRANTS, AND FITTINGS SHALL BE CLEAN INSIDE. WHEN WORK IS STOPPED, OPEN ENDS SHALL BE PLUGGED TO PREVENT STONES AND FOREIGN MATERIALS FROM ENTERING THE PIPE. (NFPA 24 SECTION 8-4.1)
 - BACKFILL SHALL BE WELL TAMPED IN LAYERS UNDER AND AROUND PIPE TO PREVENT SETTLEMENT AND LATERAL MOVEMENT, AND SHALL CONTAIN NO ASHES, CINDERS, REFUSE, ORGANIC MATTER, OR OTHER CORROSIVE MATERIAL (NFPA 24 SECTION 8-7.1).
 - UNDERGROUND MAINS AND LEAD IN CONNECTIONS TO SYSTEM RISERS SHALL BE FLUSHED THOROUGHLY AND WHITNESSED BY THE FIRE DEPARTMENT BEFORE CONNECTION IS MADE TO THE SPRINKLER TO REMOVE FOREIGN MATERIALS WHICH MAY HAVE ENTERED THE PIPE DURING THE COURSE OF INSTALLATION (NFPA 24 SECTION 9-1.1).
 - THE MINIMUM RATE OF FLOW FOR #9 ABOVE SHALL BE NOT LESS THAT THE WATER DEMAND RATE OF THE SYSTEM, WHICH IS DETERMINED BY THE SYSTEM DESIGN, OR NOT LESS THAN THAT NECESSARY TO PROVIDE A VELOCITY OF 10 FEET PER SECOND, WHICHEVER IS GREATER. FOR ALL SYSTEMS, THE FLUSHING OPERATIONS SHALL BE CONTINUED FOR A SUFFICIENT TIME TO INSURE THOROUGH CLEANING. WHEN THE FLOW RATE AS USED IN TABLE 9-1.1 CANNOT BE VERIFIED OR MET, SUPPLY PIPE SHALL BE FLUSHED AT THE MAXIMUM FLOW RATE AVAILABLE TO THE SYSTEM UNDER FIRE CONDITIONS (NFPA 24 SECTION 9-1.1).
 - THE TRENCH SHALL BE BACKFILLED BETWEEN JOINTS BEFORE TESTING TO PREVENT MOVEMENT OF PIPE (NFPA 24 SECTION 9-2.2).
 - ALL NEW PRIVATE FIRE SERVICE MAINS SHALL BE HYDROSTATICALLY TESTED AT NOT LESS THAN 200 FOR TWO HOURS OR AT 50 PSI IN EXCESS OF THE MAXIMUM STATIC PRESSURE WHEN THE MAXIMUM STATIC PRESSURE IS IN EXCESS OF 150 PSI (NFPA 24 SECTION 9-2.3.1).
 - TEST SHALL BE MADE BY THE CONTRACTOR IN THE PRESENCE OF THE AUTHORITY HAVING JURISDICTION. THE CERTIFICATE IN FIGURE A-9-2.1 IS TO BE COMPLETED (NFPA 24 SECTION 9-2.3.4).
 - THRUST BLOCKS OR ANOTHER SUITABLE MEANS OF THRUST RESTRAINTS SHALL BE PROVIDED AT EACH CHANGE IN DIRECTION OF A PIPE AND AT ALL TEES. PLUGS, CAPS, AND BENDS (NFPA 24 SECTION 8-6.2).
 - THRUST BLOCK LOCATIONS SHALL BE INSPECTED PRIOR TO AND AFTER POURING OF THE THRUST BLOCKS (NFPA 24 SECTION 8-2.2.1).
 - PROVIDE THRUST BLOCK DETAIL ON PLANS FOR FIELD VERIFICATION (NFPA 24 SECTION 8-2.2.1)
 - PROVIDE FIRE HYDRANT AND SHUT-OFF VALVE DETAIL ON PLANS.

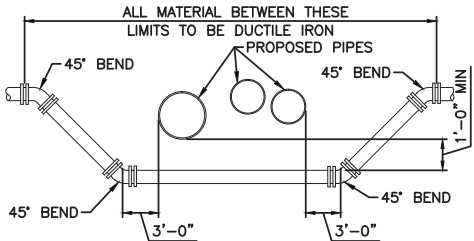
11 SAN BERNARDINO COUNTY FIRE DEPARTMENT - NFPA 24 NOTES
SCALE: NTS

- NOTES:
- ADJUST ALL EXISTING HYDRANTS TO FINISHED GRADE WHEN FINAL GRADING IS COMPLETE.
 - SEE DETAIL 6/C-08-06 FOR BOLLARD SPACING AROUND HYDRANT (UNO)

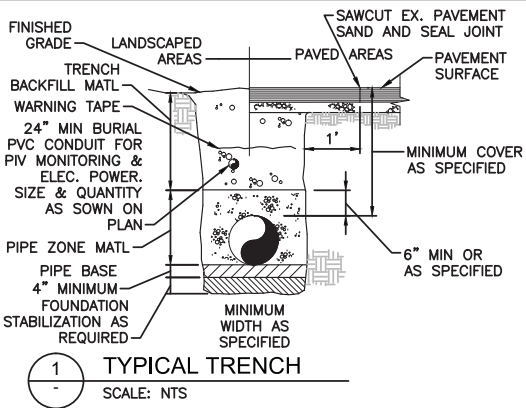
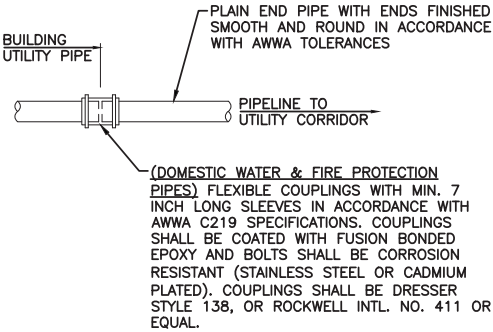
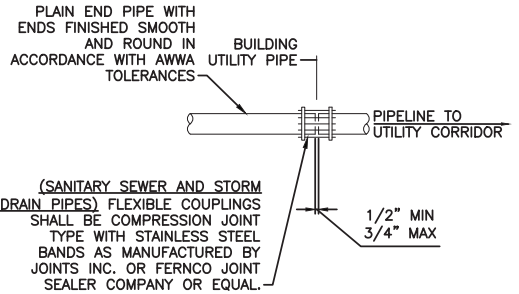
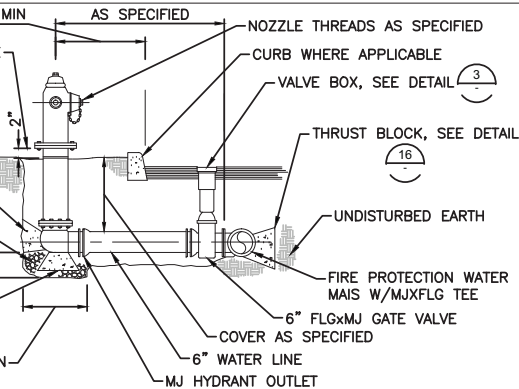
12 FIRE HYDRANT
SCALE: NTS



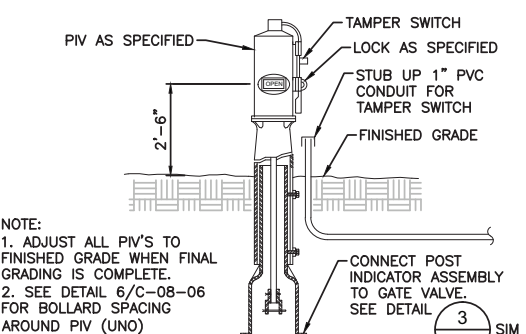
6 BLDG UTILITY PIPE CONNECTION
SCALE: NTS



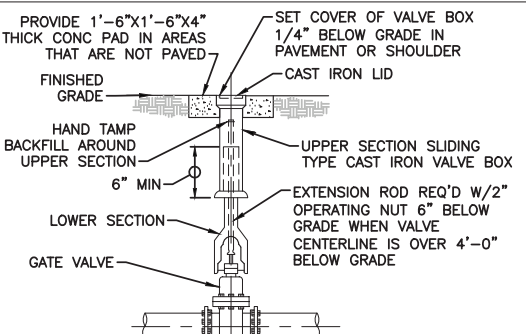
7 UTILITY CROSSING DETAIL
SCALE: NTS



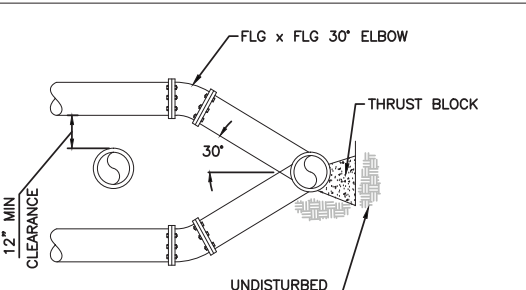
1 TYPICAL TRENCH
SCALE: NTS



2 POST INDICATOR VALVE
SCALE: NTS



3 VALVE BOX DETAIL
SCALE: NTS



4 WATER CROSSING
SCALE: NTS

GENERAL NOTES:
A SEE LEGEND, NOTES & ABBREVIATIONS C-08-00 FOR COMPLETE GENERAL NOTES.

KEYED NOTES:
1 NOT USED

DRAFT
NOT FOR
CONSTRUCTION

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	of SHEETS
C-08-07	REV 1

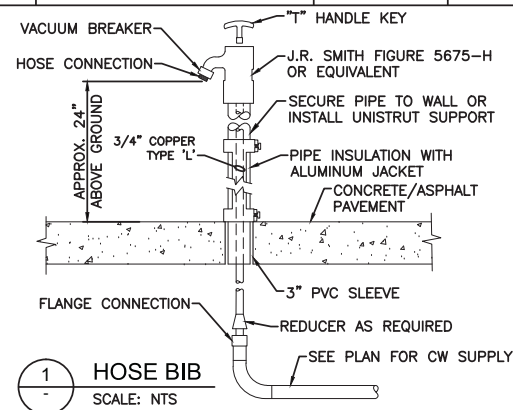
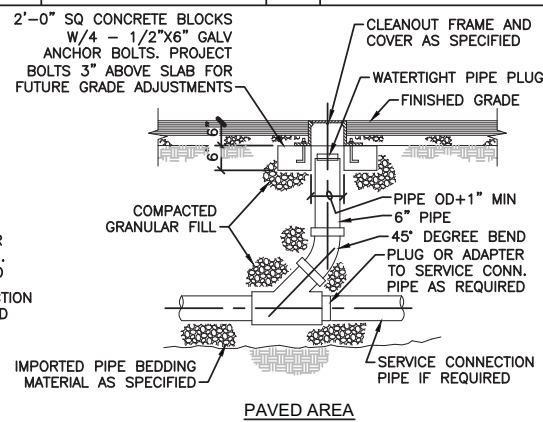
TOPOCK GROUNDWATER REMEDIATION PROJECT
TRANSWESTERN BENCH
CIVIL
DETAIL SHEET
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

CH2MHILL

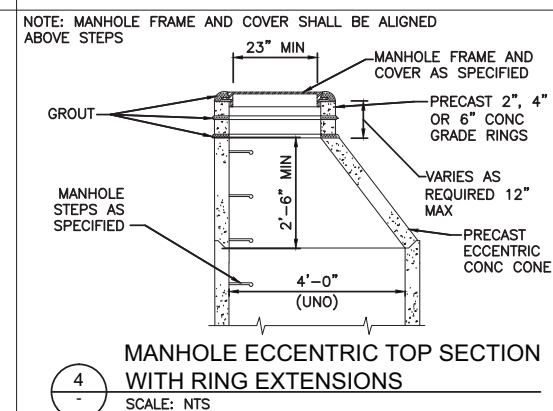
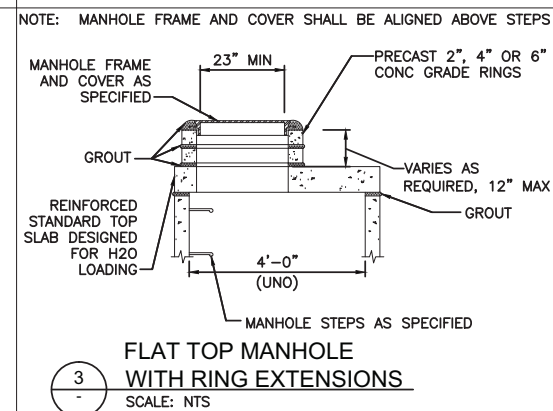
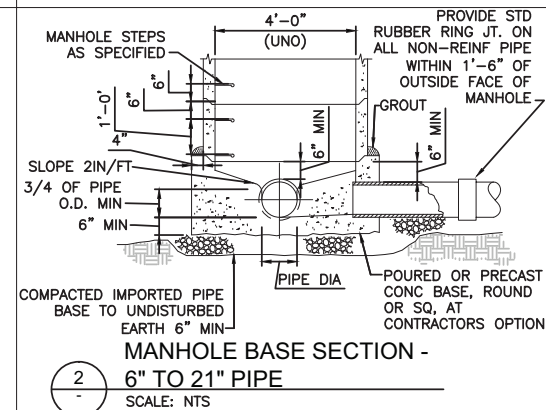
																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					</
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	----

APPROVED BY	SO
	SUPV
	DSGN
	DA
	DWN
	DA
	CHKD
	HO
	OK
DATE	9/08/14
SCALE	NTS

FILENAME: CH-C-206AD_435082.dwg PLOT TIME: \$PLOTTIME PLOT DATE: \$PLOTDATE



KEYED NOTES:
1 NOT USED



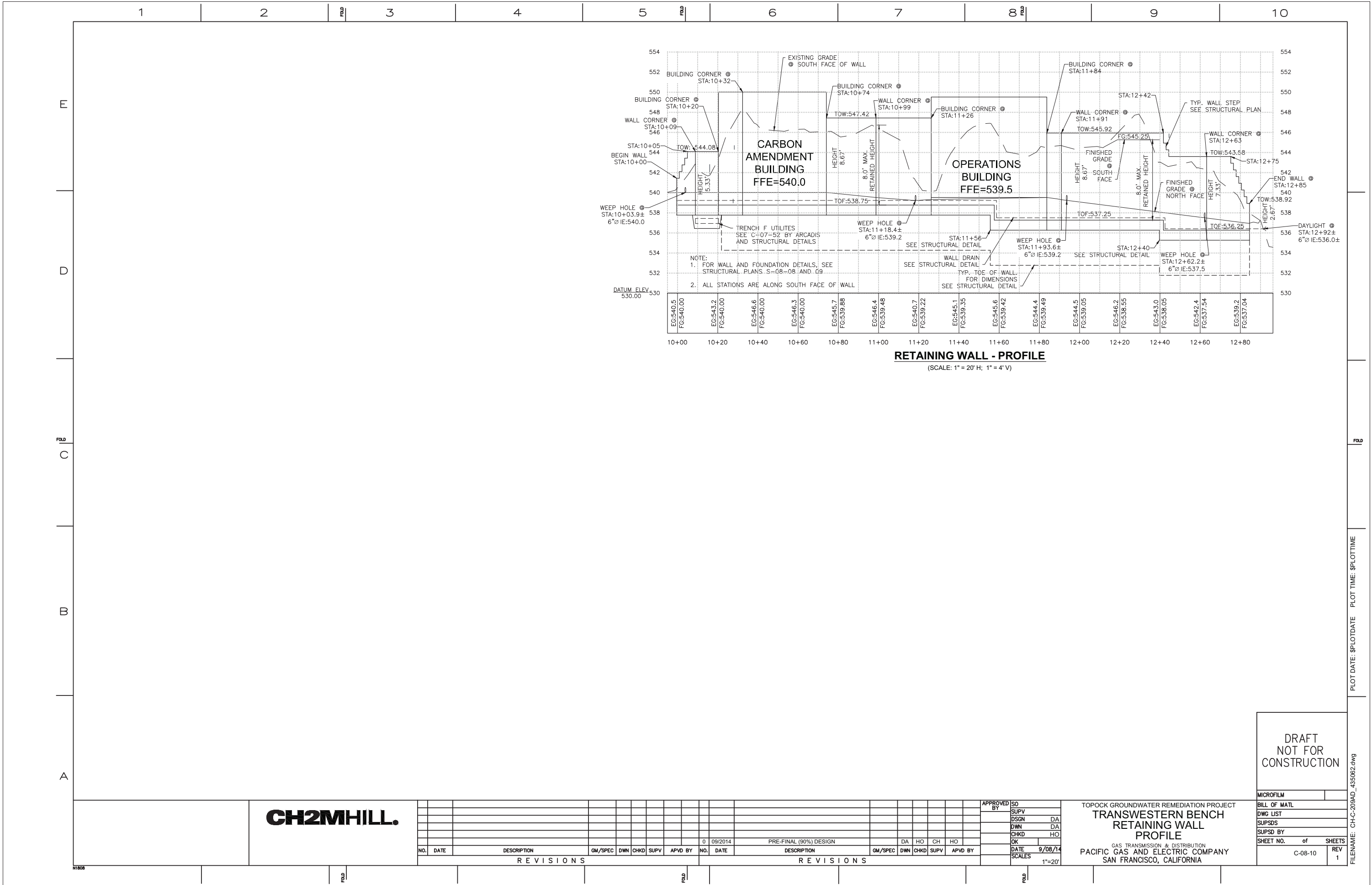
MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	SHEETS
C-08-08	REV 1

CH2MHILL.

[illegible]

	APPROVED BY	SO
		SUPV
		DSGN
		DWN
		CHKD
		OK
BY		DATE 9/08/1
		SCALES
		NTS

TOPOCK GROUNDWATER REMEDIATION PROJECT
TRANSWESTERN BENCH
CIVIL
DETAIL SHEET
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

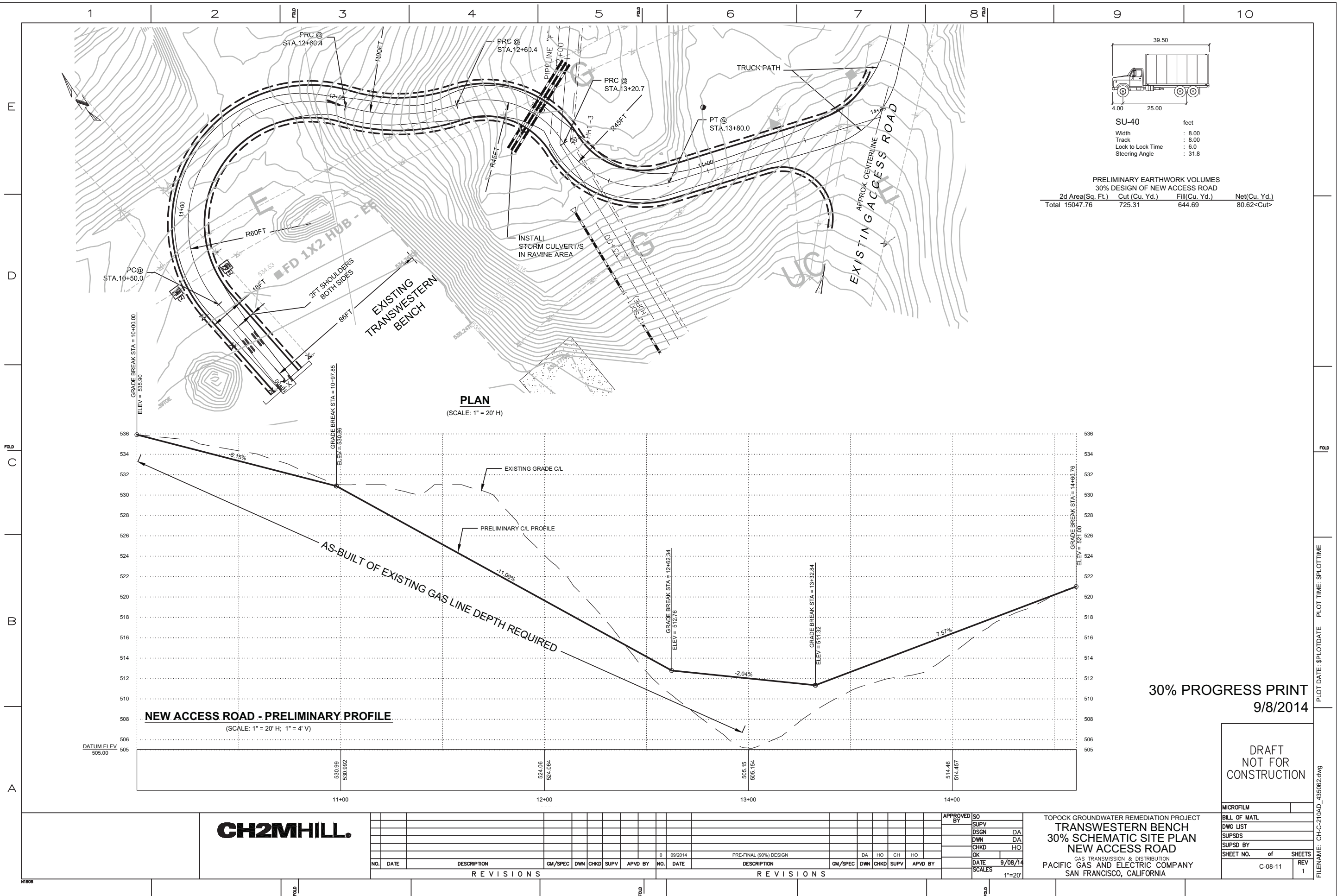


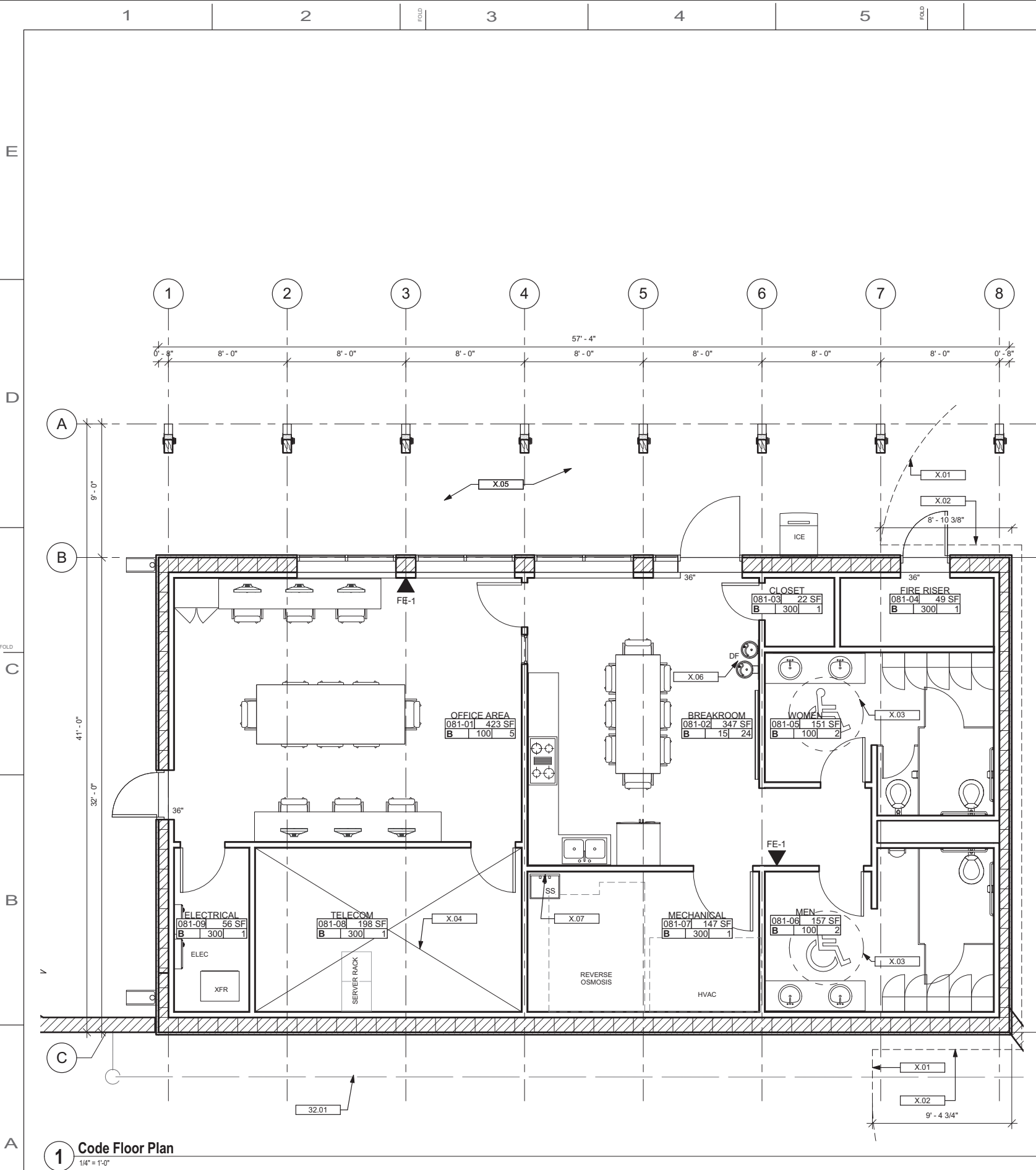
CH2MHILL.

TOPOCK GROUNDWATER REMEDIATION PROJECT
TRANSWESTERN BENCH
RETAINING WALL
PROFILE
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

DRAFT
NOT FOR
CONSTRUCTION

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	of SHEETS
C-08-10	REV 1





1 Code Floor Plan
1/4" = 1'-0"

EXIT REQUIREMENTS										
REQUIRED EXITS (CBC 1015.1 & 1021):						1				
MAX. TRAVEL DISTANCE ALLOWED: (TABLE 1016.2)						200				
MAX. COMMON PATH TRAVEL: (CBC 1014.3)						75				
MAX. DEAD ENDS: (TABLE 1018.4)						20				
CORRIDOR WIDTH (CBC 1018.2):						44"				
MIN. EGRESS WIDTH (CBC 1005.1):						36"				
PLUMBING FIXTURES (CPC TABLE 422.1)										
CPC TABLE A		B, 8 OCCUPANTS (200 SF/PERSON)								
MINIMUM FIXTURE COUNT	WC		LAV		URINAL		SHOWER	0	SINK	0
	M	F	M	F	M	F				
	1	1	1	1	0	0	DF	1	SS	1
ACTUAL FIXTURE COUNT	WC		LAV		URINAL		SHOWER	0	SINK	0
	M	F	M	F	M	F				
	1	2	2	2	1	0	DF	1	SS	1
URINALS (CPC TABLE 422.1, FOOTNOTE #3)										
-		-								
-				-						

REQUIRED FIRE RESISTANT RATINGS	
BUILDING ELEMENTS (TABLE 601)	
STRUCTURAL FRAME	0 HR
EXTERIOR BEARING WALLS	0 HR
INTERIOR BEARING WALLS	0 HR
INTERIOR NON-BEARING WALLS	0 HR
FLOOR CONSTRUCTION	0 HR
ROOF CONSTRUCTION	0 HR
SHAFT ENCLOSURE (707.4)	0 HR
STAIRWAY ENCLOSURE (1019.1)	0 HR
CORRIDOR (TABLE 1016.1)	0 HR
ALLOWABLE AREA OF EXTERIOR DOORS AND WINDOWS (704.8)	UNLIMITED
OCCUPANCY SEPARATIONS (CBC 508.3.3)	N/A
INCIDENTAL USE AREAS (508.2)	N/A
ACCESSORY USE AREAS (508.3.1)	N/A
NON-SEPARATED USE (508.3.2)	N/A
FIRE SEPARATION DISTANCE (TABLE 602)	30'
DISTANCE FROM ADJACENT BUILDING OR PROPERTY LINE	>30'

INTERIOR FINISHES (CBC 803.5)					
OCCUPANCY:	B	AREA:	1,480	CLASSIFICATION:	C
OCCUPANCY:	N/A	AREA:	N/A	CLASSIFICATION:	N/A

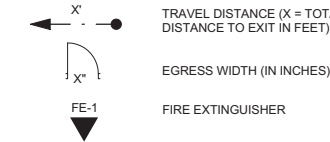
INSULATION REQUIREMENTS	
INSULATION (R-VALUE):	
ROOF:	R = 6.5
WALLS:	R = 1.4 CONT EXT INSUL
EXTERIOR DOORS:	U = 0.77
WINDOWS:	U = 0.71
ATTIC:	R-38 OR U = 0.027 MAX
UNHEATED SLAB ON GRADE:	N/A
SGHC:	U = 0.400
ROLL-UP OR SLIDING DOORS:	U = 0.100
GLAZING PERCENTAGE:	
WINDOW:	40% MAX
SKYLIGHT:	50% MAX
OTHER:	
DAYLIGHT CONTROLS:	YES
PERIMETER SLAB INSULATION:	N/A

CODE DATA		2013 CALIFORNIA BUILDING CODE
BUILDING:		
PROJECT:	PACIFIC GAS & ELECTRIC COMPANY TOPOCK REMEDIATION	ARCHITECT: CH2M HILL 2020 SW 4th AVENUE PORTLAND, OREGON
LOCAL OFFICIALS:		
BUILDING DEPARTMENT CONTACTS	BUILDING OFFICIAL: TBD	PHONE: XXX-XXX-XXXX
	PLANS EXAMINER: TBD	PHONE: XXX-XXX-XXXX
FIRE DEPARTMENT CONTACT	FIRE MARSHAL: TBD	PHONE: XXX-XXX-XXXX
OTHER		PHONE:
PROJECT DESCRIPTION		
NEW 1 STORY OFFICE BUILDING		
GENERAL INFORMATION		
USE AND OCCUPANCY CLASSIFICATION (CHAPTER 3)		B
CONSTRUCTION CLASSIFICATION (IBC 602 & TABLE 503)		II-B
AREA AND HEIGHT LIMITATIONS		
MAXIMUM ALLOWABLE AREA PER STORY (TABLE 503)		23,000
ALLOWABLE AREA $A = T + [TF/100] + [TS/100]$		
OCCUPANCY:		B
TABULAR AREA (T) [TABLE 503]:		23,000
SPRINKLER INCREASE (S) [506.3]:		N/A
FRONTAGE INCREASE (F) [506.2]:		N/A
ALLOWABLE AREA PER FLOOR (A):		23,000
ACTUAL AREA:		
ACTUAL PER FLOOR:	FIRST	1,480
	SECOND	NA
INTERMEDIATE LEVELS:		
MEZZANINE:	AREA: N/A	# OF OCCUPANTS: N/A # OF EXITS: N/A
INDUSTRIAL EQUIPMENT PLATFORM (CBC 505.5):		AREA: N/A
MAXIMUM ALLOWABLE STORIES (TABLE 503)		3
ACTUAL NUMBER OF STORIES:		1
MAXIMUM ALLOWABLE HEIGHT (TABLE 503)		55'
ACTUAL HEIGHT:		39'
AUTOMATIC SPRINKLER FOR STORY INCREASE (IBC 504.2):		N/A
OCCUPANCY / EGRESS INFORMATION		
DESIGN OCCUPANCY (TABLE 1004.1.2)		B
NUMBER OF OCCUPANCY PER FLOOR:		37
EGRESS WIDTH BASED ON OCCUPANCY (TABLE 1005.1)		44"
FIRE PROTECTION		
SPRINKLERS (CBC SECT 903)		N/A
FIRE EXTINGUISHERS (SECT 906)		2A:40BC
DISTANCE TO FIRE HYDRANT		TBD

GENERAL NOTES:

- A. FOR SIGN INFORMATION AND TYPE DESCRIPTIONS SEE SPECIFICATIONS SECTION 10 14 00
B. FOR ARCHITECTURAL LEGEND AND ABBREVIATIONS SEE SHEET A-00-00.
C. FOR FIRE EXTINGUISHER INFORMATION SEE SPECIFICATIONS SECTION 10 14 00.

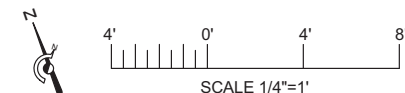
LEGEND



KEYED NOTES

- X.01 BOUNDARY OF ELECTRICAL SPECIAL CLASSIFICATION AREA - SEE ELECTRICAL AND CODE SHEETS FOR REQUIREMENTS
X.02 BOUNDARY OF ELECTRICAL SPECIAL CLASSIFICATION AT ADJACENT STRUCTURE
X.03 5'-0" DIAMETER CLEAR MANEUVERING SPACE
X.04 CONCEALED SPACE BELOW FLOOR EQUIPPED WITH WATER BASED AUTOMATIC FIRE SUPPRESSION SYSTEM
X.05 WATER BASED AUTOMATIC FIRE SUPPRESSION SYSTEM PROTECTED PORCH
X.06 DOUBLE HEIGHT DRINKING FOUNTAIN
X.07 JANITOR SINK

Code Schedule	
Applicable Code	Standard
a Zoning code:	San Bernardino County Development Code
b Building code:	2013 CALIFORNIA BUILDING CODE (CBC), TITLE 24, PART 2
c Fire code:	2013 CALIFORNIA FIRE CODE (CFC), TITLE 24, PART 9
d Mechanical code:	2013 CALIFORNIA MECHANICAL CODE (CMC), TITLE 24, PART 4
e Plumbing code:	2013 CALIFORNIA PLUMBING CODE (CPC), TITLE 24, PART 5
f Electrical code:	2013 CALIFORNIA ELECTRICAL CODE (CEC), TITLE 24, PART 3
g Energy code:	2013 CALIFORNIA ENERGY CODE (CEC), TITLE 24, PART 6; See 2013 Non-residential compliance manual for support
h Green Code:	2013 CALIFORNIA GREEN BUILDING STANDARDS CODE (CGBSC), TITLE 24, PART 11, applicable to newly constructed buildings.
i Accessibility:	CH 11B ACCESSIBILITY TO PUBLIC BUILDINGS, PUBLIC ACCOMMODATIONS, COMMERCIAL BUILDINGS AND PUBLIC HOUSING
j Fire Extinguishers:	CCR T19 D1 CH3 PORTABLE FIRE EXTINGUISHERS
k Health and Sanitation:	Title 6 Health and Sanitation, Chapter 6.96, Hazardous Material Business Plans and The California Accidental Release Prevention Program (HMBP & CARPP), Reference for the California State Health Safety Code
l Fire Sprinkler standard:	2013 NFPA 13 - Installation of Sprinkler Systems
m Flammable Liquids standard:	2008 NFPA 30 - Flammable and Combustible Liquids Code
n Fire Alarm standard:	2013 NFPA 72 - National Fire Alarm Code
o Exit Signs	2009 NFPA 170 - Standard for Fire Safety and Emergency Symbols
p Hazard Identification standard:	2012 NFPA 704 - Standard System for Identification of the Hazards of Materials for Emergency Response
q ASCE 7	2010 ASCE 7 - Minimum Design Loads for Buildings and Other Structures
r Fire Doors	1997 UL 10B - Fire Test for Door Assemblies; 2013 NFPA 80 - FIRE DOORS AND OTHER OPENING PROTECTIVES
s Panic Hardware	2007 UL 305 - Panic Hardware
t Fire Dampers	2006 UL 555 - Fire Dampers
u Cabinets	2005 UL 1275 - Flammable Liquid Storage Cabinets



DRAFT
NOT FOR
CONSTRUCTION

CH2MHILL®																		APPROVED BY		SO		TOPOCK GROUNDWATER REMEDIATION PROJECT OPERATIONS BUILDING	BILL OF MATL	
																				SUPV			DWG LIST	
																				DSGN AV			SUPSDS	
																				DWN RV			SUPSD BY	
																				CHKD RD			SHEET NO.	
																		OK		-	CODE SUMMARY SHEET	of	SHEET	
																					GAS TRANSMISSION & DISTRIBUTION			
																					PACIFIC GAS AND ELECTRIC COMPANY			
																					SAN FRANCISCO, CALIFORNIA			



-  CAMERA FIXED
 CARD READER
 SECURITY EQUIPMENT BACKBOARD / RACK
 ALARM
 DOOR CONTACT
 GLASS BREAK
 KEYPAD

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	of SHEET
A-08-03	REV 0

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

[illegible]



MICROFILM		
BILL OF MATL		
DWG LIST		
SUPSDS		
SUPSD BY		
SHEET NO.	of	SHEETS
A-08-04		REV 0

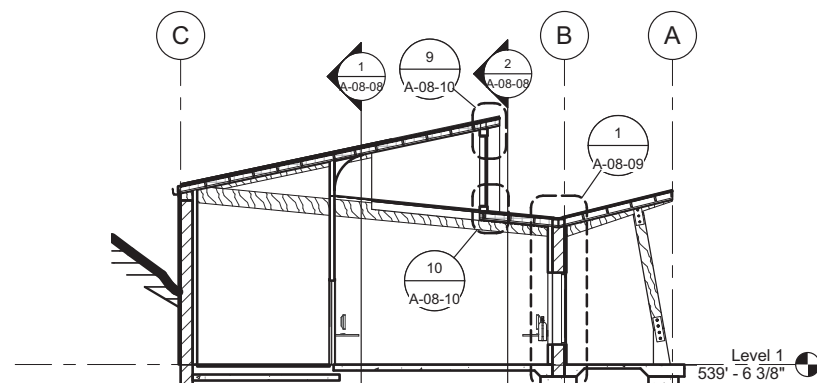
[illegible]

GENERAL NOTES

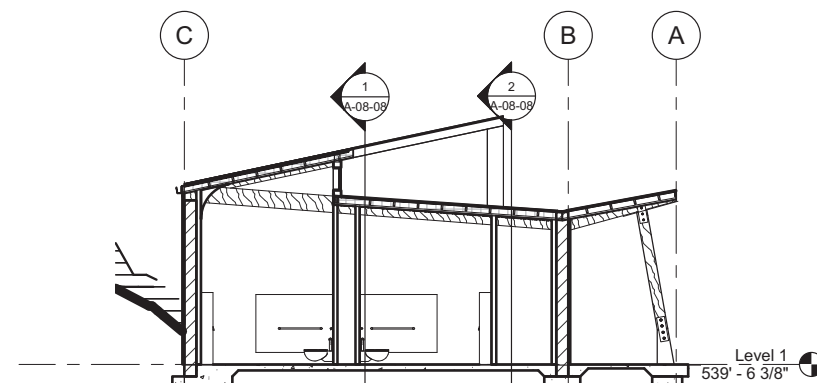
- A. SEE SHEET A-08-11 FOR STANDARD MOUNTING HEIGHTS, DOOR SCHEDULE, DOOR TYPES, WINDOW SIZES AND STOREFRONT TYPES.
- B. PROVIDE REINFORCEMENT IN METAL WALL PANELS TO ACCEPT SURFACE MOUNTED FIXTURES.

KEYED NOTES

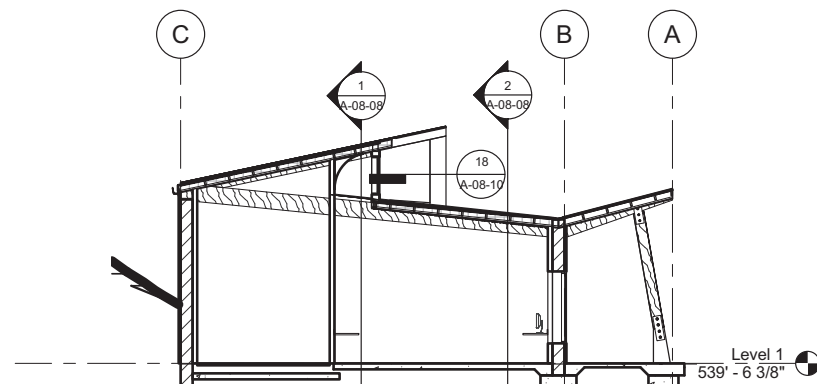
06.02	PLASTIC LAMINATE CABINETRY
09.01	ACCESS FLOOR ABOVE RECESSED CONCRETE
12.01	FURNISHINGS BY OTHERS



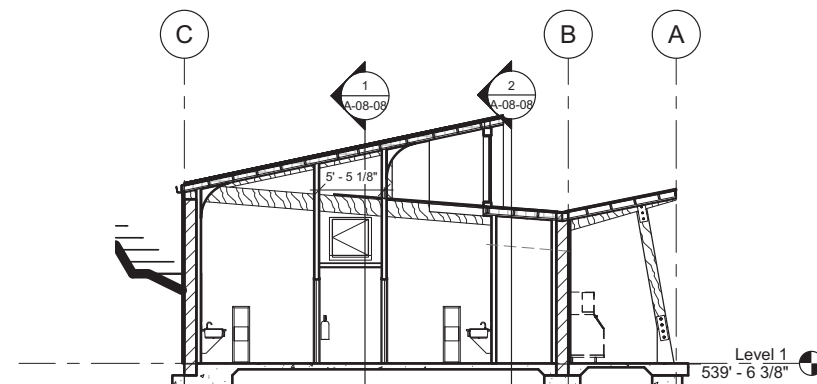
8 **Cross Section 5**
1/8" = 1'-0"



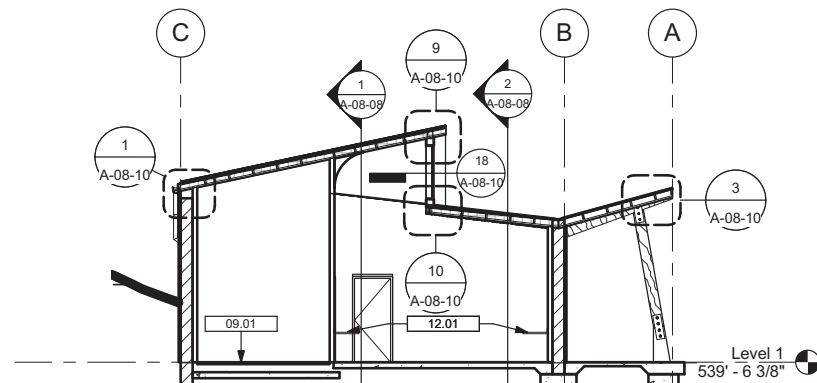
4 **Cross Section 1**
1/8" = 1'-0"



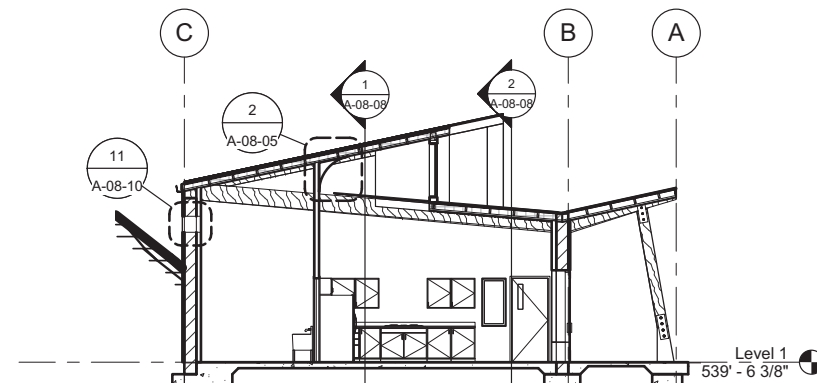
9 **Cross Section 6**
1/8" = 1'-0"



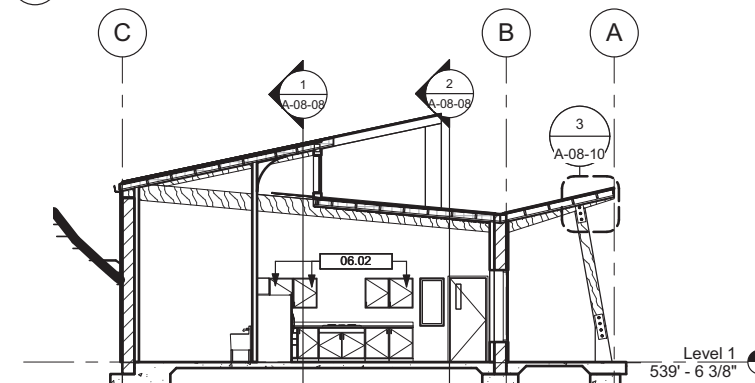
5 **Cross Section 2**
1/8" = 1'-0"



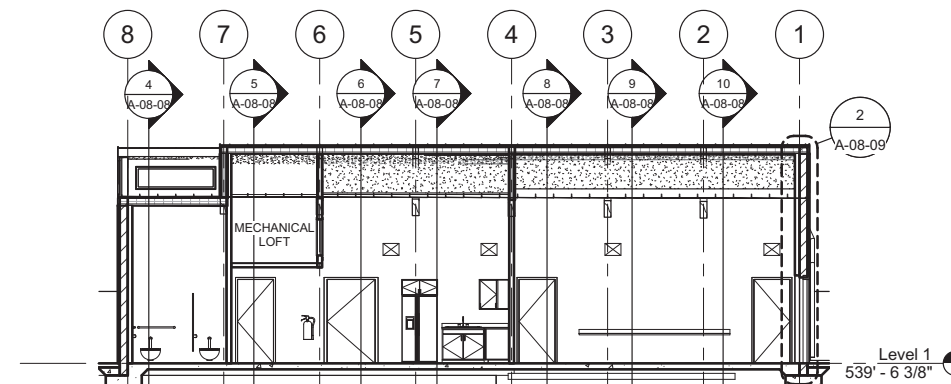
10 **Cross Section 7**
1/8" = 1' 0"



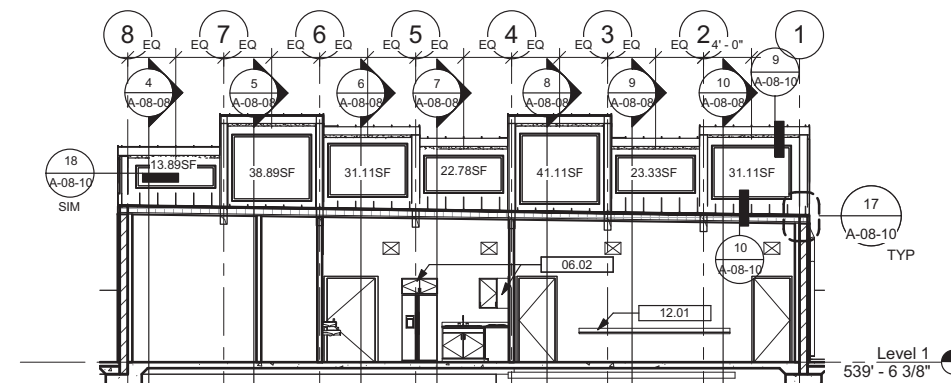
6 **Cross Section 3**
1/8" - 1' 0"



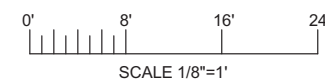
7 **Cross Section 4**
1/8" = 1'-0"



1 Longitudinal Section 2



2 Longitudinal Section 1



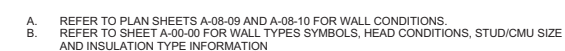
DRAFT
NOT FOR
CONSTRUCTION

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	of SHEET
A-08-08	REV 0

TOPOCK GROUNDWATER REMEDIATION PROJECT
OPERATIONS BUILDING

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

CH2MHILL®[illegible]



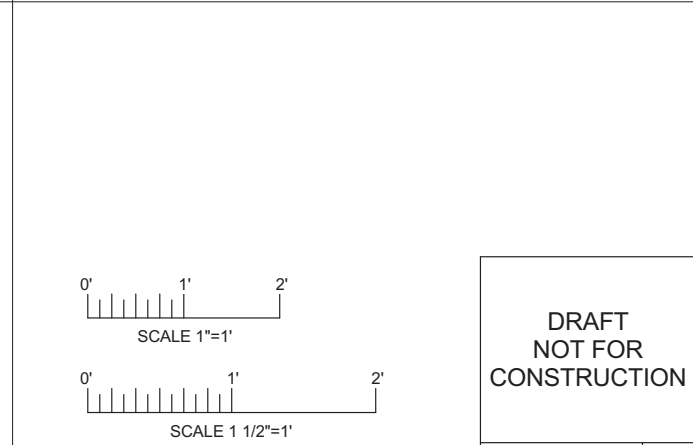
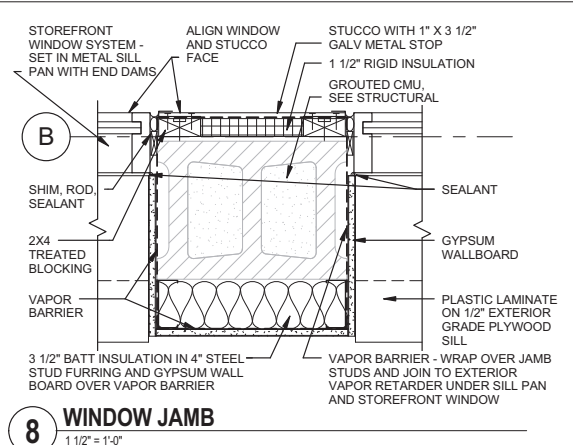
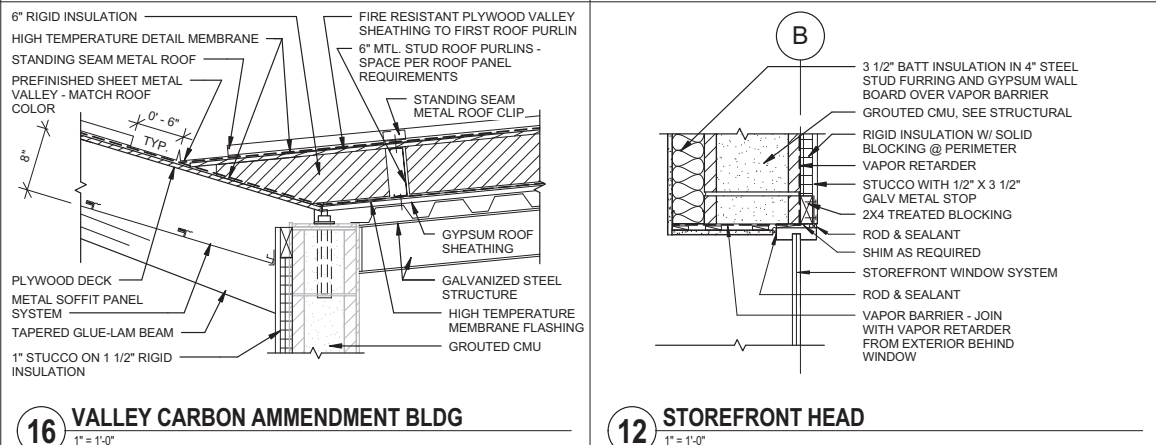
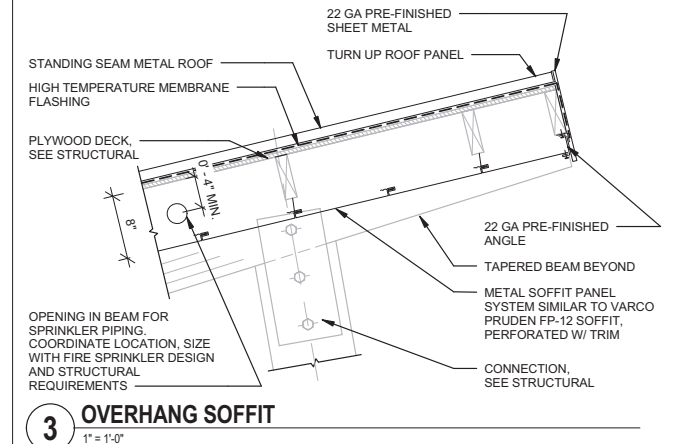
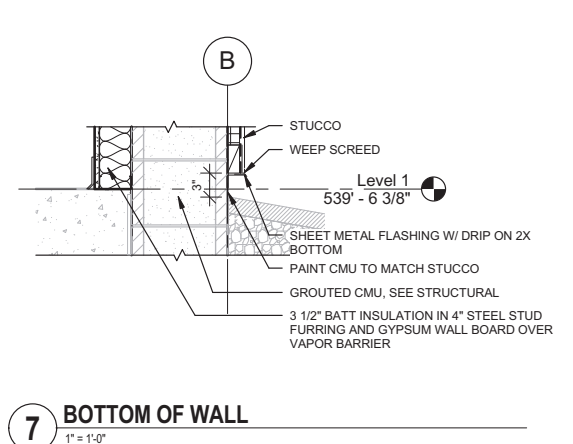
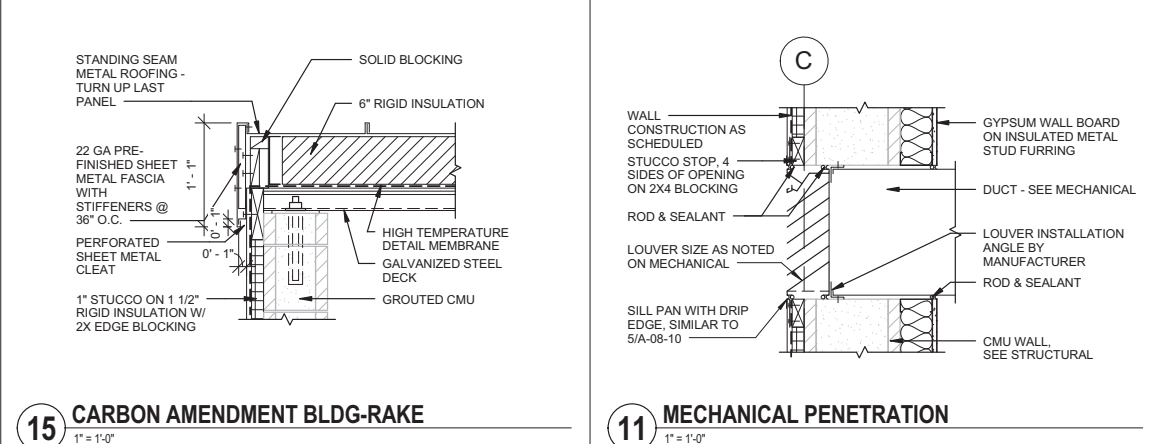
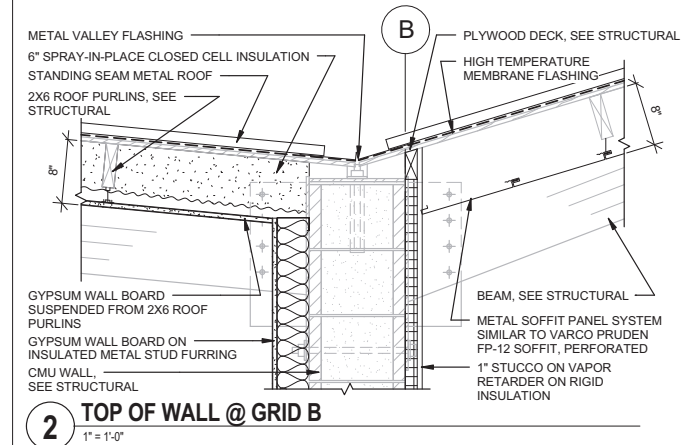
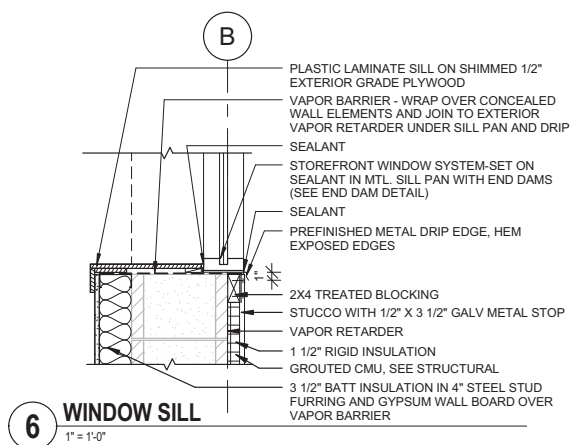
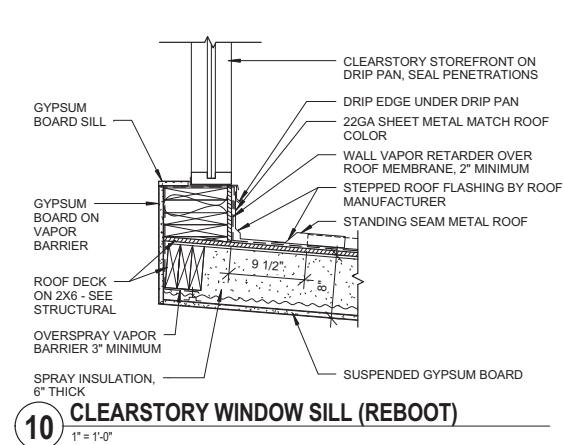
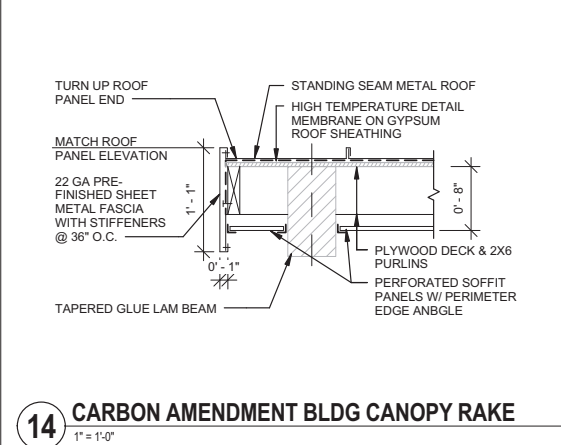
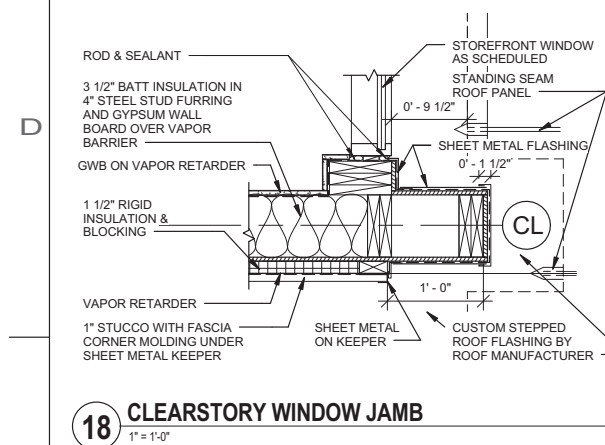
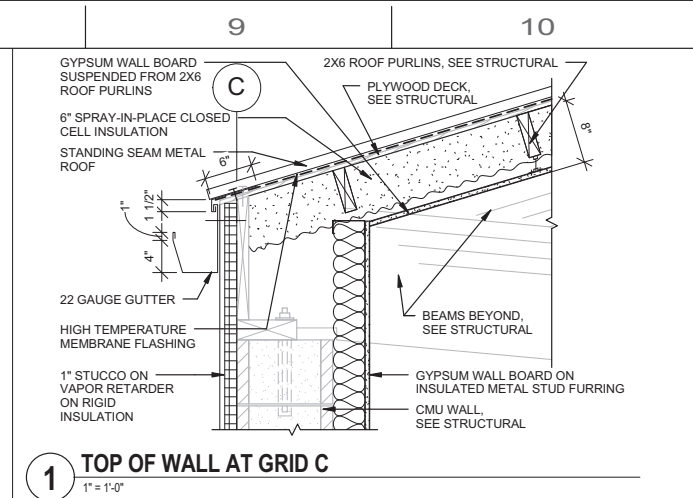
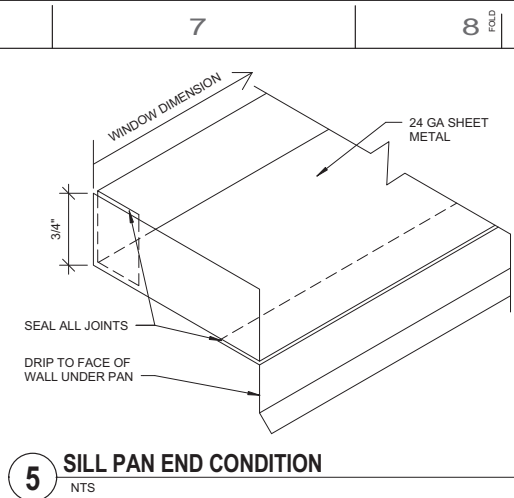
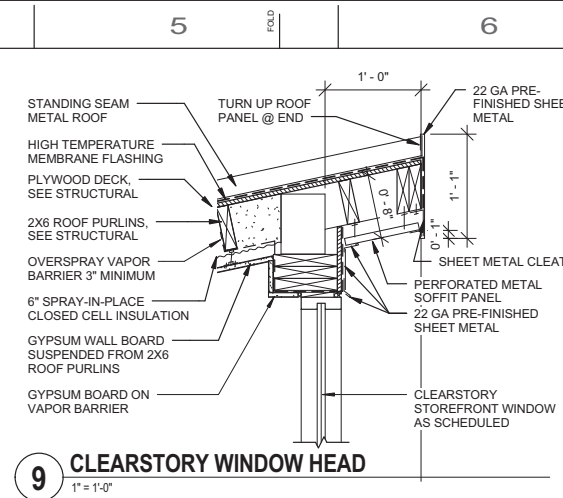
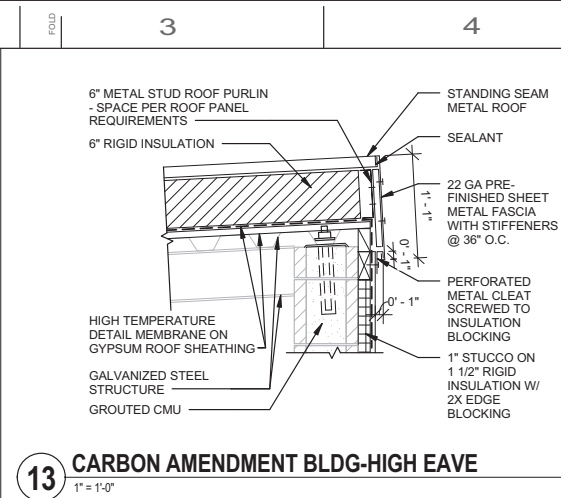
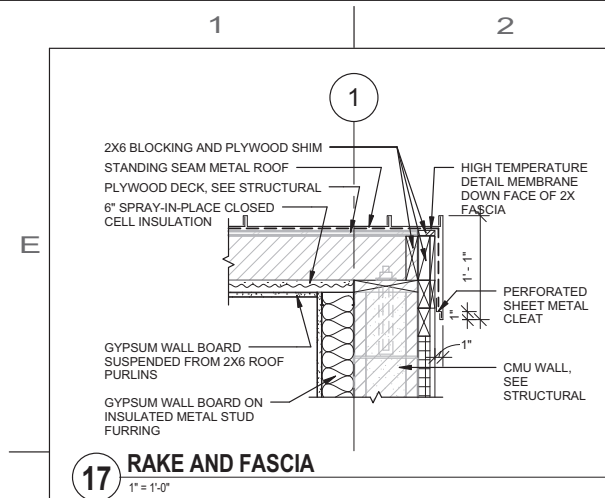
MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	SHEETS
A-08-09	REV 1

[illegible]

	APPROVED BY	SO
		SUPV
		DSGN AV
		DWN RV
		CHKD RD
		OK JP
Y		DATE 09/08/14
		SCALES

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

FILENAME:	PLOT DATE: \$PLOTDATE	PLOT TIME: \$PLOTTIME
-----------	-----------------------	-----------------------



E

D

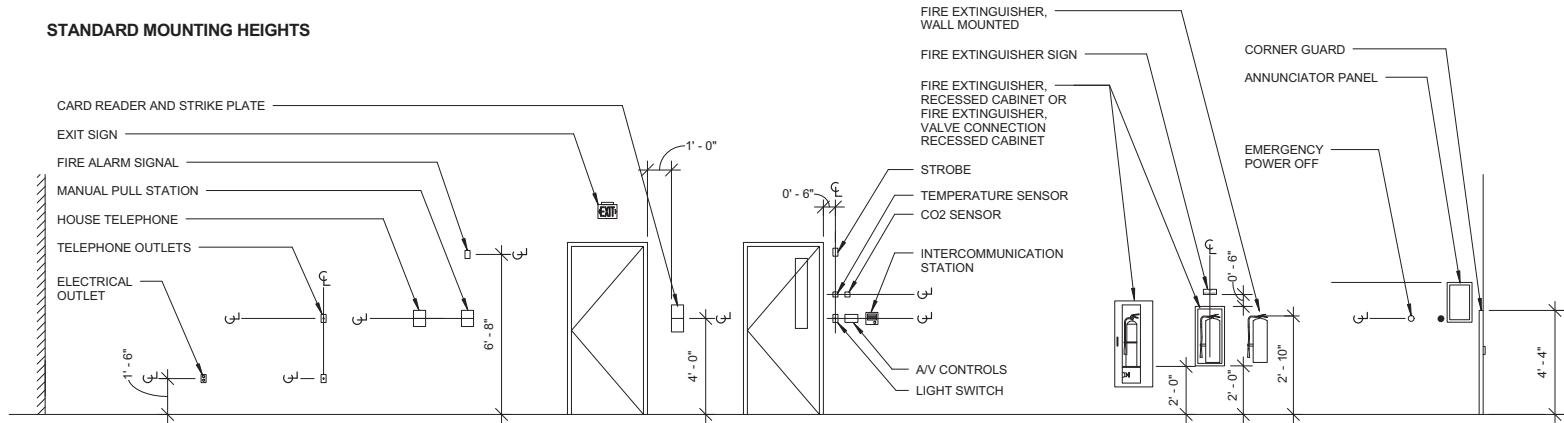
FOLD

C

B

A

STANDARD MOUNTING HEIGHTS



TYPICAL CORRIDOR/AISLE FIXTURES - STANDARD MOUNTING HEIGHTS

ROOM FINISH SCHEDULE

ROOM NUMBER	ROOM NAME	ROOM AREA	FLOORS			WALLS								CEILINGS		COMMENTS
			MATERIAL	FINISH	BASE	NORTH WALL		SOUTH WALL		WEST WALL		EAST WALL		MATERIAL	FINISH	
						MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH			
081-01	OFFICE AREA	423 SF	CONC	POLISHED	RUBBER	GWB	P-115	GWB	P-115	GWB	P-115	GWB	P-115	GWB	P-115	
081-02	BREAKROOM	347 SF	CONC	POLISHED	RUBBER	GWB	P-115	GWB	P-115	GWB	P-115	GWB	P-115	GWB	P-115	
081-03	CLOSET	22 SF	CONC	POLISHED	RUBBER	GWB	P-115	GWB	P-115	GWB	P-115	GWB	P-115	GWB	P-115	
081-04	FIRE RISER	49 SF	CONC	POLISHED	RUBBER	GWB	P-118	GWB	P-118	GWB	P-118	GWB	P-118	GWB	P-118	
081-05	WOMEN	151 SF	CONC	POLISHED	RUBBER	GWB	P-118	GWB	P-118	GWB	P-118	GWB	P-118	GWB	P-118	
081-06	MEN	157 SF	CONC	POLISHED	RUBBER	GWB	P-118	GWB	P-118	GWB	P-118	GWB	P-118	GWB	P-118	
081-07	MECHANICAL	147 SF	CONC	SEALED	RUBBER	GWB	P-115	GWB	P-115	GWB	P-115	GWB	P-115	GWB	P-115	
081-08	TELECOM	198 SF	RMF	FACTORY	RUBBER	GWB	P-115	GWB	P-115	GWB	P-115	GWB	P-115	GWB	P-115	SEAL CONCRETE BELOW RMF, RUBBER BASE @ CONC. ONLY
081-09	ELECTRICAL	56 SF	CONC	SEALED	RUBBER	GWB	P-115	GWB	P-115	GWB	P-115	GWB	P-115	GWB	P-115	

FINISH KEY SCHEDULE

FINISH	STYLE / PATTERN	COLOR
EPOXY	WATERBASED EPOXY PAINT	
PNT	SEMI-GLOSS ACRYLIC	BEIGE
POLISHED	SEE SPECIFICATION 03 35 00	
SEALED	PENETRATING SILANE SEALER	

Door Schedule

		DOOR OPENING	DOOR OPENING	DOOR OPENING	DOOR			FRAME			DETAIL								
Number	Location	Width	Height	Thickness	Type	Material	Finish	Type	Material	Finish	Head Detail	Jamb Detail	Sill Detail	Hardware	Glass Type	Fire Rating	LSS CODE	Keynote	
081-01A	OFFICE AREA	3'- 0"	7'- 0"	0'- 2"	N	HM	P-108	A	HM	P-108	4 / A-08-11	4 / A-08-11 SIM		HW001	G-2				
081-01B	OFFICE AREA	3'- 0"	7'- 0"	0'- 2"	F	HM	P-108	A	HM	P-108	1 / A-08-11	2 / A-08-10		HW003					
081-02A	BREAKROOM	4'- 0"	7'- 6"	0'- 2 1/4"	08A	ALUM	ANOD	SEE STOREFRONT TYPES	ALUM	ANOD	STOREFRONT DETAIL (F)	STOREFRONT DETAIL (H & J)	STOREFRONT DETAIL (G)	HW002	G-2				
081-03A	CLOSET	2'- 6"	7'- 0"	0'- 2"	F	HM	P-108	A	HM	P-108	1 / A-08-11	2 / A-08-10		HW003	-				
081-04A	FIRE RISER	3'- 0"	7'- 0"	0'- 2"	F	HM	P-108	B	HM	P-108	4 / A-08-11	4 / A-08-11 SIM		HW006	-				
081-05A	WOMEN	3'- 0"	7'- 0"	0'- 2"	F	HM	P-108	A	HM	P-108	1 / A-08-11	2 / A-08-10		HW004	-				
081-06A	MEN	3'- 0"	7'- 0"	0'- 2"	F	HM	P-108	A	HM	P-108	1 / A-08-11	2 / A-08-10		HW004	-				
081-07A	MECHANICAL	4'- 0"	7'- 0"	0'- 2"	F	HM	P-108	A	HM	P-108	1 / A-08-11	2 / A-08-10		HW003	-				
081-08A	TELECOM	3'- 0"	7'- 0"	0'- 2"	F	HM	P-108	A	HM	P-108	1 / A-08-11	2 / A-08-10		HW005	-				
081-09A	ELECTRICAL	3'- 0"	7'- 0"	0'- 2"	F	HM	P-108	A	HM	P-108	1 / A-08-11	2 / A-08-10		HW003	-				
082-04A	BREAKROOM	3'- 0"	3'- 0"	0'- 2"	F	HM	P-108	A	HM	P-108	1 / A-08-11	2 / A-08-10		HW004	-			1.	

WINDOW SCHEDULE

MARK	Count	HEIGHT	WIDTH	AREA	SILL	GLASS TYPE	ROOM	STOREFRONT TYPE	COMMENTS
1	1	4'-0"	2'-0"	8 SF	3'-0" AFF	G-1	BREAK ROOM		
2	2	3'-2"	6'-8"	21 SF	6" ABOVE ROOF DECK	G-2	BREAKROOM / OFFICE AREA	08C	
3	1	5'-11"	6'-8"	39 SF	6" ABOVE ROOF DECK	G-2	OFFICE AREA	08C	
4	2	4'-6"	6'-8"	30 SF	6" ABOVE ROOF DECK	G-2	BREAKROOM / OFFICE AREA	08C	
5	1	5'-7"	6'-8"	37 SF	6" ABOVE ROOF DECK	G-2	WOMEN	08C	
6	1	1'-11"	6'-8"	13 SF	6" ABOVE ROOF DECK	G-2	MEN	08C	

KEY NOTE: 1. ACCESS DOOR TO HVAC EQUIPMENT PLATFORM ABOVE TOILETS

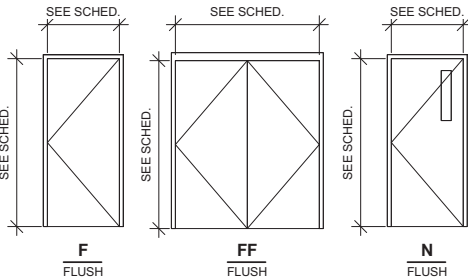
HARDWARE

HARDWARE GROUP	GROUP ITEMS
HW001	ELECTRIC HINGE BUTT HINGES CARD READER (BY SECURITY) ELECTRIC LOCKSET - F82B FUNCTION CYLINDER DOOR POSITION MONITORING SWITCH (BY SECURITY) THRESHOLD BALANCE OF FINISH HARDWARE BY ALUMINUM ENTRANCE MANUFACTURER NOTE: COORDINATE DOOR AND FRAME PREPARATION AND COMPONENT LOCATIONS WITH SECURITY REQUIREMENTS.
HW002	ELECTRIC HINGE BUTT HINGES CLOSER CARD READER (BY SECURITY) ELECTRIC LOCKSET - F82B FUNCTION DOOR POSITION MONITORING SWITCH (BY SECURITY) THRESHOLD WEATHERSTRIPPING NOTE: COORDINATE DOOR AND FRAME PREPARATION AND COMPONENT LOCATIONS WITH SECURITY REQUIREMENTS.
HW003	BUTT HINGES LOCKSET - F86 FUNCTION SILENCERS DOOR STOP
HW004	BUTT HINGES PASSAGE SET - F75 FUNCTION SILENCERS DOOR STOP
HW005	ELECTRIC HINGE BUTT HINGES ELECTRIC LOCKSET - F86 FUNCTION SILENCERS DOOR STOP
HW006	BUTT HINGES CLOSER LOCKSET - F82B FUNCTION DOOR SWEEP THRESHOLD WEATHERSTRIP

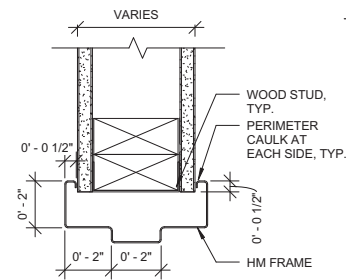
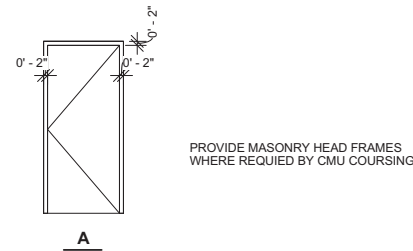
GLASS TYPES

- G-1. TINTED, INSULATED
- G-2. TINTED, INSULATED, TEMPERED
- G-3. TEMPERED FLOAT GLASS
- G-4. FLOAT GLASS

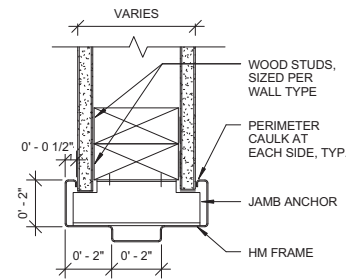
DOOR TYPES



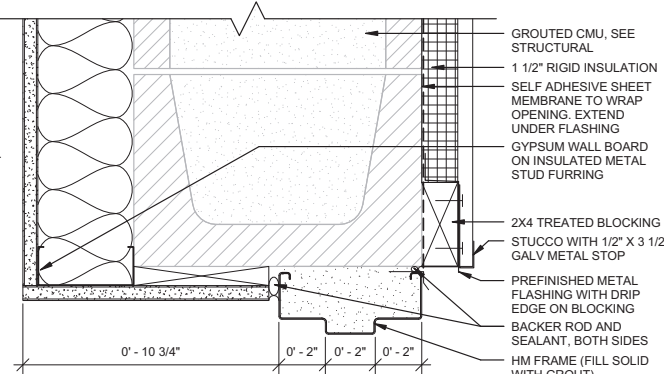
FRAME TYPES



1 HEAD @ PARTITIONS
3" = 1'-0"

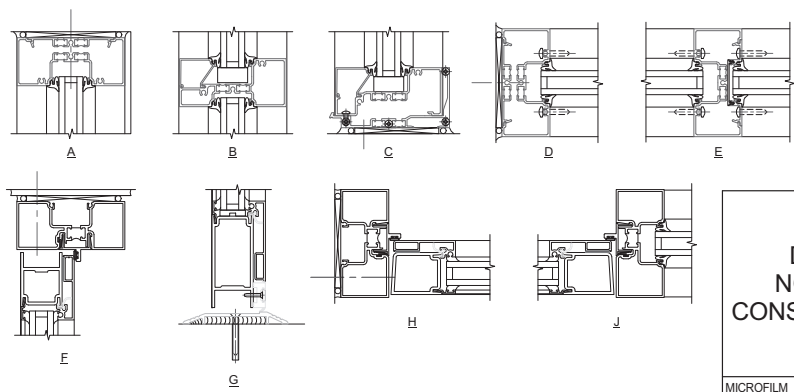
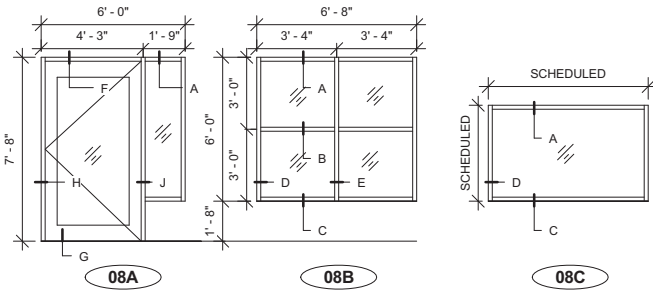


2 JAMB @ PARTITIONS
3" = 1'-0"



4 HEAD @ EXTERIOR JAMB SIMILAR
3" = 1'-0"

STOREFRONT TYPES



DRAFT
NOT FOR
CONSTRUCTION

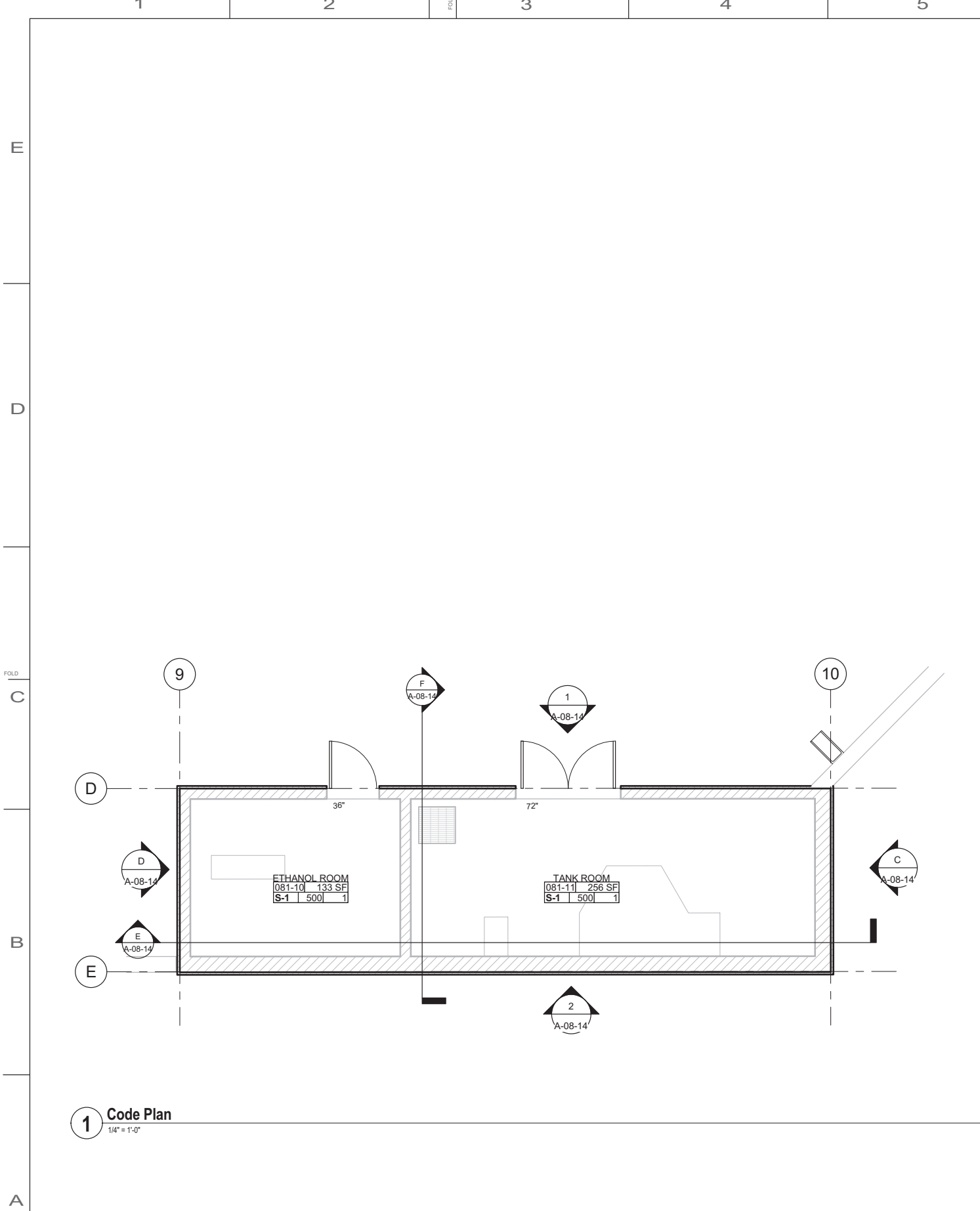
CH2MHILL®

TOPOCK GROUNDWATER REMEDIATION PROJECT
OPERATIONS BUILDING

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

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO. of SHEETS	
A-08-11	REV 0

FILENAME: PLOT DATE: \$PLOTDATE PLOT TIME: \$PLOTTIME



1 Code Plan
1/4" = 1'-0"

EXIT REQUIREMENTS										
REQUIRED EXITS (CBC 1015.1 & 1021):						1				
MAX. TRAVEL DISTANCE ALLOWED: (TABLE 1016.2)						200				
MAX. COMMON PATH TRAVEL: (CBC 1014.3)						75				
MAX. DEAD ENDS: (TABLE 1018.4)						20				
CORRIDOR WIDTH (CBC 1018.2):						44"				
MIN. EGRESS WIDTH (CBC 1005.1):						36"				
PLUMBING FIXTURES (CPC TABLE 422.1)										
CPC TABLE A		S1, 2 OCCUPANTS (200 SF/PERSON)								
MINIMUM FIXTURE COUNT	WC		LAV		URINAL		SHOWER	0	SINK	0
	M	F	M	F	M	F				
	0	0	0	0	0	0				
ACTUAL FIXTURE COUNT	WC		LAV		URINAL		SHOWER	0	SINK	0
	M	F	M	F	M	F				
	0	0	0	0	0	0				
URINALS (CPC TABLE 422.1, FOOTNOTE #3)										
-					-					
-					-					
REQUIRED FIRE RESISTANT RATINGS										
BUILDING ELEMENTS (TABLE 601)										
STRUCTURAL FRAME							0 HR			
EXTERIOR BEARING WALLS							0 HR			
INTERIOR BEARING WALLS							0 HR			
INTERIOR NON-BEARING WALLS							0 HR			
FLOOR CONSTRUCTION							0 HR			
ROOF CONSTRUCTION							0 HR			
SHAFT ENCLOSURE (707.4)							0 HR			
STAIRWAY ENCLOSURE (1019.1)							0 HR			
CORRIDOR (TABLE 1016.1)							0 HR			
ALLOWABLE AREA OF EXTERIOR DOORS AND WINDOWS (704.8)							UNLIMITED			
OCCUPANCY SEPARATIONS (CBC 508.3.3)							N/A			
INCIDENTAL USE AREAS (508.2)							N/A			
ACCESSORY USE AREAS (508.3.1)							N/A			
NON-SEPARATED USE (508.3.2)							N/A			
FIRE SEPARATION DISTANCE (TABLE 602)							30'			
DISTANCE FROM ADJACENT BUILDING OR PROPERTY LINE							>30'			
INTERIOR FINISHES (CBC 803.5)										
OCCUPANCY:		S1	AREA:		390	CLASSIFICATION:		C		
OCCUPANCY:		N/A	AREA:		N/A	CLASSIFICATION:		N/A		
INSULATION REQUIREMENTS										
INSULATION (R-VALUE):										
ROOF:					N/A					
WALLS:					N/A					
EXTERIOR DOORS:					N/A					
WINDOWS:					N/A					
ATTIC:					N/A					
UNHEATED SLAB ON GRADE:					N/A					
SGHC:					N/A					
ROLL-UP OR SLIDING DOORS:					N/A					
GLAZING PERCENTAGE:										
WINDOW:					N/A					
SKYLIGHT:					N/A					
OTHER:										
DAYLIGHT CONTROLS:					N/A					
PERIMETER SLAB INSULATION:					N/A					

CODE DATA		2013 CALIFORNIA BUILDING CODE	
BUILDING:			
PROJECT: PACIFIC GAS & ELECTRIC COMPANY TOPOCK REMEDIATION		ARCHITECT: CH2M HILL 2020 SW 4th AVENUE PORTLAND, OREGON	
LOCAL OFFICIALS:			
BUILDING DEPARTMENT CONTACTS	BUILDING OFFICIAL: TBD	PHONE: XXX-XXX-XXXX	
	PLANS EXAMINER: TBD	PHONE: XXX-XXX-XXXX	
FIRE DEPARTMENT CONTACT	FIRE MARSHAL: TBD	PHONE: XXX-XXX-XXXX	
OTHER		PHONE:	
PROJECT DESCRIPTION			
NEW 1 STORY SHED BUILDING			
GENERAL INFORMATION			
USE AND OCCUPANCY CLASSIFICATION (CHAPTER 3)		S1	
CONSTRUCTION CLASSIFICATION (602 & TABLE 503)		II-B	
AREA AND HEIGHT LIMITATIONS			
MAXIMUM ALLOWABLE AREA PER STORY (TABLE 503)		17,500	
ALLOWABLE AREA $A = T + [TF/100] + [TS/100]$			
OCCUPANCY:		S1	
TABULAR AREA (T) [TABLE 503]:		17,500	
SPRINKLER INCREASE (S) [506.3]:		N/A	
FRONTAGE INCREASE (F) [506.2]:		N/A	
ALLOWABLE AREA PER FLOOR (A):		17,500	
ACTUAL AREA:			
ACTUAL PER FLOOR:	FIRST	390	
	SECOND	N/A	
INTERMEDIATE LEVELS:			
MEZZANINE:	AREA: N/A	# OF OCCUPANTS: N/A	# OF EXITS: N/A
INDUSTRIAL EQUIPMENT PLATFORM (CBC 505.5):		AREA: N/A	
MAXIMUM ALLOWABLE STORIES (TABLE 503)		3	
ACTUAL NUMBER OF STORIES:		1	
MAXIMUM ALLOWABLE HEIGHT (TABLE 503)		55'	
ACTUAL HEIGHT:		11'	
AUTOMATIC SPRINKLER FOR STORY INCREASE (IBC 504.2):		N/A	
OCCUPANCY / EGRESS INFORMATION			
DESIGN OCCUPANCY (TABLE 1004.1.2)		S1	
NUMBER OF OCCUPANCY PER FLOOR:		2	
EGRESS WIDTH BASED ON OCCUPANCY (TABLE 1005.1)		44"	
FIRE PROTECTION			
SPRINKLERS (CBC SECT 903)		N/A	
FIRE EXTINGUISHERS (SECT 906)		2A:40BC	
DISTANCE TO FIRE HYDRANT		TBD	

GENERAL NOTES:

A. FOR SIGN INFORMATION AND TYPE DESCRIPTIONS SEE SPECIFICATIONS SECTION 10 14 00

B. FOR ARCHITECTURAL LEGEND AND ABBREVIATIONS SEE SHEET A-00-00.

C. FOR FIRE EXTINGUISHER INFORMATION SEE SPECIFICATIONS SECTION 10 14 00.

LEGEND

← X' →

TRAVEL DISTANCE (X = TOTAL DISTANCE TO EXIT IN FEET)

↪ X"

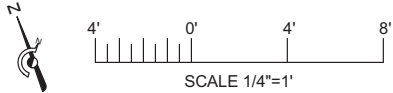
EGRESS WIDTH (IN INCHES)

FE-1

FIRE EXTINGUISHER

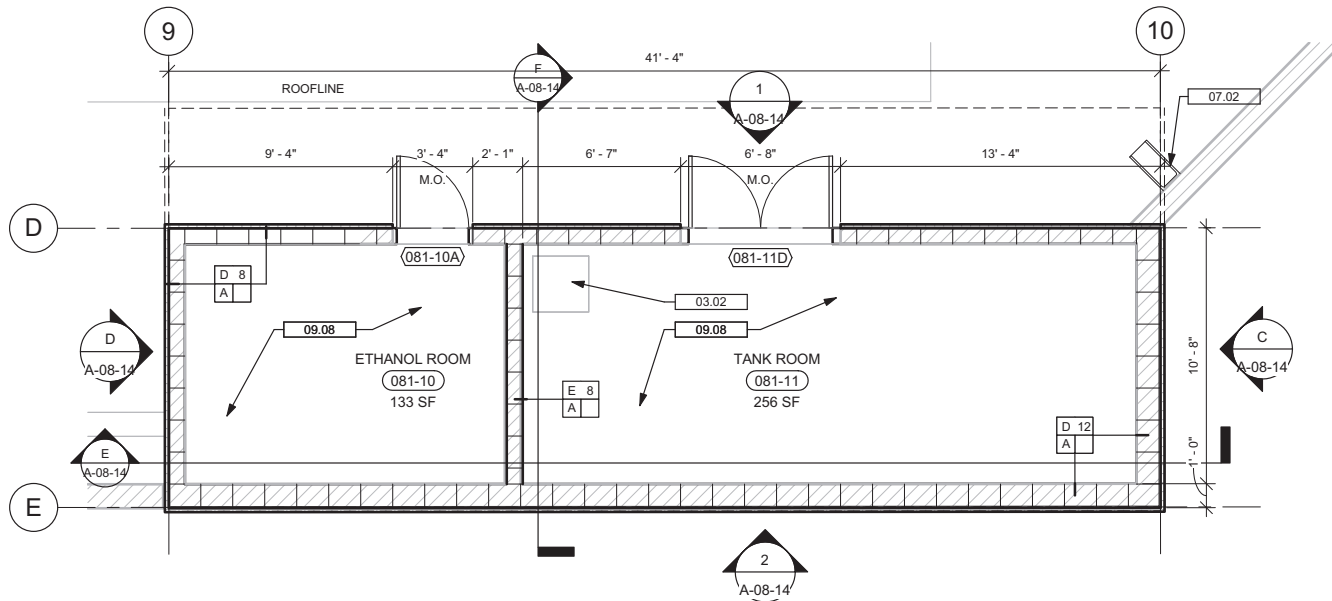
KEYED NOTES XX.XX

Code Schedule	
-	Applicable Code
-	Standard
a	Zoning Code: San Bernardino County Development Code
b	Building code: 2013 CALIFORNIA BUILDING CODE (CBC), TITLE 24, PART 2
c	Fire code: 2013 CALIFORNIA FIRE CODE (CFC), TITLE 24, PART 9
d	Mechanical code: 2013 CALIFORNIA MECHANICAL CODE (CMC), TITLE 24, PART 4
e	Plumbing code: 2013 CALIFORNIA PLUMBING CODE (CPC), TITLE 24, PART 5
f	Electrical code: 2013 CALIFORNIA ELECTRICAL CODE (CEC), TITLE 24, PART 3
g	Energy code: 2013 CALIFORNIA ENERGY CODE (CEC), TITLE 24, PART 6; See 2013 Non-residential compliance manual for support
h	Green Code: 2013 CALIFORNIA GREEN BUILDING STANDARDS CODE (CGBSC), TITLE 24, PART 11, applicable to newly constructed buildings.
i	Accessibility: CH11B ACCESSIBILITY TO PUBLIC BUILDINGS, PUBLIC ACCOMODATIONS, COMMERCIAL BUILDINGS AND PUBLIC HOUSING
j	Fire Extinguishers: CCR T19 D1 CH3 PORTABLE FIRE EXTINGUISHERS
k	Health and Sanitation: Title 6 Health and Sanitation, Chapter 6.96, Hazardous Material Business Plans and The California Accidental Release Prevention Program (HMBP & CARPP), Reference for the California State Health Safety Code
l	Fire Sprinkler standard: 2013 NFPA 13 – Installation of Sprinkler Systems
m	Flammable Liquids standard: 2008 NFPA 30 – Flammable and Combustible Liquids Code
n	Fire Alarm standard: 2013 NFPA 72 – National Fire Alarm Code
o	Exit Signs: 2009 NFPA 170 – Standard for Fire Safety and Emergency Symbols
p	Hazard Identification standard: 2012 NFPA 704 – Standard System for Identification of the Hazards of Materials for Emergency Response
q	ASCE 7: 2010 ASCE 7 – Minimum Design Loads for Buildings and Other Structures
r	Fire Doors: 1997 UL 10B – Fire Test for Door Assemblies; 2013 NFPA 80 – FIRE DOORS AND OTHER OPENING PROTECTIVES
s	Panic Hardware: 2007 UL 305 – Panic Hardware
t	Fire Dampers: 2006 UL 555 – Fire Dampers
u	Cabinets: 2005 UL 1275 – Flammable Liquid Storage Cabinets

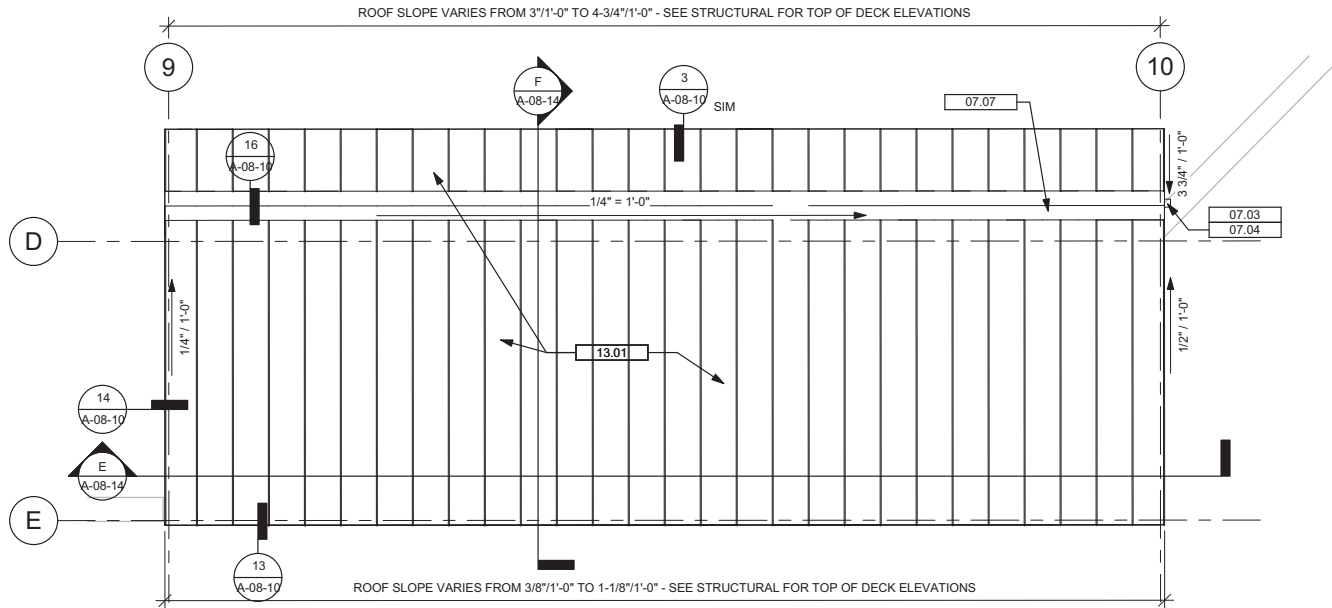


DRAFT
NOT FOR
CONSTRUCTION

CH2MHILL®																				APPROVED BY SO SUPV DSGN AV DWN RV CHKD RD CK DATE 09/08/14 SCALES										TOPOCK GROUNDWATER REMEDIATION PROJECT CARBON AMENDMENT BUILDING CODE SUMMARY SHEET GAS TRANSMISSION & DISTRIBUTION PACIFIC GAS AND ELECTRIC COMPANY SAN FRANCISCO, CALIFORNIA										BILL OF MATL DWG LIST SUPSDS SUPSD BY SHEET NO. of SHEETS A-08-12 REV 0									



1 CARBON AMENDMENT FLOOR PLAN
1/4" = 1'-0"



2 CARBON AMENDMENT ROOF PLAN
1/4" = 1'-0"

GENERAL NOTES

- A. FOR WALL TYPES, SEE SHEET A-08-09.
B. FOR WALL TAG SYMBOL INFORMATION, SEE SHEET A-00-00.
C. FOR DOOR AND WINDOW SCHEDULE, SEE THIS SHEET.
D. FOR ROOM FINISH SCHEDULE, SEE THIS SHEET.
E. PROVIDE 18" MINIMUM CLEAR ON PULL SIDE OF DOOR AND 12" MINIMUM CLEAR ON PUSH SIDE OF DOOR FROM FACE OF WALL, CABINET, OR EQUIPMENT TO DOOR OPENING FOR ADA COMPLIANCE.
F. REFER TO ELECTRICAL DRAWINGS FOR SECURITY INFORMATION

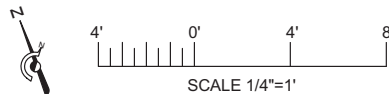
KEYED NOTES

- 03.02 CAST IN PLACE SUMP FOR PROCESS SYSTEMS, SEE STRUCTURAL FOR LOCATION AND DEPTH, COVERED WITH GRATING
07.02 SPLASH BLOCK
07.03 SHEET METAL DOWNSPOUT
07.04 SHEET METAL RAIN WATER COLLECTOR
07.07 SHEET METAL VALLEY
09.08 CHEMICAL RESISTANT COATING
13.01 PREFINISHED STANDING SEAM METAL ROOF

CARBON BUILDING ROOM FINISH SCHEDULE																
ROOM NUMBER	ROOM NAME	ROOM AREA	FLOORS			WALLS								CEILING		COMMENTS
			MATERIAL	FINISH	BASE	NORTH WALL		SOUTH WALL		WEST WALL		EAST WALL		MATERIAL	FINISH	
081-10	ETHANOL ROOM	133 SF	CONC	CRC-2	CRC-2	CMU	P-116	CMU	P-116	CMU	P-116	CMU	P-116	EXP	N/A	EXPOSED STRUCTURE @ CEILING
081-11	TANK ROOM	256 SF	CONC	CRC-2	CRC-2	CMU	P-116	CMU	P-116	CMU	P-116	CMU	P-116	EXP	N/A	EXPOSED STRUCTURE @ CEILING
081-12	EXISTING DECON PAD	3576 SF	CONC	CRC-2	CRC-2	-	-	-	-	-	-	-	-	-	-	SEE SHEET A-08-01 FOR EXTENT
Grand total: 3		3965 SF														

Door Schedule (CA)																
Number	Location	DOOR OPENING		DOOR OPENING Thickness	DOOR			FRAME			DETAIL			Hardware	Glass Type	Fire Rating
		Width	Height		Type	Material	Finish	Type	Material	Finish	Head Detail	Jamb Detail	Sill Detail			
081-10A	Ethanol Room	3'-0"	7'-0"	0" - 1 3/4"	F	HM	P-108	B	HM	P-108	4 / A-08-11	4 / A-08-11 SIM		HW006		
081-11D	Tank Room	6'-0"	7'-0"	0" - 1 3/4"	FF	HM	P-108	B	HM	P-108	4 / A-08-11	4 / A-08-11 SIM		HW007		

- HARDWARE GROUP GROUP ITEMS
- HW006 BUTT HINGES
CLOSER
LOCKSET - F82B FUNCTION
DOOR SWEEP
THRESHOLD
WEATHERSTRIP
- HW007 BUTT HINGES
LOCKSET - F82B FUNCTION
MANUAL FLUSHBOLTS - 2 EACH, INACTIVE LEAF
ASTRAGAL
DOOR SWEEP
THRESHOLD
WEATHERSTRIP



DRAFT
NOT FOR
CONSTRUCTION

CH2MHILL®

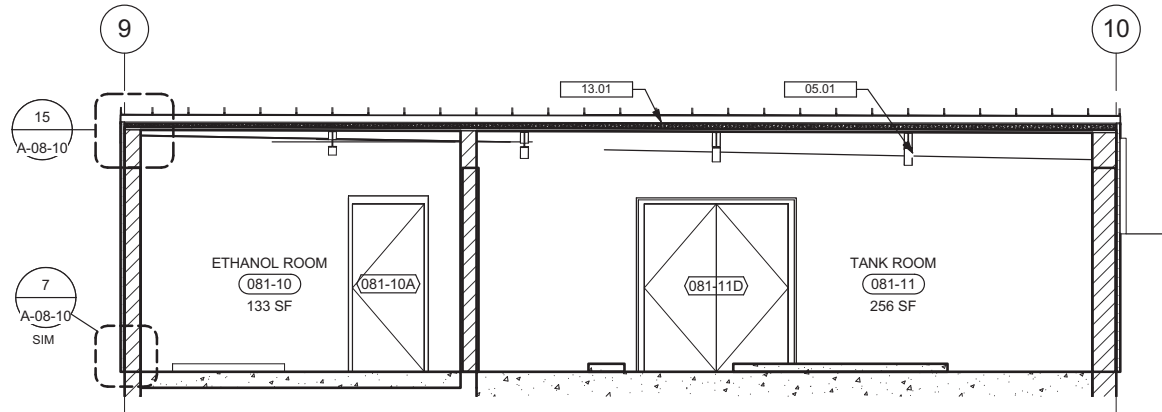
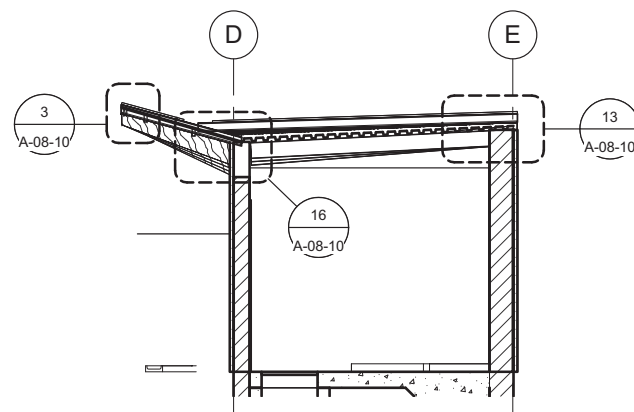
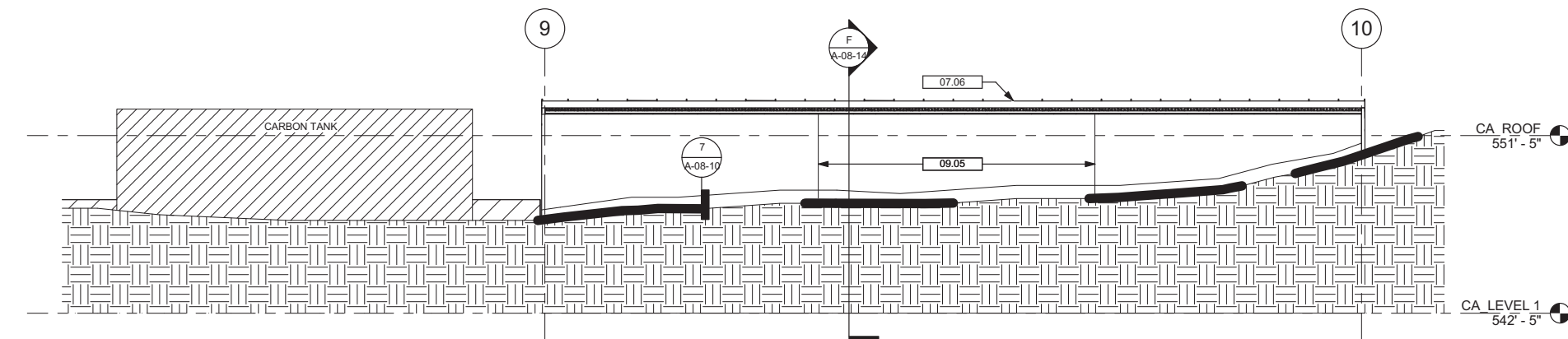
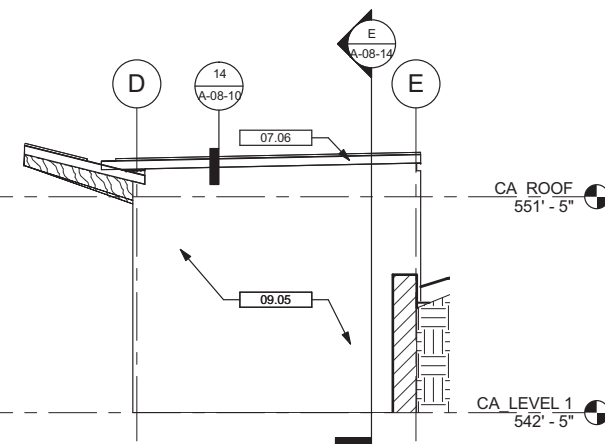
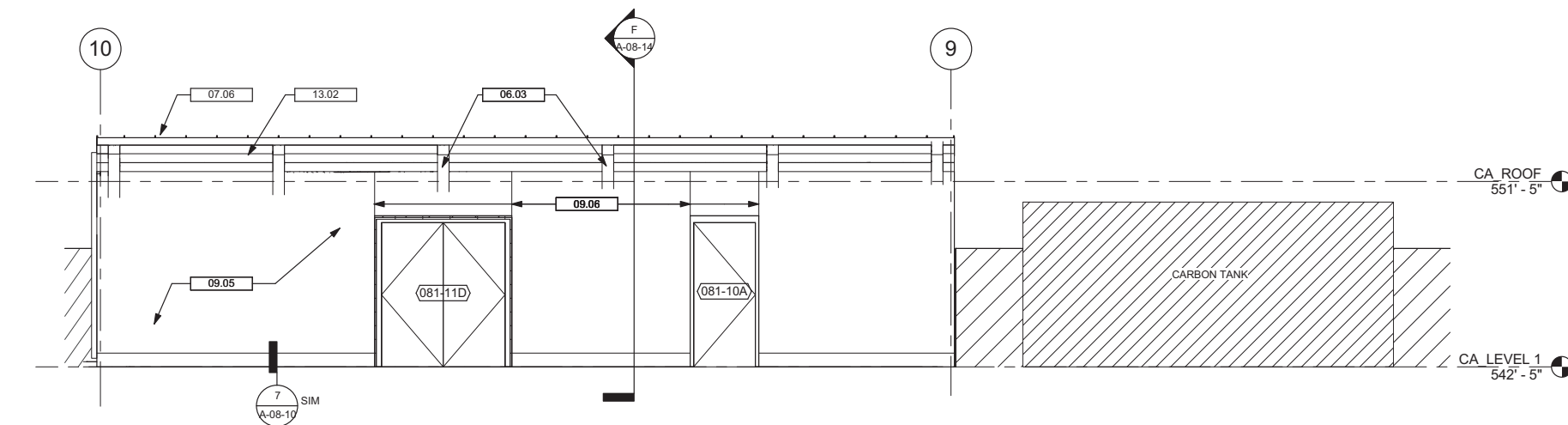
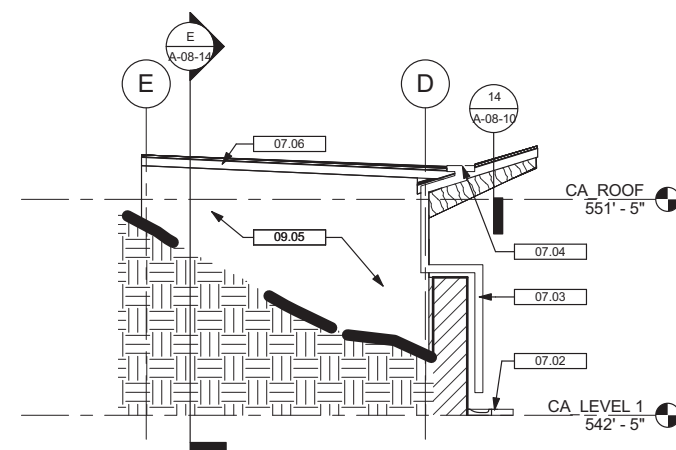
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

GENERAL NOTES

- A. SEE SHEET A-08-13 FOR DOOR SCHEDULE.
B. ALL PENETRATIONS THROUGH EXTERIOR CLADDING SYSTEMS SHALL BE SEALED WATER TIGHT

KEYED NOTES

- | | |
|-------|--|
| 05.01 | STEEL STRUCTURE |
| 06.03 | GLUE-LAMINATED WOOD COLUMN OR BEAM |
| 07.02 | SPLASH BLOCK |
| 07.03 | SHEET METAL DOWNSPOUT |
| 07.04 | SHEET METAL RAIN WATER COLLECTOR |
| 07.06 | SHEET METAL FLASHING - MATCH ROOF COLOR |
| 09.05 | STUCCO |
| 09.06 | STUCCO RELIEF JOINT ON SOLID BLOCKING |
| 13.01 | PREFINISHED STANDING SEAM METAL ROOF |
| 13.02 | PREFINISHED INTERLOCKING PERFORATED METAL SOFFIT PANEL |



DRAFT
NOT FOR
CONSTRUCTION

CH2MHILL®[illegible]

APPROVED BY	SO	
	SUPV	
	DSGN AV	
	DWN RV	
	CHKD RD	
	OK	-
	DATE	09/08/14
	SCALES	

TOPOCK GROUNDWATER REMEDIATION PROJECT
CARBON AMENDMENT BUILDING
EXTERIOR ELEVATIONS & SECTIONS
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	of SHEET
A-08-14	REV 0

1

2

FOLD

3

4

FOLD

5

6

7

FOLD

8

FOLD

9

10

QUALITY ASSURANCE PLAN

TABLE 1

REQUIRED NON-STRUCTURAL SPECIAL INSPECTION

GENERAL NOTES:

1. THE QUALITY ASSURANCE PLAN DRAWINGS ARE INTENDED TO PROVIDE PROJECT COMPLIANCE WITH THE PROVISIONS OF THE INTERNATIONAL BUILDING CODE (IBC) CHAPTER 17 FOR SPECIAL INSPECTION. THIS INSPECTION IS OWNER FURNISHED.

SPECIAL INSPECTION:

1. SPECIAL INSPECTION SHALL BE IN ACCORDANCE WITH IBC SECTION 1704 TOGETHER WITH LOCAL AND STATE AMENDMENTS. REFER TO THE TABLES CONTAINED ON THESE GENERAL SHEETS FOR PROJECT SPECIFIC INSPECTION TYPES AND FREQUENCIES.

2. SPECIAL INSPECTIONS AND ASSOCIATED TESTING SHALL BE PERFORMED BY AN APPROVED ACCREDITED INDEPENDENT AGENCY. THE OWNER WILL SECURE AND PAY FOR THE SERVICES OF THE AGENCY TO PERFORM ALL SPECIAL INSPECTION AND ASSOCIATED TESTS. INSPECTORS FOR EACH SYSTEM AND MATERIAL SHALL BE INTERNATIONAL CODE COUNCIL (ICC) CERTIFIED OR OTHERWISE APPROVED BY THE BUILDING OFFICIAL.

3. THE SPECIAL INSPECTOR SHALL OBSERVE THE INDICATED WORK FOR COMPLIANCE WITH THE APPROVED CONTRACT DOCUMENTS AND SUBMIT RECORDS OF INSPECTION. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.

4. SPECIAL INSPECTION AND ASSOCIATED TESTING REPORTS SHALL BE SUBMITTED TO THE ENGINEER, CONTRACTOR, BUILDING OFFICIAL, AND OWNER WITHIN ONE WEEK OF INSPECTION OR WITHIN ONE WEEK OF TEST COMPLETION. INSPECTIONS FOR WHICH REPORTING SHALL BE REQUIRED ARE NOTED IN THE TABLES CONTAINED ON THIS PLAN.

5. AT THE CONCLUSION OF CONSTRUCTION, A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF PREVIOUSLY NOTED DISCREPANCIES SHALL BE SUBMITTED.

TABLE 2

REQUIRED STRUCTURAL SPECIAL INSPECTION

SYSTEM

2012 IBC CODE REFERENCE

REFERENCED STANDARD

PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)

CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION

REQUIRED REPORTING BY SPECIAL INSPECTOR TO DESIGNATED DISTRIBUTION LIST

COMMENTS

TESTING FOR SPECIAL INSPECTION

GEOTECHNICAL

1. VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY

1704.7.1, 1803.5, 1803.6

PROJECT SPECIFICATIONS

X

2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL

1704.7.1

PROJECT SPECIFICATIONS

X

3. PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS

1704.7.2

PROJECT SPECIFICATIONS

X

X

SEE TABLE 3 FOR GRADATION TEST REQUIREMENTS

4. VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF CONTROLLED FILL

1704.7.2, 1704.7.3

PROJECT SPECIFICATIONS

X

X

SEE TABLE 3 FOR DENSITY TEST REQUIREMENTS

5. PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SITE HAS BEEN PREPARED PROPERLY

1704.7.1

PROJECT SPECIFICATIONS

X

TABLE 2 (CONT.)

REQUIRED STRUCTURAL SPECIAL INSPECTION

SYSTEM

2012 IBC CODE REFERENCE

REFERENCED STANDARD

PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)

CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION

REQUIRED REPORTING BY SPECIAL INSPECTOR TO DESIGNATED DISTRIBUTION LIST

COMMENTS

TESTING FOR SPECIAL INSPECTION

CONCRETE

1. INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT

1704.4, 1903.5, 1907.1, 1907.7, 1914.4

ACI 318: 3.5, 7.1-7.7

X

X

SEE STEEL CONSTRUCTION FOR WELDING INSPECTION REQUIREMENTS

2. VERIFY USE OF REQUIRED DESIGN MIX

1704.4, 1904, 1905.2-1905.4, 1914.2, 1914.3

ACI 318: Ch. 4, 5.2-5.4

X

X

3. AT THE TIME FRESH CONCRETE IS PLACED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE

1704.4, 1905.6, 1914.10

ASTM C 172, ASTM C 31, ACI 318: 5.6,5.8

X

X

SEE TABLE 3 FOR CONCRETE TEST REQUIREMENTS

4. INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES

1704.4, 1905.9, 1905.10, 1914.6, 1914.7, 1914.8

ACI 318: 5.9,5.10

X

X

STEEL

1.A. INSPECTION OF WELDING STRUCTURAL STEEL:

1. SINGLE-PASS FILLET WELDS

1704.3.1

AWS D1.1

X

X

2. FLOOR AND DECK WELDS

1704.3

AWS D1.3

X

X

WOOD

1. FABRICATION OF HIGH-LOAD DIAPHRAGMS:

A. VERIFY STRUCTURAL PANEL GRADE AND THICKNESS

1704.6.1, Table 2306.3.2

X

X

B. VERIFY NOMINAL SIZE OF FRAMING MEMBERS AT ADJOINING PANEL EDGES

1704.6.1, Table 2306.3.2

X

X

C. VERIFY NAIL OR STAPLE DIAMETER AND LENGTH, NUMBER OF FASTENER LINES AND SPACING BETWEEN FASTENERS IN EACH LINE AND AT EDGE MARGINS

1704.6.1, Table 2306.3.2

X

X

2. INSPECT GRADE STAMPS ON FRAMING LUMBER AND WOOD STRUCTURAL PANELS

1704.6

X

X

(LIMIT USE TO HIGH CHALLENGE ENVIRONMENTS PER ICC REVIEW OF S72-04/05)

3. INSPECT CONNECTIONS INCLUDING NAILING, BOLTING, ANCHOR BOLTS, ADHESIVES, TIE DOWNS, BEAM HANGERS AND FRAMING ANCHORS

1704.6

X

X

(LIMIT USE TO HIGH CHALLENGE ENVIRONMENTS PER ICC REVIEW OF S72-04/05)

4. INSPECT DETAILS OF FRAMING INCLUDING FRAMING LAYOUT, MEMBER SIZES, BLOCKING, BRIDGING AND BEARING

1704.6

X

X

(LIMIT USE TO HIGH CHALLENGE ENVIRONMENTS PER ICC REVIEW OF S72-04/05)

5. INSPECT DIAPHRAGMS, SHEAR PANELS AND SHEAR WALLS FOR PROPER PANEL THICKNESS AND FASTENER PATTERN

1704.6

X

X

(LIMIT USE TO HIGH CHALLENGE ENVIRONMENTS PER ICC REVIEW OF S72-04/05)

TABLE 3

TESTING FOR REQUIRED SPECIAL INSPECTION

MATERIAL

TYPE OR SCOPE

STANDARD

2012 IBC CODE REFERENCE

FREQUENCY

BY WHOM

REQUIRED REPORTING TO DESIGNATED DISTRIBUTION LIST

CONCRETE

CONCRETE

STRENGTH

ASTM C39

1704.4, 1905.6

ONCE EACH SHIFT, BUT NOT LESS THAN ONE SAMPLE FOR EACH 100 CUBIC YARDS PLACED

SPECIAL INSPECTOR

X

CONCRETE

SLUMP

ASTM C143

1704.4

ONE SAMPLE PER STRENGTH TEST

SPECIAL INSPECTOR

X

CONCRETE

AIR CONTENT

ASTM C231

1704.4

ONE SAMPLE PER STRENGTH TEST

SPECIAL INSPECTOR

X

CONCRETE

TEMPERATURE

ASTM C1064

1704.4

ONE SAMPLE PER STRENGTH TEST

SPECIAL INSPECTOR

X

MASONRY

MASONRY

UNIT STRENGTH

ASTM C140

2105.2.2.1.2

TEST 6 UNITS PER EVERY 5000 OR FRACTION THEREOF PRIOR TO CONSTRUCTION

SPECIAL INSPECTOR

X

MASONRY

COMPRESSIVE STRENGTH OF GROUT

ASTM C1019

2105.2.2.1.2

THREE SAMPLES PRIOR TO CONSTRUCTION

SPECIAL INSPECTOR

X

MASONRY

PRISM

ASTM C1314

2105.2.2.2

TEST FIVE PRISMS PRIOR TO CONSTRUCTION

SPECIAL INSPECTOR

X

TABLE 2

REQUIRED STRUCTURAL SPECIAL INSPECTION

SYSTEM

2012 IBC CODE REFERENCE

REFERENCED STANDARD

PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)

CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION

REQUIRED REPORTING BY SPECIAL INSPECTOR TO DESIGNATED DISTRIBUTION LIST

COMMENTS

TESTING FOR SPECIAL INSPECTION

MASONRY

1. AS MASONRY CONSTRUCTION BEGINS, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:

A. PROPORTIONS OF SITE-PREPARED MORTAR

1704.5.2

ACI 530.1: Art. 2.6A

X

X

B. CONSTRUCTION OF MORTAR JOINTS

1704.5.2

ACI 530.1: Art. 3.3B

X

X

C. LOCATION OF REINFORCEMENT AND CONNECTORS

1704.5.2

ACI 530.1: Art. 3.4, 3.6A

X

X

2. THE INSPECTION PROGRAM SHALL VERIFY:

A. SIZE AND LOCATION OF STRUCTURAL ELEMENTS

1704.5.2

ACI 530.1: Art. 3.3G

X

X

B. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION

1704.5.2

ACI 530: Sec. 1.2.2(e), 2.1.4, 3.1.6

X

X

C. SPECIFIED SIZE, GRADE AND TYPE OF REINFORCEMENT

1704.5.2

ACI 530: Sec 1.13 ACI 530.1: Art.2.4, 3.4

X

X

D. PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40 DEGREES F) OR HOT WEATHER (TEMPERATURE ABOVE 90 DEGREES F)

1704.5.2, 2104.3, 2104.4

ACI 530.1: Art. 1.8C, 1.8D

X

X

3. PRIOR TO GROUTING, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:

A. GROUT SPACE IS CLEAN

1704.5.2

ACI 530.1: Art. 3.2D

X

X

B. PLACEMENT OF REINFORCEMENT AND CONNECTORS

1704.5.2

ACI 530: Sec. 1.13 ACI 530.1: Art. 3.4

X

X

C. PROPORTIONS OF SITE-PREPARED GROUT

1704.5.2

ACI 530.1: Art. 2.6B

X

X

D. CONSTRUCTION OF MORTAR JOINTS

1704.5.2

ACI 530.1: Art. 3.3B

X

X

4. GROUT PLACEMENT SHALL BE VERIFIED TO ENSURE COMPLIANCE WITH CODE AND CONSTRUCTION DOCUMENT PROVISIONS

1704.5.2

ACI 530.1: Art. 3.5

X

X

5. PREPARATION OF ANY REQUIRED GROUT SPECIMENS, MORTAR SPECIMENS AND/OR PRISMS SHALL BE OBSERVED

1704.5.2, 2105.2.2, 2105.3

ACI 530.1: Art. 1.4

X

X

SEE TABLE 3 FOR UNIT STRENGTH TESTS (PRISM TEST) FOR MASONRY

TABLE 3

TESTING FOR REQUIRED SPECIAL INSPECTION

MATERIAL

TYPE OR SCOPE

STANDARD

2012 IBC CODE REFERENCE

FREQUENCY

BY WHOM

REQUIRED REPORTING TO DESIGNATED DISTRIBUTION LIST

CONCRETE

CONCRETE

STRENGTH

ASTM C39

1704.4, 1905.6

ONCE EACH SHIFT, BUT NOT LESS THAN ONE SAMPLE FOR EACH 100 CUBIC YARDS PLACED

SPECIAL INSPECTOR

X

CONCRETE

SLUMP

ASTM C143

1704.4

ONE SAMPLE PER STRENGTH TEST

SPECIAL INSPECTOR

X

CONCRETE

AIR CONTENT

ASTM C231

1704.4

ONE SAMPLE PER STRENGTH TEST

SPECIAL INSPECTOR

X

CONCRETE

TEMPERATURE

ASTM C1064

1704.4

ONE SAMPLE PER STRENGTH TEST

SPECIAL INSPECTOR

X

MASONRY

MASONRY

UNIT STRENGTH

ASTM C140

2105.2.2.1.2

TEST 6 UNITS PER EVERY 5000 OR FRACTION THEREOF PRIOR TO CONSTRUCTION

SPECIAL INSPECTOR

X

MASONRY

COMPRESSIVE STRENGTH OF GROUT

ASTM C1019

2105.2.2.1.2

THREE SAMPLES PRIOR TO CONSTRUCTION

SPECIAL INSPECTOR

X

MASONRY

PRISM

ASTM C1314

2105.2.2.2

TEST FIVE PRISMS PRIOR TO CONSTRUCTION

SPECIAL INSPECTOR

X

TABLE 2

REQUIRED STRUCTURAL SPECIAL INSPECTION

SYSTEM

2012 IBC CODE REFERENCE

REFERENCED STANDARD

PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)

CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION

REQUIRED REPORTING BY SPECIAL INSPECTOR TO DESIGNATED DISTRIBUTION LIST

COMMENTS

TESTING FOR SPECIAL INSPECTION

MASONRY

1. AS MASONRY CONSTRUCTION BEGINS, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:

A. PROPORTIONS OF SITE-PREPARED MORTAR

1704.5.2

ACI 530.1: Art. 2.6A

X

X

B. CONSTRUCTION OF MORTAR JOINTS

1704.5.2

ACI 530.1: Art. 3.3B

X

X

C. LOCATION OF REINFORCEMENT AND CONNECTORS

1704.5.2

ACI 530.1: Art. 3.4, 3.6A

X

X

2. THE INSPECTION PROGRAM SHALL VERIFY:

A. SIZE AND LOCATION OF STRUCTURAL ELEMENTS

1704.5.2

ACI 530.1: Art. 3.3G

X

X

B. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION

1704.5.2

ACI 530: Sec. 1.2.2(e), 2.1.4, 3.1.6

X

X

C. SPECIFIED SIZE, GRADE AND TYPE OF REINFORCEMENT

1704.5.2

ACI 530: Sec 1.13 ACI 530.1: Art.2.4, 3.4

X

X

D. PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40 DEGREES F) OR HOT WEATHER (TEMPERATURE ABOVE 90 DEGREES F)

1704.5.2, 2104.3, 2104.4

ACI 530.1: Art. 1.8C, 1.8D

X

X

3. PRIOR TO GROUTING, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:

A. GROUT SPACE IS CLEAN

1704.5.2

ACI 530.1: Art. 3.2D

X

X

B. PLACEMENT OF REINFORCEMENT AND CONNECTORS

1704.5.2

ACI 530: Sec. 1.13 ACI 530.1: Art. 3.4

X

X

C. PROPORTIONS OF SITE-PREPARED GROUT

1704.5.2

ACI 530.1: Art. 2.6B

X

X

D. CONSTRUCTION OF MORTAR JOINTS

1704.5.2

ACI 530.1: Art. 3.3B

X

X

4. GROUT PLACEMENT SHALL BE VERIFIED TO ENSURE COMPLIANCE WITH CODE AND CONSTRUCTION DOCUMENT PROVISIONS

1704.5.2

ACI 530.1: Art. 3.5

X

X

5. PREPARATION OF ANY REQUIRED GROUT SPECIMENS, MORTAR SPECIMENS AND/OR PRISMS SHALL BE OBSERVED

1704.5.2, 2105.2.2, 2105.3

ACI 530.1: Art. 1.4

X

X

SEE TABLE 3 FOR UNIT STRENGTH TESTS (PRISM TEST) FOR MASONRY

TABLE 3

TESTING FOR REQUIRED SPECIAL INSPECTION

MATERIAL

TYPE OR SCOPE

STANDARD

2012 IBC CODE REFERENCE

FREQUENCY

BY WHOM

REQUIRED REPORTING TO DESIGNATED DISTRIBUTION LIST

CONCRETE

CONCRETE

STRENGTH

ASTM C39

1704.4, 1905.6

ONCE EACH SHIFT, BUT NOT LESS THAN ONE SAMPLE FOR EACH 100 CUBIC YARDS PLACED

SPECIAL INSPECTOR

X

CONCRETE

SLUMP

ASTM C143

1704.4

ONE SAMPLE PER STRENGTH TEST

SPECIAL INSPECTOR

X

CONCRETE

AIR CONTENT

ASTM C231

1704.4

ONE SAMPLE PER STRENGTH TEST

SPECIAL INSPECTOR

X

CONCRETE

TEMPERATURE

ASTM C1064

1704.4

ONE SAMPLE PER STRENGTH TEST

SPECIAL INSPECTOR

X

MASONRY

MASONRY

UNIT STRENGTH

ASTM C140

2105.2.2.1.2

TEST 6 UNITS PER EVERY 5000 OR FRACTION THEREOF PRIOR TO CONSTRUCTION

SPECIAL INSPECTOR

X

MASONRY

COMPRESSIVE STRENGTH OF GROUT

ASTM C1019

2105.2.2.1.2

THREE SAMPLES PRIOR TO CONSTRUCTION

SPECIAL INSPECTOR

X

MASONRY

PRISM

ASTM C1314

2105.2.2.2

TEST FIVE PRISMS PRIOR TO CONSTRUCTION

SPECIAL INSPECTOR

X

TABLE 2

REQUIRED STRUCTURAL SPECIAL INSPECTION

SYSTEM

2012 IBC CODE REFERENCE

REFERENCED STANDARD

PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)

CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION

REQUIRED REPORTING BY SPECIAL INSPECTOR TO DESIGNATED DISTRIBUTION LIST

COMMENTS

TESTING FOR SPECIAL INSPECTION

MASONRY

1. AS MASONRY CONSTRUCTION BEGINS, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:

A. PROPORTIONS OF SITE-PREPARED MORTAR

1704.5.2

ACI 530.1: Art. 2.6A

X

X

B. CONSTRUCTION OF MORTAR JOINTS

1704.5.2

ACI 530.1: Art. 3.3B

X

X

C. LOCATION OF REINFORCEMENT AND CONNECTORS

1704.5.2

ACI 530.1: Art. 3.4, 3.6A

X

X

2. THE INSPECTION PROGRAM SHALL VERIFY:

A. SIZE AND LOCATION OF STRUCTURAL ELEMENTS

1704.5.2

ACI 530.1: Art. 3.3G

X

X

B. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION

1704.5.2

ACI 530: Sec. 1.2.2(e), 2.1.4, 3.1.6

X

X

C. SPECIFIED SIZE, GRADE AND TYPE OF REINFORCEMENT

1704.5.2

ACI 530: Sec 1.13 ACI 530.1: Art.2.4, 3.4

X

X

D. PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40 DEGREES F) OR HOT WEATHER (TEMPERATURE ABOVE 90 DEGREES F)

1704.5.2, 2104.3, 2104.4

ACI 530.1: Art. 1.8C, 1.8D

X

X

3. PRIOR TO GROUTING, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:

A. GROUT SPACE IS CLEAN

1704.5.2

ACI 530.1: Art. 3.2D

X

X

B. PLACEMENT OF REINFORCEMENT AND CONNECTORS

1704.5.2

ACI 530: Sec. 1.13 ACI 530.1: Art. 3.4

X

X

C. PROPORTIONS OF SITE-PREPARED GROUT

1704.5.2

ACI 530.1: Art. 2.6B

X

X

D. CONSTRUCTION OF MORTAR JOINTS

1704.5.2

ACI 530.1: Art. 3.3B

X

X

4. GROUT PLACEMENT SHALL BE VERIFIED TO ENSURE COMPLIANCE WITH CODE AND CONSTRUCTION DOCUMENT PROVISIONS

1704.5.2

ACI 530.1: Art. 3.5

X

X

5. PREPARATION OF ANY REQUIRED GROUT SPECIMENS, MORTAR SPECIMENS AND/OR PRISMS SHALL BE OBSERVED

1704.5.2, 2105.2.2, 2105.3

ACI 530.1: Art. 1.4

X

X

SEE TABLE 3 FOR UNIT STRENGTH TESTS (PRISM TEST) FOR MASONRY

TABLE 3

TESTING FOR REQUIRED SPECIAL INSPECTION

MATERIAL

TYPE OR SCOPE

STANDARD

2012 IBC CODE REFERENCE

FREQUENCY

BY WHOM

REQUIRED REPORTING TO DESIGNATED DISTRIBUTION LIST

CONCRETE

CONCRETE

STRENGTH

ASTM C39

1704.4, 1905.6

ONCE EACH SHIFT, BUT NOT LESS THAN ONE SAMPLE FOR EACH 100 CUBIC YARDS PLACED

SPECIAL INSPECTOR

X

CONCRETE

SLUMP

ASTM C143

1704.4

ONE SAMPLE PER STRENGTH TEST

SPECIAL INSPECTOR

X

CONCRETE

AIR CONTENT

ASTM C231

1704.4

ONE SAMPLE PER STRENGTH TEST

SPECIAL INSPECTOR

X

CONCRETE

TEMPERATURE

ASTM C1064

1704.4

ONE SAMPLE PER STRENGTH TEST

SPECIAL INSPECTOR

X

MASONRY

MASONRY

UNIT STRENGTH

ASTM C140

2105.2.2.1.2

TEST 6 UNITS PER EVERY 5000 OR FRACTION THEREOF PRIOR TO CONSTRUCTION

SPECIAL INSPECTOR

X

MASONRY

COMPRESSIVE STRENGTH OF GROUT

ASTM C1019

2105.2.2.1.2

THREE SAMPLES PRIOR TO CONSTRUCTION

SPECIAL INSPECTOR

X

MASONRY

PRISM

ASTM C1314

2105.2.2.2

TEST FIVE PRISMS PRIOR TO CONSTRUCTION

SPECIAL INSPECTOR

X

TABLE 2

REQUIRED STRUCTURAL SPECIAL INSPECTION

SYSTEM

2012 IBC CODE REFERENCE

REFERENCED STANDARD

PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)

CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION

REQUIRED REPORTING BY SPECIAL INSPECTOR TO DESIGNATED DISTRIBUTION LIST

COMMENTS

TESTING FOR SPECIAL INSPECTION

MASONRY

1. AS MASONRY CONSTRUCTION BEGINS, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:

A. PROPORTIONS OF SITE-PREPARED MORTAR

1704.5.2

ACI 530.1: Art. 2.6A

X

X

B. CONSTRUCTION OF MORTAR JOINTS

1704.5.2

ACI 530.1: Art. 3.3B

X

X

C. LOCATION OF REINFORCEMENT AND CONNECTORS

1704.5.2

ACI 530.1: Art. 3.4, 3.6A

X

X

2. THE INSPECTION PROGRAM SHALL VERIFY:

A. SIZE AND LOCATION OF STRUCTURAL ELEMENTS

1704.5.2

ACI 530.1: Art. 3.3G

X

X

B. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION

1704.5.2

ACI 530: Sec. 1.2.2(e), 2.1.4, 3.1.6

X

X

C. SPECIFIED SIZE, GRADE AND TYPE OF REINFORCEMENT

1704.5.2

ACI 530: Sec 1.13 ACI 530.1: Art.2.4, 3.4

X

X

D. PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40 DEGREES F) OR HOT WEATHER (TEMPERATURE ABOVE 90 DEGREES F)

1704.5.2, 2104.3, 2104.4

ACI 530.1: Art. 1.8C, 1.8D

X

X

3. PRIOR TO GROUTING, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:

A. GROUT SPACE IS CLEAN

1704.5.2

ACI 530.1: Art. 3.2D

X

X

B. PLACEMENT OF REINFORCEMENT AND CONNECTORS

1704.5.2

ACI 530: Sec. 1.13 ACI 530.1: Art. 3.4

X

X

C. PROPORTIONS OF SITE-PREPARED GROUT

1704.5.2

ACI 530.1: Art. 2.6B

X

X

D. CONSTRUCTION OF MORTAR JOINTS

1704.5.2

ACI 530.1: Art. 3.3B

X

X

4. GROUT PLACEMENT SHALL BE VERIFIED TO ENSURE COMPLIANCE WITH CODE AND CONSTRUCTION DOCUMENT PROVISIONS

1704.5.2

ACI 530.1: Art. 3.5

X

X

5. PREPARATION OF ANY REQUIRED GROUT SPECIMENS, MORTAR SPECIMENS AND/OR PRISMS SHALL BE OBSERVED

1704.5.2, 2105.2.2, 2105.3

ACI 530.1: Art. 1.4

X

X

SEE TABLE 3 FOR UNIT STRENGTH TESTS (PRISM TEST) FOR MASONRY

TABLE 3

TESTING FOR REQUIRED SPECIAL INSPECTION

MATERIAL

TYPE OR SCOPE

STANDARD

2012 IBC CODE REFERENCE

FREQUENCY

BY WHOM

REQUIRED REPORTING TO DESIGNATED DISTRIBUTION LIST

CONCRETE

CONCRETE

STRENGTH

ASTM C39

1704.4, 1905.6

ONCE EACH SHIFT, BUT NOT LESS THAN ONE SAMPLE FOR EACH 100 CUBIC YARDS PLACED

SPECIAL INSPECTOR

X

CONCRETE

SLUMP

ASTM C143

1704.4

ONE SAMPLE PER STRENGTH TEST

SPECIAL INSPECTOR

X

CONCRETE

AIR CONTENT

ASTM C231

1704.4

ONE SAMPLE PER STRENGTH TEST

SPECIAL INSPECTOR

X

CONCRETE

TEMPERATURE

ASTM C1064

1704.4

ONE SAMPLE PER STRENGTH TEST

SPECIAL INSPECTOR

X

MASONRY

MASONRY

UNIT STRENGTH

ASTM C140

2105.2.2.1.2

TEST 6 UNITS PER EVERY 5000 OR FRACTION THEREOF PRIOR TO CONSTRUCTION

SPECIAL INSPECTOR

X

MASONRY

COMPRESSIVE STRENGTH OF GROUT

ASTM C1019

2105.2.2.1.2

THREE SAMPLES PRIOR TO CONSTRUCTION

SPECIAL INSPECTOR

X

MASONRY

PRISM

ASTM C1314

2105.2.2.2

TEST FIVE PRISMS PRIOR TO CONSTRUCTION

SPECIAL INSPECTOR

X

TABLE 2

REQUIRED STRUCTURAL SPECIAL INSPECTION

SYSTEM

2012 IBC CODE REFERENCE

REFERENCED STANDARD

PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)

CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION

REQUIRED REPORTING BY SPECIAL INSPECTOR TO DESIGNATED DISTRIBUTION LIST

COMMENTS

TESTING FOR SPECIAL INSPECTION

MASONRY

1. AS MASONRY CONSTRUCTION BEGINS, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:

A. PROPORTIONS OF SITE-PREPARED MORTAR

1704.5.2

ACI 530.1: Art. 2.6A

X

X

B. CONSTRUCTION OF MORTAR JOINTS

1704.5.2

ACI 530.1: Art. 3.3B

X

X

C. LOCATION OF REINFORCEMENT AND CONNECTORS

1704.5.2

ACI 530.1: Art. 3.4, 3.6A

X

X

2. THE INSPECTION PROGRAM SHALL VERIFY:

A. SIZE AND LOCATION OF STRUCTURAL ELEMENTS

1704.5.2

ACI 530.1: Art. 3.3G

X

X

B. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION

1704.5.2

ACI 530: Sec. 1.2.2(e), 2.1.4, 3.1.6

X

X

C. SPECIFIED SIZE, GRADE AND TYPE OF REINFORCEMENT

1704.5.2

ACI 530: Sec 1.13 ACI 530.1: Art.2.4, 3.4

X

X

D. PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40 DEGREES F) OR HOT WEATHER (TEMPERATURE ABOVE 90 DEGREES F)

1704.5.2, 2104.3, 2104.4

ACI 530.1: Art. 1.8C, 1.8D

X

X

3. PRIOR TO GROUTING, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:

A. GROUT SPACE IS CLEAN

1704.5.2

ACI 530.1: Art. 3.2D

X

X

B. PLACEMENT OF REINFORCEMENT AND CONNECTORS

1704.5.2

ACI 530: Sec. 1.13 ACI 530.1: Art. 3.4

X

X

C. PROPORTIONS OF SITE-PREPARED GROUT

1704.5.2

ACI 530.1: Art. 2.6B

X

X

D. CONSTRUCTION OF MORTAR JOINTS

1704.5.2

ACI 530.1: Art. 3.3B

X

X

4. GROUT PLACEMENT SHALL BE VERIFIED TO ENSURE COMPLIANCE WITH CODE AND CONSTRUCTION DOCUMENT PROVISIONS

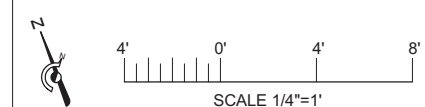
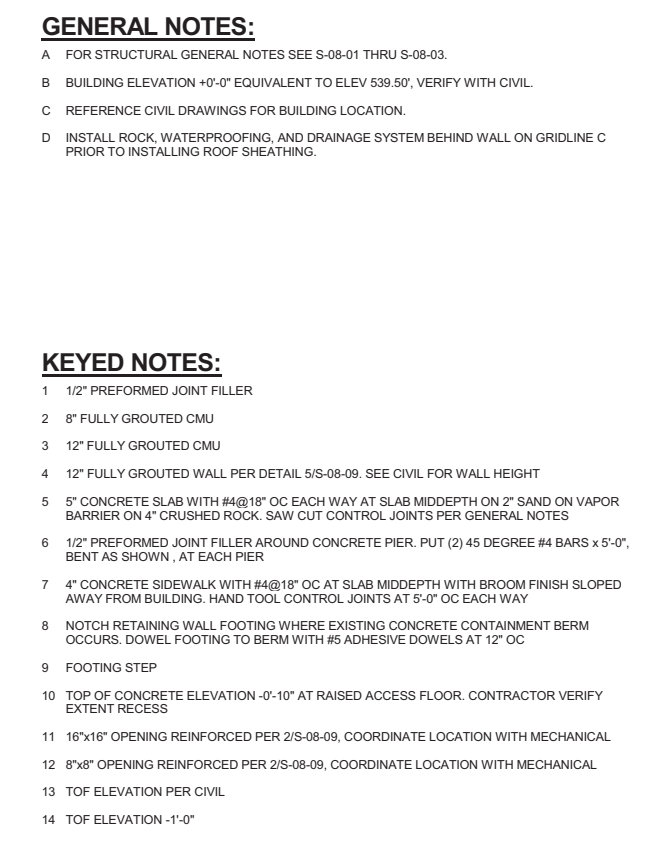
1704.5.2

ACI 530.1: Art. 3.5

X

X

5. PREPARATION OF ANY REQUIRED GROUT SPECIMENS, MORTAR SPECIMENS AND



DRAFT
NOT FOR
CONSTRUCTION

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	of SHEET
S-08-04	REV (1)

LENAM: S

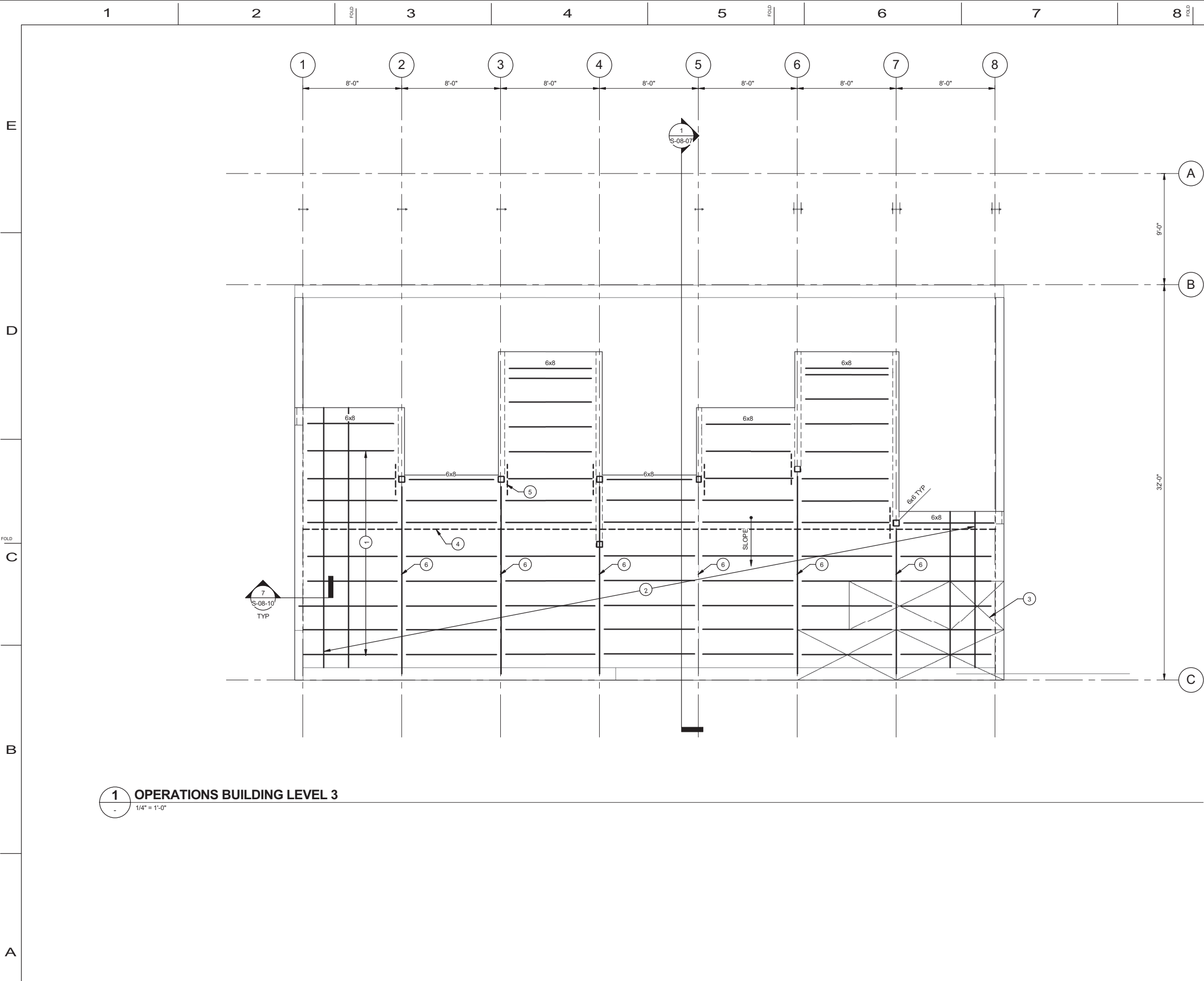
[illegible]

TOPOCK GROUNDWATER REMEDIATION PROJECT
OPERATIONS BUILDING

LOWER ROOF FRAMING PLAN
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

MICROFILM		
BILL OF MATL		
DWG LIST		
SUPSDS		
SUPSD BY		
SHEET NO.	of	SHEETS
S-08-05		REV U

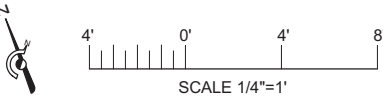
FILENAME:



- GENERAL NOTES:**
- A FOR STRUCTURAL GENERAL NOTES SEE S-08-01 THRU S-08-03.
 - B BUILDING ELEVATION +0'-0" EQUIVALENT TO ELEV 539.50', VERIFY WITH CIVIL.
 - C PLACE AND COMPACT ROCK, WATERPROOFING, AND DRAINAGE SYSTEM BEHIND WALL ON GRIDLINE C PRIOR TO INSTALLING ROOF SHEATHING.

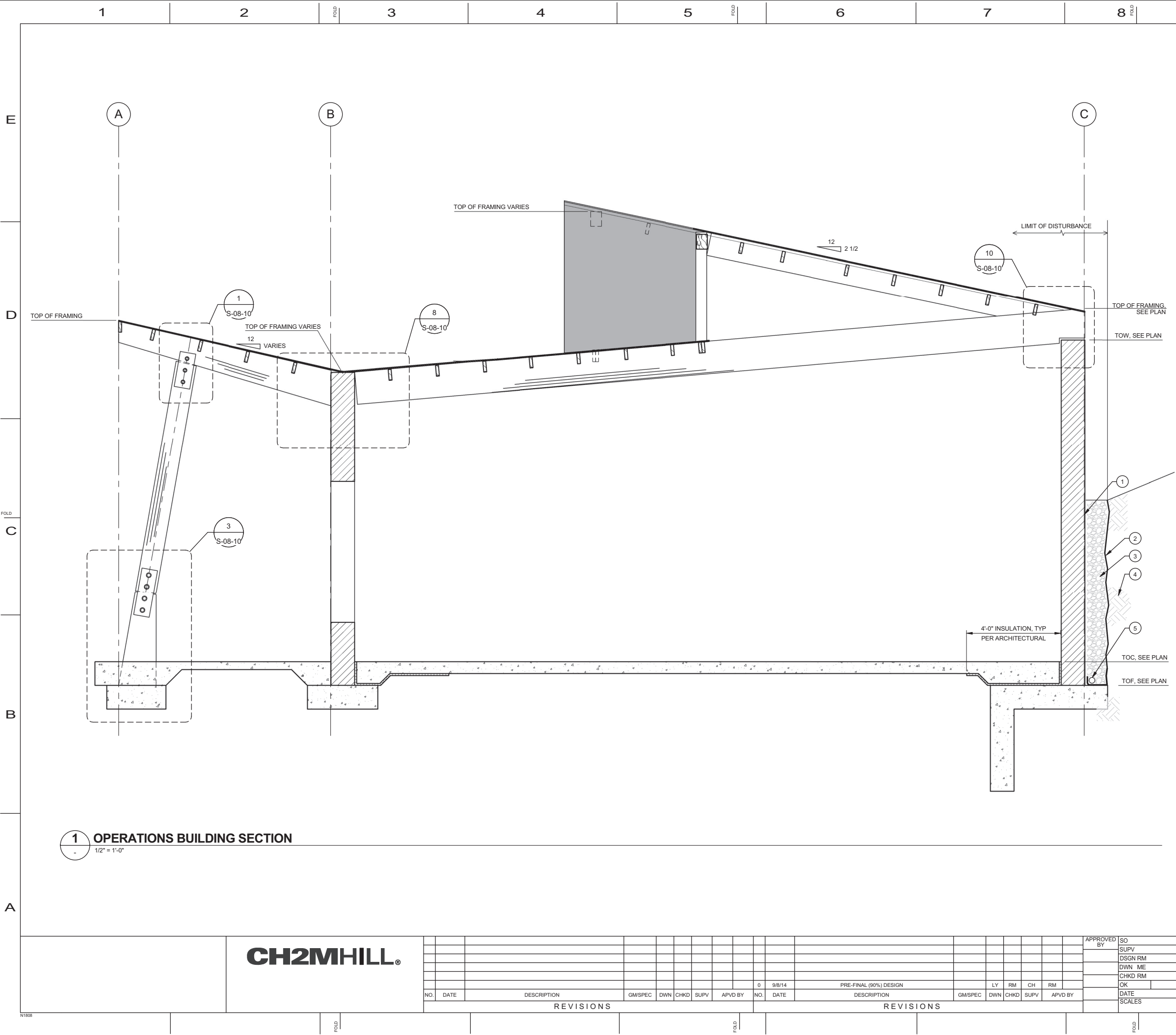
- KEYED NOTES:**
- 1 2x6 AT 24" OC, TYPICAL
 - 2 2x4 FLAT AT 24" OC TO 2x6'S WITH 2-10d NAILS, TYPICAL
 - 3 1/2" PLYWOOD
 - 4 TIE OVER 4x8'S PER DETAIL 12/S-08-10 ALONG THIS LINE, FULL WIDTH OF BUILDING
 - 5 TIE 6x12 TO DOUBLE TOP PLATE WITH SIMPSON LSTA30 WITH 22-10d NAILS, TYPICAL
 - 6 6x12

DRAFT
NOT FOR
CONSTRUCTION



TOPOCK GROUNDWATER REMEDIATION PROJECT
OPERATIONS BUILDING
HIGH ROOF FRAMING PLAN
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	of SHEETS
S-08-06	REV U



- GENERAL NOTES:**
- A FOR STRUCTURAL GENERAL NOTES SEE S-08-01 THRU S-08-03.
 - B BUILDING ELEVATION +0'-0" EQUIVALENT TO ELEV 539.50', VERIFY WITH CIVIL.

- KEYED NOTES:**
- 1 WATERPROOFING, PER ARCHITECTURAL DRAWINGS
 - 2 GEOTEXTILE BETWEEN DRAIN ROCK AND RETAINED SOIL PER CIVIL
 - 3 12" WIDE 3/4" DIA DRAIN ROCK
 - 4 RETAINED SOIL
 - 5 DRAIN PIPE, PER CIVIL DRAWINGS

DRAFT
NOT FOR
CONSTRUCTION

TOPOCK GROUNDWATER REMEDIATION PROJECT
OPERATIONS BUILDING

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

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	of SHEETS
S-08-07	REV U

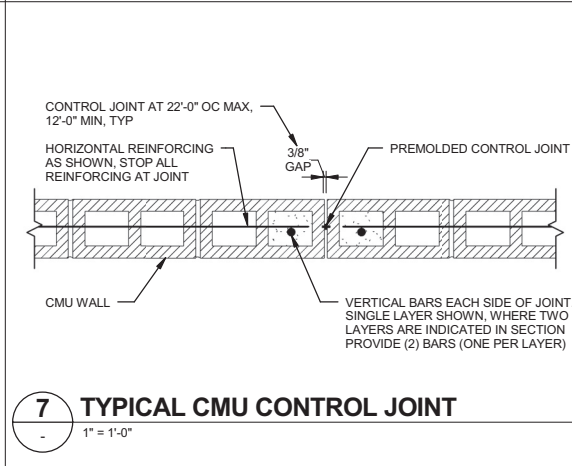
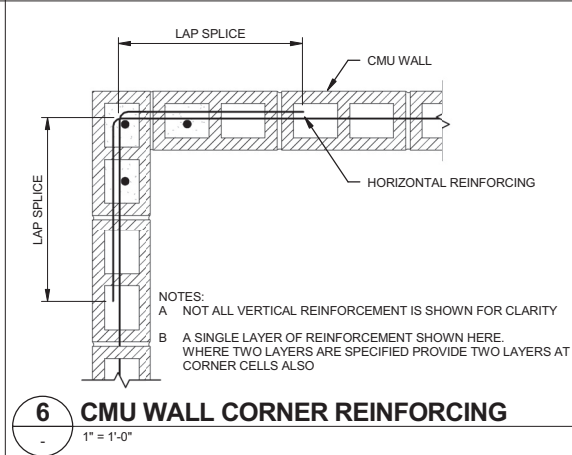
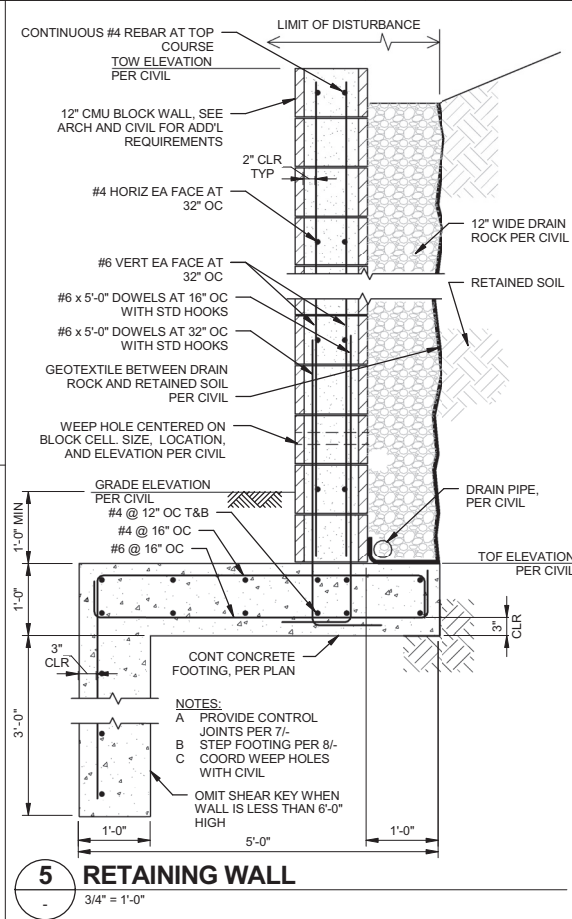
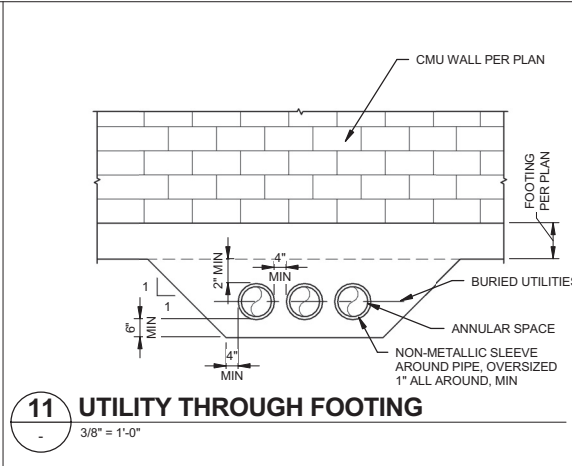
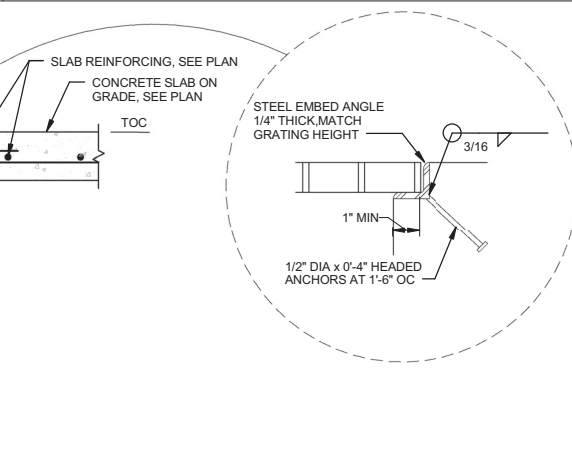
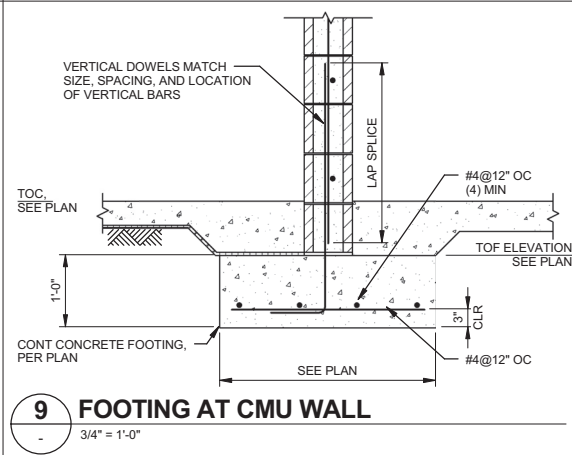
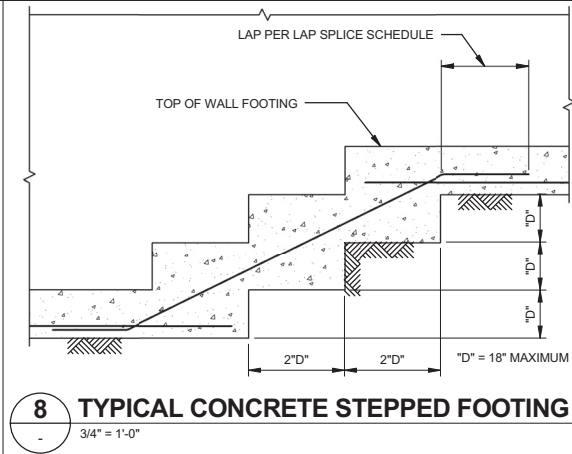
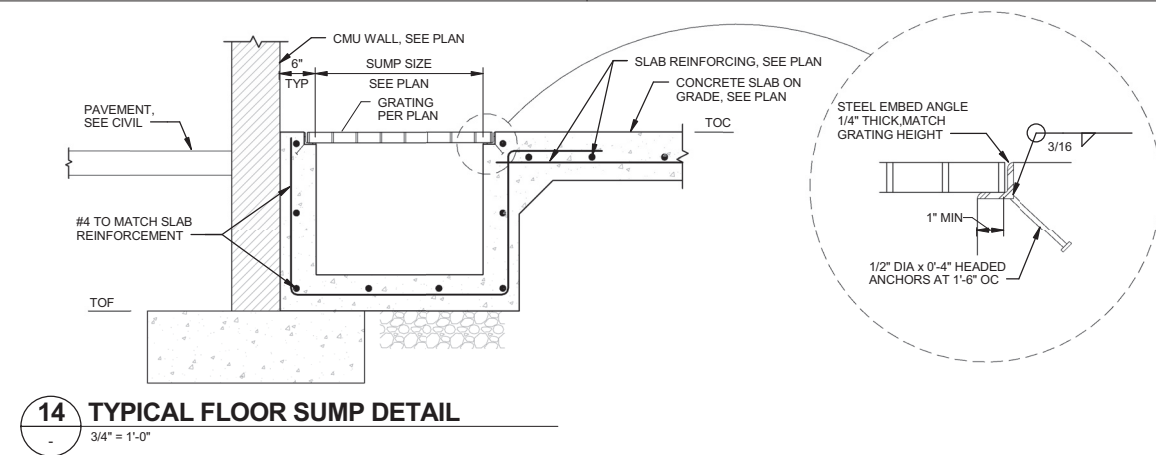
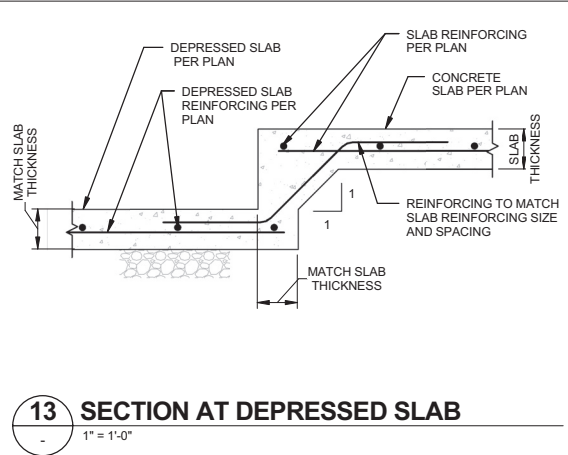
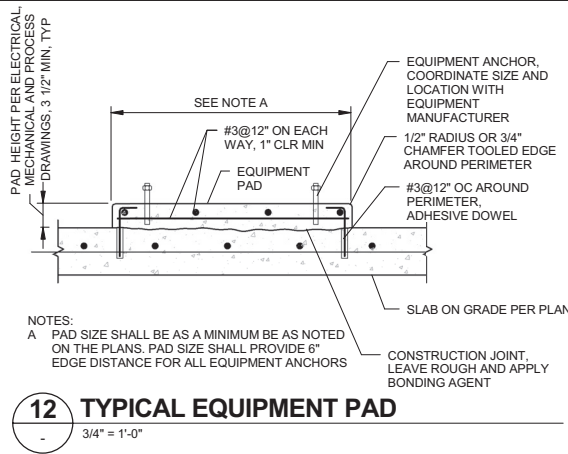
E

D

C

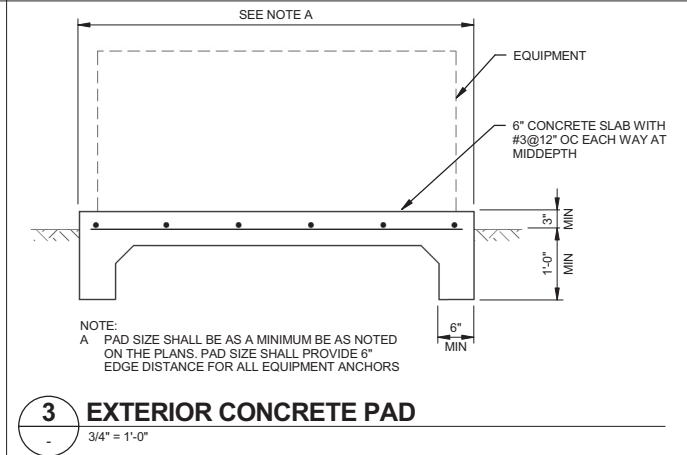
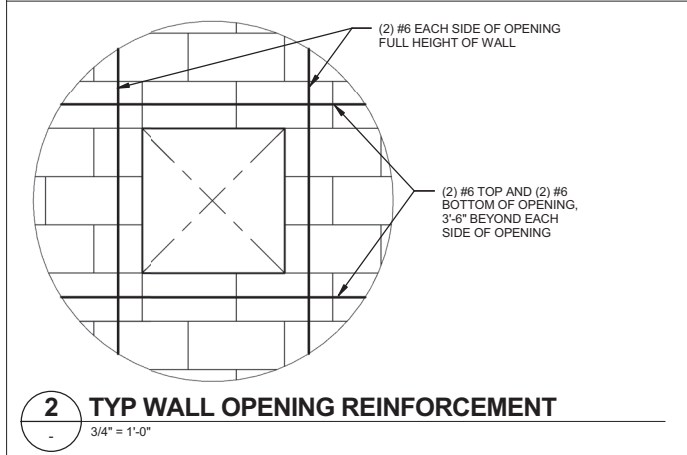
B

A



REINFORCING SPLICE LENGTH TABLE - TYPICAL U.N.O.						
BAR SIZE	FOOTING	WALL		SLAB	MASONRY	
		VERTICAL	HORIZ		VERTICAL	HORIZ
#3	1'-4"	1'-4"	1'-4"	1'-4"	2'-3"	2'-3"
#4	1'-10"	1'-7"	1'-7"	1'-7"	3'-0"	3'-0"
#5	2'-3"	2'-7"	2'-7"	2'-7"	3'-9"	3'-9"
#6	2'-8"	3'-1"	3'-1"	3'-1"	4'-6"	4'-6"
#7	3'-2"	4'-6"	4'-6"	4'-6"	5'-3"	5'-3"
#8	3'-9"	5'-2"	5'-2"	5'-2"	6'-0"	6'-0"

1 LAP SPLICE SCHEDULE FOR GRADE 60 REINFORCING STEEL
1" = 1'-0"



CH2MHILL®

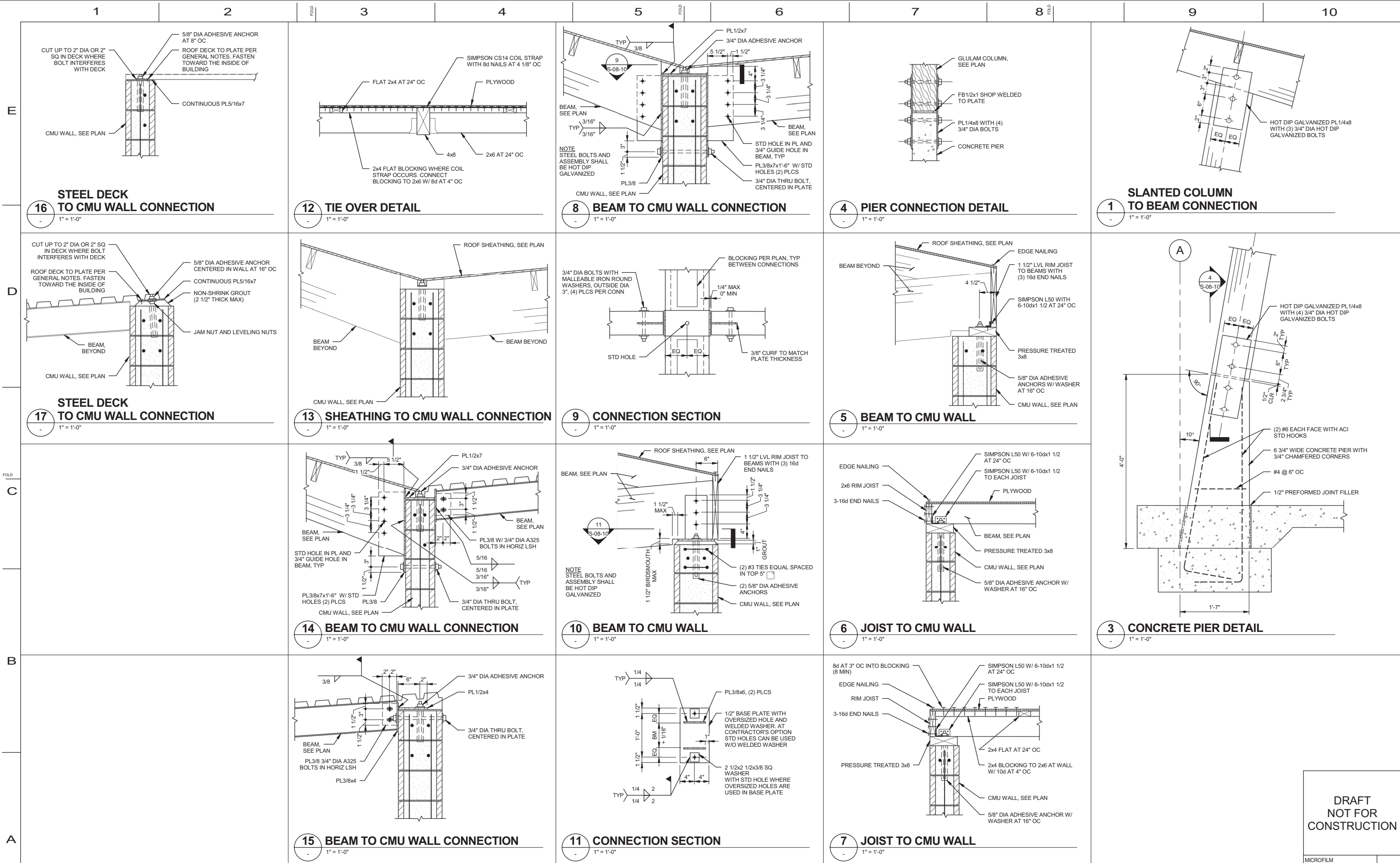
REVISIONS				REVISIONS			
NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
0	9/8/14	PRE-FINAL (90%) DESIGN	LY	RM	CH	RM	

APPROVED BY	SO
	SUPV
	DSGN RM
	DWN ME
	CHKD RM
	OK
DATE	
SCALES	

TOPOCK GROUNDWATER REMEDIATION PROJECT
STRUCTURAL
DETAILS
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

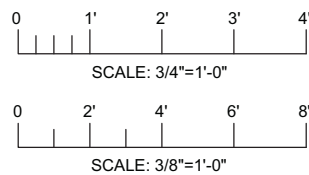
DRAFT NOT FOR CONSTRUCTION	
MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	of SHEETS
S-08-09	REV U

FILENAME: PLOT DATE: \$PLOTDATE PLOT TIME: \$PLOTTIME



CH2MHILL®

																				APPROVED BY		SO	
																						SUPV	
																						DSGN RM	
																						DWN ME	
																						CHKD RM	
																						OK	
																						DATE	
																						SCALES	



- | <u>SIEVE SIZE</u> | <u>TOTAL PERCENT PASSING</u> |
|-------------------|------------------------------|
| 2 INCH | 100 |
| 1 INCH | 70 TO 100 |
| 3/4 INCH | 50 TO 90 |
| NO. 4 | 30 TO 60 |
| NO. 30 | 9 TO 33 |
| NO. 200 | 0 TO 15 |

- DRAFT -
NOT FOR
CONSTRUCTION

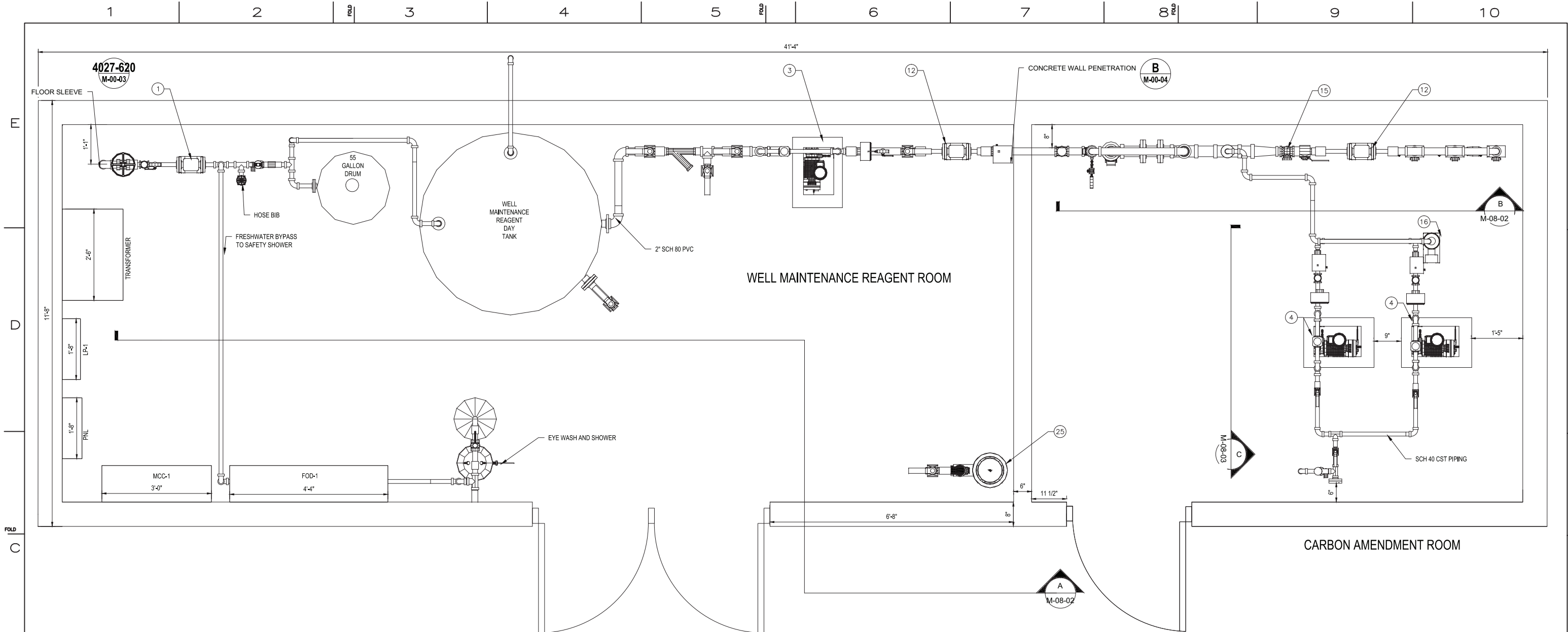
[illegible]

TOPOCK GROUNDWATER REMEDIATION PROJECT

**TRANSWESTERN BENCH
STORAGE TANK FOUNDATION**

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

MICROFILM		
BILL OF MATL		
COWG LIST		
SUPSDS		
SUPSD BY		
SHEET NO.	of	SHEETS
S-08-11		REV 1



TWB CARBON AMENDMENT BUILDING MECHANICAL LAYOUT

3/4" = 1'-0"

LEGEND:

7

REFERENCE ITEM # TW BENCH CARBON AMENDMENT BUILDING SCHEDULE

TW BENCH CARBON AMENDMENT BUILDING SCHEDULE					
ITEM NUMBER	PIPE SIZE	MATERIAL	PROCESS FLOW	DESCRIPTION	PID TAG
1	1"	SCH. 80 PVC	FRESHWATER	ROSEMOUNT FLOW METERS	FM-971
2	1"	SCH. 80 PVC	FRESHWATER	BALL VALVE	V-917C
3	1"	SCH. 80 PVC	WELL MAINTENANCE REAGENT	WELL MAINTENANCE PUMP HOSE PUMP	PMP-942
4	1"	SCH. 40 CST	CARBON SUBSTRATE	CARBON SUB SUBSTRATE HOSE PUMP	PMP-940 PMP-941
5	1"	SCH. 80 PVC	FRESHWATER	GATE VALVE	V-917A
6	1"	SCH. 80 PVC	FRESHWATER	SOLENOID VALVE	FV-922
7	2"	SCH. 80 PVC	WELL MAINTENANCE REAGENT	EDUCTOR	E-908
8	2"	SCH. 80 PVC	FRESHWATER	GATE VALVE	V-917B
9	1/4"	SCH. 80 PVC	FRESHWATER	PRESSURE GAUGE	PI-906B
10	2"	SCH. 80 PVC	WELL MAINTENANCE REAGENT	MOTOR CONTROL VALVE	FV-923
11	2"	SCH. 80 PVC	WELL MAINTENANCE REAGENT	BALL VALVE	V-917G V-917H V-917K
12	1"	SCH. 80 PVC	WELL MAINTENANCE REAGENT	ROSEMOUNT FLOW METERS	FM-972
13	2"	SCH. 80 PVC	CARBON AMENDED GROUNDWATER	STATIC MIXER	M-907
14	1/4"	SCH. 80 PVC	WELL MAINTENANCE REAGENT	PRESSURE GAUGE	PI-960A
15	2"	SCH. 40 CST	CARBON AMENDED GROUNDWATER	CHECK VALVE	V-916B
16	1"	SCH. 40 CST	CARBON AMENDED GROUNDWATER/CARBON SUBSTRATE	MICRO MOTION MAGMETER	FM-973

17	1/4"	SCH. 40 CST	CARBON AMENDED GROUNDWATER	PRESSURE GAUGE	
18	2"	SCH. 40 CST	CARBON AMENDED GROUNDWATER	BALL VALVE	V-914A V-914B V-914C
19	2"	SCH. 40 CST	CARBON AMENDED GROUNDWATER	CHECK VALVE	V-914D V-914E V-914F
20	1"	SCH. 40 CST	CARBON AMENDED GROUNDWATER/CARBON SUBSTRATE	PRESSURE TRANSDUCER	PSH-966
21	1"	SCH. 40 CST	CARBON AMENDED GROUNDWATER/CARBON SUBSTRATE	BALL VALVE	V-911A
22	1"	SCH. 40 CST	CARBON AMENDED GROUNDWATER/CARBON SUBSTRATE	CHECK VALVE	V-911C
23	2"	SCH. 40 CST	CARBON AMENDED GROUNDWATER/CARBON SUBSTRATE	MOTOR CONTROLLED VALVE	FV-921
24	2"	SCH. 40 CST	CARBON AMENDED GROUNDWATER/CARBON SUBSTRATE	PRESSURE SWITCH	PSH-961
25	2"	SCH. 80 PVC	FRESHWATER	SUMP PUMP	PMP-945
26	2"	SCH. 40 CST	CARBON AMENDED GROUNDWATER/CARBON SUBSTRATE	VACUUM RELIEF VALVE	V-911G
27	2"	SCH. 80 PVC	WELL MAINTENANCE REAGENT	VACUUM RELIEF VALVE	V-911H

NOTES:

- ALL PIPING, INSTRUMENTATION, AND OTHER COMPONENTS SHALL BE INSTALLED AS PER THE MANUFACTURER'S GUIDELINES.
- ALL PIPING AND INSTRUMENTATION SHALL BE INSTALLED PER P&IDs.
- INSTALLATION OF ELECTRIC COMPONENTS SHALL COMPLY WITH ALL APPLICABLE NEC AND LOCAL CODES.
- CROSS SECTIONS SHOW ONLY THOSE COMPONENTS NECESSARY TO INDICATE ELEVATIONS AND SPACE REQUIREMENTS FOR PIPING AND MAJOR COMPONENTS. INSTALL PIPING AND INSTRUMENTATION PER THE P&IDs.
- ALL INSTRUMENTATION SHALL BE INSTALLED SUCH THAT IT MAY BE READ WITHOUT ENTERING THE WELL VAULT.
- ALL VALVE HANDLES SHALL BE INSTALLED SUCH THAT THEY ARE ACCESSIBLE WITHOUT ENTERING THE WELL VAULT AND OPERABLE THROUGH ENTIRE STROKE.
- ALL PIPING AND CONDUIT SHALL BE SECURED TO THE WALLS OF THE CONCRETE WELL VAULT WITH ANCHOR BOLTS AND UNI-STRUT. SUPPORTS SHALL BE INSTALLED WHEREVER NECESSARY TO PROPERLY SUPPORT PIPING AND CONDUIT.
- PIPE SIZES AND MATERIALS ARE SHOWN ON THE P&IDs.
- PIPING KNOCKOUTS AND ROUTING OF PIPING SHOWN AS PROPOSED AND APPROXIMATE. ACTUAL ROUTING TO BE FIELD DETERMINED AND IS SUBJECT TO ENGINEER'S APPROVAL.
- ALL FLANGES SHALL BE CLASS 150 RATE FACE FLANGES UNLESS OTHERWISE SPECIFIED.
- ALL TRANSITION FITTINGS FOR HDPE PIPING SHALL BE FLANGED WITH BACKING RINGS.
- ALL PROCESS PIPING IS SCHEDULE (SCH.) 80 PVC. SHOWN IN CROSS SECTIONS AS PVC.
- ETHANOL PIPING IS SCHEDULE (SCH.) 40 STEEL. SHOWN IN CROSS SECTIONS AS CST.

- DRAFT -
NOT FOR
CONSTRUCTION

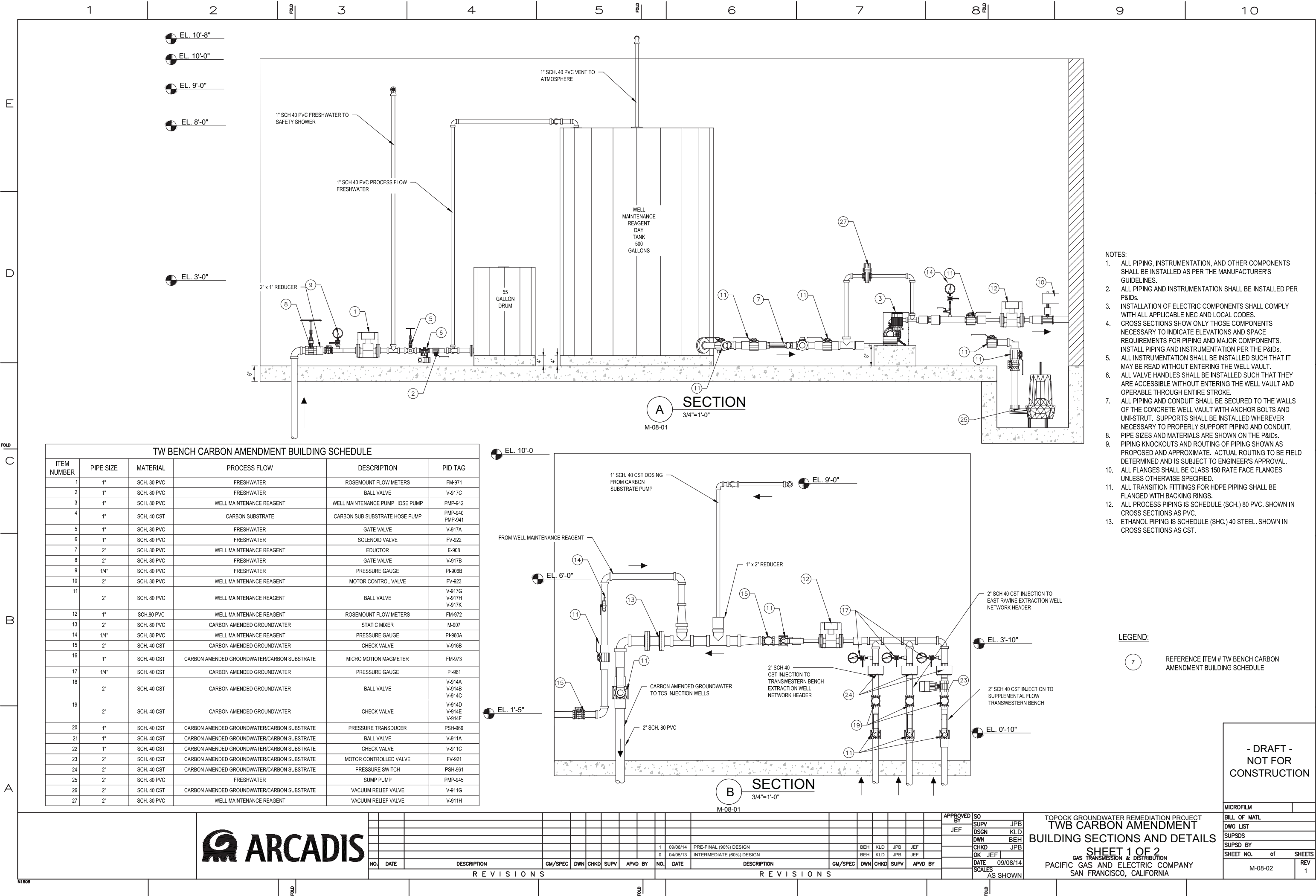


NO.		DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
REVISIONS								
1	09/08/14	PRE-FINAL (90%) DESIGN						
0	04/05/13	INTERMEDIATE (60%) DESIGN						

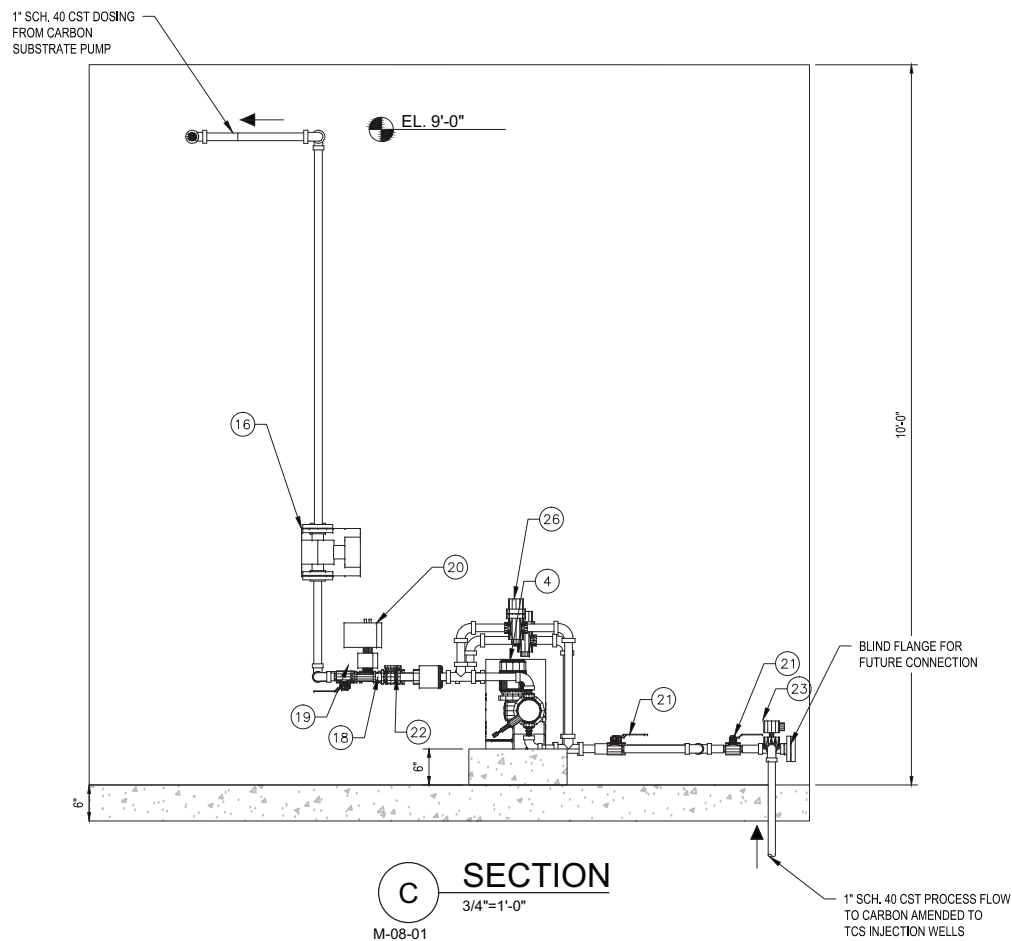
APPROVED BY		SO
JEF		SUPV
		DSGN
		DWN
		CHKD
		OK JEF
		DATE 09/08/14
		SCALE AS SHOWN

TOPOCK GROUNDWATER REMEDIATION PROJECT
TWB CARBON AMENDMENT BUILDING MECHANICAL LAYOUT
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	of SHEETS
M-08-01	REV 1



TW BENCH CARBON AMENDMENT BUILDING SCHEDULE					
ITEM NUMBER	PIPE SIZE	MATERIAL	PROCESS FLOW	DESCRIPTION	PID TAG
1	1"	SCH. 80 PVC	FRESHWATER	ROSEMOUNT FLOW METERS	FM-971
2	1"	SCH. 80 PVC	FRESHWATER	BALL VALVE	V-917C
3	1"	SCH. 80 PVC	WELL MAINTENANCE REAGENT	WELL MAINTENANCE PUMP HOSE PUMP	PMP-942
4	1"	SCH. 40 CST	CARBON SUBSTRATE	CARBON SUB SUBSTRATE HOSE PUMP	PMP-940 PMP-941
5	1"	SCH. 80 PVC	FRESHWATER	GATE VALVE	V-917A
6	1"	SCH. 80 PVC	FRESHWATER	SOLENOID VALVE	FV-922
7	2"	SCH. 80 PVC	WELL MAINTENANCE REAGENT	EDUCTOR	E-908
8	2"	SCH. 80 PVC	FRESHWATER	GATE VALVE	V-917B
9	1/4"	SCH. 80 PVC	FRESHWATER	PRESSURE GAUGE	PI-906B
10	2"	SCH. 80 PVC	WELL MAINTENANCE REAGENT	MOTOR CONTROL VALVE	FV-923
11	2"	SCH. 80 PVC	WELL MAINTENANCE REAGENT	BALL VALVE	V-917G V-917H V-917K
12	1"	SCH.80 PVC	WELL MAINTENANCE REAGENT	ROSEMOUNT FLOW METERS	FM-972
13	2"	SCH. 80 PVC	CARBON AMENDED GROUNDWATER	STATIC MIXER	M-907
14	1/4"	SCH. 80 PVC	WELL MAINTENANCE REAGENT	PRESSURE GAUGE	PI-960A
15	2"	SCH. 40 CST	CARBON AMENDED GROUNDWATER	CHECK VALVE	V-916B
16	1"	SCH. 40 CST	CARBON AMENDED GROUNDWATER/CARBON SUBSTRATE	MICRO MOTION MAGMETER	FM-973
17	1/4"	SCH. 40 CST	CARBON AMENDED GROUNDWATER	PRESSURE GAUGE	PI-961
18	2"	SCH. 40 CST	CARBON AMENDED GROUNDWATER	BALL VALVE	V-914A V-914B V-914C
19	2"	SCH. 40 CST	CARBON AMENDED GROUNDWATER	CHECK VALVE	V-914D V-914E V-914F
20	1"	SCH. 40 CST	CARBON AMENDED GROUNDWATER/CARBON SUBSTRATE	PRESSURE TRANSDUCER	PSH-966
21	1"	SCH. 40 CST	CARBON AMENDED GROUNDWATER/CARBON SUBSTRATE	BALL VALVE	V-911A
22	1"	SCH. 40 CST	CARBON AMENDED GROUNDWATER/CARBON SUBSTRATE	CHECK VALVE	V-911C
23	2"	SCH. 40 CST	CARBON AMENDED GROUNDWATER/CARBON SUBSTRATE	MOTOR CONTROLLED VALVE	FV-921
24	2"	SCH. 40 CST	CARBON AMENDED GROUNDWATER/CARBON SUBSTRATE	PRESSURE SWITCH	PSH-961
25	2"	SCH. 80 PVC	FRESHWATER	SUMP PUMP	PMP-945
26	2"	SCH. 40 CST	CARBON AMENDED GROUNDWATER/CARBON SUBSTRATE	VACUUM RELIEF VALVE	V-911G
27	2"	SCH. 80 PVC	WELL MAINTENANCE REAGENT	VACUUM RELIEF VALVE	V-911H



LEGEND:

7

REFERENCE ITEM # TW BENCH CARBON
AMENDMENT BUILDING SCHEDULE

NOTES:

1. ALL PIPING, INSTRUMENTATION, AND OTHER COMPONENTS SHALL BE INSTALLED AS PER THE MANUFACTURER'S GUIDELINES.
2. ALL PIPING AND INSTRUMENTATION SHALL BE INSTALLED PER P&IDs.
3. INSTALLATION OF ELECTRIC COMPONENTS SHALL COMPLY WITH ALL APPLICABLE NEC AND LOCAL CODES.
4. CROSS SECTIONS SHOW ONLY THOSE COMPONENTS NECESSARY TO INDICATE ELEVATIONS AND SPACE REQUIREMENTS FOR PIPING AND MAJOR COMPONENTS. INSTALL PIPING AND INSTRUMENTATION PER THE P&IDs.
5. ALL INSTRUMENTATION SHALL BE INSTALLED SUCH THAT IT MAY BE READ WITHOUT ENTERING THE WELL VAULT.
6. ALL VALVE HANDLES SHALL BE INSTALLED SUCH THAT THEY ARE ACCESSIBLE WITHOUT ENTERING THE WELL VAULT AND OPERABLE THROUGH ENTIRE STROKE.
7. ALL PIPING AND CONDUIT SHALL BE SECURED TO THE WALLS OF THE CONCRETE WELL VAULT WITH ANCHOR BOLTS AND UNI-STRUT. SUPPORTS SHALL BE INSTALLED WHEREVER NECESSARY TO PROPERLY SUPPORT PIPING AND CONDUIT.
8. PIPE SIZES AND MATERIALS ARE SHOWN ON THE P&IDs.
9. PIPING KNOCKOUTS AND ROUTING OF PIPING SHOWN AS PROPOSED AND APPROXIMATE. ACTUAL ROUTING TO BE FIELD DETERMINED AND IS SUBJECT TO ENGINEER'S APPROVAL.
10. ALL FLANGES SHALL BE CLASS 150 RATE FACE FLANGES UNLESS OTHERWISE SPECIFIED.
11. ALL TRANSITION FITTINGS FOR HDPE PIPING SHALL BE FLANGED WITH BACKING RINGS.
12. ALL PROCESS PIPING IS SCHEDULE (SCH.) 80 PVC. SHOWN IN CROSS SECTIONS AS PVC.
13. ETHANOL PIPING IS SCHEDULE (SCH.) 40 STEEL. SHOWN IN CROSS SECTIONS AS CST.

- DRAFT -
NOT FOR
CONSTRUCTION

MICROFILM		
BILL OF MATL		
DWG LIST		
SUPSDS		
SUPSD BY		
SHEET NO.	of	SHEETS
M-08-03		REV 1

[illegible]

TOPOCK GROUNDWATER REMEDIATION PROJECT
TWB CARBON AMENDMENT
BUILDING SECTIONS AND DETAILS
SHEET 2 OF 2
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

E

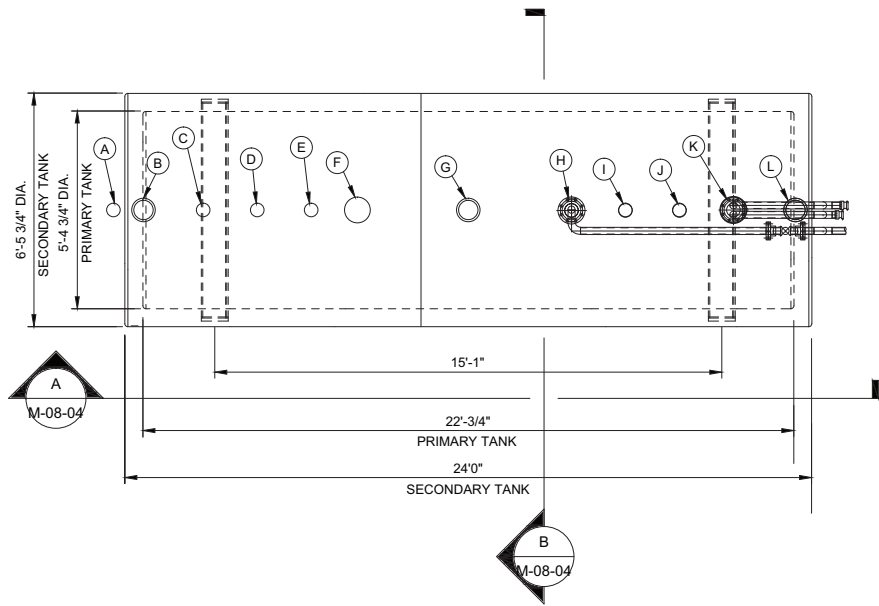
D

FOLD

C

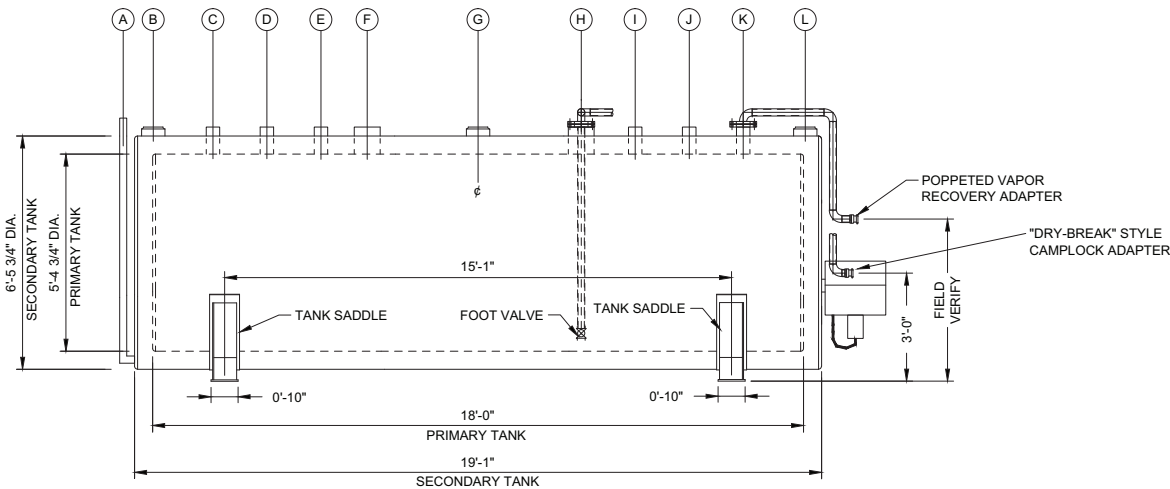
B

A



TANK PLAN

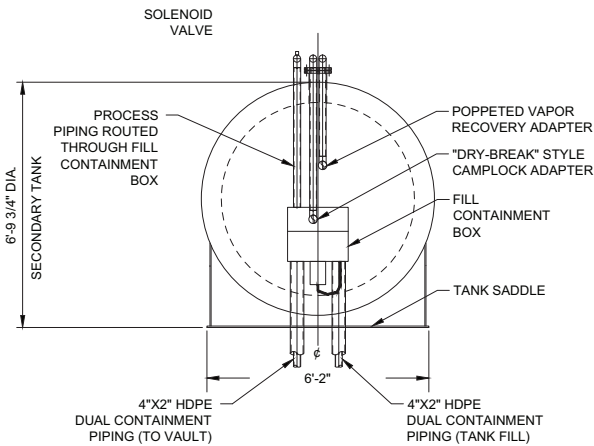
3/8" = 1'-0"



A TANK SECTION

3/8" = 1'-0"

M-08-04



B TANK SECTION

3/8" = 1'-0"

M-08-04

NOZZLE SCHEDULE						
NOZZLE	SIZE	RATING	SCH	FLANGE		EXISTING NOZZLE DESCRIPTION
				SLIP-ON	F.F.	
A	2"	NPT	40	SLIP-ON	F.F.	INTERSTITIAL MONITOR
B	6"	NPT	80	SLIP-ON	F.F.	SECONDARY EMERGENCY VENT
C	2"	NPT	80	SLIP-ON	F.F.	CARB APPROVED VACUUM/PRESSURE VENT (8" W.C. VAC / 3" W.C. PRESSURE)
D	2"	NPT	80	SLIP-ON	F.F.	SPARE
E	2"	NPT	80	SLIP-ON	F.F.	SPARE
F	6"	NPT	80	SLIP-ON	F.F.	EMERGENCY VENT
G	6"	NPT	80	SLIP-ON		SECONDARY EMERGENCY VENT
H	4"	NPT	80	SLIP-ON	F.F.	PRODUCT WITHDRAWAL
I	2"	NPT	80	SLIP-ON	F.F.	SPARE
J	2"	NPT	80	SLIP-ON	F.F.	SPARE
K	4"	150#	80	SLIP-ON	F.F.	AGGREGATE FILL (PRODUCT AND VAPOR RECOVERY)
L	6"	150#	80	SLIP-ON	F.F.	SECONDARY EMERGENCY VENT

NOTES:

1. TANK MUST MEET ALL SEISMIC ZONE IV REQUIREMENTS.
2. FABRICATOR SHALL PROVIDE CONTRACTOR WITH TANK ANCHORING DETAILS TO CONCRETE SLAB.
3. 3" AND SMALLER NOZZLES SHALL PROJECT 4" (MIN) FROM VESSEL SHELL.
4. 4" NOZZLES AND LARGER SHALL PROJECT 6" (MIN) FROM VESSEL SHELL.
5. FABRICATOR SHALL PROVIDE HANDLES ON ACCESS PORTS.
6. FLANGE BOLT HOLES TO STRADDLE PRINCIPAL VESSEL CENTERLINE UNLESS OTHERWISE INDICATED.
7. FABRICATOR TO PROVIDE REINFORCING PLATES FOR NOZZLES AS REQUIRED.
8. FABRICATOR TO PROVIDE LIFTING LUGS OR PROVIDE INSTRUCTIONS FOR SETTING TANK (E.G., STRAPS WITH SPREADER BAR).
9. CONTRACTOR TO PROCURE, OFFLOAD, AND INSTALL.
10. FABRICATOR SHALL PROVIDE PLATFORM AND STAIRS TO ACCESS TOP OF TANK.

CARBON SUBSTRATE STORAGE TANK PLAN AND SECTION VIEWS

3/8" = 1'-0"



REVISIONS										REVISIONS									
NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD	BY		NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD	BY	
1	09/08/14	PRE-FINAL (90%) DESIGN								1	09/08/14	PRE-FINAL (90%) DESIGN		LUK	JPB	JPB	JEF		
0	04/05/13	INTERMEDIATE (60%) DESIGN								0	04/05/13	INTERMEDIATE (60%) DESIGN		LUK	JPB	JPB	JEF		

APPROVED BY	SO
JEF	SUPV JPB
	DSGN JPB
	DWN LUK
	CHKD JPB
	OK JEF
DATE	09/08/14
SCALES	SHOWN

TOPOCK GROUNDWATER REMEDIATION PROJECT
TW BENCH CARBON SUBSTRATE
STORAGE TANK MECHANICAL
DETAILS
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

- DRAFT -
NOT FOR
CONSTRUCTION

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	of SHEETS
M-08-04	REV 1

5

D

FOLD

C

B

A

STATE OF CALIFORNIA MECHANICAL SYSTEMS CEC-NRCC-MCH-01-E (Revised 06/13)		CALIFORNIA ENERGY COMMISSION 	
CERTIFICATE OF COMPLIANCE		NRCC-MCH-01-E	
Mechanical Systems		(Page 1 of 4)	
Project Name: PG&E Transcontinental West		Date Prepared: 6/21/2014	

MECHANICAL COMPLIANCE FORMS & WORKSHEETS (check box if worksheet is included)			
For detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, refer to the 2013 Nonresidential Manual Note: The Enforcement Agency may require all forms to be incorporated onto the building plans.			
YES	NO	Form/Worksheet #	Title
☒	☐	NRCC-MCH-01E (Part 1 of 3)	Certificate of Compliance, Declaration, Required on plans for all submittals.
☒	☐	NRCC-MCH-01E (Part 2 of 3)	Certificate of Compliance, Required Acceptance Tests (MCH-02A to 11A). Required on plans for all submittals.
☒	☐	NRCC-MCH-01E (Part 3 of 3)	Certificate of Compliance, Required Acceptance Tests (MCH-12A to 18A). Required on plans where applicable.
☒	☐	NRCC-MCH-02E (Part 1 of 2)	Mechanical Dry Equipment Summary is required for all submittals with Central Air Systems. It is optional on plans.
☒	☐	NRCC-MCH-02E (Part 2 of 2)	Mechanical Wet Equipment Summary is required for all submittals with chilled water, hot water or condenser water systems. It is optional on plans.
☐	☒	NRCC-MCH-03E	Mechanical Ventilation and Reheat is required for all submittals with multiple zone heating and cooling systems. It is optional on plans.

[illegible]

CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance

June 2013

STATE OF CALIFORNIA MECHANICAL SYSTEMS CFC-NRCC-MCH-01-E (Revised 06/13)		CALIFORNIA ENERGY COMMISSION		
CERTIFICATE OF COMPLIANCE		NRCC-MCH-01-E		
Mechanical Systems		(Page 3 of 4)		
Project Name: PG&E Transcontinental West		Date Prepared: 6/21/2014		

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
1. I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name: Company: CH2M HILL Address: 1737 North First Street, Suite 300 City/State/Zip: San Jose, CA 95112	Documentation Author Signature: Signature Date: 6/21/2014 CEA/HERS Certification Identification (if applicable): Phone: 408-436-4936
RESPONSIBLE PERSON'S DECLARATION STATEMENT	
I certify the following under penalty of perjury, under the laws of the State of California:	
1. The information provided on this Certificate of Compliance is true and correct.	
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).	
3. The energy features and performance specifications, materials, components, and management devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.	
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.	
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.	
Responsible Designer Name: Company : CH2M HILL Address: 1737 North First Street, Suite 300 City/State/Zip: San Jose, CA 95112	Responsible Designer Signature: Date Signed: License: Phone: 408-436-4936

CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance

June 2013

STATE OF CALIFORNIA MECHANICAL SYSTEMS CEC-NRCC-MCH-01-E (Revised 06/13)		CALIFORNIA ENERGY COMMISSION NRCC-MCH-01-E (Page 2 of 4)	
CERTIFICATE OF COMPLIANCE			
Mechanical Systems			
Project Name:	PG&E Transcontinental West	Date Prepared:	6/21/2014

[illegible]

CA Building Energy Efficiency Standards - 2013 Nonresidential Compliance

June 2013

[illegible]

TOPOCK GROUNDWATER REMEDIATION PROJECT TRANSWESTERN BENCH OPERATIONS BUILDING MECHANICAL T24 FORMS GAS TRANSMISSION & DISTRIBUTION PACIFIC GAS AND ELECTRIC COMPANY SAN FRANCISCO, CALIFORNIA	BILL. OF MATL DWG LIST SUPDS SUPSD BY SHEET NO. of SHEETS	REV 0
	M-08-06	
	0	
	0	
	0	
	0	

DRAFT
NOT FOR
CONSTRUCTION

MICROFILM

BILL OF MATL	
--------------	--

DWG LIST

SUPSDS

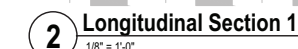
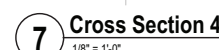
SUPSD BY
 01/01/00 11:00

SHEET NO. _____

M-0

PLOT DATE: ☐ PLOTDATE PLOT TIME: ☐ PLOTTIME

FILENAME:



KEYED NOTES:

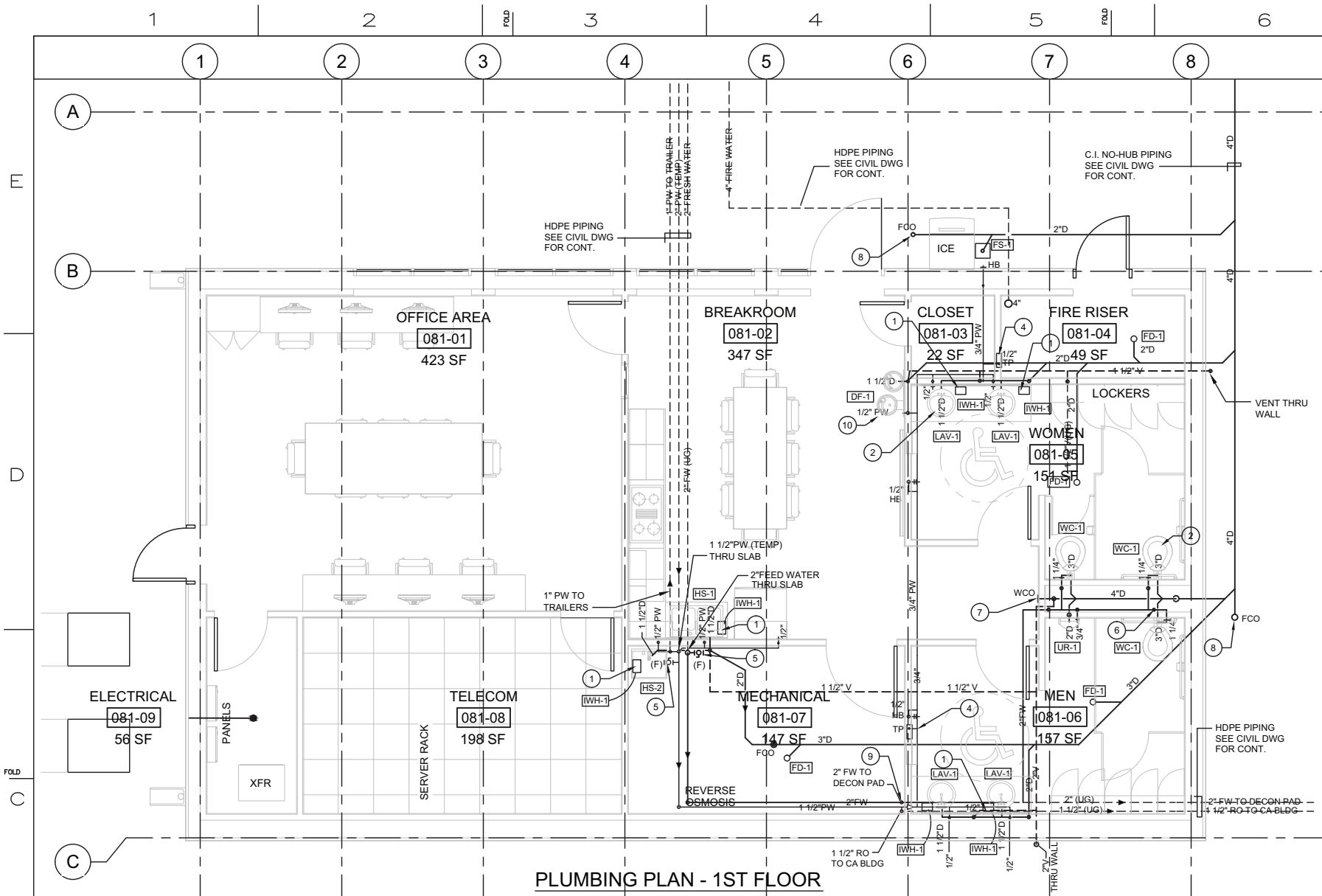
1. CONCEAL FP PIPING WITH INSULATION INSIDE THE SOFFIT OF OVERHANG.
2. FP SPRINKLER HEAD IN HIGH BAY. ADDITIONAL HEAD MAY BE REQUIRED FOR FULL COVERAGE.
3. SEE ARCH DWG FOR EXACT LOCATIONS OF LOUVER OPENINGS.

[illegible]

TOPOCK GROUNDWATER REMEDIATION PROJECT
TRANSWESTERN BENCH
OPERATIONS BUILDING
HVAC SECTIONS
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

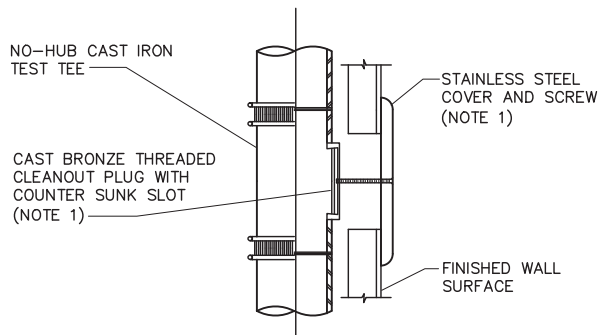
DRAFT
NOT FOR
CONSTRUCTION

MICROFILM		
BILL OF MATL		
DWG LIST		
SUPSDS		
SUPSD BY		
SHEET NO.	of	SHEETS
M-08-09		REV 0

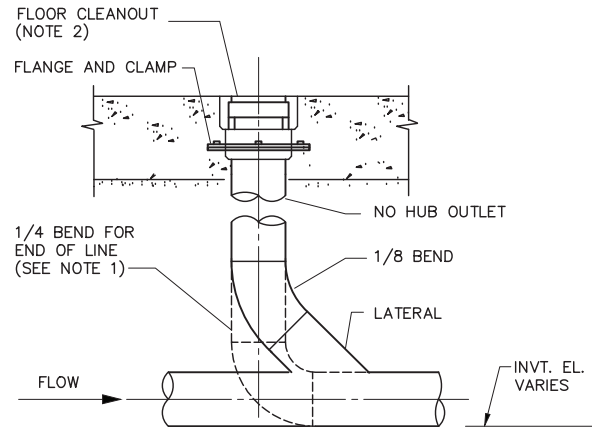


PLUMBING PLAN - 1ST FLOOR

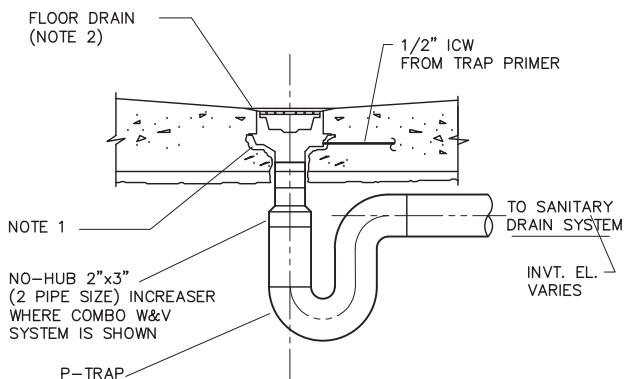
1/4" = 1'-0"



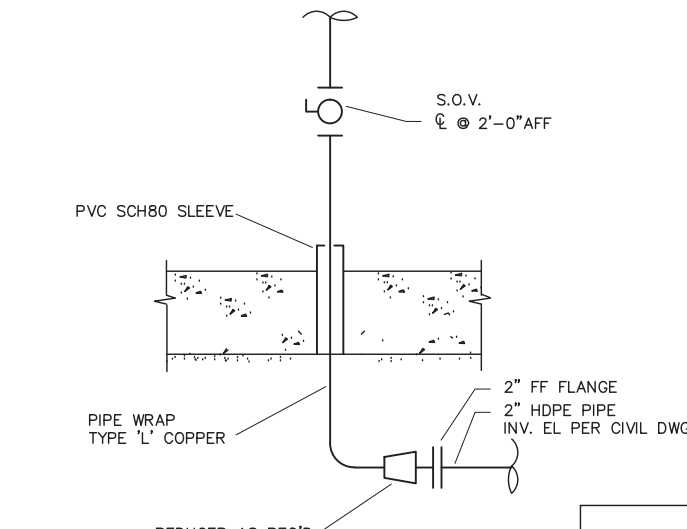
NOTES:
1- PROVIDE COVER, SCREW AND PLUG AS SPECIFIED IN SECTION 23 00 40B



NOTES:
1- FOR CLEANOUT LOCATED AT THE END OF RUN, REPLACE WYE AND 1/8 BEND WITH A SHORT SWEEP ELBOW.
2- PROVIDE FLOOR CLEANOUT AS SPECIFIED IN SECTION 23 00 40B



NOTES:
1- IF MEMBRANE EXISTS, ATTACH TO FLASHING COLLAR.
2- PROVIDE FLOOR DRAIN AS SPECIFIED IN SECTION 23 40 00B



1 WALL CLEANOUT (WCO)
- NTS

2 FLOOR CLEANOUT (FCO)
- NTS

3 FLOOR DRAIN (FD-1) (FS-1 SIMILAR)
- NTS

4 UG PIPING TRANSITION TO ROOM
- NTS

GENERAL NOTES:

- SEE M-08-05 FOR PLUMBING LEGEND AND ABBREVIATION.
- LAVATORY AND SINK FAUCETS SHALL RESTRICT FLOW TO 2.2 GPM.
- FULLY COORDINATE WITH OTHER TRADES FOR INTERFERENCE AVOIDANCE.
- PLUMBING FIXTURE SCHEDULE IS FROM SPEC 23 40 00B.
- PLUMBING EQUIPMENT FROM SPEC 23 30 00B.
- SEAL ALL PIPING PENETRATIONS THRU WALL.
- UNDERGROUND WATER LINE MATERIALS HDPE AND TRANSITION TO COPPER TYPE 'L' OR 'K' BEFORE PENETRATING FLOOR SLAB.
- INSTALL ALL VENT AND SEWER AT 1/4 INCH PER FT, UON.
- INSTALL ISOLATION VALVE AT 2'-0" AFF ON PIPING RISER IN AND OUT OF MECHANICAL ROOM.
- ALL HOSE BIBB WITH VACUUM BREAKER AND 3/4 INCH HOSE THREAD.
- INSTALL TAIL-PIECE AND P-TRAP FOR ALL LAVATORY AND SINK.
- FRESH WATER FEED PRESSURE IS EXPECTED TO BE 48 PSIG.

KEYED NOTES:

- INSTALL ELECTRIC WATER HEATER, IWH-1, UNDER SINK AND PROVIDE PERSONNEL PROTECTIVE INSULATION.
- INSTALL SINK, LAVATORY, WATER CLOSETS, AND URINAL. COORDINATE WITH ARCHITECTURAL FOR MOUNTING HEIGHTS.
- NO USED.
- INSTALL TRAP PRIMERS AND ACCESS PANEL IN WALL CAVITY.
- INSTALL 1-1/2" BALL VALVE AND PLUG FOR FUTURE.
- INSTALL SHOCK ARRESTOR INSIDE PLUMBING CHASE.
- INSTALL WALL CLEANOUT WITH COVER PLATE.
- INSTALL FLOOR CLEANOUT WITH BRONZE COVER.
- 1 1/2" RO WATER AND 2" FEED WATER THRU SLAB AND TO CA BUILDING. INSTALL ISOLATION VALVE WITH LOCKABLE HANDLE AT 2 FT ABOVE SLAB.
- INSTALL DRINKING FOUNTAIN, DF-1, ON WALL CONFORM TO ADA GUIDELINES AND PER MFG INSTRUCTIONS. CONNECT DRAIN AND PW. DF-1 WILL BE ACORN A132400B-W32, DUAL FOUNTAINS, WITH CONCEALED WALL SUPPORT, STAINLESS STEEL FINISH, AND ACCESS PANEL.

PLUMBING FIXTURE LOADING

TAG#	DESCRIPTION	QTY	UNIT WFU	TOTAL WFU	UNIT DFU	TOTAL DFU
WC-1	WATER CLOSET, FLUSH-O-METER 1.6 GPF	3	10.0	90.0	6.0	18.0
UR-1	URINAL, FLUSH-O-METER, 1.0 GPF	1	5.0	20.0	5.0	5.0
HS-1	KITCHEN HAND SINK	1	2.0	2.0	2.0	2.0
HS-2	SERVICE SINK	1	2.0	2.0	2.0	2.0
LAV-1	LAVATORY	4	1.0	4.0	1.0	4.0
FD-1	FLOOR DRAIN WITH TRAP PRIMER CONNECTION	4			0.0	0.0
FS-1	FLOOR SINK WITH STRAINER AND TRAP PRIMER CONNECTION	1			0.0	0.0
DF-1	DRINKING FOUNTAIN	1			0.0	0.0
TOTAL FIXTURE LOADING				118.0		31.0

USE: 2" BUILDING DOMESTIC WATER
TOTAL DEMAND LOAD = 70.0 GPM PER 118 WFU

USE: 4" SANITARY WASTE LINE AND CONNECT IT TO (E) SEPTIC TANK SYSTEM.

NOTE:
WFU BASED ON TOTAL DEVELOPED LENGTH OF 100 FEET □ PRESSURE RANGE OF 60 PSI AVAILABLE STATIC PRESSURE AFTER HEAD LOSS (2013 CPC TABLE 6-5). 1ST FIVE FLUSHMETERS OF WATER CLOSET OR URINALS EQUIVALENT WFUs ARE LISTED IN TABLE 6-6.

DFU BASED ON UPC 2013 TABLE 7-5 MAXIMUM UNIT LOADING FOR HORIZONTAL PIPING AT 1/4" = 1' - 0" SLOPE AND MAXIMUM UNITS FOR VENT PIPING.

WATER PIPE SIZING CHART

PIPE SIZE	GPM	FIXTURE UNITS		VELOCITY	PIPING NOT SIZED ON FLOOR PLANS SHALL BE SIZED IN ACCORDANCE WITH THIS PIPE SIZING CHART (MIN. SIZE).
		FLUSH VALVE	FLUSH TANK		
1/2"	4	--	4	6 FPS	PIPE SIZING CHART IS BASED ON A MAX. OF 8 PSI PRESSURE LOSS PER 100 FEET OF PIPE.
3/4"	8	1.75	11	6 FPS	
1"	18	4	26	6 FPS	MAXIMUM FLOW VELOCITIES: 6 FT/SEC. FOR BRANCH PIPING (WITHIN BUILDING /STRUCTURE) 8 FT/SEC. FOR MAINS.
1-1/4"	28	11	47	7 FPS	
1-1/2"	40	35	100	8 FPS	
2"	75	132	260	8 FPS	
2-1/2"	110	430	300	8 FPS	

CH2MHILL.

NO.										APPROVED BY									
DATE										SO									
DESCRIPTION										SUPV									
GM/SPEC										DSGN									
DWN										H2									
CHKD										H2UO									
OK										DATE									
SCALE										AS NOTED									

TOPOCK GROUNDWATER REMEDIATION PROJECT
OPERATIONS BUILDING
WATER AND SANITARY SEWER
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

DRAFT
NOT FOR
CONSTRUCTION

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	of SHEETS
P-08-01	REV 0

FILENAME: PLOT DATE: PLOTDATE PLOT TIME: PLOTTIME

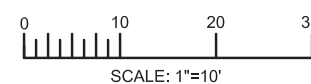


$$1/4'' = 1'-0''$$
$$1/4'' = 1'-0''$$

N1808

FILENAME:

MATCH LINE FOR
CONTINUATION SEE
SHEET E-08-01



MICROFILM		
BILL OF MATL		
DWG LIST		
SUPSDS		
SUPSD BY		
SHEET NO.	of	SHEETS
E-08-02		REV 0

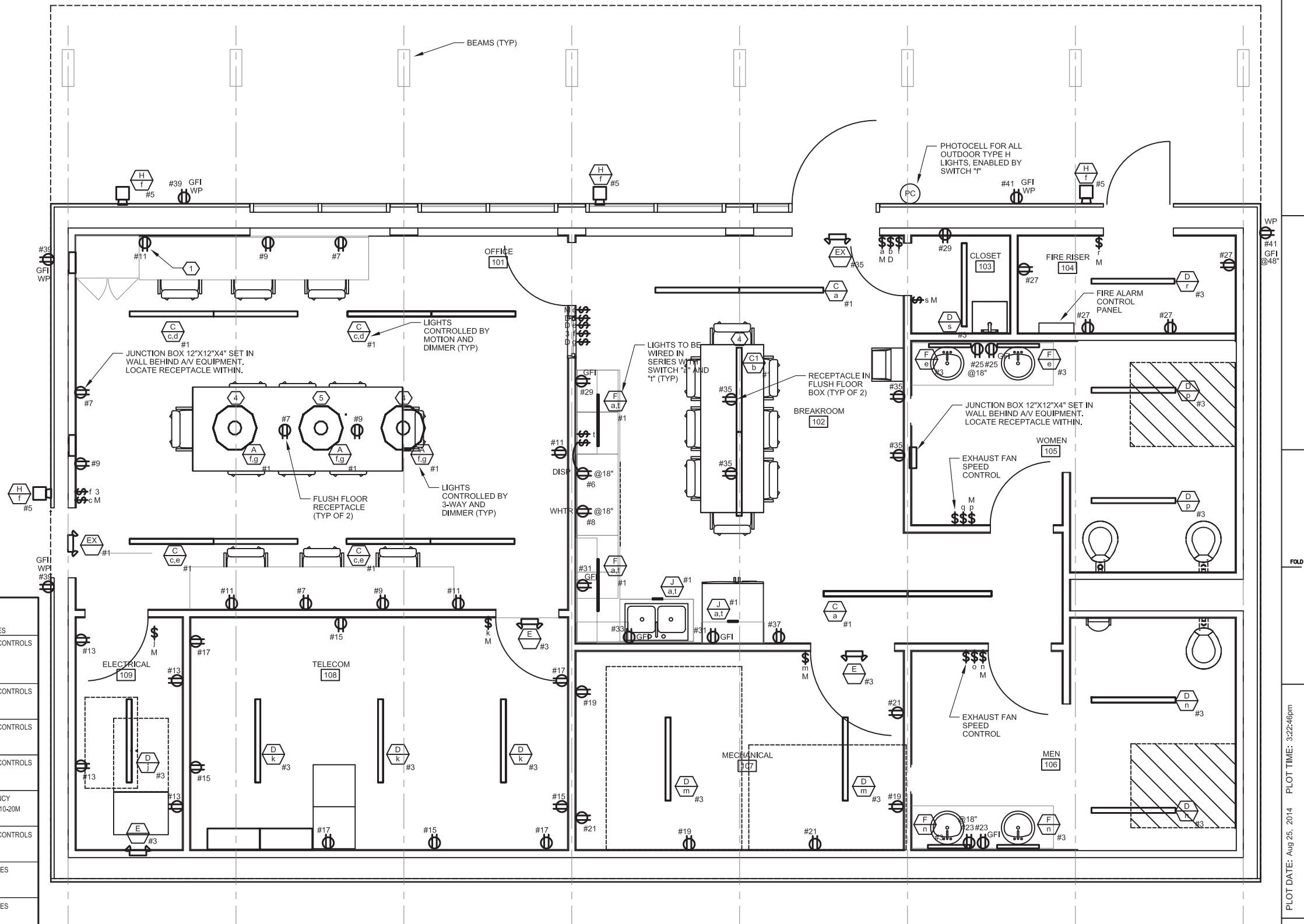
NOTES REFERENCED IN DRAWING:

- 1 FURNISH AND LOCATE NEMA 1 SCREW COVER JUNCTION BOX ON WALL AT 54" AFF. BOX TO BE 12"x12"x4" AND RECESSED IN WALL.
- 2 DATA RECEPTACLE WITH 4 CAT 6 (TA-568A) FEMALE RJ-45 RECEPTACLES EACH, TYP. (WHT, BLU, RED, BLK) MOUNTED AT 18" AFF UNLESS OTHERWISE NOTED.. HOME RUN CABLES TO COMMUNICATION PANEL FROM EACH LOCATION. LABEL WIRING WITH ROOM NUMBER-RECEPT NUMBER. FLUSH FACEPLATE WITH BUILT-IN CABINETS WHERE APPLICABLE.
- 3 FURNISH 1 CAT 6 CABLE WITH TA568A MALE RJ-45 PLUG AND ONE CAT 6 CABLE FOR 12VDC. BOTH ARE FOR CARD READER CONNECTION. HOME RUN CABLES TO COMMUNICATION RACK IN TELECOM ROOM 108.
- 4 LOCATE FIXTURE CENTERED ON CEILING BEAM.
- 5 LOCATE FIXTURE CENTERED BETWEEN CEILING BEAMS.

GENERAL NOTES THAT APPLY TO LIGHTING AND RECEPTACLE PLAN.

1. THESE NOTES SHALL APPLY TO ALL EQUIPMENT OR FIXTURES WITH ELECTRICAL CONNECTIONS BUT WITHOUT CONDUITS SHOWN, CONDUIT NUMBERS, OR NOT LISTED IN SCHEDULE.
2. PROVIDE AND INSTALL NECESSARY WIRES IN SURFACE MOUNT 1/2" (MINIMUM) CONDUIT OR TYPE MC CABLE FOR ELECTRICAL FIXTURE ARRANGEMENT AS SHOWN. MAXIMUM 3 CIRCUITS PER CONDUIT SECTION OVER 24" IN LENGTH. CONDUITS SHALL NOT EXCEED 40% FILL.
3. SWITCH TYPE: 1= SLIDE DIMMER SWITCH, 1= MOTION DETECTOR, 3= 3-WAY OR PER SCHEDULE.
4. NON-EXPOSED CONDUIT/WIRING MAY BE TYPE MC. EXPOSED CONDUIT SHALL BE EMT AND ONLY LOCATED EXPOSED WHERE ABSOLUTELY NECESSARY.
5. DEVICE BOXES AND CONDUIT BODIES SHALL BE STAMPED STEEL.
6. CONDUCTORS SHALL BE COPPER TYPE THHN, SOLID, #12 AWG (MINIMUM).
7. MOUNT CONDUITS USING UL LISTED STRAPS AND CLAMPS.
8. USE SS EXPANSION WEDGE ANCHORS OR WOOD SCREWS AS NECESSARY FOR EQUIPMENT MOUNTING.
9. EXPOSED CONDUIT SHALL BE PAINTED WITH WALL AND/OR CEILING.
10. PROVIDE AND INSTALL FIXTURES PER SCHEDULE THIS PAGE, QUANTITY AS SHOWN IN DRAWINGS.
11. PROVIDE AND INSTALL ALL DEVICE BOXES, JUNCTION BOXES, RECEPTACLES, SWITCHES, AND COVERS, MOUNTING LOCATIONS AND HEIGHTS SHALL COMPLY WITH DRAWING A-08-11 UNLESS OTHERWISE NOTED.
12. RECEPTACLES TO BE GROUND FAULT INTERRUPTER (GFI) TYPE AND WEATHERPROOF (WP) WHERE SHOWN.
13. SEE ELECTRICAL SYMBOLS AND ABBREVIATIONS DRAWING FOR SYMBOL DEFINITION.
14. ALL WORK SHALL CONFORM TO LOCAL CODES AND 2010 NATIONAL ELECTRIC CODE.

FIXTURE SCHEDULE						
CODE LETTER	FIXTURE TYPE	FIXTURE LAMPS	WATTS/ FIXTURE	MANUFACTURER OR APPROVED EQUAL	MOUNTING ARRANGEMENT	NOTES
A	ROUND PENDANT, 2 FT DIAMETER WITH WHITE INTERIOR AND FROSTED FLAT ACRYLIC LENS NATURAL ALUMINUM FINISH	LED 3200 LMS 3500K	68W 120 VAC	PRUDENTIAL P4020LED35- LO-WA-YYX-D1-SC-UNV- MPCA/144"-X3-DM10	SUSPENDED MOUNT FIXTURE AT 8 FEET 6 INCHES	WITH DIMMER CONTROLS
B	LINEAR PENDANT, 4 FT WHITE ANODIZED FINISH EXTRUDED ALUMINUM CONSTRUCTION	LED 407 LPF 3500K	16W 120 VAC	STILE LLCR-A-048-127-2WA-35K- 120-4-BUL/PSC-120-AN04-DML	SUSPENDED MOUNT FIXTURE AT 9 FEET	WITH DIMMER CONTROLS
C	LINEAR PENDANT, 8 FT WHITE ANODIZED FINISH EXTRUDED ALUMINUM CONSTRUCTION	LED 3500K	32W 120 VAC	STILE LLCR-A-096-132-35K-120- 8-BUL/PSC-120-AN04-DML	SUSPENDED MOUNT FIXTURE AT 9 FEET	WITH DIMMER CONTROLS
C1	LINEAR PENDANT, 8 FT WHITE ANODIZED FINISH EXTRUDED ALUMINUM CONSTRUCTION	LED 3500K	32W 120 VAC	STILE LLCR-A-096-154-4-35K-120- 8-BUL/PSC-120-AN04-DML	SUSPENDED MOUNT FIXTURE AT 8 FEET 6 INCHES	WITH DIMMER CONTROLS
D	LENSED LED STRIPLIGHT, 4 FT WITH DIFFUSE LENS WHITE ENAMEL FINISH	LED 3000 LMS 5000K	72W 120 VAC	LITHONIA ZL2N-148-3000LM-MDD-MVOLT 5000K-80CR-WH-WG-ZACVH120	SUSPENDED MOUNT FIXTURE AT 9 FEET	WITH OCCUPANCY SENSOR LSXR-10-20M IF SHOWN
J	UNDERCABINET STRIPLIGHT, 7 IN BLACK FINISH UNILUME	LED 430 LPF 2700K	5W 120 VAC	700UCFDW-07-80-3500K-W-LED	SURFACE MOUNT FIXTURE	WITH DIMMER CONTROLS
E	EMERGENCY LIGHT PACK WITH INTEGRAL BATTERY CHARGER THERMOPLASTIC ENCLOSURE	2 LED 3W 3.6 VOLT	6W 120 VAC	LITHONIA ELM2 LED HO	WALL MOUNT AT 7.5 FT	NICAD BATTERIES
EX	EMERGENCY AND EXIT LIGHT PACK WITH INTEGRAL BATTERY CHARGER THERMOPLASTIC ENCLOSURE LED LAMPS WITH RED LED SIGN	2 LED 3W 9.6 VOLT	10W 120 VAC	LITHONIA LHQM LED HO	WALL MOUNT AT 7.5 FT	NICAD BATTERIES
F	UNDERCABINET STRIPLIGHT, 30 IN BLACK FINISH UNILUME	LED 430 LPF 2700K	18W 120 VAC	TECH 700UCFDW-30-80-3500K-W-LED	SURFACE MOUNT FIXTURE	WITH DIMMER CONTROLS
G	GLASS SHADE LINEAR, WHITE ACRYLIC DIFFUSER LENS SATIN NICKEL FINISH	LED 920 LMS 3000K	20W 120 VAC	TECH 700BCLYNN-W-S-LED	WALL BRACKET & SURFACE MOUNT FIXTURE	
H	WALL MOUNT SQUARE DOWNLIGHT DIE-CAST ALUMINUM HOUSING BLACK FINISH	LED 892 LMS 4000K	17W 120 VAC	TANGO LIGMAN USA UTA-31295-W-W40	WALL MOUNT FIXTURE AT 8 FEET	WITH REMOTE PHOTOCELL INTERMATIC I1211



TRANSWESTERN BENCH OPERATIONS BUILDING LIGHTING PLAN



SCALE: 3/8"=1'

[illegible]

APPROVED BY	SO	
TPF	SUPV	TPF
	DSGN	MBY
	DWN	MBY, NC
	CHKD	MF
	OK	TPF
	DATE	
	SCALES	
		N/A

TOPOCK GROUNDWATER REMEDIATION PROJECT
TRANSWESTERN BENCH
OPERATIONS BUILDING
LIGHTING & RECEPTACLE PLAN
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

MICROFILM		
BILL OF MATL		
DWG LIST		
SUPSDS		
SUPSD BY		
SHEET NO.	of	SHEETS
E-08-04		REV 0

FILENAME: FE-E-xx-0803AD.dwg



MICROFILM		
BILL OF MATL		
DWG LIST		
SUPSDS		
SUPSD BY		
SHEET NO.	of	SHEET
E-08-05		REV 0

LOCATION: OPERATIONS BUILDING

ENCLOSURE: NEMA 1A

AIC RATING: 22 KAIC

PANEL "LP-OP"

120 / 240 VOLTS, 1 PHASE, 3 WIRE

225 AMP BUS

110 AMP MAIN BREAKER

BKR NO.	DESCRIPTION	LOAD VA	LINE AMPS	AMPS/ POLE	BKR NO.	BKR NO.	AMPS/ POLE	LINE AMPS	LOAD VA	DESCRIPTION	BKR NO.
1	INDOOR LIGHTS	1142	9.5	20/1	1	2	20/1	7.5	900	GATE OPERATOR	2
3	INDOOR LIGHTS	1176	9.8	20/1	3	4	20/1	2.2	265	SITE LIGHT	4
5	OUTDOOR LIGHTS	288	2.4	20/1	5	6	20/1	3.3	400	DISPOSAL	6
7	RECEPTACLES - OFFICE	800	6.7	20/1	7	8	20/1	10.0	1200	WATER HEATER	8
9	RECEPTACLES - OFFICE	800	6.7	20/1	9	10	20/1	0.0	0	SPARE	10
11	RECEPTACLES - OFFICE	800	6.7	20/1	11	12	20/1	1.7	200	SECURITY PANEL	12
13	RECEPTACLES - ELEC ROOM	800	6.7	20/1*	13	14	20/1	0.4	50	SPARE	14
15	RECEPTACLES - TELECOM	800	6.7	20/1	15	16	20/1	8.3	1000	COMMUNICATIONS PANEL - SCADA UPS	16
17	RECEPTACLES - TELECOM	800	6.7	20/1	17	18	20/1	1.7	200	COMMUNICATIONS PANEL - AUXILIARY	18
19	RECEPTACLES - MECHANICAL	600	5.0	20/1	19	20	20/1	8.3	1000	COMMUNICATIONS PANEL - ADMIN UPS	20
21	RECEPTACLES - MECHANICAL	600	5.0	20/1	21	22	20/1	0.0	0	SPARE	22
23	RECEPTACLES - MENS BATHROOM	200	1.7	20/1	23	24	20/1	0.8	100	DATA COLLECTION PANEL DC-13	24
25	RECEPTACLES - WOMENS BATHROOM	200	1.7	20/1	25	26	25/1	16.7	2000	HVAC Blower	26
27	RECEPTACLES - FIRE RISER	800	6.7		27	28	20/1	0.0	0	SPARE	28
29	RECEPTACLES - CLOSET	200	1.7		29	30	30/2	0.0	0	SPARE	30
31	RECEPTACLES - KITCHEN	400	3.3	20/1	31	32		0.0	0		32
33	RECEPTACLES - KITCHEN	200	1.7		33	34	30/2	0.0	0	SPARE	34
35	RECEPTACLES - BREAKROOM FLOOR	0	0.0		35	36		0.0	0		36
37	REFRIDGERATOR	0	0.0		37	38	20/1	0.0	0	SPARE	38
39	OUTDOOR RECEPTACLE	0	0.0		39	40	20/1	0.0	0	SPARE	40
41	OUTDOOR RECEPTACLE	0	0.0		41	42	20/1	0.0	0	SPARE	42

PHASE

LEFT SIDE AMPS

LEFT SIDE KVA

TOTAL PHASE KVA

TOTAL PHASE AMPS

% OF AVERAGE

A

41.92

5.03

8.58

72

96

B

46.47

5.58

9.34

78

104

NEUTRAL

GROUND

A

29.58

3.55

B

31.38

3.77

PHASE

RIGHT SIDE AMPS

RIGHT SIDE KVA

TOTAL KVA

TOTAL AMPS @ 240V, 1P

DIVERSITY FACTOR

LOAD KVA

17.92

74.67

1.00

17.92

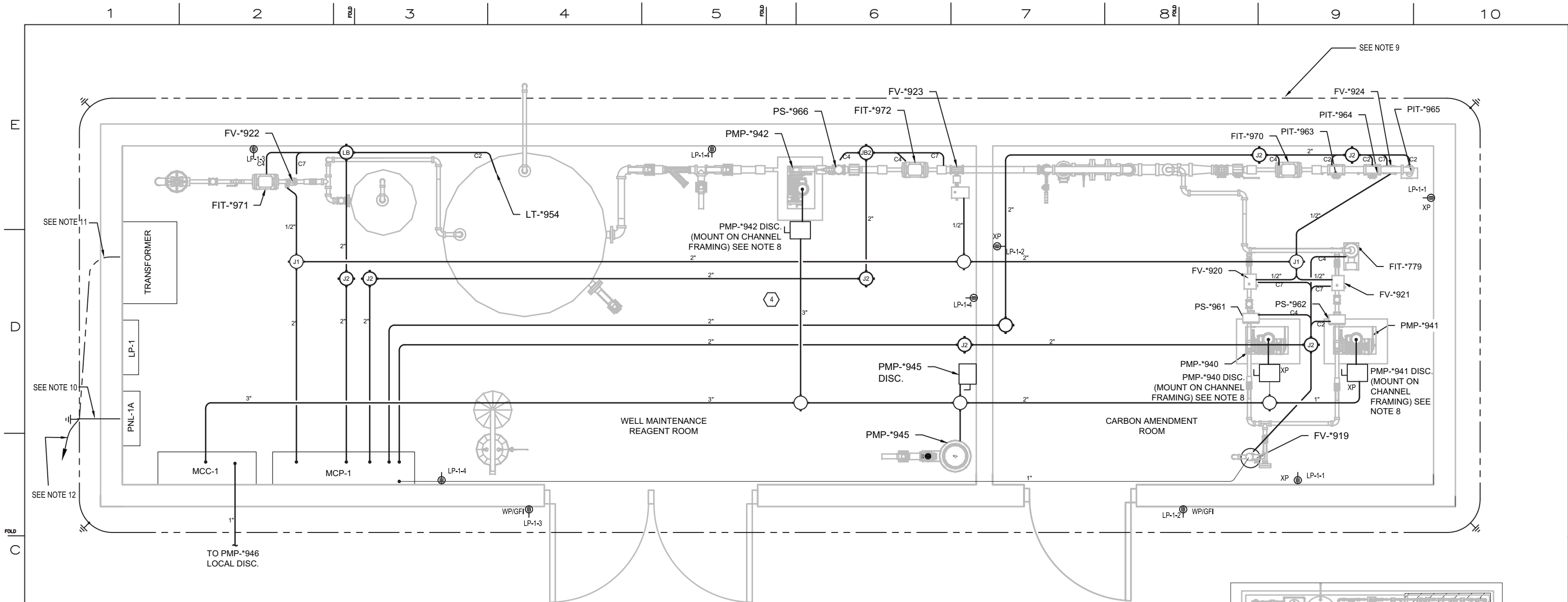
NOTES: 1 MEANS OF WIRE COLOR CODING SHALL BE POSTED ON PANELBOARD PER NEC 210 (4)
2 ASTERISK (*) DENOTES GFI BREAKER REQUIRED WITH 5 MA SENSITIVITY
3 TILDA (~) DENOTES GFI BREAKER REQUIRED WITH 30 MA SENSITIVITY

TOPOCK GROUNDWATER REMEDIATION PROJECT
TRANSWESTERN BENCH
PANELBOARD SCHEDULES

GAS TRANSMISSION & DISTRIBUTION

PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

DRAFT NOT FOR CONSTRUCTION		
MICROFILM		
BILL. OF MATL		
DWG LIST		
SUPSDS		
SUPSD BY		
SHEET NO.	of	SHEETS
E-08-06		REV 0



TW BENCH CARBON AMENDMENT BUILDING ELECTRICAL PLAN

N.T.S.

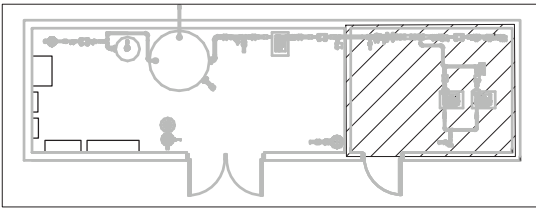
NOTES:

- REFER TO SINGLE LINE DIAGRAMS FOR CONDUIT AND WIRE SCHEDULE.
- REFER TO INSTRUMENTATION CONNECTION DRAWINGS FOR CONTROL WIRES NUMBERING AND CONNECTION TO PLC (MCP).
- ALL INSTRUMENTATION SIGNAL CABLES SHALL BE BELDEN 9952 (2 CONDUCTOR SHIELDED CABLE), BELDEN 9954 (4 CONDUCTOR SHIELDED CABLE), OR BELDEN 5305 FE (7 CONDUCTOR SHIELDED CABLE) AS INDICATED ON THE TABLE.
- CONDUIT AND FITTING TYPES SHALL COMPLY AND BE APROVED FOR THE AREA CLASSIFICATION THAT ARE INSTALLED IN. SEAL-OFFS SHALL BE INSTALLED AS REQUIRED.
- CONDUIT SIZES ARE AS INDICATED, JUNCTION BOXES SHALL BE CARBON STEEL, NEMA 4, OR XP WHEN USED IN CLASSIFIED AREAS. JUNCTION BOXES SIZES SHALL BE DETERMINED BY CONTRACTOR TO COMPLY WITH LOCAL. STATE AND NEC.
- WIRE SIZES AND TYPES ARE PROVIDED IN CONDUCTOR SCHEDULE TABLE.
- P740, P414, P742, P743, P744, AND P745 DISCONNECT SWITCHES SHALL HAVE AUXILIARY CONTACT WIRED TO PLC TO INDICATE SWITCH POSITION.
- INSTALL DISCONNECT MOUNTING STRUCTURE/ CHANNEL FRAMING. EXACT LOCATION TO BE FIELD DETERMINED TO ALLOW ACCESS TO EQUIPMENT SERVICE AND REMOVAL FROM BUILDING.
- PROVIDE AND INSTALL #2 / 0 GROUNDING RING.
- PROVIDE AND INSTALL #1 /0 AWG GROUNDING ELECTRODE CONDUCTOR TO SERVICE ENTRANCE DISCONNECT IN PNL-1A.
- PROVIDE AND INSTALL #2 GROUNDING ELECTRODE CONDUCTOR TO TRANSFORMER.
- PROVIDE AND INSTALL #4 GROUNDING ELECTRODE TO FOUNDATION REBAR.
- ALL CONDUITS WITHIN BUILDING SHALL BE RUN OVERHEAD/ EXPOSED.
- ALL EQUIPMENT AND INSTRUMENTATION WIRING, AND CABLES SHALL BE CONTINUOUS RUNS FROM PANELS TO DEVICES.
- 120V 1-PHASE CIRCUITING TO BE (2) #12, (1) #12 G., 3/4" C UNLESS OTHERWISE NOTED.
- USE #10 CONDUCTORS FOR 120V, 20A BRANCH CIRCUITS OVER 100 FEET
- 120V 1-PHASE POWER CIRCUITING WIRED TO PANEL LP-1, UNLESS OTHERWISE NOTED.
- ALL CONTROL AND POWER CABLES RUNNING FROM JUNCTION BOXES TO INSTRUMENTATION AND DEVICES SHALL BE INSIDE CONDUITS.

EQUIPMENT, DEVICES AND INSTRUMENTATION WIRING SCHEDULE				
ID	WIRE TYPE, SIZE, AND QUANTITY			CONDUCTOR OR CABLE TYPE
PMP-*940	(3)#8 BLK, (1)#8 GRN, (2)#14 YEL			XHHW
PMP-*941	(3)#8 BLK, (1)#8 GRN, (2)#14 YEL			XHHW
PMP-*942	(3)#8 BLK, (1)#8 GRN, (2)#14 YEL			XHHW
PMP-*944	(3)#10 BLK, (1)#10 GRN, (2)#14 YEL			XHHW
PMP-*945	(3)#8 BLK, (1)#8 GRN, (2)#14 YEL			XHHW
FV919	(1)#16 BLK, (1)#16 WHT, (1)#16 GRN (POWER)			XHHW
FV919	(1) C7 (CONTROLS)			BELDEN 5305FE
FV920	(1)#16 BLK, (1)#16 WHT, (1)#16 GRN (POWER)			XHHW
FV920	(1) C7 (CONTROLS)			BELDEN 5305FE
FV921	(1)#16 BLK, (1)#16 WHT, (1)#16 GRN (POWER)			XHHW
FV921	(1) C7 (CONTROLS)			BELDEN 5305FE
FV922	(1)#16 BLK, (1)#16 WHT, (1)#16 GRN (POWER)			XHHW
FV922	(1) C7 (CONTROLS)			BELDEN 5305FE
FV923	(1)#16 BLK, (1)#16 WHT, (1)#16 GRN (POWER)			XHHW
FV923	(1) C7 (CONTROLS)			BELDEN 5305FE
FV924	(1)#16 BLK, (1)#16 WHT, (1)#16 GRN (POWER)			XHHW
FV924	(1) C7 (CONTROLS)			BELDEN 5305FE
FIT779	(1) C4			BELDEN 9954
FIT970	(1) C4			BELDEN 9954
FIT971	(1) C4			BELDEN 9954
FIT972	(1) C4			BELDEN 9954
PS961	(1) C4			BELDEN 9954
PS962	(1) C4			BELDEN 9954
PS966	(1) C4			BELDEN 9954
PIT963	(1) C4			BELDEN 9954
PIT964	(1) C4			BELDEN 9954
PIT965	(1) C2			BELDEN 9952
LIT954	(1) C2			BELDEN 9952

LEGEND

- DISCONNECT SWITCH
- POWER JUNCTION BOX (MOTORS)
- INSTRUMENTATION 120VAC POWER JUNCTION BOX
- INSTRUMENTATION 24VDC SIGNAL/ CONTROLS JUNCTION BOX
- ELECTRICAL CONDUIT FITTING (TYPE IS AS REQUIRED)



AREA HAZARDOUS CLASSIFICATION PLAN

1/8" = 1'-0"

LEGEND

- CLASS 1, DIVISION 1
- CLASS 1, DIVISION 2
- UNCLASSIFIED

- DRAFT -
NOT FOR
CONSTRUCTION



REVISIONS									
NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY	NO.	DATE
1	09/08/14	PRE-FINAL (90%) DESIGN							
0	04/05/13	INTERMEDIATE (60%) DESIGN							

APPROVED BY	SO
JEF	SUPV JPB
	DSGN KLD
	DWN BEH
	CHKD JPB
	OK JEF
DATE	09/08/14
SCALE	AS SHOWN

TOPOCK GROUNDWATER REMEDIATION PROJECT
TW BENCH CARBON AMENDMENT
BUILDING ELECTRICAL PLAN
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	of SHEETS
E-08-08	REV 1

E

D

FOLD

C

2

A

LUMINAIRE SCHEDULE							
		LAMPS		CONNECTED WATTS			
		QUANTITY	TYPE				
A		2	F32T8	64	ENCLOSED AND GASKETED FLUORESCENT LUMINAIRE, WITH IMPACT RESISTANT FIBERGLASS REINFORCED POLYESTER HOUSING, AND HIGH IMPACT ACRYLIC DIFFUSER.	LITHONIA CAT NO. DMW232-120-GE810IS, DAY-BRITE, OR EQUAL.	MOUNT DIRECTLY TO CEILING SURFACE
B		2	F32T8	64	ENCLOSED INDUSTRIAL FLUORESCENT LUMINAIRE, WITH MOLDED COMPOSITE BODY AND TEMPERED GLASS LENS, UL LISTED FOR CLASS 1, DIVISION 2, GROUPS A, B, C, AND D LOCATIONS.	DAY-BRITE CAT NO. HAZ232-120-E10I, LITHONIA, OR EQUAL.	MOUNT DIRECTLY TO CEILING SURFACE
E1		2	25W SBT	20	SELF-CONTAINED EMERGENCY LIGHTING UNIT WITH 120V CHARGER, 12V LEAD-CALCIUM BATTERY, AND CAPABILITY FOR THE ADDITION OF REMOTE HEADS	DUAL-LITE CAT NO. LM112-12V-D4I, EMERGLITE, OR EQUAL CAPACITY FOR SRHSW122S REMOTE HEAD	MOUNT AT 8' ABOVE FINISHED FLOOR, UON
E2		2	12W SBT	20	SELF-CONTAINED EMERGENCY LIGHTING UNIT WITH 120V CHARGER, 12V SEALED LEAD-ACID BATTERY, AND CAPABILITY FOR THE ADDITION OF REMOTE HEADS, UL LISTED FOR CLASS 1, DIVISION 2, GROUPS B, C, AND D LOCATIONS.	DUAL-LITE CAT NO. C1D2-12V2-12W, EMERGLITE, OR EQUAL CAPACITY FOR C1D2R-12V12W REMOTE HEAD	MOUNT AT 8' ABOVE FINISHED FLOOR, UON
H		1	50W MH	50M	METAL HALIDE WALL PACK, WITH CUTOFF DISTRIBUTION, CORROSION-RESISTANT, DIE-CAST ALUMINUM HOUSING, AND PHOTOCELL, UL LISTED FOR WET LOCATIONS	LUMINAIRE: LITHONIA CAT NO. TWAC-50M-120-PE-LPI, OR EQUAL	MOUNT AT 8' ABOVE GRADE TO CENTERLINE OF LUMINAIRE, UO
R1		1	25W SBT	20	REMOTE INCANDESCENT OUTDOOR HEAD FOR EMERGENCY LIGHTING UNIT E1 ABOVE.	DUAL-LITE CAT NO. SRHSW122S, EMERGLITE, OR EQUAL	EXTERIOR MOUNT AT 8' ABOVE GRADE TO CENTERLINE OF LUMINAIRE, UON
R2		1	12W SBT	20	REMOTE INCANDESCENT OUTDOOR HEAD FOR EMERGENCY LIGHTING UNIT E2 ABOVE, UL LISTED FOR CLASS 1, DIVISION 2, GROUPS B, C, AND D LOCATIONS.	DUAL-LITE CAT NO. C1D2R-12V12W, EMERGLITE, OR EQUAL	EXTERIOR MOUNT AT 8' ABOVE GRADE TO CENTERLINE OF LUMINAIRE, UON
X1		6	RED LED	4	RED LED EXIT SIGN, WITH THERMOPLASTIC HOUSING, NICKEL-CADMIUM BATTERY, WITH SELF-TESTING ELECTRONICS	DUAL LITE LXURWE-4I, EMERGLITE OR EQUAL	WALL OR PENDANT MOUNT FROM CEILING
X2		6	RED LED	3	RED LED EXIT SIGN, WITH DIE CAST ALUMINUM HOUSING AND NICKEL-CADMIUM BATTERY WITH SELF-TESTING ELECTRONICS, UL LISTED FOR CLASS 1, DIVISION 2, GROUPS A, B, C, AND D LOCATIONS	CROUSE HINDS CCH-UX70RSDHAZ, EMERGLITE OR EQUAL	WALL OR PENDANT MOUNT FROM CEILING

TRANSWESTERN BENCH CARBON AMENDMENT BUILDING ELECTRICAL SCHEDULES

- DRAFT -
NOT FOR
CONSTRUCTION

MICROFILM

BILL OF MATR

DWG LIST

SUPSDS

SUPSD BY

SHEET NO.

F-08-11

RE

[illegible]

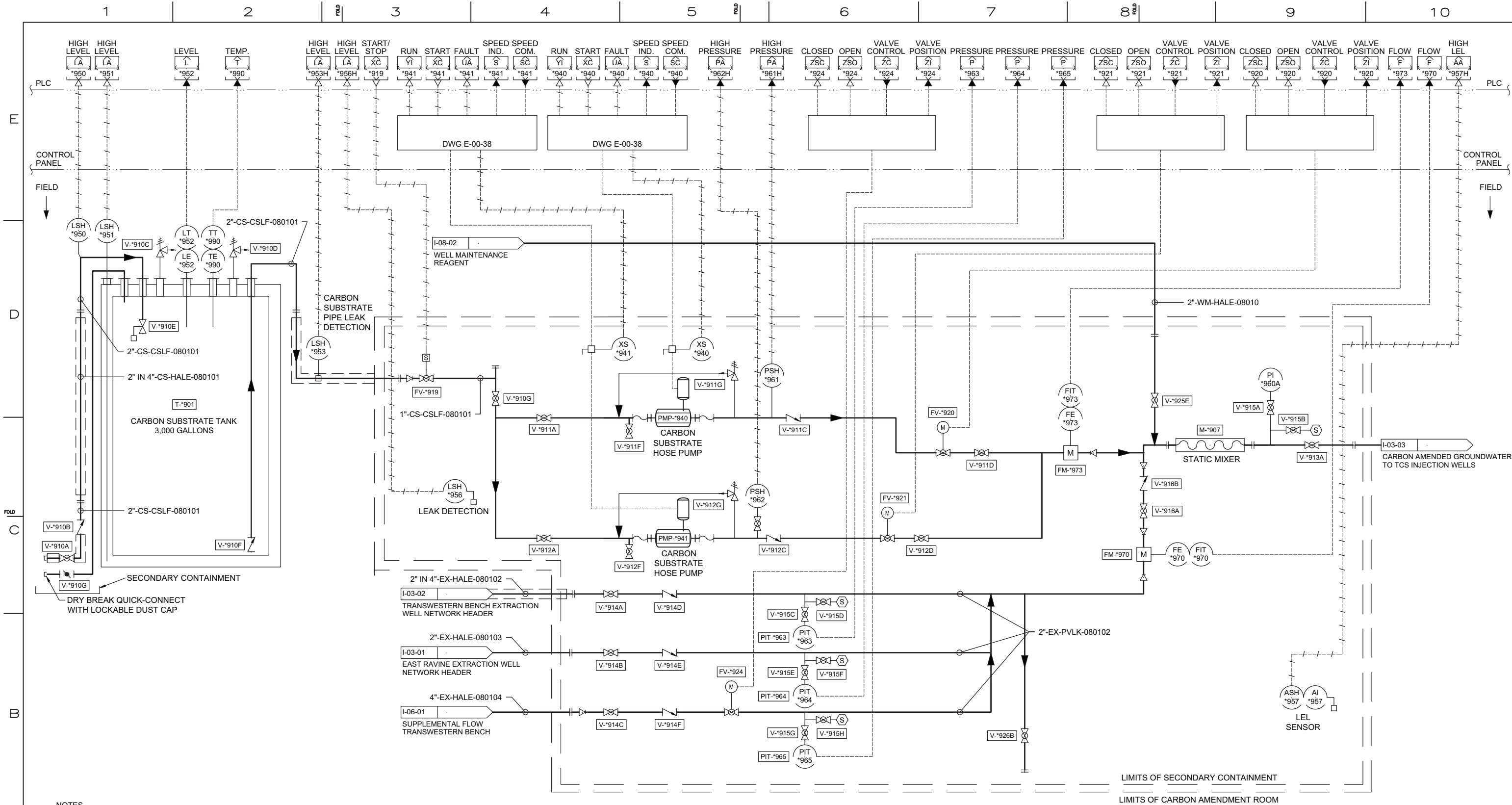
TOPOCK GROUNDWATER REMEDIATION PROJECT
**TRANSWESTERN BENCH CARBON
 AMENDMENT BUILDING
 ELECTRICAL SCHEDULES**
 GAS TRANSMISSION & DISTRIBUTION
 PACIFIC GAS AND ELECTRIC COMPANY
 SAN FRANCISCO, CALIFORNIA

N1808

old

old

010



- NOTES
- TAG NUMBER *** IS A PLACEHOLDER FOR THE STATION SCADA ID. FOR THE TRANSWESTERN BENCH THE LOCATION IS "TWB00-". EXCHANGE "TWB00-" FOR *** TO COMPLETE TAG OR INSTRUMENT REFERENCE. REFER TO SHEET I-00-03 FOR A TABLE OF LOCATION IDS.
 - SEE SHEET I-00-03 FOR INTERLOCK TABLE.
 - CONTRACTOR TO PLACE CLEANOUTS, LOW POINT DRAINS AND AIR RELIEF VALVES AT LOCATION SHOWN ON CIVIL SHEETS.
 - SIMILAR FOR EACH INTERVAL.



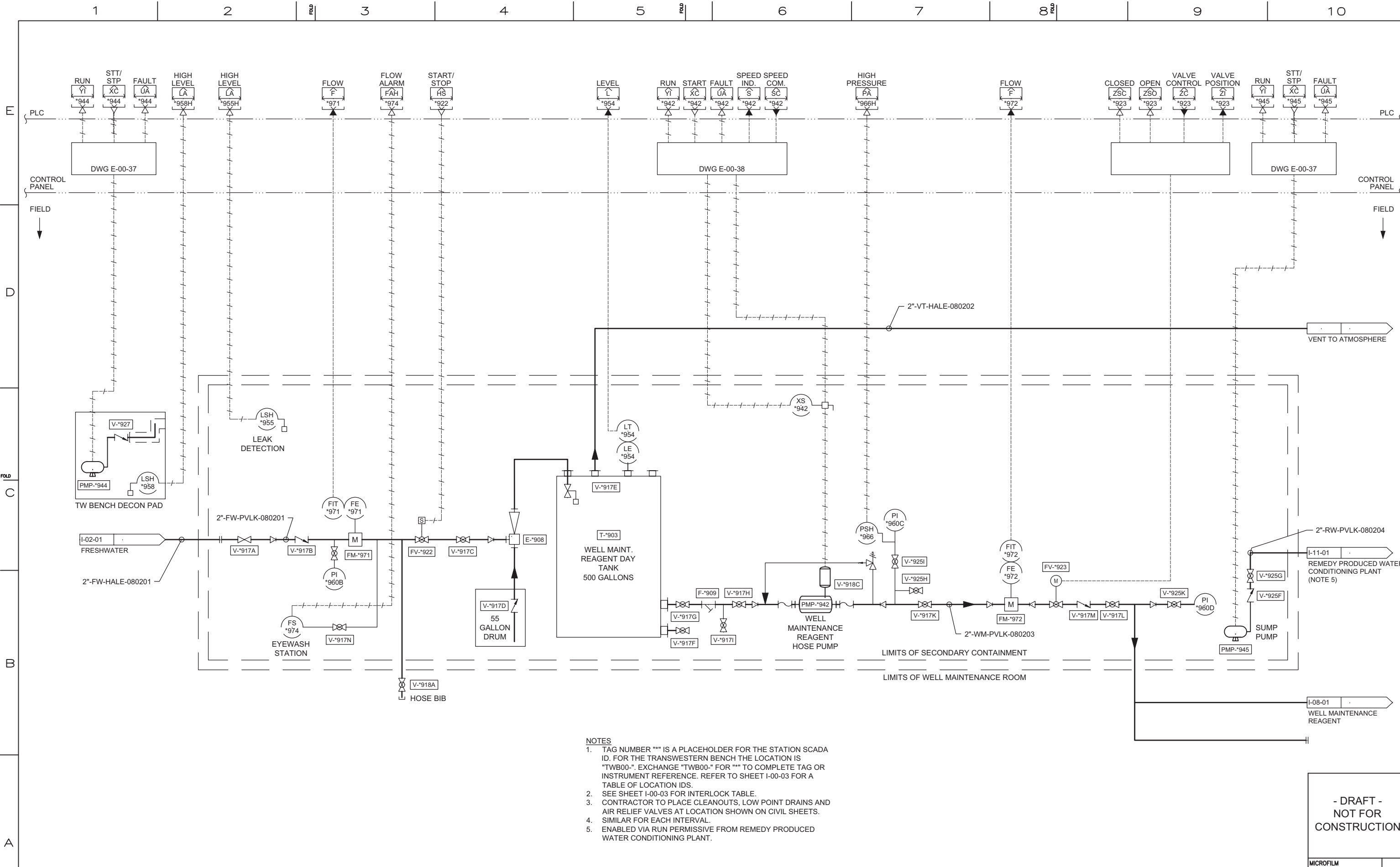
REVISIONS										REVISIONS									
NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD	BY		NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD	BY	
1	09/08/14	PRE-FINAL (90%) DESIGN								1	09/08/14	PRE-FINAL (90%) DESIGN	MS	MWM	JPB	JEF			
0	04/05/13	INTERMEDIATE (60%) DESIGN								0	04/05/13	INTERMEDIATE (60%) DESIGN	MS	MWM	JPB	JEF			

APPROVED BY		SO	
JEF		SUPV	JPB
		DSGN	MWM
		DWN	MS
		CHKD	JPB
		OK	JEF
DATE		09/08/14	
SCALES		NONE	

TOPOCK GROUNDWATER REMEDIATION PROJECT
TRANSWESTERN BENCH CARBON
AMENDMENT BUILDING P&ID
SHEET 1 OF 2
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

- DRAFT - NOT FOR CONSTRUCTION	
MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	of SHEETS
I-08-01	REV 1

08/27/2014, 11:03, G:\Graphics\ARTOPOCK-GTI\Post 60%\I-08-01.dwg, Tab: I-08-01



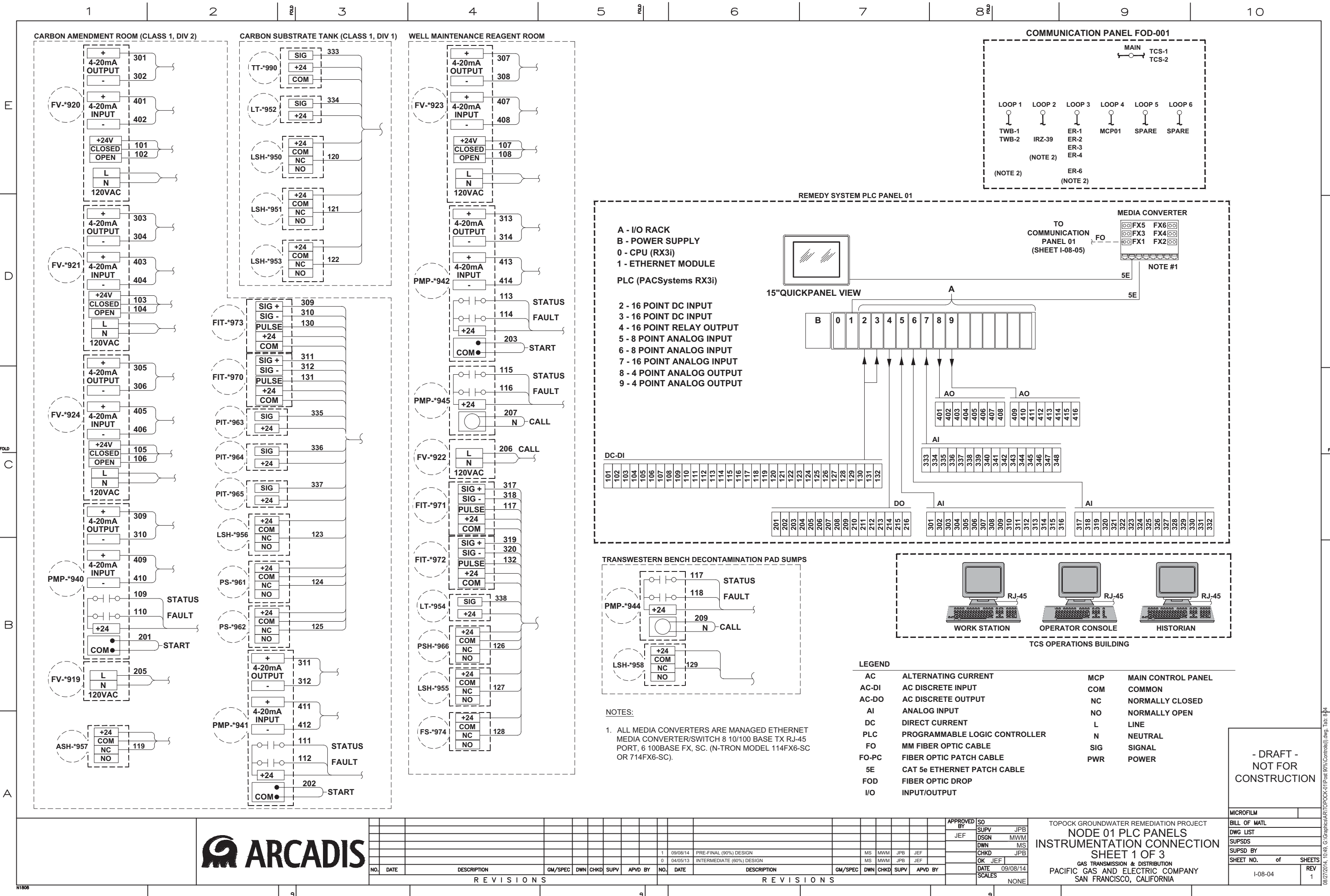
NOTES

1. TAG NUMBER *** IS A PLACEHOLDER FOR THE STATION SCADA ID. FOR THE TRANSWESTERN BENCH THE LOCATION IS "TWB00-". EXCHANGE "TWB00-" FOR *** TO COMPLETE TAG OR INSTRUMENT REFERENCE. REFER TO SHEET I-00-03 FOR A TABLE OF LOCATION IDS.
2. SEE SHEET I-00-03 FOR INTERLOCK TABLE.
3. CONTRACTOR TO PLACE CLEANOUTS, LOW POINT DRAINS AND AIR RELIEF VALVES AT LOCATION SHOWN ON CIVIL SHEETS.
4. SIMILAR FOR EACH INTERVAL.
5. ENABLED VIA RUN PERMISSIVE FROM REMEDY PRODUCED WATER CONDITIONING PLANT.



--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--





E

D

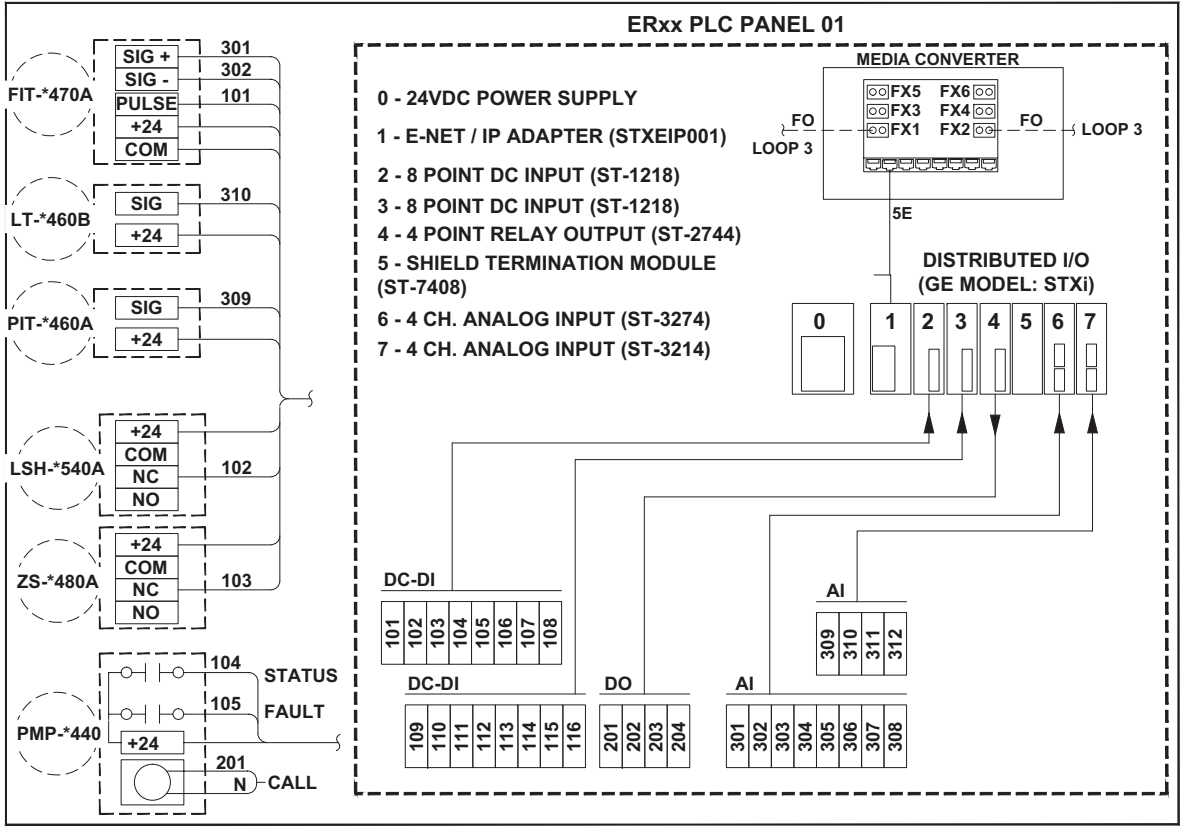
FOLD

C

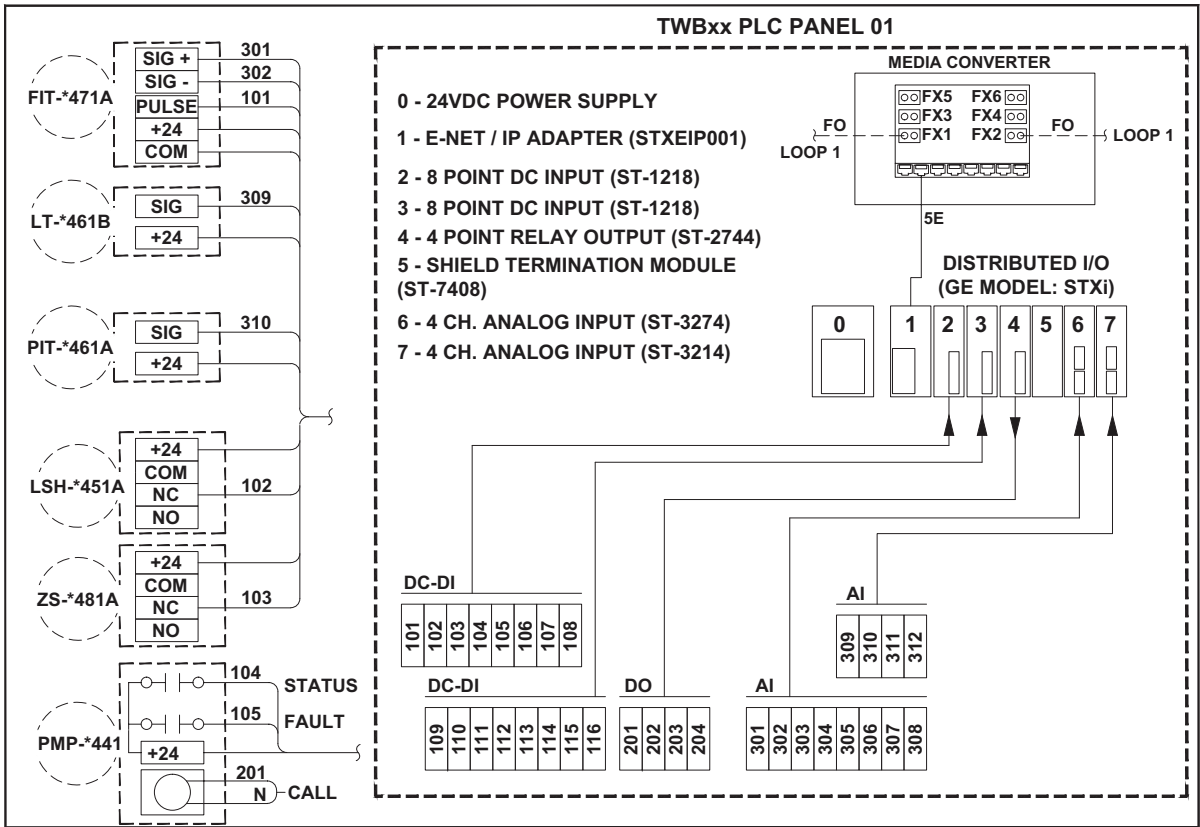
B

A

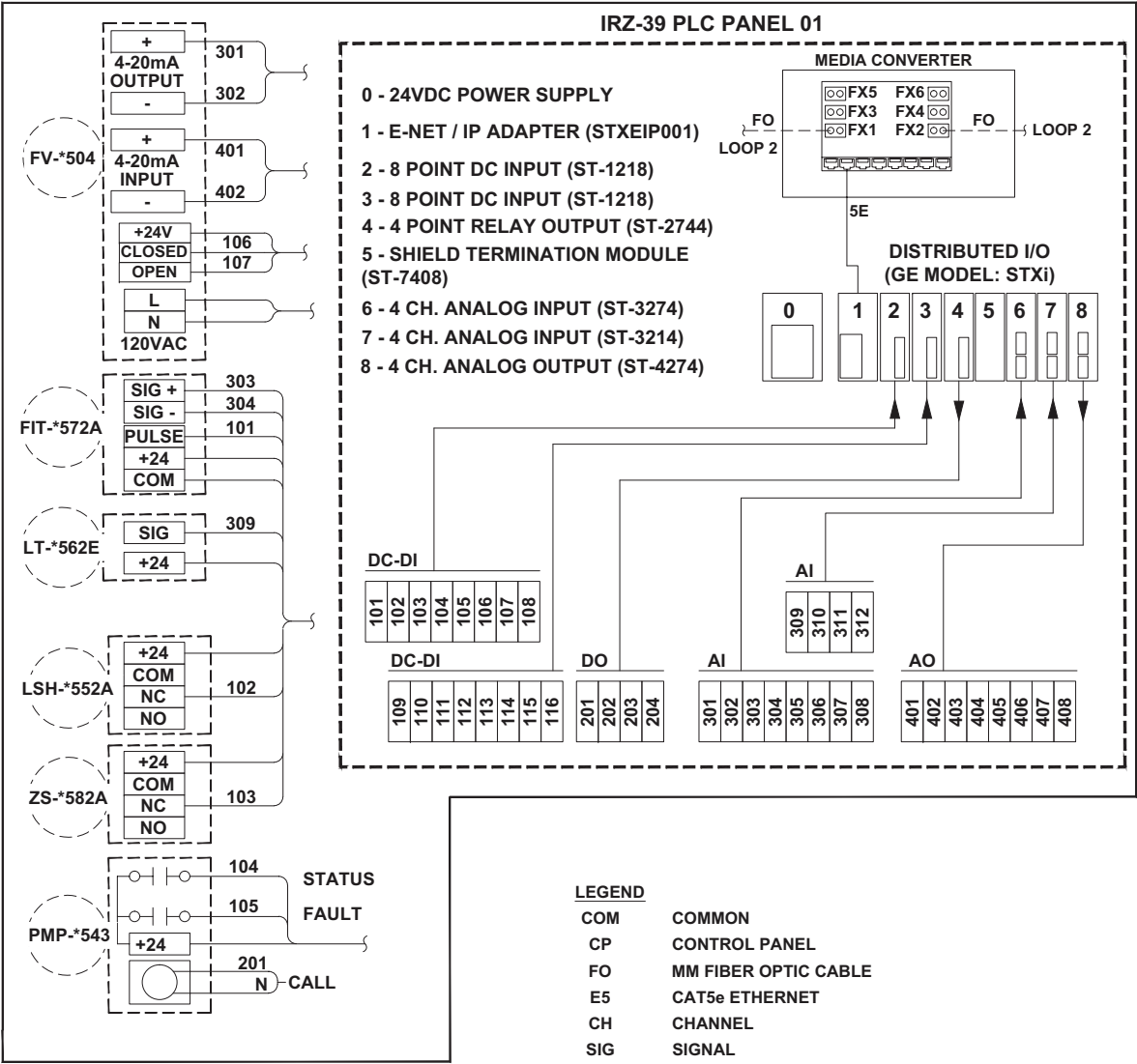
(TYP. ER-1, ER-2, ER-3, ER-4, ER-6 METER VAULT)



(TYP. TWB-1, TWB-2 METER VAULT)



(IRZ-39 METER VAULT)



LEGEND

COM	COMMON
CP	CONTROL PANEL
FO	MM FIBER OPTIC CABLE
E5	CAT5e ETHERNET
CH	CHANNEL
SIG	SIGNAL
L	LINE
N	NEUTRAL
PWR	POWER
AC	ALTERNATING CURRENT
DC-DI	24VDC DISCRETE INPUT
DO	DISCRETE OUTPUT
AI	ANALOG INPUT
AO	ANALOG OUTPUT

NOTES:

1. ALL MEDIA CONVERTERS ARE MANAGED ETHERNET MEDIA CONVERTER/SWITCH 8 10/100 BASE TX RJ-45 PORT, 6 100BASE FX, SC. (N-TRON MODEL 114FX6-SC OR 714FX6-SC)



NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY	NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
1	09/08/14	PRE-FINAL (90%) DESIGN						MS	MWM	JPB	JEF				
0	04/05/13	INTERMEDIATE (60%) DESIGN						MS	MWM	JPB	JEF				

APPROVED BY	SO
JEF	SUPV JPB
	DSGN MWM
	DWN MS
	CHKD JPB
	OK JEF
DATE	09/08/14
SCALE	NONE

TOPOCK GROUNDWATER REMEDIATION PROJECT
**NODE 01 PLC PANELS
INSTRUMENTATION CONNECTION**
SHEET 2 OF 3
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

- DRAFT -
NOT FOR
CONSTRUCTION

MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	of SHEETS
1-08-05	REV 1

E

D

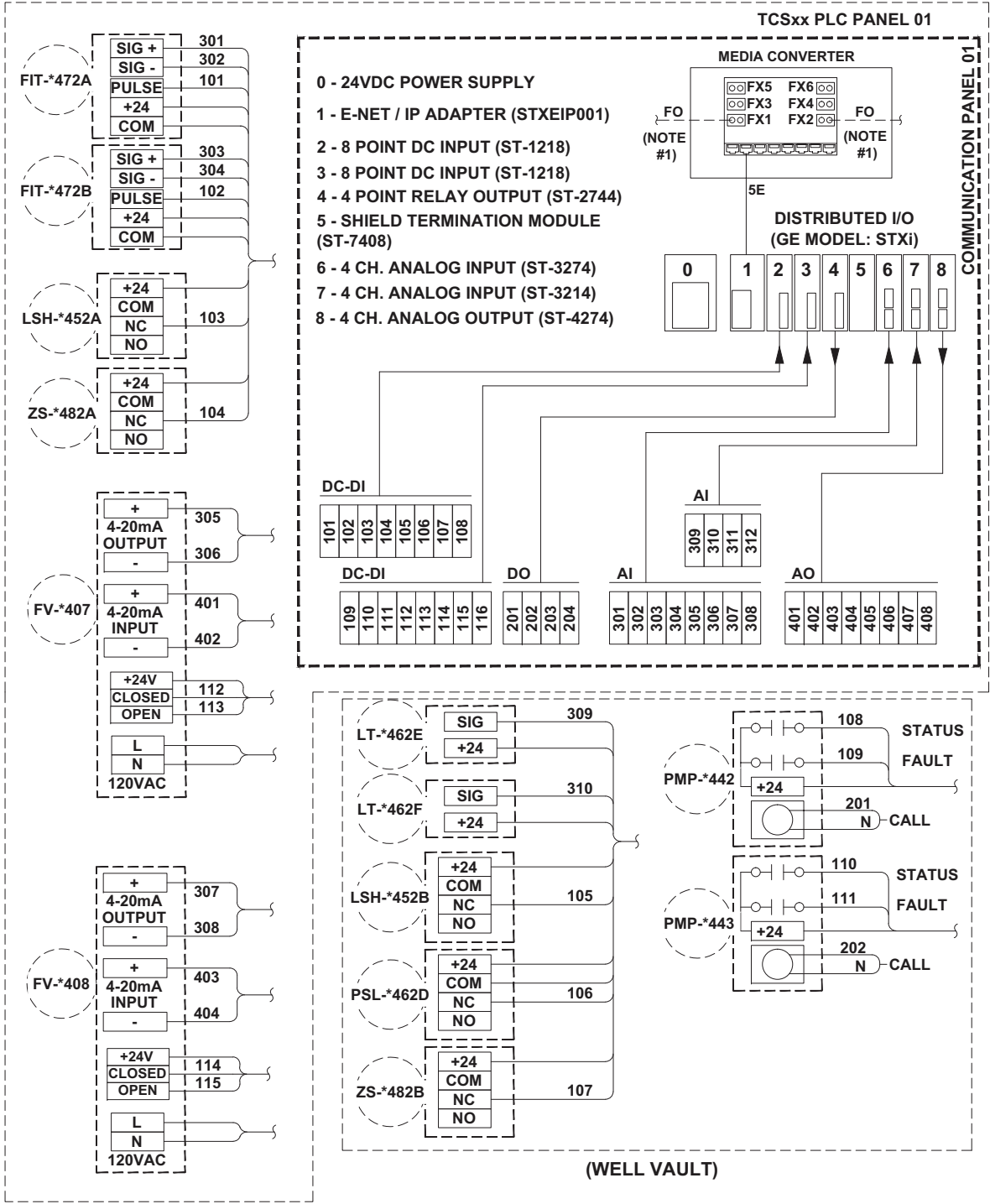
FOLD

C

B

A

(TYP. TCS-1, TCS-2)



LEGEND

COM	COMMON
CP	CONTROL PANEL
FO	MM FIBER OPTIC CABLE
5E	CAT5e ETHERNET
CH	CHANNEL
SIG	SIGNAL
L	LINE
N	NEUTRAL
PWR	POWER
AC	ALTERNATING CURRENT
DC-DI	24VDC DISCRETE INPUT
DO	DISCRETE OUTPUT
AI	ANALOG INPUT
AO	ANALOG OUTPUT

NOTES:

- ALL MEDIA CONVERTERS ARE MANAGED ETHERNET MEDIA CONVERTER/SWITCH 8 10/100 BASE TX RJ-45 PORT, 6 100BASE FX, SC. (N-TRON MODEL 114FX6-SC OR 714FX6-SC)



REVISIONS										REVISIONS									
NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD	BY		NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD	BY	
1	09/08/14	PRE-FINAL (90%) DESIGN								MS	MWM	JPB	JEF						
0	04/05/13	INTERMEDIATE (60%) DESIGN								MS	MWM	JPB	JEF						

APPROVED BY	SO
JEF	SUPV JPB
	DSGN MWM
	DWN MS
	CHKD JPB
	OK JEF
DATE	09/08/14
SCALE	NONE

TOPOCK GROUNDWATER REMEDIATION PROJECT	
NODE 01 PLC PANELS	
INSTRUMENTATION CONNECTION	
SHEET 3 OF 3	
GAS TRANSMISSION & DISTRIBUTION	
PACIFIC GAS AND ELECTRIC COMPANY	
SAN FRANCISCO, CALIFORNIA	

- DRAFT - NOT FOR CONSTRUCTION	
MICROFILM	
BILL OF MATL	
DWG LIST	
SUPSDS	
SUPSD BY	
SHEET NO.	of SHEETS
1-08-06	REV 1

08/27/2014, 10:48, G:\Graphics\AR\TOPOCK-01\Plot 90% Controls\I.dwg, Tab: 8-J6