

U.S. ENVIRONMENTAL PROTECTION AGENCY
 REGION IX
 San Francisco, California



REMEDIAL DESIGN PEMACO SUPERFUND SITE

5050 EAST SLAUSON AVENUE
 MAYWOOD, CALIFORNIA



AREA MAP
 NOT TO SCALE



VICINITY MAP
 NOT TO SCALE

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SAFETY PAYS

TITLE SHEET			
PEMACO SUPERFUND SITE 5050 EAST SLAUSON AVENUE MAYWOOD, CALIFORNIA			
PREPARED FOR: U.S. Environmental Protection Agency Region IX San Francisco, California	DESIGNED: JW DRAWN: CPL CHECKED: JW	APPROVED: FINAL	PREPARED BY: T&A T & Associates, Inc. Engineering and Science DATE: 10/06/08 DRAWING: G-1 REV: 5

**U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION IX
San Francisco, California**



1.0 GENERAL REQUIREMENTS

1. The Contractor shall read and abide by the Site Safety and Health Plan.
2. The Contractor is to comply with all Federal, State and Local environmental laws and ordinances.
3. The Contractor is responsible for protecting the environment during construction by protecting trees and shrubs, containing any stormwater or non-stormwater run-off, controlling dust, and containing any contamination caused by the Contractor. The Contractor will be responsible for the disposal of soils and produced waters at an approved facility. The Contractor shall dispose of all construction debris off site, including pavement removed during construction.
4. The Contractor is responsible for compliance with the "intent" of all pertinent construction permits, codes, Federal, state, and local regulations governing construction projects.
5. It is the Contractor's responsibility to verify all dimensions and conditions before starting work.
6. Construction areas are to be clearly marked with cones, barricades, or other approved safety markers as required by local codes to restrict access and provide a safe work area for the Contractor and facility workers.
7. The Contractor shall warrant all materials and workmanship for a period of one year. Defects shall be corrected at no cost to the government.
8. Contractor shall provide the USEPA and Army Corps of Engineers with a copy of signed-off and stamped "AS BUILT" drawings (accurately marked-up copies of original drawings) within 30 days of the completion of construction activities.
9. Contractor shall notify the USEPA and Army Corps of Engineers one week prior to the start of work and shall provide weekly written progress reports.
10. Fences and Project Identification
 - a. Contractor shall install an 8-foot high chain link fence to surround the treatment compound.
 - b. Contractor shall post the following signs on the fence: a.) Proposition 65 warning (in California), b.) No Smoking, and c.) Project Identification sign with emergency contact telephone number for the consultant.

not limited to requirements that; the Contractor shall be fully responsible for and furnish all construction, products, labor, services, overhead, materials, equipment, apparatus, tools, transportation, storage, supervision, inspection, temporary structures, safety precautions, construction engineering and expertise, professional and other services, management, permits, certificates, insurance, guarantees, bonds, shop drawings, clean up and disposal of materials, environmental protections, cutting, patching, restoration of new and existing and adjoining construction including finishes and fixtures, relocation/removal/replacement of items interfering with the work, field testing, probings, soil boring, test pits, sampling, laboratory testing, measurements, surveying, laying out, adjusting the work intended to actual field conditions, locating and protecting concealed or exposed utilities and structures, providing new or modifying existing utilities, restoring utilities, making utilities connections, providing alternate and construction design elements whether or not detailed in the "project design", providing all incidentals, and such other items and costs as may be required by the intent of the drawings and specifications, either express or implied, and all other items of work necessary to make the project safe, complete, fully operational and warrantable in every respect. It is intended that the Contractor review, understand, and accept the "project design" as is, and from that point forward, to take full responsibility to carry through any and all project services, including construction, to completion. The Contractor shall be responsible to correct any patent ambiguities, if any, in the work items. All work shall be the best of their respective kinds, and shall comply with applicable government codes and industry standards unless a greater standard or requirement is specified. Workmanship shall be of the highest quality and exceed industry standards. All of the foregoing are included in the "intent of work."

b. The "project design", which includes plans (drawings) and specifications, are part and parcel to the contract documents, and are intended to convey the general work item requirements of the intended finished project for construction of the "intent of the work". There is no express or implied fiduciary duty or warranty in the project design toward construction of the "intent of the work". The project design is not intended to convey each and every detail, which may be required to construct the "intent of the work". Where the detail in the project design ends, the responsibility of the Contractor to provide design/build experience to complete the "intent of the work". The Contractor shall provide all expertise of the Environmental Services and Building Trades, Trade Associations, Product Manufacturers and their Representatives, Licensed and/or Certified Tradesmen and Professionals, Building Codes construction requirements, construction design elements, and other Construction Engineering, management and expertise, which is necessary to provide all appropriate and necessary construction details to complete the construction in accordance with the "intent of the work".

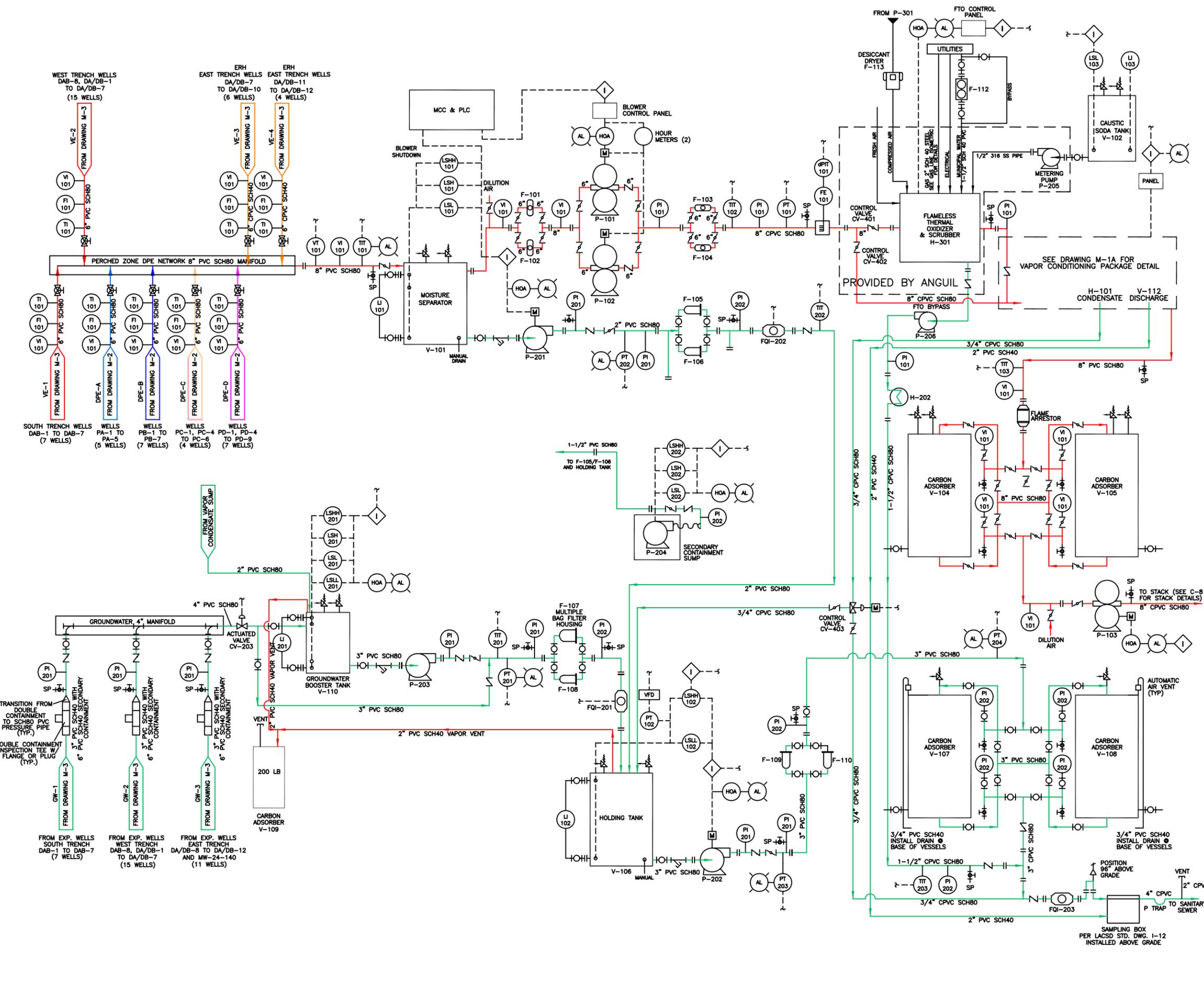
2.0 WORK ITEMS, GENERALLY STATED, CONSISTS OF THE FOLLOWING:

1. The intent of this work is for this contractor to provide a complete and finished product.
 - a. The "intent of the work" is defined to mean; the Contractor shall provide quality, fully operational and ready for intended use, for all work items and requirements represented or implied in the contract documents. The intended work shall include all appurtenant, patent and incidental items and services necessary to complete the work items. To this end, the definition of the "intent of work" more specifically extends to, but

2. The Contractor shall locate and verify existence of all underground and visible utilities prior to starting work and shall verify that all utilities have been disconnected or protected as applicable. Restoration of existing roads, utilities, drainage structures, to their pre-project status.
3. All access to and from the area of work shall be utilized and maintained in a unobstructed manner. Contractor shall remove all debris from work site and any affected paved surfaces shall be left broom clean.

4. Contractor shall be responsible to visit the site prior to bidding and construction to verify all dimensions and field conditions that may exist. Existing site object types and locations have been generally shown and are not guaranteed to be complete or accurate.
5. Contractor shall conform to all Federal, State, and Local codes, including but not limited to: Code of Federal Regulations (CFR), USEPA, Army Corps of Engineers, (USACE), National Electric Code, National Fire Protection Association (NFPA), National Institute for Occupational Safety and Health (NIOSH), and the Occupational Health and Safety Administration (OSHA).
6. The Contractor shall be fully responsible for the safety of his workers, the site's occupants, and visitors to the site, as well as safety of the entire work area. The Contractor shall, for the duration of the contract, employ and have present on site during all aspects of the excavation and treatment operations, a project safety coordinator and/or a "competent person" as so defined under OSHA 29 CFR, Subpart C. 1926.32. As such, the contractor shall bear full responsibility for all safety requirements for the duration of the project in accordance with OSHA, NIOSH, as well as standard construction and demolition safety procedures.
7. The contractor shall be responsible for the construction means, methods, and procedures, and for supervising, inspecting, and safety precautions of his own work. The USEPA and USACE representative may observe construction, and the Contractor shall provide access to all work for such purposes. This construction, observation not relieve the Contractor of his contract responsibilities and will not be for the Contractor's benefit, but for the USEPA or USACE's representative's own casual observance. The Contractor is responsible for the construction in accordance with the contract requirements.
8. All materials and work to be of first quality and to be performed in a manner approved by the USEPA and the USACE. Any damage occurred during construction shall be the responsibility of the Contractor to repair at no cost to the USEPA.
9. All work, including all items necessary to provide the "intent of the work" shall be unconditionally guaranteed by the Contractor for a minimum period of one year after completion and acceptance of the work. Express warranties and guarantees required herein are not to be construed to preclude remedies consistent with implied warranties for faulty construction as prescribed by applicable law.

GENERAL CONSTRUCTION NOTES			
PEMACO SUPERFUND SITE 5050 EAST SLAUSON AVENUE MAYWOOD, CALIFORNIA			
PREPARED FOR: U.S. Environmental Protection Agency Region IX San Francisco, California	PREPARED BY: T N & Associates, Inc. Engineering and Science		
SCALE: AS SHOWN DESIGNED: JW DRAWN: CPL CHECKED: JW	APPROVED: FINAL	DATE: 08/28/08 DRAWING: G-2 REV: 3	



LEGEND:

	BUTTERFLY VALVE		FLEX HOSE
	BALL VALVE		AIR FILTER
	CHECK VALVE		REGULATOR W/ PRESSURE GAUGE
	DIAPHRAGM VALVE		ALARMS
	VALVE WITH ACTUATOR		HEATING COIL
	VALVE WITH SOLENOID		COOLING FANS
	PRESSURE RELIEF VALVE		FLANGE
	VACUUM RELIEF VALVE		UNION
	VACUUM BREAKER (ANTI-SIPHON)		HEAT EXCHANGER
	ELECTRIC MOTOR		CAM AND GROOVE COUPLINGS-ALUMINUM
	FLOW TOTALIZER & INDICATOR		CLEAN-OUT WYE
	VALVED SAMPLE PORT		AVERAGING PITOT TUBE
	SYSTEM INTERLOCK/FAILSAFE		FLAME ARRESTOR
	ELECTRICAL REPORTING TO PLC		AUTOMATIC AIR VENT
	VENT		MULTIPLE BAG FILTER HOUSING
	LONG TURN TEE WYE		SINGLE BAG FILTER HOUSING
			CALCIUM FILTER

ABBREVIATIONS:

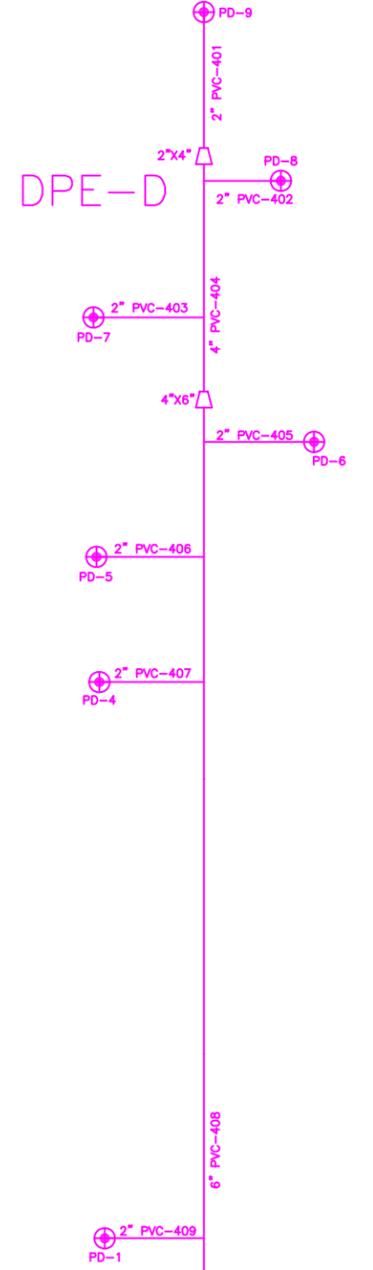
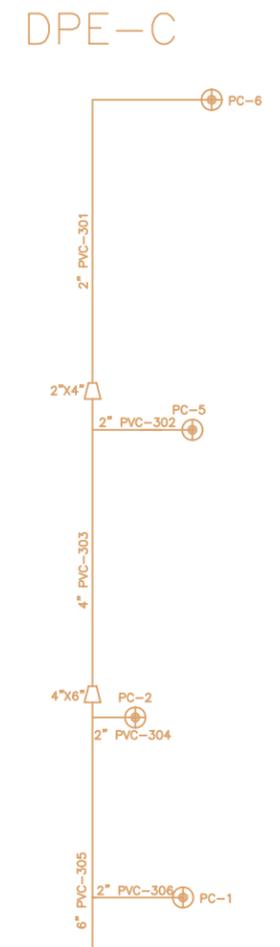
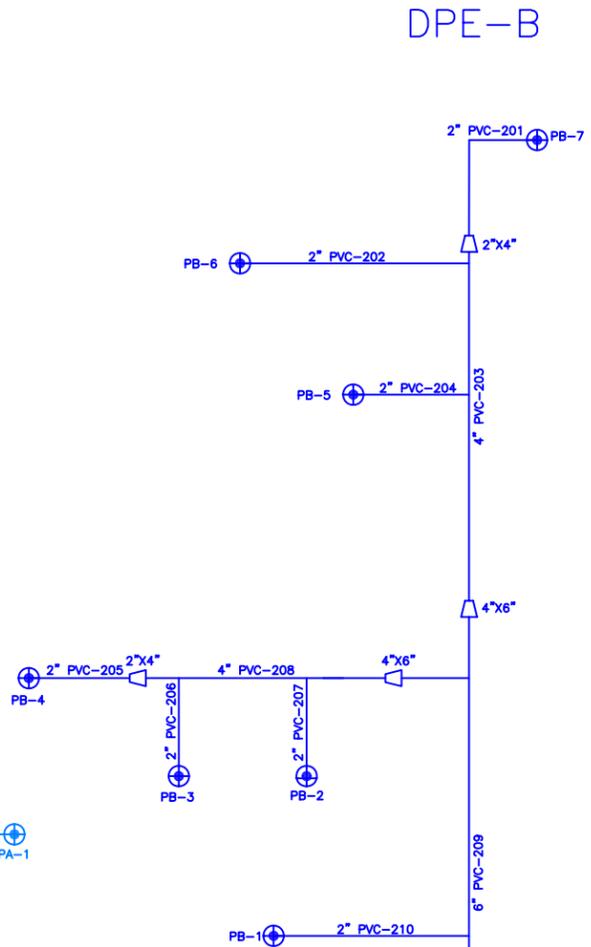
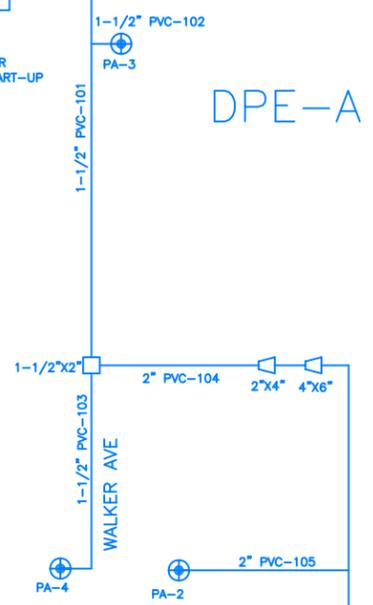
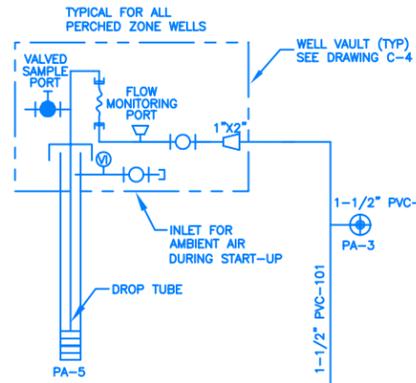
AL	ALARM	LSHH	LEVEL SWITCH HIGH-HIGH
CV	CONTROL VALVE	LSL	LEVEL SWITCH LOW
dPIT	DIFFERENTIAL PRESSURE INDICATING TRANSMITTER	LSLL	LEVEL SWITCH LOW-LOW
FE	FLOW ELEMENT	PI	PRESSURE INDICATOR
FI	FLOW INDICATOR	PT	PRESSURE TRANSMITTER
FM	FLOW METER	PS	PRESSURE SWITCH
FQI	FLOW TOTALIZER	SP	SAMPLE PORT
GALV	GALVANIZED	SS	STAINLESS STEEL
HOA	HAND-OFF AUTO	TI	TEMPERATURE INDICATOR
LAH	LEVEL ALARM HIGH	TIT	TEMPERATURE INDICATOR TRANSMITTER
LACSD	LOS ANGELES COUNTY SANITATION DIVISION	VI	VACUUM INDICATOR
LI	LEVEL INDICATOR	VT	VACUUM TRANSMITTER
LSH	LEVEL SWITCH HIGH	VFD	VARIABLE FREQUENCY DRIVE

- NOTES:**
- A SUMMARY OF PROCESS EQUIPMENT DESCRIPTIONS AND SPECIFICATIONS ARE SHOWN ON THIS DRAWING. REFER TO TABLE 4-11 - EQUIPMENT AND INSTRUMENT SPECIFICATION SUMMARY AND TABLE 4-12 - MAJOR EQUIPMENT SPECIFICATIONS FOR MORE DETAILS ON FANS, BLOWERS, PUMPS, VAPOR PHASE CARBON ADSORPTION UNITS, FLAMELESS THERMAL OXIDATION SYSTEM AND FILTRATION SYSTEMS.
 - PLEASE SEE SPECIFICATION SECTION 13405 - PROCESS LOGIC CONTROL FOR PLC DESIGN, INTERLOCKS, ALARMS, AND CONTROL REQUIREMENTS AND SPECIFICATIONS.
 - INSTALLATION OF PIPING SYSTEM SHALL BE PERFORMED IN ACCORDANCE WITH ATTACHMENT 2 IN THE RFP AND SPECIFICATION SECTION 15400-PROCESS PIPING.
 - ALL ELECTRICAL WIRING SHALL CONFORM TO SPECIFICATION DIVISION 16 - ELECTRICAL.
 - CONTROL PANELS FOR EACH TREATMENT PROCESS SHALL BE DESIGNED AND POSITIONED ON THE EQUIPMENT IT CONTROLS BY THE MANUFACTURER.
 - TREATMENT EQUIPMENT SHALL BE PLACED IN ACCORDANCE WITH THE TREATMENT COMPOUND PROCESS LAYOUT ON DRAWING M-4.
 - ALL PIPING AND CONDUITS SHALL BE SUPPORTED, IN ACCORDANCE WITH LOCAL CODES, TO PREVENT SAGGING OR OVER-STRESSING OF THE PIPE AND CONNECTIONS. ALL PIPING SHALL BE SUPPORTED SO THAT NO LOAD OR STRESS IS TRANSFERRED TO ANY EQUIPMENT.
 - PROCESS PIPING SHALL BE LABELED WITH FLOW DIRECTION AND CONTENT AT ALL ABOVE GROUND VALVES.
 - WHERE PIPING IS ROUTED ABOVE GROUND (INSIDE THE COMPOUND) THE PIPING SHALL BE SUPPORTED BY UNISTRUT AND SHALL BE INSTALLED PER LOCAL CODE AND PIPE MANUFACTURER GUIDELINES.
 - UTILITY PIPING MUST BE INSTALLED PER LOCAL CODE.
 - ALL PROCESS PIPING BENEATH ROADS SHALL BE A MINIMUM OF SCHEDULE 40.
 - SECONDARY CONTAINMENT PIPING AND ELECTRICAL CONDUIT, WHERE REQUIRED, SHALL BE A MINIMUM OF SCHEDULE 40.
 - SUMP PUMP P-204 HOSES, ELECTRICAL, AND CONTROLS MUST BE CONFIGURED FOR QUICK REMOVAL FROM SECONDARY CONTAINMENT SUMP.
 - CAUSTIC PUMP P-205 WILL BE PROVIDED BY ANGUIL AND WILL BE INSTALLED BY CONTRACTOR AS PART OF THIS SCOPE.
 - FINAL DESIGN OF VAPOR CONDITIONING PACKAGE SHALL BE DETERMINED BY TREATMENT SYSTEM CONTRACTOR.

GENERAL PIPING AND INSTRUMENTATION DIAGRAM

PEMACO SUPERFUND SITE
5050 EAST SLAUSON AVENUE
MAYWOOD, CALIFORNIA

PREPARED FOR: U.S. Environmental Protection Agency Region IX San Francisco, California	PREPARED BY: TN T & Associates, Inc. & A Engineering and Science
SCALE: AS SHOWN	APPROVED: FINAL
DESIGNED: MB, JW & LL	DATE: 10/05/06
DRAWN: DC	DRAWING: M-1
CHECKED: JW	REV: 7



DPE-A
IN WEST TRENCH

DPE-B
IN WEST TRENCH

DPE-C
IN EAST TRENCH

DPE-D
IN EAST TRENCH BRANCH

LEGEND:

- BALL VALVE
- VALVED AIR SAMPLE PORT
- FLEX HOSE
- REDUCER FITTING
- REDUCER TEE
- CONDENSATE SUMP
- PERCHED WELL - DPE-A (5 WELLS)
- PERCHED WELL - DPE-B (7 WELLS)
- PERCHED WELL - DPE-C (4 WELLS)
- PERCHED WELL - DPE-D (7 WELLS)

ABBREVIATIONS

- CS CONDENSATE SUMP
- DPE DUAL PHASE EXTRACTION
- FI FLOW INDICATOR
- SP SAMPLE PORT
- VI VACUUM INDICATOR

NOTES:

1. REFER TO SPECIFICATION SECTION 15400-PROCESS PIPING FOR DETAILS ON PIPE CONSTRUCTION, MATERIALS AND TEST AND OPERATING PRESSURES. THE APPROXIMATE ERH TREATMENT AREA IS SHOWN ON DRAWING C-1.
2. REFER TO DRAWING C-3 FOR PERCHED ZONE WELL INSTALLATION SCHEDULE. FINAL DEPTH AND SCREEN INTERVALS SHALL BE DETERMINED BY THE INSTALLING GEOLOGIST OR ENGINEER BASED ON THE OBSERVED DEPTH OF THE TARGET INTERVAL.
3. REFER TO DRAWING C-6 FOR PERCHED ZONE WELL, WELLHEAD AND VAULT CONSTRUCTION DETAILS.
4. NINE PERCHED ZONE WELLS WILL BE INSTALLED WITHIN THE ERH TREATMENT AREA AND CO-LOCATED WITH THE ERH CONTRACTOR'S VAPOR EXTRACTION WELLS. THESE NINE WELLS SHALL BE CONSTRUCTED ACCORDING TO THE ERH CONTRACTOR'S SPECIFICATIONS, AS DETAILED IN THE ERH WORK PLAN.
5. REFER TO DRAWINGS C-2, C-3, C-4, AND C-5 FOR TRENCH CONSTRUCTION INFORMATION.
6. ALL PROCESS PIPING SHALL BE SLOPED TOWARD THE TREATMENT COMPOUND, THE INTENT OF WHICH IS SHOWN IN DRAWING C-5. A SERIES OF CONDENSATE COLLECTION SUMPS SHALL BE LOCATED ADJACENT TO THE TREATMENT COMPOUND FOR EACH DPE PIPELINE.
7. REMOTE VAULTS ARE REQUIRED FOR WELLS PA-2 AND PB-6 IN ORDER TO CLEAR OBSTRUCTIONS. REMOTE VAULT LOCATIONS ARE SHOWN ON DRAWING C-3.

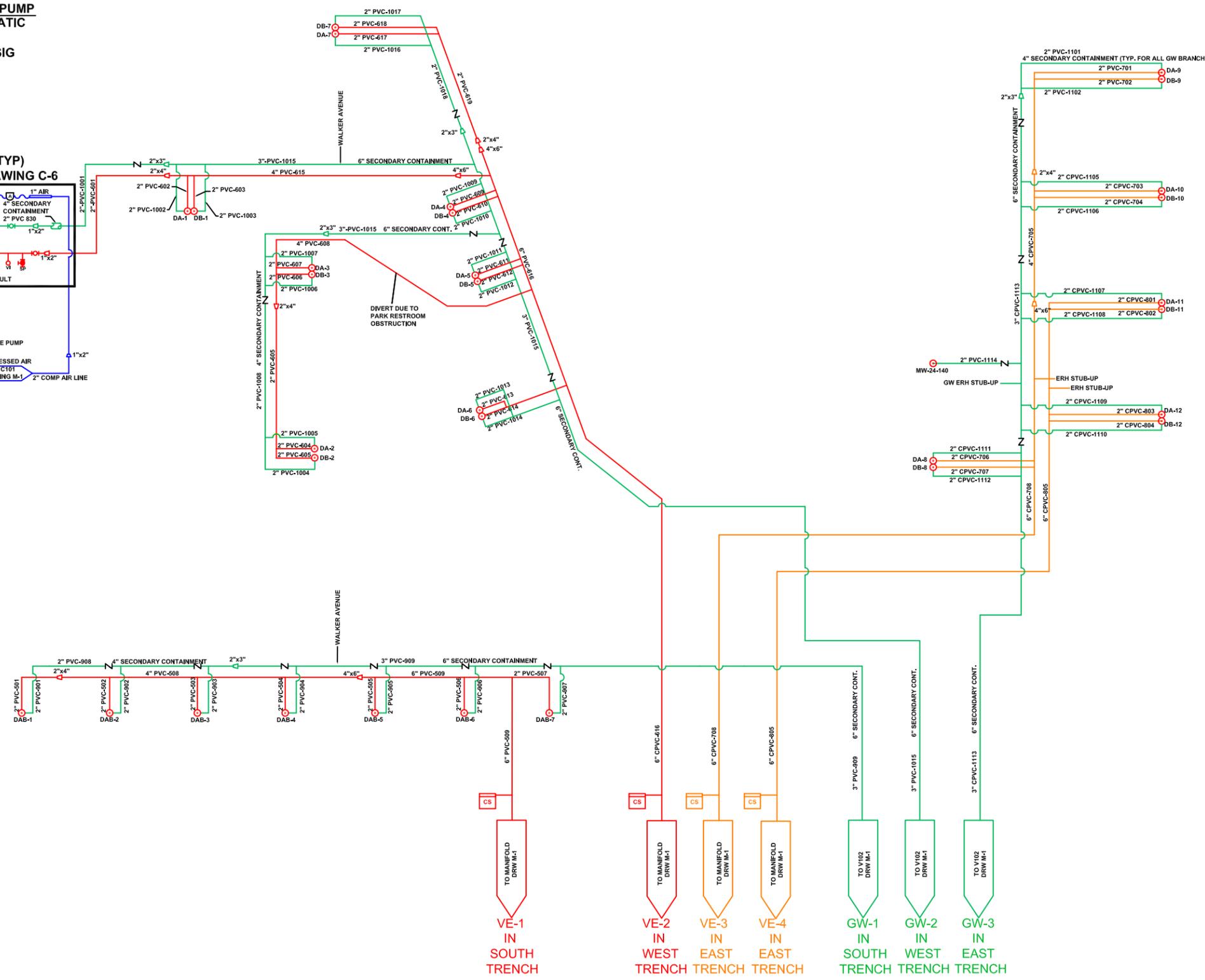
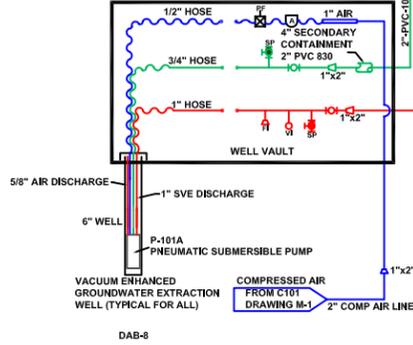
PERCHED ZONE DPE P&ID

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DRAWN: DC			M-2
CHECKED: JW			4

P-101A SUBMERSIBLE PUMP
DESCRIPTION: PNEUMATIC
CAPACITY: 1 - 14 GPM
AIR PRESSURE: 125 PSIG
(TYPICAL FOR ALL)

WELL VAULT (TYP)
REFER TO DRAWING C-6



LEGEND:

- EXPOSITION WELL
- EXTRACTION WELLS WITH INDIVIDUAL SCREENS FOR A AND B ZONE
- CHECK VALVE
- BALL VALVE
- VAVLED AIR SAMPLE PORT
- QUICK CONNECT/DISCONNECT
- FLEXIBLE HOSE
- AIR PULSE COUNTER
- PRESSURE REGULATOR FILTER
- FLOW MONITORING PORT
- REDUCER
- CONDENSATE SUMP

ABBREVIATIONS

- A AIR
- CS CONDENSATE SUMP
- FI FLOW INDICATOR
- GW GROUNDWATER
- PF PRESSURE REGULATOR FILTER
- SP SAMPLE PORT
- VI VACUUM INDICATOR

EXPOSITION ZONE PIPING:

- GREEN 1 GW-1 7 WELLS (DAB-1 TO DAB-7) SOUTH TRENCH
- GREEN 2 GW-2 15 WELLS (DAB-8, DA/DB-1 TO DA/DB-7) WEST TRENCH
- GREEN 3 GW-3 11 WELLS (DA/DB-8 TO DA/DB-12, MW-24-140) EAST TRENCH
- RED 1 VE-1 7 WELLS (DAB-1 TO DAB-7) SOUTH TRENCH
- RED 2 VE-2 15 WELLS (DAB-8, DA/DB-1 TO DA/DB-7) WEST TRENCH

ERH AREA PIPING:

- ORANGE ERH, VE-3 EAST TRENCH
- ORANGE ERH, VE-4 EAST TRENCH
- ORANGE 6 DEEP WELLS (DAB-8 TO DA/DB-10), ERH WELLS TBD BY ERH SUBCONTRACTOR
- ORANGE 4 DEEP WELLS (DA/DB-11 TO DA/DB-12), ERH WELLS TBD BY ERH SUBCONTRACTOR

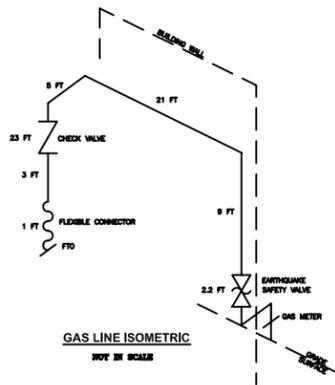
NOTES:

1. REFER TO SPECIFICATION SECTION 15400-PROCESS PIPING FOR DETAILS ON PIPE CONSTRUCTION, MATERIALS AND TEST AND OPERATING PRESSURES.
2. PIPES THAT ARE EXPECTED TO CARRY GROUNDWATER AND/OR SOIL VAPOR AT ELEVATED TEMPERATURES DUE TO THEIR LOCATION WITHIN THE HEATED ERH TREATMENT AREA WILL BE CONSTRUCTED USING SCHEDULE 40 CPVC. THE APPROXIMATE ERH TREATMENT AREA IS SHOWN ON DRAWING C-1.
3. REFER TO DRAWING C-3 FOR EXPOSITION ZONE WELL INSTALLATION SCHEDULE. FINAL DEPTH AND SCREEN INTERVALS SHALL BE DETERMINED BY THE INSTALLING GEOLOGIST OR ENGINEER BASED ON THE OBSERVED DEPTH OF THE TARGET INTERVAL.
4. REFER TO DRAWING C-8 FOR EXPOSITION ZONE WELL, WELLHEAD AND VAULT CONSTRUCTION DETAILS.
5. THE ERH CONTRACTOR SHALL SPECIFY THE LOCATION AND CONSTRUCTION DETAILS FOR ALL ERH VAPOR EXTRACTION WELLS AND RELATED FACILITIES. UTILITY STUB-UPS FOR THE ERH CONTRACTOR CONSIST OF TWO 6" VAPOR LINES, ONE 2" WATER LINE, AND 1.5" ELECTRICAL CONDUIT (NOT SHOWN).
6. EXTRACTION WELLS INSTALLED WITHIN THE ERH TREATMENT AREA SHALL BE CONSTRUCTED ACCORDING TO THE ERH CONTRACTOR'S SPECIFICATIONS.
7. REFER TO DRAWINGS C-2, C-3, C-4 AND C-5 FOR TRENCH CONSTRUCTION INFORMATION.
8. ALL PROCESS PIPING SHALL BE SLOPED TOWARD THE TREATMENT COMPOUND, THE INTENT OF WHICH IS SHOWN IN DRAWING C-5. A SERIES OF CONDENSATE COLLECTION SUMPS (NOT SHOWN) SHALL BE LOCATED ADJACENT TO THE TREATMENT COMPOUND FOR EACH VE PIPELINE. ADDITIONAL CONDENSATE COLLECTION SUMPS SHALL BE INSTALLED AT PIPELINE LOW POINTS, AS DESIGN/BUILD, BASED ON FINAL "AS-BUILT" GRADES.
9. COMPRESSED AIR LINES ARE NOT SHOWN ON THIS DRAWING BUT WILL BE INSTALLED AS SHOWN ON DRAWING C-4. ALL DIMENSION ARE 3/4".

LOWER VADOSE & EXPOSITION ZONE GROUNDWATER AND VAPOR EXTRACTION PIPING P&ID

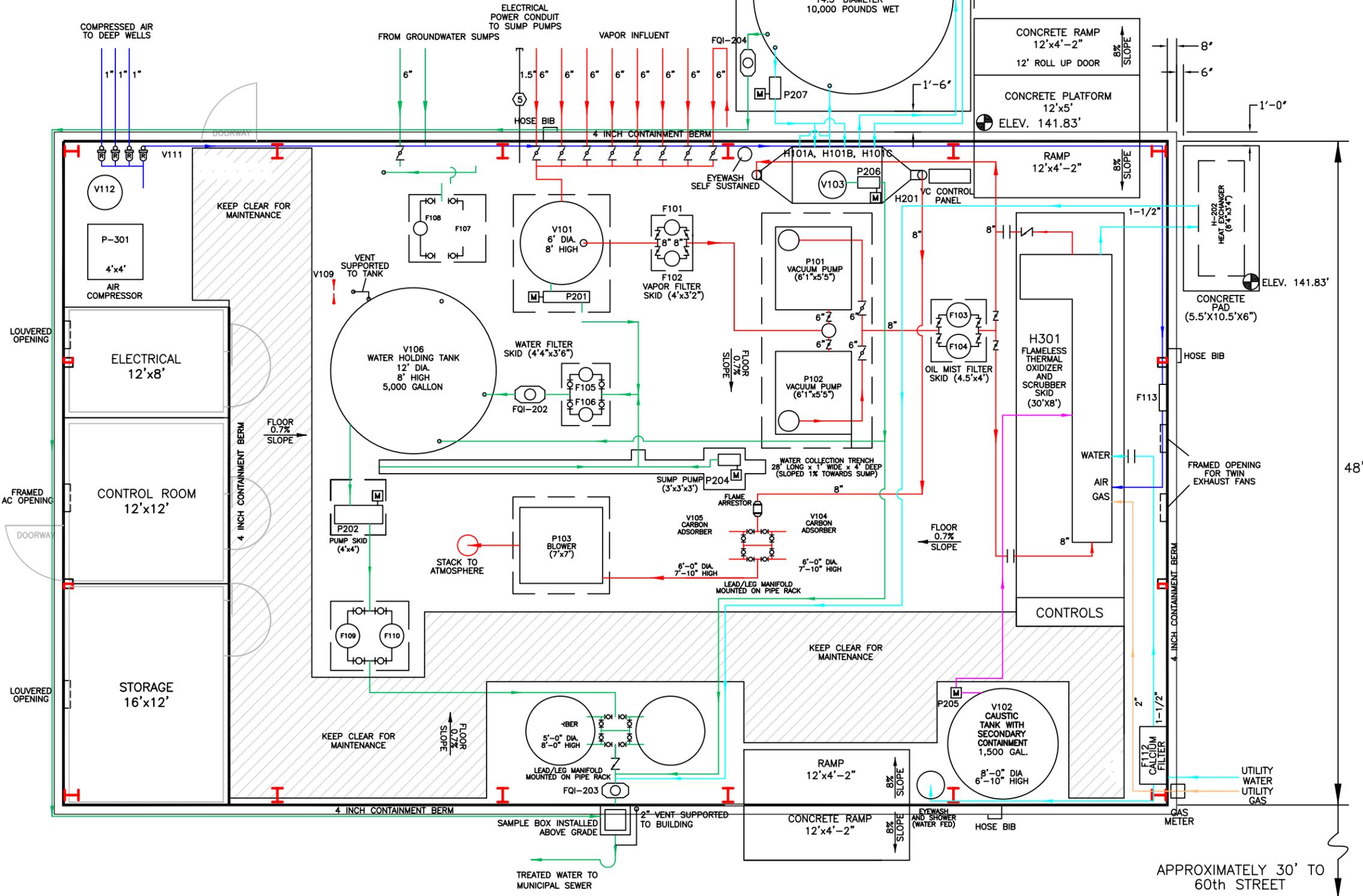
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DESIGNED: JW & GM			REV
DRAWN: DC			
CHECKED: JW			M-3 7



GAS LINE NOTES:

1. GAS PIPE SIZE AND ASSOCIATED FITTINGS TO BE 2" NOMINAL DIAMETER SCHEDULE 40 STEEL AND BLACK MALLEABLE IRON, RESPECTIVELY. PIPE AND FITTINGS TO BE PAINTED FOR CORROSION PROTECTION.
2. CHECK VALVE AND EARTHQUAKE SAFETY VALVE TO BE APPROVED/LISTED BY THIRD PARTY FOR NATURAL GAS SERVICE.
3. GAS SUPPLY TO BE MEDIUM PRESSURE (5 PSI). REQUIRED FUEL SUPPLY TO BE 3,500,000 BTU/HR.
4. EQUIVALENT PIPE LENGTH TO BE APPROXIMATELY 128 FEET.
5. GAS PIPING ABOVEGROUND TO BE SUPPORTED WITH STRUT CHANNEL BRACING (MINIMUM 8 FOOT CENTERS).
6. FLEXIBLE GAS PIPE CONNECTION (AT INLET OF FTD) TO BE 2" NOMINAL DIAMETER (MAXIMUM LENGTH 24") BRAIDED STAINLESS STEEL AND APPROVED/LISTED FOR NATURAL GAS SERVICE BY THIRD PARTY.
7. GAS PIPING TO BE PRESSURE TESTED AT 60 PSIG FOR A MINIMUM OF 30 MINUTES OR LONGER AS REQUIRED BY BUILDING OFFICIAL.



LEGEND:

- BUTTERFLY VALVE
- BALL VALVE
- CHECK VALVE
- ELECTRIC MOTOR
- REGULATOR
- FLOW TOTALIZER
- GAS VAPOR LINES
- CAUSTIC SODA FEED
- GROUNDWATER LINES
- UTILITY WATER/DRAINAGES
- INDICATES SKID DIMENSIONS
- STACK/DISCHARGE TO ATMOSPHERE

NOTES:

1. THE INTENT OF THIS DRAWING IS TO SHOW EQUIPMENT LAYOUT. REFER TO DRAWING M-1 FOR THE PROCESS AND INSTRUMENTATION DIAGRAM.
2. TREATMENT EQUIPMENT SHALL BE PLACED AS SHOWN IN THIS DRAWING. NECESSARY MODIFICATIONS TO LAYOUT DUE TO ACCESS, MAINTENANCE ETC. MUST BE APPROVED BY PROJECT ENGINEER.
3. ALL EQUIPMENT AND SKIDS SHALL BE BOLTED ONTO CONCRETE SLAB. ALL SLAB CONNECTIONS SHALL BE SUBJECT TO INSPECTION ACCORDING TO SPECIFICATION SECTION 01452-SPECIAL INSPECTION FOR SEISMIC-RESISTING SYSTEMS. ITEMS WHICH CANNOT BE SKID MOUNTED SHALL BE SIMILARLY MOUNTED OR RESTRAINED BY CABLE OR WALL BRACES AND SUBJECT TO THE SAME SPECIAL INSPECTION FOR SEISMIC-RESISTING SYSTEMS.
4. TREATMENT COMPOUND FOUNDATION SHALL BE CONSTRUCTED AS SHOWN IN DRAWINGS C-12 AND C-13. CHANGES TO THE FOUNDATION DESIGN MAY BE REQUIRED BASED ON THE PRE-ENGINEERED METAL BUILDING CONTRACTOR'S DESIGN.
5. TREATMENT COMPOUND BUILDING IS A PRE-ENGINEERED METAL STRUCTURE THAT SHALL BE CONSTRUCTED ACCORDING TO DRAWING C-11 AND SPECIFICATION SECTION 13120-PRE-ENGINEERED METAL BUILDINGS.
6. REFER TO SPECIFICATION DIVISION 08-DOORS AND WINDOWS, DIVISION 11-TREATMENT COMPONENTS, DIVISION 13-STRUCTURAL COMPONENTS AND PROCESS CONTROL, DIVISION 15-PLUMBING AND DIVISION 16-ELECTRICAL FOR DETAILS ON TREATMENT COMPOUND CONSTRUCTION.
7. CONTRACTOR SHALL EXERCISE DUE CARE TO PROTECT EQUIPMENT FROM THEFT OR DAMAGE.
8. INTERNAL PIPING AND CONVEYANCE SYSTEMS SHALL BE LOCATED OVERHEAD (8' MINIMUM) OR BENEATH THE CONCRETE SLAB TO ALLOW FORKLIFT ACCESS TO INDIVIDUAL SKIDS.
9. INSTALLATION OF ALL PIPING SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION SECTION 15400-PROCESS PIPING. UTILITY PIPING MUST BE INSTALLED PER LOCAL CODE.
10. ALL PIPING AND CONDUIT SUPPORTS (NOT SHOWN) SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL CODES TO PREVENT SAGGING OR OVER-STRESSING OF THE PIPE AND CONNECTIONS. ALL PIPING SHALL BE SUPPORTED SO THAT NO LOAD OR STRESS IS TRANSFERRED TO ANY EQUIPMENT.
11. PROCESS PIPING AND VALVES SHALL BE LABELED WITH FLOW DIRECTION AND CONTENT AT ALL ABOVE GROUND LOCATIONS.
12. FINAL DESIGN OF VAPOR CONDITIONING PACKAGE SHALL BE DETERMINED BY TREATMENT SYSTEM CONTRACTOR.



TREATMENT COMPOUND PROCESS LAYOUT

PEMACO SUPERFUND SITE
5050 EAST SLAUSON AVENUE
MAYWOOD, CALIFORNIA

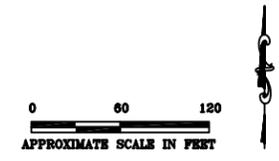
PREPARED FOR: U.S. Environmental Protection Agency Region IX San Francisco, California		PREPARED BY: TN & Associates, Inc. Engineering and Science	
SCALE: AS SHOWN	APPROVED FINAL	DATE: 10/05/2008	DRAWING
DESIGNED: JW & DC			REV
DRAWN: DC			M-4
CHECKED: JW			11



LEGEND:

- PERCHED GW PLUME EXCEEDING VOC ARARS
- >10,000 ug/L TCE
- 1,000-10,000 ug/L TCE
- 100-1,000 ug/L TCE
- 10-100 ug/L TCE
- PEMACO WELL, MONITORING WELL, PERCHED ZONE (<35 FEET BGS.)
- PEMACO WELL, MONITORING WELL, EXPOSITION AQUIFER
- PEMACO WELL, RECOVERY WELL LOCATION
- W.W. HENRY WELL, EXISTING GROUNDWATER MONITORING WELL
- W.W. HENRY WELL, EXISTING DPE WELL - DEEP, INTERMEDIATE AND SHALLOW
- W.W. HENRY WELL, EXISTING SVE WELL
- WATER LINE
- SEWER LINE
- GAS LINE
- ERH AREA
- FORMER PEMACO SITE BOUNDARY

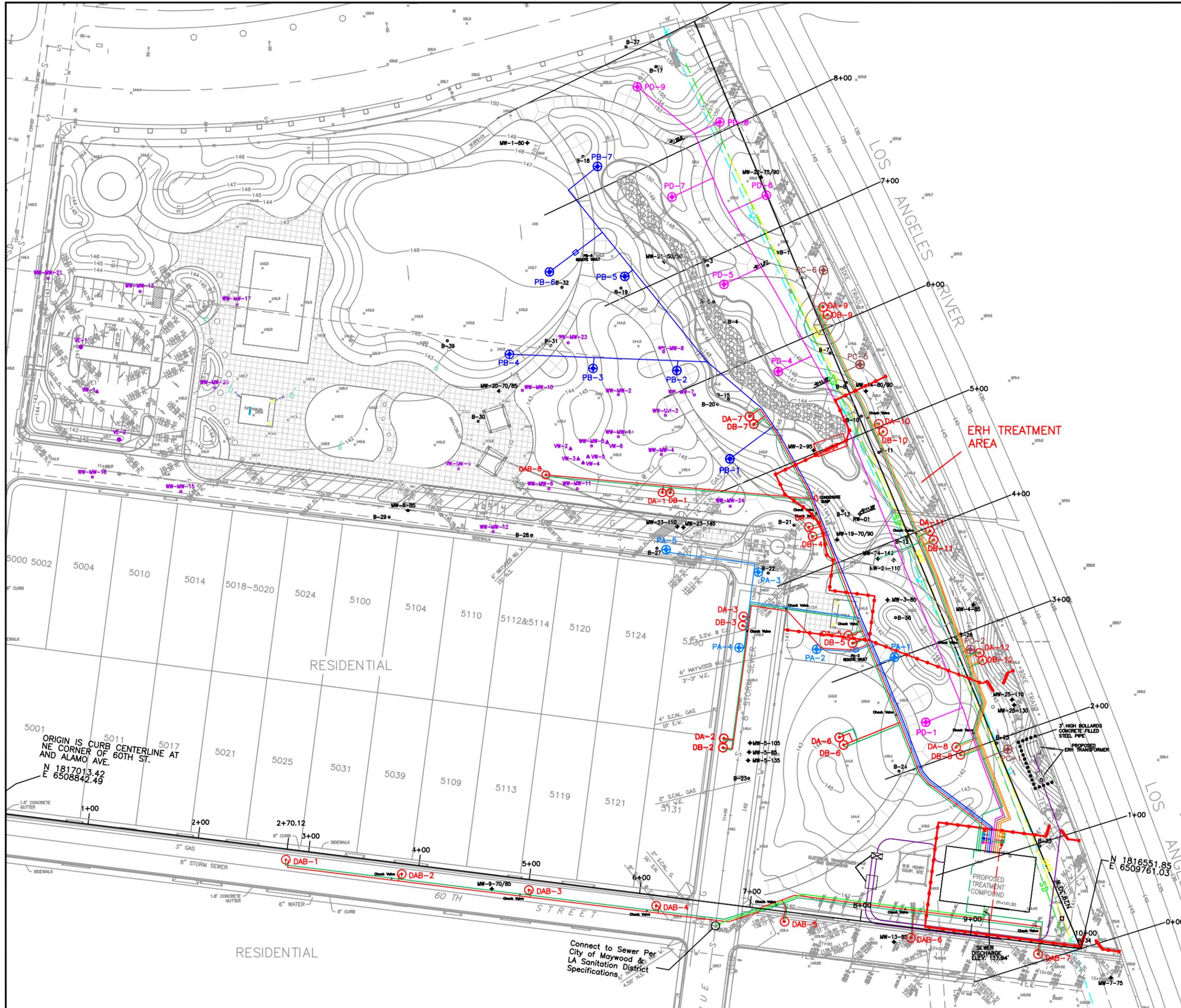
- NOTES:**
1. THE UTILITY LINES SHOWN ARE APPROXIMATE LOCATIONS AND DO NOT INCLUDE ALL UTILITIES IN THE AREA.
 2. ALL UTILITY COMPANIES MUST BE CONTACTED AND SHOWN PROPOSED EXCAVATION LOCATIONS, VIA DRAWINGS OR SITE VISIT, PRIOR TO ANY EXCAVATION OR SUBSURFACE WORK.
 3. A GEOPHYSICAL SURVEY OF THE PROPOSED SUBSURFACE WORK LOCATION, AND VERIFICATION OF SAFE DIGGING LOCATIONS SHALL BE PERFORMED PRIOR TO ALL SUBSURFACE WORK.
 4. COMPOSITE EXPOSITION 'A' AND 'B' ZONE PLUME BASED ON SAMPLES COLLECTED IN JANUARY 2002.
 5. COMPOSITE PERCHED PLUME BASED ON SAMPLES COLLECTED IN JANUARY 2002.



SITE PLAN, TCE PLUME, AND UTILITIES

PEMACO SUPERFUND SITE
5050 EAST SLAUSON AVENUE
MAYWOOD, CALIFORNIA

PREPARED FOR: U.S. Environmental Protection Agency Region IX San Francisco, California		PREPARED BY: TN & Associates, Inc. Engineering and Science	
SCALE: AS SHOWN	APPROVED DRAFT - FINAL	DATE: 07/28/06	
DESIGNED: JW & GN	DRAWN: CBG	DRAWING	REV
CHECKED: JW		C-1	8



- LEGEND:**
- PROPOSED EXTRACTION WELL SCREENED THROUGH BOTH 'A' AND 'B' ZONES
 - PROPOSED EXTRACTION WELL WITH INDIVIDUAL SCREENS FOR THE 'A' AND 'B' ZONES
 - PROPOSED PERCHED ZONE WELL
 - PEMACO WELL MONITORING WELL, PERCHED ZONE (35 FEET BGS)
 - PEMACO WELL MONITORING WELL, EXPOSITION AQUIFER
 - PEMACO WELL RECOVERY WELL LOCATION
 - W.W. HENRY WELL, EXISTING GROUNDWATER MONITORING WELL
 - W.W. HENRY WELL, EXISTING DPE WELL - DEEP, INTERMEDIATE AND SHALLOW
 - W.W. HENRY WELL, EXISTING SVE WELL
 - COORDINATE OF ORIGIN
 - STATION LINE
 - PROPOSED FINISH GRADE
 - PROPOSED ELECTRICITY LINE
 - PROPOSED SEWER DISCHARGE
- EXISTING UTILITIES:**
- WATER LINE
 - SEWER LINE
 - GAS LINE
- PERCHED ZONE PIPING:**
- LIGHT BLUE DPE-A 5 WELLS (PA-1 TO PA-5) WEST TRENCH
 - DARK BLUE DPE-B 7 WELLS (PB-1 TO PB-7) WEST TRENCH
 - BROWN DPE-C 4 WELLS (PC-1, PC-4 TO PC-8) WEST TRENCH
 - PURPLE DPE-D 7 WELLS (PD-1, PD-4 TO PD-9) EAST TRENCH
- EXPOSITION ZONE PIPING:**
- GREEN 1 GW-1 7 WELLS (DAB-1 TO DAB-7) SOUTH TRENCH
 - GREEN 2 GW-2 15 WELLS (DAB-8, DA/DB-1 TO DA/DB-7) WEST TRENCH
 - GREEN 3 GW-3 11 WELLS (DA/DB-8 TO DA/DB-12, MW-24-140) EAST TRENCH
 - RED 1 VE-1 7 WELLS (DAB-1 TO DAB-7) SOUTH TRENCH
 - RED 2 VE-2 15 WELLS (DAB-8, DA/DB-1 TO DA/DB-7) WEST TRENCH
- ERH AREA PIPING:**
- ORANGE ERH, VE-3 EAST TRENCH 6 DEEP WELLS (DA/DB-8 TO DA/DB-10), ERH WELLS TBD BY ERH SUBCONTRACTOR
 - ORANGE ERH, VE-4 EAST TRENCH 4 DEEP WELLS (DA/DB-11 TO DA/DB-12), ERH WELLS TBD BY ERH SUBCONTRACTOR

- NOTES:**
1. THE TRENCH NETWORK IS COMPRISED OF THREE MAIN TRENCHES REFERRED TO IN THE DRAWINGS AND SPECIFICATIONS AS THE EAST, WEST AND SOUTH TRENCHES. DRAWING C-5 SHOWS THE PIPE/TRENCH ELEVATION PROFILE.
 2. HORIZONTAL CONTROL IS REFERENCED TO THE CALIFORNIA COORDINATE SYSTEM, ZONE 5, NAD83. VERTICAL CONTROL IS REFERENCED TO NAVD88. SEVERAL CONTROL POINT LOCATIONS HAVE BEEN ESTABLISHED FOR THE PARK CONSTRUCTION WHICH WILL BE ADOPTED FOR THE REMEDIAL ACTION. VERTICAL CONTROL SHALL BE ESTABLISHED TO AN ACCURACY OF 0.01 FEET. HORIZONTAL CONTROL SHALL BE ESTABLISHED TO AN ACCURACY OF 0.1 FEET.
 3. ALL SUBSURFACE EXCAVATION LOCATIONS SHALL BE MARKED AND CLEARED BY UNDERGROUND SERVICE ALERT PRIOR TO EXCAVATION. A GEOPHYSICAL SURVEY SHALL BE PERFORMED TO BETTER IDENTIFY POTENTIAL UNDERGROUND UTILITIES AND OBSTACLES. TRENCHES AND PIPELINES SHALL BE MOVED TO ACCOMMODATE EXISTING LINES FOLLOWING APPROVAL FROM THE PROJECT ENGINEER.
 4. THE SOUTH TRENCH STATION LINE STARTS AT THE NE CORNER OF 60TH STREET AND ALAMO AVENUE (CURB-CENTERLINE) AS SHOWN ON THIS DRAWING.
 5. THE EAST AND WEST TRENCH STATION LINE STARTS AT THE 10+00 STATION MARK OF THE SOUTH TRENCH STATION LINE AND HAS A TRUE BEARING OF N 29 DEGREES 30 MINUTES 0 SECONDS W.
 6. EXCAVATION OF THE SOUTH TRENCH SHALL BEGIN AT STATION 2+70.12 AND PROCEED EAST ACCORDING TO THE DEPTHS SHOWN ON DRAWING C-5 AND THE CROSS SECTION REQUIREMENTS SHOWN ON DRAWING C-4.
 7. EXCAVATION OF THE EAST AND WEST TRENCHES SHALL BEGIN AT THEIR BRANCHES AND PROCEED TOWARD THE TREATMENT COMPOUND ACCORDING TO THE DEPTHS SHOWN ON DRAWING C-5 AND THE CROSS SECTION REQUIREMENTS SHOWN ON DRAWING C-4. THE TERMINATION POINT FOR ALL PIPELINES SHALL BE COORDINATED WITH THE TREATMENT COMPOUND FOUNDATION CONSTRUCTION.



TRENCH LOCATION PLAN

PEMACO SUPERFUND SITE
5050 EAST SLAUSON AVENUE
MAYWOOD, CALIFORNIA

PREPARED FOR:
U.S. Environmental Protection Agency
Region IX
San Francisco, California

PREPARED BY:
TN & Associates, Inc.
Engineering and Science

SCALE: AS SHOWN	APPROVED: FINAL	DATE: 07/28/06
DESIGNED: JW & GN	DRAWN: DC	CHECKED: JW
DRAWING: C-2		REV: 3

59th STREET
SLAUSON AVENUE

PERCHED ZONE WELL INSTALLATION SCHEDULE

Well I.D.	Header	Associated Hydrogeologic Unit	Casing Diameter (inches)	Screen Material	Well Casing Material	Anticipated Screen Interval (feet bgs)	Screen Slot Size (inches)	Filter Pack Sand Size	Anticipated Depth to Bottom of Well (feet bgs)	Anticipated Depth of Boring (feet bgs)
PA-1	DPE-A	Perched Zone	4	Schedule 40 PVC	Schedule 40 PVC	19-29	0.020	2/12	29.5	30
PA-2	DPE-A	Perched Zone	4	Schedule 40 PVC	Schedule 40 PVC	20-30	0.020	2/12	30.5	31
PA-3	DPE-A	Perched Zone	4	Schedule 40 PVC	Schedule 40 PVC	19-29	0.020	2/12	29.5	30
PA-4	DPE-A	Perched Zone	4	Schedule 40 PVC	Schedule 40 PVC	22-32	0.020	2/12	32.5	33
PA-5	DPE-A	Perched Zone	4	Schedule 40 PVC	Schedule 40 PVC	20-30	0.020	2/12	30.5	31
PB-1	DPE-B	Perched Zone	4	Schedule 40 PVC	Schedule 40 PVC	24-34	0.020	2/12	34.5	35
PB-2	DPE-B	Perched Zone	4	Schedule 40 PVC	Schedule 40 PVC	25-35	0.020	2/12	35.5	36
PB-3	DPE-B	Perched Zone	4	Schedule 40 PVC	Schedule 40 PVC	19-29	0.020	2/12	29.5	30
PB-4	DPE-B	Perched Zone	4	Schedule 40 PVC	Schedule 40 PVC	15-25	0.020	2/12	25.5	26
PB-5	DPE-B	Perched Zone	4	Schedule 40 PVC	Schedule 40 PVC	15-25	0.020	2/12	25.5	26
PB-6	DPE-B	Perched Zone	4	Schedule 40 PVC	Schedule 40 PVC	19-29	0.020	2/12	29.5	30
PB-7	DPE-B	Perched Zone	4	Schedule 40 PVC	Schedule 40 PVC	23-33	0.020	2/12	33.5	34
PC-1	DPE-C	Perched Zone	4	Schedule 40 PVC	Schedule 40 PVC	16-26	0.020	2/12	26.5	27
PC-2	DPE-C	Perched Zone	4	Schedule 40 PVC	Schedule 40 PVC	16-26	0.020	2/12	26.5	27
PC-3	DPE-C	Perched Zone	4	Schedule 40 PVC	Schedule 40 PVC	19.5-29.5	0.020	2/12	30	30.5
PC-4	DPE-C	Perched Zone	4	Schedule 40 PVC	Schedule 40 PVC	17-27	0.020	2/12	27.5	28
PD-1	DPE-D	Perched Zone	4	Schedule 40 PVC	Schedule 40 PVC	16-26	0.020	2/12	26.5	27
PD-2	DPE-D	Perched Zone	4	Schedule 40 PVC	Schedule 40 PVC	14.5-24.5	0.020	2/12	25	25.5
PD-3	DPE-D	Perched Zone	4	Schedule 40 PVC	Schedule 40 PVC	24.5-34.5	0.020	2/12	35	35.5
PD-4	DPE-D	Perched Zone	4	Schedule 40 PVC	Schedule 40 PVC	23-33	0.020	2/12	33.5	34
PD-5	DPE-D	Perched Zone	4	Schedule 40 PVC	Schedule 40 PVC	23-33	0.020	2/12	33.5	34
PD-6	DPE-D	Perched Zone	4	Schedule 40 PVC	Schedule 40 PVC	19-29	0.020	2/12	29.5	30
PD-7	DPE-D	Perched Zone	4	Schedule 40 PVC	Schedule 40 PVC	11-21	0.020	2/12	21.5	22
PD-8	DPE-D	Perched Zone	4	Schedule 40 PVC	Schedule 40 PVC	23-33	0.020	2/12	33.5	34

FORMER W.W. HENRY PROPERTY

EXPOSITION ZONE WELL INSTALLATION SCHEDULE

Well I.D.	Associated Hydrogeologic Unit	Casing Diameter (inches)	Screen Material	Well Casing Material	Anticipated Screen Interval (feet bgs)	Screen Slot Size (inches)	Filter Pack Sand Size	Anticipated Depth to Bottom of Casing (feet bgs)	Anticipated Depth of Boring (feet bgs)
DA-1	Exposition A Zone	6	Schedule 40 PVC	Schedule 40 PVC	76-86	0.020	2/12	87	89
DA-2	Exposition A Zone	6	Schedule 40 PVC	Schedule 40 PVC	72-82	0.020	2/12	83	84
DA-3	Exposition A Zone	6	Schedule 40 PVC	Schedule 40 PVC	74-84	0.020	2/12	85	86
DA-4	Exposition A Zone	6	316 Stainless Steel	Low Carbon Steel	57-67	0.020	2/12	68	69
DA-5	Exposition A Zone	6	Schedule 40 PVC	Schedule 40 PVC	66-76	0.020	2/12	77	78
DA-6	Exposition A Zone	6	Schedule 40 PVC	Schedule 40 PVC	60-70	0.020	2/12	71	72
DA-7	Exposition A Zone	6	316 Stainless Steel	Schedule 80 PVC	55-65	0.020	2/12	66	67
DA-8	Exposition A Zone	6	Schedule 40 PVC	Schedule 40 PVC	65-75	0.020	2/12	76	77
DA-9	Exposition A Zone	6	Schedule 40 PVC	Schedule 40 PVC	68-78	0.020	2/12	79	80
DA-10	Exposition A Zone	6	316 Stainless Steel	Low Carbon Steel	63-73	0.020	2/12	74	75
DA-11	Exposition A Zone	6	316 Stainless Steel	Low Carbon Steel	64-74	0.020	2/12	75	76
DA-12	Exposition A Zone	6	Schedule 40 PVC	Schedule 40 PVC	66-76	0.020	2/12	77	78
DB-1	Exposition B Zone	6	Schedule 80 PVC	Schedule 80 PVC	93-103	0.020	2/12	104	105
DB-2	Exposition B Zone	6	Schedule 80 PVC	Schedule 80 PVC	86-96	0.020	2/12	97	98
DB-3	Exposition B Zone	6	Schedule 80 PVC	Schedule 80 PVC	77-87	0.020	2/12	101.5	102.5
DB-4	Exposition B Zone	6	316 Stainless Steel	Low Carbon Steel	81-91	0.020	2/12	92	93
DB-5	Exposition B Zone	6	Schedule 80 PVC	Schedule 80 PVC	81-91	0.020	2/12	92	93
DB-6	Exposition B Zone	6	Schedule 80 PVC	Schedule 80 PVC	92-102	0.020	2/12	103	104
DB-7	Exposition B Zone	6	316 Stainless Steel	Schedule 80 PVC	81-91	0.020	2/12	92	93
DB-8	Exposition B Zone	6	Schedule 80 PVC	Schedule 80 PVC	81-91	0.020	2/12	92	93
DB-9	Exposition B Zone	6	316 Stainless Steel	Schedule 80 PVC	88-98	0.020	2/12	99	100
DB-10	Exposition B Zone	6	316 Stainless Steel	Low Carbon Steel	74.5-84.5	0.020	2/12	85.5	86.5
DB-11	Exposition B Zone	6	316 Stainless Steel	Low Carbon Steel	76-86	0.020	2/12	87	88
DB-12	Exposition B Zone	6	Schedule 80 PVC	Schedule 80 PVC	83.5-93.5	0.020	2/12	94.5	95.5
DAB-1	Exposition A and B Zone	6	Schedule 80 PVC	Schedule 80 PVC	70.5-90.5	0.020	2/12	89	90
DAB-2	Exposition A and B Zone	6	Schedule 80 PVC	Schedule 80 PVC	70.5-90.5	0.020	2/12	91.5	92.5
DAB-3	Exposition A and B Zone	6	Schedule 80 PVC	Schedule 80 PVC	71-91	0.020	2/12	92	93
DAB-4	Exposition A and B Zone	6	Schedule 80 PVC	Schedule 80 PVC	70-90	0.020	2/12	91	92
DAB-5	Exposition A and B Zone	6	Schedule 80 PVC	Schedule 80 PVC	69-89	0.020	2/12	90	91
DAB-6	Exposition A and B Zone	6	Schedule 80 PVC	Schedule 80 PVC	67-87	0.020	2/12	88	89
DAB-7	Exposition A and B Zone	6	Schedule 80 PVC	Schedule 80 PVC	68-88	0.020	2/12	89	90
DAB-8	Exposition A and B Zone	6	Schedule 80 PVC	Schedule 80 PVC	67-87	0.020	2/12	88	89

RESIDENTIAL

Connect to Sewer Per City of Maywood & LA Sanitation District Specifications

LEGEND:

- PROPOSED EXTRACTION WELL SCREENED THROUGH BOTH 'A' AND 'B' ZONES
- PROPOSED EXTRACTION WELL WITH INDIVIDUAL SCREENS FOR THE 'A' AND 'B' ZONES
- PROPOSED PERCHED ZONE WELL
- PEMACO WELL, EXISTING MONITORING WELL, PERCHED ZONE (<35 FEET BOS)
- PEMACO WELL, EXISTING MONITORING WELL, EXPOSITION AQUIFER
- PEMACO WELL, EXISTING RECOVERY WELL LOCATION
- W.W. HENRY WELL, EXISTING GROUNDWATER MONITORING WELL
- W.W. HENRY WELL, EXISTING DPE WELL - DEEP, INTERMEDIATE AND SHALLOW
- W.W. HENRY WELL, EXISTING SHE WELL
- PROPOSED SEWER DISCHARGE
- EXISTING WATER LINE
- EXISTING SEWER LINE
- EXISTING GAS LINE
- PROPOSED ERH AREA
- C.S. PROPOSED CONDENSATE SUMP
- G.W. PROPOSED GROUNDWATER SUMP

PERCHED ZONE PIPING:

- LIGHT BLUE DPE-A 5 WELLS (PA-1 TO PA-5) WEST TRENCH
- DARK BLUE DPE-B 7 WELLS (PB-1 TO PB-7) WEST TRENCH
- BROWN DPE-C 4 WELLS (PC-1, PC-4 TO PC-6) WEST TRENCH
- PURPLE DPE-D 7 WELLS (PD-1, PD-4 TO PD-9) EAST TRENCH

EXPOSITION ZONE PIPING:

- GREEN 1 GW-1 7 WELLS (DAB-1 TO DAB-7) SOUTH TRENCH
- GREEN 2 GW-2 15 WELLS (DAB-8, DA/DB-1 TO DA/DB-7) WEST TRENCH
- GREEN 3 GW-3 11 WELLS (DA/DB-8 TO DA/DB-12, MW-24-140) EAST TRENCH
- RED 1 VE-1 7 WELLS (DAB-1 TO DAB-7) SOUTH TRENCH
- RED 2 VE-2 15 WELLS (DAB-8, DA/DB-1 TO DA/DB-7) WEST TRENCH

ERH AREA PIPING:

- ORANGE ERH, VE-3 EAST TRENCH 6 DEEP WELLS (DA/DB-8 TO DA/DB-10), ERH WELLS TBD BY ERH SUBCONTRACTOR
- ORANGE ERH, VE-4 EAST TRENCH 4 DEEP WELLS (DA/DB-11 TO DA/DB-12), ERH WELLS TBD BY ERH SUBCONTRACTOR

- NOTES:**
- THE TRENCH NETWORK IS COMPRISED OF THREE MAIN TRENCHES REFERRED TO IN THE DRAWINGS AND SPECIFICATIONS AS THE EAST, WEST AND SOUTH TRENCHES.
 - THE LINES AND GRADES OF THE EAST, WEST AND SOUTH TRENCHES ARE SHOWN ON DRAWING C-2 - TRENCH LOCATION PLAN AND DRAWING C-5 - PIPE/TRENCH ELEVATION PROFILE. TRENCH CROSS SECTION DETAILS ARE SHOWN ON DRAWING C-4.
 - CONSTRUCTION SURVEYING METHODS SHALL BE USED TO ACCURATELY STAKE ALL WELL AND TRENCH LOCATIONS PRIOR TO CONSTRUCTION. A GRADE CHECKER SHALL BE USED DURING THE CONSTRUCTION OF THE TRENCHES TO ASSURE ADEQUATE DEPTH AND SLOPE HAVE BEEN ATTAINED.
 - INSTALL WELLS ACCORDING TO SCHEDULES SHOWN ON THIS DRAWING. FINAL DEPTH AND SCREEN INTERVALS SHALL BE DETERMINED BY THE INSTALLING GEOLOGIST OR ENGINEER BASED ON THE OBSERVED DEPTH OF THE TARGET INTERVAL.
 - THE ERH CONTRACTOR SHALL SPECIFY THE LOCATION AND CONSTRUCTION DETAILS FOR ALL ERH VAPOR EXTRACTION WELLS AND RELATED FACILITIES.
 - ALL PROCESS PIPING SHALL BE SLOPED TOWARD THE TREATMENT COMPOUND. A SERIES OF CONDENSATE COLLECTION SUMPS (AS SHOWN), SHALL BE LOCATED ADJACENT TO THE TREATMENT COMPOUND FOR EACH DPE OR VE PIPELINE. PIPE INSTALLATION SHOULD BEGIN AT THE LOW POINT AND WORK UP HILL TO ENSURE PROPER SLOPING IS MAINTAINED.
 - PIPELINES INSTALLED BENEATH THE TREATMENT COMPOUND FOUNDATION SHALL BE INSTALLED BETWEEN COLUMN FOOTINGS AND A MINIMUM OF 1' BENEATH THE CONCRETE SLAB.
 - TRENCH AND WELL LOCATIONS HAVE BEEN POSITIONED SO AS TO NOT INTERFERE WITH MAYWOOD PARK CONSTRUCTION LINES, GRADES AND DRAINAGE STRUCTURES. REPOSITIONING OF WELLS, PIPES OR TRENCHES SHALL BE COORDINATED WITH THE CITY OF MAYWOOD AND THE PARK CONTRACTOR.
 - THE WELL AND TRENCH CONSTRUCTION SCHEDULE SHALL BE COORDINATED WITH THE CITY OF MAYWOOD AND THE PARK CONTRACTOR TO FOLLOW PARK GRADING AND PRECEDE PARK LANDSCAPING AND HARDSCAPING. ALL WORK WITHIN THE PARK AREA SHOULD BE PERFORMED FIRST, TO BE FOLLOWED BY WORK IN ROADS (OUTSIDE OF THE PARK AREA).



PROPOSED WELLS, PIPES AND TRENCHES

PEMACO SUPERFUND SITE
5050 EAST SLAUSON AVENUE
MAYWOOD, CALIFORNIA

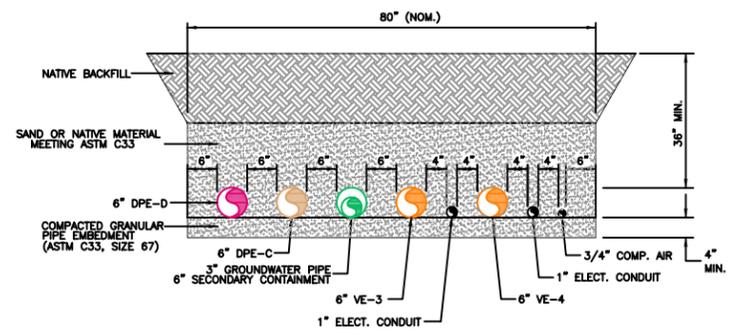
PREPARED FOR: U.S. Environmental Protection Agency Region IX San Francisco, California	PREPARED BY: TN & Associates, Inc. Engineering and Science
SCALE: AS SHOWN	DATE: 07/28/06
DESIGNED: JW & GN	DRAWING: CBG
CHECKED: JW	REV: 14

LEGEND:

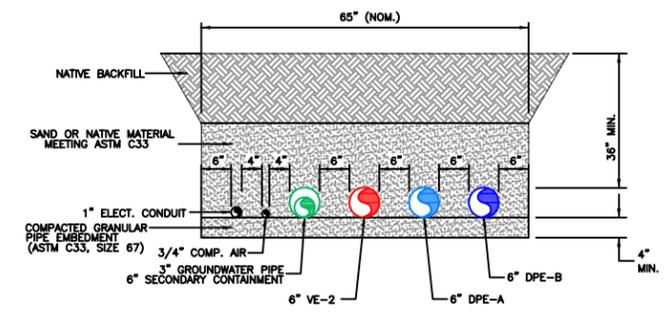
-  DUAL PHASE EXTRACTION (DPE) HEADER A
-  DUAL PHASE EXTRACTION (DPE) HEADER B
-  DUAL PHASE EXTRACTION (DPE) HEADER C
-  DUAL PHASE EXTRACTION (DPE) HEADER D
-  VAPOR EXTRACTION HEADER (VE-1 TO VE-2)
-  VAPOR EXTRACTION HEADER (VE-3 TO VE-4)
-  GROUNDWATER CONVEYANCE PIPE WITH SECONDARY CONTAINMENT
-  SEWER LINE
-  COMPRESSED AIR OR ELECTRICAL CONDUIT

NOTES:

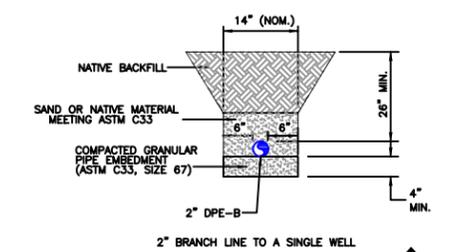
1. THE INTENT OF DRAWING C-4 IS TO INFORM THE CONSTRUCTION CONTRACTOR TO SOME OF THE TRENCH SECTION CONFIGURATIONS, THE INTENT FOR MINIMUM DEPTH AND BACKFILL/CONSTRUCTION REQUIREMENTS. THE SECTIONS SHOWN CAN BE USED AS MODELS TO ADDRESS ADDITIONAL TRENCH SECTION CONFIGURATIONS. ANY ADDITIONAL TRENCH SECTION CONFIGURATIONS ARE CONSIDERED DESIGN/BUILD ITEMS TO BE PERFORMED BY THE CONSTRUCTION CONTRACTOR.
2. EXCAVATION, BACKFILL AND STOCKPILING TO BE PERFORMED IN ACCORDANCE WITH SECTION 02225-TRENCHING, SECTION 02211-EARTHWORK AND SECTION 02205-SOIL MATERIALS.
3. THE DEPTH OF PIPE BENEATH ALL PROPOSED PARK SURFACES SHALL BE GREATER THAN 2' BGS TO ACCOMMODATE THE PARK ELECTRICAL CONDUIT (2' BGS) AND PARK IRRIGATION LINES (1.5' BGS), EXCEPT WHERE CONNECTIONS ARE MADE TO WELL VAULTS.
4. THE TRENCH CROSS SECTIONS GENERALLY PORTRAY THE MINIMUM DEPTH REQUIREMENTS. ADDITIONAL TRENCH DEPTH ALLOWANCE SHALL BE PROVIDED TO ACCOMMODATE THE SLOPES SPECIFIED IN DRAWING C-6.
5. REFER TO SPECIFICATION SECTION 15400-PROCESS PLUMBING FOR PIPE MATERIALS, LENGTHS AND DIAMETERS.
6. REFER TO SPECIFICATION SECTION 02225-TRENCHING FOR BACKFILL COMPACTION REQUIREMENTS. GENERALLY, GRANULAR PIPE EMBEDMENT AND BACKFILL SHALL BE COMPACTED TO 90% BENEATH PARK SURFACES AND 95% BENEATH ROADS AND FOUNDATIONS.
7. TRAFFIC CONTROL AND SAFETY MEASURES SHALL BE ESTABLISHED BEFORE COMMENCEMENT OF ANY EXCAVATION. OPEN TRENCH AND EXCAVATION AREAS SHALL BE SECURED WITH BARRICADES, FLAGGING TAPE AND OTHER USUAL TRAFFIC CONTROL AND SAFETY EQUIPMENT. TRAFFIC-RATED STEEL COVER PLATES SHALL BE PLACED OVER ROAD EXCAVATIONS SO THAT NO TRENCHES REMAIN OPEN DURING OFF-WORK HOURS. ADDITIONAL SAFETY PROCEDURES FOR EXCAVATIONS SHALL BE FOLLOWED AS DESCRIBED IN SECTION 01351-SAFETY, HEALTH AND EMERGENCY RESPONSE AND THE SITE SAFETY AND HEALTH PLAN.
8. NEW PAVEMENT AND BASE IS OF THE SAME TYPE AND THICKNESS AS THAT WHICH WAS REMOVED, BUT IN NO CASE IS IT LESS THAN INDICATED.
9. ALL PIPE SHALL BE COVERED WITH A MINIMUM OF 6 INCHES OF SAND OR PIPE EMBEDMENT, BEFORE BACKFILLING WITH NATIVE MATERIAL.



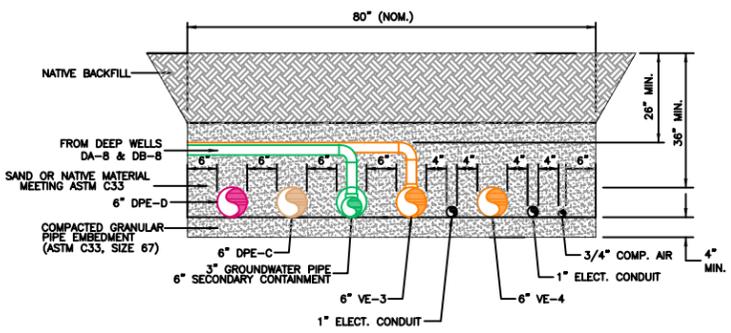
TRENCH CROSS SECTION A
NOT TO SCALE



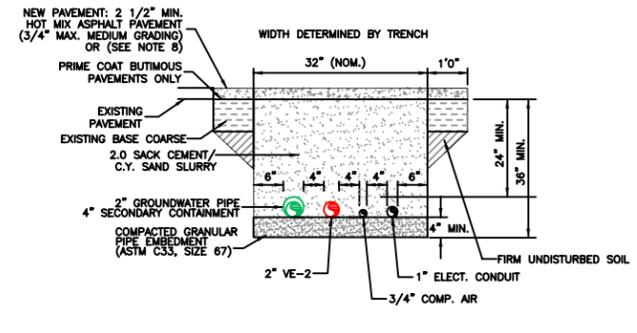
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NOT TO SCALE



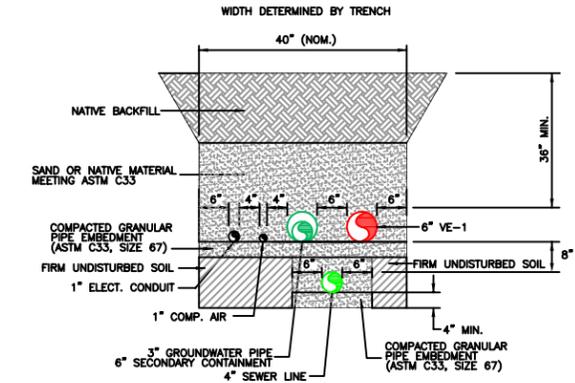
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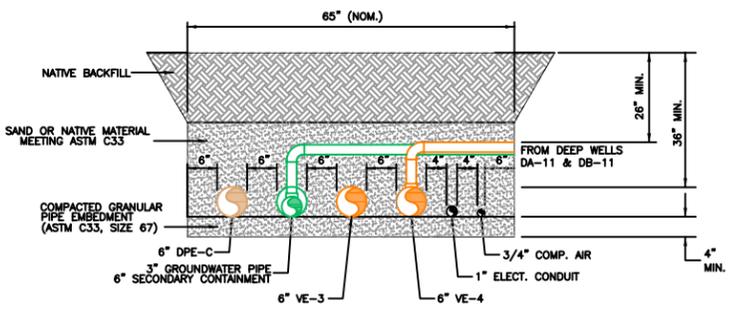
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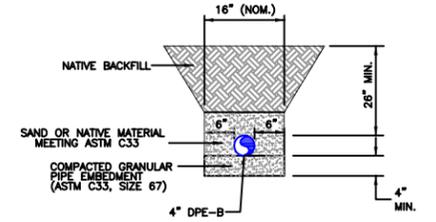
TRENCH CROSS SECTION E
NOT TO SCALE



TRENCH CROSS SECTION H
NOT TO SCALE



TRENCH CROSS SECTION C
NOT TO SCALE



TRENCH CROSS SECTION F
NOT TO SCALE

TRENCH DETAILS

PEMACO SUPERFUND SITE
5050 EAST SLAUSON AVENUE
MAYWOOD, CALIFORNIA

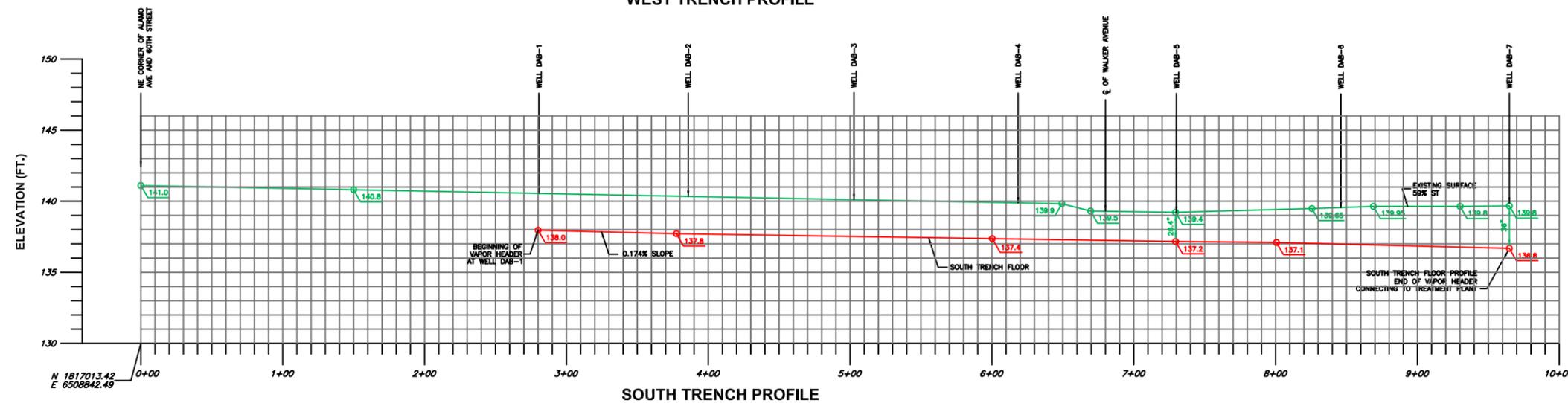
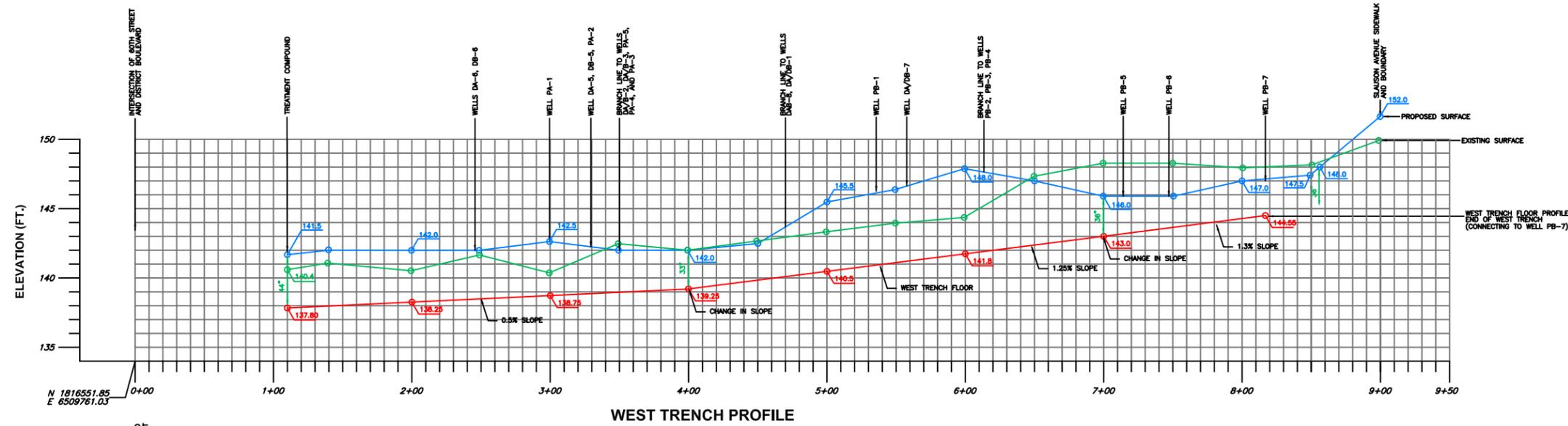
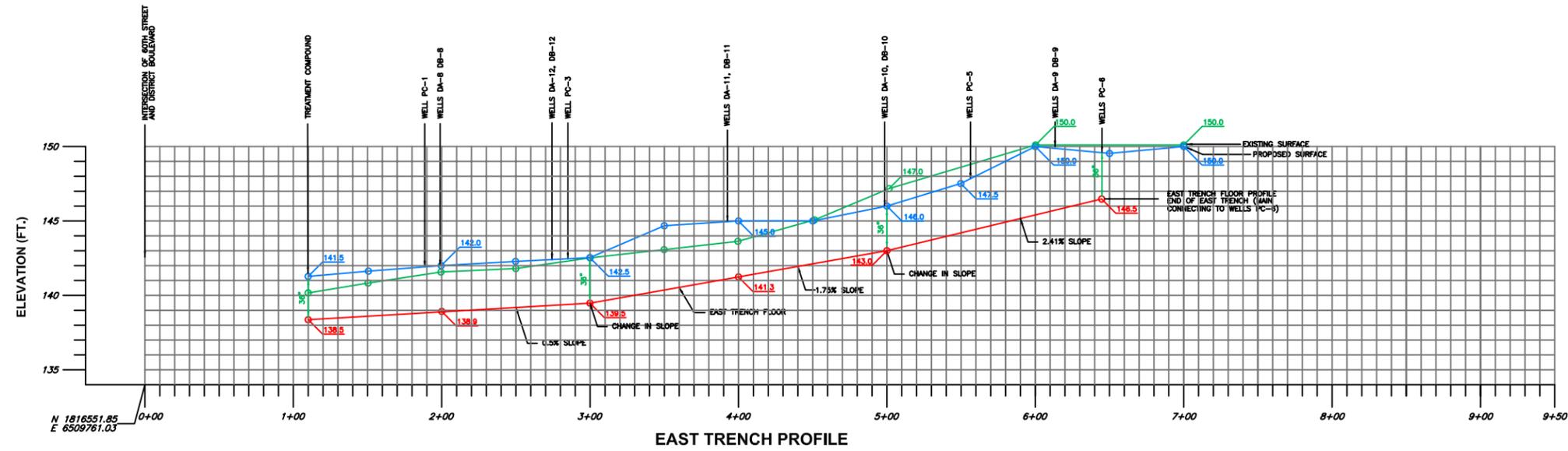
PREPARED FOR: U.S. Environmental Protection Agency Region IX San Francisco, California	PREPARED BY: TNTN & Associates, Inc. Engineering and Science
SCALE: AS SHOWN	APPROVED: FINAL
DESIGNED: JW & GN	DATE: 05/16/06
DRAWN: DC	DRAWING
CHECKED: JW	REV
	C-4 7

LEGEND:

- EXISTING SURFACE
- PROPOSED SURFACE
- TRENCH FLOOR PROFILE
- COORDINATE OF ORIGIN
- 1+00** STATION MARK (=100 FEET)

NOTES:

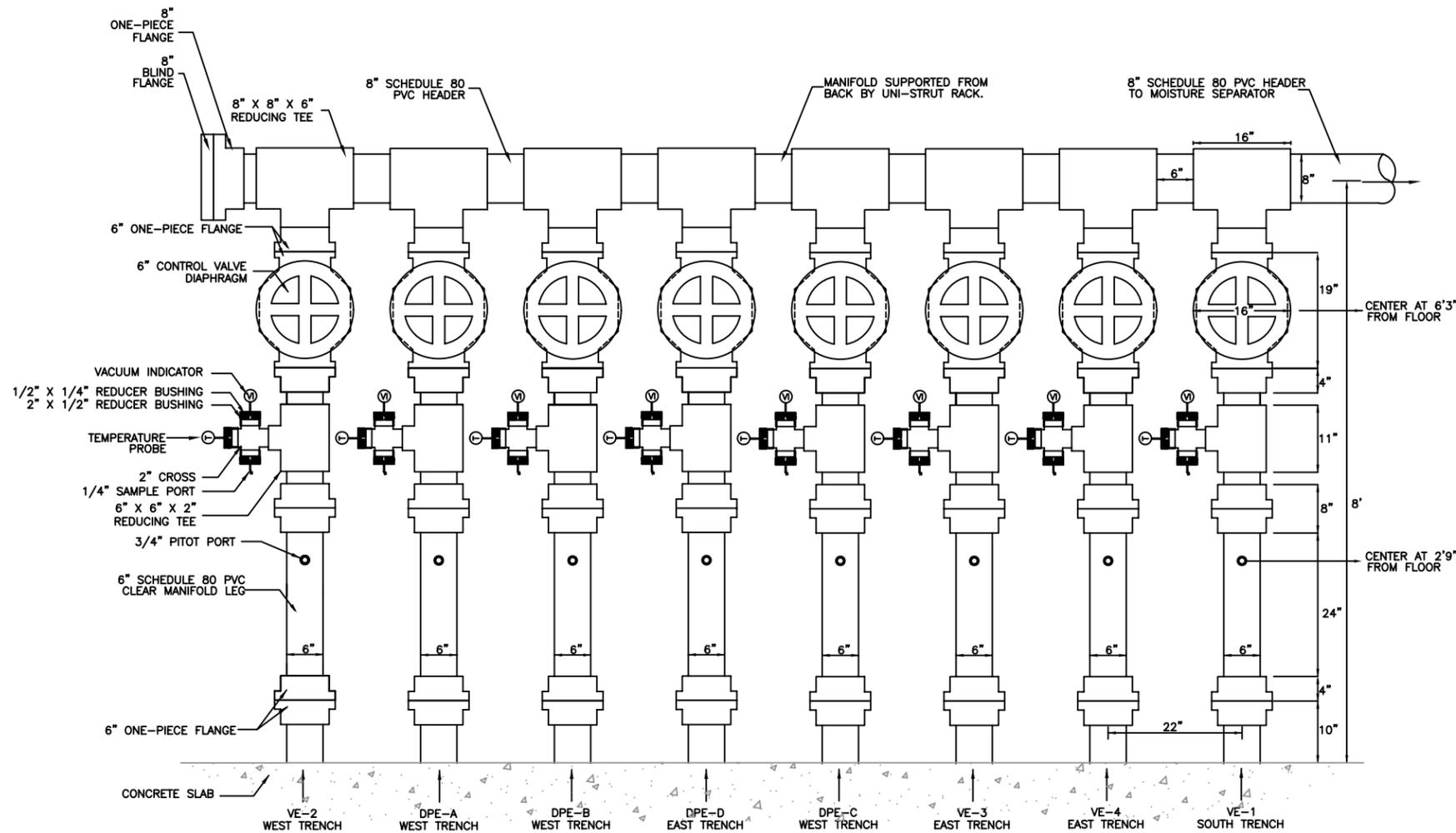
1. THE PIPE/TRENCH PLAN VIEW AND THE REFERENCE TO THE SITE SURVEY CONTROL SYSTEM IS SHOWN ON DRAWING C-2.
2. THE INTENT OF THE PROFILE IS TO PROVIDE THE EXCAVATION ELEVATION FOR THE MAIN TRENCH FLOOR (EAST, WEST AND SOUTH) AND THE PROPOSED FINAL GRADE OF THE MAYWOOD RIVERFRONT PARK.
3. REFER TO DRAWING C-4-TRENCH DETAILS FOR THE MINIMUM COVER REQUIREMENT.
4. CONTRACTOR SHALL MAINTAIN A MINIMUM SLOPE OF 0.5% IN THE DIRECTION OF THE TREATMENT COMPOUND, EXCEPT AS SHOWN FOR THE SOUTH TRENCH.
5. CONSTRUCTION SURVEYING METHODS SHALL BE USED TO ACCURATELY STAKE ALL WELL AND TRENCH LOCATIONS PRIOR TO CONSTRUCTION. A GRADE CHECKER SHALL BE USED DURING THE CONSTRUCTION OF THE TRENCHES TO ASSURE ADEQUATE DEPTH AND SLOPE HAVE BEEN ATTAINED.
6. THE ERH CONTRACTOR SHALL SPECIFY THE LOCATION AND CONSTRUCTION DETAILS FOR ALL ERH VAPOR EXTRACTION WELLS AND RELATED FACILITIES.
7. TRENCH AND WELL LOCATIONS HAVE BEEN POSITIONED SO AS TO NOT INTERFERE WITH MAYWOOD PARK CONSTRUCTION LINES, GRADES AND DRAINAGE STRUCTURES. REPOSITIONING OF WELLS, PIPES OR TRENCHES SHALL BE COORDINATED WITH THE CITY OF MAYWOOD AND THE PARK CONTRACTOR. REFER TO "CITY OF MAYWOOD, CALIFORNIA CONSTRUCTION PLANS FOR RIVERFRONT PARK" (DATED 12-20-2004), FOR ADDITIONAL SUBSURFACE STRUCTURE DETAILS.
8. THE TRENCH FLOOR SHALL GENERALLY MAINTAIN A MINIMUM OF 45" SEPARATION FROM THE PROPOSED/NEW PARK GRADE EXCEPT WHERE SPECIFIED ON THIS DRAWING.



PIPE/TRENCH ELEVATION PROFILES

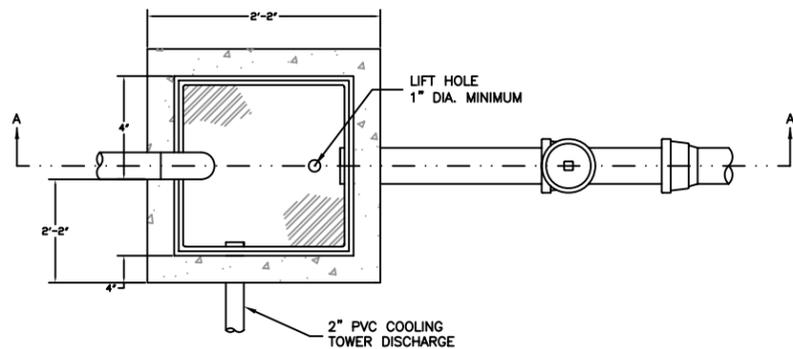
PEMACO SUPERFUND SITE
5050 EAST SLAUSON AVENUE
MAYWOOD, CALIFORNIA

PREPARED FOR: U.S. Environmental Protection Agency Region IX San Francisco, California		PREPARED BY: T N & Associates, Inc. Engineering and Science	
SCALE: AS SHOWN	APPROVED FINAL	DATE: 05/16/06	DRAWING
DESIGNED: JW & GN			REV
DRAWN: DC			C-5
CHECKED: JW			4

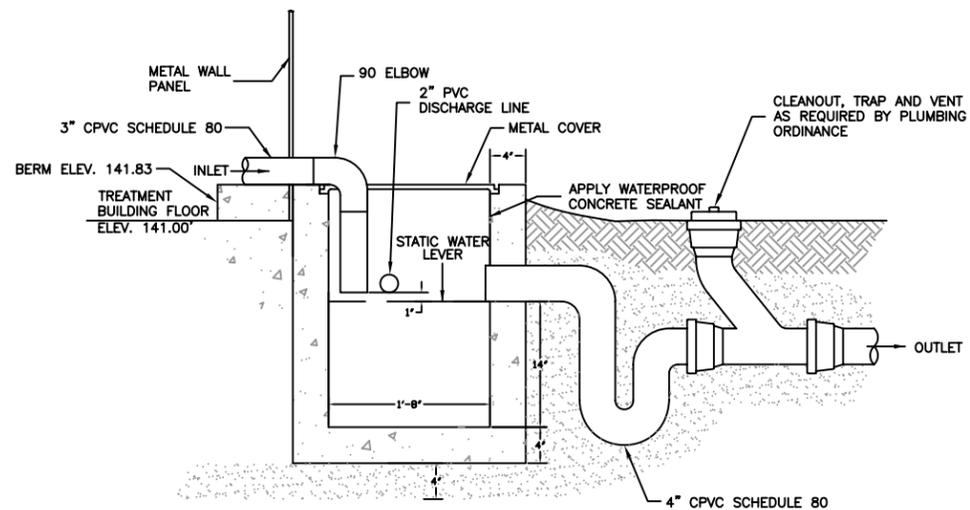


DUAL PHASE AND VAPOR EXTRACTION MANIFOLD DETAIL

0 0.5' 1.0'
APPROXIMATE SCALE IN FEET



SAMPLING BOX PLAN
NOT TO SCALE



SECTION A - A
NOT TO SCALE

LEGEND:

-  PROPOSED CONCRETE SLAB AND FOOTINGS
-  PROPOSED SAND BACKFILL OR APPROVED NATIVE MATERIAL
-  PROPOSED SURFACE COMPLETION PER DRAWING C-15A AND C-16

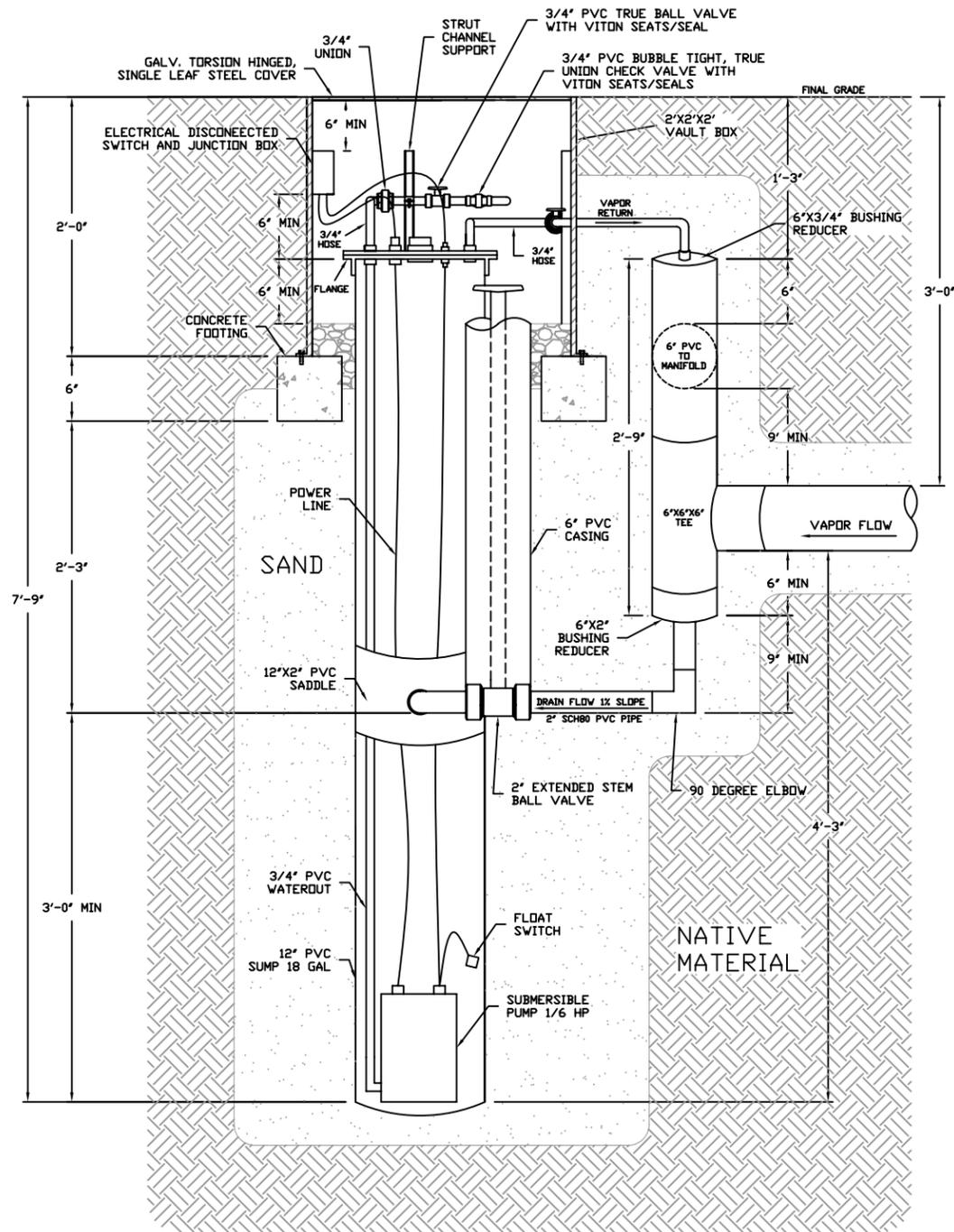
NOTES:

1. THE MANIFOLD SYSTEM SHALL BE SUPPORTED BY A UNI-STRUT RACK SYSTEM THAT IS BRACED TO THE BUILDING COLUMNS. THE RACK SYSTEM SHALL BE INSPECTED IN ACCORDANCE WITH SPECIFICATION SECTION 13080-SEISMIC PROTECTION FOR MISCELLANEOUS EQUIPMENT.
2. THE ENTIRE MANIFOLD SYSTEM SHALL BE CONSTRUCTED FROM SCHEDULE 80 PVC TO WITHSTAND HIGH VACUUM AND HIGH CONTAMINANT CONCENTRATION EXTRACTED FROM ERH TREATMENT AREA.
3. PIPE SUPPORTS AND BRACKETS (NOT SHOWN) SHALL BE USED ACCORDING TO PIPE MANUFACTURER'S RECOMMENDATIONS.
4. PITOT PORT TO CONSIST OF A 3/4" NPT SWAGE LOCK BORE THROUGH CLEAR MANIFOLD LEG AND PLUG.
5. THE APPROVAL OF THE COUNTY ENGINEER FOR SAMPLING BOX MUST BE OBTAINED BEFORE INSTALLATION, ELEVATE THE SIDE WALLS ABOVE THE SURROUNDING GROUND SURFACE TO EXCLUDE STORM WATER.

MISCELLANEOUS PIPE DETAILS

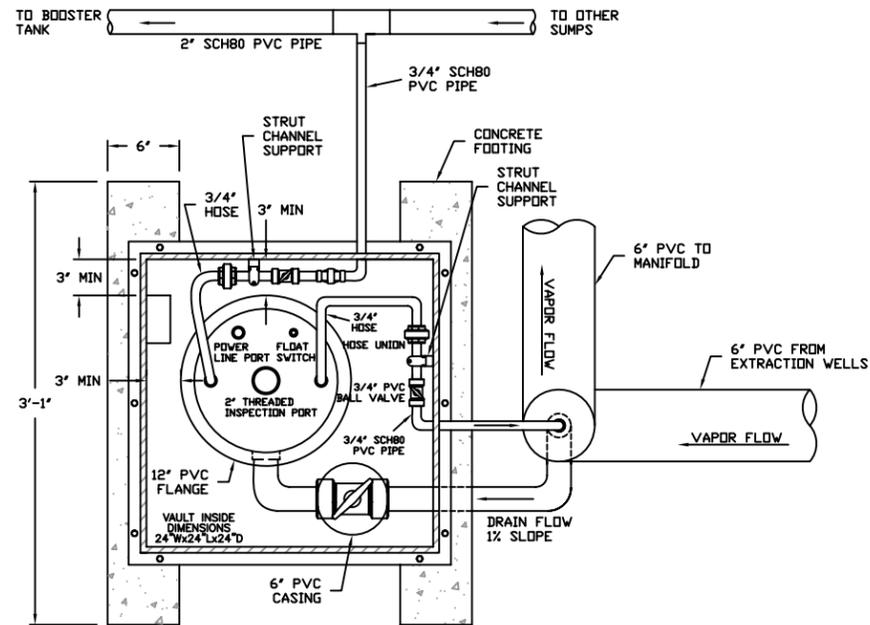
PEMACO SUPERFUND SITE
5050 EAST SLAUSON AVENUE
MAYWOOD, CALIFORNIA

PREPARED FOR: U.S. Environmental Protection Agency Region IX San Francisco, California	PREPARED BY: TN & Associates, Inc. Engineering and Science
SCALE: AS SHOWN	APPROVED: FINAL
DESIGNED: JW & PV	DATE: 10/06/2006
DRAWN: CBG	DRAWING
CHECKED: JW	REV C-9 9



PROFILE VIEW
VAPOR EXTRACTION CONDENSATE SUMP

0 1/2" 1' 2'
APPROXIMATE SCALE IN FEET



PLAN VIEW
VAPOR EXTRACTION CONDENSATE SUMP

0 1/2" 1' 2'
APPROXIMATE SCALE IN FEET

NOTES:

1. THE INTENT OF THE CONDENSATE SUMPS IS TO COLLECT LIQUID CONDENSATE FROM "DESIGNED" LOW ELEVATION POINTS WITHIN THE DUAL PHASE EXTRACTION AND VAPOR EXTRACTION PROCESS PIPING.
2. DESIGNED PIPING LOW POINTS FOR ALL MAIN TRENCHES OCCUR JUST PRIOR TO ENTRY TO THE TREATMENT COMPOUND. ONE CONDENSATE SUMP IS LOCATED IN THE FIELD TO COLLECT CONDENSATE FROM THE BRANCH LINE TO DAB-8.
3. INSTALLATION OF ALL PIPING SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION SECTION 15400-PROCESS PIPING.
4. CONDENSATE SUMP VAULTS SHALL BE CONSTRUCTED TO H-10 AND H-20 LOADING REQUIREMENTS IN THE PARK AREA AND IN THE ROADWAYS, RESPECTIVELY.
5. CONDENSATE SUMP VAULTS MAY BE CONSTRUCTED OF CONCRETE OR METAL. CONDENSATE SUMP VAULT LIDS SHALL BE CONSTRUCTED OF METAL, BE FLUSH TO GRADE AND BE SPRING OR GAS SHOCK ASSISTED. CONDENSATE SUMP VAULT FOOTINGS SHALL BE CONSTRUCTED OF CONCRETE AND ARE ONLY REQUIRED BENEATH ROADWAYS.
6. EXCAVATION AND BACKFILL OF VAULTS SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION SECTION 02211-EARTHWORK AND SECTION 02205-SOIL MATERIALS.
7. PIPE SUPPORTS AND BRACKETS SHALL BE USED ACCORDING TO PIPE MANUFACTURER'S RECOMMENDATIONS.
8. FLANGE SEAL AND FLANGE PENETRATION MUST BE RATED FOR 25 IN HG VACUUM.
9. PLUMBING AND ELECTRICAL INSIDE VAULT MUST BE CONFIGURED FOR "QUICK REMOVAL OF 12" SUMP FLANGE AND SUMP PUMP.

CONDENSATE SUMP DETAIL

PEMACO SUPERFUND SITE
5050 EAST SLAUSON AVENUE
MAYWOOD, CALIFORNIA

PREPARED FOR:
U.S. Environmental
Protection Agency
Region IX
San Francisco, California

PREPARED BY:
TN & Associates, Inc.
Engineering and Science

SCALE: AS SHOWN
DESIGNED: MB & DC
DRAWN: DC
CHECKED: JW

APPROVED
FINAL

DATE: 05/16/2005

DRAWING

REV

C-10 1

BUILDING COLORS

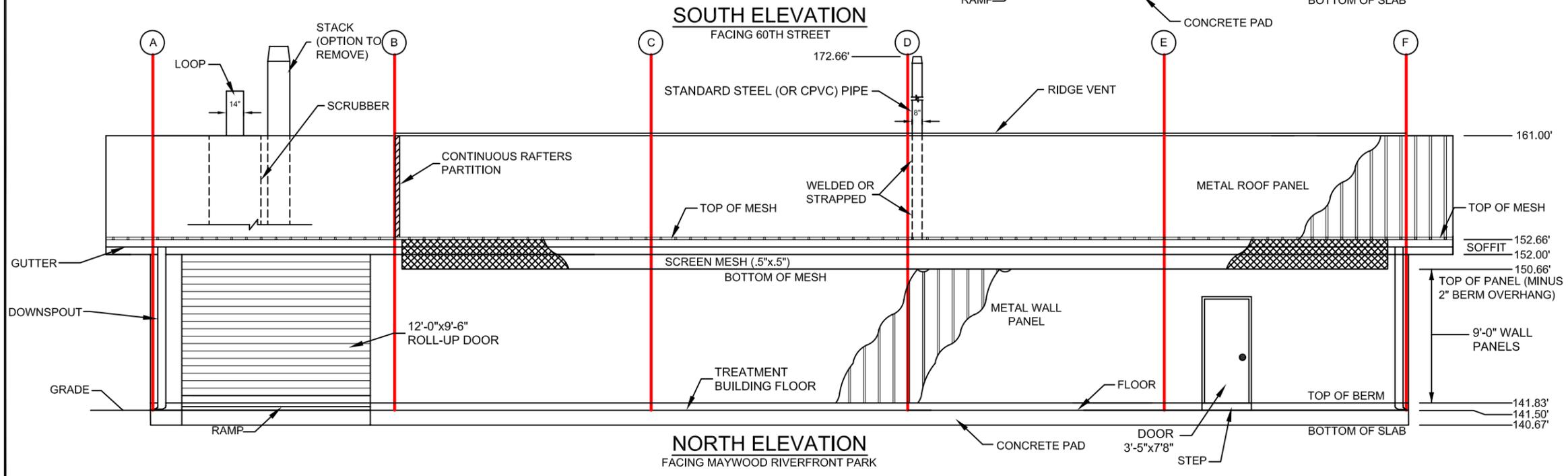
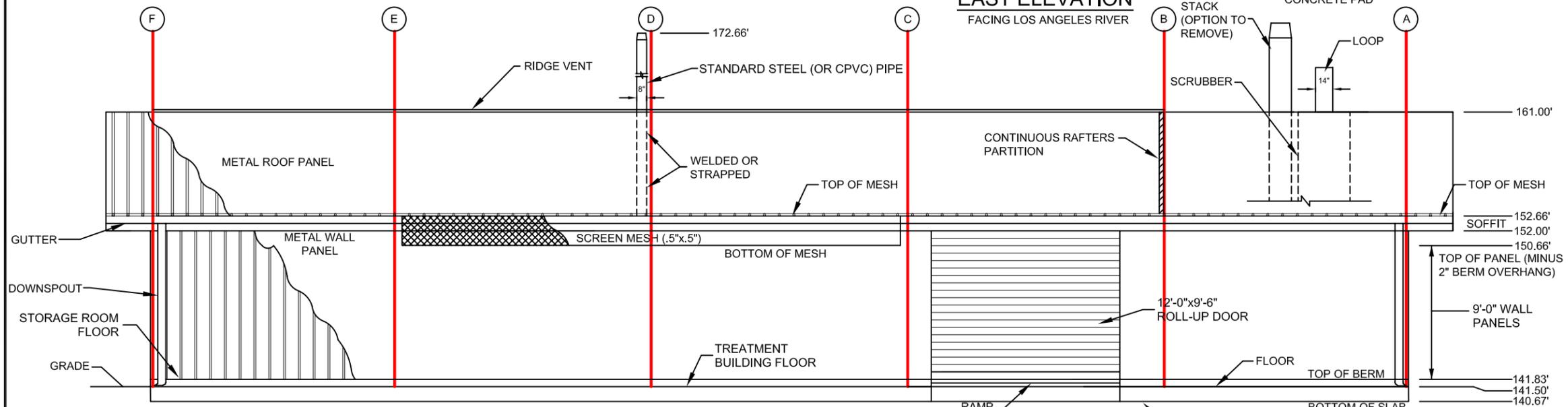
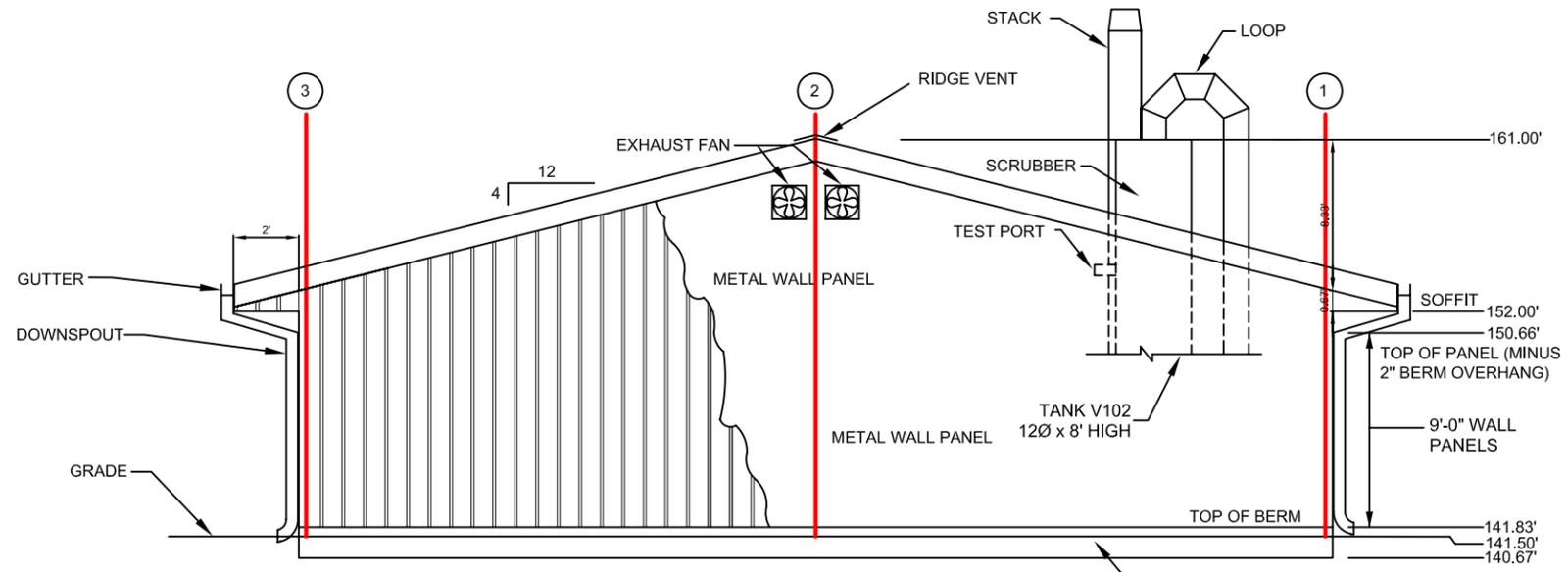
EXTERIOR COLOR SHALL BE MANUFACTURER'S STANDARD IVORY* FOR:

1. METAL WALL PANELS
2. WALL TRIM
3. DOORS AND FRAMES
4. ROLL-UP DOOR

EXTERIOR COLOR SHALL BE MANUFACTURER'S STANDARD RUSTIC RED* FOR:

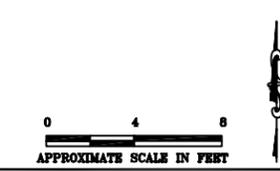
1. METAL ROOF PANELS
2. GABLE
3. EAVE TRIM
4. FASCIA CLOSURE
5. GUTTERS AND DOWNSPOUTS
6. SCREENS

* BUILDING SUPPLIER SHALL PROVIDE A COLOR CHART TO THE BUYER FOR APPROVAL



NOTES:

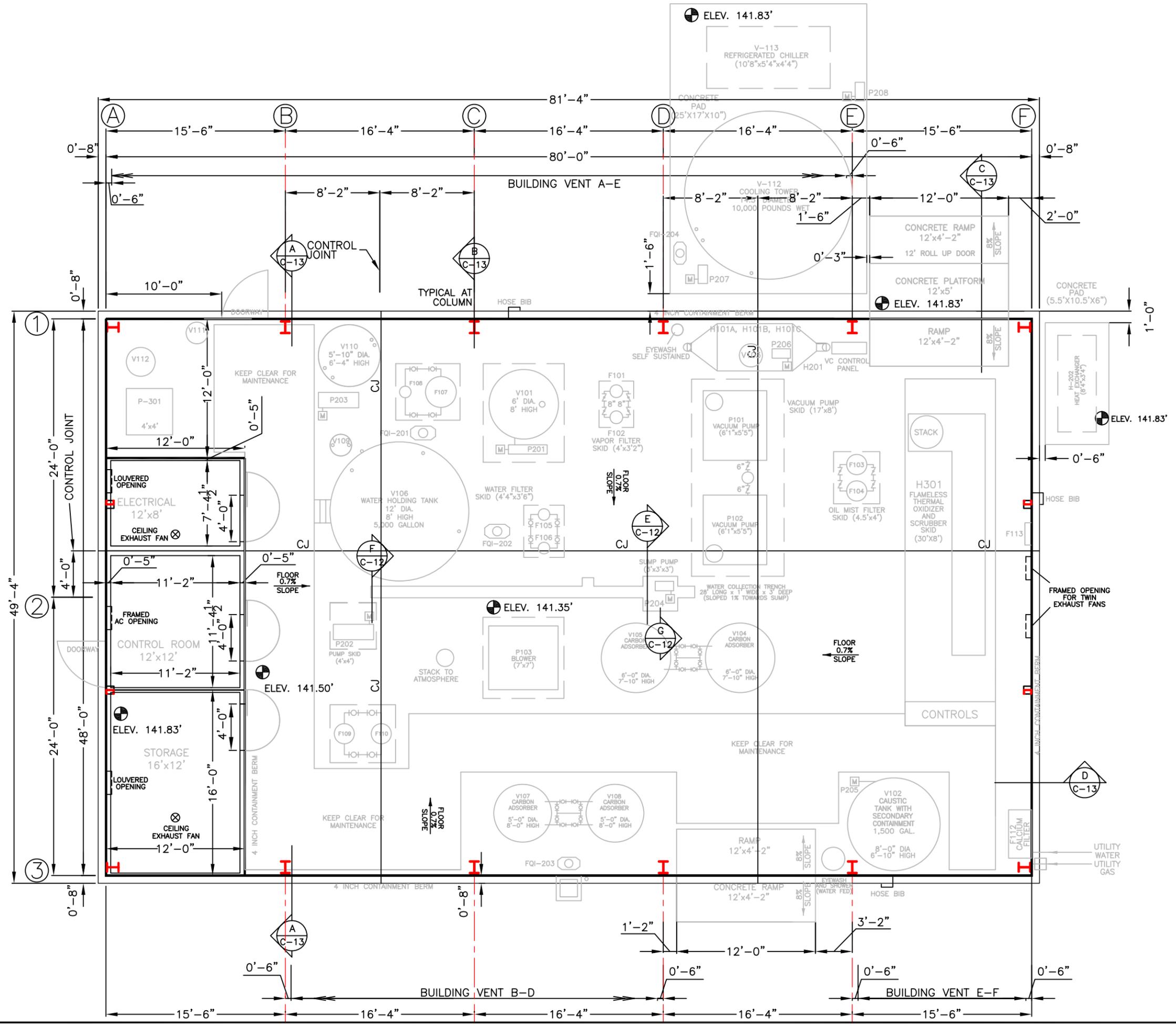
1. FOR BUILDING REQUIREMENTS SEE SPECIFICATION SECTION 13120-PREENGINEERED METAL BUILDINGS.
2. FOR SEISMIC REQUIREMENTS OF BUILDING SEE SPECIFICATION SECTIONS 01452-SPECIAL INSPECTION FOR SEISMIC-RESISTING SYSTEMS AND SECTION 13080 SEISMIC PROTECTION FOR MISCELLANEOUS EQUIPMENT.
3. WIND AND SEISMIC LOADS SHALL BE BASED ON THE SITE LOCATED AT 118.17° LONGITUDE AND 33.986° LATITUDE.
4. ACCORDING TO THE INTERNATIONAL BUILDING CODE, FIGURE 1609, BASIC WIND SPEED SHALL BE 90 MILES PER HOUR.
5. ACCORDING TO THE INTERNATIONAL BUILDING CODE, FIGURE 1615(3), MAXIMUM CONSIDERED EARTHQUAKE GROUND MOTION WILL HAVE A 0.2 SECOND SPECTRA RESPONSE ACCELERATION OF 150%g. LIKEWISE FROM FIGURE 1615(4), PEMACO WILL HAVE A 1.0 SECOND SPECTRA RESPONSE ACCELERATION OF 60%g.
6. THE PRE-ENGINEERED METAL BUILDING SUPPLIER SHALL COORDINATE WITH THE PROCESS EQUIPMENT SUPPLIERS TO PROVIDE ROOF OPENINGS AND ROOF FLASHING FOR ALL PROCESS EQUIPMENT PASSING THROUGH THE ROOF. SPECIFICALLY, THE STACK AFTER THE BLOWER (P-103), THE SCRUBBER AND DUCT LOOP ON THE FLAMELESS THERMAL OXIDIZER (H-301) AND OTHER VENTING EQUIPMENT AS REQUIRED.
7. FOR BUILDING VENT SCREEN MESH SEE SPECIFICATION SECTION 02821N-CHAIN LINK FENCES AND GATE.
8. THE BUILDING SUPPLIER SHALL PROVIDE ALL EXTERIOR DOORS AND HARDWARE.
9. THE BUILDING SUPPLIER SHALL PROVIDE TURNKEY DESIGN/BUILD SERVICE FOR THREE EXHAUST FANS AND ONE AIR CONDITIONING UNIT. THERE ARE TWO FANS ON THE EAST SIDE (AS SHOWN IN DRAWING C-10) ONE ON THE WEST SIDE (AS SHOWN IN DRAWING M-4) TO COOL THE ELECTRIC ROOM. THE BUILDING SUPPLIER SHALL COORDINATE FOR MOTOR SIZE WITH THE BUYER. THE WALL OPENINGS SHALL BE LOUVERED, EXCEPT FOR THE AC UNIT.



TREATMENT COMPOUND ELEVATIONS

PEMACO SUPERFUND SITE
5050 EAST SLAUSON AVENUE
MAYWOOD, CALIFORNIA

PREPARED FOR: U.S. Environmental Protection Agency Region IX San Francisco, California	PREPARED BY: TNT & Associates, Inc. & A Engineering and Science
SCALE: AS SHOWN	APPROVED: FINAL
DESIGNED: JW & GN	DATE: 10/02/06
DRAWN: CBC	REV: 8
CHECKED: JW	C-11



LEGEND:

- BUILDING COLUMN
- ARBITRARY SLAB ELEVATION TO DEMONSTRATE SLOPE
- CONCRETE CONTROL JOINT
- PROCESS EQUIPMENT

NOTES:

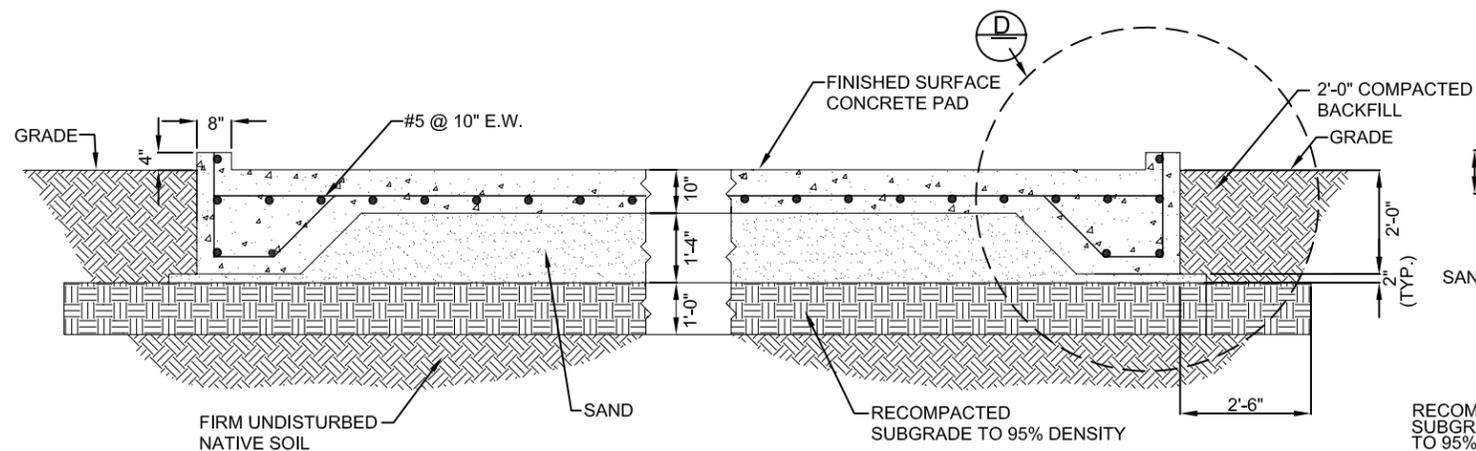
1. REFER TO SPECIFICATION SECTION 02211-EARTHWORK AND SECTION 02205-SOIL MATERIALS FOR THE REQUIREMENTS FOR SUBGRADE PREPARATION. IN GENERAL SUBGRADE COMPACTION REQUIREMENTS SHALL BE 95% RELATIVE DENSITY.
2. REFER TO SPECIFICATION SECTION 03300-CAST-IN-PLACE CONCRETE FOR CONCRETE PAD REQUIREMENTS. REFER TO DRAWING C-13 FOR CONCRETE PAD SECTION DETAILS.
3. COMPRESSIVE STRENGTH OF ALL CONCRETE SHALL BE A MINIMUM OF $f_c=3,000$ psi AND HAVE A BROOM FINISH. REINFORCEMENT STEEL SHALL BE $f_y=60,000$ psi. ASSUMED ALLOWABLE BEARING CAPACITY = 2,000 psf.
4. CONCRETE PAD SHALL BE SLOPED 0.7% TOWARD THE COLLECTION TRENCH AND SUMP.
5. COVER TRENCH DRAINS AND SUMP WITH METAL BAR GRATING, SEE SPECIFICATION SECTION 05055-METAL FABRICATION.
6. CONTROL ROOM, ELECTRICAL ROOM, AND STORAGE ROOM SHALL BE FRAMED WITH COLD-FORMED METAL WALL STUDS AND CEILING JOIST AT 26" ON CENTER, SEE SPECIFICATION DIVISION 08-DOORS AND WINDOWS.
7. A 4"Hx8"W CONTAINMENT BERM SHALL BE CONSTRUCTED AT THE PERIMETER OF THE CONCRETE PAD AS SHOWN IN DRAWING C-13.
8. PIPELINES WELDED FOR INSTALLATION BENEATH THE TREATMENT COMPOUND ARE ADDRESSED IN DRAWING C-14.
9. REFER TO SPECIFICATION DIVISION 08-DOORS AND WINDOWS, DIVISION 11-TREATMENT COMPONENTS, DIVISION 13-STRUCTURAL COMPONENTS AND PROCESS CONTROL, DIVISION 15-PLUMBING AND DIVISION 16-ELECTRICAL FOR DETAILS ON TREATMENT COMPOUND CONSTRUCTION.



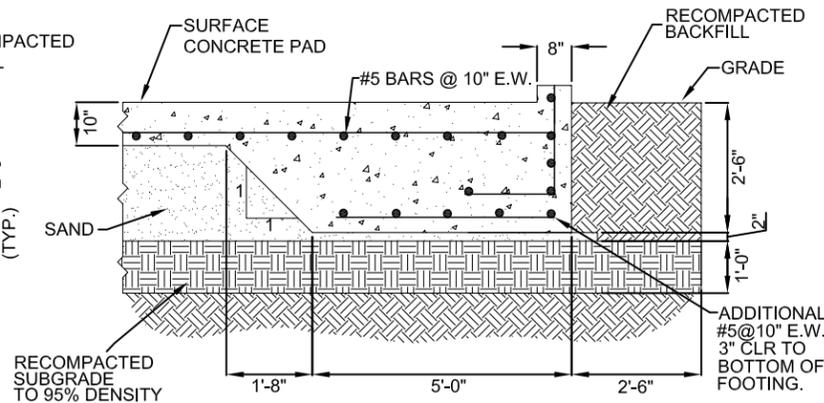
TREATMENT COMPOUND PLAN

PEMACO SUPERFUND SITE
5050 EAST SLAUSON AVENUE
MAYWOOD, CALIFORNIA

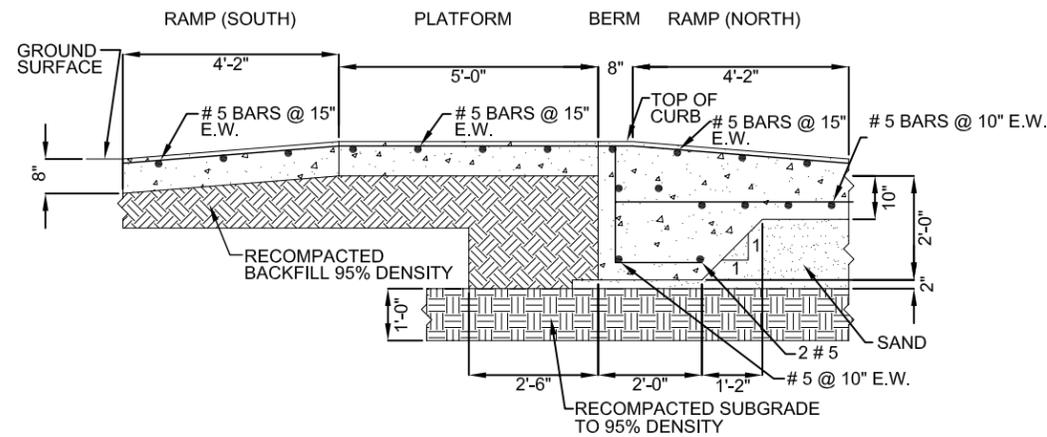
PREPARED FOR: U.S. Environmental Protection Agency Region IX San Francisco, California		PREPARED BY: T N & Associates, Inc. & A Engineering and Science	
SCALE: AS SHOWN	APPROVED FINAL	DATE: 09/28/2006	DRAWING
DESIGNED: JW & GN			REV
DRAWN: DC			C-12
CHECKED: JW			8



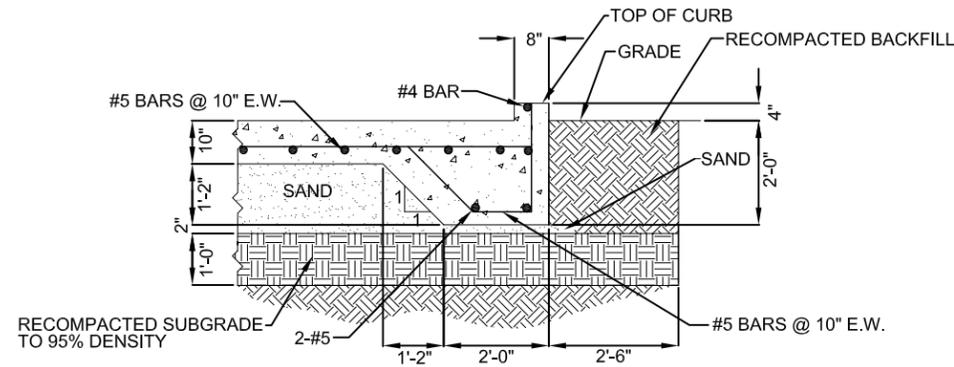
A TYPICAL SECTION
C-12



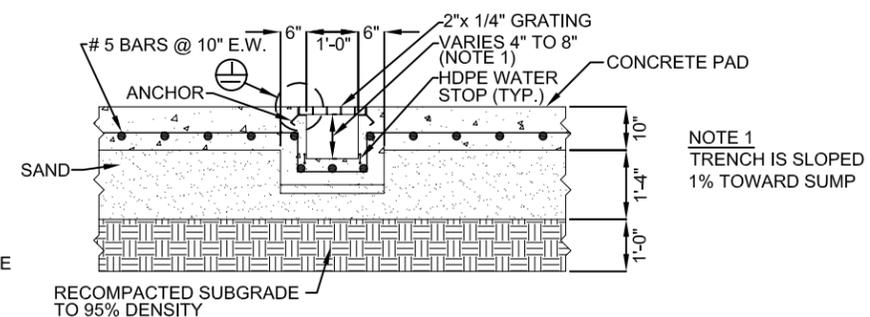
B SECTION AT COLUMNS
C-12



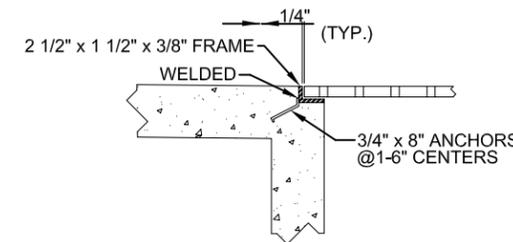
C SECTION AT RAMP
C-12



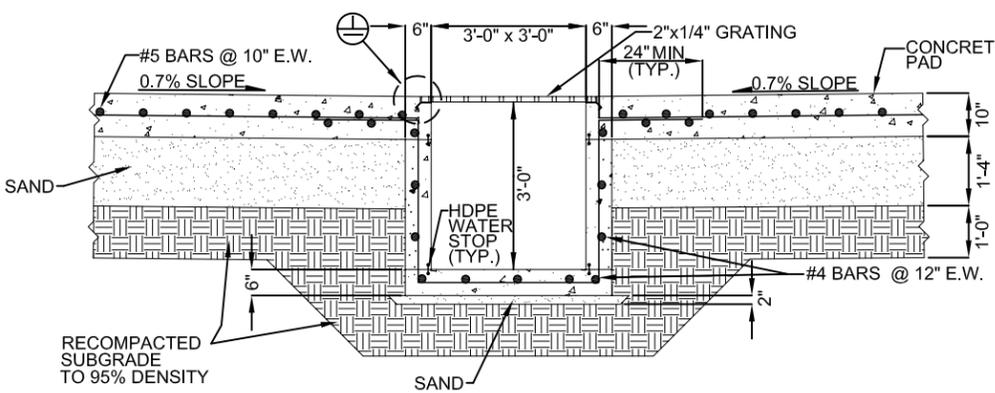
D SECTION AT CURB
C-12



F SECTION AT TRENCH DRAIN
C-12



G SECTION AT TRENCH AND SUMP FRAME
C-12



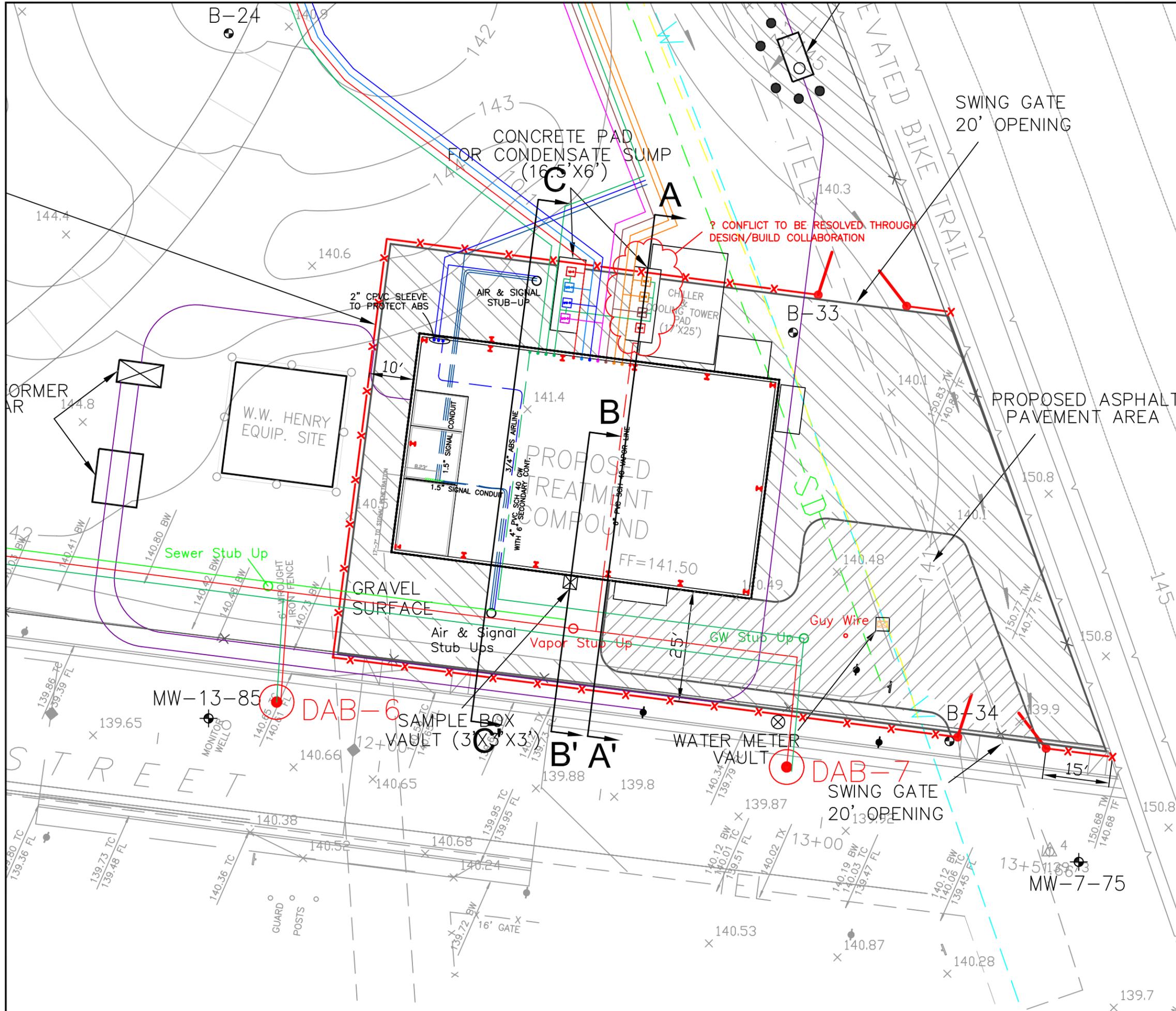
E SECTION AT SUMP
C-12

- NOTES:**
- SEE DRAWING C-12 FOR ADDITIONAL TREATMENT COMPOUND PLAN NOTES AND DIMENSIONS.
 - THE FOOTING SHOWN IN DETAIL B IS SQUARE. THE WIDTH AND LENGTH OF THE BASE IS 5'X5'. THE SLOPED BOTTOM OF THE SLAB, SHOWN AS 1:1, APPLIES TO THE THREE INTERIOR SIDES.
 - IN ACCORDANCE WITH SPECIFICATION SECTION 13120-PRE-ENGINEERED METAL BUILDINGS, THE METAL BUILDING SUPPLIER WILL REVIEW AND RESIZE THE TREATMENT COMPOUND SECTIONS AS NEEDED.
 - COMPRESSIVE STRENGTH OF ALL CONCRETE SHALL BE A MINIMUM OF $f_c=4,000$ psi AND HAVE A BROOM FINISH. REINFORCEMENT STEEL SHALL BE $f_y=60,000$ psi. ASSUMED ALLOWABLE BEARING CAPACITY = 2,000 psf.
 - AGGREGATES SHALL BE PER ASTM C33. MAXIMUM SIZE 1.5" FOR FOOTINGS AND 1" FOR ALL OTHER WORK.
 - CONCRETE QUALITY, MIXING AND PLACING SHALL CONFORM TO THE CALIFORNIA BUILDING CODE SECTIONS 1903, 1904 AND 1905.
 - REINFORCING STEEL SHALL BE TO ASTM 1615, GRADE 60, DEFORMED, CLEAN AND FREE OF RUST.
 - REINFORCING STEEL THAT IS TO BE WELDED SHALL CONFORM TO ASTM A706 AND THE WELDING SHALL BE INSPECTED BY THE PROJECT ENGINEER.
 - ALL BAR BEND DIAMETERS AND END LENGTHS MUST CONFORM TO THE CRSI MANUAL OF STANDARD PRACTICE.
 - COUPLERS SHALL MEET THE SPECIFICATION REQUIREMENT FOR BOTH TENSION AND COMPRESSION SPECIFIED BY ACI 318 AND THE CALIFORNIA BUILDING CODE.
 - PIPELINES BENEATH THE TREATMENT COMPOUND SHALL BE INSTALLED BETWEEN COLUMN FOOTINGS AND A MINIMUM OF 1' BENEATH THE FOUNDATION SLAB.

TREATMENT COMPOUND SECTIONS

PEMACO SUPERFUND SITE
5050 EAST SLAUSON AVENUE
MAYWOOD, CALIFORNIA

PREPARED FOR: U.S. Environmental Protection Agency Region IX San Francisco, California	PREPARED BY: TN & Associates, Inc. Engineering and Science
SCALE: AS SHOWN	DATE: 05/16/06
DESIGNED: LP	APPROVED: FINAL
DRAWN: CPL	DRAWING
CHECKED: JW	REV 5
	C-13



- LEGEND:**
- PROPOSED EXTRACTION WELL SCREENED THROUGH BOTH 'A' AND 'B' ZONES
 - PEMACO WELL, MONITORING WELL, PERCHED ZONE (<35 FEET BGS.)
 - PEMACO WELL, MONITORING WELL, EXPOSITION AQUIFER
 - N 1817013.42
E 6508842.49
COORDINATE OF ORIGIN
STATION LINE
 - PROPOSED FINISH GRADE OF PARK
 - PROPOSED ELECTRICAL LINE
 - PROPOSED FENCE
 - PROPOSED ASPHALT SURFACE = 2,751 SQ. FT.
 - PROPOSED GRAVEL SURFACE WITH WEED BARRIER GEOTEXTILE = 9,809 SQ. FT.
 - ABS AIRLINE CONDUIT, VARIOUS SIZES
 - SIGNAL CONDUIT, 1-1/2"
 - SUBSLAB ABS AIRLINE CONDUIT, 3/4"
 - SUBSLAB VE-1, 6"
 - SUBSLAB GW-1, 6"
 - SUBSLAB SIGNAL CONDUIT, 1-1/2"
 - VE-2 CONDENSATE SUMP
- PERCHED ZONE PIPING:**
- LIGHT BLUE DPE-A 5 WELLS (PA-1 TO PA-5) WEST TRENCH
 - DARK BLUE DPE-B 7 WELLS (PB-1 TO PB-7) WEST TRENCH
 - BROWN DPE-C 4 WELLS (PC-1, PC-4 TO PC-6) WEST TRENCH
 - PURPLE DPE-D 7 WELLS (PD-1, PD-4 TO PD-9) EAST TRENCH
- EXPOSITION ZONE PIPING:**
- GREEN 1 GW-1 7 WELLS (DAB-1 TO DAB-7) SOUTH TRENCH
 - GREEN 2 GW-2 15 WELLS (DAB-8, DA/DB-1 TO DA/DB-7) WEST TRENCH
 - GREEN 3 GW-3 11 WELLS (DA/DB-8 TO DA/DB-12, MW-24-140) EAST TRENCH
 - RED 1 VE-1 7 WELLS (DAB-1 TO DAB-7) SOUTH TRENCH
 - RED 2 VE-2 15 WELLS (DAB-8, DA/DB-1 TO DA/DB-7) WEST TRENCH
- EXISTING UTILITIES:**
- WATER LINE
 - SEWER LINE
 - GAS LINE

- NOTES:**
1. REFER TO DRAWING C-14 FOR ALL PENETRATION DETAILS.
 2. REFER TO DRAWING C-15B FOR SUBSLAB PROFILE.
 3. TREATMENT SYSTEM CONTRACTOR SHALL COORDINATE INSTALLATION OF THE FOUR CONDENSATE SUMPS ALONG CROSS-SECTION A-A' WITH THE POURING OF THE 17' X 25' CONCRETE PAD (FOR COOLING TOWER & CHILLER).
 4. QUESTION MARK INDICATE DESIGN/BUILD INFORMATION TO BE PROVIDED IN "AS-BUILT" DRAWINGS BY TREATMENT SYSTEM CONTRACTOR.

NOTES:

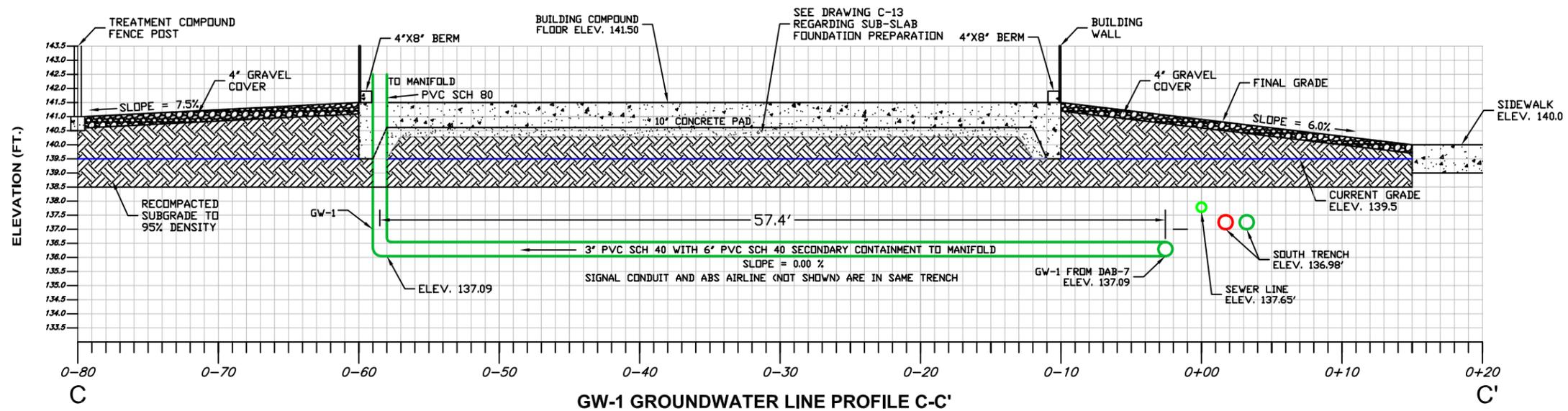
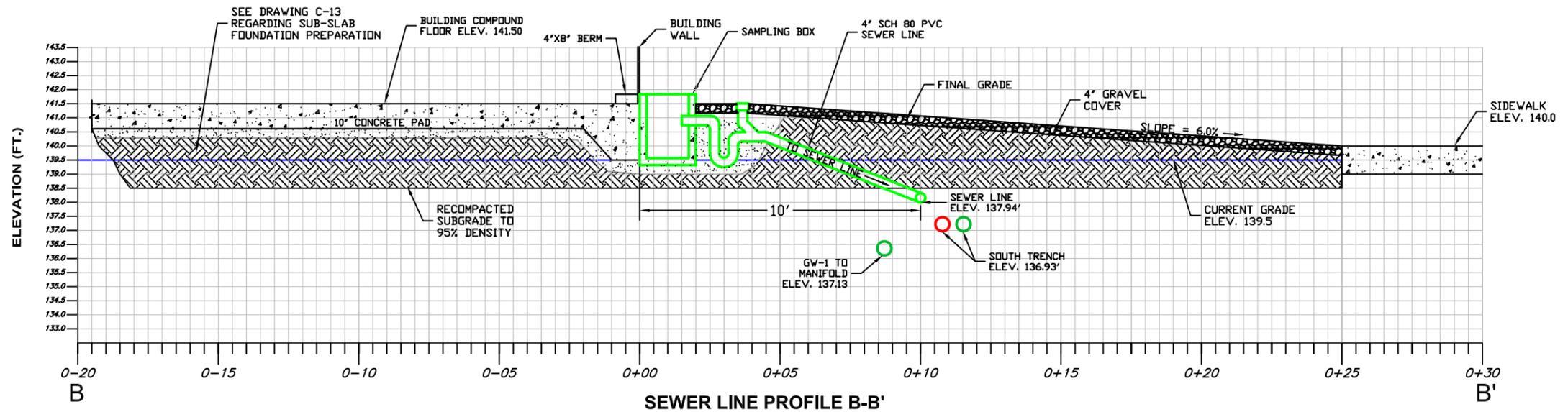
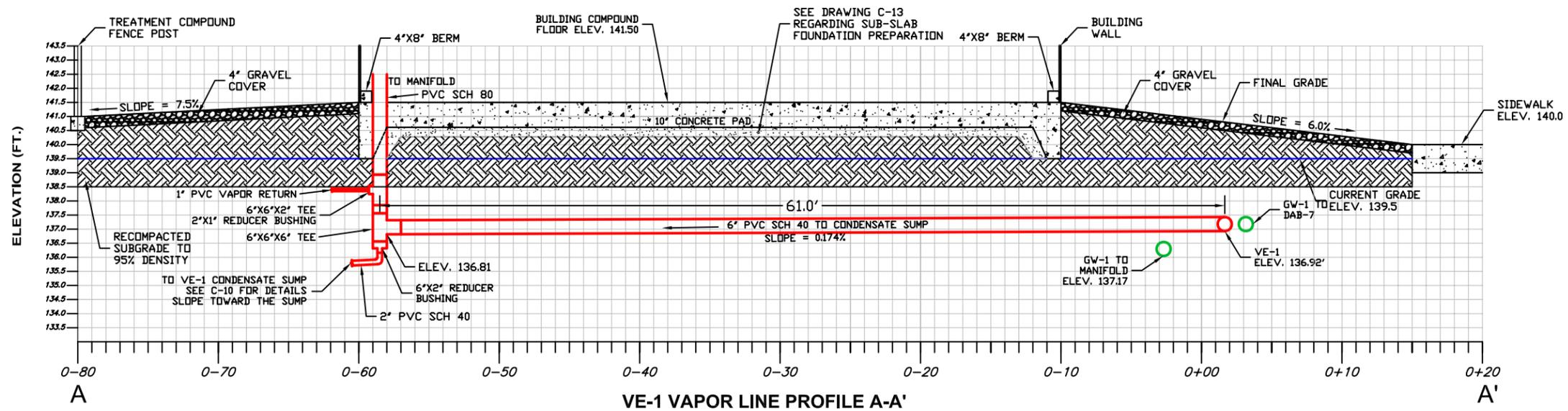
1. REFER TO DRAWING C-14 FOR ALL PENETRATION DETAILS.
2. REFER TO DRAWING C-15B FOR SUBSLAB PROFILE.
3. TREATMENT SYSTEM CONTRACTOR SHALL COORDINATE INSTALLATION OF THE FOUR CONDENSATE SUMPS ALONG CROSS-SECTION A-A' WITH THE POURING OF THE 17' X 25' CONCRETE PAD (FOR COOLING TOWER & CHILLER).
4. QUESTION MARK INDICATE DESIGN/BUILD INFORMATION TO BE PROVIDED IN "AS-BUILT" DRAWINGS BY TREATMENT SYSTEM CONTRACTOR.

0 10 20 40
APPROXIMATE SCALE IN FEET

TREATMENT COMPOUND SUBSLAB PLAN

PEMACO SUPERFUND SITE
5050 EAST Slauson Avenue
MAYWOOD, CALIFORNIA

PREPARED FOR: U.S. Environmental Protection Agency Region IX San Francisco, California		PREPARED BY: TN & Associates, Inc. & A Engineering and Science	
SCALE: AS SHOWN	APPROVED FINAL	DATE: 09/28/06	DRAWING
DESIGNED: JW & DC			REV
DRAWN: DC			
CHECKED: JW			
		C-15A	2



LEGEND:

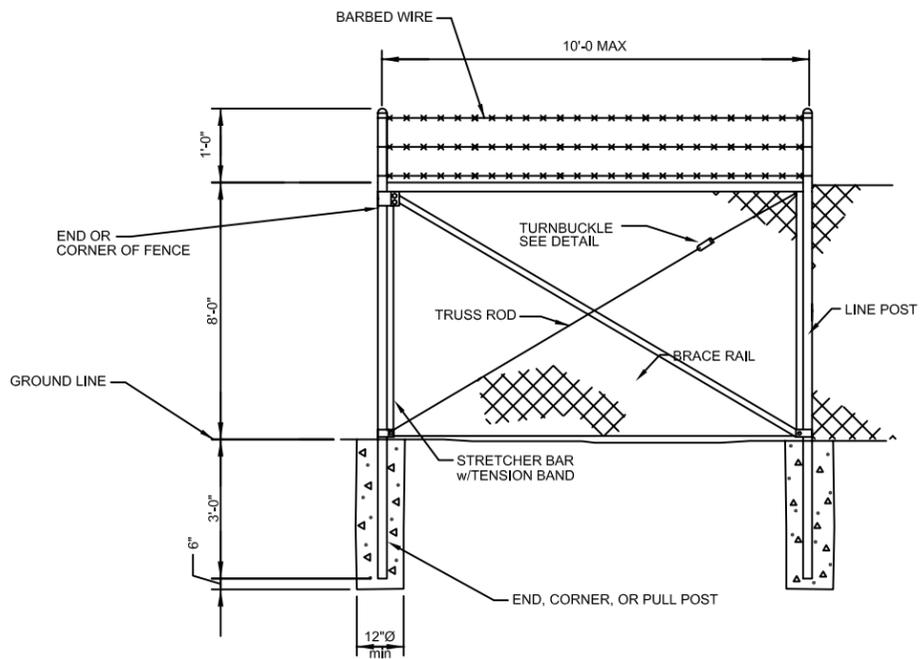
- CURRENT GRADE
- 0+10 STATION MARK (IN FEET)
- PROPOSED GRAVEL PAVEMENT
- PROPOSED CONCRETE SLAB AND FOOTINGS
- PROPOSED SAND BACKFILL
- PROPOSED SUBGRADE COMPACTED TO 95% DENSITY

- NOTES:**
- REFER TO DRAWING C-15A SUBSLAB PLAN FOR PROFILE LOCATIONS.
 - MATERIALS FOR CONSTRUCTION MUST BE APPROVAL BY TN&A PRIOR TO INSTALLATION.

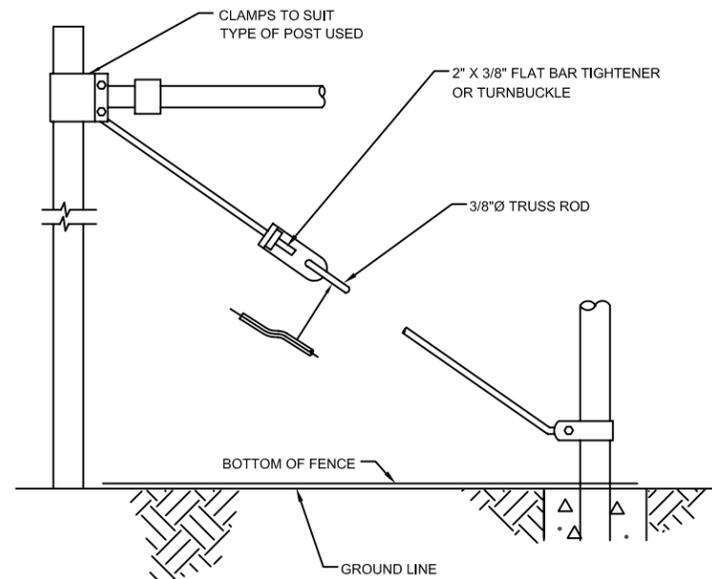
TREATMENT COMPOUND SUBSLAB PROFILE

PEMACO SUPERFUND SITE
5050 EAST SLAUSON AVENUE
MAYWOOD, CALIFORNIA

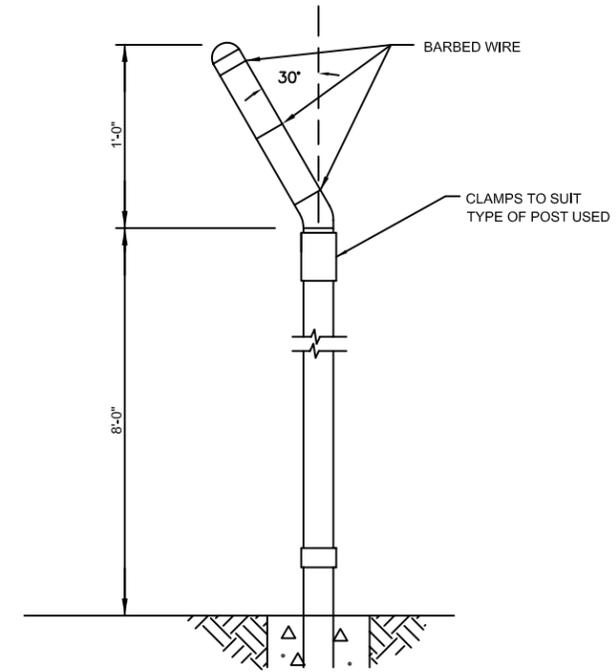
PREPARED FOR: U.S. Environmental Protection Agency Region IX San Francisco, California	PREPARED BY: TN & Associates, Inc. Engineering and Science
SCALE: AS SHOWN	APPROVED: FINAL
DESIGNED: JW	DATE: 10/06/06
DRAWN: DC	DRAWING
CHECKED: JW	REV
	C-15B 2



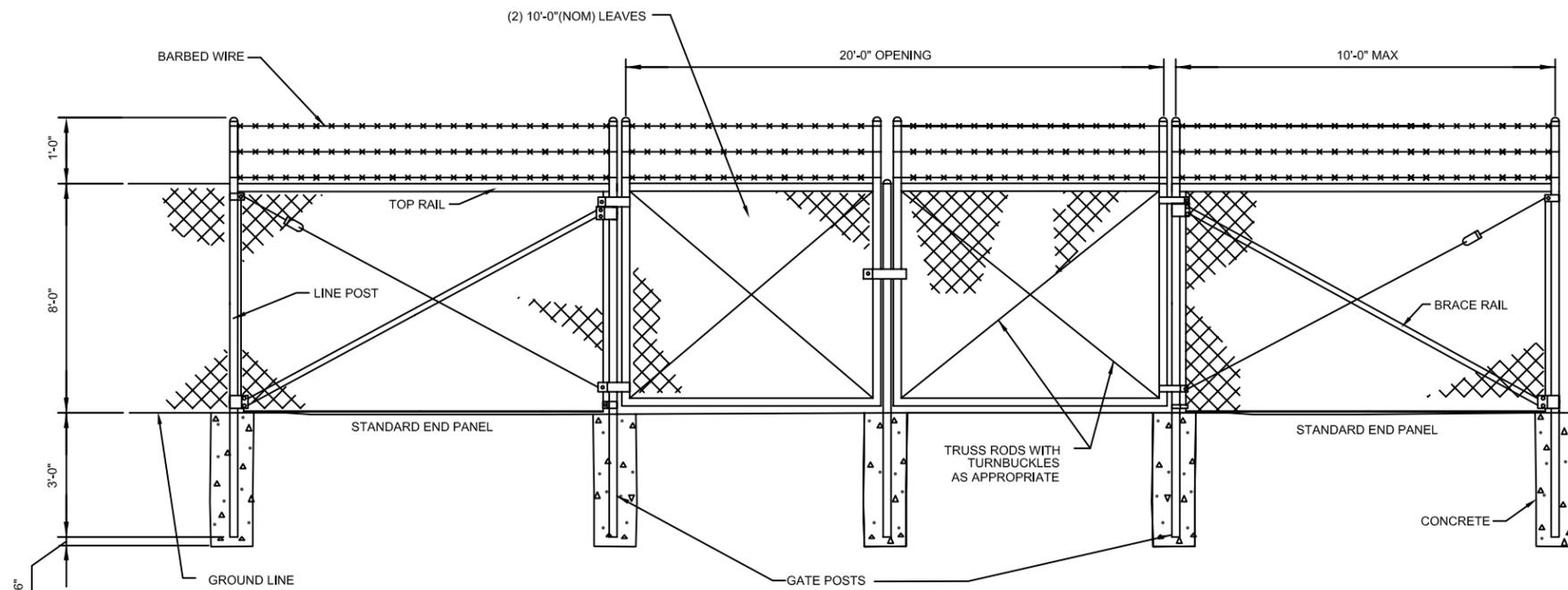
Pull, Corner or End Panel Assembly



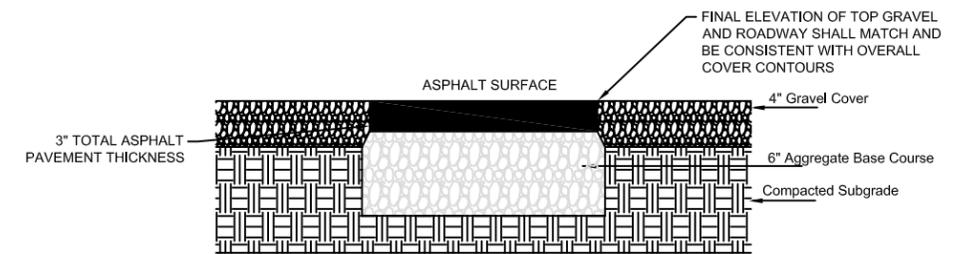
Turnbuckle Detail



Post Detail

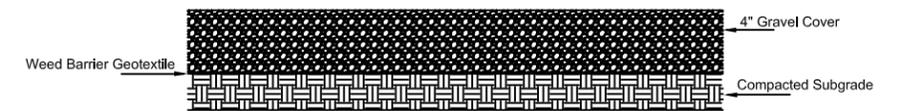


**Entrance Gate
Chain Link Fence**



Asphalt Surface Detail

Note:
1. Aggregate Base Course shall be compacted to 95% relative compaction.



Gravel Surface Detail

FENCE AND SURFACE PAVEMENT DETAILS

PEMACO SUPERFUND SITE
5050 EAST SLAUSON AVENUE
MAYWOOD, CALIFORNIA

PREPARED FOR: U.S. Environmental Protection Agency San Francisco, California	PREPARED BY: TN & A T N & Associates, Inc. Engineering and Science
SCALE: AS SHOWN	APPROVED: FINAL
DESIGNED: JW & DC	DATE: 05/16/06
DRAWN: DC	DRAWING
CHECKED: JW	REV 3
C-16	

SYMBOL	DESCRIPTION
	CEILING OUTLET AND INCANDESCENT OR H.L.D. TYPE LUMINAIRE "3" INDICATES BRANCH CIRCUIT NUMBER, "o" INDICATES CONTROLLING SWITCH
	CEILING FIXTURE, OUTLET AND FLUORESCENT LUMINAIRE, NOTATIONS SAME AS ABOVE.
	WALL OUTLET AND INCANDESCENT OR H.L.D. LIGHTING FIXTURE.
	EMERGENCY LIGHTING BATTERY UNIT WITH TWO LAMP HEADS
	REMOTE ADJUSTABLE EMERGENCY LAMP HEAD
	HID OR INCANDESCENT LUMINAIRE ON EMERGENCY CIRCUIT
	WALL OUTLET AND EXIT SIGN, DIRECTIONAL ARROWS AS NOTED
	SHORT DASH FOR EACH PHASE CONDUCTOR, LONG DASH FOR NEUTRAL CONDUCTOR, NO. 12 AWG, 3/4" UNLESS OTHERWISE NOTED. EQUIPMENT GROUNDING CONDUCTOR IS SHOWN. NOTE: DASH MARKS ARE OMITTED FOR CIRCUITS CONSISTING OF 2#12, 1#20, 3/4".
	CONDUIT TURNING UP
	CONDUIT TURNING DOWN
	CONDUIT STUBBED OUT AND CAPPED
	CONDUIT RUN EXPOSED, (2#12, 1#20, 3/4" UNLESS OTHERWISE NOTED)
	CONDUIT RUN CONCEALED, (2#12, 1#20, 3/4" UNLESS OTHERWISE NOTED)
	LIQUIDTIGHT FLEXIBLE CONDUIT
	"T" FITTING IN CONDUIT
	HOMERUN TO LIGHTING PANEL LP-1 SHALL BE #12, 2#12, 1#20, UNLESS OTHERWISE NOTED.
	HOMERUN TO BATTERY UNIT BU-1 SHALL BE #12, 2#12, 1#20, UNLESS OTHERWISE NOTED.
	HOMERUN TO MOTOR CONTROL CENTER MCC SHALL BE #12, 2#12, 1#20, UNLESS OTHERWISE NOTED.
	JUNCTION BOX
	DISTRIBUTION PANELBOARD
	LIGHTING PANELBOARD
	CONDUIT, SIZE AND FILL AS NOTED.
	THREE (3) NO.12 AWG CONDUCTORS AND ONE (1) NO.12 EQUIPMENT GROUNDING CONDUCTOR
	MULTI-CONDUCTOR, JACKETED POWER OR CONTROL CABLE, NUMBER AND SIZE OF CORE CONDUCTORS AS NOTED, QUANTITY AS NOTED IF MORE THAN ONE.
	INSTRUMENT CABLE, TWISTED PAIR OR TRIPLEX AS NOTED. WITH OVERALL SHIELD AND JACKET, CONDUCTOR SIZE AND QUANTITY AS NOTED.
	SINGLE POLE SWITCH, "o" INDICATES CONTROL OF LIGHTS "o"
	THREE WAY SWITCH, "o" INDICATES CONTROL OF LIGHTS "o"
	DUPLEX RECEPTACLE, 120V, 3W, SINGLE PHASE "C" - MOUNTED ABOVE COUNTER TOP "GF" - GROUND FAULT INTERRUPTER TYPE "WP" - WEATHERPROOF "3" - BRANCH CIRCUIT NUMBER
	SINGLE RECEPTACLE, 240V, 3W, SINGLE PHASE, AMPERE RATING AS NOTED "L" - LOCKING TYPE "WP" - WEATHERPROOF
	SINGLE RECEPTACLE, 480V, 4W, THREE PHASE, AMPERE RATING AS NOTED "L" - LOCKING TYPE "WP" - WEATHERPROOF
	DUPLEX RECEPTACLE AND FLOOR BOX
	ANALOG TERMINAL BOX PROVIDED BY DIVISION 11
	DISCRETE TERMINAL BOX PROVIDED BY DIVISION 11
	POWER (480 VOLT) TERMINAL BOX PROVIDED BY DIVISION 11
	TELEPHONE CABINET OR BACKBOARD AS SPECIFIED
	LIGHTING CONTACT, MECHANICALLY HELD TYPE
	ELECTRIC HEAT TRACE CONNECTION NOT REFER TO DETAIL.
	PHOTOCCELL
	MANUAL FIRE ALARM STATION
	HEAT ACTUATED FIRE DETECTOR (* INDICATES TEMPERATURE RATING)
	SMOKE DETECTOR
	FIRE ALARM HORN
	FIRE ALARM HORN AND LIGHT COMBINATION
	SPRINKLER FLOW ALARM SWITCH
	VALVE SUPERVISORY SWITCH
	WEATHER PROOF HI-INTENSITY FIRE ALARM STROBE LIGHT
	DOOR SWITCH
	ELECTRIC DOOR STRIKE
	SECURITY MOTION DETECTOR
	SOLID STATE METERING & PROTECTION MODULE

ONE LINE OR ELEMENTARY DIA.	PLAN	DESCRIPTION
		LOW VOLTAGE CIRCUIT BREAKER, THREE POLE UNLESS NOTED OTHERWISE
		COMBINATION MOTOR CIRCUIT PROTECTOR AND MAGNETIC MOTOR STARTER, FULL VOLTAGE NON-REVERSING UNLESS NOTED OTHERWISE. "FVR" - FULL VOLTAGE REVERSING "FVR" - REDUCED VOLTAGE NON-REVERSING "2S1W" - TWO SPEED, ONE WINDING "2S2W" - TWO SPEED, TWO WINDING NUMERICAL INDICATES STARTER SIZE IF OTHER THAN SIZE 1
		NON-FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE "A" AMPERE RATING NOTED IF OTHER THAN 30A
		FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE AMPERE RATING AND FUSE SIZE AS NOTED
		MANUAL MOTOR STARTER WITH THERMAL OVERLOAD HEATER "R" INDICATES RED RUNNING LIGHT
		TRANSFORMER, RATING AND CONNECTIONS AS NOTED
		CURRENT TRANSFORMER "Q" QUANTITY AND CURRENT RATIO
		POTENTIAL TRANSFORMER "Q" QUANTITY AND VOLTAGE RATIO
		LIGHTNING ARRESTER
		CAPACITOR
		GROUND OR GROUND ROD
		FUSE, AMPERE RATING AS NOTED
		MOTOR, NUMERICAL INDICATES HORSEPOWER
		GENERATOR, RATINGS AND CONNECTIONS AS NOTED
		TACHOMETER GENERATOR
		VOLTMETER WITH SWITCH, 3 PHASE "R" RANGE AS NOTED
		AMMETER WITH SWITCH, 3 PHASE "R" RANGE AS NOTED
		METER - INDICATING/RECORDING TYPE "MM" - WATTMETER "WM" - WATT-HOUR METER "WHD" - WATT-HOUR DEMAND METER "PF" - POWER FACTOR METER "RT" - RUNNING TIME METER "AT" - CURRENT TRANSDUCER "W" - WATT TRANSDUCER "WH" - WATT-HOUR TRANSDUCER
		PROTECTIVE RELAY, NO. AS INDICATED: 27 - UNDERVOLTAGE RELAY 30 - BEARING PROTECTIVE DEVICE 42 - RUNNING CIRCUIT BREAKER OR CONTACTOR 48 - REVERSE PHASE OR PHASE BALANCE, CURRENT RELAY 47 - PHASE SEQUENCE VOLTAGE RELAY 49 - MACHINE OR TRANSFORMER THERMAL RELAY 50 - INSTANTANEOUS OVERCURRENT, OR RATE-OF-RISE RELAY 50S - INSTANTANEOUS GROUND RELAY, ZERO SEQUENCE 81 - AC TIME OVERCURRENT RELAY 81M - AC TIME OVERCURRENT RELAY, NEUTRAL GROUND 88 - LOCKING-OUT RELAY 87 - DIFFERENTIAL PROTECTIVE RELAY
		UNIT HEATER - ELECTRIC HEATING COIL AND FAN
		UNIT HEATER - STEAM OR WATER HEATING COIL AND FAN
		KEY RESET STATION
		VOLTAGE OR CURRENT TEST BLOCK
		MECHANICAL CONNECTION OR INTERLOCK
		CONDUCTORS OR CONDUITS CROSSING PATHS BUT NOT CONNECTED
		CONDUCTORS ELECTRICALLY CONNECTED
		INDICATES LIMITS OF EQUIPMENT OR WIRING ENCLOSURE
		PUSHBUTTON, MOMENTARY CONTACT, SPRING RETURN, NORMALLY CLOSED
		PUSHBUTTON, MOMENTARY CONTACT, SPRING RETURN, NORMALLY OPEN
		EMERGENCY STOP PUSHBUTTON WITH RED MUSHROOM HEAD OPERATOR - MAINTAINED CONTACT, PUSH-TO-STOP, PULL TO RESET
		START-STOP PUSHBUTTON CONTROL STATION
		START-STOP PUSHBUTTON CONTROL STATION WITH LOCKOUT DEVICE ON STOP
		TWO POSITION SELECTOR SWITCH, MAINTAINED CONTACT POSITION 1-CONTACT 2-CONTACT A X 0 0 X-CLOSED B 0 X 0 O-OPEN "R" NAMEPLATE (A/B) LR - LOCAL/REMOTE
		THREE POSITION SELECTOR SWITCH, MAINTAINED CONTACT POSITION 1-CONTACT 2-CONTACT 3-CONTACT A X 0 0 X-CLOSED B 0 0 0 O-OPEN C 0 0 X 0 O-OPEN "R" NAMEPLATE (A/B/C) HOA - HAND/OFF/AUTO LOR - LOCK/OFF/REMOTE RSL - RAISE/STOP/LOWER

ONE LINE OR ELEMENTARY DIA.	PLAN	DESCRIPTION
		LIQUID LEVEL (FLOAT) SWITCH NORMALLY OPEN, CLOSING ON RISING LEVEL NORMALLY CLOSED, OPENS ON RISING LEVEL
		PRESSURE OR VACUUM SWITCH NORMALLY OPEN, CLOSING ON LOW PRESSURE SET POINT NORMALLY CLOSED, OPENS ON RISING PRESSURE
		TEMPERATURE ACTUATED SWITCH (THERMOSTAT) NORMALLY OPEN, CLOSING ON RISING TEMPERATURE NORMALLY CLOSED, OPENS ON RISING TEMPERATURE
		FLOW SWITCH (AIR, WATER, ETC.) NORMALLY OPEN, CLOSING ON INCREASED FLOW NORMALLY CLOSED, OPENS ON INCREASED FLOW
		POSITION (LIMIT) SWITCH NORMALLY OPEN NORMALLY OPEN - HELD CLOSED NORMALLY CLOSED NORMALLY CLOSED - HELD OPEN
		SOLENOID OPERATED VALVE
		STRIP HEATER OR HEATING ELEMENT
		SURGE CONTROL VALVE
		PILOT LIGHT, COLOR AS NOTED "R" - RED "G" - GREEN "A" - AMBER "B" - BLUE "W" - WHITE
		PILOT LIGHT, PUSH TO TEST TYPE "C" COLOR AS NOTED ABOVE
		RELAY COIL, NUMBER AS INDICATED
		MOTOR STARTER COIL, NUMBER AS INDICATED
		CONTACT, NORMALLY OPEN (NO)
		CONTACT, NORMALLY CLOSED (NC)
		OVERLOAD RELAY HEATER (OL)
		TIME DELAY RELAY, RANGE AS NOTED NCTC - NORMALLY OPEN, TIMED CLOSE WHEN ENERGIZED NCTO - NORMALLY CLOSED, TIMED OPEN WHEN ENERGIZED NCTO - NORMALLY CLOSED, TIMED OPEN WHEN DE-ENERGIZED NCTC - NORMALLY CLOSED, TIMED CLOSE WHEN DE-ENERGIZED
		RESISTANCE TEMPERATURE DETECTOR
		MOTOR OPERATED VALVE, SERIAL LOOP CONNECTED
		FIELD INSTRUMENT, TAG NO. AS INDICATED "##" - INDICATES LOOP NO. "R" - INDICATES INSTRUMENT TYPE AE - ANALYZING ELEMENT (PH, ORP, DO, ETC.) AT - ANALYZING TRANSMITTER DT - DENSITY TRANSMITTER FE - FLOW ELEMENT FS - FLOW SWITCH FT - FLOW TRANSMITTER FY - FLOW TRANSDUCER LE - LEVEL ELEMENT LS - LEVEL SWITCH LT - LEVEL TRANSMITTER POS - PRESSURE DIFFERENTIAL SWITCH PT - PRESSURE TRANSMITTER SI - SPEED INDICATOR SE - TEMPERATURE ELEMENT TS - TEMPERATURE SWITCH TT - TEMPERATURE TRANSMITTER ZS - POSITION SWITCH HS - HAND SWITCH
		DAMPER MOTOR
		INDICATES THAT ALL LUMINAIRES WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE TYPE "A" UNLESS OTHERWISE NOTED.
		INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 12 CONSTRUCTION AND SUITABLE FOR USE IN A DAMP OR WET LOCATION, UNLESS NOTED OTHERWISE.
		INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 4X CONSTRUCTION SUITABLE FOR USE IN A WET LOCATION, UNLESS NOTED OTHERWISE.
		INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL CONFORM TO N.E.C. REQUIREMENTS FOR THE HAZARDOUS AREA CLASSIFICATION SHOWN.



SYMBOL WHERE THERE IS A DETAIL

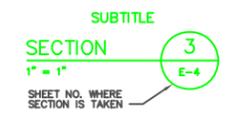


SYMBOL WHERE THERE IS A DETAIL



SYMBOL WHERE DETAIL IS DRAWN

DETAIL SYMBOL



SYMBOL WHERE SECTION IS DRAWN

SECTION SYMBOL

ABBREVIATIONS

AC	ALTERNATING CURRENT
AF	ABOVE FINISHED FLOOR
AG	ABOVE GRADE
ALUM	ALUMINUM
AMP	AMPERE
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CLF	CURRENT LIMITING FUSE
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CS	CONTROL SWITCH
CT	CURRENT TRANSFORMER
CU	COPPER
DC	DIRECT CURRENT
DI	DOOR INTERLOCK
DN	DOWN
EC	EMPTY CONDUIT
ELEC	ELECTRICAL
ELEV	ELEVATION
EM	EMERGENCY
EO	ELECTRICALLY OPERATED
FBO	FURNISHED BY OTHERS
FO	FIBER OPTIC
FRP	FIBERGLASS REINFORCED POLYESTER
FU	FUSE
GCP	GENERATOR CONTROL PANEL
GEN	GENERATOR
G, GRD	GROUND
GF	GROUND FAULT INTERRUPTER
GRS	GALVANIZED RIGID STEEL
HH	HANDHOLE
HT	HEIGHT
HZ	HERTZ
INST	INSTANTANEOUS
INSTR	INSTRUMENT
LA	LIGHTNING ARRESTER
LTS	LIGHTS
LP	LIGHTING PANEL
MCC	MOTOR CONTROL CENTER
MFR	MANUFACTURER
MF	MULTIFUNCTION METER
MH	MANHOLE
MTG	MOUNTING
MTD	MOUNTED
MTS	MANUAL TRANSFER SWITCH
NC	NORMALLY CLOSED
NO	NORMALLY OPEN OR NUMBER
NTS	NOT TO SCALE
OL	OVERLOAD
PCF	POWER FACTOR CORRECTION CAPACITOR
PH	PHASE
PR	PAIR
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
RK	RACK
SC	SURGE CAPACITOR
SEC	SECONDS OR SECONDARY
SH	SHIELDED OR SHEET
SN	SOLID NEUTRAL
SS	STAINLESS STEEL
SV	SOLENOID VALVE
SW	SWITCH
SWGR	SWITCHGEAR
TD	TIME DELAY ON CLOSING
TEL	TELEPHONE
TO	TIME DELAY ON OPENING
TW	TWISTED
TP	TYPICAL
UG	UNDERGROUND
V	VOLTS
VFD	VARIABLE FREQUENCY DRIVE
W	WIRE
WP	WEATHERPROOF
XP	EXPLOSION PROOF
XFMR	TRANSFORMER

NOTES:

- THIS IS A STANDARD LEGEND. SOME SYMBOLS AND ABBREVIATIONS MAY NOT APPEAR ON THE DRAWINGS.
- THE WIRING DIAGRAMS, QUANTITY AND SIZES OF WIRES AND CONDUIT REPRESENT A SUGGESTED ARRANGEMENT BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL EQUIPMENT. MODIFICATIONS ACCEPTABLE TO THE ENGINEER MAY BE MADE BY THE CONTRACTOR TO ACCOMMODATE EQUIPMENT ACTUALLY PURCHASED. THE BASIC SEQUENCE AND METHOD OF CONTROL MUST BE MAINTAINED AS INDICATED ON THE DRAWINGS AND/OR SPECIFICATIONS.
- SWITCHGEAR AND MCC COMPARTMENT DESIGNATIONS AS INDICATED BELOW:

- BLANK: NOT INTENDED FOR USE. PLATE ONLY
- SPACE: CONTAINS NECESSARY BUS AND HARDWARE FOR FUTURE ADDITION OF BREAKERS OR STARTERS WITHIN SIZE RANGE SHOWN
- SPARE: CONTAINS A COMPLETE BREAKER OR STARTER INSTALLED, SIZE AS INDICATED FOR FUTURE USE

ELECTRICAL LEGEND

PEMACO SUPERFUND SITE
5050 EAST SALUSON AVENUE
MAYWOOD, CALIFORNIA

PREPARED FOR: U.S. Environmental Protection Agency Region IX San Francisco, California	PREPARED BY: T N & Associates, Inc. Engineering and Science
SCALE: AS SHOWN	DATE: 05/16/06
DESIGNED: JS	DRAWING
DRAWN: CPL	REV
CHECKED: JW	E-1 4

LEGEND

CONDUIT AND WIRE (NUMBERS REFERENCE THIS SHEET ONLY)	
NO.	DESCRIPTION
①	1" C, 2#8 + #10 GRD
②	2" C, 3#1/0 + #6 GRD
③	1" C, 3#4 + #8 GRD
④	2-1/2" C, 3# 250 KCMIL + #4 GRD
⑤	1 1/2" C, 3#2 + #6 GRD
⑥	1" C, 3#12 + #12 GRD
⑦	1" C, 3#8 + #10 GRD
⑧	1" C, 6#12 + 2#12 GRD
①	2 4" C, 2 SETS OF 4 600 KCMIL + #1/0 GRD (TYPE SE OR USE)

NOTES:

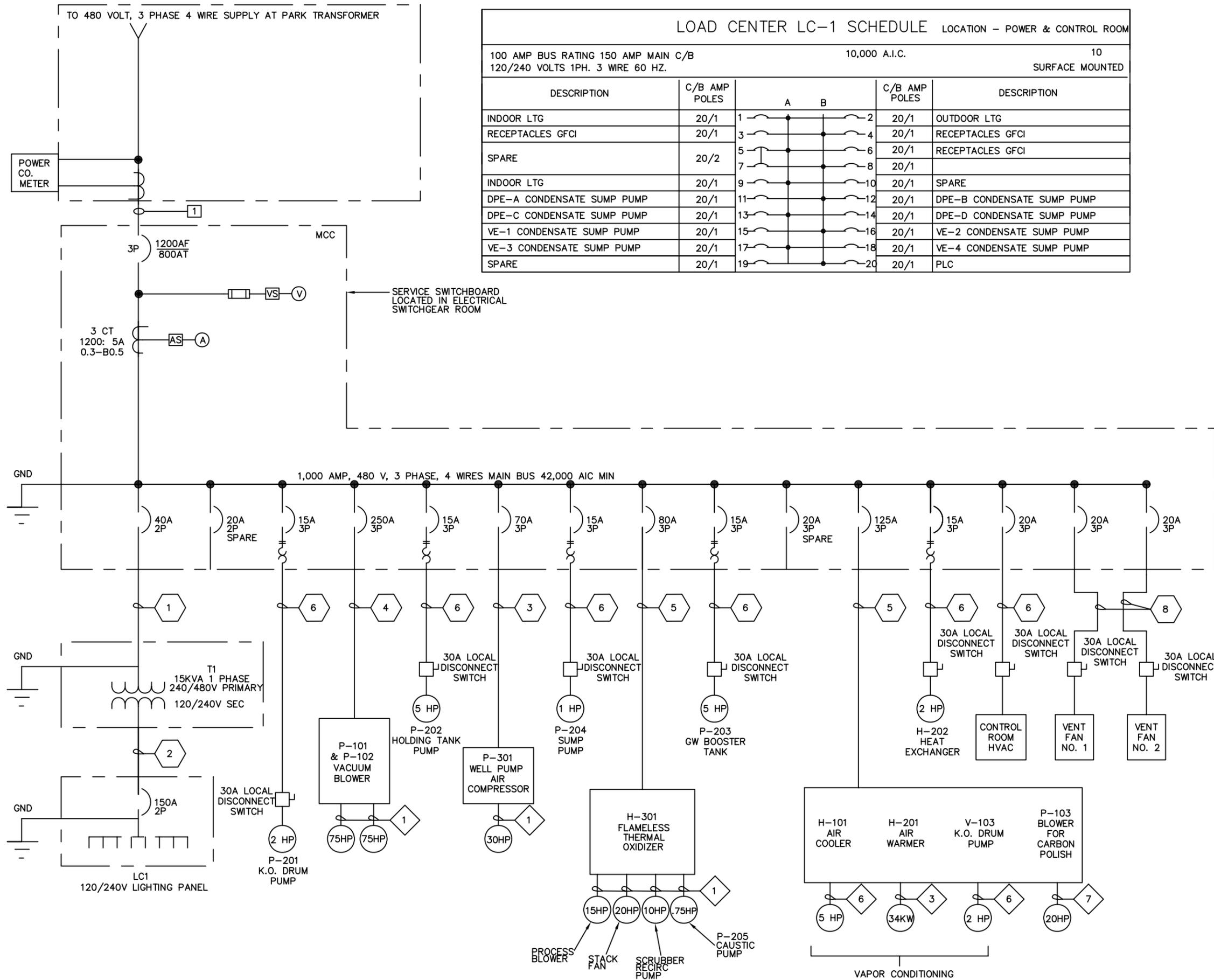
- CONTRACTOR TO ACQUIRE A METER THROUGH SOUTHERN CALIFORNIA EDISON.
- CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY EQUIPMENT FOR ELECTRICAL SERVICE.
- THE ELECTRICAL SERVICE SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF OSHA AND THE LATEST VERSION OF THE NEC, NESC, AND SOUTHERN CALIFORNIA EDISON.
- ELECTRICAL EQUIPMENT AND MATERIALS SUPPLIED BY THE CONTRACTOR SHALL BE NEW AND IN ACCORDANCE WITH IEEE, ANSI, AND NEMA STANDARDS; AND WHERE APPLICABLE, HAVE THE UNDERWRITERS LABORATORIES SEAL OF APPROVAL.
- ELECTRICAL WIRING AND CONDUIT SHALL BE APPROPRIATELY IDENTIFIED AND PERMANENTLY MARKED.
- CONTRACTOR IS TO INSTALL PHONE SERVICE, AUTO DIALER, AND PROCESS LOGIC CONTROL AS DESIGN/BUILD FEATURES.
- ALL ERH EQUIPMENT WILL BE SEPARATELY POWERED, BY OTHERS, AS DISCUSSED IN THE ERH REMEDIAL DESIGN WORK PLAN.
- MOTOR STARTERS TO BE CONTROLLED BY PLC. CONTRACTOR TO PROVIDE INTERFACE BETWEEN PLC AND MCC. FINAL DESIGN/BUILD SPECIFICATIONS TO BE PROVIDED TO AND APPROVED BY THE ENGINEER PRIOR TO INSTALL.
- FINAL DESIGN OF VAPOR CONDITIONING PACKAGE AND ELECTRICAL DEMAND SHALL BE DETERMINED BY TREATMENT SYSTEM CONTRACTOR.

PLAN NOTES:

- THESE CONNECTIONS ARE INCLUDED AS PART OF THE SKID.

LOAD CENTER LC-1 SCHEDULE LOCATION - POWER & CONTROL ROOM

100 AMP BUS RATING 150 AMP MAIN C/B		10,000 A.I.C.		10	
120/240 VOLTS 1PH. 3 WIRE 60 HZ.				SURFACE MOUNTED	
DESCRIPTION	C/B AMP POLES	A	B	C/B AMP POLES	DESCRIPTION
INDOOR LTG	20/1	1	2	20/1	OUTDOOR LTG
RECEPTACLES GFCI	20/1	3	4	20/1	RECEPTACLES GFCI
SPARE	20/2	5	6	20/1	RECEPTACLES GFCI
		7	8	20/1	
INDOOR LTG	20/1	9	10	20/1	SPARE
DPE-A CONDENSATE SUMP PUMP	20/1	11	12	20/1	DPE-B CONDENSATE SUMP PUMP
DPE-C CONDENSATE SUMP PUMP	20/1	13	14	20/1	DPE-D CONDENSATE SUMP PUMP
VE-1 CONDENSATE SUMP PUMP	20/1	15	16	20/1	VE-2 CONDENSATE SUMP PUMP
VE-3 CONDENSATE SUMP PUMP	20/1	17	18	20/1	VE-4 CONDENSATE SUMP PUMP
SPARE	20/1	19	20	20/1	PLC



ELECTRICAL SINGLE LINE DIAGRAM

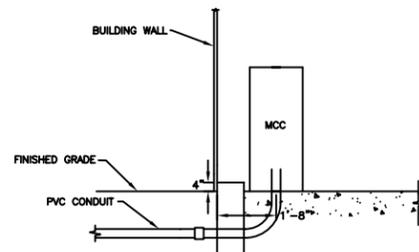
PEMACO SUPERFUND SITE
5050 EAST SLAUSON AVENUE
MAYWOOD, CALIFORNIA

PREPARED FOR: U.S. Environmental Protection Agency Region IX San Francisco, California	PREPARED BY: TNTN & Associates, Inc. Engineering and Science
SCALE: DESIGNED: J.S. DRAWN: CBL CHECKED: J.S. & J.W.	APPROVED DRAFT-FINAL DATE: 05/16/06 DRAWING REV E-2 5

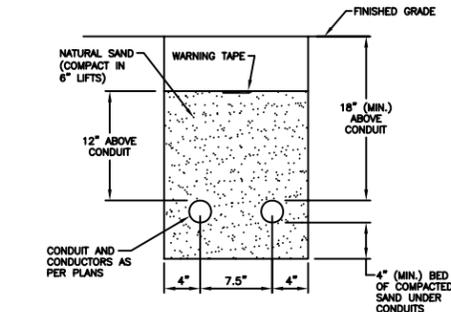
? CONFLICT TO BE RESOLVED THROUGH DESIGN/BUILD COLLABORATION

PLAN NOTES:

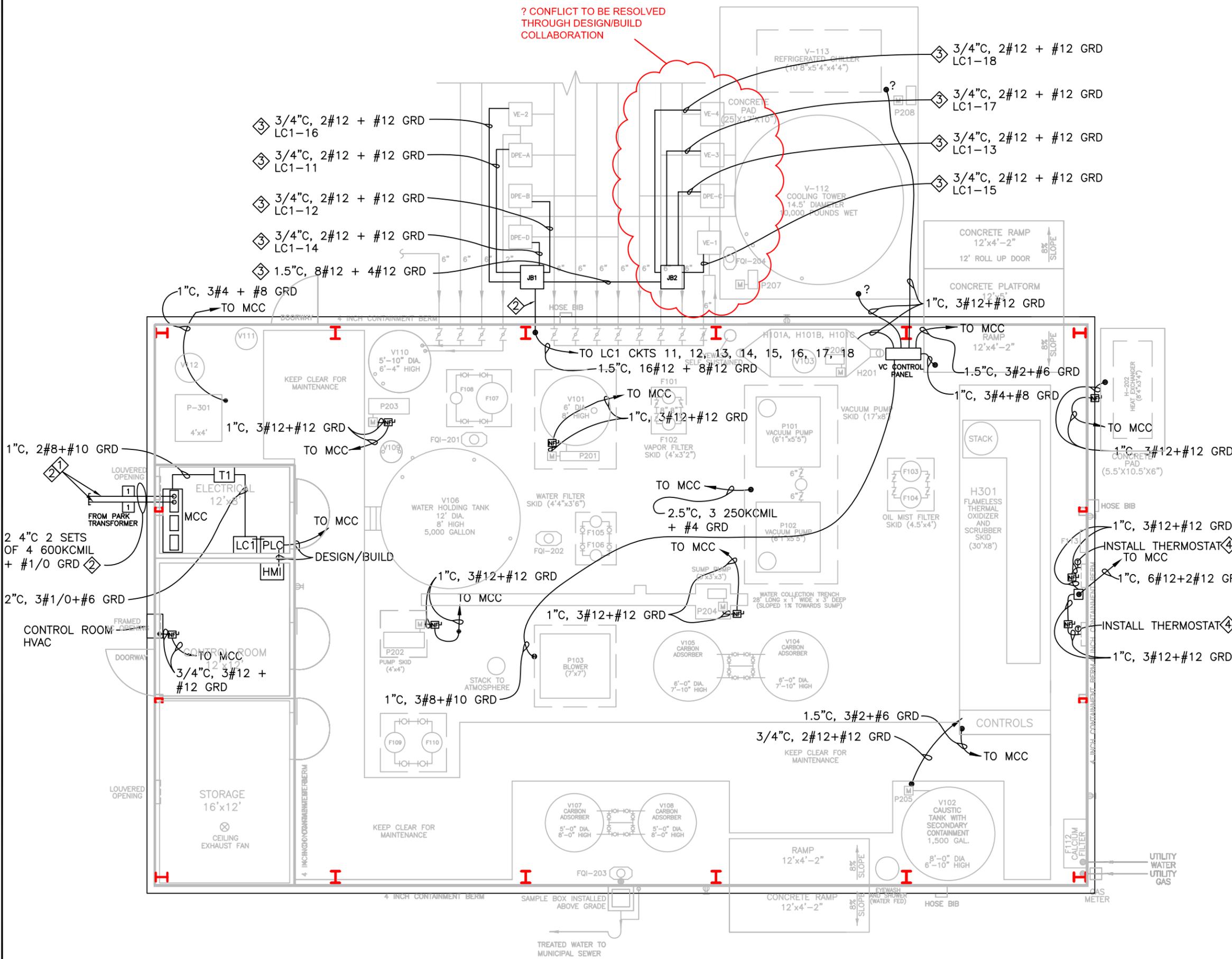
1. SEE DETAIL (E-3)
2. SEE DETAIL (E-3)
3. CONNECTION IS TO BE MADE DIRECTLY TO THE DISCONNECT SWITCH AT EACH SUMP. SEE DWG C-10.
4. INSTALL THERMOSTAT SWITCH WITH ADJUSTABLE SET POINT BETWEEN 80 AND 110°F
5. QUESTION MARKS INDICATE DESIGN/BUILD INFORMATION TO BE PROVIDED IN "AS-BUILT" DRAWINGS BY TREATMENT SYSTEM CONTRACTOR.



1 POWER CONNECTION AT MCC



2 TRENCH DETAIL



TREATMENT COMPOUND ELECTRICAL PLAN

PEMACO SUPERFUND SITE
5050 EAST SLAUSON AVENUE
MAYWOOD, CALIFORNIA

PREPARED FOR: U.S. Environmental Protection Agency Region IX San Francisco, California	PREPARED BY: TN & Associates, Inc. Engineering and Science
SCALE: AS SHOWN	DATE: 09/28/06
DESIGNED: J.S.	DRAWING
DRAWN: CPL	REV
CHECKED: J.W.	E-3 6

FIXTURE SCHEDULE

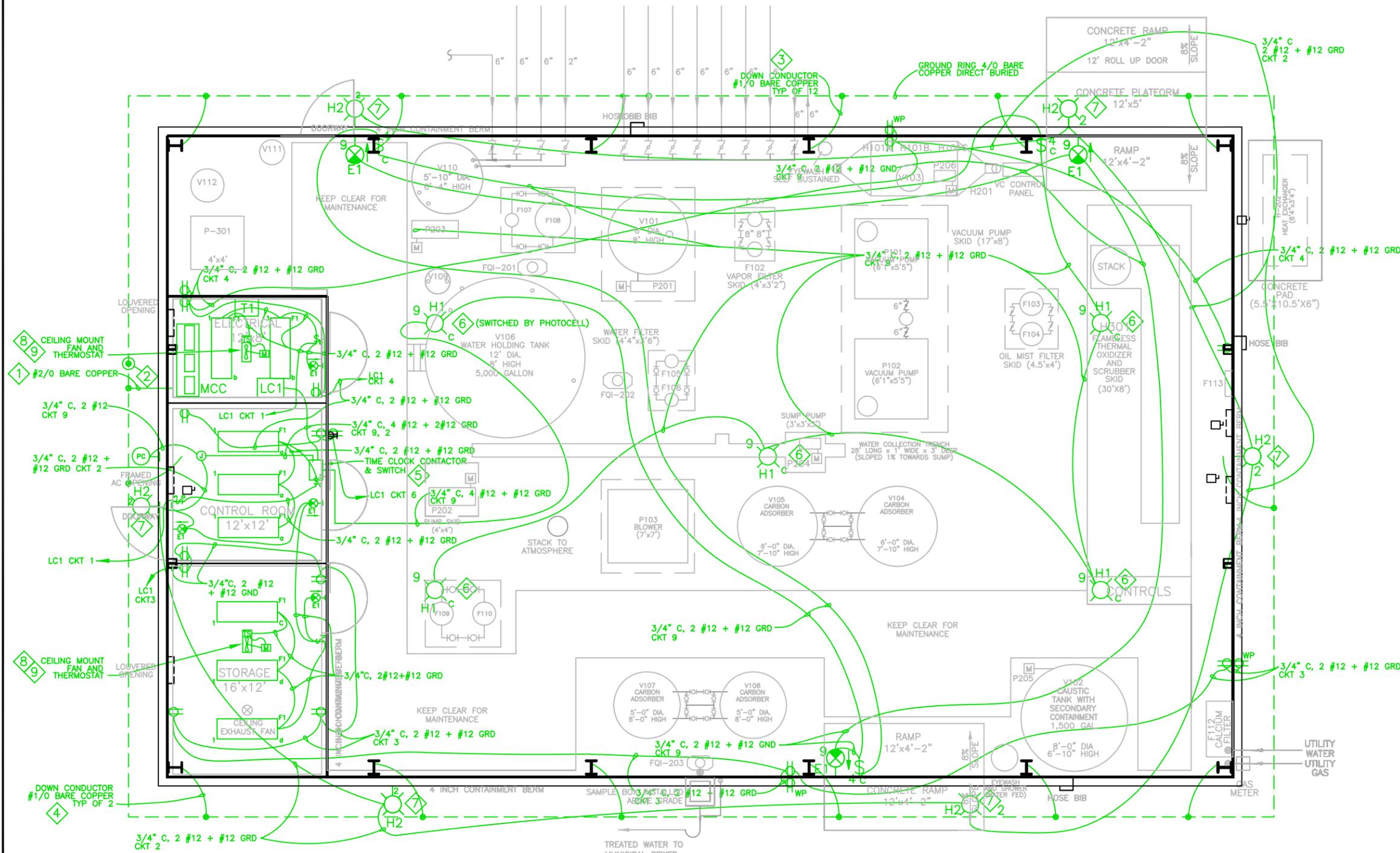
FIXTURE TYPE	QUANTITY	LAMP	DESCRIPTION	VOLTS	COMMENTS
F1	7	2 32W T8 (NOT INCL.)	4' INDUSTRIAL FLUORESCENT FIXTURE WITH T8 ELECTRONIC PROGRAM RAPID START BALLAST	120 V	LAMPS, WIRE GUARDS, AND MOUNTING HARDWARE ARE REQUIRED - CONTRACTOR TO SPECIFY
H1	5	250W HPS (INCL.)	LOW BAY HIGH PRESSURE SODIUM HEAVY DUTY ROUND INDUSTRIAL LUMINAIRE WITH ANODIZED REFLECTOR AND POLYCARBONATE LENS	120 V	CONTRACTOR TO SPECIFY MOUNTING HARDWARE CONFIRM LAMP IS INCLUDED
H2	6	70W HPS (INCL.)	VANDAL RESISTANT WALL MOUNTED ROUND (11") FIXTURE WITH CLEAR PRISMATIC POLYCARBONATE LENS EYELID STYLE. COOPER LIGHTING CAT TRE11C170HPS DTBKL OR EQUAL	120 V	CONTRACTOR TO CONFIRM LAMP IS INCLUDED
E1	7	LED (INCL.)	EXIT LIGHT SINGLE FACE RED LETTERS ON WHITE FACE WITH EMERGENCY BATTERY PACK	120 V	NONE

GENERAL NOTES:

1. FIXTURES F1 ARE TO BE MOUNTED 8' AFF.
2. FIXTURES H1 ARE TO BE MOUNTED 12' AFF.
3. LOCATE EXIT LIGHTS AT AN ELEVATION OF 8' ABOVE CURB.
4. CONTRACTOR TO PROVIDE FOR SEISMIC PROTECTION OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH SPECIFICATION SECTION 16070A.
5. THE DOOR TO THE ELECTRICAL AND CONTROL ROOM SHOULD BE PROVIDED WITH LOUVERS OR CUT FOR A 1" GAP AT THE BOTTOM.
6. CONNECTIONS MADE TO THE GROUND RING AND ALL OTHER CONNECTIONS, BONDS, AND SPLICER SHALL BE DONE BY EXOTHERMIC WELDS OR BY HIGH COMPRESSION FITTINGS THAT ARE LISTED FOR THE PURPOSE. REFER TO SPECIFICATION SECTION 13100 FOR MORE DETAIL.

PLAN NOTES:

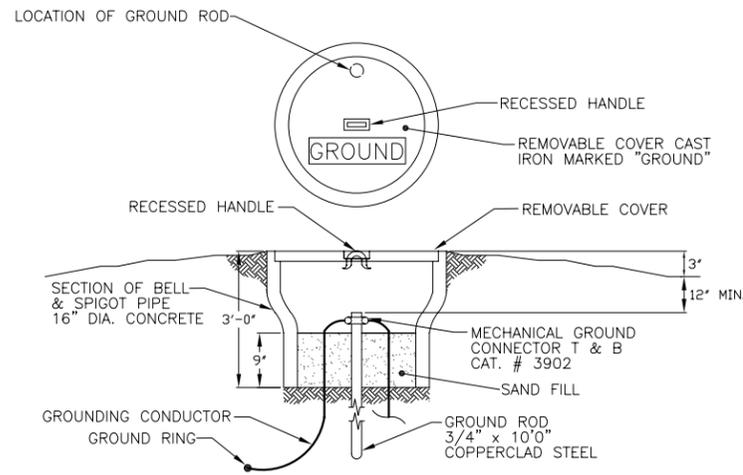
1. CONNECTION TO MCC GROUND BUS TO BE PROTECTED IN CONDUIT WHILE THE CONDUCTOR IS ABOVE GRADE. ROUTE VIA SHORTEST PATH OVER THE CONTAINMENT BERM. SEE DETAIL (4).
2. GROUNDING ELECTRODE AND TEST STATION SEE DETAIL (1).
3. SEE DETAIL (3).
4. SEE DETAIL (2).
5. SEE DETAIL (5).
6. SEE DETAIL (6).
7. LOCATE OUTDOOR FIXTURES AT AN ELEVATION OF 8' ABOVE CURB SEE DETAIL (7).
8. CONTRACTOR TO PROVIDE 2 SPEED EXHAUST FAN, DAYTON MODEL 2D067 OR APPROVED EQUAL.
9. CONTRACTOR TO PROVIDE THERMOSTAT, TS, HONEYWELL MODEL T4039M1004 OR APPROVED EQUAL. SET THE FAN FOR LOW SPEED OPERATION IN THE ELECTRICAL ROOM AND IN THE STORAGE ROOM.



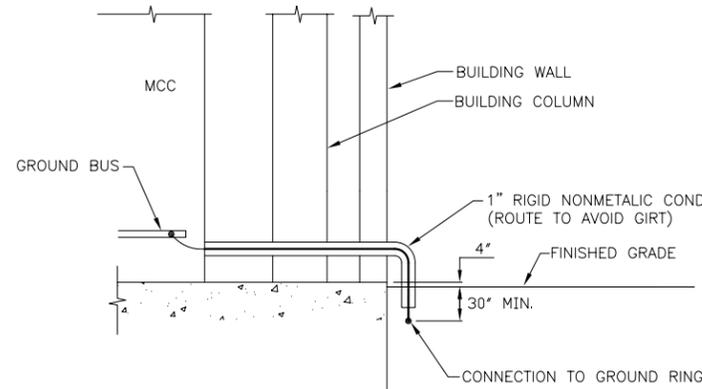
MISCELLANEOUS ELECTRICAL SECTIONS

PEMACO SUPERFUND SITE
5050 EAST SLAUSON AVENUE
MAYWOOD, CALIFORNIA

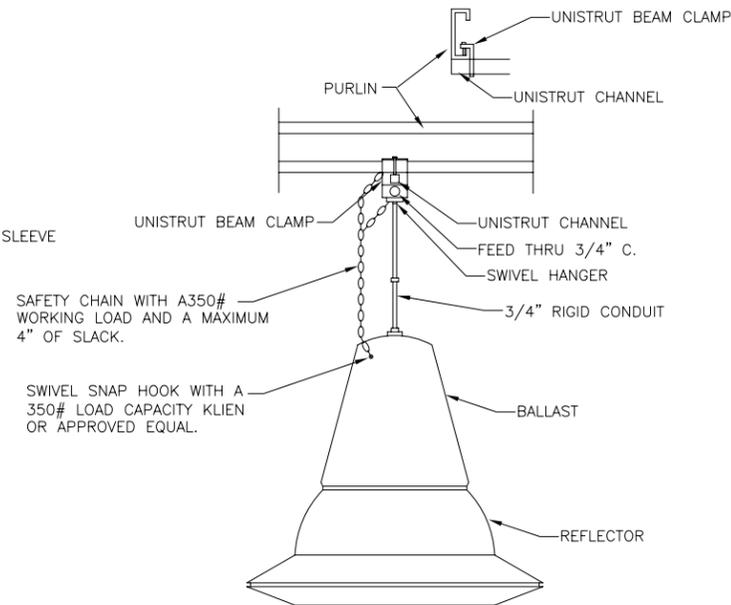
PREPARED FOR: U.S. Environmental Protection Agency Region IX San Francisco, California		PREPARED BY: T N & Associates, Inc. Engineering and Science	
SCALE: AS SHOWN	APPROVED	DATE: 09/29/06	
DESIGNED: J.S.	DRAFT - FINAL	DRAWING	REV
DRAWN: CPL			
CHECKED: J.W.		E-4	7



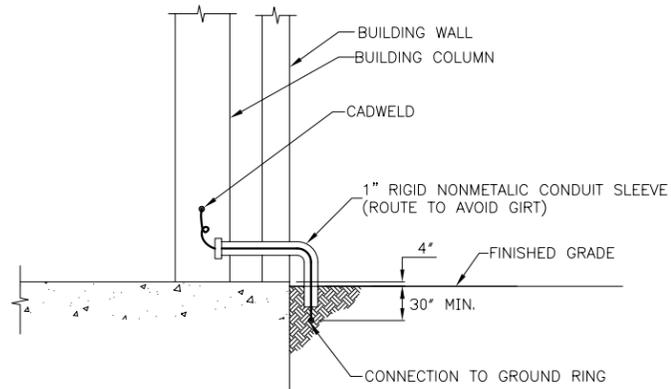
1 GROUNDING TEST STATION DETAIL
E-5



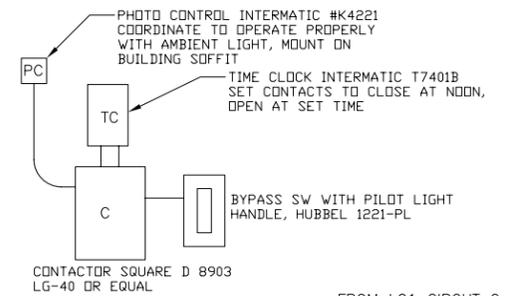
4 MCC OR EQUIPMENT
E-5 GROUND CONNECTION



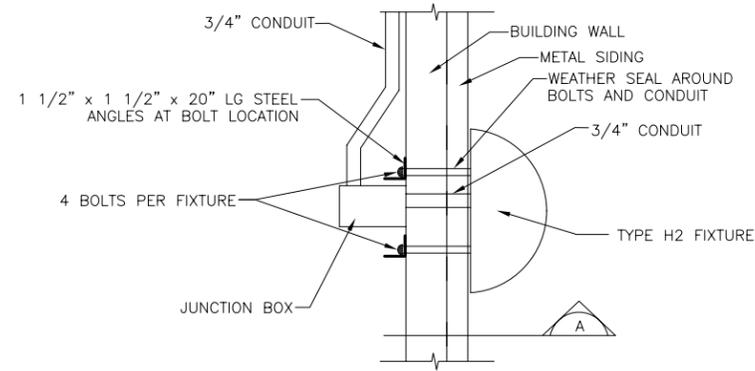
6 FIXTURE TYPE H1 MOUNTING DETAIL
E-5



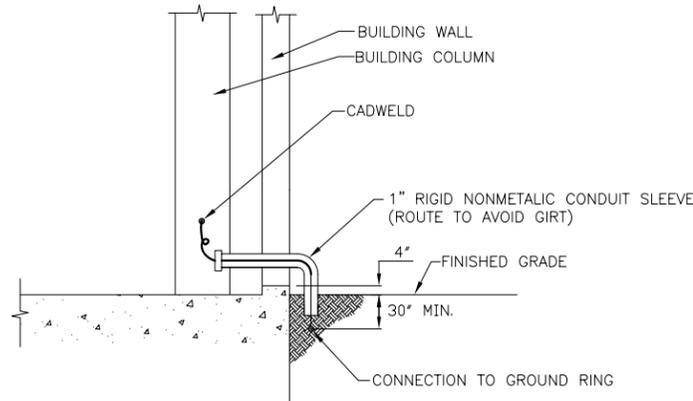
2 STEEL COLUMN OR METAL BUILDING
E-5 GROUND CONNECTION



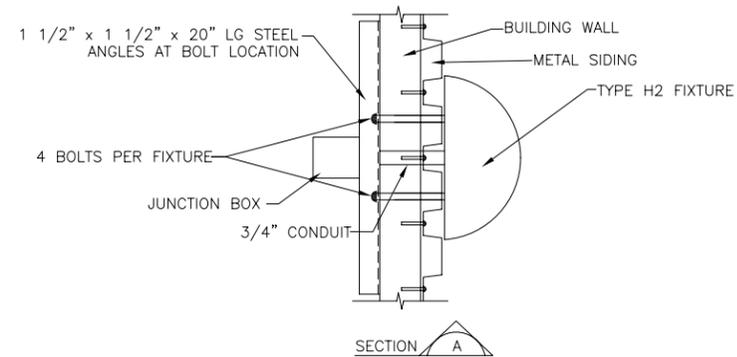
5 PHOTO/TIME CLOCK LIGHTING
E-5 CONTROL WIRING DIAGRAM



7 FIXTURE TYPE H2 MOUNTING DETAIL
E-5



3 STEEL COLUMN OR METAL BUILDING
E-5 GROUND CONNECTION



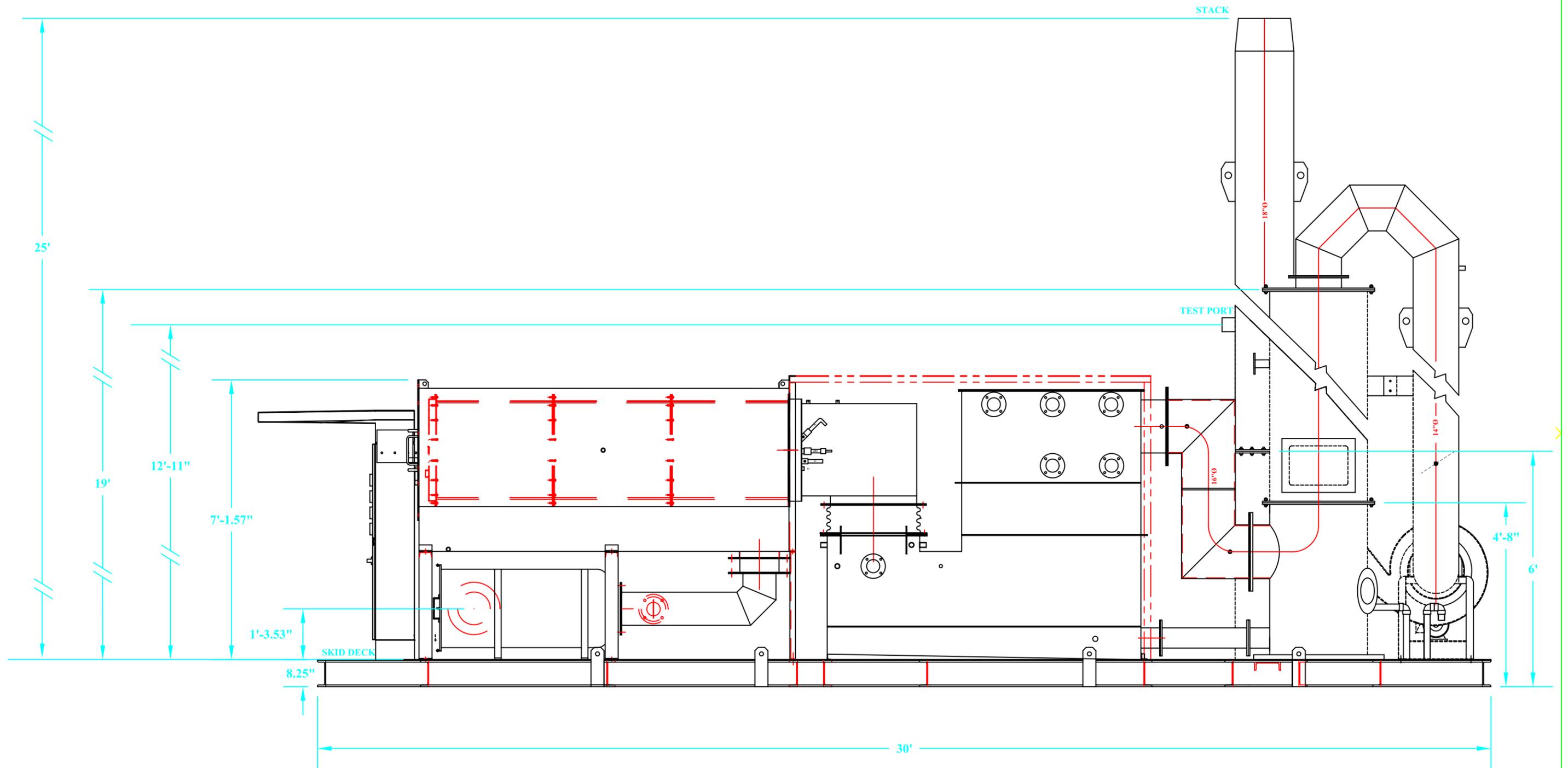
NOTES:

1. SPECIFIC NOTES ARE CALLED OUT ON INDIVIDUAL DRAWING DETAILS.

ELECTRICAL DETAILS

PEMACO SUPERFUND SITE
5050 EAST SLAUSON AVENUE
MAYWOOD, CALIFORNIA

PREPARED FOR: U.S. Environmental Protection Agency Region IX San Francisco, California	PREPARED BY: TN & Associates, Inc. Engineering and Science
SCALE: AS SHOWN	APPROVED: DRAFT-FINAL
DESIGNED:	DATE: 05/16/06
DRAWN: CPI	DRAWING
CHECKED: J.W.	REV
	E-5 4



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CHK	ZAS		7/24/03
ENGR	ZSS		12/10/03
APVD	J. CRUMPACKER		12/10/03
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SCALE: NONE		SHEET 2 OF 2	