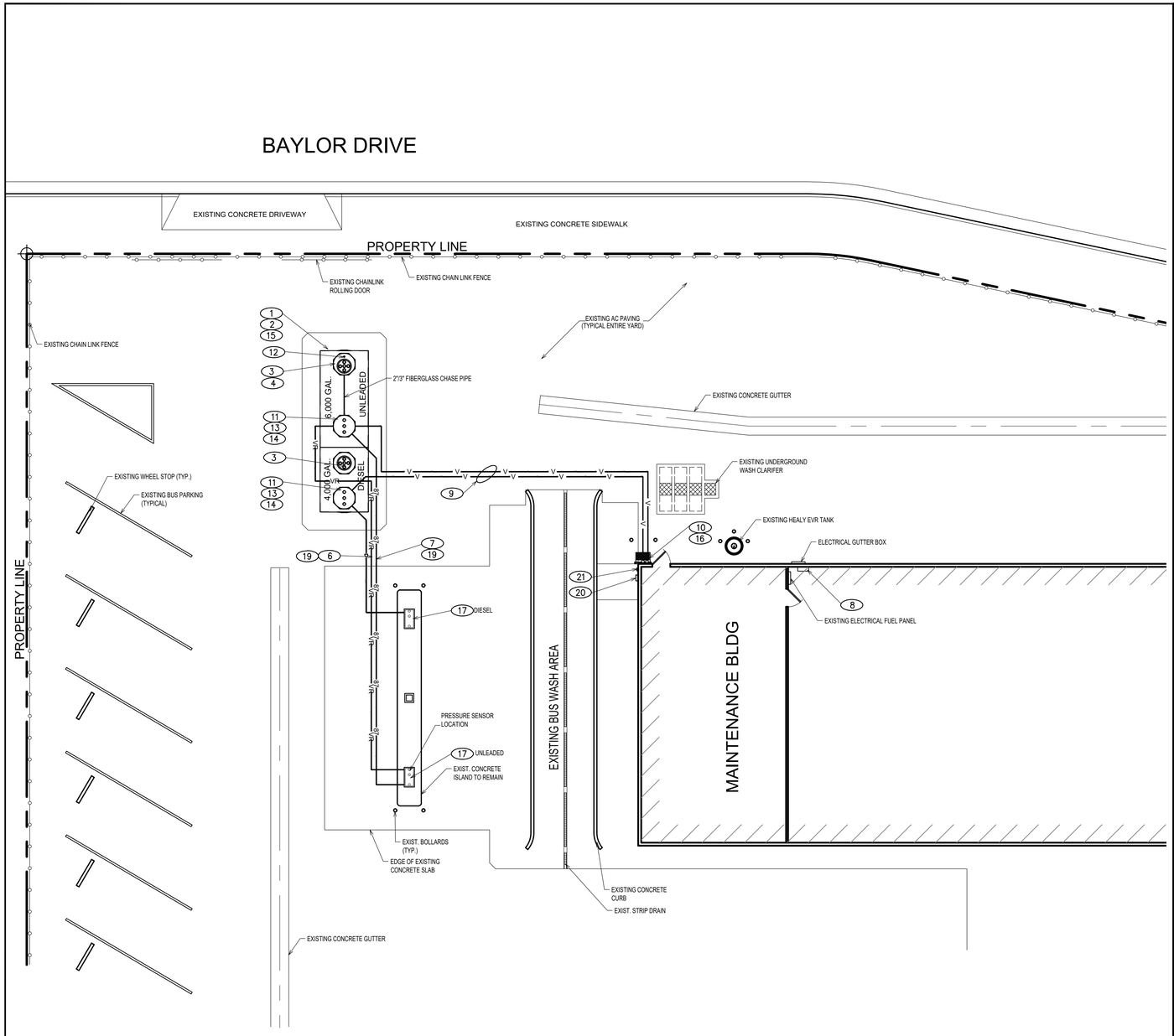


GENERAL INSTALLATION NOTES

PIPING LEGEND

87 87	2" INSIDE 3" FIBERGLASS UNLEADED 87 PIPING
D D	2" INSIDE 3" FIBERGLASS DIESEL PIPING
V V	2" INSIDE 3" FIBERGLASS VENT PIPING
VR VR	3" INSIDE 4" FIBERGLASS VAPOR PIPING

NOTE:
CONTRACTOR ASSUMES RESPONSIBILITY TO ASSURE THAT THE OPERABLE SYSTEM MEETS THE DESIGN INTENT AND THE CONTRACTOR IS PERMITTED TO ADJUST PIPING LOCATIONS BASED ON ACTUAL FIELD CONDITIONS AND INSTALLATION TECHNIQUES.

* PRODUCT, VAPOR AND VENT PIPING IS TO SLOPE TOWARD TANK 1/8" PER FOOT MINIMUM, 1/4" PER FOOT PREFERRED. IF INSTALLED, SIPHON PIPING TO SLOPE 1/4" PER FOOT.
* SECONDARY CONTAINMENT PIPING IS SHOWN BY NOTE ONLY, NOT GRAPHICALLY. ALL PRODUCT PIPING TO BE DOUBLE CONTAINMENT PIPE. VENT AND VAPOR RECOVERY SHALL BE DOUBLE WALL.

DIGALERT
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1. INSTALL DOUBLE WALL PLASTEEL TANKS WITH CONTINUOUS MONITORING OF ANNULAR SPACE BY "VEEDER ROOT" TANK AND PIPING MONITOR AND ALARM SYSTEM AS SHOWN. ALL TANK SUMPS SHALL BE INDIVIDUALLY CONTINUOUSLY MONITORED BY "VEEDER ROOT" LIQUID SENSORS TIED INTO THE VEEDER ROOT TANK & PIPING MONITOR SYSTEM. TANKS TO BE SET MIN. 48" BELOW FINISH GRADE. TANK INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. INSTALL A CONCRETE SLAB OVER TANKS. SURFACE WATER SHALL BE DIVERTED AWAY FROM EACH MANHOLE BY FORMING A CONCRETE CROWN WITH A 1-1/2" DROP IN 18" FROM THE EDGE OF THE MANHOLE RING TO THE SURROUNDING SLAB ELEVATION.
3. INSTALL 4" EVR PHASE I APPROVED FILL ADAPTERS AND CAPS. INSTALL ALUMINUM FILL DROP TUBES.
4. INSTALL 4" EVR PHASE I APPROVED STAGE I VAPOR RECOVERY ADAPTERS AND CAPS.
6. INSTALL 2" INSIDE 3" DOUBLE WALL FIBERGLASS STAGE II VAPOR RECOVERY HEADER FOR VAPOR RECOVERY SYSTEM. SLOPE 1/8" PER FOOT MINIMUM TO TANKS. CONTRACTOR TO INSTALL TRACER TAPE WITH VAPOR PIPING. TESTING OF VAPOR LINES SHALL BE PERFORMED PRIOR TO BACKFILL, PRIOR TO PAVING AND BEFORE STATION OPERATION. SECONDARY CONTAINMENT TO BE INSTALLED WHEN REQUIRED BY LOCAL JURISDICTION ONLY.
7. INSTALL 2" INSIDE 3" DOUBLE WALL FIBERGLASS GASOLINE SUPPLY LINES TO DISPENSERS. PIPING SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS AND INSTRUCTIONS. PIPING SHALL BE INSTALLED WITH A MINIMUM SLOPE OF 1/8" PER FOOT FROM THE FURTHEST DISPENSER SUMP DOWN TO THE TURBINE SUMPS. CONTRACTOR TO INSTALL TRACER TAPE WITH PRODUCT PIPING. TESTING OF PRODUCT LINES SHALL BE PERFORMED PRIOR TO BACKFILL, PRIOR TO PAVING AND BEFORE STATION OPERATION.
8. REMOVE EXISTING MONITORING SYSTEM AND INSTALL NEW VEEDER ROOT TLS450 AT SAME LOCATION
9. INSTALL 2" INSIDE 3" DOUBLE WALL FIBERGLASS VENT LINE FOR EACH UNDERGROUND STORAGE TANK. SLOPE 1/4" PER FOOT (1/8" PER FOOT MINIMUM) TO TANKS AS SHOWN. CONTRACTOR TO INSTALL TRACER TAPE WITH VENT PIPING
10. TERMINATION POINT OF TANK VENTS TO BE A MINIMUM OF 12' ABOVE GRADE AND NOT WITHIN 5' FROM ANY BUILDING OPENING OR PROPERTY LINE THAT CAN BE BUILT UPON. VENT RISERS SHALL BE INSTALLED IN ACCORDANCE WITH UNIFORM FIRE CODE REQUIREMENTS. VERIFY LOCAL REGULATIONS FOR ADDITIONAL EQUIPMENT OR INSTALLATION REQUIREMENTS.
11. INSTALL A SINGLE 3/4" RIGID GALVANIZED CONDUIT FOR EACH NEWLY INSTALLED PUMP FOR MONITORING
12. INSTALL TANK ANNULAR SPACE MONITORING SENSOR INSIDE SUMP.
13. INSTALL EXTRACTOR VALVE ASSEMBLIES FOR VENT, STAGE I AND STAGE II VAPOR RECOVERY AT STAGE I BUNG LOCATION. VERIFY WITH LOCAL JURISDICTION FOR ALTERNATE REQUIRED LOCATIONS.
14. INSTALL .1 GPH MAG PROBE TANK LEVEL GAUGES AT TURBINE SUMPS AS SHOWN.
15. TANKS SHALL BE PROPERLY MARKED AND TAGGED WITH STANDARD API IDENTIFICATION MARKINGS AT FILL MANHOLES.
16. CONNECT NEW VENT RISERS TO EXISTING HEALY TANK
17. INSTALL NEW SINGLE-PRODUCT DISPENSERS ON NEW UDC'S. DISPENSERS TO BE FITTED WITH STAGE II HOSES, NOZZLES AND BREAKAWAY VALVES PER LOCAL REQUIREMENTS. CONTRACTOR IS RESPONSIBLE FOR INSTALLING HOSES, NOZZLES AND BREAKAWAYS. INSTALL UNDER DISPENSER CONTAINMENT INCLUDING PRODUCT AND VAPOR SHEAR VALVES AND MONITORING SENSORS. START UP BY MANUFACTURER REPRESENTATIVE. GENERAL CONTRACTOR TO PURGE LINES WITH A MINIMUM OF 200 GALLONS THROUGH EACH HOSE/NOZZLE. ANY AIR POCKETS OR START UP PROBLEMS DUE TO IMPROPER INSTALLATION OR INCORRECT WIRING THAT DESTROYS ELECTRONICS WILL BE BILLED BACK TO THE CONTRACTOR. AFTER PURGING THE PRODUCT LINES OF AIR AND BEFORE VAPOR RECOVERY TESTING, CONTRACTOR IS TO REPLACE THE FACTORY INSTALLED GASOLINE FILTERS WITH NEW FILTERS.
18. FILL AND STAGE I VAPOR RECOVERY RISERS & ANNULAR RISER SHALL BE GROUNDED TO PREVENT STATIC DISCHARGE DURING FILLING OPERATIONS.
19. ALL NEW PIPING AND TANKS TO BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS AND INSTALLATION INSTRUCTIONS.
20. NEW VEEDER ROOT OVERFILL ALARM ON BUILDING WALL
21. EMERGENCY SHUT OFF SWITCH LOCATED ON WALL (MIN. 20' AND MAX. 100' FROM FUEL DISPENSERS

GENERAL COMPLIANCE NOTES

1. ARCHITECTURAL AND CIVIL DRAWINGS SHALL TAKE PRECEDENCE FOR REFERENCING ALL DIMENSIONS, PROPERTY LINES, ELEVATIONS AND EQUIPMENT LOCATIONS
2. ALL DIMENSIONS AND CONDITIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BEFORE STARTING ANY WORK. ANY DISCREPANCY SHALL BE CALLED TO THE ATTENTION OF THE OWNERS ENGINEER FOR HIS DECISION BEFORE PROCEEDING WITH THE WORK.
3. GENERAL CONTRACTOR SHALL OBTAIN NECESSARY PERMIT FROM APPLICABLE AGENCIES FOR EXCAVATIONS OF TRENCHES 5'-0" OR MORE IN DEPTH INTO WHICH A PERSON IS REQUIRED TO DESCEND.
4. AN UNAUTHORIZED RELEASE RESPONSE PLAN MUST BE SUBMITTED AND APPROVED BY GOVERNING AGENCY PRIOR TO TANK OPERATIONS.
5. ALL MATERIALS SHALL BE COMPATIBLE WITH USE FOR THE INTENDED PURPOSE AS PER NATIONALLY RECOGNIZED CODES, LOCAL CODES AND GOVERNING AUTHORITIES.
6. THE UNDERGROUND STORAGE TANK SYSTEM SHALL BE COMPATIBLE WITH THE PRODUCT STORED.
7. ALL MONITORING DEVICES SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
8. THE HAZARDOUS MATERIALS MANAGEMENT BRANCH (HMMB) WILL BE CONTACTYED A MINIMUM OF 5 WORKING DAYS PRIOR TO REPAIRS TO THE UST SYSTEM AND ALL SITE INSPECTIONS SHALL BE SCHEDULED A MINIMUM O F5 WORKING DAYS IN ADVANCE OF REQUESTED DATE.
9. TANK AND PIPING SYSTEM TO BE INSPECTED BY OWNER'S THIRD PARTY INSPECTOR & GOVERNING AGENCY AT FOUR (4) SEPARATE CONSTRUCTION PHASES (SEE SPECIFICATIONS):
   A. TANK AIR TEST BEFORE SETTING IN HOLE AND SOAP TEST.
   B. TANKS AND PRIMARY PIPING HYDROSTATICALLY OR PNEUMATICALLY TESTED FOR 30 MINUTES.
   C. INSPECTION OF ALL SECONDARY CONTAINMENT, INCLUDING TESTING, IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES.
   D. FINAL INSPECTION INCLUDING ALL PORTIONS OF THE LEAK DETECTION SYSTEM.
11. TANK SYSTEM MONITORING SYSTEM INTEGRITY TESTS FORWARDED AND APPROVED BY GOVERNING AGENCY PRIOR TO TANK SYSTEM BEING PLACED IN OPERATION.
12. PRIOR TO FUEL BEING PUMPED, STATION MUST HAVE VEEDER ROOT FUNCTIONAL AND MONITORING ANNULAR SPACES OF TANK AND DISPENSER SUMPS.
13. PAYMENT OF ALL APPLICABLE UST OPERATING FEES SHALL BE SUBMITTED TO THE GOVERNING JURISDICTION WITHIN 30 DAYS OF THE FINAL INSPECTION.
14. EVIDENCE OF FINANCIAL RESPONSIBILITY SHALL BE SUBMITTED TO GOVERNING AGENCY.
15. MEASUREMENTS OF BRINE LEVELS IN TANKS SHALL BE TAKEN BY CLIENT REPRESENTATIVE DURING THREE SEPARATE VISITS TO SITE AND PRIOR TO FUELING OPERATIONS. REFER TO TANK MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR REQUIREMENTS.
16. NEW TANK CONSTRUCTION AND UPGRADES MUST BEGIN WITHIN SIX (6) MONTHS OF STAMPED APPROVAL DATE AND BE COMPLETED WITHIN ONE (1) YEAR OF STAMPED APPROVAL DATE ON PLANS TO REMAIN VALID. ANY CHANGES MADE TO THE ORIGINAL APPROVED PLANS MUST HAVE A WRITTEN ADDENDUM SUBMITTED AND APPROVED BY HMMB. THE ADDENDUM(S) MAY BE SUBJECT TO AN HOURLY CHARGE FOR REVIEW AND APPROVAL. A STAMPED, APPROVED SET OF PLNAS SHALL BE ON SITE AT ALL TIMES.
17. THE CONTRACTOR PERFORMING THE WORK SHALL MAINTAIN A GENERAL "A" WITH HAZ CERTIFICATION. PRIOR TO STARTING WORK THE CONTRACTOR SHALL PROVIDE A COPY OF THEIR CSLB LICENSE, ICC CERTIFICATIONS AND MANUFACTURER'S TRAINING CERTIFICATIONS TO SAN BERNARDINO COUNTY FIRE DEPARTMENT.
18. ANY INDIVIDUAL(S) INSTALLING UNDERGROUND STORAGE TANK SYSTEM COMPONENTS SHALL MEET THE FOLLOWING REQUIREMENTS, OR WORK UNDER THE DIRECT AND PERSONAL SUPERVISION OF AN INDIVIDUAL PHYSICALLY PRESENT AT THE WORK SITE WHO MEETS THE FOLLOWING REQUIREMENTS: 1. THE INDIVIDUAL HAS BEEN ADEQUATELY TRAINED AS EVIDENCED BY A CURRENT CERTIFICATE OF TRAINING ISSUED BY THE MANUFACTURER(S) OF THE UNDERGROUND STORAGE TANK SYSTEM COMPONENTS. 2. THE INDIVIDUAL SHALL POSSESS A CURRENT UNDERGROUND STORAGE TANK SYSTEM INSTALLATION/RETROFITING CERTIFICATE FROM THE INTERNATIONAL CODE COUNCIL. (ICC)
19. SERVICE TECHNICIANS SHALL POSSESS OR WORK UNDER THE DIRECT AND PERSONAL SUPERVISION OF A INDIVIDUAL PHYSICALLY PRESENT AT THE WORK SITE WHO POSSESSES A CURRENT CERTIFICATE FROM THE INTERNATIONAL CODE COUNCIL (ICC) INDICUATING HE OR SHE HAS PASSED THE UST SERVICE TECHNICIAN EXAM.
20. ALL NEW INSTALLATION OF PIPING, FITTINGS AND COMPONENTS MUST COMPLY WITH THE REVISED UL 971 STANDARD. PIPING MANUFACTURERS ARE REQUIRED BY UL TO MARK THE DATE OF MANUFACTURE ON THE PIPING AT 10-FOOT INTERVALS, AND ON FITTINGS OR FITTING BULK PACKAGING. THERFORE, THE DATE OF MANUFACTURE MUST BE ON OR AFTER JULY 1, 2005. CONTACT YOUR PIPING MANUFACTURER TO ENSURE THAT YOUR NEW PIPING SYSTEM IS ORDERED CORRECTLY.
21. ALL MATERIALS TO BE USED (PIPING, COUPLING, SEALANT, ADHESIVE, RESINS, ETC.) SHALL BE COMPATIBLE AND USED AS PER NATIONALLY RECOGNIZED CODES
22. ALL MATERIALS SHALL BE INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS.
23. THE ELECTRICAL SUPPLY WIRING FOR THE CONTINUOUS MONITORING SYSTEM SAHLL BE HARDWIRED TO THE JUNCTION/BREAKER BOX.
24. ALL SENSORS WILL BE PROPERLY MOUNTED AT THE LOW POINT IN THE SUMPS AND SECURED TO PREVENT TAMPERING USING MOUNTING KITS OR SLEEVES.
25. THE CONTRACTOR SHALL ENSURE THAT ALL FILLS AND MONITORING WELLS ARE PROPERLY LABELED.
26. THE CONTRACTOR SHALL ENSURE THAT THE EMERGENCY SHUT-OFF SWITCH IS OPERATIONAL.
27. PNEUMATIC TEST SHALL BE COMPLETED PRIOR TO PLACING TANK INTO THE EXCAVATION
29. ENHANCED LEAK DETECTION APPROVED TANK TEST METHOD SHALL BE COMPLETED PRIOR TO OPERATON OF THE TANK(S).

UTILITY NOTE

POTENTIAL UTILITY CONFLICT. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING AND NEW UTILITIES PRIOR TO CONSTRUCTION. SEE UTILITY CONFLICT NOTE THE EXISTING WATER, STORM, AND SANITARY SEWER SERVICE SHOWN IS APPROXIMATE, BASED ON FIELD SURVEYS AND "AS-BUILT" RECORDS. THE GENERAL CONTRACTOR SHALL "POTHOLE" THE EXISTING UTILITIES TO VERIFY THE DIAMETER AND LOCATION (INCL. ELEVATIONS) PRIOR TO CONSTRUCTION. ANY DISCREPANCIES IN THE LOCATION OF THE EXISTING PIPE OR INCOMPATIBILITY OF THE DESIGN SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE OWNERS REPRESENTATIVE, AND OWNERS CIVIL ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION, DIMENSION, AND DEPTH OF ALL EXISTING UTILITIES WHETHER SHOWN ON THESE PLANS OR NOT BY POT HOLING THE UTILITIES AND SURVEYING THE HORIZONTAL AND VERTICAL LOCATION PRIOR TO CONSTRUCTION. THIS SHALL INCLUDE CALLING UTILITY LOCATE @ 1 (800) 227-2600 AND THEN POT HOLING ALL OF THE EXISTING UTILITIES AT LOCATIONS OF NEW UTILITY CROSSINGS TO PHYSICALLY VERIFY WHETHER OR NOT CONFLICTS EXIST. LOCATIONS OF SAID UTILITIES AS SHOWN ON THESE PLANS ARE BASED UPON THE UNVERIFIED PUBLIC INFORMATION AND ARE SUBJECT TO VARIATION. IF CONFLICTS SHOULD OCCUR, THE CONTRACTOR SHALL CONSULT THE OWNERS CIVIL ENGINEER TO RESOLVE ALL PROBLEMS PRIOR TO PROCEEDING WITH CONSTRUCTION.

TANK EXCAVATION NOTE:

TANK HOLE EXCAVATIONS AND ANY DEWATERING REQUIRED SHALL BE PER OSHA REQUIREMENTS AND BE PERFORMED FOLLOWING THE RECOMMENDATIONS OF THE SOILS REPORT. A COST COMPARISON SHOULD BE CONSIDERED BETWEEN AN OSHA SLOPED HOLE VERSUS SHORED HOLE DESIGNS. SIDE RAIL SHORING HAS PROVED TO BE COST EFFECTIVE AT SOME SITES. TANK EXCAVATIONS THAT REQUIRE SHORING AND DEWATERING SHALL BE ENGINEERED AND PERMITTED SEPARATELY AND SHALL BE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR. FOLLOW TANK MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR WET HOLE TANK INSTALLATION.

PE STAMP

REVISIONS

NO.:	DATE:	DESCRIPTION:	BY:	APP.:
1	04/27/26	REVISED TO TURBINE w/ VACUUM MONITORING		
2	05/27/26	REVISED PER NEW TANK SPECS		

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PROJECT:
14121 CEDARWOOD STREET
WESTMINSTER, CA. 92683
FUELING PLAN

DATE ISSUED: 11/06/2025
SCALE: 1"=10'-0"
DRAWN BY: CR
CHECKED BY: F. COHEN
PROJECT NUMBER: 25057
STORE NUMBER: WSD
SHEET: F1.1

5/27/2026 11:52:49 AM

TANKS

ITEM	BY	DESCRIPTION	MANUFACTURER
15	OWNER	TANK: 6,000/4000 GALLON, 8' DIA. NOMINAL DOUBLE WALL PLASTEEL TANK, w/ (2) 42" 8-SIDED FILL SUMPS w/o MANWAYS, w/ (2) 42" 8-SIDED SUCTION SUMPS w/ MANWAYS, STEEL STRIKE PLATES AND TIE DOWN GUIDES. TANK SHALL BE UL 1316 APPROVED AND METHANOL APPROVED. (CALIFORNIA DESIGN)	"TRUE NORTH PLASTEEL"; (8) 10,000 GAL. (6000/4000) w/ 42" SUMP COLLAR
16	OWNER	42" DOUBLE WALL FIBERGLASS 8 SIDED SUMP	"BRAVO" B421-XX-D-01 XX = DETERMINED BY TANK BURIAL DEPTH

STAGE I EQUIPMENT

ITEM	BY	DESCRIPTION	MANUFACTURER
18	OWNER	4"x4"x3"x2" EXTRACTOR CROSS FITTING W/O CAGE.	"OPW" MODEL NO. 233-4432
21	OWNER	4" GALVANIZED RISER - LENGTH AS REQUIRED	"ANVIL" OR EQUAL
22	OWNER	2" PRESSURE VACUUM VENT-THREADED (GASOLINE)	"HUSKY" MODEL NO. 5885
23	OWNER	DIESEL VENT CAP	"OPW" MODEL NO. OPW-23-0033
24	G.C.	PRODUCT IDENTIFICATION MARKERS	"OPW" MODEL NO. 1TAG-1000 (REG. UNL.) "OPW" MODEL NO, 1TAG-3000 (PREM UNL.) "OPW" MODEL NO, 1TAG-4000 (DIESEL)

STAGE I EQUIPMENT (PER VR-102-S) - (STANDARD OPW SOLUTION)

ITEM	BY	DESCRIPTION	MANUFACTURER
28	OWNER	OPW 42" DUAL PORT MANHOLE, SEALABLE COVERS, MONITOR PORT, 12" FRAME, WATERTIGHT SPILL PLATFORM. INCLUDES MULTIPORT COVER, FRAME, SKIRT, 5 GALLON SPILL CONTAINERS, PORT COVERS, SHROUD BOOTS, CLAMPING KITS, WATER SPILL PLATFORM, TOP HAT, SUMP BASE (FOR UNLEADED PRODUCTS TANK FILLS)	"OPW" #OP-PK2-42RTMP-33
29	OWNER	FIBERLITE 42" SINGLE PORT MANHOLE, SEALABLE COVERS, MONITOR PORT, 12" FRAME, WATERTIGHT SPILL PLATFORM. INCLUDES MULTIPORT COVER, FRAME, SKIRT, 5 GALLON SPILL CONTAINERS, PORT COVERS, SHROUD BOOTS, CLAMPING KITS, WATER SPILL PLATFORM, TOP HAT, SUMP BASE (FOR DIESEL TANK FILLS)	"OPW" #OP-PK3-42RTDIESEL-33
34	OWNER	WATER TIGHT/VAPOR TIGHT SHIELD FOR A 5 GAL. FILL & 5 GAL. VAPOR RETURN MULTIPORT PACKAGE	"FIBERLITE " MODEL NO. WSP37-16S (FOR 87, 91, E-85 TANKS)
35	OWNER	WATER TIGHT/VAPOR TIGHT SHIELD FOR A 5 GAL. FILL & SINGLE PORT PACKAGE	"FIBERLITE " MODEL NO. WSP37-8S (FOR DIESEL TANK)
36	OWNER	5 GALLON SPILL BUCKET WITH DRAIN VALVE (FILL) 5 GALLON SPILL BUCKET (VAPOR - OMIT ON DIESEL TANK)	FIBERLITE MODEL NO. P761C-FLDV FIBERLITE MODEL NO. P761C-FLPL
37	OWNER	FILL SWIVEL ADAPTOR - PER CARB EVR EXEC ORDER VR-102-S	"OPW" MODEL NO. 61SALP-1020-EVR
38	OWNER	PRODUCT TOP SEAL FILL CAP - PER CARB EVR EXEC ORDER VR-102-S	"OPW" MODEL NO. 634TT-7085-EVR
39	OWNER	VAPOR RECOVERY SWIVEL ADAPTOR - PER CARB EVR EXEC ORDER VR-102-S	"OPW" MODEL NO. 61VSA-1020-EVR
40	OWNER	VAPOR TOP SEAL CAP - PER CARB EVR EXEC ORDER VR-102-S	"OPW" MODEL NO. 1711T-7085-EVR
41	OWNER	4"x17' ALUMINUM DROP TUBE W/ FLAPPER VALVE SET @ 95% 41A W/ JACK SCREW LOCK DOWN DEVICE 41B W/ FACE SEAL ADAPTER 41C W/ INSTALLATION TOOL - PER CARB EVR EXEC ORDER VR-102-S 41F	"OPW" MODEL NO. 71SO-410CT "OPW" MODEL NO. 61JSK-44CB "OPW" MODEL NO. FSA-400S "OPW" MODEL NO. 61SA-TOOL

DISPENSERS

ITEM	BY	DESCRIPTION	MANUFACTURER
52	OWNER	SINGLE PRODUCT DISPENSER: 2 HOSE PER SIDE . CONFIGURED AS REQUIRED FOR SITE SPECIFIC CONDITIONS	GASBOY ATLAS X 9850G

EQUIPMENT SOLUTION FOR EVR PHASE II (PER VR-201)

ITEM	BY	DESCRIPTION	MANUFACTURER
61	OWNER	VAC ASSIST DISPERNSER NOZZLE	"HEALY" MODEL NO. HE-900
62	SWIVEL	INTEGRAL TO WHIP HOSE	
63	OWNER	INVERTED COAXIAL HOSE - 8'-6"	"HEALY" MODEL NO. HE-75B-085-S2S2
64	OWNER	INVERTED COAXIAL WHIP HOSE - 1'-0"	"HEALY" MODEL NO. HE-75B-010-S4F2
65	OWNER	RE-CONNECTABLE BREAKAWAY COUPLING	"HEALY" MODEL NO. HE-8071-V V
67	EXIST.	HEALY TANK	FRANKLIN FUELING
68	OWNER	HEALY VACCUM PUMP	"HEALY" MODEL NO. HE-VP1000P (KIT)
70	OWNER	OPW 3/4" DIESEL CAPTURE NOZZEL, GREEN SCUFF GUARD	"OPW" MODEL NO. 14C-0100
71	OWNER	OPW 3/4" RECONNECTABLE DIESEL BREAKAWAY/SWIVEL COMBO	""OPW" MODEL # 66SB-7575
72	OWNER	CONTINENTAL 3/4" X 15' LONG MALE X MALE SWIVEL GREEN DIESEL HOSE	"CONTINENTAL" FLEXSTEEL MODEL NO. GY-532-331-724-15072
73	OWNER	CNI 3/4" DIESEL HOSE RETRACTOR W/ CLAMP	CNI 8103
75	OWNER	DIESEL FILTER	"CIMTEK" MODEL NO. 260-HS-30

OTHER EQUIPMENT AT DISPENSERS

ITEM	BY	DESCRIPTION	MANUFACTURER
81	OWNER	OPW 1.5" DOUBLE POPPET SHEAR VALVE	"OPW" MODEL NO. OPW-10BHMP-5830
82	OWNER	VAPOR RECOVERY IMPACT VALVE (TOP ENTRY)	"OPW" MODEL NO. 60 VSP-1001
83	OWNER	10 MICRON HYDROSORB FILTER (GASOLINE)	"CIMTEK" MODEL NO. 300HS-10-TYPEII
84	OWNER	DOUBLE POPPET SHEAR VALVE	"OPW" MODEL NO. 10P-01525E85
87	OWNER	UNDER DISPENSER SPILL CONTAINMENT SUMP FOR "GASBOY" DISPENSERS (DOUBLE WALL FRP) (CONTRACTOR TO PLUMB ALL FITTINGS) SHEAR VALVE PLATES INCLUDED	"BRAVO" MODEL NO. B1670-D80 DOUBLE WALL UDC UTILIZE BRAVO PROPYLENE GLYCOL FOR SUMP INTERSTITIAL MONITORING
90	EXIST.	ISLAND FORM FOR DISPENSERS 8'-0"x4'-0" AND 4'-0"x4'-0" AROUND COLUMNS	"POMECO" OR EQUAL ISLAND FORM STAINLESS STEEL
91	EXIST.	72"x4"ø STRAIGHT PIPE BOLLARD	"RIVERSIDE STEEL" OR EQUAL TRAFFIC BOLLARD

MANHOLES

ITEM	BY	DESCRIPTION	MANUFACTURER
102	OWNER	18" DIA. ROUND MONITORING MANHOLE, WATER TIGHT AND TRAFFIC RATED WITH IDENTIFICATION TRIANGLE	"OPW/POMECO" MODEL NO. 104AOW-1800
103	OWNER	(NOT USED)	
104	OWNER	OPW FIBRELITE 40" FLAT SEALED COMPOSITE TURBINE MANHOLE W/ 12" SKIRT	"OPW" MODEL # FL100GRAY-SK12

TURBINES (ALL AREAS)

ITEM	BY	DESCRIPTION	MANUFACTURER
105	OWNER	RED JACKET 2 HP FIXED SPEED / LENGTH TURBINE, ADVANCED PROTECTION, IN-TAKE SCREEN, MAG SHELL MOTOR, "R" CHECK VALVE, 26" STAINLESS STEEL RISER	"RED JACKET" MODEL NO. AGP200S1-3RA2

MISCELLANEOUS TRANSITION SUMPS

ITEM	BY	DESCRIPTION	MANUFACTURER
111	OWNER	BRAVO DOUBLE WALL VENT TRANSITION SUMP, 3 VENTS, ELECTRICAL OFFSET FRAME	"BRAVO " MODEL NO. B501-D-222 UTILIZE BRAVO BRINE SOLUTION FOR SUMP INTERSTITIAL MONITORING

PENETRATION FITTINGS

ITEM	BY	DESCRIPTION	MANUFACTURER
133	OWNER	3/4" FRP BONDED PENETRATION FITTING	"BRAVO" MODEL NO. F-07RS-0-DF
134	OWNER	1" FRP BONDED PENETRATION FITTING	"BRAVO" MODEL NO. F-10RS-0-DF
138	OWNER	3" DOUBLE WALL FRP BONDED FITTING (USED FOR 3" OVER 2" DW PIPING	"NOV FIBERGLASS" MODEL NO. 012030-626-0
139	OWNER	4"x3" CONCENTRIC REDUCER (SECONDARY) (USED FOR 3" OVER 2" DW PIPING)	"NOV FIBERGLASS" MODEL #012040-238-3
140	OWNER	4" DOUBLE WALL FRP BONDED PENETRATION FITTING (USED FOR 4" OVER 3" DW PIPING)	"NOV FIBERGLASS" MODEL NO. 012040-626-0
141	OWNER	5"x4" CENCENTRIC REDUCER (SECONDARY) (USED FOR 4" OVER 3" DW PIPING)	"NOV FIBERGLASS" MODEL #012050-238-3

FIBERGLASS PIPING AND FITTINGS (NOV FIBERGLASS RED THREAD IIA)

ITEM	BY	DESCRIPTION	MANUFACTURER
142	G.C.	2" (PRIMARY) FIBERGLASS PIPE, 22'-25' LENGTH & GLUE KITS	"NOV FIBERGLASS" RED THREAD IIA (SMITH FIBERGLASS) MODEL #011020-069-2
143	G.C.	2" COUPLING (PRIMARY)	"NOV FIBERGLASS" RED THREAD IIA (SMITH FIBERGLASS) MODEL #012020-101-8
144	G.C.	2" 90 DEGREE ELBOW (PRIMARY)	"NOV FIBERGLASS" RED THREAD IIA (SMITH FIBERGLASS) MODEL #012020-360-4
145	G.C.	2" 45 DEGREE ELBOW (PRIMARY)	"NOV FIBERGLASS" RED THREAD IIA (SMITH FIBERGLASS) "NOV FIBERGLASS" MODEL #012020-310-4
146	G.C.	2" TEE (PRIMARY)	"NOV FIBERGLASS" MODEL #012020-410-4
147	G.C.	2" THREADED ADAPTER BELL x MALE FRP	"NOV FIBERGLASS" MODEL #012020-191-4
148	G.C.	3" (PRIMARY) FIBERGLASS PIPE, 22'-25' LENGTH & GLUE KITS 3" (SECONDARY) FIBERGLASS PIPE, 22'-25' LENGTH & GLUE KITS "E-85 APPRD"	"NOV FIBERGLASS" MODEL #011030-069-2 "NOV FIBERGLASS" MODEL #011030-069-5
149	G.C.	3" COUPLING (PRIMARY) 3" COUPLING (SECONDARY)	"NOV FIBERGLASS" MODEL #012030-101-8 "NOV FIBERGLASS" MODEL #012030-101-9
150	G.C.	3" 90 DEGREE ELBOW (PRIMARY)	"NOV FIBERGLASS" MODEL #012030-360-4
151	G.C.	3" 45 DEGREE ELBOW (PRIMARY)	"NOV FIBERGLASS" MODEL #012030-310-4
152	G.C.	3" TEE (PRIMARY)	"NOV FIBERGLASS" MODEL #012030-410-4
153	G.C.	3" THREADED ADAPTER BELL x MALE FRP	"NOV FIBERGLASS" MODEL #012030-191-4
154	G.C.	3" 90 DEGREE ELBOW (SECONDARY)	"NOV FIBERGLASS" MODEL #012030-360-3
155	G.C.	3" 45 DEGREE ELBOW (SECONDARY FLAT) 3" 45 DEGREE ELBOW (SECONDARY CROSSOVER)	"NOV FIBERGLASS" MODEL #012030-310-3 "NOV FIBERGLASS" MODEL #012030-311-3
156	G.C.	3" TEE (SECONDARY FLAT) 3" TEE (SECONDARY CROSSOVER)	"NOV FIBERGLASS" MODEL #012030-410-3 "NOV FIBERGLASS" MODEL #012030-411-3
157	G.C.	4" (SECONDARY) FIBERGLASS PIPE, 22'-25' LENGTH & GLUE KITS	"NOV FIBERGLASS" MODEL #011040-069-5
158	G.C.	4" COUPLING (SECONDARY)	"NOV FIBERGLASS" MODEL #012040-101-9
159	G.C.	4" 90 DEGREE ELBOW (SECONDARY)	"NOV FIBERGLASS" MODEL #012040-360-3
160	G.C.	4" 45 DEGREE ELBOW (SECONDARY FLAT) 4" 45 DEGREE ELBOW (SECONDARY CROSSOVER)	"NOV FIBERGLASS" MODEL #012040-310-3 "NOV FIBERGLASS" MODEL #012040-311-3
161	G.C.	4" TEE (SECONDARY FLAT) 4" TEE (SECONDARY CROSSOVER)	"NOV FIBERGLASS" MODEL #012040-410-3 "NOV FIBERGLASS" MODEL #012040-411-3
162	G.C.	4"X3" CONCENTRIC REDUCER (SECONDARY)	"NOV FIBERGLASS" MODEL #012040-238-3
163	G.C.	2" CAP	"NOV FIBERGLASS" MODEL #012020-180-4
164	G.C.	3"x2" REDUCER BUSHING (SECONDARY) 2"x1-1/2" FEMALE NPT REDUCER BUSHING (PRIMARY)	"NOV FIBERGLASS" MODEL #012030-231-4 "NOV FIBERGLASS" MODEL #012020-231-4

MISCELLANEOUS EQUIPMENT

ITEM	BY	DESCRIPTION	MANUFACTURER
166	GC	4" DIA. PIPE 7'-0" LG. MAX. WITH 4" NPT BELL X MALE ADAPTER (FOR HYDROSTATIC TANK MONITOR)	"NOV FIBERGLASS" MODEL #011040-069-5
168	OWNER	2" BALL VALVE-FULL PORT (FOR TURBINE PRODUCT LINES)	"JOMAR" MODEL NO. 100-708
168A	OWNER	2" BALL VALVE-FULL PORT (FOR TURBINE E-85 PRODUCT LINES)	"MORRISON" MODEL NO. 691BSS-0800IV
171	OWNER	1" X 1" M346 12" FIREFLEX FLEX CONNECTOR	"FLEXING" MODEL # FF10X12HMXM346 (U.L. LISTED)
172	OWNER	1.5" X 18" MXSXM FIREFLEX FLEX CONNECTOR	"FLEXING" MODEL # FF15X18M346X2F (U.L. LISTED)
175	OWNER	2" MS X 2" F X 18 FIREFLEX FLEX CONNECTOR	"FLEXING" MODEL # 20X18M346XF (U.L. LISTED)
176	OWNER	2" MS X 2" F X 24 FIREFLEX FLEX CONNECTOR	"FLEXING" MODEL # 20X24M346XF (U.L. LISTED)
177	OWNER	3" MXM 18" FIREFLEX CONNECTOR FLEX CONNECTOR (AT STAGE II VAPOR)	"FLEXING" MODEL # FFUL30X18MXM (U.L. LISTED)
183	G.C.	1-1/2" OR 2" OR 3" GALVANIZIED STEEL PIPE	"ANVIL" OR EQUAL
184	G.C.	1-1/2" OR 2" OR 3" 90° OR 45° GALVANIZIED STEEL ELBOW	"ANVIL" OR EQUAL
185	G.C.	1-1/2" OR 2" OR 3" GALVANIZIED STEEL PIPE TEE	"ANVIL" OR EQUAL
186	G.C.	1-1/2" OR 2" OR 3" GALVANIZIED STEEL PIPE UNION	"ANVIL" OR EQUAL
187	G.C.	3/4" OR 1" RIGID CONDUIT	BY G.C.
188	G.C.	J-BOX "NEMA" 3R 4X4 OR 16" SQ.	"CROUSE HINDS" GUP215
189	G.C.	J-BOX EXP. PROOF	"CROUSE HINDS" 1" GUA SERIES #GUA36
190	G.C.	MAINTENANCE RECEPTACLE	"HUBBELL" SPECIFICATION GRADE RECEPTACLE GFCI IN WEATHERPROOF COVER
191	G.C.	SEAL OFF W/ DRAIN	"CROUSE HINDS" 1" EYS3 (VERTICAL) OR EYS31 (VERTICAL OR HORIZONTAL) W/ ECD15 UNIVERSAL DRAIN
192	G.C.	SEAL OFF	"CROUSE HINDS" 1" EYS3 (VERTICAL) OR EYS31 (VERTICAL OR HORIZONTAL)

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REVISIONS

NO.:	DATE:	DESCRIPTION:	BY:	APP.:
1	04/27/26	REVISED TO TURBINE w/ VACUUM MONITORING		
2	05/27/26	REVISED PER NEW TANK SPECS		

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WESTMINSTER SCHOOL DISTRICT EST. 1872

PROJECT:
14121 CEDARWOOD STREET
WESTMINSTER, CA. 92683

MATERIAL SCHEDULE

DATE ISSUED: 11/06/2025
SCALE: N.T.S.
DRAWN BY: CR
CHECKED BY: F. COHEN
PROJECT NUMBER: 25057
STORE NUMBER: WSD
SHEET: F2.1

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VEEDER ROOT EQUIPMENT

ITEM	BY	DESCRIPTION	MANUFACTURER
200	OWNER	TLS-450 ENVIRONMENTAL & INVENTORY MANAGEMENT SYSTEM WITH INTEGRAL PRINTER (W/ ALL REQUIRED SMART SENSOR MODULES FOR 2481 AND ISD REQUIREMENTS, DIM MODULE, RS232 PORT)	"VEEDER-ROOT" MODEL NO. 848290-102
201	OWNER	VEEDER ROOT 8' 0.1 MAG. PLUS ALTERNATIVE FUELS (E85) TANK LEVEL PROBE (USE 4" FLOAT KIT)	"VEEDER-ROOT" MODEL NO. VR-846391-409
202	OWNER	SUMP LIQUID SENSOR, POSITION SENSITIVE	"VEEDER-ROOT" MODEL NO. 794380-208
203	OWNER	ANNULAR DRY SENSOR 3	2 "VEEDER-ROOT" MODEL NO. 794380-420
204	OWNER	VEEDER ROOT 8' 0.1 MAG. PLUS TANK LEVEL PROBE (USE 4" FLOAT KIT)	"VEEDER-ROOT" MODEL NO. VR-846397-110
205	OWNER	VEEDER ROOT PHASE TWO GASOLINE PROBE FLOAT KIT, 8' CABLE	"VEEDER-ROOT" MODEL NO. VR-886100-000
206	OWNER	VEEDER ROOT DIESEL PROBE FLOAT KIT, 8' CABLE	"VEEDER ROOT" MODEL # VR-846400-001
207	OWNER	TANK GAUGE PORT CAP AND RING KIT PER CARB EVR EXEC ORDER VR-102	"VEEDER ROOT" MODEL # VR-312020-952
1 208	OWNER	DIGITAL PRESSURIZED LINE LEAK DETECTOR W/O SWIFT CHECK VALVE TLS-450 AT TURBINES	"VEEDER-ROOT" MODEL NO. 859080-001
209	OWNER	OVERFILL ALARM WITH HORN/STROBE 120VAC	"VEEDER-ROOT" MODEL NO. 790091-001
210	OWNER	ACKNOWLEDGEMENT SWITCH	"VEEDER-ROOT" MODEL NO. 790095-001
211	OWNER	VEEDER ROOT ALTERNATIVE FUELS (E85) PROBE FLOAT KIT, 10' CABLE	"VEEDER ROOT" MODEL # VR-846400-014 "E-85 APPROVED"
212	OWNER	MINI HYDROSTATIC SENSOR-SINGLE FLOAT (TANK SUMP SENSOR INSTALLED IN XERXES RESERVOIR, UDC AND VENT TRANSITION SUMP SENSOR INSTALLED IN BRAVO PROPYLENE GLYCOL RESERVOIR)	"VEEDER-ROOT" MODEL NO. 794380-304
1 213	OWNER	INDIVIDUAL VACUUM SENSOR INDIVIDUAL VACUUM SENSOR MOUNTING KIT 2 SENSOR/NO TANK VACUUM SENSOR KIT 4 SENSOR/NO TANK VACUUM SENSOR KIT	"VEEDER-ROOT" MODEL NO. 857280-100 "VEEDER-ROOT" MODEL NO. 330020-448 "VEEDER-ROOT" MODEL NO. 330020-479 "VEEDER-ROOT" MODEL NO. 330020-485
216	OWNER	3-WAY BALL VALVE	"VEEDER-ROOT" MODEL NO. 576008-649
217	OWNER	2-IN-1 SENSOR BOX KIT. KIT INCLUDES (1) POSITION SENSITIVE SENSOR, (1) MINI HYDROSTATIC FLOAT, AND (1) 2-IN-1 SENSOR BOX.	"VEEDER-ROOT" MODEL NO. 330020-536

MATERIAL LIST AT BUILDING

ITEM	BY	DESCRIPTION	MANUFACTURER
230	EXIST.	EMERGENCY PUMP SHUT OFF SWITCH (INDOOR/OUTDOOR)	"SQUARE D" CLASS 9001 KR3RH6 PUSH-BUTTON N.C. WITH BOX AND COVER. (FOR OUTDOOR NEMA 3R ENCLOSURE REQUIRED) (OR EQUAL)

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2	05/27/26	REVISED PER NEW TANK SPECS		
3	06/04/26	REVISED PER OCHCA		

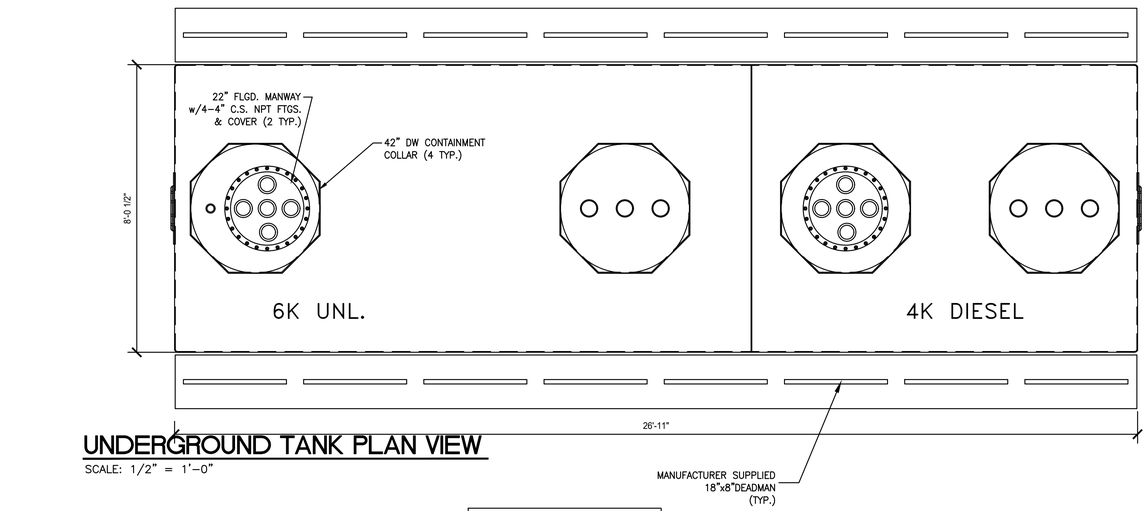
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PROJECT:
14121 CEDARWOOD STREET
WESTMINSTER, CA. 92683

MATERIAL SCHEDULE

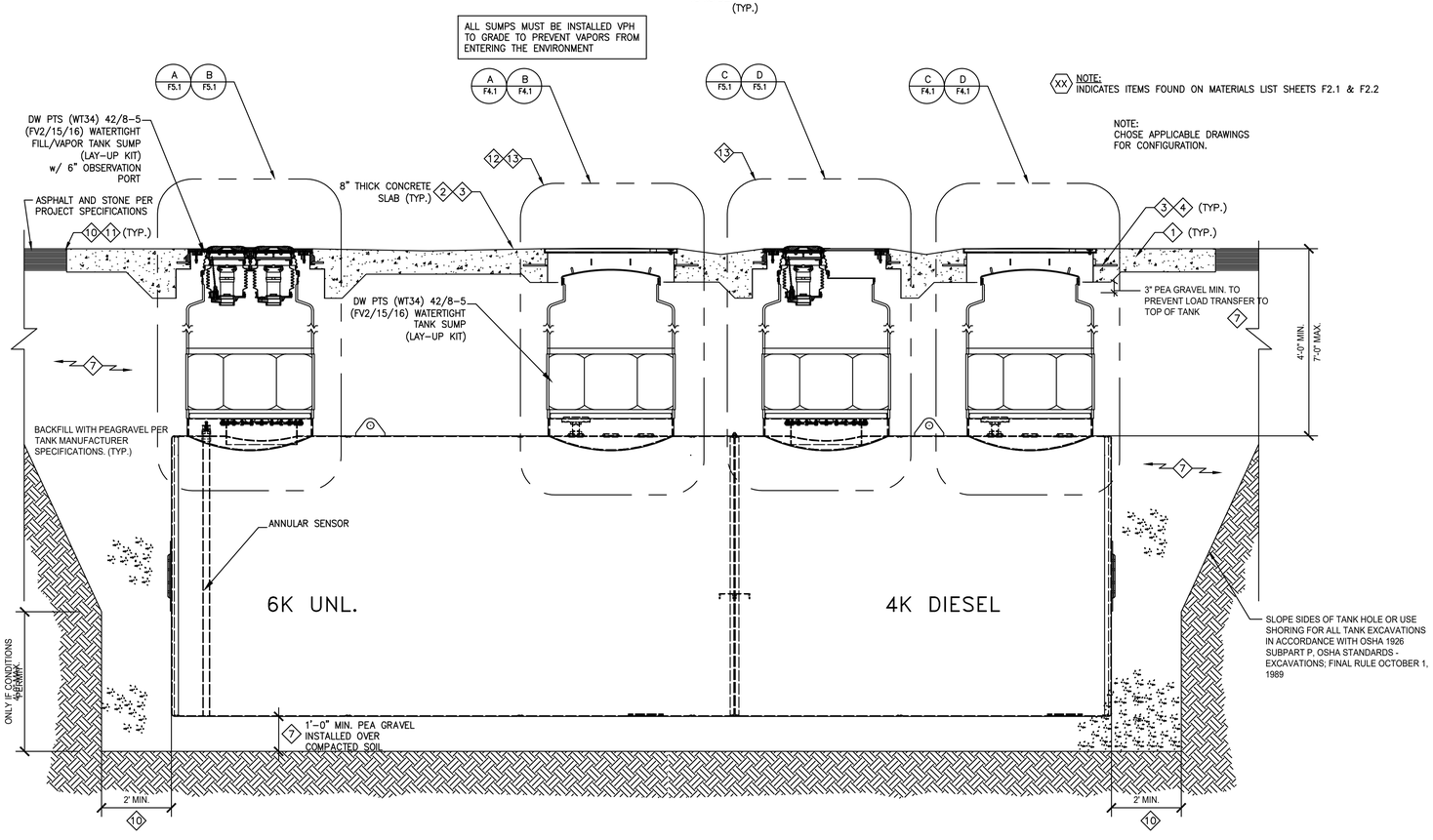
DATE ISSUED: 11/06/2025
SCALE: N.T.S.
DRAWN BY: CR
CHECKED BY: F. COHEN
PROJECT NUMBER: 25057
STORE NUMBER: WSD
SHEET: F2.2

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UNDERGROUND TANK PLAN VIEW

SCALE: 1/2" = 1'-0"



XX NOTE:
INDICATES ITEMS FOUND ON MATERIALS LIST SHEETS F2.1 & F2.2

NOTE:
CHOSE APPLICABLE DRAWINGS FOR CONFIGURATION.

A: UNDERGROUND TANK SECTION DETAIL

SCALE: 1/2" = 1'-0"

NOTES: UST INSTALLATION

#	
1	SLOPE CONCRETE AWAY FROM ALL MANHOLES 1" RISE OVER 12" RUN.
2	FIBER REINFORCEMENT TO BE USED. PREMIX UNIFORMLY THROUGHOUT CONCRETE.
3	REINFORCING BARS TO BE NO LESS THAN 2" AND NO MORE THAN 4" FROM SURFACE.
4	REINFORCE CONCRETE SLAB AROUND MANHOLE WITH (4) #4 REBAR 60" IN LENGTH. PLACE REBAR 6" FROM SIDES OF BOX.
5	SINGLE ¾" CONDUIT TO EACH SUBMERSIBLE PUMP. PROVIDE SEAL-OFF AT SUMP & BUILDING WIRING TROUGH. CONTAINS LINE VOLTAGE WIRING. LAST TWO FEET TO SUMPS SHALL BE PVC COATED RIGID.
6	ONE 1" STANDARD MONITORING HOMERUN CONDUIT TO EACH TANK. FOR STANDARD MONITORING DEVICES, LOOP CONTAINMENT SUMP SENSORS, PLLD, VAC SENSORS & TANK GAUGE TO TANK INTERSTITIAL SENSOR LOCATION AND HOMERUN TO BLDG. PROVIDE SEAL-OFFS IN BUILDING & PRIOR TO LEAVING HAZARDOUS AREA. ROUTE TO INTRINSICALLY SAFE TROUGH IN BUILDING. CONDUITS SHALL CONTAIN ONLY LOW VOLTAGE WIRING FOR SENSORS. LAST TWO FEET TO SUMPS SHALL BE PVC COATED RIGID. NOTE: THIS CONDUIT KEPT ⌀ 1" FOR EASE OF INSTALLING ADDITIONAL MONITORING CABLES IN CA APPLICATIONS.
7	USE PEA GRAVEL CONSISTING OF NATURALLY ROUNDED AGGREGATE, MIN ⁄" & MAX OF ⁄" IN SIZE, FREE OF CLAY, SLAG, CINDERS, OR DEBRIS. ALL SUBSTITUTES MUST BE APPROVED BY MANUFACTURER'S & OWNER'S FIELD REPRESENTATIVE.
10	TANK PAD MINIMUM 2'-0" OFF OUTSIDE WALLS OF TANKS, AND MUST COVER THE FOOTPRINT OF THE TANKS. REQUIRED TO PROVIDE FOR PROPER TANK HOLD DOWN, AND TO PREVENT ACCIDENTAL DRILLING INTO TANK.
11	CUT CORNER WHERE MEETING ASPHALT PAVING ONLY. SQUARE CORNERS WHERE MEETING CONCRETE.
12	REFER TO SITE SPECIFIC PLANS FOR ACTUAL PIPE RUNS & NUMBER OF PRODUCT LINES (1 OR 2 PER UST SUMP).
13	SUCTION AND FILL SIDE SUMP CONFIGURATION SHOWN IS TYPICAL. FOR SPECIFIC DESIGN CRITERIA AT THESE SUMPS SEE ACCOMPANYING TANK INSTALLATION SITE PLAN & SUMP DETAIL DRAWINGS NOTED ABOVE.
15	UST OVERFILL COMPLIANCE IS ACHIEVED BY THE USE THE FOLLOWING: ALERT THE TRASFER OPERATOR WHEN THE TANK IS 90% FULL BY: A. RESTRICTING THE FLOW INTO THE TANK (FLAPPER VALVE) SET AT 95% AND B. TRIGERRING AUDIBLE AND VISUAL ALARM (OVERFILL ALARM) SET AT 90%

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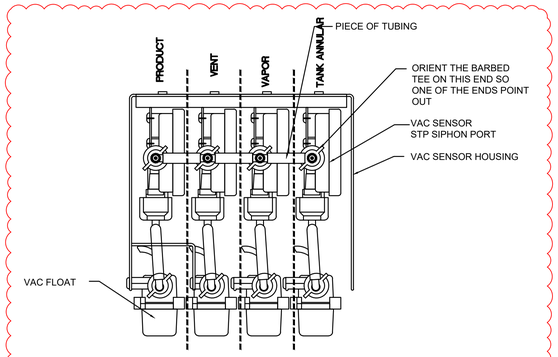
WESTMINSTER SCHOOL DISTRICT EST. 1871

PROJECT:
14121 CEDARWOOD STREET
WESTMINSTER, CA. 92683

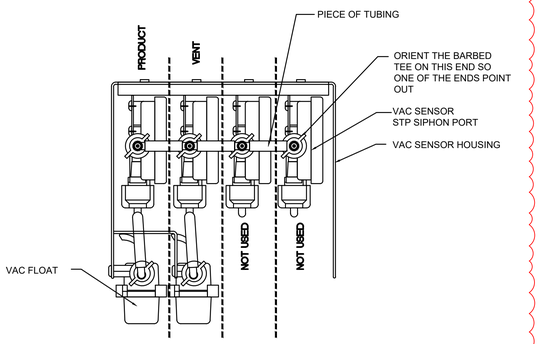
TANK PLAN AND SECTION

DATE ISSUED: 11/06/2025
SCALE: N.T.S.
DRAWN BY: CR
CHECKED BY: F. COHEN
PROJECT NUMBER: 25057
STORE NUMBER: WSD
SHEET: F3.1

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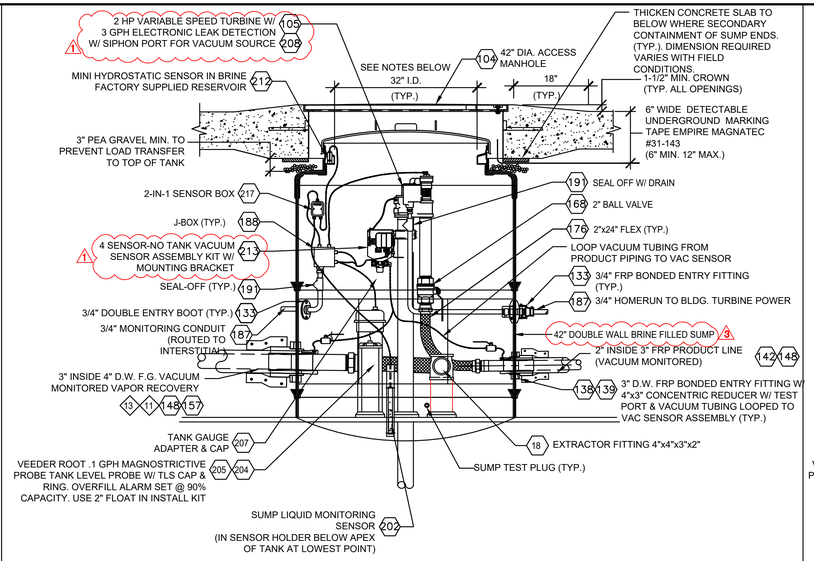


VACUUM SENSOR ASSEMBLY
UNLEADED

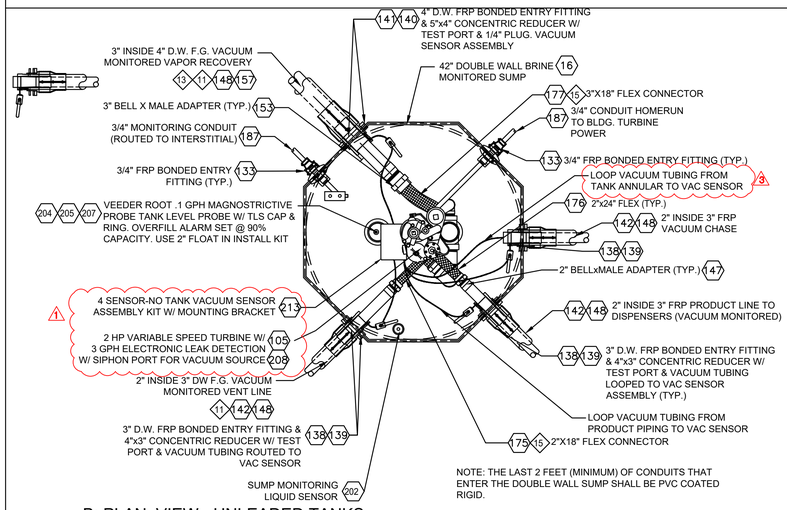


VACUUM SENSOR ASSEMBLY
DIESEL

1

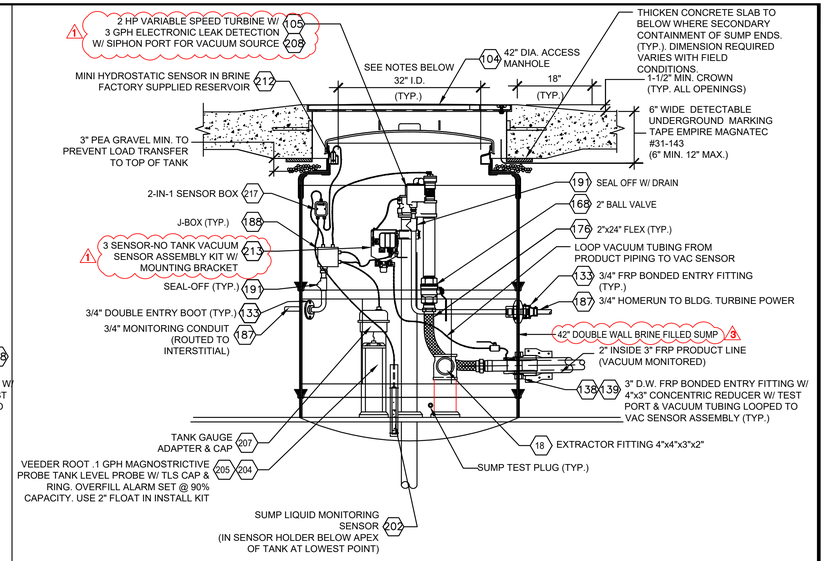


A: SECTION VIEW - UNLEADED TANKS
SCALE: 3/4" = 1'-0"

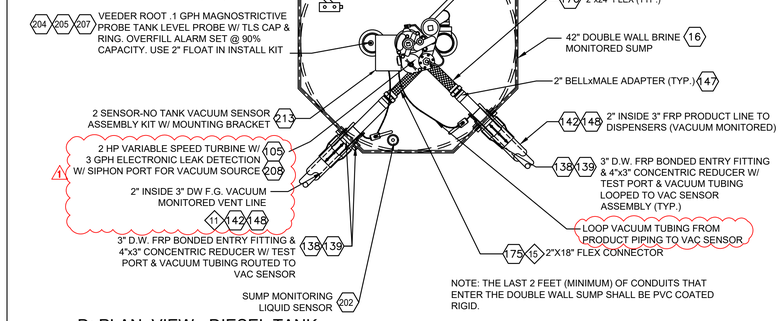


NOTE: THE LAST 2 FEET (MINIMUM) OF CONDUITS THAT ENTER THE DOUBLE WALL SUMP SHALL BE PVC COATED RIGID.

B: PLAN VIEW - UNLEADED TANKS
SCALE: 3/4" = 1'-0"

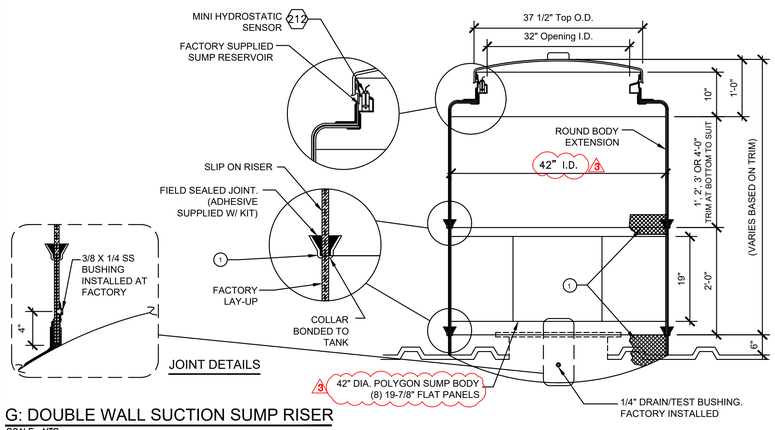


C: SECTION VIEW - DIESEL TANK
SCALE: 3/4" = 1'-0"



NOTE: THE LAST 2 FEET (MINIMUM) OF CONDUITS THAT ENTER THE DOUBLE WALL SUMP SHALL BE PVC COATED RIGID.

D: PLAN VIEW - DIESEL TANK
SCALE: 3/4" = 1'-0"



G: DOUBLE WALL SUCTION SUMP RISER
SCALE: NTS

*NOTE:
CONTRACTOR SHALL BE HELD RESPONSIBLE FOR PROPER INSTALLATION & PREPARATION PER MANUFACTURERS INSTRUCTIONS AND SHALL REINSTALL SUMPS IF HYDROSTATIC TESTING SHOWS LEAKING IN THIS AREA OF THE SUMP.

SUMPS MUST BE ORIENTED SUCH THAT THE FACE OF THE SUMP PANEL IS PARALLEL WITH ADJACENT TANK SUMP PANEL IN ORDER TO ACHIEVE THE 45° ANGLES REQUIRED TO ROUTE THE PIPING WHILE MAINTAINING THE DESIRED PERPENDICULAR ANGLE INTO THE SUMP.

1 CONTRACTOR TO ADDITIONALLY GLASS WRAP & LAMINATE AT CONNECTION FOLLOWING CURING OF ADHESIVE. SPECIFIC ATTENTION MUST BE GIVEN TO SURFACE PREP AS TESTING REQUIREMENTS WILL DETECT THE SMALLEST OF FLAWS. ALL MATERIALS MUST BE COMPATIBLE WITH GASOLINE, GASOLINE WITH 15% MTBE (METHYL TERTIARY-BUTYL ETHER), OR GASOLINE WITH 10% ETOH (ETHANOL). FIBERGLASS AND RESIN MUST EXTEND 1/2" BEYOND COVERAGE OF ADHESIVE.

FIBERGLASS PIPING, 2" NOMINAL, BONDED TO SUMP OR UDC INNER WALL USING GASOLINE COMPATIBLE EPOXY RESIN. BOTTOM OF PIPE TO BE IN CONTACT WITH LOWEST PART OF SUMP OR UDC.

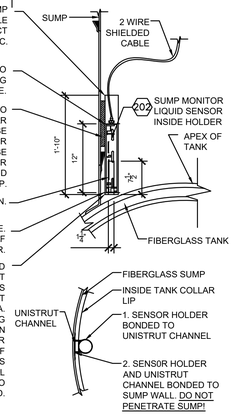
3/16" HOLE THROUGH PIPE FOR COTTER PIN TO PREVENT SENSOR FROM "FLOATING", OR BEING PULLED, OUT OF PLACE.

CONTRACTOR TO BOND UNISTRUT CHANNEL TO HOLDER TO ALLOW FIBERGLASS PIPE TO CLEAR SUMP COLLAR "LIP". CONTRACTOR TO USE GASOLINE-COMPATIBLE EPOXY TO BOND SPACER TO SUMP AND PIPE. CONTRACTOR MAY USE UNISTRUT, FIBERGLASS PIPE, OR ANY OTHER EQUIVALENT MATERIAL THAT CAN WITHSTAND ENVIRONMENT OF SUMP.

6" LONG x 1" WIDE SLOT FOR VISUAL INSPECTION.

3/16" HOLE 1/4" FROM BOTTOM, THROUGH PIPE. INSERT COTTER PIN TO KEEP SENSOR INSIDE OF HOLDER.

TURBINE SIDE SUMP SENSORS TO BE MOUNTED BELOW APEX OF TANK, AT BOTTOM OF SUMP AT SIDE OF TANK WHERE PRODUCT PENETRATIONS INTO SUMP ARE MADE AND BELOW LOWEST PENETRATION FITTING WITHIN SUMP AREA. PRODUCT PIPING TO DISPENSERS, PRODUCT PIPING CROSS CONNECTION BETWEEN SUMPS AND SIPHON PIPING PENETRATIONS ARE DESIGNED TO ENTER THE SAME SIDE OF THE SUMP AS SHOWN. IF PRODUCT PENETRATION ENTERS ON BOTH SIDES OF SUMP DUE TO FIELD CONDITIONS, THEN DUAL SENSORS AT TURBINE SUMP WILL BE REQUIRED TO BE INSTALLED.



H: SUMP SENSOR HOLDER DETAILS
SCALE: NTS

NOTE: CONTRACTOR TO USE ADDITIONAL GALVANIZED FITTINGS AS REQUIRED TO MINIMIZE BENDS IN FLEXIBLE CONNECTORS

XX NOTE: INDICATES ITEMS FOUND ON MATERIALS LIST SHEETS F2.1 & F2.2

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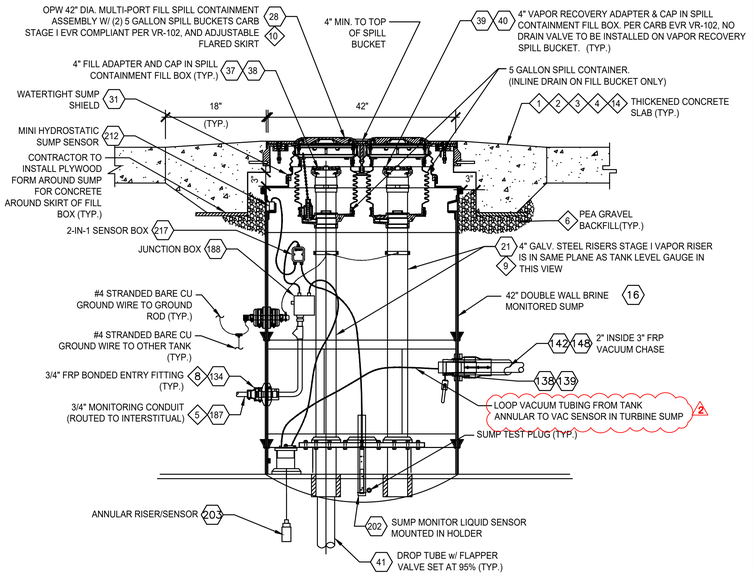
WESTMINSTER SCHOOL DISTRICT EST. 1871

PROJECT:
14121 CEDARWOOD STREET
WESTMINSTER, CA. 92683

SUCTION SUMP DETAILS

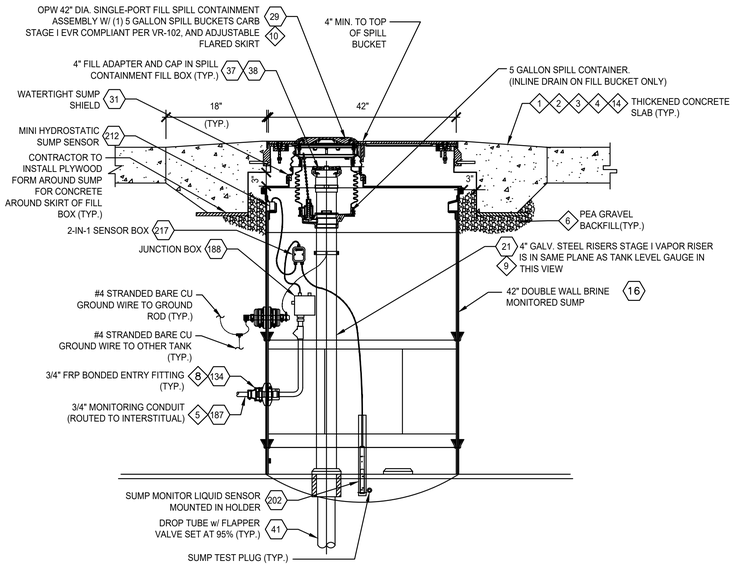
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PROJECT NUMBER: 25057
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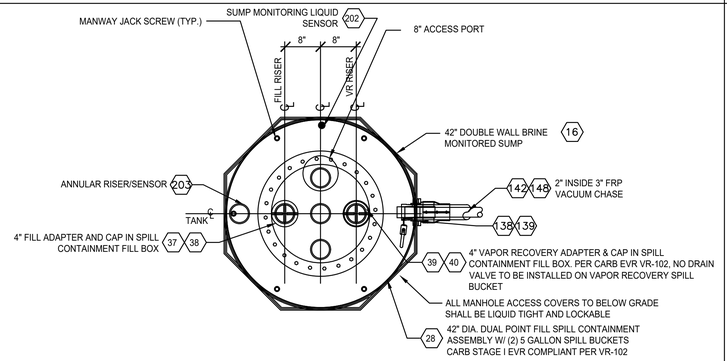
A: SECTION VIEW - FILL SIDE SUMP (UNLEADED TANK)

SCALE: 3/4" = 1'-0"



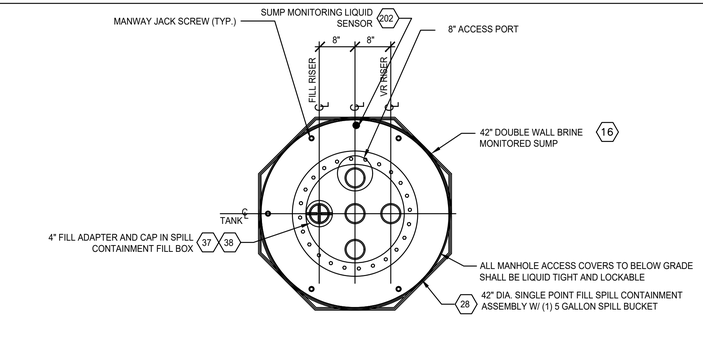
C: SECTION VIEW - FILL SIDE SUMP (DIESEL TANK)

SCALE: 3/4" = 1'-0"



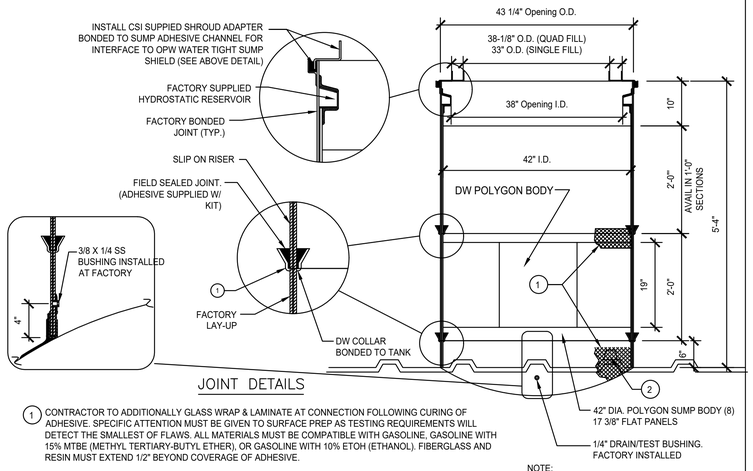
B: PLAN VIEW - FILL SIDE SUMP (UNLEADED TANK)

SCALE: 3/4" = 1'-0"



D: PLAN VIEW - FILL SIDE SUMP (DIESEL TANK)

SCALE: 3/4" = 1'-0"



JOINT DETAILS

1. CONTRACTOR TO ADDITIONALLY GLASS WRAP & LAMINATE AT CONNECTION FOLLOWING CURING OF ADHESIVE. SPECIFIC ATTENTION MUST BE GIVEN TO SURFACE PREP AS TESTING REQUIREMENTS WILL DETECT THE SMALLEST OF FLAWS. ALL MATERIALS MUST BE COMPATIBLE WITH GASOLINE, GASOLINE WITH 15% MTBE (METHYL TERTIARY-BUTYL ETHER), OR GASOLINE WITH 10% ETOH (ETHANOL). FIBERGLASS AND RESIN MUST EXTEND 1/2" BEYOND COVERAGE OF ADHESIVE.
2. THE STRAP CHANNEL IF PRESENT ON THE FILL SIDE SUMP DOES NOT "COMMUNICATE" WITH THE INSIDE OF THE SUMP. CONTRACTOR TO BE SURE TO LEAVE UNOBSRUCTED PATH FOR STRAP TO PENETRATE INTO THE CHANNEL SO THAT TANK MAY BE PROPERLY ANCHORED.

NOTE:
CONTRACTOR SHALL BE HELD RESPONSIBLE FOR PROPER INSTALLATION & PREPARATION PER MANUFACTURERS INSTRUCTIONS AND SHALL REINSTALL SUMPS IF HYDROSTATIC TESTING SHOWS LEAKING IN THIS AREA OF THE SUMP.

G: DOUBLE WALL FILL SUMP RISER

SCALE: 3/4" = 1'-0"

# – NOTES	
1	SLOPE CONCRETE AWAY FROM ALL MANHOLES 1" RISE OVER 12" RUN
2	FIBER REINFORCEMENT TO BE USED. PRE-MIX UNIFORMLY THROUGHOUT CONCRETE.
3	REINFORCING BARS TO BE NO LESS THAN 2" AND NO MORE THAN 4" FROM SURFACE.
4	REINFORCE CONCRETE SLAB AROUND MANHOLE WITH 4-#3 REBAR 60" IN LENGTH. PLACE REBAR 6" FROM SIDES OF BOX.
5	ONE 3/4" STANDARD MONITORING HOMERUN CONDUIT TO EACH TANK. FOR STANDARD MONITORING DEVICES, LOOP CONTAINMENT SUMP SENSORS, PLLD, VAC SENSORS & TANK GAUGE TO TANK INTERSTITIAL SENSOR LOCATION AND HOMERUN TO BLDG. PROVIDE SEAL-OFFS IN BUILDING & PRIOR TO LEAVING HAZARDOUS AREA. ROUTE TO INTRINSICALLY SAFE TROUGH IN BUILDING. CONDUITS SHALL CONTAIN ONLY LOW VOLTAGE WIRING FOR SENSORS. LAST TWO FEET TO SUMPS SHALL BE PVC COATED RIGID.
6	PEA GRAVEL BACKFILL. ALL SUBSTITUTES MUST BE APPROVED BY MANUFACTURER AND OWNER'S FIELD REPRESENTATIVE.
7	PIPING SHALL BE LAID AND CONTINUOUSLY SUPPORTED ON A 6" COMPACTED PEA GRAVEL BEDDING. PIPING SHALL NOT BE SUPPORTED BY BLOCKS, PLANKS, OR OTHER DEBRIS.
8	ALL ENTRIES TO BE PERPENDICULAR TO CONTAINMENT SUMP. OFFLINE INSTALLATION SHALL BE BE PERMITTED WHEN USING FLEXIBLE ENTRY BOOTS
9	REAM ALL RISERS FOR FULL PIPE BORE IF REQUIRED.
10	INSTALL TANK ID MARKERS IN THE SPILL CONTAINMENT MANHOLES. COVERS SHALL BE PRIMED AND PAINTED ACCORDING TO SPECIFICATIONS.
11	SECONDARY CONTAINMENT IS REQUIRED FOR ALL VENT AND STAGE II VAPOR RECOVERY PIPING.
12	COAT ALL BURIED GALVANIZED STEEL WITH COAL TAR EPOXY.
13	LAYOUT TANK & STAGE II VAPOR RECOVERY PIPING SUCH THAT THE STAGE II PIPING DRAINS & ENTERS INTO REGULAR UNLEADED TANK FIRST W/ 3" CONNECTIONS, AND CONTINUES 3" TO OTHER TANK.
14	CONCRETE SHALL BE THICKENED AT THE THE FILL SUMPS DOWN TO BELOW THE TOP OF CONTAINMENT OF THE DOUBLE WALL SUMP AS REQUIRED. DIMENSION OF SLAB THICKNESS VARIES WITH SITE CONDITIONS.
15	CROSSING FLEX CONNECTORS MUST MAINTAIN A MINIMUM OF 2 INCH CLEARANCE OR THE USE OF AN ANTI CHAFING DEVICE MUST BE INSTALLED.
16	UST OVERFILL COMPLIANCE IS ACHIEVED BY THE USE THE FOLLOWING: ALERT THE TRASFER OPERATOR WHEN THE TANK IS 90% FULL BY: A. RESTRICTING THE FLOW INTO THE TANK (FLAPPER VALVE) SET AT 95% AND B. TRIGERRING AUDIBLE AND VISUAL ALARM (OVERFILL ALARM) SET AT 90%

NOTE: CONTRACTOR TO USE ADDITIONAL GALVANIZED FITTINGS AS REQUIRED TO MINIMIZE BENDS IN FLEXIBLE CONNECTORS

XX NOTE: INDICATES ITEMS FOUND ON MATERIALS LIST SHEETS F2.1 & F2.2

PE STAMP

REVISIONS

NO.:	DATE:	DESCRIPTION:	BY:	APP.:
1	05/27/26	REVISED PER NEW TANK SPEC'S		
2	06/04/26	REVISED PER OCHCA		

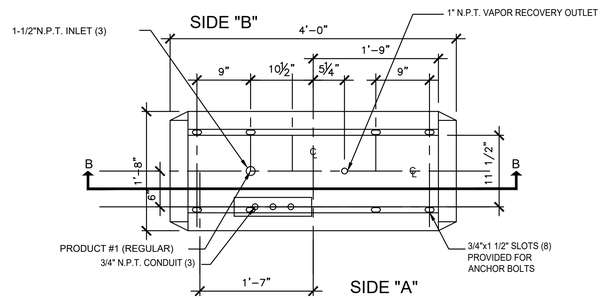
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PROJECT:
14121 CEDARWOOD STREET
WESTMINSTER, CA. 92683

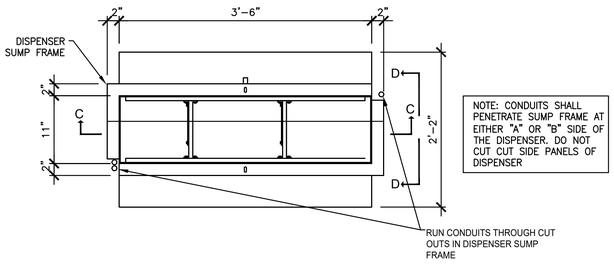
FILL SUMP DETAILS

DATE ISSUED: 11/06/2025
SCALE: N.T.S.
DRAWN BY: CR
CHECKED BY: F. COHEN
PROJECT NUMBER: 25057
STORE NUMBER: WSD
SHEET: F5.1



A-A DISPENSER MOUNTING DIAGRAM

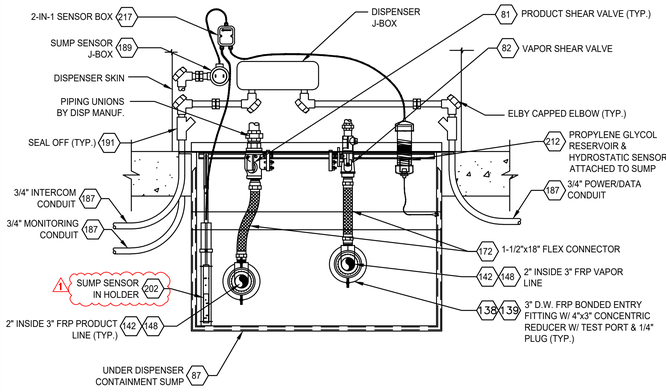
SCALE: 1"=1'-0"



NOTE: CONDUITS SHALL PENETRATE SUMP FRAME AT EITHER "A" OR "B" SIDE OF THE DISPENSER. DO NOT CUT CUT SIDE PANELS OF DISPENSER

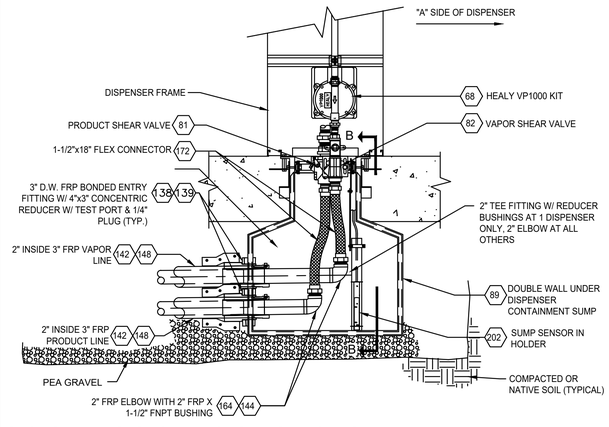
B-B DISPENSER CONTAINMENT SUMP PLAN VIEW

SCALE: 1"=1'-0"



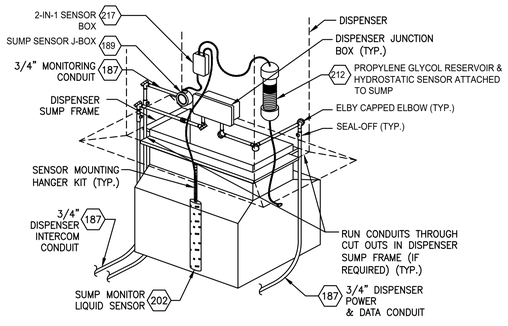
SECTION C-C: ELEVATION DETAIL @ SUMP BOX

SCALE: 1"=1'-0"



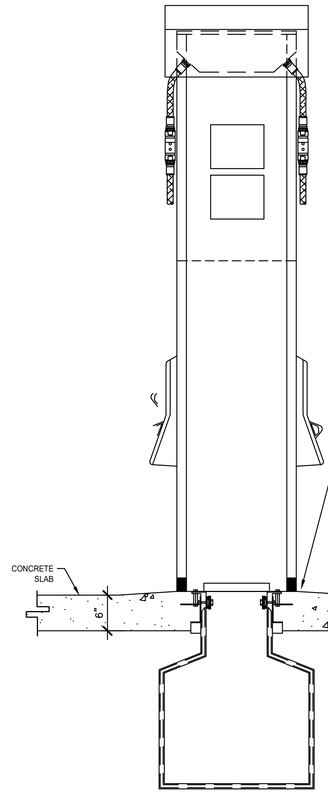
SECTION D-D - SECTION THROUGH DISPENSER SUMP

SCALE: 1"=1'-0"



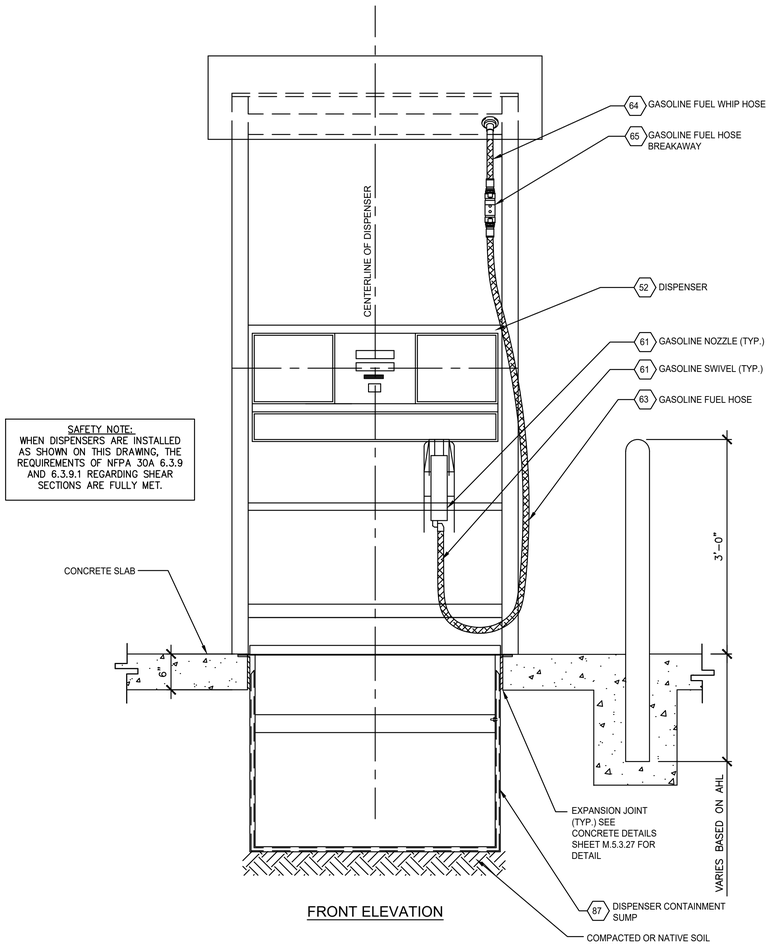
DISPENSER CONTAINMENT SUMP CONDUIT ROUTING DETAIL

SCALE: NONE



SIDE ELEVATION

SAFETY NOTE:
WHEN DISPENSERS ARE INSTALLED AS SHOWN ON THIS DRAWING, THE REQUIREMENTS OF NFPA 30A 6.3.9 AND 6.3.9.1 REGARDING SHEAR SECTIONS ARE FULLY MET.



FRONT ELEVATION

NOTE:
IF REQUIRED BY LOCAL CODES, EXTEND CONCRETE UNDER BOLLARD BELOW THE FROST LINE.

PE STAMP

REVISIONS

NO.:	DATE:	DESCRIPTION:	BY:	APP.:
1	06/04/25	REVISED PER CCHCA		

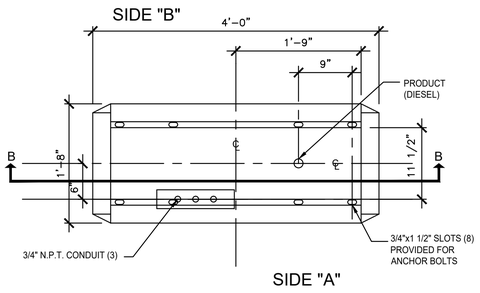
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WESTMINSTER SCHOOL DISTRICT EST. 1872

PROJECT:
14121 CEDARWOOD STREET
WESTMINSTER, CA. 92683
UNL. DISPENSER / UDC DETAILS

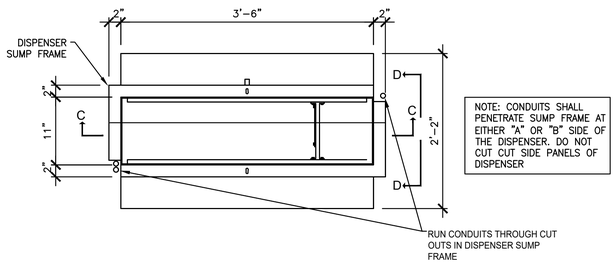
DATE ISSUED: 11/06/2025
SCALE: N.T.S.
DRAWN BY: CR
CHECKED BY: F. COHEN
PROJECT NUMBER: 25057
STORE NUMBER: WSD
SHEET: F6.1

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A-A DISPENSER MOUNTING DIAGRAM

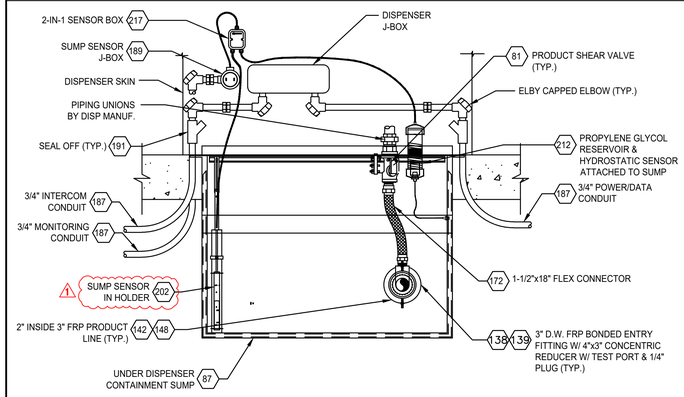
SCALE: 1"=1'-0"



NOTE: CONDUITS SHALL PENETRATE SUMP FRAME AT EITHER "A" OR "B" SIDE OF THE DISPENSER. DO NOT CUT CUT SIDE PANELS OF DISPENSER

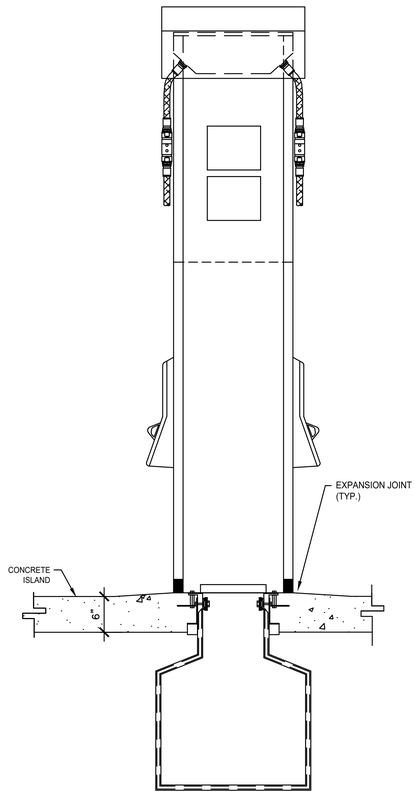
B-B DISPENSER CONTAINMENT SUMP PLAN VIEW

SCALE: 1"=1'-0"



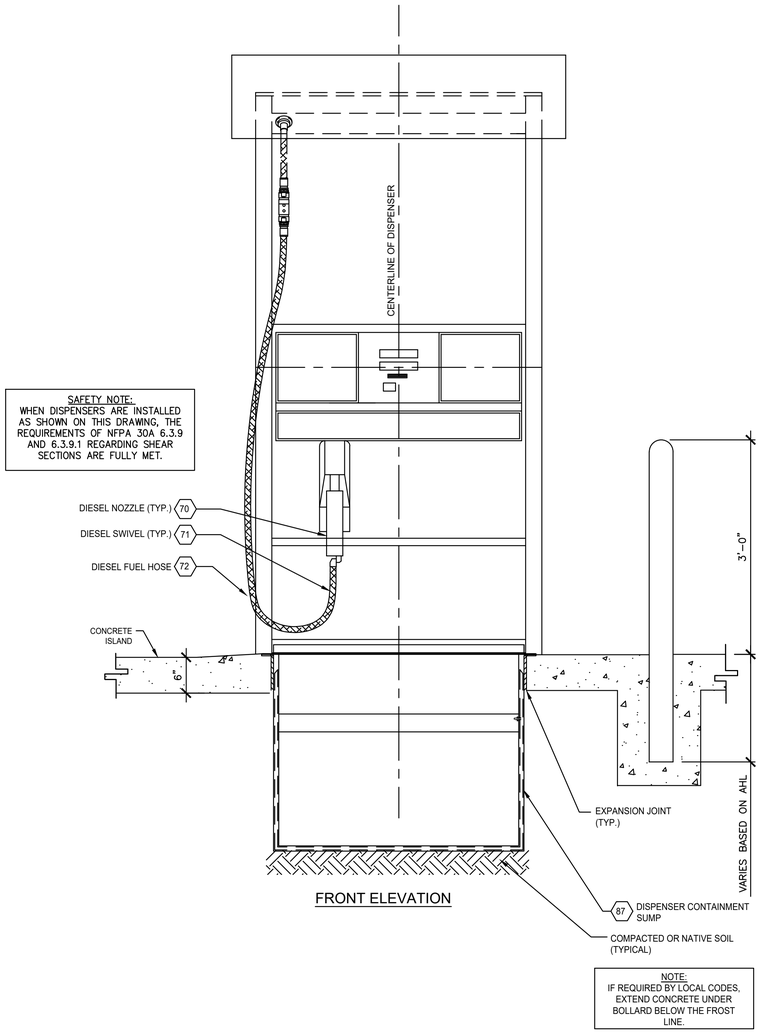
SECTION C-C: ELEVATION DETAIL @ SUMP BOX

SCALE: 1"=1'-0"



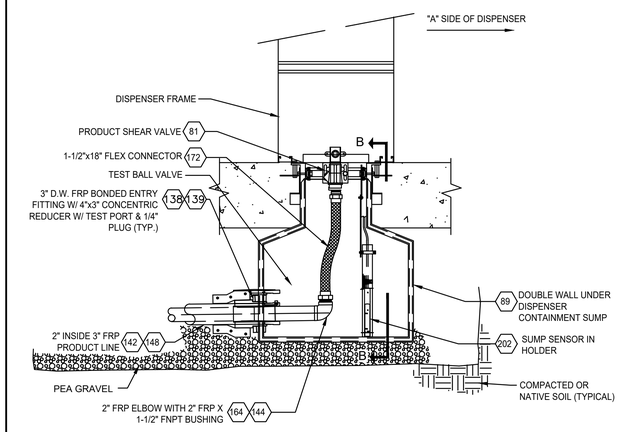
SIDE ELEVATION

SAFETY NOTE:
WHEN DISPENSERS ARE INSTALLED AS SHOWN ON THIS DRAWING, THE REQUIREMENTS OF NFPA 30A 6.3.9 AND 6.3.9.1 REGARDING SHEAR SECTIONS ARE FULLY MET.



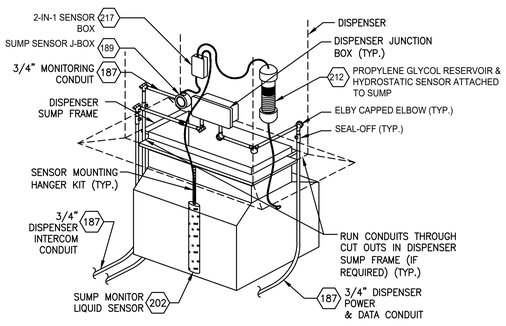
FRONT ELEVATION

NOTE:
IF REQUIRED BY LOCAL CODES, EXTEND CONCRETE UNDER BOLLARD BELOW THE FROST LINE.



SECTION D-D - SECTION THROUGH DISPENSER SUMP

SCALE: 1"=1'-0"



DISPENSER CONTAINMENT SUMP CONDUIT ROUTING DETAIL

SCALE: NONE

PE STAMP

REVISIONS

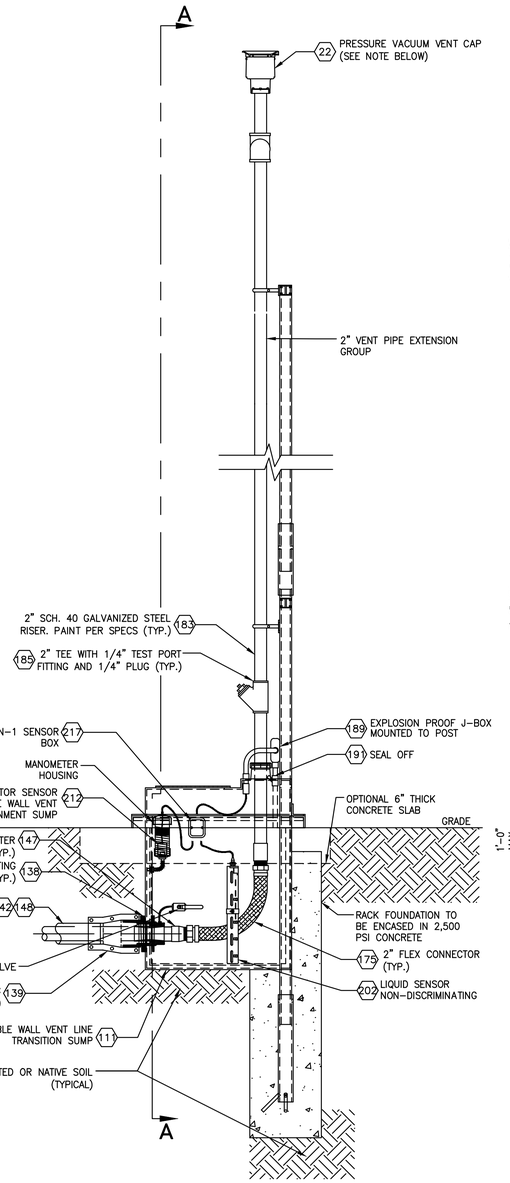
NO.:	DATE:	DESCRIPTION:	BY:	APP.:
1	06/04/26	REVISED PER OCHCA		

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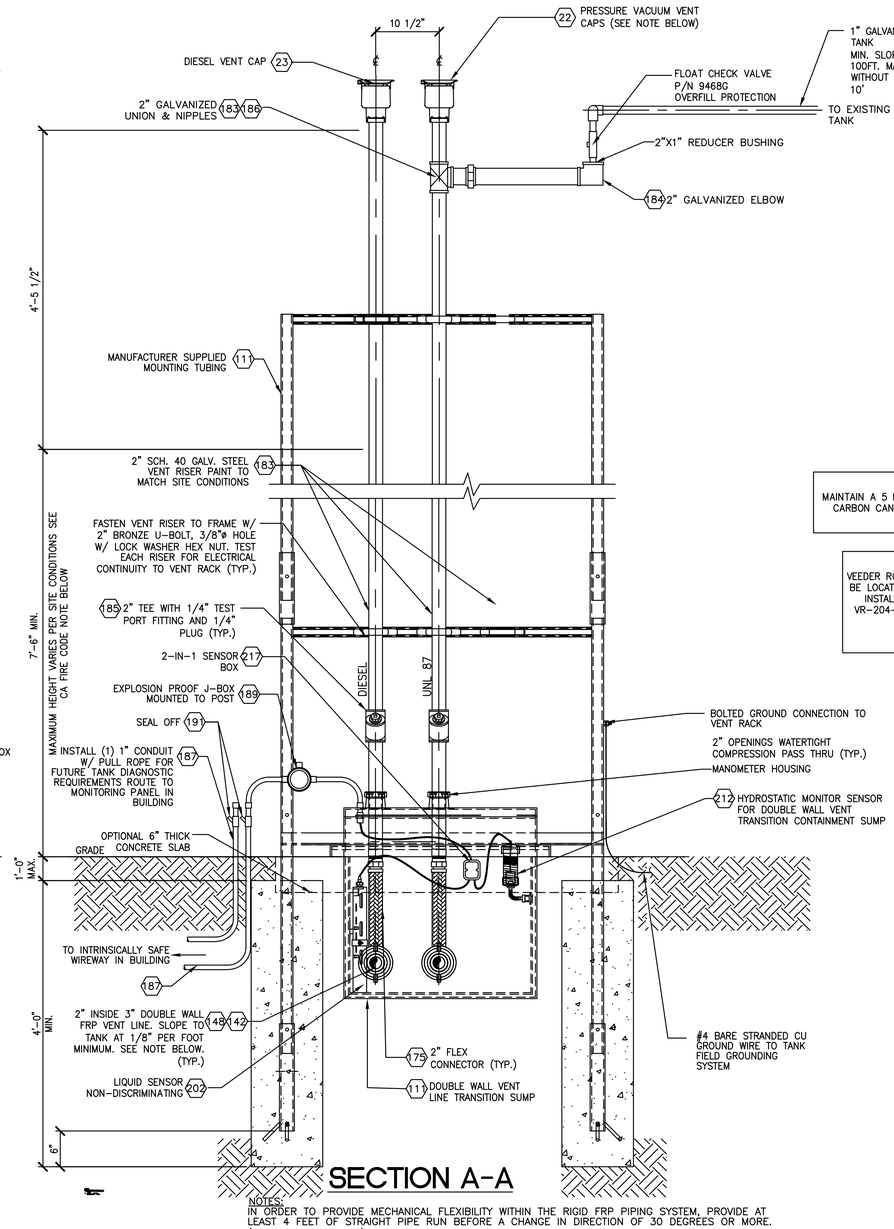
WESTMINSTER SCHOOL DISTRICT EST. 1872

PROJECT:
14121 CEDARWOOD STREET
WESTMINSTER, CA. 92683
DIESEL DISPENSER / UDC DETAILS

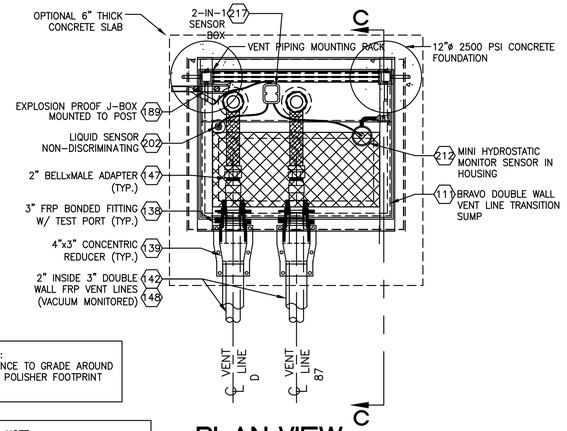
DATE ISSUED: 11/06/2025
SCALE: N.T.S.
DRAWN BY: CR
CHECKED BY: F. COHEN
PROJECT NUMBER: 25057
STORE NUMBER: WSD
SHEET: F6.2



SECTION C-C



SECTION A-A



PLAN VIEW

NOTE:
MAINTAIN A 5 FOOT CLEARANCE TO GRADE AROUND CARBON CANISTER VAPOR POLISHER FOOTPRINT

NOTE:
VEEDER ROOT CARBON CANISTER VAPOR POLISHER TO BE LOCATED IN CONFORMANCE WITH MANUFACTURERS INSTALLATION MANUAL, CARB EXECUTIVE ORDER VR-204-D AND ALL APPLICABLE STATE AND LOCAL CODES.

NOTES:

IN ORDER TO PROVIDE MECHANICAL FLEXIBILITY WITHIN THE RIGID FRP PIPING SYSTEM, PROVIDE AT LEAST 4 FEET OF STRAIGHT PIPE RUN BEFORE A CHANGE IN DIRECTION OF 30 DEGREES OR MORE. (NFPA 30A CFC 2013)

THE VENT CONFIGURATION SHOWN IS IN ACCORDANCE WITH CP-201 THE NUMBER OF VENT CAPS AT ANY GDF SHALL NOT PERMIT AN ADDITIVE LEAK RATE OF MORE THAN .17 CHF AT 2" OF WATER COLUMN. MAX ALLOWED WITHOUT MANIFOLDING IS (3).

THE VENT DISCHARGE SHALL BE LOCATED SO THAT VAPORS ARE RELEASED AT A SAFE POINT OUTSIDE OF BUILDINGS AND NOT LESS THAN 3.6 M (12 FT) ABOVE THE ADJACENT GROUND LEVEL. VAPORS SHALL BE DISCHARGED UPWARD OR HORIZONTALLY AWAY FROM ADJACENT WALLS. VENT OUTLETS SHALL BE LOCATED SO THAT VAPORS WILL NOT BE TRAPPED BY EAVES OR OTHER OBSTRUCTIONS AND SHALL BE AT LEAST 1.5 M (5 FT) FROM BUILDING OPENINGS. VENTS SHALL BE INSTALLED IN ACCORDANCE WITH (NFPA 30, CFC 2013 AND CBC 2013.

VENT RISERS SHOULD STAND NO LESS THAN 3' FROM OUTSIDE EDGE OF CURB

THE DIESEL VENT RISER IS ALWAYS SEPARATE.

PE STAMP

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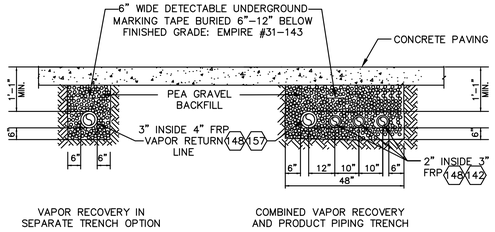
PROJECT:
14121 CEDARWOOD STREET
WESTMINSTER, CA. 92683
VENT RISER DETAIL

DATE ISSUED:	11/06/2025
SCALE:	
DRAWN BY: CR	CHECKED BY: F. COHEN
PROJECT NUMBER:	25057
STORE NUMBER:	WSD
SHEET:	F7.1

11/23/2025 7:54:52 AM

PIPE TRENCH DETAIL

SCALE: NTS



VAPOR RECOVERY IN SEPARATE TRENCH OPTION

COMBINED VAPOR RECOVERY AND PRODUCT PIPING TRENCH

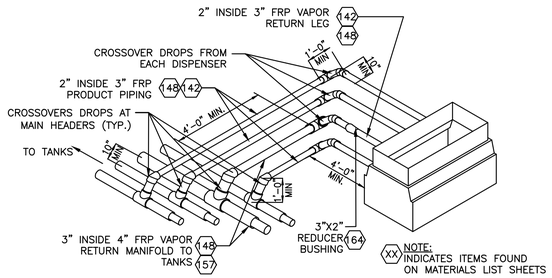
NOTE:
FOR ILLUSTRATION PURPOSES ONLY. SEE SITE PIPING LAYOUT FOR CONFIGURATION

NOTE:
IN COMBINED TRENCH, MIN. 12" BETWEEN STAGE II & PRODUCT PIPING (C.L.)

XX NOTE:
INDICATES ITEMS FOUND ON MATERIALS LIST SHEETS

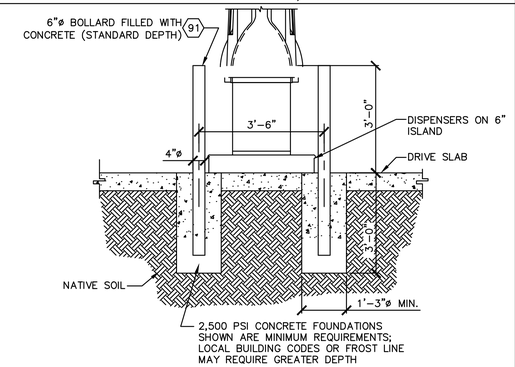
DISPENSER SUMP CROSSOVER PIPING DETAIL FOR FRP

SCALE: NTS



STANDARD PIPE BOLLARD DETAIL – NFPA 30/30A

SCALE: 1" = 1'–0"



2019 NFPA 30A FIRE CODE REQUIREMENTS FOR DISPENSING DEVICES:
DISPENSING DEVICES SHALL BE MOUNTED ON A CONCRETE ISLAND OR SHALL BE OTHERWISE BE PROTECTED AGAINST COLLISION BY MEANS ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION

CFC2301.1
DISPENSING DEVICES SHALL BE PROTECTED AT EACH END WITH BOLLARDS, 4 INCHES IN DIAMETER HAVING A MINIMUM OF 3 FOOT DEEP FOOTING NOT LESS THAN 15 INCHES IN DIAMETER PROTECTING ABOVE GRADE AT A MINIMUM OF 3 FEET AND BE LOCATED NOT LESS THAN 4 FEET NOR MORE THAN 5 FEET FROM FUEL DISPENSERS OR POINT OF SALE DEVICES, OR EQUVALENT MEANS OF APPROVED BY THE FIRE CHIEF.

NOTE:
THIS BOLLARD AND FOUNDATION SATISFIES BOTH CONSTRAINED & NON–CONSTRAINED SOIL CONDITIONS. USE THIS DESIGN IN JURISDICTIONS THAT FOLLOW NFPA 30/30A.

FIRE EXTINGUISHER SIGN



IN CASE OF EMERGENCY SIGN

IN CASE OF FIRE, SPILL OR RELEASE:

1. USE EMERGENCY PUMP SHUTOFF
2. REPORT THE ACCIDENT!

FIRE DEPARTMENT TELEPHONE # (714) 741-5600(LOCAL) / 911 (EMERGENCY)
FACILITY ADDRESS:
14121 CEDARWOOD STREET
WESTMISTER, CA. 92683

DISPENSER SIGNAGE

CONTAINS 10% ETHANOL

DIESEL DISPENSER SIGNAGE

LOW SULFUR HIGHWAY DIESEL FUEL
(500 ppm Sulfur Maximum)

WARNING
Federal law ***prohibits*** use in model year 2007 and later highway vehicles and engines.
Its use may damage these vehicles and engines.

NG-810WW

OVERFILL ALARM SIGNAGE

OVERFILL ALARM

DISPENSER SIGNAGE

DANGER

EMERGENCY SHUT OFF OUTSIDE

EXTREMELY FLAMMABLE

Use as Motor Fuel Only

- NO SMOKING!
- Stop Engine.
- Turn off all electronic equipment including cellular telephones.
- Do not leave nozzle unattended during refueling
- Do not re-enter your vehicle while gasoline is pumping.
- Discharge your static electricity before fueling by touching a metal surface away from the nozzle.
- If a fire starts, do not remove nozzle - back away immediately

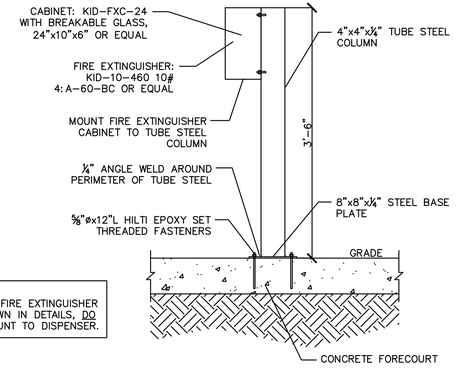
Static Sparks Can Cause A Fire, especially when filling portable containers.

- Containers must be metal or other material approved for storing gasoline.
- PLACE CONTAINER ON GROUND! DO NOT FILL ANY PORTABLE CONTAINER IN OR ON A VEHICLE.
- Keep nozzle spout in contact with the container during the entire filling operation.

NG-2402

ALTERNATE FIRE EXTINGUISHER FOR DISPENSER AREA INSTALLATION DETAILS

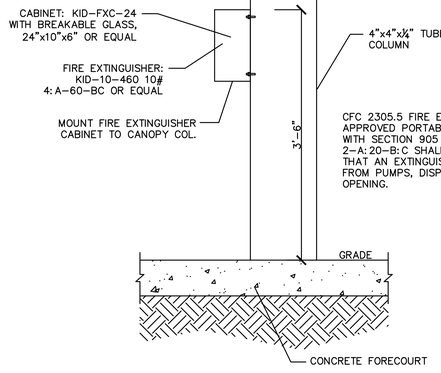
SCALE: 1" = 1'–0"



NOTE:
INSTALL FIRE EXTINGUISHER AS SHOWN IN DETAILS, DO NOT MOUNT TO DISPENSER.

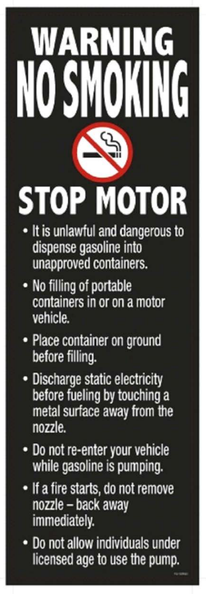
FIRE EXTINGUISHER FOR DISPENSER AREA INSTALLATION DETAILS

SCALE: 1" = 1'–0"



CFC 2305.5 FIRE EXTINGUISHERS
APPROVED PORTABLE FIRE EXTINGUISHERS COMPLYING WITH SECTION 905 WITH A MINIMUM RATING OF 2–A:20–B:C SHALL BE PROVIDED AND LOCATED SUCH THAT AN EXTINGUISHER IS NOT MORE THAN 75 FEET FROM PUMPS, DISPENSERS OR STORAGE TANK FILL PIPE OPENING.

DISPENSER SIGNAGE



REQUIRED SAFETY SIGNAGE/OBSTRUCTION OF VIEW NOTES

AN APPROVED EMERGENCY PROCEDURE SIGN, IN ADDITION TO THE OTHER SIGNS REQUIRED SHALL BE POSTED IN CONSPICUOUS LOCATION AND SHALL READ:
IN CASE OF FIRE, SPILL OR RELEASE 1. USE EMERGENCY PUMP SHUT OFF
2. REPORT THE ACCIDENT!
FIRE DEPARTMENT TELEPHONE NO. (XXX) XXX–XXXXX (LOCAL) / 911 (EMERGENCY)
FACILITY ADDRESS: ------

WARNING SIGNS SHALL BE CONSPICUOUSLY POSTED WITHIN SIGHT OF EACH DISPENSER IN THE FUEL DISPENSING AREA AND SHALL STATE THE FOLLOWING:
1. NO SMOKING
2. SHUT OFF MOTOR
3. DISCHARGE YOUR STATIC ELECTRICITY BEFORE FUEILING BY TOUCHING A METAL SURFACE AWAY FROM THE NOZZLE.
4. TO PREVENT STATIC CHARGE, DO NOT RE–ENTER YOUR VEHICLE WHILE GASOLINE IS PUMPING.
5. IF A FIRE STARTS, DO NOT REMOVE NOZZLE. BACK AWAY IMMEDIATELY
6. IT IS UNLAWFUL AND DANGEROUS TO DISPENSE GASOLINE INTO UN APPROVED CONTAINER
7. NO FILLING OF PORTABLE CONTAINERS IN OR ON A MOTOR VEHICLE. PLACE CONTAINER ON GROUND BEFORE FILLING

"NO SMOKING" AND "NO OPEN FLAME" SIGNS ARE REQUIRED TO BE POSTED AT FUEL DISPENSING AREAS AT A VISIBLE LOCATION

DISPENSER OPERATING INSTRUCTIONS SHALL BE CONSPICUOUSLY POSTED IN APPROVED LOCATIONS ON EVERY DISPENSER.
1. PAY CASHIER OR AT DISPENSER
2. LIFT NOZZLE, REMOVE GAS TANK CAP AND PLACE NOZZLE INSIDE THE HOLE AND SLIGHLY PRESS DOWN
3. PRESS THE DESIRED FUEL TYPE BUTTON
4. PULL NOZZLE LEVER TO FILL UP YOUR CAR

CFC2304.2.4 OBSTRUCTIONS OF VIEW
DISPENSING DEVICES SHALL BE IN CLEAR VIEW OF THE ATTENDANT AT ALL TIMES. OBSTRUCTIONS SHALL NOT BE PLACED BETWEEN THE DISPENSING AREA AND THE ATTENDANT.

PE STAMP

REVISIONS

NO.:	DATE:	DESCRIPTION:	BY:	APP.:

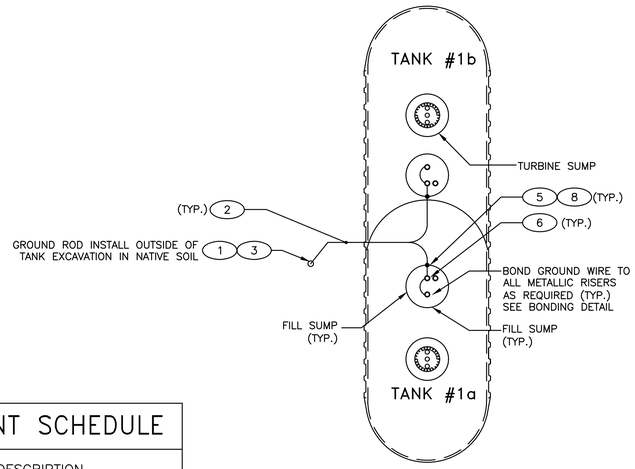
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WESTMINSTER SCHOOL DISTRICT EST. 1871

PROJECT:
14121 CEDARWOOD STREET
WESTMINSTER, CA. 92683
DETIALS

DATE ISSUED:	11/06/2025
SCALE:	
DRAWN BY: CR	CHECKED BY: F. COHEN
PROJECT NUMBER:	25057
STORE NUMBER:	WSD
SHEET:	F8.1

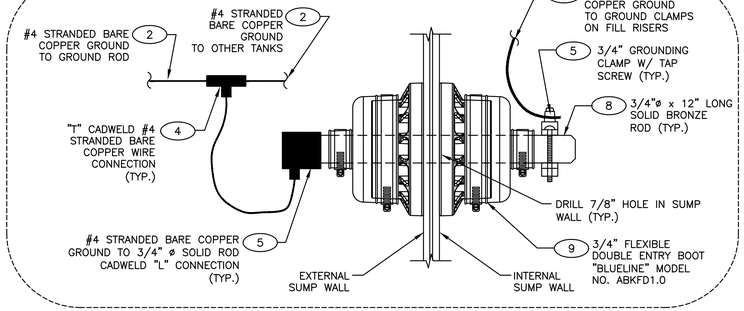
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EQUIPMENT SCHEDULE

ITEM NO.	DESCRIPTION
1	1/2" ø X 10' LONG COPPERBONDED GROUND ROD: "ERICO" PART NO. 611300 (UL LISTED) OR EQUIVALENT
2	#4 AWG STRANDED BARE COPPER GROUND WIRE. PROVIDE TERMINAL CONNECTORS AT U-BOLT CONNECTIONS
3	CADWELD #4 WIRE CABLE TO GROUND ROD CONNECTION "ERICO" PART NO. GTT14A1L, USE WELD METAL #32
4	CADWELD "T" CONNECTION FOR #4 BARE STRANDED WIRE CABLES. "ERICO" PART NO. TAC1L1L, USE #32 WELD METAL.
5	3/4" NPT ADJUSTABLE BRONZE GROUNDING PIPE CLAMP, LIND EQUIPMENT P/N JR-150-6 (905) 475-5086
6	4" NPT ADJUSTABLE BRONZE PIPE CLAMP, LIND EQUIPMENT P/N JR-150-30 (905) 475-5086
7	POMECO/OPW 6110-12WT 12" H-20 RATED ACCESS COVER
8	3/4"ø x 12" LONG SOLID BRONZE ROD
9	3/4" DOUBLE ENTRY FITTING. "ENVIRON" MODEL NO. DWB-1600

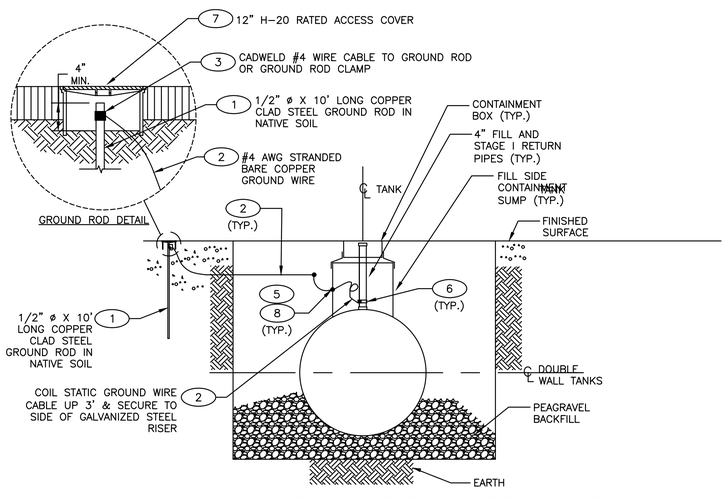
B B SEE TANK FUELING SITE PLAN FOR SPECIFIC TANK LAYOUT



TYPICAL PENETRATION & CONNECTION DETAIL
(SEE INSTALLATION SEQUENCE NOTES BELOW)

A: STATIC GROUNDING PLAN VIEW & BONDING DETAILS

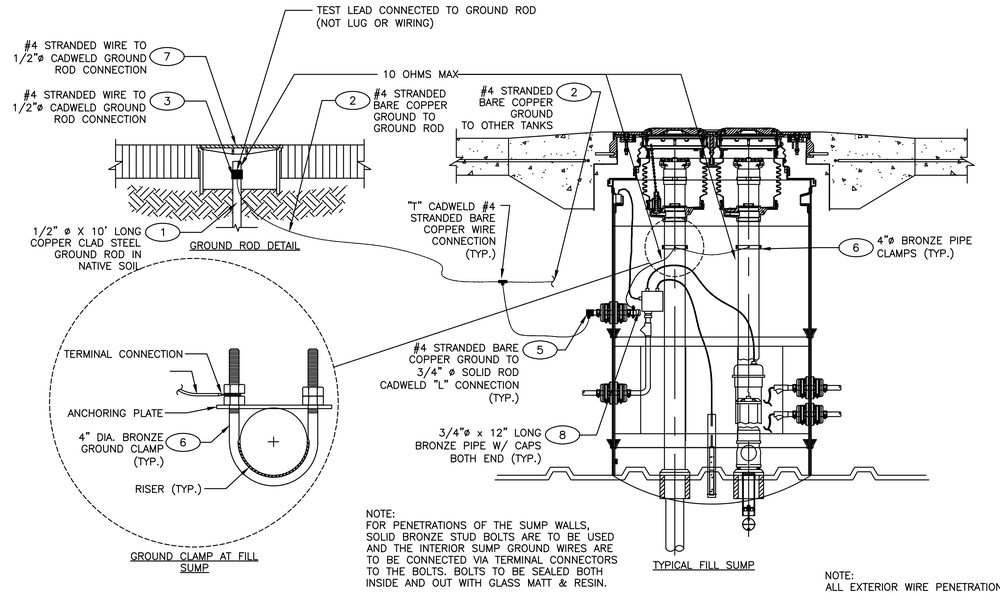
SCALE: NONE



(GROUND ROD INSTALLED IN SOIL NOT PEAGRAVEL BACKFILL)

B: STATIC GROUNDING SECTION & BONDING DETAILS

SCALE: NONE



NOTE:
FOR PENETRATIONS OF THE SUMP WALLS, SOLID BRONZE STUD BOLTS ARE TO BE USED AND THE INTERIOR SUMP GROUND WIRES ARE TO BE CONNECTED VIA TERMINAL CONNECTORS TO THE BOLTS. BOLTS TO BE SEALED BOTH INSIDE AND OUT WITH GLASS MATT & RESIN.

NOTE:
ALL EXTERIOR WIRE PENETRATIONS ARE REQUIRED TO BE CAD WELDED TO ENSURE EFFECTIVE GROUNDING.

! EXTREME CAUTION MUST BE OBSERVED WHILE USING ANY NON-INTRINSICALLY SAFE DEVICE IN CLASSIFIED AREAS. SUMP MUST BE TESTED FOR VOLATILE VAPORS PRIOR TO USE. ELECTRICAL CONNECT MUST BE MADE WITH JUMPER WIRE SO FINAL CONNECTION IS AWAY FROM CLASSIFIED AREAS. !

C: TESTING EXPOSED GROUND SYSTEM & BONDING DETAILS

SCALE: NONE

GENERAL SHEET NOTES

NOTES:

ALL STAGE I FILL AND VAPOR RISER ADAPTERS SHALL BE ELECTRICALLY GROUNDED TO PROMOTE THE RELAXATION OF STATIC CHARGE.

THE BONDING AND GROUNDING FOR STATIC ELECTRICITY PROTECTION SHALL BE IN COMPLIANCE PER ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES INCLUDING NFPA 30, FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE, NFPA 77, RECOMMENDED PRACTICE ON STATIC ELECTRICITY, NFPA 70, NATIONAL ELECTRIC CODE, AND THE CALIFORNIA CODE OF REGULATIONS, SUBCHAPTER 15, PETROLEUM SAFETY ORDERS-REFINING, TRANSPORTATION AND HANDLING, ARTICLE 5, FIRE AND EXPLOSIONS.

PER SECTION 6.4.1.3 OF NFPA 77, THE MEASURED TOTAL RESISTANCE IN THE GROUND PATH TO EARTH SHALL BE LESS THAN 1 MEGAOHM WHICH IS CONSIDERED ADEQUATE FOR RELAXATION OF STATIC CHARGE. THE MAXIMUM ALLOWABLE GROUND PATH TO EARTH RESISTANCE FOR STATIC ELECTRICITY GROUNDING APPLICATIONS SHALL NOT EXCEED 100,000 OHMS.

PER SECTION 6.4.1.3 OF NFPA 77, THE RESISTANCE IN METALLIC BONDING AND OR GROUNDING SYSTEMS SHALL BE LESS THAN 10 OHMS. RESISTANCE HIGHER THAN 10 OHMS INDICATES INADEQUATE CONNECTIONS.

A GROUNDING SYSTEM PER NEC CODE FOR CURRENT CARRYING CONDUCTORS SHALL BE CONSIDERED MORE THAN ADEQUATE FOR A STATIC ELECTRICITY GROUNDING SYSTEM.
PER THE NFPA 30, SECTION 5-6.3.4 ALL PARTS OF THE FILL PIPE ASSEMBLY, INCLUDING THE DROP TUBE, SHALL FORM A CONTINUOUS ELECTRICALLY CONDUCTIVE PATH.

THE MINIMUM WIRE SIZE FOR BONDING AND GROUNDING SHALL BE COPPER AWG #4

A 1/2" ø BY 10' LONG COPPER CLAD STEEL GROUND ROD SHALL BE DRIVEN INTO NATIVE SOIL ONLY. PLACING THE GROUND ROD INTO TANK PIT PEA GRAVEL SHALL NOT BE PERMITTED UNDER ANY CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR CLEARING ANY UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF THE GROUND.

THE GROUND ROD TO GROUND WIRE CONNECTION SHALL BE ACCESSIBLE THROUGH A H-20 RATED 12" DIAMETER MINIMUM ACCESS COVER TO ASSIST INSPECTION, MAINTENANCE AND TESTING. THE SCREW TYPE GROUND ROD CLAMP SHALL BE UL LISTED FOR DIRECT BURIAL.

ONE MAIN STRANDED #4 THHN CONDUCTOR SHALL BE RUN PAST EACH FILL SUMP. ONE STRANDED #4 THHN CONDUCTOR SHALL BE ROUTED TO EACH FILL SUMP. INSTALLATION AT SUMP SHALL BE AS FOLLOWS AND MUST BE COMPLETED IN ORDER NOTED AS FOLLOWS:

TESTING:

CAUTION: AVOID CONNECTING ANY ELECTRICAL TEST LEAD TO THE FILL OR VAPOR RISER IN A MANNER THAT WOULD POTENTIALLY PRODUCE STATIC DISCHARGE OR SPARKS OF ANY KIND.

THE FILL AND VAPOR RISERS SHALL BE TESTED AFTER INSTALLATION AND PERIODICALLY TO VERIFY BONDING AND GROUNDING COMPETENCY.

THE MAXIMUM RESISTANCE FROM ANY FILL OR VAPOR ADAPTER TO THE BODY OF THE GROUND ROD SHALL NOT EXCEED 10 OHMS FOR A METALLIC RISER PIPE, SPILL CONTAINMENT AND ADAPTER ASSEMBLIES.

THE RESISTANCE THROUGH ANY COMPOSITE OR NONMETALLIC STAGE I CONTAINMENT FITTING SHALL BE MEASURED WITH A OHMMETER CAPABLE OF READING UP TO 10 MEGAOHMS. THE SUM COLLECTIVE RESISTANCE OF THESE SEMI-CONDUCTIVE ELEMENTS SHALL NOT EXCEED 100,000 OHMS. FOR THESE SYSTEMS, THE GROUND RESISTANCE TESTER MUST BE CONNECTED TO THE GROUND CONDUCTOR CONNECTION ON THE COMPOSITE CONTAINMENT SYSTEM OR RISER PIPE.

FOR INSTALLATIONS WITHOUT AN EXPOSED GROUND ROD CONNECTION, TOTAL SYSTEM RESISTANCE SHALL BE MEASURED WITH A GROUND RESISTANCE TESTER BY A QUALIFIED ELECTRICIAN FAMILIAR WITH GROUND TESTING. THE TWO POINT METHOD MAY BE USED WITH THE SITE ELECTRICAL GROUNDING AS THE SECOND TEST POINT.

THE NEC MAXIMUM GROUND PATH RESISTANCE FOR CURRENT CARRYING APPLICATIONS IS 25 OHMS. HOWEVER, GROUND ROD TO EARTH RESISTANCE UP TO 100 OHMS SHALL BE ACCEPTABLE FOR STATIC ELECTRICITY PROTECTION OF THE FILL AND VAPOR RISERS.

NOTE:
ALL CAD WELDS W/ EXCEPTION OF FINAL CAD WELD @ GROUND ROD NOTED IN SCHEDULE BELOW MAY BE PREFABRICATED OUTSIDE THE TANK AREA AND BROUGHT TO SITE.

NOTE:
ELECTRICAL CONDUIT, FUELING SYSTEM HARDWARE OR THE STATION ELECTRICAL GROUNDING SYSTEM SHALL NOT BE USED FOR GROUNDING OR BONDING FILL AND VAPOR RISERS.

PE STAMP

REVISIONS

NO.:	DATE:	DESCRIPTION:	BY:	APP.:

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WESTMINSTER SCHOOL DISTRICT EST. 1872

PROJECT: 14121 CEDARWOOD STREET WESTMINSTER, CA. 92683
TANK FILL AND VAPOR RISER STATIC GROUNDING DETAIL

DATE ISSUED: 11/06/2025
SCALE:
DRAWN BY: CR
CHECKED BY: F. COHEN
PROJECT NUMBER: 25057
STORE NUMBER: WSD
SHEET: F9.1

11/23/2025 7:54:58 AM

TANK AND PIPING INSTALLATION SCOPE OF WORK:

GENERAL:

SCOPE OF WORK: UNLESS SPECIFIED OTHERWISE ON THESE DRAWINGS, THE GENERAL CONTRACTOR SHALL FURNISH ALL WORK AND MATERIALS TO COMPLETE THE INSTALLATION OF THE SYSTEMS AND EQUIPMENT SHOWN IN THESE DRAWINGS AND AS REQUIRED BY PROJECT DOCUMENTS PROVIDED TO THE CONTRACTOR.

WHERE THESE DRAWINGS DIFFER FROM LOCAL REGULATIONS, LOCAL REGULATIONS WILL SUPERSEDE THESE DRAWINGS IF THEY ARE MORE STRINGENT.

NOTE:

THESE GUIDELINES APPLY ONLY TO UNDERGROUND STORAGE TANKS AND PRODUCT PIPING. REFER TO BALANCE OF SITE SPECIFIC DOCUMENTS/ DRAWINGS FOR SPECIFICATIONS REGARDING CONCRETE/ASPHALT INSTALLATION, ELECTRICAL REQUIREMENTS, AND SANITARY & STORM SEWERS INSTALLATION.

ARCHITECTURAL AND CIVIL DRAWINGS SHALL TAKE PRECEDENCE FOR REFERENCING ALL DIMENSIONS, PROPERTY LINES, ELEVATIONS AND EQUIPMENT LOCATIONS

ALL DIMENSIONS AND CONDITIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BEFORE STARTING ANY WORK. ANY DISCREPANCY SHALL BE CALLED TO THE ATTENTION OF THE OWNER'S ENGINEER FOR HIS DECISION BEFORE PROCEEDING WITH THE WORK.

ALL REQUESTS TO ADD, DELETE, OR SUBSTITUTE MATERIAL AND EQUIPMENT SHOWN ON THESE DRAWINGS MUST BE REVIEWED AND APPROVED BY THE OWNER'S REPRESENTATIVE OR HIS AGENT, THE OWNERPROJECT MANAGER, IN CHARGE OF THE PROJECT. ALL CHANGES MUST BE REVIEWED WITH THE MARKETING FUELS MANAGER.

THE CONTRACTOR IS REQUIRED TO FURNISH AS-BUILT DRAWINGS TO LOCATE TANKS AND PIPING AS INSTALLED AFTER THE COMPLETION OF THE PROJECT.

(1) TANK INSTALLATION:

STANDARD: CONTRACTOR TO INSTALL DOUBLE WALL FIBERGLASS TANKS WITH COMPLETE "VEEDER ROOT" TLS-450 TANK AND PIPING MONITORING AND ALARM SYSTEM. TANKS TO BE SET MIN. 48" BELOW FINISH GRADE. SEE SITE SPECIFIC INSTALLATION DETAILS FOR TANK SIZES AND LOCATIONS.

**** LOCATION OF TANKS AND ASSOCIATED EQUIPMENT ON PROPERTY *****: FINAL FACILITY EQUIPMENT LOCATIONS INCLUDING PLACEMENT AND ORIENTATION OF TANKS, EMERGENCY SHUTOFF SWITCHES, OVERFILL ALARMS (IF PRESENT) TO BE APPROVED BY OWNER DISTRIBUTION PRIOR TO SUBMITTAL FOR PERMITS TO ENSURE CLEAR AND SAFE ACCESS TO THE UNDERGROUND TANKS FOR UNLOADING OPERATIONS. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CONFIRMING APPROVED TANK AND EQUIPMENT LOCATIONS HAS BEEN DOCUMENTED W/ OWNER DISTRIBUTION, THE SITE ENGINEER AND/OR OWNER'S REPRESENTATIVE OR HIS AGENT, THE OWNERPROJECT MANAGER PRIOR TO THE COMMENCEMENT OF WORK.

TANKS:
SHALL BE UNDERWRITERS LABORATORY APPROVED LISTED FOR THE UNDERGROUND STORAGE OF ALL FLAMMABLE AND COMBUSTIBLE MOTOR FUELS AS CALLED FOR ON THE SITE SPECIFIC DRAWING OR AS DESIGNATED ON THE SUPPLEMENTAL CONDITIONS AND SHALL BE DOUBLE WALL TANKS OF FIBERGLASS REINFORCED PLASTIC (FRP). INSTALLATION OF TANKS AND PIPING SHALL BE IN ACCORDANCE WITH U.L. LISTED MANUFACTURER'S INSTRUCTIONS. INSTALLATION SHALL CONFORM TO NFPA-30/30A AND ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. TANKS SHALL ONLY BE INSTALLED BY QUALIFIED INSTALLERS CERTIFIED BY THE STATE IN WHICH THE TANKS ARE TO BE INSTALLED AND BY THE TANK MANUFACTURER.

THE UNDERGROUND STORAGE TANK SYSTEM SHALL BE COMPATIBLE WITH THE PRODUCT STORED. ALL CONTINUOUS MONITORING DEVICES SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

ALL MATERIALS USED IN THE INSTALLATION SHALL BE COMPATIBLE WITH USE FOR THE INTENDED PURPOSE AS PER NATIONALLY RECOGNIZED CODES, LOCAL CODES AND GOVERNING AUTHORITIES.

METHANOL COMPATIBILITY: FOR ALL METHANOL COMPATIBLE STORAGE SYSTEMS, ALL READILY ACCESSIBLE COMPONENTS SHALL BE METHANOL COMPATIBLE FOR THE IMMEDIATE INTENDED SERVICE.

INITIAL TANK TESTING:
CONTRACTOR SHALL COMPLETE ALL TESTING ACCORDING TO MANUFACTURER'S INSTRUCTIONS FOR TANKS. CONTRACTOR SHALL COMPLETE ALL WARRANTY VALIDATION TESTING AND PROVIDE DOCUMENTATION TO OWNER'S REPRESENTATIVE OR HIS AGENT, THE OWNERPROJECT MANAGER.

IMMEDIATELY BEFORE INSTALLATION, ALL UNDERGROUND STORAGE TANKS SHALL BE TESTED. HYDROSTATICALLY MONITORED DOUBLE WALL TANKS SHALL BE TESTED ACCORDING TO MANUFACTURER'S INSTRUCTIONS BY:
* INSPECT AND ADJUST RESERVOIR LEVEL
* VISUALLY INSPECT THE TANK EXTERIOR FOR COLORED MONITORING FLUID
* PRESSURIZE THE PRIMARY TANK TO 5 PSI AND SOAP TEST ALL FITTINGS. DO NOT PRESSURIZE THE ANNULAR SPACE
* VISUALLY INSPECT THE TANK INTERIOR FOR ACCUMULATION OF COLORED MONITORING FLUID.

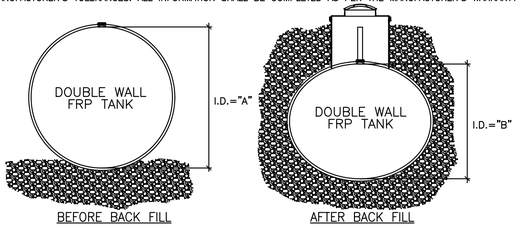
NOTE HYDROSTATIC FLUID RESERVOIR LEVEL MUST BE RECHECKED TO VERIFY TANK INTEGRITY PRIOR TO INTRODUCING BALLAST INTO TANKS.

FIELD REPAIR OF TANKS: IT IS ALLOWABLE TO FIELD REPAIR DAMAGED TANKS AFTER APPROVAL BY OWNER FILED ENGINEER. ALL TANKS DAMAGED IN TRANSPORT OR OFF LOADING OPERATIONS SHALL BE FIELD REPAIRED BY A TANK MANUFACTURER'S CERTIFIED FIELD SERVICE REPRESENTATIVE. TANK MANUFACTURER SHALL RE-CERTIFY REPAIRED TANKS FOR USE. ALL FIELD SERVICE WORK SHALL BE DOCUMENTED. COPIES OF ANY AND ALL FIELD SERVICE DOCUMENTATION SHALL BE PLACED IN THE PROJECT FILE AND INTO OWNERS OPERATING FILE.

TANK MEASUREMENTS:
THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE COMPLETION OF THE FOLLOWING TANK MEASUREMENT ACTIVITIES:
1. VERIFY THE EXTERNAL SIZE OF THE TANK TO MATCH WITH MANUFACTURER SUPPLIED SHOP MEASUREMENTS.
TRANSFER THE SIZE, SERIAL NUMBER, AND PRODUCT INSTALLED, AND POSITION OF TANK TO THE AS-BUILT PLAN.
2. TRANSFER TANK DIMENSIONAL AND PRODUCT INFORMATION TO THE DATA SHEET IN THE TANK GAUGE CONSOLE.
3. PROVIDE THE TOP OF TANK ELEVATION READING AT BOTH ENDS OF EACH TANK.

TANK DEFLECTION MEASUREMENT PROCEDURE:

DEFLECTION MEASUREMENT BEFORE AND AFTER TANK INSTALLATION SHALL BE ACCORDING TO MANUFACTURER'S REQUIREMENTS AND SHALL BE WITHIN MANUFACTURER'S TOLERANCES. ALL INFORMATION SHALL BE COMPLETED AS PER THE MANUFACTURER'S WARRANTY DOCUMENTATION.



TANK INSPECTION AND INSTALLATION – DEFLECTION MEASUREMENT

DIPSTICK PREPARATION

DRIVE A SMALL HEADED, NON-SPARKING (E.G. BRASS) NAIL HALFWAY INTO A WOODEN DIPSTICK, 1 INCH ABOVE ITS BASE.

FIRST DIAMETER READING (PRIOR TO BACK FILL)
1. PLACE THE DIPSTICK INTO A SERVICE FITTING.
2. MEASURE AND RECORD THE DISTANCE FROM THE TANK BOTTOM TO THE TOP OF THE FITTING.
3. PULL THE DIPSTICK UP UNTIL THE EXPOSED NAIL CATCHES ON THE INSIDE TOP OF TANK.
4. MEASURE THE DISTANCE FROM THE TANK TOP (INSIDE) TO THE TOP OF THE FITTING. SUBTRACT 1 INCH FROM THIS MEASUREMENT AND RECORD THE DISTANCE.
5. SUBTRACT THE SECOND DISTANCE FROM THE FIRST AND RECORD THIS VALUE AS READING "A" ON THE INSTALLATION CHECKLIST.

SECOND DIAMETER READING (AFTER BACKFILL)
1. PLACE THE DIPSTICK INTO A SERVICE FITTING WITH A STANDPIPE INSTALLED TO SUBGRADE.
2. MEASURE AND RECORD THE DISTANCE FROM THE TANK BOTTOM TO THE TOP OF THE STANDPIPE.
3. PULL THE DIPSTICK UP UNTIL THE EXPOSED NAIL CATCHES ON THE INSIDE TOP OF TANK.
4. MEASURE THE DISTANCE FROM THE TANK TOP (INSIDE) TO THE TOP OF THE STANDPIPE. SUBTRACT 1 INCH FROM THIS MEASUREMENT AND RECORD THE DISTANCE.
5. SUBTRACT THE SECOND DISTANCE FROM THE FIRST AND RECORD THIS VALUE AS READING "B" ON THE INSTALLATION CHECKLIST.

CALCULATION AND COMPARISON
1. SUBTRACT READING "B" FROM READING "A".
2. COMPARE THIS VALVE TO THE TABLE OF "MAXIMUM ALLOWABLE DEFLECTIONS" SHOWN ON THE "INSTALLATION CHECKLIST".
3. VERTICAL DEFLECTION IN EXCESS OF THESE VALUES INDICATES IMPROPER INSTALLATION AND VOIDS THE TANK WARRANTY.

MAXIMUM DEFLECTION FOR 8'-0" TANKS = 1-1/4"
MAXIMUM DEFLECTION FOR 10'-0" TANKS = 1-1/2"

TOP OF TANK ELEVATION:
CONTRACTOR TO CALCULATE TOP OF TANK ELEVATION. START WITH 18" MINIMUM DEPTH OF VAPOR RECOVERY LINE AT THE FARTHEST DISPENSER AND SLOPE 1/4" PER FOOT MAXIMUM TO 1/8" PER FOOT MINIMUM. ADD 12" AT THE TANK. ADD 13" (FOR 3" PIPE) OR 8" (FOR 2") FOR A CHANGE IN PIPING DIRECTION OTHER THAN 90 OR 45 DEGREES. SET TANKS 6" DEEPER THAN CALCULATED AS PRECAUTION. IN NO EVENT SHALL THE TANK BE BURIED LESS THAN 4'-0" BELOW FINISHED GRADE OR DEEPER THAN 7'-0" BELOW FINISHED GRADE. SEE MANUFACTURERS INSTALLATION RECOMMENDATIONS. ANY VARIATIONS IN SLOPE FROM 1/4" PER FOOT SHALL BE REPORTED TO OWNER'S ENGINEER.

TANK EXCAVATION:
CONTRACTOR TO EXCAVATE TANK HOLE. CONTRACTOR SHALL ADHERE TO O.S.H.A. STANDARDS ON EXCAVATIONS. CONTRACTOR MAY SELECT ANY OF THE RECOMMENDED PRACTICES FOR TANK EXCAVATION AND MUST PROVIDE ALL NECESSARY PROTECTIVE BARRICADES.

SLOPE SIDES OF TANK HOLE OR USE SHORING FOR ALL TANK EXCAVATIONS IN ACCORDANCE WITH OSHA 1926 SUBPART P, OSHA STANDARDS – EXCAVATIONS; FINAL RULE OCTOBER 1, 1989. WHEN ENGINEERED SHORING IS REQUIRED DUE TO SITE CONDITIONS AN ENGINEERED SHORING PLAN UTILIZING INTERLOCKING STEEL SHEET PILING SHALL BE PROVIDED AND SHALL INCLUDE SUPPORTING ENGINEERING CALCULATIONS BY A STATE CERTIFIED ENGINEER AND SHALL BE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR.

GENERAL CONTRACTOR SHALL OBTAIN NECESSARY PERMIT FROM APPLICABLE AGENCIES FOR EXCAVATIONS OF TRENCHES 5'-0" OR MORE IN DEPTH INTO WHICH A PERSON IS REQUIRED TO DESCEND.

TANK EXCAVATIONS SHALL BE THE MINIMUM SIZE REQUIRED TO PROVIDE FOR BEDDING AND CLEARANCES INDICATED IN THESE DRAWINGS. TANK BURIAL DEPTH FIELD DETERMINED TO PROVIDE FOR 1/4" (1/8" PER FOOT MIN.) PER FOOT FOR STAGE II VAPOR RECOVERY PIPING & 1/8" MINIMUM PER FOOT FOR PRODUCT PIPING SLOPE BACK FROM DISPENSERS TO TANK.

TANK STABILITY BUOYANCY CALCULATIONS:
TANK STABILITY SHALL BE RE-CHECKED AGAINST FLOATATION BY INSTALLING CONTRACTOR. SEE BUOYANCY CALCULATIONS ON TANK DETAILING SHEETS.

TANK ANCHORING:
CONTRACTOR TO INSTALL MANUFACTURER SUPPLIED TANK HOLD DOWN STRAPS & ANCHORS WHEN REQUIRED DUE TO HIGH WATER TABLE, LOCAL REGULATIONS, OR SPECIFIED BY SITE ENGINEER/DESIGNER AND/OR OWNER'S REPRESENTATIVE OR HIS AGENT, THE OWNERPROJECT MANAGER. WHEN REQUIRED, THE ANCHORING SYSTEM SHALL BE IN COMPLIANCE WITH AUTHORITY HAVING JURISDICTION. ANCHOR & STRAPS TO BE INSTALLED ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

** ALTERNATE ANCHORING BY USE OF A CONCRETE ANCHORING SLAB IS PERMITTED. WHEN GROUNDWATER LEVEL IS ANTICIPATED TO BE WITHIN 5 FT. OF GRADE CONTRACTOR SHALL NOTIFY OWNER'S REPRESENTATIVE FOR DIRECTION ON ANCHORING METHOD TO BE USED (DEADMAN OR ANCHORING SLAB) AND SUCH SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATION.

** THIS PROCEDURE IS REQUIRED IN NYC AND CONSIDERED PART OF SCOPE OF WORK WHEN INSTALLING TANKS IN NYC.

FILTER FABRIC: IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE FOR THE INSTALLATION OF FILTER FABRIC (DUPONT TYPAR OR MIRAFI 500X) WHICH IS REQUIRED FOR WET HOLE INSTALLATIONS ONLY. FABRIC MUST EXTEND 1' ABOVE MAX. HIGH WATER TABLE AND MAY BE PINNED TO SIDE OF HOLE WITH WIRE, ETC. SEAMS MUST BE LAPPED 1' MINIMUM.

WET HOLE BALLAST OPTION:
WATER IS THE SUITABLE MEDIUM FOR BALLAST DURING WET HOLE TANK INSTALLATIONS. A PROPERLY INSTALLED 12 FOOT HIGH TEMPORARY VENT PIPE MUST BE INSTALLED BY THE CONTRACTOR. IF WATER IS USED TO BALLAST TANKS, THE WATER IS TO BE COMPLETELY PUMPED OUT & MOPPED DRY IN ORDER TO PROTECT FUEL INTEGRITY. CONTRACTOR IS REQUIRED TO COORDINATE BALLASTING OPERATIONS WITH OWNER'S REPRESENTATIVE OR HIS AGENT, THE OWNERPROJECT MANAGER. IT IS THE INSTALLING CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE JURISDICTIONAL REQUIREMENTS AND ACCEPTANCE FOR BALLASTING THE TANKS AND TO PROVIDE FOR PROPER DISPOSAL OF THE BALLASTING MEDIUM UNDER THE REGULATIONS OF THE GOVERNING AUTHORITY.

BACK FILL:
CONTRACTOR TO PROVIDE ALL BACK FILL REQUIRED FOR THE PROJECT SCOPE. PEA GRAVEL SHALL CONSIST OF NATURALLY ROUNDED AGGREGATE, MINIMUM 1/8" AND MAXIMUM 3/4" SIZE. FREE OF CLAY, SLAG, CINDERS, OR DEBRIS. ALL SUBSTITUTES MUST BE APPROVED BY MANUFACTURER AND OWNERS FIELD REPRESENTATIVE.

NO MORE THAN 5% (BY WEIGHT) MAY PASS THE #8 SIEVE FOR BACK FILLING NONMETALLIC TANKS WITH A 96% TO 98% FREE FALL COMPACTION. DRY PEA GRAVEL DENSITY MINIMUM OF 95 POUNDS PER CUBIC FOOT IS REQUIRED. SUPPLY QUARRY CERTIFICATION MEETING ASTM C-33, PARAGRAPH 9.1 REQUIREMENTS.

BACK FILLING OF TANK EXCAVATIONS SHALL BE PROVIDED IN LIFTS AS PER TANK MANUFACTURER'S INSTALLATION INSTRUCTIONS.

PRODUCT, VENT, AND VAPOR PIPING SHALL BE LAID AND CONTINUOUSLY SUPPORTED ON A 6" BED OF COMPACTED PEA GRAVEL. BLOCKS, PLANKS, OR OTHER DEBRIS SHALL NOT BE USED TO SUPPORT PIPING IN FINAL INSTALLATION.

NOTE: UNDER NO CIRCUMSTANCES SHALL DIRT, PAVING MATERIALS, WOOD, OR OTHER CONSTRUCTION DEBRIS BE ALLOWED TO REMAIN IN TANK AND PIPE EXCAVATIONS.

(2) ANNULAR SPACE HYDROSTATIC MONITOR AND RISER INSTALLATION:

STANDARD: CONTRACTOR TO INSTALL 4" FIBERGLASS RISER AND VEEDER ROOT HYDROSTATIC SENSOR AT TANK ANNULAR SPACE LOCATION NOTED ON THE PLANS PER MANUFACTURERS INSTRUCTIONS.

(3) TANK SUMP INSTALLATION:

STANDARD: CONTRACTOR TO INSTALL 42" DIAMETER SUCTION SIDE FIBERGLASS POLYSIDED SUMPS ON TANKS PER MANUFACTURER'S INSTRUCTIONS. NOTE THAT THE ORIENTATION OF THE TANK SUMPS MUST BE CORRECT IN ORDER TO FACILITATE CORRECT PIPING INSTALLATION INTO THE SUMPS. SEE ACCOMPANYING DETAILS IN PLAN SET AND NOTE SIZES OF SUMPS PER PROJECT DEMOGRAPHICS.

CALIFORNIA VARIANT: CONTRACTOR TO INSTALL 42" DIAMETER FILL SUMP AND 42" DIAMETER SUCTION SUMP. SUMPS TO BE DOUBLE WALLED AND INSTALLED WITH CONTINUOUS HYDROSTATIC MONITORING DEVICE PER AB-2481 REQUIREMENTS.

(4) TANK LEVEL GAUGE INSTALLATION:

STANDARD: CONTRACTOR TO INSTALL VEEDER ROOT MAGNOSTRICTIVE PROBE LEVEL GAUGE AT OPENING IN SUCTION SUMP AT LOCATION NOTED ON PLANS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

(5) FILL AND STAGE I VAPOR RECOVERY INSTALLATION:

STANDARD: CONTRACTOR TO INSTALL 4" GALVANIZED FILL AND STAGE I VAPOR RECOVERY RISERS. CONTRACTOR TO INSTALL DROP TUBE ASSEMBLIES, EXTRACTOR FITTINGS, BALL FLOAT VALVES AND FRP ADAPTERS AT STAGE I VAPOR RETURN RISERS. CONTRACTOR TO MAKE CONNECTIONS TO VENT AND VAPOR PIPING FIBERGLASS PIPING. CONTRACTOR TO INSTALL STATIC GROUNDING SYSTEM AT ALL FILL AND VAPOR RISERS PER INSTALLATION DETAILS SHOWN ON SHEET G.0.7. ALL BURIED AND EXPOSED GALVANIZED STEEL PIPING RISERS SHALL BE COATED WITH COAL TAR EPOXY.

CONTRACTOR TO INSTALL CARB APPROVED STAGE I DIRECT FILL/VAPOR MANHOLES WITH 5 GALLON SPILL COLLECTION BUCKETS AND SECONDARY CONTAINMENT OF SPILL BUCKETS. INSTALL PRODUCT AND FILL ADAPTERS AND CAPS. SEE ACCOMPANYING DETAILS IN SITE SPECIFIC PLAN SET FOR MANUFACTURER AND INSTALLATION REQUIREMENTS.

(8) PRODUCT PIPING INSTALLATION:

SMITH FIBERCAST STANDARD: CONTRACTOR TO INSTALL DOUBLE WALL FIBERGLASS PRODUCT PIPING, CONNECTORS, VALVES AND FITTINGS IN TANK AND DISPENSER SUMPS AS SHOWN ON SITE SPECIFIC DETAIL DRAWINGS TO SUPPLY DISPENSERS. PRODUCT PIPING TO BE SMITH FIBERCAST RED THREAD IIA, 2" INSIDE 3" DIAMETER AS INDICATED ON SITE SPECIFIC FUELING PLAN. ALL PIPING AND FITTINGS SHALL BE UL-971 LISTED IN COMPLIANCE WITH THE JULY 2005 PERFORMANCE STANDARDS, AND SHALL BE COMPATIBLE WITH ETHANOL. PRODUCTS LINES TO BE EQUIPPED LINE LEAK DETECTORS AND WITH LIQUID LEAK MONITORING SENSORS LOCATED IN SUCTION PIPING SUMPS. PRODUCT PIPING IN SUCTION SUMPS, ARE TO ENTER THE SAME SIDE OF THE SUMP IF POSSIBLE. IF PRODUCT PENETRATION ENTERS ON BOTH SIDES OF SUMP DUE TO FIELD CONDITIONS, THEN DUAL SENSORS AT SUCTION SUMP MAY BE REQUIRED TO BE INSTALLED BY LOCAL REGULATIONS. PIPING TO BE INSTALLED WITH A SLOPE OF 1/8" PER FOOT MINIMUM TO TANKS UNLESS APPROVED BY OWNER. CONTRACTOR TO INSTALL TRACER TAPE WITH PRODUCT PIPING PER TRENCHING DETAILS. PENETRATIONS INTO ALL SUMPS SHALL BE MADE WITH DOUBLE WALL FRP ENTRY FITTINGS. TESTING OF PRODUCT LINES SHALL BE PERFORMED PRIOR TO BACK FILL, PRIOR TO PAVING AND BEFORE STATION OPERATION. SEE SITE SPECIFIC DETAIL SHEETS FOR INSTALLATION DETAILS.

NOTE SMITH FIBERCAST PIPING TO BE INSTALLED PER MANUFACTURER'S INSTALLATION MANUAL AND SHALL ONLY BE INSTALLED BY QUALIFIED INSTALLERS CERTIFIED BY THE MANUFACTURER.

PIPING SHALL BE SMITH FIBERCAST ONLY AND IN ADDITION TO THE ABOVE, PIPING TO BE INSTALLED WITH CONTINUOUS HYDROSTATIC MONITORING DEVICE PER AB-2481 REQUIREMENTS

(9) VENT PIPING INSTALLATION:

STANDARD: CONTRACTOR TO INSTALL 2"/3" DOUBLE WALL FIBERGLASS VENT PIPING, CONNECTORS, VALVES AND FITTINGS TO THE STAGE I VAPOR RISER ON TANKS AS INDICATED ON SITE SPECIFIC FUELING PLAN AND ACCOMPANYING DETAILS. CONTRACTOR TO PROVIDE AT LEAST 4 FEET OF PIPING RUN BEFORE A CHANGE OF DIRECTION OF 30 DEGREES OR MORE IN ORDER TO PROVIDE MECHANICAL FLEXIBILITY PER CODE REQUIREMENTS. CONTRACTOR TO INSTALL TRACER TAPE WITH VENT PIPING PER TRENCHING DETAILS. PENETRATIONS INTO ALL SUMPS SHALL BE MADE WITH SINGLE WALL ENTRY FITTINGS. VENT PIPING SHALL BE DESIGNED AND INSTALLED FOR SLOPE 1/4" PER FOOT MINIMUM BACK TO TANKS. FOR LONG PIPING RUNS 1/8" PER FOOT IS ACCEPTABLE.

CONTRACTOR TO INSTALL ABOVE GROUND RISERS AND MOUNTING RACK AS DETAILED ON THESE PLANS. TERMINATION POINT OF TANK VENTS TO BE A MINIMUM OF 12' ABOVE GRADE AND NOT WITHIN 5' FROM ANY BUILDING OPENING OR PROPERTY LINE THAT CAN BE BUILT UPON. VENT RISERS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA-30, INTERNATIONAL AND UNIFORM FIRE CODE REQUIREMENTS AND CARB EVR REQUIREMENTS.

CONTRACTOR TO INSTALL TWO (2) 1" SPARE CONDUITS FROM VENT STACK TO INTRINSICALLY SAFE WIREWAY IN BUILDING FOR FUTURE TANK SYSTEM DIAGNOSTICS.

CONTRACTOR TESTING OF VENT LINES SHALL BE PERFORMED PRIOR TO BACK FILL, PRIOR TO PAVING AND BEFORE STATION OPERATION. SEE SITE SPECIFIC DETAIL SHEETS FOR INSTALLATION DETAILS. SEE FIBERGLASS PIPING MANUFACTURER SPECIFICATION BELOW.

VENT PIPING SPECIFICATION:

SMITH FIBERCAST: RED THREAD II PIPE AND FITTINGS (USED FOR SINGLE WALL). WHERE DOUBLE WALL SYSTEMS ARE REQUIRED FOR ALL VENT AND VAPOR PIPING, USE SIZE OVER SIZE RED THREAD II PIPING AND FITTINGS. USE ONLY SMITH ALCOHOL COMPATIBLE ADHESIVES. ALL PIPING AND FITTINGS SHALL BE UL-971 LISTED IN COMPLIANCE WITH THE JULY 2005 PERFORMANCE STANDARDS.

PIPING TO BE INSTALLED PER MANUFACTURER'S LISTED INSTRUCTIONS AND SHALL ONLY BE INSTALLED BY QUALIFIED INSTALLERS CERTIFIED BY THE MANUFACTURER. PROVIDE AT LEAST 4' OF STRAIGHT PIPING RUN BEFORE A CHANGE OF DIRECTION OF MORE THAN 30 DEGREES AND INSTALL FLEXIBLE CONNECTORS AT THE VENT AND VAPOR CONNECTION AT THE TANK SUMPS, AND DISPENSER SUMPS.

VENT PIPING TO BE DOUBLE WALLED AND INSTALLED WITH CONTINUOUS HYDROSTATIC MONITORING DEVICE PER AB-2481 REQUIREMENTS

(10) STAGE II VAPOR RECOVERY PIPING INSTALLATION:

STANDARD: CONTRACTOR TO INSTALL 3" SINGLE WALL FIBERGLASS STAGE II VAPOR RECOVERY HEADER, CONNECTORS, VALVES AND FITTINGS TO THE LOWEST OCTANE GRADE STAGE I VAPOR RISER CONNECTION AS INDICATED ON SITE SPECIFIC FUELING PLAN AND ACCOMPANYING DETAILS. NOTE THAT THE 1ST CONNECTION FROM STAGE II VAPOR RECOVERY HEADER TO LOWEST OCTANE TANK SHALL BE 3". ALL OTHER CONNECTIONS TO ADDITIONAL TANKS SHALL BE MADE WITH 2". CONTRACTOR TO INSTALL 3" TO 2" REDUCING TEES WHERE HEADERS BRANCH TO DISPENSERS. MAXIMUM (2) DISPENSERS PER 2" BRANCH. CONTRACTOR TO PROVIDE AT LEAST 4 FEET OF PIPING RUN BEFORE A CHANGE OF DIRECTION OF 30 DEGREES OR MORE IN ORDER TO PROVIDE MECHANICAL FLEXIBILITY PER CODE REQUIREMENTS. CONTRACTOR TO INSTALL TRACER TAPE WITH VAPOR PIPING PER TRENCHING DETAILS. PENETRATIONS INTO ALL SUMPS SHALL BE MADE WITH DOUBLE WALL ENTRY FITTINGS. STAGE II VAPOR RECOVERY PIPING SHALL BE DESIGNED AND INSTALLED FOR 1/4" PER FOOT MINIMUM SLOPE BACK TO TANKS. AT LARGE SITE LAYOUTS, 1/8" PER FOOT MINIMUM IS ACCEPTABLE IF IT AVOIDS USING A KNOCK OUT SUMP (VAPOR POT) OR HAVING EXCESSIVE TANK DEPTH. CONSULT OWNER'S REPRESENTATIVE OR HIS AGENT, THE OWNERPROJECT MANAGER, WHERE DISCREPANCIES OCCUR.

CONTRACTOR TESTING OF STAGE II VAPOR LINES SHALL BE PERFORMED PRIOR TO BACK FILL, PRIOR TO PAVING AND BEFORE STATION OPERATION. SEE SITE SPECIFIC DETAIL SHEETS FOR INSTALLATION DETAILS. SEE FIBERGLASS PIPING MANUFACTURER SPECIFICATION BELOW.

STAGE II PIPING SPECIFICATION:

STAGE II VAPOR PIPING TO BE DOUBLE WALLED AND INSTALLED WITH CONTINUOUS HYDROSTATIC MONITORING DEVICE PER AB-2481 REQUIREMENTS. ALL CONNECTIONS TO THE TANKS SHALL BE MADE WITH 3".

THERE ARE (3) THREE STAGE II EVR WITH ISD DESIGN CHOICES THAT MAY BE INCORPORATED INTO THE UST SYSTEMS IN CALIFORNIA.
1. VEEDER ROOT CARBON CANISTER VAPOR POLISHER WITH VST BALANCE HANGING HARDWARE AND VEEDER ROOT ISD COMPONENTS.
2. HEALY CLEAN AIR SEPARATOR WITH HEALY VACUUM ASSIST HANGING HARDWARE AND VEEDER ROOT ISD COMPONENTS.
3. VST ECS VAPOR PROCESSOR WITH VST BALANCE HANGING HARDWARE AND VEEDER ROOT ISD COMPONENTS

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TANK AND PIPING SCOPE OF WORK AND GENERAL NOTES

DATE ISSUED: 11/06/2025
SCALE:
DRAWN BY: CR
CHECKED BY: F. COHEN
PROJECT NUMBER: 25057
STORE NUMBER: WSD
SHEET: F10.1

11/23/2025 7:54:23 AM

TANK AND PIPING INSTALLATION SCOPE OF WORK:

(11) METAL PIPE AND FITTINGS:

STANDARD: STEEL PIPE SHOWN ON THESE DRAWINGS TO BE MINIMUM SCHEDULE 40. METAL PRODUCT LINE FITTINGS TO BE MALLEABLE IRON CLASS 150, GALVANIZED. ALL MALLEABLE IRON FITTINGS SHALL BE SUPPLIED BY "ANVIL" (FORMALLY "GRINNELL") OR EQUAL SPECIFICATIONS AS FOLLOWS:

	DIMENSIONS	MATERIAL	GALVANIZING	THREAD	PRESSURE RATING
M.I. FITTINGS (TEES, ELBOWS) CLASS 150/PN 20	ASME B16.3	ASTM A-197	ASTM A-153	ASME B.1 20.1	ASME B16.3
M.I. UNIONS CLASS 150/PN 20	ASME B16.39	ASTM A-197	ASTM A-153	ASME B.1 20.1	ASME B16.3
STEEL PIPE NIPPLES CLASS 150/PN 20	ASTM A733	ASTM A-53 (F OR E)	ASTM A-153	ASME B.1 20.1	ASME B16.3
STEEL PIPE CLASS 150/PN 20 SCHEDULE 40	N/A	ASTM A-53 (F OR E)	ASTM A-153	ASME B.1 20.1	ASME B16.3

GASOLINE/ALCOHOL COMPATIBLE THREAD SEALANT TO BE USED ON ALL THREADED PIPE CONNECTIONS.

ANY METAL PIPE OR FITTING USED FOR PRODUCT, VENT, OR VAPOR RECOVERY WHICH CONTACTS SOIL OR BACK FILL MUST BE 100% COVERED WITH A 100 MIL. COATING OF COAL TAR EPOXY (ROSS COAT OR 3M SCOTCH WRAP #50 TAPE).

(12) PIPING SUMP PENETRATION INSTALLATION:

CONTRACTOR TO INSTALL SUMP PENETRATION FITTINGS THAT MEET THE ADDITIONAL CRITERIA REQUIREMENT FOR CONTINUOUS HYDROSTATIC MONITORING.

(13) DISPENSER INSTALLATION:

STANDARD: CONTRACTOR TO INSTALL "WAYNE VISTA" STYLE DISPENSERS WITH INTEGRATED CARD READERS AND INTERCOM SYSTEM AS SHOWN ON SITE SPECIFIC DESIGN DETAIL SHEETS. DISPENSERS TO BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. INSTALLATION TO INCLUDE DISPENSER ISLANDS, SINGLE WALL DISPENSER CONTAINMENT SUMPS, AND THE INSTALLATION OF ALL SHEAR VALVES, RISERS, PIPING CONNECTIONS AND ALL PENETRATIONS INTO THE SUMPS. SEE TANK ELECTRICAL DRAWINGS FOR CONDUIT AND WIRING REQUIREMENTS.

NOTE: "OVATION" H-FRAME DISPENSERS MAY BE USED FOR NEW BUILD CONSTRUCTION ONLY BY PRIOR APPROVAL OF LOCAL OWNER ENGINEER.

DISPENSER START UP: – START UP BY MANUFACTURERS REPRESENTATIVE. CONTRACTOR TO PURGE LINES WITH 200 GALLONS PER HOSE MINIMUM. ANY AIR POCKETS OR START UP PROBLEMS DUE TO IMPROPER INSTALLATION OR INCORRECT WIRING THAT DESTROYS ELECTRONICS WILL BE BILLED BACK TO THE CONTRACTOR

IINSTALLATION OF HANGING HARDWARE:
STANDARD: – CONTRACTOR TO INSTALL VAPOR ASSIST HOSES, NOZZLES, SWIVELS AND BREAK AWAY VALVES PER '96' CARB EXECUTIVE ORDER G-70-153-AD. SITES WHERE ORVR COMPATIBLE SYSTEMS ARE NOT REQUIRED

(14) SUMP SENSOR INSTALLATION:

CONTRACTOR TO INSTALL ALL SUCTION SUMP AND DISPENSER SUMP SENSORS PER VEEDER ROOT INSTALLATION INSTRUCTIONS. SUMP SENSORS TO BE INSTALLED IN SUMP HOLDERS MOUNTED TO SIDE OF SUMP WALLS SEE TANK DETAIL SHEETS FOR LIQUID SENSOR DETAILS. SUCTION SIDE SUMP SENSORS TO BE MOUNTED AT SIDE OF TANK WHERE PRODUCT PENETRATION INTO SUMP IS MADE AND BELOW LOWEST PENETRATION FITTING WITHIN SUMP AREA AT BOTTOM OF SUMP. SEE TANK ELECTRICAL DRAWINGS FOR MONITORING CONDUIT DETAILS AND SENSOR AND PROBE WIRING DETAILS.

(15) OVERFILL ALARM AND ACKNOWLEDGE SWITCH INSTALLATION:

CONTRACTOR TO INSTALL OVERFILL ALARM & ACKNOWLEDGMENT AS SHOWN. ALARM AND SWITCH TO BE LOCATED TO PROVIDE AN UNOBSTRUCTED VIEW TO TRUCK DRIVER. PROVIDE BOLLARD PROTECTION OF FREE STANDING POLE. SEE SITE SPECIFIC WIRING DIAGRAM AND DETAILS FOR MOUNTING REQUIREMENTS.

(17) CONCRETE TANK SLAB INSTALLATION:

REFER TO PROJECT GENERAL SPECIFICATIONS FOR ADDITIONAL CONCRETE REQUIREMENTS NOT INDICATED ON THESE DRAWINGS.

STANDARD: CONTRACTOR TO INSTALL A MINIMUM 7" REINFORCED CONCRETE SLAB OVER TANKS. FIBER REINFORCEMENT TO BE USED. PREMIX UNIFORMLY THROUGHOUT CONCRETE. REINFORCEMENT BARS TO BE NO LESS THAN 2" AND NO MORE THAN 4" FROM SURFACE REINFORCE CONCRETE SLAB AROUND MANHOLES WITH (4) #4 REBAR, 60" IN LENGTH. PLACE REBAR 6" FROM SIDES OF BOX.

UNLESS OTHERWISE NOTED ON THESE DRAWINGS:
a. CONCRETE – REGULAR WEIGHT HARD ROCK CONCRETE (150 LBS/CU FT)
b. CEMENT – TYPE I/II, SULFATE RESISTANT
c. AGGREGATES – ASTM C33, (MAXIMUM SIZE 3/4 INCHES)
d. 28 DAY CONCRETE STRENGTH (f'c):
4,000 PSI – SLAB (DESIGN BASED ON 2,000 PSI NO SPECIAL INSPECTION REQUIRED)
e. SLUMP – 3"+ 1" – 4" MAXIMUM AT POINT OF PLACEMENT
f. SHRINKAGE – 0.05% MAXIMUM
g. ENTRAINED AIR RANGE – 2% TO 4%

CONCRETE SLAB THICKNESS SHALL BE A MINIMUM OF 7.0 INCHES (UNLESS OTHERWISE NOTED ON THESE DRAWINGS)

CONCRETE SHALL BE NORMAL WEIGHT WITH A MIX OF 1 : 2 1/2 : 3 1/2, WITH A MAXIMUM 7 1/2 GALLONS OF WATER PER SACK. ADD 1.0 TO 1.5 LB STEALTH FIBER REINFORCING PER CU. YD. CONCRETE.

REINFORCING STEEL FOR TANK SUMP CAGES SHALL BE #4 REBAR.

MAINTAIN CONCRETE IN A MOIST CONDITION FOR AT LEAST 7 DAYS AFTER PLACEMENT.

PLACE CONCRETE DIRECTLY FROM TRUCK INTO FORMS. DO NOT PUMP CONCRETE UNLESS SPECIAL INSPECTION, IN ACCORDANCE WITH CHAPTER 3 OF THE UBC, IS PROVIDED.

SUBMIT MIX DESIGNS, WITH STRENGTH AND SHRINKAGE TEST RESULTS, TO OWNER'S ENGINEER AT LEAST 7 DAYS BEFORE PLACING CONCRETE.

CONSOLIDATE CONCRETE IN PLACE USING A MECHANICAL VIBRATOR.

BEFORE PLACING CONCRETE, SECURE REINFORCING STEEL, ANCHOR BOLTS, DOWELS, AND OTHER INSERTS IN POSITION TO PREVENT MOVEMENT.

MATERIALS AND WORKMANSHIP SHALL CONFORM TO A.C.I. – 318 (SPECIFICATIONS OF THE DESIGN AND PLACEMENT OF CONCRETE).

MANHOLE CROWNS:
ALL MANHOLE OPENINGS ON THE TANK SLAB SHALL BE INSTALLED WITH A 1–1/2" CROWN (1" RISE OVER 12" RUN) OF CONCRETE TO PREVENT WATER INTRUSION INTO THE MANHOLE. THE OWNER'S ENGINEER, THE OWNERPROJECT MANAGER WILL BE REQUIRED TO SIGN OFF ON THIS ITEM ON THE TANK INSTALLATION CHECKLIST.

PRODUCT IDENTIFICATION MARKINGS:
CONTRACTOR TO INSTALL PRODUCT IDENTIFICATION TAGS AT ALL MANHOLE OPENING PER SITE SPECIFIC DETAIL DRAWINGS.

CALIFORNIA VARIANT: CONTRACTOR TO THICKEN CONCRETE SLAB AT DISPENSER SUMPS AND TANK FILL AND SUCTION SUMPS SUCH THAT THE BOTTOM OF CONCRETE IS BELOW THE TOP OF THE TERMINATION OF THE SECONDARY CONTAINMENT OF THE SUMPS PER AB–2481 REQUIREMENTS.

(18) TESTING:

CONTRACTOR SHALL COMPLETE ALL TESTING ACCORDING TO MANUFACTURER'S INSTRUCTIONS FOR TANKS AND PIPING AND PER INDUSTRY RECOMMENDED PRACTICES (API & PEI). CONTRACTOR SHALL COMPLETE ALL WARRANTY VALIDATION TESTING AND PROVIDE DOCUMENTATION TO OWNER'S REPRESENTATIVE OR HIS AGENT, THE OWNERPROJECT MANAGER.

PIPE TESTING:
ISOLATE THE PRODUCT TANKS AND DISPENSERS DURING PRESSURE TESTING OF LINES IN ORDER TO PREVENT DAMAGE.

THE DESIGN, ASSEMBLY, AND TESTING OF THE PIPING SYSTEM SHALL BE IN CONFORMANCE WITH THE APPLICABLE SECTION OF ANSI–B31, AMERICAN NATIONAL STANDARD CODE FOR PRESSURE PIPING, NFPA 30, FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE, AND AMERICAN PETROLEUM INSTITUTES RECOMMENDED PRACTICE 1615.

DURING CONSTRUCTION, BEFORE BACK FILLING, PIPING SHOULD BE ISOLATED FROM THE TANKS AND SUBJECTED TO A PIPE TIGHTNESS TEST. OTHER TESTING METHODS MAY ALSO BE ACCEPTABLE IF APPROVED BY THE AUTHORITY HAVING JURISDICTION. A CONSTRUCTION PIPE TEST IS CONDUCTED AS FOLLOWS:

A. THE PRODUCT PIPING TO BE TESTED IS ISOLATED AND PRESSURIZED WITH COMPRESSED AIR TO 150 PERCENT OF THE MAXIMUM SYSTEM OPERATING PRESSURE (OR A MINIMUM OF 50 POUNDS PER SQUARE INCH GAUGE; MAXIMUM AS RECOMMENDED BY COMPONENT MANUFACTURER) FOR AT LEAST 30 MINUTES AND NOT MORE THAN 1 HOUR.
B. ALL PIPING SURFACES INCLUDING VALVES, FITTINGS, JOINTS, AND SO FORTH ARE WETTED WITH A SOAP SOLUTION AND INSPECTED FOR BUBBLES.
C. LEAKS, AS INDICATED BY BUBBLES, ARE REPAIRED OR REPLACED, AND THE PIPING RE–TESTED AS NECESSARY.
D. THE INNER PIPE WALLS SHALL BE TESTED FOR TIGHTNESS BEFORE CLOSING THE OUTER PIPE. THE OUTER PIPE MUST BE TESTED AT A 5 POUNDS PER SQUARE INCH GAUGE MAXIMUM BEFORE BACKFILLING. CARE SHOULD BE TAKEN TO PREVENT OVER PRESSURIZATION OF THE INTERSTICE. IT IS IMPORTANT THAT THE MANUFACTURER'S INSTRUCTIONS BE FOLLOWED. REPEAT BOTH TESTS AFTER BACKFILLING.

WHEN THE PIPING IS INSTALLED AND OPERATIONAL, A HYDROSTATIC TEST OF THE PIPING, AS SPECIFIED IN NFPA 329, MAY BE REQUIRED BY CODES.

CAUTION: EXTREME CARE SHOULD BE EXERCISED IN CONDUCTING PIPE TIGHTNESS TEST. PRESSURIZED PIPING IS POTENTIALLY DANGEROUS BECAUSE OF THE POSSIBILITY OF VIOLENT RUPTURE. THIS TEST SHOULD BE CONDUCTED WITH MINIMUM EXPOSURE OF PERSONNEL AND WITHOUT MOVING OR DISTURBING THE PIPING BEING TESTED. WHEN THE TEST IS COMPLETED, THE PIPING PRESSURE CAN BE REDUCED OR RELEASED COMPLETELY FOR THE REMAINDER OF CONSTRUCTION. REFER TO THE PIPING MANUFACTURER'S RECOMMENDATIONS.

SMITH FIBERCAST PIPING SHALL BE TESTED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

VAPOR RECOVER PIPING MUST PASS ALL CARB BLOCKAGE TESTING RELATIVE TO TIGHTNESS, PRESSURE DECAY, & BLOCKAGE RATES. A/L TESTING IS REQUIRED FOR "ASSISTED" STAGE II SYSTEMS (IF INSTALLED). NOTIFY THE OWNERPROJECT MANAGER TO COORDINATE.

CONTAINMENT SUMP TESTING:
ALL TANK SUMPS AND UNDER DISPENSER CONTAINMENT SUMPS SHALL BE HYDROSTATICALLY TESTED (LAKE TEST) WITH STANDING WATER ABOVE THE LEVEL OF THE HIGHEST PIPE OR CONDUIT PENETRATION FOR A PERIOD OF 24 HOURS AFTER ALL WORK IS COMPLETED TO INSURE THAT THE SUMPS ARE WATERTIGHT OR CERTIFIED USING SUMP MANUFACTURER'S APPROVED TEST PROCEDURE TO INSURE THAT SUMPS ARE WATERTIGHT PER UST REGULATIONS. THE OWNER'S ENGINEER MUST SIGN OFF ON THIS TESTING ON THE TANK INSTALLATION CHECKLIST.

ALL DOUBLE WALL SUMPS SHALL BE BRINE FILLED AND INSPECTED FOR TIGHTNESS THROUGHOUT THE INSTALLATION PROCESS ONCE SUMPS HAVE BEEN FILLED WITH BRINE SOLUTION.

FINAL SYSTEM TESTING:
AFTER COMPLETE INSTALLATION OF THE ENTIRE FUEL SYSTEM AND ALL PAVING, THE OWNER'S REPRESENTATIVE OR HIS AGENT, THE OWNERPROJECT MANAGER, SHALL ARRANGE FOR A PRECISION TANK AND LINE TEST TO BE PERFORMED ON THE COMPLETE SYSTEM. SUCCESSFUL COMPLETION OF THIS TEST WILL BE REQUIRED FOR FINAL APPROVAL. THIS TEST SHALL ENSURE THAT ALL NEW TANK & PIPING SHALL MEET ALL FEDERAL, STATE, & LOCAL REQUIREMENTS FOR TIGHTNESS INTEGRITY, PRIOR TO START–UP OF SYSTEM. OPERATIONALLY TEST ALL OTHER EQUIPMENT, INCLUDING IMPACT (SHEAR) VALVES, LINK LEAK DETECTORS, LEAK DETECTOR ALARMS, AND EMERGENCY SHUTDOWN SWITCHES IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. CONTRACTOR SHALL PROVIDE (3) COPIES OF ALL CERTIFICATIONS & TEST RESULTS TO OWNER'S REPRESENTATIVE OR HIS AGENT, THE OWNERPROJECT MANAGER.

TANK SYSTEM TEST METHOD CALIFORNIA ONLY AB–2481:
BEFORE THE UNDERGROUND STORAGE TANK IS PLACED INTO USE, THE UNDERGROUND STORAGE TANK SHALL BE TESTED AFTER INSTALLATION USING ONE OF THE FOLLOWING METHODS TO DEMONSTRATE THAT THE TANK IS PRODUCT TIGHT:
1) ENHANCED LEAK DETECTION (ELD) BY TRACER CORPORATION.
2) AN INERT GAS PRESSURE TEST THAT HAS BEEN CERTIFIED BY A THIRD PARTY AND APPROVED BY THE BOARD.
3) A TEST METHOD DEEMED EQUIVALENT TO ENHANCED LEAK DETECTION OR AN INERT GAS PRESSURE TEST BY THE BOARD IN REGULATIONS ADOPTED PURSUANT TO THE APPLICABLE CHAPTER IN THE CODE. AN UNDERGROUND STORAGE TANK INSTALLED AND TESTED IN ACCORDANCE WITH THIS SECTION IS EXEMPT FROM THE REQUIREMENTS OF SECTION 25292.5.

TANK ELECTRICAL SPECIFICATIONS:

GENERAL:

ALL MATERIALS AND WORKMANSHIP WILL CONFORM TO THE MOST RECENT EDITIONS OF THE NATIONAL ELECTRICAL CODE, N.E.T.A., B.I.C.S.I., U.B.C. & NFPA AS REQUIRED BY THE ENGINEER, LOCAL AND STATE CODES AND ORDINANCES, AMERICANS WITH DISABILITIES ACT, E.P.A., AND UTILITY COMPANY REQUIREMENTS.

THE CONTRACTOR WILL VISIT THE JOB SITE AND FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS WHICH MAY AFFECT HIS BID OR WORK. NO ALLOWANCES WILL BE MADE AFTER THE BID FOR EXISTING CONDITIONS OR THE CONTRACTORS FAILURE TO VERIFY EXISTING CONDITIONS.

FURNISH AND INSTALL A COMPLETE ELECTRICAL SYSTEM AS DEPICTED FROM THE PLANS AND SPECIFICATIONS HEREIN – AS NOTED OR IMPLIED – NOT LIMITED TO WHAT IS SHOWN.

ALL DRAWINGS ARE SCHEMATIC IN NATURE AND ALL APPURTENANCES NOT INDICATED TO MAKE A WORKING SYSTEM MUST BE INCLUDED IN CONTRACTOR'S BID.

IF THERE APPEARS TO BE ANY ITEMS IN CONFLICT WITH THE DRAWINGS, INCONSISTENCIES WITH DESIGN OR INTENT, OR NEED FOR CLARIFICATION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO CLARIFY THESE ITEMS PRIOR TO BID IN WRITING WITH THE ENGINEER. IF THE CONTRACTOR FAILS TO CLARIFY ANY QUESTIONS OR INCONSISTENCY, THEY ACCEPT RESPONSIBILITY TO CORRECT AT THEIR COST ANY SUCH ITEM SO AS TO MEET INTENT AS DEFINED BY ENGINEER.

UTILITIES:

CONTRACTOR WILL SUPPLY INFORMATION AS REQUIRED TO ALL SERVING UTILITIES IN A TIMELY MANNER TO PROVIDE SERVICE REQUIRED.

RSG FITTINGS & CONDUIT:

THE LAST 2 FEET (MINIMUM) OF ALL CONDUITS THAT ARE ROUTED TO AND PENETRATE TANK SUMPS, DISPENSER SUMPS AND VENT TRANSITION SUMPS SHALL BE PVC COATED RIGID STEEL GALVANIZED WHERE PENETRATIONS TO THE BRINE FILLED SUMPS ARE MADE. ROBROY CONDUIT MUST BE USED WITH THE BRAVO PENETRATION FITTING – NO SUBSTITUTE PERMITTED.

CONDUCTORS:

CONDUCTORS TO BE 600V., COPPER (98% CONDUCTIVITY). BRANCH CIRCUITS TO HAVE THHN/THWN GAS & OIL RESISTANT INSULATION.

CONDUCTORS WILL BE STRANDED, HYDRAULIC CRIMP ALL CONNECTIONS. CONDUCTOR INSULATION WILL BE CONTINUOUSLY COLOR COATED. ALL GROUNDING/BUILDING CONDUCTORS WILL BE MULTI–CONDUCTOR TYPE (U.L. LABELED – ROPE STRAND BUILDING WIRE CLASS 'M') BARE OR INSULATED AS NOTED OR REQUIRED.

MINIMUM LINE VOLTAGE WIRE SIZE IS #12 AWG (STRANDED) FOR LINE VOLTAGE WIRING DEVICES TO BE SPECIFICATION GRADE, MINIMUM 20 AMPS FOR RECEPTACLES. HUBBELL OR ENGINEER APPROVED. ALL SPECIAL RECEPTACLES AND GROUND FAULT PROTECTED DEVICES MUST BE PERMANENTLY MARKED WITH ENGRAVED COVER PLATES.

FILL RISER GROUNDING:

ALL RISERS IN THE FILL SUMP SHALL BE GROUNDED AND BONDED.

INSTALL 5/8" x 10'–0" LONG CONTINUOUS COPPER CLAD GROUND ROD IN NATIVE SOIL FOR TANK SYSTEM GROUNDING. PROVIDE MANHOLE ACCESS TO GROUND ROD AND COPPER GROUND WIRE, SEE DETAILS ON SHEET G.0.7

CONTRACTOR PERFORMANCE:

THE CONTRACTOR WILL GUARANTEE ALL MATERIALS AND WORKMANSHIP FURNISHED BY HIM UNDER THIS CONTRACTOR FOR A PERIOD OF TWO YEARS FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK OF THIS CONTRACT BY THE OWNER AND THE ENGINEER AND PROVIDE A BOND TO VALIDATE THIS GUARANTEE. ANY DEFECTS DEVELOPING WITHIN THE PERIOD TRACEABLE TO MATERIALS OR WORKMANSHIP PERFORMED HERE UNDER, WILL BE MADE GOOD AT THE EXPENSE OF THE CONTRACTOR NOT THE OWNER OR ENGINEER. THE CONTRACTOR WILL ACCEPT AND FULLY UNDERSTAND THIS PROVISION PRIOR TO CONTRACT BEING AWARDED, AS NO CLAIM FOR EXTRA COMPENSATION WILL BE ALLOWED FOR CORRECTION OF FAULTY WORK OR DEFECTIVE MATERIALS. ANYTIME DURING THE CONSTRUCTION PERIOD, THE OWNERS REPRESENTATIVES AND THE ENGINEER RETAIN THE RIGHT TO REQUIRE THE CONTRACTOR TO REMOVE AND REINSTALL ANY EQUIPMENT OR MATERIALS NOT FOLLOWING THE STANDARDS AS PRESENTED HEREIN OR ON THE DRAWINGS WITHOUT COST TO THE OWNER OR ENGINEER.

CONTRACTOR WILL PROVIDE PROOF OF PERFORMANCE BOND WITH SHOP DRAWINGS

PROVIDE 3 SETS OF SHOP DRAWINGS & SAMPLES FOR ALL EQUIPMENT, PRIOR TO ORDERING AND IN A TIMELY MANNER (AS DETERMINED BY THE ENGINEER) SO NOT TO DELAY WORK, TO THE ENGINEER FOR APPROVAL. (CONDUIT, SWITCHES, CONDUCTORS, ECT.) WHERE SUBSTITUTIONS ARE MADE. CONTRACTOR WILL INCLUDE COMPARISON DATA & SAMPLES FOR BOTH THE SUBSTITUTE AND SPECIFIED ITEMS FOR REFERENCE PURPOSES.

CONTRACTOR WILL PROVIDE LETTER TO ENGINEER CONFIRMING ALL EQUIPMENT AND TERMINATIONS ARE PROPERLY TORQUED – SIGNED BY LICENSED CONTRACTOR.

CONTRACTOR WILL PROVIDE ACCURATE AND COMPLETE "AS BUILT" DRAWINGS TO OWNER AND ENGINEER AT TIME OF OWNER ACCEPTANCE. ALL "AS BUILT" DRAWINGS TO BE 4 SETS OF "BLUELINES" OR PHOTO COPY PRINTS 24" X 36" AND TWO SETS (OWNER/ENGINEER) ON MAGNETIC MEDIA & AUTOCAD 2000 (BY AUTODESK) COMPATIBLE. FAILURE TO DO SO WILL CONSTITUTE FORFEITURE OF ALL PAYMENTS DUE AND HOURLY RATES OR $99.00/HOUR/MAN MINIMUM TO ENGINEER PAID BY CONTRACTOR FOR "AS BUILT" DEVELOPMENT.

NOTE:
THIS SECTION OF "SCOPE OF WORK" DRAWINGS IS USED TO COMMUNICATE DESIGN INTENT AND COVERS REQUIREMENTS USED IN ALL MARKET EXAMPLES. IT IS THE RESPONSIBILITY OF THE DESIGN ENGINEER TO EDIT THESE DRAWINGS TO THE SITE SPECIFIC REQUIREMENTS FOR THE PROJECT.

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REVISIONS

NO.:	DATE:	DESCRIPTION:	BY:	APP.:

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WESTMINSTER SCHOOL DISTRICT EST. 1957

PROJECT:
14121 CEDARWOOD STREET
WESTMINSTER, CA. 92683

TANK AND PIPING SCOPE OF WORK AND GENERAL NOTES

DATE ISSUED:	11/06/2025
SCALE:	
DRAWN BY:	CHECKED BY:
CR	F. COHEN
PROJECT NUMBER:	25057
STORE NUMBER:	WSD
SHEET:	F10.2

11/23/2025 7:54:25 AM