

CONSTRUCTION PLANS FOR UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT PROJECT NO. 4747 2480 IMPALA DRIVE, CARLSBAD, CA 92010

STANDARD SPECIFICATIONS:

DESCRIPTION

STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREENBOOK), 2018 EDITION

SAN DIEGO REGIONAL STANDARD DRAWINGS, 2018 EDITION

CALIFORNIA BUILDING CODE (CBC), 2022 EDITION

CALIFORNIA FIRE CODE (CFC), 2022 EDITION

CALIFORNIA PLUMBING CODE (CPC), 2022 EDITION

CALIFORNIA MECHANICAL CODE (CMC), 2019 EDITION

2022 CALIFORNIA ELECTRICAL CODE, CALIFORNIA CODE OF REGULATIONS TITLE 24 - PART 3

2020 NATIONAL ELECTRICAL CODE, CHAPTER 5 - ARTICLE 514

2021 NFPA 30 & 30A FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE

GEOTECHNICAL REPORT BY NINYO & MOORE DATED MARCH 26, 2021

ADDENDUM TO GEOTECHNICAL REPORT - CANOPY RECOMMENDATIONS DATED JULY 6, 2021

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CITY OF CARLSBAD
CARLSBAD, CA
CITY COUNCIL
KEITH BLACKBURN - MAYOR
PRIYA BHAT-PATEL - MAYOR PRO TEM
MELANIE BURKHOLDER - COUNCIL MEMBER
TERESA ACOSTA - COUNCIL MEMBER
CAROLYN LUNA- COUNCIL MEMBER
SCOTT CHADWICK - CITY MANAGER
PAZ GOMEZ - DEPUTY CITY MANAGER

BASIS OF COORDINATES: (NAD83)

THE BASIS OF COORDINATES FOR THIS SURVEY IS THE NORTH AMERICAN DATUM OF 1983 (NAD 83) CALIFORNIA STATE PLANE COORDINATE SYSTEM OF 1983 (CCS83) ZONE 6 (EPOCH 1991.35) BASED LOCALLY UPON THE FOLLOWING FIRST ORDER CONTROL POINTS PER RECORD OF SURVEY 17271:

STATION	NORTHING	EASTING	DESCRIPTION
105	1999466.124	6241021.960	A 2.5" BRASS DISK STAMPED "LS 6215" IN SIDEWALK AT THE NORTHEAST CORNER OF THE CANNON ROAD BRIDGE OVER AGUA HEDIONDA CREEK.
108	1996667.594	6248033.709	A 2.5" BRASS DISK STAMPED "LS 6215" IN A DRAINAGE INLET AT THE NORTH SIDE OF PALMER WAY 100' EASTERLY OF COUGAR DRIVE.

GRID BEARING BETWEEN STATION 108 AND STATION 105 = N 68°14'31" W.
MAPPING ANGLE AT STATION 108 = -00°33'46.974"

SUPPLEMENTAL CONTROL:
AS ESTABLISHED FOR THIS PROJECT

NOTE: SUPPLEMENTAL CONTROL POINTS WERE ESTABLISHED HORIZONTALLY BY RTK GPS SURVEY WITH REDUNDANCY AND VERTICALLY BY EITHER RTK GPS OR TRIG.

POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION	BENCHMARK	ELEVATION
1003	1995833.65	6250339.29	367.90'	CP MAG	CONTROL POINT 108 PER ROS 17271	246.43'
1004	1995721.20	6250663.16	365.76'	CP MAG		

VERTICAL CONTROL: (NGVD29)
ELEVATIONS SHOWN HEREON ARE IN TERMS OF THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29) BASED LOCALLY UPON THE FOLLOWING CITY OF CARLSBAD BENCHMARK:

ABBREVIATIONS	
AC	ASPHALT CONCRETE
APN	ASSESSOR PARCEL NUMBER
BEG	BEGIN
C&G	CURB & GUTTER
CONC	CONCRETE
CL	CENTERLINE
CLR	CLEAR
CU FT	CUBIC FOOT
ELEC	ELECTRICAL
EX, EXIST	EXISTING
FL	FLOW LINE
FS	FINISHED SURFACE
FT	FEET
INV	INVERT
LF	LINEAR FOOT, LINEAR FEET
LT	LEFT
LWD	LEUCADIA WASTEWATER DISTRICT
MAX	MAXIMUM
MIN	MINIMUM
MON	MONUMENT
N.T.S.	NOT TO SCALE
PVC	POLYVINYL CHLORIDE
P/L	PROPERTY LINE
RD	ROAD
RT	RIGHT
R/W	RIGHT-OF-WAY
SCUT	SAWCUT
SD	STORM DRAIN
SDRSD	SAN DIEGO REGIONAL STANDARD DRAWING
SSPWC	STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION
SF	SQUARE FEET
ST	STREET
SWLK	SIDEWALK
SWR	SEWER
TC	TOP OF CURB
TP	TYPICAL
UNK	UNKNOWN

"DECLARATION OF RESPONSIBLE CHARGE"

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF CARLSBAD DOES NOT RELIEVE ME AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

FIRM: KIMLEY-HORN AND ASSOCIATES, INC.

ADDRESS: 401 B STREET, SUITE 600

CITY, ST.: SAN DIEGO, CA 92101

TELEPHONE: 619-234-9411

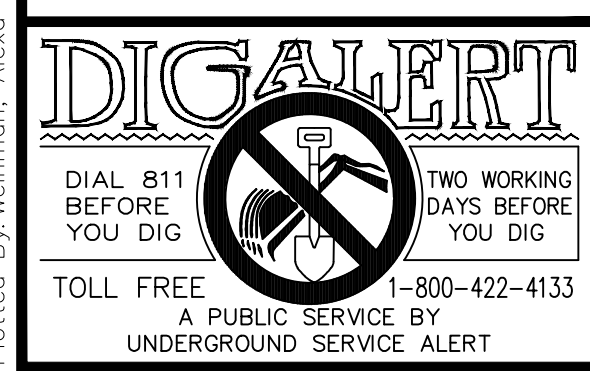
Peter B. Ritchey 9/18/2023
 PETER B. RITCHIEY DATE
 R.C.E. C67652, EXP. 06-30-2025

"AS BUILT"

P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____



Kimley»Horn
401 B Street, Suite 600, San Diego, California 92101
Phone: 619.234.9411 | www.kimley-horn.com

PETER B. RITCHIEY
 CIVIL ENGINEER
 STATE OF CALIFORNIA

DATE	INITIAL	REVISION	DESCRIPTION	DATE	INITIAL	DATE	INITIAL

SHEET 1	CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT	SHEETS 36
UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT COVER SHEET		
APPROVED: <u>John Mosshoff</u> 05/30/2024		
PUBLIC WORKS MANAGER RCE 61909 EXP. 9/30/25 DATE		
DWN BY: <u>SM</u>	PROJECT NO. CIP4747	DRAWING NO. 811-5
CHKD BY: <u>PR</u>		
RVWD BY: <u>PR</u>		

Plotted By: Weimann, Alexa Sheet Set: K:_SD_ LDEV\095272401 - Carlsbad UST Replacement\Design\PlanSheets - ONSITE\1 COVER SHEET.dwg

UST REMOVAL AND REPLACEMENT GENERAL CONSTRUCTION NOTES

- 1. CITY OF CARLSBAD PROJECT DOCUMENTS AND TECHNICAL SPECIFICATIONS ARE TO BE FOLLOWED FOR ALL WORK PERFORMED AT THIS SITE.
2. ALL CONSTRUCTION WORK SHALL BE PERFORMED IN ACCORDANCE WITH LOCAL ADOPTED BUILDING CODES AND SUPPLEMENTARY ORDINANCES.
3. BIDDER MUST HOLD A VALID CALIFORNIA STATE CONTRACTOR'S LICENSE IN AT LEAST ONE OF THE FOLLOWING CLASSIFICATIONS: A, C-36, OR C-61, WITH HAZARDOUS SUBSTANCE CERTIFICATE ISSUED BY THE STATE.
4. ENVIRONMENTAL PROTECTION AGENCY NUMBERS AND/OR STATE GENERATOR I.D. NUMBERS SHALL BE OBTAINED FROM CITY OF CARLSBAD.
5. CONTRACTOR TO VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE PRIOR TO COMMENCING WORK AND NOTIFY CITY OF CARLSBAD'S REPRESENTATIVE OF ANY DISCREPANCIES BETWEEN SITE CONDITIONS AND INFORMATION SHOWN ON THE DRAWINGS.
6. REMOVAL AND DISPOSAL OF CONTAMINATED SOIL IS NOT ANTICIPATED FOR THIS SITE.
7. STOCKPILING OF EXCAVATED MATERIAL IS PERMITTED TO BE STORED ONSITE WITHIN THE CONSTRUCTION AREA.
8. ALL MATERIALS AND EQUIPMENT REMOVED, EXCEPT WHERE NOTED, SHALL BE DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH APPLICABLE CODES AND ORDINANCES.
9. CONTRACTOR SHALL COORDINATE ALL WORK WITH THE FACILITY MANAGER, FACILITIES PERSONNEL AND/OR REPRESENTATIVE.
10. CONTRACTOR SHALL FOLLOW THE MOST CURRENT EDITION OF THE COUNTY OF SAN DIEGO SITE ASSESSMENT AND MITIGATION MANUAL FOR GUIDANCE IN TANK REMOVALS AND ENCOUNTERING CONTAMINATED SOIL.
11. CONTRACTOR SHALL HAVE A QUALIFIED SUPERINTENDENT ON THE JOB SITE DURING THE ENTIRE DURATION OF THE PROJECT TO COORDINATE AND SUPERVISE ALL PHASES OF THE PROJECT.
12. CONTRACTOR TO PROVIDE TEMPORARY CONSTRUCTION FENCING AROUND THE PROJECT SITE.
13. CONTRACTOR TO CONTINUALLY INSPECT THE CONSTRUCTION AREA TO KEEP PREMISES AS NEAT AS POSSIBLE DURING CONSTRUCTION AND ASSURE CITY OF CARLSBAD'S FACILITIES ARE DISTURBED AS LITTLE AS POSSIBLE.
14. ANY INDIVIDUAL(S) INSTALLING UNDERGROUND STORAGE TANK SYSTEM COMPONENTS SHALL MEET THE FOLLOWING REQUIREMENTS, OR WORK UNDER THE DIRECT SUPERVISION OF AN INDIVIDUAL PHYSICALLY PRESENT AT THE WORK SITE WHO MEETS THE FOLLOWING REQUIREMENTS:
A. 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.
B. THE INDIVIDUAL SHALL POSSESS A CURRENT UNDERGROUND STORAGE TANK SYSTEM INSTALLATION/RETROFITTING CERTIFICATE FROM THE INTERNATIONAL CODE COUNCIL (ICC).
15. ALL NEW INSTALLATIONS OF PIPING, FITTINGS AND COMPONENTS MUST COMPLY WITH THE REVISED UL 971 STANDARD.
16. THE UNDERGROUND STORAGE TANK SYSTEM(S) SHALL BE COMPATIBLE WITH THE PRODUCT TO BE STORED.
17. THE TANK CONSTRUCTION/TESTING SHALL BE IN ACCORDANCE WITH NATIONALLY RECOGNIZED CODES.
18. ALL CONTINUOUS MONITORING EQUIPMENT SHALL BE ON THE STATE'S APPROVED EQUIPMENT LIST AND ALL EQUIPMENT SHALL BE APPROVED FOR USE WITH THE CONTINUOUS MONITORING SYSTEM.
19. ALL UNDERGROUND STORAGE TANK (UST) EQUIPMENT SHALL MEET VOLUNTARY CONSENSUS STANDARDS.
20. ALL MATERIALS TO BE USED (PIPING, SEALANT, ADHESIVE, RESINS, ETC.) SHALL BE COMPATIBLE AND USED NATIONALLY RECOGNIZED CODES.
21. ALL MATERIALS SHALL BE INSTALLED AS PER MANUFACTURERS' SPECIFICATIONS.
22. THE ELECTRICAL SUPPLY WIRING FOR THE CONTINUOUS MONITORING SYSTEM SHALL BE HARDWIRED TO THE JUNCTION/BREAKER BOX.
23. ALL SENSORS WILL BE PROPERLY MOUNTED AT THE LOW POINT IN THE SUMPS AND SECURED TO PREVENT TAMPERING USING MOUNTING KITS OR SLEEVES.
24. THE CONTRACTOR SHALL ENSURE THAT ALL FILLS AND MONITORING WELLS ARE PROPERLY LABELED.
25. THE CONTRACTOR SHALL ENSURE THAT THE EMERGENCY SHUT-OFF SWITCH IS OPERATIONAL AND INSTALLED IN ACCORDANCE WITH CBC #514.11/514.13/514.16.
26. THE CONTRACTOR SHALL ENSURE THAT ON-LINE LEAK DETECTORS ARE INSTALLED ON TURBINES AND ARE OPERATIONAL.
27. AS PER AB 1702, BEFORE THE UNDERGROUND STORAGE TANK IS PLACED IN USE, THE UST SHALL BE TESTED AFTER INSTALLATION USING ONE OF THE METHODS IN HEALTH & SAFETY CODE 25290.1(J) TO DEMONSTRATE THAT THE TANK IS PRODUCT TIGHT.
28. OPERATIONAL SENSORS IN INTERSTICES AND SUMP(S) POSITIVE SHUT-DOWN DEMONSTRATED IF REQUIRED: THE CITY THIRD PARTY INSPECTOR SHALL WITNESS A PROPERLY CERTIFIED TECHNICIAN TEST ALL SENSORS TO ENSURE THEY INDICATE AN AUDIBLE AND VISUAL ALARM.
29. ELECTRONIC MONITOR SECURED/ACCESSIBLE TO OPERATOR AND OPERATIONAL: ENSURE THE MONITORING PANEL IS HARDWIRED THROUGH CONDUIT TO THE JUNCTION/BREAKER BOX.
30. ALL SENSORS WILL DETECT THE EARLIEST POSSIBLE RELEASE: ANNULAR SPACE SENSORS MUST BE PROPERLY INSTALLED (FOR STEEL TANKS, WIRE MUST BE MEASURED TO ENSURE IT IS LONG ENOUGH FOR THE EARLIEST POSSIBLE DETECTION OF A RELEASE).
31. CONTINUOUS MONITORING DEVICE CERTIFICATION SUBMITTED: THE CONTINUOUS MONITORING DEVICE CERTIFICATION, INCLUDING THE ON-LINE LEAK DETECTOR TESTS AND VACUUM SENSOR CERTIFICATION, WITH THE PRINT-OUT FROM THE ALARM PANEL ATTACHED, SHALL BE SUBMITTED ON THE STATE OF CALIFORNIA FORMS FOUND AT:
32. ALL MONITORING EQUIPMENT COMPONENTS HAVE TAG/STICKER AFFIXED BY LICENSED TECHNICIAN: ENSURE THE CERTIFIED TECHNICIAN HAS AFFIXED PROPER TAGS AND/OR STICKERS ON ALL MONITORING EQUIPMENT COMPONENTS, INCLUDING THE PANEL AND EACH SENSOR.

UST REMOVAL AND REPLACEMENT GENERAL CONSTRUCTION NOTES CONT.

- 33. ALL SYSTEM COMPONENTS THAT ARE OR MAY BE EXPOSED TO PRODUCT SHALL HAVE COMPATIBILITY STATEMENTS SUBMITTED.
34. CONTRACTOR SHALL VISIT JOB SITE PRIOR TO BIDDING AND SHALL VERIFY CONDITIONS PRIOR TO COMMENCING WORK.
35. THE CITY PROJECT MANAGER AND ENGINEER OF RECORD SHALL BE CONTACTED IMMEDIATELY IF THERE ARE ANY DISCREPANCIES WITH THE PROJECT PLANS AND SPECIFICATIONS THAT MAY IMPACT THE WORK.
36. CONTRACTOR TO FOLLOW THE CITY OF CARLSBAD FIRE DEPARTMENT AND THE COUNTY OF SAN DIEGO S.A.M. MANUAL (LATEST EDITION) SPECIFICATIONS FOR THE HANDLING AND DISPOSAL OF CONTAMINATED SOIL AND THE UNDERGROUND STORAGE TANK.
37. CONTRACTOR SHALL REPAIR OR REPLACE ALL DAMAGED IMPROVEMENTS (INCLUDING CONCRETE, ASPHALT, CURBS, GUTTERS, FENCING, ETC.) OUTSIDE THE LIMITS OF WORK, TO MATCH THE ORIGINAL PRE-CONSTRUCTION CONDITIONS AND SHALL REPAIR OR REPLACE ALL DAMAGED IMPROVEMENTS WITHIN THE LIMITS OF WORK AT NO ADDITIONAL COST TO THE CITY OF CARLSBAD.
38. ALL OTHER EXISTING CONSTRUCTION AT THIS SITE NOT AFFECTED BY WORK SHOWN ON THIS PLAN IS TO REMAIN UNLESS OTHERWISE DIRECTED BY THE CITY REPRESENTATIVE.
39. WORK SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL CODES AND REGULATIONS, CONTRACTOR IS RESPONSIBLE FOR SCHEDULING ALL AGENCY INSPECTIONS.
40. A LICENSED FUELING CONTRACTOR SHALL PURGE ALL FUEL & VAPOR FROM THE FUELING SYSTEM PRIOR TO ANY DEMOLITION COMMENCING.
41. ALL WORK PRODUCING EXCESSIVE NOISE OR FUMES TO BE COORDINATED WITH CARLSBAD PROJECT MANAGER.
42. WHERE SOIL IS DISTURBED SOIL SAMPLING IS REQUIRED BY A CALIFORNIA LICENSED GEOLOGIST PER CRITERIA OF THE SAN DIEGO COUNTY ENVIRONMENTAL HEALTH DEPARTMENT.
43. ALL REMOVAL AND DISPOSAL SHALL BE DONE IN AN ORDERLY AND SAFE MANNER AND SHALL MINIMIZE DISTURBANCES TO EXISTING CONDITIONS.
44. PROPERLY TERMINATE ALL EXISTING PLUMBING & ELECTRICAL ITEMS ABANDONED AND/OR TEMPORARILY REMOVED DURING DEMOLITION

EXISTING UTILITY NOTES

- KIMLEY-HORN AND ASSOCIATES ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS AND ELEVATIONS. THE UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION.
1. BACKFILL UTILITY TRENCHING PER SECTION 8.1.6 OF GEOTECHNICAL REPORT PREPARED BY NINYO & MOORE DATED MARCH 26, 2021.
2. ALL PIPING RUNS SHALL SLOPE AT A MIN. OF 1/8 INCH PER FOOT BACK TO TANK.

STORMWATER & EROSION CONTROL CONSTRUCTION NOTES

- 1. THIS PROJECT SHALL COMPLY WITH ALL REQUIREMENTS OF THE STATE PERMIT: CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD.
2. SUFFICIENT BMPs MUST BE INSTALLED TO PREVENT SILT, MUD, OR OTHER CONSTRUCTION DEBRIS FROM BEING TRACKED INTO ADJACENT STREET(S) OR STORM WATER CONVEYANCE SYSTEMS.
3. ALL STOCKPILES OF UNCOMPACTED SOIL AND/OR BUILDING MATERIALS THAT ARE INTENDED TO BE LEFT UNPROTECTED FOR A PERIOD GREATER THAN SEVEN (7) CALENDAR DAYS ARE TO BE PROTECTED WITH EROSION AND SEDIMENT CONTROLS.
4. THE STORAGE OF ANY CONSTRUCTION MATERIALS OR EQUIPMENT MUST BE PROTECTED AGAINST ANY POTENTIAL RELEASE OF POLLUTANTS INTO THE ENVIRONMENT.
5. ALL EROSION AND SEDIMENT CONTROL BMPs SHALL BE MAINTAINED IN WORKING ORDER AT ALL TIMES.
6. A CONCRETE WASHOUT MUST BE PROVIDED ONSITE PRIOR TO POURING ANY CONCRETE IMPROVEMENTS.
7. CONTRACTOR SHALL COORDINATE WITH THE CITY OF CARLSBAD PROJECT MANAGER, ENGINEER, AND FACILITIES PERSONNEL FOR SITE ACCESS, CONSTRUCTION SCHEDULE, AND EQUIPMENT STAGING.
8. FENCE WORK AREA TO PROTECT CITY OF CARLSBAD STAFF DURING CONSTRUCTION ACTIVITY.
9. CONTRACTOR SHALL RESTORE THE SITE TO ITS ORIGINAL CONDITION UPON COMPLETION OF ALL WORK.
10. CONTRACTOR IS RESPONSIBLE FOR CONTROLLING THE RELEASE OF ANY/ALL DUST AND POLLUTANTS (BMP'S).
11. PRIOR TO COMMENCING DEMOLITION A SECURITY FENCE WITH PRIVACY SCREEN SHALL SURROUND ALL DEMOLITION AREAS.
12. GRAVEL-FILLED BAGS AND STRAW WATTLES SHALL BE PLACED AROUND THE PERIMETER OF THE PROPERTY AGAINST THE SECURITY FENCE.
13. COVER ANY TEMPORARY GRAVEL STOCKPILES WITH A TARP.
14. COVER ALL ON SITE STORM DRAINS IN THE CONSTRUCTION AREA.

PAVING AND STRIPING NOTES

- 1. ALL PAVING, CONSTRUCTION, MATERIALS, AND WORKMANSHIP WITHIN JURISDICTION'S RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH LOCAL OR COUNTY SPECIFICATIONS AND STANDARDS (LATEST EDITION) OR MNDOT SPECIFICATIONS AND STANDARDS (LATEST EDITION) IF NOT COVERED BY LOCAL OR COUNTY REGULATIONS.
2. ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D) AND CITY STANDARDS.
3. CONTRACTOR SHALL FURNISH ALL PAVEMENT MARKINGS FOR FIRE LANES, ROADWAY LANES, PARKING STALLS, ACCESSIBLE PARKING SYMBOLS, ACCESS AISLES, STOP BARS AND SIGNS, AND MISCELLANEOUS STRIPING WITHIN THE PARKING LOT AS SHOWN ON THE PLANS.
4. ALL EXPANSION JOINTS SHALL EXTEND THROUGH THE CURB.
5. THE MINIMUM LENGTH OF OFFSET JOINTS AT RADIUS POINTS SHALL BE 2 FEET.
6. ALL JOINTS, INCLUDING EXPANSION JOINTS WITH REMOVABLE TACK STRIPS, SHALL BE SEALED WITH JOINT SEALANT.
7. THE MATERIALS AND PROPERTIES OF ALL CONCRETE SHALL MEET THE APPLICABLE REQUIREMENTS IN THE A.C.I. (AMERICAN CONCRETE INSTITUTE) MANUAL OF CONCRETE PRACTICE.
8. CONTRACTOR SHALL APPLY A SECOND COATING OVER ALL PAVEMENT MARKINGS PRIOR TO ACCEPTANCE BY OWNER FOLLOWED BY A COAT OF GLASS BEADS AS APPLICABLE PER THE PROJECT DOCUMENTS.
9. ANY EXISTING PAVEMENT, CURBS AND/OR SIDEWALKS DAMAGED OR REMOVED WILL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE TO THE SATISFACTION OF THE ENGINEER AND OWNER.
10. BEFORE PLACING PAVEMENT, CONTRACTOR SHALL VERIFY SUITABLE ACCESSIBLE ROUTES (PER A.D.A). GRADING FOR ALL SIDEWALKS AND ACCESSIBLE ROUTES INCLUDING CROSSING DRIVEWAYS SHALL CONFORM TO CURRENT ADA STATE/NATIONAL STANDARDS.
11. MAXIMUM JOINT SPACING IS TWICE THE DEPTH OF THE CONCRETE PAVEMENT IN FEET.

GRADING AND DRAINAGE NOTES

- 1. GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE START OF CONSTRUCTION.
2. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
3. CONTRACTOR SHALL ENSURE THERE IS POSITIVE DRAINAGE FROM THE PROPOSED BUILDINGS SO THAT SURFACE RUNOFF WILL DRAIN BY GRAVITY TO NEW OR EXISTING DRAINAGE OUTLETS.
4. CONTRACTOR SHALL PROTECT ALL MANHOLE COVERS, VALVE COVERS, VAULT LIDS, FIRE HYDRANTS, POWER POLES, GUY WIRES, AND TELEPHONE BOXES THAT ARE TO REMAIN IN PLACE AND UNDISTURBED DURING CONSTRUCTION.
5. BACKFILL FOR UTILITY LINES SHALL BE PLACED PER DETAILS, STANDARDS, AND SPECIFICATIONS SO THAT THE UTILITY WILL BE STABLE.
6. CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND REPLACEMENT OF 4" OF TOPSOIL AT COMPLETION OF WORK.
7. AFTER PLACEMENT OF SUBGRADE AND PRIOR TO PLACEMENT OF PAVEMENT, CONTRACTOR SHALL TEST AND OBSERVE PAVEMENT AREAS FOR EVIDENCE OF PONDING.
8. WHERE EXISTING PAVEMENT IS INDICATED TO BE REMOVED AND REPLACED, THE CONTRACTOR SHALL SAW CUT FULL DEPTH FOR A SMOOTH AND STRAIGHT JOINT AND REPLACE THE PAVEMENT WITH THE SAME TYPE AND DEPTH OF MATERIAL AS EXISTING OR AS INDICATED.
9. THE CONTRACTOR SHALL INSTALL PROTECTION OVER ALL DRAINAGE STRUCTURES FOR THE DURATION OF CONSTRUCTION AND UNTIL ACCEPTANCE OF THE PROJECT BY THE OWNER.
10. IF DEWATERING IS REQUIRED, THE CONTRACTOR SHALL OBTAIN ANY APPLICABLE REQUIRED PERMITS.
11. FIELD DENSITY TESTS SHALL BE TAKEN AT INTERVALS IN ACCORDANCE WITH THE LOCAL JURISDICTIONAL AGENCY OR TO MNDOT STANDARDS.
12. ALL SLOPES AND AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED AS PER PLANS.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF DUST AND DIRT RISING AND SCATTERING IN THE AIR DURING CONSTRUCTION AND SHALL PROVIDE WATER SPRINKLING OR OTHER SUITABLE METHODS OF CONTROL.
14. SOD, WHERE CALLED FOR, MUST BE INSTALLED AND MAINTAINED ON EXPOSED SLOPES WITHIN 48 HOURS OF COMPLETING FINAL GRADING.
15. THE CONTRACTOR SHALL ENSURE THAT LANDSCAPE ISLAND PLANTING AREAS AND OTHER PLANTING AREAS ARE NOT COMPACTED AND DO NOT CONTAIN ROAD BASE MATERIALS.
16. THE CONTRACTOR SHALL INSTALL ALL UNDERGROUND STORM WATER PIPING PER MANUFACTURER'S RECOMMENDATIONS AND CITY SPECIFICATION.
17. ALL CONCRETE/ASPHALT SHALL BE INSTALLED PER GEOTECH REPORT, CITY OF CARLSBAD AND CALTRANS SPECIFICATIONS.
18. SPOT ELEVATIONS ARE TO FLOWLINE OF CURB UNLESS OTHERWISE NOTED.
19. LIMITS OF CONSTRUCTION ARE TO THE PROPERTY LINE UNLESS OTHERWISE SPECIFIED ON THE PLAN.
20. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING EXISTING UTILITIES, AND SHALL REPAIR ALL DAMAGE TO EXISTING UTILITIES THAT OCCUR DURING CONSTRUCTION WITHOUT COMPENSATION.
21. BLEND NEW EARTHWORK SMOOTHLY TO TRANSITION BACK TO EXISTING GRADE.
22. ALL PROPOSED GRADES ONSITE SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE INDICATED ON THE PLANS.
23. ANY TEMPORARY OR PREEMINENT SLOPES STEEPER THAN 4:1 REQUIRE EROSION AND SEDIMENT CONTROL BLANKET.
24. ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
25. CONTRACTOR SHALL ENSURE MINIMUM GRADES ARE MET WITHIN PAVED AREAS, 1.2% FOR ASPHALT PAVING AND 0.6% FOR CONCRETE PAVING.

WATER STORM SEWER & SANITARY SEWER NOTES

- 1. THE CONTRACTOR SHALL CONSTRUCT GRAVITY SEWER LATERALS, MANHOLES, GRAVITY SEWER LINES, AND DOMESTIC WATER AND FIRE PROTECTION SYSTEM AS SHOWN ON THESE PLANS.
2. ALL EXISTING UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE.
3. DEFLECTION OF PIPE JOINTS AND CURVATURE OF PIPE SHALL NOT EXCEED THE MANUFACTURER'S SPECIFICATIONS.
4. ALL PIPE AND FITTINGS SHALL BE CAREFULLY STORED FOLLOWING MANUFACTURER'S RECOMMENDATIONS.
5. ALL UTILITY AND STORM DRAIN TRENCHES LOCATED UNDER AREAS TO RECEIVE PAVING SHALL BE COMPLETELY BACK FILLED IN ACCORDANCE WITH THE GOVERNING JURISDICTIONAL AGENCY'S SPECIFICATIONS.
6. UNDERGROUND LINES SHALL BE SURVEYED BY A STATE OF CA PROFESSIONAL LAND SURVEYOR PRIOR TO BACK FILLING.
7. CONTRACTOR SHALL PROVIDE FOR A MINIMUM HORIZONTAL CLEARANCE OF 10' AND A VERTICAL CLEARANCE OF 18" BETWEEN WATER AND SANITARY SEWER MANHOLES AND LINES.
8. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
9. ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATERTIGHT UNLESS OTHERWISE STATED BY CITY AND STATE DESIGN STANDARDS AND SPECIFICATIONS.
10. TOPOGRAPHIC INFORMATION IS TAKEN FROM A TOPOGRAPHIC SURVEY BY LAND SURVEYORS.
11. REGISTERED LAND SURVEYOR TO THE OWNER FOR REVIEW.
12. ROOF DRAINS SHALL BE CONNECTED TO STORM SEWER BY PREFABRICATED WYES OR AT STORM STRUCTURES.
13. ALL ROOF AND SANITARY SEWER DRAINS SHALL BE INSULATED IF 7" OF COVER CANNOT BE PROVIDED.
14. COORDINATE UTILITY INSTALLATION WITH IRRIGATION DESIGN AND INSTALLATION.
15. REFERENCE ARCHITECTURAL PLANS (BY OTHERS).
16. REFERENCE M.E.P. PLANS (BY OTHERS) FOR MECHANICAL EQUIPMENT DIMENSIONS AND SPECIFICATIONS.
17. CONTRACTOR SHALL REFERENCE STRUCTURAL PLANS (BY OTHERS) FOR MECHANICAL EQUIPMENT DIMENSIONS AND PAD PREPARATION SPECIFICATIONS.
18. CONTRACTOR SHALL REFERENCE M.E.P PLANS (BY OTHERS) FOR LIGHT POLE WIRING.

"AS BUILT"
P.E. EXP. DATE

REVIEWED BY:
INSPECTOR DATE

SHEET 2 CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT SHEETS 36

UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT NOTES

APPROVED: John Mosshoff 05/30/2024
PUBLIC WORKS MANAGER RCE 61909 EXP.9/30/25 DATE

DWN BY: SM PROJECT NO. CIP4747 DRAWING NO. 811-5
CHKD BY: PR
RVD BY: PR

Kimley Horn logo



Table with 4 columns: DATE, INITIAL, ENGINEER OF WORK, REVISION DESCRIPTION. Includes a grid for revisions.



FUEL ISLAND NOTES

- 1. INSTALL NEW DOUBLE WALL TURBINE AND FILL SUMPS ON ALL THREE TANKS AS PER PLANS.
2. INSTALL NEW F. E. PETRO SUBMERSIBLE TURBINE PUMPS.
3. INSTALL NEW A.O. SMITH FIBERGLASS PENETRATION FITTINGS ON PRODUCT, VENT AND VAPOR PIPING IN TURBINE AND FILL SUMPS AS PER PLANS.
...
27. INSTALL 2A:10B:C FIRE EXTINGUISHER WITHIN 25' TO 70' OF DISPENSERS.

FUEL ISLAND INSPECTION

- CITY SHALL HIRE A THIRD PARTY VEEDER ROOT CERTIFIED INSPECTOR TO BE PRESENT AND/OR PERFORM THE FOLLOWING:
28. PERFORM ENHANCED LEAK DETECTION (TRACER TEST).
29. PERFORM VEEDER-ROOT 450+ MONITORING CERTIFICATION.
...
35. ADD BRINE TO ALL UDCS, VENT BOX, TURBINE AND FILL SUMPS AS PER MANUFACTURER'S INSTRUCTIONS.

FUEL ISLAND CONSTRUCTION NOTES

- 36. EXCAVATE TANK HOLE AS NEEDED FOR NEW CONTAINMENT SOLUTIONS TANKS.
37. PLACE TWO NEW CONTAINMENT SOLUTIONS 20,000-GALLON TANKS AND ONE CONTAINMENT SOLUTIONS 12,000-GALLON TANK WITH BRINE FILLED INTERSTITIAL SPACE IN EXCAVATED AREA.
...
42. PATCH OR REPLACE CONCRETE SURFACE WITHIN LIMITS OF WORK; CONCRETE SHALL BE 8" THICK 560-C-3500 REINFORCED WITH NO. 4 BARS, 18" O.C., OVER 4" AGGREGATE BASE.

TYPICAL OWNER/ENGINEER OBSERVATIONS

CONTRACTOR SHALL NOTIFY OWNER AND/OR ENGINEER 48 HOURS IN ADVANCE OF THE FOLLOWING ACTIVITIES:

- PRE-CONSTRUCTION MEETING,
•• SUBGRADE PREPARATION,
•• BASE INSTALLATION,
•• ASPHALT INSTALLATION,
...
4. THE TANK INSTALLATION SHALL BE INSPECTED BY THE COUNTY AND THIRD PARTY INSPECTOR AT FOUR (4) SEPARATE CONSTRUCTION PHASES (SEE FUEL ISLAND INSPECTION):

GENERAL NOTES

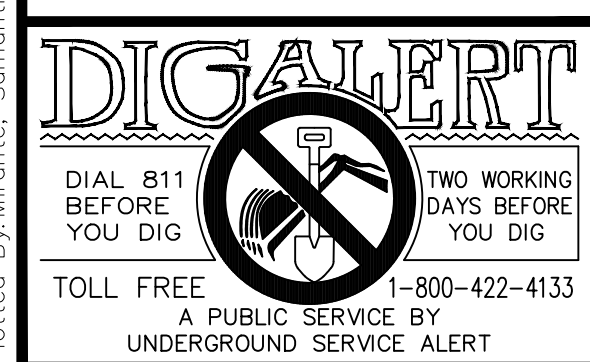
- 1. A LICENSED FUELING CONTRACTOR SHALL PURGE ALL FUEL & VAPOR FROM THE FUELING SYSTEM PRIOR TO ANY DEMOLITION COMMENCING.
2. PATCH OR REPLACE CONCRETE SURFACE WITHIN LIMITS OF WORK; CONCRETE SHALL BE 8" THICK 560-C-3500 REINFORCED WITH NO. 4 BARS, 18" O.C., OVER 4" AGGREGATE BASE
...
10. AS BUILTS: IN THE EVENT A CHANGE IS MADE DURING CONSTRUCTION THAT DEVIATES FROM THE ORIGINAL APPROVED PLANS, REVISED PLANS ("AS BUILTS") SHALL BE SUBMITTED AND APPROVED IN ORDER TO COMPLETE THE FINAL INSPECTION.

"AS BUILT"
P.E. EXP. DATE
REVIEWED BY:
INSPECTOR DATE

SHEET 3 CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT SHEETS 36
UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT NOTES
APPROVED: John Mosshoff 05/30/2024
PUBLIC WORKS MANAGER RCE 61909 EXP.9/30/25 DATE
DWN BY: SM PROJECT NO. CIP4747 DRAWING NO. 811-5
CHKD BY: PR
RVWD BY: PR

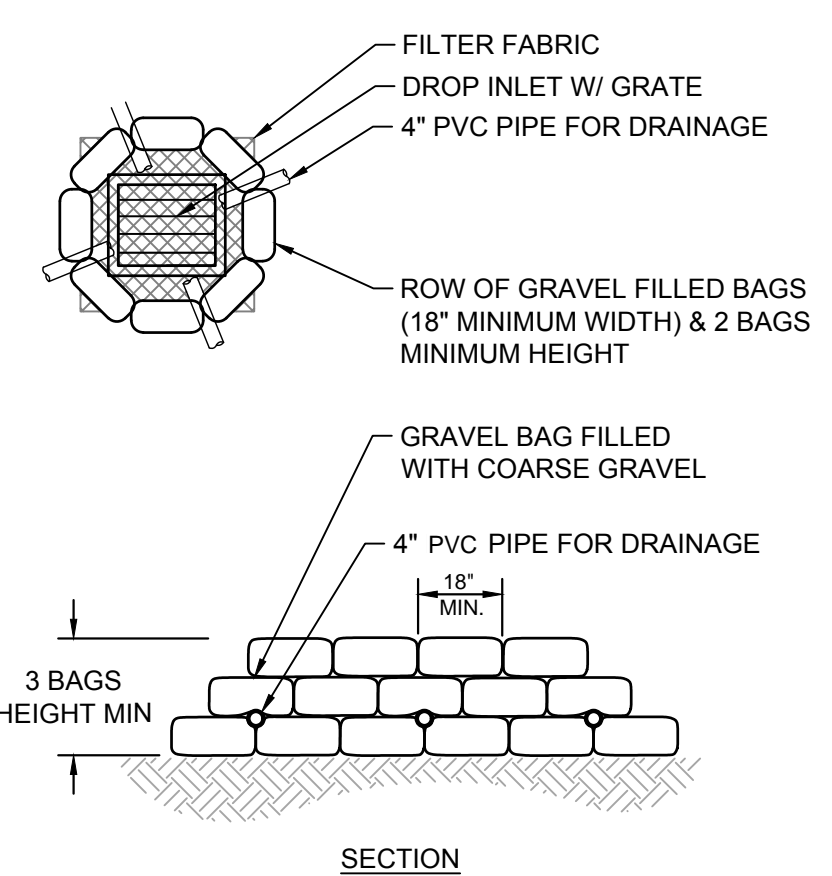
Kimley»Horn logo and professional engineer seal for Peter Bowen Pitzer, State of California.

Table with columns: DATE, INITIAL, REVISION DESCRIPTION, DATE, INITIAL, DATE, INITIAL, OTHER APPROVAL, CITY APPROVAL.



LEGEND

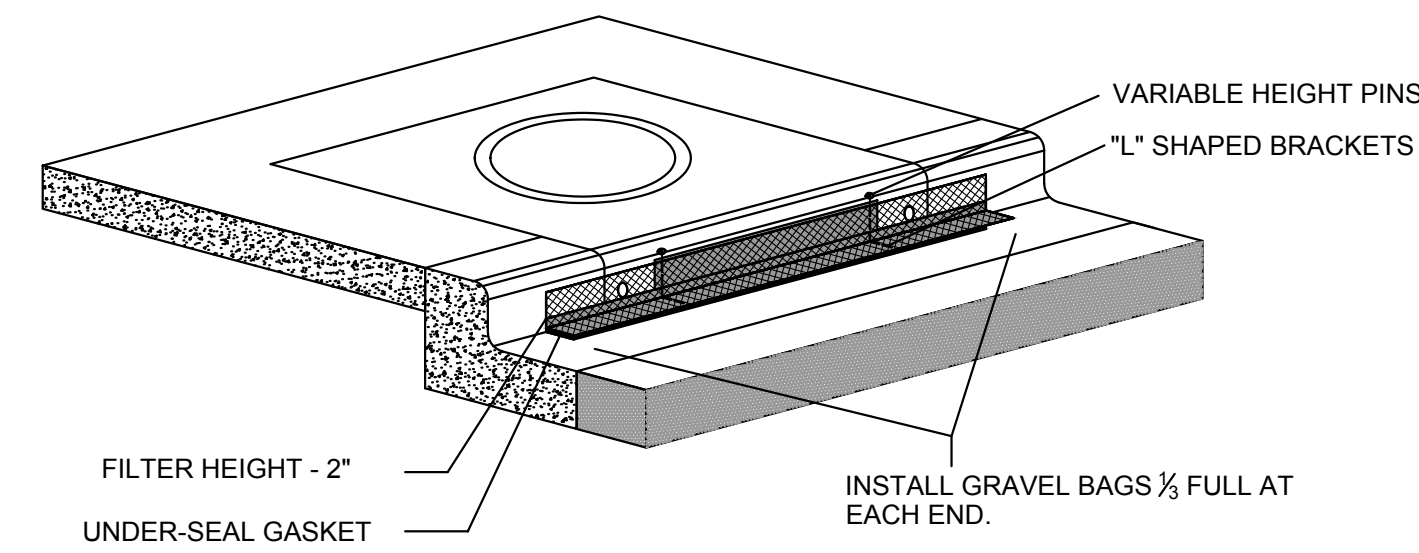
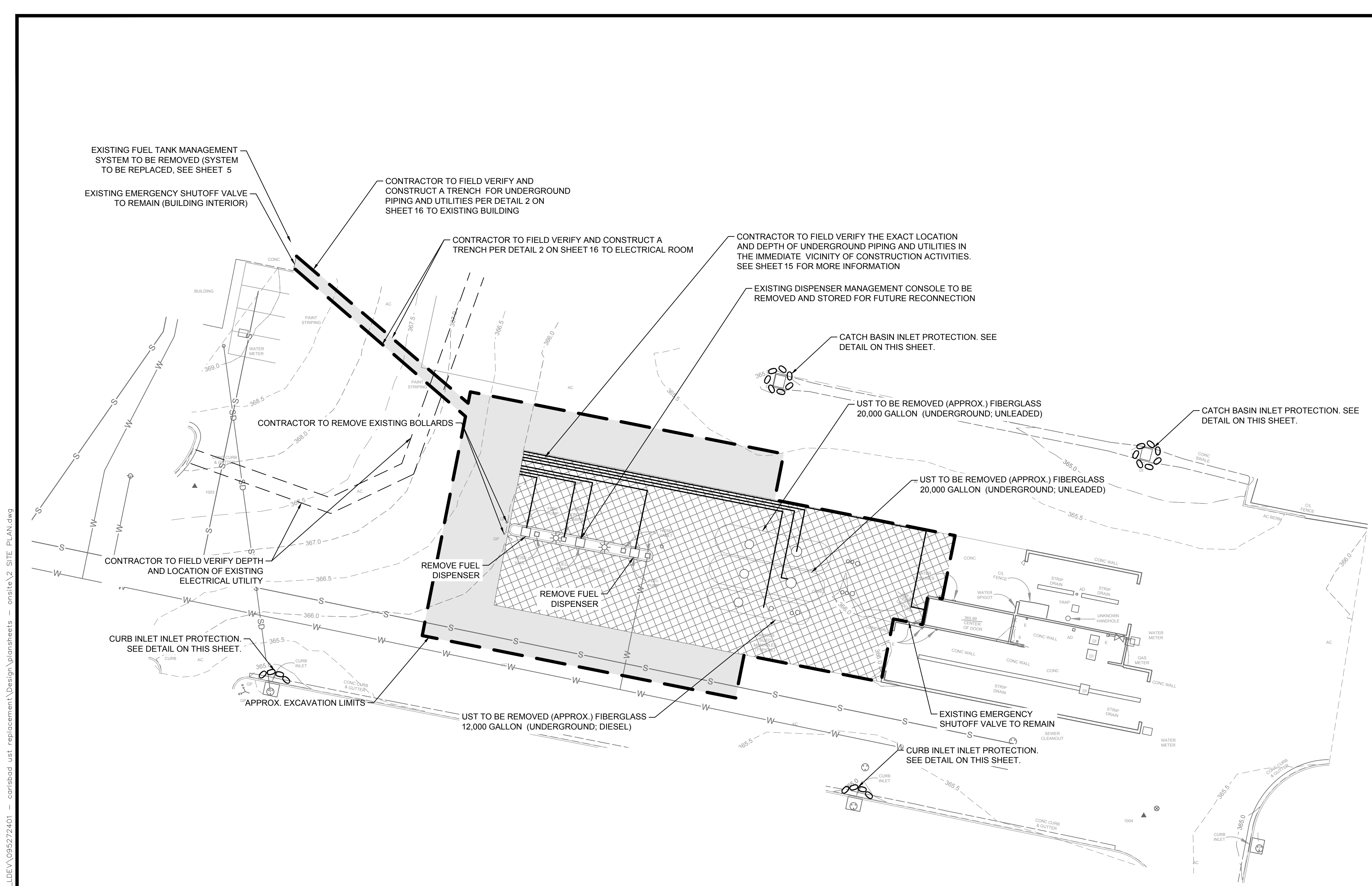
Table listing symbols for excavation limits, contours, spot elevations, control points, standards, risers, manholes, connections, valves, posts, concrete, drains, inlets, chain link, electrical equipment, and removal materials like concrete and asphalt.



- NOTES: 1. GRAVEL BAG MATERIAL: POLYPROPYLENE, POLYETHYLENE OR POLYIMIDE WOVEN FABRIC... 2. GRAVEL BAG SHALL BE FILLED WITH 3/4" ROCK OR 1/4" PEA GRAVEL. 3. PLACE SEVERAL LAYERS OF SAND BAGS... 4. LEAVE GAP OF ONE BAG ON THE TOP ROW... 5. PLACE WIRE MESH OVER AND 1" (MINIMUM) BEYOND THE INLET STRUCTURE. 6. PLACE FILTER FABRIC OVER WIRE MESH... 7. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT.

CATCH BASIN/AREA DRAIN GRAVEL BAGGING DETAIL

SCALE: N.T.S.



CURB INLET PROTECTION (SE-10)

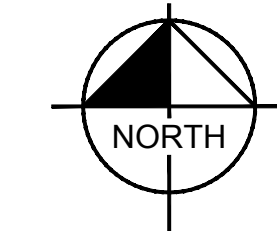
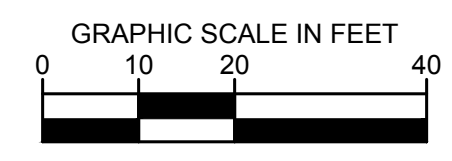
SCALE: N.T.S.

UST REMOVAL NOTES

- 1. IT IS UNDERSTOOD THE CONTRACTOR WILL EMPTY AND CLEAN THE USTS PRIOR TO THE START OF THIS PROJECT. CONTRACTOR SHALL VERIFY THAT TANKS ARE EMPTY. 2. CONTRACTOR SHALL REMOVE (1) EXISTING 12,000 GALLON AND (2) EXISTING 20,000 GALLON UNDERGROUND FUEL TANKS AND ALL APPLICABLE UNDERGROUND PIPING... 3. CONTRACTOR SHALL REMOVE THE USTS AND COLLECT SOIL SAMPLES FROM (1) THE BASE OF THE EXCAVATION... 4. PRIOR TO REMOVAL, ALL TANKS AND PIPING MUST BE PROPERLY PURGED OF ALL VAPORS.

DEH INSPECTION REQUIREMENTS

ONE INSPECTION IS REQUIRED AT THE TIME OF THE SYSTEM REMOVAL. PRIOR TO THE REMOVAL AND THE INSPECTORS ARRIVAL ON SITE, THE UST SYSTEM INCLUDING THE PIPING MUST BE EXPOSED TO ALLOW PROPER INSPECTION AND IDENTIFICATION OF SAMPLING POINTS. THE TANKS MUST BE TRIPLE RINSED/DECONTAMINATED AND THE LOWER EXPLOSIVE LIMIT (LEL) MUST BE 20% OR LESS AS DETERMINED BY A CALIBRATED COMBUSTIBLE GAS INSTRUMENT (CGI).



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Table with columns for DATE, INITIAL, REVISION DESCRIPTION, and OTHER APPROVAL. Includes a grid for revisions and approvals.

AS BUILT stamp with fields for P.E., EXP., DATE, REVIEWED BY, INSPECTOR, and DATE.

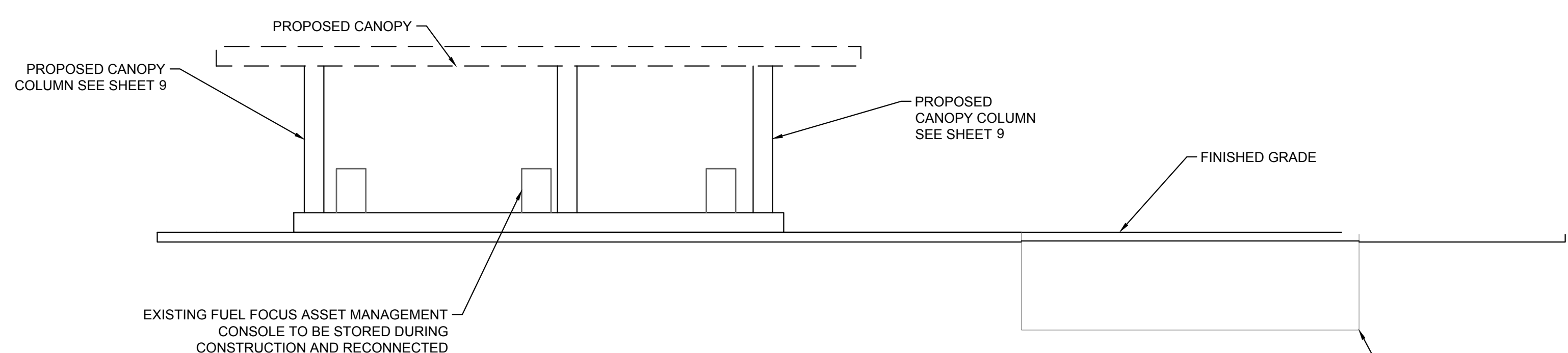
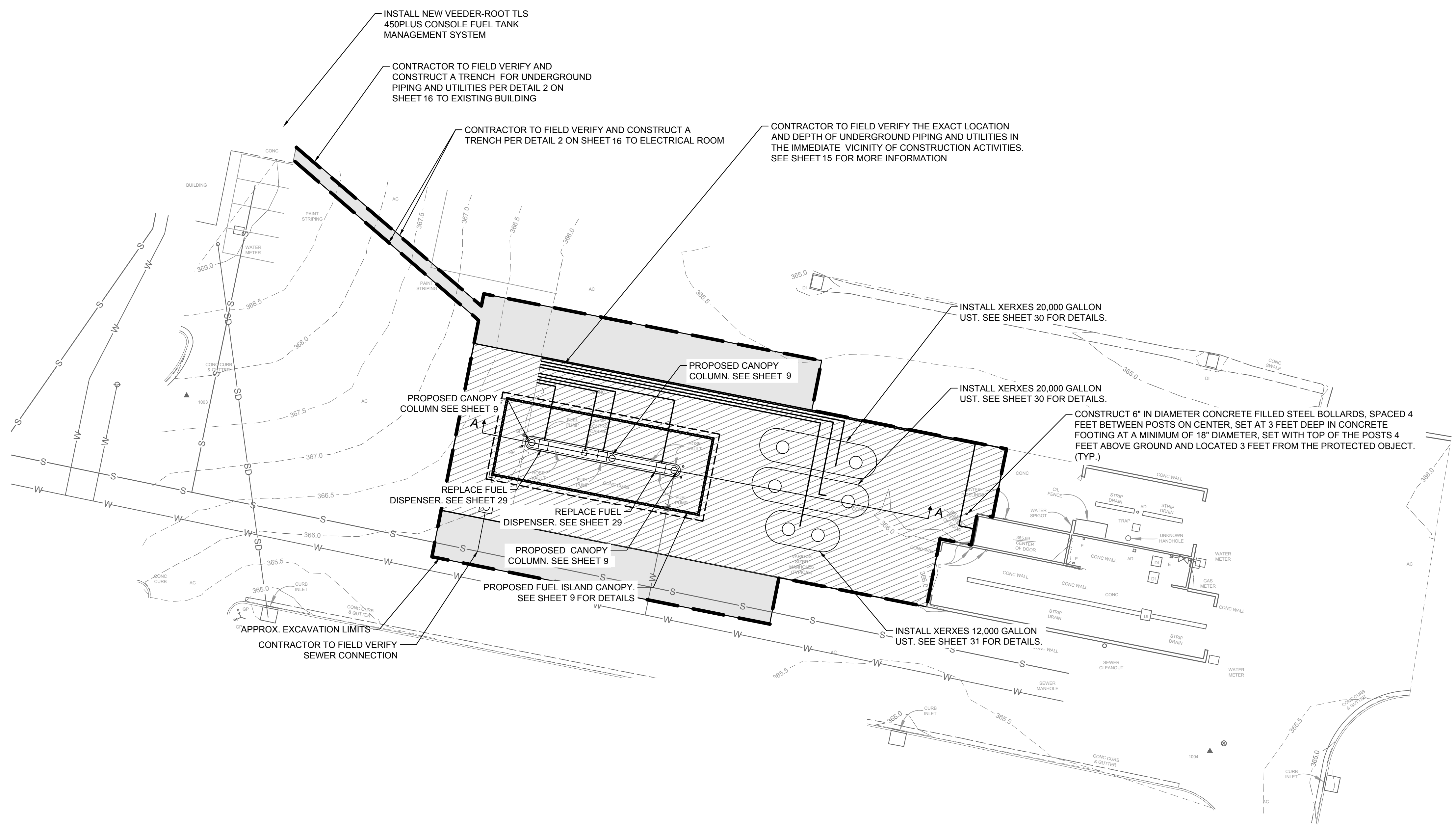
CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT stamp for UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT SITE PLAN - DEMOLITION. Includes approval by John Mosshoff, Public Works Manager, dated 05/30/2024, and drawing number 811-5.

Plotfiled By: Mirante, Samantha Sheet Set: Kho Layout: 1 HC - Demo September 14, 2023 09:26:52am K:\SND_LDEV\095272401 - carlsbad ust_replacement\Design\plansheets - onsite\2 SITE PLAN.dwg

DIGALERT logo with text: DIAL 811 BEFORE YOU DIG. TWO WORKING DAYS BEFORE YOU DIG. TOLL FREE 1-800-422-4133. A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT.

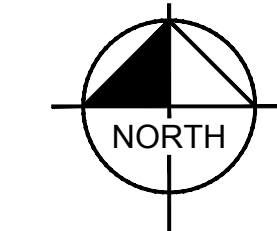
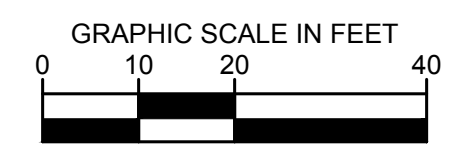
LEGEND

APPROX. EXCAVATION LIMITS	---
EXISTING 0.5' CONTOUR*	--- 364.5 ---
EXISTING 2.5' CONTOUR	--- 365.0 ---
EXISTING FINISHED GRADE SPOT ELEVATION	• FG:(365.73)
SET CONTROL POINT	▲ 1003
LIGHT STANDARD	☀
BACKFLOW PREVENTER RISER	⊕
STORM DRAIN MANHOLE (UNLESS OTHERWISE NOTED)	⊗
FIRE DEPARTMENT CONNECTION	⌞
WATER VALVE	⊙
GUARD POST	GP
CONCRETE	CONC
AREA DRAIN	AD
DRAIN INLET	DI
ASPHALT	AC
CHAIN LINK	C/L
ELECTRICAL EQUIPMENT	E
*NOTE: CONTOUR INTERVAL IS 1'	
FUEL ISLAND CANOPY	[Hatched Box]
CONCRETE RERPLACEMENT	[Diagonal Lines]
ASPHALT RERPLACEMENT	[Solid Grey]



SECTION A-A DETAIL
N.T.S.

UST TO BE REMOVED AND REPLACED (APPROX.) TWO FIBERGLASS 20,000 GALLON AND ONE FIBERGLASS 12,000 GALLON (UNDERGROUND, DIESEL) SEE SHEET 27 AND 28 FOR DETAILS



UST REMOVAL NOTES

- IT IS UNDERSTOOD THE CONTRACTOR WILL EMPTY AND CLEAN THE USTS PRIOR TO THE START OF THIS PROJECT. CONTRACTOR SHALL VERIFY THAT TANKS ARE EMPTY.
- CONTRACTOR SHALL REMOVE (1) EXISTING 12,000 GALLON AND (2) EXISTING 20,000 GALLON UNDERGROUND FUEL TANKS AND ALL APPLICABLE UNDERGROUND PIPING. THE TANKS PREVIOUSLY STORED MOTOR FUELS. PRODUCT PIPING MUST BE INERTED AND LEFT IN PLACE FOR DEPARTMENT OF ENVIRONMENTAL HEALTH AND QUALITY INSPECTION PRIOR TO REMOVAL. ALL PIPING AND USTS MUST BE REMOVED AT THE SAME TIME. FAILURE TO DO SO WILL RESULT IN A RE-INSPECTION AND RE-INSPECTION FEE. CONTRACTOR SHALL PROVIDE A DESIGNED SHORING SYSTEM WITH BRACING PER GEOTECHNICAL RECOMMENDATIONS.
- CONTRACTOR SHALL REMOVE THE USTS AND COLLECT SOIL SAMPLES FROM (1) THE BASE OF THE EXCAVATION, (2) ALONG THE PIPING RUNS AS DIRECTED BY DEPARTMENT OF ENVIRONMENTAL HEALTH AND QUALITY INSPECTOR, AND (3) STOCKPILE OF OVERBURDEN SOIL UNDER THE DISCRETION OF THE DEPARTMENT OF ENVIRONMENTAL HEALTH AND CARLSBAD FIRE DEPARTMENT INSPECTORS. THE DEPARTMENT OF ENVIRONMENTAL HEALTH AND QUALITY INSPECTOR SHALL IDENTIFY SPECIFIC SAMPLING LOCATIONS AT THE TIME OF REMOVAL. CONTRACTOR SHALL DISPOSE OF THE DECONTAMINATED USTS AS A NON HAZARDOUS WASTE.
- PRIOR TO REMOVAL, ALL TANKS AND PIPING MUST BE PROPERLY PURGED OF ALL VAPORS.

DEH INSPECTION REQUIREMENTS

ONE INSPECTION IS REQUIRED AT THE TIME OF THE SYSTEM REMOVAL. PRIOR TO THE REMOVAL AND THE INSPECTORS ARRIVAL ON SITE, THE UST SYSTEM INCLUDING THE PIPING MUST BE EXPOSED TO ALLOW PROPER INSPECTION AND IDENTIFICATION OF SAMPLING POINTS. THE TANKS MUST BE TRIPLE RINSED/DECONTAMINATED AND THE LOWER EXPLOSIVE LIMIT (LEL) MUST BE 20% OR LESS AS DETERMINED BY A CALIBRATED COMBUSTIBLE GAS INSTRUMENT (CGI). THE WASTE (RINSEATE AND SLUDGE-BOTTOM WASTE) MUST BE TRANSPORTED BY A LICENSED HAZARDOUS WASTE HAULER (THE WASTE HAULER MUST PROVIDE A MANIFEST NUMBER FOR THE INSPECTORS PAPER WORK).

Plotted By: Mirante, Samantha Sheet Set: Kho Layout: 1 HC - Construct September 14, 2023 09:26:55am K:\SND_LDEV\095272401 - carlsbad ust_replacement\Design\plansheets - onsite\2 SITE PLAN.dwg



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DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

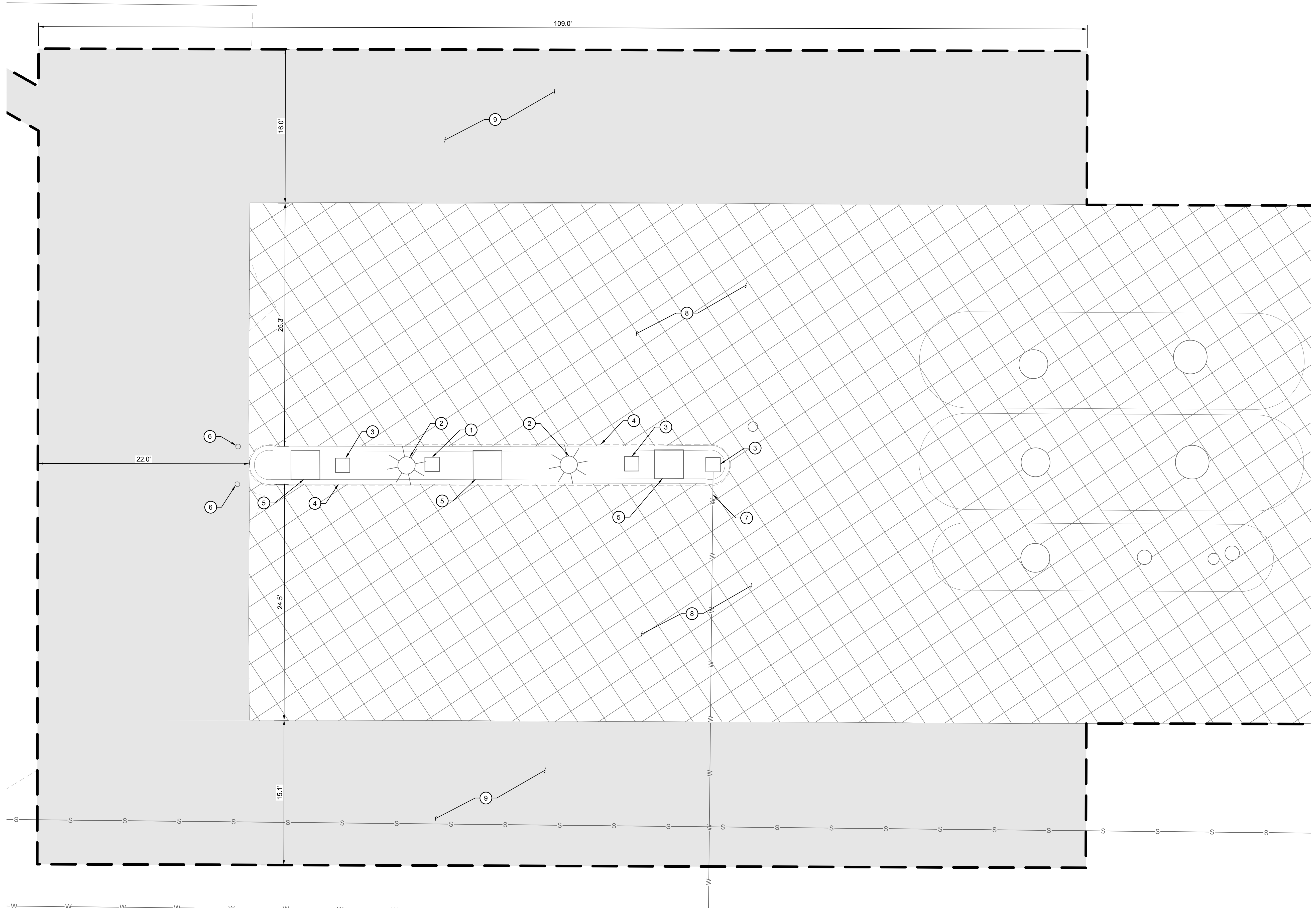
"AS BUILT"

P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____

SHEET 3B	CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT	SHEETS 36
UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT		
SITE PLAN - CONSTRUCTION		
APPROVED: John Mosshoff		05/30/2024
PUBLIC WORKS MANAGER RCE 61909 EXP. 9/30/25		DATE
DWN BY: SM	PROJECT NO. CIP4747	DRAWING NO. 811-5
CHKD BY: PR		
RVWD BY: PR		

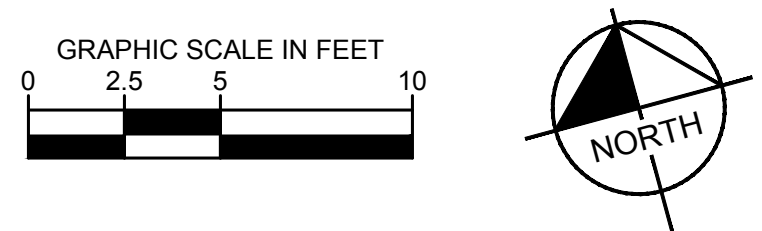


LEGEND

APPROX. EXCAVATION LIMITS	---
EXISTING 0.5' CONTOUR*	--- 364.5 ---
EXISTING 2.5' CONTOUR	--- 365.0 ---
EXISTING FINISHED GRADE SPOT ELEVATION	• FG:(365.73)
SET CONTROL POINT	▲ 1003
LIGHT STANDARD	☼
BACKFLOW PREVENTER RISER	⌵
STORM DRAIN MANHOLE (UNLESS OTHERWISE NOTED)	⊕
FIRE DEPARTMENT CONNECTION	⌵
WATER VALVE	⊗
GUARD POST	GP
CONCRETE	CONC
AREA DRAIN	AD
DRAIN INLET	DI
ASPHALT	AC
CHAIN LINK	C/L
ELECTRICAL EQUIPMENT	E
*NOTE: CONTOUR INTERVAL IS 1'	
CONCRETE REMOVAL	
ASPHALT REMOVAL	

- DEMOLITION NOTES**
- ① EXISTING FUEL FOCUS ASSET MANAGEMENT CONSOLE TO BE STORED DURING CONSTRUCTION AND RECONNECTED
 - ② REMOVE AND PROPERLY DISPOSE EXISTING LIGHT POLE
 - ③ REMOVE AND PROPERLY DISPOSE EXISTING HOSE VAULT
 - ④ REMOVE EXISTING PCC CURB ISLAND
 - ⑤ REMOVE AND PROPERLY DISPOSE EXISTING FUEL DISPENSER
 - ⑥ CONTRACTOR TO REMOVE EXISTING BOLLARDS.
 - ⑦ CONTRACTOR TO CUT AND CAP EXISTING WATER LINE.
 - ⑧ REMOVE EXISTING CONCRETE PAVEMENT.
 - ⑨ REMOVE EXISTING ASPHALT PAVEMENT.

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DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

"AS BUILT"

P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____

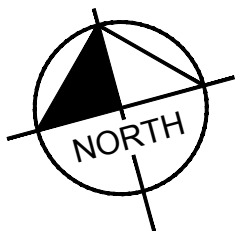
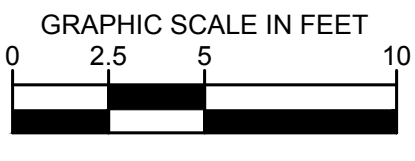
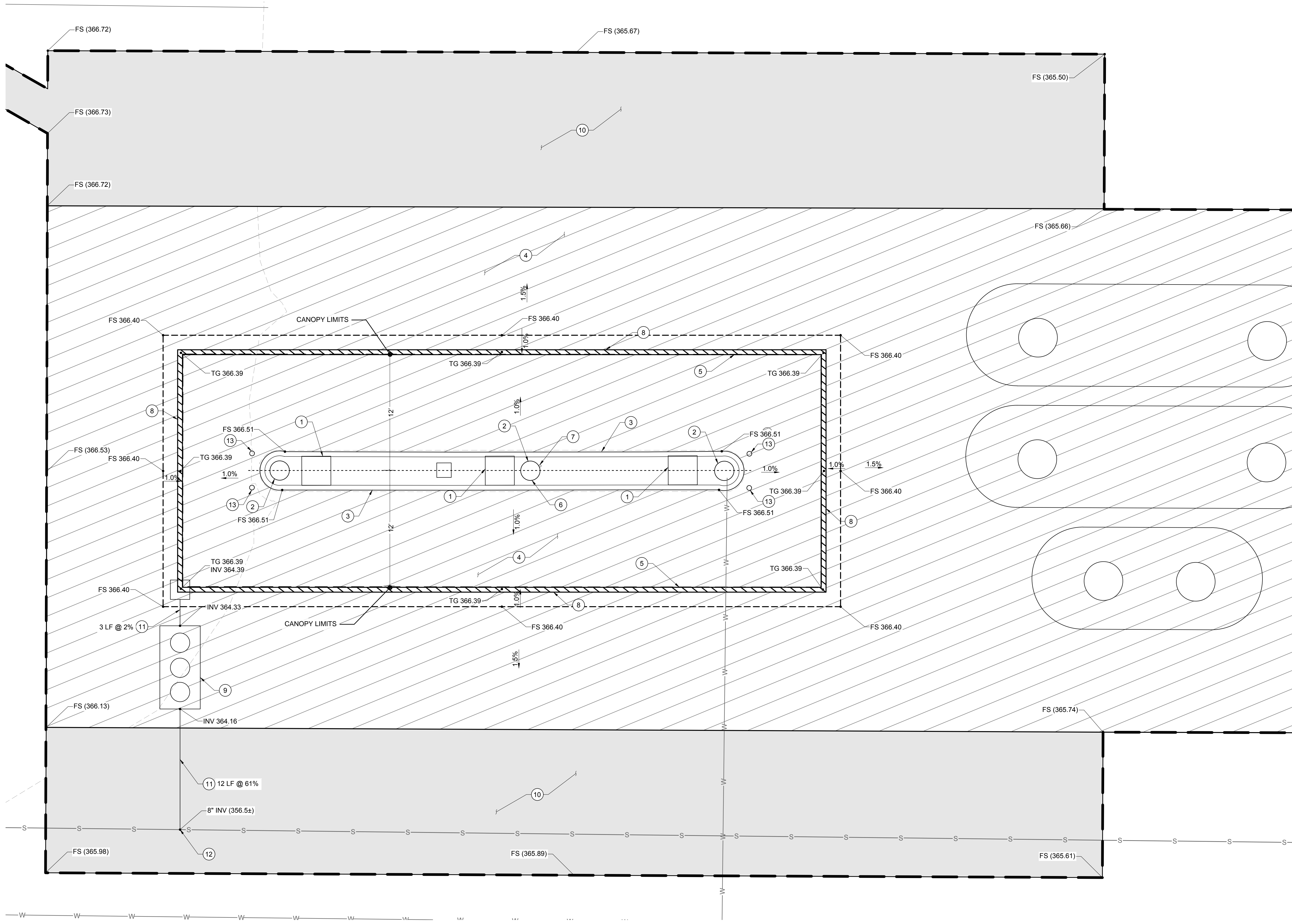
SHEET 6	CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT	SHEETS 36
UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT FUEL ISLAND DETAIL - DEMOLITION		
APPROVED: John Mosshoff <i>John Mosshoff</i> 05/30/2024 PUBLIC WORKS MANAGER RCE 61909 EXP. 9/30/25 DATE		
DWN BY: SM	PROJECT NO. CIP4747	DRAWING NO. 811-5
CHKD BY: PR		
RVWD BY: PR		

LEGEND

APPROX. EXCAVATION LIMITS	---
EXISTING 0.5' CONTOUR*	- - - - - 364.5
EXISTING 2.5' CONTOUR	- - - - - 365.0
EXISTING FINISHED GRADE SPOT ELEVATION	• FG:(365.73)
SET CONTROL POINT	▲ 1003
LIGHT STANDARD	☼
BACKFLOW PREVENTER RISER	⊕
STORM DRAIN MANHOLE (UNLESS OTHERWISE NOTED)	⊕
FIRE DEPARTMENT CONNECTION	⊕
WATER VALVE	⊕
GUARD POST	GP
CONCRETE	CONC
AREA DRAIN	AD
DRAIN INLET	DI
ASPHALT	AC
CHAIN LINK	C/L
ELECTRICAL EQUIPMENT	E
*NOTE: CONTOUR INTERVAL IS 1'	
FUEL ISLAND CANOPY	---
GRADE BREAK	---
CONCRETE REPLACEMENT	[Hatched Box]
ASPHALT REPLACEMENT	[Solid Grey Box]

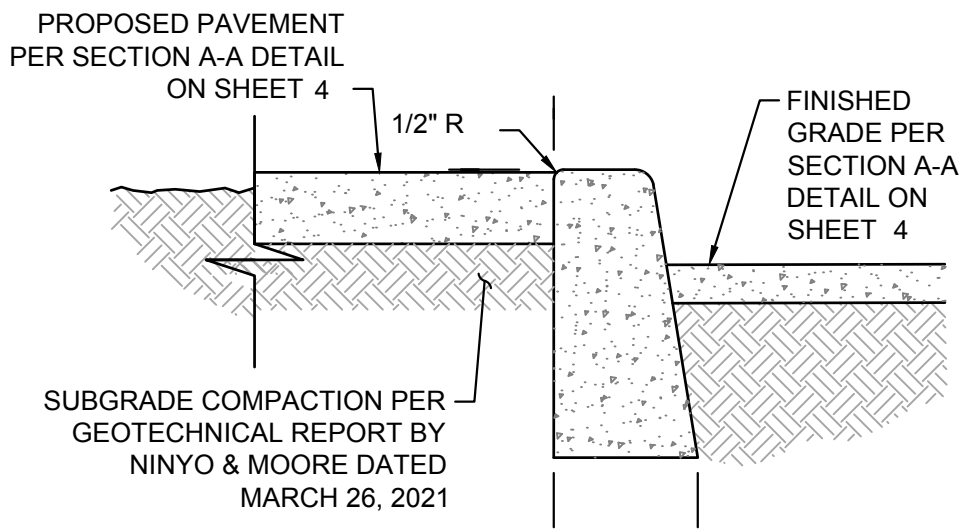
CONSTRUCTION NOTES

- INSTALL GASBOY ATLAS FUEL DISPENSER: MODEL 9852KTW-1 (ISLAND-ORIENTED), AND RECONNECT ALL PIPING; SEE DETAIL ON SHEET 29
- CONSTRUCT FUEL CANOPY COLUMNS; SEE SHEET 9
- CONSTRUCT 6" PCC CURB ISLAND
- PATCH OR REPLACE CONCRETE SURFACE WITHIN LIMITS OF WORK; CONCRETE SHALL BE 8" THICK 560-C-3500 REINFORCED WITH NO. 4 BARS, 18" O.C., OVER 4" AGGREGATE BASE.
- CONSTRUCT FUEL CANOPY; SEE SHEET 9
- TELEPHONE MOUNTED ON CANOPY COLUMN. CONTRACTOR TO COORDINATE WITH CITY STAFF FOR EXACT LOCATION, TELEPHONE TYPE, AND CONNECTION.
- CONTRACTOR TO INSTALL 2A:10B:C FIRE EXTINGUISHER
- INSTALL 6" WIDE NDS DURA SLOPE TRENCH DRAIN.
- INSTALL STRIEM OT-500 POLYETHYLENE OIL SEPARATOR (562 GALLON).
- CONSTRUCT ASPHALT PAVEMENT SECTION TO MATCH EXISTING SECTION.
- CONSTRUCT 4" SCH 40 PVC SANITARY SEWER PIPE. SLOPE AND LENGTH PER PLAN
- CONSTRUCT 4" PVC TO 8" VCP CONNECTION.
- CONSTRUCT 6" IN DIAMETER CONCRETE FILLED STEEL BOLLARDS, SPACED 4 FEET BETWEEN POSTS ON CENTER, SET AT 3 FEET DEEP IN CONCRETE FOOTING AT A MINIMUM OF 18" DIAMETER, SET WITH TOP OF THE POSTS 4 FEET ABOVE GROUND AND LOCATED 3 FEET FROM THE PROTECTED OBJECT.



NOTES:

- CONCRETE SHALL BE 4000 PSI.
- ISOLATION JOINTS SHALL BE PLACED ONLY AS SPECIFIED
- CONTRACTION JOINTS CONSISTING OF 1" DEEP SCORES SHALL BE PLACED AT 15' INTERVALS O.C.
- WHERE A WALK IS ADJACENT TO THE CURB THE JOINTS SHALL ALIGN WITH JOINTS IN THE WALK.



6" CONCRETE CURB N.T.S.

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REVIEWED BY: _____		
INSPECTOR _____	DATE _____	

SHEET 7	CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT	SHEETS 36
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**UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT
FUEL ISLAND DETAIL - CONSTRUCTION**

APPROVED: John Mosshoff
 PUBLIC WORKS MANAGER RCE 61909 EXP. 9/30/25 DATE 05/30/2024

DWN BY: SM	PROJECT NO. CIP4747	DRAWING NO. 811-5
CHKD BY: PR		
RVWD BY: PR		

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

Plotted By: Mirante, Samantha Sheet Set: K:\SND_LDEV\095272401 - carlsbad ust replacement\Design\plansheets - onsite\GAS PUMP DETAIL.dwg
 Layout: 1 HC (2) September 14, 2023 09:27:07am K:\SND_LDEV\095272401 - carlsbad ust replacement\Design\plansheets - onsite\GAS PUMP DETAIL.dwg



STRUCTURAL GENERAL NOTES

- 1.0 DESIGN DATA
1.01 BUILDING CODE - CALIFORNIA BUILDING CODE 2019
1.02 DESIGN LOADS
A. ROOF LOADS
LIVE LOAD (LL) 20 PSF
DEAD LOAD (DESIGN D.L.) 10 PSF (7 PSF ALLOWANCE FOR FUTURE SOLAR PV)
NET WIND UPLIFT 11 PSF (ASD) BASED ON C&C WIND LOADS
B. WIND LOAD
BASIC WIND SPEED (3-SECOND GUST) 96 MPH
OCCUPANCY CATEGORY II
EXPOSURE C
BUILDING ENCLOSURE CLASSIFICATION OPEN BUILDING
INTERNAL PRESSURE COEFFICIENT, GCPI +/- 0
C. EARTHQUAKE DESIGN DATA
RISK CATEGORY II
IMPORTANCE FACTOR 1.0
SITE CLASS D - DEFAULT PER ASCE 7 SECTION 11.4.3
SPECTRAL RESPONSE ACCELERATION Ss 0.948
SPECTRAL RESPONSE ACCELERATION S1 0.348
SPECTRAL RESPONSE COEFFICIENTS SD1 0.758
SPECTRAL RESPONSE COEFFICIENTS SD2 0.464
SEISMIC DESIGN CATEGORY D
STEEL CANTILEVER SYSTEM:
BASIC SEISMIC FORCE-RESISTING SYSTEM STEEL ORDINARY CANTILEVER COLUMN SYSTEM
ANALYSIS PROCEDURE EQUIVALENT LATERAL FORCE
SEISMIC RESPONSE MODIFICATION FACTOR R 1.25
SEISMIC RESPONSE COEFFICIENTS Cs 0.606
DESIGN BASE SHEAR 16 K (STRENGTH)
2.0 DIMENSIONS
2.01 BEFORE STARTING WORK, THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON THE SITE, AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER.
2.02 THE CONTRACTOR, BEFORE STARTING ANY WORK, SHALL CHECK ALL DIMENSIONS GIVEN ON THE STRUCTURAL DRAWINGS, RELATING TO GRID LINES, COLUMN AND WALL LOCATIONS, STRUCTURAL AND FINISHED FLOOR ELEVATIONS, MEMBER SIZES, ETC. IF ANY DISCREPANCY IS NOTICED, IT SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER, AND WORK SHALL NOT COMMENCE UNTIL INSTRUCTIONS ARE RECEIVED FROM THE ENGINEER.
2.03 THE CONTRACTOR SHALL REFER TO THE ENGINEER FOR INSTRUCTIONS FOR ANY DIMENSION NOT GIVEN OR OBTAINABLE FROM THE DRAWINGS. THE CONTRACTOR SHALL NOT USE SCALE TO OBTAIN OR VERIFY ANY DIMENSION SHOWN ON THESE DRAWINGS.
3.0 DOCUMENTS AND LIMITATIONS
3.01 THIS STRUCTURAL DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, ARE INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY KIMLEY-HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY-HORN AND ASSOCIATES, INC.
3.02 IT IS UNDERSTOOD THAT THE STRUCTURAL ENGINEER OF RECORD MAKES NO WARRANTY, EITHER EXPRESSED OR IMPLIED, AS TO FINDINGS, DESIGNS, RECOMMENDATIONS, SPECIFICATIONS, OPINION, OR PROFESSIONAL ADVICE, EXCEPT THAT THESE INSTRUMENTS OF SERVICE HAVE BEEN PREPARED IN ACCORDANCE WITH THE CURRENT GENERALLY ACCEPTED PROFESSIONAL ENGINEERING PRACTICES.
3.03 ALL NON-STRUCTURAL ELEMENTS INDICATED ON THE STRUCTURAL DRAWINGS HAVE BEEN SHOWN IN GENERAL RELATIONSHIP TO THE STRUCTURAL ELEMENTS. ACCORDINGLY, THEY SHALL NOT BE ASSUMED TO BE ACCURATE AND REFERENCE MUST BE MADE TO THE APPROPRIATE CONSULTANT(S) PLANS AND SPECIFICATIONS.
4.0 CONSTRUCTION SAFETY
4.01 IT IS UNDERSTOOD THAT THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK ON THE PROJECT. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE SAFETY OF THE PERSONS AND PROTECT THEM AGAINST INJURY. LIKEWISE, THE CONTRACTOR SHALL PROTECT ALL PROPERTY AGAINST DAMAGE AND LOSS.
4.02 THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LAWS, ORDINANCES, RULES, REGULATIONS, AND ORDERS OF ANY PUBLIC BODY HAVING JURISDICTION FOR THE SAFETY OF PERSONS AND PROPERTY.
4.03 THE CONTRACTOR'S DUTIES AND RESPONSIBILITIES FOR THE SAFETY AND PROTECTION OF THE WORK SHALL CONTINUE UNTIL SUCH TIME AS THE WORK IS SATISFACTORILY COMPLETED, AND THE ENGINEER HAS ISSUED A NOTICE TO THAT EFFECT TO THE OWNER AND THE CONTRACTOR.
4.04 ALL STRUCTURAL MEMBERS SHOWN HEREIN HAVE BEEN DESIGNED FOR THE FINAL DESIGN LOADS PROVIDED IN THIS DOCUMENT IN THE FINAL ERECTED CONDITION SHOWN HEREIN. THE CONTRACTOR IS RESPONSIBLE FOR CONDITIONS ENCOUNTERED DURING ERECTION AND HANDLING, AND NECESSARY TEMPORARY BRACING AND SHORING. SHORING AND BRACING SHALL BE DESIGNED TO PRECLUDE ANY STRUCTURAL ELEMENT FROM BEING OVERSTRESSED AT ANY POINT DURING CONSTRUCTION.
4.05 THE GENERAL CONTRACTOR IS RESPONSIBLE FOR MAINTAINING CONSTRUCTION MEANS AND METHODS THAT WILL NOT IMPACT ADJACENT INFRASTRUCTURE.
5.0 SHOP DRAWINGS
5.01 REVIEW OF SHOP DRAWINGS BY THE ENGINEER IS LIMITED TO COMPLIANCE OF THE COMPLETED STRUCTURE WITH THE DESIGN CONCEPT AND INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DIMENSIONS, QUANTITIES, PERFORMANCE, SAFETY, COORDINATION WITH OTHER WORK, AND ALL OTHER REQUIREMENTS OF THE CONTRACT DOCUMENTS. REVIEW DOES NOT AUTHORIZE CHANGES TO CONTRACT.
5.02 THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR THEIR REVIEW IN ACCORDANCE WITH A SCHEDULE OF SUBMITTALS ACCEPTABLE TO THE ENGINEER. THESE SHOP DRAWINGS SHALL HAVE BEEN CHECKED BY AND STAMPED WITH THE APPROVAL OF THE CONTRACTOR AND IDENTIFIED AS THE ENGINEER MAY REQUIRE. THE DATA SHOWN ON THE SHOP DRAWINGS SHALL BE COMPLETE WITH RESPECT TO DIMENSIONS, DESIGN CRITERIA, AND DULY SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA.
6.0 FIELD MODIFICATION
6.01 WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER OF RECORD IS REQUIRED FOR ALL FIELD MODIFICATIONS TO THE STRUCTURAL SYSTEM INCLUDING, BUT NOT LIMITED TO, BEAM AND COLUMN CONNECTIONS, CUTTING OR DRILLING THROUGH ANY STRUCTURAL ELEMENT, ETC.
7.0 SPECIAL INSPECTIONS
7.01 SPECIAL INSPECTIONS WILL BE PROVIDED IN COMPLIANCE WITH THE STATEMENT OF SPECIAL INSPECTIONS
7.02 OWNER WILL ENGAGE A SPECIAL INSPECTOR AND QUALIFIED TESTING AND INSPECTING AGENCY TO PERFORM FIELD TESTS, INSPECTIONS AND PREPARE TEST REPORTS.
7.03 THE GENERAL CONTRACTOR SHALL ASSIST AND COOPERATE WITH AN INDEPENDENT TESTING LABORATORY (TO BE RETAINED BY THE OWNER) WHICH SHALL CONDUCT ALL THE SPECIFIED TESTS REQUIRED FOR THE PROJECT AND REPORT THE RESULTS OF THESE TESTS DIRECTLY AND PROMPTLY TO THE ENGINEER FOR HIS REVIEW.
7.04 CONTRACTOR SHALL NOTIFY SPECIAL INSPECTOR AND TESTING AGENCY 48 HOURS IN ADVANCE OF ITEMS REQUIRED FOR SPECIAL INSPECTION.
7.05 ALL SPECIAL INSPECTION MONTHLY REPORTS SHALL BE SIGNED AND SEALED BY AN ENGINEER LICENSED IN THE STATE OF CALIFORNIA WHO HAS RESPONSIBLE CHARGE OF THE SPECIAL INSPECTIONS PROGRAM.

- 7.06 A SPECIAL INSPECTIONS MEETING SHALL BE HELD ON SITE WITH ENGINEER OF RECORD, CONSTRUCTION COORDINATOR, INDEPENDENT TESTING AGENCY, AND SPECIAL INSPECTOR TO CLARIFY ALL SPECIAL INSPECTION REQUIREMENTS PRIOR TO BEGINNING WORK.
8.0 FOUNDATIONS
8.01 FOUNDATIONS, SLABS ON GRADE & OTHER ITEMS RELATED TO THE SOILS ARE DESIGNED & SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE RECOMMENDATIONS OF NINYO & MOORE GEOTECHNICAL & ENVIRONMENTAL SCIENCES CONSULTANTS GEOTECHNICAL REPORT PROJECT NO. 109168002 DATED MARCH 26, 2021 AND ADDENDUM TO GEOTECHNICAL EVALUATION - SUPPLEMENTAL CANOPY RECOMMENDATIONS DATED JULY 6, 2021.
8.02 CIDH PILE WORK SHALL BE OBSERVED BY THE GEOTECHNICAL CONSULTANT DURING CONSTRUCTION TO EVALUATE WHETHER THE PILES HAVE BEEN EXTENDED TO THE DESIGN DEPTHS. DRILLED HOLES SHALL BE CLEANED OF LOOSE SOIL AND GRAVEL. IT IS THE CONTRACTOR'S RESPONSIBILITY TO TAKE APPROPRIATE MEASURES FOR MAINTAINING THE INTEGRITY OF THE DRILLED HOLES. SEE THAT THE HOLES ARE CLEANED AND STRAIGHT, AND SEE THAT SLOUGHED LOOSE SOIL IS REMOVED FROM THE BOTTOM OF THE HOLE PRIOR TO THE PLACEMENT OF CONCRETE.
8.03 PLACEMENT OF CONCRETE FOR CIDH PILES SHALL BE PERFORMED BY TREMIE METHOD, OR SIMILAR, SUCH THAT THE AGGREGATE AND CEMENT DO NOT SEGREGATE DURING CONCRETE PLACEMENT.
8.04 DESIGN SOIL BEARING CAPACITIES ARE AS FOLLOWS:
CIDH PILES: DOWNWARD AXIAL FRICTIONAL RESISTANCE: 200 PSF
UPWARD AXIAL FRICTIONAL RESISTANCE: 150 PSF
END BEARING RESISTANCE: NOT INCORPORATED IN DESIGN
LATERAL PASSIVE PRESSURE: 700 PSF, UP TO 7,000 PSF MAX.
9.0 CONCRETE MATERIAL PROPERTIES
9.01 CONCRETE STRENGTH: FC PSI
A. FOUNDATION PIERS, 4000
B. SLAB ON GRADE, SEE CIVIL DRAWINGS
11.0 REINFORCING
11.01 MATERIAL PROPERTIES: FY, KSI ASTM
A. ALL BARS UNLESS NOTED 60 A615
B. TIES & STIRRUP 60 A615
12.0 CAST IN PLACE CONCRETE
12.01 ALL CONCRETE SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH IBC CHAPTER 19 & ACI-318, LATEST CODE. ADOPTED EDITION.
12.02 ALL REINFORCING SHALL BE DETAILED, FABRICATED & PLACED IN ACCORDANCE WITH CRSI "MANUAL OF STANDARD PRACTICE", LATEST EDITION.
12.03 ALL CAST IN PLACE CONCRETE AND POST INSTALLED ANCHORS SHALL BE DESIGNED IN ACCORDANCE WITH CHAPTER 17 OF ACI 318 AS MODIFIED BY THE APPLICABLE BUILDING CODE.
12.04 SLEEVES EMBEDDED IN SLABS AND WALLS SHALL BE LOCATED CLEAR BETWEEN REINFORCING BARS AND SHALL MAINTAIN CLEAR SPACING EQUAL TO THE DIAMETER OF THE LARGEST SLEEVE IN ANY DIRECTION. SLEEVE GROUPS THAT DO NOT COMPLY WITH THE ABOVE REQUIREMENTS SHALL BE CONSIDERED AS AN OPENING AND REINFORCED PER NOTE BELOW.
12.05 DETAILING OF REBAR SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF THE ACI DETAILING MANUAL, AND CONCRETE REINFORCING INSTITUTE'S LATEST EDITION OF "MANUAL OF STANDARD PRACTICE". ALL SHOP DRAWINGS PERTAINING TO REBAR DETAILS SHALL BE SUBMITTED TO THE ENGINEER FOR HIS REVIEW. CONCRETE MIX DESIGN FOR ALL CONCRETE WORK IS REQUIRED TO BE SUBMITTED TO THE ENGINEER FOR REVIEW.
12.06 CONCRETE SUPPLIER SHALL HAVE A QUALITY CONTROL PROCEDURE FOR THE PRODUCTION OF ALL CONCRETE, WHICH MUST BE ACCEPTABLE TO THE ENGINEER AND MEETS CURRENT ACI STANDARDS.
12.07 LAP SPLICES ARE ALL CLASS B TENSION LAP SPLICES, UNO.
12.08 PROVIDE A 3/4" CHAMFER ON ALL EXPOSED CORNERS OF CONCRETE.
12.09 THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT:
A. CONCRETE CAST AGAINST & PERMANENTLY EXPOSED TO EARTH 3"
B. CONCRETE EXPOSED TO EARTH OR WEATHER 2"
13.0 STRUCTURAL STEEL
13.01 STEEL MATERIAL PROPERTIES
A. STRUCTURAL WIDE FLANGE SHAPES FY, PSI ASTM 50,000 A992
B. RECTANGULAR & SQUARE HSS 50,000 A500 GRADE C
C. HIGH STRENGTH BOLTS, UNO 92,000 (1" AND SMALLER) A325
D. WELDING ELECTRODES E70XX AWS D1.3 CHAPTER 5
E. HEADED SHEAR STUDS 51,000 AWS D1.1 TYPE B
F. OTHER STRUCT. SHAPES & PLATES 36,000 A36
13.02 STRUCTURAL STEEL DESIGN & CONSTRUCTION SHALL CONFORM TO IBC CHAPTER 22, SECTION 2201, AISC "LOAD & RESISTANCE FACTOR DESIGN SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" & AISC "CODE OF STANDARD PRACTICE" LATEST CODE ADOPTED EDITION, UNO.
13.03 BOLTED CONNECTIONS SHALL BE BEARING-TYPE WITH THREADS INCLUDED IN THE SHEAR PLANE. UNO, INSTALL BOLTS IN PROPERLY ALIGNED HOLES AND TIGHTEN USING ONE OF THE FOLLOWING METHODS: SNUG-TIGHT CONDITION, TURN-OF-THE-NUT METHOD, A DIRECT TENSION INDICATOR, OR CALIBRATED WRENCH AS DEFINED BY THE LATEST EDITION OF AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS".
13.04 STRUCTURAL STEEL SHALL BE SHOP PRIMED AND FIELD FINAL PAINTED WITH AN EXTERIOR RATED PAINT. COLOR TO MATCH ROOF METAL DECK.
14.0 METAL DECKING
14.01 ALL STEEL DECKS SHALL BE DESIGNED & CONSTRUCTED IN ACCORDANCE WITH IBC CHAPTER 22, SECTION 2210.1.1 - COLD-FORMED STEEL AND THE STEEL DECK INSTITUTE SPECIFICATIONS AND RECOMMENDATIONS, LATEST CODE ADOPTED EDITION UNO.
14.02 ROOF METAL DECK SHALL BE 24 GAUGE REVERSED BOX RIB AS MANUFACTURED BY AEP SPAN. OTHER METAL DECK MANUFACTURERS MAY BE APPROVED PROVIDING THAT THE DECK SPECIFICATIONS MEET OR EXCEED THE SPECIFICATIONS OF THE PRE-APPROVED DECK. METAL DECK SHALL BE PAINTED IN OLD TOWN GRAY COLOR BY AEP SPAN.
14.03 ROOF DECK SHALL BE PRIME PAINTED AND LAID OUT CONTINUOUS OVER THREE SPANS MINIMUM. YIELD STRESS SHALL BE 50,000 PSI MINIMUM. DECK SUPPLIER SHALL SUBMIT ICC REPORTS SHOWING ALLOWABLE DIAPHRAGM SHEAR VALUES. ERECT IN ACCORDANCE WITH THE REPORT TO MEET THE REQUIRED SHEAR SPECIFIED ON THE DRAWINGS. CONNECTION TO FRAMING MEMBERS SHALL NOT BE LESS THAN THAT SHOWN HEREIN.
14.04 ROOF DECK FASTENING SHALL BE PROVIDED AT MINIMUM OF 36" SPACING AND 24" SIDE SEAM SPACING USING #12 HWF SELF-TAPPING SCREWS. SCREWS SHALL BE INSTALLED WITH NEOPRENE WASHERS TO PROVIDE WATERPROOF CONNECTIONS.

REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION (REF. CBC 1705.3)

Table with 5 columns: TYPE, CONTINUOUS SPECIAL INSPECTION, PERIODIC SPECIAL INSPECTION, REFERENCED STANDARD, CBC REFERENCE. Contains 12 rows of inspection requirements for concrete construction.

a. Where applicable, see Section 1705.12, Special inspections for seismic resistance.
b. Specific requirements for special inspection shall be included in the research report for the anchor issued by an approved source in accordance with 17.8.2 in ACI 318, or other qualification procedures. Where specific requirements are not provided, special inspection requirements shall be specified by the registered design professional and shall be approved by the building official prior to the commencement of the work.

REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS (REF. CBC 1705.6)

Table with 3 columns: TYPE, CONTINUOUS SPECIAL INSPECTION, PERIODIC SPECIAL INSPECTION. Contains 5 rows of inspection requirements for soils.

REQUIRED SPECIAL INSPECTIONS AND TESTS OF CAST-IN-PLACE DEEP FOUNDATION ELEMENTS (REF. CBC 1705.8)

Table with 3 columns: TYPE, CONTINUOUS SPECIAL INSPECTION, PERIODIC SPECIAL INSPECTION. Contains 3 rows of inspection requirements for cast-in-place deep foundation elements.

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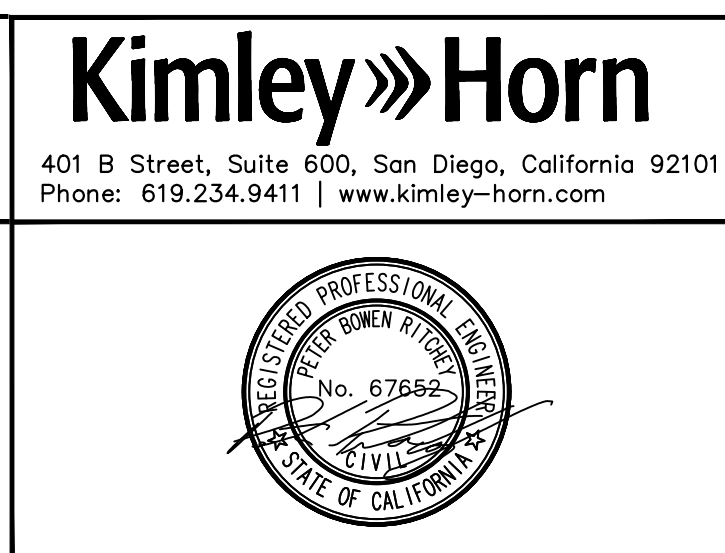


Table with columns: DATE, INITIAL, ENGINEER OF WORK, REVISION, DESCRIPTION, DATE, INITIAL, OTHER APPROVAL, DATE, INITIAL, CITY APPROVAL.

"AS BUILT" stamp with fields for P.E., EXP., DATE, REVIEWED BY, INSPECTOR, DATE.

Project information stamp: SHEET 8, CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT, SHEETS 36, UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT STRUCTURAL NOTES, APPROVED: John Mosshoff, 05/30/2024, PUBLIC WORKS MANAGER RCE 61909 EXP. 9/30/25, DATE, DWN BY: SM, PROJECT NO. CIP4747, DRAWING NO. 811-5, CHKD BY: PR, RVWD BY: PR.

FUEL LEAK DETECTION, MONITORING, AND MANAGEMENT

FUEL LEAK DETECTION, MONITORING, AND MANAGEMENT SYSTEMS ARE TO BE FURNISHED AS COMPLETE, TURN KEY, INTEGRATED SYSTEMS BY QUALIFIED FUEL SYSTEM VENDORS. ALL FUEL SYSTEM CONTROLS, WIRING DIAGRAMS, INTERCONNECTION REQUIREMENTS, CABLES, MATERIAL AND INSTALLATION SHALL BE PROVIDED BY FUEL SYSTEM VENDORS.

ALL FUEL LEAK DETECTION, MONITORING AND MANAGEMENT MATERIALS AND INSTALLATION SHALL COMPLY WITH NATIONAL ELECTRICAL CODE SECTION 514 FOR CLASS 1, DIVISION 1 AND 2, GROUP D LOCATIONS. ALL CONDUITS SHOWN ON THESE DRAWINGS FOR FUEL LEAK DETECTION, MONITORING AND MANAGEMENT SYSTEMS HAVE BEEN DETERMINED BY INFORMATION AVAILABLE AT THE TIME OF THE PROJECT DESIGN PHASE. CONTRACTOR SHALL VERIFY FINAL INTEGRATED FUEL LEAK DETECTION MONITORING AND MANAGEMENT SYSTEMS CONDUITS AND MODIFY NUMBER, SIZE, AND LOCATION TO COMPLY WITH THOSE REQUIREMENTS.

GENERAL NOTES

1. INSTALLATION OF ELECTRICAL MATERIAL SHALL COMPLY WITH CALIFORNIA ELECTRICAL CODE (CEC) 2022 EDITION AND ALL LOCAL AMENDMENTS, AND ALL OTHER GOVERNING CODES AND ORDINANCES.
2. FIELD VERIFICATION: VERIFY ALL DEVICES AND CONDITIONS BEFORE PROCEEDING WITH THE WORK.
3. REFER TO MECHANICAL PLANS FOR EXACT LOCATION OF MECHANICAL EQUIPMENT.
4. IT SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO OBTAIN A COMPLETE SET OF DRAWINGS AND SPECIFICATIONS. HE/SHE SHALL CHECK THE DRAWINGS OF THE OTHER TRADES AND SHALL CAREFULLY READ THE SPECIFICATIONS AND DETERMINE HIS RESPONSIBILITIES. FAILURE TO DO SO SHALL NOT RELEASE THE CONTRACTOR FROM DOING THE WORK IN COMPLETE ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.
5. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES AT THE SITE. ANY COST TO ROUTE CONDUIT OTHER THAN AS SHOWN ON THE PLANS SHALL BE INCURRED BY THE CONTRACTOR.
6. WHEREVER A DISCREPANCY IN QUANTITY OR SIZE OF CONDUIT, WIRE, EQUIPMENT DEVICES, CIRCUIT BREAKERS, TRANSFORMERS, GROUND FAULT PROTECTION SYSTEM, ECT. (ALL MATERIALS ARISES ON THE DRAWINGS AND/OR SPECIFICATIONS), THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL MATERIAL AND SERVICE REQUIRED BY THE STRICTEST CONDITIONS NOTED ON DRAWINGS AND/OR IN THE SPECIFICATIONS TO ENSURE COMPLETE AND OPERABLE SYSTEMS AS REQUIRED BY THE OWNER OR ENGINEER.
7. ALL CONDUIT SIZES ARE BASED ON COPPER CONDUCTORS WITH THHN-2/THWN-2 INSULATION UNLESS OTHERWISE NOTED. ALL CONDUCTORS SHALL BE COPPER. CONDUCTOR INSULATION SHALL BE THHN/THWN UNLESS OTHERWISE NOTED. MINIMUM CONDUIT SIZE SHALL BE 3/4", UNLESS OTHERWISE NOTED.
8. INSTALL ALL EQUIPMENT, LIGHTING FIXTURE, DEVICES, CONDUIT AND CONDUIT SUPPORTS TO MEET SEISMIC DESIGN CATEGORY D.
9. CONDUIT RUNS SHOWN ARE DIAGRAMMATIC ONLY. INSTALL ALL CONDUITS TO SUIT FIELD CONDITIONS.
10. PROVIDE PROPERLY SIZED LUGS AT ALL CIRCUIT BREAKER PANELS, FOR THE CONDUCTORS SHOWN TO CONNECT THESE LUGS.
11. INSTALL ALL EXTERIOR MOUNTED ELECTRICAL EQUIPMENT IN WEATHERPROOF, NEMA-3R ENCLOSURES, UNLESS OTHERWISE NOTED.
12. SEPARATE INSULATED EQUIPMENT GROUNDING CONDUCTOR, SIZED PER CEC 250-122, SHALL BE PROVIDED, INSTALLED IN THE SAME CONDUIT AS THE CIRCUIT CONDUCTORS FOR ALL FEEDERS AND BRANCH CIRCUITS.
13. CONNECTIONS TO ALL EQUIPMENT FURNISHED BY OTHERS SHALL BE COORDINATED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING MANUFACTURER'S SHOP DRAWINGS PRIOR TO ROUGHING IN ALL CONDUIT TO THIS EQUIPMENT.
14. EXACT METHOD AND LOCATION OF CONDUIT PENETRATIONS AND/OR OPENINGS IN CONCRETE WALLS OR FLOORS SHALL BE AS DIRECTED BY THE STRUCTURAL ENGINEER OF RECORD.
15. NOT ALL SYMBOLS AND ABBREVIATIONS ON THIS SHEET ARE USED.

APPLICABLE CODES

1. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE CODES AND ORDINANCES INCLUDING:
 2022 CALIFORNIA ELECTRICAL CODE, CALIFORNIA CODE OF REGULATIONS TITLE 24 - PART 3.
 2020 NATIONAL ELECTRICAL CODE, CHAPTER 5 - ARTICLE 514
 2021 NFPA 30 & 30A FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE

POWER SYMBOL LIST

SYMBOL	DESCRIPTION
[Symbol]	FLUSH MOUNTED BRANCH CIRCUIT PANELBOARD.
[Symbol]	SURFACE MOUNTED BRANCH CIRCUIT PANELBOARD.
[Symbol]	DISTRIBUTION BOARD.

WIRING / EQUIP CONNECT SYMB LIST

SYMBOL	DESCRIPTION
[Symbol]	CEILING MOUNTED JUNCTION BOX.
[Symbol]	JUNCTION BOX, FLUSH MOUNTED AT +18" AFF UNLESS NOTED OTHERWISE.
[Symbol]	JUNCTION BOX, SURFACE MOUNTED AT +18" AFF UNLESS NOTED OTHERWISE.
[Symbol]	BRANCH CIRCUIT CONDUIT, CONCEALED IN WALL OR CEILING.
[Symbol]	BRANCH CIRCUIT CONDUIT, CONCEALED IN FLOOR OR UNDERGROUND.
[Symbol]	BRANCH CIRCUIT CONDUIT, RUN EXPOSED.
[Symbol]	CONDUIT RUN TURNED UP.
[Symbol]	CONDUIT RUN TURNED DOWN.
[Symbol]	CONDUIT RUN STUBBED OUT.
[Symbol]	BRANCH CIRCUIT HOMERUN WITH PANEL AND CIRCUIT DESIGNATED.

ABBREVIATIONS

SUFFIX	DESCRIPTION
4S	4" SQUARE BY 2 1/8" DEEP BOX.
ADA	AMERICAN WITH DISABILITIES ACT.
AFF	ABOVE FINISH FLOOR.
AFG	ABOVE FINISH GRADE.
AWG	AMERICAN WIRE GAUGE.
AMP, A	AMPERE.
A.I.C.	AMPERES INTERRUPTING CAPACITY (SYMMETRICAL).
AF/AT	AMP FRAME, AMP TRIP.
AS/AF	AMP SWITCH, AMP FUSE.
ATS	AUTOMATIC TRANSFER SWITCH.
AUX	AUXILIARY CONTACTS.
BR	BRANCH.
BLDG	BUILDING.
CIRC., CKT	CIRCUIT.
CB	CIRCUIT BREAKER.
SFD	COMBINATION SMOKE FIRE DAMPER.
C	CONDUIT.
C.O.	CONDUIT ONLY, COMPLETE WITH PULLSTRING.
CONN	CONNECTED.
CT	CURRENT TRANSFORMER.
CPT	CONTROL POWER TRANSFORMER.
DIA	DIAMETER.
DISC	DISCONNECT.
DIST	DISTRIBUTION.
E.C.	ELECTRICAL CONTRACTOR.
EMS	ENERGY MANAGEMENT CONTROL SYSTEM.
EMT	ELECTRICAL METALLIC TUBING.
EWC	ELECTRIC WATER COOLER.
EF	EXHAUST FAN.
FT or'	FEET.
FA	FIRE ALARM.
FLA	FULL LOAD AMPS.
GND & G	GROUND.
GFCI	GROUND FAULT CIRCUIT INTERRUPTER.
HACR	HEATING AIR CONDITIONING REFRIGERATION.
HVAC	HEATING, VENTILATING AND AIR CONDITIONING.
H, W, D, L	HEIGHT, WIDTH, DEPTH, LENGTH.
HP	HORSEPOWER.
IN. or "	INCHES.
IG	ISOLATED GROUND.
JBOX	JUNCTION BOX.
K	DEGREE KELVIN.
KVA	KILOVOLT AMPERES.
KW	KILOWATT.
KWH	KILOWATT HOUR.
L.F.	LINEAR FEET.
LTG, LTS	LIGHTING.
MAX	MAXIMUM.
MOCP	MAXIMUM OVERCURRENT PROTECTION.
MCB	MAIN CIRCUIT BREAKER.
MLO	MAIN LUGS ONLY.
M	METER.
MM	METER MAIN.
MIN.	MINIMUM.
MCA	MINIMUM CIRCUIT AMPS.
MCM	THOUSAND CIRCULAR MILS.
MFR.	MANUFACTURER.
MTD	MOUNTED.
MCP	MOTOR CIRCUIT PROTECTOR.
MW	MICROWAVE.
NEC	NATIONAL ELECTRICAL CODE.
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION.
NF	NON-FUSED.
NIC	NOT IN CONTRACT.
N.T.S.	NOT TO SCALE.
NL	NIGHT LIGHT.
NO. or #	NUMBER.
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED.
%Z	PERCENT IMPEDANCE.
PH. or Ø	PHASE.
PC	PHOTOCELL
P	POLE.
PVC	POLY VINYL CHLORIDE.
PDU	POWER DISTRIBUTION UNIT.
PRIMARY	OVER 600 VOLTS.
PROVIDE	FURNISH, INSTALL AND CONNECT.
PT	POTENTIAL TRANSFORMER.
PA	PUBLIC ADDRESS.
REC. RECEIPT	RECEPTACLE.
REF	REFRIGERATOR.
RGS	RIGID GALVANIZED STEEL.
SCC	SHORT CIRCUIT CURRENT.
SFD	SMOKE FIRE DAMPER.
SQ.	SQUARE.
TC	TIMECLOCK.
TEL/DATA	TELEPHONE AND DATA.
TV	TELEVISION.
SPD	SURGE PROTECTION DEVICE
TYP	TYPICAL.
U.G.P.S.	UNDERGROUND PULL SECTION.

ABBREVIATIONS

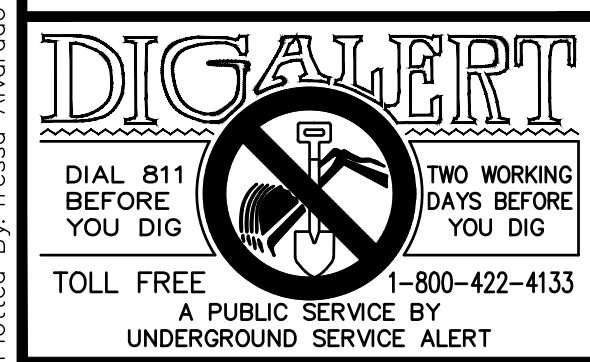
SUFFIX	DESCRIPTION
U.G.P.S.	UNDERGROUND PULL SECTION.
U.O.N.	UNLESS OTHERWISE NOTED.
U.P.S.	UNINTERRUPTIBLE POWER SYSTEM.
VAV	VARIABLE AIR VOLUME.
V	VOLTS.
VA	VOLT AMPERES.
VD	VOLTAGE DROP.
WP	WEATHERPROOF.
W	WIRE.
XFMR	TRANSFORMER.
(X)	INDICATES EXISTING TO REMAIN.
(XR)	INDICATES EXISTING TO BE REMOVED.
(XL)	INDICATES EXISTING TO BE RELOCATED.
(XN)	INDICATES NEW LOCATION OF RELOCATED EQUIPMENT.

"AS BUILT"

P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____



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DATE	INITIAL	REVISION	DESCRIPTION

DATE	INITIAL	DATE	INITIAL

ENGINEER OF WORK: _____ OTHER APPROVAL: _____ CITY APPROVAL: _____

SHEET 12 CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT SHEETS 36

UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT
 LEGEND, ABBREVIATIONS AND GENERAL NOTES

APPROVED: John Mosshoff 05/30/2024
 PUBLIC WORKS MANAGER RCE 61909 EXP. 9/30/25 DATE

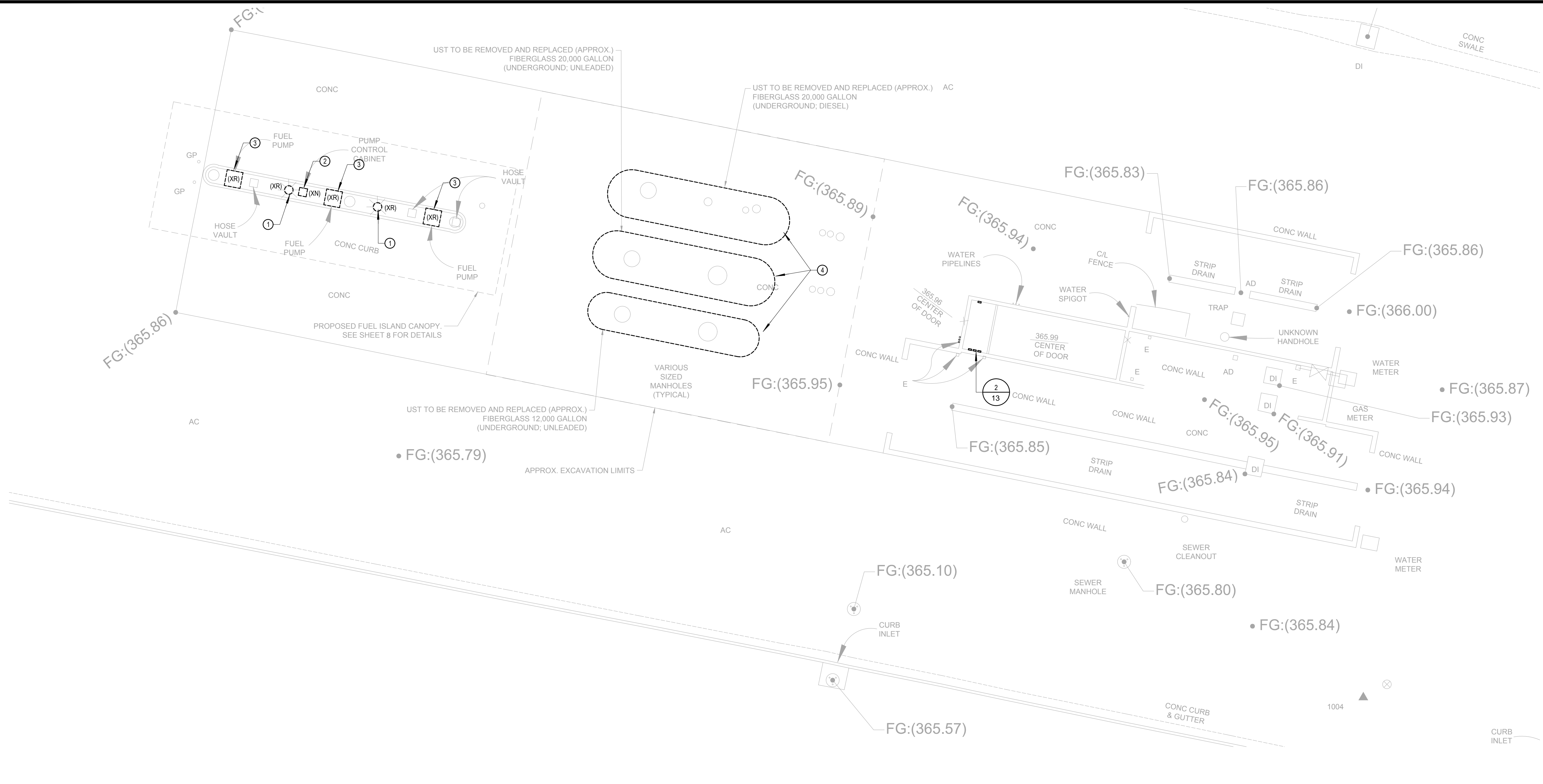
DWN BY: JA/RG PROJECT NO. CIP4747 DRAWING NO. 811-5
 CHKD BY: RR/RG
 RVWD BY: RR/RG

GENERAL NOTES

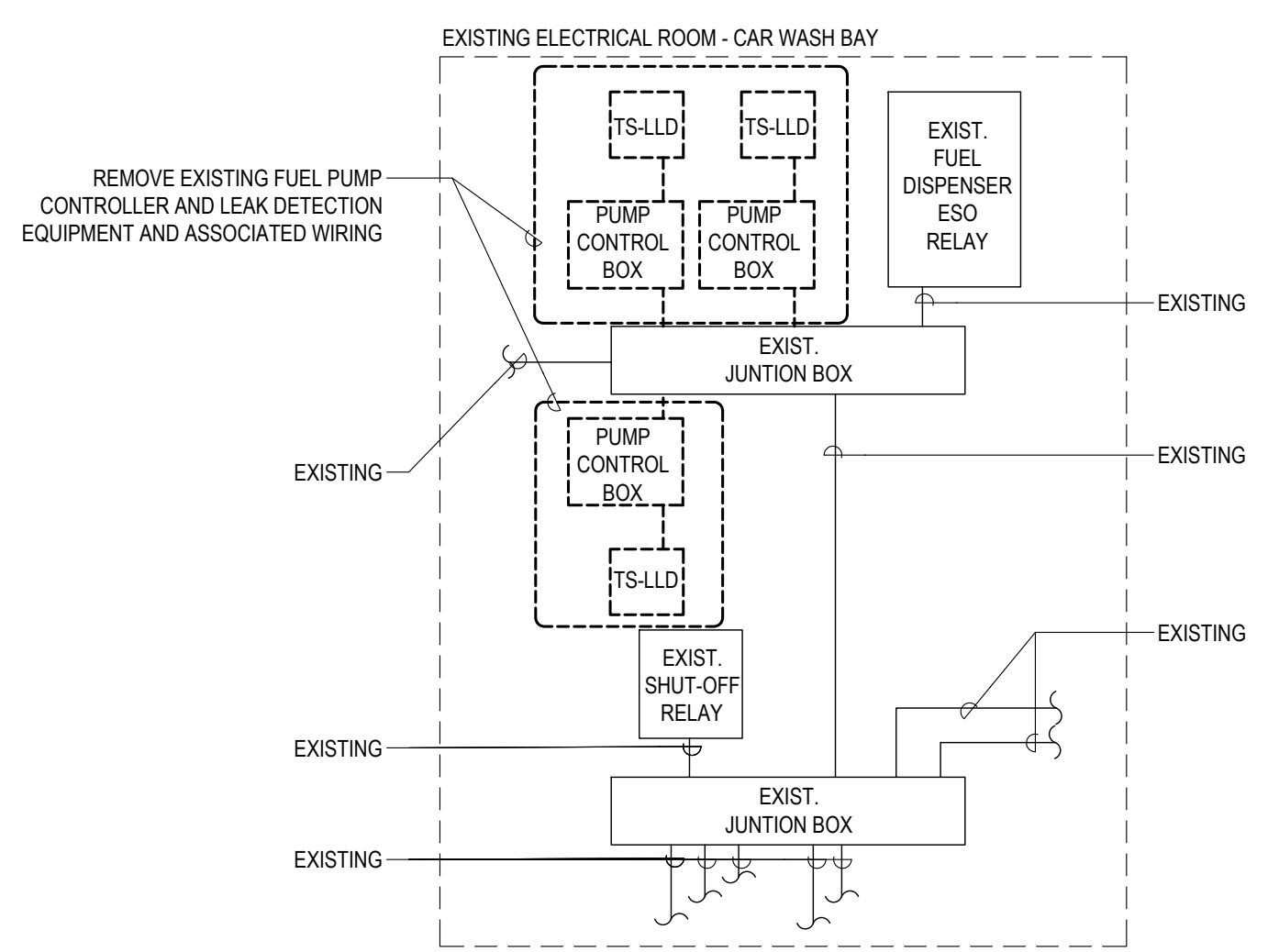
1. THE EXISTING CONDITIONS AND LOCATIONS OF ABOVE GRADE STRUCTURES SUCH AS BUILDINGS, CONCRETE PAVEMENT AND SLABS, EQUIPMENT SUPPORT PADS, PARKING LOTS, AND ASPHALT PAVING, AS INDICATED ON THESE DRAWINGS, HAVE BEEN COMPILED FROM CIVIL SURVEY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ACCURATELY LOCATE ANY AND ALL ABOVE GRADE STRUCTURES THAT MAY INTERFERE WITH THE INSTALLATION OF THE DOCUMENTED SCOPE OF WORK. ANY DAMAGES TO EXISTING STRUCTURES, RESULTING FROM THE DOCUMENTED SCOPE OF WORK, SHALL IMMEDIATELY BE REPORTED TO THE OWNER AND REPAIRED TO MATCH EXISTING BY THE CONTRACTOR, AT NO ADDITIONAL COST TO THE OWNER.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE EXACT LOCATION AND DEPTH OF BELOW GRADE PIPING AND UTILITIES IN THE IMMEDIATE VICINITY OF CONSTRUCTION ACTIVITIES. WHETHER SHOWN ON THESE DRAWINGS OR NOT, CONTRACTOR SHALL MARK ALL EXISTING PIPING AND UTILITIES AFFECTED BY CONSTRUCTION ACTIVITIES BY USING AN UNDERGROUND PIPE LOCATOR TO LOCATE THE POSITION OF PIPES AND CONDUITS. ANY DAMAGES TO EXISTING UNDERGROUND PIPING AND UTILITIES, WHICH MIGHT HAVE RESULTED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND PIPING AND UTILITIES, SHALL IMMEDIATELY BE REPORTED TO THE OWNER AND REPAIRED TO MATCH EXISTING BY THE CONTRACTOR, AT NO ADDITIONAL COST TO THE OWNER.
3. REFER TO CIVIL DRAWINGS FOR HORIZONTAL AND VERTICAL PLACEMENT/CONTROL OF ALL EXISTING AND NEW SITE UTILITIES.
4. WHERE HANDHOLE OR MANHOLE OCCURS IN VEHICULAR ACCESS PATH OF FIRE TRUCK ACCESS ROUTE, THE LID AND VAULT SHALL BE DESIGNED FOR H-20 (MINIMUM) TRUCK LOADING.
5. REUSE OF EXISTING UNDERGROUND CONDUITS WILL BE ALLOWED WHERE THEY ENTER THE WASHROOM BUILDING ELECTRICAL ROOM AND THE MAINTENANCE BUILDING.

KEYNOTES

- 1 EXISTING POLE MOUNTED AREA LIGHT INCLUDING LUMINAIRES, POLES, COMPLETE POLE BASES, AND ASSOCIATED ELECTRICAL TO BE REMOVED, DISCONNECT, AND REMOVE BRANCH CIRCUIT WIRING. ALL CONDUCTORS SHALL BE REMOVED FROM DEVICE BACK TO PANEL BOARD.
- 2 EXISTING ASSET MANAGEMENT CONSOLE TO BE REMOVED AND ASSOCIATED ELECTRICAL TO BE REMOVED. SAFE OFF, DISCONNECT, AND REMOVE BRANCH CIRCUIT WIRING. ALL CONDUCTORS SHALL BE REMOVED FROM DEVICE BACK TO PANEL BOARD.
- 3 EXISTING FUEL DISPENSERS, SUMP AND ASSOCIATED ELECTRICAL TO BE REMOVED. SAFE OFF, DISCONNECT, AND REMOVE BRANCH CIRCUIT WIRING. ALL CONDUCTORS SHALL BE REMOVED FROM DEVICE BACK TO PANEL BOARD.
- 4 EXISTING FUEL TANK PUMP AND ASSOCIATED ELECTRICAL TO BE REMOVED. SAFE OFF, DISCONNECT, AND REMOVE BRANCH CIRCUIT WIRING. ALL CONDUCTORS SHALL BE REMOVED FROM DEVICE BACK TO PANEL BOARD.



1 SITE DEMO PLAN - ELECTRICAL
SCALE: 1"=10'-0"



2 FUEL TANK PUMP CONTROLLER DETAIL - DEMO
NOT TO SCALE

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DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

"AS BUILT"

P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____

SHEET 13 CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT SHEETS 36

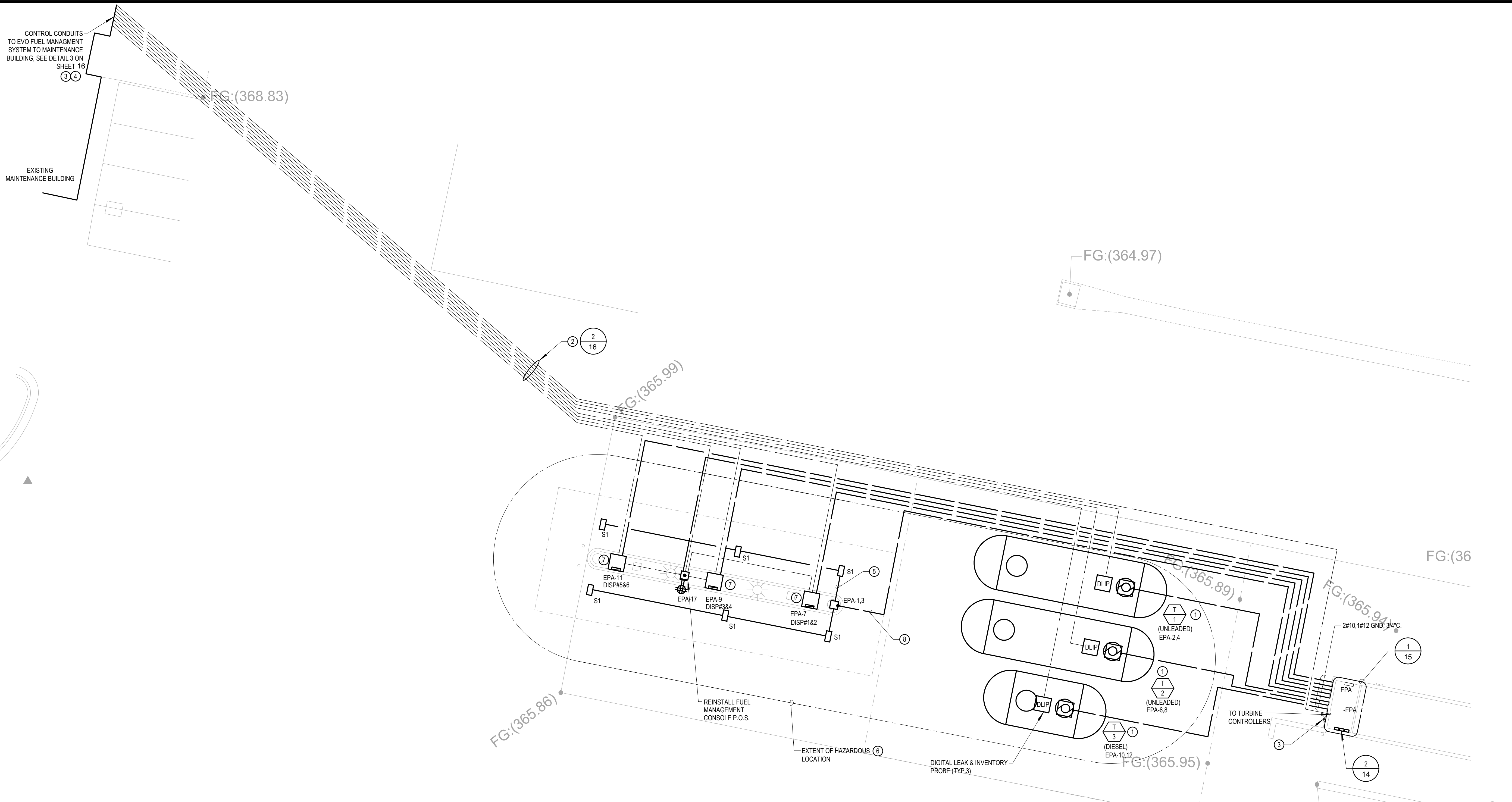
UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT
SITE DEMO PLAN - ELECTRICAL

APPROVED: John Mosshoff 05/30/2024
PUBLIC WORKS MANAGER RCE 61909 EXP. 9/30/25 DATE

DWN BY: JA/RG PROJECT NO. CIP4747 DRAWING NO. 811-5
CHKD BY: RR/RG
RVWD BY: RR/RG

Plotted By: Tressa Alvarado Sheet Set: Kba Layout: ED100 August 10, 2023 08:03:10am Z: SD\21029\CAD\Autocad\E_10.dwg





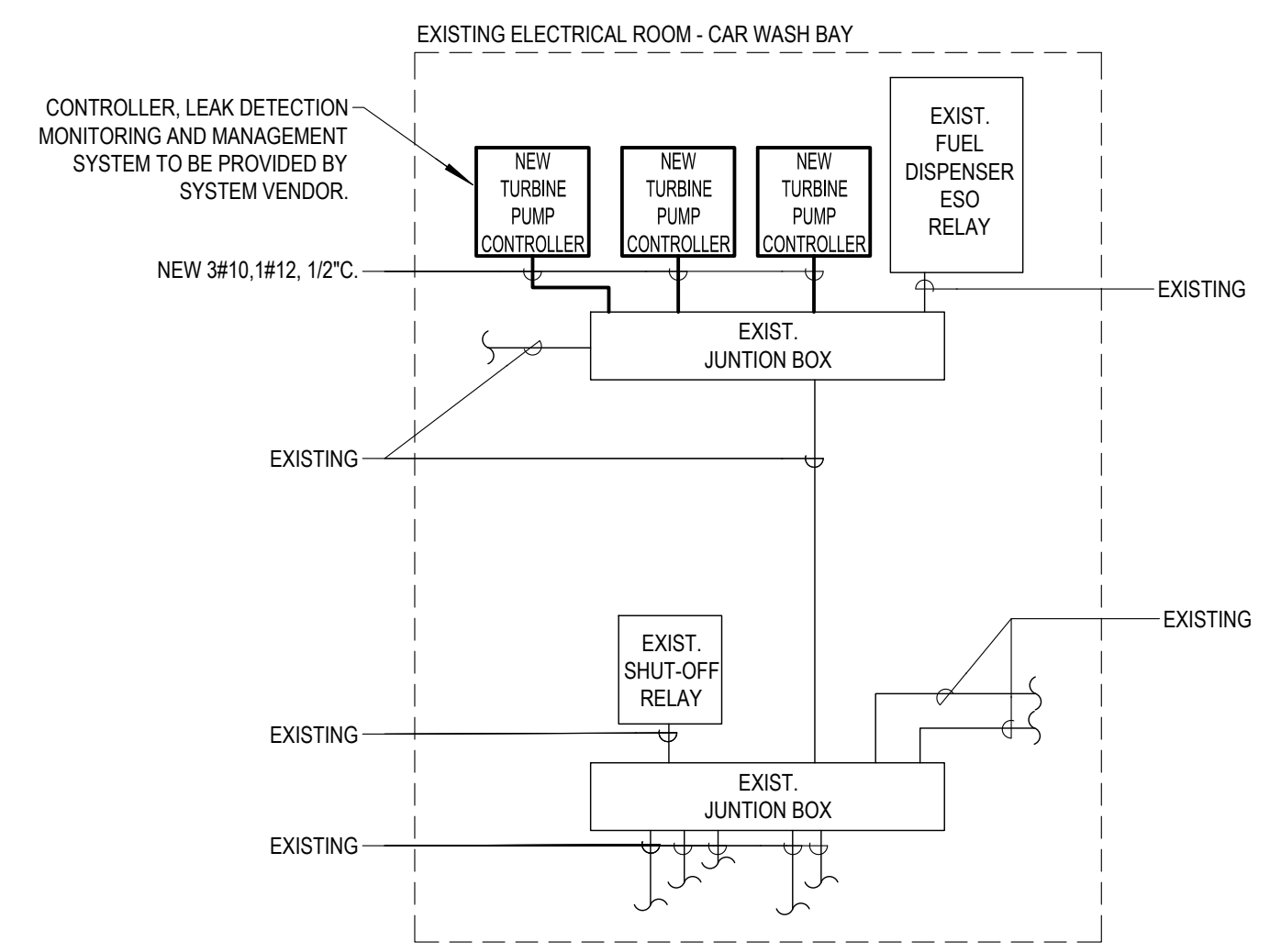
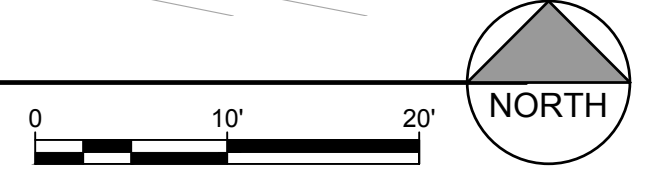
GENERAL NOTES

1. THE EXISTING CONDITIONS AND LOCATIONS OF ABOVE GRADE STRUCTURES SUCH AS BUILDINGS, CONCRETE PAVEMENT AND SLABS, EQUIPMENT SUPPORT PADS, PARKING LOTS, AND ASPHALT PAVING, AS INDICATED ON THESE DRAWINGS, HAVE BEEN COMPILED FROM CIVIL SURVEY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ACCURATELY LOCATE ANY AND ALL ABOVE GRADE STRUCTURES THAT MAY INTERFERE WITH THE INSTALLATION OF THE DOCUMENTED SCOPE OF WORK. ANY DAMAGES TO EXISTING STRUCTURES, RESULTING FROM THE DOCUMENTED SCOPE OF WORK, SHALL IMMEDIATELY BE REPORTED TO THE OWNER AND REPAIRED TO MATCH EXISTING BY THE CONTRACTOR, AT NO ADDITIONAL COST TO THE OWNER.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE EXACT LOCATION AND DEPTH OF BELOW GRADE PIPING AND UTILITIES IN THE IMMEDIATE VICINITY OF CONSTRUCTION ACTIVITIES, WHETHER SHOWN ON THESE DRAWINGS OR NOT. CONTRACTOR SHALL MARK ALL EXISTING PIPING AND UTILITIES AFFECTED BY CONSTRUCTION ACTIVITIES BY USING AN UNDERGROUND PIPE LOCATOR TO LOCATE THE POSITION OF PIPES AND CONDUITS. ANY DAMAGES TO EXISTING UNDERGROUND PIPING AND UTILITIES, WHICH MIGHT HAVE RESULTED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND PIPING AND UTILITIES, SHALL IMMEDIATELY BE REPORTED TO THE OWNER AND REPAIRED TO MATCH EXISTING BY THE CONTRACTOR, AT NO ADDITIONAL COST TO THE OWNER.
3. REFER TO CIVIL DRAWINGS FOR HORIZONTAL AND VERTICAL PLACEMENT/CONTROL OF ALL EXISTING AND NEW SITE UTILITIES.
4. WHERE HANDHOLE OR MANHOLE OCCURS IN VEHICULAR ACCESS PATH OF FIRE TRUCK ACCESS ROUTE, THE LID AND VAULT SHALL BE DESIGNED FOR H-20 (MINIMUM) TRUCK LOADING.
5. ALL NEW ELECTRICAL AND COMMUNICATION UNDERGROUND CONDUITS TO BE SCHEDULE 40 PVC, UNLESS OTHERWISE NOTED. SEE DETAIL 2 ON SHEET 16.

KEYNOTES

1. TURBINE PUMP CIRCUIT TO PANEL "EPA" IS VIA PUMP CONTROLLER IN WASH AREA ELECTRICAL ROOM.
2. ALL CONTROL CONDUITS SHALL BE MINIMUM 3/4" CONDUIT, UNLESS LARGER SIZE IS REQUIRED BY PUMP VENDOR.
3. ALL AVAILABLE EXISTING UNDERGROUND CONDUITS ENTERING WASH BUILDING MAY BE RE-USED. ALL NEW CONDUITS ENTERING WASH BUILDING AND FACILITIES MAINTENANCE BUILDING ORIGINATING FROM THE DESIGNATED HAZARDOUS AREA SHALL UTILIZE EXPLOSION PROOF CONDUIT SEALING FITTINGS. REPLACE EXISTING EXPLOSION PROOF CONDUIT SEAL FITTING WHERE REQUIRED. SEE DETAIL 4 ON SHEET 16.
4. ALL CONDUITS TO NEW EVO FUEL MANAGEMENT SYSTEM SHALL BE ROUTED FROM BUILDING CONDUIT ENTRANCE TO NEW EVO PANEL. ROUTE CONDUITS OVERHEAD SIMILAR TO EXISTING CONTROL CONDUITS. SEE DETAIL 3 ON SHEET 16 FOR CONTINUATION.
5. RUN NEW LIGHTING CONDUIT UP FUEL CANOPY COLUMN. MOUNT LIGHT FIXTURE ON CANOPY PURLINS AS SHOWN ON ELECTRICAL SITE PLAN. COMPLY WITH ALL APPLICABLE SECTIONS OF NEC ARTICLE 514. SEE STRUCTURAL DRAWINGS FOR CANOPY DETAIL.
6. ALL ELECTRICAL WORK WITHIN THE DESIGNATED HAZARDOUS AREA AND CONDUITS ORIGINATING FROM THE DESIGNATED HAZARDOUS AREA SHALL COMPLY WITH THE NEC ARTICLE 514, CLASS 1, DIVISION 1 & 2, GROUP D. SEE DETAIL 4 ON SHEET 16.
7. ALL NEW POWER CONDUCTORS FROM NEW DISPENSERS WILL BE ROUTED TO PANEL "EPA" VIA EXISTING FUEL DISPENSERS ESO RELAY.
8. ROUTE LIGHTING CIRCUITS TO PANEL "EPA" VIA EXISTING TIME CLOCK ADJACENT TO PANEL "EPA".

1 SITE PLAN - ELECTRICAL
SCALE: 1"=10'-0"



2 FUEL TANK PUMP CONTROLLER DETAIL - NEW
NOT TO SCALE

"AS BUILT"

P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____ DATE _____

INSPECTOR _____ DATE _____

Plotted By: Treaso Alvarado Sheet Set: Kba Layout: ED100FC August 10, 2023 08:03:20am Z: SD21029\CAD\Autocad\EL11.dwg



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DATE	INITIAL	REVISION	DESCRIPTION	DATE	INITIAL	DATE	INITIAL

SHEET 14 CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT SHEETS 36

UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT
SITE PLAN - ELECTRICAL

APPROVED: John Mosshoff 05/30/2024
 PUBLIC WORKS MANAGER RCE 61909 EXP. 9/30/25 DATE

DWN BY: JA/RG PROJECT NO. CIP4747 DRAWING NO. 811-5
 CHKD BY: RR/RG
 RVWD BY: RR/RG

EXISTING

PANELBOARD SCHEDULE		ROOM:	VOLTS:	480Y/277V 3P 4W	AIC:	22,000
LB		MOUNTING:	BUS AMPS:	225	MAIN BKR:	MLO
		FED FROM:	NEUTRAL:	100%	LUGS:	STANDARD
NOTE:						

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION	CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	60/3	0	RECLAIMED WATER	a 2	20/3	0	AIR COMP.
3				b 4			
5				c 6			
7	125/3	0	WASHER CONTROL	a 8	30/3	0	WASHER
9				b 10			
11				c 12			
13	20/1	0	SWITCHED LTG	a 14	20/1	0	SPARE
15	20/1	0	T.C. LIGHTING	b 16	20/1	0	SPARE
17	20/1	0	SPARE	c 18	20/1	0	SPARE
19	50/3	8.84	XFMR - EPA	a 20	50/3	0	XFMR - PB
21				b 22			
23				c 24			

FEEDER/SERVICE LOAD CALCULATION		CONN. KVA	CALC. KVA	CONN. KVA	CALC. KVA
LIGHTING	0.8	1	(125%)	CONTINUOUS	0
RECEPTACLES	0.54	0.54	(50%>10)	NONCONTINUOUS	0.36
LARGEST MTR	0	0	(N/A)	KITCHEN EQUIP	0
OTHER MTRS	7.14	7.14	(100%)	NONCON/INDIVERSE	0
METERED DIMND	0	0	(125%)	TOTAL KVA	8.84
				BALANCED 3-PHASE AMPERES	10.9

EXISTING BREAKER TO REMAIN

LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	LAMP	DESCRIPTION	VOLTS	INPUT VA	BALLAST/DRIVER	NOTES
S1	□	LED/4000K/14,098LM	GARDCO SIGNIFY SLENDORFORM MODEL-SFC-MR-SW-48L-900-NW-G2-208-MGY OR APPROVED EQUAL	208	133	ELECTRONIC	PROVIDE MOTION SENSOR

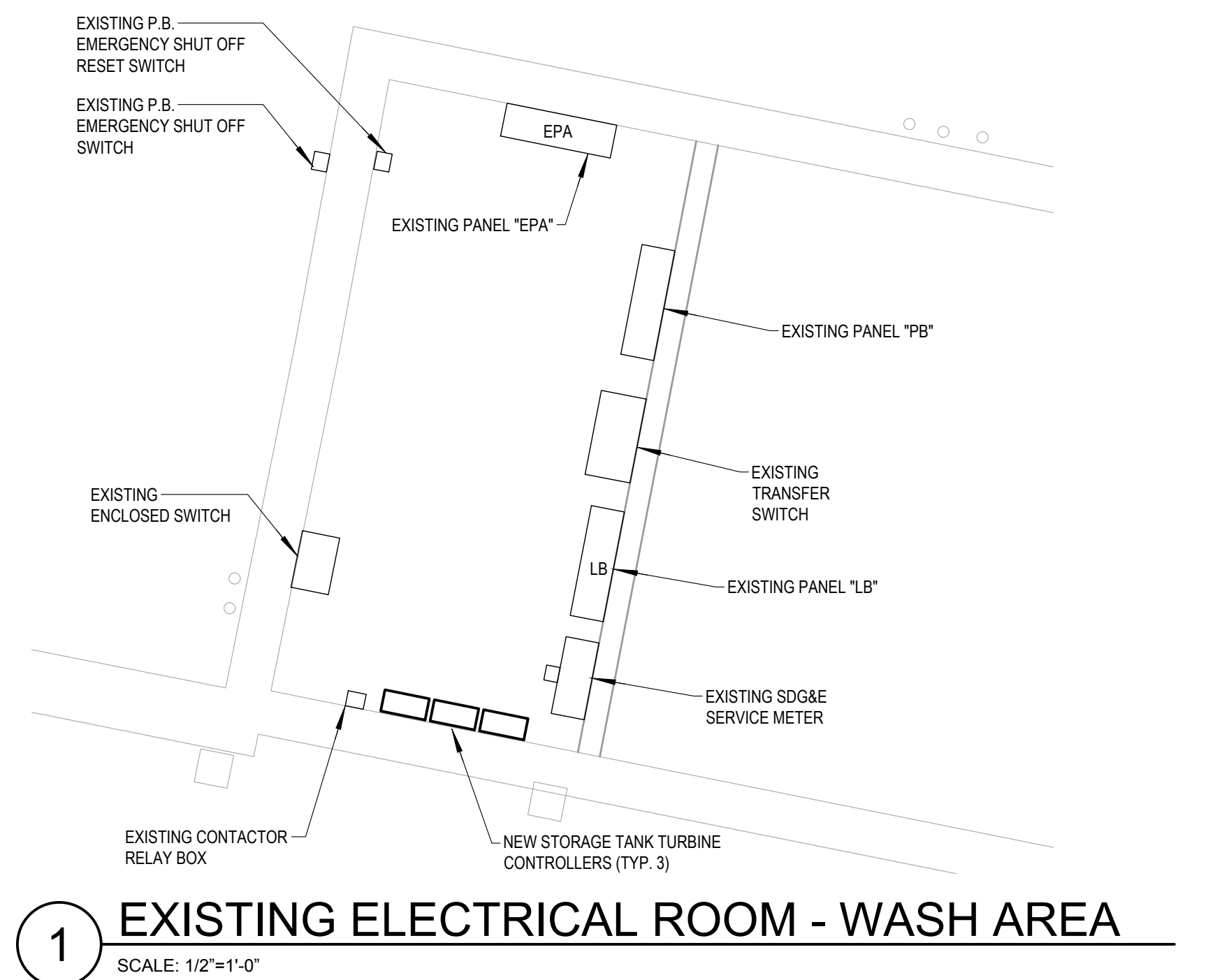
PHOTOMETRIC CALCULATIONS

DESCRIPTION	AVERAGE	MAX	MIN	MAX/MIN	AVG/MIN
UNDERCANOPY	13.7 FC	16.8 FC	9.3 FC	1.8:1	15.1:1

IES RECOMMENDED FOOTCANDLE (FC) = AVERAGE 10-15 FC
Calculations Utilize a LLF of 0.85

VOLTAGE DROP SCHEDULE

DEVICE	VOLTAGE DROP	FEEDER			BRANCH CIRCUIT			TOTAL VOLTAGE DROP
		CONDUCTOR SIZE	ESTIMATED LENGTH	MAX VOLTAGE DROP	CONDUCTOR SIZE	ESTIMATED LENGTH		
EPA	0.03%	#1	5'-3"	2.57% (CKT 11)	#10	184'	2.6%	
				EPA-1: 0.48%	#10	134'		
				EPA-5: 0.42%	#10	169'		
				EPA-7: 1.92%	#10	140'		
				EPA-9: 2.24%	#10	162'		
				EPA-11: 2.57%	#10	184'		
				EPA-17: 0.84%	#10	169'		
				EPA-2: 0.48%	#10	82'		
				EPA-6: 0.69%	#12	72'		
				EPA-10: 0.47%	#10	80'		



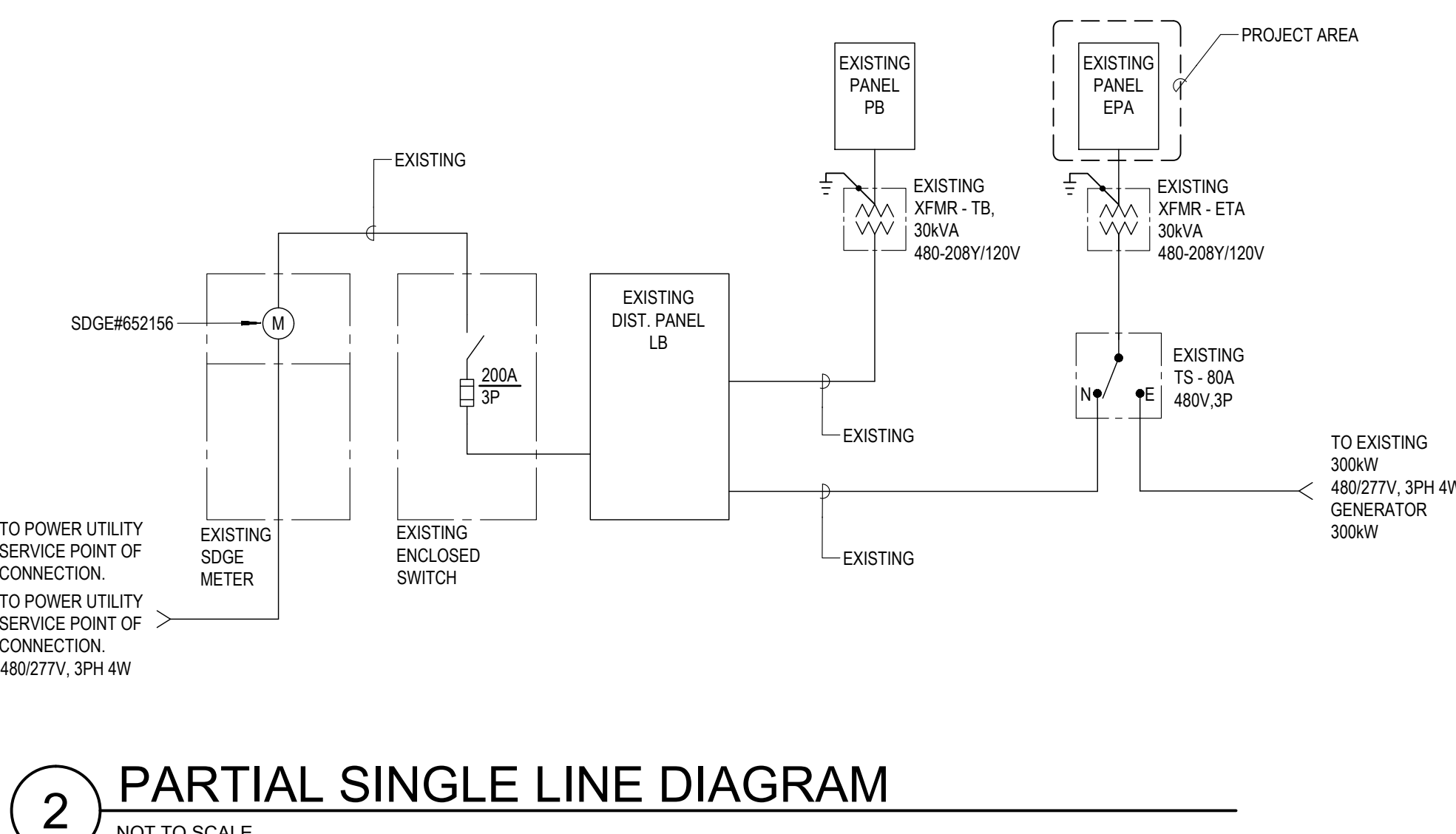
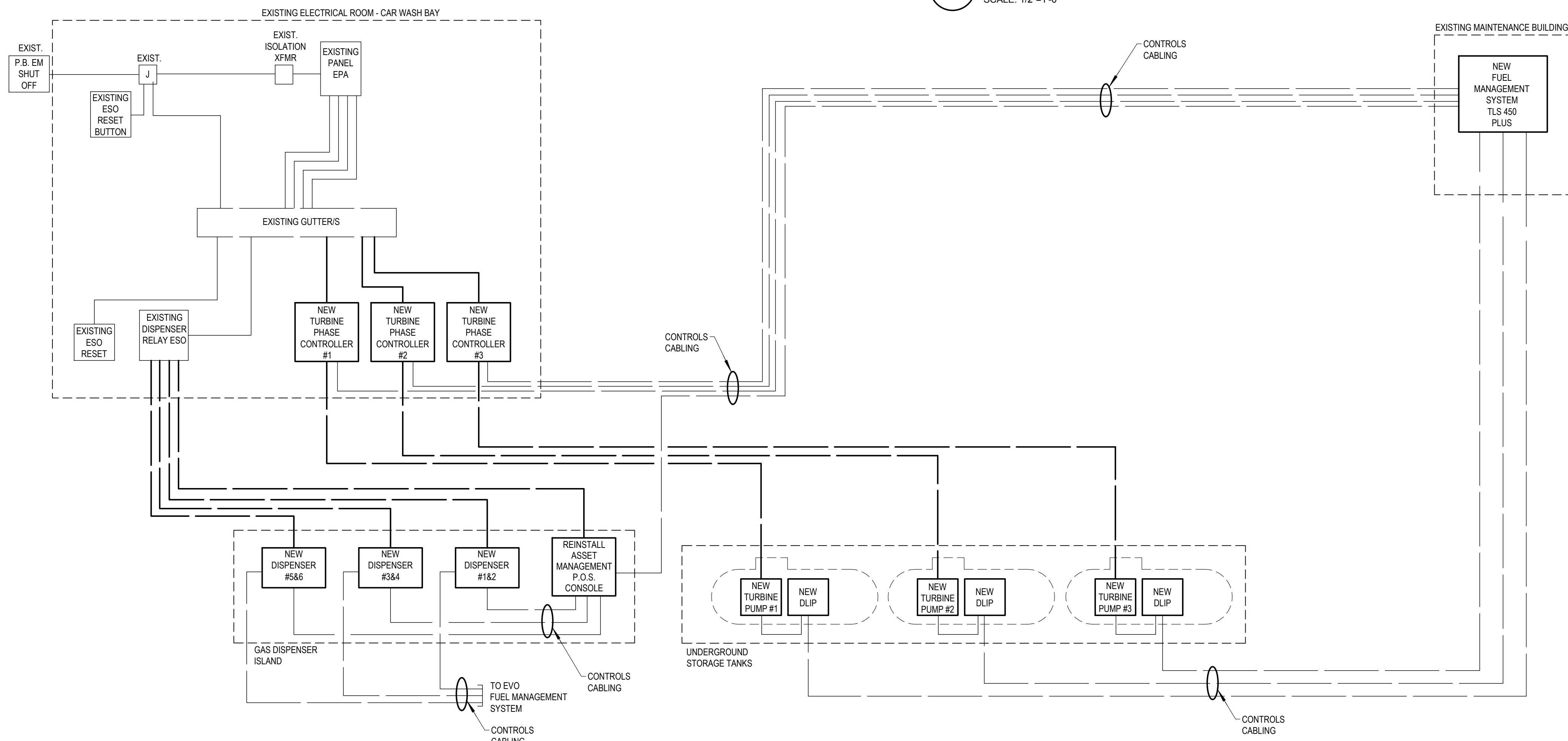
EXISTING

PANELBOARD SCHEDULE		ROOM:	VOLTS:	208Y/120V 3P 4W	AIC:	22,000
EPA		MOUNTING:	BUS AMPS:	100	MAIN BKR:	100
		FED FROM:	NEUTRAL:	100%	LUGS:	STANDARD
NOTE:						

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION	CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/2	0.8	SITE LIGHTING	a 2	20/2	1.37	GAS PUMP T-1
3				b 4			
5	20/1	0.18	ASSET MANAGEMENT CONSOLE	c 6	20/2	1.37	GAS PUMP T-2
7	20/1	1.01	FUEL DISPENSER (PUMPS 182) DISPENSER	a 8			
9	20/1	1.01	FUEL DISPENSER (PUMPS 384) DISPENSER	b 10	20/2	1.37	GAS PUMP T-3
11	20/1	1.01	FUEL DISPENSER (PUMPS 586) DISPENSER	c 12			
13	20/1	0.18	PUSH BUTTON	a 14	-/1	0	SPACE
15	20/1	0.18	ASSET MANAGEMENT ANTENNA	b 16	-/1	0	SPACE
17	20/1	0.36	OUTLET RECEPTACLE	c 18	-/1	0	SPACE
19	-/1	0	SPACE	a 20	-/1	0	SPACE
21	-/1	0	SPACE	b 22	-/1	0	SPACE
23	-/1	0	SPACE	c 24	-/1	0	SPACE

FEEDER/SERVICE LOAD CALCULATION		CONN. KVA	CALC. KVA	CONN. KVA	CALC. KVA
LIGHTING	0.8	1	(125%)	CONTINUOUS	0
RECEPTACLES	0.54	0.54	(50%>10)	NONCONTINUOUS	0.36
LARGEST MTR	0	0	(N/A)	KITCHEN EQUIP	0
OTHER MTRS	7.14	7.14	(100%)	NONCON/INDIVERSE	0
METERED DIMND	0	0	(125%)	TOTAL KVA	8.84
				BALANCED 3-PHASE AMPERES	25.1

EXISTING BREAKER TO REMAIN



3 UNDERGROUND STORAGE TANK AND FUEL MANAGEMENT INTERCONNECT DIAGRAM
NOT TO SCALE

"AS BUILT"

P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____

SHEET 15	CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT	SHEETS 36
UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT SCHEDULES, DIAGRAM & PARTIAL FLOOR PLAN		
APPROVED: John Mosshoff PUBLIC WORKS MANAGER RCE 61909 EXP. 9/30/25 DATE 05/30/2024		
DWN BY: JA/RG	PROJECT NO. CIP4747	DRAWING NO. 811-5
CHKD BY: RR/RG		
RVWD BY: RR/RG		

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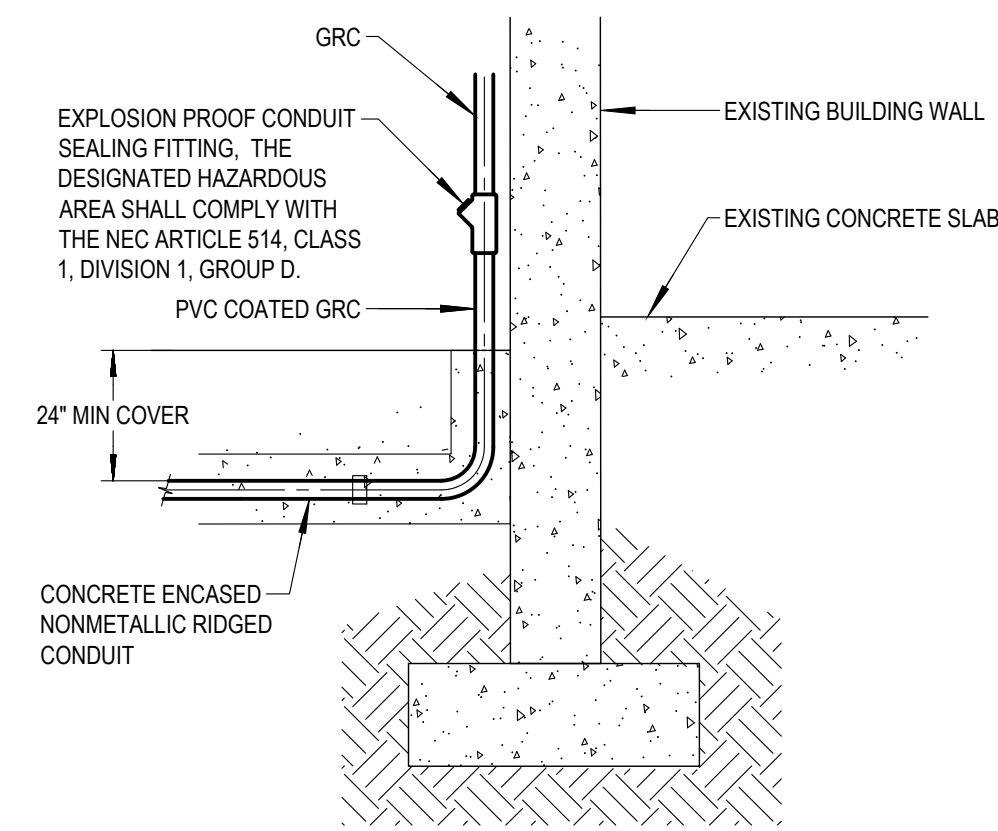
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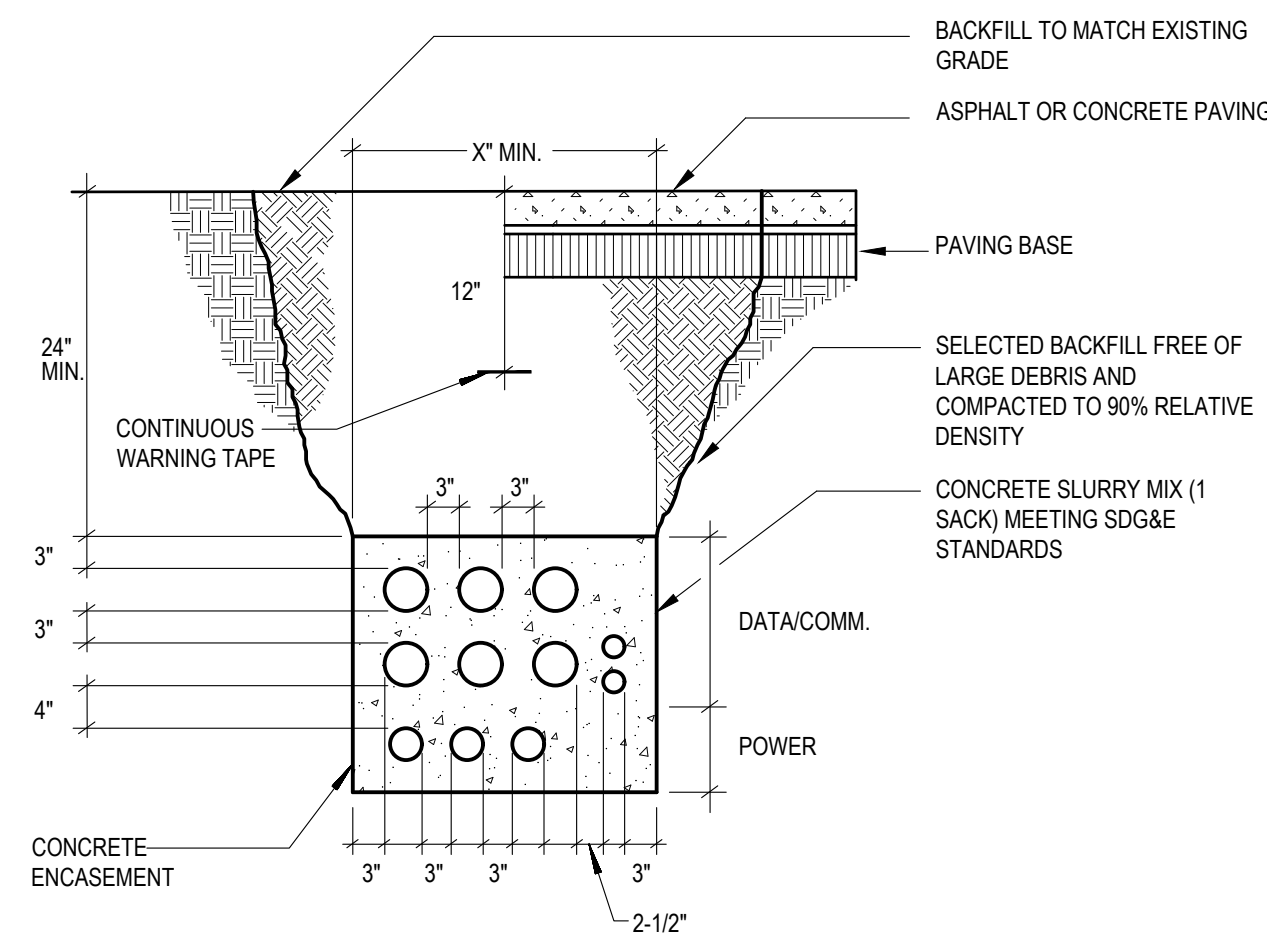
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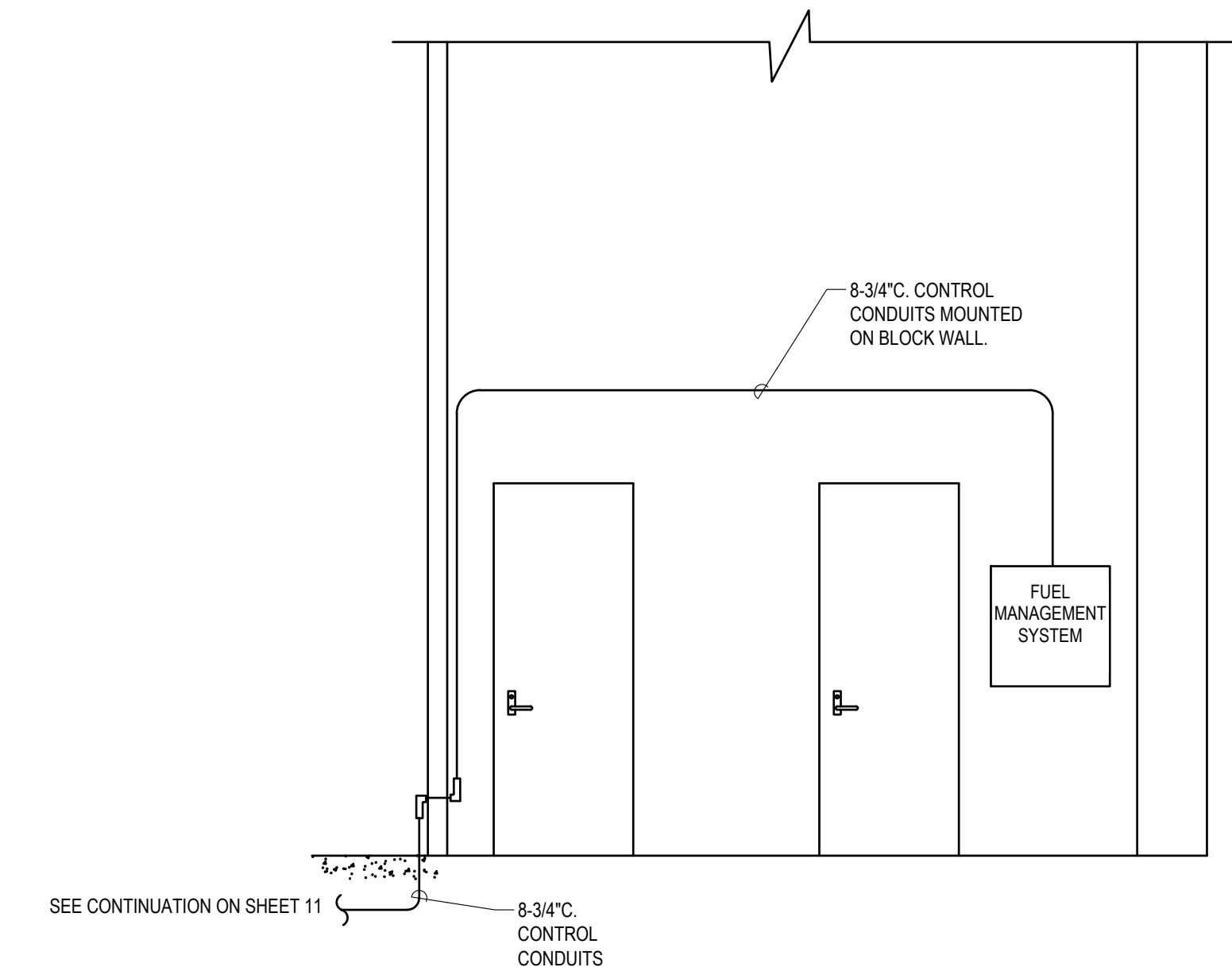




1 UNDERGROUND HAZARDOUS CONDUIT CONNECTION (TYPICAL FOR ALL HAZARDOUS AREA CONNECTION TYPES)
NOT TO SCALE



2 SHARED TRENCH DETAIL (TYPICAL)
NOT TO SCALE



3 PARTIAL ELEVATION IN EXISTING MAINTENANCE BUILDING
SELECT SCALE

514.13

Article 514 • Motor Fuel Dispensing Facilities

EXHIBIT 514.5 Required seals at points marked "S." Seals are not required at the sign and two of the lights because conduit runs do not pass through a hazardous location.

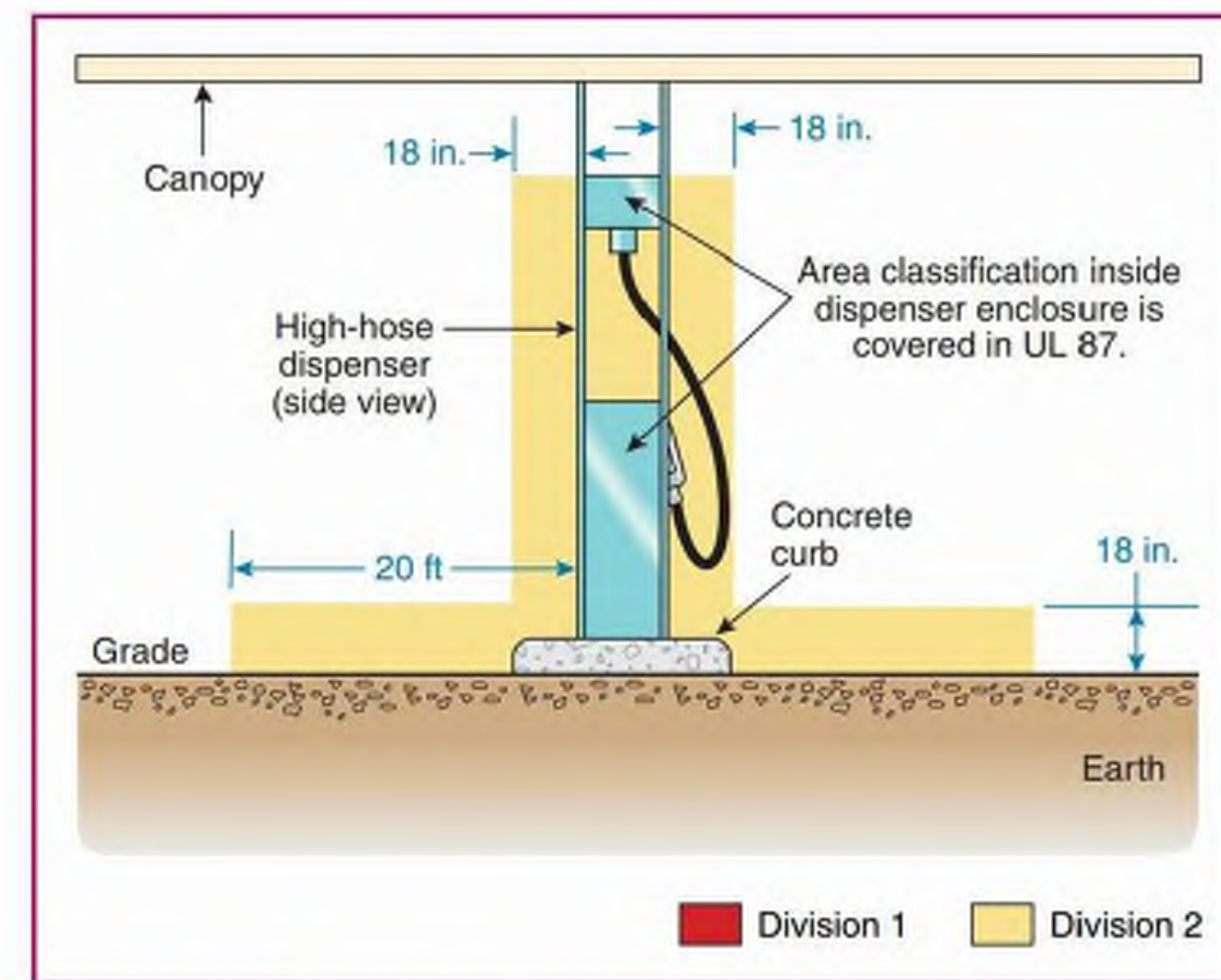
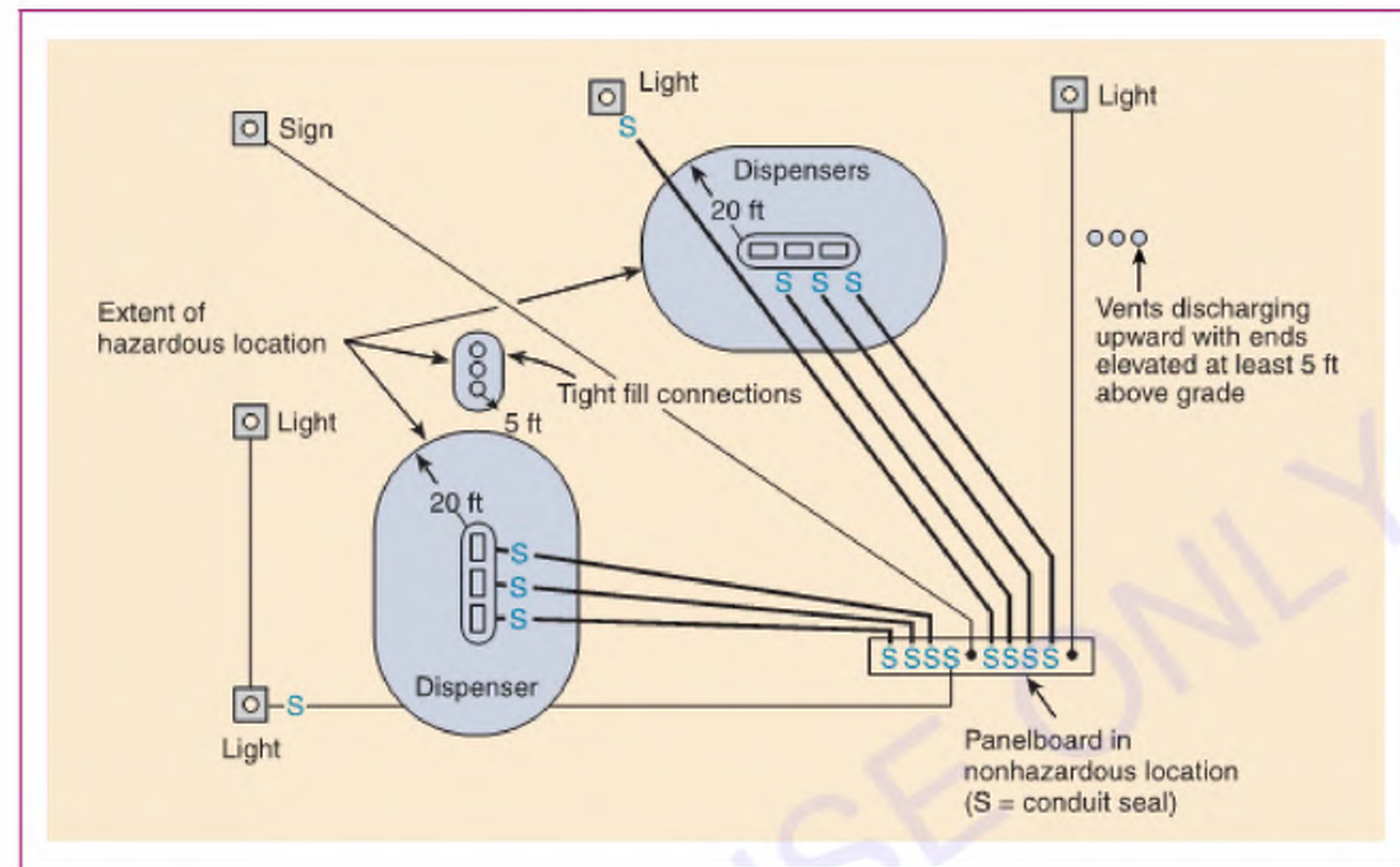


EXHIBIT 514.1 Extent of Class I location around overhead motor fuel dispensing units in accordance with Table 514.3(B)(1).

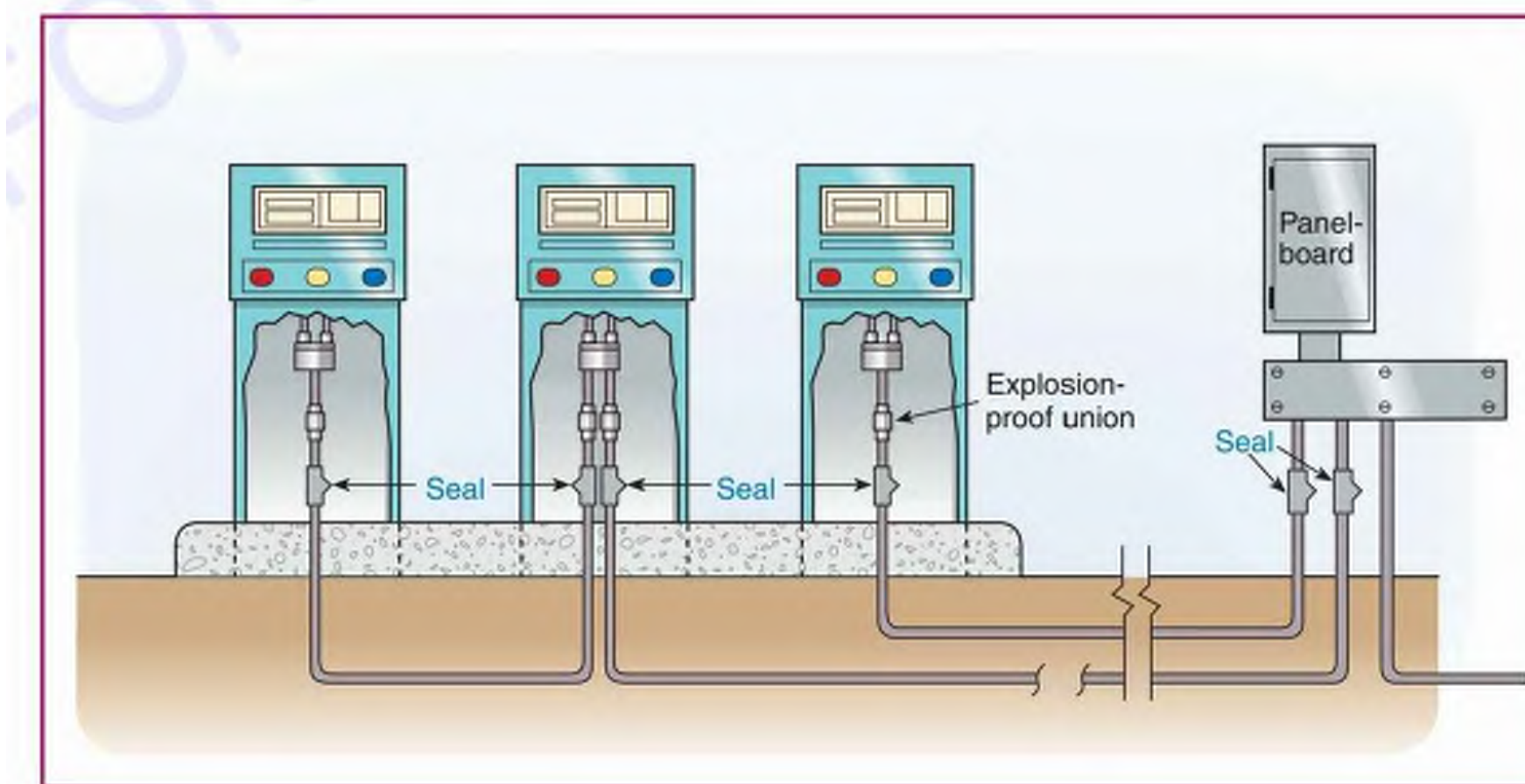


EXHIBIT 514.4 A gasoline dispenser installation indicating locations for seal fittings.

4 MOTOR FUEL DISPENSING FACILITIES - ARTICLE 514
SELECT SCALE

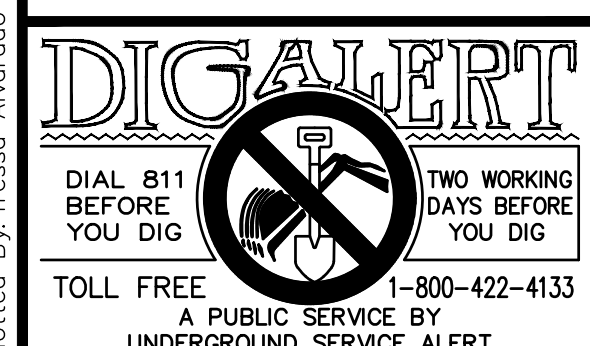
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INSPECTOR _____ DATE _____

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SHEET 16 CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT SHEETS 36

UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT ELECTRICAL DETAILS

APPROVED: John Mosshoff 05/30/2024
PUBLIC WORKS MANAGER RCE 61909 EXP. 9/30/25 DATE

DWN BY: JA/RG PROJECT NO. CIP4747 DRAWING NO. 811-5
CHKD BY: RR/RG
RWD BY: RR/RG

CERTIFICATE OF COMPLIANCE NRCC-LTO-E
Project Name: UST REMOVAL AND REPLACEMENT PROJECT PSA21-1341FAC
Report Page: (Page 1 of 7)
Date Prepared: 2023-05-23T10:29:19-04:00

A. GENERAL INFORMATION
01 Project Location (city) CARLSBAD
02 Climate Zone 7
04 Total Illuminated Hardscape Area (ft²) 3777
03 Outdoor Lighting Zone per Title 24 Part 1 10.114 or as designated by Authority Having Jurisdiction (AHJ):

B. PROJECT SCOPE
This table includes outdoor lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.7 / 170.2(e)6 or 141.0(b)2L / 180.2(b)4Bv for alterations.
My Project Consists of:
01 New Lighting System Must Comply with Allowances from 140.7 / 170.2(e)6
02 Altered Lighting System Is your alteration increasing the connected lighting load (Watts)? Yes No
03 % of Existing Luminaires Being Altered¹ Sum Total of Luminaires Being Added or Altered Calculation Method
04 % of Existing Luminaires Being Altered¹ < 10% >= 10% and < 50% >= 50%

Registration Number: Generated Date/Time: Documentation Software: Energy Code Ace
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Compliance ID: 109855-0523-0002 Schema Version: rev 20220101 Report Generated: 2023-05-23 07:29:21

STATE OF CALIFORNIA
Outdoor Lighting CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRCC-LTO-E
Project Name: UST REMOVAL AND REPLACEMENT PROJECT PSA21-1341FAC Report Page: (Page 4 of 7)
Date Prepared: 2023-05-23T10:29:19-04:00

H. OUTDOOR LIGHTING CONTROLS
This table demonstrates compliance with controls requirements for all new or altered luminaires installed as part of the permit application.
Mandatory Controls for Nonresidential Occupancies, Parking Garages & Common Areas in Multifamily Buildings
01 Area Description 02 Shut-Off 130.2(c)1 / 160.5(c) 03 Auto-Schedule 130.2(c)2 / 160.5(c) 04 Motion Sensor 130.2(c)3 / 160.5(c) 05 Field Inspector
Pass Fail

I. LIGHTING POWER ALLOWANCE (per 140.7 / 170.2(e))
This table includes areas using allowance calculations per 140.7 / 170.2(e). General Hardscape Allowance is per Table 140.7-A/170.2-R while "Use it or lose it" Allowances are per Table 140.7-B / 170.2-S.
01 "Use it or lose it" Allowance (select all that apply) (select all that apply)
General Hardscape Allowance Table I (below) Per Application Table J Sales Frontage Table K Ornamental Table L Per Specific Area Table M

J. LIGHTING ALLOWANCE: PER APPLICATION
This section does not apply to this project.

Registration Number: Generated Date/Time: Documentation Software: Energy Code Ace
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Compliance ID: 109855-0523-0002 Schema Version: rev 20220101 Report Generated: 2023-05-23 07:29:21

CERTIFICATE OF COMPLIANCE NRCC-LTO-E
Project Name: UST REMOVAL AND REPLACEMENT PROJECT PSA21-1341FAC Report Page: (Page 2 of 7)
Date Prepared: 2023-05-23T10:29:19-04:00

C. COMPLIANCE RESULTS
Calculations of Total Allowed Lighting Power (Watts) 140.7 / 170.2(e)6 or 141.0(b)2L / 180.2(b)4Bv
01 General Hardscape Allowance 140.7(d)1 / 170.2(e)6 (See Table I)
02 Per Application 140.7(d)2 / 170.2(e)6 (See Table J)
03 Sales Frontage 140.7(d)2 (See Table K)
04 Ornamental 140.7(d)2 / 170.2(e)6 (See Table L)
05 Per Specific Area 140.7(d)2 / 170.2(e)6 (See Table M)
06 Existing Power Allowance 141.0(b)2L / 180.2(b)4Bv (See Table N)
07 Total Allowed (Watts)
08 Total Actual (Watts)
09 07 must be >= 08
0 0 798 798 COMPLIES

D. EXCEPTIONAL CONDITIONS
This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS
This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

Registration Number: Generated Date/Time: Documentation Software: Energy Code Ace
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Compliance ID: 109855-0523-0002 Schema Version: rev 20220101 Report Generated: 2023-05-23 07:29:21

STATE OF CALIFORNIA
Outdoor Lighting CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRCC-LTO-E
Project Name: UST REMOVAL AND REPLACEMENT PROJECT PSA21-1341FAC Report Page: (Page 5 of 7)
Date Prepared: 2023-05-23T10:29:19-04:00

K. LIGHTING ALLOWANCE: SALES FRONTAGE
This section does not apply to this project.

L. LIGHTING ALLOWANCE: ORNAMENTAL
This section does not apply to this project.

M. LIGHTING ALLOWANCE: PER SPECIFIC AREA
This table includes areas using the wattage allowance per specific area from Table 140.7-B / Table 170.2-S. More than one specific area allowance may be taken in a single project, if applicable. However, multiple specific area allowances may not be taken for the exact same area on the site.
01 Area Description 02 Specific Area Type per Table 140.7-B 03 Specific Area (ft²) 04 Allowed Density (W/ft²) 05 Extra Allowance (Watts) 06 Luminaire Name or Item Tag 07 Watts per Luminaire 08 # of Luminaires 09 Design Watts 10 Additional Allowance (Watts)
FUEL ISLAND CANOPY ServiceStationCanopy 3777 0.57 2190.66 S1 133 6 798 798
Total Design Watts for this Area: 798
Total Allowance (Watts) All Areas: 798

¹ FOOTNOTES: Text has been abbreviated, please refer to Table 160.5-A to confirm compliance with the specific light source technologies listed.
² Authority having jurisdiction may ask for cutsheets or other documentation to confirm compliance of light source.
³ Recessed luminaires marked for use in fire-rated installations, and recessed luminaires installed in non-insulated ceilings are exempted from ii and iii.

N. EXISTING CONDITIONS POWER ALLOWANCE (alterations only)
This section does not apply to this project.

Registration Number: Generated Date/Time: Documentation Software: Energy Code Ace
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Compliance ID: 109855-0523-0002 Schema Version: rev 20220101 Report Generated: 2023-05-23 07:29:21

CERTIFICATE OF COMPLIANCE NRCC-LTO-E
Project Name: UST REMOVAL AND REPLACEMENT PROJECT PSA21-1341FAC Report Page: (Page 3 of 7)
Date Prepared: 2023-05-23T10:29:19-04:00

F. OUTDOOR LIGHTING FIXTURE SCHEDULE
For new or altered lighting systems demonstrating compliance with 140.7 / 170.2(e)6 all new luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application are included in the table below.
Designed Wattage:
01 Name or Item Tag 02 Complete Luminaire Description 03 Watts per luminaire¹,² 04 How is Wattage determined 05 Total Number Luminaires² 06 Luminaire Status³ 07 Excluded per 140.7(a) / 170.2(e)6A 08 Design Watts 09 Cutoff Req. > 6,200 initial lumen output 130.2(b) / 160.5(c)¹,⁴ 10 Field Inspector Pass Fail
S1 FUEL ISLAND CANOPY LED LIGHT Linear 133 Mfr. Spec 6 New 798 NA: < 6200 lumens 798

* NOTES: Selections with a * require a note in the space below explaining how compliance is achieved.
EX: Luminaire is lighting a statue; EXCEPTION 2 to 130.2(b)
¹ FOOTNOTES: Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per 130.0(c) / 160.5(b)
² For linear luminaires, wattage should be indicated as W/ft instead of Watts/luminaire. Total linear feet should be indicated in column 05 instead of number of luminaires.
³ Select "New" for new luminaires in a new outdoor lighting project, or for added luminaires in an alteration. Select "Altered" for replacement luminaires in an alteration. Select "Existing to Remain" for existing luminaires within the project scope that are not being altered and are remaining. Select "Existing Reinstalled" for existing luminaires which are being removed and reinstalled as part of the project scope.
⁴ Compliance with mandatory shielding requirements is required for luminaires with initial lumen output >= 6,200 unless exempted by 130.2(b) / 160.5(c)

G. SHIELDING REQUIREMENTS (BUG)
This section does not apply to this project.

Registration Number: Generated Date/Time: Documentation Software: Energy Code Ace
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Compliance ID: 109855-0523-0002 Schema Version: rev 20220101 Report Generated: 2023-05-23 07:29:21

STATE OF CALIFORNIA
Outdoor Lighting CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE NRCC-LTO-E
Project Name: UST REMOVAL AND REPLACEMENT PROJECT PSA21-1341FAC Report Page: (Page 6 of 7)
Date Prepared: 2023-05-23T10:29:19-04:00

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION
Selections have been made based on information provided in this document. If any selection has been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online
Form/Title
NRCL-LTO-E - Must be submitted for all buildings

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE
Selections have been made based on information provided in this document. If any selection has been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html
Form/Title
Systems/Spaces To Be Field Verified
NRCA-LTO-02-A - Must be submitted for all outdoor lighting controls except for alterations where controls are added to <= 20 luminaires. FUEL ISLAND CANOPY : "S1"

Registration Number: Generated Date/Time: Documentation Software: Energy Code Ace
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Compliance ID: 109855-0523-0002 Schema Version: rev 20220101 Report Generated: 2023-05-23 07:29:21

"AS BUILT"
P.E. EXP. DATE
REVIEWED BY:
INSPECTOR DATE

Plotted By: Tressa Alvarado Sheet: Set:Kha Layout: RL August 10, 2023 08:03:52am Z:\SD21029\CAD\Autocad\14.dwg

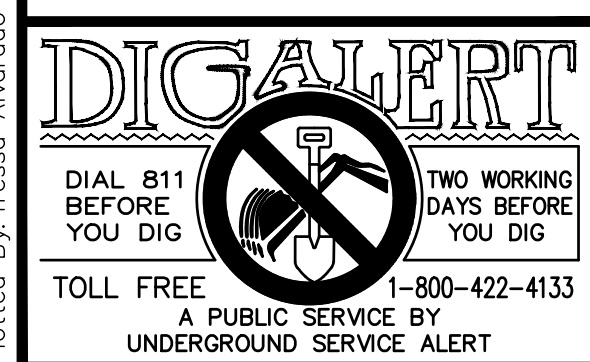


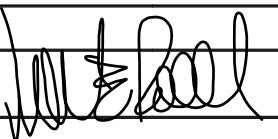
Table with columns: DATE, INITIAL, ENGINEER OF WORK, REVISION, DESCRIPTION, OTHER APPROVAL, CITY APPROVAL.

SHEET 17 CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT SHEETS 36
UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT TITLE 24 DOCUMENTATION
APPROVED: John Mashhoff 05/30/2024
PUBLIC WORKS MANAGER RCE 61909 EXP.9/30/25 DATE
DWN BY: JA/RG PROJECT NO. CIP4747 DRAWING NO. 811-5
CHKD BY: RR/RG
RVWD BY: RR/RG

CERTIFICATE OF COMPLIANCE NRCC-LTO-E (Page 7 of 7)	
Project Name: UST REMOVAL AND REPLACEMENT PROJECT PSA21-1341FAC	Report Page:
Project Address: 2480 IMPALA DRIVE, CARLSBAD, CA 92010	Date Prepared: 2023-05-23T10:29:19-04:00

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

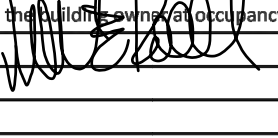
I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: TRESSA ALVARADO	Documentation Author Signature: 
Company: RANDALL LAMB	Signature Date: 05/19/2023
Address: 3131 CAMINO DEL RIO NORTH SUITE 800	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: SAN DIEGO, CA 92108	Phone: 619-713-5700

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

- The information provided on this Certificate of Compliance is true and correct.
- I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
- The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
- The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
- I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the enforcement agency.

Responsible Designer Name: ROBERT RANDALL	Responsible Designer Signature: 
Company: RANDALL LAMB	Date Signed: 05/19/2023
Address: 3131 CAMINO DEL RIO NORTH SUITE 800	License: 7846
City/State/Zip: SAN DIEGO, CA 92108	Phone: 619-713-5700

Registration Number: CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
Generated Date/Time: Report Version: 2022.0.000 Schema Version: rev 20220101
Documentation Software: Energy Code Ace
Compliance ID: 109855-0523-0002
Report Generated: 2023-05-23 07:29:21

"AS BUILT"

P.E. _____ EXP. _____ DATE _____


REVIEWED BY: _____

INSPECTOR _____ DATE _____

Plotted By: Tressa Alvarado Sheet: Set:Kha Layout: E003 August 10, 2023 08:04:02am Z:\S021029\CAD\Autocad\E\15.dwg



DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

SHEET 18	CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT	SHEETS 36
UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT TITLE 24 DOCUMENTATION		
APPROVED: John Mashhoff  PUBLIC WORKS MANAGER RCE 61909 EXP. 9/30/25	05/30/2024 DATE	
DWN BY: JA/RG CHKD BY: RR/RG RVWD BY: RR/RG	PROJECT NO. CIP4747	DRAWING NO. 811-5

ISSUED FOR CONSTRUCTION

SECTION 26 05 00 BASIC ELECTRICAL REQUIREMENTS

PART 1 GENERAL
1.01 WORK SEQUENCE AND SUTDOWNS
A. Install work in to accommodate Owner's occupancy requirements. Coordinate electrical schedule and operations with Owner.
1.02 POWER AND LOW VOLTAGE WIRING
A. Provide all power and low voltage system conduit and wiring to fuel containment and monitoring equipment.
1.03 SUBMITTALS
A. Within 30 days after award of contract, submit shop drawings, product data, studies and wiring diagrams. Do not install materials or equipment until written approval has been obtained from Engineer.
B. Fuel Containment and Monitoring Wiring Diagrams: Submit electronically in PDF format:
1. Schematic, line to line type, using standard symbols and with components arranged in logical sequence, so that system operation can be checked easily. Where special symbols are used or where function of components is not obvious, include suitable legend or functional guide.
C. Make submittals sufficiently complete to show compliance with specified features and standards.
1.04 FUEL CONTAINMENT AND MONITORING OPERATING AND MAINTENANCE DATA
A. Provide in acceptable form, electronic copy and 2 bound copies of operating manuals. Include:
1. Provide catalog cuts, functional description of operation, wiring diagrams, operating and maintenance instructions, parts lists and other data useful and necessary for complete maintenance and operation of equipment.
B. Deliver operating manuals to Owner prior to final acceptance.
PART 2 PRODUCTS (NOT APPLICABLE)
PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

Table with 2 columns: City of Carlsbad Maintenance Yard UST, BASIC ELECTRICAL REQUIREMENTS. Value: 26 05 00 - 1

SECTION 26 05 05 SELECTIVE DEMOLITION FOR ELECTRICAL

PART 1 GENERAL
1.01 SECTION INCLUDES
A. Electrical demolition.
PART 2 PRODUCTS
2.01 MATERIALS AND EQUIPMENT
A. Materials and equipment for patching and extending work: As specified in individual sections.
PART 3 EXECUTION
3.01 EXAMINATION
A. Verify field measurements and circuiting arrangements as indicated.
B. Verify that abandoned wiring and equipment serve only abandoned facilities.
C. Demolition drawings are based on casual field observation and existing record documents.
D. Report discrepancies to Architect before disturbing existing installation.
E. Beginning of demolition means installer accepts existing conditions.
3.02 PREPARATION
A. Provide temporary wiring and connections to maintain existing systems in service during construction. When work must be performed on energized equipment or circuits, use personnel experienced in such operations.
3.03 DEMOLITION AND EXTENSION OF EXISTING ELECTRICAL WORK
A. Remove, relocate, and extend existing installations to accommodate new construction.
B. Remove abandoned wiring to source of supply.
C. Remove exposed abandoned conduit, including abandoned conduit above accessible ceiling finishes. Cut conduit flush with walls and floors, and patch surfaces.
D. Disconnect and remove electrical devices and equipment serving utilization equipment that has been removed.
E. Disconnect and remove abandoned luminaires. Remove brackets, stems, hangers, and other accessories.
F. Repair adjacent construction and finishes damaged during demolition and extension work.
G. Maintain access to existing electrical installations that remain active. Modify installation or provide access panel as appropriate.
3.04 CLEANING AND REPAIR
A. Clean and repair existing materials and equipment that remain or that are to be reused.
B. Panelboards: Clean exposed surfaces and check tightness of electrical connections. Replace damaged circuit breakers and provide closure plates for vacant positions. Provide typed circuit directory showing revised circuiting arrangement.

END OF SECTION

Table with 2 columns: City of Carlsbad Maintenance Yard UST, Selective Demolition for Electrical. Value: 26 05 05 - 1

SECTION 26 05 19 LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 GENERAL
1.01 SECTION INCLUDES
A. Single conductor building wiring.
B. Wiring connectors.
1.02 RELATED REQUIREMENTS
A. Section 26 05 26 - Grounding and Bonding for Electrical Systems: Additional requirements for grounding conductors and grounding connectors.
B. Section 26 05 53 - Identification for Electrical Systems: Identification products and requirements.
1.03 REFERENCE STANDARDS
A. ASTM B3 - Standard Specification for Soft or Annealed Copper Wire 2013 (Reapproved 2018).
B. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.
C. NEMA WC 70 - Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy 2009.
D. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
E. UL 486A-486B - Wire Connectors Current Edition, Including All Revisions.
F. UL 486C - Splicing Wire Connectors Current Edition, Including All Revisions.
1.04 SUBMITTALS
A. Product Data: Provide manufacturer's standard catalog pages and data sheets for conductors and cables, including detailed information on materials, construction, ratings, listings, and available sizes, configurations, and stranding.
PART 2 PRODUCTS
2.01 CONDUCTOR AND CABLE APPLICATIONS
A. Do not use conductors and cables for applications other than as permitted by NFPA 70 and product listing.
B. Provide single conductor building wire installed in suitable raceway unless otherwise indicated, permitted, or required.
C. Nonmetallic-sheathed cable is not permitted.
2.02 CONDUCTOR AND CABLE GENERAL REQUIREMENTS
A. Provide products that comply with requirements of NFPA 70.
B. Provide products listed, classified, and labeled as suitable for the purpose intended.
C. Provide new conductors and cables manufactured not more than one year prior to installation.
D. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, etc. as required for a complete operating system.
E. Comply with NEMA WC 70.
F. Conductors for Grounding and Bonding: Also comply with Section 26 05 26.
G. Conductor Material:
1. Provide copper conductors only. Aluminum conductors are not acceptable for this project. Conductor sizes indicated are based on copper.

END OF SECTION

Table with 2 columns: City of Carlsbad Maintenance Yard UST, Low-Voltage Electrical Power Conductors and Cables. Value: 26 05 19 - 1

2. Copper Conductors: Soft drawn annealed, 98 percent conductivity, uncoated copper conductors complying with ASTM B3, ASTM B8, or ASTM B787/B787M unless otherwise indicated.
3. Tinned Copper Conductors: Comply with ASTM B33.
H. Where conductor size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.

2.03 SINGLE CONDUCTOR BUILDING WIRE

A. Manufacturers:
1. Copper Building Wire:
a. Cerro Wire LLC: www.cerrowire.com/usa.
b. Encore Wire Corporation: www.encorewire.com/usa.
c. Southwire Company: www.southwire.com/usa.
B. Insulation Voltage Rating: 600 V.
C. Insulation:
1. Copper Building Wire: Type THHN/THWN or THHN/THWN-2, except as indicated below, rated 90 degree C.

2.04 WIRING CONNECTORS

A. Description: Wiring connectors appropriate for the application, suitable for use with the conductors to be connected, and listed as complying with UL 486A-486B or UL 486C as applicable.
B. Wiring Connectors for Splices and Taps:
1. Copper Conductors Size 8 AWG and Smaller: Use twist-on insulated spring connectors.
2. Do not tap or splice controls and communications conductors.
C. Wiring Connectors for Terminations:
1. Provide terminal lugs for connecting conductors to equipment furnished with terminations designed for terminal lugs.
2. Provide motor pigtail connectors for connecting motor leads in order to facilitate disconnection.
3. Conductors for Control Circuits: Use screw or crimped terminals for all connections.

PART 3 EXECUTION

3.01 PREPARATION

A. Clean raceways thoroughly to remove foreign materials before installing conductors and cables.

3.02 INSTALLATION

A. Circuiting Requirements:
1. Unless dimensioned, circuit routing indicated is diagrammatic.
2. When circuit destination is indicated without specific routing, determine exact routing required.
3. Arrange circuiting to minimize splices.
B. Install products in accordance with manufacturer's instructions.
C. Perform work in accordance with NECA 1 (general workmanship).
D. Installation in Raceway:
1. Tape ends of conductors and cables to prevent infiltration of moisture and other contaminants.
2. Pull all conductors and cables together into raceway at same time.

SD21029 / City of Carlsbad Maintenance Yard UST 26 05 19 - 2 Low-Voltage Electrical Power Conductors and Cables

3. Do not damage conductors and cables or exceed manufacturer's recommended maximum pulling tension and sidewall pressure.
4. Use suitable wire pulling lubricant where necessary, except when lubricant is not recommended by the manufacturer.
E. Install conductors with a minimum of 6 inches of slack at each outlet.
F. Neatly train and bundle conductors inside boxes, wireways, panelboards and other equipment enclosures.
G. Group or otherwise identify neutral/grounded conductors with associated ungrounded conductors inside enclosures in accordance with NFPA 70.
H. Make wiring connections using specified wiring connectors.
1. Make splices and taps only in accessible boxes. Do not pull splices into raceways or make splices in conduit bodies.
2. Remove appropriate amount of conductor insulation for making connections without cutting, nicking or damaging conductors.
3. Do not remove conductor strands to facilitate insertion into connector.
4. Clean contact surfaces on conductors and connectors to suitable remove corrosion, oxides, and other contaminants. Do not use wire brush on plated conductor surfaces.
I. Insulate ends of spare conductors using vinyl insulating electrical tape.
J. Identify conductors and cables in accordance with Section 26 05 53.
K. Unless specifically indicated to be excluded, provide final connections to all equipment and devices, including those furnished by others, as required for a complete operating system.

END OF SECTION

SD21029 / City of Carlsbad Maintenance Yard UST 26 05 19 - 3 Low-Voltage Electrical Power Conductors and Cables

SECTION 26 05 26 GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 GENERAL
1.01 SECTION INCLUDES
A. Grounding and bonding requirements.
B. Conductors for grounding and bonding.
C. Connectors for grounding and bonding.
D. Ground bars.
1.02 RELATED REQUIREMENTS
A. Section 26 05 19 - Low-Voltage Electrical Power Conductors and Cables: Additional requirements for conductors for grounding and bonding, including conductor color coding.
1. Includes oxide inhibiting compound.
B. Section 26 05 53 - Identification for Electrical Systems: Identification products and requirements.
1.03 REFERENCE STANDARDS
A. IEEE 81 - IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Grounding System 2012.
B. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.
C. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
D. UL 467 - Grounding and Bonding Equipment Current Edition, Including All Revisions.
1.04 ADMINISTRATIVE REQUIREMENTS
A. Coordination:
1. Verify exact locations of underground metal water service pipe entrances to building.
2. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.
1.05 SUBMITTALS
A. See Section 01 30 00 - Administrative Requirements for submittals procedures.
B. Product Data: Provide manufacturer's standard catalog pages and data sheets for grounding and bonding system components.
C. Field quality control test reports.
D. Project Record Documents: Record actual locations of grounding electrode system components and connections.
1.06 QUALITY ASSURANCE
A. Comply with requirements of NFPA 70.
B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
1.07 DELIVERY, STORAGE, AND HANDLING
A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.

A. Existing Work: Where existing grounding and bonding system components are indicated to be reused, they may be reused only where they are free from corrosion, integrity and continuity are verified, and where acceptable to the authority having jurisdiction.
B. Do not use products for applications other than as permitted by NFPA 70 and product listing.
C. Unless specifically indicated to be excluded, provide all required components, conductors, connectors, conduit, boxes, fittings, supports, accessories, etc. as necessary for a complete grounding and bonding system.
D. Where conductor size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.
E. Grounding System Resistance:
1. Achieve specified grounding system resistance under normally dry conditions unless otherwise approved by Architect. Precipitation within the previous 48 hours does not constitute normally dry conditions.
2. Grounding Electrode System: Not greater than 5 ohms to ground, when tested according to IEEE 81 using "fall-of-potential" method.
3. Between Grounding Electrode System and Major Electrical Equipment Frames, System Neutral, and Derived Neutral Points: Not greater than 0.5 ohms, when tested using "point-to-point" methods.
F. Bonding and Equipment Grounding:
1. Provide bonding for equipment grounding conductors, equipment ground busses, metallic equipment enclosures, metallic raceways and boxes, device grounding terminals, and other normally non-current-carrying conductive materials enclosing electrical conductors/equipment or likely to become energized as indicated and in accordance with NFPA 70.
2. Provide insulated equipment grounding conductor in each feeder and branch circuit raceway. Do not use raceways as sole equipment grounding conductor.
3. Where circuit conductor sizes are increased for voltage drop, increase size of equipment grounding conductor proportionally in accordance with NFPA 70.
4. Unless otherwise indicated, connect wiring device grounding terminal to branch circuit equipment grounding conductor and to outlet box with bonding jumper.
5. Terminate branch circuit equipment grounding conductors on solidly bonded equipment ground bus only. Do not terminate on neutral (grounded) or isolated/insulated ground bus.
2.02 GROUNDING AND BONDING COMPONENTS
A. General Requirements:
1. Provide products listed, classified, and labeled as suitable for the purpose intended.
2. Provide products listed and labeled as complying with UL 467 where applicable.
B. Conductors for Grounding and Bonding, in Addition to Requirements of Section 26 05 26:
1. Use insulated copper conductors unless otherwise indicated.
a. Exceptions:
1) Use bare copper conductors where installed underground in direct contact with earth.
2) Use bare copper conductors where directly encased in concrete (not in raceway).
C. Oxide Inhibiting Compound: Comply with Section 26 05 19.

END OF SECTION

PART 3 EXECUTION
3.01 EXAMINATION
SD21029 / City of Carlsbad Maintenance Yard UST 26 05 26 - 2 Grounding and Bonding for Electrical Systems

SD21029 / City of Carlsbad Maintenance Yard UST 26 05 26 - 3 Grounding and Bonding for Electrical Systems

Table with 2 columns: City of Carlsbad Maintenance Yard UST, Grounding and Bonding for Electrical Systems. Value: 26 05 26 - 1

"AS BUILT"
P.E. EXP. DATE
REVIEWED BY:
INSPECTOR DATE

SHEET 19 CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT SHEETS 36
UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT SPECIFICATION SHEET
APPROVED: John Mosshoff 05/30/2024
PUBLIC WORKS MANAGER RCE 61909 EXP.9/30/25 DATE
DWN BY: JA/RG PROJECT NO. CIP4747 DRAWING NO. 811-5
CHKD BY: RR/RG
RVWD BY: RR/RG

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Kimley»Horn
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Phone: 619.234.9411 | www.kimley-horn.com



Table with 4 columns: DATE, INITIAL, REVISION, DESCRIPTION. Includes rows for ENGINEER OF WORK, OTHER APPROVAL, and CITY APPROVAL.



SECTION 26 05 33.13
CONDUIT FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Galvanized steel rigid metal conduit (RMC).
B. Intermediate metal conduit (IMC).
C. PVC-coated galvanized steel rigid metal conduit (RMC).
D. Liquidtight flexible metal conduit (LFMC).
E. Electrical metallic tubing (EMT).
F. Rigid polyvinyl chloride (PVC) conduit.
G. Conduit fittings.

1.02 RELATED REQUIREMENTS

- A. Section 26 05 26 - Grounding and Bonding for Electrical Systems.
1. Includes additional requirements for fittings for grounding and bonding.
B. Section 26 05 53 - Identification for Electrical Systems: Identification products and requirements.

1.03 REFERENCE STANDARDS

- A. ANSI C80.1 - American National Standard for Electrical Rigid Steel Conduit (ERSC) 2015.
B. ANSI C80.3 - American National Standard for Electrical Metallic Tubing - Steel (EMT-S) 2015.
C. ANSI C80.6 - American National Standard for Electrical Intermediate Metal Conduit (EMIC) 2005.
D. NECA 1 - Standard for Good Workmanship in Electrical Construction 2015.
E. NECA 101 - Standard for Installing Steel Conduits (Rigid, IMC, EMT) 2013.
F. NECA 111 - Standard for Installing Nonmetallic Raceways (RNC, ENT, LFNC) 2003.
G. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable 2014.
H. NEMA RN 1 - Polyvinyl-Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit 2018.
I. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
J. UL 6 - Electrical Rigid Metal Conduit-Steel Current Edition, Including All Revisions.
K. UL 360 - Liquid-Tight Flexible Steel Conduit Current Edition, Including All Revisions.
L. UL 514B - Conduit, Tubing, and Cable Fittings Current Edition, Including All Revisions.
M. UL 797 - Electrical Metallic Tubing-Steel Current Edition, Including All Revisions.
N. UL 1203 - Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations Current Edition, Including All Revisions.
O. UL 1242 - Electrical Intermediate Metal Conduit-Steel Current Edition, Including All Revisions.
P. NEC Article 514 Motor fuel dispensing facilities.
Q. NFPA 30 - Flammable and Combustible Liquids Code

1.04 ADMINISTRATIVE REQUIREMENTS

Table with 2 columns: City of Carlsbad Maintenance Yard UST, Conduit for Electrical Systems. Row 1: 26 05 33.13 - 1

- A. Coordination:
1. Coordinate minimum sizes of conduits with the actual conductors to be installed, including adjustments for conductor sizes increased for voltage drop.
2. Coordinate the arrangement of conduits with structural members, ductwork, piping, equipment and other potential conflicts installed under other sections or by others.
3. Verify exact conduit termination locations required for boxes, enclosures, and equipment installed under other sections or by others.
4. Coordinate the work with other trades to provide roof penetrations that preserve the integrity of the roofing system and do not void the roof warranty.
5. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.
B. Sequencing:
1. Do not begin installation of conductors and cables until installation of conduit is complete between outlet, junction and splicing points.

1.05 SUBMITTALS

- A. Submit under the provision of Division 1
B. Project Record Documents: Record actual routing for conduits installed underground, conduits embedded within concrete slabs, and conduits 2 inch (53 mm) trade size and larger.

1.06 QUALITY ASSURANCE

- A. Comply with requirements of NFPA 70.
B. Maintain at the project site a copy of each referenced document that prescribes execution requirements.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store conduit and fittings in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.01 CONDUIT APPLICATIONS

- A. Do not use conduit and associated fittings for applications other than as permitted by NFPA 70 and product listing.
B. Unless otherwise indicated and where not otherwise restricted, use the conduit types indicated for the specified applications. Where more than one listed application applies, comply with the most restrictive requirements. Where conduit type for a particular application is not specified, use galvanized steel rigid metal conduit.
C. Underground:
1. Exterior, Direct-Buried: Rigid PVC conduit.
2. Exterior, Embedded Within Concrete: Rigid PVC conduit.
3. Where rigid polyvinyl (PVC) conduit is provided, transition to galvanized steel rigid metal conduit where emerging from underground.
D. Exposed, Interior, Not Subject to Physical Damage: Use galvanized steel rigid metal conduit, intermediate metal conduit (IMC), or electrical metallic tubing (EMT).
E. Exposed, Interior, Subject to Physical Damage: Use galvanized steel rigid metal conduit or intermediate metal conduit (IMC).
1. Locations subject to physical damage include, but are not limited to:
a. Where exposed below 8 feet, except within electrical and communication rooms or closets.

SD21029 / City of Carlsbad Maintenance Yard UST 26 05 33.13 - 2 Conduit for Electrical Systems

- F. Concealed, Exterior, Not Embedded in Concrete or in Contact With Earth: Use galvanized steel rigid metal conduit or intermediate metal conduit (IMC).
G. Hazardous (Classified) Locations: Use galvanized steel rigid metal conduit or intermediate metal conduit (IMC).
H. Connectors to Vibrating Equipment:
1. Damp, Wet, or Corrosive Locations: Use liquidtight flexible metal conduit.
2. Maximum Length: 6 feet unless otherwise indicated.
3. Vibrating equipment includes, but is not limited to:
a. Motors.

2.02 CONDUIT REQUIREMENTS

- A. Existing Work: Where existing conduits are indicated to be reused, they may be reused only where they comply with specified requirements, are free from corrosion, and integrity is verified by pulling a mandrel through them.
B. Fittings for Grounding and Bonding: Also comply with Section 26 05 26.
C. Provide all conduit, fittings, supports, and accessories required for a complete raceway system.
D. Provide products listed, classified, and labeled as suitable for the purpose intended.
E. Where conduit size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.

2.03 GALVANIZED STEEL RIGID METAL CONDUIT (RMC)

- A. Manufacturers:
1. Allied Tube & Conduit: www.alliedeg.com/#file.
2. Republic Conduit: www.republic-conduit.com/#file.
3. Wheeland Tube, a Division of Zekelman Industries: www.wheeland.com/#file.
B. Description: NFPA 70, Type RMC galvanized steel rigid metal conduit complying with ANSI C80.1 and listed and labeled as complying with UL 6.
C. Fittings:
1. Non-Hazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
2. Hazardous (Classified) Locations: Use fittings listed and labeled as complying with UL 1203 for the classification of the installed location.
3. Material: Use steel or malleable iron.
4. Connectors and Couplings: Use threaded type fittings only. Threadless set screw and compression (glend) type fittings are not permitted.

2.04 INTERMEDIATE METAL CONDUIT (IMC)

- A. Manufacturers:
1. Allied Tube & Conduit: www.alliedeg.com/#file.
2. Republic Conduit: www.republic-conduit.com/#file.
3. Wheeland Tube, a Division of Zekelman Industries: www.wheeland.com/#file.
B. Description: NFPA 70, Type IMC galvanized steel intermediate metal conduit complying with ANSI C80.6 and listed and labeled as complying with UL 1242.
C. Fittings:
1. Non-Hazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
2. Hazardous (Classified) Locations: Use fittings listed and labeled as complying with UL 1203 for the classification of the installed location.
3. Material: Use steel or malleable iron.

SD21029 / City of Carlsbad Maintenance Yard UST 26 05 33.13 - 3 Conduit for Electrical Systems

- 4. Connectors and Couplings: Use threaded type fittings only. Threadless set screw and compression (glend) type fittings are not permitted.

2.05 PVC-COATED GALVANIZED STEEL RIGID METAL CONDUIT (RMC)

- A. Manufacturers:
1. Thomas & Betts Corporation: [] www.tnb.com/#file.
2. Robroy Industries: [] www.robroy.com/#file.
B. Description: NFPA 70, Type RMC galvanized steel rigid metal conduit with external polyvinyl chloride (PVC) coating complying with NEMA RN 1 and listed and labeled as complying with UL 6.
C. Exterior Coating: Polyvinyl chloride (PVC), nominal thickness of 40 mil.
D. PVC-Coated Fittings:
1. Manufacturer: Same as manufacturer of PVC-coated conduit to be installed.
2. Non-Hazardous Locations: Use fittings listed and labeled as complying with UL 514B.
3. Hazardous (Classified) Locations: Use fittings listed and labeled as complying with UL 1203 for the classification of the installed location.
4. Material: Use steel or malleable iron.
5. Exterior Coating: Polyvinyl chloride (PVC), minimum thickness of 40 mil.
E. PVC-Coated Supports: Furnish with exterior coating of polyvinyl chloride (PVC), minimum thickness of 15 mil.

2.06 LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC)

- A. Manufacturers:
1. AFC Cable Systems, Inc: [] www.afcweb.com/#file.
2. ElectriFlex Company: [] www.electriflex.com/#file.
3. International Metal Hose: [] www.metahose.com/#file.
B. Description: NFPA 70, Type LFMC polyvinyl chloride (PVC) jacketed steel flexible metal conduit listed and labeled as complying with UL 360.
C. Fittings:
1. Manufacturers:
a. Bridgeport Fittings Inc: www.bptfittings.com/#file.
b. O-Z/Gedney, a brand of Emerson Electric Co: www.emerson.com/#file.
c. Thomas & Betts Corporation: www.tnb.com/#file.
2. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
3. Material: Use steel or malleable iron.

2.07 ELECTRICAL METALLIC TUBING (EMT)

- A. Manufacturers:
1. Allied Tube & Conduit: [] www.alliedeg.com/#file.
2. Republic Conduit: www.republic-conduit.com/#file.
3. Wheeland Tube, a Division of Zekelman Industries: [] www.wheeland.com/#file.
B. Description: NFPA 70, Type EMT steel electrical metallic tubing complying with ANSI C80.3 and listed and labeled as complying with UL 797.
C. Fittings:
1. Manufacturers:
a. Bridgeport Fittings Inc: www.bptfittings.com/#file.
b. O-Z/Gedney, a brand of Emerson Electric Co: www.emerson.com/#file.
c. Thomas & Betts Corporation: www.tnb.com/#file.

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- 2. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
3. Material: Use steel or malleable iron.
4. Connectors and Couplings: Use compression type for 2 inch trade size and smaller for 2-1/2 inch trade size and larger use compression type or set-screw type.
a. Do not use indenter type connectors and couplings.

2.08 RIGID POLYVINYL CHLORIDE (PVC) CONDUIT

- A. Manufacturers:
1. Cantex Inc: www.cantexinc.com/#file.
2. Carlon, a brand of Thomas & Betts Corporation: www.carlon.com/#file.
3. JM Eagle: www.jmeagle.com/#file.
B. Description: NFPA 70, Type PVC rigid polyvinyl chloride conduit complying with NEMA TC 2 and listed and labeled as complying with UL 651; Schedule 40 unless otherwise indicated, Schedule 80 where subject to physical damage; rated for use with conductors rated 90 degrees C.
C. Fittings:
1. Manufacturer: Same as manufacturer of conduit to be connected.
2. Description: Fittings complying with NEMA TC 3 and listed and labeled as complying with UL 651; material to match conduit.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that mounting surfaces are ready to receive conduits.
B. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
B. Perform work in accordance with NECA 1 (general workmanship).
C. Install galvanized steel rigid metal conduit (RMC) in accordance with NECA 101.
D. Install intermediate metal conduit (IMC) in accordance with NECA 101.
E. Install PVC-coated galvanized steel rigid metal conduit (RMC) using only tools approved by the manufacturer.
F. Install rigid polyvinyl chloride (PVC) conduit in accordance with NECA 111.
G. Conduit Routing:
1. Unless dimensioned, conduit routing indicated is diagrammatic.
2. When conduit destination is indicated without specific routing, determine exact routing required.
3. Conduits in the following areas may be exposed, unless otherwise indicated:
a. Electrical rooms.
b. Mechanical equipment rooms.
4. Arrange conduit to provide no more than the equivalent of four 90 degree bends between pull points.
5. Arrange conduit to provide no more than 150 feet between pull points.
6. Route conduits above water and drain piping where possible.
7. Maintain minimum clearance of 6 inches between conduits and piping for other systems.
8. Maintain minimum clearance of 12 inches between conduits and hot surfaces. This includes, but is not limited to:
a. Heaters.

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- b. Hot water piping.
c. Flues.
9. Group parallel conduits in the same area together on a common rack.
10. In exterior locations, conduit shall terminate in bottom or sides of boxes (not the top).
11. Arrange all conduits entering panelboards or switchboards, either from the top or the bottom, to enter without the use of gutters or wireways, unless otherwise noted in drawings.
H. Conduit Support:
1. Secure and support conduits in accordance with NFPA 70 using suitable supports and methods approved by the authority having jurisdiction.
2. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.
3. Use metal channel (strut) with accessory conduit clamps to support multiple parallel surface-mounted conduits.
4. Use conduit clamp to support single conduit from beam clamp or threaded rod.
5. Use trapeze hangers assembled from threaded rods and metal channel (strut) with accessory conduit clamps to support multiple parallel suspended conduits.
6. Use non-penetrating rooftop supports to support conduits routed across rooftops (only where approved).
7. Use of spring steel conduit clips for support of conduits is permitted only as follows:
a. Support of electrical metallic tubing (EMT) up to 1 inch (27 mm) trade size concealed above accessible ceilings and within hollow stud walls.
8. Use of wire for support of conduits is not permitted.
9. Where conduit support intervals specified in NFPA 70 and NECA standards differ, comply with the most stringent requirements.
I. Connections and Terminations:
1. Use approved zinc-rich paint or conduit joint compound on field-cut threads of galvanized steel conduits prior to making connections.
2. Where two threaded conduits must be joined and neither can be rotated, use three-piece couplings or split couplings. Do not use running threads.
3. Use suitable adapters where required to transition from one type of conduit to another.
4. Provide drip loops for liquidtight flexible conduit connections to prevent drainage of liquid into connectors.
5. Terminate threaded conduits in boxes and enclosures using threaded hubs or double lock nuts for dry locations and raintight hubs for wet locations.
6. Where spare conduits stub up through concrete floors and are not terminated in a box or enclosure, provide threaded couplings equipped with threaded plugs set flush with finished floor.
7. Provide insulating bushings or insulated throats at all conduit terminations to protect conductors.
8. Secure joints and connections to provide maximum mechanical strength and electrical continuity.
J. Penetrations:
1. Do not penetrate or otherwise notch or cut structural members, including footings and grade beams, without approval of Structural Engineer.
2. Make penetrations perpendicular to surfaces unless otherwise indicated.
3. Provide sleeves for penetrations as indicated or as required to facilitate installation. Set sleeves flush with exposed surfaces unless otherwise indicated or required.
4. Conceal bends for conduit risers emerging above ground.

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- 5. Seal interior of conduits entering the building from underground at first accessible point to prevent entry of moisture and gases.
6. Where conduits penetrate waterproof membrane, seal as required to maintain integrity of membrane.
7. Make penetrations for roof-mounted equipment within associated equipment openings and curbs where possible to minimize roofing system penetrations. Where penetrations are necessary, seal as indicated or as required to preserve integrity of roofing system and maintain roof warranty. Include proposed locations of penetrations and methods for sealing with submittals.
8. Provide metal escutcheon plates for conduit penetrations exposed to public view.
9. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 07 84 00.
K. Hazardous (Classified) Locations: Where conduits cross boundaries of hazardous (classified) locations, provide sealing fittings located as indicated or in accordance with NFPA 70.
L. Conduit Movement Provisions: Where conduits are subject to movement, provide expansion and expansion/deflection fittings to prevent damage to enclosed conductors or connected equipment. This includes, but is not limited to:
1. Where conduits cross structural joints intended for expansion, contraction, or deflection.
2. Where calculated in accordance with NFPA 70 for rigid polyvinyl chloride (PVC) conduit installed above ground to compensate for thermal expansion and contraction.
3. Where conduits are subject to earth movement by settlement or frost.
M. Condensation Prevention: Where conduits cross barriers between areas of potential substantial temperature differential, provide sealing fitting or approved sealing compound at an accessible point near the penetration to prevent condensation. This includes, but is not limited to:
1. Where conduits pass from outdoors into conditioned interior spaces.
2. Where conduits pass from unconditioned interior spaces into conditioned interior spaces.
N. Provide pull string in all empty conduits and in conduits where conductors and cables are to be installed by others. Leave minimum slack of 12 inches at each end.
O. Provide grounding and bonding in accordance with Section 26 05 26.
P. Identify conduits in accordance with Section 26 05 53.

3.03 PROTECTION

- A. Immediately after installation of conduit, use suitable manufactured plugs to provide protection from entry of moisture and foreign material and do not remove until ready for installation of conductors.

END OF SECTION

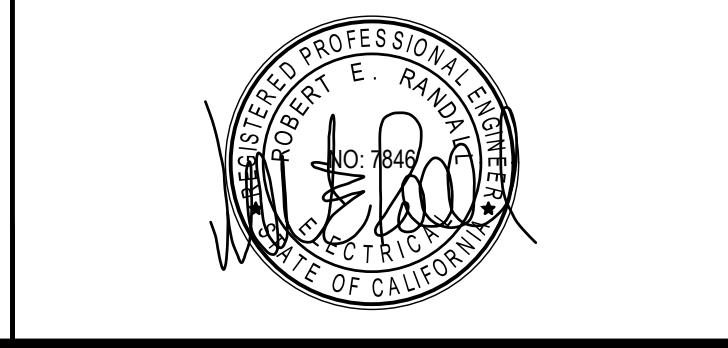
SD21029 / City of Carlsbad Maintenance Yard UST 26 05 33.13 - 7 Conduit for Electrical Systems

"AS BUILT"
P.E. EXP. DATE
REVIEWED BY:
INSPECTOR DATE

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Table with columns: DATE, INITIAL, ENGINEER OF WORK, REVISION, DESCRIPTION, DATE, INITIAL, OTHER APPROVAL, CITY APPROVAL.

SHEET 20 CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT SHEETS 36
UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT SPECIFICATION SHEET
APPROVED: John Mosshoff 05/30/2024
PUBLIC WORKS MANAGER RCE 61909 EXP.9/30/25 DATE
DWN BY: JA/RG PROJECT NO. CIP4747 DRAWING NO. 811-5
CHKD BY: RR/RG
RWD BY: RR/RG

SECTION 23 11 13 FACILITY FUEL-OIL PIPING

- PART 1 GENERAL
1.01 SECTION INCLUDES
1.02 REFERENCE STANDARDS
1.03 SYSTEM DESCRIPTION
1.04 ADMINISTRATIVE REQUIREMENTS
1.05 SUBMITTALS
1.06 QUALITY ASSURANCE
1.07 REGULATORY REQUIREMENTS

- 1.08 DELIVERY, STORAGE, AND HANDLING
PART 2 PRODUCTS
2.01 PIPING AND FITTINGS
PART 3 EXECUTION
3.01 EXAMINATION
3.02 PREPARATION

- 3.03 INSTALLATION OF PIPE HANGERS AND SUPPORTS
3.04 PIPING INSTALLATION
END OF SECTION

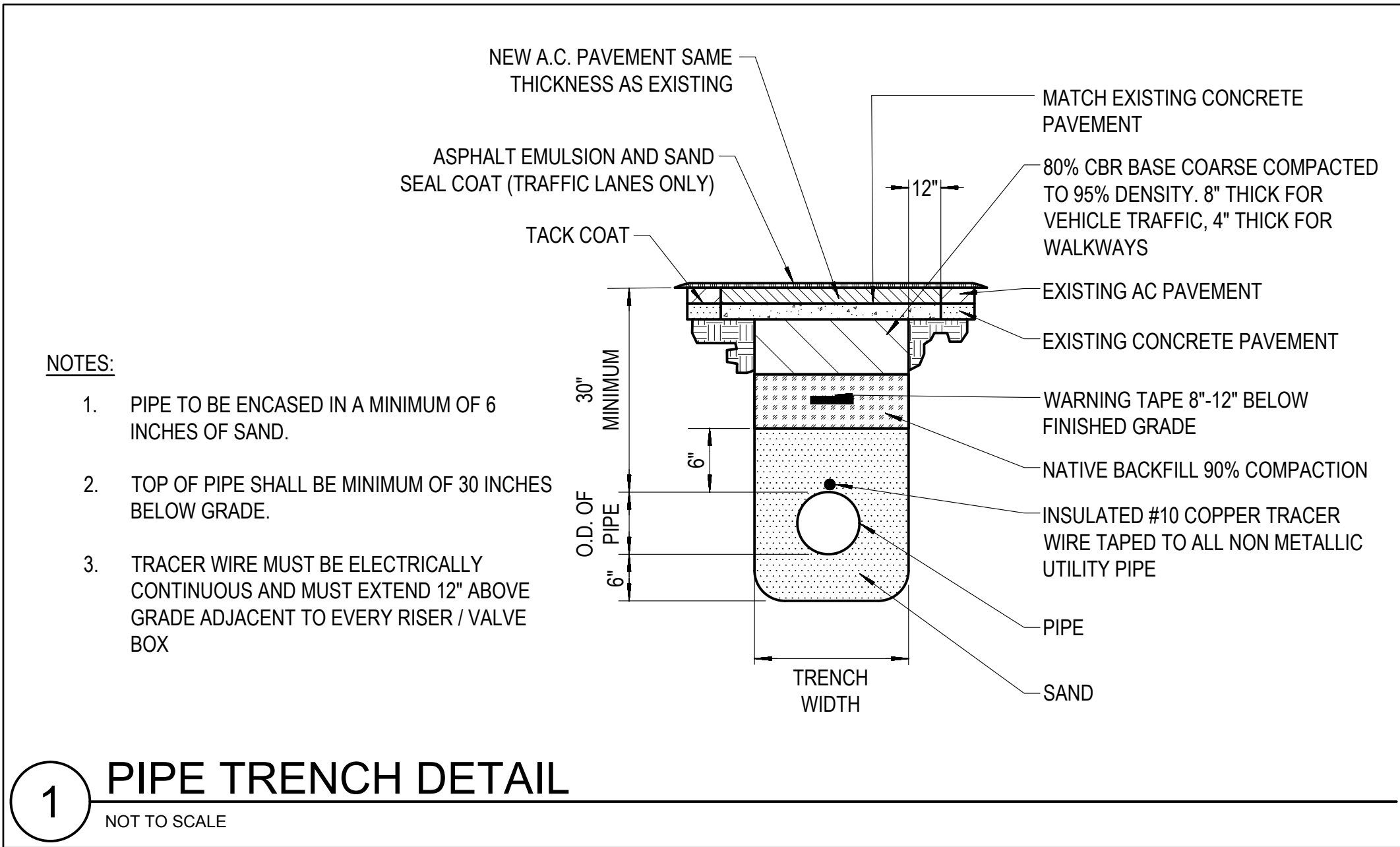
PLUMBING SYMBOL LIST table with columns: SYMBOL, ABBREV, DESCRIPTION. Lists symbols for connection points, existing equipment, fuel oil supply pipes, vents, and various pipe types.

Table with 2 columns: City of Carlsbad Maintenance Yard UST, Facility Fuel-Oil Piping. Row 1: 23 11 13 - 1

SD21029 / City of Carlsbad Maintenance Yard UST 23 11 13 - 2 Facility Fuel-Oil Piping

SD21029 / City of Carlsbad Maintenance Yard UST 23 11 13 - 3 Facility Fuel-Oil Piping

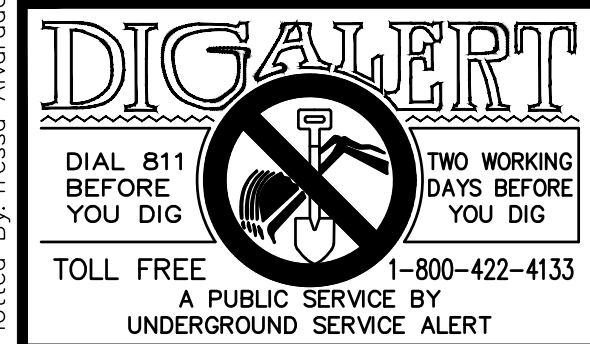
PLUMBING SHEET INDEX table with columns: SHEET NUMBER, SHEET NAME. Lists sheets 21 and 22.



- GENERAL NOTES
1. SUPPORT PIPING IN ACCORDANCE WITH THE CMC 2019 EDITION AND THE CPC 2019 EDITION.
2. FOR CLARITY, NOT ALL PIPING AT FIXTURE IS SHOWN. PROVIDE PER SCHEDULES AND DETAILS.
3. BELOW GRADE PIPING AT FOOTINGS AND GRADE BEAMS SHALL BE IN ACCORDANCE WITH THE FOLLOWING CRITERIA:
4. PIPING AND EQUIPMENT ARE DIAGRAMMATICALLY LOCATED ON FLOOR PLANS.
5. BEFORE START OF WORK, CONTRACTOR TO VERIFY THE SIZE, TYPE AND LOCATION OF ALL EXISTING UTILITIES.
6. VENT PIPE OUTLETS FOR TANKS STORING CLASS I, II OR IIIA LIQUIDS SHALL BE LOCATED SUCH THAT THE VAPORS ARE RELEASED AT A SAFE POINT OUTSIDE OF BUILDINGS AND NOT LESS THAN 12 FEET ABOVE THE FINISHED GROUND LEVEL.

'AS BUILT' form with fields for P.E., EXP., DATE, REVIEWED BY, INSPECTOR, DATE.

Plotted By: Tressa Alvarado Sheet: Set:Kha Layout: P000 August 10, 2023 08:09:48am Z:\SD21029\CAD\Autocad\A_P000.dwg



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Revision table with columns: DATE, INITIAL, ENGINEER OF WORK, REVISION, DESCRIPTION, DATE, INITIAL, OTHER APPROVAL, DATE, INITIAL, CITY APPROVAL.

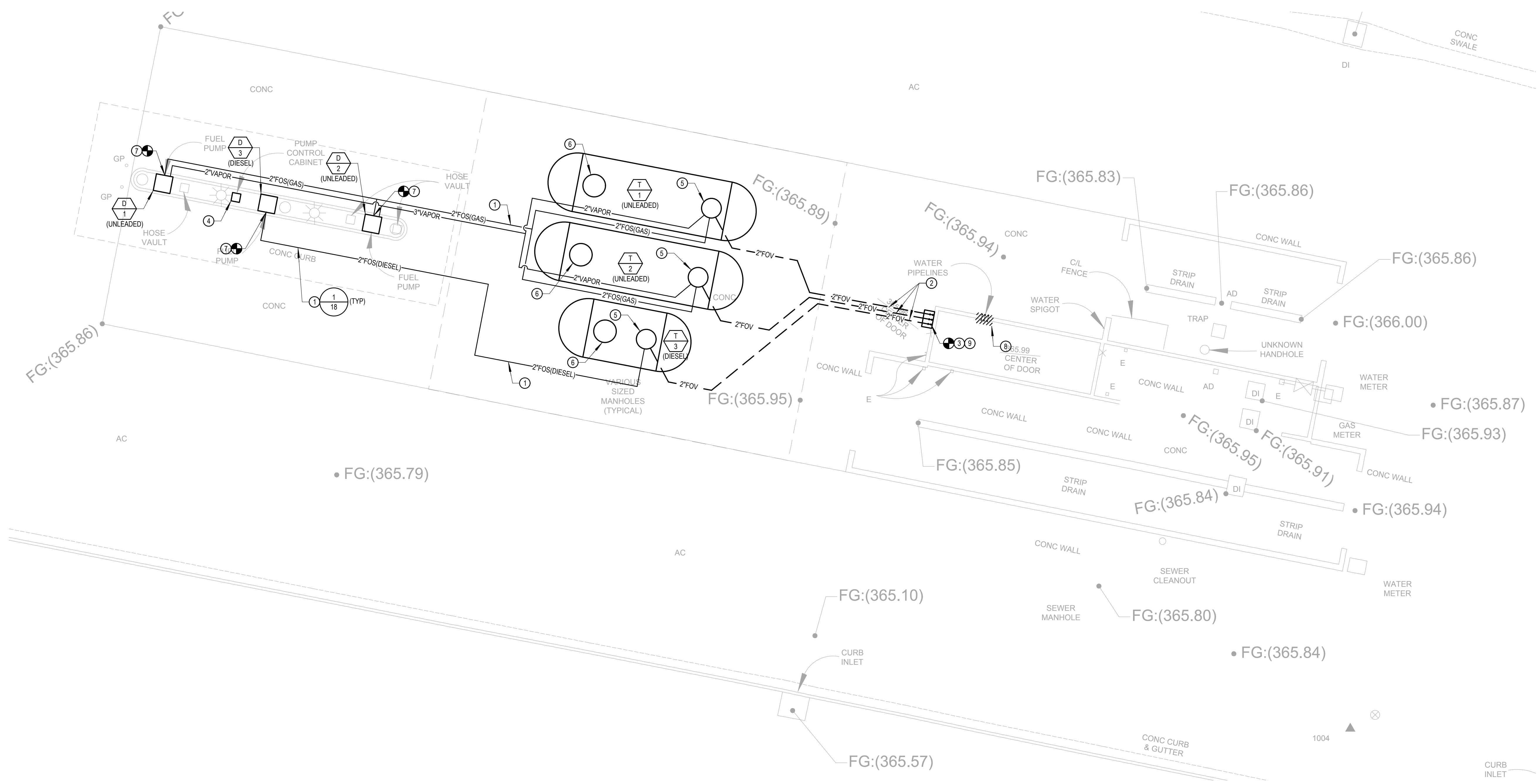
CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT logo and project information: UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT, APPROVED: John Mosshoff, 05/30/2024, PROJECT NO. CIP4747, DRAWING NO. 811-5.

GENERAL NOTES

1. FIELD VERIFY ALL EXISTING CONDITIONS - ARCHITECTURAL, STRUCTURAL, ELECTRICAL, MECHANICAL, PLUMBING, ETC. PRIOR TO START OF WORK. IF THERE ARE ANY DISCREPANCIES NOTIFY GENERAL CONTRACTOR IMMEDIATELY.
2. G.C. TO COORDINATE ALL CONNECTION POINTS TO AND FROM ALL UST SYSTEM COMPONENTS.

KEYNOTES

- 1 FUEL OIL SUPPLY BELOW FINISHED GRADE.
- 2 FUEL OIL VENT BELOW FINISHED GRADE.
- 3 FUEL OIL VENT PIPE POINT OF CONNECTION TO BELOW GRADE TRANSITION SUMP (TYP.).
- 4 EXISTING FUEL FOCUS ASSET MANAGEMENT CONSOLE TO BE STORED DURING CONSTRUCTION AND RECONNECTED.
- 5 BELOW GRADE TURBINE PUMP IN UST SUMP HOUSING.
- 6 PRODUCT FILL PORT AND MULTI-PORT SPILL CONTAINMENT.
- 7 CONNECT FUEL OIL PIPING TO THE UNDER-DISPENSER CONTAINMENT (UDC) AT BOTTOM OF EACH DISPENSER. FINAL CONNECTION BETWEEN DISPENSERS AND UDC SUMP BY G.C.
- 8 REMOVE EXISTING FUEL OIL VENT PIPE BELOW GRADE, INSIDE BUILDING AND UP THROUGH ROOF OF EXISTING WASH BUILDING, TERMINATE AT MIN 12'-0" ABOVE FINISHED GRADE AND 5'-0" AWAY FROM BUILDING OPENINGS AND ADJACENT LOT LINES. PATCH WALL AND ROOF TO MATCH EXISTING.
- 9 PROVIDE TRANSITION BOX BELOW GRADE FOR DOUBLE WALL FUEL OIL VENT PIPE TRANSITION TO SINGLE WALL PIPE ABOVE GRADE. ROUTE PIPE UP ON EXTERIOR WALL OF BUILDING AND TERMINATE ABOVE PARAPET WALL.



1 SITE PLAN - PLUMBING
SCALE: 1"=10'-0"



"AS BUILT"

P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____

SHEET 22 CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT SHEETS 36

UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT
SITE PLAN - PLUMBING

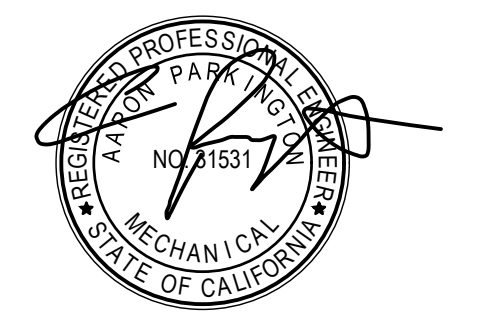
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PUBLIC WORKS MANAGER RCE 61909 EXP. 9/30/25 DATE

DWN BY: JA/RG PROJECT NO. CIP4747 DRAWING NO. 811-5
CHKD BY: RR/RG
RVWD BY: RR/RG

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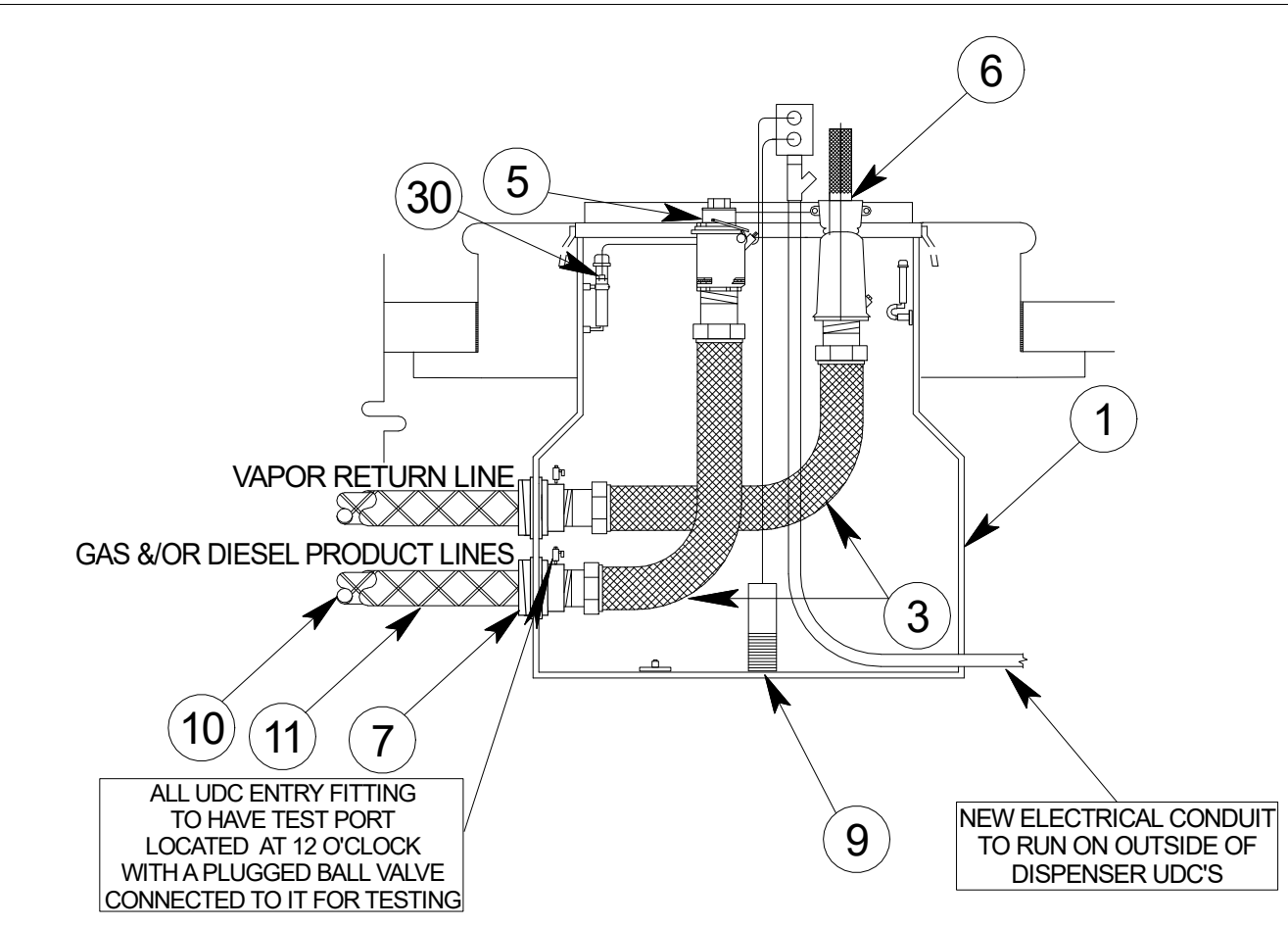
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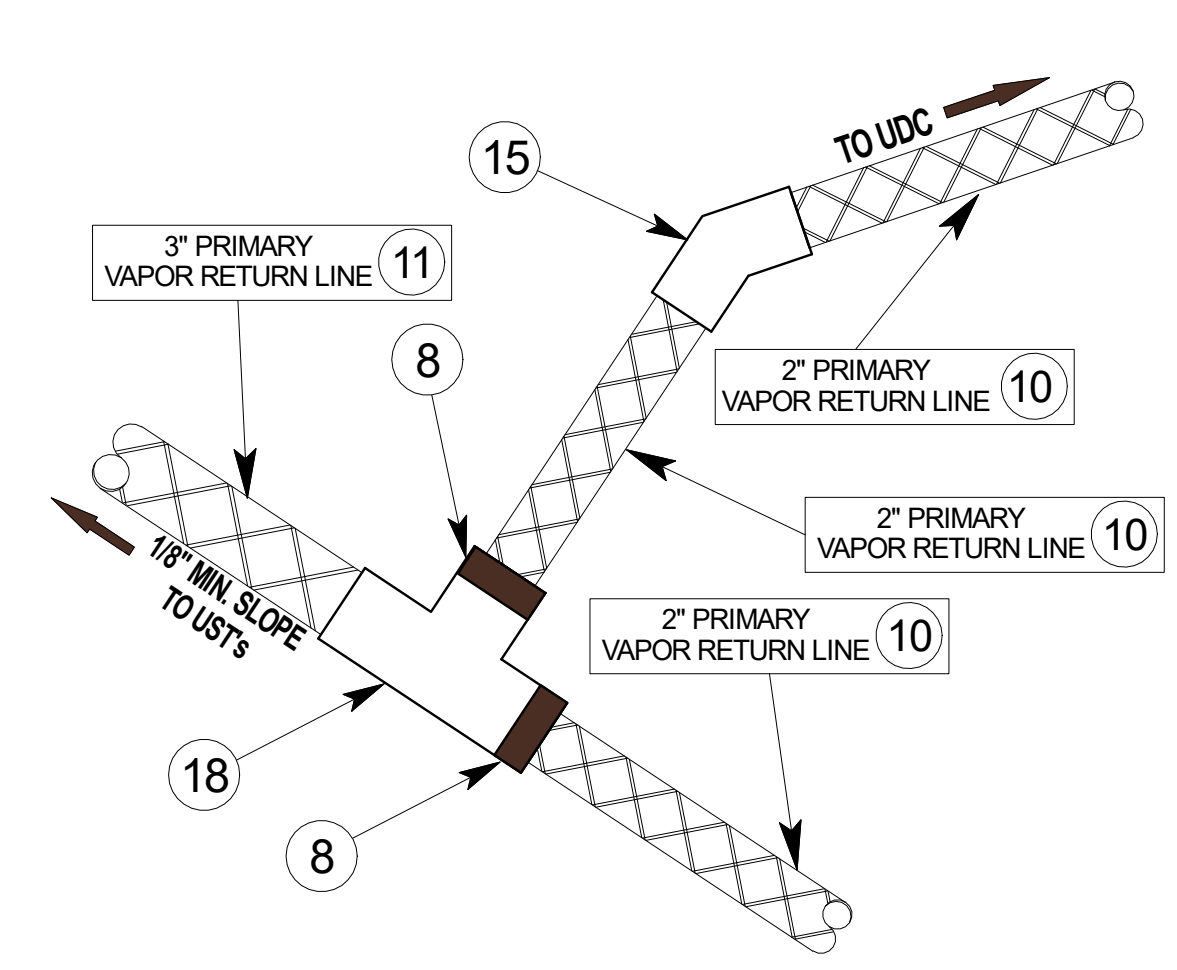
DIAL 811 BEFORE YOU DIG
TOLL FREE 1-800-422-4133
A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

NO.	EQUIPMENT DESCRIPTION	MANUFACTURER	PART NUMBER
1	DISPENSER CONTAINMENT BOX (UDC)	BRAVO	B1670-D30
2	SHEAR VALVE STABILIZER BARS	BRAVO	BRKT-B2
3	1 1/2" X 24" FLEX CONNECTOR	FLEXING	FF15X24HMXEZFG9
4	2" X 1 -1/2" NPT FIBERGLASS REDUCER BUSHING	SMITH FIBERCAST	012020-231-4
5	GAS & DIESEL PRODUCT SHEAR VALVE	OPW	OPW-10BHMP-5830
6	VAPOR SHEAR VALVE	OPW	OP60-VSP-100
7	3" X 2" SUMP ENTRY FITTING	SMITH FIBERCAST	012030-626-0
8	3" X 2" FIBERGLASS REDUCER BUSHING	SMITH FIBERCAST	012030-231-7
9	SUMP SENSOR (NON DISCRIMINATING)	VEEDER-ROOT	VR-794380-208
10	2" FIBERGLASS PIPE	SMITH FIBERCAST	011020-069-2
11	3" FIBERGLASS PIPE	SMITH FIBERCAST	011030-069-2
12	4" FIBERGLASS PIPE	SMITH FIBERCAST	011040-069-2
13	2" 90 DEGREE FIBERGLASS PRIMARY ELBOW	SMITH FIBERCAST	012020-360-4
14	NOT USED		
15	2" 45 DEGREE FIBERGLASS PRIMARY ELBOW	SMITHFIBERCAST	012020-310-4
16	NOT USED		
17	2" FIBERGLASS PRIMARY TEE	SMITHFIBERCAST	012020-410-4
18	3" FIBERGLASS PRIMARY TEE	SMITHFIBERCAST	011030-410-4
19	NOT USED		
20	NOT USED		
21	3" 90 DEGREE SECONDARY FIBERGLASS ELBOW (2 PIECES)	SMITHFIBERCAST	012030-360-3
22	NOT USED		
23	3" 45 DEGREE SECONDARY FIBERGLASS ELBOW (2 PIECES)	SMITHFIBERCAST	012030-310-3
24	NOT USED		
25	3" SECONDARY FIBERGLASS TEE (2 PIECE)	SMITHFIBERCAST	012030-410-3
26	4" SECONDARY FIBERGLASS TEE (2 PIECE)	SMITHFIBERCAST	012040-410-3
27	NOT USED		
28	NOT USED		
29	4" X 3" FIBERGLASS CONCENTRIC REDUCER (2 PIECES)	SMITHFIBERCAST	012040-238-3
30	MINI HYDROSTATIC SENSOR	VEEDER-ROOT	VR-794380-304

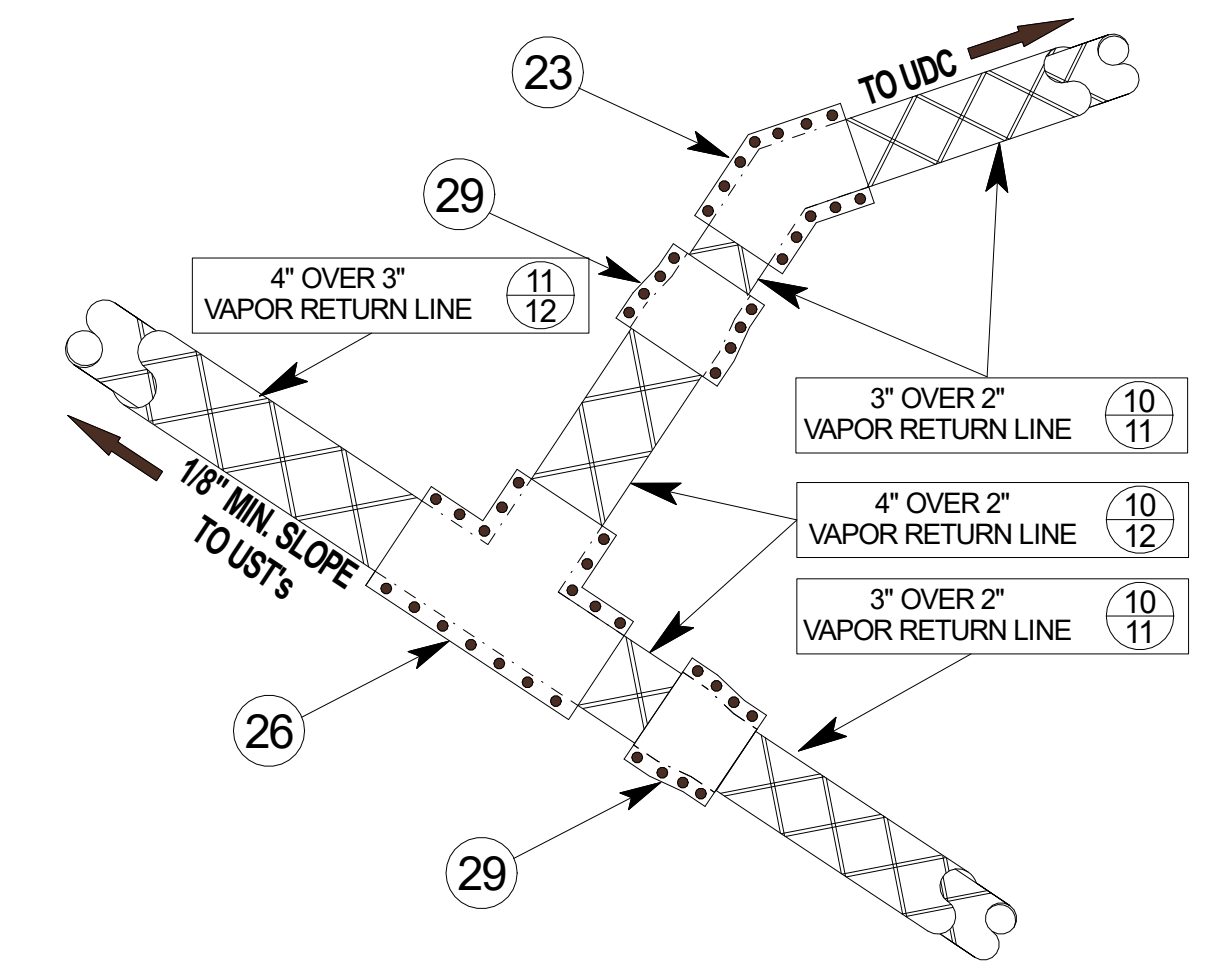
DOUBLE WALL SUMP DETAILS (SIDE VIEW)



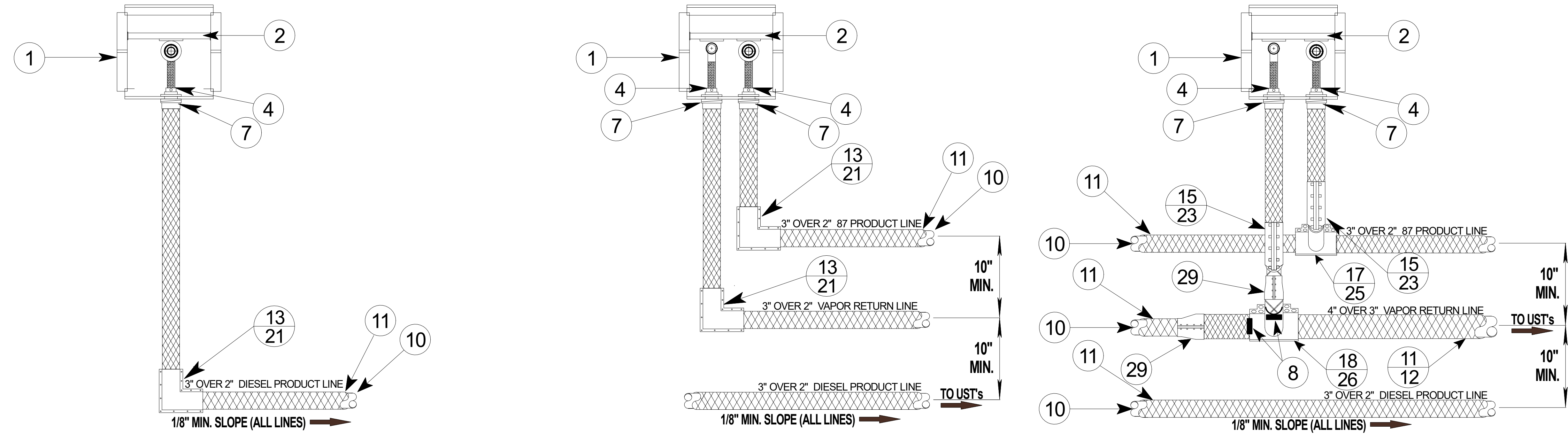
**VAPOR RETURN LINE SIZE INCREASE
PRIMARY FITTINGS DETAIL**



**VAPOR RETURN LINE SIZE INCREASE
SECONDARY CLAMSHELL DETAIL**



DOUBLE WALL UDC SUMP DETAILS (TOP VIEW)



"AS BUILT"

P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____

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DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

SHEET 20 CITY OF CARLSBAD SHEETS 33
 PUBLIC WORKS DEPARTMENT

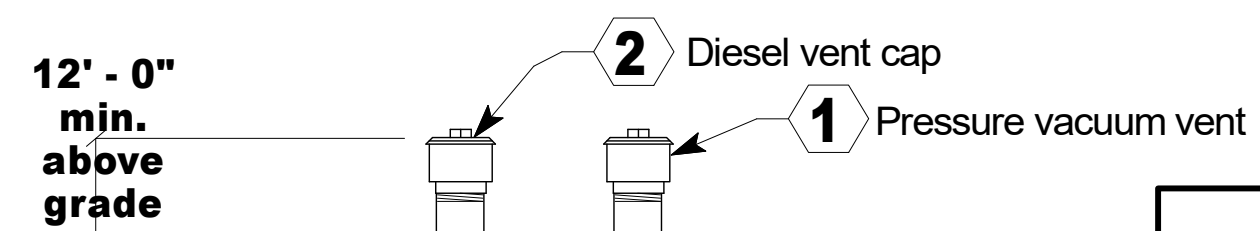
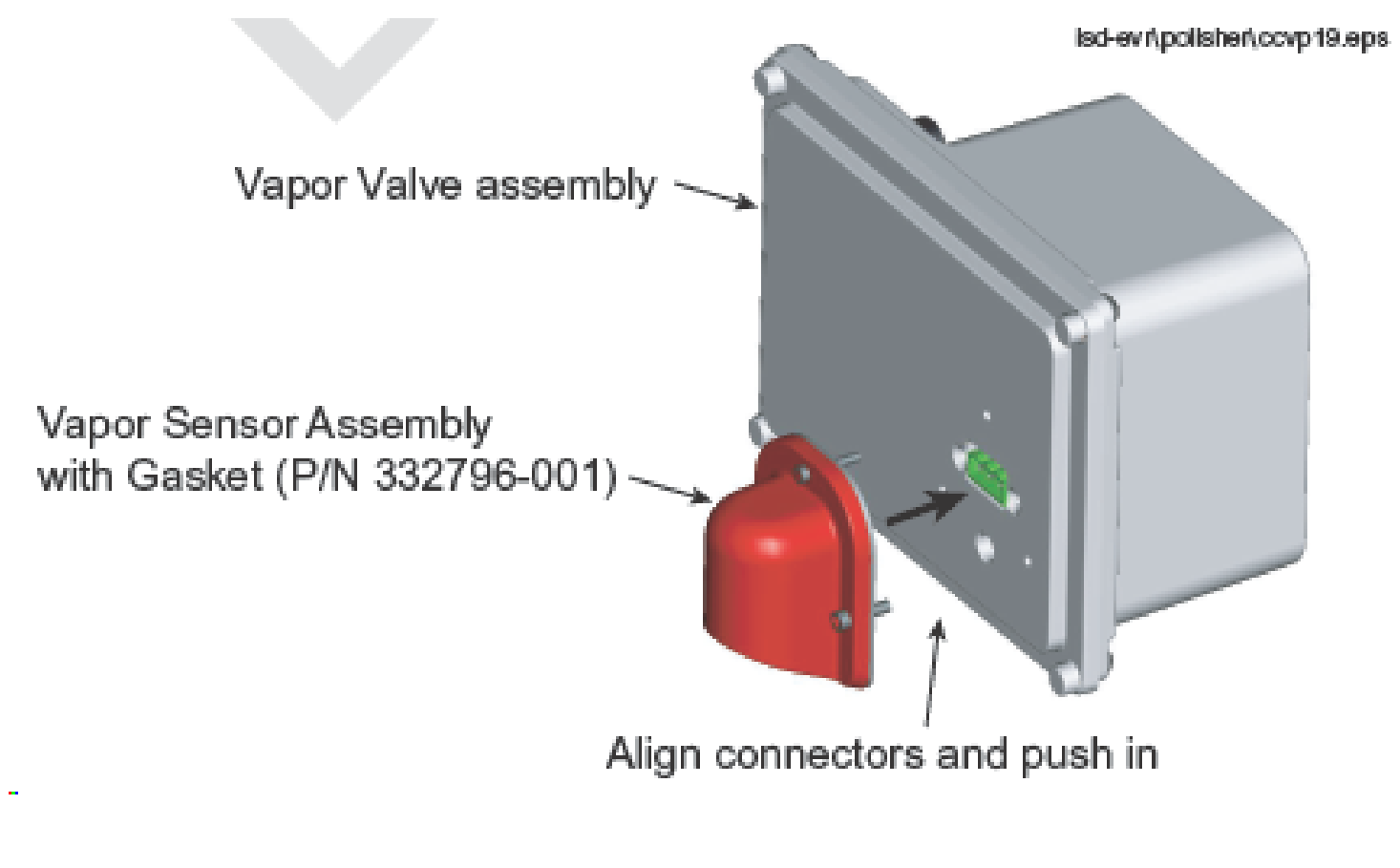
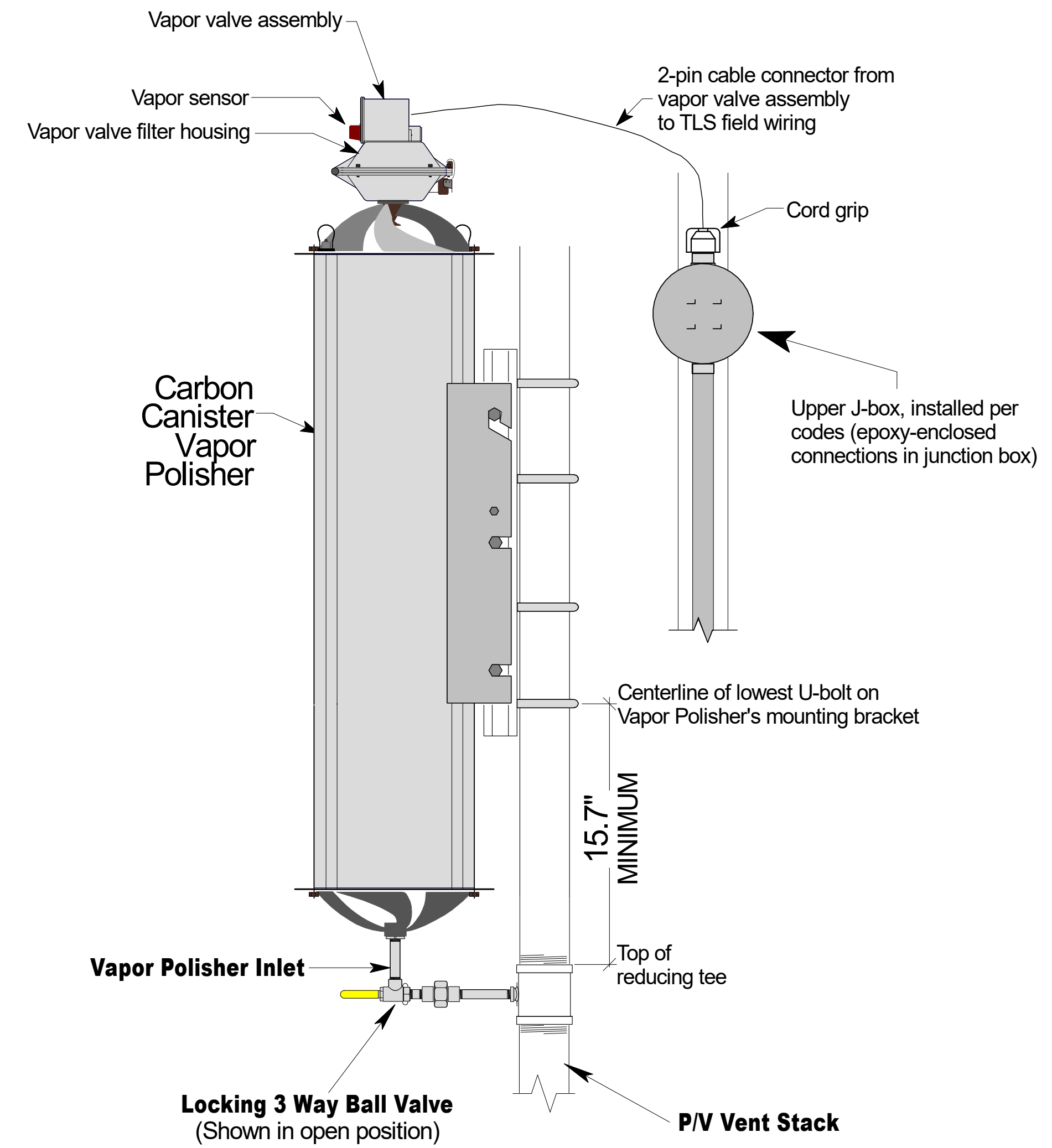
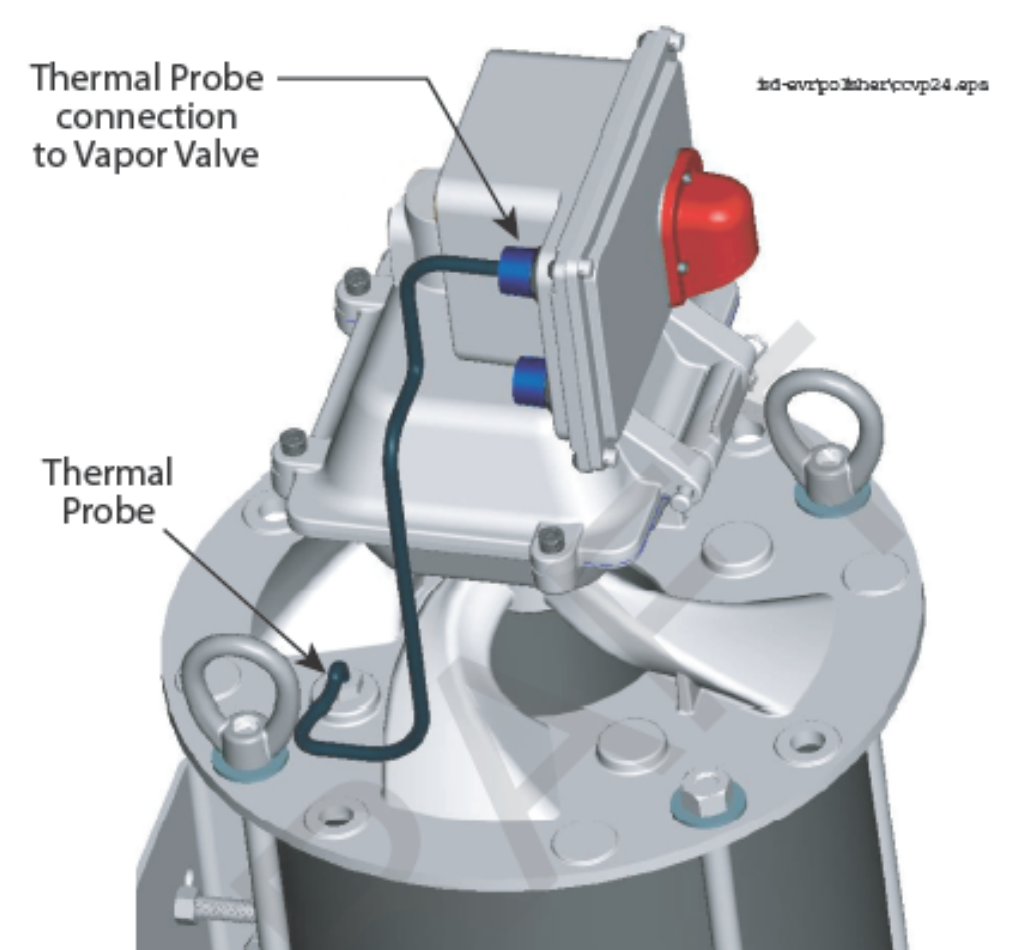
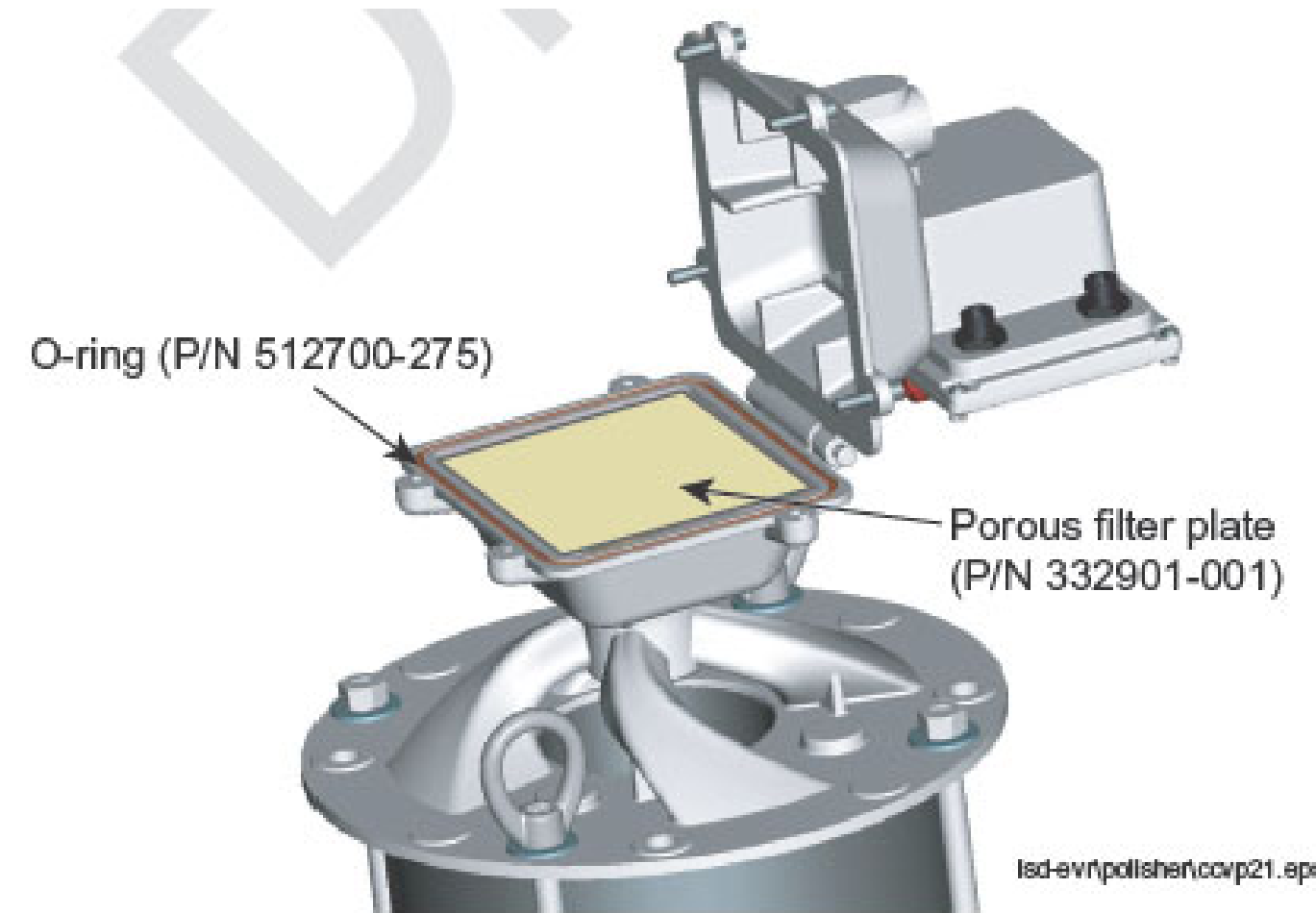
**UNDERGROUND STORAGE TANK REMOVAL
 AND REPLACEMENT
 PIPING & UDC DETAILS**

APPROVED: John Mosshoff 05/30/2024
 PUBLIC WORKS MANAGER RCE 61909 EXP. 9/30/25

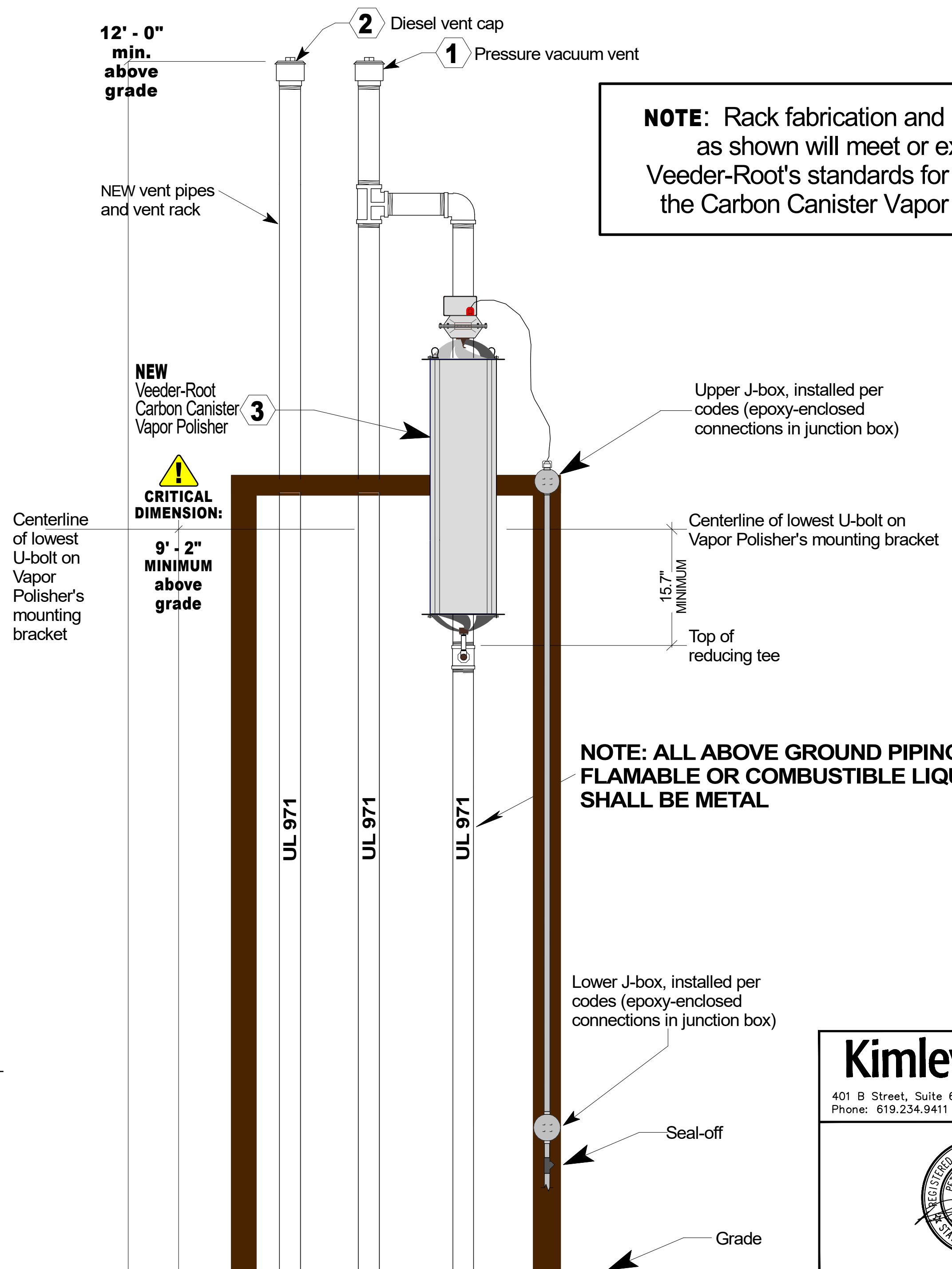
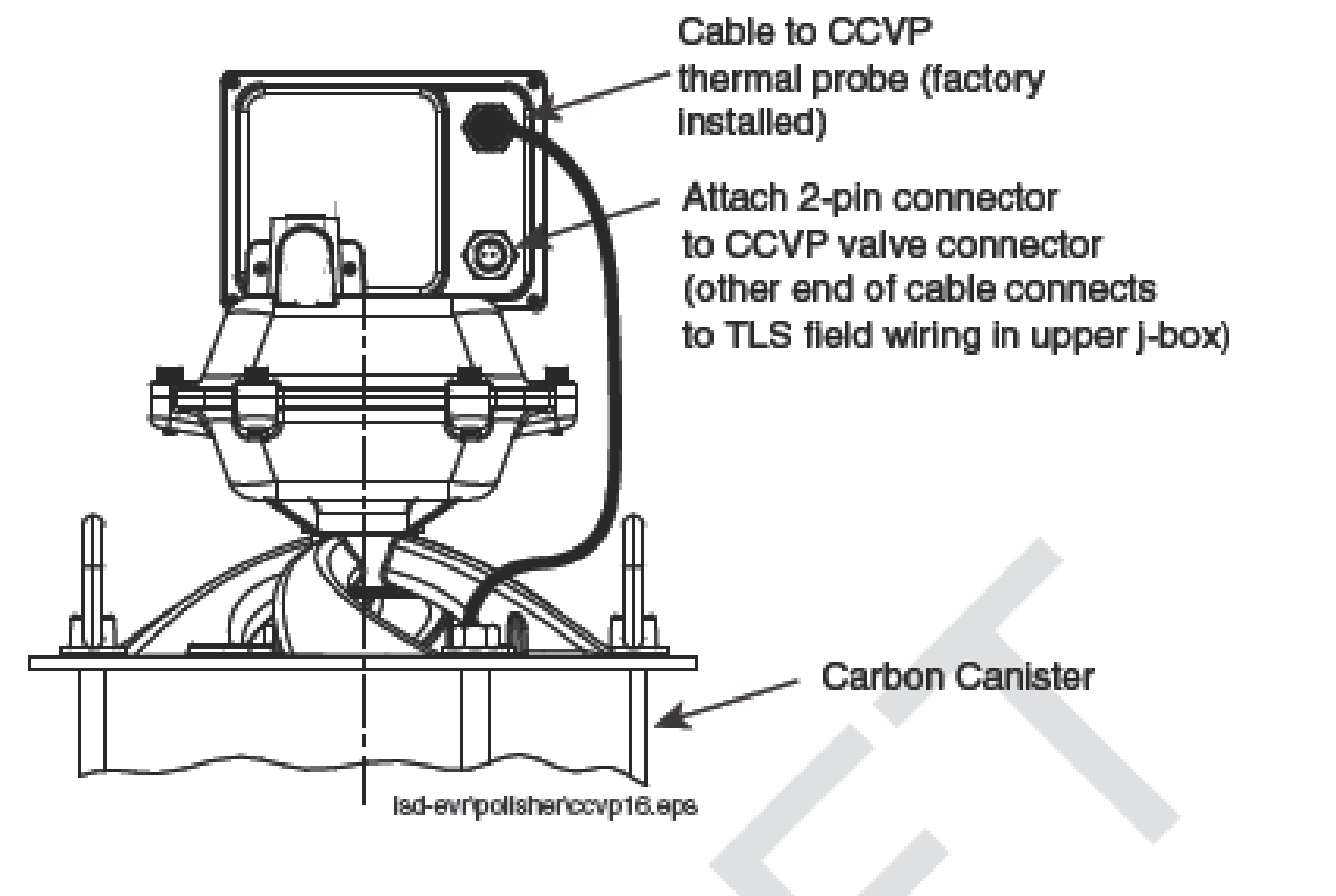
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 RVWD BY: PR

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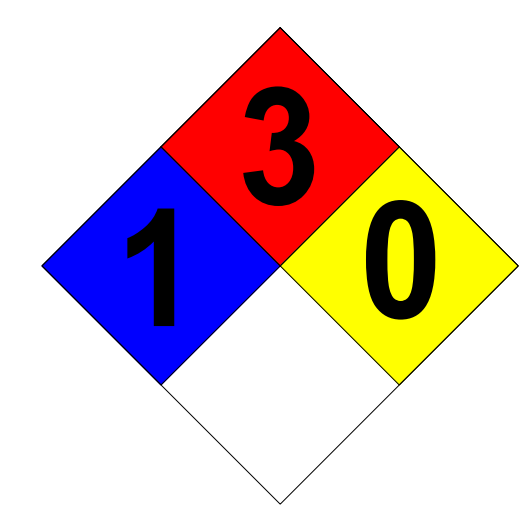




NOTE: Rack fabrication and installation as shown will meet or exceed Veeder-Root's standards for support of the Carbon Canister Vapor Polisher.



NOTE: Canister/enclosure must be labelled **NO SMOKING WITHIN 25 FEET**



NO.	EQUIPMENT DESCRIPTION	MANUFACTURER	PART NUMBER
1	Pressure Vacuum Vent	OPW	723V-2203
2	Diesel Vent Cap	OPW	23-0033
3	Carbon Canister	Veeder-Root	332761-002

"AS BUILT"

P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____

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 Phone: 619.234.9411 | www.kimley-horn.com



DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

SHEET 21 CITY OF CARLSBAD SHEETS 33
 PUBLIC WORKS DEPARTMENT

**UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT
 CARBON CANISTER DETAILS**

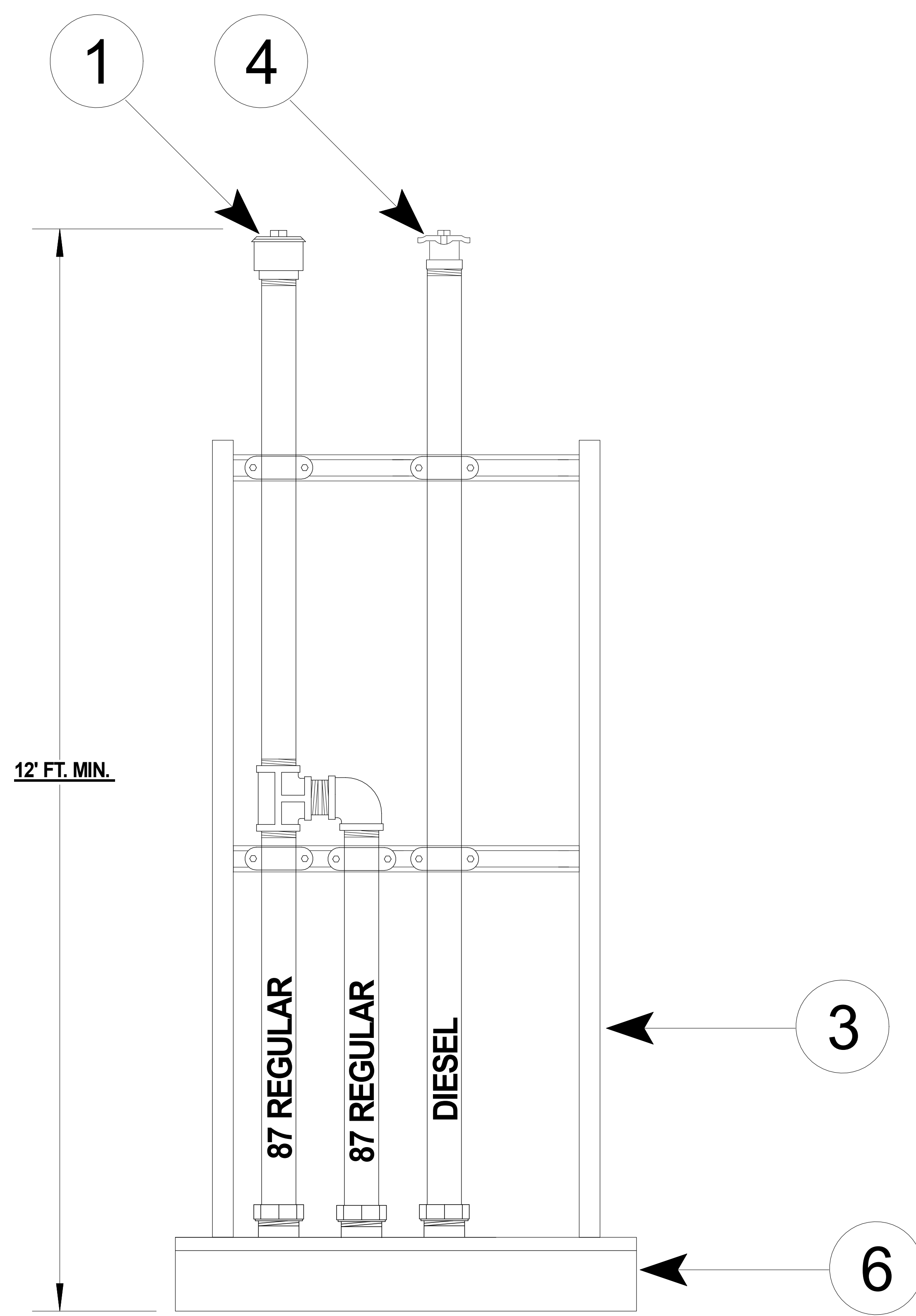
APPROVED: John Maschoff 05/30/2024
 PUBLIC WORKS MANAGER RCE 61909 EXP. 9/30/25 DATE

DWN BY: SM PROJECT NO. CIP4747 DRAWING NO. 811-5
 CHKD BY: PR
 RVWD BY: PR



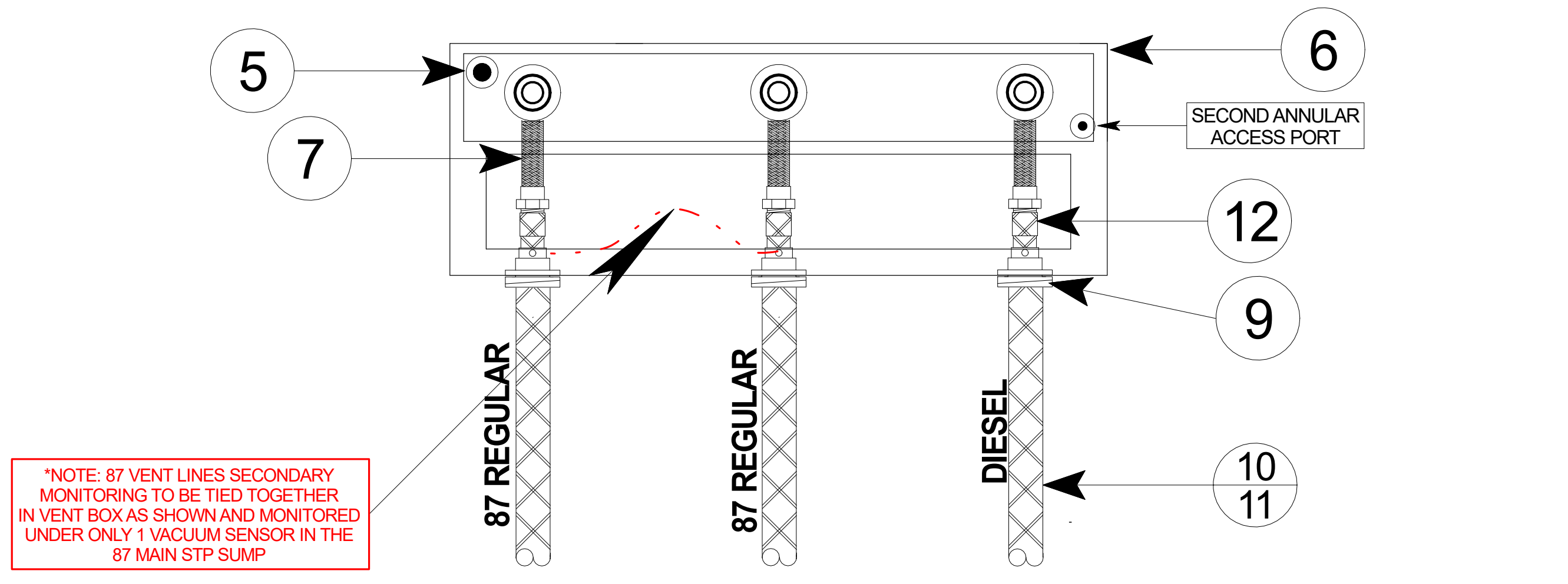
Plotted By: Warsi, Sanom Sheet Set: KHA Layout: 1 HC April 03, 2023 11:36:55am \\smdp01\co_and\NSND_LDEV\095272401 - carlsbad ust replacement\Design\plansheets - onsite GAS PUMP DETAIL.dwg

VENT RACK DETAIL

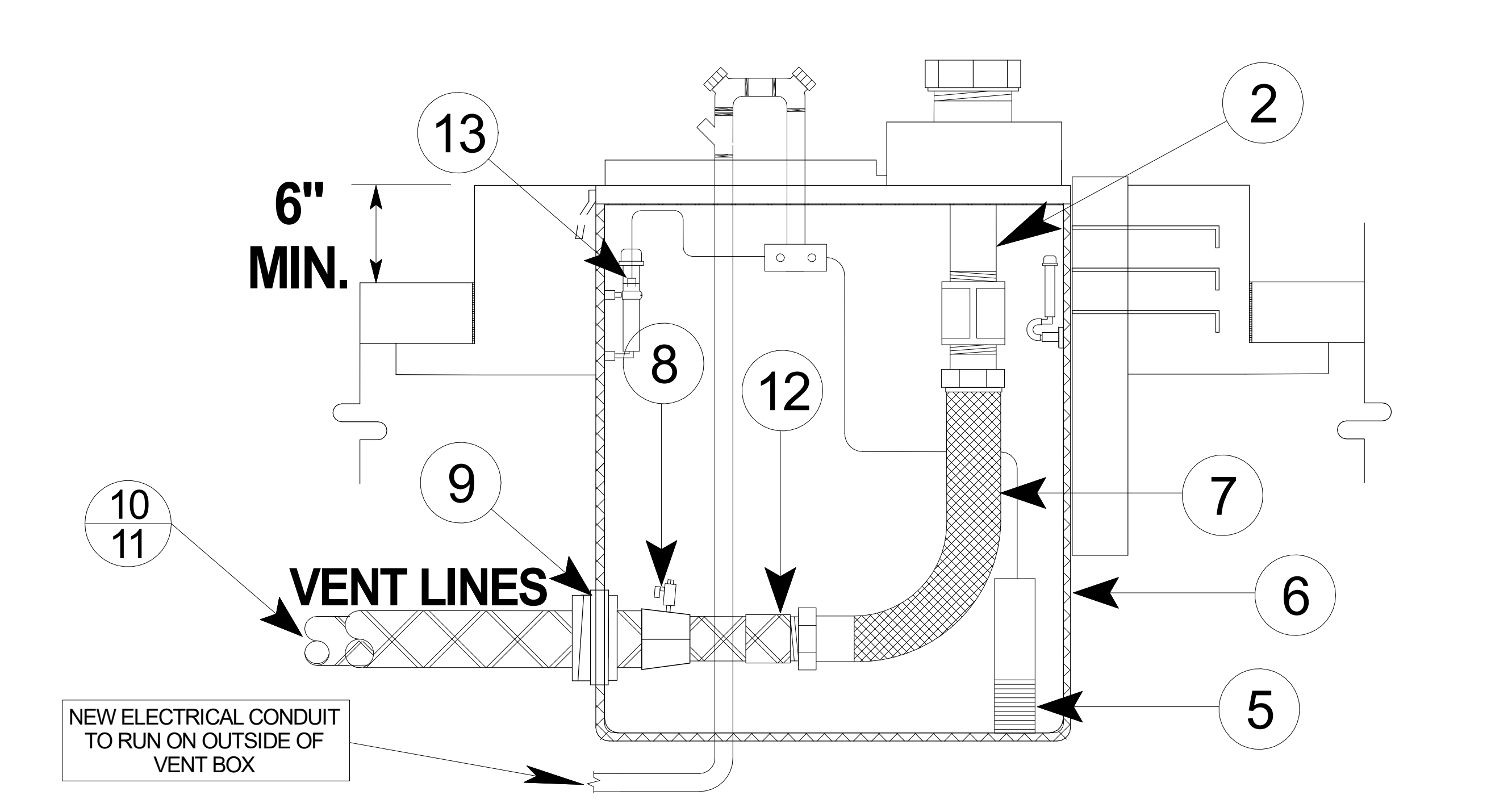


NO.	EQUIPMENT DESCRIPTION	MANUFACTURER	PART NUMBER
①	PRESSURE VACUUM VENT VALVE	OPW	723V-2203
②	2" GALVANIZED PIPE, NIPPLES & FITTINGS	STEEL	ASTM-A53
③	VENT RACK	BRAVO	RS-500-JP-4S-CT
④	DIESEL VENT CAP	OPW	23-0033
⑤	SUMP SENSOR (NON DISCRIMINATING)	VEEDER ROOT	794380-208
⑥	VENT RISER CONTAINMENT SUMP	BRAVO	B500-F4S-DW-AB
⑦	2" X 24" FLEX CONNECTOR	FLEXING	FFEZ20X24
⑧	3" X 2" RETROFIT-S FIBERGLASS TEST BOOT	BRAVO	FR-3X2-T
⑨	FF SERIES 3" PENETRATION FITTING	BRAVO	F-30-F
⑩	2" FIBERGLASS PIPE	SMITHFIBERCAST	011020-069-2
⑪	3" FIBERGLASS PIPE	SMITHFIBERCAST	011030-069-2
⑫	2" FIBERGLASS BELL X FEMALE NPT	SMITHFIBERCAST	012020-194-4
⑬	MINI HYDROSTATIC SENSOR	VEEDER ROOT	794390-304
①			

VENT BOX DETAIL (TOP VIEW)



VENT BOX DETAIL (SIDE VIEW)



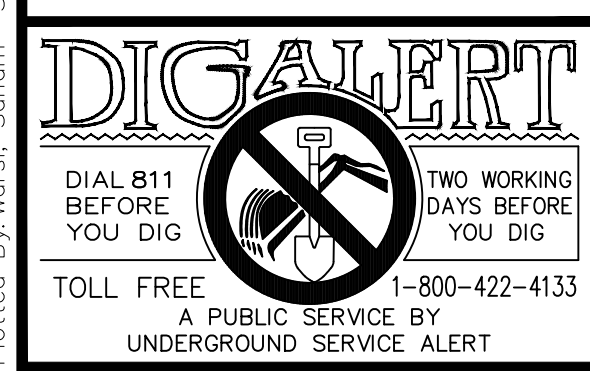
"AS BUILT"

P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____

Plotted By: Warsi, Sanom Sheet Set: Kha Layout: 1 HC April 03, 2023 11:36:55am \\smdp01\co_smd\NSND_DEV\095272401 - corisabad ust replacement\Design\plansheets - onsite GAS PUMP DETAIL.dwg



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SHEET 22 CITY OF CARLSBAD SHEETS 33
 PUBLIC WORKS DEPARTMENT

UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT VENT BOX DETAIL

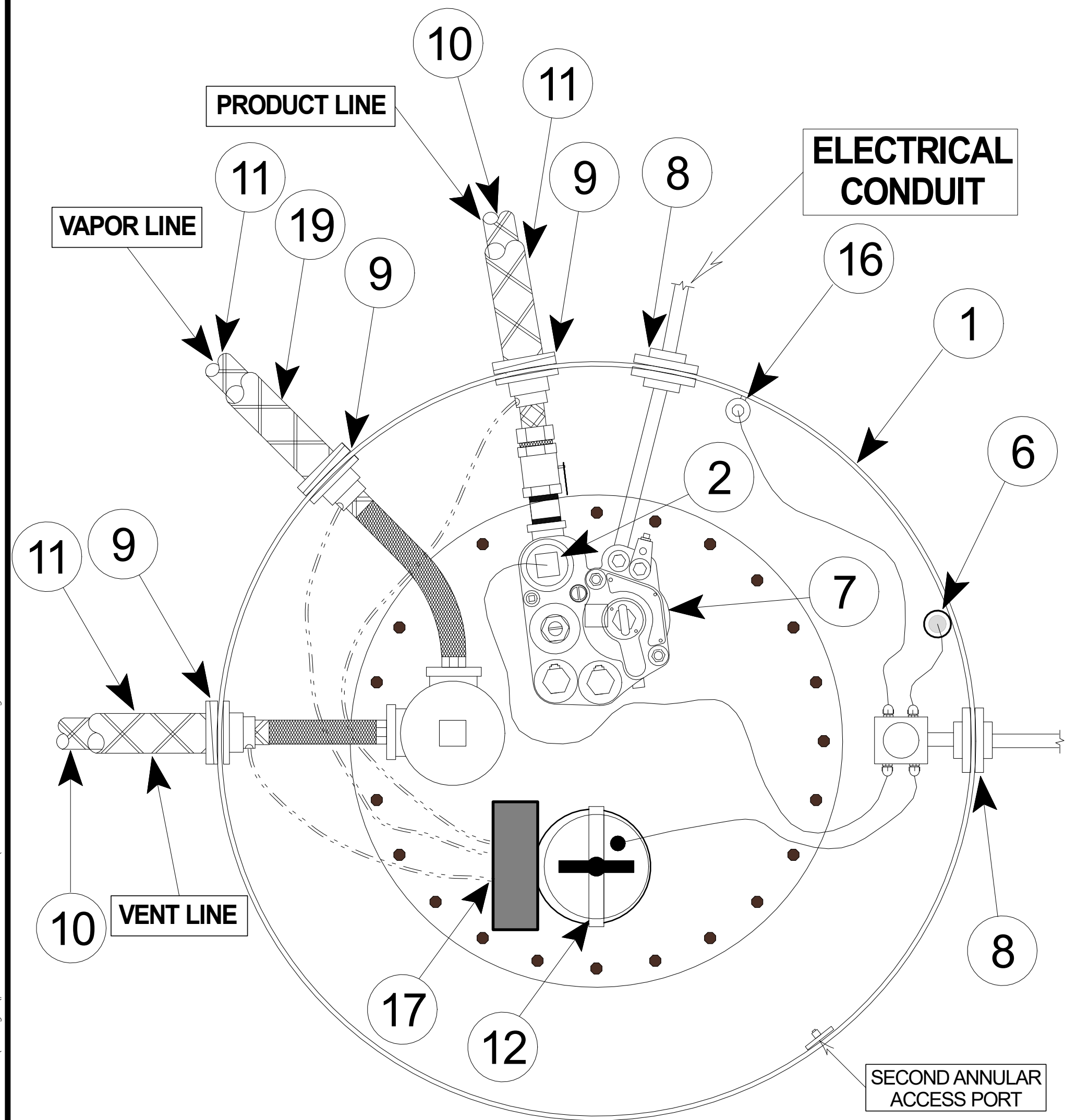
APPROVED: John Maschoff 05/30/2024
 PUBLIC WORKS MANAGER RCE 61909 EXP. 9/30/25 DATE

DWN BY: SM PROJECT NO. CIP4747 DRAWING NO. 811-5
 CHKD BY: PR
 RVWD BY: PR

ISSUED FOR CONSTRUCTION

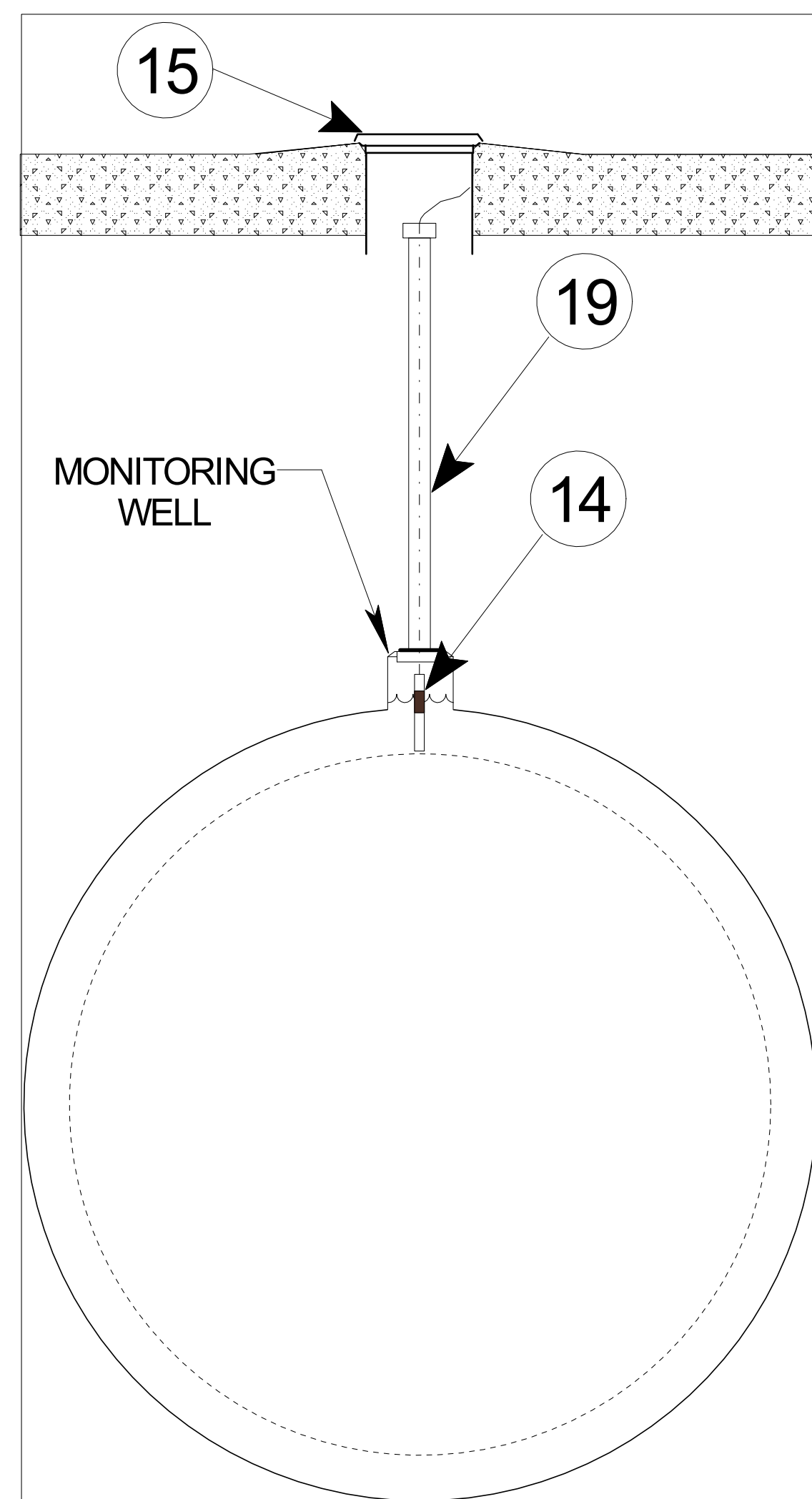
87 REGULAR TURBINE SUMP TOP VIEW

Sump and Penetration Fitting Details



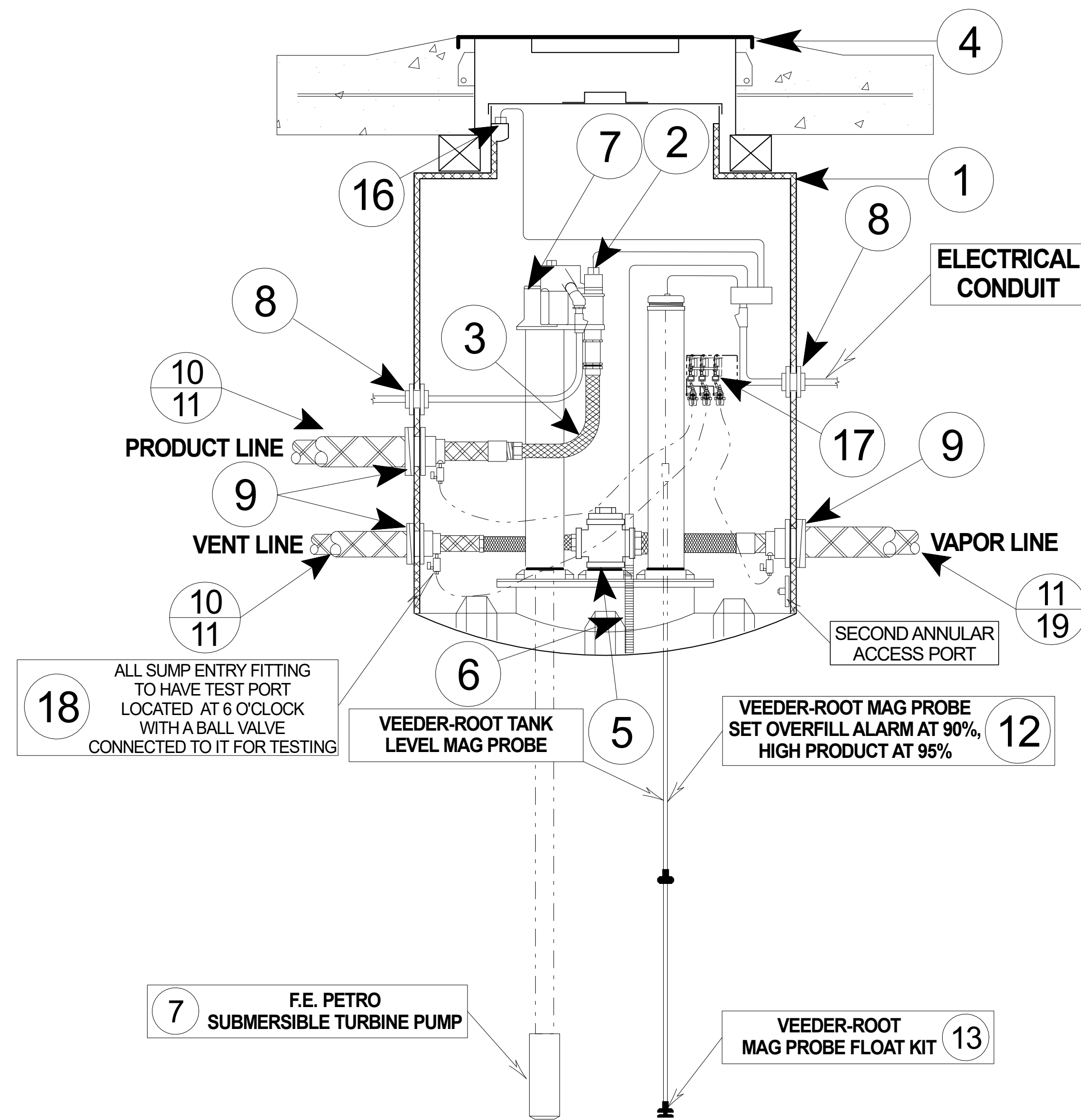
87 & DSL ANNULAR SIDE VIEW

Sump and Penetration Fitting Details



87 REGULAR TURBINE SUMP SIDE VIEW

Sump and Penetration Fitting Details



NO.	EQUIPMENT DESCRIPTION	MANUFACTURER	PART NUMBER	NO.	EQUIPMENT DESCRIPTION	MANUFACTURER	PART NUMBER
1	48" DOUBLE WALL TURBINE SUMP	XERXES	48" DW CONTAINMENT SUMP	16	MINI HYDROSTATIC SENSOR	VEEDER-ROOT	VR-794380-304
2	ELECTRONIC LINE LEAK DETECTOR	VEEDER-ROOT	848480-001	17	VACUUM SENSOR KIT	VEEDER-ROOT	VR-330020-485
3	1 1/2" X 24" FLEX CONNECTOR	FLEXING	FF15X24HMZEFG9	18	1/4" STAINLESS STEEL BALL VALVE	JOMAR	100-501
4	42" Dia. WATERTIGHT FLAT SEALED COVER	FIBRELITE	FL100GRAY-SK12	19	4" FIBERGLASS PIPE	SMITH FIBERCAST	011040-069-2
5	EXTRACTOR VALVE	OPW	233-4432				
6	SUMP SENSOR (NON DISCRIMINATING)	VEEDER-ROOT	VR-794390-208				
7	SUBMERSIBLE TURBINE PUMP	F. E. PETRO	STP200-VL2				
8	ELEC. CONDUIT PENETRATION FITTING FOR 3/4"	BRAVO	F-17-RR-D				
9	3" X 2" FIBERGLASS SUMP PENETRATION FITTING	SMITH FIBERCAST	012030-626-0				
10	2" FIBERGLASS PIPE	SMITH FIBERCAST	011020-069-2				
11	3" FIBERGLASS PIPE	SMITH FIBERCAST	011030-069-2				
12	TANK LEVEL MAGNETOSTRICTIVE PROBE	VEEDER-ROOT	846390-109				
13	TANK LEVEL FLOAT KIT	VEEDER-ROOT	846400-001				
14	INTERSTITIAL LIQUID SENSOR	VEEDER-ROOT	VR-794390-303				
15	18" MANHOLE	OPW	104A-1800WT				

"AS BUILT"

P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____

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DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

SHEET 23 CITY OF CARLSBAD SHEETS 33
 PUBLIC WORKS DEPARTMENT

UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT
 87 REGULAR STP DETAIL

APPROVED: John Maschoff 05/30/2024
 PUBLIC WORKS MANAGER RCE 61909 EXP. 9/30/25 DATE

DWN BY: SM PROJECT NO. CIP4747 DRAWING NO. 811-5
 CHKD BY: PR
 RVWD BY: PR

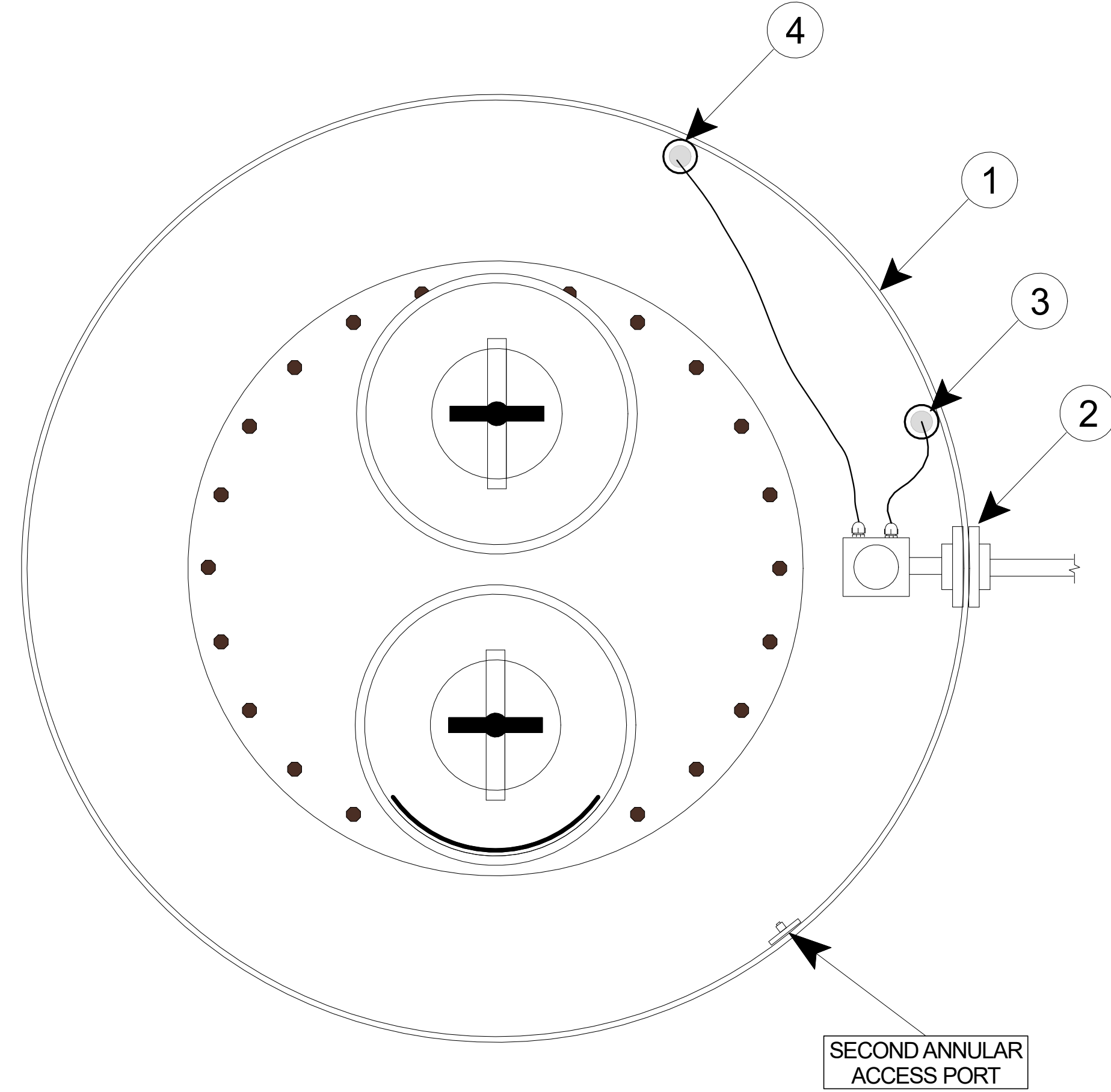
Plotted By: Warsi, Senom Sheet Set: Kha Layout: 1 HC April 03, 2023 11:36:55am
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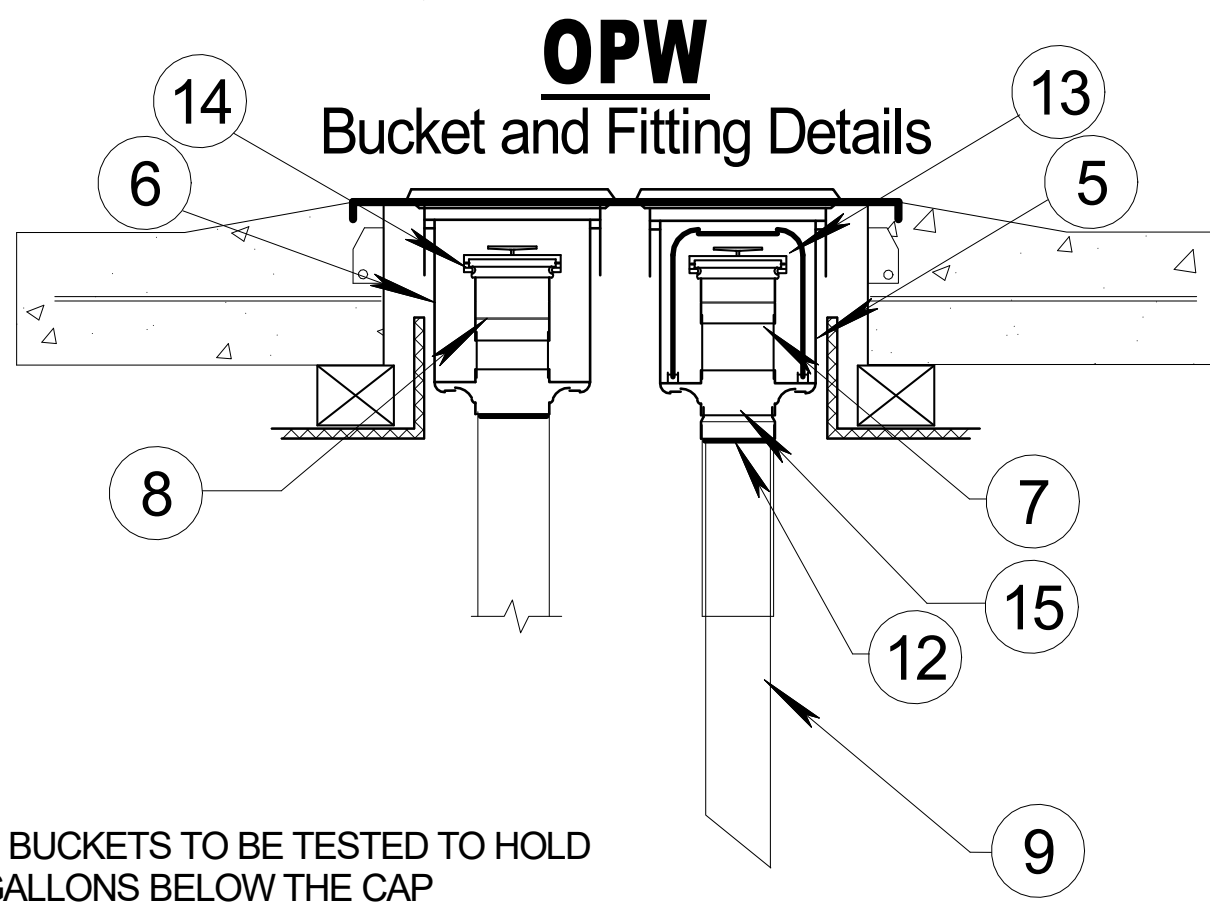
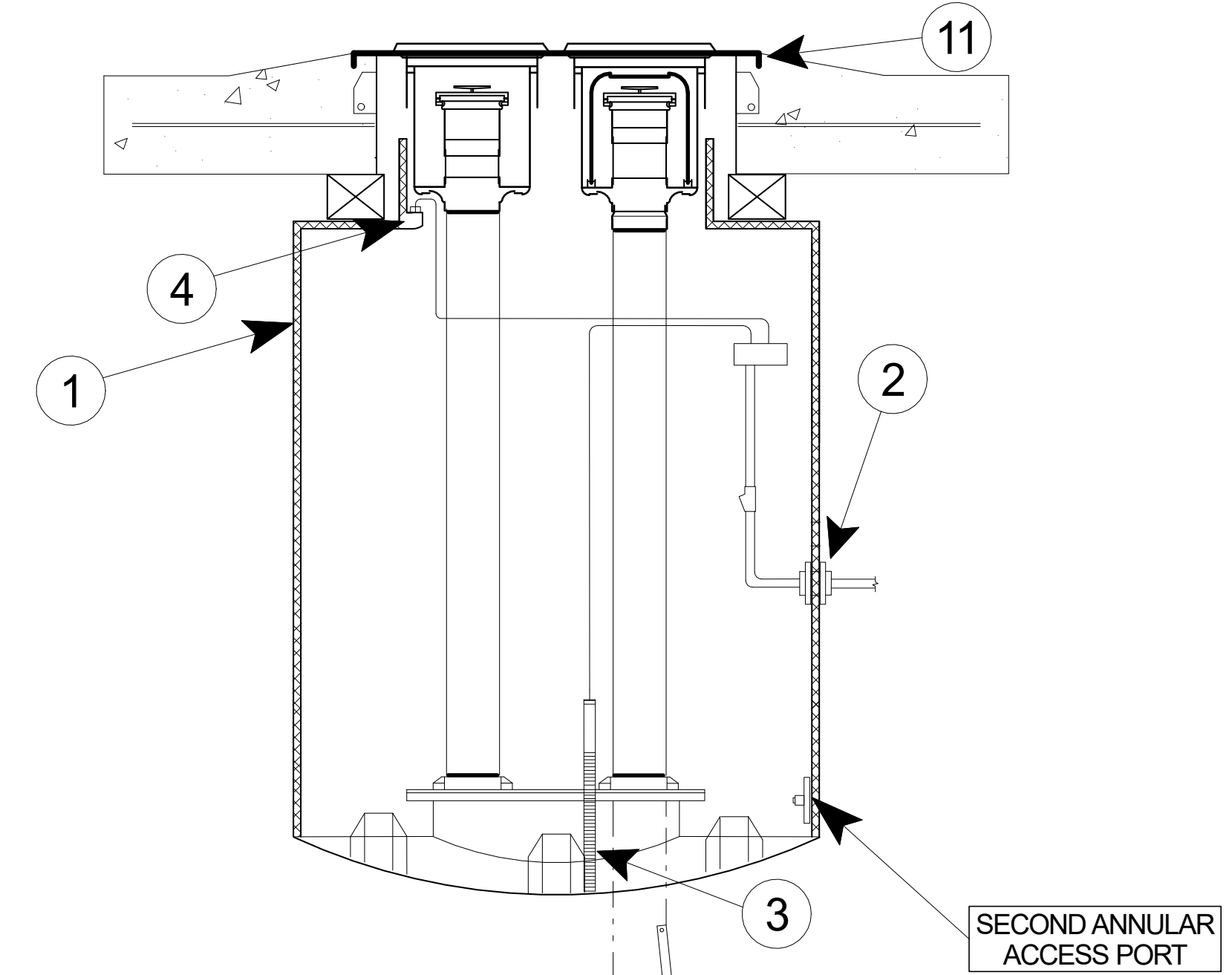
87 REGULAR FILL SUMP PLAN VIEW

Sump and Penetration Fitting Details



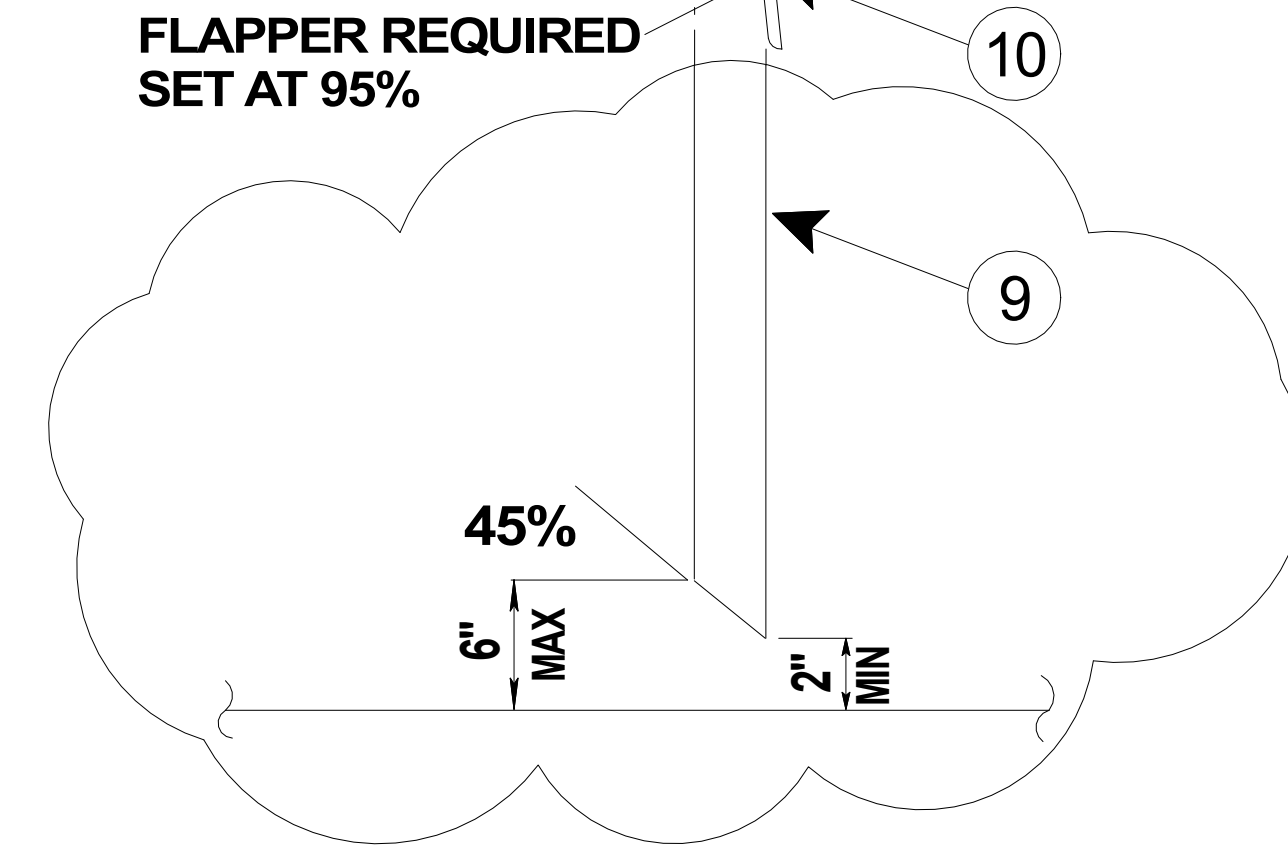
87 REGULAR FILL SUMP SIDE VIEW

Sump and Penetration Fitting Details



NOTE: SPILL BUCKETS TO BE TESTED TO HOLD 5 GALLONS BELOW THE CAP

FLAPPER REQUIRED SET AT 95%



NO.	EQUIPMENT DESCRIPTION	MANUFACTURER	PART NUMBER
1	42" DOUBLE WALL FILL SUMP	XERXES	42" DW CONTAINMENT SUMP
2	ELEC. CONDUIT PENETRATION FITTING FOR 3/4"	BRAVO	F-17-RR-D
3	SUMP SENSOR (NON DISCRIMINATING)	VEEDER-ROOT	VR-794390-208
4	MINI HYDROSTATIC SENSOR	VEEDER-ROOT	VR-794380-304
5	5 GALLON PRODUCT CONTAINMENT BUCKET	OPW	P761C-FLDV
6	5 GALLON VAPOR CONTAINMENT BUCKET	OPW	P761C-FLPL
7	PRODUCT SWIVEL ADAPTOR	OPW	61SALP-1020-EVR
8	VAPOR SWIVEL ADAPTOR	OPW	61VSA-1020-EVR
9	DROP TUBE	OPW	61T-SS
10	DROP TUBE FLAPPER	OPW	71SO
11	42" Dia. WATERTIGHT FLAT SEALED MULTI PORT COVER	OPW	PK2-42RTMP
12	FACE SEAL ADAPTOR	OPW	FSA-400-S
13	PRODUCT DUST CAP	OPW	634TT-EVR
14	VAPOR DUST CAP	OPW	1711T-EVR
15	JACK SCREW KIT	OPW	61JSK-4410

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SHEET 24 CITY OF CARLSBAD SHEETS 33
 PUBLIC WORKS DEPARTMENT

UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT
 87 REGULAR FILL SUMP DETAIL

APPROVED: John Maschoff 05/30/2024
 PUBLIC WORKS MANAGER RCE 61909 EXP.9/30/25 DATE

DWN BY: SM PROJECT NO. CIP4747 DRAWING NO. 811-5
 CHKD BY: PR
 RVWD BY: PR

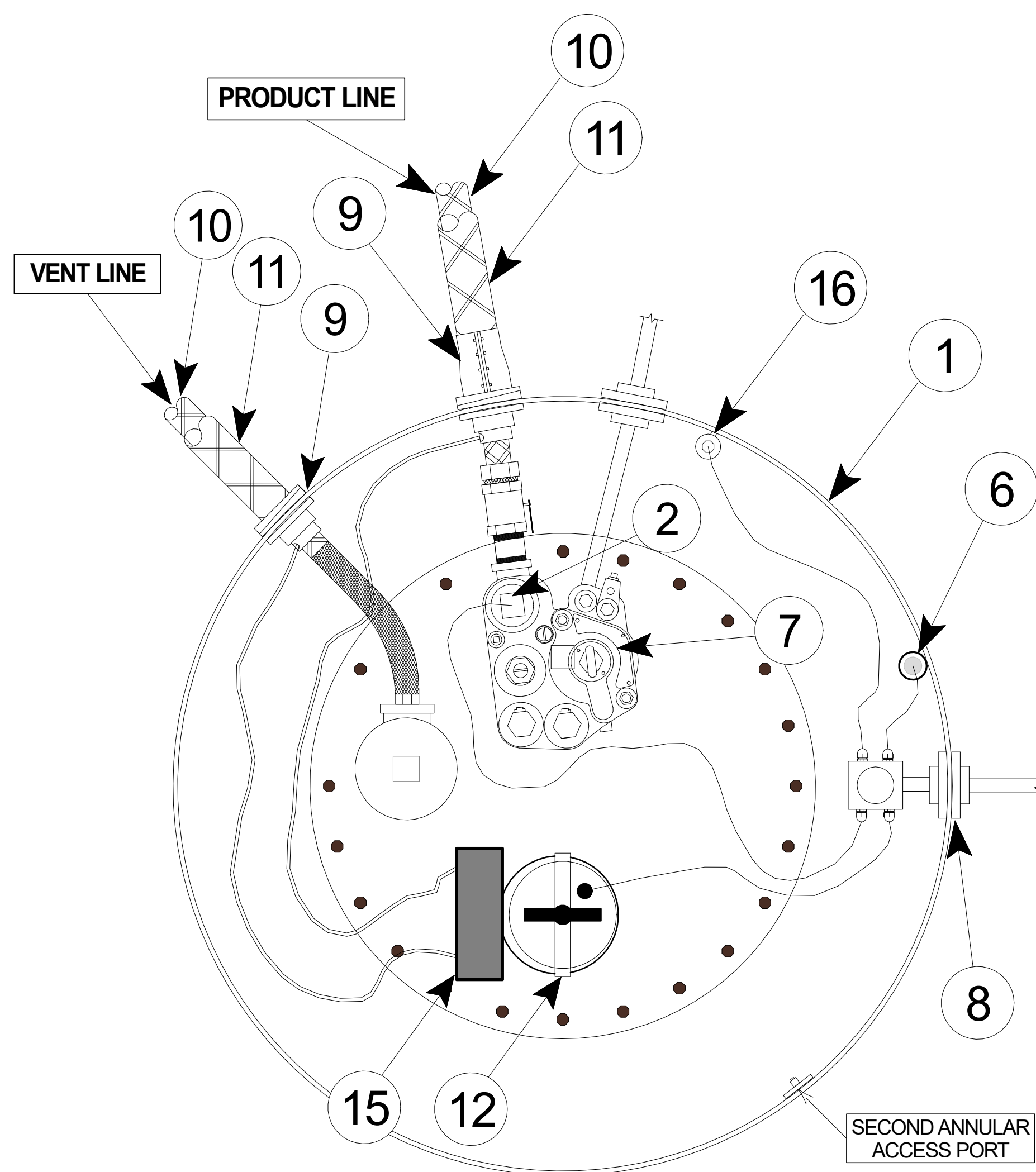
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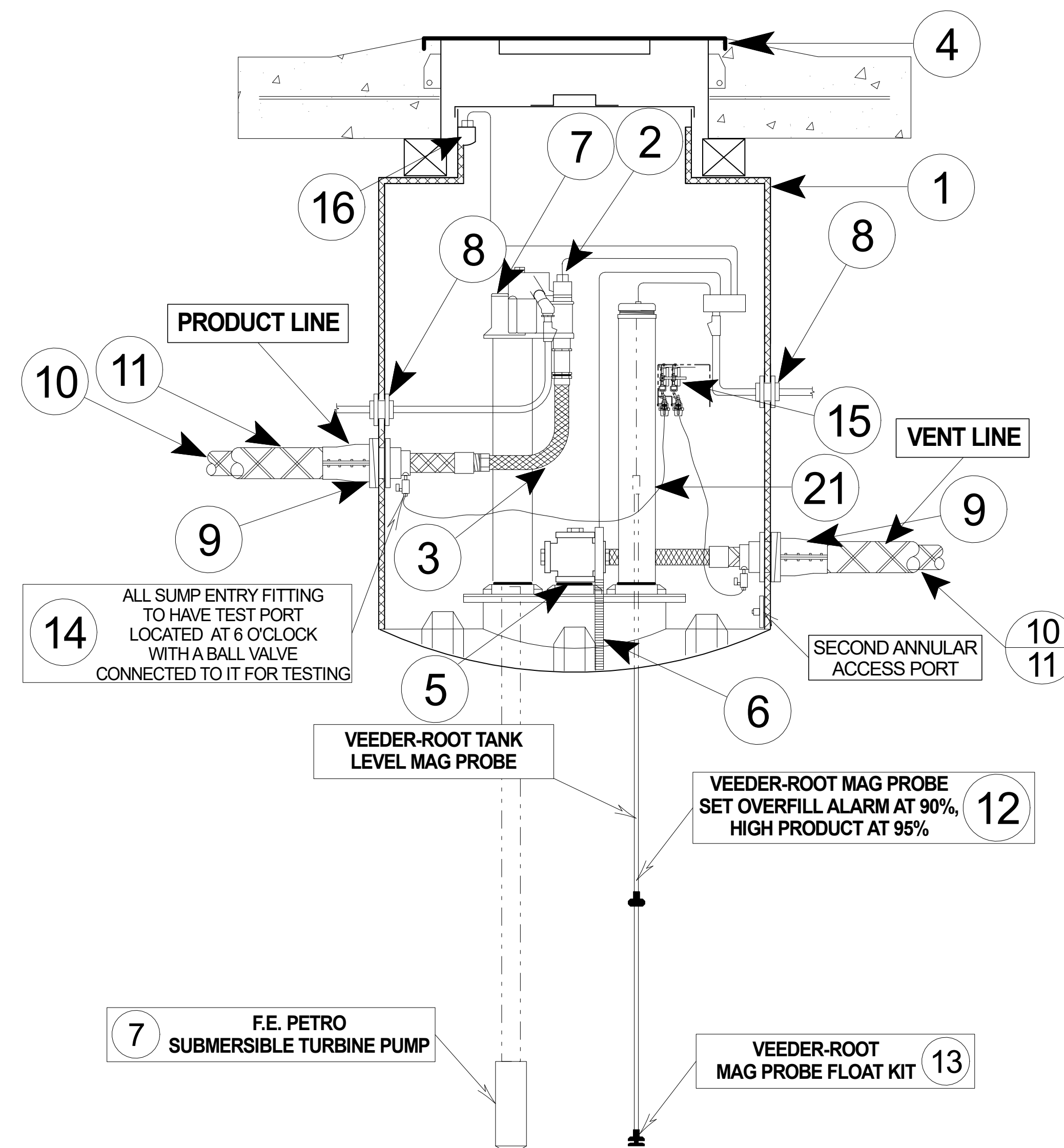
DIESEL TURBINE SUMP TOP VIEW

Sump and Penetration Fitting Details



DIESEL TURBINE SUMP SIDE VIEW

Sump and Penetration Fitting Details



NO.	EQUIPMENT DESCRIPTION	MANUFACTURER	PART NUMBER	NO.	EQUIPMENT DESCRIPTION	MANUFACTURER	PART NUMBER
1	48" DOUBLE WALL TURBINE SUMP	XERXES	48" DW CONTAINMENT SUMP	16	MINI HYDROSTATIC SENSOR	VEEDER-ROOT	VR-794380-304
2	ELECTRONIC LINE LEAK DETECTOR	VEEDER-ROOT	848480-001	17			
3	1 1/2" X 24" FLEX CONNECTOR	FLEXING	FF15X24HMXEZFG9	18			
4	42" Dia. WATERTIGHT FLAT SEALED COVER	FIBRELITE	FL100GRAY-SK12	19			
5	EXTRACTOR VALVE	OPW	233-4432	20			
6	SUMP SENSOR (NON DISCRIMINATING)	VEEDER-ROOT	VR-794390-208	21			
7	SUBMERSIBLE TURBINE PUMP	F. E. PETRO	STP200-VL2				
8	ELEC. CONDUIT PENETRATION FITTING FOR 3/4"	BRAVO	F-17-RR-D				
9	3" X 2" FIBERGLASS SUMP PENETRATION FITTING	SMITH FIBERCAST	012030-626-0				
10	2" FIBERGLASS PIPE	SMITH FIBERCAST	011020-069-2				
11	3" FIBERGLASS PIPE	SMITH FIBERCAST	011030-069-2				
12	TANK LEVEL MAGNETOSTRICTIVE PROBE	VEEDER-ROOT	846390-109				
13	TANK LEVEL FLOAT KIT	VEEDER-ROOT	846400-001				
14	1/4" STAINLESS STEEL BALL VALVE	JOMAR	100-501				
15	VACUUM SENSOR KIT	VEEDER-ROOT	VR-330020-480				

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DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

SHEET 25 CITY OF CARLSBAD SHEETS 33
 PUBLIC WORKS DEPARTMENT

UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT DIESEL STP SUMP DETAIL

APPROVED: John M. Hoff 05/30/2024
 PUBLIC WORKS MANAGER RCE 61909 EXP. 9/30/25 DATE

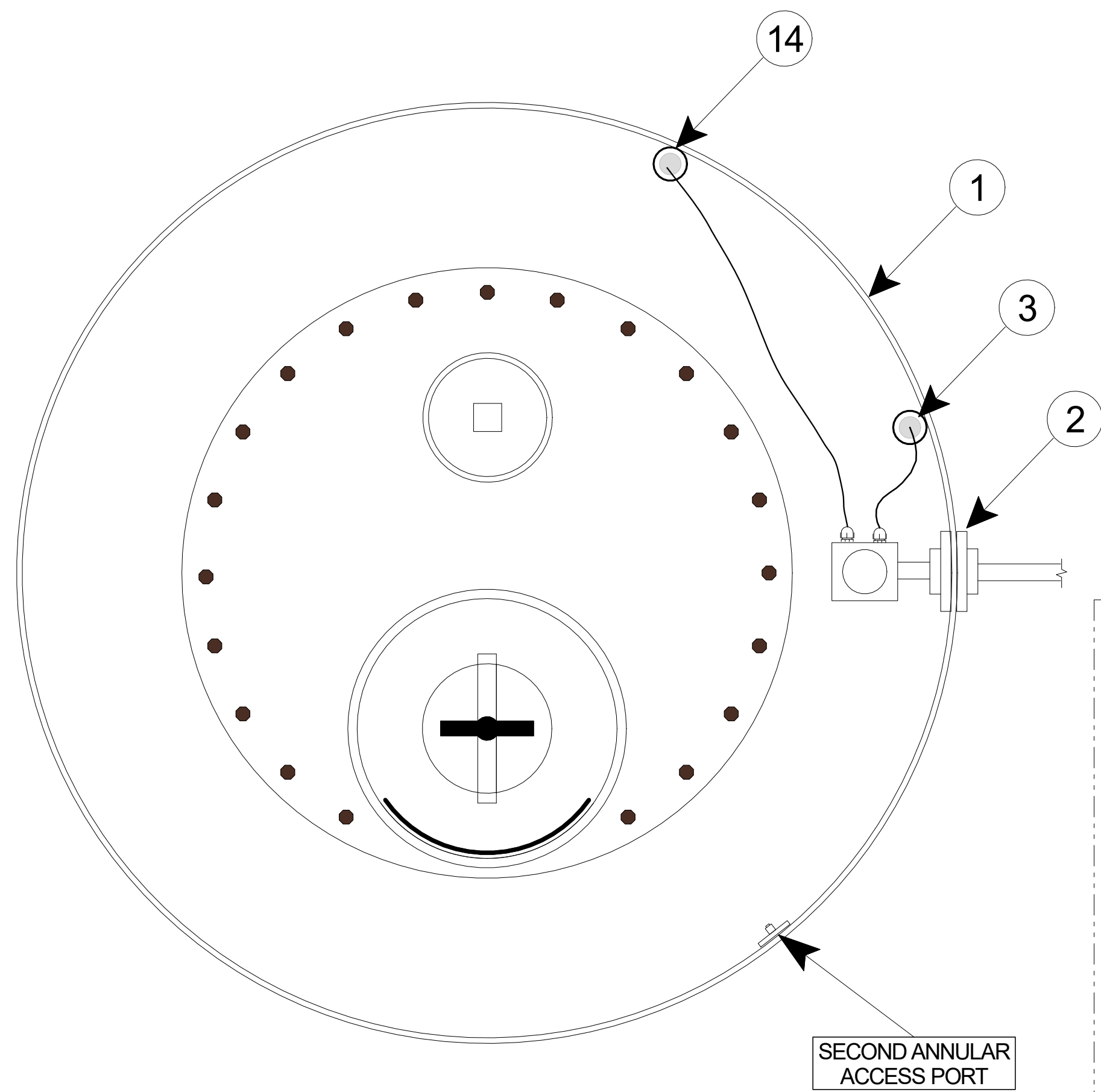
DWN BY: SM PROJECT NO. CIP4747 DRAWING NO. 811-5
 CHKD BY: PR
 RVWD BY: PR

Plotted By: Warsi, Sanom Sheet Set: Kha Layout: 1 HC April 03, 2023 11:36:55am \\andip01\co_and\NSND_LDEV\095272401 - onsite GAS PUMP DETAIL.dwg



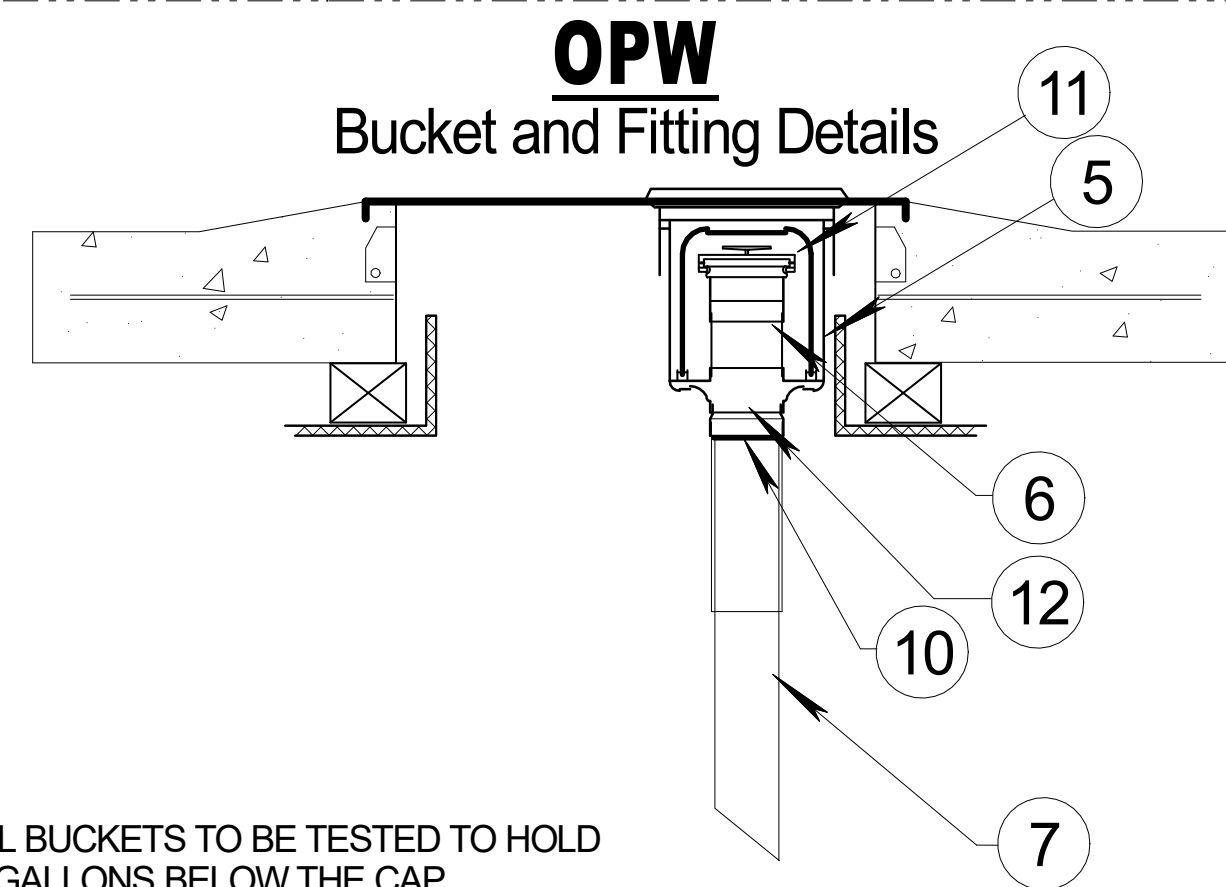
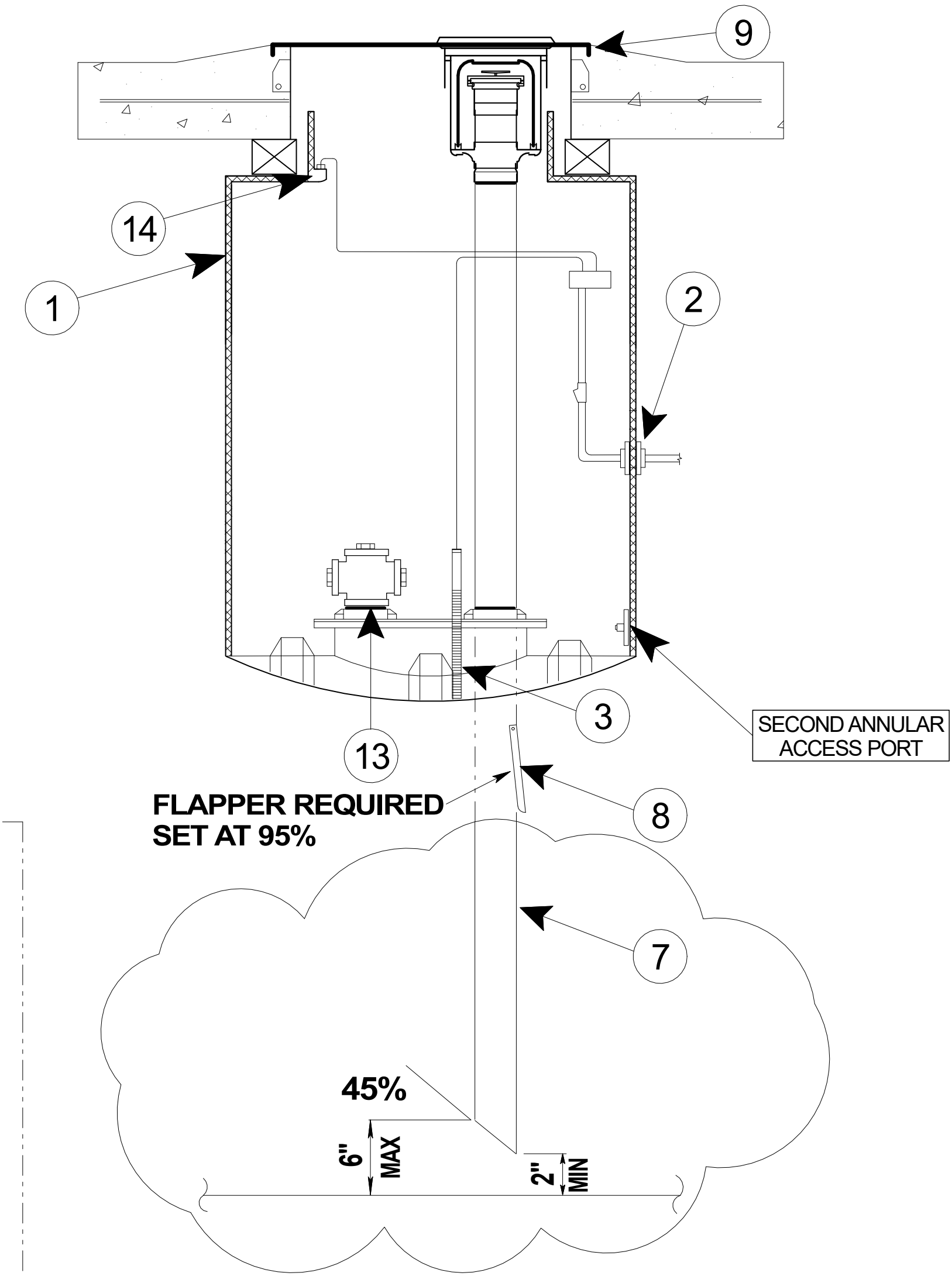
DIESEL FILL SUMP PLAN VIEW

Sump and Penetration Fitting Details



DIESEL FILL SUMP SIDE VIEW

Sump and Penetration Fitting Details



NOTE: SPILL BUCKETS TO BE TESTED TO HOLD 5 GALLONS BELOW THE CAP

NO.	EQUIPMENT DESCRIPTION	MANUFACTURER	PART NUMBER
1	42" DOUBLE WALL FILL SUMP	XERXES	42" DW CONTAINMENT SUMP
2	ELEC. CONDUIT PENETRATION FITTING FOR 3/4"	BRAVO	F-17-SS-D
3	SUMP SENSOR (NON DISCRIMINATING)	VEEDER-ROOT	VR-794390-208
4	2" X 24" FLEX CONNECTOR	FLEXING	FF20X12SSHMXSSHM
5	5 GALLON PRODUCT CONTAINMENT BUCKET	OPW	P761C-FLDV
6	PRODUCT SWIVEL ADAPTOR	OPW	61SALP-1020-EVR
7	DROP TUBE	OPW	61T-SS
8	DROP TUBE FLAPPER	OPW	71SO
9	42" Dia. WATERTIGHT FLAT SEALED MULTI PORT COVER	OPW	DMP42-2-SW-YEL
10	FACE SEAL ADAPTER	OPW	FSA-400-S
11	PRODUCT DUST CAP	OPW	634TT-EVR
12	JACK SCREW KIT	OPW	61JSK-4410
13	EXTRACTOR VALVE	OPW	233-4432
14	MINI HYDROSTATIC SENSOR	VEEDER-ROOT	VR-794380-304

"AS BUILT"

P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____

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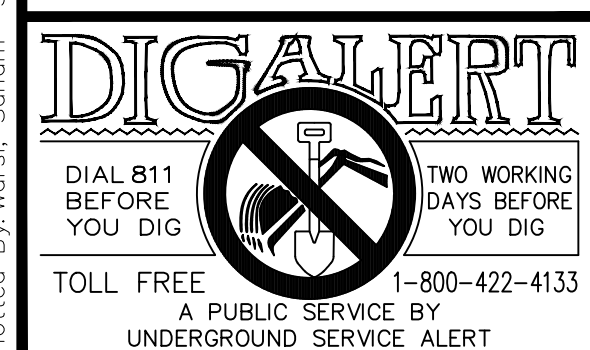
SHEET 26 CITY OF CARLSBAD SHEETS 33
 PUBLIC WORKS DEPARTMENT

**UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT
 DIESEL FILL SUMP DETAIL**

APPROVED: John Maschoff 05/30/2024
 PUBLIC WORKS MANAGER RCE 61909 EXP.9/30/25 DATE

DWN BY: SM PROJECT NO. CIP4747 DRAWING NO. 811-5
 CHKD BY: PR
 RVWD BY: PR

Plotted By: Warsi, Sanam Sheet Set: Kha Layout: 1 HC April 03, 2023 11:36:55am
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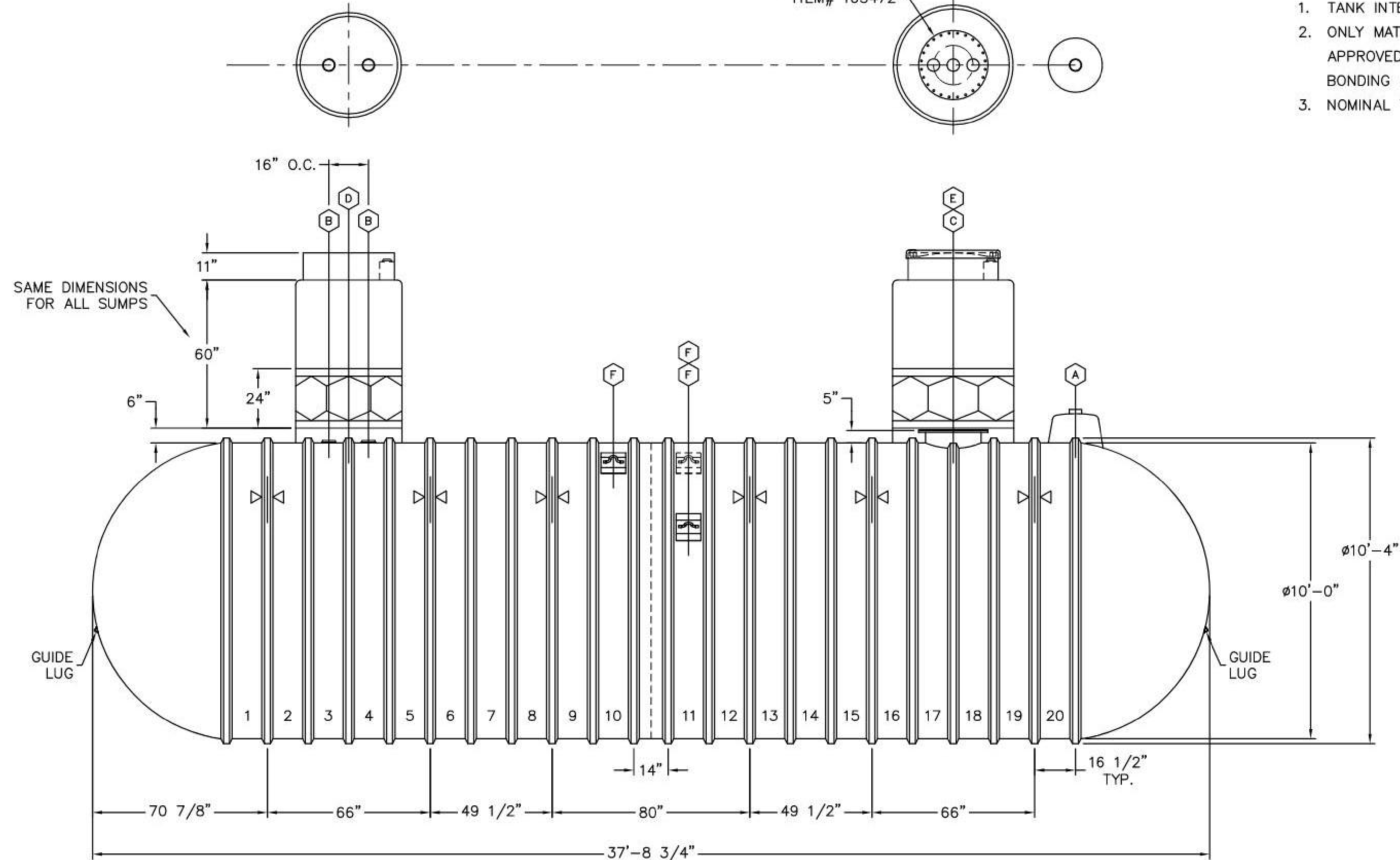


ISSUED FOR CONSTRUCTION

CODE# 622-329
ITEM# 165472

NOTES:

1. TANK INTERSTICE IS FACTORY BRINE FILLED.
2. ONLY MATERIALS THAT HAVE BEEN TESTED AND APPROVED BY XERXES SHOULD BE USED FOR BONDING OF CONTAINMENT SUMP COMPONENTS.
3. NOMINAL TANK WEIGHT : 11,300 lbs.



SAME DIMENSIONS FOR ALL SUMPS

GUIDE LUG

GUIDE LUG

ITEM	QTY	DESCRIPTION
A	1	18" DIA HYDROSTATIC MONITORING RESERVOIR WITH 4" NPT FITTING
B	2	4" NPT SERVICE FITTING WITH STRIKER PLATE
C	1	22" DIA MANWAY WITH 3-4" NPT FITTINGS IN COVER & STRIKER PLATE
D	1	42" DIA DW CONTAINMENT COLLAR & 60" HIGH 8 SIDED DW BRINE MONITORED SUMP WITH 36" DIA TOP OPENING WITHOUT COVER
E	1	48" DIA DW CONTAINMENT COLLAR & 60" HIGH 8 SIDED DW BRINE MONITORED SUMP WITH 36" DIA WATERTIGHT TOP COVER
F	3	LIFTING LUG (12" x 10") 23" 23" 45"
△△	6	HOLD DOWN STRAP LOCATION

01 REVISED SUMP OPENING (ITEM D) FROM 32" DIA TO 36" DIA. ADDED NOTE 2.		DATE	DATE	DATE	DATE
DD	DD	10-05-22	PWM	10-05-22	-
XERXES BY SHAWCOR					
DD	DD	09-22-22	DD	DD	DD
CHKD	PWM	09-22-22	10' DIA DW UL CAP. 20,000 GALLONS		
APP'D					
SALES MANAGER		DR. SIZE	DR. NUMBER	REV	
Cary Etter		B	XS-002443	01	
		SCALE:	N.T.S.	SHT	1 OF 1
INDUSTRY TYPE: M101 Fuel Markets					

"AS BUILT"

P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____



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DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

SHEET 27 CITY OF CARLSBAD SHEETS 33
PUBLIC WORKS DEPARTMENT

UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT
20,000 GALLON TANK DETAIL

APPROVED: John Mosshoff 05/30/2024
PUBLIC WORKS MANAGER RCE 61909 EXP. 9/30/25 DATE

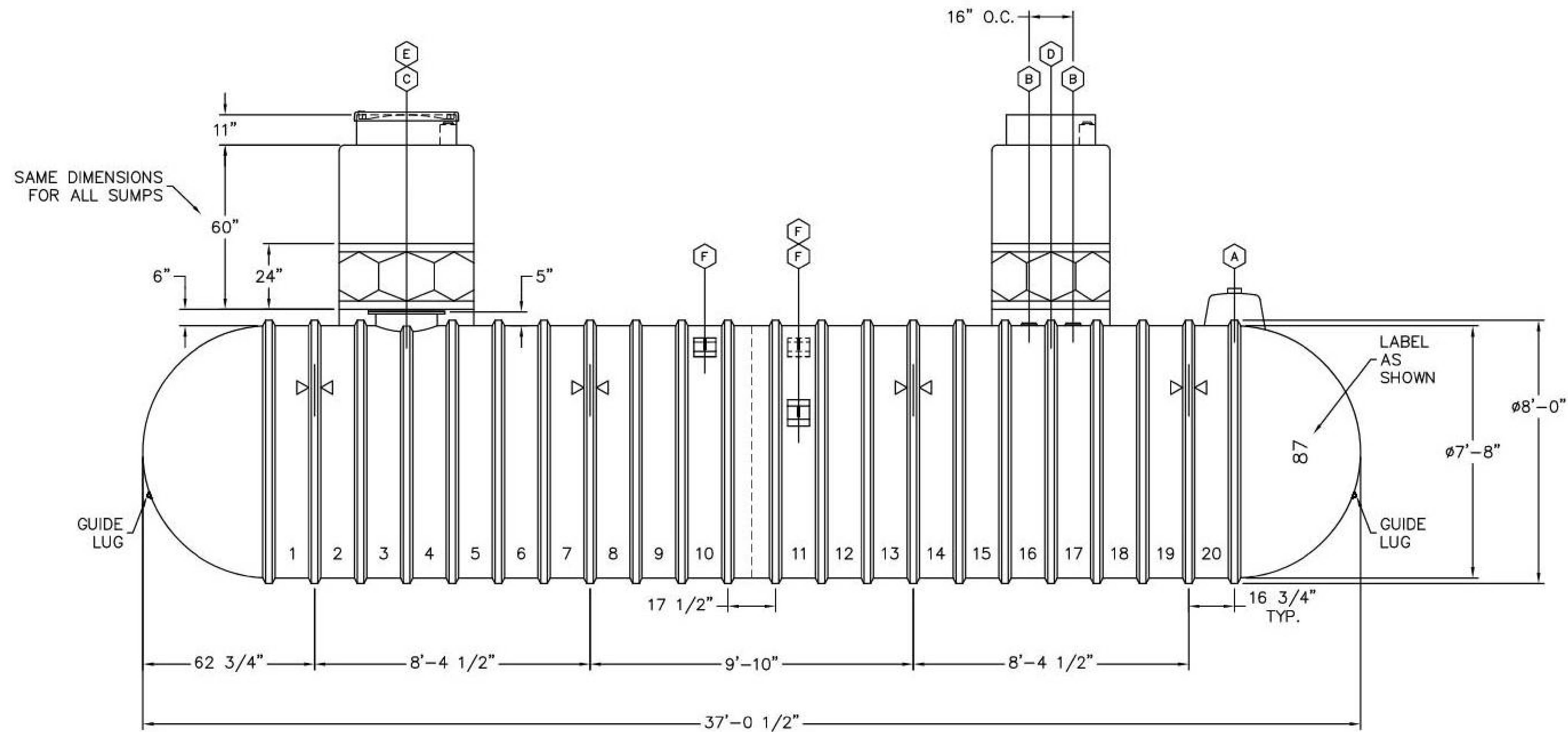
DWN BY: SM PROJECT NO. CIP4747 DRAWING NO. 811-5
CHKD BY: PR
RVWD BY: PR

Plotted By: Warsi, Sanom Sheet Set: Kho Layout: 1 HC April 03, 2023 11:36:55am \\snp01\co_and\NSND_DEV\095272401 - carlsbad ust replacement\Design\plansheets - onsite GAS PUMP DETAIL.dwg

CODE# 622-329
ITEM# 165472

NOTES:

- TANK INTERSTICE IS FACTORY BRINE FILLED.
- NOMINAL TANK WEIGHT : 8,800 lbs.



ITEM	QTY	DESCRIPTION
A	1	18" DIA HYDROSTATIC MONITORING RESERVOIR WITH 4"NPT FITTING
B	2	4"NPT SERVICE FITTING WITH STRIKER PLATE
C	1	22" DIA MANWAY WITH 3-4"NPT FITTINGS IN COVER & STRIKER PLATE
D	1	42" DIA DW CONTAINMENT COLLAR & 60" HIGH 8 SIDED DW BRINE MONITORED SUMP WITH 32" DIA TOP OPENING WITHOUT COVER
E	1	48" DIA DW CONTAINMENT COLLAR & 60" HIGH 8 SIDED DW BRINE MONITORED SUMP WITH 36" DIA WATERTIGHT TOP COVER
F	3	LIFTING LUG (10" x 8") 17" 17" 34"
△△	4	HOLD DOWN STRAP LOCATION

00	REVISION DESCRIPTION
DATE	DATE
XERXES BY SHAWCOR	
DD	06-20-22
PWN	06-20-22
8' DIA DW UL CAP. 12,000 GALLONS	
SALES MANAGER	DR. SIZE DR. NUMBER
Cary Etter	B XS-001949 00
INDUSTRY TYPE: M101 Fuel Markets	SCALE: N.T.S. SHEET 1 OF 1

"AS BUILT"

P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____



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DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

SHEET 28 CITY OF CARLSBAD SHEETS 33
PUBLIC WORKS DEPARTMENT

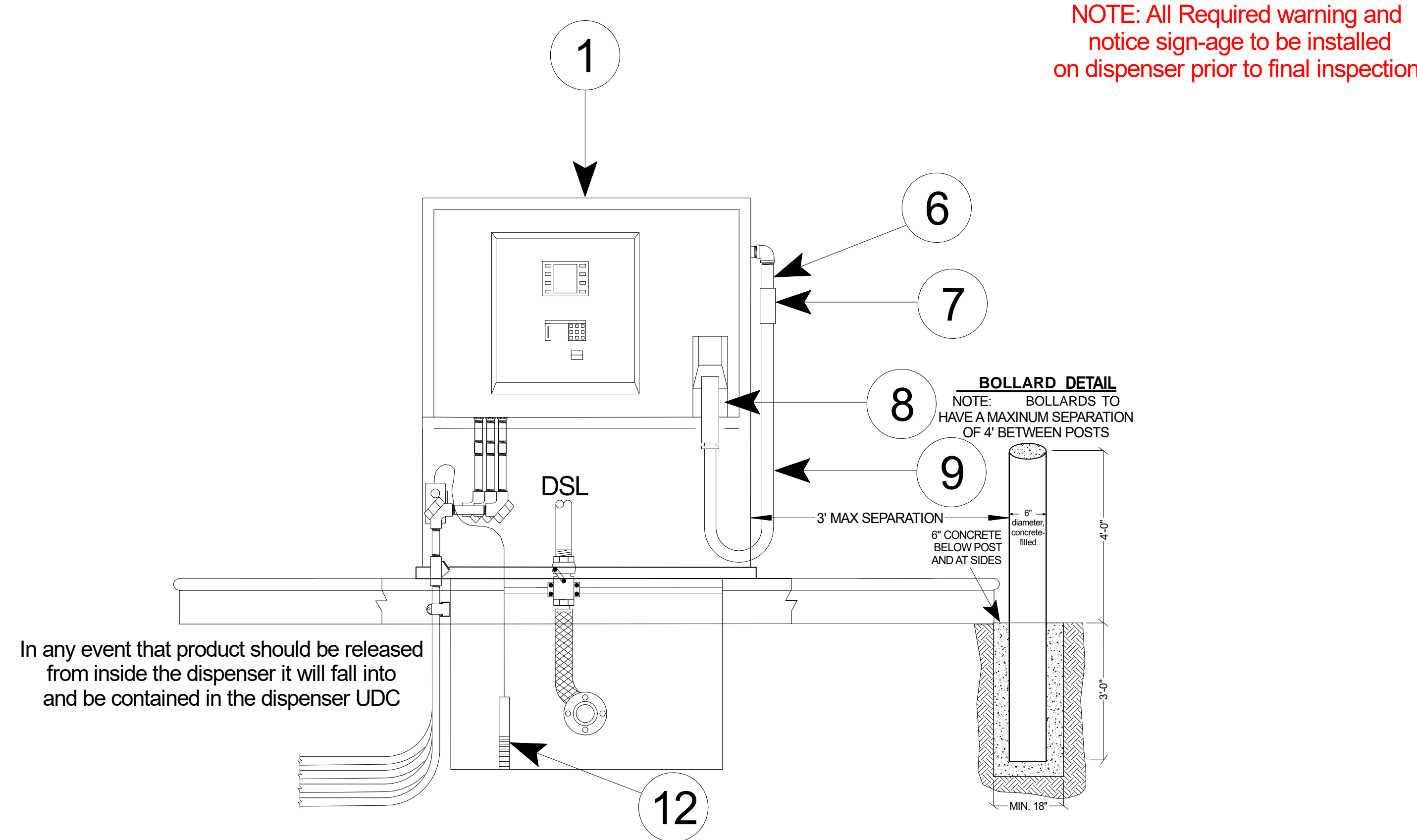
**UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT
12,000 GALLON TANK DETAIL**

APPROVED: John Mosshoff 05/30/2024
PUBLIC WORKS MANAGER RCE 61909 EXP. 9/30/25 DATE

DWN BY: SM PROJECT NO. CIP4747 DRAWING NO. 811-5
CHKD BY: PR
RWVD BY: PR

Plotted By: Warsi, Sanom Sheet Set: Kho Layout: 1 HC April 03, 2023 11:36:55am \\snp01\co_and\NSND_LDEV\095272401 - carlsbad ust replacement\Design\plansheets - onsite\GAS PUMP DETAIL.dwg

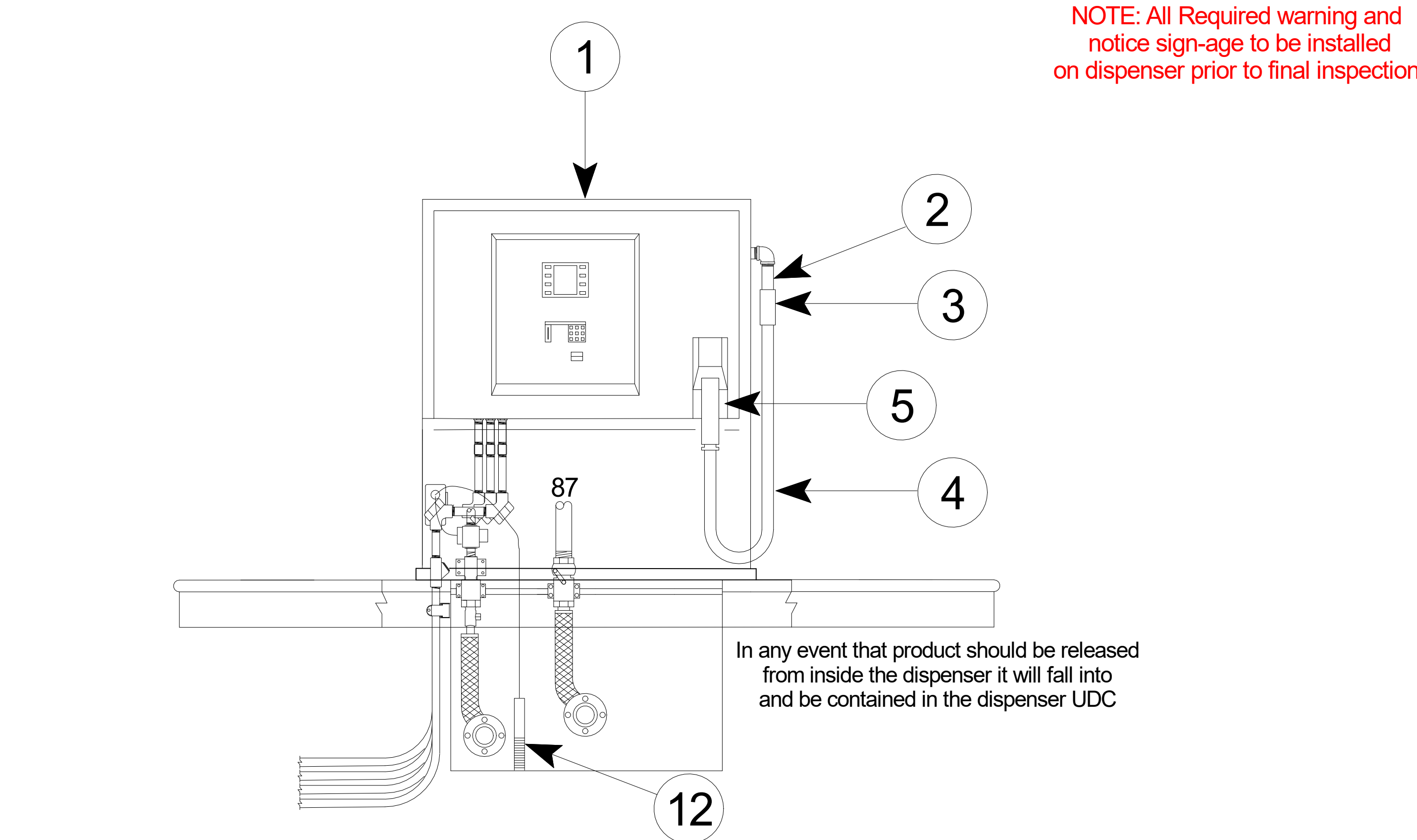
GASBOY ATLAS (1+0) DIESEL ONLY DISPENSER



NOTE: All Required warning and notice sign-age to be installed on dispenser prior to final inspection

In any event that product should be released from inside the dispenser it will fall into and be contained in the dispenser UDC

GASBOY ATLAS (1+0) GASOLINE ONLY DISPENSER

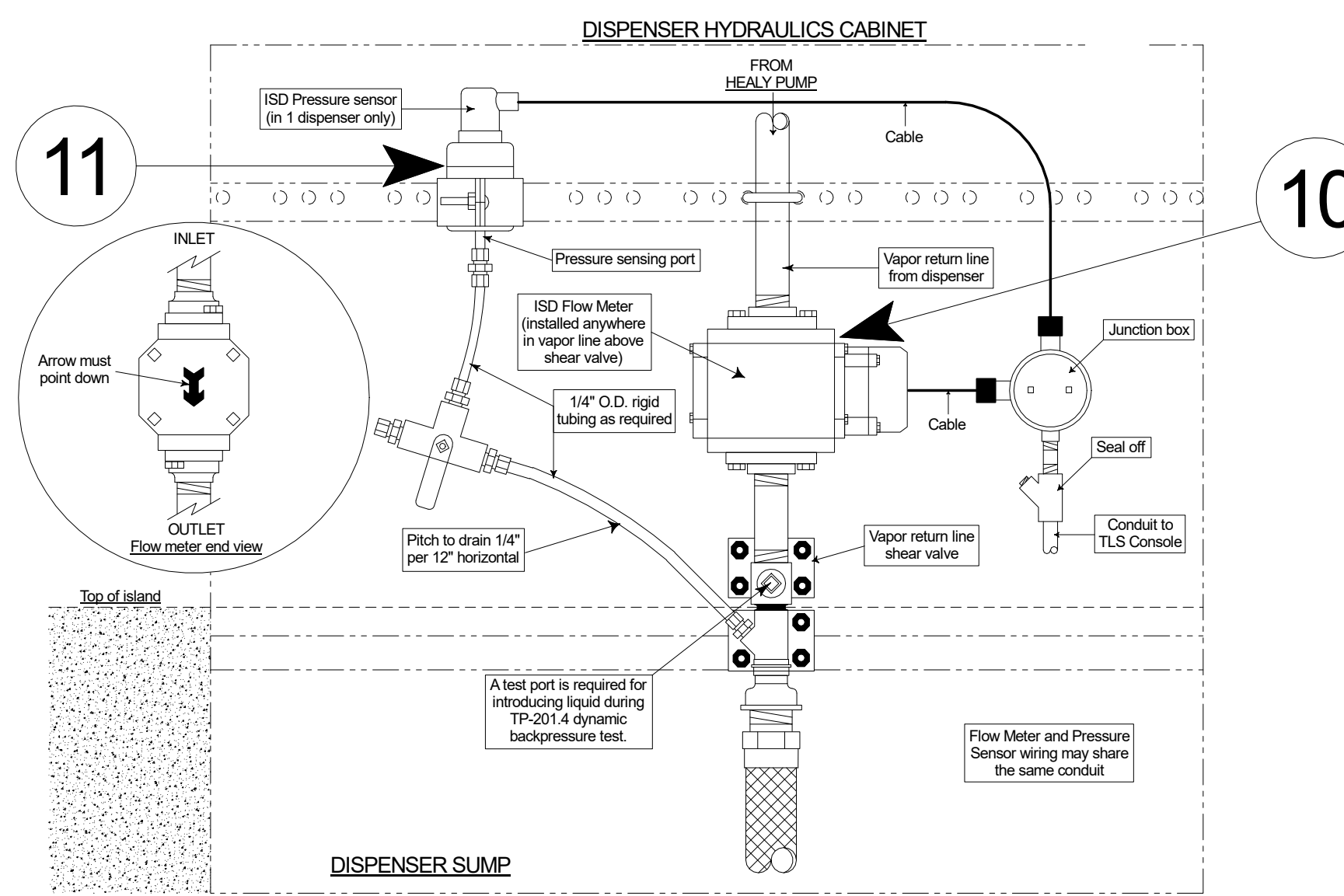


NOTE: All Required warning and notice sign-age to be installed on dispenser prior to final inspection

In any event that product should be released from inside the dispenser it will fall into and be contained in the dispenser UDC

NO.	EQUIPMENT DESCRIPTION	MANUFACTURER	PART NUMBER
1	GASBOY ATLAS DISPENSER 1 + 0	GASBOY	GASBOY ATLAS 1+0
2	EVR NOZZLE	VST	VST-EVR-NBBK-2
3	BREAKAWAY	VST	VSTA-EVR-SBKA
4	12" COAXIAL HOSE	CONTINENTAL	532366640-00100
5	8' COAXIAL HOSE	CONTINENTAL	532366641-08031
6	DIESEL 12" WHIP HOSE	CONTINENTAL	532331724-00174
7	DIESEL BREAKAWAY	HUSKY	3360
8	DIESEL 8' HOSE	CONTINENTAL	532331724-00974
9	DIESEL NOZZLE	HUSKY	159503-03
10	VAPOR FLOW METER (ISD)	VEEDER-ROOT	VR-330020-585
11	VAPOR PRESSURE SENSOR (ISD)	VEEDER-ROOT	VR-330020-515
12	SUMP SENSOR (NON DISCRIMINATING)	VEEDER-ROOT	VR-794380-208
13	TLS-350 SOFTWARE UPGRADE	VEEDER-ROOT	336.02
14	ISD SOFTWARE UPGRADE	VEEDER-ROOT	106

ISD ABOVE SHEAR VALVE DETAIL



*NOTE: ISD VAPOR PRESSURE SENSOR TO BE INSTALLED IN DISPENSER CLOSEST TO UST'S (DISPENSER #1/2)

"AS BUILT"

P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____

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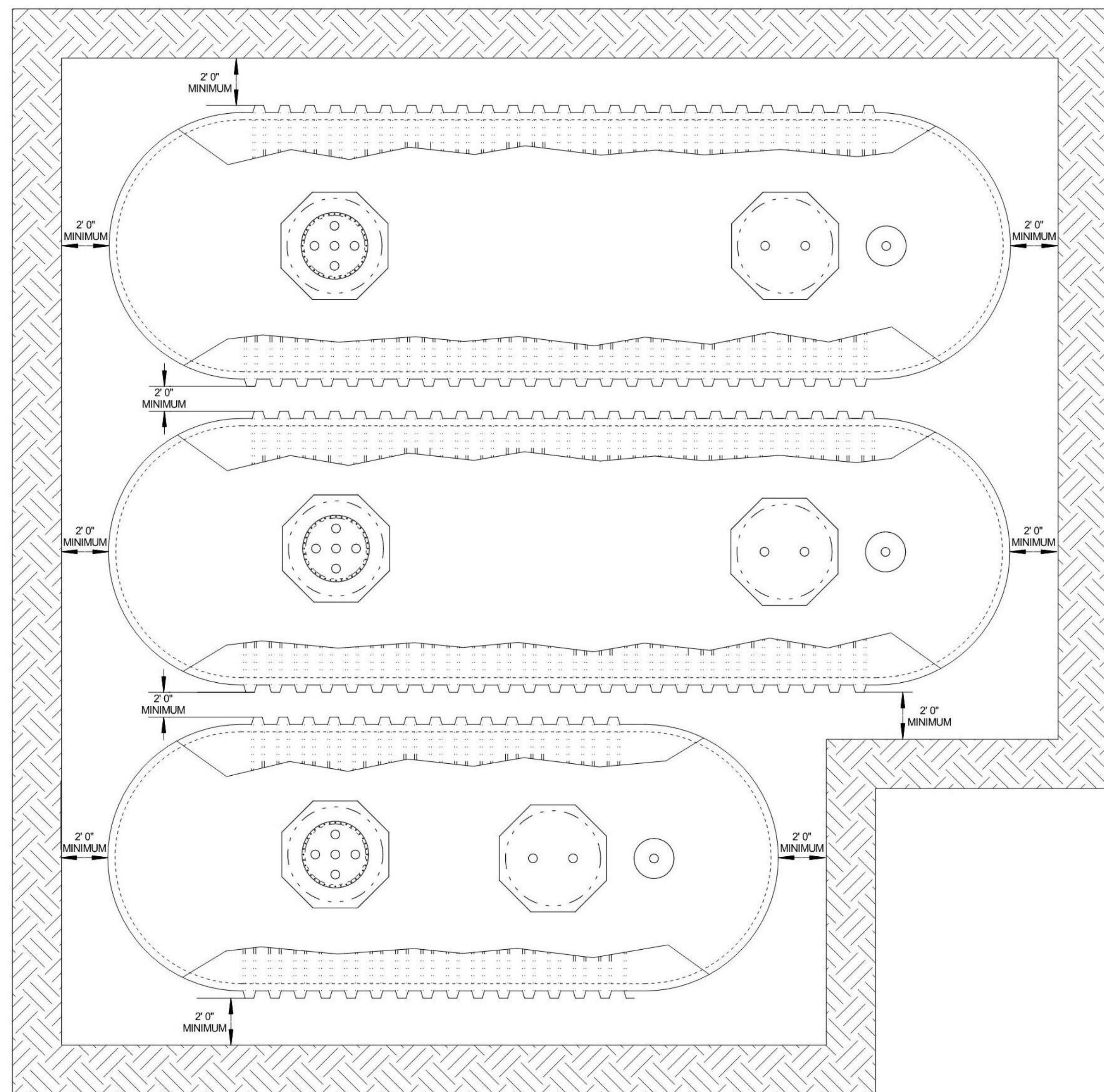
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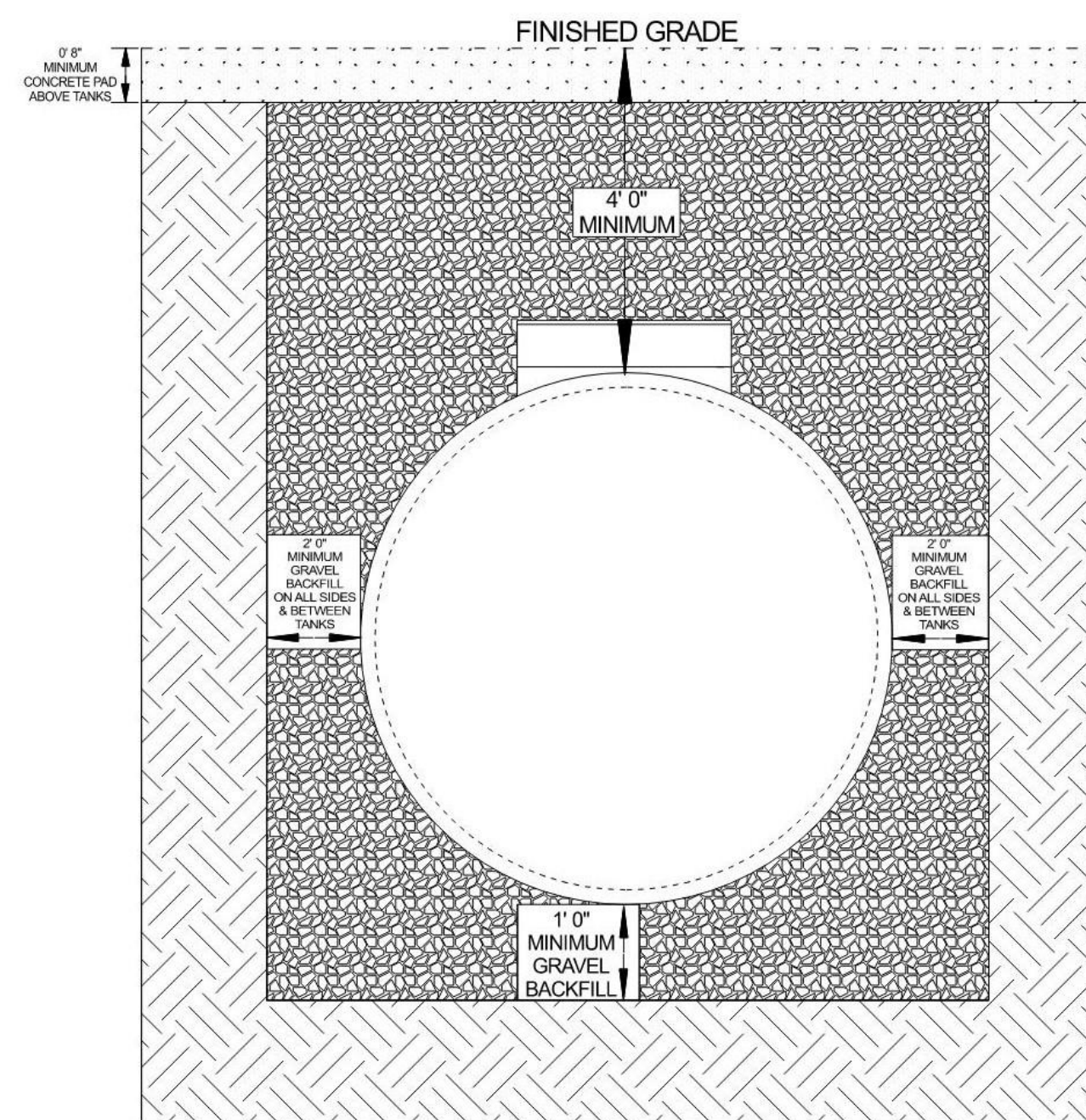
DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

SHEET 29 CITY OF CARLSBAD SHEETS 33
 PUBLIC WORKS DEPARTMENT
UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT DISPENSER DETAILS
 APPROVED: John Masshoff 05/30/2024
 PUBLIC WORKS MANAGER RCE 61909 EXP. 9/30/25
 DWN BY: SM PROJECT NO. CIP4747 DRAWING NO. 811-5
 CHKD BY: PR
 RVWD BY: PR

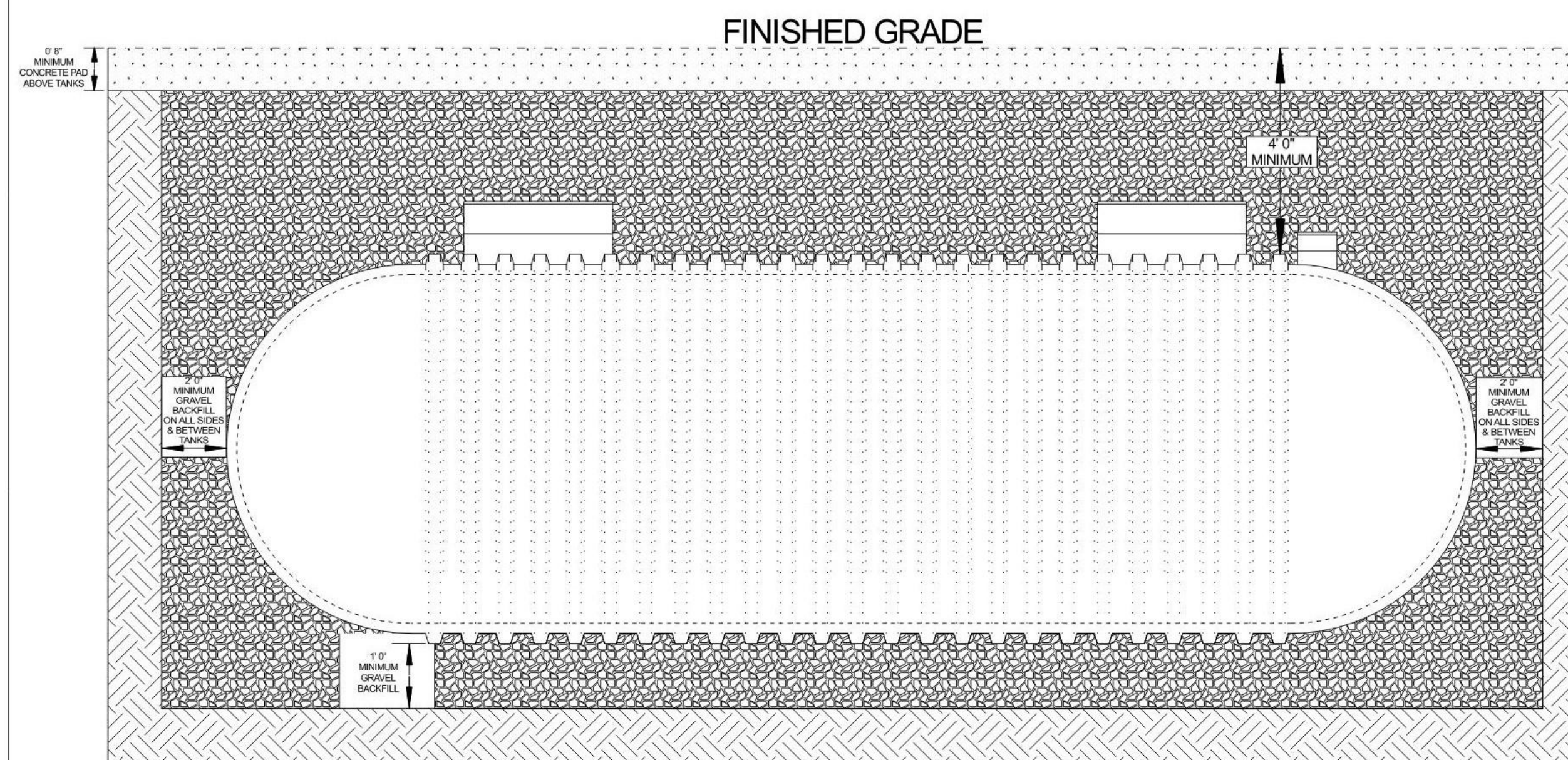
TANK HOLE TOP VIEW



TANK HOLE END VIEW



TANK HOLE SIDE VIEW



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P.E. _____ EXP. _____ DATE _____

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INSPECTOR _____ DATE _____

Plotted By: Warsi, Sanom Sheet Set: Kha Layout: 1 HC April 03, 2023 11:36:55am
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SHEET 31 CITY OF CARLSBAD SHEETS 33
 PUBLIC WORKS DEPARTMENT

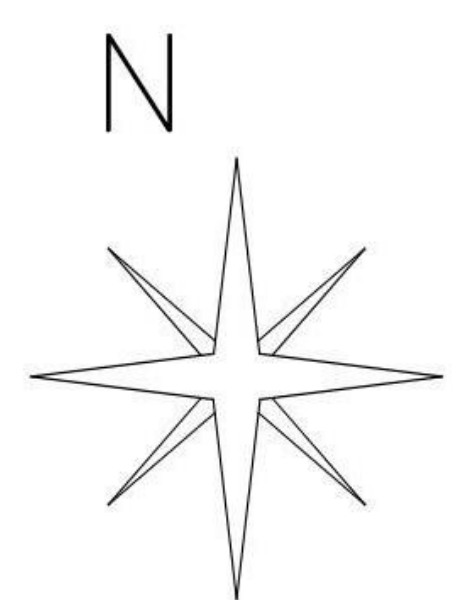
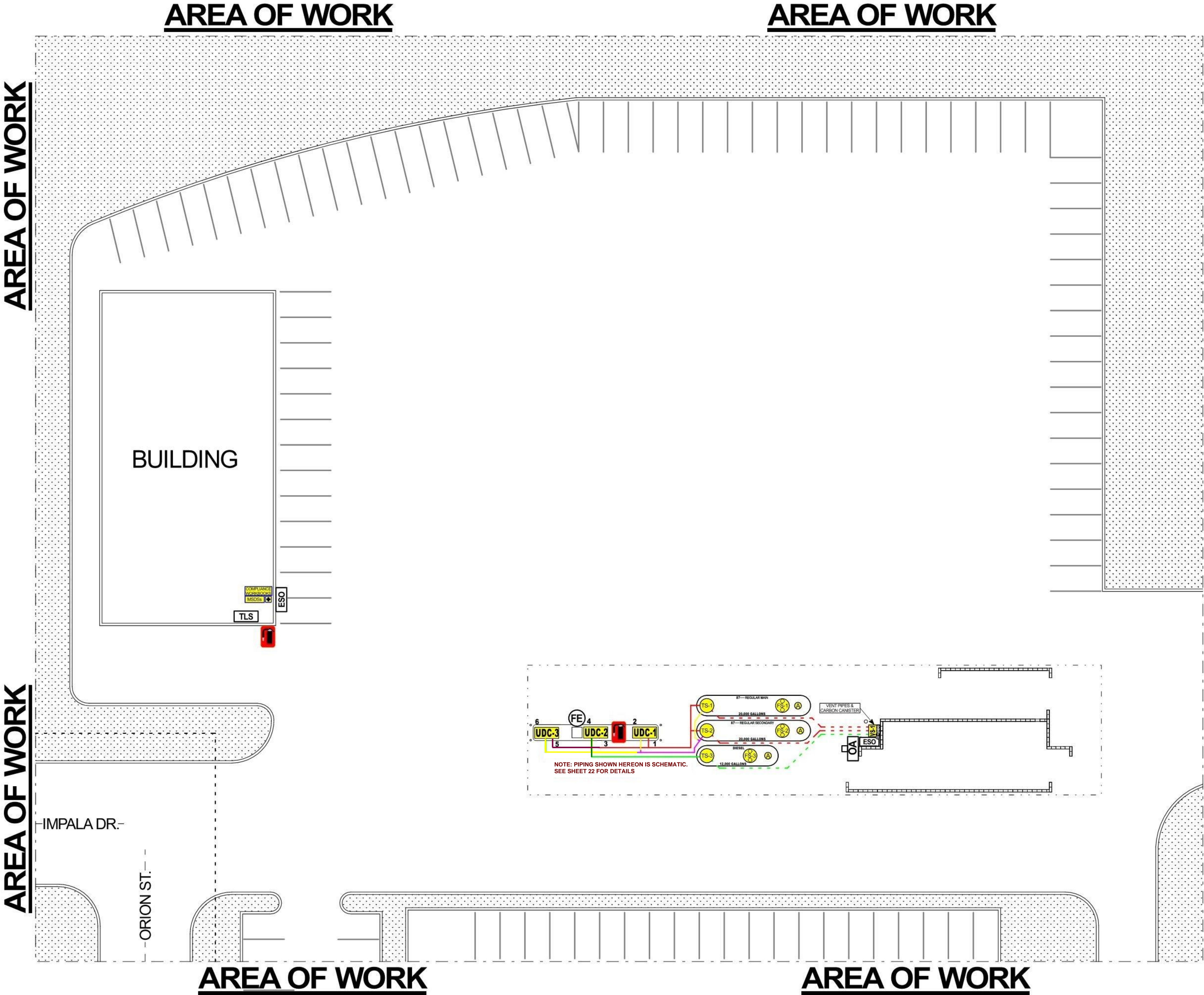
UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT TANK HOLE DETAIL

APPROVED: John Masshoff 05/30/2024
 PUBLIC WORKS MANAGER RCE 61909 EXP. 9/30/25 DATE

DWN BY: SM PROJECT NO. CIP4747 DRAWING NO. 811-5
 CHKD BY: PR
 RVWD BY: PR

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Plotted By: Warsi, Sanom Sheet Set: KHA Layout: 1 HC April 03, 2023 11:36:55am \\smdp01\co_and\NSND_LDEV\095272401 - onsite\GAS_PUMP_DETAIL.dwg



- VEEDER-ROOT TLS-350
SENSORS, PROBES, & Line Leak Detectors**
- SENSORS**
3 DISPENSER UDCs — (UDC-1 - UDC-3)
 VEEDER-ROOT 794380-208 Sump Sensors
 VEEDER-ROOT 794380-304 Sump Sensors
3 FILL SUMPS — (FS-1 - FS-3)
 VEEDER-ROOT 794380-208 Sump Sensor
 VEEDER-ROOT 794380-304 Sump Sensor
1 VENT SUMP — (VS-1)
 VEEDER-ROOT 794380-208 Sump Sensor
 VEEDER-ROOT 794380-304 Sump Sensor
- 3 TURBINE SUMPS — (TS-1 - TS-3)**
 VEEDER-ROOT 794380-208 Sump Sensor
 VEEDER-ROOT 794380-304 Sump Sensor
PROBES
3 MAG PROBES — (TS-1 - TS-3)
 VEEDER-ROOT 847390-109 MAG PLUS
LINE LEAK DETECTORS
3 PLLDs — (TS-1, TS-2, TS-3)
 VEEDER-ROOT 848480-001 PLLD Sensors
3 ANNULAR — (A-1 - A-3)
 VEEDER-ROOT 794380-303 Sensors

VACUUM ZONE LEGEND & CALCULATIONS

VACUUM SENSOR KIT #1 - 87 TURBINE SUMP	PIPE LENGTH	SECONDARY VOLUME QUANTITY
ZONE #1 - 87 PRODUCT LINE	55 feet	0.43 cubic feet
ZONE #2 - 87 VENT LINE	25 feet	0.19 cubic feet
ZONE #3 - VAPOR RETURN LINE & VACUUM SENSOR KIT #2 - DIESEL TURBINE SUMP	55 feet	0.71 cubic feet
ZONE #4 - DIESEL PRODUCT LINE	40 feet	0.41 cubic feet
ZONE #5 - DIESEL VENT LINE	30 feet	0.30 cubic feet

PIPING LEGEND

PRODUCT LINES

- 3" OVER 2" 87 UNLEADED
- 3" OVER 2" DIESEL
- 3" OVER 2" VAPOR LINE
- 4" OVER 3" VAPOR LINE

VENT LINES

- 3" OVER 2" 87 UNLEADED
- 3" OVER 2" DIESEL

LEGEND

- A — Annular
- FS — Fill Sump
- F — Fill bucket
- V — Vapor recovery bucket
- TS — Turbine Sump
- ESO — Emergency Shutoff Switch
- TLS — Veeder Root TLS-350
- OA — Overfill Alarm
- 1+0 — Single product dispenser (SPD) with a single nozzle (per side) to dispense either gasoline or Diesel.

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REVIEWED BY: _____

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SHEET 32 CITY OF CARLSBAD SHEETS 33
 PUBLIC WORKS DEPARTMENT

**UNDERGROUND STORAGE TANK REMOVAL
AND REPLACEMENT
VACUUM ZONES & SENSOR LAYOUT**

APPROVED: John Maschoff 05/30/2024
 PUBLIC WORKS MANAGER RCE 61909 EXP. 9/30/25 DATE

DWN BY: SM PROJECT NO. CIP4747 DRAWING NO. 811-5
 CHKD BY: PR
 RWVD BY: PR

12,000 GALLON UST

20,000 GALLON UST

		NON-ANCHORED WATER AT TANK TOP		City of Carlsbad	
				09/28/23	
<u>TANK DATA</u>			<u>INSTALLATION</u>		
NOM. CAP. (GAL.)	12000	TOTAL COVER INCLUDING SOIL & TOP SLAB (FT)	4.00		
TYPE (SINGLEWALL=1;DW=3)	3	TOP SLAB THICKNESS (IN)	8.00		
DRY=1; WET=2	2	TOP SLAB LENGTH (FT)	39.04		
NOM. TANK DIA. (FT.)	8	TOP SLAB WIDTH (FT)	10.00		

PROD. STORED (GAL)	0	# OF 42" DIAMETER SUMPS	1		
SPEC. GRAV. USED	1.00	# OF 48" DIAMETER SUMPS	1		
<u>SAFETY FACTOR</u>					
DOWN FORCE/UP FORCE =		1.86 :1			
<u>TOTAL WEIGHTS</u>					
DOWN FORCES					
CONCRETE WEIGHT	39041.67 LBS.				
BACKFILL WEIGHT	140040.42 LBS.				
TANK WEIGHT	8800.00 LBS.				
PRODUCT WEIGHT	0.00 LBS.				
	TOTAL DOWN FORCE		187882.08 LBS.		
UP FORCES					
TANK DISP. FORCE	100924.32 LBS.				
	TOTAL UP FORCE		100924.32 LBS.		
<u>WORKSHEET</u>					
<u>TANK DATA</u>					
SHELL DIAMETER-----	7.67 FT.	*	ACTUAL CAP (GAL)	11608.00	
SHELL LENGTH-----	29.38 FT.	*	TANK WT. (LBS.)	8800.00	
DOME PROJECTION-----	3.83 FT.	*	O.A.L. (FT.)	37.04	
MID POINT HEIGHT-----	7.17 FT.	*	NUMBER OF RIBS	22.00	
COLUMN HEIGHT-----	11.00 FT.	*	*****		
RIB VOLUME-----	2026.00 CU. IN.		DOME A. (SQ FT)	46.16	
			DOME VOL. (CU FT)	235.95	
<u>REINFORCED CONCRETE VOLUMES (CU. FT.)</u>					
TOP SLAB	260.28				
TOTAL DRY VOLUME	260.28				
	FORCE = VOL. X 150 LBS/CF		39041.67 LBS.		
<u>BACKFILL VOLUMES (CU. FT.)</u>					
OVER TANK (DRY)-----	1062.18		368.56 WET		
END-WEDGES (DRY)-----	95.60		35.83 WET		
TOTAL DRY VOLUME	1157.78				
TOTAL WET VOLUME	404.38				
	FORCE (DRY) = VOL. X 100 LBS		115777.52 LBS.		
	FORCE (WET) = VOL. X 60 LBS		24262.90 LBS.		
<u>BUOYANCY</u>					
SHELL VOLUME-----	1356.07 CUBIC FT.				
DOME VOLUME-----	235.95 CUBIC FT.				
RIB VOLUME-----	25.79 CUBIC FT.				
TOTAL VOLUME	1617.81 CUBIC FT.				
VOL X 7.48 GAL/CU.FT.	12101.24 GALLONS				
	FORCE = GAL X 8.34 (LBS./GAL.)		100924.32 LBS.		

		NON-ANCHORED WATER AT TANK TOP		City of Carlsbad	
				10/03/23	
<u>TANK DATA</u>			<u>INSTALLATION</u>		
NOM. CAP. (GAL.)	20000	TOTAL COVER INCLUDING SOIL & TOP SLAB (FT)	4.00		
TYPE (SINGLEWALL=1;DW=3)	3	TOP SLAB THICKNESS (IN)	8.00		
DRY=1; WET=2	2	TOP SLAB LENGTH (FT)	39.73		
NOM. TANK DIA. (FT.)	10	TOP SLAB WIDTH (FT)	12.00		

PROD. STORED (GAL)	0	# OF 42" DIAMETER SUMPS	1		
SPEC. GRAV. USED	1.00				
<u>SAFETY FACTOR</u>					
DOWN FORCE/UP FORCE =		1.51 :1			
<u>TOTAL WEIGHTS</u>					
DOWN FORCES					
CONCRETE WEIGHT	47675.00 LBS.				
BACKFILL WEIGHT	198126.55 LBS.				
TANK WEIGHT	11300.00 LBS.				
PRODUCT WEIGHT	0.00 LBS.				
	TOTAL DOWN FORCE		257101.55 LBS.		
UP FORCES					
TANK DISP. FORCE	170614.56 LBS.				
	TOTAL UP FORCE		170614.56 LBS.		
<u>WORKSHEET</u>					
<u>TANK DATA</u>					
SHELL DIAMETER-----	10.00 FT.	*	ACTUAL CAP (GAL)	19782.00	
SHELL LENGTH-----	27.73 FT.	*	TANK WT. (LBS.)	11300.00	
DOME PROJECTION-----	5.00 FT.	*	O.A.L. (FT.)	37.73	
MID POINT HEIGHT-----	8.33 FT.	*	NUMBER OF RIBS	22.00	
COLUMN HEIGHT-----	13.33 FT.	*	*****		
RIB VOLUME-----	2631.00 CU. IN.		DOME A. (SQ FT)	78.54	
			DOME VOL. (CU FT)	523.60	
<u>REINFORCED CONCRETE VOLUMES (CU. FT.)</u>					
TOP SLAB	317.83				
TOTAL DRY VOLUME	317.83				
	FORCE = VOL. X 150 LBS/CF		47675.00 LBS.		
<u>BACKFILL VOLUMES (CU. FT.)</u>					
OVER TANK (DRY)-----	1426.79		648.92 WET		
END-WEDGES (DRY)-----	124.80		67.20 WET		
TOTAL DRY VOLUME	1551.59				
TOTAL WET VOLUME	716.12				
	FORCE (DRY) = VOL. X 100 LBS		155159.07 LBS.		
	FORCE (WET) = VOL. X 60 LBS		42967.48 LBS.		
<u>BUOYANCY</u>					
SHELL VOLUME-----	2177.85 CUBIC FT.				
DOME VOLUME-----	523.60 CUBIC FT.				
RIB VOLUME-----	33.50 CUBIC FT.				
TOTAL VOLUME	2734.94 CUBIC FT.				
VOL X 7.48 GAL/CU.FT.	20457.38 GALLONS				
	FORCE = GAL X 8.34 (LBS./GAL.)		170614.56 LBS.		

"AS BUILT"

P.E. _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____

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SHEET 33	CITY OF CARLSBAD PUBLIC WORKS DEPARTMENT	SHEETS 33
UNDERGROUND STORAGE TANK REMOVAL AND REPLACEMENT BUOYANCY CALCULATIONS		
APPROVED: John M. Hoff 05/30/2024		
PUBLIC WORKS MANAGER RCE 61909 EXP. 9/30/25		
DWN BY: SM	PROJECT NO. CIP4747	DRAWING NO. 811-5
CHKD BY: PR		
RVWD BY: PR		

Plotted By: Warsi, Sanom Sheet Set: Kho Layout: 1 HC April 03, 2023 11:36:55am \\landip01\co_and\NSND_LDEV\095272401 - carlsbad ust replacement\Design\plansheets - onsite GAS PUMP DETAIL.dwg



ISSUED FOR CONSTRUCTION



CITY OF CARLSBAD

**Agency Technical Specifications
for Fleet Fuel Island Upgrade**

Project No. 4747

PWS24-2282FAC

**1635 Faraday Ave, Carlsbad, CA 92008
Email: PWContractAdmin@carlsbadca.gov**

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DIVISION 02 – DEMOLITION AND STRUCTURE REMOVAL

02 41 00 DEMOLITION

PART 1 GENERAL

1.1 SUMMARY OF WORK: REMOVE EXISTING FUEL SYSTEM

The Contractor shall furnish all labor, material, tools, transportation and equipment necessary to remove and dispose of the three (3) existing Underground Storage Tanks (UST)s, and associated equipment. Removal items include:

- A. Remove and store Fuel Management System
- B. Remove existing dispensers, piping, hoses, pumps, sensors, and consoles.
- C. Saw-cut concrete for removal of existing tanks (2) 20,000-gallons, (1) 12,000-gallons.
- D. Remove and dispose of concrete. Removal of possible dead man anchors.
- E. Remove island curbs.
- F. Notify Agency of suspected contaminated soil, so that soil analysis may be performed to determine if remediation work is required.
- G. Remove and dispose of existing wiring as per Project Plans.
- H. Remove tank monitoring system and provide control unit to Agency.
- I. Remove and dispose of tanks along with ancillary equipment, provide certificates of destruction to Agency for tanks.
- J. Remove light poles and bollards.
- K. Cut and cap water pipeline to island.

Work includes safe removal and disposal of residual fuel in tanks, piping and dispensers. The Contractor may be required to manage petroleum contaminated soil if encountered.

1.2 ENVIRONMENTAL

This section specifies requirements for the environmental and tank assessment, permitting, removal and disposal of the UST(s) and is intended to supplement the construction/installation specifications. Generally, the work shall include, but not be limited to:

- A. Characterize (any testing that may be required by a disposal facility), containerize, remove, and properly dispose of residual fuels from the designated tanks and appurtenant piping.
- B. Clean, remove, and dispose of USTs, and appurtenant piping for the tanks. The work shall include the removal and proper disposal of fuel and residual in the tanks and associated piping between the tanks and the fuel island.

- C. Perform all sampling and testing required to properly profile the material for waste disposal. This shall also include all testing required by the disposal or recycling facility.
- D. All costs for the testing shall be borne by the Contractor.
- E. Coordinate work with the Agency by providing a weekly look ahead schedule for anticipated work, including sampling, removal notifications, and manifests and/or Bills of Lading for all contaminated materials removed from the Site.
- F. Comply with the Contractor's submitted Health and Safety Plan.

1.3 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.4 DEFINITIONS

- A. API: American Petroleum Institute.
- B. CARB: California Air Resources Board
- C. CCR: California Code of Regulations
- D. CUPA: Certified Unified Program Agencies
- E. FRP: Fiberglass-Reinforced Plastic
- F. HASP: Health and Safety Plan.
- G. ICC: International Code Council
- H. LEL: Lower Explosive Limit
- I. NFPA: National Fire Protection Association
- J. OSHA: Occupational Safety and Health Administration.
- K. PEI: A. Petroleum Equipment Installation Institute
- L. PID: Photoionization Detector
- M. PSI: Pounds per square inch
- N. SDCAPCD: San Diego County Air Pollution Control District
- O. USA: Underground Service Alert
- P. UST: Underground Storage Tank.

1.5 ACTION SUBMITTALS

A. Licenses / Certifications

The Contractor must submit the names of an A, B, C-36, or C-61 license for UST removal with the HAZ - Hazardous Substance Removal Certification and a designated onsite foreman, certified as an UST installers/ decommissioner, meeting the minimum requirements for installations must be listed. The foreman must be always onsite while Work takes place. Workers must be under the direct 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/retrofitting certificate from the International Code Council (ICC).
3. The individual shall be licensed with State of California ICC U1 -UST Install Retrofit and ICC U2 UST decommissioning.

B. Notifications:

1. The Contractor shall Notify the Agency 30-days before the start of work to ensure the Agency has submitted proper notifications to the San Diego County Environmental health and Quality, San Diego County Air Pollution Control District (SDCAPCD), and the CUPA.
2. Three days before any excavation, the Contractor Shall notify Underground Service Alert (USA) DigAlert by calling 811 and obtaining proper clearance. In addition, the Contractor shall hire a Private Utility Locator to mark out electrical, gas, septic, water, communications, and drainage lines on the municipal property.
3. If evidence of contamination is encountered/observed (including but not limited to: organic vapor measuring equipment readings; visual staining/discoloration; and olfactory indicators) during the removal activities, the Contractor will notify the Agency immediately.

C. Demolition Plan:

The Contractor shall prepare a UST demolition plan for review with the Agency to confirm means and methods for demolition. The plan shall include procedures and schedule for the following:

1. A detailed operations schedule (dates and hours of work).
2. A description of the project approach covering methods for excavation, staging, sampling, analysis, removal, lifting, transportation and disposal of all waste.
3. Description of soil removal methods to be employed, including excavation protection.
4. Description of the waste segregation and staging methods to be used for soils, sludges, concrete, polyethylene sheeting, and spent personal protective equipment (PPE).
5. Methods to be used for cleaning the tank and piping.

6. Identification of all laboratories, waste transporters, and disposal facilities.
7. Description of methods to be employed to prevent impact to storm water from staged petroleum-contaminated soil, if encountered.
8. The Excavated Materials Disposal Plan shall include a listing (name, address, contact) of all transportation and disposal facilities to be utilized with appropriate permits/registrations for all materials removed, including, but not limited to tank, piping, concrete pad, tank contents including sludges, wash water, contaminated soil and groundwater, and used PPE. Written confirmation shall be submitted from each of the disposal or recycling facilities indicating that they will accept the specific waste stream (tank, piping, sludges, etc.) to be removed as part of this work.
9. Prepare Project Health and Safety Plan.

1.6 QUALITY ASSURANCE

A. Hazard Communication Standard:

The Contractor performing Work for the Agency shall comply with OSHA Hazard Communication Standard 29 CFR Part 1910.1200 and 29 CFR 1926.1101 Section (d)(1) Multi-Employer Work-Site as applicable. In order to provide a safe and healthy environment to all site occupants, the Agency requires the following:

1. For each chemical product used on the site, the Contractor shall provide a copy of the Safety Data Sheet (SDS) to the Agency.
2. Report to the Engineer all spills and personnel exposures occurring in the course of Work on site. The Contractor will be responsible for all spills, personnel exposures, and will bear the cost of cleanup.

When reporting a spill, the Contractor shall supply the following information:

- Substance(s) spilled
- Quantity of spill
- Personal injury involved
- Exact location of spill
- Containment procedures initiated
- Anticipated clean up and disposal procedures
- Disposal location of spill residue
- Assistance required

- Narrative summarizing all communication with Local, State, and Federal offices and media contacts with their names and telephone numbers or addresses

The Contractor shall take immediate action to clean up the spill unless directed otherwise by the Agency.

B. UST Removal Guidance and References:

1. PEI: Publication RP1700 - Recommended Practices for the Closure of Underground Storage Tank and Shop-Fabricated Aboveground Storage Tank Systems.
2. API: 1604 Closure of Underground Petroleum Storage Tanks.
3. API: 2003 Protection Against Ignitions Arising Out of Static, and Stray Currents
4. API: 2015 Requirements for Safe Entry and Cleaning of Petroleum Storage Tanks
5. NFPA 30, Flammable and Combustible Liquids Code/ NFPA 30A, Motor Fuel Dispensing Facilities and Repair Code
6. NFPA 70, National Electric Code (NEC)
7. U.S. Dept of Labor, Occupational Safety and Health Administration (OSHA) 29 CFR 1910.206, Flammable and Combustible Liquids
29 CFR 1910.106, Personal Protective Equipment
8. California Code of Regulations (CCR) Title 22 CCR Hazardous Waste Regulation
9. San Diego Regional Water Board: CCR Title 23 State of California Water Resource Control Board's Title 23 UST Tank Regulations
10. CCR Title 24 California Building Standards Code
11. State Water Resources Control Board (SWRCB)
 - i. National Pollutant Discharge Elimination System (NPDES) California Storm Water BMP Handbook for Construction, Development, and Industrial and Commercial.
12. State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES)
13. San Diego Department of Environmental Health and Quality (DEHQ)
14. San Diego County Air Pollution Control District; California Air Resources Board (CARB) Rules and Regulations

15. 2022 California Fire Code
 - i. Unidocs: UN-001 UST Closure
 - ii. UN-002 Sump Closure

All work specified herein shall conform to or exceed the requirements of the above referenced codes, regulations, and; provided, that whenever the provisions of said publications are in conflict with the requirements specified herein, the stringent requirement shall apply.

The Contractor is responsibility to conform with State of California Water Resource Board, CUPA, SDAPCD, and CARB requirements for UST removal and installation. This includes the Hazardous Waste Tank Closure Form.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

1.1 GENERAL:

Provide suitable personnel, material and equipment to clean and remove the fuel piping and tanks and all sludge and liquids that may be in the piping and tanks prior to removal. Take all necessary precautions during removal of the tanks to prevent spills or damage to utilities adjacent to the area.

A. Project Security:

Construction fencing shall be erected before any construction work, excavation or other site preparation begins. The design of all construction fencing must meet current OSHA standards. Fencing needs to be installed to prevent public access to any construction sites/areas. When fencing is required, it will surround the entire construction activity and be kept in place throughout the construction activity and not removed until the need has ceased and the area made safe.

The construction fencing will be reviewed and accepted by the Engineer a minimum of one week prior to its installation. A site logistic plans for fencing shall be submitted by the Contractor. Depending upon the need for protection, construction fencing can be 48" or 60" high. It is not acceptable to place "construction tape" or hazard cones around excavations.

B. Locate and clearly mark all subsurface utilities in the area of excavation. Conduct activities to minimize interference with, and to protect the existing surfaces of, adjacent structures and utilities.

- C. Perform tank removal in a manner that will minimize dust, noise, and other nuisance and maintain haul routes for disposal of material clean and free of debris.
- D. Stockpile: Soil backfill material shall be stored on site for reuse. Stockpiles shall be kept 5 feet beyond the limits of the excavation. Unsatisfactory soil, per the Geotechnical Report and Engineer, shall be kept separately from reuse soil. Stockpiles shall be kept in a neat and well drained condition. Always consider drainage.

1.2 TANK AND PIPING LIQUID REMOVAL:

- A. All electrical, water, gas, and other utility services to the demo area shall be de-energized prior to removal of the UST. (Lock-Out-Tag-Out).
- A. Bond equipment to UST and ground tank to a separate ground when purging tank with compressed air or inert gas under pressure. Purge product lines with nitrogen back to the tank to remove excess fuel in pipelines. Remove all products to their lowest draw-off point. Per SDCAPCD all product in piping to be drained back to the USTs and that the residual free product remaining in the USTs is less than 1/1000 the volume of the original tank size.
- B. Use a vacuum truck to remove liquid residuals from the UST. Ensure proper grounding. Direct vacuum exhaust away from possible ignition sources.
- C. Perform final cleaning by triple water rinse of UST with detergent (Simple Green) at 15 psi. Collect liquid with vacuum truck each rinse cycle.

1.3 UST TANK AND PIPING REMOVAL

- A. Remove UST ancillary equipment (pump turbine, UST sensors, and drop tubes).
- B. Flammable vapors shall be removed from the USTs by displacement with inert gas. The vapors shall be made inert by adding solid carbon dioxide, (dry ice), in the amount of 1.5 pounds per 100 gallons of tank capacity. The dry ice shall be crushed and distributed evenly over the greatest possible area to ensure rapid sublimation. All available tank openings shall be open to the atmosphere during this procedure to ensure rapid dissipation of the dry ice.
- C. To evaluate the effectiveness of the dry ice procedure, the Contractor shall use a suitably calibrated instrument to determine if the resultant vapor mixture within the tanks exceeds ten percent of the Lower Explosive Limit (LEL). Readings shall be taken throughout the USTs depth wherever access is possible. If the vapors within the tanks exceed ten percent of the LEL, the displacement procedure shall be repeated followed by a recheck of the LEL until the vapors are less than 10 percent of the LEL.
- D. Dig down to expose upper half of USTs. During excavation, exercise extreme caution in order to maintain the integrity of the UST.

- E. Place excavated contaminated soil material on minimum 6-mil thickness polyethylene in a separate stockpile and protect pending sampling results for appropriate disposal, as hazardous/non-hazardous waste.
- F. Disconnect suction, inlet, gauge and all other tank fixtures, except the vent line.
- G. Temporarily plug all tank openings, complete the excavation, and remove the tank, placing it in a secure location. Tank must be blocked to prevent movement.
- H. Excavate to uncover existing piping associated with the tank. Using no sparking tools, remove tank, hold down straps and dead men, and piping without causing major damage to the tank or piping. Excavate to uncover existing piping associated with the tank.

1.4 UST TANK AND PIPING DISPOSAL

- A. The Contractor shall submit a lifting plan (lifting plan should be reviewed and approved by a qualified individual) for the UST removal for approval by the Engineer.
- B. Each UST should be secured onto a truck or vehicle and transported to a certified tank disposal facility, in accordance with all applicable federal, state, and local regulations. The Contractor shall prepare the proper manifests or bills of lading. The facility has an active Environmental Protection Agency (EPA) identification. All waste generated must be shipped under the EPA ID. Waste handlers and haulers shall have proper CA, DOT, and EPA hazardous waste IDs for possible hazardous waste that may be generated during the UST removal.
- C. The Agency is responsible for soil and groundwater sampling collected per Title 23 CCR 2672 (d) and witnessed by San Diego County Department of Environmental Health and Quality representative. Laboratory sampling will be submitted to a Certified California Testing Laboratory under proper chain of custody. Closure reports shall follow Title 23 requirements.

Assist the Agency with the Unified Program Consolidated Form Hazardous Waste Hazardous Waste Tank Closure Certification form, and coordinate and cooperate with the Agency for the required sampling and testing to be performed.

END OF SECTION

DIVISION 10 – SPECIALTIES

10 14 00 Signage

PART 1 GENERAL

1.1 SIGN COMMUNICATIONS FOR FUEL SYSTEMS

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.3 DEFINITIONS

- A. ANSI: American National Standards Institute
- B. NFPA: National Fire Protection Agency

1.4 QUALITY ASSURANCE

Signage shall follow ANSI Z535.4-2023: Product Safety Signs And Labels standards.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

1.1 SIGN COMMUNICATIONS FOR FUEL SYSTEMS

Signage: See Project Plans. Shall consist of weather resistant stickers or silk-screened aluminum. Signage to include but not limited to:

- A. Warning Signs shall be conspicuously posted in dispensing area and shall incorporate the following or equivalent wording:
 - a. It is unlawful and dangerous to dispense fuel into unapproved containers.
 - b. No smoking
 - c. Stop motor.
 - d. No filling of portable containers in or on motor vehicle
 - e. Place container on ground before filling.
 - f. Discharge your static electricity before fueling by touching a metal surface away from the nozzle.
 - g. Do not re-enter your vehicle while fueling.
 - h. Do not allow individuals under licensed age to use the pump.
- B. "EMERGENCY STOP BUTTON" sign will be prominently displayed and mounted at the emergency stop buttons.
- C. Fire Extinguishers – Fire extinguishers will have heavy duty covers with "FIRE EXTINGUISHER" signs clearly posted on the covers.
- D. Lettering on the "NO SMOKING" signs will be white and minimum of 2" in height on a red background.

- E. Lettering on the “FLAMMABLE” signs will be white and minimum of 3” in height on a red background.
- F. Lettering on the “EMERGENCY STOP BUTTON” and “OVERFILL ALARM” signs will be white and minimum of 2” in height on a red background.
- G. Emergency Phone signage (see Division 26 00 00 Section 9)

END OF SECTION

DIVISION 26 – ELECTRICAL

26 00 00 Electrical

PART 1 GENERAL

1.1 SUMMARY OF WORK: INSTALLATION OF ELECTRICAL EQUIPMENT

1.2 RELATED DOCUMENTS

A. Electrical Specifications are presented in the Project Plans.

1.3 DEFINITIONS

- A. GRC: Galvanized Rigid Conduit
- B. PVC: Polyvinyl Chloride.
- C. RMC: Ridge Metal Conduit

PART 2 PRODUCTS

1.1 Conduit: Conduit used for this project shall be installed as per Project Plans. All underground conduits shall be PVC with the last segment and transition from underground elbows being PVC coated GRC. All above grade conduit shall be GRC.

- A. Rigid steel conduit (GRC) and fittings
 - i. Hot dipped galvanized with interior surface coated with baked enamel.
 - ii. Or fittings shall be threaded type with material to match conduit.
- B. Liquidtight Flexible Conduit and Fittings
 - i. Flexible metal conduit with a PVC jacket.
 - ii. Fittings shall be steel compression type watertight.
- C. PVC Plastic Conduit and Fittings
 - i. Heavy wall polyvinyl chloride, Schedule 40.
 - ii. Fittings shall be solvent weld type of same material and manufacturer as the conduit.
- D. Conduit Supports
 - i. Conduit clamps and supports shall be steel or malleable iron with galvanized coating.
 - ii. Use of drive in wood or plumber's perforated is prohibited.

1.2 Conductors:

- A. The cable shall be suitable for the intended application and shall be manufactured consistent with the best commercial practice.

PART 3 EXECUTION

- A. Tank Monitoring and Leak Detection: The Contractor will provide and install (1) new Veeder Root TLS 450 console.

- A. Tank monitoring and leak detection shall be installed in dedicated low voltage communication conduit.
 - B. Cable shall be shielded type per manufactures recommendations.
 - C. Wiring to tank level probe elements to be installed using shielded twisted pair conductor with drain in ¾" conduit.
 - D. Wiring to tank probes and sensors to be installed using shielded cables such as Beldon 88760, 8760, or 8770 in ¾" conduit or other equivalent brand.
 - E. Install all probe and sensor modules with tank probes and liquid sensors per Veed Root instruction manual.
 - F. All wiring to be installed per Veed Root instruction manual and manufactures specifications.
 - G. Audible / visual overfill alarms must be installed and configured to alarm at 90% capacity.
 - H. Place all conduit and electrical for future PLLD (electronic leak detection).
- B. Fuel Control System: Veeder Root TLS 450I System is to be utilized. The following outlines the general electrical requirements. The Contractor is responsible for verifying and complying with the specific installation requirements for the equipment.
- A. The FE Petro system will need to be wired back to dispenser control system.
 - i. Install a 20-amp, 120 Volt, 1-phase circuit for AC power to Fuel management unit from building.
 - ii. All conduits associated with the FE Petro system to be PVC conduits. With last 5ft GRC.
 - iii. Install all wiring to dispenser per FE Petro instruction manual.
 - iv. Telephone line using Cat6 cable to be installed to the FE Petro unit from the electrical room located in the building.
 - v. Install pulse outputs to FE Petro using Belden 8771 conductor or equivalent in ¾" GRC conduits as required.
- C. Emergency Disconnect Switches:
- A. Emergency disconnect switches shall be installed per Project Plans.
 - B. Switches shall be clearly identified for their designated purpose.
 - C. Disconnecting switches in the fueling area shall remove power to the submersible pumps and dispensers.

END OF SECTION

DIVISION 33 – UTILITIES

33 52 10 Fueling System

1.1 SUMMARY OF WORK: INSTALLATION OF NEW UST FUEL SYSTEM

A. Provide new Underground Storage Tank (UST) piping, and dispenser systems in accordance with the Project Plans, and the manufacturer’s written instructions, checklists, and warranty requirements for each system component. UST systems include the products, equipment, and systems identified in this section. Components to be installed includes:

1. Install new Veeder Root TLS 450 tank monitoring system.
2. Verify underground utilities. Improve if required.
3. Install two new 20,000-gallon FRP USTs.
4. Install one new 12,000-gallon FRP UST.
5. Install double wall FRP piping from tanks to dispenser island.
6. Install fuel management and leak detection systems.
7. Install new vent rack system.
8. Install new dispenser island with UDCs, Bollards, and dispensers.
9. Install new Canopy.
10. Install new storm water sloped trench drains and oil water separator.
11. Connect new 4” sch 40 PVC sewer pipe to existing VCP sewer pipe connector.
12. Finish concrete and asphalt work per drawings.
13. Install Safety signage at dispenser island and emergency shutoffs.

B. Provide all bedding material as specified on the drawings and these specifications.

1.2 RELATED DOCUMENTS

A. Project Plans and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.3 DEFINITIONS

- A. API: American Petroleum Institute.
- B. CARB: California Air Resources Board
- C. CCR: California Code of Regulations
- D. CUPA: Certified Unified Program Agencies
- E. ELD: Enhanced Leak Detection
- F. FRP: Fiberglass-Reinforced Plastic
- G. HASP: Health and Safety Plan.
- H. ICC: International Code Council
- I. LEL: Lower Explosive Limit
- J. NFPA: National Fire Protection Association
- K. OSHA: Occupational Safety and Health Administration.
- L. PEI: A. Petroleum Equipment Installation Institute

- M. PID: Photoionization Detector
- N. PSI: Pounds per square inch
- O. SDCAPCD: San Diego County Air Pollution Control District
- P. STP: Submersible turbine pumps
- Q. UDC: Under Dispenser Container
- R. USA: Underground Service Alert
- S. UST: Underground Storage Tank.

1.4 ACTION SUBMITTALS

- A. Submit drawings for fabrication and installation of all system components. Include fully dimensioned layout of all piping, equipment and all associated connection details. Coordinate shop drawings with work of other trades.
- B. Certifications of training from all specified UST and FRP piping manufacturers and all required licenses for underground tank installations installers.
- C. Primary and secondary tanks shall also be pressure/vacuum tested by the tank manufacturer. Results shall be submitted to the Agency.
- D. The Contractor shall submit a lifting plan (lifting plan should be reviewed and approved by a qualified individual) for the UST removal for approval by Engineer.
- E. Product Data:
Submit all catalog data and other descriptive literature to fully substantiate the conformance with specifications of equipment and materials submitted. Mark product data to indicate exactly those items that are to be provided and cross out unrelated or non-applicable items. In addition, submit the manufacturer's detailed installations instruction on all equipment and materials submitted.

1.5 QUALITY ASSURANCE

Installation of all systems shall be performed by a Contractor who is a licensed installer for underground tank systems. The Contractor shall be certified by the tank manufacturer as a trained fiberglass piping and tank installer.

The Contractor shall install compatible components and shall perform all modifications necessary for the proper operation and guarantee of the equipment. If any of the work or equipment fails to meet the Contract Requirements or to function properly, the defects shall be rectified at the Contractor's own expense by readjusting, or by removing and replacing the faulty work or equipment until, under test, the requirements are met.

Equipment and installation necessary to accomplish the work specified herein shall comply with the latest revisions of the applicable federal, state, and local codes and regulations concerning underground or aboveground fuel storage and dispensing systems including but not limited to the following:

- A. American Petroleum Institute (API) 1615b- Installation of underground storage tanks.
- B. Petroleum Equipment Installation Institute (PEI)
 - i Publication RP 100 - Recommended Practices for Installation of Underground Liquid Storage Systems
 - ii Publication RP 300 - Recommended Practices for Installation and Testing of Vapor Recovery Systems
 - iii Publication RP 500 – Recommended Practices for Inspection and Maintenance of Motor Fuel Dispensing Equipment
 - iv Publication RP 1200 – Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities
- C. Underwriters Laboratories, Inc. (UL)
 - i UL-1316 FRP Underground Tanks for Flammable and Combustible Liquids
 - ii UL-971 FRP Nonmetallic Underground Piping For Flammable Liquids
 - iii UL-2039 Flexible Connector Piping for Flammable and Combustible Liquids
 - iv UL-330 A&B Hose and Hose Assemblies for Use with Dispensing Devices
 - v UL-87 A&B Power-Operated Dispensing Devices
 - vi UL 567 A&B Standard for Emergency Breakaway Fittings, Swivel Connectors and Pipe-Connection
- D. National Fire Protection Association (NFPA)
 - i NFPA 30, Flammable and Combustible Liquids Code
 - ii NFPA 30A, Motor Fuel Dispensing Facilities and Repair Code
 - iii NFPA 70, National Electric Code (NEC)
- E. U.S. Dept of Labor, Occupational Safety and Health Administration (OSHA)
 - i 29 CFR 1910.206, Flammable and Combustible Liquids
 - ii 29 CFR 1910.106, Personal Protective Equipment
- F. California Code of Regulations (CCR) Title 22 CCR Hazardous Waste Regulation
- G. San Diego Regional Water Board: CCR Title 23 State of California Water Resource Control Board’s Title 23 UST Tank Regulations
- H. State Water Resource Control Board LG 161-5 Enhanced Leak Detection
- I. CCR Title 24 California Building Standards Code
- J. San Diego Department of Environmental Health and Quality (DEHQ)
- K. San Diego County Air Pollution Control District; California Air Resources Board (CARB) Rules and Regulations

- L. 2022 California Fire Code
 - i Unidocs: UN-001 UST Closure
 - ii UN-002 Sump Closure

All work specified herein shall conform to or exceed the requirements of the above referenced codes, regulations and standards; provided, that whenever the provisions of said publications are in conflict with the requirements specified herein, the stringent requirement shall apply.

PART 2 PRODUCTS

2.1 EQUIPMENT AND MATERIALS:

All equipment and materials covered by the other referenced specifications shall be subject to acceptance through the manufacturer's certification of compliance with the applicable specifications, when requested by the Agency.

2.2 CERTIFICATION: Manufacturer's certifications shall not relieve the Contractor of the Contractor's responsibility to provide materials in accordance with these specifications and acceptable to the Agency. Materials supplied and/or installed that do not materially comply with these specifications shall be removed, when directed by the Agency and replaced with materials which do comply with these specifications, at the sole cost of the Contractor.

2.3 UNDERGROUND TANKS FOR STORAGE OF PETROLEUM

A. Fiberglass reinforced plastic (FRP) tanks shall be as manufactured by Xerxes, CSI or equal:

1. Install tanks in strict conformance with manufacturer's instructions. The Contractor shall be trained by the tank manufacturer for installation of the tanks.
2. Primary and secondary tanks shall be vacuum tested by the tank manufacturer to assure structural integrity. Results shall be provided to the Agency. The UST may be shipped with brine monitoring solution. Verify the condition and level of the brine monitoring solution per manufactures instructions.
3. Tanks shall be double wall construction for containment of leaks with interstitial space between primary (internal) and secondary (external) tank walls to allow for free flow of all leaked product from the primary tank. The interstitial space shall also allow for filling with a brine solution as a hydrostatic leak detection monitoring device with a monitoring fitting and reservoir in the secondary tank wall. Fabricate tanks in conformance with UL-1316 FRP Underground Tanks for Flammable and Combustible Liquids. Primary and secondary tanks shall be constructed and tested at the factory and in the field at 5 psi pressure with 5 to 1 safety factor with no loss in pressure for 24 hours.

4. Tank penetrations shown on drawings shall be reviewed for accuracy. Manways shall include a gasket suitable for the material contained within the tank and stainless-steel bolts, nuts and washers.

2.4 PIPING

- A. Fiberglass Pressurized piping shall be 3" over 2" NOV -A.O. Smith Red Thread fiberglass pipe. Fiberglass piping shall be labeled with a UL 971 markings.

Joining shall be bell and spigot tapered adhesive bonded joint with two-part epoxy adhesive for primary product piping system. Adhesives shall be a two-part amine cured epoxy in use for a period of at least 5 years. They will be 100% methanol and ethanol compatible. The glue will have a cure temperature of 4-6 hours at 50 degrees.

Secondary containment fittings shall be clamshell wing nut bolted fittings for. Secondary containment piping and fittings shall be one pipe size larger than primary product piping and fittings.

Both primary and secondary containment piping shall be sloped to drain back to tank at slopes indicated on drawings. Primary piping systems shall be rated at 150 psi working pressure (-60 to 150 degrees F). Secondary containment piping system shall be 5 psi working pressure.

- B. Ridge Piping: Black steel piping ASTM A53 shall be Schedule 40 in sumps and schedule 80 for vent stacks. All aboveground piping shall be painted. Full port ball valve with swivel flex connector shall be installed at the submersible pumps to allow for system isolation and testing. Directional check valves shall be installed in each of the diesel STP sumps. The Contractor's installation technician shall hold a current manufactures training certificate for the piping material.
- C. Flexible Piping: In Sumps and UDC applications: Stainless steel UL 2039 flex connectors. Emergency shut-off valves with swivel flex connectors shall be installed at the dispensers. All piping runs shall be continuous, whereby there shall be no fittings or piping connections, for either the primary or secondary containment pipe which are not visible or accessible from the above ground surface. The secondary containment system shall provide water tight containment of the primary piping.

2.5 UNDERGROUND TANKS ANCILLARY EQUIPMENT

A. Monitoring System

Tank Monitoring System (No Substitutions) – The new system will be the Veeder Root monitoring system to be located in the cabinet per Project Plans. The controller consists of inventory management, static leak detection, alarms, delivery function, TCP/IP, USB interface; POS interface, and comes complete with two output relays and one input relay to include:

1. Sump sensors non discriminating: Veeder Root VR 791390-208.
2. Mini Hydrostatic Sensor: Veeder Root VR-791380-301.
3. Pump electronic Line leak detector. Veeder Root 848480-001.
4. ATG, tank level magnetostrictive probe: Veeder Root 846390-109.
5. Tank Level Float Kit: Veeder Root 846400-001.
6. Vacuum sensor kit: Veeder Root VR-330020-180.
7. Interstitial Liquid Sensor. Veeder Root VR-794390-303
8. Mini Hydrostatic sensor. Veeder Root VR-794380-304.

B. Cap and Adapters – Fill cap to be OPW 634TT, fill adapter to be OPW 61SA swivel adapter, vapor cap to be OPW 1711T, vapor adapter to be OPW 61VSA swivel adapter or equivalent for clamp and adapters.

C. Spill Protection – Shall consist of OPW Fibrelite MP with Drain double-wall 5-gallon spill bucket Valve and Cast Iron Base or equal on the fill and on the vapor recovery riser. Product connection with OPW Swivel Adaptors.

D. Overfill Drop Tube – Drop tube to be OPW 61T-SS with OPW 71SO overfill prevention valve or equal.

E. Manhole Covers & Lids – STP manhole cover to be composite bolt down and meet or exceed Highway Specification-20 (H20).

F. Piping STP Sump:

G. Under Dispenser Containment (UDC):

1. UDC by Bravo: Double wall brine filled with Fiberglass test boot.
2. Shall be installed in 6" raised island
3. Equipped with a liquid sensors
4. Detection of liquid in these containment vessels shall positively shut down the submersible turbine pump
5. Shear Valve: Gas & Diesel: OPW OPW-10BHMP-5830. Shear Vapor OPW OP60-VSP-100.
6. Pressure/Vacuum Vent Caps to be OPW 623V or similar to meet NESHAP requirement for >100,000 gal/mo.

H. Submersible Turbine Pump (STP)

1. Diesel STPs shall be FE Petro 2hp (STP200-VL2) with electronic line leak detection and prepped for PLLD or equal equipment.
2. Unleaded STPs shall be FE Petro 2hp (STP200-VL2) with electronic line leak detection and prepped for PLLD or equal equipment.

I. Venting

1. Carbon canister for vapor polishing. Veeder Root. Electronic vapor sensor.
2. Unleaded pressure vacuum vent by OPW. Diesel rain guard cap by OPW.
3. Vent Riser Containment Sump: Bravo FR-3X2-T Brine
4. Flex connectors by Flexing FFEZ20X24.

J. Dispensers

The unleaded and diesel dispensers are single product single hose minimum Gasboy Atlas 1+0 Dispensers.

1. Unleaded hose 12-foot Coaxial balance whip hose from Continental. Diesel hose 8-foot from Continental.
2. Unleaded ERVR Nozzle by VST. Diesel nozzle by Huskey.
3. This dispenser shall be configured and wired to work with the fuel management system.
4. The dispenser shall be equipped with all hoses, nozzles, swivels, breakaways and filters.

PART 3 EXECUTION

1.1 GENERAL:

All aspects of this system shall be installed in accordance with the equipment manufacture specifications. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship to produce Work of specified quality. Coordinate all work through the Engineer. Follow fabrication/manufacture's instructions. Install fuel system with anchorage devices designed to withstand stresses, vibration, physical distortion, and disfigurement. Discrepancies should be brought to the attention of the Engineer and resolved prior to proceeding. Specified standards are considered minimum quality for the Work. Follow higher standards where applicable and appropriate.

1.2 Quality Control Testing & Inspection – Quality testing shall be performed by the Contractor at their expense unless otherwise noted and shall include but not be limited to:

- A. New fuel system testing.
- B. Concrete testing during new fuel system installation provided by Agency.
- C. All testing will be performed in accordance with applicable standards, regulations and manufactures recommended procedures.
- D. All testing shall be witnessed by the applicable agencies and the Engineer.

- E. Documentation of all testing shall be provided to the Agency upon completion.

1.3 UNDERGROUND STORAGE TANKS:

All testing will be performed in accordance with the State of California Title 23 Storage Tank Regulations and manufactures recommended procedures.

The USTs shall be manufactured by Xerxes or CSI double wall fiberglass 20,000-gallon and 12,000-gallon tanks with the Truchek brine system or equal. USTs shall include fiberglass attached collars for sumps. The USTs shall have double walled sumps (42") for STP and fill/Vapor ports with watertight flat sealed multiport covers.

- A. Excavation Preparation: Preparation of the excavation for the USTs shall follow recommendations from the *"Geotechnical Evaluation Carlsbad Underground Storage Tank (UST) Replacement"* Ninyo & Moore, 2021.
- B. Excavation for tanks shall be large enough to provide a minimum clearance of 12 inches between the ends and sides of tanks and the sides of the excavation. Tanks shall be at least 12 inches apart.
- C. Settlement Notes: Settlement may cause tank distortion and subsequent system failure. Excavation and backfill material specifications must be followed. If any movement or settlement or distortion occurs, it will be presumed that the Contractor has not followed proper installation techniques. The Contractor shall immediately undertake at their expense any necessary corrective actions required to mitigate the problem and replace damaged parts.
- D. Place 12-inches bedding material smooth and level over excavation floor prior to placement of the USTs. The USTs must be set level. Place 12-inch backfill material evenly around tank after the USTs are set. Ensure backfill is placed around ribs with no voids.
- E. Unloading and placement of the USTs in the excavations shall be conducted per the lifting plan. When using multiple lifting lugs sling should never exceed 60 degrees. Do not wrap chains or cables around the tank for lifting.
- F. Tank shall be sloped according to the Project Plans. If the USTs are sloped the brine reservoir should be at the high end.
- G. Place backfill material evenly on opposite sides of the tank so that the tank does not shift.
- H. Test the USTs by enhanced leak detection methods per manufactures instructions. Do not add monitoring fluid until after the tank burial is complete.
- I. Measure tank defection prior to placement of reinforced concrete cover placement.

1.4 TANK APPURTENANCES

- A. General: Tank appurtenances shall be as shown on Project Plans and specified below. Appurtenances shall be Underwriters Laboratories (UL) listed for underground storage

of petroleum products. All appurtenances exposed to the earth in final installation shall, where practical, be shop installed, tested and painted/coated with the same coating going on the tanks before shipment to the site.

- B. UST Sumps Shall be constructed of double wall fiberglass. Sumps shall be constructed with a water tight manway lid and equipped with a liquid sensor. Concrete penetrations for the pump turbines and fill ports shall be constructed as follows.
 - 1. Concrete around port covers shall slope two (2) percent away from lids to shed precipitation.
 - 2. The underside of the frame must be adequately supported by concrete.
 - 3. Install FL Series frame flush with concrete or 1/16" below grade (to allow for traffic clearance).

1.5 TANK PIPING INSTALLATION:

- A. All fiberglass piping shall be installed and supported in pea gravel, in accordance with the Manufacturer's recommendations, applicable codes, and as shown on the Project Plans.
- B. All fill, suction, return, vent, and diesel discharge lines shall be sloped towards the storage tank at minimum 1 inch per 8 feet of pipe, or as approved by the Engineer. The Contractor shall set the tanks to provide sufficient slope to the tanks.
- C. Vent Pipes: Each tank shall be provided with a separate vent pipe. It shall not be less than 2 inches in diameter and shall run from the tank to the outer air and terminate at a height greater than the fill pipe opening and 12 feet above the roof of any adjacent building in a non-hazardous location. All outside exposed vent pipes shall be Sch. 80 galvanized steel.
- D. All pipes and valves, except where otherwise indicated, shall be arranged so as to be easily accessible for maintenance and repairs. No change in the general arrangement indicated on the Project Plans will be allowed unless approved by the Engineer. Where lengths of pipe are finally assembled, the fittings shall be in correct alignment without forcing them into position.
- E. All pipes shall be cut accurately. Deformed or damaged pipe shall in no case be used. All bends shall be made with standard elbows and fittings. All threads shall be cleaned thoroughly and covered with suitable joint compound before joints are made. Every piece of pipe, valve, and fitting which is part of the pipe work shall be cleaned thoroughly before and, whenever possible, after installation.

1.6 TANK & PIPING TESTING:

- A. Each tank containment sump assembly shall be tested in accordance with the manufacturer's testing equipment and methods to verify the integrity of the sump

assembly. This test shall demonstrate that the sump assembly, including all piping and conduit entry boots, the tank manway, and the manhole cover and frame assembly, is watertight. Each containment sump assembly shall be tested in the presence of the Engineer at different stages of installation to verify the integrity of the sump assembly. This test shall be performed on each sump assembly after installation of piping and conduit, after placement of backfill, and when tank top slab is installed and installation is complete. If a sump assembly fails this test, the Contractor shall take appropriate steps, at his own expense, to correct the installation until he can demonstrate that the sump is watertight.

- B. Primary product, vent and vapor piping shall be pressure and soap tested at 70 psi for one hour 24 hours after curing in front of third-party inspector.
- C. Secondary product, vent and vapor piping shall be pressure and soap tested at 5 psi operating pressure 24 hours after curing in front of third-party inspector.
- D. The STP sump, under dispenser containment, and spill bucket shall be hydro tested in accordance with state regulations. Only mechanical repairs shall be permitted.
- E. Third-Party verification of Brine in UDCs, vent boxes, turbine and fill sumps
- F. Perform Enhanced Leak Detection (ELD) Pretest per the State Water Resource Board guidance LG-161-5. ELD is a test method that ascertains the integrity of an underground storage tank (UST). ELD must be permed by a certified third-party inspector, and must be capable of detecting both a vapor or liquid release at a rate of at least 0.005-gallons per hour. Qualified individuals must have the proper California Contractors License listed in Section 02 41 00-DEMOLITION, 1.5 and possess all manufacturers' certificates of training for those equipment on which they are working on. Any failures must be reported to the Agency immediately.

1.7 INSPECTION AND REPORTING

- A. During the installation of the fueling systems the Contractor shall coordinate the required inspections to be witnessed by State agencies including the CUPA or the local fire department. Including but not limited to the following points during the project:
 - 1. When ELD testing is performed
 - 2. When the piping is pressure/soap tested
 - 3. When the containment/sumps are hydro tested
 - 4. Just prior to commissioning for service for final inspection of the entire functioning system
 - 5. Perform Enhanced Leak Detection (ELD) Final Testing
 - 6. The systems shall not be commissioned for service until a written authorization has been received from CUPA and the local fire department.
 - 7. Thirty (30) day registration update after installation with CUPA.

B. The Engineer must be notified 72 hours prior to each scheduled inspection. Prior to commissioning the systems for service, all systems shall be function tested and shall include but not be limited to:

1. Emergency stop and resets.
2. Liquid sensors in transition sumps and under dispenser containment
3. Mechanical Leak Detectors.
4. Confirm hydraulic continuity during startup to dispensers.
5. Audible / Visual overfill alarms.
6. Function test of all liquid sensors.

Results of this function testing shall be documented and presented to the Agency prior to placing the system into service.

1.8 DEMONSTRATION AND TRAINING

- A. Train Agency's personnel on procedures and schedules related to start-up and shutdown, troubleshooting, servicing, and preventive maintenance.
- B. Representatives of equipment suppliers for the tank monitoring system shall provide necessary training and technical support to the Agency so that the Agency may properly operate and maintain the system.

END OF SECTION

END OF SPECIFICATIONS



**CITY OF CARLSBAD
CONTRACT DOCUMENTS**

FOR:

Carlsbad Fleet Fuel Island Upgrade

Project No. 4747

PWS24-2282FAC

**1635 Faraday Ave, Carlsbad, CA 92008
Email: PWContractAdmin@carlsbadca.gov**

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AGENCY TECHNICAL SPECIFICATIONS

SECTION 1

00 11 10 NOTICE INVITING BIDS

1. RECEIPT OF BIDS.

The City of Carlsbad (“Agency”) will accept Bids via electronic format via the City of Carlsbad Electronic Bidding Site up to and no later than **11 a.m. (PST), on August 14, 2024** through the online bidding portal ([Contracting & Purchasing | Carlsbad, CA \(carlsbadca.gov\)](https://carlsbadca.gov/contracting-purchasing)) for the construction of the Work entitled:

**CARLSBAD FLEET FUEL ISLAND UPGRADE PROJECT
CONTRACT NO. PWS24-2282FAC
Project No. 4747**

2. DESCRIPTION OF WORK.

The Work includes the provision of all equipment, labor, materials, tools, services, transportation, permits, utilities, and all other items necessary to complete the construction of the following, as specified and shown in the Construction Documents: The Carlsbad Fleet Fuel Island Upgrade, 2480 Impala Drive in Carlsbad, CA 92010. The City desires to upgrade the fuel island to current regulatory standards, with regard to electrical, mechanical and technology infrastructure, as detailed in the contract documents. The Work Site is located in the City of Carlsbad, in the County of San Diego, California.

3. COMPLETION OF WORK.

The city anticipates awarding this project in October 2024. The Contract Time has been established as 365 calendar days in anticipation of achieving substantial completion by December 1, 2025. The Contract Time shall begin as specified in the Notice to Proceed.

The Engineers’ estimate for this Project is \$1,789,514.

4. OPENING AND AWARD OF BIDS.

Agency shall consider awarding the Contract for the Project to the lowest, responsive, responsible Bidder as determined by the Agency from the base Bid alone. The Agency has the right to reject any or all Bids or to waive any irregularities or informalities in any Bids or in the Bidding process.

5. PERIOD FOR AWARD.

A period of ninety (90) Calendar Days from the time of Bid opening may be required to award the Contract. No Bidder may withdraw its Bid or Bid Guarantee during this period. Bidders shall assume full responsibility for their Bid Price during this period and shall make certain that such delay does not restrict the Bid Guarantee.

6. BIDDER QUALIFICATIONS.

Bidders shall be licensed contractors pursuant to Business and Professions Code Sections 7000 *et seq.* under the classification of Class B, General Building Contractor as of the date of submittal of the Bid Documents and shall maintain such license until final acceptance of the Work. Additional qualifications are included in the Contract Documents.

7. PRE-BID CONFERENCE.

The Agency will conduct a Mandatory Pre-Bid Conference at the Agency's office (address listed below) on **July 17, 2024, at 11 a.m. (PST)**. Bidders will have the opportunity to walk the project area.

Address: 2480 Impala Drive in Carlsbad, CA 92010

Representatives of the Agency and consulting engineers, if any, will be present. Questions asked by Bidders at the Pre-Bid Conference not specifically addressed within the Contract Documents shall be answered in writing and shall be sent to all Bidders present at the Pre-Bid Conference and be posted on the online bidding portal. Bids will not be accepted from any bidder who did not attend a mandatory Pre-Bid Conference.

8. OBTAINING CONTRACT DOCUMENTS.

Bidders may obtain a copy of the Contract Documents from Agency's website ([Contracting & Purchasing | Carlsbad, CA \(carlsbadca.gov\)](https://www.carlsbadca.gov/Contracting-Purchasing)). To the extent required by Public Contract Code Section 20103.7, upon request from a contractor plan room service, the Agency shall provide an electronic copy of the Contract Documents at no charge to the contractor plan room. It is the responsibility of each prospective Bidder to download and print all Bid Documents for review and to verify the completeness of Bid Documents before submitting a Bid. All Addenda will be posted on the online bidding portal. It is the responsibility of each prospective Bidder to check the online bidding portal on a daily basis through the close of the bidding period for any applicable Addenda. The Agency does not assume any liability or responsibility for any defective or incomplete copying, excerpting, scanning, faxing, downloading or printing of the Bid Documents. Information on the online bidding portal may change without notice to prospective Bidders. The Contract Documents shall supersede any information posted or transmitted by the online bidding portal. No time extensions or other consideration will be given for non-receipt or other circumstance associated with the review or acquisition of Contract Documents. Bids must be submitted on the Agency's Bid Forms in the Contract Documents.

9. BID GUARANTEE AND BONDS.

Each Bid shall be accompanied by cash, a certified or cashier's check or Bid Bond secured from a surety company satisfactory to the Agency, the amount of which shall not be less than 10% of the submitted Total Bid Price, made payable to the Agency as bid security. The bid security shall be provided as a guarantee that within 10 Working Days after the Agency provides the successful bidder the Notice of Award, the successful Bidder will enter into a contract and provide the necessary bonds and certificates of insurance. The bid security will be declared forfeited if the

successful Bidder fails to comply within these 10 Working Days. No interest will be paid on funds deposited with the Agency.

All Bidders must upload Bidder's Bond to the online bidding portal. The original Bid Bond for the 3 apparent low Bidders must be submitted to the city within 2 Business Days of Bid opening. The successful Bidder will be required to furnish a Faithful Performance Bond and a Labor and Material Bond each in an amount equal to 100% of the Contract Price. Each bond shall be in the forms set forth in the Contract Documents, shall be secured from a surety company that meets all State of California bonding requirements, as defined in Code of Civil Procedure Section 995.120, and that is a California admitted surety insurer. Pursuant to Public Contract Code Section 22300, the successful Bidder may substitute certain securities for funds withheld by Agency to ensure its performance under the Contract.

10. PREVAILING WAGE RATES AND LABOR COMPLIANCE.

This Project is subject to prevailing wages and labor compliance per the Labor Code. To this end, Bidder shall sign and submit with its Bid the California Department of Industrial Relations (DIR) Public Works Contractor Registration Certification on the form 00 45 00 provided. Failure to submit this form may render the bid non-responsive. In addition, each Bidder shall provide the registration number for each listed Subcontractor in the space provided in the Proposed Subcontractors form. In bidding this Project, it shall be the Bidder's sole responsibility to evaluate and include the cost of complying with all labor compliance requirements under this Contract and applicable law in its Bid. A copy of the prevailing wage rates may be obtained via the internet at: www.dir.ca.gov/dlsr/.

11. PROJECT ADMINISTRATION/QUESTIONS.

Requests for Information (RFI) or interpretations of Bid Documents during the bid period shall be submitted via Online Q&A in the online bidding portal.

The cutoff date and time to submit questions or substitution request regarding this Project via Online Q&A in the online bidding portal is **July 31, 2024, at 5 p.m. (PST)**. No questions will be entertained after that date.

The answers to questions submitted during the bidding period will be published in an addendum and provided to those bidding on the Project no later than **August 7, 2024**.

For further information, see the online bidding portal.

END OF SECTION

00 21 10 INSTRUCTIONS TO BIDDERS

1. SECURING CONTRACT DOCUMENTS.

Bids must be submitted to the Agency on the Bid Forms which are a part of the Contract Documents for the Project. The Contract Documents may be obtained from the Agency's online bidding portal ([Contracting & Purchasing | Carlsbad, CA \(carlsbadca.gov\)](https://carlsbadca.gov/contracting-purchasing)). Prospective bidders are encouraged to communicate with the Agency well in advance of the date and time bids are due to the Agency ("Bid Submission Deadline") to determine the availability of Contract Documents.

The Agency may also make the Contract Documents available for review at one or more plan rooms. Prospective Bidders who choose to review the Contract Documents at a plan room must contact the Agency to obtain the required Contract Documents if they decide to submit a Bid for the Project.

Addenda will be posted on the online bidding portal. Failure to acknowledge all Addenda may make a Bid nonresponsive and ineligible for award of the Contract. Bidders are advised to verify the issuance of all Addenda and receipt of them 1 Working Day prior to bidding. Failure to acknowledge all Addenda may make a Bid nonresponsive and ineligible for award of the Contract.

2. EXAMINATION OF SITE AND CONTRACT DOCUMENTS.

At its own expense and before submitting its Bid, each Bidder shall visit the Site of the proposed Work and fully acquaint itself with the conditions relating to the construction and labor required so that the Bidder may fully understand the Work, including but not limited to, difficulties and restrictions attending the execution of the Work under the Contract. Each Bidder shall carefully examine the Drawings, and shall read the Specifications, Contract Documents, and all other referenced documents. Each Bidder shall also determine the local conditions which may in any way affect the performance of the Work, including local tax structure, contractors' licensing requirements, availability of required insurance, the prevailing wages and other relevant cost factors. Each Bidder shall also familiarize itself with all federal, state and local laws, ordinances, rules, regulations and codes affecting the performance of the Work, including the cost of permits and licenses required for the Work, and shall make such surveys and investigations, including investigations of subsurface or latent physical conditions at the Site or where Work is to be performed as may be required. Bidders are responsible for consulting the standards referenced in the Contract. The failure or omission of any Bidder to receive or examine any contract documents, forms, instruments, addenda, or other documents, or to visit the Site and acquaint itself with conditions there existing shall in no way relieve any Bidder from any obligation with respect to its Bid or to the Contract and no relief for error or omission will be given except as required under California law. The submission of a Bid shall be taken as conclusive evidence of compliance with this Section.

3. INTERPRETATION OF DRAWINGS AND DOCUMENTS.

Prospective Bidders unclear as to the true meaning of any part of the Drawings, Specifications or other parts of the Contract Documents, or discrepancies in or omissions from the Drawings and

Specifications, may promptly submit a written request for information, interpretation, clarification, or correction (“RFI”) to the Bid Administrator, the Agencies designated representative for soliciting and conducting bids on the Agencies online ebidding portal. (defined below). The Agency may not respond to RFIs submitted past the Q&A Submission Deadline. The Bidder submitting the RFI is responsible for prompt delivery to the Bid Administrator.

Responses to RFIs will be made only by duly issued written Addenda. The Agency shall not provide verbal responses to RFIs. Copies of written Addenda will be posted on the online bidding portal for each prospective Bidder who has downloaded a set of Contract Documents. The Agency will not be responsible for any other explanation or interpretations of the Drawings, Specifications or other parts of the Contract Documents. If any Prospective Bidder becomes aware of any errors or omissions in any part of the Contract Documents, the Prospective Bidder must promptly notify the Agency of such error or omission.

Before award of the Contract, no addition to, modification of, or interpretation of any provision in the Contract Documents will be given by any agent, employee or contractor of the Agency except as otherwise specified in these Instructions to Bidders. No bidder may rely on verbal directions given by any agent, employee or contractor of the Agency except as specified in these Instructions to Bidders.

4. QUESTIONS.

Questions regarding this Project must be submitted through the online ebidding portal. Questions shall be definite and certain, and shall reference applicable drawing sheets, notes, details or specification sections. The deadline to submit questions is identified in the Notice Inviting Bids. Questions received after the deadline may not be answered. Responses to questions submitted during the bidding period will be published in an Addendum and provided to those bidding on the Project no later than the date specified in the Notice Inviting Bids.

Except for the Agency’s Bid Administrator, no other members of the Agency’s staff or Board should be contacted about this procurement during the bidding process. All inquiries and comments from Prospective Bidders regarding a proposed Bid must be communicated in writing, unless otherwise instructed by the Agency. The Agency may, in its sole discretion, disqualify any Prospective Bidder who engages in any prohibited communications.

5. PRE-BID CONFERENCE.

The Notice Inviting Bids shall state whether a Pre-Bid Conference will be held and, if so, whether attendance is mandatory. Bids will not be accepted from any bidder who did not attend a Mandatory Pre-Bid Conference. The Conference will commence at the specified start time and the Site visit will begin at the conclusion of the Conference. Prospective Bidders who arrive late and who do not sign the “Sign-In” or attendance sheet, may be disqualified from the bidding process.

Representatives of the Agency and its consultants, if any, will be present to the extent possible. Questions asked by Bidders at the Pre-Bid Conference not specifically addressed within the

Contract Documents shall be answered in writing and shall be sent to all Bidders present at the Pre-Bid Conference.

A Pre-Bid Conference may include a Project Site visit. Personal Protective Equipment (PPE) is required of all Job Walk attendees as necessary. Attendees are required to wear closed toe shoes, long pants, no sleeveless shirts, safety glasses (may be prescription with side shields if in process areas), safety vests and hard hats. Only those possessing such attire will be allowed on the Job Site. The Agency will not provide personal protective equipment to Job Walk attendees.

6. ADDENDA.

The Agency may revise the Contract Documents before the Bid Submission Deadline. Revisions, if any, shall be made by written Addenda. All Addenda will be posted on the online bidding portal. All Addenda issued by the Agency shall be acknowledged by the Bidder on the online bidding portal and made part of the Contract Documents. The Bidder shall acknowledge the Addenda before submitting its Bid. Bidders are responsible for the receipt of all Addenda. The Agency may reject a Bid if the Bidder fails to acknowledge all Addenda.

Pursuant to Public Contract Code Section 4104.5, if the Agency issues an Addendum which includes material changes to the Project less than 72 hours before the Bid Submission Deadline, the Agency will extend the Bid Submission Deadline by no less than 72 hours. The Agency may determine, in its sole discretion, whether an Addendum warrants postponement of the Bid Submission Deadline.

7. ALTERNATE BIDS.

If alternate Bid items are called for in the Notice Inviting Bids and the Contract Documents, the time required for completion of the Work for the alternate Bid items is factored into the Contract duration and no additional Contract time will be awarded. The Agency may elect to include one or more of the alternate Bid items, or to otherwise remove certain work from the Project scope of work. Accordingly, each Bidder must ensure that each Bid item contains a proportionate share of profit, overhead, and other costs or expenses which will be incurred by the Bidder.

If the Agency utilizes alternate Bid items as described above, the Notice Inviting Bids will prescribe predetermined criteria for the Bid package selection or a selection process in which price information and Bidder identities are not revealed to the Agency before the Bid Submission Deadline.

8. COMPLETION OF BID FORMS.

Bids shall only be prepared using the Bid Forms which are included in the Contract Documents. The use of substitute Bid Forms other than legible and correct photocopies of those provided by the Agency are prohibited. Bids shall be executed by an authorized signatory as described in these Instructions to Bidders. In addition, Bidders shall fill in all blank spaces (including inserting "N/A" where applicable), and initial all interlineations, alterations, or erasures to the Bid Forms. Bidders shall neither delete, modify, nor supplement the printed matter on the Bid Forms nor make

substitutions thereon. Use of black or blue ink, indelible pencil, or a typewriter is required. Deviations from these instructions may result in the Bid being deemed non-responsive.

The following documents must be completed and properly executed including notarization, where indicated, and submitted as a part of the complete Bid Package:

1. Bid Form (00 41 00)
2. Bid Bond (00 43 10) or Bid Security (00 43 20) with check/cash
3. Proposed Subcontractors Form (00 43 30)
4. Bidder Information and Experience Form (00 43 40)
5. Non-Collusion Affidavit (00 45 10)
6. Iran Contracting Act Certification (00 45 15)
7. Public Works Contractor Registration Certification (00 45 20)
8. Certificate of Insurance (00 45 25)
9. Statement Regarding Debarment (00 45 30)
10. Disclosure of Discipline Record (00 45 35)
11. Acknowledgement of ALL Addenda on the online bidding portal.
12. Optional Escrow Agreement, as applicable (00 61 30)

All Bids shall be computed on the basis of the given estimated quantities of work, as indicated in the Bid, multiplied by the unit price as submitted by the Bidder.

When paper copies are submitted, all prices must be written in ink or typewritten. Changes or corrections may be crossed out and typed or written in with ink and must be initialed in ink by a person authorized to sign for the Contractor.

9. GOVERNING GENERAL PROVISIONS.

The Specifications contained in the Agency Supplemental General Provisions (00 73 00) take precedence over the specification language contained in the Standard Specifications for Public Works Construction, “the Greenbook” latest edition and all errata. The Supplemental General Provisions address the unique conditions in the City of Carlsbad that are not addressed in the Greenbook. Therefore, if there is a conflict between the two, the Supplemental Provisions shall control over the Greenbook.

The Greenbook may be purchased at Bidder’s/Contractor’s local technical bookstore, online or directly from the publisher. The Supplemental Provisions are available only for download from the online bidding portal with Contract Documents. The Agency does not provide hard copies.

10. MODIFICATIONS OF BIDS.

Each Bidder shall submit its Bid in strict conformity with the requirements of the Contract Documents. Unauthorized additions, modifications, revisions, conditions, limitations, exclusions, or provisions attached to a Bid may render it non-responsive and may cause its rejection. Bidders shall not delete, modify, or supplement the printed matter on the Bid Forms, or make substitutions thereon. Oral, telephonic, and electronic modifications will not be considered.

11. BID GUARANTEE.

Each Bid shall be accompanied by: (a) a cashier's check; or, (b) a certified check made payable to Agency; or, (c) a Bid Bond secured from a surety company satisfactory to the Board, the amount of which shall not be less than 10% of the total bid price, made payable to Agency as bid security. Personal sureties and unregistered surety companies are unacceptable. The surety insurer shall be a California admitted surety insurer, as defined in Code of Civil Procedure Section 995.120. The bid security shall be provided as a guarantee that within 10 Working Days after the Agency provides the successful Bidder the Notice of Award, the successful Bidder will enter into a contract and provide the necessary bonds and certificates of insurance. The bid security may be declared forfeited if the successful Bidder fails to enter into a contract and provide the necessary bonds and certificates of insurance. Any Bid received that does not comply with these Bid Guarantee instructions may be rejected as non-responsive, and Agency may enter into a contract with the next lowest, responsive, responsible Bidder, or may call for new Bids. No interest shall be paid on funds deposited with the Agency. Copies of Bid Bonds submitted to the Agency shall have the same force and effect as the original.

The Bidder's security of the second and third next lowest responsive Bidders may be withheld until the Contract has been fully executed. The security submitted by all other unsuccessful Bidders shall be returned to them, or deemed void, within 10 Working Days after the Contract is awarded.

The proceeds of the Bidder's security may also become property of the Agency if the Bidder withdraws its Bid within 15 Calendar Days after the Bid opening date, unless otherwise required by law, including Public Contract Code Section 5100 *et. seq.*, and notwithstanding the award of the Contract to another Bidder.

The Bidder shall submit Bid Bond (00 43 10) or Bid Security (00 43 20) with properly certified check with the Bid Package.

12. LABOR & MATERIAL BOND AND PERFORMANCE & WARRANTY BOND REQUIREMENTS.

The successful Bidder shall furnish Agency with a Labor and Material Payment Bond and a Performance and Warranty Bond, each in an amount equal to 100% of the Contract price. Each bond shall be secured from a surety company that meets all State of California bonding requirements, as defined in Code of Civil Procedure Section 995.120 and is admitted by the State of California, and whose assets exceed their liabilities in an amount equal to or in excess of the amount of the bond. The Agency shall not accept personal sureties and unregistered surety companies. Each bond shall be accompanied, upon the request of Agency, with all documents required by Code of Civil Procedure Section 995.660 to the extent required by law. All bonding and insurance requirements shall be completed and submitted to Agency within 10 Working Days from the date the Agency provides the successful Bidder with the Notice of Award.

These bonds shall be kept in full force and effect during the course of this Project, and shall extend in full force and effect and be retained by the Agency until they are released as stated in

the Contract. The Bonds are to be accompanied by an original, or a certified copy, of the unrevoked appointment, power of attorney, by laws, or other instrument entitling or authorizing the person who executed the bond to do so.

13. SUBSTITUTION OF SECURITY.

The Contract Documents call for monthly progress payments based upon the percentage of the Work completed. The Agency will retain a percentage of each progress payment as provided by the Contract Documents. At the request and expense of the successful Bidder, the Agency will substitute securities for the amount so retained in accordance with Public Contract Code Section 22300.

14. OPTIONAL ESCROW FOR SECURITY DEPOSIT.

Pursuant to applicable provisions of law (i.e., Public Contract Code Section 10263), appropriate securities may be substituted for any obligation required by these instructions or for any monies withheld by the Agency to ensure performance under the Contract. Public Contract Code Section 10263 requires monies or securities to be deposited with the Agency or a state or federally chartered bank in California as the escrow agent. The escrow agent shall maintain insurance to cover negligent acts and omissions of the agent in connection with the handling of retentions under this section in an amount not less than \$100,000 per contract.

15. INSURANCE REQUIREMENTS.

Before commencing the Work, the successful Bidder shall purchase and maintain insurance as set forth in the Agency General Conditions. If the Bid is accepted, and if requested by the Agency, Contractor shall provide Agency or preferred vendor copies of the insurer's most recent annual statement and quarterly statement filed with the Department of Insurance pursuant to Insurance Code Section 900 *et seq.* within 10 Calendar Days of the insurer's receipt of a request to submit the statements.

In accordance with the provisions of Labor Code Section 3700, Contractor shall secure the payment of compensation to its employees. Contractor shall sign and file with the Agency the following certificate before performing the Work under the Contract:

I am aware of the provisions of Labor Code Section 3700, which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of the Contract.

The form of such, Certificate of Insurance (00 45 25), shall be submitted as a part of the Bid Package.

Insurance must be placed with insurers that:

- 1) Have a rating in the most recent Best's Key Rating Guide of at least A-:VII, or
- 2) Appear on the List of Approved Surplus Line Insurers, ("LASLI") with a Best's Key Rating Guide of at least A: X.

- 3) Are admitted to conduct the business of insurance in the State of California by the Insurance Commissioner.
- 4) Otherwise comply with all other aspects of City Council Policy No. 70.

Auto policies offered to meet the specification of this Contract must:

- 1) Meet the conditions stated above for all insurance companies.
- 2) Cover any vehicle used in the performance of the Contract, used onsite or offsite, whether owned, non-owned or hired, and whether scheduled or non-scheduled.

Workers' compensation insurance required under this Contract must be offered by a company meeting the above standards with the exception that the Best's rating condition may be waived. The Agency does accept policies issued by the State Compensation Fund meeting the requirement for workers' compensation insurance.

The Contractor shall be required to maintain insurance as specified in the Contract. Any additional cost of the insurance shall be included in the Bid price.

The award of the Contract by the Board is contingent upon the Contractor submitting the required bonds and insurance, as described in the Contract Documents, within 10 Working Days of bid opening. If the Contractor fails to comply with these requirements, the Agency may award the Contract to the second or third lowest Bidder and the bid security of the lowest Bidder may be forfeited.

16. LICENSING REQUIREMENTS.

Pursuant to Business and Professions Code Section 7028.15 and Public Contract Code Section 3300, all Bidders must possess proper licenses for performance of the Contract. Subcontractors must possess the appropriate licenses for each specialty subcontracted. Pursuant to Business and Professions Code Section 7028.5, the Agency shall consider any Bid submitted by a contractor not currently licensed in accordance with California law and pursuant to the requirements found in the Contract Documents to be nonresponsive, and the Agency shall reject the Bid. The Agency shall have the right to request, and Bidders shall provide within 10 Calendar Days, evidence satisfactory to the Agency of all valid license(s) currently held by that Bidder and each of the Bidder's Subcontractors, before awarding the Contract.

Notwithstanding anything contained in this Contract, if the Work involves federal funds, the Contractor shall be properly licensed by the time the Contract is awarded, pursuant to the provisions of Public Contract Code Section 20103.5.

17. SUBCONTRACTORS.

Bidder shall set forth the name, address of the place of business, and contractor license number of each Subcontractor who will perform work, labor, furnish materials or render services to the bidder on the Contract. This requirement includes each Subcontractor licensed by the State of California who, under subcontract to Bidder, specially fabricates and installs a portion of the Work described in the Drawings and Specifications in an amount in excess of one-half of one

percent (0.5%) of the total Bid price. Additionally, the Bidder shall indicate the portion of the Work to be done by each Subcontractor in accordance with Public Contract Code Section 4104.

Bidder shall submit Proposed Subcontractors Form (00 43 30) with the Bid Package.

This form will be used by the Agency to determine the percentage of work that the Bidder proposes to perform. Bidders are cautioned that failure to provide complete and correct information may result in rejection of the Bid as non-responsive. Any Bid that proposes performance of more than 50 percent of the Work by Subcontractors or performance by forces other than the Bidder's own organization will be rejected as non-responsive. Specialty items of work that may be so designated on the Proposed Subcontractors Form (00 43 30) "Contractor's Bid" will not be included in computing the percentage of work proposed to be performed by the Bidder.

Suppliers of materials from sources outside the limits of Work are not Subcontractors. The value of materials and transport of materials from sources outside the limits of Work, as shown on the plans, shall be assigned to the Contractor or the Subcontractor, as the case may be, that the Bidder proposes as installer of the materials. The value of material incorporated in any Subcontractor-installed Bid item that is supplied by the Bidder shall be included as a part of the Work that the Bidder proposes to be performed by the Subcontractor installing the item.

When the Bidder proposes to use a Subcontractor to construct or install less than 100 percent of a Bid item, the Bidder shall attach an explanation sheet to the Proposed Subcontractor Form (00 43 30). The explanation sheet shall clearly apprise the Agency of the specific facts that show the Bidder proposes to perform no less than fifty percent (50%) of the Work with its own forces.

Determination of the subcontract amounts for purposes of award of the Contract shall be determined by the Board in conformance with the provisions of the Contract Documents. The decision of the Board shall be final.

Contractor is prohibited from performing any Work on this Project with a Subcontractor who is ineligible to perform work on a public works project pursuant to Labor Code Section 1771.1 or 1777.7.

Bidders shall make copies of the disclosure forms as may be necessary to provide the required information to Subcontractors. The page number and total number of additional form pages shall be entered in the location provided on each type of form so duplicated.

18. BIDDER INFORMATION AND EXPERIENCE FORM.

Each Bidder shall complete the provided questionnaire and shall submit the questionnaire along with its Bid. Failure to provide all information requested within the questionnaire along with the Bid may cause the Bid to be rejected as non-responsive. The Agency may reject any Bid if an investigation of the information submitted does not satisfy the Agency that the Bidder is qualified to properly carry out the terms of the Contract.

The Bidder shall submit Bidder Information and Experience Form (00 43 40) with the Bid Package.

19. NON-COLLUSION AFFIDAVIT.

Bidders on all public works contracts are required to submit an affidavit of non-collusion with their Bid. This form (00 45 10 Non-Collusion Affidavit) is included with the Bid Package and must be signed and dated under penalty of perjury.

20. IRAN CONTRACTING ACT OF 2010.

In accordance with Public Contract Code Section 2200 *et seq.*, the Agency requires that any person that submits a bid or proposal or otherwise proposes to enter into or renew a contract with the Agency with respect to goods or services of \$1,000,000 or more, certify at the time the bid is submitted or the contract is renewed, that the person is not identified on a list created pursuant to subdivision (b) of Public Contract Code Section 2203 as a person engaging in investment activities in Iran described in subdivision (a) of Public Contract Code Section 2202.5, or as a person described in subdivision (b) of Public Contract Code Section 2202.5, as applicable.

The form of such Iran Contracting Certificate is included with the Bid Package and must be signed and dated under penalty of perjury.

21. PUBLIC WORKS CONTRACTOR REGISTRATION CERTIFICATION.

Pursuant to Labor Code Section 1773, the Agency has obtained the prevailing rate of per diem wages and the prevailing wage rate for holiday and overtime work applicable in San Diego County from the Director of the Department of Industrial Relations for each craft, classification, or type of worker needed to execute this Contract. A copy of these prevailing wage rates may be obtained via the internet at www.dir.ca.gov/dlsr/.

In addition, a copy of the prevailing rate of per diem wages is available at the Agency and shall be made available to interested parties upon request. The successful Bidder shall post a copy of the prevailing wage rates at each job site. It shall be mandatory upon the Bidder to whom the Contract is awarded, and upon any Subcontractors, to comply with all Labor Code provisions, which include but are not limited to the payment of not less than the specified prevailing wage rates to all workers employed by them in the execution of the Contract, employment of apprentices, hours of labor and debarment of contractors and subcontractors.

Pursuant to Labor Code Sections 1725.5 and 1771.1, all contractors and subcontractors that wish to bid on, be listed in a bid, or enter into a contract to perform public work must be registered with the Department of Industrial Relations. No bid will be accepted nor any contract entered into without proof of the contractor's and subcontractors' current registration with the Department of Industrial Relations to perform public work. If awarded the Contract, the Bidder and its Subcontractors, of any tier, shall maintain active registration with the Department of Industrial Relations for the duration of the Project.

This Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. In bidding on this Project, it shall be the Bidder's sole responsibility to evaluate and include the cost of complying with all labor compliance requirements under the Contract and applicable law in its Bid.

To this end, Bidder shall sign and submit with its Bid the Public Works Contractor Registration Certification on the form provided, attesting to the facts contained in the registration certificate. Failure to submit this certificate may render the Bid non-responsive. In addition, each Bidder shall provide the registration number for each listed Subcontractor in the space provided in the Proposed Subcontractors Form (00 43 30).

22. PREVAILING WAGES.

Pursuant to Labor Code Sections 1720, *et. seq.* and 1770, *et. seq.*, Contractor shall pay prevailing wages for all Work performed under the Contract. The Agency has obtained from the Director of the Department of Industrial Relations the general prevailing rate of per diem wages in the locality in which the Work will be performed for each craft or type of worker needed to execute the Contract. These rates are available at the Agency or may be obtained online at <http://www.dir.ca.gov>. Bidders are advised that a copy of these rates must be posted by the successful Bidder at the job site(s).

23. DEBARMENT OF CONTRACTORS AND SUBCONTRACTORS.

In accordance with the provisions of the Labor Code, contractors or subcontractors may not perform work on a public works project with a subcontractor who is ineligible to perform work on a public project pursuant to Labor Code Section 1777.1 or 1777.7. Any contract on a public works project executed between a contractor and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works contract. Any public money that is paid to a debarred subcontractor by the Contractor for the Project shall be returned to the Agency. The Contractor shall be responsible for the payment of wages to workers of a debarred Subcontractor who has been allowed to work on the Project.

The Agency may disqualify a Contractor or Subcontractor from participating in bidding when a Contractor or Subcontractor has been debarred by the Agency or another jurisdiction in the State of California as an irresponsible bidder.

24. SIGNING OF BIDS.

All Bids submitted shall be executed by the Bidder or its authorized representative. Bidders may be asked to provide evidence in the form of an authenticated resolution of its Board of Directors or a Power of Attorney evidencing the capacity of the person signing the Bid to bind the Bidder to each Bid and to any Contract arising therefrom.

If a Bidder is a joint venture or partnership, it may be asked to submit an authenticated Power of Attorney executed by each joint venturer or partner appointing and designating one of the joint venturers or partners as a management sponsor to execute the Bid on behalf of Bidder. Only that

joint venturer or partner shall execute the Bid. The Power of Attorney shall also: (1) authorize that particular joint venturer or partner to act for and bind Bidder in all matters relating to the Bid; and (2) provide that each venturer or partner shall be jointly and severally liable for any and all of the duties and obligations that the Bidder assumes under the Bid and under any Contract arising therefrom. The Bid shall be executed by the designated joint venturer or partner on behalf of the joint venture or partnership in its legal name.

25. SUBMISSION OF SEALED BIDS.

Once the Bid and supporting documents have been completed and signed as set forth in these Instructions to Bidders, they shall be uploaded, along with other required materials, to the online bidding portal before the deadline for submitting bids.

At the time of Bid submission, whether in the form of a cashier's check, a properly certified check or an approved corporate surety bond payable to the Agency, Bidders must upload an electronic Portable Document Format (PDF) copy of the Bid Guarantee to the online bidding portal. The first 3 apparent low Bidders must provide the Agency with the original Bid Guarantee within 2 Business Days after the Bid opening date.

Failure to submit the electronic version of the Bid Guarantee at time of bid submission shall cause the bid to be rejected and deemed **non-responsive**. Failure to provide the original within 2 business days may deem the bidder **non-responsive**.

Original Bid Bond shall be submitted to:

Public Works Contract Administration
Attention: Janean Hawney, Contract Administrator
1635 Faraday Avenue
Carlsbad, California, 92008

No oral or telephonic Bids will be considered. Pursuant to Public Contract Code Sections 1600 and 1601, only where expressly permitted in these Instructions to Bidders and the Notice Inviting Bids may Bidders submit their Bids via electronic transmission (the online bidding portal). Bids received after the Bid Submission Deadline will not be accepted. Agency may reject any Bid not strictly complying with Agency's designated methods for delivery.

26. OPENING OF BIDS.

Bids submitted on the online bidding portal will be reviewed by the Agency. Once the Bid Submission Deadline has passed, Bidders, proposers, the general public, and Agency staff are able to immediately see the results online. Agency shall consider award of the Contract to the lowest, responsive, responsible Bidder as determined by the Agency consistent with Section 32 below. In case of a discrepancy between the line item entries submitted in the online bidding portal and the Bid Form, the online bidding portal shall prevail. In the event of any discrepancies, written numbers (e.g., fifty, hundred) will govern over numerical numbers (e.g., 50, 100) on the Bid Form.

In the event of any discrepancies, written numbers (e.g., fifty, hundred) will govern over numerical numbers (e.g., 50, 100) on the Price Proposal Form. Also, the sum of all lump sum line items will govern over the "Total Proposed Lump Sum Price" line item. The Agency may reject any or all Bids or waive any irregularities or informalities in any Bids or in the Bidding process.

The Bid and the terms of the Contract Documents constitute an irrevocable offer that shall remain valid and in full force for a period of 90 Calendar Days from the Bid Submission Deadline and such additional time as may be mutually agreed upon by the Agency and the Bidder.

27. WITHDRAWAL OF BID.

Any Bid may be withdrawn via written letter, incurring no penalty, at any time before the scheduled closing time for receipt of Bids. Requests to withdraw Bids shall be worded to not reveal the amount of the original Bid. Withdrawn Bids may be resubmitted until the Bid Submission Deadline, provided that resubmitted Bids are in conformance with these Instructions to Bidders.

Bids may be withdrawn after bid opening only by providing written notice to Agency within five (5) Working Days of the bid opening and in compliance with Public Contract Code Section 5100 *et seq.*, or as otherwise may be allowed with the consent of the Agency.

28. BIDDERS INTERESTED IN MORE THAN ONE BID.

No Bidder shall be allowed to make, file or be interested in more than 1 Bid for the same work unless alternate Bids are specifically called for. If the Notice Inviting Bids provides for alternate Bids, a person, firm or corporation that has submitted a sub-proposal to a Bidder, or that has quoted prices of materials to a Bidder, is not disqualified from submitting a sub-proposal or quoting prices to other Bidders. No person, firm, corporation, or other entity may submit a sub-proposal to a Bidder, or quote prices of materials to a Bidder, when also submitting a prime Bid on the same Project.

29. SALES AND OTHER APPLICABLE TAXES, PERMITS, LICENSES, AND FEES.

Contractor and its Subcontractors performing work under the Contract will be required to pay California sales tax and other applicable taxes, and to pay for permits, licenses and fees required by the agencies with authority in the jurisdiction in which the Work will be located, unless otherwise expressly provided by the Contract Documents.

30. PERMIT AND INSPECTION FEE ALLOWANCE.

Notwithstanding anything contained in these Instructions to Bidders, the Bid Form contains an allowance for the Contractor's cost of acquiring traffic control permits and for construction inspection fees that may be charged to the Contractor by the Agency. The allowance is included within the Bid Form to eliminate the need by Bidders to research or estimate the costs of traffic control permits and construction inspection fees before submitting a Bid. The allowance is specifically intended to account for the costs of traffic control permits and construction inspection fees charged by the Agency. No other costs payable by Contractor to the Agency are included within the allowance.

If such cost is not specified in the Bid Form, the Contractor shall include the costs in the other Bid items on the Bid Form.

31. BASIS OF AWARD; BALANCED BID.

The Agency shall award the Contract to the lowest responsible Bidder submitting a responsive Bid. The lowest Bid will be determined on the basis of the total Bid price. In the event of any discrepancies, written numbers (e.g., fifty, hundred) will govern over numerical numbers (e.g., 50, 100) on the Price Proposal Form. Also, the sum of all lump sum line items will govern over the "Total Proposed Lump Sum Price" line item.

The Agency may reject any Bid which, in its opinion when compared to other Bids received or to the Agency's internal estimates, does not accurately reflect the cost to perform the Work. The Agency may reject as non-responsive any Bid which unevenly weights or allocates costs, including but not limited to overhead and profit to 1 or more particular Bid items or otherwise violates Public Contract Code Section 9203.

32. AWARD PROCESS.

Once all Bids are opened and reviewed to determine the lowest responsive and responsible Bidder, the Board may award the Contract. Once notified by Agency staff, the apparent successful Bidder should begin to prepare the following documents: (1) the Labor and Materials Bond; (2) the Performance and Warranty Bond; and (3) the required insurance certificates and endorsements. Once the Agency notifies the Bidder of the award, the Bidder will have 10 Working Days from the date of this notification to execute the Contract and supply the Agency with all of the required documents and certifications or the Bidder may forfeit the Bid security and the Agency may pursue award of the Contract to the next lowest, responsive, responsible Bidder. Once the Agency receives all properly drafted and executed documents and certifications from the Bidder, the Agency shall issue a Notice to Proceed to that Bidder.

33. EXECUTION OF CONTRACT.

As required in these Instructions to Bidders, the Bidder to whom an award is made shall execute the Contract in the amount determined by the Contract Documents. The Agency may require appropriate evidence that the persons executing the Contract are duly empowered to do so. The Contract and bond forms to be executed by the successful Bidder are included within these Specifications and shall not be detached.

34. BUSINESS LICENSE

The prime Contractor and all Subcontractors are required to have and maintain a valid City of Carlsbad Business License for the duration of the Contract.

35. PARTICIPATION OF MINORITY AND WOMEN-OWNED BUSINESSES.

The Agency encourages the participation of minority and women-owned businesses.

36. USE OF RECYCLED MATERIALS

The Agency encourages Bidders, suppliers, manufacturers, fabricators and contractors to utilize recycled and recyclable materials when available, appropriate and approved by the Agency's Engineer.

37. STATUTORY REFERENCES

All references in these Instructions to Bidders (00 21 10) to any statute, rule or regulation are to the statute, rule or regulation as amended, modified, supplemented or replaced from time to time by the corresponding legislative or regulatory body.

END OF SECTION

00 41 00 BID FORM

NAME OF PROJECT: Carlsbad Fleet Fuel Island Upgrade

CONTRACT NO.: PWS24-2282FAC

NAME OF BIDDER: _____

AGENCY: City of Carlsbad
1635 Faraday Ave
Carlsbad, CA 92008

The undersigned declares that we have carefully examined the location of the proposed Work, and have read and examined the Contract Documents, including all Plans, Specifications, and Addenda, if any, for the above-mentioned Project. The undersigned has acknowledged receipt, understanding, and full consideration of ANY and ALL Addenda to the Contract Documents via the online bidding portal.

We propose to furnish all labor, materials, equipment, tools, transportation, and services, and to discharge all duties and obligations necessary and required to perform and complete the Project, as described and in strict conformity with the Drawings, and these Specifications for TOTAL BID PRICE.

- Attached is the required Bid Bond (00 43 10) or Bid Security (00 43 20) in the amount of not less than 10% of the Total Bid Price.
- Attached is the completed Proposed Subcontractors form (00 43 30).
- Attached is the completed Bidder Information and Experience form (00 45 40)
- Attached is the fully executed Non-collusion Affidavit (00 45 10).
- Attached is the completed Iran Contracting Act Certification form (00 45 15).
- Attached is the completed Public Works Contractor Registration Certification form (00 45 20).
- Attached is the completed Certificate of Insurance form (00 45 25).
- Attached is the Statement of Regarding Debarment form (00 45 30)
- Attached is the Disclosure of Discipline Record (00 45 35)
- Attached is the Optional Escrow Agreement (if applicable) (00 61 30)

1. BID SCHEDULE

Schedule "A" per GENERAL AND TECHNICAL SPECIFICATIONS, PROJECT MANUAL AND PLANS				
Item No.	Item Description	Unit of Measure	Unit Price	Total Price
A-1	Mobilization (See Contract Section 2 paragraph 01 11 20 Measurement and Payment)	LS	N/A	
A-2	General Provisions (including weekly clean up, debris removal and monthly schedule updates) billed monthly	Monthly	N/A	
A-3	Selective demolition	LS	N/A	
A-4	Division 3 – Asphalt & Concrete work	LS	N/A	
A-5	Division 5 – Metals/Canopy	LS	N/A	
A-6	Division 10 – Specialties / Signage	LS	N/A	
A-7	Division 11 – Equipment	LS	N/A	
A-8	Division 26 - Electrical	LS	N/A	
A-9	Division 27 - Communications	LS	N/A	
A-10	Punchlist work scope and completion	LS	N/A	\$20,000
A-11	Closeout documents (complete with warranties and Operations and Maintenance manuals	LS	N/A	\$15,000
A-12	Demobilization and site clean up	LS	N/A	\$20,000
A-13	Removal and Disposal of up to 24 CY of contaminated soil (Disposal to include: HAZWOPER workers/PPE/ Excavation/soil sampling & Analytical/ Manifesting and hauling to disposal site)*	CY		
A-14	Allowance for Removal and Disposal of more than 24 CY of contaminated soil (Disposal to include: HAZWOPER workers PPE/ Excavation/soil sampling & Analytical/ Manifesting and hauling to disposal site).*	CY		

* Excludes extra shoring, non-petroleum impacted waste, and encountering groundwater.

The costs for any Work shown or required in the Contract Documents, but not specifically identified as a line item are to be included in the related line items and no additional compensation shall be due to Contractor for the performance of the Work.

2. TOTAL BID PRICE

The TOTAL BID PRICE on Bid Schedule “A”:

Total Bid Price in Numbers: _____

Total Bid Price in Written Form: _____

In case of discrepancy between the written price, the numerical price, or the price as submitted via the online bidding portal, the online bidding portal price shall prevail.

The undersigned agrees that this Bid Form constitutes a firm offer to the Agency which cannot be withdrawn for ninety (90) Calendar Days from and after the Bid opening, or until a Contract for the Work is fully executed by the Agency and the lowest responsible Bidder, whichever is late

The Undersigned has carefully checked all the above figures and understands that the Agency will not be responsible for any error or omission on the part of the Undersigned in preparing this Bid.

3. RECITALS

The successful Bidder agrees to sign the Contract and furnish the necessary bonds and certificates of insurance within 10 Working Days after the Agency issues the Notice of Award to the successful Bidder.

The Undersigned agrees that in case of failure to execute the required Contract with necessary bonds and insurance policies within this time period, the Agency may pursue awarding the Contract to the next lowest responsible Bidder and the Bid Security of the lowest Bidder may be forfeited.

Upon receipt of the signed Contract and other required documents, the Agency will proceed to execute the Contract and issue a purchase order and the Notice to Proceed. The time of completion shall commence on the date of the Notice to Proceed, unless otherwise specified. The undersigned agrees to begin the Work within 10 Working Days of the date of the Notice to Proceed, unless otherwise specified.

The Undersigned is aware of the provisions of Labor Code Section 3700, which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code and agrees to comply with such provisions before commencing the performance of the Work of this Contract and continue to comply until the Contract is complete.

The Undersigned is aware of the provisions of Labor Code Section 1770 *et seq.* relative to the general prevailing rate of wages for each craft or type of worker needed to execute the Contract and agrees to comply with its provisions.

The Undersigned Bidder declares, under penalty of perjury, that the undersigned is licensed to do business or act in the capacity of a contractor within the State of California and that this statement is true and correct and has the legal effect of an affidavit. The following are the Bidder's applicable license number(s), with their expiration date(s) and class of license(s):

If the Bidder is a joint venture, each member of the joint venture must include the required licensing information.

A Bid submitted to the Agency by a Contractor who is not licensed as a Contractor pursuant to the Business and Professions Code shall be considered nonresponsive and shall be rejected by the Agency. In all contracts where federal funds are involved, no Bid submitted shall be invalidated by the failure of the Bidder to be licensed in accordance with California law. However, at the time the Contract is awarded, the Contractor shall be properly licensed.

The Undersigned Bidder represents as follows:

1. That no elected or appointed official, officer, agent, or employee of the Agency is personally interested, directly or indirectly, in this Contract, or the compensation to be paid under it; that no representation, oral or in writing, of the Agency, its officers, agents, or employees has induced Bidder to enter into this Contract, excepting only those contained in this form of Contract and the papers made a part of this Contract by its terms; and
2. That this Bid is made without connection with any person, firm, or corporation making a Bid for the same Work, and is in all respects fair and without collusion or fraud.

Accompanying this Bid is _____ (Cash, Certified Check, Bidder's Bond or Cashier's Check) for 10% of the amount Bid, payable to Agency as Bid Security and which is given as a guarantee that the undersigned will enter into a Contract and provide the necessary bonds and certificates of insurance if awarded the Contract.

Organized under the laws of the State of _____.

- an individual
- a partnership
- a corporation

(Signatures continued on next page)

IF A SOLE OWNER OR SOLE CONTRACTOR SIGN HERE:

I certify under penalty of perjury under the laws of the State of California that all of the information submitted in connection with this Bid and all of the representations made in this Bid are true and correct.

1 Name under which
business is
conducted _____

2 Signature (given and
surname) of
proprietor _____

Printed/Typed Name _____

3 Place of Business
(Full Address: street,
number, city, state,
zip) _____

4 Telephone Number _____

5 Email _____

NOTARIAL ACKNOWLEDGMENT OF EXECUTION BY ALL SIGNATORIES MUST BE ATTACHED

IF A PARTNERSHIP, SIGN HERE:

I certify under penalty of perjury under the laws of the State of California that all of the information submitted in connection with this Bid and all of the representations made in this Bid are true and correct.

1 Name under which
business is
conducted

2 Signature (given and
surname and role)
(Note: Signature
must be made by a
general partner)

Printed/Typed Name

3 Place of Business
(Full Address: street,
number, city, state,
zip)

4 Telephone Number

5 Email

NOTARIAL ACKNOWLEDGMENT OF EXECUTION BY ALL SIGNATORIES MUST BE ATTACHED

IF A CORPORATION, SIGN HERE:

I certify under penalty of perjury under the laws of the State of California that all of the information submitted in connection with this Bid and all of the representations made in this Bid are true and correct.

1 Name under which business is conducted _____

2 Signature (given and surname and Title)
(Note: Signature must be made by a someone who can bind the corporation) _____

Printed/Typed Name _____

3 Place of Business
(Full Address: street, number, city, state, zip) _____

4 Telephone Number _____

5 Email _____

NOTARIAL ACKNOWLEDGMENT OF EXECUTION BY ALL SIGNATORIES MUST BE ATTACHED

List below names of president, vice president, CFO, secretary and assistant secretary, if a corporation; if a partnership, list names of all general partners, and managing partners:

Approved as to form this _____ day of _____ 20_____.

Attorney for Agency

END OF SECTION

00 43 10 BID BOND FORM

(Note: This form is not required when other form of Bidder’s Security, e.g. cash, certified check or cashier’s check, accompanies Bid. In that case, use form 00 43 20 Bid Security)

NAME OF PROJECT: Carlsbad Fleet Fuel Island Upgrade

CONTRACT NO.: PWS24-2282FAC

NAME OF BIDDER: _____

The makers of this bond are, _____ as Principal, and _____, as Surety and are held and firmly bound unto the City of Carlsbad (“Agency”) in the penal sum of 10% OF THE TOTAL BID PRICE of the Principal submitted to the Agency for the Work described below, for the payment of which sum in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal has submitted the accompanying Bid dated _____.

If the Principal does not withdraw its Bid within the time specified in the Contract Documents; and if the Principal provides all required documents to the Agency and is awarded the Contract; then this obligation shall be null and void. Otherwise, this bond will remain in full force and effect.

Surety, for value received, stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract Documents shall affect its obligation under this bond, and Surety waives notice of any such changes.

In the event a lawsuit is brought upon this bond by the Agency and judgment is recovered, the Surety shall pay all litigation expenses incurred by the Agency in such suit, including reasonable attorneys’ fees, court costs, expert witness fees and expenses.

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IN WITNESS WHEREOF, the above-bound parties have executed this instrument under their several seals this _____ day of _____, 20____, the name and corporate seal of each corporation.

PRINCIPAL:

Executed by SURETY

(Name of Principal)

this _____ day of _____, 20____

By:

SURETY:

(sign here)

(name of Surety)

(Print name here)

(address of Surety)

(Title and Organization of Signatory)

(telephone number of Surety)

By:

(signature of Attorney-in-Fact)

(printed name of Attorney-in-Fact)

Required Attachments:

- Corporate resolution showing current power of attorney.
- Proper execution by PRINCIPAL.
- Proper notarial acknowledgment of execution by SURETY.
- President or vice-president and CFO, secretary or assistant secretary must sign for corporations. If only 1 officer signs, the corporation must attach a resolution certified by the secretary or assistant secretary under corporate seal empowering that officer to bind the corporation.

END OF SECTION

00 43 20 BID SECURITY

(Note: This form is required when cash, certified check or cashier's check, accompanies Bid. If Bid Bond is being provided, use form 00 43 10 Bid Bond)

NAME OF PROJECT: Carlsbad Fleet Fuel Island Upgrade

NAME OF BIDDER: _____

Accompanying this proposal is a Certified / Cashier's check payable to the order of the City of Carlsbad ("Agency"), in the sum of _____ dollars (\$ _____), this amount being 10% of the total amount of the Bid. The proceeds of this check shall become the property of the Agency, provided this proposal shall be accepted by the Agency through action of its legally constituted contracting authorities and the Undersigned shall fail to execute a Contract and furnish the required Performance, Warranty and Payment Bonds and proof of insurance coverage within the stipulated time; otherwise, the check shall be returned to the Undersigned. The proceeds of this check shall also become the property of the Agency if the Undersigned shall withdraw his or her Bid within the period of 15 Calendar Days after the date set for the opening of the Bid, unless otherwise required by law, and notwithstanding the award of the Contract to another Bidder.

BIDDER

Required Attachments:

- Certified Check or Cashier's Check

END OF SECTION

00 43 30 PROPOSED SUBCONTRACTORS FORM

NAME OF PROJECT: Carlsbad Fleet Fuel Island Upgrade

NAME OF BIDDER: _____

In compliance with the Subletting and Subcontracting Fair Practices Act (Public Contract Code Section 4100 *et seq.*), Bidder shall set forth below: (a) the name and the location of the place of business, (b) the California contractor license number, (c) the DIR public works contractor registration number, and (d) the portion of the Work which will be done by each Subcontractor who will perform work or labor or render service to the Bidder in or about the construction of the Work or improvement to be performed under this Contract in an amount in excess of one-half of one percent (0.5%) of the Bidder's Total Bid Price. Notwithstanding the foregoing, if the Work involves the construction of streets and highways, then the Bidder shall list each Subcontractor who will perform work or labor or render service to the Bidder in or about the Work in an amount in excess of one-half of one percent (0.5%) of the Bidder's Total Bid Price or \$10,000, whichever is greater. No additional time shall be granted to provide the below requested information.

If a Bidder fails to specify a Subcontractor or if a Contractor specifies more than one Subcontractor for the same portion of Work, then the Bidder shall be deemed to have agreed that it is fully qualified to perform that portion of Work and that it shall perform that portion itself. No changes in the Subcontractor's listed Work will be made without the prior approval of the Agency.

Attach additional pages as required.

(Signature of Bidder)

Name of Subcontractor	Location of Business	CSLB Contractor License No./ Exp Date	DIR Registration Number / Exp. Date	Type of Work to be done by Subcontractor	% of Work	Amount of Work by Subcontractor in Dollars*

Pursuant to Public Contract Code Section 4104, subdivision (a)(3)(A), receipt of the information preceded by an asterisk (*) may be submitted by the Bidder up to 24 hours after the deadline for submitting bids contained in the "Notice Inviting Bids."

END OF SECTION

00 43 40 BIDDER INFORMATION AND EXPERIENCE FORM

NAME OF PROJECT: Carlsbad Fleet Fuel Island Upgrade

CONTRACT NO.: PWS24-2282FAC

NAME OF BIDDER: _____

1. INFORMATION ABOUT BIDDER

(Indicate not applicable (“N/A”) where appropriate.)

NOTE: Where Bidder is a joint venture, pages shall be duplicated, and information provided for all parties to the joint venture.

1. Type, if Entity: _____

2. Bidder Address: _____

a. Facsimile Number _____

b. Telephone Number _____

c. Email Address _____

3. How many years has Bidder’s organization been in business as a contractor? _____

4. How many years has Bidder’s organization been in business under its present name? _____

a. Under what other or former names has Bidder’s organization operated?

5. If Bidder’s organization is a corporation, answer the following:

a. Date of Incorporation:

b. State of Incorporation:

c. President’s Name:

d. Vice-President’s Name(s):

e. Secretary’s Name:

f. Treasurer’s Name:

g. CFO’s Name:

6. If an individual or a partnership, answer the following:

a. Date of Organization: _____

b. Name and address of all partners (state whether general or limited partnership):

7. If other than a corporation or partnership, describe organization and name principals:

8. List other states in which Bidder's organization is legally qualified to do business.

9. What type of work does the Bidder normally perform with its own forces?

10. Has Bidder ever failed to complete any work awarded to it? If so, note when, where, and why:

11. Within the last 5 years, has any officer or partner of Bidder's organization ever been an officer or partner of another organization when it failed to complete a contract? If so, attach a separate sheet of explanation:

12. List Trade References:

13. List Bank References (Bank and Branch Address):

14. Name of Bonding Company and Name and Address of Agent:

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2. LIST OF CURRENT PROJECTS (BACKLOG)

[**Duplicate or attach additional pages if needed for listing current projects.**]

Project Name Sub or Prime?	Description of Bidder's Work	Client Name	Completion Date	Cost of Bidder's Work

LIST OF COMPLETED PROJECTS (LAST 3 YEARS)

[**Duplicate or attach additional pages if needed for listing completed projects. **]

Please include only those projects which are similar enough to demonstrate Bidder's ability to perform the required Work.

Project Name Sub or Prime?	Description of Bidder's Work	Client Name	Completion Date	Cost of Bidder's Work

EXPERIENCE AND TECHNICAL QUALIFICATIONS QUESTIONNAIRE

Personnel:

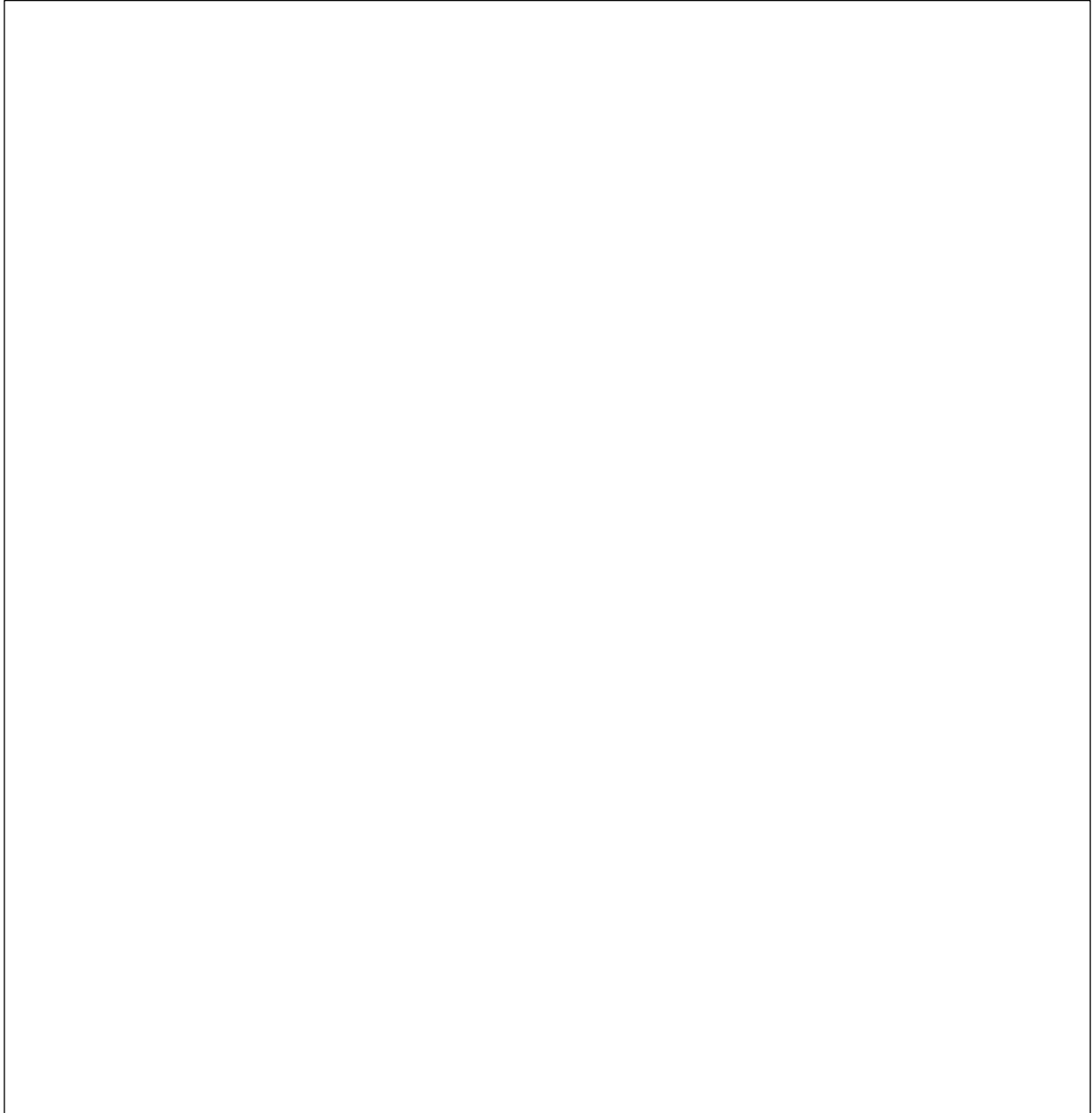
The Bidder shall identify the key personnel to be assigned to this Project in a management, construction supervision or engineering capacity. Add additional pages to identify ALL key personnel. Bidder may submit a 2-page resume of each key personnel mentioned above.

Bidder agrees that personnel named in this Bid will remain on this Project until completion of all relevant Work, unless substituted by personnel of equivalent experience and qualifications approved in advance by the Agency.

Job Title Name % time on this Project	Specialized Education	Years of construction experience relevant to the Project	Summarize the experience

Additional Bidder's Statements:

If the Bidder feels that there is additional information which has not been included in the questionnaire above, and which would contribute to the qualification review, it may add that information in a statement here or on an attached sheet, appropriately marked:



3. VERIFICATION AND EXECUTION

These Bid Forms shall be executed only by a duly authorized official of the Bidder:

I declare under penalty of perjury under the laws of the State of California that the foregoing information is true and correct:

Name of Bidder: _____

Signature _____

Name _____

Title _____

Date _____

END OF SECTION

00 45 10 NON-COLLUSION AFFIDAVIT

NONCOLLUSION DECLARATION TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

NAME OF PROJECT: Carlsbad Fleet Fuel Island Upgrade

NAME OF BIDDER: _____

Consistent with Public Contract Code Section 7106, the undersigned declares:

I am the _____ of _____, the party making the foregoing Bid.

The Bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The Bid is genuine and not collusive or sham. The Bidder has not directly or indirectly induced or solicited any other Bidder to put in a false or sham bid. The Bidder has not directly or indirectly colluded, conspired, connived, or agreed with any Bidder or anyone else to put in a sham bid, or to refrain from bidding. The Bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the Bid Price of the Bidder or any other Bidder, or to fix any overhead, profit, or cost element of the Bid Price, or of that of any other Bidder. All statements contained in the Bid are true. The Bidder has not, directly or indirectly, submitted his or her Bid Price or any breakdown of it, or the contents of it, or divulged information or data relative to it, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent of these, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a Bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, represents that he or she has full power to execute, and does execute, this declaration on behalf of the Bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, and that this declaration is executed _____ 20 ____ at _____ [city], _____ [state].

Signature _____

Name _____

Title _____

END OF SECTION

00 45 15 IRAN CONTRACTING ACT CERTIFICATION

NAME OF PROJECT: Carlsbad Fleet Fuel Island Upgrade

NAME OF BIDDER: _____

As required by Public Contract Code Section 2204, the Contractor certifies subject to penalty of perjury that the option checked below relating to the Contractor's status in regard to the Iran Contracting Act of 2010 (Public Contract Code Section 2200 et seq.) is true and correct:

The Contractor is not:

- 1) identified on the current list of persons and entities engaged in investment activities in Iran prepared by the California Department of General Services in accordance with subdivision (b) of Public Contract Code Section 2203; or
- 2) a financial instruction that extends, for 45 days or more, credit in the amount of \$20,000,000 or more to any other person or entity identified on the current list of persons and entities engaging in investment activities in Iran prepared by the California Department of General Services in accordance with subdivision (b) of Public Contract Code Section 2203, if that person or entity uses or will use the credit to provide goods or services in the energy sector in Iran.

The Agency has exempted the Contractor from the requirements of the Iran Contracting Act of 2010 after making a public finding that, absent the exemption, the Agency will be unable to obtain the goods and/or services to be provided pursuant to the Contract.

The amount of the Contract payable to the Contractor for the Project does not exceed \$1,000,000.

Signature: _____ Date: _____

Name: _____ Title: _____

Note: In accordance with Public Contract Code Section 2205, false certification of this form shall be reported to the California Attorney General and may result in civil penalties equal to the greater of \$250,000 or twice the Contract amount, termination of the Contract and/or ineligibility to bid on contracts for 3 years.

END OF SECTION

00 45 20 PUBLIC WORKS CONTRACTOR REGISTRATION CERTIFICATION

NAME OF PROJECT: Carlsbad Fleet Fuel Island Upgrade

NAME OF BIDDER: _____

Pursuant to Labor Code Sections 1725.5 and 1771.1, all Contractors and Subcontractors that wish to Bid on, be listed in a Bid proposal, or enter into a Contract to perform public work must be registered with the Department of Industrial Relations. See [Public Works \(ca.gov\)](http://Public Works (ca.gov)) for additional information.

No Bid will be accepted, nor any Contract entered into without proof of the Contractor's and Subcontractors' current registration with the Department of Industrial Relations to perform public work.

Bidder certifies that it is aware of the registration requirements set forth in Labor Code Sections 1725.5 and 1771.1 and is currently registered as a Contractor with the Department of Industrial Relations.

Name of Bidder: _____

DIR Registration Number: _____

DIR Registration Expiration: _____

Bidder further certifies:

1. Bidder shall maintain a current DIR registration for the duration of the Project.
2. Bidder shall include the requirements of Labor Code Sections 1725.5 and 1771.1 in its Contract with Subcontractors and ensure that all Subcontractors are registered at the time of Bid opening and maintain registration status for the duration of the Project.
3. Failure to submit this form or comply with any of the above requirements may result in a finding that the Bid is non-responsive.

Signature: _____

Date: _____

Name: _____

Title: _____

END OF SECTION

00 45 25 CERTIFICATE OF INSURANCE

NAME OF PROJECT: Carlsbad Fleet Fuel Island Upgrade

NAME OF BIDDER: _____

Bidder must **attach either** of the following to this page.

- Certificates of insurance showing conformance with the requirements for each of:
 - a. Comprehensive General Liability
 - b. Automobile Liability
 - c. Workers Compensation
 - d. Employer's Liability

- Statement with an insurance carrier's notarized signature stating that the carrier can, and upon payment of fees and/or premiums by the Bidder, will issue to the Bidder the required policies of insurance for Comprehensive General Liability, Automobile Liability, Workers Compensation and Employer's Liability in conformance and the required Certificates of insurance to the Agency.

END OF SECTION

00 45 30 STATEMENT REGARDING DEBARMENT

NAME OF PROJECT: Carlsbad Fleet Fuel Island Upgrade

NAME OF BIDDER: _____

1. Have you or any of your Subcontractors ever been debarred as an irresponsible Bidder by another public agency in the State of California?

- YES
- NO

2. If yes, what was/were the name(s) of the public agency(ies) and what was/were the period(s) of debarment(s)? Attach additional copies of this page to accommodate more than 2 debarments.

_____	_____
party debarred	party debarred
_____	_____
public agency	public agency
_____	_____
period of debarment	period of debarment

BY CONTRACTOR:

By: _____
(sign here)

(print name/title)

Page _____ of _____ pages of this Statement Regarding Debarment form

END OF SECTION

00 45 35 DISCLOSURE OF DISCIPLINE RECORD

NAME OF PROJECT: Carlsbad Fleet Fuel Island Upgrade

NAME OF BIDDER: _____

Contractors are required by law to be licensed and regulated by the Contractors' State License Board which has jurisdiction to investigate complaints against contractors if a complaint regarding a latent act or omission is filed within 4 years of the date of the alleged violation. A complaint regarding a latent act or omission pertaining to structural defects must be filed within 10 years of the date of the alleged violation. Any questions concerning a Contractor may be referred to the Registrar, Contractors' State License Board, P.O. Box 26000, Sacramento, California 95826.

1. Have you ever had your contractor's license suspended or revoked by the California Contractors' State license Board 2 or more times within an 8-year period?
 - YES
 - NO

2. Has the suspension or revocation of your contractor's license ever been stayed?
 - YES
 - NO
 - N/A

3. Have any Subcontractors that you propose to perform any portion of the Work ever had their contractor's license suspended or revoked by the California Contractors' State License Board 2 or more times within an 8-year period?
 - YES
 - NO

4. Has the suspension or revocation of the license of any Subcontractors that you propose to perform any portion of the Work ever been stayed?
 - YES
 - NO
 - N/A

5. If the answer to either of 1 or 3 above is “yes,” fully identify, in each and every case, the party disciplined, the date of and violation that the disciplinary action pertains to, the nature of the violation and disciplinary action taken.

(If needed attach additional sheets to provide full disclosure.)

6. If the answer to either of 2 or 4 above is “yes,” fully identify, in each and every case, the party whose discipline was stayed, the date of and the violation that the disciplinary action pertains to, the nature of the violation and the condition (if any) upon which the disciplinary action was stayed.

(If needed attach additional sheets to provide full disclosure.)

BY CONTRACTOR:

By: _____
(sign here)

(print name and title)

END OF SECTION

00 52 00 CONTRACT

This Project No. 4747 ("Contract") is made and entered into this _____ day of _____, 20____, by and between the City of Carlsbad ("Agency") and _____ ("Contractor"), whose principal place of business is _____.

The parties agree:

1. SCOPE OF WORK.

The Contractor shall perform all Work within the time stipulated in the Contract, and shall provide all labor, materials, equipment, tools, utility services, and transportation to complete all the Work required in strict compliance with the Contract Documents for the following Project:

NAME OF PROJECT: Carlsbad Fleet Fuel Island Upgrade

The Contractor and its surety shall be liable to the Agency for any damages arising as a result of the Contractor's failure to comply with the obligation described in this Section 1.

2. TIME OF COMPLETION.

Time is of the essence in the performance of the Work. The Work shall be commenced on the date stated in the Agency's Notice to Proceed. The Contractor shall complete all Work required by the Contract Documents within 365 calendar days from the commencement date stated in the Notice to Proceed. Contractor agrees the time for completion set forth above is adequate and reasonable to complete the Work.

3. CONTRACT PRICE.

The Agency shall pay to the Contractor as full compensation for the performance of the Contract, subject to any additions or deductions made in accordance with the Contract Documents, and including all applicable taxes and costs, the sum of _____ Dollars (\$ _____). Payment shall be made as set forth in the General Conditions.

The Engineer will close the estimate of work completed for progress payments on the last working day of each month. The Agency shall withhold retention as required by Public Contract Code Section 9203.

4. LIQUIDATED DAMAGES.

In accordance with Government Code Section 53069.85, it is agreed that the Contractor will pay the Agency the sum set forth in Section 00 73 00 Supplemental General Provisions for each and every Calendar Day of delay beyond the time of completion prescribed in this Contract as Liquidated Damages and not as a penalty or forfeiture. If this sum is not paid, the Contractor agrees the Agency may deduct that amount from any money due or that may become due the

Contractor under the Contract. This Section does not exclude recovery of other damages specified in the Contract Documents.

5. CONTRACT DOCUMENTS.

The “Contract Documents” include the following:

- 00 11 10 Notice Inviting Bids
- 00 21 10 Instructions to Bidders
- 00 41 00 Bid Form
- 00 42 10 Bid Bond or 00 43 20 Bid Security
- 00 43 30 Proposed Subcontractors
- 00 43 40 Bidder Information and Experience
- 00 45 10 Non-Collusion Affidavit
- 00 45 15 Iran Contracting Act Certification
- 00 45 20 Public Works Contractor Registration Certification
- 00 45 30 Statement of Regarding Debarment
- 00 45 35 Disclosure of Discipline Record
- 00 52 10 Contract
- 00 61 10 Labor and Materials Bond
- 00 61 20 Faithful Performance and Warranty Bond
- 00 61 30 Optional Escrow Agreement (if applicable)
- 00 73 00 Supplemental General Provisions
- Technical Specifications for the Project
- All Addenda
- Plans and Drawings
- Permits
- 00 74 00 Supplemental Technical Provisions
- “Standard Specifications and Drawings,” as last revised
- Standard Specifications for Public Works Construction “Greenbook,” latest edition and including all errata
 - Part 1 General Provisions
 - Part 2 to Part 8 (Construction Materials, Construction Methods, Existing Improvements, Pipeline System Rehabilitation, Temporary Traffic Control, Street Lighting and Traffic Signal Systems, Landscaping and Irrigation)
- Standard Plans for Public Works Construction, latest edition and including all errata
- Applicable Local Agency Standards and Specifications, as last revised
- Approved and fully executed change orders

- Any other documents contained in or incorporated by reference into the Contract Documents

The Contractor shall complete the Work in strict accordance with the Contract Documents. The requirements of the various sections or documents comprising the Contract Documents are intended to be complementary. Work required by 1 of the Contract Documents and not by others shall be done as if required by all. This Contract shall supersede any prior agreement of the parties.

6. PROVISIONS REQUIRED BY LAW AND CONTRACTOR COMPLIANCE.

Every provision of law required to be included in these Contract Documents shall be deemed to be included in these Contract Documents. The Contractor shall comply with all requirements of applicable federal, state and local laws, rules and regulations, including, but not limited to, the provisions of the Labor Code and Public Contract Code which are applicable to the Work.

7. INDEMNIFICATION.

Contractor shall provide indemnification and defense as set forth in the 00 73 00 Agency Supplemental General Provisions.

8. PREVAILING WAGES.

Contractor shall be required to pay the prevailing rate of wages in accordance with the Labor Code which such rates may be obtained online at <http://www.dir.ca.gov> and which must be posted at the job site.

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NOTARIAL ACKNOWLEDGMENT OF EXECUTION BY ALL SIGNATORIES MUST BE ATTACHED

(CORPORATE SEAL)
CONTRACTOR

City of Carlsbad

By:

By:

(sign here)

[INSERT TITLE OF PERSON AUTHORIZED TO SIGN]

(print name/title)

ATTEST:

By:

(sign here)

for Sherry Freisinger
City Clerk

(print name/title)

If required by the Agency, proper notarial acknowledgment of execution by contractor must be attached. If a corporation, the Contract must be signed by 1 corporate officer from each of the following 2 groups.

Group A
Chairman,
President, **or**
Vice-President

Group B
Secretary,
Assistant Secretary,
CFO **or** Assistant Treasurer

Otherwise, the corporation must attach a resolution certified by the secretary or assistant secretary under corporate seal empowering the officer(s) signing to bind the corporation.

APPROVED AS TO FORM:
CINDIE K. McMAHON, City Attorney

BY: _____
Deputy City Attorney

END OF SECTION

00 61 10 LABOR AND MATERIALS BOND

KNOW ALL PERSONS BY THESE PRESENTS THAT:

WHEREAS, the City of Carlsbad ("Agency") has awarded to _____ ("Principal,") a Contract for the Work described as follows: Contract No PWS24-2282FAC, Project No. 4747, Carlsbad Fleet Fuel Island Upgrade (the "Project") in strict conformity with the drawings and specifications, and other Contract Documents now on file in the Office of the City Clerk of the City of Carlsbad and all of which are incorporated by this reference; and

WHEREAS, Principal is required to furnish a bond in connection with the Contract providing that if Principal or any of its Subcontractors fail to pay (1) for any materials, provisions, provender, equipment, or other supplies used in, upon, for or about the performance of the Work contracted to be done, (2) for any Work or labor of any kind performed under the Contract, (3) for amounts due under the Unemployment Insurance Code for any Work or labor of any kind performed under the Contract, or (4) for any amounts required to be deducted, withheld, and paid over to the Employment Development Department under Unemployment Insurance Code Section 13020 or to the Franchise Tax Board under Revenue and Taxation Code Section 18663 from the wages of employees of Principal and its Subcontractors with respect to the Work or labor, the Surety on this bond will pay for the same to the extent set forth below.

NOW THEREFORE, we, Principal and _____, as Surety, are held and firmly bound unto the Agency in the penal sum of _____ Dollars (\$ _____), for the payment of which sum being an amount equal to 100% of the total amount payable under the terms of the Contract by the Agency, and for which payment well and truly to be made we bind ourselves, our heirs, executors and administrators, successors, or assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if Principal, or its Subcontractors, heirs, executors, administrators, successors or assigns, shall fail to pay any of the persons named in Civil Code Section 9100; fail to pay for any materials, provisions, provender, equipment, or other supplies, used in, upon, for or about the performance of the Work contracted to be done; fail to pay for any Work or labor of any kind performed under the Contract; fail to pay amounts due under the Unemployment Insurance Code for any Work or labor of any kind performed under the Contract; or fail to pay for any amounts required to be deducted, withheld, and paid over to the Employment Development Department or Franchise Tax Board from the wages of employees of Principal or its Subcontractors pursuant to Unemployment Insurance Code Section 13020 or Revenue and Taxation Code Section 18663, with respect to the Work or labor, then the Surety will pay for the same, in an amount not exceeding the penal sum specified above, and also, in case suit is brought upon this bond, all litigation expenses incurred by the Agency in the suit, including reasonable attorneys' fees, court costs, expert witness fees and investigation expenses to be fixed by the court consistent with Civil Code Section 9554.

This bond shall inure to the benefit of any of the persons named in Civil Code Section 9100 so as to give a right of action to such persons or their assigns in any suit brought upon this bond. The Surety stipulates and agrees that this bond shall not be exonerated or released from the obligation of this bond by:

1. Any change, extension of time for performance, addition, alteration or modification in, to, or of any Contract, Plans, Specifications, or agreement pertaining or relating to any scheme or Work of improvement described above, or the furnishing of labor, materials, or equipment pertaining or relating to any scheme or Work of improvement described above.
2. Any change or modification of any terms of payment or extension of the time for any payment pertaining or relating to any scheme or Work of improvement described above.
3. Any rescission or attempted rescission or attempted rescission of the Contract, agreement or bond.
4. Any conditions precedent or subsequent in the bond attempting to limit the right of recovery of claimants otherwise entitled to recover under any such Contract or agreement or under the bond.
5. Any fraud practiced by any person other than the claimant seeking to recover on the bond.

The Surety also stipulates and agrees that this bond shall be construed most strongly against the Surety and in favor of all persons for whose benefit such bond is given, and under no circumstances shall Surety be released from liability to those for whose benefit this bond has been given by reason of any breach of contract between the Agency and Principal or on the part of any obligee named in this bond. Finally, the Surety waives notice of any such change, extension of time, addition, alteration or modification mentioned in this bond, including but not limited to the provisions of Civil Code Sections 2819 and 2845.

If Principal is an individual, it is agreed that the death of any such Principal shall not exonerate the Surety from its obligations under this bond.

[REMAINDER OF PAGE LEFT INTENTIONALLY BLANK]

Executed by PRINCIPAL this _____ day of _____, 20____.

Executed by SURETY this _____ day of _____, 20____.

PRINCIPAL:

SURETY:

(name of Contractor)

(name of Surety)

By: _____
(sign here)

(address of Surety)

(print name here)

(telephone number of Surety)

(title and organization of signatory)

By: _____
(signature of Attorney-in-Fact)

(printed name of Attorney-in-Fact)
(attach corporate resolution showing current power of attorney)

(Proper notarial acknowledgment of execution by CONTRACTOR and SURETY must be attached.)

(President or vice-president and secretary or assistant secretary must sign for corporations. If only 1 officer signs, the corporation must attach a resolution certified by the secretary or assistant secretary under corporate seal empowering that officer to bind the corporation.)

APPROVED AS TO FORM:

CINDIE K. McMAHON, City Attorney

BY: _____
Deputy City Attorney

END OF SECTION

00 61 20 FAITHFUL PERFORMANCE AND WARRANTY BOND

KNOW ALL PERSONS BY THESE PRESENTS THAT:

WHEREAS, the City of Carlsbad ("Agency") has awarded to _____ ("Principal,") a Contract for the Work described as follows: Contract No PWS24-2282FAC, Project No. 4747, Carlsbad Fleet Fuel Island Upgrade (the "Project") in strict conformity with the drawings and specifications, and other Contract Documents now on file in the Office of the City Clerk of the City of Carlsbad and all of which are incorporated by this reference; and

WHEREAS, the Work to be performed by the Principal is more particularly set forth in the Contract Documents for the Project dated _____, ("Contract Documents"), the terms and conditions of which are incorporated by reference; and

WHEREAS, the Principal is required by the Contract Documents to perform the terms of them and to furnish a bond for the faithful performance and warranty of the Contract Documents.

NOW THEREFORE, we, _____ Principal, and _____, as Surety, are held and firmly bound unto the Agency in the penal sum of _____ dollars (\$ _____), which is equal to 100% of the total amount of the Contract, for which amount well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that, if Principal, its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and agreements in the Contract Documents and any alteration of the Contract Documents made as provided in the Contract Documents, on its part, to be kept and performed at the time and in the manner specified in the Contract Documents, and in all respects according to their true intent and meaning; and shall indemnify and save harmless the Agency, its Board, members of the Board, officers, directors, managers, employees, agents, and authorized volunteers, as stipulated in the Contract Documents, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

As a part of the obligation secured by this bond and in addition to the face amount specified in this bond, there shall be included costs and reasonable expenses and fees, including reasonable attorneys' fees, incurred by Agency in enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

As a condition precedent to the satisfactory completion of the Work unless otherwise provided for in the Contract Documents, the above obligation shall hold good for a period of 1 year after the acceptance of the Work by the Agency. During this 1-year period, if Contractor fails to make full, complete, and satisfactory repair and replacements and totally protect the Agency from loss or damage resulting from or caused by defective materials or faulty workmanship in connection

with Contractor's Work on the Project, the obligations of Surety under this bond shall continue so long as any obligation of Principal remains to the Agency. Nothing in this bond shall limit the Agency's rights or the Principal's or Surety's obligations under the Contract, law or equity, including, but not limited to, Code of Civil Procedure Section 337.15.

Whenever Principal shall be, and is declared by the Agency to be, in default under the Contract Documents, the Surety shall remedy the default pursuant to the Contract Documents, or shall promptly, at the Agency's option:

- i. Take over and complete the Project in accordance with all terms and conditions in the Contract Documents;
- ii. Obtain a bid or bids for completing the Project in accordance with all terms and conditions in the Contract Documents and upon determination by Surety of the lowest responsive and responsible bidder, arrange for a contract between such bidder, the Surety and the Agency, and make available as Work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the Contract Price, including other costs and damages for which Surety may be liable. The term "balance of the Contract Price" as used in this paragraph shall mean the total amount payable to Principal by the Agency under the Contract and any modification to the Contract, less any amount previously paid by the Agency to the Principal and any other set offs pursuant to the Contract Documents.
Or
- iii. Permit the Agency to complete the Project in any manner consistent with Applicable Law and make available as Work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the Contract Price, including other costs and damages for which Surety may be liable. The term "balance of the Contract Price" as used in this paragraph shall mean the total amount payable to Principal by the Agency under the Contract and any modification to the Contract, less any amount previously paid by the Agency to the Principal and any other set offs pursuant to the Contract Documents.

Surety expressly agrees that the Agency may reject any contractor or subcontractor which may be proposed by Surety in fulfillment of its obligations in the event of default by the Principal.

Surety shall not utilize Principal in completing the Project, nor shall Surety accept a bid from Principal for completion of the Project, if the Agency, when declaring the Principal in default, notifies Surety of the Agency's objection to Principal's further participation in the completion of the Project.

The Surety, for value received, stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract Documents or to the Project to be performed under the Contract Documents shall in any way affect Surety's obligations on this bond, and Surety waives notice of any such change, extension of time, alteration or addition to the terms of the Contract Documents or to the Project.

If Principal is an individual, it is agreed that the death of any such Principal shall not exonerate the Surety from its obligations under this bond.

[REMAINDER OF PAGE LEFT INTENTIONALLY BLANK]

Executed by PRINCIPAL this _____ day of _____, 20__.

Executed by SURETY this _____ day of _____, 20__.

PRINCIPAL:

SURETY:

(name of Contractor)

(name of Surety)

By: _____
(sign here)

(address of Surety)

(print name here)

(telephone number of Surety)

(title and organization of signatory)

By: _____
(signature of Attorney-in-Fact)

(printed name of Attorney-in-Fact)

(attach corporate resolution showing current power of attorney)

(Proper notarial acknowledgment of execution by CONTRACTOR and SURETY must be attached.)

(President or vice-president **and** secretary or assistant secretary must sign for corporations. If only 1 officer signs, the corporation must attach a resolution certified by the secretary or assistant secretary under corporate seal empowering that officer to bind the corporation.)

APPROVED AS TO FORM:

CINDIE K. McMAHON, City Attorney

BY: _____
Deputy City Attorney

END OF SECTION

00 61 30 OPTIONAL ESCROW AGREEMENT

NAME OF PROJECT: Carlsbad Fleet Fuel Island Upgrade

NAME OF BIDDER: _____

This Escrow Agreement is made and entered into by and between the City of Carlsbad, Carlsbad, California, 92008 ("Agency"), _____ whose address is _____
_____ ("Contractor") and _____
_____ whose address is _____
_____ ("Escrow Agent").

Agency, Contractor and Escrow Agent agree as follows:

1. Pursuant Public Contract Code Section 22300, Contractor has the option to deposit securities with Escrow Agent as a substitute for retention earnings required to be withheld by Agency pursuant to the construction contract entered into between Agency and Contractor for the Carlsbad Fleet Fuel Island Upgrade in the amount of _____ dated _____ ("Contract"). Alternatively, on written request of Contractor, Agency shall make payments of the retention earnings directly to Escrow Agent. When the Contractor deposits the securities as a substitute for Contract earnings, Escrow Agent shall notify Agency within 10 Calendar Days of the deposit. The market value of the securities at the time of the substitution shall be at least equal to the cash amount then required to be withheld as retention under the terms of the Contract. Securities shall be held in Agency's name and shall designate Contractor as the beneficial owner.
2. Agency shall make progress payments to Contractor for those funds which otherwise would be withheld from progress payments pursuant to the Contract provisions, provided that Escrow Agent holds securities in the form and amount specified above.
3. When Agency makes payment of retentions earned directly to Escrow Agent, Escrow Agent shall hold them for the benefit of Contractor until the time that the escrow created under this Escrow Agreement is terminated. The Contractor may direct the investment of the payments into securities. All terms and conditions of this Escrow Agreement and the rights and responsibilities of the parties shall be equally applicable and binding when Agency pays Escrow Agent directly.
4. Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the Escrow Account and all expenses of Agency. These expenses and payment terms shall be determined by Agency, Contractor, and Escrow Agent.
5. The interest earned on the securities or the money market accounts held in escrow and all interest earned on that interest shall be for the sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to Agency.
6. Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from Agency to Escrow Agent that Agency consents to the withdrawal of the amount sought to be withdrawn by Contractor.

7. Agency shall have a right to draw upon the securities in the event of default by the Contractor. Upon 7 Calendar Days' written notice to Escrow Agent from Agency of a default, Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by Agency.
8. Upon receipt of written notification from the Agency certifying that the Work required by the Contract is final and complete and that Contractor has complied with all requirements and procedures applicable to the Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of Escrow Account. The escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payments of fees and charges.
9. Escrow Agent shall rely on the written notifications from Agency and Contractor pursuant to Sections (5) to (8), inclusive, of this Escrow Agreement and Agency and Contractor shall hold Escrow Agent harmless from Escrow Agent's release, conversion and disbursement of the securities and interest as set forth above.
10. The names of the persons who are authorized to give written notices or to receive written notice on behalf of Agency and on behalf of Contractor in connection with the foregoing, and exemplars of their respective signatures are as follows:

For Agency (Finance Director) Title _____

Name _____

Signature _____

Address _____

For Contractor Title _____

Name _____

Signature _____

Address

For Escrow
Agent

Title

Name

Signature

Address

At the time the Escrow Account is opened, Agency and Contractor shall deliver to the Escrow Agent a fully executed counterpart of this Escrow Agreement.

IN WITNESS WHEREOF, the parties have executed this Escrow Agreement by their proper officers on the date first set forth above.

For Agency

Title

Name

Signature

Address

For Contractor

Title

Name

Signature

Address

For Escrow
Agent

Title

Name

Signature

Address

APPROVED AS TO FORM:
CINDIE K. McMAHON, City Attorney

BY: _____
Deputy City Attorney

END OF SECTION

00 73 00 AGENCY SUPPLEMENTAL GENERAL PROVISIONS

INTRODUCTION

The specifications contained in this 00 73 00 Agency Supplemental General Provisions take precedence over the specification language contained in the Standard Specifications for Public Works Construction, "The Greenbook," latest edition and all errata. This specification addresses the unique conditions in Carlsbad that are not addressed in The Greenbook. Therefore, if there is a conflict, these specifications shall control.

The Greenbook may be purchased at Bidder's/Contractor's local technical bookstore or directly from the publisher. These Supplemental General Provisions are available only for download from the online bidding portal with Contract Documents. The Agency does not provide hard copies.

When used in the Contract Documents, statements, or command phrases (active voice and imperative mood) refer to and are directed at the "Bidder" or "Contractor" as applicable. The specifications are written to the "Bidder" before award and the "Contractor" after award. Before award, interpret sentences written in the imperative mood as starting with "The Bidder shall." Interpret the term "you" as "the Bidder" and interpret the term "your" as "the Bidder's." After award, interpret sentences written in the imperative mood starting with "The Contractor shall." Interpret the term "you" as "the Contractor" and interpret the term "your" as "the Contractor's."

PART 1 GENERAL PROVISIONS

SECTION 1 – GENERAL, TERMS, DEFINITIONS, ABBREVIATIONS, UNITS OF MEASURE, AND SYMBOLS

GENERAL

ADD the following:

1. The word "provide" shall mean "furnish and install," unless otherwise stated.
2. In reference to Drawings, where words "shown," "indicated," "detailed," "noted," "scheduled," or words of similar import are used, it shall be understood that reference is made to the Plans accompanying these provisions, unless stated otherwise.
3. Where the words "equal," "approved equal," "equivalent," and words of similar import are used, it shall be understood such words are followed by the expression "in the opinion of the Engineer," unless otherwise stated.
4. The word "perform" shall be understood to mean that the Contractor, at its expense, shall "perform all operations and furnish labor, tools and equipment," and further, "furnish and install materials that are indicated, specified or required" shall be understood to mean that the Contractor, at its expense, shall "furnish and install the Work, complete in place and ready to use, including furnishing of necessary labor, materials, tools, equipment, and transportation."
5. Where words "directed," "designated," "selected," or words of similar import are used, it shall be understood that the direction, designation, or selection of the Engineer is intended, unless stated otherwise. The word "required" and words of similar import shall

be understood to mean “as required to properly complete the Work as required and as approved by the Engineer,” unless stated otherwise.

Where the words “approved,” “approval,” “acceptance,” or words of similar import are used, it shall be understood that the approval, acceptance, or similar import of the Engineer is intended.

TERMS AND DEFINITIONS

Where applicable ADD/REPLACE the following:

1. **Agency** - The City of Carlsbad or the Carlsbad Municipal Water District, the owner of the Project.
2. **Agency Approval** - Except where stated in this Contract to the contrary, the phrases “Agency approval,” and “Agency’s written approval” or such similar phrases shall mean approval by the City Manager for the City of Carlsbad or the Executive Manager for the Carlsbad Municipal Water District, which approval shall not be unreasonably withheld.
3. **Agency Forces** – City of Carlsbad or Carlsbad Municipal Water District employees who perform construction work.
4. **Agency Supplement** - 00 73 00 Agency Supplemental General Provisions; and 00 74 00 Agency Supplemental Technical Provisions.
5. **Allowance (AL)** - Payment under Allowance Bid items, denoted as “AL,” shall be based on the actual expenditures and for pre-authorized items of the Work in accordance with the Contract Documents. The unused portions of the Allowances shall revert to the Agency upon acceptance of the Project or Work.
6. **Apparent Low Bidder** - The Bidder whose Bid having been publicly opened, initially meets the material requirements of the Bid Documents and whose Bid price is the lowest received.
7. **Applicable Laws** - Laws, statutes, ordinances, rules, orders, and regulations of governmental authorities and courts having jurisdiction over the Project.
8. **As-Builts** - The CAD drawings prepared from the approved Red-lines for record keeping purposes.
9. **Award of Contract (Award)** - The date on which the Board or designee executes the Contract.
10. **Bid** - Any proposal submitted to the Agency in competitive bidding for the construction, alteration, repair, or improvement of any structure, building, road or other improvement of any kind.
11. **Board** – The officer or body constituting the awarding authority of the Agency, which is the City Council for the City of Carlsbad or the Board of Directors for the Carlsbad Municipal Water District.
12. **Business Day** - See Working Day.
13. **Calendar Day** – Every day on the calendar, including weekends and holidays.
14. **City** - The term “City” or “the City” means, City of Carlsbad. See also Agency.
15. **City Council** - The legislative body that governs the City of Carlsbad and has the authority to pass ordinances and appropriate funds.

16. **City Engineer** - The term "City Engineer" is defined as the Transportation Director, or designee, and is the person authorized to perform the functions of the City Engineer as defined in Government Code Section 66416.5. The City Engineer is the City's "duly authorized officer" for the purposes of Public Contract Code Sections 4107 and 4107.5.
17. **City Manager** – The appointed official who directs the administration of the City of Carlsbad.
18. **Construction Documents** - Plans and details, including Plans showing installation of major systems, equipment, fixed furnishings and graphics, the technical specifications and all other technical drawings, schedules, diagrams and specifications, accepted Shop Drawings, Working Drawings, and submittals that are necessary to set forth in detail the requirements for the Project.
19. **Construction Manager** – The Project Inspector's immediate supervisor and the Engineer's designated representative for the first level of appeal for informal dispute resolution.
20. **Construction Work** - The portion of the Work to construct the Project as set forth in the Contract Documents in conformance with 2-1, "WORK TO BE DONE."
21. **Contract** – The written agreement between the Agency and the Contractor covering the Work.
22. **Contract Documents** - Contract Documents include the following: The signed Contract, Addenda, Notice Inviting Bids, funding agency provisions, Bid including documentation accompanying the Bid and any post-Bid documentation submitted prior to the Notice of Award when attached as an exhibit to the Contract, Bonds, Permits, CEQA documents, Standard Specifications (the "Greenbook"), Agency Supplement, Plans, Standard Plans, Construction Documents, Reference Specifications, and Change Orders. Contract Documents, when applicable, shall also include Site and Coastal development permits, NEPA documents, re-vegetation plans, biological letters or technical reports, habitat mitigation plans, storm water documents, and local, state, and federal resource agency permits.
23. **Contract Time** - The number of Working Days to complete the Work as specified in the Contract Documents.
24. **Contractor** – The individual, partnership, corporation, joint venture, or other legal entity having a Contract with the Agency to perform the Work. In the case of Work being done under permit issued by the Agency, the permittee shall be constructed to be the Contractor. The term "prime contractor" shall mean Contractor.
25. **Critical Path** – In the Construction Schedule, the sequence of activities that represents the longest path through the Project network of activities and the shortest possible Project duration.
26. **Days** – Days shall mean consecutive calendar days unless otherwise specified in this Contract.
27. **Defective Work** - Work that does not conform to the Contract Documents.
28. **Delay Factor** - The Delay Factor may be the basis for compensation for idle equipment time on an excusable delay. The factor has been calculated to include the ownership costs without including operating costs. The Delay Factor recovers all the Contractor's non-operating costs in an 8-hour day. If payment is made for equipment on an excusable delay, it is limited to 8 hours per day or 40 hours per week maximum.

29. **Deputy City Engineer** – The Engineering Manager of the Construction Management & Inspection Division and the Construction Manager’s immediate supervisor and the Engineer’s designated representative for the second level of appeal for informal dispute resolution.
30. **Dispute Board** – Persons designated by the City Manager of the City of Carlsbad or Executive Manager of the Carlsbad Municipal Water District, to hear and advise the City Manager or Executive Manager on claims submitted by the Contractor. The City Manager for the City of Carlsbad or the Executive Manager for the Carlsbad Municipal Water District is the last appeal level for informal dispute resolution.
31. **Drawings** - See Plans.
32. **D-size Sheet** - “D” size paper for engineering design applications refers to 22” x 34” paper.
33. **Engineer** - The Deputy City Manager, Public Works of the City of Carlsbad acting either directly or through designated representatives and the third level of appeal for informal dispute resolution.
34. **Engineer of Record/Design Engineer** – A registered Professional Engineer licensed in the State of California who is qualified to act as an agent of a Project Owner or to prepare Plans for facilities to be accepted by the City of Carlsbad or the Carlsbad Municipal Water District. The term includes persons licensed in the State of California as Civil Engineers or Structural Engineers, as well as other licensed professionals like Architects and Landscape Architects.
35. **Executive Manager** – The appointed official who directs the administration of the Carlsbad Municipal Water District.
36. **Field Book** - The Agency field maps showing sewer and water facilities.
37. **Field Order** - A Field Order is a written agreement by the Engineer to compensate the Contractor for work items in accordance with 2-8, “EXTRA WORK” or 2-9, “CHANGED CONDITIONS.” A Field Order does not change the Contract Price or Contract Time or the intent of the Contract. The unused portions of the Field Orders shall revert to the Agency upon acceptance of the Work.
38. **Final Environmental Document** - The CEQA and/or NEPA document issued for the Project, such as certified environmental impact reports, mitigated negative declarations (MNDs), negative declarations, or exemptions.
39. **Final Payment** - The last payment for the Contract made to the Contractor, excluding Retention.
40. **Fleet & Facilities Project Manager** – The Project Manager with the Fleet & Facilities Division and the Construction Manager’s immediate supervisor and designated representative for the second level of appeal for informal dispute resolution.
41. **Float** – The number of days by which an activity in the Construction Schedule may be delayed from either its earliest start date or earliest completion date without extending the Contract Time (total float). Total float belongs to the Project and to any Party to accommodate changes in the Work or to mitigate the effect of events which may delay completion.
42. **Holiday** - Holidays observed by the Agency are listed below:

Holiday	Observed On
New Year's Day	January 1
Martin Luther King Day	3 rd Monday in January
Presidents' Day	3 rd Monday in February
Memorial Day	Last Monday in May
Independence Day	July 4
Labor Day	1 st Monday in September
Indigenous Peoples' Day	2 nd Monday in October
Veteran's Day	November 11
Thanksgiving Day	4 th Thursday/Friday in November
Christmas Day	December 25

If any Holiday listed falls on a Saturday, the Saturday and the preceding Friday are both legal Holidays. If the Holiday falls on a Sunday, both Sunday and the following Monday shall be legal Holidays. **Unless specified otherwise in the Contract Documents or authorized by the Engineer**, do not work on Holidays.

43. **Minor Bid Item** – a single contract item constituting less than 10 percent (10%) of the original Contract Price bid.
44. **Normal Working Hours** - Unless specified otherwise, Normal Working Hour core periods shall be 7:00 AM to 5:00 PM, Monday through Friday, inclusive. Saturdays, Sundays, and Agency Holidays are excluded. For Traffic Control Permits, Normal Working Hours are defined as 7:00 AM to 3:30 PM, unless specified otherwise.
45. **Notice of Completion (NOC)** - A document recorded with the County of San Diego to signify that the Work has been completed and accepted by the Agency.
46. **Party or Parties** - The Agency, the Contractor, or both, their respective permitted successors or assigns, and any other future signatories to the Contract.
47. **Plans** – The drawings, profiles, cross sections, Standard Plans, working drawings, and shop drawings, or reproductions thereof, approved by the City Engineer, which show the location, character, dimensions or details of the Work.
48. **Prime Contractor** - See Contractor.
49. **Project Inspector** – the Engineer's designated representative for inspection, Contract administration and the first level for informal dispute resolution.
50. **Project Site (Site)** - Areas where the Work is performed pursuant to the Contract.
51. **Public Works Manager** – The Public Works Manager of the Fleet & Facilities Division and the Facilities Engineering Project Manager's immediate supervisor and designated representative for the third level of appeal for informal dispute resolution.
52. **Punchlist** - A list of items of Work or corrections generated after a Walk-through that is conducted when the Contractor considers that the Work and Services are complete.
53. **Quality Control Standards and Procedures** - The standards and procedures that are stated in a written manual that can be furnished to the Engineer upon request. The

standards and procedures are followed by the Supplier in the production of materials supplied for the Work Site.

54. **Red-lines** - Plans with annotations of changes made during construction to reflect the actual improvements or facilities built during construction whether concealed or visible.
55. **Retention** - The amount withheld from the money due to the Contractor in accordance with 7-3.2, "PARTIAL AND FINAL PAYMENT."
56. **Samples** - Physical examples of the materials, equipment, or workmanship specified or required and which conform with the standards and specifications in the Contract Documents and by which the Work shall be evaluated.
57. **Schedule** - A Critical Path Method (CPM) schedule of construction activities and their durations to be performed during the Contract Time and prepared by the Contractor in accordance with 6-1, "CONSTRUCTION SCHEDULE AND COMMENCEMENT OF THE WORK," and accepted by the Engineer.
58. **Scope of Work (SOW)** - Labor, materials, equipment, facilities, and services required to be performed or provided by the Contractor to complete the entire Project or the various separately identifiable parts of the Project pursuant to the provisions of the Contract Documents.
59. **Services** - Work performed in connection with the layout, construction, testing, inspection, and commissioning of the Work or administration of the Contract and which may include professional services such as engineering, surveying, construction management and legal services that are required in accordance with the Contract Documents. Services are incidental to the Work.
60. **Separate Contractors** - Those individuals or entities that have entered into arrangements with the Agency for the provision of labor, materials, or other services in connection with the Project who are not under contract with the Contractor.
61. **Supplemental Provisions** – See Agency Supplement.
62. **Walk-through** - The procedure the Agency uses to evaluate the status of the Project and to generate a Punchlist prior to acceptance of the Work.
63. **Work** – All labor, materials, equipment, tools, and services and other requirements of the Contract Documents as modified by Change Order, whether completed or partially completed, provided or to be provided by Contractor to fulfill Contractor's obligations. The Work may constitute the whole or a part of the Project.
64. **Working Day** - Any day within the period between the start of the Contract time as defined in Section 6-1 and the date provided for completion, or upon field acceptance by the Engineer for all work provided for in the Contract, whichever occurs first, other than:
 - Saturday;
 - Sunday;
 - any day designated as a holiday by the Agency;
 - any other day designated as a holiday in a Master Labor Agreement entered into by the Contractor or on behalf of the Contractor as an eligible member of a contractor association;
 - any day the Contractor is prevented from working at the beginning of the workday for cause as defined in Section 6-6.1; or

- any day the Contractor is prevented from working during the first 5 hours with at least 60 percent of the normal work force for cause as defined in Section 6-6.1.

65. **Work Site** - See Project Site (Site).

ABBREVIATIONS

1-3.2 Common Usage.

ADD the following:

AML	Approved Material List
CADD	Computer Aided Design and Drafting
CA MUTCD	California Manual on Uniform Traffic Control Devices
CCT	Correlated Color Temperature
CEQA	California Environmental Quality Act.
CFR	Code of Federal Regulations
CGP	Construction General Permit
CIPM	Cured-In-Place-Manhole
CL	Centerline
CMS	Content Management System Database
CNC	Computer Numerical Control
CRI	Color Rendering Index
CSA	Canadian Standards Association
DBE	Disadvantaged Business Enterprise
DCE	Data Computer Equipment
DG	Decomposed Granite
DVBE	Disabled Veteran Business Enterprise
DWT	Detectable Warning Tiles
EOW	Engineer of Work
ESL	Environmentally Sensitive Lands
ESO	Electrical Service Orders
FRP	Fiberglass Reinforced Plastic
GFE	Good Faith Effort
GMT	Greenwich Mean Time
GPS	Global Positioning System
IDA	International Dark Sky Association
IP	Ingress Protection
LCD	Liquid Crystal Display
LD	Laser Diode
LER	Luminaire Efficiency Rating
MBE	Minority Business Enterprise
MDFT	Minimum Dry Film Thickness
MHPA	Multiple Habitat Planning Area
MH	Manhole
MIL	Military

MJ	Mechanical Joint
M&M	Maintenance and Monitoring
MMC	Mitigation and Monitoring Coordination
MOV	Metal Oxide Varistor
NA	Numerical Aperture
NC	Not Connected, Normally Closed
NEPA	National Environmental Policy Act of 1969
NEXT	Near End Crosstalk
NCHRP	National Cooperative Highway Research Program
NOC	Notice of Completion
NPDES	National Pollutant Discharge Elimination System
NTP	Notice to Proceed
OC	On Center
ODP	Open Drip Proof
OFNR	Optical Fiber Nonconductive Riser
OTDR	Optical Time Domain Reflectometer
PB	Pull Box
PCMS	Portable Changeable Message Signs
PCU	Photoelectric Control Unit
PEP	Plant Establishment Period
PIC	Polyethylene Insulated Cable
PL	Property Line
RFP	Request for Proposal
RFI	Request for Information
RPMS	Rubber Polymer Modified Slurry
SIC	Standard Industry Classification
SMS	Short Message Service
SMTP	Simple Mail Transfer Protocol
SOW	Statement of Work, Scope of Work
SOV	Schedule of Values
SPDT	Single Pole Double Throw
SSD	Surge Suppression Devices
TDR	Time Domain Reflectometer
TEES	Transportation Electrical Equipment Specifications
TFFN	Thermoplastic Flexible Fixture Wire Nylon Jacketed
TIG	Tungsten Inert Gas
UF	Underground Feeder
UPRR	Union Pacific Railroad Company
VAC	Volts AC
VPC	Vitrified Polymer Composite
WBE	Women Business Enterprise

1-3.3 Institutions.

ADD the following:

AMTRACK	American Track National Railroad Passenger Corp.
ANSI	American National Standards Institute
AASHTO	American Association of State Highway and Transportation Officials
AISC	American Institute of Steel Construction
ANSI	American National Standards Institute
API	American Petroleum Institute
AREA	American Railway Engineering Association
ASTM	American Society for Testing and Materials
AWPA	American Wood Preservers Association
AWS	American Welding Society
AWWA	American Water Works Association
BNSF	Burlington Northern Santa Fe Railway
DSD	Development Services Department
FHWA	Federal Highway Administration
GRI	Geosynthetic Research Institute
IPCEA	Insulated Power Cable Engineers Association
IES	Illuminating Engineering Society (Photometric Data)
ISO	International Organization for Standardization
MTS	San Diego Metropolitan Transit System
NACE	National Association of Corrosion Engineers
NAFP	National Association of Pipe Fabricators
NCTD	North County Transit District
NEMA	National Electrical Manufacturers Association
NOAA	National Oceanic and Atmospheric Administration (Dept. of Commerce)
NFPA	National Fire Protection Association
PCI	Prestressed Concrete Institute
SANDAG	San Diego Association of Governments
SD&AE	San Diego & Arizona Eastern Railroad
SDTI	San Diego Trolley, Inc.
UL	Underwriters' Laboratories Inc.
USGS	United States Geological Survey
UPRR	Union Pacific Railroad Company

1-6 BIDDING AND SUBMISSION OF THE BID

1-6.2 Subcontractor Listing.

ADD the following:

Each Bidder shall comply with the Chapter of the Public Contract Code including Sections 4100 through 4113. The use of Subcontractors in no way relieves the Contractor of any obligations or responsibilities under the Contract.

The following excerpts or summaries of some of the requirements of this Chapter are included below for information:

The Bidder shall set forth in the Bid, as provided in Section 4104:

“(a) The name and location of the place of business of each Subcontractor who will perform Work or Labor or render service to the prime Contractor in or about the construction of the Work or improvements, or a Subcontractor licensed by the State of California who, under Subcontract to the prime Contractor, specially fabricates and installs a portion of the Work or improvement according to detailed Drawings contained in the Plans and Specifications, in an amount in excess of one-half of 1 percent of the prime Contractor’s total Bid, or, in the case of Bids or offers for the construction of streets or highways, including bridges, in excess of one-half of 1 percent of the prime Contractor’s total Bid or ten thousand dollars (\$10,000), whichever is greater.”

“(b) The portion of the Work which will be done by each such Subcontractor under this act. The prime Contractor shall list only one Subcontractor for each such portion as is defined by the prime Contractor in his Bid.”

If the Contractor fails to specify a Subcontractor or specifies more than one Subcontractor for the same portion of the Work to be performed under the Contract (in excess of one-half of 1 percent of the Contractor’s total Bid), the Contractor shall be qualified to perform that portion itself, and shall perform that portion itself, except as otherwise provided in the Code.

As provided in Section 4107, no Contractor whose Bid is accepted shall substitute any person as Subcontractor in place of the Subcontractor listed in the original Bid, except for causes and by procedures established in Section 4107.5. This section provides procedures to correct a clerical error in the listing of a Subcontractor.

Section 4110 provides that a Contractor violating any of the provisions of the Chapter violates the Contract and the Board may exercise the option either to cancel the Contract or assess the Contractor a penalty in an amount of not more than 10 percent of the Subcontract involved, after a public hearing.

1-7 AWARD AND EXECUTION OF THE CONTRACT

1-7.1 General.

DELETE in its entirety and SUBSTITUTE with the following:

1-7.1 Standard Contract Provisions.

1-7.1.1 Successor’s Obligations.

All grants, covenants, provisions and claims, rights, powers, privileges and abilities contained in the Contract Documents shall be read and held as made by and with, and granted to and imposed upon, the Contractor, the Agency, and the Contractor’s and the Agency’s respective heirs, executors, administrators, successors, and assigns.

1-7.1.2 Waiver of Legal Rights.

1. The Agency’s failure to insist, in any 1 or more instances, upon the performance of any provision of the Contract, or to exercise any right therein, shall not be construed as a waiver or relinquishment of such provisions or rights.

2. Any waiver of any breach of the Contract shall not be held to be a waiver of any other or subsequent breach.
3. Any waiver the Agency issues to any provision of the Contract shall only be effective if it is agreed upon in writing by the Agency and if it is specific to the matter concerned.

1-7.1.3 Requests for Information (RFI).

1. Inquiries from the Contractor seeking clarification of the requirements of the Contract Documents shall be submitted in writing to the Agency as a Request for Information (RFI).

1-7.1.4 Assignment to Awarding Body.

1. In accordance with subdivision (b) of Public Contract Code Section 7103.5, the Contractor and the Contractor's Subcontractors shall conform to the following requirements:
 - a. In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works contract, the Contractor or the Contractor's Subcontractor offer and agree to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Business and Professions Code Section 16700 *et seq.*) arising from purchases of goods, services, or materials pursuant to the public works contract or the subcontract.
 - b. This assignment shall be made and become effective at the time the awarding body tenders to the Contractor, without further acknowledgment by the Parties.

1-7.2 Contract Bonds.

ADD the following:

1. Before execution of the Contract, the Bidder shall file surety bonds with the Agency to be approved by the Board in the amounts and for the purposes noted below. Bonds issued by a Surety, who is authorized to issue bonds in California, and whose bonding limitation shown in the circular is enough to provide bonds in the amount required by the Contract shall be deemed approved unless specifically rejected by the Agency. Bonds from all other sureties shall be accompanied by all documents enumerated in Code of Civil Procedure Section 995.660 (a). The Bidder shall pay all bond premiums, costs, and incidentals.
2. Each bond shall incorporate, by reference, the Contract and be signed by both the Bidder and Surety and the signature of the authorized agent of the Surety shall be notarized.
3. The faithful performance/warranty bond will be reduced to 25 percent of the original amount 30 Calendar Days after recordation of the Notice of Completion and will remain in full force and effect for the 1-year warranty period and until all warranty repairs are completed to the satisfaction of the Engineer. The bond to secure payment of laborers and materials suppliers shall be released 6 months plus 30 Calendar Days after recordation of the Notice of Completion if all claims have been paid.
4. All bonds are to be placed with a Surety insurance carrier admitted and authorized to transact the business of insurance in California and whose assets exceed its liabilities in an amount

equal to or in excess of the amount of the bond. The bonds are to contain the following documents:

- a. An original, or a certified copy, of the unrevoked appointment, power of attorney, bylaws, or other instrument entitling or authorizing the person who executed the bond to do so.
 - b. A certified copy of the certificate of authority of the insurer issued by the insurance commissioner.
5. If the Bid is accepted, the Agency may require a financial statement of the assets and liabilities of the Surety for the quarter calendar year preceding the date of the execution of the bond. The financial statement shall be made by an officer's certificate as defined in Corporations Code Section 173. In the case of a foreign Surety, the financial statement may be verified by the oath of the principal officer or manager residing within the United States.
 6. If the Surety on any bond furnished by the Contractor is declared bankrupt, becomes insolvent, or its right to do business is terminated in any state where any part of the Project is located, immediately notify the Engineer; and immediately substitute another bond and Surety acceptable to the Agency.
 7. The Contractor shall require the Surety to mail its standard "Bond Status" form to the Agency.

ADD 1-7.2.1 Payment.

1. If enumerated in the Contract Documents, the Bid item for "Bonds (Payment and Performance)" includes full compensation for actual costs of payment and performance bonds. The Contractor may submit a request for payment of actual invoiced costs up to the Bid amount, but not to exceed 2.5% of the Contract Price, no less than 10 Working Days after the award of the Contract.
2. If enumerated in the Contract Documents, if the Bid item for "Bonds (Payment and Performance)" exceeds actual invoiced costs, any such differential amount up to the Bid amount shall be paid as a part of the Final Payment.

SECTION 2 – SCOPE OF THE WORK

2-1 WORK TO BE DONE

ADD the following:

1. Where approval or acceptance by the Agency is required, only a general approval is required. However, such approval does not relieve the Contractor from the Contractor's responsibility for complying with all applicable laws, codes, and best industry practices. Contractor has its obligation to fulfill all conditions of the Contract.
2. In accordance with the provisions of California Law, the Contractor shall possess or require the Contractor's Subcontractor(s) to possess valid appropriate license(s) for the Work being performed as conveyed in the Bidding Documents.

2-2 PERMITS

DELETE in its entirety and SUBSTITUTE with the following:

2-2 PERMITS, FEES, AND NOTICES

1. The Contractor shall obtain and pay for all business taxes, business licenses, permits, and fees required for constructing the Project and licenses and inspections necessary for the

proper execution and completion of the Work, unless specified otherwise in the Contract Documents.

- a. **Resource Agency Permits.** [insert when applicable]
 - b. To the extent that there is a change in the type or cost of any of such permits, fees, licenses, or inspection occurring after Award of Contract, there shall be an equitable adjustment in the Contract Price on account of such change under the Extra Work provisions.
 - c. The Contractor shall comply with and give notices required by applicable laws. The Contractor is not entitled to damages or additional payment for delays attributable to the acquisition of permits.
 - d. The Contractor shall pay the Agency for regulatory fees, fines, or penalties imposed on the Agency arising from the Contractor's failure to complete the Work in accordance with the Contract Documents.
2. Contractor shall not begin work until all permit's incidental to the Work are obtained. This includes, and is not limited to, encroachment, right-of-way, grading and building permits necessary to perform Work for this Contract on Agency property, streets, or other rights-of-way. Permits for night work, overload, blasting, demolition, and disposal of all materials removed from the Project are also Contractor's responsibility.
 3. The Contractor shall obtain and pay for all permits for the disposal of all materials removed from the Project. The cost of the permit(s) shall be included in the price Bid for the appropriate Bid item and the Agency shall not pay additional compensation for Contractor to obtain such permits.
 4. Permits shall be maintained in valid status until acceptance of the Work by the Agency.

2-2.1 Building Permits.

1. The Contractor shall obtain the required building permits from Agency's permitting departments. Any prior approval obtained for the Plans shall not in any way waive this requirement.
2. Request inspections in accordance with the building codes in effect on the permitted Plans and by City's Development Services Department, Building Division or Construction Management and Inspection Department. Any Work performed without the benefit of the required permit and subsequent inspection shall be removed and replaced at the discretion of the City Building Inspector at no additional cost.
3. The payment for procuring Building Permits shall be included in the Allowance Bid item for "Building Permits." If no such Bid item is included in the Bid Schedule, payment shall be included in the various Bid items and no additional payment shall be made. For this project, the building permit is on file for the contractor to pick up from the City's Development Services Department.

2-2.2 Caltrans Encroachment Permit.

1. Unless specified otherwise, the Agency has applied for the Caltrans Encroachment Permit.
 - a. The Contractor shall pay for and secure the permit prior to construction.
 - b. The Contractor shall arrange and pay for inspection as required by Caltrans.

2. The Contractor is solely responsible for permit processing delays to the Contract Time that result from incomplete or inaccurate information provided by the Contractor to the Agency or Caltrans.
3. When applicable, the payment for procuring Caltrans Encroachment Permits including any inspection fees shall be included in the allowance Bid item for "Caltrans Encroachment Permit." If no such Bid item is included in the Bid schedule, payment shall be included in the various Bid items and no additional payment shall be made.

2-3 RIGHT-OF-WAY

ADD the following:

1. The Contractor shall coordinate access to private property with the property owners and the timing of accessing private property when the Agency has already obtained rights of entry. Unless otherwise provided, the Contractor shall coordinate, pay for, and assume all responsibility for acquiring using, and disposing of additional work areas and facilities temporarily required. The Contractor shall indemnify and hold the Agency harmless from all claims for damages caused by such actions. The Contractor shall protect any private and public improvements.

2-4 COOPERATION AND COLLATERAL WORK

ADD the following:

1. The Contractor shall coordinate and cooperate with all the utility companies during the relocation or construction of their lines. The Contractor may be granted a time extension if, in the opinion of the Engineer, a delay is caused by the utility company. No additional compensation will be made to the Contractor for any such delay.
2. If work to be performed by the Agency or its separate Contractors is not shown or specified in the Contract Documents, the Engineer shall notify the Contractor in writing 10 Working Days prior to the start of such work and make available Plans or Specifications for work to be performed by others that may be pertinent to Contractor's Work. If Contractor determines that the work to be performed by the Agency or its separate Contractors may interfere with or cause damage or delays to Contractor's Work, notify the Engineer in writing within 3 Working Days of the Engineer's notice. The Contractor shall diligently pursue with the Engineer resolution of potential conflicts with the work of others.
3. The Contractor shall prepare and submit to the Engineer for approval a plan and schedule to integrate the work of Contractor or its Subcontractors, Agency or the work of others. The plan shall conform to the tasks identified in the Construction Schedule and identify additional tasks as necessary and the sequencing of interrelated activities.

2-5 THE CONTRACTOR'S EQUIPMENT AND FACILITIES

2-5.2 Temporary Utility Services.

ADD the following:

1. The Contractor shall furnish, install, maintain, and remove all temporary utility services, such as light, power, electrical, gas, and water, at its own expense for construction and maintenance activities until acceptance of Work. These include piping, wiring, lamps, and other equipment necessary for the Work.
2. The Contractor shall obtain a construction meter for water used for the construction, testing, disinfection and flushing of new water or sewer facilities, vegetation establishment and maintenance, site maintenance, landscaping, cleanup, and all other work requiring water. The Contractor shall contact the water agency that serves the Project Site for requirements.
3. The Contractor shall pay all costs of temporary light, power and water including hookup, service, meter, and any, and all, other charges, deposits and/or fees. The costs shall be considered incidental to the items of Work that they are associated with and no additional payment will be made for them.

2-6 CHANGES REQUESTED BY THE CONTRACTOR

ADD the following:

1. Any plan or method of work suggested to the Contractor by the Agency, but not specified or required by the Contract or Change Order, which is adopted or followed by the Contractor in whole or in part shall be done at the Contractor's sole risk and responsibility.
2. The Contract Price is not subject to adjustment for any type of tax increases after the Award.

ADD the following: 2-6.1 Cost Reduction Proposal.

1. The Contractor may submit to the Engineer in writing, proposals for modifying the Plans, Specifications, or other requirements of the Contract for the sole purpose of reducing the total cost of construction.
2. The cost reduction proposal shall not impair, in any manner, the essential functions or characteristics of the Project such as service life, economy of operation, ease of maintenance, quality, desired appearance, or design and safety standards.
3. The following information must be included in the cost reduction proposal:
 - a. A description of both the existing Contract requirements for performing the Work and the proposed changes.
 - b. An itemization of the Contract requirements that shall be changed if the proposal is adopted.
 - c. A detailed estimate of the cost of performing the Work under the existing Contract and under the proposed change.
 - d. A statement of the time within which the Engineer shall act on the cost reduction proposal.
 - e. The Contract items of Work affected by the proposed changes, including any quantity variation attributable thereto.
4. This subsection does not require the Engineer to consider any cost reduction proposal. The Agency shall not be liable to the Contractor for not approving or acting upon any cost reduction proposal the Contractor submitted nor for any delays to the Work attributable to the cost reduction proposal.

5. If a cost reduction proposal is similar to the information included in the Contract Documents or adopted by the Agency after the advertisement and prior to Award of the Contract, the Engineer will not accept such proposal and reserves the right to make such changes without compensation to the Contractor under the provisions of this subsection.
6. The Contractor shall continue to perform the Work in accordance with the requirements of the Contract until a Change Order incorporating the cost reduction proposal has been issued.
7. The Engineer is the sole judge of the acceptability of a cost reduction proposal and the estimated net savings. In determining the estimated net savings, the Agency has the right to disregard the Contract Bid prices if, in the judgment of the Engineer, such prices do not represent a fair measure of the value of the Work to be performed or to be deleted.
8. The Agency reserves the right to require the Contractor to share in the Agency's costs of investigating the Contractor's cost reduction proposal. When this is required, the Contractor shall indicate the Contractor's acceptance in writing allowing the Agency to deduct amounts payable to the Contractor.
9. If the Engineer accepts the Contractor's cost reduction proposal in whole or in part, the Engineer shall issue a Change Order to incorporate the changes in the Plans and Specifications which are necessary to permit the cost reduction proposal or such part of it as has been accepted to be put into effect. If the Engineer's approval is conditional, the Change Order shall include any conditions upon which the Engineer's approval is based.
10. The Change Order also includes the estimated net savings in the cost of performing the Work due to the accepted cost reduction proposal and provides that the Contract cost be adjusted by crediting the Agency with 50% of estimated net savings amount.
11. The Contract Time shall not be extended by the acceptance of the cost reduction proposal and the performance of the Work unless specified otherwise in the Change Order.
12. The amount specified as payable to the Contractor in the Change Order is full compensation for the cost reduction proposal and the performance of the Work.
13. The Agency expressly reserves the right to adopt a cost reduction proposal for general use on contracts administered by the Agency when it determines that the proposal is suitable for application to other contracts. When an accepted cost reduction proposal is adopted for general use, only the Contractor who first submitted such proposal shall be eligible for compensation subject to this subsection, and in that case, only for contracts awarded prior to submission of the accepted cost reduction proposal.
14. The cost reduction proposals identical or similar to previously submitted proposals shall be eligible for consideration and compensation under the provisions of this subsection if the identical or similar previously submitted proposals were not adopted for general application to other contracts administered by the Agency.
15. Subject to the provisions contained in the Contract, the Agency or any other public agency shall have the right to use all or any part of any submitted cost reduction proposal without obligation or compensation of any kind to the Contractor.
16. The Contractor shall bear all costs to revise bonds for the Project to include the cost reduction incentive proposal work.

2-7 CHANGES INITIATED BY THE AGENCY

2-7.1 General.

ADD the following:

1. The Agency may change the Plans, Specifications, character of the Work, or quantity of Work provided the total arithmetic dollar value of all such changes, both additive and deductive, does not exceed 25 percent of the Contract Price. Should it become necessary to exceed this limitation, the change shall be by written supplemental agreement between the Contractor and Agency, unless both parties agree to proceed with the change by Change Order.
2. Change Orders shall be in writing and state the dollar value of the change or established method of payment, any adjustment in Contract Time of completion, and when negotiated prices are involved, and shall provide for the Contractor's signature indicating acceptance.
3. Unless expressly set forth in writing in a Change Order signed by the Agency and the Contractor, changes initiated by the Agency shall not be construed as the Agency directing the Contractor's means-and-methods in the execution of the Work.

2-7.2 Payment- Contract Unit Prices - not used.

- ~~1. If a change is ordered in an item of work covered by a Contract Unit Price, and such change does not involve substantial change in character of the Work from that shown on the Plans or specified in the Specifications, then an adjustment in payment will be made. This adjustment will be based upon the increase or decrease in quantity and the Contract Unit Price.~~
- ~~2. If the actual quantity of an item of work covered by a Contract Unit Price and constructed in conformance with the Plans and Specifications varies from the Bid quantity by 50 percent or less, payment will be made at the Contract Unit Price. If the actual quantity of the item of work varies from the Bid quantity by more than 50 percent, payment will be made per Section 2-7.3 or 2-7.4 as appropriate.~~
- ~~3. If a change is ordered in an item of work covered by a Contract Unit Price, and such change does involve a substantial change in the character of the Work from that shown on the Plans or specified in the Specifications, an adjustment in payment will be made per Section 2-7.6.~~

2-7.3 Payment – Increases of More than 50 Percent.

1. Should the actual quantity of an item of Work covered by a Contract Unit Price and constructed in conformance with the Plans and Specifications, exceed the Bid quantity by more than 50 percent, payment for the quantity in excess of 150 percent of the Bid quantity will be made on the basis of an adjustment in the Contract Unit Price mutually agreed to by the Contractor and the Agency, or at the option of the Engineer, on the basis of Extra Work per Section 2-8. The Extra Work per Section 2-8, basis of payment, shall not include fixed costs. Fixed costs shall be deemed to have been recovered by the Contractor through payment for 150 percent of the Bid quantity at the Contract Unit Price.

2-7.4 Payment – Decreases of More than 50 Percent

Should the actual quantity of an item of Work covered by a Contract Unit Price, and constructed in conformance with the Plans and Specifications, be less than 50 percent of the Bid quantity, an

adjustment in payment will not be made unless so requested in writing by the Contractor. If the Contractor so requests, payment will be made on the basis of an adjustment in the Contract Unit Price mutually agreed to by the Contractor and the Agency, or at the option of the Engineer, on the basis of Extra Work per Section 2-8; however, in no case will payment be less than would be made for the actual quantity at the Contract Unit Price nor more than would be made for 50 percent of the Bid quantity at the Contract Unit Price.

2-7.5 Stipulated Unit Prices – not used.

~~Stipulated Unit Prices are unit prices established by the Agency in the Contract Documents as distinguished from Contract Unit Prices submitted by the Contractor. Stipulated Unit Prices may be used for the adjustment of Contract changes when so specified in the Supplemental General Provisions.~~

2-7.6 Agreed Prices.

Agreed Prices are prices for new or unforeseen Work, or adjustments in Contract Unit Prices per Section 2-7.2, established by mutual agreement between the Contractor and the Agency. If mutual agreement cannot be reached, the Engineer may direct the Contractor to proceed on the basis of Extra Work in accordance with Section 2-8, except as otherwise specified in Sections 2-7.3 and 2-7.4.

2-7.7 Schedule of Values.

Before construction, Contractor shall provide a schedule of values for all lump-sum Bid items that shall be used for the purpose of progress payments. The prices shall be valid for the purpose of Change Orders to the Project.

2-7.8 Eliminated Items.

Should any Bid item be eliminated in its entirety, payment will be made to the Contractor for its actual costs incurred in connection with the eliminated item prior to notification in writing from the Engineer so stating its elimination. If material conforming to the Plans and Specifications is ordered by the Contractor for use in the eliminated item prior to the date of notification of elimination by the Engineer, and if the order for that material cannot be canceled, payment will be made to the Contractor for the actual cost of the material. In this case, the material shall become the property of the Agency. Payment will be made to the Contractor for its actual costs for any further handling. If the material is returnable, the material shall be returned, and payment will be made to the Contractor for the actual cost of charges made by the supplier for returning the material and for handling by the Contractor. Actual costs, as used in this Agency Supplement, shall be computed on the basis of Extra Work per Section 2-8.

2-8 EXTRA WORK

ADD the following:

1. New or unforeseen Work will be classified as “Extra Work” when the Engineer determines that it is not covered by Contract Unit Prices or stipulated unit prices.
2. Any request by the Contractor for Extra Work shall be in writing to the Engineer and shall include itemized estimates and in accordance with Section 7-4. The Contractor shall fully itemize the Extra Work cost estimates such as labor and payroll costs, quantities, crew

composition, production rates, material costs, Subcontractor and Supplier costs, equipment costs, supplemental costs, and time impact.

2-9 CHANGED CONDITIONS

ADD the following:

The Contractor shall promptly notify the Engineer of the following Work Site conditions ("Changed Conditions"), in writing, upon their discovery and before they are disturbed:

1. Subsurface or latent physical conditions differing materially from those represented in the Contract;
2. Unknown physical conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in work of the character being performed; and
3. Material differing from that represented in the Contract which the Contractor believes may be hazardous waste, as defined in Health and Safety Code Section 25117, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.

The Engineer will promptly investigate conditions which appear to be Changed Conditions. If the Engineer determines that conditions are Changed Conditions and they will materially affect performance time, the Contractor, upon submitting a written request, will be granted an extension of time subject to Section 6-4.2.

If the Engineer determines that the conditions do not justify an adjustment in compensation, the Contractor will be notified in writing. This notice will also advise the Contractor of its obligation to notify the Engineer in writing if the Contractor disagrees.

The Contractor's failure to give notice of Changed Conditions promptly upon their discovery and before they are disturbed shall constitute a waiver of all claims in connection with them.

1. The Contractor shall not be entitled to the payment of any additional compensation for any act, or failure to act, by the Engineer, including failure or refusal to issue a Change Order, or for the occurrence of any event or other cause, unless the Contractor shall have first given the Engineer written notice of potential claim as specified in this Section 2-9. Compliance with this section shall not be required as a prerequisite to notice provisions in Section 6-4.2(4) Extensions of Time, nor to any claim that is based on differences in measurement or errors of computation as to Contract quantities.
2. The Contractor shall provide the Agency with a written document containing a description of the particular circumstances giving rise to the potential claim, the reasons for which the Contractor believes additional compensation may be due and the nature of any and all costs involved within 20 Working Days of the date of service of the written notice of potential claim for Changed Conditions. Verbal notifications will not be accepted.
3. The potential claim shall include the following certification relative to the California False Claims Act, Government Code Sections 12650-12656.

“The undersigned certifies that the above statements are made in full awareness of the California False Claims Act, Government Code Sections 12650-12656. The undersigned further understands and agrees that this potential claim, unless resolved, must be restated as a claim in response to the Agency’s proposed final estimate for it to be further considered.”

By: _____ Title: _____

Date: _____

Company Name: _____

4. The Contractor’s estimate of costs may be updated when actual costs are known. The Contractor shall submit proof of its actual costs to the Engineer within 20 Working Days after the affected Work is completed. Failure to do so shall be cause to deny any later-filed claim regarding a potential claim described in this Section 2-9.
5. The intent of this Section 2-9 is to have differences between the parties arising under the Contract brought to the attention of the Engineer at the earliest possible time so that such matters can be settled, if possible, or other appropriate action promptly taken.

2-10 DISPUTED WORK

ADD 2-10.1 Claims.

1. A Claim is a written demand by the Contractor that seeks an adjustment in the Contract Price, Contract Time, or other relief associated with a dispute arising under or relating to the Contract, including a breach of any Contract provision. A voucher, invoice, or other routine request for payment is not a Claim.
2. A Claim shall conform to these specifications and may be considered after the Agency has previously denied a request by the Contractor for a Change Order seeking the demanded relief.
3. The Contractor shall submit a Claim to the Engineer if a dispute occurs that arises from or relates to the Contract. The Claim shall seek all relief to which the Contractor asserts the Contractor is entitled as a result of the event(s) giving rise to the dispute. The Contractor’s failure to process a Claim in accordance with these specifications shall constitute a waiver of all relief associated with the dispute. Claims are subject to 6-10, “Right to Audit.”
4. The Contractor shall continue to perform the Services and Work and shall maintain the Schedule during any dispute proceedings. The Engineer will continue to make payments for undisputed Services and Work.
5. The Agency’s Claims process specified in the Agency Supplement shall not relieve the Contractor of the Contractor’s statutory obligations to present Claims prior to any action under the Government Code.
6. Except for those final payment items disputed in the written statement required in Section 7-3.2, all Claims of any dollar amount shall be submitted in a written statement by the Contractor no later than the date of receipt of the final payment estimate. Those final payment items disputed in the written statement required in Section 7-3.2 shall be submitted

no later than 30 Calendar Days after receipt of the Final Payment estimate. No Claim will be considered that was not included in this written statement, nor will any Claim be allowed for which written notice or protest is required under any provision of this Contract, including Sections 2-9 Changed Conditions, 2-10 Disputed Work, 4-1(22) Protection, 6-4.4 Written Notice and Report, or 6-4.2(4) Extensions of Time, unless the Contractor has complied with notice or protest requirements.

7. The Engineer will consider Contractor's filed Claims, which must be detailed enough so the Engineer can determine the basis and amount of the Claims. Contractor shall provide the Engineer additional information to determine the facts or contentions involved in a Claim if requested by the Engineer. If additional information is needed, Contractor must provide Engineer with this information within a reasonable time of being asked for additional information. Failure to submit such information and details will be sufficient cause for denying the Claims.
8. Payment for Claims shall be processed by the next payment application of their resolution for those Claims approved by the Engineer. The Contractor shall proceed with informal dispute resolution under Section 2-10, Disputed Work, for those Claims remaining in dispute.

2-10.1.1 Initiation of Claim.

1. A Claim is a written demand by the Contractor that seeks an adjustment in the Contract Price, Contract Time, or other relief associated with a dispute arising under or relating to the Contract, including a breach of any provision of the Contract. A voucher, invoice, payment application or other routine request for payment is not a Claim. A Claim shall conform to these specifications and may be considered after the City has previously denied a request from the Contractor for a Change Order seeking the demanded relief. The Contractor shall, consistent with 2-10.1.2, give the Agency written notice of Claim prior to commencing any Disputed Work. Failure to give the notice shall constitute a waiver of all Claims in connection with the Disputed Work. If the Contractor and the Agency are unable to reach agreement on Disputed Work, the Agency may direct the Contractor to proceed with the Work and such direction shall not be construed as the Agency directing the Contractor's means-and-methods in the execution of the Work. After the Agency has rejected a Change Order request and prior to proceeding with dispute resolution pursuant to the Public Contract Code, applicable provisions of which are specified below, the Contractor shall attempt to resolve all disputes informally through the following dispute resolution chain of command:

For claims with a monetary value of \$50,000 or less:

- i. Project Inspector
- ii. Fleet and Facilities Project Manager
- iii. Public Works Manager

For claims with a monetary value greater than \$50,000:

- iv. Project Inspector
- v. Fleet and Facilities Project Manager
- vi. Public Works Manager
- vii. City Engineer
- viii. City Manager or Executive Manager

2. Consistent with Section 2-10.1.2, the Contractor shall submit a complete report within 20 Working Days after completion of the Disputed Work stating its position on the Claim, the contractual basis for the Claim, along with all documentation supporting the costs, Contract Time, and all other evidentiary materials. At each level of Claim or appeal of Claim the Agency will, within 10 Working Days of receipt of the Claim or appeal of Claim, review the Contractor's report and respond with a position, request additional information or request that the Contractor meet and present its report. When additional information or a meeting is requested the Agency will provide its position within 10 Working Days of receipt of the additional information or Contractor's presentation of its report. The Contractor may appeal each level's position up to the Deputy City Engineer/Engineering Manager for claims less than \$50,000 and/or up to the City Manager for the City of Carlsbad or Executive Manager for the Carlsbad Municipal Water District for claims greater than \$50,000 after which the Contractor may proceed under the provisions of the Public Contract Code. The Agency's failure to state a position or otherwise respond to a Claim within the timeframes set forth above shall be deemed a rejection of the Claim by the Agency.
3. The authority within the dispute resolution chain of command is limited to recommending a resolution to a Claim to the City Manager for the City of Carlsbad or Executive Manager for the Carlsbad Municipal Water District. Actual approval of the Claim is subject to the Change Order provisions in the Contract.
4. Any remaining Claims not resolved by the informal dispute resolution process described above shall be resolved in accordance with Public Contract Code Section 9204, the relevant portion of which is included below:
 - (d)(1)(A) Upon receipt of a Claim pursuant to this section, the public entity to which the Claim applies shall conduct a reasonable review of the Claim and, within a period not to exceed 45 days, shall provide the Claimant a written statement identifying what portion of the Claim is disputed and what portion is undisputed. Upon receipt of a Claim, a public entity and a Contractor may, by mutual agreement, extend the time period provided in this subdivision.
 - (B) The Claimant shall furnish reasonable documentation to support the Claim.
 - (C) If the public entity needs approval from its governing body to provide the Claimant a written statement identifying the disputed portion and the undisputed portion of the Claim, and the governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a Claim sent by registered mail or certified mail, return receipt requested, the public entity shall have up to three days following the next duly publicly noticed meeting of the governing body after the 45-day period, or extension, expires to provide the Claimant a written statement identifying the disputed portion and the undisputed portion.
 - (D) Any payment due on an undisputed portion of the Claim shall be processed and made within 60 days after the public entity issues its written statement. If the public entity fails to issue a written statement, paragraph (3) shall apply.

(2)(A) If the Claimant disputes the public entity's written response, or if the public entity fails to respond to a Claim issued pursuant to this section within the time prescribed, the Claimant may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the public entity shall schedule a meet and confer conference within 30 days for settlement of the dispute.

(B) Within 10 business days following the conclusion of the meet and confer conference, if the Claim or any portion of the Claim remains in dispute, the public entity shall provide the Claimant a written statement identifying the portion of the Claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the Claim shall be processed and made within 60 days after the public entity issues its written statement. Any disputed portion of the Claim, as identified by the Contractor in writing, shall be submitted to nonbinding mediation, with the public entity and the Claimant sharing the associated costs equally. The public entity and Claimant shall mutually agree to a mediator within 10 business days after the disputed portion of the Claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the Claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the Claim remaining in dispute shall be subject to applicable procedures outside this section.

(C) For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.

(D) Unless otherwise agreed to by the public entity and the Contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.

(E) This section does not preclude a public entity from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program if mediation under this section does not resolve the parties' dispute.

(3) Failure by the public entity to respond to a Claim from a Contractor within the time periods described in this subdivision or to otherwise meet the time requirements of this section shall result in the Claim being deemed rejected in its entirety. A Claim that is denied by reason of the public entity's failure to have responded to a Claim, or its failure to otherwise meet the time requirements of this section, shall not constitute

an adverse finding with regard to the merits of the Claim or the responsibility or qualifications of the Claimant.

(4) Amounts not paid in a timely manner as required by this section shall bear interest at 7 percent per annum.

(5) If a Subcontractor or a lower tier Subcontractor lacks legal standing to assert a Claim against a public entity because privity of Contract does not exist, the Contractor may present to the public entity a Claim on behalf of a Subcontractor or lower tier Subcontractor. A Subcontractor may request in writing, either on their own behalf or on behalf of a lower tier Subcontractor, that the Contractor present a Claim for work which was performed by the Subcontractor or by a lower tier Subcontractor on behalf of the Subcontractor. The Subcontractor requesting that the Claim be presented to the public entity shall furnish reasonable documentation to support the Claim. Within 45 days of receipt of this written request, the Contractor shall notify the Subcontractor in writing as to whether the Contractor presented the Claim to the public entity and, if the original Contractor did not present the Claim, provide the Subcontractor with a statement of the reasons for not having done so.

(e) The text of this section or a summary of it shall be set forth in the Plans or Specifications for any Public Works Project that may give rise to a Claim under this section.

(f) A waiver of the rights granted by this section is void and contrary to public policy, provided, however, that (1) upon receipt of a Claim, the parties may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable; and (2) a public entity may prescribe reasonable Change Order, Claim, and dispute resolution procedures and requirements in addition to the provisions of this section, so long as the contractual provisions do not conflict with or otherwise impair the timeframes and procedures set forth in this section.

(g) This section applies to contracts entered into on or after January 1, 2017.

(h) Nothing in this section shall impose liability upon a public entity that makes loans or grants available through a competitive application process, for the failure of an awardee to meet its contractual obligations.

(i) This section shall remain in effect only until January 1, 2027, and as of that date is repealed, unless a later enacted statute that is enacted before January 1, 2027, deletes, or extends that date.

In addition, all Claims by Contractor for \$375,000 or less shall be resolved in accordance with the procedures in the Public Contract Code Section 20104 *et seq.*, applicable provisions of which are included below:

20104.2 For any Claim subject to this article, the following requirements apply:

(a) The Claim shall be in writing and include the documents necessary to substantiate the Claim. Claims must be filed on or before the date of final payment. Nothing in this subdivision is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of Claims.

(b)(1) For Claims of less than fifty thousand dollars (\$50,000), the local agency shall respond in writing to any written Claim within 45 days of receipt of the Claim, or may request, in writing, within 30 days of receipt of the Claim, any additional documentation supporting the Claim or relating to defenses to the Claim the local agency may have against the Claimant.

(2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the Claimant.

(3) The local agency's written response to the Claim, as further documented, shall be submitted to the Claimant within 15 days after receipt of the further documentation or within a period of time no greater than that taken by the Claimant in producing the additional information, whichever is greater.

(c)(1) For Claims of over fifty thousand dollars (\$50,000) and less than or equal to three hundred seventy-five thousand dollars (\$375,000), the local agency shall respond in writing to all written Claims within 60 days of receipt of the Claim, or may request, in writing, within 30 days of receipt of the Claim, any additional documentation supporting the Claim or relating to defenses to the Claim the local agency may have against the Claimant.

(2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the Claimant.

(3) The local agency's written response to the Claim, as further documented, shall be submitted to the Claimant within 30 days after receipt of the further documentation, or within a period of time no greater than that taken by the Claimant in producing the additional information or requested documentation, whichever is greater.

(d) If the Claimant disputes the local agency's written response, or the local agency fails to respond within the time prescribed, the Claimant may so notify the local

agency, in writing, either within 15 days of receipt of the local agency's response or within 15 days of the local agency's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the local agency shall schedule a meet and confer conference within 30 days for settlement of the dispute.

(e) Following the meet and confer conference, if the Claim or any portion remains in dispute, the Claimant may file a Claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a Claim must be filed shall be tolled from the time the Claimant submits his or her written Claim pursuant to subdivision (a) until the time that Claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

(f) This article does not apply to tort Claims and nothing in this article is intended nor shall be construed to change the time periods for filing tort Claims or actions specified by Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code.

20104.4 The following procedures are established for all civil actions filed to resolve Claims subject to this article:

(a) Within 60 days, but no earlier than 30 days, following the filing or responsive pleadings, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within 15 days by both parties of a disinterested third person as mediator, shall be commenced within 30 days of the submittal, and shall be concluded within 15 days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of both parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.

(b)(1) If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act (Title 4 (commencing with Section 2016.010) of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.

(2) Notwithstanding any other provision of law, upon stipulation of the parties, arbitrators appointed for purposes of this article shall be experienced in construction law, and, upon stipulation of the parties, mediators and arbitrators shall be paid necessary and reasonable hourly rates of pay not to exceed their customary rate, and

such fees and expenses shall be paid equally by the parties, except in the case of arbitration where the arbitrator, for good cause, determines a different division. In no event shall these fees or expenses be paid by state or county funds.

(3) In addition to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, any party who after receiving an arbitration award requests a trial de novo but does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, pay the attorney's fees of the other party arising out of the trial de novo.

(b) The court may, upon request by any party, order any witnesses to participate in the mediation or arbitration process.

20104.6 Payment on undisputed portion of Claim; interest on arbitration awards or judgments:

(a) No local agency shall fail to pay money as to any portion of a Claim which is undisputed except as otherwise provided in the Contract.

(b) In any suit filed under Section 20104.4, the local agency shall pay interest at the legal rate on any arbitration award or judgment. The interest shall begin to accrue on the date the suit is filed in a court of law.

5. Although not to be construed as proceeding under Extra Work provisions, the Contractor shall keep and furnish records of disputed Work in accordance with Section 2-10.

2-10.1.2 Claim Certification Submittal.

1. If the Contractor's Claim seeks an increase in the Contract Price, the Contract Time, or both, submit with the Claim an affidavit certifying the following:
 - a. The Claim is made in good faith and covers all costs and delays to which the Contractor is entitled as a result of the event(s) giving rise to the Claim.
 - b. The amount Claimed accurately reflects the adjustments in the Contract Price, the Contract Time, or both to which the Contractor believes the Contractor is entitled.
 - c. All supporting costs and pricing data are current, accurate, and complete to the best of the Contractor's knowledge. The Contractor shall supply a cost breakdown per item of Work.
 - d. The Contractor shall ensure that the affidavit is executed by an official who has the authority to legally bind the Contractor.

2-10.1.3 Agency's Final Determination.

1. If the Contractor disagrees with the City Manager or Executive Manager's final determination, as described in 2-10.1.1(1-2), Contractor must notify the Engineer in writing of the Contractor's objection within 15 Working Days after receipt of the written determination and file a "Request for Mediation" in accordance with 2-10.2, "Dispute Resolution Process."

2. Failure to give notice of objection within the 15 Working Days period shall waive the Contractor's right to pursue the Claim.

2-10.1.6 Mandatory Assistance.

1. If a third-party dispute, litigation, or both, arises out of or relates in any way to the Services provided under the Contract, upon the Agency's request, the Contractor shall assist in resolving the dispute or litigation. The Contractor's assistance includes, but is not limited to the following:
 - a. Providing requested documents in a timely manner.
 - b. Providing professional consultations.
 - c. Attending mediations, arbitrations, depositions, trials, or any event related to the dispute resolution and litigation.

2-10.1.6.1 Compensation for Mandatory Assistance.

1. The Agency will reimburse the Contractor for reasonable fees and expenses incurred by the Contractor for any required assistance rendered in accordance with 2-10.1.6, "Mandatory Assistance" as Extra Work.
2. The Engineer will determine whether these fees and expenses were necessary due to the Contractor's conduct or failure to act.
3. If the Engineer determines that the basis of the dispute or litigation in which these fees and expenses were incurred were the result of the Contractor's conduct or the Contractor's failure to act in part or in whole, the Contractor shall reimburse the Agency for any payments made for these fees and expenses.

Reimbursement may be through any legal means necessary, including the Agency's withholding of the Contractor's payment.

ADD 2-10.2 Dispute Resolution Process

2-10.2.1 Mandatory Non-binding Mediation.

1. If a dispute arises out of or relates to the Contract, or the breach of it, and if the dispute cannot be settled through those procedures described in Section 2-10.1.1, the parties must attempt to settle the dispute in an amicable manner, using mandatory mediation under the Construction Industry Mediation Rules of the American Arbitration Association before having recourse in a court of law.
2. To initiate mediation, the initiating party shall serve a Request for Mediation at the American Arbitration Association (AAA).

2-10.2.2 Mandatory Mediation Costs.

1. The expenses of witnesses for either side shall be paid by the party producing such witnesses. All other expenses of the mediation, including required traveling and other expenses of the mediator and the cost of any proofs or expert advice produced at the direct request of the mediator, shall be borne equally by the parties, unless they agree otherwise.

2-10.2.3 Selection of Mediator.

1. A single mediator, knowledgeable in construction aspects and acceptable to both parties, shall be used to mediate the dispute.
2. If AAA is used, the initiating party shall concurrently file with AAA a “Request for Mediation” along with the appropriate fees, a copy of requested mediators marked in preference order, and a preference for available dates.
3. If AAA is selected to coordinate the mediation (Administrator), within 10 Working Days from the receipt of the initiating party’s Request for Mediation, the opposing party shall file the following:
 - a. A copy of the list of the preferred mediators listed in preference order after striking any mediators to which they have any objection.
 - b. A preference for available dates.
 - c. Appropriate fees.
4. If the parties cannot agree on a mediator, then each party shall select a mediator and those mediators shall select the neutral third party to mediate the matter.

2-10.2.4 Conduct of Mediation Sessions.

1. Mediation hearings shall be conducted in an informal manner and discovery shall not be allowed.
2. Discussions, statements, or admissions shall be confidential to the proceedings and shall not be used for any other purpose regarding the party’s legal position. The parties may agree to exchange any information they deem necessary.
3. Both parties shall have an authorized representative attend the mediation. Each representative shall have the authority to recommend entering into a settlement. Either party may have attorney(s), witnesses, or expert(s) present. Either party may request a list of witnesses and notifications of whether attorney(s) shall be present.
4. Any resulting agreements from mediation shall be documented in writing. Mediation results and documents, by themselves, shall be “non-binding” and inadmissible for any purpose in any legal proceeding, unless such admission is otherwise agreed upon in writing by both parties. Mediators shall not be subject to any subpoena or liability and their actions shall not be subject to discovery.

ADD 2-10.3 Governing Law & Forum for Litigation.

1. This Contract shall be governed by and construed in accordance with the laws of the State of California. Any lawsuits, at law or in equity, between the parties arising out of this Contract shall be filed in a court of competent jurisdiction in the County of San Diego. With respect to venue, the parties agree that this Contract is made in and will be performed in the County of

San Diego. The parties waive all provisions of law providing for a change of venue in these proceedings to any other county.

ADD 2-10.4 Pre-judgment Interest.

1. The parties stipulate that if a judgment is entered against a party for breaching this Contract, the pre-judgment interest shall be 2% per annum.

SECTION 3 – CONTROL OF THE WORK

3-2 SELF-PERFORMANCE

ADD the following:

1. If Contractor fails to satisfy the provisions requiring the Contractor to complete Work amounting to at least 50 percent of the Contract price with its own organization unless stipulated otherwise in the Contract Documents, the Agency may at its sole discretion elect to cancel the Contract or deduct an amount equal to 10 percent of the value of the Work performed in excess of 50 percent of the Contract Price by other than the Contractor's own organization. The Board shall be the sole body for determination of a violation of these provisions. In any proceedings under this section, the Contractor, or prime Contractor, shall be entitled to a public hearing before the Board and shall be notified 10 Calendar Days in advance of the time and location of the hearing. The determination of the Board shall be final.

3-3 SUBCONTRACTORS

ADD the following:

1. The Contractor shall incorporate these Specifications in the Contractor's subcontracts for the work being performed by the Contractor's Subcontractor.
2. The Contractor shall obtain or require that each Subcontractor obtains insurance policies in accordance with 5-4, "INSURANCE" which shall be kept in full force and effect for the duration of the Contract and in any attached supplemental agreements.
3. In any dispute between the Contractor and the Contractor's Subcontractors, the Agency shall not be made a party to any judicial or administrative proceeding to resolve the dispute.
4. The Contractor shall ensure that the Contractor's Subcontractors are appropriately licensed for the duration of the work that is performed under the Subcontracts in accordance with 2-1, "WORK TO BE DONE." If a Subcontractor is not properly licensed, the Contractor shall cease payment to the Subcontractor for all work performed when the Subcontractor was not properly licensed. The Contractor shall return to the Agency any payment the Contractor made to a Subcontractor for work performed when the Subcontractor was not licensed.
5. Subcontractors shall be considered employees of the Contractor, and the Contractor shall be responsible for their work.
6. Where the Contract Documents require that a particular product be installed or applied by an applicator approved by the manufacturer, ensure the Subcontractor or Supplier employed for such work is approved by the manufacturer.
7. Before the work of any Subcontractor is started, the Contractor shall submit to the Engineer for approval a written statement showing the Work to be subcontracted giving the name and

business of each Subcontractor and description and value of each portion of the Work to be so subcontracted. This submittal will confirm the Subcontractor's commitments in the Bid.

3-4 AUTHORITY OF THE ENGINEER

ADD the following:

1. The Engineer shall be the single point of contact and shall be included in all communications between Contractor and any Agency representative.

3-5 INSPECTION

ADD the following:

1. Contractor shall make available to the Engineer accurate books and accounting records regarding all its activities. Contractor shall contractually require all Subcontractors to this Contract to do the same. The Engineer shall have access to the Contractor's, and any Subcontractors documents described in this Section 3-5(1) within San Diego County. The Engineer shall have the right to monitor, assess, and evaluate Contractor's and its Subcontractor's performance pursuant to this Contract. The Engineer's monitoring, assessments, and evaluations will include, but shall not be limited to, audits, inspection of premises, reports, contracts, subcontracts and interviews of Contractor's staff and the staff of all Subcontractors to this Contract. Upon reasonable advance notice, Contractor shall make available to the Engineer for examination, all of its, and all Subcontractors to this Contract, records with respect to all matters covered by this Contract. Contractor shall also permit the Engineer to audit, examine, copy and make excerpts or transcripts from such data and records, and to make audits of all invoices, materials, payrolls, records of personnel, and other data relating to all matters covered by this Contract. Any inspection described in this Section 3-5(1) shall occur as often as the Engineer deems necessary and during normal business hours. However, any such inspection shall not unreasonably interfere with Contractor's ongoing business operations. Contractor and all Subcontractors to this Contract shall maintain such data and records for as long as may be required by applicable laws and regulations.
2. The Agency may utilize consultants to assist the Engineer during construction in observing the Contractor's performance. The consultant shall be the Agency's Representative on the Site assisting the Engineer and must not be confused with a building inspector with the Agency or with a Special Inspector.
3. The Agency may utilize a Special Inspector for inspection of specialty work and materials, whose costs the Agency will pay for unless the Contractor fails inspection. If inspections or tests reveal non-compliance with the requirements of the Contract Documents, the Contractor shall pay for all corrective measures deemed necessary by the Engineer and also pay the cost of the Agency's subsequent re-inspection and re-testing.
4. Inspections required by codes or ordinances are the Contractor's responsibility.
5. The Contractor's quality control testing and inspections are the Contractor's responsibility. Contractor shall coordinate and schedule all inspections and tests. The Contractor shall give the Engineer notice of tests and inspections made by others. At least 5 Working Days of notice

shall be given for offsite inspections. The Contractor shall wait until the Engineer has responded and agreed to Contractor's schedule before scheduling test or inspections.

6. The Agency shall schedule any inspections and tests as the Agency deems necessary to ensure the Work is accomplished in accordance with the requirements of the Contract Documents (other than inspections for work performed in accordance with a permit). The Contractor is responsible for the inspection of all Work performed in accordance with the Contract Documents.
7. Contractor shall provide access in accordance with Cal-OSHA Standards as necessary.
8. Contractor shall remove and replace any items of Work performed without the required permit or inspection. For required subsequent inspection, the Contractor shall remove and replace Work at the discretion of Engineer at no additional cost to the Agency. Inspection of the Work does not relieve the Contractor of full compliance with the Contract Documents.
9. Contractor shall not conceal the Work prior to inspection, testing, or approval required by the Contract Documents, the Engineer's prior written request, or by other agencies. If any item of Work is done prior to obtaining the required approvals when requested by the Engineer, Contractor shall expose the Work for inspection, testing, and/or approval. Upon successful completion of the inspection, testing, or approval, the Contractor shall proceed with the Work. The Contractor shall bear all direct and indirect costs and damages of such uncovering and re-covering and shall not be entitled to an increase in the Contract Price or the Contract Time, unless the Contractor has given the Engineer and any other affected agencies written notice of the Contractor's intention to cover the Work and the Engineer has not acted in response to such notice.
10. When specified, Contractor shall make arrangements for tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Engineer, or with the appropriate public authority. The payment for such tests, inspections, and approvals are included in the Contract Price.
11. Unless specified otherwise, the Contractor shall pay the cost of inspections and tests. If inspections or tests reveal non-compliance with the requirements of the Contract Documents, the Contractor shall bear the cost of corrective measures deemed necessary by the Engineer and the cost of the Agency's subsequent re-inspection and re-testing.
12. The Contractor shall, at no charge to the Agency, provide copies of all records in the Contractor's or Subcontractor's possession pertaining to the Work that the Engineer may request.
13. Contractor agrees to maintain and/or make available, to the Engineer, within San Diego County, accurate books, and accounting records relative to all its activities and to contractually require all Subcontractors to this Contract to do the same. The Engineer shall have the right to monitor, assess, and evaluate Contractor's and its Subcontractors performance pursuant to this Contract, the monitoring, assessments, and evaluations to include, but not be limited to, audits, inspection of premises, reports, contracts, subcontracts and interviews of Contractor's staff and the staff of all Subcontractors to this Contract. At any time during normal business hours and as often as the Engineer may deem necessary, upon reasonable advance notice, Contractor shall make available to the Engineer for examination, all of its, and all of its Subcontractors' records with respect to all matters covered by this Contract and will permit the Engineer to audit, examine, copy and make excerpts or

transcripts from such data and records, and to make audits of all invoices, materials, payrolls, records of personnel, and other data relating to all matters covered by this Contract. However, any such activities shall be carried out in a manner so as to not unreasonably interfere with Contractor's ongoing business operations. Contractor and all Subcontractors to this Contract shall maintain such data and records for as long as may be required by applicable laws and regulations.

3-6 THE CONTRACTOR'S REPRESENTATIVE

ADD the following:

1. Both the representative and alternative representative shall be the Contractor's employees and shall not be assigned to a Subcontractor unless otherwise approved by the Agency in writing.
2. The Contractor's Project team shall attend scheduled construction meetings as required by the Engineer. If any of Contractor's staff cannot attend, the Contractor shall notify the Engineer a minimum of 24 hours in advance, prior to the start of the scheduled meeting. If the Contractor does not provide the required notification, the Contractor shall pay for the costs of the Agency's staff, consultants, or both that attended. The Contractor shall be charged a minimum of 2 hours of the attendee's time.
3. The payment for the Contractor's attendance at Project meetings is included in the Contract Price. The Engineer shall deduct costs assessed to the Contractor for not attending the meetings from the monthly progress payment via Change Order.

3-7 CONTRACT DOCUMENTS

3-7.1 General.

ADD the following:

1. Specifications and Plans are divided into groups by engineering discipline for the Agency's convenience. These divisions are not for the purpose of apportioning the Work or responsibility for the Work among Subcontractors and Suppliers.
2. The Contractor shall supply any Work that may reasonably be inferred from the Specifications or Plans as being required to produce the intended result whether or not it is specifically called for, at no additional cost to the Agency.
3. If referenced documents have been discontinued or updated by the issuing organization, the replacement documents issued or otherwise identified by that organization shall be used or, if there are no replacement documents, the last version of the document before it was discontinued.
4. Scaled dimensions on Contract Documents are approximate. Before ordering materials or commencing the Work, the Contractor shall measure the Site for proper size and fit and verify dimensions and quantities by taking measurements in the field. The Contractor shall be responsible for their accuracy.
5. The Contractor shall verify any conditions affecting the cost of the Work through a reasonable examination of the Work Site prior to submitting the Bid.

6. Existing improvements visible at the Work Site, for which no specific disposition is made on the Plans, but which interfere with the completion of the Work, shall be removed, and disposed of by the Contractor.
7. The Plans, Specifications, and other Contract Documents shall govern the Work. The Contract Documents are intended to be complementary and cooperative. Anything specified in the Specifications and not shown on the Plans or shown on the Plans and not specified in the Specifications, shall be as though shown on or specified in both.
8. The Plans shall be supplemented by such working drawings and shop drawings as are necessary to adequately control the Work.
9. The Contractor shall ascertain the existence of any conditions affecting the cost of the Work through a reasonable examination of the Work Site prior to submitting the Bid.
10. Existing improvements visible at the Work Site, for which no specific disposition is made on the Plans, but which interfere with the completion of the Work, shall be removed, and disposed of by the Contractor.
11. The Contractor shall, upon discovering any error or omission in the Plans or Specifications, immediately call it to the attention of the Engineer.

3-7.2 Precedence of the Contract Documents.

DELETE in its entirety and REPLACE with the following:

1. If there is a conflict between any of the Contract Documents, the document highest in the order of precedence, and most recent in edition, shall control. The order of precedence, from highest to lowest, shall be as follows:
 - a. Permits (issued by jurisdictional regulatory agencies including environmental documents).
 - b. Change Orders and supplemental agreements; whichever occurs last.
 - c. Contract Addenda, whichever occurs last.
 - d. The signed written Contract.
 - e. Bid/Proposal.
 - f. Project Plans.
 - g. Technical Specifications.
 - h. Standard Drawings.
 - i. Agency Supplemental General Provisions (Section 00 73 00).
 - j. Agency Supplemental Technical Provisions (Section 00 74 00).
 - k. Standard Plans
 - i. City of Carlsbad Standard Drawings.
 - ii. Carlsbad Municipal Water District Standard Drawings.
 - iii. City of Carlsbad modifications to the San Diego Area Regional Standard Drawings.
 - iv. Traffic Signal Design Guidelines and Standards.
 - v. State of California Department of Transportation Standard Plans.
 - vi. California Manual on Uniform Traffic Control Devices (CA MUTCD).
 - l. "Greenbook" (Standard Specifications for Public Works Construction).
 - m. Reference Specifications.

2. When additional small business/minority/women-owned/veteran or other special requirements by funding sources are included in the Contract Documents, the funding source's requirements shall govern.
 - a. With reference to the Drawings, the order of precedence shall be as follows: Figures govern over scaled dimensions.
 - b. Detail Drawings govern over general Drawings.
 - c. Addenda and Change Order Drawings govern over Plans.
 - d. Plans govern over Standard Drawings.
3. When a conflict exists between the ADA requirements of Title 24, and the Agency Supplemental Provisions, the most restrictive requirement shall be followed.

ADD: 3-7.3 Red-lines and Record Documents.

3-7.3.1 General.

1. The Contractor shall, at no charge to the Agency, provide copies of all records in the Contractor's or Subcontractor's possession pertaining to the Work that the Engineer may request.
2. The Contractor shall keep the Red-lines current with entries checked by the Engineer before the Work is covered. Contractor's failure to update and deliver Red-lines information monthly to the Engineer for review and approval may result in the withholding of monthly progress payments.
3. The Contractor shall note the source identification, such as RFI numbers and Change Order numbers, as required identifying the source of the change to the Contract Documents.
4. The Contractor shall deliver the Red-lines to the Engineer upon completion of the Construction Work.
5. The Contractor shall legibly annotate a full-size set of Plans daily, in red ink, to record additions, deletions or changes to the Work and changes in location, elevation or character of the Work not otherwise shown or noted in the Contract Documents. This "redline" set of drawings shall be kept on the Job Site, shall be used only as a record set, and shall be delivered to the Engineer within 10 Calendar Days of completion of the Work. Contractor shall immediately give written notice of any conflicts between these documents to the Engineer.
6. As-built information shall represent field measurements, approved Shop Drawings, Working Drawings, samples, product data, and other pertinent data discovered during the performance of the Work. The Contractor shall note the source of the change such as RFI or Change Order numbers, as required. The Contractor shall clearly record additions or changes in the Work and depth of underground facilities by dimensioning from 2, known, fixed points.
7. Payment for Record Drawings and Documents shall be included in the various Bid items and no additional payment will be made therefore.

3-7.3.2 Asset Specific Red-lines.

1. Irrigation System Red-lines: Not Used.

~~Red lines shall clearly record by dimension from 2 known fixed points and by depth of underground facilities all deviations, modifications, and changes in the Work. Records, deviations, modifications, and changes on the day the Work is performed shall reflect the actual Work location and shall be marked in red at the scale of the Plan sheet on which they are recorded. Red lines shall show any changes to the Plans for the equipment locations and associated information for the following:~~

- ~~a. Potable water mainline and size~~
 - ~~b. Water Meter — Size, type of water (potable or reclaimed), and water meter address.~~
 - ~~c. Backflow Device — Size, available static pressure in psi, the psi and flow in gallons per minutes for which the irrigation system is designed, and device serial number.~~
 - ~~d. Master Control Valve.~~
 - ~~e. Flow Sensor.~~
 - ~~f. Pressure Regulator Valve.~~
 - ~~g. Isolation Valves.~~
 - ~~h. Remote Control Valves — Size, irrigation controller, valve station number, and flow demand in gallons per minute.~~
 - ~~i. Quick Coupling Valves and Size.~~
 - ~~j. Electrical Meter, including meter address.~~
 - ~~k. Remote Control Valve Wiring.~~
 - ~~l. Communication Cables.~~
 - ~~m. Pull Boxes.~~
 - ~~n. Rain Shut Off Switch.~~
 - ~~o. Electrical lines from electrical meter to irrigation controller, including the power disconnect switch.~~
 - ~~p. Irrigation Mainline and Size.~~
 - ~~q. Irrigation Lateral Line and Size.~~
 - ~~r. Irrigation Sleeves and Size.~~
 - ~~s. Irrigation Controller — Location, number of stations, identifying call-out.~~
 - ~~t. Irrigation sprinkler heads which have been added or deleted from the approved Plans. Changes in manufacturer nozzle size shall be noted on the red-lined Drawings including operating pressure, gallons per minute, and radius of throw.~~
2. Re-vegetation Red-lines: Not Used
- ~~a. Within 4 weeks of the end of the Plant Establishment Period, as determined and accepted by the Project Biologist or Landscape Architect, furnish and submit to the Engineer 1 full scale Red lines set showing field changes to grade, erosion control, and seeding for the re-vegetated areas.~~
3. Utility Red-lines: Utility Red-lines shall show any changes from the Plan for the following:
- a. Horizontal and vertical bends
 - b. Changes in pipe material or pressure class
 - c. Isolation valves
 - d. Insulating joints
 - e. Blow off valves by stationing and offsets.
 - f. Air vacuum valves by stationing and offsets.

- g. Water and recycled water meter boxes replaced.
 - h. Water sampling stations
 - i. Cathodic test stations
 - j. Locations of all sewer laterals and cleanouts.
 - k. Items abandoned in place following dewatering operation.
4. Building/Structure Red-lines: Building Red-lines shall show any changes from the Plans for the following:
- a. Location by dimension and the depth by elevation of underground lines, valves, plugged tees, and capped ends.
 - b. By dimension or scale Plans, wiring, conduits, and pull boxes as installed.
 - c. Information necessary to maintain and service concealed items of Work.
 - d. Dimensional changes to the Drawings.
 - e. Revisions to details shown on the Drawings.
 - f. Depths of foundations below the first floor.
 - g. Locations and depths of underground utilities.
 - h. Revisions to the routing of piping and conduits.
 - i. Revisions to electrical circuitry.
 - j. Actual equipment locations.
 - k. Duct size and routing.
 - l. Locations of concealed internal utilities.
 - m. Changes made by Change Orders.
 - n. Details not shown on original Plans.
5. Traffic Signals and Street Lighting: Not Used
- ~~a. The Contractor shall provide the Engineer with a cable route diagram indicating the actual cable route and meter marks for all intersections, directional change points in the cable routing, and all termination points. The Contractor shall record these points during cable installation, provide cable system Red-lines showing the accurate cable route to the Engineer, and record information such as the location of slack cable and its quantity in the cable route diagram.~~
 - ~~b. The Contractor shall provide 3 copies of D Sheet sized Red-lines.~~
6. SWPPP: (see paragraph 3-16.6) Not Used.
- ~~a. Upon completion of construction, the Contractor shall submit the SWPPP and all its appendices, records, reports, maps and records of permanent BMPs to the Engineer with the Red-lines.~~
7. Slurry Seal and Asphalt Concrete Overlay:
- a. The Contractor shall clearly record on the forms the Agency provides in MS Excel format the actual dates and quantity of each Bid item applied to each street segment and comments regarding each segment and record reasons if no work is performed.
8. Fiber Optic and Wi-Fi Device Red-lines: Fiber Optic and Wi-Fi Device Red-lines shall clearly record by dimension from 2 known fixed points and by depth of underground facilities all deviations, modifications, and changes in the Work. Records, deviations, modifications, and changes on the day the Work is performed shall reflect the actual Work location and

shall be marked in red at the scale of the Plan sheet on which they are recorded. Red-lines shall show the equipment locations and associated information for the following:

- a. Locations and depths of underground utilities.
- b. Revisions to the routing of piping and conduits.
- c. Actual equipment locations.
- d. Pull Boxes.
- e. Electrical Meter, including meter address.
- f. Items abandoned in place.

3-7.3.3 Payment.

1. The payment for Red-lines Drawings shall be included in the Contract Price.

ADD 3-7.4 Measurement and Dimensions.

1. Scaled dimensions are approximate. Before ordering materials or commencing the Work, the Contractor shall measure the Site for proper size and fit and verify dimensions and quantities by taking measurements in the field. Contractor shall be responsible for their accuracy.

3-8 SUBMITTALS

3-8.2 Working Drawings

ADD the following:

1. Working Drawings shall be submitted electronically to the Agency.

DELETE Table 3-8.2 in its entirety and REPLACE with following:

Item	Section/ Drawing No.	Title	Subject
1	3-12.5.2	Sewage Bypass and Pumping Plan	Sanitary Sewers
2	3-12.8.2	Dewatering Plan	Water Pollution Control
3	5-7.2.2	Shoring Plan	Safety
4	300-3.2	Cofferdams	Structure Excavation & Backfill
5	303-1.6.1	General	Falsework
6	303-1.7.1	General	Placing Reinforcement
7	303-3.1	General	Prestressed Concrete Construction
8	304-1.1.2	Falsework Plans	Structural Steel
9	306-8.8 SDW- 154*	Valves, Hydrants, and Appurtenances	Water Valve Bypass Details for Mainlines 16-Inch and Larger
10	306-8.8.3	Thrust Blocks and Anchor Blocks	Unless specified otherwise, design of all size water main thrust blocks and anchor blocks
11	307-1.1	General	Jacking Operations

12	307-2.1	General	Tunneling Operations
13	308-3	Submittals	Microtunneling
14	601-2.1.2	Engineered Traffic Control Plan (TCP)	Temporary Traffic Control for Construction and Maintenance Work Zones
15	1001-3	Storm Water Pollution Prevention Plan (SWPPP)	Water Pollution Control
16	1001-4	Water Pollution Control Plan (WPCP)	Water Pollution Control

* Note: The distance dimensions shown between the bypass pipes and the mainlines are subject to change to field conditions.

Items listed in Table 3-8.2, except for items 1, 2 and, 5, (if applicable to this project) shall be prepared by a Civil or Structural Engineer registered by the State of California. Item 15 shall be prepared by a Qualified SWPPP Developer (QSD) in accordance with 1001 3, “Storm Water Pollution Prevention Plan (SWPPP).” Item 16 shall be prepared in accordance with 1001-4, “Water Pollution Control Plan (WPCP).”

3-8.3 Shop Drawings. As relevant to project

ADD the following:

1. Shop Drawings shall be submitted electronically to the Agency.
2. Additional Shop Drawings may be required by the Special Provisions.

DELETE Table 3-8.3 in its entirety and REPLACE with following:

TABLE 3-8.3			
Item	Subsection	Title	Subject
1	207-2.5	Joints	Reinforced Concrete Pipe
2	207-8.4	Joints	Vitrified Clay Pipe
3	209-2.2.2	Shop Drawings	Steel Pipe and Fittings
4	216-1	General	Precast Reinforced Concrete Box
5	218-1	General	Precast Vault
6	304-1.1.1	Shop Drawings	Structural Steel
7	304-2.1	General	Metal Hand Railings

3-8.4 Supporting Information.

ADD the following:

1. The Contractor shall submit samples of the materials with cut sheets of the products. The Contractor shall organize cut sheets for review and approval by the Engineer prior to use on the Project and identify deviation from any of the specified material clearly, including cut sheets and samples of both the specified material and basis for the substitution. Included

should be the Agency's Project Name, Project Number, and the Engineer's name, Contractor Name, and Submittal Number and clearly indicate the specific product to be used.

2. When photos of material are required, they shall be clear in resolution, identify the specific item for review, and shall indicate the name of the item, source, and date taken. The material shown in the photo shall be currently available for use on the Project.
3. For landscaping and irrigation materials, the Contractor shall submit samples and test results to the Engineer within 15 Working Days of the Notice to Proceed.
4. Test sections ("Mock ups") of materials as required in the Special Provisions shall be accepted by the Engineer before proceeding with the Work.
5. The Contractor shall provide and keep up-to-date a complete "As-Built" record set of blue-line prints, which shall be corrected in red daily and show every change from the original Drawings and Specifications and the exact "As-Built" locations, sizes and kinds of equipment, underground piping, valves, and all other Work not visible at surface grade. Prints for this purpose may be obtained from the Agency at cost. This set of Drawings shall be kept on the job and shall be used only as a Record Set and shall be delivered to the Engineer within 10 Calendar Days of completion of the Work. Payment for performing the Work required by Section 2-5.4 shall be included in the various Bid items and no additional payment will be made therefore.

3-8.6 Manufacturer's Operation, Maintenance, and Warranty Instructions.

To sentence (1), DELETE in its entirety and SUBSTITUTE with the following:

For each pre-manufactured product covered by a manufacturer's warranty, Contractor shall submit 1 electronic copy and 3 bound original or legal copies prior to acceptance of the Contract.

3-9 SUBSURFACE DATA

DELETE in its entirety and SUBSTITUTE with the following:

3-9 TECHNICAL STUDIES AND SUBSURFACE DATA

1. If reports of explorations and tests of Site conditions are referenced in the Contract Documents, Contractor is encouraged to inspect the Site, acquire, and review these reports, and take other necessary steps to thoroughly familiarize oneself with the Site conditions. If a review of the documents and Site inspection indicate an obstruction or utility conflict with the proposed work, immediately notify the Engineer.
2. Subsurface data shall include geotechnical reports, groundwater elevations, soil analyses and characterization, and other information included or referenced in the Special Provisions and shall apply only at the location of the test holes and to the depths indicated.
3. Contractor is encouraged to review subsurface data, examine the Site and assess the Site conditions pertaining to the Work. If a review of the documents and Site inspection indicate an obstruction or utility conflict with the proposed work, immediately notify the Engineer.
4. Soil test reports for test holes which have been drilled are available for review at the office of the Engineer. Additional exploration may be performed at Contractor's own expense.

5. The indicated groundwater elevation is that which existed on the date specified in the data. It shall be Contractor's responsibility to determine and allow for the groundwater elevation on the date the Work is performed. A difference in groundwater elevation between what is shown in soil boring logs and what is encountered during construction shall not be considered as a basis for Extra Work in accordance with 2-8, "Extra Work."

3-10 SURVEYING

3-10.1 General.

ADD the following:

1. The Engineer or Surveyor shall request a right of entry to perform survey services on sewer mains and manholes from City of Carlsbad, wastewater@carlsbadca.gov or call 442-339-2722, 7 Calendar Days prior to the start of survey services.
2. The Contractor shall hire and pay for the services of a licensed Surveyor ("Surveyor") to perform all work necessary for establishing control, construction staking, records research and all other surveying work necessary to construct the Work, provide surveying services as required in the Contract and provide surveying, drafting and other professional services required to satisfy the requirements of the Land Surveyors Act. Surveyor shall be resident on the Site during all surveying operations and shall personally supervise and certify the surveying work.
3. All surveying data submittals shall conform to the requirements of Section 3.8, "Submittals." The Contractor shall submit grade sheets to the Engineer before commencing work in the area affected by the grade sheets. The Contractor shall submit field notes for all required surveying to the Engineer within 10 Calendar Days of performing the survey. All surveying field notes, grade sheets and survey calculations shall be submitted electronically. The field notes, calculations and supporting data shall be clear and complete. Supporting data shall include all maps, affidavits, plats, field notes from earlier surveys and all other evidence used by the Surveyor to determine the location of the monuments set. The field notes and calculations will be labeled with name of the Surveyor, the party chief, the field crewmembers and the author of the field notes or calculations. They shall be annotated with the date of observation or calculation, be numbered with consecutive page numbers and shall be readable without resort to any electronic aid, computer program or documentation for any computer program. The field notes shall be prepared in conformance with the Caltrans "Surveys Manual." The Contractor shall have a Record of Survey prepared by the Surveyor and file it in conformance with Business and Professions Code Sections 8700-8805 when the Surveyor performs any surveying that such map is required under Business and Professions Code Section 8762 and whenever the Surveyor shall establish, set or construct any permanent survey monument. SDRS drawing M-10 A, B, C type monuments, bolts, spikes, leaded tacks and nails (when set in concrete), iron pipes, reinforcing steel and all monuments and marks that are at, or accessory to, property corners and street centerlines are permanent survey monuments. The Record of Survey shall show all monuments set, control monuments used, the basis of bearings and all other data needed to determine the procedure of survey and the degree of accuracy attained by the field surveying including the unadjusted ratio of closure. The unadjusted ratio of closure shall not exceed 1 part in 40,000. The Record of

Survey shall show the location and justification of location of all permanent monuments set and their relation to the street right-of-way. Record(s) of Survey(s) shall be submitted for the Engineer's review and approval before submittal to the County Surveyor and before submittal to the County Recorder.

4. Payment for Work performed to satisfy the requirements shall be included in the actual Bid items requiring the survey work and no additional payment will be made. Extension of unit prices for Extra Work shall include full compensation for attendant survey work and no additional payment will be made. Payment for the replacement of disturbed monuments and the filing of Records of Survey and/or corner records, including filing fees, shall be incidental to the Work necessitating the disturbance of the monuments and no additional payment will be made.

3-12 CONTRACT INFORMATION SIGNS

ADD the following:

Signs shall not be posted until approved by the Engineer. The Contractor shall complete and submit a Review for Sign Permit (form P-11), available at:

<https://www.carlsbadca.gov/services/depts/planning/applications.asp>

3-12 WORK SITE MAINTENANCE

3-12.1 General.

ADD the following:

1. Maintain Site improvements including any temporary facilities, equipment, or other materials. Remove graffiti encountered on the Site within 24 hours. See also SECTION 400 - PROTECTION AND RESTORATION.
2. As a condition of Final Payment, the Contractor shall submit a signed and notarized affidavit stating that all brush, trash, debris, and surplus materials resulting from this Project have been disposed of in a legal manner. The cost of disposal is the Contractor's responsibility.
3. The Contractor shall provide and maintain enclosed toilets for the use of their employees. Toilets must be kept in a neat and sanitary condition and ensure that they comply with all applicable laws, ordinances, and regulations pertaining to public health and sanitation of dwellings and camps. The cost of such is the Contractor's responsibility.
4. If required in the Special Provisions, the Contractor shall provide and maintain enclosed toilets for the use of the Agency's and Contractor's officers, employees, or agents. Toilets must be kept in a neat and sanitary condition and ensure that they comply with all applicable laws, ordinances, and regulations pertaining to public health and sanitation of dwellings and camps. The cost of such is the Contractor's responsibility.
5. The Contractor shall maintain drainage within and through the work areas. Earth dams will not be permitted in paved areas. Temporary dams of sandbags, asphaltic concrete, or other acceptable material will be permitted, when necessary, by the SWPPP and/ or BMP plan. Such dams shall be removed from the Site as soon as their use is no longer necessary.

6. Work Site maintenance shall be conducted on non-workdays when increased levels of maintenance are deemed necessary, in the opinion of the Engineer, to preserve the health safety or welfare of the public and or to comply with applicable regulations.
7. Disposal of all rubbish and surplus materials is incidental to Work Site maintenance. Disposal shall be made off the Site and shall be in accordance with:
 - a. Local codes and ordinances that govern locations and methods of disposal.
 - b. All applicable safety laws.
 - c. Requirements of Subpart H, Section 1926.252 of the OSHA Safety and Health Standards for Construction.
8. Work Site maintenance is considered incidental to the items of work that they are associated with and no additional payment will be made.
9. Cleanup and Dust Control. Throughout all phases of construction, including suspension of the Work, and until the final acceptance, the Contractor shall keep the Site clean and free from rubbish and debris. The Contractor shall also abate dust nuisance by cleaning, sweeping, and sprinkling with water, or other means as necessary. The use of water resulting in mud on public streets will not be permitted as a substitute for sweeping or other methods.

3-12.2 Air Pollution Control.

ADD the following:

1. Contractor shall carry out effective measures whenever and as often as necessary to prevent Contractor's operation from producing dust in amounts damaging to property, cultivated vegetation, domestic animals, or causing a nuisance to persons living or occupying buildings in the vicinity. Contractor shall be responsible for any damage resulting from any dust originating from Contractor's operations. The dust abatement measures shall be continued until Contractor is relieved of further responsibility by the Engineer.
2. Contractor shall adhere to Air Pollution Control District County of San Diego regulations for equipment used on the Job Site.

3-12.3 Noise Control.

ADD the following:

1. All internal combustion engines used in the Work shall be equipped with mufflers in good repair and are subject to the City Noise Control Ordinance, Carlsbad Municipal Code Chapter 8.48.

3-12.4 Storage of Equipment and Materials.

3-12.4.1 General.

ADD the following:

1. Equipment and material storage shall be confined to areas approved by the Engineer. Disposal of all rubbish and surplus materials shall be at the Contractor's expense.
2. The Contractor shall order, purchase, transport, coordinate delivery, accept delivery, confirm the quantity and quality received, prepare storage area(s), store, handle, protect, move, relocate, remove and dispose excess of all materials used to accomplish the Work.

3. Materials shall be delivered to the Work Site only during Working Hours, and shall be accompanied by bills of lading that shall clearly state for each delivery: the name of the Contractor as consignee, the Project name and number, address of delivery and name of consignor and a description of the material(s) shipped.
4. Prior to storage of any materials which have been shipped to or by the Contractor to any location within the City's boundaries the Contractor shall provide the Engineer a copy of lease agreements for each property where such materials are stored. The lease agreement shall clearly state the term of the lease, the description of materials allowed to be stored and shall provide for the removal of the materials and restoration of the storage site within the time allowed for the Work.
5. All such storage shall conform to all laws and ordinances that may pertain to the materials stored and to preparation of the storage site and the location of the site on which the materials are stored. Storage of hazardous wastes, construction equipment material, and parking and fueling of equipment shall not occur in biologically sensitive areas.
6. Loss, damage or deterioration of all stored materials shall be the Contractor's responsibility. Conformance to the requirements of this section, both within and outside the limits of work is a part of the Work. The Engineer shall have the right to verify the suitability of materials and their proper storage at any time during the Work.
7. The Contractor shall furnish and maintain in good condition all equipment and facilities as required for the proper execution and inspection of the Work. Such equipment and facilities shall meet all requirements of applicable ordinances and laws.
8. Restore the storage area to an equal or better condition as deemed necessary by the Engineer and at no additional cost to the Agency.
10. When required by the Engineer, the Contractor shall furnish and operate a self-loading motor sweeper with spray nozzles at least once each Working Day for the purpose of keeping paved areas acceptably clean wherever construction, including restoration, is incomplete.
11. Materials and equipment shall be removed from the Site as soon as they are no longer necessary. Before the final inspection, the Site shall be cleared of equipment, unused materials, and rubbish so as to present a satisfactory clean and neat appearance. All cleanup costs shall be included in the Contractor's Bid.
12. Care shall be taken to prevent spillage on haul routes. Any such spillage shall be removed immediately, and the area cleaned.
13. Excess excavation material from catch basins or similar structures shall be removed from the Site immediately. Sufficient material may remain for use as backfill if permitted by the Specifications. Forms and form lumber shall be removed from the Site as soon as practicable after stripping.
14. Failure of the Contractor to comply with the Engineer's cleanup orders may result in an order to suspend Work until the condition is corrected. No additional compensation will be allowed because of such suspension.
15. Cleanup and dust control required in the Contract shall also be executed on weekends and other non-Working Days when needed to preserve the health safety or welfare of the public. The Contractor shall conduct effective cleanup and dust control throughout the duration of the Contract. The Engineer may require increased levels of cleanup and dust control that, in his/her sole discretion, are necessary to preserve the health, safety and welfare of the public.

Cleanup and dust control shall be considered incidental to the items of Work that they are associated with and no additional payment will be made for them.

16. Vermin Control. At the time of acceptance, structures entirely constructed under the Contract shall be free of rodents, insects, vermin, and pests. Necessary extermination work shall be arranged and paid for by the Contractor as part of the Work within the Contract time and shall be performed by a licensed exterminator in accordance with requirements of governing authorities. The Contractor shall be liable for injury to persons or property and responsible for the elimination of offensive odors resulting from extermination operations.
17. Temporary Light, Power, and Water. The Contractor shall furnish, install, maintain, and remove all temporary light, power, and water at its own expense. These include piping, wiring, lamps, and other equipment necessary for the Work. The Contractor shall not draw water from any fire hydrant (except to extinguish a fire), without obtaining permission from the water agency concerned. The Contractor shall obtain a construction meter for water used for the construction, plant establishment, maintenance, cleanup, testing and all other work requiring water related to this Contract. The Contractor shall contact the appropriate water agency for requirements. The Contractor shall pay all costs of temporary light, power and water including hookup, service, meter and any, and all, other charges, deposits and/or fees for them. These costs shall be considered incidental to the items of Work that they are associated with and no additional payment will be made for them.

3-12.4.2 Storage in Public Streets.

DELETE in its entirety and SUBSTITUTE with the following:

1. Construction materials shall not be stored in streets, roads, or highways for more than 5 Calendar Days after unloading. All materials not installed or used in construction within 5 Calendar Days after unloading shall be stored at a location approved by the Engineer.
2. Construction equipment shall not be stored at the Work Site before its actual use nor for more than 5 Calendar Days after it is no longer needed. Time necessary for repair or assembly of equipment may be authorized by the Engineer.
3. Excavated material, except that which is to be used as backfill in the adjacent trench, shall not be stored in public streets unless otherwise permitted. Immediately after placing backfill, all excess material shall be removed.
4. The Contractor shall not store equipment for traffic control in right of way.

ADD 3-12.4.3 Storage and Staging Areas.

1. Storage and staging areas are the Contractor's responsibility. If the Plans designate a staging location within the Project or in close proximity, the Contractor may utilize such area for their use. The storage and staging areas shall be as close as possible to the Site. Contractor is responsible for obtaining any permits, leases, or any other items necessary to obtain staging areas.
2. Storage of hazardous wastes, construction equipment material, and parking and fueling of equipment shall not be allowed in the MHPA or other biologically sensitive areas. Ensure the fueling of vehicles occurs only within designated staging areas using appropriate catch basins and devices.

3. Return the storage and staging area and the adjacent area to an equal or better condition as deemed necessary by the Engineer, at no additional cost to the Agency.
4. The Contractor shall provide the Engineer a copy of the lease agreement for any property to be used for the storage of materials or equipment prior to delivery or storage of any materials or equipment. Each lease agreement shall clearly state the term of the lease and a description of the materials or equipment allowed to be stored and shall provide for the removal of the materials or equipment and restoration of the storage site within the time allowed for the Work.
5. Construction equipment shall not be stored at the Work Site before its actual use on the Work nor for more than 5 Calendar Days after it is no longer needed. Time necessary for repair or assembly of equipment may be authorized by the Engineer.

3-12.6 Water Pollution Controls

3-12.6.2 Best Management Practices (BMPs).

ADD the following:

1. Contractor shall submit a BMP plan as a submittal to the Agency.

3-12.6.3 Storm Water Pollution Prevention Plan (SWPPP) Not Used.

ADD the following:

- ~~1. The Contractor shall evaluate the requirements for the preparation of a SWPPP for Work within the City's boundary by reviewing the Determination of SWPPP Tier Level and Construction Threat Level (form E-32), which may be obtained at:~~

~~<http://www.carlsbadca.gov/services/depts/landev/engineering.asp>~~

- ~~2. The Contractor shall review the criteria requiring the preparation of a SWPPP conforming with the State Water Resources Control Board Order No. 2022-0057-DWQ, NPDES General Permit No. CAS000002, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities (the Construction General Permit or CGP). The CGP and other information are available at:~~

~~https://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml~~

- ~~3. If a SWPPP has been prepared specifically for the Project and is included as a part of the Contract Documents, the Contractor shall use the SWPPP as a baseline document and shall amend the SWPPP, with the Engineer's approval, as necessary to include the Contractor's proposed Construction Schedule, construction operations, and the Site conditions encountered or created during the Work.~~
- ~~4. If the Agency has not prepared a SWPPP for the Project and the Project is subject to coverage under the CGP, the Contractor shall prepare and implement the SWPPP conforming with the CGP requirements.~~

~~5. The Contractor shall comply with all requirements of the approved SWPPP and the CGP including implementation during construction by a QSP, The Contractor shall provide all information necessary for the Agency to obtain coverage under the CGP during the electronic submittal of Permit Registration Documents and supporting data necessary for the filing of the storm water Notice of Intent and Notice of Termination. The Contractor shall be responsible for conducting all monitoring and inspections and filing all reports required by and in accordance with the CGP.~~

3-12.6.5 Payment.

DELETE in its entirety and SUBSTITUTE with the following:

1. Unless otherwise specified, payment for water pollution control, including implementation and maintenance of BMPs, shall be considered as included in the Contract Unit Price for each item in the Bid. Payment for dewatering shall be as specified in the Special Provisions.

ADD 3-12.7 Vermin Control.

1. The Site and structures constructed under the Contract shall be kept free of rodents, insects, vermin, and pests. Necessary extermination work shall be arranged and paid for by the Contractor as part of the Work within the Contract time and shall be performed by a licensed exterminator in accordance with requirements of governing authorities. The Contractor shall be liable for injury to persons or property and responsible for the elimination of offensive odors resulting from extermination operations.

3-13 COMPLETION, ACCEPTANCE, AND WARRANTY

3-13.1 Completion.

DELETE in its entirety and SUBSTITUTE with the following:

1. The Contractor shall comply with the following prior to requesting a Pre-Final inspection of the Work and filing of a written assertion that the Work has been completed:
 - a. Provide completed and signed redline drawings and record documents including installation, maintenance and operation instructions, manuals and/or tools for installed equipment.
 - b. Provide and properly label all keys for existing facilities or new permanent work.
 - c. Provide all items specified to be supplied as extra stock and spare parts. Wrap, seal, or place in a container all items as necessary to allow for storage by the Agency for future use. Verify the specified quantities.
 - d. Provide all final Special Inspection reports and certifications required by equipment manufacturers to demonstrate compliance with applicable codes and standards.
 - e. Obtain any required certifications from the Engineer of Record for permanent BMPs.
 - f. Comply with all requirements of permits issued by jurisdictional agencies.
 - g. Remove temporary facilities from the Site.
 - h. Thoroughly clean the Site and remove all mark-outs and construction staking.

2. The Agency Inspector will schedule the Pre-Final inspection within 5 Working Days of receipt of the Contractor's request. The Inspector will generate a list of deficiencies (Punchlist) within 5 Working Days after the Pre-Final inspection.
3. The Contractor shall have 30 Working Days to correct the deficiencies and provide a written response to each Punchlist item. The Inspector will review the corrective work within 5 Working Days of receipt of the Contractor's written response to each Punchlist item. Any outstanding deficiencies will be considered incomplete Work and the Punchlist will be returned to Contractor. Full payment will not be made for any Bid item with outstanding deficiencies and a Final Inspection will not be scheduled until all deficiencies are completed to the satisfaction of the Inspector.
4. The Contractor shall submit a request for Final Inspection which shall include a written assertion that the Work has been completed in accordance with the Contract Documents and a written response describing the corrective Work completed for all punch list items identified in the Pre-Final inspection(s). The request for Final Inspection will not be considered without the Contractor's written response to the punch list items. The Inspector will schedule the Final Inspection within 10 Working Days of receipt of the Contractor's request and invitees will include the Construction Manager, Engineer and representatives from agencies or utility companies having jurisdiction over the Work. The Contractor's attendance is mandatory.
5. If, in the Engineer's judgment, the Work has been completed in accordance with the Contract Documents, the Engineer will set forth in writing the date the Work was completed. This will be the date when the Contractor is relieved from responsibility to protect and maintain the Work, and to which liquidated damages will be computed.

ADD 3-13.1.1 Requirements Before Requesting a Walk-through.

1. The following items are required prior to requesting a Walk-through:
 - a. Remove temporary facilities from the Site.
 - b. Thoroughly cleaning the Site and removing all mark outs and construction staking.
 - c. Provide completed and signed Red-lines in accordance with Contract Document requirements.
 - d. Provide all material and equipment maintenance and operation instructions and/or manuals.
 - e. Provide all tools which are a permanent part of the equipment installed in the Project.
 - f. Provide and properly identify all keys for construction and all keys for permanent work.
 - g. Provide all final Special Inspection reports required by the applicable building code.
 - h. Provide all items specified to be supplied as extra stock. Wrap, seal, or place in a container all items as necessary to allow for storage by the Agency for future use. Verify the specified quantities.
 - i. Ensure that all specified equal opportunity (if applicable) and certified wage rate documentations covering the Contract Time have been submitted.
 - j. Provide the spare parts for the proposed irrigation system as specified in the Special Provisions.

2. Contractor shall notify the Engineer to arrange a final inspection of permanent BMPs installed and shall obtain the completed, signed, and stamped DS-563 Form 30 Calendar Days prior to the issuance of the Notice of Completion.

ADD 3-13.1.2 Walk-through and Punchlist Procedure.

1. When Contractor considers that the Work and Services are complete, notify the Engineer in writing that the Project is complete and request that the Contractor and the Engineer perform a Walk-through for the generation of a Punchlist. Contractor shall notify the Engineer at least 7 Working Days in advance of the Walk-through.
2. The Engineer will first determine if the Project is ready for a Walk-through by verifying whether the Contractor have completed all items as required by 3-13.1.1, "Requirements Before Requesting a Walk-through."
3. If the Work includes sewer and storm drain installations, the inspection shall include televising in accordance with the requirements in the Contract Documents.
4. The Engineer shall facilitate the Walk-through.
5. Contractor shall make Plans, specifications, and technical data, such as submittals and equipment manuals, available at the Site for the Walk-through attendees.
6. The Engineer will provide the Contractor with the Punchlist within 15 Working Days after the date of the Walk-through and submit it to the Contractor. The Agency shall not provide a preliminary Punchlist.
7. If the Engineer finds that the Project is not substantially complete as defined in the Contract, the Engineer will terminate the Walk-through and notify the Contractor in writing.
8. If, at any time during the Engineer's evaluation of the corrective Work required by the Punchlist, the Engineer discovers that additional corrective Work is required, the Engineer may include that corrective Work in the Punchlist. Contractor shall remain solely responsible for the Project Site until the Project is completely operational, all Punchlist items have been corrected, and all operation and maintenance manuals have been accepted by the Agency.
9. The Engineer shall meet with the Contractor until all Punchlist items are corrected. If Contractor takes longer than 30 Working Days to complete the corrective Work, the Project shall be subject to re-evaluation.
10. Upon acceptance of the Work, Contractor shall assemble and deliver to the Engineer all records, documents, warranties, material certifications, bonds, guarantees, maintenance and service agreements, and maintenance and operating manuals. Written warranties, except manufacturer's standard printed warranties, shall be on a letterhead addressed to the Contractor. Warranties shall be submitted in the format described in this section, modified as approved by the Agency, to suit the conditions pertaining to the warranty.

3-13.2 Acceptance

DELETE in its entirety and SUBSTITUTE with the following:

1. Acceptance of the Work will occur after all the requirements of the Contract Documents have been fulfilled. If, in the Engineer's judgment, the Contractor has fully performed the Contract, the Engineer will recommend to the City Manager for the City of Carlsbad or Executive Manager for the Carlsbad Municipal Water District that the Contractor's performance of the

Contract be accepted. Upon such certification by the Engineer, the City Manager or Executive Manager may accept the Work. Upon the acceptance of the Work by the City Manager or Executive Manager, a “Notice of Completion” will be filed in the office of the San Diego County Recorder. The date of recordation shall be the date of acceptance of the Work.

2. Once the “Notice of Completion” has been recorded, the Engineer will release the retention.

3-13.3 Warranty.

DELETE in its entirety and SUBSTITUTE with the following:

1. Contractor shall warranty and repair all defective materials and workmanship for a period of 1 year. This warranty period shall start on the date the Work was recorded by the “Notice of Completion” unless the Agency has beneficial use of the Project (excluding water, sewer, and storm drain projects). In addition, Contractor shall warranty the Work against all latent and patent defects for a period of 10 years.
2. The warranty period for specific items covered under manufacturers’ or suppliers’ warranties shall commence on the date they are placed into service at the direction of or as approved by the Engineer in writing.
3. All warranties, express or implied, from Subcontractors, manufacturers, or suppliers, of any tier, for the materials furnished and work performed shall be assigned, in writing, to the Agency, and shall be delivered to the Engineer prior to the acceptance of the Contractor’s performance of the Contract.
4. Replace or repair defective materials and workmanship in a manner satisfactory to the Engineer after notice to do so from the Engineer and within the time specified in the notice. If Contractor fails to make such replacements or repairs within the time specified in the notice, the Agency may perform the replacement or repairs at Contractor’s expense. If Contractor fails to reimburse the Agency for the actual costs, Contractor’s Surety shall be liable for the cost.
5. The warranty period shall be extended with respect to portions of the Work corrected under warranty. Items that shall be warrantied free from defective workmanship and materials for a period longer than 1 year are as follows:

Specified Item	Minimum Warranty Period
Detectable Warning Tile Construction	3 Years of Manufacturer’s Warranty
All Work Under SECTION 500 – PIPELINE REHABILITATION	3 Years
Fiber Optic Interconnect Cables	2 Years
Luminaires ¹	10 Years of Manufacturer’s Warranty
LED Signal Modules	3 Years of Manufacturer’s Warranty

¹ Provide documentation verifying that the induction luminaire models being offered for the Project are covered by the 10-year warranty.

6. Contractor shall provide the Agency a copy of the manufacturer's warranty for private sewer pumps, including the alarm panel and all other accessories.
 - a. Contractor shall involve the manufacturer in the installation and startup as needed to secure any extended warranty required.
 - b. This section is not intended to limit any manufacturer's warranty which provides the Agency with greater warranty rights than set forth in this section or the Contract Documents.
 - c. The warranty shall include all components. The form of the warranty shall be approved by the Engineer in accordance with 3-13.3.2, "Warranty Format Requirements."
7. If, during the warranty period, any item of the Work is found to be Defective Work, Contractor shall correct it promptly after receipt of written notice from the Agency to do so. The warranty period shall be extended with respect to portions of the Work corrected as part of the warranty requirements.

ADD 3-13.3.1 Defective Work.

1. If the Engineer finds any part of the Work, to be defective or not in compliance with the Contract Documents, the Contractor shall correct the Defective Work in accordance with the Engineer's written instructions and within the specified time limits.
2. The Engineer may order Contractor to stop all or part of the Project if, upon notice, Contractor fails to immediately correct the Defective Work in conformance with the Contract Documents. The Contractor bears all direct and indirect costs and damages that result from the Agency's Stop Work notice.
3. The Engineer may determine in its sole discretion to accept Defective Work instead of having the Contractor correct the Defective Work. However, the Contractor will still be financially responsible for the Defective Work. The Engineer shall issue a deductive Change Order and will incorporate the necessary revisions in the Contract Documents for the Defective Work, the diminished value to the Project, or for the cost to repair the Defective Work.
4. If the Contractor fails to correct Defective Work within the specified time limits, the Engineer may correct the Contractor's Defective Work. The Agency has the right to correct any Defective Work without notice in the event of an emergency. Contractor shall bear all direct and indirect costs of the Defective Work that the Agency corrects.
5. When undertaking remedial action under this section, the Agency may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's Work and or services, and incorporate into the Project all materials and equipment stored at the Site or for which the Agency has paid but Contractor has stored elsewhere.
6. For Building Projects which require a certificate of occupancy, not including sewer and water facilities, if the Contractor fails to correct the Defective Work listed on the Agency's Punchlist within 30 Working Days in accordance with 6-1.1, "Construction Schedule," the Contractor shall reimburse the Agency for all costs to provide inspection services required to monitor the Contractor's Work beyond the 30 Working Days. The Agency shall bill the Contractor for the additional inspection at the Agency's established rates.

7. If the Contractor completes the Project or portions of the Project prior to NOC, the Contractor shall preserve equipment by developing and implementing a preventive maintenance program in compliance with manufacturer's recommendations.

ADD 3-13.3.2 Warranty Format Requirements.

1. Written warranties, except manufacturer's standard printed warranties, shall be on the Contractor's and Contractor's agents', material suppliers', installers', or manufacturers' own letterhead, addressed to and for the Agency's benefit. Submit warranties in the format described in this section, modified as approved by Engineer to suit the conditions pertaining to the warranty.
2. The Contractor shall obtain warranties, executed in triplicate by responsible Subcontractors and Suppliers, within 10 Working Days after completion of the applicable item of Work. Except for items put into use with the Engineer's permission with date mutually agreed upon in writing, ensure that the beginning time of the warranty is the Project completion date.
3. The Contractor shall verify that the documents are in proper form, contain full information, and are notarized.
4. The Contractor shall verify that warranties are signed by both the Contractor and the appropriate party.
5. The Contractor shall provide warranties to the Engineer with a neatly typed table of contents, identifying each warranty with the number and title of the applicable specification section requiring the warranty and the name of the product or work item.
6. The Contractor shall separate each warranty with index tab sheets keyed to the table of contents listing. Provide complete information using separate typed sheets as necessary. The information shall include a list of Subcontractors and Suppliers with the name, address, and telephone number of the responsible principals.

3-13.3.3 Long-Term Warranty Contract (LTWC).

1. If specified in the Special Provisions and when a LTWC is included in the Contract Documents, the Contractor shall execute and submit the supplemental agreement for the extended Project warranty (the LTWC covering the workmanship and materials).
2. The first 3 years of warranty protection after installation shall be secured by the faithful performance and payment bonds in accordance with 1-7.2, "Contract Bonds."
3. At the conclusion of the initial 3-year bonded warranty period, an "n"-year subsequent manufacturer's warranty for labor and materials shall commence and run concurrently with the LTWC, where "n" is the number of additional years beyond the initial 3 years as specified in the Special Provisions. Alternatively, and with respect to the 3-year bonded warranty, the Contractor may submit a 2-year bond followed by 1-year bond. If the alternate option is selected, the 1-year bond shall be submitted to the Agency at least 90 Calendar Days before the expiration of the original 2-year bond. Contractor shall clearly inform the Contract Specialist of the option selected. The protection provided shall not be for less than 3 + "n" years continuously.
4. The manufacturer's warranty for parts and labor shall secure performance of the LTWC by the Contractor. Additional security in the form of bonds for both the LTWC and the manufacturer's extended "n"-year warranty (in years 4 and on following Acceptance) for

labor and materials may, but is not required to be, provided per the compensation provisions of the LTWC.

5. The manufacturer warranty shall extend to performance of the LTWC by the Contractor, including without limitation the performance of periodic inspections, preparation of periodic reports, and performance of repairs or replacements including parts and labor. If the manufacturer warranty does not expressly extend to the LTWC or is qualified in any way to exclude warranty of the performance of the LTWC by the Contractor, the surety bond shall be provided for the LTWC in accordance with 1-7.2, "Contract Bonds."
6. If the Contractor is unable to obtain a bond which extends the "n"-year term of the LTWC, to obtain a manufacturer warranty or both which clearly and unambiguously extends to secure performance of the LTWC by the Contractor for the "n"- year term, the Agency shall accept either form of security provided that at least 1 of these forms is provided before award.
7. Provision of the manufacturer's warranty, bonds, or both as specified is a pre-condition to award of the Contract.
8. Refer to the LTWC for additional information. The provisions of 3-3, "SUBCONTRACTORS" shall not apply to LTWC.

ADD 3-14 PARTNERING

1. Contractor may request the formation of a formal partnering relationship (Partnering) by submitting a request in writing to the Engineer after approval of the Contract. If Contractor's request for Partnering is approved by the Engineer, scheduling of a Partnering workshop, selecting the Partnering facilitator and workshop, selecting the Partnering facilitator and workshop site, and other administrative details shall be as agreed to by both Parties.
2. The establishment of a Partnering shall not change or modify the terms and conditions of the Contract and shall not relieve either party of the legal requirements of the Contract.
3. The goals of Partnering include the following:
 - a. The Engineer and Contractor's representatives, including Contractor's Subcontractors, actively working together as partners.
 - b. Avoidance of destructive confrontation and litigation among the parties.
 - c. Mutual understanding on how the Work is to be conducted.
 - d. Establishment of mutual key results to facilitate Project success.
 - e. Establishment of an atmosphere of teamwork, trust, and open communication.

3-14.1 Payment.

1. The payment for providing a facilitator and a workshop site shall be borne equally by the Agency and Contractor. Contractor shall pay in advance all compensation for the costs of the facilitator and for the costs of obtaining the workshop site.
2. Unless a Bid item has been provided for "Partnering," the Agency's share of such costs shall be reimbursed to Contractor as Extra Work. Markups shall not be added. Other costs associated with the Partnering relationship shall be borne separately by the party incurring the costs.

ADD 3-15 PUBLIC CONVENIENCE

1. The Contractor shall provide and maintain safe and adequate pedestrian and vehicular access to fire hydrants; hospitals; police and fire stations; commercial and industrial establishments including churches, schools and parking lots; service stations; public transportation; pedestrian crossing; motels and establishments of similar nature. Access shall be continuous and unobstructed unless otherwise approved by the Engineer.
2. The Contractor shall provide access for emergency vehicles and mail delivery and trash collection services. The trash hauling schedule can be obtained by contacting Republic Services at [Customer Support | Republic Services](#).
3. During paving operations, the Contractor shall provide paved parking within 800 feet of the affected residences or businesses unless otherwise approved by the Engineer.
4. The Contractor shall provide notification 72 hours prior to the start of construction in the public right-of-way that affects vehicular traffic, parking, or pedestrian routes. For a full street closure, all residences and/or businesses on the affected street or alley shall be notified. For partial street closures or for curb, sidewalk or driveway repairs, the residences and/or businesses directly affected by the Work shall be notified. The notice shall:
 - a. Be written and hand delivered.
 - b. State the date and time the Work will begin and its anticipated duration.
 - c. Provide a brief description of the Work and simple instructions to the home or business owner on actions to facilitate the construction.
 - d. List 2 telephone numbers to obtain additional information. One number shall be the Contractor's permanent office or field office and the other number shall be a 24-hour number answered by someone who is knowledgeable about the Project. An answering machine shall not be connected to either number.
 - e. For residences, be prepared on 65-lb. brightly colored card stock or equivalent durability with contrasting, 12-point font or larger printing; pre-cut in a manner for hanging on a doorknob; and minimum size of 3-1/2 inches wide by 8-1/2 inches long (refer to the appendices for an example).
 - f. Be approved by the Engineer prior to distribution.
5. The Contractor shall post "No Parking" signs 72 hours in advance of the Work. The signs shall state the date and time of parking restriction for a duration not to exceed the time necessary to complete the Work at that location. If the Work is delayed or rescheduled, the signs shall be removed and re-posted 72 hours in advance of the rescheduled Work.
6. Payment for public convenience shall be considered as included in the Contract Price for each item in the Bid and no additional payment will be made.

ADD 3-16 SITE ACTIVITIES BY THE AGENCY OR SEPARATE CONTRACTORS

3-16.1 The Agency's Right to Award Separate Contracts.

1. The Agency reserves the right to perform work or operations outside the Scope of Work of the Contract related to the Project with Agency Forces, Separate Contractors, or both. If work to be performed by another party was not noted in the Contract, the Agency shall give written notice to Contractor 10 Working Days prior to the start of any Work. If Contractor determines that the work being performed by the Agency or others may interfere with or cause damage

to Work being performed by Contractor, notify the Engineer in writing within 3 Working Days of the Engineer's notice.

3-16.2 Integration of the Work with Separate Contractors.

1. When specified in the Contract Documents, prepare a plan to integrate the work performed by Separate Contractors, Agency Forces, or both with the performance of the Work and submit the plan to the Engineer for approval. The plan shall be fair and reasonable for Contractor and the Separate Contractors. Work with Separate Contractors to reach an agreement for the prepared plan. Arrange the performance of the work so that the Work and the work of the Separate Contractors are, to the extent applicable, properly integrated and jointed in a manner that avoids any damage to the Work or to the work of the Separate Contractors.

3-16.3 Coordination.

1. Coordinate Contractor's activities and the Schedule with the activities and schedules of the Separate Contractors and make any revisions to the Schedule deemed necessary to avoid any disruption to the Work or to the work of the Separate Contractors.

3-16.4 Use of Site.

1. Provide the Agency and the Separate Contractors reasonable opportunities for the storage of materials and equipment and performance of their work. Connect and coordinate work and operations with the work and operations of the Agency and the Separate Contractors as required by the Contract Documents.
2. Coordinate traffic control with the Separate Contractors for other projects and minimize the impact to the community. Prior to the start of construction, submit Contractor's plan for coordination.

3-16.5 Deficiency in Work of Separate Contractors.

1. If part of Contractor's Work depends on proper execution or results upon construction or operations by the Agency or a Separate Contractor, prior to proceeding with that portion of the Work, promptly report to the Separate Contractor and the Engineer any apparent discrepancies or defects in construction that would render it unsuitable for proper execution and results. Use good faith efforts to resolve any such discrepancies or defects or any related disagreements. Contractor's failure to report constitutes Contractor's acceptance of the Work of Separate Contractors as fit, proper, and coordinated with the Work.

3-16.6 Payment.

1. Payment for reporting deficiencies, coordinating, and resolving discrepancies shall be included in the Contract Price.

SECTION 4 – CONTROL OF MATERIALS

4-1 PROTECTION

ADD the following:

1. The Contractor shall repair or replace any equipment and materials in the event of vandalism, damage, or theft at no additional cost to the Agency.
2. The Contractor shall be responsible for the protection of public and private property adjacent to the Work and shall exercise due caution to avoid damage to such property.
3. All costs to the Contractor for protecting, removing, and restoring existing improvements shall be included in the Bid.
4. The Agency and affected utility companies have, by a search of known records, endeavored to locate and indicate on the Plans, all utilities which exist within the limits of the Work. However, the accuracy and/or completeness of the nature, size and/or location of utilities indicated on the Plans is not guaranteed.
5. The Contractor shall determine the location and depth of all utilities, including service connections, which have been marked by the respective owners and which may affect or be affected by its operations. If no pay item is provided in the Contract for this Work, full compensation for such Work shall be considered as included in the prices Bid for other items of Work.
6. The Contractor shall not interrupt the service function or disturb the support of any utility without authority from the owner or order from the Agency. All valves, switches, vaults, and meters shall be maintained readily accessible for emergency shutoff.
7. Where protection is required to ensure support of utilities located as shown on the Plans or in accordance with Section 5-1, the Contractor shall, unless otherwise provided, furnish, and place the necessary protection at its expense.
8. Upon learning of the existence and location of any utility omitted from or shown incorrectly on the Plans, the Contractor shall immediately notify the Engineer in writing. When authorized by the Engineer, support or protection of the utility will be paid for.
9. The Contractor shall immediately notify the Engineer and the utility owner if any utility is disturbed or damaged. The Contractor shall bear the costs of repair or replacement of any utility damaged if located.
10. When placing concrete around or contiguous to any non-metallic utility installation, the Contractor shall at its expense:
 - a. Furnish and install a 2-inch cushion of expansion joint material or other similar resilient material; or
 - b. Provide a sleeve or other opening which will result in a 2-inch minimum-clear annular space between the concrete and the utility; or
 - c. Provide other acceptable means to prevent embedment in or bonding to the concrete.
11. Where concrete is used for backfill or for structures which would result in embedment, or partial embedment, of a metallic utility installation; or where the coating, bedding or other cathodic protection system is exposed or damaged by the Contractor's operations, the Contractor shall notify the Engineer and arrange to secure the advice of the affected utility owner regarding the procedures required to maintain or restore the integrity of the system.
12. Unless otherwise specified, the Contractor shall remove all interfering portions of utilities shown on the Plans or indicated in the Bid documents as "abandoned" or "to be abandoned in place." Before starting removal operations, the Contractor shall ascertain from the Agency

whether the abandonment is complete, and the costs involved in the removal and disposal shall be included in the Bid for the items of Work necessitating such removals.

13. When feasible, the owner is responsible for utilities within the area affected by the Work will complete their necessary installations, relocations, repairs, or replacements before commencement of Work by the Contractor. When the Plans or Specifications indicate that a utility installation is to be relocated, altered, or constructed by others, the Agency will conduct all negotiations with the owners and work will be done at no cost to the Contractor, except for manhole frame and cover sets to be brought to grade as provided in the Contract Documents. Utilities which are relocated to avoid interference shall be protected in their position and the cost of such protection shall be included in the Bid for the items of Work necessitating such relocation.
14. After award of the Contract, portions of utilities which are found to interfere with the Work will be relocated, altered, or reconstructed by the owners, or the Engineer may order changes in the Work to avoid interference. Such changes will be paid.
15. When the Plans or Specifications provide for the Contractor to alter, relocate, or reconstruct a utility, all costs for such Work shall be included in the Bid for the items of Work necessitating such Work. Temporary or permanent relocation or alteration of utilities requested by the Contractor for its convenience shall be its responsibility and it shall make all arrangements and bear all costs.
16. The utility owner will relocate service connections as necessary within the limits of the Work or within temporary construction or slope easements. When directed by the Engineer, the Contractor shall arrange for the relocation of service connections as necessary between the meter and property line, or between a meter and the limits of temporary construction or slope easements. The relocation of such service connections will be paid and will include the restoration of all existing improvements which may be affected by the relocation. The Contractor may agree with the owner of any utility to disconnect and reconnect interfering service connections. The Agency will not be involved in any such agreement.
17. Contractor shall coordinate the Work with utility agencies and companies. Prior to the installation of any and all utility structures within the limits of work by any utility agency or company, or its contractor, the Contractor shall place all curb or curb and gutter that is a part of the Work and adjacent to the location where such utility structures are shown on the Plans and are noted as being located, relocated or are otherwise shown as installed by others. In order to minimize delays to the Contractor caused by the failure of other parties to relocate utilities that interfere with the construction, the Contractor, upon the Engineer's approval, may be permitted to temporarily omit the portion of Work affected by the utility. If such temporary omission is approved by the Engineer, the Contractor shall place survey or other physical control markers sufficient to locate the curb or curb and gutter to the satisfaction of the utility agency or company. Such temporary omission shall be for the Contractor's convenience and no additional compensation will be allowed therefore or for additional work, materials or delay associated with the temporary omission. The portion thus omitted shall be constructed by the Contractor immediately following the relocation of the utility involved unless otherwise directed by the Engineer.
18. The Contractor shall notify the Engineer of its Construction Schedule insofar as it affects the protection, removal, or relocation of utilities. The notification shall be included as a part of

the Construction Schedule. The Contractor shall notify the Engineer in writing of any subsequent changes in the Construction Schedule which will affect the time available for protection, removal, or relocation of utilities.

19. The Contractor will not be entitled to damages or additional payment for delays attributable to utility relocations or alterations if correctly located, noted, and completed.
20. The Contractor may be given an extension of time for unforeseen delays attributable to unreasonably protracted interference by utilities in performing the Work correctly shown on the Plans.
21. The Agency will assume responsibility for the timely removal, relocation, or protection of existing main or trunkline utility facilities within the area affected by the Work if such utilities are not identified in the Contract Documents. The Contractor will not be assessed liquidated damages for any delay caused by failure of Agency to provide for the timely removal, relocation, or protection of such existing facilities.
22. The Contractor will be compensated for damages incurred due to delays for which the Agency is responsible or for delays attributable to interferences, relocations, or alterations not covered by the Contract Documents. These damages for delay will be determined by the Engineer. The Agency shall not be liable for damages which could have been avoided by the judicious handling of forces, equipment, or plant. These avoidable damages will be determined by the Engineer. The Engineer may grant Contractor an extension of time for damages due to delay.
23. When necessary, the Contractor shall so conduct its operations as to permit access to the Work Site and provide time for utility work to be accomplished during the progress of the Work.

4-2 INSPECTION

4-2.1 General

ADD the following:

1. All costs of inspection at the source, including salaries and mileage costs, shall be paid by the Contractor.
2. Materials typically accepted by Certificate of Compliance shall not require inspection at the source unless specified in the Contract Documents. For a list of these items or materials, Contractor may refer to the Summary of Work.
3. Location changes to the source of materials requiring inspection without the required 24-hour notification may result in non-compliant material subject to rejection. Contractor shall be responsible for staff charges resulting from last minute changes or cancellations once staff has been deployed. The Engineer shall issue a deductive Field Order for a minimum of 2 hours of staff time to reimburse the Agency for misdirected staff charges. The Contractor shall be notified in writing of the additional staff charges incurred.
4. Steel pipe in sizes larger than 18 inches shall require inspection at the source of production.
5. Vitrified clay and cast-iron pipe in all sizes are acceptable upon submittal of a Certificate of Compliance, subject to sampling and testing by the Agency.

6. Agency staff or a qualified inspection agency approved by the Engineer shall witness all welding, lining, coating, and testing. Contractor shall incur additional inspection costs outlined in 4-2.3, "Inspection of Items Not Locally Produced."
7. All parts of production (including but not limited to product fabrication, welding, testing, lining, and coating of straight pieces and specials) shall be performed or produced in the United States.
8. Welding and all testing shall be performed by certified welders and testing staff with credentials traceable in the United States.
9. The Contractor shall provide the Engineer free and safe access to any and all parts of Work at any time. Such free and safe access shall include means of safe access and egress, ventilation, lighting, shoring, dewatering and all elements pertaining to the safety of persons as contained in the California Code of Regulations, Title 8, Industrial Relations, Chapter 4, Division of Industrial Safety, Subchapter 4, Construction Safety Orders and such other safety regulations as may apply. Contractor shall furnish Engineer with such information as may be necessary to keep the Engineer fully informed regarding progress and manner of work and character of materials. Inspection or testing of the whole or any portion of the Work or materials incorporated in the Work shall not relieve Contractor from any obligation to fulfill this Contract.

4-2.3 Inspection of Items Not Locally Produced

ADD the following:

1. The Engineer may elect Agency staff or Consultants to perform inspection of an out-of-town manufacturers. The Contractor shall incur additional inspection costs of the Engineer including lodging, meals, and incidental expenses based on Federal Per Diem Rates, along with travel and car rental expenses. If the manufacturing plant operates a double shift, a double shift shall be figured in the inspection costs.
 - a. At the option of the Engineer, full time inspection shall continue for the length of the manufacturing period. If the manufacturing period will exceed 3 consecutive weeks, Contractor shall incur additional inspection expenses of the Engineer's supervisor for a trip of 2 Working Days to the site per month.
 - b. When the Engineer elects Agency staff or Consultants to perform out-of-town inspections, the wages of staff employed by the Agency shall not be part of the additional inspection expenses paid by Contractor.
 - c. Federal Per Diem Rates can be determined at the location below:
<https://www.gsa.gov/portal/content/104877>
2. Specialty Testing of Foreign Materials.
 - a. Materials that are manufactured, produced, or fabricated outside of the United States shall be delivered to a distribution point in California, unless otherwise specified. Quality Control and related testing shall be performed to all applicable specified US standards. Manufacturer's testing and staff certification shall be traceable to a United States regulatory agency. Retain the materials for a sufficient period of time to permit inspection, sampling, and testing. The Contractor shall not be entitled to an extension

of time for acts or events occurring outside of, at point of entry, or during transport to the United States, unless the extension is acceptable to the Engineer.

ADD 4-2.4 Specialty Inspection Paid for by the Contractor

1. Contractor shall employ and pay for the services of a qualified inspection agency to perform specialty inspection services if required by the Contract Documents.
2. The payment for the specialty inspection service Work shall be included under the Bid item for "Specialty Inspection Paid For By the Contractor."
3. When an Allowance Bid item for "Specialty Testing Under the Direction of the Engineer" is provided, Contractor shall employ and pay for the services of a qualified third-party independent laboratory to perform the required testing. Contractor shall be reimbursed for the cost of testing under this Bid item.
4. Contractor shall be reimbursed for the cost of specialty inspections when an Allowance Bid item is included in the Bid otherwise the cost is the responsibility of the Contractor if the manufacturer requires a specialty inspection service.

4-3 TESTING

ADD the following:

1. Except as specified in these Special Provisions, the Agency will bear the cost of testing of locally produced materials and/or on-site workmanship where the results of such tests meet or exceed the requirements indicated in the Standard Specifications, Technical Specification, and any Supplemental Provisions. The cost of all other tests shall be borne by the Contractor.
2. At the option of the Engineer, the source of supply of each of the materials shall be approved by the Engineer before the delivery is started. All materials proposed for use may be inspected or tested at any time during their preparation and use. If, after incorporating such materials into the Work, it is found that sources of supply that have been approved do not furnish a uniform product, or if the product from any source proves unacceptable at any time, the Contractor shall furnish approved material from other approved sources. If any product proves unacceptable after improper storage, handling or for any other reason it shall be rejected, not incorporated into the Work and shall be removed from the Project Site all at the Contractor's expense.
3. Compaction tests may be made by the Engineer and all costs for tests that meet or exceed the requirements of the specifications shall be borne by the Agency. The tests may be made at any place along the Work as deemed necessary by the Engineer. The costs of any retests made necessary by noncompliance with the specifications shall be borne by the Contractor.

4-4 TRADE NAMES

ADD the following:

1. Whenever materials or equipment are indicated in the Contract Documents by using the name of a proprietary item or the name of a particular supplier, the naming of the item is intended to establish the type, function, and quality required.
2. Unless stated otherwise, materials or equipment of other suppliers may be accepted if sufficient information is submitted to the Engineer for review to determine whether the material or equipment proposed is equivalent or equal to that named.

3. For reviews prior to Bid:
 - a. The Engineer shall respond to Contractor's substitution proposal by the last date for issuing an Addendum for the Contract. If the Engineer fails to respond to Contractor's substitution proposal before the Bid due date, the substitution proposal shall be deemed denied.
 - b. Contractor may bring forward a substitution proposal after Award that was denied based on the Engineer's failure to respond by submitting a Cost Reduction Proposal in accordance with 2-6.1, "Cost Reduction Proposal."
4. Include the following information in the request for substitution:
 - a. Whether or not acceptance of the substitute for use in the Work shall require a change in any of the Contract Documents to adopt the design to the proposed substitute.
 - b. Whether or not incorporation or use of the substitute in connection with the Work is subject to the payment of any license fee or royalty.
 - c. All variations of the proposed substitute from the items originally specified shall be identified.
 - d. Available maintenance, repair, and replacement service requirements. The manufacturer shall have a local service agency within 50 miles (80.5 km) of the Site which maintains properly trained personnel and adequate spare parts and is able to respond and complete repairs within 24 hours.
 - e. Certifications from the manufacturer or service provider that the proposed substitute shall perform the intended function adequately under the expected service conditions, achieve the results called for by the general design, and be similar and of equal substance to that indicated.
5. There is no guaranteed time frame for the Engineer's review of the substitution requests. Any lack of action on the Engineer's side within Contractor's requested time does not constitute acceptance of the substitution.
6. If, in the opinion of the Engineer, substitute items are determined to be unsatisfactory in performance, appearance, durability, compatibility with existing equipment or systems, availability of repair parts and suitability of application, the Contractor shall remove the substituted item and replace it with the originally specified item at no cost to the Agency.
7. The burden of proof as to the type, function, and quality of any such substitute product, material or equipment shall be upon Contractor. The Engineer may require at Contractor's expense additional data about the proposed substitute.
8. Acceptance by the Engineer of a substitute item does not relieve Contractor of the responsibility for full compliance with the Contract Documents. If the Engineer takes no exceptions to the proposed substitution, it shall not relieve Contractor from Contractor's responsibility to the efficiency, sufficiency, quality, and performance of the substitute material or equipment in the same manner and degree as the material and equipment specified by name.
9. The Bid submittal shall be based on the material and equipment specified by name in the Contract. If the proposal is rejected by the Engineer, Contractor shall not be entitled to either an extension in Contract Time, an increase in the Contract Price, or both.

10. As applicable, no Shop Drawing or Working Drawing submittals shall be made for a substitute item nor shall any substitute item be ordered, installed, or utilized without the Engineer's prior written approval.
11. The Contractor is responsible for the satisfactory performance of substituted items. If, in the sole opinion of the Engineer, the substitution is determined to be unsatisfactory in performance, appearance, durability, compatibility with associated items, availability of repair parts and suitability of application the Contractor shall remove the substituted item and replace it with the originally specified item at no cost to the Agency.

4-5 WEIGHING AND METERING EQUIPMENT

REPLACE the first paragraph with the following:

All scales and metering equipment used for proportioning materials shall be inspected for accuracy and certified within the past 12 months by the State of California Bureau of Weights and Measures, by the County Director or Sealer of Weights and Measures, or by a scale mechanic registered with or licensed by the County.

SECTION 5 – LEGAL RELATIONS AND RESPONSIBILITIES

5-1 LAWS AND REGULATIONS

ADD the following:

1. The Contractor shall strictly adhere to the provisions of the Labor Code regarding minimum wages; the 8-hour day and 40-hour week; overtime; Saturday, Sunday, and holiday work; and prohibitions against discrimination, harassment, and retaliation. The Contractor shall forfeit to the Agency the penalties prescribed in the Labor Code for violations.
2. Each worker shall be paid subsistence and travel as required by the collective bargaining agreement on file with the State of California Department of Industrial Relations.
3. The Contractor's attention is directed to Labor Code Section 1776 which imposes responsibility upon the Contractor for the maintenance, certification, and availability for inspection of such records for all persons employed by the Contractor or Subcontractor in connection with the Project. The Contractor shall agree through the Contract to comply with this Section and the remaining provisions of the Labor Code.
4. Municipal ordinances that affect this Work include Chapter 11.06. Excavation and Grading. If this notice specifies locations or possible materials, such as borrow pits or gravel beds, for use in the proposed construction Project which would be subject to Fish and Game Code Section 1601 or 1603, the conditions established in Fish and Game Code Section 1601 *et seq.* shall become conditions of the Contract.

5-3.3 Payroll Records.

ADD the following:

1. The Contractor and its Subcontractors shall maintain and furnish to the Agency, at a designated time, a certified copy of each weekly payroll reflecting the wages containing all of Contractor's and Subcontractors' employees engaged in the Work and a statement of compliance signed under penalty of perjury.

5-3.4 Hours of Labor

ADD the following:

1. Unless otherwise approved in writing by the Engineer, the hours of work shall be between the hours of 7:00 AM and 4:00 PM on Mondays through Fridays, excluding Agency holidays. The Contractor shall obtain the written approval of the Engineer if the Contractor desires to work outside these hours or at any time during weekends and/or holidays. This written permission must be obtained at least 48 hours prior to such work. The Engineer may approve work outside the stated hours and/or days when, in his/her sole opinion, such work conducted by the Contractor is beneficial to the best interests of the Agency. The Contractor shall pay the inspection costs of such work.
2. The Contractor shall incorporate the dates, areas and types of work prohibited in this section in the Construction Schedule. No additional payment, adjustment of bid prices or adjustment of contract time of completion will be allowed as a consequence of the prohibition of work being performed within the dates, areas and/or types of work prohibited in this section.

5-4 INSURANCE

5-4.1 General.

ADD the following:

1. Contractor shall procure and maintain for the duration of the Contract insurance against claims for injuries to persons or damage to property which may arise from or in connection with the performance of the Work by the Contractor, his or her agents, representatives, employees or Subcontractors. The insurance shall meet the City's policy for insurance as stated in City Council Policy No. 70.
 - a. **Coverages and Limits:** Contractor shall maintain the types of coverages and minimum limits specified in these Agency Supplemental General Provisions (00 73 00):
 - i. **Commercial General Liability (CGL) Insurance:** Insurance written on an "occurrence" basis, including products-completed operations, personal & advertising injury, with limits no less than \$2,000,000 per occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.
 - ii. **Business Automobile Liability Insurance:** \$2,000,000 combined single limit per accident for bodily injury and property damage. In addition, the auto policy must cover any vehicle used in the performance of the Contract, used onsite or offsite, whether owned, non-owned or hired, and whether scheduled or non-scheduled.
 - iii. **Workers' Compensation and Employers' Liability Insurance:** Workers' compensation limits as required by the Labor Code and Employers' Liability limits of \$1,000,000 per incident. Workers' compensation offered by the State Compensation Insurance Fund is acceptable to the City.
 - b. **Additional Provisions:** Contractor shall ensure that the policies of insurance required under this Contract with the exception of Workers' Compensation and Business

Automobile Liability Insurance contain, or are endorsed to contain, the following provisions.

- i. The Agency, its officials, employees and volunteers must be covered as additional insured as respects: liability arising out of activities performed by or on behalf of the Contractor; products and completed operations of the Contractor; premises owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the Agency, its officials, employees or volunteers. All additional insured endorsements must be evidenced using separate documents attached to the certificate of insurance; 1 for each company affording general liability, and employers' liability coverage.
 - ii. The Contractor's insurance coverage shall be primary insurance as respects the Agency, its officials, employees and volunteers. Any insurance or self-insurance maintained by the Agency, its officials, employees or volunteers shall be in excess of the Contractor's insurance and shall not contribute with it.
 - iii. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the Agency, its officials, employees or volunteers.
 - iv. Coverage shall state that the Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
- c. **Notice of Cancellation.** Each insurance policy required by this Contract shall be endorsed to state that coverage shall not be nonrenewed, suspended, voided, canceled, or reduced in coverage or limits except after 10 Calendar Days' prior written notice has been sent to the Agency by certified mail, return receipt requested.
- d. **Deductibles and Self-Insured Retention (S.I.R.) Levels.** Any deductibles or self-insured retention levels must be declared to and approved by the Agency. At the option of the Agency, either: the insurer shall reduce or eliminate such deductibles or self-insured retention levels as respects the Agency, its officials and employees; or the Contractor shall procure a bond guaranteeing payment of losses and related investigation, claim administration and defense expenses.
- e. **Waiver of Subrogation.** All policies of insurance required under this Contract shall contain a waiver of all rights of subrogation the insurer may have or may acquire against the Agency or any of its officials or employees.
- f. **Subcontractors.** Contractor shall include all Subcontractors as insured under its policies or shall furnish separate certificates and endorsements for each Subcontractor. Coverages for Subcontractors shall be subject to all of the requirements stated in these Agency Supplemental General Provisions (00 73 00).
- g. **Acceptability of Insurers.** Insurance must be placed with insurers that have a rating in Best's Key Rating Guide of at least A-VII. Insurers must also be authorized to transact the business of insurance by the State of California Insurance Commissioner as admitted carriers as evidenced by a listing in the official publication of the Department of Insurance of the State of California and/or under the standards specified by City Council Policy No. 70.

- h. **Verification of Coverage.** Contractor shall furnish the Agency with certificates of insurance and original endorsements affecting coverage required by this clause. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificates and endorsements are to be in forms approved by the Agency and are to be received and approved by the Agency before the Contract is executed by the Agency.
- i. **Coverage and Limits.** Contractor will maintain the types of coverage and minimum limits indicated below unless the Risk Manager or City Manager or Executive Manager approves a lower amount. These minimum amounts of coverage will not constitute any limitations or cap on Contractor's indemnification obligations under this Contract. Agency, its officers, agents, and employees make no representation that the limits of the insurance specified to be carried by Contractor pursuant to this Contract are adequate to protect Contractor. If Contractor believes that any required insurance coverage is inadequate, Contractor will obtain such additional insurance coverage, as Contractor deems adequate, at Contractor's sole expense. The full limits available to the named insured shall also be available and applicable to the Agency as an additional insured.
- j. **Cost of Insurance.** The Cost of all insurance required under this Contract shall be included in the Contractor's Bid.

5-6 PATENTS FEES AND ROYALTIES.

DELETE in its entirety and SUBSTITUTE with the following:

1. Contractor shall pay, at no additional cost to the Agency, all applicable royalties and license fees arising from the Work. Contractor shall indemnify and defend all claims and lawsuits for infringement of patent, trademark, and copyright against the Agency and shall hold the Agency harmless from any loss.

5-7 SAFETY

5-7.1.1 General.

ADD the following:

1. When conducting grading or excavation, place Contractor's name and emergency telephone number adjacent to the Work at intervals and locations approved by the Engineer. The method of posting shall be approved by the Engineer.
2. The Contractor shall respond and initiate corrective action in accordance with OSHA and within 24 hours of the notice of the nonconforming Work that poses an imminent threat to person or property.
3. The Contractor shall erect and properly maintain at all times, as required by the conditions and progress of the Work, all necessary safeguards for the protection of workers and public, and shall use danger signs warning against hazards created by such features of construction as protruding nails, hoists, well holes, and falling materials.

ADD: 5-7.1.3 Health and Safety Plan (HSP).

1. The Contractor is ultimately responsible for the health and safety of Contractor's employees. These specifications shall not be construed to limit Contractor's liability nor to assume that the Agency, its employees, or designees shall assume any of Contractor's liability associated with Site safety considerations.
2. Contractor shall have a HSP in effect at least 1 week prior to the commencement of the Work. The HSP shall comply with all OSHA and other applicable requirements.
3. The HSP shall specifically address procedures and protocols that shall be followed to monitor for or respond to the presence of hazardous atmosphere, possibility for engulfment, gasses due to organic soils or proximity to landfills, exposure to hazardous products such as may be released when grinding, cutting, or torching galvanized or painted surfaces or asbestos containing materials, contaminated soil, and groundwater. Identify response actions that shall be taken when these conditions are encountered.
4. The Agency shall not assume any role in determining the adequacy of the HSP on Contractor's behalf.

5-7.3 Use of Explosives.

ADD the following:

1. Explosives may be used only when authorized in writing by the Engineer. The Contractor shall prepare and submit an application for blasting permit to the City of Carlsbad Engineering Department and comply with the City's blasting policy.

5-7.7 Security and Protective Devices.

5-7.7.1 General.

DELETE in its entirety and SUBSTITUTE with the following:

1. Security and protective devices shall consist of fencing, railing, steel plates, or other devices for the protection of workers or the public from hazards posed by open excavations or any work in progress. Security and protective devices shall remain in place until the Work is accepted.
2. Unless otherwise specified, no separate or additional payment will be made for security and protective devices. Payment shall be included in the Contract price for the various Bid items requiring such devices.

ADD: 5-7.7.3 Playground Safety. Not Used

- ~~1. Provide a secured fence around the playground to prevent use or access. Do not remove the fence until the independent Playground Safety Audit has been done by the Contractor and the Engineer, the Engineer has accepted the playground design and installation, and the Punchlist items have been completed.~~
- ~~2. Provide certification by a NPSI certified playground inspector that confirms that the installed equipment is compliant with all applicable codes.~~

~~3. The payment for the fencing around the playground and the playground safety audit is included in the Contract Price.~~

5-7.7.2 Security Fencing

1. The payment for security fencing Work for open excavations shall be included in the Contract Price.

5-7.8 Steel Plate Covers

5-7.8.1 General.

ADD the following:

1. The Contractor shall protect transverse or longitudinal cuts, voids, trenches, holes, and excavations in the right-of-way that cannot be properly completed within 1 Working Day by adequately designed barricades and structural steel plates (plates) that shall support legal vehicle loads in such a way as to preserve unobstructed traffic flow.
2. For trench widths exceeding those in Table 5-7.8.2, a structural design shall be prepared by a California registered civil or structural engineer regularly engaged in the design of shoring systems.
3. The Contractor shall secure approval in advance from authorities concerning the use of any bridging proposed on the Work.
4. The Contractor shall shore the trench adequately to support the bridging and traffic loads.
5. The Contractor shall design plates for HS 20-44 truck loading in accordance with Caltrans Bridge Design Specifications Manual and evaluate soil conditions and ensure that the plate extends enough beyond the trench walls to support traffic loads.
6. The Contractor shall use the plates skid-resistant with a nominal COF of 0.35 as determined by California Test Method 342. If a different test method is used, the Contractor may utilize standard test plates with known coefficients of friction available from each Caltrans District Materials Engineer to correlate skid resistance results to California Test Method 342.
7. Plates shall provide complete coverage to prevent any person, bicycle, motorcycle, or motor vehicle from being endangered due to plate movement causing separations or gaps.
8. Alternative installation methods may be submitted in accordance with 3-8, "SUBMITTALS" for the Engineer's approval.
9. Contractor shall install signage and postings with a 2 inch (50.8 mm) minimum letter height indicating the steel plate cover load limit, the Company's name, and a 24-hour emergency contact phone number. See 601-1, "GENERAL."
10. Contractor is responsible for the maintenance of the plates, shoring, and asphalt concrete ramps or any other approved device used to secure the plates. Contractor shall immediately mobilize necessary personnel and equipment after being notified by the Engineer, the Agency, or a member of the public of a repair needed for such items as plate movements, noise, anchors, and asphalt ramps. Failure to respond to the emergency request within 2 hours shall be grounds for the Agency to perform necessary repairs that shall be invoiced at the actual cost including overhead or \$500 per incident, whichever is greater. Failure may also result in a "Stop Work" notice.

11. When plates are removed, Contractor shall repair any damage to the pavement with fine graded asphalt concrete mix or slurry seal satisfactory to the Engineer.
12. The pavement shall be cold planed to a depth equal to the thickness of the plate and to a width and length equal to the dimensions of the plate. The cold milling shall produce a flat surface that the plate shall rest on with no horizontal or vertical movement. Horizontal gaps between the unmilled pavement and the plate shall not exceed 25 mm (1 ") and shall be filled with elastomeric sealant material which may, at the contractor's option, be mixed with no more than 50%, by volume, of Type I aggregate conforming to the requirements of tables 203-5.2 and 203-5.3.

ADD 5-8 INDEMNIFICATION AND HOLD HARMLESS AGREEMENT

1. Contractor agrees to defend, indemnify, and hold harmless Agency, its affiliated and subsidiary entities, and its elected and appointed officials, officers, directors, managers, employees and agents ("Indemnified Parties") from and against all claims asserted, liability established, or judgments for damages or injuries to any person or property, including to Contractor's officers, employees, agents, or subcontractors, arising directly or indirectly out of the Work, which arise from, are connected with, or are caused or claimed to be caused by the acts or omissions of Contractor, its officers, employees, agents or subcontractors. Contractor's duty to defend, indemnify, and hold harmless shall not include any claims or liabilities arising from the sole negligence or sole willful misconduct of the Indemnified Parties.

Contractor further agrees that its duty to defend includes all attorney fees and costs associated with enforcement of this indemnification provision, defense of any claims arising from this Contract, and, where a conflict of interest exists or may exist between Contractor and Agency, the reasonable value of attorney fees and costs if Agency chooses, at its own election, to conduct its own defense or participate in its own defense of any claim related to this Contract.

2. Contractor shall also defend and indemnify the Indemnified Parties against any challenges to the Award of the Contract to Contractor, and Contractor will pay all costs, including defense costs for the Agency. Defense costs include the cost of separate counsel for the Indemnified Parties, if the Indemnified Parties request separate counsel.
3. Contractor shall also defend and indemnify the Indemnified Parties against any challenges to the Award of the Contract to Contractor, arising in whole or in part from alleged inaccuracies or misrepresentation by the Contractor, whether intentional or otherwise, and Contractor will pay all costs, including defense costs for the Agency. Defense costs include the cost of separate counsel for the Indemnified Parties, if the Indemnified Parties request separate counsel.
4. Contractor shall defend, indemnify, protect and hold the Indemnified Parties harmless from and against any dispute between Contractor and Contractor's Subcontractors if the Indemnified Parties are made a party to any judicial or administrative proceeding.

ADD 5-9 CONFLICT OF INTEREST

1. Establish and make known to Contractor's employees appropriate safeguards to prohibit employees from using their positions for a purpose that is or gives the appearance of being motivated by desire for private gain for themselves or others and particularly those with whom they have family, business, or other relationships. Project personnel shall not accept gratuities or any other favors from Subcontractors or potential Subcontractors.
2. Contractor is subject to all federal, state, and local conflict of interest laws, regulations, and policies applicable to public contracts and procurement practices (Government Code Sections 1090 *et. seq.* and 81000 *et. seq.*, the Agency's Ordinances, and the City of Carlsbad Municipal Code). If, in performing the Work, Contractor makes or participates in a "governmental decision" in accordance with Title 2, Section 18701, subdivision (a)(2) of the California Code of Regulations, or performs the same or substantially all the same duties for Agency that would otherwise be performed by an Agency employee holding a position specified in the Agency's conflict of interest code, Contractor shall be subject to a conflict of interest code requiring the completion of 1 or more statements of economic interests disclosing Contractor's relevant financial interests.
3. Statements of economic interests shall be made on Fair Political Practices Commission Form 700 and filed with the City of Carlsbad's City Clerk. Contractor shall file a Form 700 (Assuming Office Statement) within 30 Calendar Days of the Agency's written determination that Contractor shall be subject to a conflict of interest code and file a Form 700 (Annual Statement) on or before April 1st disclosing any financial interests held during the previous calendar year for which Contractor was subject to a conflict of interest code.
4. If the Agency requires Contractor to file a statement of economic interests as a result of the Work performed, Contractor shall be considered an "Agency Official" for conflict of interest purposes, including the prohibition against lobbying the Agency for 1 year following the expiration or termination of the Contract.
5. Contractor's personnel employed on the Project shall not accept gratuities or any other favors from any Subcontractors or potential Subcontractors. Contractor shall not recommend or specify any product, supplier, or other Contractor with whom Contractor has a direct or indirect financial or organizational interest or relationship that would violate conflict of interest laws, regulations, or policies.
6. If Contractor violates any conflict of interest laws or any of these conflict of interest provisions, the violation shall be grounds for immediate termination of this Contract. Further, the violation subjects Contractor to liability to the Agency for all damages sustained as a result of the violation.

ADD the following: 5-10 ELECTRONIC COMMUNICATION

1. When specified in the Contract Documents, Contractor shall post all communications addressed to the Engineer concerning construction including RFIs, submittals, daily logs, and transmittals to the Project management website established for the Project. The Contractor shall maintain a list of scheduled activities including planned and actual execution dates for all major construction activities and milestones defined in the approved Schedule. The

Contractor shall review and act on all communications addressed to the Contractor in the Project management website. A user's guide to the Project management system may be available on the City's website and shall be provided to Contractor at the Pre-construction Meeting.

2. The payment for electronic communications shall be included in the Contract Price.

ADD the following: 5-11 STATUTORY REFERENCES

1. All references in these Agency Supplemental General Provisions (00 73 00) to any statute, rule or regulation are to the statute, rule or regulation as amended, modified, supplemented, or replaced from time to time by the corresponding legislative or regulatory body.

SECTION 6 – PROSECUTION AND PROGRESS OF THE WORK

6-1 CONSTRUCTION SCHEDULE AND COMMENCEMENT OF THE WORK

ADD the following:

1. A Payment for the Construction Schedule shall be included in the Contract Price and no separate payment will be made, therefore.

6-2 PROSECUTION OF WORK

ADD the following:

1. As soon as possible under the provisions of the Specifications, the Contractor shall backfill all excavations and restores to usefulness all improvements existing prior to the start of the Work.
2. When a Subcontractor fails to prosecute a portion of the Work in a manner satisfactory to the Agency, Contractor shall remove such Subcontractor immediately upon written request of the Agency and shall request approval of a replacement Subcontractor to perform the Work in accordance with the Subletting and Subcontracting Fair Practices Act (Pub. Contract Code, § 4100 *et seq.*) at no added cost to the Agency.

ADD the following: 6-2.1 Order of Work.

1. The Contractor shall incorporate the requirements of the city, utility companies or agencies having jurisdiction over the Work in accordance with 2-4 Cooperation and Collateral Work, including any phasing requirements identified on the Plans or Special Provisions.
2. If construction and demolition operations are within an active public space, the Contractor shall submit a phasing plan to the Engineer to accommodate accessibility to the public and Agency staff. Phasing plan must be approved before Work starts. Phasing plan will be considered part of the mobilization Bid item and shall include any revisions or implementation of the Plan.

ADD the following: 6-2.2 Moratoriums.

1. When moratorium periods are specified in the Special Provisions, Contractor shall stop Work and completely demobilize all construction related activity, equipment, and materials within the stated limits prior to the beginning of the moratorium periods at no additional cost to the

Agency. The Contractor shall complete any Work that has been started prior to the start of the moratorium.

2. Contractor shall restore and clean the Site prior to each moratorium. The Contractor shall not leave equipment, materials, or traffic control on the Site during the moratorium periods. Trenches shall be backfilled during moratorium periods. Temporary resurfacing or steel plate covers over trenches shall not be used.
3. The payment for complying with moratorium requirements shall be included in the Contract Bid. Contractor shall not be entitled to any additional costs for repeated mobilization and demobilization to continue the Work after the moratorium periods.

6-3 TIME OF COMPLETION

6-3.1 General.

ADD the following:

1. Unless otherwise specified in the Contract, the time of completion of the Contract shall be expressed in both Calendar and Working Days.
2. The number of Working Days specified for the walk-through, preparation, and the completion of Punchlist items until acceptance shall be included in the stipulated Contract Time.
3. For pipeline Projects, the following shall be included in the stipulated Contract Time:
 - a. Complete each street segment within 15 Working Days from the day the slurry seal or asphalt overlay is placed. Each completed segment shall include other incidental Work items (weed abatement, damaged asphalt pavement replacement, asphalt patching, resurfacing, striping, markings, raised pavement markers, and inlet markers).
 - b. Where shutdowns of 16-inch and larger pipes are required, there is a shutdown moratorium from May until October. The Contractor shall plan and schedule Work accordingly. No additional payment or Working Days will be granted for delays due to the moratorium.
- ~~4. When specified in the Contract Documents, the PEP is included in the stipulated Contract Time and shall begin with the acceptance of the installation of the vegetation plan in accordance with Part 8 – LANDSCAPING AND IRRIGATION.~~
5. The Contractor shall obtain the written approval of the Engineer to perform any Work outside of normal Work hours. This approval must be obtained at least 48 hours prior to commencement of such Work. The Contractor shall pay any additional costs for inspection or testing of such Work.
6. Work that is required by the Engineer to occur outside of normal Work hours will be identified in the Special Provisions.
7. The Contractor shall not perform Work during moratoriums per 6-2.2 or during any periods of restriction identified in agency permits or Project environmental documents and shall include all such schedule constraints in the Construction Schedule.
8. No additional payment or adjustment of Bid item prices or adjustment of Contract Time will be made for the Contractor's inability to work outside of normal Work hours if Contractor's request is denied by the Engineer or during prohibited periods.

9. Contractor's schedule shall plan for a minimum of 2 weeks after final walk-through to receive a final punch list from the Agency. Punch list items can be worked on during this 2-week period.

6-4 DELAYS AND EXTENSIONS OF TIME

6-4.1 General.

ADD the following:

1. The Agency shall only grant an extension of time if the Extra Work or unforeseen condition impacts the Project's critical path. All requests for an extension in Contract Time for any Extra Work or unforeseen event shall be demonstrated by using the CPM. No other scheduling method shall be used to calculate the Project's schedule.

6-4.2 Extensions of Time.

DELETE in its entirety and SUBSTITUTE with the following:

1. The Contract Time shall be modified only by Change Order.
2. Contractor shall immediately submit to the Agency a written request for a Change Order to modify the Contract Time, but in no event later than 1 Working Day after the occurrence and discovery of the events giving rise to the request. Contractor shall include in Contractor's request a general description of the basis for and the estimated length of any extension and submit supporting data, including a time impact analysis setting forth the claimed Critical Path impacts to the Construction Schedule consistent with Section 1.14 (Change Orders, Delays, and Extensions of Time).
3. The Engineer shall not grant an extension of Contract Time unless Contractor demonstrates, through an analysis of the critical path, the following:
 - a. The event causing the delay impacted the activities along the Project's critical path.
 - b. The increases in the time to perform all or part of the Project beyond the Contract Time arose from unforeseeable causes beyond Contractor's control and without Contractor's fault or negligence.
 - c. All Project float has been used.
4. The Engineer shall issue a weekly document that stipulates the Contract Time. If Contractor does not agree with this document, Contractor shall submit to the Engineer for review a written protest supporting Contractor's objections to the document within 15 Working Days after receipt of the weekly document. Contractor's failure to file a timely protest shall constitute Contractor's acceptance of the Engineer's weekly document.
 - a. Contractor's protest will be considered a claim for time extension and shall be subject to 2-10.1, "Claims."

6-4.4 Written Notice and Report.

DELETE in its entirety and SUBSTITUTE with the following:

1. Contractor's failure to file with the Engineer a written request and report of cause within 24 hours will be considered grounds for refusal by the Agency to consider such request.

2. The Contractor shall provide written notice to the Engineer within 2 hours after the beginning of the delay, or when the Contractor has placed any workers or equipment on standby for any reason that the Contractor has determined to be caused by the Agency or by any organization that the Agency may otherwise be obligated by. The Contractor shall provide continuing daily written notice to the Engineer, each Working Day, throughout the duration of such period of delay. The initial and continuing written notices shall include the classification of each worker and supervisor and the make and model of all equipment placed on standby, the cumulative duration of the standby, the Contractor's opinion of the cause of the delay and a cogent explanation of why the Contractor could not avoid the delay by reasonable means. Should the Contractor fail to provide the notice(s) required by this section the Contractor agrees that no delay has occurred and that it will not submit any claim(s) therefore.
3. The request for payment or extension must be made at least 15 Calendar Days prior to the specified completion date. Failure by the Contractor to provide notices and reports as specified in the Contract will be considered grounds for refusal by the Agency to consider such request.

6-6 SUSPENSION OF THE WORK

6-6.1 General.

ADD the following:

1. The Agency reserves the right to shut down any trenching operation if Contractor is not proceeding within a reasonable period of time to restore the pavement and Site cleanup. A reasonable period of time is considered to be 5 to 10 Working Days after backfilling any 1 block, approximately 600 feet, of pipeline. The Engineer shall determine the period of time allowed which shall not be subject to dispute.
2. During periods when the Work is suspended, Contractor shall be prepared for any emergency Work that shall be supervised by Contractor's representative.
3. Trenching operations are subject to suspension if the Contractor does not comply with the requirements for the maximum length of open trench specified in 306-3.5.

6-7 TERMINATION OF THE CONTRACT FOR DEFAULT

6-7.1 General.

DELETE in its entirety and SUBSTITUTE with the following:

1. Prior to the Acceptance of the Work, Contractor shall be found in default of the Contract if:
 - a. Contractor becomes insolvent, assign Contractor's assets for the benefit of Contractor's creditors, are unable to pay Contractor's debts as they become due, or are otherwise financially unable to complete the Work.
 - b. Contractor abandons the Work by failing to report to the Site and by failing to diligently execute the Work to completion.
 - c. Contractor disregards written instruction from the Engineer or materially violates provisions of the Contract Documents.
 - d. Contractor fails to execute the Work according to the Schedule approved by the Engineer.

- e. Contractor disregards laws or regulations of any public body having jurisdiction.
 - f. Contractor commits continuous or repeated violations of regulatory or statutory safety requirements.
 - g. Contractor fails to notify the Engineer upon discovery of items of Native American, Archaeological, or Paleontological interests.
2. Notices and other written communications regarding default between the Contractor, the Agency, and the Surety shall be transmitted in accordance with 5- 2, "SPECIAL NOTICES."

6-8 TERMINATION OF THE CONTRACT FOR CONVENIENCE.

DELETE in its entirety and SUBSTITUTE with the following:

1. At any time, the Agency may at its sole discretion terminate this Contract in whole or in part. If the Agency decides to terminate this Contract for convenience, the Agency shall issue a written notice of termination for convenience in accordance with 5-2, "SPECIAL NOTICES." Upon receipt of this notice, Contractor shall immediately proceed as follows:
- a. Stop Work immediately or in accordance with the Notice of Termination.
 - b. Notify Subcontractors and Suppliers to immediately cease their Work and place no further subcontracts for materials, services, or facilities except as necessary to complete any authorized continued portion of the Contract.
 - c. Terminate all subcontracts to the extent that they relate to the Work terminated.
 - d. With approval by the Engineer, settle all outstanding obligations arising from the termination of subcontracts. This approval shall be final for the purposes of this section.
 - e. As directed by the Engineer, transfer and deliver completed or partially completed drawings, plans, calculations, specifications, and any other documents and records that, if the Contract had been completed, would be required to be furnished to the Agency.
 - f. Complete the performance of the Work not terminated.
 - g. Take all necessary steps and actions to minimize all costs to the Agency as a result of the termination.
 - h. Take any action that may be necessary or that the Engineer may direct for the protection and preservation of the property related to the Contract that is in Contractor's possession and in which the Agency has or may acquire an interest.

6-8.1 Termination Cost.

1. The Agency shall determine and pay Contractor the fair and reasonable amounts for Contractor's termination cost as follows:
- a. The Contract Price for completed services accepted by the Engineer not previously paid or adjusted for any saving of freight and other charges.
 - b. The fair and reasonable cost of settling and paying termination settlements for terminated subcontracts that are chargeable to the terminated portion of the Contract.

- c. The Agency shall pay Contractor a prorated amount of profit for Work that Contractor performed. The Agency shall not pay for lost profit on Work that was not performed by Contractor.

6-8.2 Termination Settlement.

1. After termination, Contractor shall submit a final termination settlement proposal to the Engineer no later than 3 months from the effective date of termination, unless extended in writing by the Engineer.
2. If Contractor fails to submit the proposal within the time allowed, the Agency may determine and pay the fair and reasonable amount that may be due Contractor as a result of the termination. If Contractor does not agree that the amount determined by the Engineer is fair and reasonable, Contractor must notify the Engineer within 30 Calendar Days of receipt of payment.

6-8.3 Determination of Amount Due the Contractor.

1. In determining the amount due Contractor, the Agency shall deduct the following:
 - a. The fair value of property destroyed, lost, stolen, or damaged that has become undeliverable to the Agency.
 - b. Any claim which the Agency has against Contractor under the Contract.

6-8.4 Records and Documents Relating to Termination.

1. The Engineer will file an Agreement of Mutual Rescission of Contract with the Board. Once the Agreement is executed and a Notice of Completion is recorded, retention can be released.
2. Unless otherwise specified or required by statute, Contractor shall maintain all records and documents relating to the terminated portion of the Contract for 3 years after final settlement. This includes all books and other evidence bearing on Contractor's costs, expenses, and settlement under the Contract. Contractor shall make these records and documents available to the Agency, at Contractor's office, at all reasonable times, without any direct charge. If approved by the Engineer, Contractor may maintain photographs, microphotographs, and other authentic reproductions instead of original records and documents.

6-8.5 The Agency's Right to Terminate or Suspend for Loss of Project Funds.

1. The Agency may terminate or suspend the Contract at its sole discretion if the State of California or its agents render the funds being used to fund this Project unavailable. If the Agency chooses to suspend the Contract, that suspension shall last until funds are identified and approved by the Board, whichever is appropriate, to be used to complete this Project. If the Agency elects under this provision to terminate the Contract, then neither Party is entitled to compensation from the other Party for any costs arising from such termination. The Agency may also elect to terminate after invoking a suspension under this provision.

6-9 LIQUIDATED DAMAGES

DELETE in its entirety and SUBSTITUTE with the following:

1. Contractor's failure to complete the Work within the time allowed shall result in damages being sustained by the Agency. Such damages are, and shall continue to be, impracticable and extremely difficult to determine. For each consecutive Working Day in excess of the time specified for the completion of the Work, as adjusted in accordance with 6-4, "DELAYS AND EXTENSIONS OF TIME," Contractor shall pay to the Agency, or have withheld from monies due it, the sum described in the table below, along with any other damages that may be sustained by the Agency during the Project, unless otherwise specified in the Special Provisions.
2. The execution of the Contract shall constitute agreement between Contractor and the Agency that the liquidated damage amount described in the table below is the value of the damage caused by Contractor's failure to complete the Work within the allotted time. Such sum shall not be construed as a penalty and may be deducted from Contractor's payments if such delay occurs.

Contract Value	Liquidated Damage Daily Amount
Less than \$100,000	\$1,000
\$100,000 and more	\$2,500

3. Any progress payments made to Contractor after the specified completion date shall not constitute a waiver of payment for damages sustained by the Agency under this section.

ADD the following: 6-10 RIGHT TO AUDIT

6-10.1 General.

1. The Agency retains the right to review, audit, reasonably access Contractor's and all Contractor's Subcontractor's premises to review and audit Contractor's compliance with the provisions of the Contract. This includes the right to inspect, photocopy, and retain copies, outside of Contractor's premises, of all records with appropriate safeguards if such retention is deemed necessary by the Agency in its sole discretion. The Agency will keep this information in strictest confidence.
2. Contractor shall include the Agency's right to audit in its subcontracts and ensure that these specifications are binding upon all Subcontractors.

6-10.2 Audit.

1. The right to audit includes the right to examine any and all books, records, documents, and any other evidence of procedures and practices that the Agency determines is necessary to discover and verify that Contractor are in compliance with all requirements under the Contract.
2. If there is a claim for additional compensation or for changes in Work, the right to audit also includes the right to verify all direct and indirect costs which are claimed to have been incurred, anticipated to be incurred, or for which a claim for additional compensation or for changes in the Work have been submitted.
3. Contractor shall maintain complete and accurate records in accordance with generally accepted accounting practices in the construction industry. Contractor shall also make available to the Engineer for review and audit all Project-related accounting records and

documents and any other financial data. Upon the Engineer's request, Contractor shall submit exact duplicates of originals of all requested records to the Engineer.

6-10.3 Compliance Required Before Mediation and Litigation.

1. As a condition precedent to proceeding with mandatory mediation and further litigation under 2-10.2, "Dispute Resolution Process" Contractor shall comply with the audit specifications within 60 Calendar Days of the Engineer's notice to review and audit compliance. See 5-2, "SPECIAL NOTICES."

6-10.4 Access to Records on Federally Funded Projects.

1. Contractor shall retain all records, books, papers, and documents directly pertinent to the Contract for a minimum of 5 years after the Agency makes final payments and all other pending matters are closed and shall allow access to those records to the Agency, the Federal grantor agency, the Comptroller General of the United States, or any duly authorized representatives.

SECTION 7 – MEASUREMENT AND PAYMENT

Units of Measurement. The system of measure for this contract shall be the U.S. Standard Measures.

7-2 LUMP SUM WORK

ADD the following: 7-2.1 Schedule of Values (SOV).

1. Submit a SOV for the lump sum Bid items of the Work to the Engineer for review and approval at the pre-construction meeting. The total value for the work described in the contract documents shall be shown in the SOV with category totals reflective of those values presented in Section 00 41 00 BID FORM, Bid Schedule A in the contract.
2. The SOV shall:
 - a. Subdivide the Work into its respective parts.
 - b. Include values for all items comprising the Work.
 - c. Serve as the basis for monthly progress payments.
3. The Engineer is the sole judge of acceptable numbers, details, and description of values established. If, in the opinion of the Engineer, a greater number of SOV items than proposed by Contractor is necessary, add the additional items identified by the Engineer. When requested by the Engineer, provide substantiating data in support of the SOV.
4. The Contractor shall incorporate the SOV into the cost loading function of the Schedule in accordance with 6-1, "CONSTRUCTION SCHEDULE AND COMMENCEMENT OF THE WORK." Monthly progress payment amounts for Lump Sum items shall be determined from the monthly updates of the Schedule activities.
5. The Contractor shall develop the SOV independently but simultaneously with the development of the Schedule activities and logic. Incorporate phase funding impacts, if applicable, into the Schedule.
6. The Contractor shall break down the Work not specifically included in the Bid as necessary for establishment of cost and Schedule activity.

7. Following acceptance of the SOV, the Contractor shall incorporate the changes (if any) into the cost loading portion of the Schedule. Where coordination of the Schedule and the SOV requires changes made to 1 or both documents, the Contractor shall propose changes to the SOV and to the Schedule activities to satisfy the Schedule cost loading requirements.
8. The Contractor shall update and submit these listings in conjunction with the Schedule monthly submittals.
9. The Contractor shall incorporate issued Change Orders or Field Orders in the Schedule into the SOV as single units identified by the Change Order or Field Order number.
10. Changes to the Schedule which add activities not included in the original Schedule but included in the original Work (schedule omissions) shall have values assigned as accepted by the Engineer. Other activity values shall be reduced to provide equal value adjustment increases for added activities as accepted by the Engineer.
11. In the event that the Contractor and the Engineer agree to make adjustments to the original SOV because of inequities discovered in the original accepted SOV, increases and equal decreases to values for activities may be made.
12. The payment for the preparation of the SOV shall be included in the Contract Price.

7-3 PAYMENT

7-3.1 General.

To paragraph (8), DELETE in its entirety and SUBSTITUTE with the following:

If, within the time fixed by law, a properly executed notice to stop payment is filed with the Agency, due to the Contractor's failure to pay for labor or materials used in the Work, all money plus 25 percent due for such labor or materials will be withheld from payment in accordance with applicable laws. At the expiration of 30 Calendar Days from the date of recording the NOC, the amount deducted from the final estimate and retained by the Agency shall be paid to Contractor except such amounts as are required by law to be withheld by properly executed and filed notices to stop payment.

ADD the following:

1. Unless specified otherwise, the Contract Price includes use, consumer, and other taxes mandated by applicable legal requirements. The Contract Price is not subject to adjustment for tax increases.
2. As provided in California Public Contract Code Section 7105, if the Contract is not financed by revenue bonds, Contractor is not responsible for the cost of repairing or restoring damage to the Project when damage was proximately caused by an Act of God, in excess of 5% of the Contract Price, if the following occur:
 - a. The damaged portion of the Project was built in accordance with the Contract requirements.
 - b. There are no insurance requirements in the Contract for the damages.
3. Guarantee periods shall not be affected by any payment but shall commence on the date of recordation of the Notice of Completion.

7-3.2 Partial and Final Payment.

To paragraph (5), DELETE in its entirety and SUBSTITUTE with the following:

Pursuant to Public Contract Code Section 22300, Contractor shall have the option, at Contractor's expense, to substitute for any money withheld by the Agency, securities equivalent to the amount being withheld. Securities eligible for such substitution are bank or savings and loans certificates of deposit or such securities which are eligible for investment pursuant to Government Code Section 16430. As to any such security or securities so substituted for monies withheld, Contractor shall be the beneficial owner of same and shall receive any accrued interest. Such security shall, at Contractor's request and expense, be deposited with the Agency or with a State or Federally Chartered bank as the escrow agent who shall pay such monies to Contractor upon notification by the Engineer that payment can be made. Such notification shall be given at the expiration of 30 Calendar Days from the date of NOC, or as prescribed by law, provided however, that there shall be a continued retention of the necessary securities to cover such amounts as are required by law to be withheld by properly executed and filed notices to stop payment, or as may be authorized by the Contract to be further retained.

ADD the following:

1. After final inspection, the Engineer will make a Final Payment Estimate and process a corresponding payment. This estimate will be in writing and shall be for the total amount owed the Contractor as determined by the Engineer and shall be itemized by the Contract Bid item and Change Order item with quantities and payment amounts and shall show all deductions made or to be made for prior payments and amounts to be deducted under provisions of the Contract. All prior estimates and progress payments shall be subject to correction in the Final Payment Estimate.

The Contractor shall have 30 Calendar Days from receipt of the Final Payment Estimate to make a written statement disputing any Bid item or Change Order item quantity or payment amount. The Contractor shall provide all documentation at the time of submitting the statement supporting its position. Should the Contractor fail to submit the statement and supporting documentation within the time specified, the Contractor acknowledges that full and final payment has been made for all Contract Bid items and Change Order items.

If the Contractor submits a written statement with supporting documents within 30 Calendar Days from receipt of the Final Payment Estimate, the Engineer will review the disputed item within 30 Calendar Days and make any appropriate adjustments on the Final Payment. Remaining disputed quantities or amounts not approved by the Engineer will be subject to resolution as specified in Section 2-10.1.1, Initiation of Claim.

The written statement filed by the Contractor shall be in sufficient detail to enable the Engineer to ascertain the basis and amount of the disputed items. The Engineer will consider the merits of the Contractor's claims. It will be the responsibility of the Contractor to furnish within a reasonable time such further information and details as may be required by the

Engineer to determine the facts or contentions involved in its claims. Failure to submit such information and details will be sufficient cause for denying payment for the disputed items.

2. Final Payment and release of Retention shall be paid after Contractor submits the following:
 - a. An affidavit that payrolls and bills for materials, equipment, and other indebtedness connected with the Work for which the Agency or the Agency's property might be responsible for or encumbered by. Fewer amounts withheld by the Agency shall have been paid for or otherwise satisfied.
 - b. A certificate evidencing that insurances required by the Contract Documents shall remain in force after Final Payment is currently in effect and shall not be canceled or allowed to expire until at least a 30 Calendar Days prior written notice has been given to the Engineer.
 - c. Consent of Surety to Final Payment.
 - d. If required by the Engineer, other data establishing payment or satisfaction of obligations such as receipts, releases and waivers of liens, claims, and security interests or encumbrances arising out of the Contract Documents. If a Subcontractor refuses to furnish a release or waiver required by the Agency, Contractor may furnish a bond satisfactory to the Engineer to indemnify the Agency against such lien.
 - e. If required in the Contract Documents, the successful completion and submittal of the required reports such as construction demolition, waste recycling, and hydrostatic discharge reports.
 - f. Required documentation, record drawings, operations manuals, test reports, warranty documentation, and UL labels shall be submitted before requesting the release of retention.

ADD the following: [7-3.2.1](#) [Application for Progress Payment](#).

1. By the 5th day of each month, sign, fill out, and submit to the Engineer a partial payment estimate that identifies acceptable Work performed during the previous month, or since the last partial payment estimate was submitted. If requested by the Engineer, provide such additional data as may be required to support the payment estimate. Such data may include submission of signed field orders and satisfactory evidence of payment for equipment, materials, and labor, including payments to Subcontractors and Suppliers.
2. For application for progress payments, Contractor shall use the format required by the Agency. An electronic copy of the invoice form is available from the Engineer upon request. Progress payments shall be signed, and the date of the invoice shall be the date that the invoice is submitted.
3. The Agency shall not pay progress or partial payments until Contractor submits to the Engineer an updated Schedule. It is solely the Contractor's responsibility to prepare and submit the Schedule updates.
4. Disputed or incorrect applications shall be returned to the Contractor within 7 Calendar Days with documentation describing the reason for the rejection of the payment request.

ADD the following: 7-3.2.2 Amount of Progress Payments.

1. If an undisputed and properly submitted application for payment is received by the Engineer, the Agency shall pay Contractor within 30 Calendar Days after the Engineer receives the application for Payment consistent with Public Contract Code Section 20104.50. The Agency shall pay Contractor for the Work performed, including the payment for offsite stored materials per section 7-3.3.1.2, through the period covered by the application for payment if the payment amount before Retention does not exceed the percentage of completion of the Work as set forth in the SOV.

ADD the following: 7-3.2.2.1 Progress Payment for Pipelines. Not Used

- ~~1. Progress payments for pipelines shall be determined by multiplying the total number of linear feet of each of the following operations completed during the payment period, by the corresponding percentage given below, and the Contract Unit Price for the particular main(s) or drain(s).~~
- ~~2. The progress payment may include payment for items in the Bid proposal, other than mains, which have been installed complete during the payment period.~~
- ~~3. Payment breakdown shall be as follows:~~

OPERATION	PERCENTAGE
WATER:	
Trench Excavation, Pipe in Place, Backfill and Cleanup.	80%
Hydrostatic and Bacterial Testing, Pavement Restoration and Final Cleanup	20%
SEWER:	
Trench Excavation, Pipe in Place, Backfill and Cleanup.	80%
Testing (Wayneball and/or Mandrel), Pavement Restoration and Final Cleanup.	20%
STORM DRAIN:	
Trench Excavation, Pipe in Place, Backfill and Cleanup.	80%
Pavement Restoration and Final Cleanup.	20%
SEWER MAIN REHABILITATION:	
Cleaning, Televising, liner installation, point repairs, and lateral reinstatements.	80%
Approval of pipeline rehabilitation verified by Final Video.	20%

- ~~4. In asphalt surfaced streets, the Agency shall pay 15% for hydrostatic and bacterial testing, Wayneball and Mandrelling (where necessary), for water and sewer utility constructions respectively, and operational testing for storm drains, including the trench cap and cleanup. The Agency shall pay the remaining 5% after completing the asphalt wearing surface and final cleanup.~~
- ~~5. Trench excavation, pipe in place, backfill, and cleanup of construction debris are 1 operation that shall be complete before the Agency pays the first 80%.~~

ADD the following: 7-3.2.3 Waiver of Claims at Final Payment.

1. Contractor's acceptance of Final Payment constitutes a waiver of affirmative claims by Contractor, except those previously made in writing and identified as unsettled at the time of Final Payment, which are expressly reserved by Contractor from operation of its Release of Claims pursuant to Public Contract Code Section 7100 or other Applicable Law.

ADD the following: 7-3.2.4 Withholding of Payment and Back Charge.

1. The Engineer may withhold payment for any of the following reasons:
 - a. Defective or incomplete Work.
 - b. Stop notices, wage orders, or other withholdings required by Applicable Law.
 - c. Contractor's failure to comply with 5-3.3, "Payroll Records" and the Contractor Registration and Electronic Reporting System requirements of the Contract Documents.
 - d. Failure to submit monthly Construction Schedule updates.
2. The Engineer may back charge the Contractor for any of the following reasons:
 - a. Defective or incorrect Work not remedied.
 - b. Damage to Agency property or a third party's property that was caused by Contractor.
 - c. Liquidated Damages.
 - d. Non-attendance at meetings without prior cancellation notice.
 - e. Failed inspections or re-inspections paid by the Agency.

7-3.3 Delivered Materials

DELETE in its entirety and SUBSTITUTE with the following:

1. The cost of materials and equipment delivered but not incorporated into the Work will not be included in the progress estimate.

ADD the following: 7-3.3.1 Payment for Stored Materials on Site.

ADD the following: 7-3.3.1.1 General.

1. When authorized, Contractor may request payment for materials and equipment which has not been incorporated into the Work but will be at a later date and will be delivered and stored at the Project Site.
2. The material shall meet the Contract requirements and the material's required test results and certifications shall be filed with the Engineer.
3. Only non-perishable materials for major items of Work or Materials Subject to Price Adjustment shall be considered for payment for on-site storage. However, each individual item has a value of more than 1% of the Contract Price and shall become a permanent part of the Work.
4. Materials cost shall be evidenced by the manufacturer's paid invoice bearing the statement that Contractor has paid all invoices in full.
5. The payments for the stored materials shall not exceed the invoice price or 60% of the Bid prices for the pay items into which the materials are to be incorporated, whichever is less, unless otherwise approved by the Engineer.

6. Apply for the payment for materials stored on a form provided by the Engineer and attach documentation to show the following:
 - a. The amount paid on the invoice (or other record of production cost) for the stored items.
 - b. The dollar amount of the material incorporated into each of the various Work items for the month.
 - c. The amount that should be retained for stored materials.
 - d. That Contractor has received the materials and equipment free and are clear of all liens, charges, secured interests, and encumbrances.
 - e. That the materials and equipment are covered by the appropriate property insurance in accordance with the insurance provisions and other arrangements that protect the Agency's interest.
7. Contractor shall provide the Engineer, upon request and prior to any partial payment, documentation which transfers full legal title to such materials to the Agency conditional only upon receipt of the Final Payment. Such transfer of title or any partial payment shall not constitute acceptance by the Agency of the materials nor shall it void the right to reject materials subsequently found to be unsatisfactory in accordance with SECTION 4 – CONTROL OF MATERIALS. This shall also not relieve Contractor of any obligation arising under the Contract Documents.
8. The payments for materials on-site are subject to retention as set forth in 7-3.2, "Partial and Final Payment."
9. Contractor shall assume all risks associated with the loss or damage to the stored products for which payment has or has not been received.
10. Equipment and materials shall be stored in accordance with manufacturer's recommendations. The stored products shall be in a form ready for installation. The Agency shall not pay for raw materials or parts and pieces of equipment.
11. Any and all surplus materials that are not incorporated in the Work shall become Contractor's property at no additional cost to the Agency.
12. Unless specifically provided in the Contract, payment for the materials on hand shall not be included when determining the percentage of Work completed.
13. The cost of materials reported shall be at invoice or lowest current price at which such materials are locally available and delivered to the job site in the quantities involved, plus sales tax, freight, and delivery.

The Agency reserves the right to approve materials and sources of supply, or to supply materials to the Contractor if necessary, for the progress of the Work. No markup shall be applied to any material provided by the Agency.

ADD the following: [7-3.3.1.2](#) [Payment for Stored Materials Offsite.](#)

1. The payment of materials and equipment delivered and stored offsite shall be contingent upon Contractor's compliance with the storage and protective maintenance requirements set forth in the Contract Documents and all other requirements necessary to preserve equipment warranties for the benefit of the Agency.

2. The Agency reserves the right to refuse approval for the payment of any equipment or materials suitably stored offsite in its sole discretion, regardless of whether all conditions in the Contract Documents have been met.
3. Partial payment may be made for products eligible for offsite delivery and storage only upon Contractor's presentation of a bill of sale, a paid invoice, or an affidavit certifying that the material is received by the Contractor free and clear of all liens, encumbrances, and secured interest of any kind including offsite delivery.
4. Partial payment for products delivered and stored offsite shall be contingent upon Contractor's compliance with the storage and protective maintenance requirements set forth in the Contract Documents and all other requirements necessary to preserve equipment warranties for the benefit of the Agency.
5. The cost of materials and equipment delivered but not incorporated into the Work will not be included in the progress estimate.
6. Costs associated with the delivery to and storage at an offsite facility shall be at Contractor's expense regardless of the Engineer's approval to deliver and store the materials.
7. Contractor shall provide written evidence to the Engineer of having made arrangements for unrestricted access by the Agency and the Agency's authorized representatives to the materials wherever stored, including provisions for the Agency to take control and possession of such materials at any time and without restriction. Contractor shall furnish the Engineer a permit of entry, from the owner of the property, for at least 6 months after the NOC has been filed. The permit of entry shall contain information similar to the following:

PERMIT OF ENTRY: Permission is granted to the Agency and its designated employees or agents to enter upon the property described in this permit for a period of not less than 6 months after the NOC has been filed for the Carlsbad Fleet Fuel Island Upgrade for the purpose of removing materials for which advance materials on hand payment has been made to (Contractor's Name). The property is owned by (Owner's Name) and is described as follows: (Address and Description of Property). (Include signature(s) and date(s) for owner and lessee or purchaser, and, if appropriate, attach a copy of a warehouse receipt or contract for storage.

8. The material shall be clearly marked and identified as being specifically fabricated, produced, and reserved for use on the Project. The Contractor shall provide payment documentation for the materials.

7-3.4 Mobilization.

ADD the following:

1. Mobilization consists of Work necessary for the movement of personnel, equipment, supplies, and incidentals to and from the Site; for establishment of all offices, buildings, storage yards, and other facilities necessary for the Work; and for all other Work and operations which shall be performed prior to beginning the Work and after completion of the Work on the various Contract items on the Site.

2. Contractor shall properly design the Project parameters to incorporate construction mobility for moving on and off the Site in a manner that limits disturbance to the surrounding residences, businesses, and any other citizens. This includes the designated staging areas, loading areas, and assemblage areas. Contractor shall consider and address access rights of the public at all times. Prepare a mobilization plan that shall describe and govern Contractor's mobilization activities.
3. When a Bid item has been provided for "Mobilization," payment for mobilization Work shall be distributed equally over the first 2 progress payments up to the Bid amount of the "Mobilization" Bid item but shall not exceed 3% of the Contract Price. If Contractor's Bid item for "Mobilization" exceeds 3% of the Contract Price, then anything above 3% of the Contract Price shall be paid as a part of the Final Payment.
4. The complete dismantling and removal of all of Contractor's properties, temporary facilities, equipment, materials, construction wastes, and personnel at the Site referred to as demobilization is included in the payment for mobilization, unless there is a Bid item for demobilization.
5. If a separate Bid item has not been provided for mobilization, the payment for mobilization is included in the Contract Price.

7-3.5 Contract Unit Prices Not Used

7-3.5.1 General.

ADD the following:

- ~~1. Unit Bid prices shall not be subject to adjustment regardless of quantity used or if none is used for the following Bid items:

 - a. additional bedding
 - b. imported backfill
 - c. shoring
 - d. water services and connections
 - e. water pollution control items
 - f. point repairs for existing sewer mains
 - g. additional point repairs for existing sewer mains
 - h. sewer lateral connections
 - i. sewer lateral linings
 - j. traffic control
 - k. additional equipment~~
- ~~2. Should the actual quantity of an item of Work covered by a Contract Unit Price and constructed in conformance with the Plans and Specifications, exceed the Bid quantity by more than 50 percent, payment for the quantity in excess of 150 percent of the Bid quantity will be made on the basis of an adjustment in the Contract Unit Price mutually agreed to by the Contractor and the Agency, or at the option of the Engineer, on the basis of Extra Work per Section 2-8. The Extra Work per Section 2-8, basis of payment, shall not include fixed~~

~~costs. Fixed costs shall be deemed to have been recovered by the Contractor through payment for 150 percent of the Bid quantity at the Contract Unit Price.~~

- ~~3. Should the actual quantity of an item of Work covered by a Contract Unit Price, and constructed in conformance with the Plans and Specifications, be less than 50 percent of the Bid quantity, an adjustment in payment will not be made unless so requested in writing by the Contractor. If the Contractor so requests, payment will be made on the basis of an adjustment in the Contract Unit Price mutually agreed to by the Contractor and the Agency, or at the option of the Engineer, on the basis of Extra Work per Section 2-8; however, in no case will payment be less than would be made for the actual quantity at the Contract Unit Price nor more than would be made for 50 percent of the Bid quantity at the Contract Unit Price.~~

ADD the following: 7-3.9 Field Orders. Not Used

- ~~1. The Agency shall pay Field Order items of the Work in accordance with the limits below if the cumulative total of Field Orders does not exceed the "Field Orders" Bid Item:~~

Contract Price	Maximum Field Order Amount
Less than \$100,001	\$2,500
\$100,001 to \$1,000,000	\$5,000
\$1,000,001 to \$5,000,000	\$10,000
Greater than \$5,000,000	\$20,000

ADD the following: 7-3.10 Compensation Adjustments for Price Index Fluctuations.

1. Unless otherwise specified, the provisions of this section apply only to the paving asphalt used in the following:
 - a. Asphalt Concrete Pavement
 - b. Asphalt Pavement Repair
 - c. Scheduled and Unscheduled Base Repair
 - d. Slurry Seal or any other asphalt emulsion
2. The compensation for paving asphalt shall be increased or decreased for paving asphalt price fluctuations in accordance with 7-3.11 "Compensation Adjustments for Price Index Fluctuations" in the Caltrans Standard Specifications.
3. The adjustment in compensation shall also be subject to the following:
 - a. Show the provided compensation adjustments separately on payment estimates. Contractor is liable to the Agency for decreased compensation adjustments and the Engineer may deduct the amount from moneys payable or that may become payable to Contractor.
 - b. In the event of an overrun of Contract Time, adjustment in compensation for asphalt binder included in estimates during the overrun period shall be determined using the California Statewide Crude Oil Price Index in effect on the first business day of the month within the pay period in which the overrun began.
 - c. In the event that the companies discontinue posting their prices for a field, the Engineer shall determine an index from the remaining posted prices. The Agency

reserves the right to include in the index determination the posted prices of additional fields.

4. Contractor may opt out of the payment adjustments for price index fluctuations when specified in the Contract Documents by submitting a letter with the Bid.

7-4 PAYMENT FOR EXTRA WORK

7-4.1 General.

ADD the following:

1. With every request for payment, Contractor shall submit to the Engineer a breakdown showing monthly and cumulative amounts of the Work performed under the Change Order by Contractor and Contractor's Subcontractors. The reporting format shall be approved by the Engineer.
2. When the price for the Extra Work cannot be agreed upon, the Agency will pay for the Extra Work based on the accumulation of costs.

7-4.2 Basis for Establishing Costs.

7-4.2.1 Labor.

ADD the following:

1. The costs of labor will be the actual cost for wages of workers performing the Extra Work at the time the Extra Work is done, plus employer payments of payroll taxes, workers compensation insurance, liability insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs, resulting from federal, state, or local laws, as well as assessments or benefits required by lawful collective bargaining agreements.
2. The use of a labor classification which would increase the Extra Work cost will not be permitted unless the Contractor establishes the necessity for such additional costs. Labor costs for equipment operators and helpers shall be reported only when such costs are not included in the invoice for equipment rental. The labor cost for foremen shall be proportionate to all their assigned work and only that applicable to Extra Work will be paid.
3. Nondirect labor costs, including superintendence, shall be considered part of the markup of Section 7-4.2.1(1).
4. The Agency reserves the right to request the following:
 - a. Financial records of salaries for an employee.
 - b. Wage rates/Certified Payroll.
 - c. Bonuses and deductions.
5. Contractor shall list the labor rates of its personnel and Subcontractors who work on the Project. The payment for payroll records is included in the Contract Price.
6. If Contractor's proposal for Extra Work is based upon services and Work to be performed outside Normal Working Hours, the labor charges associated with the Extra Work shall consist of straight time wages and burdens plus the appropriate overtime or shift premium with no additional burdens, such as fringe benefits, on the premium portion.

7-4.2.2 Tool and Equipment Rental.

DELETE in its entirety and SUBSTITUTE with the following:

1. No payment shall be made for the use of tools which have a replacement value of \$200 or less.
2. Regardless of ownership, the rates and delay factors to be used in determining equipment rental costs shall not exceed those listed in the latest edition of the Caltrans publication entitled "Labor Surcharge and Equipment Rental Rates" preceding the date the Work is accomplished. The latest edition of the Caltrans publication is available at www.dot.ca.gov. The delay factors therein shall be used as multipliers of the rental rates for determining the value of costs for delay to the Contractor and Subcontractors, if any. The labor surcharge rates published therein are not a part of this Contract.
3. Contractor shall be entitled to a rental rate adjustment when Contractor can substantiate that the rental rates prevailing locally exceed the published rates by more than 15%. For equipment not listed in the Caltrans publication, rental rates shall not exceed listed rates prevailing locally at equipment rental agencies or distributors at the time the Work is performed.
4. Whenever possible, Extra Work shall be accomplished using equipment available on Site or owned by Contractor. If a specific piece of equipment shall be rented to be used exclusively for the Extra Work, the rental rate shall be the invoiced rate. The rental rates paid shall include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals. Necessary loading and transportation costs for equipment used on the Extra Work shall be included.
5. If rental equipment is not being used or used intermittently and could be returned to its rental source rather than holding it at the Work Site, the Contractor shall return the equipment at no expense to the Agency unless Contractor elects to keep it at the Work Site at Contractor's expense.
6. The reported rental time for equipment already at the Work Site shall be the duration of its use on the Extra Work. This time shall begin when equipment is first used on Extra Work, plus the time required to move it from its previous site and back or from its previous site to a closer site.
7. All equipment shall be acceptable to the Engineer, in good working condition, and suitable for the purpose for which it is to be used.

7-4.2.3 Materials.

The cost of materials reported shall be at invoice or lowest current price at which such materials are locally available and delivered to the job Site in the quantities involved, plus sales tax, freight, and delivery.

The Agency reserves the right to approve materials and sources of supply, or to supply materials to the Contractor if necessary, for the progress of the Work. No markup shall be applied to any material provided by the Agency.

7-4.2.4 Invoices.

Vendors' invoices for material, equipment rental and other expenditures shall be submitted with the request for payment. If the request for payment is not substantiated by invoices or other

documentation, the Agency may establish the cost of the item involved at the lowest price which was current at the time of the report.

7-4.3 Markup.

7-4.3.1 Work by the Contractor.

DELETE in its entirety and REPLACE with the following:

The following percentages shall be added to the Contractor's costs and shall constitute the markup for all overhead and profits:

Labor	20
Materials	15
Equipment Rental	15
Other Items and Expenditures	15

To the sum of the costs and markups provided for in this section, 1% shall be added as compensation for bonding.

7-4.3.2 Work by a Subcontractor.

DELETE in its entirety and REPLACE with the following:

When all or any part of the Extra Work is performed by a Subcontractor, the markup established in 7-4.3.1 shall be applied to the Subcontractor's actual cost of such Work. A markup of 10 percent on the first \$5,000 of the subcontracted portion of the Extra Work and a markup of 5 percent on Work added in excess of \$5,000 of the subcontracted portion of the Extra Work may be added by the Contractor.

7-4.4 Daily Reports.

ADD the following:

Payment for Extra Work will not be made until such time that the Contractor submits completed daily reports and all supporting documents to the Engineer.

When the price for the Extra Work cannot be agreed upon, the Contractor shall submit a daily report to the Engineer on forms approved by the Agency. Included are applicable delivery tickets, listing all labor, materials, and equipment involved for that day, and other services and expenditures when authorized. Payment for Extra Work will not be made until such time that the Contractor submits completed daily reports and all supporting documents to the Engineer. Failure to submit the daily report by the close of the next Working Day may waive any rights for that day. An attempt shall be made to reconcile the report daily, and it shall be signed by the Engineer and the Contractor. In the event of disagreement, pertinent notes shall be entered by each party to explain points which cannot be resolved immediately. Each party shall retain a signed copy of the report. Reports by Subcontractors or others shall be submitted through the Contractor.

The report shall:

1. Show names of workers, classifications, and hours worked.
2. Describe and list quantities of materials used.
3. Show type of equipment, size, identification number, and hours of operation, including loading and transportation, if applicable.
4. Describe other services and expenditures in such detail as the Agency may require.

SECTION 8 – FACILITIES FOR AGENCY PERSONNEL – Not Used

~~8.1 – GENERAL~~

~~ADD the following: – 8.1.1 – Field Office Maintenance.~~

- ~~1. Contractor shall service, maintain, and clean the field office on a weekly basis to the Engineer's satisfaction.~~
- ~~2. Contractor shall service, clean, and maintain the portable chemical toilet and replenish bottled drinking water supplies.~~
- ~~3. Contractor shall service and maintain field office equipment. For the air conditioning system, Contractor shall perform the maintenance at intervals recommended by the supplier or manufacturer or as directed by the Engineer.~~
- ~~4. Contractor is responsible for the maintenance of all items supplied. Contractor shall repair or replace any equipment or furnishing in the event of damage or theft at no additional cost to the Agency.~~

~~ADD the following: – 8.1.2 – Field Office Security.~~

- ~~1. Contractor is responsible for field office security. Contractor shall provide field office security measures necessary for personal protection and for the prevention of vandalism and theft.~~

~~ADD the following: – 8.1.3 – Submittals to Be Provided.~~

- ~~1. Contractor shall submit:
 - a. A proposed layout of the interior of the field office showing wall partitions, doors, and telephone and electrical outlets.
 - b. A proposed Site plan showing the field office location at the Site.
 - c. Location and mailing address of the field office.
 - d. Computer workstation literature specifying peripherals and software including Wi-Fi.
 - e. Manufacturer's information for the printer/fax/copier machine and supply of paper.~~

END OF SECTION

00 74 00 AGENCY SUPPLEMENTAL TECHNICAL PROVISIONS

INTRODUCTION

The Specifications contained in this 00 7400 Agency Supplemental Technical Provisions take precedence over the specification language contained in the Standard Specifications for Public Works Construction, "The Greenbook" latest edition and all errata. This specification addresses the unique conditions in Carlsbad that are not addressed in The Greenbook. Therefore, if there is a conflict, these Specifications shall control.

The Greenbook may be purchased at Bidder/Contractors local technical bookstore or directly from the publisher. These Agency Supplemental General Provisions are available only for download from the online bidding portal with Contract Documents. The Agency does not provide hard copies.

When used in the Contract Documents, statements or command phrases (active voice and imperative mood) refer to and are directed at the "Bidder" or "Contractor" as applicable. The Specifications are written to the "Bidder" before award and the "Contractor" after award. Before award, interpret sentences written in the imperative mood as starting with "The Bidder shall." Interpret the term "you" as "the Bidder" and interpret the term "your" as "the Bidder's." After award, interpret sentences written in the imperative mood starting with "The Contractor shall." Interpret the term "you" as "the Contractor" and interpret the term "your" as "the Contractor's."

PART 2 CONSTRUCTION MATERIALS

SECTION 200 – ROCK MATERIALS

200-2 UNTREATED BASE MATERIALS

200-2.1 General.

ADD the following:

1. Aggregate base shall be Crushed Aggregate Base per Greenbook Section 200-2 and as specified in this section.

200-2.2 Crushed Aggregate Base.

200-2.2.1 General.

ADD the following:

Crushed Aggregate Base shall be free from organic matter and other deleterious substances and shall be of such nature that it can be compacted readily under watering and rolling to form a firm, stable base.

1. The aggregate shall not be treated with lime, cement or other chemical material before tests are performed.
2. Samples for testing shall represent every 500 cubic yards or one day's production, whichever is smaller. If the results of the aggregate grading tests do not meet the requirements for Percentage Passing Sieve as specified in Table 200-2.2.2 but meet the Quality Requirements as specified in Table 200-2.2.3, placement of the aggregate base may be continued for the remainder of that day. However, another day's Work may not be started until test results

indicate to the satisfaction of the Engineer that the next material to be used in the Work will comply with the requirements specified for Percentage Passing Sieve.

3. If the results of both the aggregate grading and Sand Equivalent tests do not meet the requirements of Section 200-2.2, the aggregate base which is represented by these tests shall be removed. However, if requested by the Contractor, and approved at the sole discretion of the Engineer, the aggregate base may remain in place and the Contractor shall pay to the Agency \$50 per cubic yard for such aggregate base left in place. The Agency may deduct this amount from any moneys due, or that may be come due, to the Contractor under the Contract.

SECTION 203 – BITUMINOUS MATERIALS

203-1 PAVING ASPHALT.

203-1.3 Test Reports and Certification.

DELETE in its entirety and REPLACE with the following:

1. Paving asphalt shall be supplied by Caltrans or other State Department of Transportation approved vendors unless otherwise specified in the Special Provisions. At delivery time, the supplying vendor shall deliver to the purchaser a certified copy of the test report. This report shall indicate the vendor's name, grade of paving asphalt delivered, date/ time and point of delivery, quantity delivered, ticket number, purchase order number, and results of specified tests. The certified test report and the testing required in connection with the report shall be submitted in accordance with 3-8.4.
2. Final acceptance of the material will be dependent upon the determination by the Engineer that the material involved conforms to the Specifications.

203-5 SLURRY SEAL.

203-5.2 Mix Design.

DELETE the last paragraph and REPLACE with the following:

1. When a mix design is more than 30 Calendar Days old, it shall be supplemented with a Certificate of Compliance that states the combined aggregate gradation is within ± 3 percent of the referenced mix design based on a 30-day moving average or the average of a minimum of 10 of the most current laboratory results, whichever is greater. A mix design shall be reformulated if it is more than 6 months old or whenever the combined aggregate gradation changes from that in the previously submitted mix design by ± 3 percentage points on any sieve size shown in Table 203-5.3.2. If the source of any aggregate or emulsified asphalt is changed, or the mix design or supporting laboratory reports are over 6 months old, a new mix design shall be submitted.

203-6 ASPHALT CONCRETE.

203-6.1 General.

DELETE in its entirety and REPLACE with the following:

1. Asphalt concrete shall be the product of mixing mineral aggregate and up to 20 percent RAP with asphalt binder at a central mixing plant.
2. When specified in the Special Provisions, asphalt concrete may contain greater than 20 percent RAP or be produced using a WMA technology.

3. Asphalt concrete containing any modified paving asphalt or WMA technology or WMA additive shall not include more than 15 percent RAP.
4. Unless otherwise specified in the Special Provisions or shown on the Plans, asphalt concrete mixtures shall conform to 203-6.4.

203-6.2.5.4 Testing.

DELETE the fourth sentence and REPLACE with the following:

1. When using greater than 20 percent RAP, the following additional tests shall be performed:

203-6.3 Job Mix Formula (JMF) and Mix Designs.

203-6.3.1 General.

DELETE in its entirety and REPLACE with the following:

1. The Contractor shall submit in accordance with 3-8.4 a JMF that summarizes each asphalt concrete mix design for each class and grade of asphalt concrete required to construct the Work. Supporting information for the WMA technology and/or recycling agent, if included in a mixture, shall also be submitted.
2. The JMF shall identify the source and the individual grading of each material used to produce the mix design (including the percentage and individual gradation of any manufactured or natural sands), the combined gradation, the OBC, void content, RAP percentage, RAP gradation, RAP binder content, stability value, plant identification, mix number, WMA technology, and the source and performance grade of the paving asphalt. The mix design test data represented by the JMF shall be submitted to the Engineer with the JMF.
3. When greater than 20 percent RAP is to be included in a mixture, a mix design shall be submitted. The submittal shall include supporting information showing the viscosity of the individual binders (both the virgin paving asphalt grade and that of the binder recovered from the RAP); and the amount of recycling agent, if any, and the blended final viscosity in accordance with AASHTO M323.
4. For all mixtures, the asphalt binder content shall be defined as the total bituminous material present in the mix consisting of the blend of virgin paving asphalt, residual paving asphalt from RAP, and recycling agent.
5. When a mix design is more than 30 Calendar Days old, the JMF must indicate that the combined gradation is ± 3 percent from the referenced mix design based on a 30-day moving average or a minimum of the 10 most current results. If the combined aggregate gradation is not within ± 3 percentage points of the gradation shown on the referenced mix design on any sieve, if the source of any aggregate is changed, the performance grade or source of paving asphalt is changed, the grade or source of any other component of asphalt concrete is changed, or the mix design is over 1 year old, a new mix design shall be prepared and a new JMF shall be submitted to the Engineer for approval.
6. Asphalt concrete shall be class C2-PG 64-28PM and PG 76-22PM. No more than 15% RAP shall be allowed in any AC mix.

203-6.3.2 Hveem Mix Design Method.

DELETE the fourth paragraph and REPLACE with the following:

1. Unless viscosity and blending charts developed in accordance with AASHTO M323 show otherwise, mix designs for mixtures containing more than 20 percent RAP shall drop the high temperature requirement of the virgin paving asphalt by one performance grade and drop the low temperature requirement by a minimum of one performance grade, e.g., a specified "PG 64-10" shall become a "PG 58-22 or "PG 58-16."

203-6.4.1 Class and Grade.

DELETE letters b) and d) and REPLACE with the following:

- b) "R0" if the mixture does not contain RAP, e.g., "C2-PG 64-10-R0."
- d) "WMA" if the mixture uses a warm mix asphalt technology, e.g., "C2-PG 64-10-WMA"

203-6.4.4 Composition and Grading.

ADD the following:

1. Evaluation of asphalt concrete shall be determined from samples of final asphalt concrete material. In addition to evaluation of the final asphalt material, samples of aggregate, RAP, and asphalt binder will be taken for testing. In case of dispute between the Contractor and the Agency, the Engineer has the authority to request core samples for analysis from the placed asphalt concrete for any of the acceptance criteria, at the locations determined by the Engineer. All samples shall be taken in accordance with California Test 125, and the following table:

Sampling	Location
Asphalt Concrete	<ul style="list-style-type: none"> • Trucks, or • Mat behind the paver
Aggregate	<ul style="list-style-type: none"> • Cold feed belts, or • Hot bins prior to addition of asphalt binder
RAP	<ul style="list-style-type: none"> • RAP system, or • RAP feed belts
Asphalt Binder	<ul style="list-style-type: none"> • Asphalt binder supplier, or • Storage tanks at the plant during production

2. When behind the paver or core samples of asphalt concrete are to be used for evaluation, sufficient size samples shall be taken to ensure representative and adequate quantity of material for the required testing.
3. When using core samples, the samples must be properly prepared to safeguard against influx of outside contaminants and so that the cut surfaces do not influence the test results.
4. Material samples of the asphalt concrete shall be on a lot basis. A standard lot shall be equal to 1 day's production or 750 tons, whichever is smaller. The samples and testing results shall be representative of their entire sample lot.
5. Table 203-6.4.4, design criteria, shall be modified per the following table, the gradation shall stay the same:

Table 203-6.4.4 – Modified (Design Criteria)

Sieve Size	Percentage Passing Sieves							
	A	B	C1	C2	D1	D2	E	F
	Dense Coarse	Dense Medium Coarse	Coarse Medium	Dense Medium	Coarse Fine	Dense Fine	Extra Fine	Channel Liner
1-1/2" (37.5 mm)	100							
1" (25 mm)	90-100	100						
3/4" (19.0 mm)	78-90	87-100	100	100				
1/2" (12.5 mm)	64-78	70-87	90-100	95-100	100	100		
3/8" (9.5 mm)	54-68	55-76	72-88	72-88	90-100	95-100	100	100
No. 4 (4.75 mm)	34-48	35-52	40-54	46-60	40-54	58-72	65-85	95-100
No. 8 (2.36 mm)	25-35	22-40	18-34	28-42	20-32	34-48	45-65	70-84
No. 30 (600 µm)	12-22	8-24	8-20	15-27	6-18	18-32	22-38	36-50
No.50 (300 µm)	8-16	5-18	4-14	10-20	2-12	13-23	16-28	23-35
No. 200 (75 µm)	3-6	0-7	1-6	2-7	0-5	2-9	6-12	6-12
Asphalt Binder %	4.5-6.0	4.7-6.5	5.0-6.5	5.0-6.5	5.3-7.0	5.3-7.0	6.0-8.0	8.0-10.0
Hveem Stability "S Value" (min.)	37	37	35	35	32	32		
Air Voids ¹	4%	4%	4%	4%	4%	4%		

203-6.5.1 Class and Grade.

DELETE the list and REPLACE with the following:

- a) No suffix if the mixture contains RAP in an amount up to 20 percent.
- b) "R0" if the mixture does not contain RAP, e.g., "III-C2-PG 64-10-R0."
- c) "R" and the percentage of RAP if the mixture contains greater than 20 percent, e.g. "III-C2-PG 64-10-R25."
- d) "WMA" if the mixture uses a warm mix asphalt technology, e.g., "III-C2-PG 64-10-WMA."

203-6.5.4 Table.

DELETE in its entirety and REPLACE with the following:

CLASS	B2		B3	
Sieve Size	Individual Test Result	Moving Average	Individual Test Result	Moving Average
1" (25.0 mm)	100	100	100	100
3/4" (19.0 mm)	87-100	90-100	90-100	95-100
3/8" (9.5 mm)	50-80	60-75	60-84	65-80
No. 4 (4.75 mm)	30-60	40-55	40-60	45-60
No. 8 (2.36 mm)	22-44	27-40	24-50	30-45
No. 30 (600 μm)	8-26	12-22	11-29	15-25
No. 200 (75 μm)	1-8	3-6	1-9	3-7
Asphalt Binder %	4.8-6.5		4.8-6.5	
Air Voids %	4%		4%	
CLASS	C2		C3	
Sieve Size	Individual Test Result	Moving Average	Individual Test Result	Moving Average
3/4" (19.0 mm)	100	100	100	100
1/2" (12.5 mm)	89 -100	95 -100	89 -100	95 - 100
3/8" (9.5 mm)	70-94	75-90	74 -100	80-95
No. 4 (4.75 mm)	44-72	50-67	50- 78	55-72
No. 8 (2.36 mm)	30-54	35-50	32-60	38-55
No. 30 (600 μm)	10-34	15 - 30	14 - 38	18 - 33
No. 200 (75 μm)	2-10	4-7	2-10	4-8
Asphalt Binder %	5.0 - 6.8		5.0 - 7.0	
Air Voids %	4%		4%	
CLASS	D		F	
Sieve Sizes	Combined Average		Combined Average	
1/2" (12.5 mm)	100		-	
3/8" (9.5 mm)	95-100		100	
No. 4 (4.75 mm)	65-85		95-100	
No. 8 (2.36 mm)	50-70		70-80	
No. 30 (600 μm)	28-40		35-50	
No. 200 (75 μm)	5-14		7-16	
Asphalt Binder %	6.0-8.0		8.0-10.0	
Air Voids	4%			

203-6.8 Storage.

DELETE in its entirety and REPLACE with the following:

1. Storage of asphalt concrete shall not be allowed. Asphalt concrete shall be transferred from the mixer by a method that does not cause segregation.

203-6.10 Sampling.

DELETE in its entirety and REPLACE with the following:

1. Aggregate samples for batch plants shall be taken from the hot bins. Aggregate samples for dryer-drum plants shall be taken in advance of the dryer-drum using devices conforming to 203-6.7.4.2.
2. Evaluation and acceptance of asphalt concrete shall be determined from samples of final asphalt concrete material. In addition to evaluation of the final asphalt material, samples of aggregate, RAP, and asphalt binder shall be taken for testing. In case of dispute between the Contractor and the Agency, the Engineer has the authority to request core samples for analysis from the placed asphalt concrete for any of the acceptance criteria, at the locations determined by the Engineer. All samples shall be taken in accordance with California Test 125, and the following table:

TABLE 203-6.10

Sampling	Location
Asphalt Concrete	<ul style="list-style-type: none">• Trucks, or• Mat behind the paver
Aggregate	<ul style="list-style-type: none">• Cold feed belts, or• Hot bins prior to addition of asphalt binder
RAP	<ul style="list-style-type: none">• RAP system, or• RAP feed belts
Asphalt Binder	<ul style="list-style-type: none">• Asphalt binder supplier, or• Storage tanks at the plant during production

3. When behind the paver or core samples of asphalt concrete are to be used for evaluation, sufficient size samples shall be taken to ensure representative and adequate quantity of material for the required testing.
4. When using core samples, the samples must be properly prepared to safeguard against influx of outside contaminants and so that the cut surfaces do not influence the test results.
5. Material samples of the asphalt concrete shall be on a lot basis. A standard lot shall be equal to 1 day's production or 750 tons, whichever is smaller. The samples and testing results shall be representative of their entire sample lot.

203-6.11 Acceptance.

DELETE in its entirety and REPLACE with the following:

1. Acceptance of asphalt concrete mixtures will be based upon conformance to the gradation, asphalt binder content, air voids, and minimum stability values shown in Table 203-6.4.4. Air void values shall be between 2% and 6%. The asphalt binder content shall be within +/- 0.4 percent of the OBC shown on the respective job mix formula.
2. Acceptance of Type III asphalt concrete mixtures will be based upon conformance to the gradation, asphalt binder content, air voids, and minimum stability values shown in Tables 203-6.5.4 (A) and 203-6.5.4 (B). Air void values shall be between 2% and 6%. The asphalt

binder content shall be within +/- 0.4 percent of the OBC shown on the respective job mix formula.

3. Should plant gradation test results be unavailable and allowed by the Engineer, gradation may be determined in accordance with ASTM D2172 or by AASHTO T 308 with adherence to the aggregate correction factor therein. In the case of a continued dispute, final acceptance of plant produced mixtures may be based upon binder content, stability and air void values.
4. When dissimilar surface course mix characteristics are the result of production and delivery from multiple plants, the Engineer may require production and delivery from only 1 plant during any 1 day of production, unless approved by the Engineer.

203-11 ASPHALT RUBBER HOT MIX (ARHM).

203-11.3 Composition and Grading.

Delete row 10 of TABLE 203-11.3 and REPLACE with the following:

1. Asphalt Rubber Binder, % by Weight of Dry Aggregate¹ | 7.5-8.5 | 7.5-8.8 | 7.8-9

ADD 203-11.10 Acceptance.

1. Acceptance of asphalt rubber hot mixes will be based upon conformance to the gradation, asphalt binder content, air voids, and minimum stability values shown in Table 203-11.3. Air void values shall be within +/- 2 percent of the targeted value at the optimum binder content (OBC) shown on the respective job mix formula. The asphalt binder content shall be within +/- 0.4 percent of the OBC shown on the respective job mix formula.

203-13 CRUMB RUBER MODIFIED ASPHALT CONCRETE GAP GRADED (CRUMAC-GG).

203-13.4 Mix Designs.

Delete the last sentence and REPLACE with the following:

1. Once the total percent of paving asphalt and CRM is determined by the mix design, the production tolerance for the combined materials shall be ± 0.4 percent as determined by California Test 382.

203-14 TIRE RUBBER MODIFIED ASPHALT CONCRETE (TRMAC).

203-14.9 Acceptance.

DELETE in its entirety and REPLACE with the following:

1. Acceptance of dense-graded mixtures will be based upon conformance to the gradation, asphalt binder content, air voids, and minimum stability values shown in Table 203-6.4.4. Air void values shall be between 2% and 6%. The asphalt binder content shall be within +/- 0.4 percent of the OBC shown on the respective job mix formula.
2. Acceptance of gap-graded mixes will be based upon conformance to the gradation, air voids, and minimum stability requirements shown in Table 203-11.3. Air void values shall be within +/- 2 percent of the targeted value at the OBC shown on the respective job mix formula. Acceptance of gap-graded mixes will also be based upon conformance to the asphalt binder content shown in Table 203-14.4.4. The asphalt binder content shall be within +/- 0.4 percent of the OBC shown on the respective job mix formula.

3. Should plant gradation test results be unavailable and allowed by the Engineer, gradation may be determined in accordance with ASTM D2172 or by AASHTO T 308 with adherence to the aggregate correction factor therein. In the case of a continued dispute, final acceptance of plant produced mixtures may be based upon binder content, stability, and air void values.
4. When dissimilar surface course mix characteristics are the result of production and delivery from multiple plants, the Engineer may require production and delivery from only 1 plant during any 1 day of production, unless approved by the Engineer.

203-16 Polymer Modified Asphalt Concrete (PMAC).

203-16.1 General.

DELETE in its entirety and REPLACE with the following:

1. PMAC shall be the product of mixing mineral aggregate and up to 15% RAP with polymer modified paving asphalt at a central mixing plant.

203-16.3 Job Mix Formulas and Mix Designs.

ADD the following:

1. Contractor shall submit for approval an asphalt concrete mix design per Greenbook Section 203-6.3. The asphalt concrete mix design method shall be Hveem with the optimal binder content determined by California Test 367. The mix design shall conform to Greenbook Table 203-6.4.4 for gradation, and the above MODIFIED (DESIGN CRITERIA) table.

203-16.4.3 Composition and Grading.

DELETE in its entirety and REPLACE with the following:

1. Composition and grading shall conform to 203-6.4.4.

203-16.9 Acceptance.

DELETE in its entirety and REPLACE with the following:

1. Acceptance of asphalt concrete mixtures will be based upon conformance to the gradation, asphalt binder content, air voids, and minimum stability requirements shown in Table 203-6.4.4. Air void values shall be between 2% and 6%. The asphalt binder content shall be within +/- 0.4 percent of the OBC shown on the respective job mix formula.
2. Material samples of the asphalt concrete shall be on a lot basis. A standard lot shall be equal to 1 day's production or 750 tons, whichever is smaller. The samples and testing results shall be representative of their entire sample lot.
3. Should plant gradation test results be unavailable and allowed by the Engineer, gradation may be determined in accordance with ASTM D2172 or by AASHTO T 308 with adherence to the aggregate correction factor therein. In the case of a continued dispute, final acceptance of plant produced mixtures may be based upon binder content, stability, and air void values.
4. When dissimilar surface course mix characteristics are the result of production and delivery from multiple plants, the Engineer may require production and delivery from only 1 plant during any 1 day of production, unless approved by the Engineer.

SECTION 206 – MISCELLANEOUS METAL ITEMS – Not Used

ADD the following: ~~206 7 TRAFFIC SIGNS.~~

~~206 7.1 Roadside Signs.~~

- ~~1. This Work shall consist of furnishing and installing roadside signs in accordance with details shown on the Plans, the California Sign Specifications and these special provisions. Permanent and temporary signs shall be free from blemishes that may affect the serviceability and detract from the general sign color and appearance when viewing during daytime and nighttime from a distance of 25 feet. The face of each finished sign shall be uniform, flat, smooth, and free of defects, scratches, wrinkles, gel, hard spots, streaks, extrusion marks, and air bubbles. The front, back and edges of the sign panels shall be free of router chatter marks, burns, sharp edges, loose rivets, delaminated skins, excessive adhesive overspray, and aluminum marks.~~

~~206 7.1.2 Sign Identification.~~

- ~~1. The following notation shall be placed on the lower right side of the back of each sign where the notation shall not be blocked by the sign post or frame:
 - ~~A. **PROPERTY OF THE CITY OF CARLSBAD,**~~
 - ~~B. Name of the sign manufacturer,~~
 - ~~C. Month and year of fabrication,~~
 - ~~D. Type of retroreflective sheeting, and~~
 - ~~E. Manufacturer's identification and lot number of retroreflective sheeting.~~~~
- ~~2. The above notation shall be applied directly to the aluminum sign panels in 1/4-inch upper case letters and numerals by die stamp and applied by similar method to the fiberglass reinforced plastic signs. Painting, screening, or engraving of the notation will not be allowed. The notation shall be applied without damaging the finish of the sign.~~

~~206 7.1.3 Drawings.~~

- ~~1. Standard signs shall be as per the most recently approved California Sign Specifications. The date of approval shall be the date most closely preceding the date of manufacture of the sign(s) or the date of the "Notice to Proceed" of this Contract, whichever is most recent.~~

~~206 7.1.4 Reflective Sheeting.~~

- ~~1. All advisory signs, warning signs and all regulatory signs shall be fabricated with Type IV prismatic sheeting (High Intensity Prismatic or equivalent) or Type IX prismatic cube lens sheeting (Diamond Grade VIP or equivalent) in accordance to ASTM Designation D4956 and conforming to the requirements of these special provisions.~~

~~206 7.1.5 Sign Panel.~~

- ~~1. Sign panels shall be fabricated from sheet aluminum in accordance with ASTM Designation B209. Sheet aluminum shall be pretreated in accordance to ASTM Designation B449. The surface of sheet aluminum shall be cleaned, deoxidized, and coated with a light and tightly adherent chromate conversion coating free of powdery residue. The conversion coating shall be Class 2 with a mass between 10 milligrams per square foot. Following the cleaning and coating process, the sheet aluminum shall be protected from exposure to grease, oils, dust,~~

and contaminants. Sheet aluminum shall be free of buckles, warps, dents, cockles, burrs, and defects resulting from fabrication.

~~206-7.1.6 Mounting Traffic Signs.~~

- ~~1. Traffic signs shall be installed on 10-gage or 12-gage cold-rolled steel perforated tubing posts as shown on San Diego Regional Standard Drawing M-45 or, when the sign area exceeds the maximum area allowed for on that drawing, on multiple 10-gage or 12-gage cold-rolled steel perforated tubing posts. The number of posts shall be determined by the parameters in SDRS Drawing M-45 or as approved by the Engineer. Traffic signs will be provided with back braces and mounting blocks as approved by the Engineer consisting of 10-gage or 12-gage cold-rolled steel perforated tubing when multiple posts are used.~~

~~206-7.1.6 Traffic Sign Posts.~~

- ~~1. Posts shall be constructed of 10-gage or 12-gage cold-rolled steel perforated tubing posts as shown on San Diego Regional Standard Drawing M-45.~~

~~206-7.2 Temporary Traffic Signs.~~

- ~~1. Temporary traffic signs shall consist of all signs used for the direction, warning, and regulation of vehicle (including bicycle) and pedestrian traffic during the Contractor's performance of the Work. Temporary traffic signs include both stationary and portable signs.~~

~~206-7.2.1 General.~~

- ~~1. This Work shall consist of furnishing and installing temporary signs in accordance with details shown on the Plans, the California Sign Specifications and these special provisions. Permanent and temporary signs shall be free from blemishes that may affect the serviceability and detract from the general sign color and appearance when viewing during daytime and nighttime from a distance of 25 feet. The face of each finished sign shall be uniform, flat, smooth, and free of defects, scratches, wrinkles, gel, hard spots, streaks, extrusion marks, and air bubbles. The front, back and edges of the sign panels shall be free of router chatter marks, burns, sharp edges, loose rivets, delaminated skins, excessive adhesive overspray, and aluminum marks.~~

~~206-7.2.2 Drawings.~~

- ~~1. Standard signs shall be as per the most recently approved California Sign Specifications. The date of approval shall be the date most closely preceding the date of manufacture of the sign(s) or the date of the "Notice to Proceed" of this contract, whichever is most recent.~~

~~206-7.2.3 Reflective Sheeting.~~

- ~~1. All advisory signs, warning signs and all regulatory signs shall be fabricated with Type IV prismatic sheeting (High Intensity Prismatic or equivalent) or Type IX prismatic cube lens sheeting (Diamond Grade VIP or equivalent) in accordance to ASTM Designation D4956 and conforming to the requirements of these special provisions.~~

~~206 7.2.4 Sign Panel.~~

- ~~1. Sign panels shall be fabricated from sheet aluminum in accordance with ASTM Designation B209. Sheet aluminum shall be pretreated in accordance to ASTM Designation B449. The surface of sheet aluminum shall be cleaned, deoxidized, and coated with a light and tightly adherent chromate conversion coating free of powdery residue. The conversion coating shall be Class 2 with a mass between 10 milligrams per square foot. Following the cleaning and coating process, the sheet aluminum shall be protected from exposure to grease, oils, dust, and contaminants. Sheet aluminum shall be free of buckles, warps, dents, cockles, burrs, and defects resulting from fabrication.~~

~~206 7.2.5 Stationary Mounted Temporary Traffic Signs.~~

- ~~1. Stationary mounted temporary traffic signs shall be installed on 10 gage and 12 gage cold-rolled steel perforated tubing posts in the same manner shown on the State of California, Department of Transportation Standard Plans RS1, RS2, RS3 and RS4 for installation of roadside signs, except as follows:
 - ~~a) Wood posts shall not be used.~~
 - ~~b) Back braces and blocks for sign panels will not be required.~~
 - ~~c) The height to the bottom of the sign panel above the edge of traveled way shall be at least 2.1 m (7').~~
 - ~~d) Unless otherwise shown on the Plans, traffic signposts shall conform in materials and installation to SDRS Drawing M-45 and shall have 1 post provided for each 0.48 m² (5 ft²) of sign area, or the signs may be installed on existing lighting standards when approved by the Engineer.~~
 - ~~e) Sign panels mounted on temporary traffic signposts shall conform to the requirements of these special provisions.~~~~

~~206 7.2.6 Temporary Traffic Sign Posts.~~

- ~~1. Posts shall be 10 gage or 12 gage cold-rolled steel perforated tubing used for the support and stabilization of stationary mounted temporary signs. Post size and number of posts shall be as shown on the Plans, except that when stationary mounted signs are installed and the type of sign installation is not shown on the Plans, post size and the number of posts will be determined by the Engineer. Sign panels for stationary mounted signs shall consist of reflective sheeting applied to a sign substrate.~~

~~206 7.2.7 Portable Temporary Traffic Signs.~~

- ~~1. Each portable temporary traffic sign shall consist of a base, standard or framework and a sign panel. The units shall be capable of being delivered to the site of use and placed in immediate operation. Sign panels for portable signs shall conform to the requirements of these special provisions, or shall be cotton drill fabric, flexible industrial nylon fabric, or other approved fabric. Fabric signs shall not be used during the hours of darkness. Size, color, and legend requirements for portable signs shall be as described for stationary mounted sign panels in section 206 7.2 of these special provisions. The height to the bottom of the sign panel above the edge of traveled way shall be at least 0.3 m (12"). All parts of the sign standard or~~

framework shall be finished with 2 applications of orange enamel which will match the color of the sign panel background. Testing of paint will not be required.

ADD the following: 206-8 LIGHT GAGE STEEL TUBING AND CONNECTORS. Not Used

~~206-8.1 General.~~

- ~~1. This Section pertains to 10-gage and 12-gage cold-rolled steel perforated tubing used for the support and stabilization of signs. All shapes shall have a galvanized finish and shall be cold-roll formed steel conforming to ASTM Designation A-446, Grade A. Galvanizing shall conform to ASTM A-525, Designation G-90. Galvanizing shall be performed after all forming and punching operations have been completed. Cold-rolled steel perforated tubing shall be perforated on all 4 faces with 11mm (7/16") holes on 25 mm (1") centers.~~

~~206-8.2 Tolerances.~~

- ~~1. Wall thickness tolerance shall not exceed +0.28 mm, -0.13 mm (+0.011", -0.005"). Convexity and concavity measured in the center of the flat side shall not exceed a tolerance of +0.25 mm (+0.010") applied to the specific size determined at the corner. Straightness tolerance variation shall not exceed 1.6 mm in 1 m (1/16" in 3'). Tolerance for corner radius is 4.0mm (5/32"), plus or minus 0.40 mm (1/64"). Weld flash on corner welded square tubing shall permit 3.60 mm (9/64") radius gage to be placed in the corner. Using 10-gage or 12-gage square tube, consecutive size tubes shall telescope freely for 3.1m (10'). Tolerance on hole size is plus or minus 0.40 mm (1/64") on a size. Tolerance on hole spacing is plus or minus 3.2 mm in 6.1 m (1/8" in 20'). In addition, for the following specific sizes of light gage steel tubing, dimensional tolerances shall not exceed those listed in tables 206-8.2 (A) and 206-8.2(B).~~

TABLE 206-8.2(A)

LIGHT GAGE STEEL TUBING SIZE TOLERANCE

Nominal Outside Dimensions mm	(inches)	Outside Tolerance for mm	All Sides at Corners (inches)
25 x 25	(1 x 1)	0.13	0.005
32 x 32	(1 1/4 x 1 1/4)	0.15	0.006
38 x 38	(1 1/2 x 1 1/2)	0.15	0.006
44 x 44	(1 3/4 x 1 3/4)	0.20	0.008
51 x 51	(2 x 2)	0.20	0.008
56 x 56	(2 3/16 x 2 3/16)	0.25	0.010
57 x 57	(2 1/4 x 2 1/4)	0.25	0.010
64 x 64	(2 1/2 x 2 1/2)	0.25	0.010
51 x 76	(2 x 3)	0.25	0.010

TABLE 206-8.2(B)

LIGHT GAGE STEEL TUBING SQUARENESS OF SIDES AND TWIST

Nominal Outside mm	Dimension (Inches)	Squareness(1)		Twist Permissible mm(2)	in 900 mm (3") (Inches)(2)
		mm	(Inches)		
25 x 25	(1 x 1)	0.15	0.006	1.3	0.050
32 x 32	(1 1/4 x 1 1/4)	0.18	0.007	1.3	0.050
38 x 38	(1 1/2 x 1 1/2)	0.20	0.009	1.3	0.050
44 x 44	(1 3/4 x 1 3/4)	0.25	0.010	1.6	0.062
51 x 51	(2 x 2)	0.30	0.012	1.6	0.062
56 x 56	(2 3/16 x 2 3/16)	0.36	0.014	1.6	0.062
57 x 57	(2 1/4 x 2 1/4)	0.36	0.014	1.6	0.062
64 x 64	(2 1/2 x 2 1/2)	0.38	0.015	1.9	0.075
51 x 76	(2 x 3)	0.46	0.018	1.9	0.075

(1) Tubing may have its sides failing to be 90 degrees to each other by the tolerance listed.

(2) Twist is measured by holding down the edge of one end of a square tube on a surface plate with the bottom side of the tube parallel to the surface plate, and noting the height that either corner on the opposite end of the bottom side is above the surface plate.

206-8.3 Fasteners.

1. ~~Fasteners used to assemble cold-rolled steel perforated tubing shall be steel "pull-through" electrogalvanized rivets with 9.5 mm (3/8") diameter shank, 22 mm (7/8") diameter head, and a grip range of from 5 mm (0.200") to 0.90 mm (0.356"). The fasteners shall conform to ASTM B-633, Type III.~~

ADD 206-9 PORTABLE CHANGEABLE MESSAGE SIGN. Not Used

206-9.1 General.

1. ~~Each portable changeable message sign (PCMS) unit shall consist of a controller unit, a power supply, and a structural support system all mounted on a trailer. The PCMS unit shall be~~

~~assembled to form a complete self-contained portable changeable message sign, which can be delivered to the site of the Work and placed in immediate operation. The complete PCMS unit shall be capable of operating in an ambient air temperature range of -20°C (-4°F) to +70°C (158°F) and shall not be affected by unauthorized mobile radio transmissions.~~

- ~~2. The trailer shall be equipped so that it can be leveled and plumbed. Full operation height shall be with the bottom of the sign at least 2.1 m (7') above the ground and the top no more than 4.4 m (14.5') above the ground. After initial placement, PCMS shall be moved from location to location as directed by the Engineer~~

~~206 9.2 Message Board.~~

- ~~1. The message displayed on the PCMS shall be visible from a distance of 460 m (1500') and shall be legible from a distance of 230 m (750'), at noon on a cloudless day, by persons with vision corrected to 20/20. The sign panel shall be 3-line matrix and shall display not less than 7 characters per line. Sign messages to be displayed shall be as approved by the Engineer. The sign face shall be flat black and shall be protected from glare of the sun by a method which does not interfere with the clarity of the sign message. The sign shall be raised and lowered by means of a power driven lifting mechanism. The matrix sign shall be capable of complete alphanumeric selection.~~
- ~~2. Lamp matrix type signs shall be equipped with an automatic dimming operational mode that automatically compensates for the influence of a temporary light source or other abnormal lighting conditions. The sign shall have manual dimming operation modes of 3 or more different lamp intensities.~~
- ~~3. Matrix signs not utilizing lamps shall be either internally or externally illuminated at night.~~
- ~~4. The controller shall be an all solid state unit containing all the necessary circuitry for the storage of at least 5 pre-programmed messages. The controller shall be installed in a location allowing the operator to perform all functions from 1 position. A keyboard entry system shall be provided to allow an operator to generate an infinite number of additional messages over the pre-programmed stored messages. The keyboard shall be equipped with a security lockout feature to prevent unauthorized use of the controller. The controller shall contain a nonvolatile memory to hold the keyboard created messages in memory during periods when the power is not activated. The controller shall provide for a variable message display rate which allows the operator to match the information display to the speed of the approaching traffic. The flashing off time shall be operator adjustable within the control cabinet.~~

~~206 9.3 Operation and Maintenance.~~

- ~~1. PCMS shall be furnished, placed, operated, and maintained at locations shown on the Plans, specified in this section, or designated by the Engineer. The PCMS will be diligently maintained and repaired by the Contractor throughout the Project in accordance with the manufacturer's recommendations. When ownership is transferred to the Agency (at the end of the job), it must be demonstrated to be in good working condition, and meet the provisions of these Specifications, including current registration.~~

~~206-9.4 Measurement and Payment.~~

- ~~1. The Contract unit price PCMS shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the Work involved in furnishing, placing, operating, maintaining, repairing, replacing, transporting from location to location, and delivery of the signs to the Agency at the completion of the construction, in good working order, and as directed by the Engineer, and no other compensation will be made.~~

SECTION 207 – GRAVITY PIPE – Not Used

~~207-2 REINFORCED CONCRETE PIPE (RCP).~~

~~207-2.5 Joints.~~

ADD the following:

- ~~1. When watertight joints are indicated on the Plans, they shall be of the rubber gasketed type meeting the following requirements:~~
 - ~~a) Pipe designated in the Plans as “pressure pipe” with a design hydraulic grade line at or above the soffit, or where any portion of the pipe may be intermittently subjected to ground water shall have bell and groove spigot joints with O-rings conforming with ASTM C361. The joint shall be designed for an internal hydrostatic head of 30 feet and a test duration of 20 minutes.~~
 - ~~b) Pipe joints for other gravity installations shall be bell and groove spigot joint with O-rings conforming with ASTM C443.~~

~~207-2.9 Basis for Acceptance.~~

~~207-2.9.1 General.~~

DELETE in its entirety and REPLACE with the following:

- ~~1. The basis for acceptance shall be the D-load bearing strength test, compliance with these Specifications, inspection of the pipe manufacture and inspection of the completed pipe.~~

~~207-17 PVC GRAVITY PIPE.~~

~~207-17.2.2 Cell Classification~~

DELETE the first sentence and replace with the following:

- ~~1. Pipe shall be made of PVC plastic having a cell classification of 12454 or 12364, as defined in ASTM D1784.~~

~~207-17.4.2 Acceptance~~

DELETE the last sentence and replace with the following:

- ~~1. Installation time shall conform to 207-15.6.~~

SECTION 209 – PRESSURE PIPE. Not Used

~~209-1 IRON PIPE AND FITTINGS.~~

~~209-1.1 Ductile Iron Pipe (DIP).~~

~~209-1.1.1 General~~

ADD the following:

1. ~~Ductile iron pipe and fittings and installation shall be as shown on the Plans or specified in the Special Provisions and shall conform with the City of Carlsbad Engineering Standards, Volumes 2 and 3.~~

~~209-1.1.2 Materials.~~

DELETE entirely and replace with the following:

1. Unless otherwise specified, ductile iron pipe shall conform to the following:

~~TABLE 209-1.1.2~~

Item	Material	Reference Specification/Requirements		
Pipe	Manufacturing Standards	Conform to AWWA C151/ANSI 21.5 for 3"–64" (75 mm–1600 mm) pipe.		
	Design Standards	Conform to AWWA C150/ANSI A21.50 and AWWA M41.		
	NSF Certification	NSF 61 certification required for potable water pipe.		
	Material	Ductile iron.		
	Size	As shown on the Plans.		
	Minimum Wall Thickness	3"–12" (75 mm–300 mm) pipe	Pressure Class 350.	
		14"–36" (350 mm–900 mm) pipe	Pressure Class 250.	
		42"–64" (1050 mm–1600 mm) pipe	Pressure Class 200.	
		Pipe with threaded flanges	Per AWWA C115/ANSI 21.15.	
		Pipe with grooved couplings	Thickness Class 53.	
Markings	Conform to AWWA C151 Section 4.6.			
Lengths	18' or 20' (5.5 m or 6.1 m) lengths per AWWA C151/ANSI A21.51. Shorter lengths may be used to facilitate curves or fit horizontal or vertical alignment.			
Interior Lining and Exterior Coating	Buried Exterior Coatings	Shop coat with 1 prime coat of asphaltic coating approximately 1 mil (25 µm) thick per AWWA C151.		
	Exterior Coatings on Pipe Above Ground and in Vaults	Conform to 212-12.		
	Cement-Mortar Interior Lining (AWWA C104 "Double Thickness")	Pipe Size	Lining Thickness	
		3"–12" (75 mm–300 mm) pipe	1/8" (3 mm)	
14"–24" (350 mm–600 mm) pipe	3/16" (5 mm)			

Item	Material	Reference Specification/Requirements
		30"–64" (900 mm–1600 mm) pipe
		1/4" (6 mm)
	Fusion-Bonded Epoxy Interior Lining where shown on the Plans	Conform to AWWA C104 using Type II cement
	Ceramic Epoxy Interior Lining, where shown on the Plans	<p>Conform to 212-12.</p> <p>Amine-cured novalac epoxy lining.</p> <p>Permeability rating of 0.00.</p> <p>Abrasion resistance < 4 mils (100 µm) loss after 1,000,000 cycles on ± 22.5° sliding aggregate slurry abrasion test using a sharp natural siliceous gravel with particle size between 2 mm and 10 mm.</p>
Joints	Standard Push-on Style	AWWA C111/ANSI 21.11
	Mechanical Joint	AWWA C111/ANSI 21.11
	Flange (threaded)	AWWA C115/ANSI 21.15
	Restrained Style	<p>Special push-on type joint providing longitudinal restraint to full test pressure without relying on thrust block.</p> <p>Boltless, restrained push-on joint design with positive axial locking restrained system capable of deflection after assembly.</p> <p>Use 1 type of restrained joint exclusively for all Work.</p>
Bell Joint Gaskets	Material	Conform to AWWA C111-ANSI A21.11. Vulcanized styrene-butadiene rubber (SBR).
	Material for Hydrocarbon Applications and Contaminated Soils	NBR (Nitrile) (acrylonitrile-butadiene), FLUOREL, or FKM (Viton) (fluorocarbon).
	Gasket Age	< 180 Calendar Days old or > 2 years old but retested < 60 Calendar Days prior to installation
Flange Gaskets	Material	212-2.7.
Fittings	Material	Ductile iron.
	Standards	Conform to AWWA C110/ANSI 21.10 or AWWA C153/ANSI A21.53.
	Style	Push-on (standard) with restrained joint (as shown), or flanged. Mechanical joint with special approval.
	Marking	Cast letters "DI" or "DUCTILE" into fittings, unless otherwise specified.

Item	Material	Reference Specification/Requirements		
		Cast "AWWA C110" or "AWWA C153" depending on thickness.		
	Exterior Coatings	Use same coating as adjacent pipe, as specified above.		
	Interior Linings	Use same lining as adjacent pipe, as specified above.		
Ductile Iron Pipe Joint Restraints	Material	Ductile iron.		
	Style	Gripping wedge		
	Design Pressure Rating	3" – 16" (75 mm – 400 mm)	350 psi (2.4 MPa)	
		18" – 64" (450 mm – 1600 mm)	250 psi (1.7 MPa)	
Pipe Shop Coat	Prime Coat	12 mils (300 µm) MDFT.		
Polyethylene PE Encasement	Polyethylene Film and Tape	Conform to 212-12.1.1. Color per 212-12.2		
Alternate to Polyethylene Encasement	Pipe Finish Coat	15 mils (375 µm) MDFT field-applied bitumastic coating.		

209-2 STEEL PIPE AND FITTINGS. Not used

~~209-2.1 General.~~

ADD the following:

- ~~1. Steel pipe and fittings and installation shall conform with the City of Carlsbad Engineering Standards, Volumes 2 and 3.~~

~~209-2.3 Mill Type Steel Pipe.~~

~~209-2.3.1 Materials.~~

DELETE entirely and replace with the following:

1. Unless otherwise specified, mill type steel pipe shall conform to the following:

TABLE 209-2.3.1

Item	Material	Reference Specification/Requirements
Pipe	Manufacturing Standards	Furnace-welded, electrically welded or seamless pipe conforming to AWWA C200 for pipe 6" (150 mm) and larger or ANSI B36.10 for pipe smaller than 6" (150 mm) or for pipe with wall thickness specified by strength or schedule on the Plans.
	Design Standards	Conform to AWWA M11.
	NSF Certification	NSF 61 certification required for potable water pipe.

Item	Material	Reference Specification/Requirements
	Material	ASTM A53 Grade A or B, ASTM A134 (steel plate per ASTM A283 Grades C or D or A36), ASTM A135, or ASTM A139.
	Size	As shown on Plans.
		Conform to dimensional tolerances of AWWA C200 for pipe $\geq 6''$ (150 mm) identified on the Plans by class, gauge or decimal wall thickness.
		Conform to ANSI B36.10 for pipe $> 6''$ (150 mm) or for pipe specified on the Plans by strength or wall thickness schedule.
	Minimum Wall Thickness	Where the Plans do not show thickness, submit design and supporting calculations prepared by the manufacturer in accordance with AWWA M11 using a maximum design working stress of 1/2 the yield stress for the grade of steel used in pipe fabrication. Compute wall thickness using pressure equal to 250 psi (1.72 MPa) or the design pressure shown on the Plans plus 50 psi, whichever is greater.
		No pipe 4'' (100 mm) and larger outside buildings or vaults shall have a wall thickness less than 14-gauge (1.9 mm)
		No pipe 4'' (100 mm) and larger inside buildings or vaults shall have a wall thickness less than 3/8'' (9.5 mm).
	Markings	<p>Mark each special and each length of straight pipe at bell end to identify:</p> <ul style="list-style-type: none"> • Manufacturer's name or mark • Type of steel • Design pressure • Diameter and weight of pipe or special • Proper location of pipe or special by reference to layout schedule
	Lengths	Furnish in single random lengths, double random lengths, or in specified cut lengths.
		For single random lengths, average length shall not be less than 17.5' (5.3 m) and no piece shall be shorter than 9' (2.7 m).
	For double random lengths average length shall not be less than 35' (10.7 m), not less than 10% of pieces shall be shorter than 26.25' (8.0 m) and no piece shall be shorter than 14' (2.7 m).	

Item	Material	Reference Specification/Requirements
		For specified cut lengths, the actual pipe length shall not vary from the specified length by more than 1/8" (3 mm).
Interior Lining and Exterior Coating (Required on exposed steel surfaces and ring joints)	Cement-Mortar Interior Lining and Exterior Coating	<p>Conform to AWWA C205 and AWWA C602 using Type II/IV cement.</p> <p>Trim mortar lining as necessary to allow full operation of butterfly or check valves at connections to steel pipe.</p> <p>Line exposed portions of pipe interior with hand-applied epoxy conforming to 212-12.</p> <p>3/4" (19 mm) min coating thickness unless otherwise shown or soil is identified as corrosive.</p> <p>Trim coating 6" to 12" (150 mm to 300 mm) above grade on spools penetrating to daylight or vault interiors.</p>
	Cold Applied Tape Exterior Coatings	<p>Conform to AWWA C209 for the exterior of specials, connections, and fittings.</p> <p>Conform to AWWA C214 for steel pipeline coatings.</p>
	Liquid Epoxy Interior Lining and Exterior Coating of Above-Ground Pipe	Conform to AWWA C210 and 212-12.
	Fusion-Bonded Epoxy Interior Lining and Exterior Coating of Above-Ground Pipe	Conform to AWWA C213 and 212-12.
	Extruded Polyolefin Exterior Coatings	<p>Conform to AWWA C215 for extruded coatings.</p> <p>Conform to AWWA C216 for heat shrinkable cross-linked coatings.</p>
	Joints	Ends Prepared for Mechanical-Coupled Field Joints
Field-Butt-Welded Joints		Pipe with wall thickness 15/64" (6.0 mm) or greater, intended for field butt welding. Bevel pipe on outside,

Item	Material	Reference Specification/Requirements
		inside or both sides as shown or specified. Bevel angle shall be 30 to 35 degrees measured from plane perpendicular to pipe axis. Width of root face at pipe end shall be 1/32" to 3/32" (0.8 mm to 2.3 mm)
	Flanged Joint	Forged steel conforming to ASTM A181 Faced and dimensioned in accordance with ASME/ANSI B16.5 for the pressure class shown on the Plants or specified in the Special Provisions. Threads for screwed flanges and companion pipe ends shall conform to ASME/ANSI B1.20.1. Pipe ends for welding neck flanges shall be beveled.
Flange Gaskets	Material	212-2.7
Fittings	Material	Same steel as pipe.
	Standards	Manufacture from mill type steel pipe in accordance with ASME/ANSI B16.9.
	Exterior Coatings	Use same coating as adjacent pipe, as specified above.
	Interior Linings	Use same lining as adjacent pipe, as specified above.

209-4 PVC PRESSURE PIPE. Not Used

~~209-4.1 General.~~

ADD the following:

1. PVC pipe and fittings and installation shall conform with the City of Carlsbad Engineering Standards, Volumes 2 and 3.

~~209-4.2 Materials.~~

DELETE entirely and replace with the following:

1. Unless otherwise specified, PVC pressure pipe shall conform to the following:

TABLE 209-4.2

Item	Material	Reference Specification/Requirements
Pipe	Manufacturing Standards	Conform to AWWA C900 for pipe 4" – 60" (100 mm – 1,500 mm).
	Design Standards	Conform to AWWA M23 using hydraulic design basis below.
	NSF Certification	NSF 61 certification required for potable water pipe.
	Material	Virgin rigid poly vinyl chloride. Conform to ASTM D1784 Cell Class 12454B or better. Conform to NSF 13. Conform to AWWA C900 Section 4.2.
		Conform to AWWA C900 Section 6.1.

Item	Material	Reference Specification/Requirements		
	Markings (each pipe)	Mark applicable AWWA standard.		
		Show nominal pipe diameter.		
		Show AWWA pressure class or DR.		
		Show NSF 61 stamp (for potable water service).		
	Size	As shown on the Plans.		
		Conform to outside diameter of ductile iron pipe unless otherwise shown.		
		Minimum Wall Thickness (Dimension Ratio)	Design Pressure and Diameter Shown on the Plans	Minimum Dimension Ratio
			0-100 psi (.7 MPa) 4" - 16" (100 mm - 400 mm)	DR 18 (Class 235)
	100-200 psi (1.0 MPa) 4" - 16" (100 mm - 400 mm)		DR 14 (Class 305)	
	Greater than 200 psi (1.4 MPa) or greater than 16"		Use DIP or Steel Pipe	
	Pipe with Grooved Couplings	Use DIP or Steel Pipe		
Lengths	Laying lengths shall be 20' with option to supply up to 15% random (minimum length 10') sections			
Joints	Standard Push-on Style	Conform to ASTM D3139.		
Bell Joint Gaskets	Material	Elastomeric membrane per AWWA C900 Section 4.2.4 (Gaskets and Lubricants) and ASTM F477. Butadiene styrene (SBR or BR) for potable water. Ethylene propylene (EPM or EPDM) for recycled water.		
	Material for Hydrocarbon Applications and Contaminated Soils	Elastomeric membrane per AWWA C900 Section 4.2.4 (Gaskets and Lubricants) and ASTM F477. NBR (Nitrile) (acrylonitrile butadiene), FLUOREL or FKM (Viton) (fluorocarbon).		
	Gasket Age	< 180 Calendar Days old or < 2 years old but retested < 60 Calendar Days prior to installation		
Fittings	Material	Ductile iron.		
	Standards	Conform to AWWA C110/ANSI 21.10 or AWWA C153/ANSI A21.53.		
	Style	Push-on (standard) or restrained joint (as shown).		
	Marking	Cast letters "DI" or "DUCTILE" into fittings, unless otherwise specified.		
	Exterior Coatings	1 mil (25 µm) petroleum asphaltic coating.		

Item	Material	Reference Specification/Requirements
	Interior Linings	Cement mortar (double thickness).
	Plastic Film Wrap for Corrosion Protection	Conform to 212-12.1.1. Color per 212-12.2.

~~209-5 HIGH DENSITY POLYETHYLENE (HDPE) SOLID WALL PRESSURE PIPE.~~

~~209-5.1 General.~~

ADD the following:

- ~~1. HDPE pipe and fittings and installation shall conform with the City of Carlsbad Engineering Standards, Volumes 2 and 3.~~

~~209-5.2 Materials.~~

~~DELETE in its entirety and replace with the following:~~

- ~~1. Unless otherwise specified, HDPE pressure pipe shall conform to the following.~~

TABLE 209-5.2

Item	Material	Reference Specification/Requirements	
Pipe	Manufacturing Standards (Potable Water Pipe)	Conform to AWWA C901 for pipe 1/2" – 3" (12.5 mm – 75 mm). Conform to AWWA C906 for pipe 4" – 63" (100 mm – 1575 mm).	
	Manufacturing Standards (Non-Potable Water Pipe)	Conform to ASTM F714	
	Design Standards	Conform to AWWA M55.	
	NSF Certification	NSF 61 certification required for potable water pipe.	
	Material	ASTM D3350 PE 4710 Cell classification 4454 or higher. Conform to AWWA C901 Section 4.2 or AWWA C906 Section 4.2 as appropriate.	
	Markings (each pipe)		Conform to AWWA C901 or C906 Section 6.1.
			Mark applicable AWWA standard.
			Show nominal pipe diameter.
			Show standard material code designation.
			Show AWWA pressure class or DR.
		Show NSF 61 stamp (for potable water service). Show manufacturer and manufacturing date code.	
Size		1-1/4" – 63" (32 mm – 1575 mm) diameter as shown on the Plans.	

Item	Material	Reference Specification/Requirements	
		Ductile iron pipe size (DIPS) outside diameter for pipe 4" – 48" (100 mm – 1200 mm) unless otherwise shown. Iron pipe size (IPS) outside diameter for pipe ≤ 4" (100 mm) or > 48" (1200 mm).	
	Minimum Wall Thickness (Dimension Ratio)	Design Pressure Shown on the Plans	Minimum Dimension Ratio
		0-80 psi (0.6 MPa)	DR 21
		80-100 psi (0.7 MPa)	DR 17
		100-150 psi (1.0 MPa)	DR 11
		150-200 psi (1.4 MPa)	DR 9
	Greater than 200 psi	Use ductile iron or steel	
Joints	Style	Thermal butt fusion for joining pipe in accordance with the manufacturer's recommendations.	
		Flanged for connections to appurtenances and other pipe materials in accordance with manufacturer's recommendations.	
	Flange Back-up Ring	Provide flange back-up ring of Type 316 SS or fusion bonded epoxy coated ductile iron.	
	Design Pressure	Match design pressure rating of pipe shown on the Plans.	
Fusion Fittings	Standards	ASTM D2683 socket type, ASTM D3261 butt type, or ASTM F1055 electrofusion (fittings shall be marked as complying).	
	Material	HDPE conforming to pipe specifications.	
	Pressure Rating	De-rated pressure of fitting shall meet or exceed design pressure rating of pipe shown on the Plans.	
Adaptor Fittings (For Connections to Flanged Fittings)	Internal Stiffener Ring	Required for mechanical joint connections.	
	Backup Ring	Stainless steel.	
	Thrust Restraint.	HDPE in line wall anchors and thrust blocks and per manufacturer's requirements.	

209-7 PIPELINE IDENTIFICATION.

209-7.2 Requirements.

DELETE in its entirety and replace with the following:

1. Pipeline identification shall conform to the following:

TABLE 209-7.2

Function	Type	Materials/Method	
Pipe Contents Identification	Pipe Color (Plastic Pipe or Polywrap)	Blue for Potable Water. Purple for Recycled Water. Green for Sewage.	
	AND		
	Stenciling	Stenciling marked on pipe in contrasting color to background color of pipe stating: "POTABLE WATER," "CAUTION RECYCLED WATER – DO NOT DRINK" or "CAUTION SEWER" as appropriate.	
		5/8" (16 mm) high letters.	
		Repeated at 1 foot (300 mm) intervals.	
	OR		
	Identification Tape	Polyethylene tape 6" (150 mm) wide and 4 mils (100 µm) minimum thickness with 2" (50 mm) high letters stating: "POTABLE WATER," "CAUTION RECYCLED WATER – DO NOT DRINK" or "CAUTION SEWER" as appropriate. For pipe > 12" (300 mm) diameter, use 12" (300 mm) wide tape.	
		Color – Blue with black or white letters for potable water, Purple with black or white letters for recycled water, Green with black or white letters for sewage.	
		Attached to top of pipe with adhesive tape.	
	Pipe Warning and Locating	Warning and Locating Tape	Polyethylene tape 6" (150 mm) wide and 4 mils (100 µm) minimum thickness with 2" (50 mm) high letters stating: "CAUTION: WATERLINE BURIED BELOW," "CAUTION: RECLAIMED WATERLINE BURIED BELOW – DO NOT DRINK," or "CAUTION: SEWER BURIED BELOW" as appropriate. For pipe > 12" (300 mm) diameter, use 12" (300 mm) wide tape.
Color – blue with black or white letters for potable water, Purple with black or white letters for recycled water, Green with black or white letters for sewage.			
Place in pipe trench 18" (450 mm) above pipe.			
Tape shall contain metallic strip that can be registered by magnetic field locating device.			
OR			
Locating Wire			In lieu of installing metallic warning tape; non-metallic warning tape 18" (450 mm) above pipe and 10-gauge copper wire attached to top of pipe and accessibly terminated may be used.

SECTION 211 – MATERIAL TESTS

211-3 INFILTRATION CAPACITY TEST.

211-3.4 Infiltration Capacity.

DELETE in its entirety and REPLACE with the following:

1. Infiltration Capacity shall be calculated as follows:

- a) The formula for U.S. Standard Measures shall be: $IC = (V)(3,326,400) / (\pi)(d_1)(d_2)(t)$ inches per hour.
- b) The formula for SI Units shall be: $IC = (V)(14.4 \times 10^6) / (\pi)(d_1)(d_2)(t)$ cm per hour. Where:
IC is Infiltration Capacity
V is the volume of water in gallons or liters
 d_1 and d_2 are the dimensions that were determined in part 211-3.3
 π is approximately 3.14159

211-6 RAP CORRECTION FACTOR.

211-6.1 General.

DELETE in its entirety and REPLACE with the following:

1. A RAP correction factor must be determined for asphalt concrete mixtures containing greater than 20 percent RAP. The RAP correction factor shall be determined in accordance with Caltrans Lab Procedure LP-9 dated May 22, 2006. This factor shall be used in determining the combined gradation of the virgin aggregates and RAP.

SECTION 212 – WATER AND SEWER SYSTEM VALVES AND APPURTENANCES. Not Used

~~212-1 GENERAL.~~

~~212-1.2 Products Conveying Potable Water~~

~~DELETE b) and REPLACE with the following:~~

- ~~b) have an interior lining listed as complying with NSF 61 and certified to be holiday free~~

~~212-2 FLANGED AND THREADED CONNECTIONS.~~

~~212-2.8.2 Insulation of Threaded Connections.~~

~~DELETE in its entirety and REPLACE with the following:~~

- ~~1. Threaded insulating bushings, couplings or unions shall be furnished and installed where dissimilar threaded piping materials are joined.~~

212-3 PIPE HANGERS AND SUPPORTS, CASINGS SPACERS, AND WALL PENETRATIONS.

212-3.4 Rubber Annular Hydrostatic Sealing Devices.

212-3.4.1 General.

DELETE the last sentence and REPLACE with the following:

1. The sealing device shall be capable of sealing a minimum hydrostatic pressure of 20 psi.

212-5 VALVES.

212-5.5.1.2 Materials.

DELETE TABLE 212-5.5.1.2 in its entirety and REPLACE with the following:

TABLE 212-5.5.1.2

Item	Option	Reference Specification/Requirements
Body and Cover	Ductile Iron or	ASTM A536 Grade 65-45-12.
Body and Cover for Pressures over 250 psi (1.7 MPa)	Ductile Iron	ASTM A536 Grade 65-45-12.
Disc and Disc Arm	Ductile Iron	ASTM A536 Grade 65-45-12.
Seat	SAE Type 316 Stainless Steel	ASTMA276.
Pivot Shaft	SAE Type 316 Stainless Steel	ASTMA276.

212-10 SERVICE LATERALS, METERS, AND METER BOXES.

212-10.3 Corporation Stops, Angle Meter Valves, Service Saddles and Other Service Materials.

DELETE the last sentence of the first paragraph and REPLACE with the following:

1. Unless otherwise shown on the Plans or specified in the Special Provisions, service saddles and corporation stop inlets shall be threaded per NPT tapered per ANSI B1.20.1.

ADD the following: 212-13 TRACER WIRE FOR NON-METALLIC PIPE.

212-13.1 General.

1. Tracer wire shall conform to the following:
 - a) Conductor: Minimum 10 AWG, copper clad steel or solid copper (direct burial) or 8 AWG, copper clad steel (directional drilling), rated for 30 volts.
 - b) Break load: minimum 600-lb (direct burial); 2,500-lb (directional drilling)
 - c) Insulation: High Molecular Weight Polyethylene (HMWPE), minimum 30-mil (direct burial); 45-mil (directional drilling). Color per the APWA uniform color code.
 - d) Splices and connectors: For direct burial only, moisture displacement and corrosion proof, direct bury splice kits, UL rated for 600 volts.

SECTION 216 – PRECAST REINFORCED CONCRETE BOX

216-4 TESTING REQUIREMENTS.

216-4.2.2 Acceptance.

DELETE the first paragraph and REPLACE with the following:

1. When the average compressive strength of all cylinders tested is equal to or greater than the specified compressive strength of the PCC, and not more than 10 percent of the cylinders tested have an average compressive strength less than 90 percent of the specified compressive strength, and no cylinder tested has a compressive strength less than 85 percent of the specified compressive strength, the lot will be accepted.

SECTION 217 – BEDDING AND BACKFILL MATERIALS

217-1 BEDDING MATERIAL.

217-1.1 General.

ADD the following:

1. Bedding for pressure pipe of any material shall conform with the City of Carlsbad Engineering Standards, Volumes 2 and 3.

217-1.2 Bedding Material for Plastic Pipe.

DELETE the second paragraph and REPLACE with the following:

1. For HDPE, PVC solid wall, and PE solid wall pipe in gravity applications, the bedding material shall be crushed rock conforming to the requirements shown in Table 217-1.2 unless otherwise specified or shown on the Plans.

217-2 TRENCH BACKFILL.

217-2.1 General.

DELETE TABLE 217-2.1 and replace with the following:

TABLE 217-2.1

Zone	Zone Limits	Maximum Size (greatest dimension)	Rock	Sand Equivalent (Excluding Rock)
Backfill Zone	From subgrade to 12" (300 mm) above top of pipe or conduit	4" (150 mm)		Not less than 20 unless otherwise shown on the Plans or specified in the Special Provisions.

PART 3 CONSTRUCTION METHODS

SECTION 300 – EARTHWORK

300-1 CLEANING AND GRUBBING.

DELETE 300-1.2 Root Pruning and Tree Trimming.

300-1.3 Measurement.

DELETE in its entirety and REPLACE with the following:

1. Clearing and grubbing, if measured for payment, will be measured by the acre or lump sum.

300-1.4 Payment.

DELETE the second sentence.

SECTION 302 - ROADWAY SURFACING

ADD the following: 302-1 GENERAL.

302-1.1 Vegetation Treatment.

1. The Contractor shall treat all vegetation within the limits of the paved area to be surfaced with an herbicide that complies with the City's Integrated Pest Management program. Herbicide shall be applied at least 2 Working Days prior to surfacing the street. Allowance for the 2-day period shall be shown in the schedule required per section 6-1. Payment for pavement surfacing shall include tree trimming and herbicide treatment of the areas to be surfaced and no extra payment will be made for tree trimming and herbicide treatment.

302-1.2 Coordination.

1. The Contractor shall schedule the Work so as to prevent damage by all traffic. The Contractor shall not schedule Work so as to conflict with trash pickup. The trash hauling schedule can be obtained by calling Republic Services at (760) 332-6464. At least 2 weeks prior to Work, Contractor shall send, by first class mail, notification letters to all property addresses within 500-feet of the Work. Obtaining the appropriate addresses shall be the Contractor's responsibility. A sample letter may be provided by the Agency to be used as an example. The letter should provide the name of the Contractor and a 24-hour phone number for residents to call if they have any issues or questions.
2. During operations, the Contractor's schedule for resurfacing shall be designed to provide residents and business owners sufficient paved parking within an 800-foot distance from their homes or businesses.
3. Seventy-two hours prior to the start of any construction in the public right-of-way that affects vehicular traffic and/or parking or pedestrian routes, the Contractor shall give written notification of the impending disruption. For a full street closure, all residences and/or businesses on the affected street or alley shall be notified. For partial street closures, or curb, sidewalk and driveway repairs, the residences and/or businesses directly affected by the Work shall be notified.
4. The Contractor shall deliver the notification which shall state the date and time the Work will begin and its anticipated duration. The notification shall list 2 telephone numbers that may be called to obtain additional information. One number shall be the Contractor's permanent office or field office and the other number shall be a 24-hour number answered by a

representative of the Contractor who is knowledgeable about the Project. At least 1 of the phone numbers shall be in the (760) area code. An answering machine shall not be connected to either number. The notification shall also give a brief description of the Work and simple instructions to the home or business owner on what they need to do to facilitate the construction. The Contractor shall submit the contents of the notification to the Engineer for approval. Notices shall not be distributed until approved by the Engineer.

5. For door hangers, the notification shall be pre-cut in a manner that enables it to be affixed to a doorknob without adhesives. It shall be a minimum size of 3-1/2 inches by 8-1/2 inches and shall be brightly colored with contrasting printing. The material shall be equivalent in strength and durability to 65 lb. card stock. The printing on the notice shall be no smaller than 12 point. The precut notices shall be as shown on the example provided in Appendix "A," with the day of the week circled and appropriate information specific to the Work inserted at the locations indicated in the italicized font.
6. The preparation, materials, printing, delivery and distribution of the letters, door hangers and notifications shall be included in the contract price Bid for Traffic Control and the Contractor will not be entitled to any additional compensation for printing and distributing these notices.

302-2 CHIP SEAL.

302-2.6.2 Polymer Modified Emulsified Asphalt.

DELETE the first paragraph and replace with the following:

1. Polymer modified emulsified asphalt shall be applied when the ambient temperature is between 60°F and 105°F (16°C and 41°C), and the roadway pavement surface temperature is a minimum of 55°F (13°C); or as specified by the Engineer.

302-2.6.3 Modified Paving Asphalt.

DELETE the first paragraph and replace with the following:

1. Modified paving asphalt shall be applied when the atmospheric temperature is 65°F (18°F) or above and the existing pavement surface temperature is 80°F (27°C) or above; or as specified by the Engineer.

302-5 ASPHALT CONCRETE PAVEMENT.

ADD the following: 302-5.8 Manholes and Other Structures.

1. When placing the overlay, the Contractor shall pave over appurtenances in the roadway which includes sanitary and storm access covers, water valve boxes, air vents, sewer dead end boxes and survey monument boxes. Each appurtenance shall be treated or covered to prevent adhesion of the overlay. Each appurtenance shall be located immediately after the overlay is placed and shall be thoroughly cleaned of any and all construction debris which may have entered due to the Contractor's operation. The Contractor shall adjust all CMWD water valve boxes per CMWD Standard Drawing No. W11 or CMWD Standard Drawing No. W13. All City of Carlsbad sanitary sewer access covers shall be adjusted per CMWD Drawing No. S1. All storm sewer access covers shall be adjusted per SDRSD D-10. Riser rings or extensions shall not be used for the adjustment of these appurtenances.
2. Raising and adjusting to grade all City-owned or CMWD-owned appurtenances in the roadway shall be paid for at the Contract Unit Price per each as shown in the Bid. Such price

shall constitute full compensation for all labor, materials, and equipment necessary for completing the Work as described in these Specifications and Plans. Other agencies will be responsible for their own appurtenances.

302-8 SEALCOAT FOR MISCELLANEOUS AREAS.

302-8.2.1 General.

DELETE the second paragraph and REPLACE with the following:

1. Sealcoat material shall be diluted using clean, potable water in an amount not to exceed 20 percent of the total volume.

302-8.2.2. Spreading.

DELETE the first paragraph and REPLACE with the following:

1. Sealcoat shall be applied when the atmospheric temperature is greater than 55°F (13°C) and if rain is not forecast for the period of 24 hours after application; or as specified by the Engineer.

SECTION 307 – JACKING AND TUNNELING

307-1 JACKING OPERATIONS.

307-1.3 Jacking Steel Casing.

DELETE the first paragraph and REPLACE with the following:

1. Unless otherwise shown on the Plans, the size and wall thickness of the casing to be jacked shall be at the Contractor's option, except that the casing thickness shall be not less than 3/8 inch (9.5 mm) and the casing and jacking operation shall meet all other requirements of the agency with permit jurisdiction of the installation. The Contractor shall be responsible for the sufficiency of the casing.

SECTION 308 – MICROTUNNELING

308-6 SUBSURFACE CONDITIONS.

308-6.2 Microtunneling Requested by the Contractor.

DELETE in its entirety and REPLACE with the following:

1. When microtunneling is proposed by the Contractor as an alternative to the specified methods of conduit installation, the Contractor shall obtain copies of the information and reports listed in 3-9 and 308-6.3 and shall conduct independent investigations as necessary to substantiate the basis for the Contractor's proposal and submit in accordance with 3-8. Microtunneling operations must be approved by the Engineer prior to the start of microtunneling work.

SECTION 314 – TRAFFIC STRIPING, CURB AND PAVEMENT MARKINGS, AND PAVEMENT MARKERS

314-2 REMOVAL OF TRAFFIC STRIPING AND CURB AND PAVEMENT MARKINGS.

314-2.1 General.

DELETE in its entirety and REPLACE with the following:

1. The Contractor shall remove by wet grinding all existing or temporary traffic markings and lines that may confuse the public. When temporary detour striping or markings are no longer required, they shall be removed prior to painting the new traffic stripes or markings.
2. The Contractor shall remove all existing markings and striping, either permanent or temporary, which are to be abandoned, obliterated or that conflict with the Plans by wet grinding methods. Removal of striping by high velocity water jet may be permitted when there is neither potential of the water and detritus from the high velocity water jetting to damage vehicles or private property nor to flow from the street into any storm drain or water course and when approved by the Engineer.
3. The Contractor shall vacuum all water and detritus resulting from high velocity water jet striping removal from the pavement immediately after the water jetting and shall not allow such materials to flow in the gutter, enter the storm drain system or to leave the pavement surface. Surface variation limitations for high velocity water jet striping removal shall be the same as for grinding.
4. The Contractor shall not use dry or wet sandblasting in any areas. Alternate methods of paint removal require prior approval of the Engineer. Obliteration of traffic striping with black paint, light emulsion oil or any other masking method other than a minimum 30mm (0.10') thick asphalt concrete overlay is not permitted.

314-2.2 and 314-2.3

Replace as follows: 314-2.2 Measurement and Payment

1. Removal of traffic striping and curb and pavement markings as shown on the Plans and required by the Specifications shall be included in the lump-sum price Bid for temporary and final traffic striping, and no additional compensation will be allowed, therefore. Reapplication of temporary stripes and markings shall be repainted at the Contractor's expense, and no additional compensation will be allowed for the repainting. The lump sum Bid shall include all labor, tools, equipment, materials, and incidentals for doing all Work in installing the final and temporary traffic striping.

314-3 REMOVAL OF PAVEMENT MARKERS.

314-3.2 and 314-3.3

Replace as follows: 314-3.2 Measurement and Payment

1. Removal of pavement markers as shown on the Plans and required by the Specifications shall be included in the lump-sum price Bid for temporary and final traffic striping, and no additional compensation will be allowed, therefore. Reapplication of temporary stripes and markings shall be repainted at the Contractor's expense, and no additional compensation will be allowed for the repainting. The lump sum Bid shall include all labor, tools, equipment, materials, and incidentals for doing all Work in installing the final and temporary traffic striping.

314-4 APPLICATION OF TRAFFIC STRIPING AND CURB AND PAVEMENT MARKINGS.

314-4.3.6 and 314-4.3.7

Replace as follows: 314-4.3.6 Measurement and Payment

1. Final and temporary traffic striping, curb markings and pavement markings as shown on the Plans and required by the Specifications shall be included in the lump-sum price Bid for temporary and final traffic striping, and no additional compensation will be allowed, therefore. Reapplication of temporary stripes and markings shall be repainted at the Contractor's expense, and no additional compensation will be allowed for the repainting. The lump sum Bid shall include all labor, tools, equipment, materials, and incidentals for doing all Work in installing the final and temporary traffic striping.

314-4.4.5 and 314-4.4.6

Replace as follows: 314-4.4.5 Measurement and Payment

1. Thermoplastic traffic striping and pavement markings as shown on the Plans and required by the Specifications shall be included in the lump-sum price Bid for temporary and final traffic striping, and no additional compensation will be allowed, therefore. Reapplication of temporary stripes and markings shall be repainted at the Contractor's expense, and no additional compensation will be allowed for the repainting. The lump sum Bid shall include all labor, tools, equipment, materials, and incidentals for doing all Work in installing the final and temporary traffic striping.

314-5 PAVEMENT MARKERS.

314-5.6 and 314-5.7

Replace as follows: 314-5.6 Measurement and Payment

1. Pavement markers as shown on the Plans and required by the Specifications shall be included in the lump-sum price Bid for temporary and final traffic striping, and no additional compensation will be allowed, therefore. Reapplication of temporary stripes and markings shall be repainted at the Contractor's expense, and no additional compensation will be allowed for the repainting. The lump sum Bid shall include all labor, tools, equipment, materials, and incidentals for doing all Work in installing the final and temporary traffic striping.

PART 4 EXISTING IMPROVEMENTS

SECTION 400 – PROTECTION AND RESTORATION

400-2 PERMANENT SURVEY MARKERS.

ADD the following:

1. The Contractor shall not cover or disturb permanent survey monuments or benchmarks without the consent of the Engineer. Where the Engineer concurs, in writing, with the Contractor that protecting an existing monument in place is impractical, the Contractor shall employ a licensed land surveyor or a registered civil engineer authorized to practice land surveying within the State of California (“Surveyor”) to establish the location of the monument before it is disturbed. The Contractor shall have the monument replaced by the Surveyor no later than 30 Calendar Days after construction at the site of the replacement is completed. The Surveyor shall file corner record(s) as required by Business and Professions Code Sections 8772 and 8773 *et seq.*
2. When a change is made in the finished elevation of the pavement of any roadway in which a permanent survey monument is located, the Contractor shall adjust the monument frame

and cover to the new grade within 7 Calendar Days of paving unless the Engineer shall approve otherwise. Monument frames and covers shall be protected during street sealing or painting projects or be cleaned to the satisfaction of the Engineer.

SECTION 401 – REMOVAL

401-2 ASPHALT CONCRETE PAVEMENT.

DELETE in its entirety and REPLACE with the following:

1. Asphalt concrete pavement shall be removed to clean, straight lines. Removal performed by cold milling shall conform to 404. Adjacent AC/AB sawcut and removal associated with concrete construction shall be full depth and a minimum width of 12 inches from face of concrete edge and continue along the concrete scheduled for removal. Removal and disposal of adjoining AC/AB section shall be incidental to the removal of concrete structure Bid item per this Section. Replacement of adjoining AC/AB section shall be incidental to replacement of the concrete

401-3 CONCRETE AND MASONRY IMPROVEMENTS.

401-3.2 Concrete Curb, Walk, Gutters, Cross Gutters, Curb Ramps, Driveway and Alley Intersections.

DELETE in its entirety and REPLACE with the following:

1. Concrete shall be removed to neatly sawed edges with saw cuts made through the entire thickness. Concrete sidewalk or driveway to be removed shall be neatly sawed in straight lines either parallel to the curb or at right angles to the alignment of the sidewalk. No section to be replaced shall be smaller than 30 inches (750 mm) in either length or width. All existing concrete shall be removed to the nearest joint. Concrete shall be removed to neatly sawed edges with saw cuts made to a depth deep enough to produce a clean straight break without loosening, cracking or damaging adjoining improvements. Curb and gutter shall be sawed on a neat line at right angles to the curb face. PCC and all other material unsuitable for use as fill, as determined by the Engineer, shall be removed from the right-of-way and disposed of by the Contractor at a site of his own choice and shall pay all costs incidental to the disposal.

ADD the following: 401-3.2.1 Adjacent Asphalt Concrete (AC/AB) Sawcut and Removal.

1. Adjacent AC/AB sawcut and removal associated with concrete construction shall be full depth and a minimum width of 12 inches from face of concrete edge and continue along the concrete scheduled for removal. Removal and disposal of adjoining AC/AB section shall be incidental to the removal of concrete structure Bid item per this Section. Replacement of adjoining AC/AB section shall be incidental to replacement of the concrete as specified in Section 303-5.

SECTION 402 – UTILITIES

402-1 LOCATION.

402-1.1 General.

DELETE the first paragraph and REPLACE with the following:

1. Known utilities and their respective owners are shown on the Plans or specified in the Special Provisions and their locations are based on available records. The accuracy and/or completeness of the utilities shown on the Plans is not guaranteed and actual locations must be confirmed by potholing. Where underground utilities are shown on the Plans, the Contractor shall assume every property parcel will be served by a service connection for each type of utility.

INSERT, after the first sentence of the third paragraph, the following:

Subsurface installations shall be located at least 5 Working Days and at least 500 feet in advance of any construction heading and the results reported in written form to the Engineer.

AMEND letter d) to read as follows:

d) horizontal location with reference to Project stationing.

402-2 PROTECTION.

DELETE the first 3 paragraphs and REPLACE with the following:

1. The Contractor shall not interrupt the service function or disturb the support of any utility without authority from the utility owner or direction from the Engineer. Valves, switches, vaults, and meters shall be maintained readily accessible for emergency shutoff. Excavation of soils providing support to pressure pipeline thrust blocks may require isolation and depressurization of the pipeline prior to the installation of support devices and the Contractor shall coordinate such Work with the utility owner.
2. Where a vertical separation distance of 12 inches cannot be attained between a proposed utility and an existing utility greater than 4 inches in diameter, place a 1-inch thick neoprene or silicone pad with Shore A durometer hardness of 50 to 70 (ASTM D2240) in contact with the top of the lower utility and backfill with Portland cement concrete sand conforming to 203-1.5.5 to 3 inches above the bottom of the upper utility. The width of the pad shall be equal to the width of the trench and the length shall extend 1 foot beyond the outer limits of the existing utility.
3. Where protection is required to ensure support of utilities located as shown on the Plans or in accordance with 402-1, the Contractor shall, unless otherwise specified, furnish and place the necessary protection at its expense.
4. Upon learning of the existence and location of any utility omitted from the Plans, the Contractor shall immediately notify the Engineer in writing. When authorized by the Engineer, support or protection of the utility will be paid for as provided in 7-3 or 7-4.

402-4 RELOCATION.

DELETE paragraphs 3 and 4 and REPLACE with the following:

1. When the Plans or Special Provisions provide for the Contractor to alter, relocate, or reconstruct a utility, all costs for such Work, including temporary utility service, shall be included in the Bid for the items of Work necessitating such Work. Temporary or permanent relocation or alteration of utilities requested by the Contractor for its convenience shall be its responsibility and it shall make all arrangements and bear all costs.
2. The Contractor will relocate service connections as necessary within the limits of the Work or within temporary construction or slope easements in accordance with the procedures and upon the approval of the utility owner. When directed by the Engineer, the Contractor shall

arrange for the relocation of service connections as necessary between the meter and property line, or between a meter and the limits of temporary construction or slope easements. Payment for the relocation of such service connections shall be in accordance with 7-3 unless otherwise specified in the Bid. Payment will include disconnection of existing service connections from the utility main, capping or plugging existing outlets on the utility main, abandoning the service connection, and the restoration of all existing improvements which may be affected by the service connection relocation. The Contractor may agree with the owner of any utility to disconnect and reconnect private interfering service connections. Unless otherwise specified in the Bid, disconnection and reconnection of private services will be outside of the scope of the Work and the Agency will not be involved in any such agreement.

402-5 DELAYS DUE TO UTILITY CONFLICTS.

DELETE paragraphs 1 through 4 and REPLACE with the following:

1. The Contractor shall notify the Engineer of its Construction Schedule insofar as it affects the protection, removal, or relocation of utilities. The notification shall be included as a part of the Construction Schedule in accordance with 6-1 which shall be revised upon the completion of utility potholing and evaluation for potential utility conflicts. The Contractor shall notify the Engineer in writing of any subsequent changes in the Construction Schedule which will affect the time available for protection, removal, or relocation of utilities.
2. The Contractor will not be entitled to damages or additional payment for delays attributable to utility relocations or alterations if correctly located, noted, and completed in accordance with 402-1.
3. The Contractor may be given an extension of time for unforeseen delays attributable to unreasonably protracted interference by utilities in performing Work correctly shown on the Plans.
4. The Agency will determine the scope of Work for the removal, relocation, or protection of existing main or trunk line utility facilities within the area affected by the Work if such utilities are not identified in the Contract Documents. The Contractor will not be assessed liquidated damages for any delay caused by the removal, relocation, or protection of such existing facilities.

402-6 COOPERATION.

DELETE in its entirety and REPLACE with the following:

1. When necessary, the Contractor shall so conduct its operations as to permit access to the Work Site by the Agency or the utility owner and provide time for utility Work to be accomplished during the progress of the Work.

SECTION 403 - MANHOLE ADJUSTMENT AND RECONSTRUCTION

403-1 GENERAL.

DELETE in its entirety and REPLACE with the following:

1. Wet utility (water, recycled water, sewer and storm drain) manhole and vault frames and covers and valve box frames and covers within an area to be paved or graded shall be set to finish grade by the Contractor.

2. The Contractor shall remove all debris from the interior of manholes and vaults and shall clean all foreign material from the top of the frames and covers.

403-3 MANHOLES IN ASPHALT CONCRETE PAVEMENT.

DELETE in its entirety and REPLACE with the following:

1. Wet utility structures extending 2 inches (50 mm) or more above the new subgrade shall be lowered by the Contractor to the new subgrade before construction of the pavement section. Other structures shall be lowered by their owners unless otherwise specified or shown on the Plans. Structures projecting less than 2 inches (50 mm) above the subgrade may be surveyed and covered for construction of the pavement section and later adjusted to grade. The top of reset manholes and other structures shall conform to the smoothness requirement specified in 302-5.6.2.
2. All structures from which manhole frames and covers have been removed to facilitate pavement section construction shall be temporarily covered with a steel plate by the Contractor. When this procedure is impractical, such as for large vaults, or special structures, remodeling or reconstruction shall be completed to finish permanent surface prior to paving operations.
3. The Contractor shall notify utility owners at least 21 Calendar Days in advance of the need to commence Work required prior to paving operations and again for Work required after paving operations. If the Engineer determines the utility owner will not complete adjustment of its facilities within 10 Working Days of the completion of the surface course of pavement, the facilities will be adjusted by their owner under a separate procedure established by the Agency.
4. After the pavement has been completed, the necessary portions of the subgrade, base, and pavement shall be neatly removed, the structure built up, and the manhole or vault frame or valve box set to within 1-1/2 inches (37.5 mm) of finish pavement surface with concrete pavement conforming to 201-1 and 302-6. The Contractor shall fill the remaining 1-1/2 inches (37.5 mm) with the asphalt concrete surface course mixture. This material shall be placed and compacted to conform to the appearance, grade, density and smoothness of the surrounding pavement.

403-4 MEASUREMENT.

DELETE in its entirety and REPLACE with the following:

1. Manhole, vault or valve box adjustment and reconstruction of the type specified will be measured by each.

403-5 PAYMENT.

DELETE in its entirety and REPLACE with the following:

1. Payment for adjusting manhole or vault frames and covers to grade, where the difference between the lowest point of manhole or vault frame removal and final elevation of the top of the frame is less than 15 inches (375 mm) or where the adjustment is accomplished by adjustment rings only, will be made at the Contract Unit Price for adjusting each manhole or vault frame.

2. Payment for setting manhole or vault frames and covers to grade, where the difference between the lowest point of manhole or vault frame removal and the final elevation of the top of the frame is 15 inches (375 mm) or more, will be made at the Contract Unit Price for reconstructing each manhole.
3. Payment for adjusting valve boxes to grade will be made at the Contract Unit Price for adjusting each valve box regardless of the height of the adjustment.

SECTION 404 – COLD MILLING

404-12 PAYMENT.

ADD the following:

No extra payment will be made for milling or disposing of geotextile, geogrid, or pavement fabric.

PART 5 PIPELINE SYSTEM REHABILITATION

SECTION 500 – PIPELINE REHABILITATION

500-1 GENERAL.

DELETE in its entirety and REPLACE with the following:

1. Pipeline rehabilitation shall include all labor, materials, equipment and services and shall consist of cleaning, preliminary inspection, sewage bypass and pumping, service lateral identification, point repairs, lining, end seals, and service connection re-establishment.
2. Pipe rehabilitation shall be conducted in the host pipe per the manufacturer's recommendations and the Contractor's approved Performance Work Statement, applicable ASTM standards and as specified in this part.
3. The Contractor shall be responsible for confirming the locations of all active branch service connections prior to pipe rehabilitation and shall conduct dye tests to verify abandoned services as necessary. In the event the status of a service connection cannot be determined, the Agency will make the final decision prior to installation of the liner. Only service connections determined to be active shall be reinstated by the Contractor.
4. All materials furnished as part of the Work shall be marked with detailed product information and shall be accompanied by test reports certifying that the material conforms to the requirements stated in this part. Materials shall be certified by the manufacturer for the specified purpose.
5. Materials shall be stored in a manner specified or approved by the manufacturer to avoid damage. Damage includes, but is not limited to, gouging, abrasion, flattening, cutting, puncturing or UV degradation. On site storage locations shall be approved by the Agency.
6. The Agency reserves the right to inspect all or portions of the completed Work at any time during the warranty period. Any defect that is discovered during the warranty period which may materially affect the integrity, strength, function and/or operation of the pipe shall be repaired and/or replaced by the Contractor in accordance with the Contract Documents at no additional cost to the Agency. The Contractor shall provide a warranty for the repair for a period of 1 year following the date of repair.

500-2 SUBMITTALS.

AMEND letter j) to read as follows:

j) The proposed grouting method, locations and procedures.

ADD the following: 500-2.1 CIPP Product Submittal.

1. Provide manufacturer's data, descriptions and physical properties of all product components including:
 - a. Certification from the manufacturer that the product has been successfully installed in at least 300,000 lineal feet of pipe in municipal wastewater collection systems and verifying that the chemical resistance of the CIPP meets the Contract requirements.
 - b. Fabric tube consisting of felts and reinforcing materials and the nominal void volume in the felt fabric that will be filled with resin.
 - c. Raw resin data and flexible membrane (coating) material and the methods and procedures to be implemented for curing and repairs.
 - d. Shipping, storage and handling recommendations for all components of the CIPP system.
 - e. Safety Data Sheets (SDS) for all materials.

ADD the following: 500-2.1.1 Design Calculations.

1. Submit engineering design calculations conforming with Appendix X1 of ASTM F1216. Calculations for liner thickness shall be performed by a qualified Professional Engineer and based on the most severe line condition for each pipe size which shall apply to all other sections to be lined unless otherwise approved by the Engineer. Submit calculations for the quantity of resin required to completely saturate the tube.
2. Design of the CIPP shall be based on the prism load using the outside diameter of the CIPP in the calculations. The CIPP design shall assume no bonding to the original pipe. An analysis of design criteria and calculations for the liner thickness shall be submitted to the Engineer for approval. The CIPP design shall be based on the following:
 - a. Corrosion resistance to the typical chemicals found in municipal sewage systems as defined in the referenced and applicable ASTM standards.
 - b. Service life: 50 years
 - c. Design safety factor: 2.0
 - d. Long-term modulus of elasticity: maximum of 50 percent of initial flexural modulus unless substantiated by third-party test data
 - e. Ovality: 2 percent or as measured by field inspection
 - f. Constrained Soil Modulus: per AASHTO LRFD Section 12 and AWWA Manual M45
 - g. Dead load: 120 lb./cu. ft. (minimum) or per geotechnical report
 - h. Live load: AASHTO HS-20 (minimum) or railroad, if applicable. Include impact factors when depth of cover is less than 5 feet for vehicle loads or less than 10 feet for railroad.
 - i. Other loads: based on local conditions such as hydrostatic pressure or surcharge loads

ADD the following: 500-2.2 Performance Work Statement.

1. The Contractor shall submit a PWS which clearly defines the liner product installation in conformance with these requirements. Unless otherwise specified, the PWS shall at a minimum contain the following:

- a) A description of the proposed pipe rehabilitation technology including a detailed plan for identifying all active service connections and maintaining service to each connection during mainline pipe rehabilitation, unless otherwise approved by the Engineer.
- b) Verification from the manufacturer of the rehabilitation process or system that the installer is authorized or certified to install the proposed product. The Contractor shall provide verification of training for all personnel directly involved with installation.
- c) A statement of the Contractors experience in pipe rehabilitation involving pipe of similar size, length and configuration as proposed for the Work and conducted within the past 5 years and substantiated with verifiable project references.
- d) A listing of the superintendent, foreman and lead crew personnel experienced with the pipe rehabilitation technology proposed for the Work with demonstrated competency and experience in CCTV inspection, all phases of liner installation and service reconnections. Personnel replaced during the performance of the Work shall have similar, verifiable experience as the personnel originally submitted for the Project.
- e) A detailed installation plan describing all preparation work, traffic control, cleaning operations, pre-installation CCTV inspections, bypass pumping, tube wet-out procedure, liner installation procedures, method of curing, temperature monitoring methods and procedures, service reconnection, grouting, final CCTV inspection, warranties and all incidental work or services necessary for a complete installation. Identify and describe the tools and equipment which will be redundant on the Job Site in the event of equipment malfunction. Describe the mitigation procedures to be implemented in the event of key equipment failure or significant groundwater infiltration during the installation process or for removal of blockages that may be encountered during the pipe cleaning process.
- f) A detailed installation schedule conforming to the requirements of the Contract.

ADD the following: 500-2.3 Quality Control Plan.

1. The QCP shall include:

- a) A detailed discussion of the proposed quality controls to be performed by the Contractor.
- b) Defined responsibilities of the Contractor's personnel.
- c) Proposed methods for product performance controls, including the methods and frequency of product sampling, testing in both raw material form and cured product form, and repair of test locations in the pipe liner.
- d) Specific repair or replacement procedures approved by the system manufacturer for potential defects that may occur in the installed liner. The plan shall define defects that will not affect the operation and long-term life of the product, repairable defects and the repair procedures, and unrepairable defects and procedures for removal and replacement of the liner.
- e) Inspection forms and guidelines for quality control inspections in accordance with the standards specified and submitted with the QCP. Furnish a check list of key elements of the installation criteria to ensure that quality control and testing are performed in accordance with the Contract Documents.

- f) Proposed frequency of meetings to discuss performance and product test results with the Agency.
2. For Projects involving more than 2,000 linear feet of CIPP, the Contractor shall schedule and provide, at no cost to the Agency, 2 Working Days of training by the CIPP system manufacture for the Agency's inspector prior to liner installation. Training shall include field instruction and all key aspects of visual inspection and sampling procedures.

ADD the following: 500-2.4 As-Built Records.

1. Submit 1 set of Plans annotated with the as-built information and identification of Work performed and other records acceptable to the Engineer prior to final acceptance of the Work by the Agency.
2. As-built drawings and records shall include all necessary information as outlined in the PWS or as agreed to by the Agency. Records shall include pre and post inspection video; locations of obstructions, groundwater or other conditions encountered; locations of test coupons and service connections; liner type and thickness; and temperature and/or light train sensor data from data loggers. The records shall be updated by the Contractor as the Work progresses, shall be clearly legible and shall indicate the locations of the Work performed each day.

500-3 CLEANING AND PRELIMINARY INSPECTION.

500-3.1 General.

ADD the following:

1. The Contractor shall either plug or install a flow bypass pumping system to properly clean the host pipe and shall utilize cleaning equipment and procedures that will not damage the pipe. The Contractor shall repair any damage to the pipe resulting from the cleaning operations as approved by the Engineer and at no additional cost to the Agency.
2. Upon the completion of pipe cleaning, the Contractor shall verify the inside pipe diameter, length and site conditions of each pipe segment and include the data collected in the pipe rehabilitation design.

500-3.4 Closed Circuit Television (CCTV) Inspection.

DELETE the first paragraph and REPLACE with the following:

1. Prior to rehabilitation, a post-cleaning CCTV inspection shall be performed by PACP certified personnel trained in locating breaks, obstacles and service connections using CCTV. The Contractor shall submit the post-cleaning video for review prior to installation of the CIPP and for later reference by the Agency. Video inspections shall be recorded on a digital storage device. All original digital recordings, log sheets, and reports shall be submitted to the Engineer and will become the property of the Agency.

500-4 PIPELINE POINT REPAIR AND/OR REPLACEMENT.

500-4.6 Measurement.

DELETE in its entirety and REPLACE with the following:

1. Pipeline point repair/replacement will be measured along the longitudinal axis between the ends of the pipeline point repair and/or replacement completed and shall not include the inside dimensions of structures

500-4.7 Payment.

DELETE the first sentence and REPLACE with the following:

1. The Contract Unit Price per linear foot (m) or lump sum for pipeline point repair and/or replacement shall include furnishing and installing all fittings, connections, seals, and special Work shown on the Plans or required in the Specifications.

500-5 LINING. Not Used

~~500-5.2 Service Connection Locations.~~

~~DELETE the third sentence and REPLACE with the following:~~

- ~~1. The Contractor shall provide interim sewer service unless otherwise shown on the Plans or specified in the Special Provisions.~~

~~500-5.3 Sewage Bypass and Pumping.~~

~~DELETE in its entirety and REPLACE with the following:~~

- ~~1. The lining systems specified in 500-5.8, 500-5.11, and 500-5.12 may be installed while flow exists in the host pipeline, without diverting the flow or bypass pumping. The Contractor shall consider the effects of varying flow levels on the buoyancy calculations to be submitted.~~
- ~~2. The Contractor shall bypass the sewer flow around the Work and dewater the Work area in accordance with 3-12.5, 3-12.6.4, and 306-5. The Contractor shall submit a sewage bypass and pumping plan in accordance with 3-8.~~
- ~~3. Service connections may be plugged only when approved by the Engineer, when the procedures are described in the Contractor's Performance Work Statement, and after the affected residence or business is notified. The Contractor shall notify the Agency at least 14 Calendar Days in advance of sewer bypass operations or flow interruptions and provide written notice to each residence or business 48 hours prior to interruption of the customer's sewer service. The notice shall include the date and duration of the interruption and a 24-hour contact telephone number to report any problems which could arise. Service connections must be re-established within the same Working Day unless otherwise approved by the Engineer. The Contractor shall notify the Engineer and the residence or business of any sewer service which cannot be reconnected within the time stated in the written notice.~~
- ~~4. Installation of the liner shall not begin until the Contractor has installed the required plugs and/or a sewage bypass system and all pumping facilities have been installed and tested. Flow bypassing shall be maintained until the rehabilitated pipe is returned to service in accordance with the approved procedures.~~

~~500-5.5.1 General.~~

~~ADD the following:~~

- ~~1. The Contractor is responsible for field verification of the Site conditions, host pipe inside diameter, and complete installation of the CIPP using the system selected by the Contractor and meeting the requirements specified in this part.~~
- ~~2. The finished CIPP shall be continuous and jointless from manhole to manhole or access point to access point and shall be free of all defects that will affect the long-term life and operation of the pipe. The layers of completed CIPP shall be uniformly bonded with no separation between any 2 layers under the action of a probe or knife blade.~~

- ~~3. The CIPP shall fit tightly within the existing pipe with no leaks at the manholes or service connections or through the wall of the installed pipe. If leakage occurs at any location, the Contractor shall seal the areas to stop all leakage using a material compatible with the CIPP as directed by the Engineer. If leakage occurs through the wall of the pipe, the CIPP liner shall be repaired or removed as recommended by the manufacturer. Final approval will be based on a leak tight pipe that meets or exceeds all specified physical properties and tolerances specified.~~
- ~~4. Testing and warranty inspections shall be coordinated with the Agency and executed by the Contractor. Any defects discovered during the warranty period shall be repaired or replaced by the Contractor.~~

~~500 5.5.2 Material Composition and Testing.~~

~~ADD the following:~~

- ~~1. All materials testing shall be performed at the Contractor's expense by an independent third-party laboratory recommended by the CIPP manufacturer and approved by the Agency.~~
- ~~2. The installed CIPP thickness shall be measured in accordance with Section 8.1.6 of ASTM F1743 for each section of liner. The average thickness shall meet or exceed the thickness calculated in the approved design. The minimum thickness at any point shall not be less than 87.5 percent of the design thickness. CIPP that does not meet the physical or chemical resistance properties required shall be repaired or removed unless additional testing performed by the Contractor demonstrates compliance.~~
- ~~3. All curing, cutting and identification of samples will be witnessed by the Agency and transmitted by the Contractor to the testing laboratory. The Contractor shall maintain the chain of custody, deliver the samples to an approved laboratory and pay for all material and product testing.~~
- ~~4. On pipes larger than 18 inches in diameter, the Agency may, at its discretion, require plate samples cured with the CIPP or designate a location in the newly installed CIPP where the Contractor shall take a sample. Plate samples will be supplemented by 2-inch diameter core samples removed from the soffit of the CIPP by the Contractor. The openings produced from the core samples shall be repaired in accordance with the manufacturer's recommended procedures. Laboratory test results shall identify the test sample location as referenced to the nearest manhole and station. If test results do not demonstrate compliance with the minimum physical and thickness requirements, the CIPP shall be repaired or replaced by the Contractor.~~

~~500 5.5.3 Resin and Tube Acceptance.~~

~~ADD the following:~~

- ~~1. A roller and vacuum system shall be used to uniformly distribute the resin and completely saturate the tube prior to deployment for installation. The wet out fabric tube shall have a uniform thickness and excess resin distribution that, when compressed at installation pressures, will meet or exceed the design thickness after cure with allowances for polymerization shrinkage and anticipated loss of resin through cracks and irregularities in the host pipe wall.~~

- ~~2. The wall color of the interior pipe surface of CIPP after installation shall be a light reflective color. The hue of the color shall be dark enough to distinguish a contrast between the fully resin saturated felt fabric and dry or resin lean upon CCTV inspection. The wet-out fabric tube shall be rejected if dry or unsaturated areas are visible upon inspection or evident by color contrast between the tube fabric and the activated resin.~~

~~500-5.5.5 Installation.~~

~~ADD the following:~~

- ~~1. Prior to installation of the liner and as recommended by the manufacturer, remote temperature gauges or sensors shall be placed inside the host pipe to monitor the temperatures during the cure cycle. Liner and/or host pipe interface temperature shall be monitored and logged during curing of the liner.~~
- ~~2. The wet-out tube shall be positioned in the pipeline using the method specified or approved by the manufacturer. Care should be exercised not to damage the tube during installation. The liner should be pulled in or inverted through an existing manhole or approved access point and fully extend to the next manhole or termination point.~~

~~500-5.5.5 Curing.~~

~~ADD the following:~~

- ~~1. Curing shall be accomplished by utilizing the appropriate medium in accordance with the manufacturer's recommended cure procedure as described in the Contractor's approved Performance Work Statement. The curing source or in and output temperatures shall be monitored and logged during the cure cycles, as applicable. The manufacturer's recommended cure method and schedule shall be followed for each line segment, accounting for liner wall thickness, ground temperature, moisture level, soil thermal conductivity per ASTM guidelines, as applicable.~~
- ~~2. Continuous temperature monitoring of heat cured liners shall be performed with a system computer that generates an output report that records stationing along the pipe, maximum temperature achieved, the sustained temperature, and the minimum cool down temperature. The temperatures during curing and cool down procedures shall comply with the manufacturer's recommendations.~~
- ~~3. For ultraviolet light cured liners, all light train sensor readings shall be monitored and recorded by a tamper proof computer with output report documenting the cure along the entire length of the installed liner. The cure procedure shall be in accordance with the manufacturer's recommendations.~~

~~500-6 END SEALS. Not Used~~

~~DELETE in its entirety and REPLACE with the following:~~

- ~~1. The beginning and end of the new pipe liner shall be sealed to the host pipe with an epoxy or other approved material. The epoxy or other material shall conform to 211-2. The approved epoxy or other material shall be compatible with the lining material and host pipe and shall provide a watertight seal.~~
- ~~2. The finished liner shall protrude a minimum of 1 inch (25 mm) and a maximum of 2 inches (50 mm) into a manhole unless otherwise shown on the Plans or specified in the Special~~

Provisions. Liner material shall be cut smooth and parallel with a manhole wall. The interface between the host pipe and the pipe liner shall be sealed 360 degrees.

- ~~3. When the pipe liner extends through a manhole, it shall be sealed as shown on the Plans and as specified in the Special Provisions. Any exposed liner edges along the manhole shelf shall be sealed.~~

500-8 SERVICE CONNECTION RE-ESTABLISHMENT. Not Used

~~DELETE in its entirety and REPLACE with the following:~~

- ~~1. Service connections shall be re-established on the same day after completion of each liner pipe installation in the main line using a remote controlled device. If any service connection cannot be re-established with a final cut, as specified in this part, on the same day, it shall be opened on the same day with a temporary, smooth cut with a diameter of 1 inch smaller than the diameter of the lateral. Service connections shall be re-established with a final cut within 3 Calendar Days of interruption of service. The bottom of the reinstated service opening shall match the invert of the service connection, the diameter shall be no less than 95 percent of the original diameter, and the new edge shall be smooth with no loose or abraded material and free of cracks or leaks.~~
- ~~2. The Contractor shall have a fully operational, backup, remote controlled device on site. If for any reason the Contractor is unable to remotely re-establish the service connections, the Contractor shall re-establish each by open cut within 24 hours and maintain sewer service during this period at no additional cost to the Agency.~~
- ~~3. Services requiring bypasses to be provided by the Contractor will be identified in the Special Provisions.~~

500-11 MEASUREMENT. Not Used

~~DELETE in its entirety and REPLACE with the following:~~

- ~~1. Lining will be measured by the linear foot (m) of liner installed, from center to center of manholes for each pipe segment.~~

500-12 PAYMENT. Not Used

~~DELETE in its entirety and REPLACE with the following:~~

- ~~1. Payment for lining will be made at the Contract Unit Price per linear foot (m) for each diameter size of pipeline to be lined, complete in place, in accordance with the Contract Documents. Correction of failed liner or liner that does not meet the tests or performance criteria specified shall be performed by the Contractor at no additional cost to the Agency.~~
- ~~2. The Contract Unit Price shall include;
 - a) sewage bypass and pumping,
 - b) service connection location and re-establishment,
 - c) verification of abandoned service connections,
 - d) construction and restoration of access pits, if proposed,
 - e) annular space grouting, if required,
 - f) sampling and testing, and~~

- ~~g) all other Work not covered by other Bid items including all Work or services not specifically mentioned but which are required to install the final product, complete, in accordance with the Contract Documents.~~

SECTION 502 – MANHOLE AND STRUCTURE REHABILITATION

502-2 SUBMITTALS.

DELETE items c) & d) and REPLACE with the following:

- c) Certificate of Compliance for each type of liner and its component materials with the referenced standards.
- d) For structural lining systems, submit calculations for structural loading and wall thickness design signed and sealed by a Professional Engineer.

502-4 REPAIR, RESURFACING, AND ACTIVE INFILTRATION ELIMINATION.

502-4.2 Repair.

DELETE in its entirety and REPLACE with the following:

1. Prior to installation, patching or localized repairs shall be performed using rapid setting polymer repair mortars or other approved materials compatible with the lining system and intended for use in corrosive environments in municipal wastewater systems. Repair mortars shall be used to fill surface irregularities and voids and for repair of deteriorated or cracked surfaces in the host structure to a uniform surface. The edges of concrete surfaces shall be keyed or chamfered to avoid thin, tapered edges in the repair mortar. Manufacturer's specifications shall be followed when performing repairs, material handling, mixing, installation and curing.
2. Materials shall consist of rapid setting mixtures of polymer resins or cementitious materials, monocryalline quartz aggregates, and activators or accelerating agents. Material shall not contain chlorides or metallic particles. Repair mortars shall have a minimum bond strength of 1,600 psi when tested to substrate failure per ASTM C882.
3. Non-resinous, cementitious repair mortar used in manhole base rehabilitation shall be top-coated with a polyurethane and epoxy lining per 502-5.3 or epoxy lining per 502-5.4.

502-5 LINING SYSTEMS. Not Used

~~502-5.1.2.2 Integral Locking PVC Liner.~~

~~DELETE the second sentence and REPLACE with the following:~~

- ~~1. A Certificate of Compliance conforming to 4-5 shall be submitted to the Engineer.~~

~~502-5.3.3 Installation and Curing.~~

~~DELETE the first sentence and REPLACE with the following:~~

- ~~1. Lining material shall be applied to all prepared surfaces from 1 inch (25 mm) below the low-flow water level to the base of the frame and cover unless otherwise specified.~~

~~502-5.3.5 Testing.~~

~~DELETE the first sentence and REPLACE with the following:~~

- ~~1. The set or cured lining materials shall be tested in accordance with 502-6 unless otherwise specified~~

~~502 5.4.3 Installation and Curing.~~

~~DELETE the first sentence and REPLACE with the following:~~

- ~~1. Lining material shall be applied to all prepared surfaces from 1 inch (25 mm) below the low-flow water level to the base of the frame and cover unless otherwise specified.~~

~~502 5.5.2.4 Locking Extensions.~~

~~DELETE the second sentence and REPLACE with the following:~~

- ~~1. The locking extensions shall have a shape, height, web thickness, and spacing that will allow the liner to be held permanently in place and meet the requirements of 502-5.5.5.~~

~~ADD 502 5.6 Polymer Concrete Structural Lining System.~~

~~502 5.6.1 General.~~

- ~~1. This subsection specifies precast polymer concrete structural inserts installed inside of an existing manhole and filling the annular space with CLSM or Portland cement concrete resulting in a structural liner within the host structure, and installation of an external manhole chimney seal.~~

~~ADD the following: 502 5.6.2 Materials.~~

~~ADD the following: 502 5.6.2.1 Polymer Concrete Structural Insert.~~

- ~~1. The design shall meet or exceed the load and strength requirements of ASTM C478 and ASTM C857. Inserts shall be reinforced in accordance with ACI 440.1R 15.~~
- ~~2. Polymer concrete manhole inserts shall be furnished with alignment guides for centering. Inserts and cone sections shall be provided in various lengths to provide the required height with the fewest number of joints.~~
- ~~3. The polymer concrete structural insert will have a minimum wall thickness of 2 inches (50 mm) for insert diameters up to 60 inches (1524 mm). Wall thicknesses for larger outside diameters shall be verified by calculations in the product submittal. Outside diameter clearance to the wall of the host structure shall be a minimum of 1-1/2 inches (38 mm).~~
- ~~4. Manufacturer shall be ISO 9001:2008 certified and facility quality control shall adhere to ISO 9001:2015. Fabrication of polymer concrete components will take place in an all-polymer concrete production facility.~~

~~ADD the following: 502 5.6.2.2 Portland Cement Concrete.~~

- ~~1. Portland cement concrete shall be Class 560 CSP 3250 (330 CSP 23) conforming to 201-1.1.2 unless otherwise specified.~~

~~ADD the following: 502 5.6.2.3 Cement Mortar.~~

- ~~1. Cement mortar shall conform with Class C mortar per 201-5.~~

~~ADD the following: 502 5.6.2.4 Controlled Low Strength Material.~~

- ~~1. CLSM shall conform with 201-6 and contain not less than 90 pounds of cement per cubic yard.~~

~~ADD the following: 502 5.6.2.5 Joint Sealant.~~

- ~~1. Sealant for polymer concrete insert joints used in conjunction with CLSM annular backfill shall consist of a butyl rubber based preformed flexible sealant conforming to ASTM C990,~~

~~paragraph 6.2. The sealant shall have 50% minimum butyl rubber and 2% or less volatile matter. The dimensions of the sealant shall be sized such that the joint is filled to at least 50% of its annular volume when fully assembled.~~

~~ADD the following: 502-5.6.2.6 External Chimney Seal.~~

- ~~1. The external chimney seal shall be specifically designed to seal the frame and grade ring joints in municipal wastewater manholes. The seal shall consist of a continuous seamless band of EPDM rubber 65 mils or thicker with a preformed, reinforced, L-shaped corner molded into the top edge to conform with the shape of the manhole structure. The top and lower edges shall have a 2 to 3-inch (51 mm to 76 mm) wide strip of non-hardening, butyl rubber sealant with a minimum thickness of 1/8-inch (3 mm) to seal the joints at the cone and the frame. Other types of chimney seals shall be approved by the Engineer.~~

~~ADD the following: 502-5.6.3 Installation.~~

- ~~1. Remove existing manhole frame and cover and cone. Remove steps flush with the surface of the manhole. Clean all remaining surfaces and repair the manhole base to its original form in accordance with 502-3 and 502-4.~~
- ~~2. If necessary, neatly saw cut the polymer concrete insert to accommodate existing sewer pipe penetrations into the manhole. Circular cuts shall be used for pipe penetrations to minimize the amount of polymer concrete removed. Remove any surface irregularities along the perimeter edge of the shelf that will support the insert and apply cement mortar to receive the insert. Lower the first insert onto the mortar and shim the insert plumb and centered within the existing manhole. Trowel the mortar flush with the insert wall to fill any voids along the bottom edge of the insert.~~
- ~~3. After the bottom joint has hardened, apply epoxy mortar on the shelf in the annular space above the channel. Build up the surface of the shelf to at least 4 inches (100 mm) above the bottom of the lowest insert. Slope the manhole shelf uniformly toward the channel with 1 inch rise per foot of run. When completed, the shelf shall be free of cracks, sharp edges and unbonded epoxy mortar.~~
- ~~4. Install the remaining inserts and cone using wall alignment guides and joint sealant. Lift the inserts into place using spreader bars approved or furnished by the manufacturer.~~
- ~~5. Extend existing pipe penetrations with new pipe to the interior surface of the insert and patch all pipe entry areas with epoxy mortar. Install grade rings and frame and cover to finish surface. In unpaved areas where the grade rings will extend above the ground surface, bond the grade rings and frame with an epoxy adhesive approved by the manufacturer. Install the external chimney seal to seal the joint between the cone and lowest grade ring, and between the grade rings and the frame casting.~~
- ~~6. Backfill the annular space between the host structure and the insert with CLSM. Place and compact backfill to pavement subgrade, or to final ground surface in unpaved areas, per 306-12 and restore the pavement section in accordance with 306-13.~~

~~ADD the following: 502-5.6.4 Acceptance and Warranty.~~

- ~~a. Interior surfaces of manhole insert shall be free of voids, cracks, joint offset, or other irregularities. Acceptance shall be based on certification from the manufacturer that polymer~~

~~concrete structural insert system components meet the requirements of the referenced standards and on the quality of the finished product upon inspection by the Agency. Manufacturer shall provide a 50-year corrosion warranty on the structural inserts.~~

END OF SECTION

SECTION 2

01 11 00 SUMMARY OF WORK

PART 1 GENERAL

1.01 WORK COVERED BY CONTRACT DOCUMENTS

- a. The Contractor shall perform Work and furnish materials, labor, tools, equipment or services that may be reasonably inferred as being required to produce the intended result, whether specifically called for in the Contract Documents, at no additional cost to the Agency.
- b. Visible, existing improvements for which no specific disposition is made on the Plans, but which interfere with the Work, shall be removed, and disposed of by the Contractor with the prior approval of the Engineer.
- c. The completed Work will provide the Agency with a code compliant fuel island, as more fully described in the Drawings and the technical specifications. Provide all labor, material and equipment for the following: List the main elements in the Project, e.g.
 1. Selective demolition of existing pavement, dispensers and electrical systems;
 2. removal and disposal of existing fuel tanks;
 3. assistance with soil testing by others;
 4. preparation of fuel tank pits and foundations;
 5. installation of all footings, pads and installation of new fuel tanks;
 6. shoring, excavation, and dewatering, trenching as needed;
 7. new electrical and plumbing work as indicated;
 8. construction of new fuel island as indicated;
 9. conduit and trench work as necessary for services to Maintenance Building and Electrical room/panel(s);
 10. installation of new fuel dispensers;
 11. installation of new canopy;
 12. restoration of surrounding pavement (concrete and asphalt);
 13. other improvements as indicated.
- d. Location of the Project is 2480 Impala Drive, Carlsbad.
- e. Work also includes: e.g., compliance with environmental requirements, cooperation with city's construction manager, furnishing standby power equipment, and/or standby pumping equipment as needed to ensure continuous utility needs throughout the construction period; maintaining safe Work area throughout the construction period; traffic control if/as needed; and obtaining all permits needed to perform the indicated Work.

1.05 WORK BY OTHERS

- a. Construction work will be underway at the adjacent Fleet Maintenance Building under separate contract. This work may require occasional cooperation for access to adjacent work areas.

1.06 WORK BY OWNER

- a. The City will be using drive lanes adjacent to Fuel Island throughout construction duration. Trench to Maintenance Building may require plating for City access across it.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

01 11 20 MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.01 SCOPE

- a. The Contract Price shall cover all Work required by the Contract Documents. All costs in connection with the proper and successful completion of the Work, including furnishing all materials, equipment, supplies, and appurtenances; providing all construction plant, equipment, and tools; and performing all necessary labor and supervision to fully complete the Work, shall be included in the unit and lump sum Bid prices. All Work not specifically set forth as a pay item in the Bid Form shall be considered a subsidiary obligation of Contractor and all costs in connection the Work shall be included in the Bid prices.
- b. Payment for each Bid Item shall be made in accordance with Sections 7-2 and 7-3 of the Agency Supplemental General Provisions and the Bid. All Work shown or described in the Contract Documents and necessary for the functioning of installed equipment or constructed facilities and the repair or replacement of damaged existing improvements in accordance with the Contract Documents shall be considered as included in the Bid Items.

1.02 BID ITEMS

- a. Items listed on the Bid Schedule in Section 00 41 00 Bid Form shall be billed on a monthly basis.

1.03 SUBMITTALS

- a. Informational Submittals:
 1. Schedule of Values: Submit on Agency's form.
 2. Schedule of Estimated Progress Payments:
 - i. Submit with initially acceptable Schedule of Values.
 - ii. Submit adjustments thereto with Application for Payment.
 3. Application for Payment.
 4. Final Application for Payment.

1.04 CASH ALLOWANCES – Not Used.

- ~~a. Consult with Construction Manager in selection of products or services. Obtain proposals from Suppliers and installers and offer recommendations.~~
- ~~b. Cash allowances will be administered in accordance with General Conditions.~~
- ~~c. Submit, with application for payment, invoice showing date of purchase, from whom the purchase was made, the date of delivery of the product or service, and the price, including delivery to the Site and applicable taxes.~~

1.05 SCHEDULE OF VALUES (SOV)

- a. Upon request of the Construction Manager, the Contractor shall provide documentation to support the accuracy of the SOV.
- b. The Contractor shall prepare and submit to the Engineer for review a SOV within the time specified in the Contract Documents.

- c. When requested by the Engineer, the SOV shall divide each lump sum Bid item into its respective activities as listed in the Construction Schedule, and the sum of the costs apportioned to the activities comprising the Bid item shall equal the Bid item price. The Contractor shall add additional detail to the SOV when, in the opinion of the Engineer, such detail is necessary to represent the basis for payment. The Contractor shall submit to the Engineer a corrected Schedule of Values within 10 Calendar Days of the Engineer's request.
- d. The Contractor shall make adjustments to the approved SOV to account for Change Orders or Extra Work. The SOV entries for adjustments so made shall be approved by the Engineer.
- e. The Contractor shall submit a revised SOV with each payment request.
- f. Payment for the preparation of or revisions to the SOV shall be included in the Contract Price and no additional payment will be made therefor.
- g. Lump Sum Work:
 - 1. Must reflect specified cash and contingency allowances and alternates, as applicable.
 - 2. List bonds and insurance premiums, mobilization, demobilization, preliminary and detailed progress schedule preparation, equipment testing, facility startup, and Contract closeout separately.
 - i. Mobilization includes, at minimum, items identified in Section 01 50 00, Temporary Facilities and Controls.
 - ii. Include item(s) for monthly progress schedule update and maintenance of Construction Manager's trailer.
 - 3. Break down by Division 02 through 49 with appropriate subdivision of each specification for each Project facility.
- h. An unbalanced or front-end loaded schedule will not be acceptable.
- i. Summation of the complete SOV representing all the Work shall equal the Contract Price.
- j. The Contractor shall submit SOV electronically in a spreadsheet format compatible with latest version of MS Excel.

1.06 SCHEDULE OF ESTIMATED PROGRESS PAYMENTS

- a. Show estimated payment requests throughout Contract Times aggregating initial Contract Price.
- b. Base estimated progress payments on initially acceptable progress schedule. Adjust to reflect subsequent adjustments in progress schedule and Contract Price as reflected by modifications to the Contract Documents.

1.07 APPLICATION FOR PAYMENT

- a. Transmittal Summary Form: Attach 1 Summary Form with each detailed Application for Payment for each schedule and include Request for Payment of Materials and Equipment on Hand as applicable. Execute certification by authorized officer of Contractor.
- b. Use city Application for Payment Form provided by Construction Manager.
- c. Provide separate form for each schedule as applicable.
- d. Include accepted Schedule of Values for each schedule or portion of lump sum Work.
- e. Include separate line item for each Change Order and Work Change Directive executed prior to date of submission. Provide further breakdown of such as requested by Construction Manager.
- f. Preparation:
 1. Round values to nearest dollar.
 2. Submit Application for Payment, including a Transmittal Summary Form and detailed Application for Payment Form(s) for each schedule as applicable, a listing of materials on hand for each schedule as applicable, and such supporting data as may be requested by Construction Manager.

1.08 PAYMENT

- a. Transmittal Summary Form: Attach 1 Summary Form with each detailed Application for Payment for each schedule and include Request for Payment of Materials and Equipment on Hand as applicable. Execute certification by authorized officer of Contractor.
- b. Each month, the Engineer will make an approximate measurement of the Work performed to the closure date as basis for making monthly progress payments. The estimated value will be based on Contract Unit Prices, completed Change Order Work. Progress payments shall be made no later than 30 Calendar Days after the closure date. Five Working Days following the closure date, the Engineer shall complete the detailed progress pay estimate and submit it to the Contractor for the Contractor's information. Should the Contractor assert that additional payment is due, the Contractor shall within 10 Calendar Days of receipt of the progress estimate, submit a supplemental payment request to the Engineer with adequate justification supporting the amount of supplemental payment request. Upon receipt of the supplemental payment request, the Engineer shall, as soon as practicable after receipt, determine whether the supplemental payment request is a proper payment request. If the Engineer determines that the supplemental payment request is not proper, then the request shall be returned to the Contractor as soon as practicable, but not later than 7 Calendar Days after receipt. The returned request shall be accompanied by a document setting forth in writing the reasons why the supplemental payment request was not proper. Consistent with Public Contract Code Section 20104.50, the Agency shall make payments within 30 Calendar Days after receipt of an undisputed and properly submitted supplemental payment request from the Contractor. If payment of the undisputed supplemental payment request is not made within 30 Calendar Days after receipt by the Engineer, then the Agency shall pay interest

to the Contractor equivalent to the legal rate set forth in subdivision (a) of Code of Civil Procedure Code Section 685.010.

- c. After final inspection, the Engineer will make a Final Payment Estimate and process a corresponding payment. This estimate will be in writing and shall be for the total amount owed the Contractor as determined by the Engineer and shall be itemized by the Contract Bid item and Change Order item with quantities and payment amounts and shall show all deductions made or to be made for prior payments and amounts to be deducted under provisions of the Contract. All prior estimates and progress payments shall be subject to correction in the Final Payment Estimate.
- d. The Contractor shall have 30 Calendar Days from receipt of the Final Payment Estimate to make a written statement disputing any Bid item or Change Order item quantity or payment amount. The Contractor shall provide all documentation at the time of submitting the statement supporting its position. Should the Contractor fail to submit the statement and supporting documentation within the time specified, the Contractor acknowledges that full and final payment has been made for all Contract Bid items and Change Order items.
- e. If the Contractor submits a written statement with documentation in the aforementioned time, the Engineer will review the disputed item within 30 Calendar Days and make any appropriate adjustments on the Final Payment. Remaining disputed quantities or amounts not approved by the Engineer will be subject to resolution as specified in Section 2-10, Disputed Work.
- f. The written statement filed by the Contractor shall be in sufficient detail to enable the Engineer to ascertain the basis and amount of the disputed items. The Engineer will consider the merits of the Contractor's claims. It will be the responsibility of the Contractor to furnish within a reasonable time such further information and details as may be required by the Engineer to determine the facts or contentions involved in its claims. Failure to submit such information and details will be sufficient cause for denying payment for the disputed items.

1.09 MOBILIZATION AND EXCAVATION

- a. Payment for mobilization and preparatory Work will be made at the stipulated lump-sum price in the Bid Schedule, and includes full compensation for furnishing all insurance, bonds, licenses, labor, materials, utilities, tools, equipment and incidentals, and for doing all the Work involved in mobilization and preparatory Work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies, and incidental to preparing to conduct Work on and off the Project Site and other offsite facilities necessary for Work on the Project; for all other facilities, sureties, Work and operations which must be performed or costs incurred prior to beginning Work on various Contract items on or off the Project Site, excepting those specifically paid for under separate sections of these Specifications. The Contractor agrees that the stipulated lump sum amount is sufficient for Mobilization and Preparatory Work, as described in this

section, and that the Contractor shall have no right to additional compensation for Mobilization and Preparatory Work.

- b. Progress payments for mobilization and preparatory Work will be made as follows: For the first progress payment (after the issuance of the Notice to Proceed), 40% of the amount Bid for mobilization and preparatory Work will be allowed. For the second progress payment, an additional 60% of the amount Bid for mobilization and preparatory Work will be allowed. The total value shall not exceed 3% of the Contract Price. If the Bid item for Mobilization and Preparatory Work exceeds 3% of the Contract Price, the portion above 3% of the Contract Price shall be paid as a part of the Final Payment.
- c. Structure Excavation. All excavation work required for structures, shall be considered to be a subsidiary obligation of Contractor and the cost of such excavation shall be included in the prices bid for the structures and included on the Bid Form.

1.14 MISCELLANEOUS CONCRETE

- a. All concrete which is required in connection with manholes or structures, pavement or sidewalk replacement, and other pay items shall be included in the lump sum or unit price Bid for the pay item.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

01 31 00 PROJECT MANAGEMENT AND COORDINATION

PART 1 CONSTRUCTION MANAGEMENT SOFTWARE

1.01 PROCORE PROJECT MANAGEMENT AND COLLABORATION SYSTEM

- a. This project will utilize the Owner's Procore (www.procore.com) online project management and document control platform. The intent of utilizing Procore is to reduce cost and schedule risk, improve quality and safety, and maintain a healthy team dynamic by improving information flow, reducing non-productive activities, reducing rework and decreasing turnaround times. The Contractor is required to create a free web-based Procore user account(s) and utilize web-based training / tutorials (as needed) to become familiar with the system. Unless the Engineer approves otherwise, the Contractor shall process all project documents through Procore because this platform will be used to submit, track, distribute and collaborate on project. If unfamiliar or not otherwise trained with Procore, Contractor and applicable team members shall complete a free training certification course located at <http://learn.procore.com/procore-certification-subcontractor>. The Contractor is responsible for attaining their own Procore support, as needed, either through the online training or reaching out to the Procore support team. It will be the responsibility of the Contractor to regularly check Procore and review updated documents as they are added. There will be no cost to the Contractor for use of Procore.

It is recommended that the Contractor provide mobile access for Windows, iOS located at <https://apps.apple.com/us/app/procore-construction-management/id374930542> or Android devices located at <https://play.google.com/store/apps/details?id=com.procore.activities> with the Procore App installed to at least one on-site individual to provide real-time access to current posted drawings, specifications, RFIs, submittals, schedules, change orders, project documents, as well as any deficient observations or punch list items. Providing mobile access will improve communication, efficiency, and productivity for all parties. The use of Procore for project management does not relieve the contractor of any other requirements as may be specified in the contract documents.

END OF SECTION

01 32 00 SUBMITTALS

PART 1 GENERAL

1.01 GENERAL

- a. Each submittal shall be consecutively numbered. Resubmittals shall be labeled with the original submittal number followed by an ascending alphabetical designation (e.g., '4-A' would indicate the first resubmittal of the fourth submittal). Each submittal shall be accompanied by a letter of transmittal on the Contractor's letterhead which shall contain the following:
 1. Agency Project title and Contract number.
 2. Specification section number(s) pertaining to material submitted for review.
 3. Submittal number.
 4. Description of the contents of the submittal.
 5. Identification of any deviation from the Contract Documents on the transmittal and by redline on the shop or working Drawings.
 6. Contractor's certification statement.
 7. Printed name and signature of submitter, title and date.
- b. The Contractor shall place the following certification statements on all submittals and shall subscribe to one of the following:

"I certify that the materials, equipment or construction procedure(s) contained in this submittal meet all requirements shown or specified in the Contract Documents with no exceptions."

Or

"I certify that the materials, equipment or construction procedure(s) contained in this submittal meet all requirements shown or specified in the Contract Documents, except for the following deviation(s):"
- c. Shop Drawings and engineering data (submittals) covering all equipment and all fabricated components and building materials which will become a permanent part of the Goods and Special Services under this Contract shall be submitted to Engineer for review, as required. Submittals shall verify compliance with the Contract Documents, and shall include Drawings and descriptive information in sufficient detail to show the kind, size, arrangement, and the operation of component materials and devices; the external connections, anchorages, and supports required; the performance characteristics; and dimensions needed for installation and correlation with other materials and equipment.
- d. Each submittal shall cover items from only one section of the specification unless the item consists of components from several sources. Contractor shall submit a complete initial submittal including all components. When an item consists of components from several sources, Contractor's initial submittal shall be complete including all components.
- e. All submittals, regardless of origin, shall be approved by Contractor and clearly identified with the name and number of this Contract, Contractor's name, and references to

applicable specification paragraphs and Contract Drawings. Each copy of all submittals, regardless of origin, shall be stamped or affixed with an approval statement of Contractor. Each submittal shall indicate the intended use of the item in the Goods and Special Services. When catalog pages are submitted, applicable items shall be clearly identified and inapplicable data crossed out. The current revision, issue number, and date shall be indicated on all Drawings and other descriptive data.

- f. Contractor shall be solely responsible for the completeness of each submittal. Contractor's stamp or affixed approval statement of a submittal is a representation to Engineer that Contractor accepts sole responsibility for determining and verifying all quantities, dimensions, field construction criteria, materials, catalog numbers, and similar data, and that Contractor has reviewed and coordinated each submittal with the requirements of the Goods and Special Services and the Contract Documents.
- g. All deviations from the Contract Documents shall be identified as deviations on each submittal and shall be tabulated in Contractor's letter of transmittal using Figure P-01300-2. Such submittals shall, as pertinent to the deviation, indicate essential details of all changes proposed by Contractor (including modifications to other facilities that may be a result of the deviation) and all required piping and wiring diagrams.
- h. The Contractor shall submit shop Drawings electronically. All submittals shall be made with the selected method, and the Contractor shall inform the Engineer by letter 1 week after award of the Contract, which method has been selected. Submittals made by any method other than that selected by the Contractor, will be returned without review.
- i. Submittal documents shall be in black and white unless color is required for the review of the submittal. All electronic files shall be in PDF as generated by Adobe Acrobat Professional latest version. The PDF file(s) shall be fully indexed using the Table of Contents, searchable with thumbnails generated. PDF images must be at a readable resolution. For most documents, they should be scanned or generated at 300 dots per inch (dpi). Optical Character Recognition (OCR) capture must be performed on these images so that text can be searched, selected and copied from the generated PDF file. The PDF documents shall have a bookmark created in the navigation frame for each major entry ("Section" or "Chapter") in the Table of Contents. Thumbnails shall be generated for each page or graphic in the PDF file. The opening view for each PDF document shall be as follows:
 - 1. Initial View: Bookmarks and Page
 - 2. Magnification: Fit In Window
 - 3. The file shall open to the Contractor's transmittal letter, with bookmarks to the left. The first bookmark shall be linked to the Table of Contents.

PDF document properties shall include the submittal number for the document title and the Contractor's name for the author.

- j. Electronic submittal file sizes shall be limited to 10 MB. When multiple files are required for a submittal the least number of files possible shall be created.

- k. The Contractor shall post submittals and retrieve the Engineer's submittal review comments through the Engineer's (Consulting Engineer's) Project website accessible through the Internet. Instruction on procedures for posting and retrieving submittals will be provided after award of the Contract.
- l. Facsimiles (fax) will not be acceptable. Engineer will not accept submittals from anyone but Contractor. Submittals shall be consecutively numbered in direct sequence of submittal and without division by subcontracts or trades.

1.02 ENGINEER'S REVIEW OF SUBMITTALS

- a. Engineer's review of submittals covers only general conformity to the Drawings and Specifications, external connections, and dimensions that affect the layout; it does not indicate thorough review of all dimensions, quantities, and details of the material, equipment, device, or item covered. Engineer's review shall not relieve Contractor of sole responsibility for errors, omissions, or deviations in the Drawings and data, nor of Contractor's sole responsibility for compliance with the Contract Documents.
- b. Engineer's submittal review period shall be 21 consecutive Calendar Days and shall commence on the first Calendar Day following receipt of the submittal or resubmittal in Engineer's office. The time required to mail the submittal or resubmittal back to Contractor shall not be considered a part of the submittal review period.
- c. When the Drawings and data are returned with review status "NOT ACCEPTABLE" or "RETURNED FOR CORRECTION," the corrections shall be made as instructed by Engineer. If submittals are made in hard copy, 5 corrected copies shall be resubmitted. If submittals are made electronically, the corrected Drawings and data shall be resubmitted through the Project website. Resubmittals by facsimile or e-mail will not be accepted. When the Drawings and data are returned with review status "EXCEPTIONS NOTED," "NO EXCEPTIONS NOTED," or "RECORD COPY," no additional copies need be furnished unless specifically requested by Engineer.

1.03 RESUBMITTAL OF DRAWINGS AND DATA

- a. Contractor shall accept full responsibility for the completeness of each resubmittal. Contractor shall verify that all corrected data and additional information previously requested by Engineer are provided on the resubmittal.
- b. When corrected copies are resubmitted, Contractor shall direct specific attention to all revisions in writing and shall list separately any revisions made other than those called for by Engineer on previous submittals. Requirements specified for initial submittals shall also apply to resubmittals. Resubmittals shall bear the number of the first submittal followed by a letter (A, B, etc.) or a unique identification that indicates the initial submittal and correct sequence of each resubmittal.
- c. If more than 1 resubmittal is required because of failure of Contractor to provide all previously requested corrected data or additional information, Contractor shall reimburse Agency for the charges of Engineer for review of the additional resubmittals.

This does not include initial submittal data such as shop tests and field tests that are submitted after initial submittal.

- d. Resubmittals shall be made within 30 Calendar Days of the date of the letter returning the material to be modified or corrected, unless within 14 Calendar Days Contractor submits an acceptable request for an extension of the stipulated time period, listing the reasons the resubmittal cannot be completed within that time.
- e. The need for more than 1 resubmittal, or any other delay in obtaining Engineer's review of submittals, will not entitle Contractor to extension of the Contract Times unless delay of the Work is the direct result of a change in the Work authorized by a Change Order or failure of Engineer to review and return any submittal to Contractor within the specified review period.

1.04 COLOR SELECTION

- a. Contractor shall submit samples of colors and finishes for all accepted products before Engineer will coordinate the selection of colors and finishes with Agency. Engineer will prepare a schedule of finishes that include the colors and finishes selected for both manufactured products and for surfaces to be field painted or finished and will furnish this schedule to Contractor within 60 Calendar Days after the date of acceptance of the last color or finish sample.

1.05 OPERATION AND MAINTENANCE DATA AND MANUALS

- a. Adequate operation and maintenance information shall be supplied for all equipment requiring maintenance or other attention. The equipment supplier shall prepare a Project specific operation and maintenance manual for each type of equipment indicated in the individual equipment sections or the equipment schedule.
- b. Parts lists and operating and maintenance instructions shall be furnished for other equipment not listed in the individual equipment sections or the equipment schedule.
- c. Operation and maintenance manuals shall include the following:
 - 1. Equipment function, normal operating characteristics, and limiting conditions.
 - 2. Assembly, installation, alignment, adjustment, and checking instructions.
 - 3. Operating instructions for startup, routine and normal operation, regulation and control, shutdown, and emergency conditions.
 - 4. Lubrication and maintenance instructions.
 - 5. Guide to troubleshooting.
 - 6. Parts lists and predicted life of parts subject to wear.
 - 7. Outline, cross section, and assembly drawings; engineering data; and wiring diagrams.
 - 8. Test data and performance curves, where applicable.
- d. The operation and maintenance manuals shall be in addition to any instructions or parts lists packed with or attached to the equipment when delivered, or which may be required by Contractor.

- e. Manuals shall be submitted in electronic format to the Engineer prior to the date of shipment of the equipment. The manuals shall be submitted, and the Engineer's review comments retrieved, through the Project website accessible through the Internet. Instruction on procedures for posting and retrieving O&M submittals and review comments will be provided after award of the Contract. When the O&M manuals are reviewed "RETURNED FOR CORRECTION," the corrections shall be made as instructed by the Engineer or Consulting Engineer, and corrected manuals resubmitted to the Engineer or Consulting Engineer. Delivery of the final O&M shall be made 30 Calendar Days prior to placing the equipment in operation.
- f. All material shall be marked with Project identification, and inapplicable information shall be marked out or deleted.
- g. Shipment of equipment will not be considered complete until all required manuals and data have been received.

1.07 ELECTRONIC OPERATIONS AND MAINTENANCE MANUALS

- a. Electronic manuals shall be in Adobe Acrobat's PDF and shall be prepared at a resolution between 300 and 600 dpi, depending on document type. OCR capture shall be performed on these documents. OCR settings shall be performed with the "original image with hidden text" option in Adobe Acrobat Exchange.
- b. File size shall be limited to 10 MB. When multiple files are required the least number of files possible shall be created. File names shall be in the format OMXXXXX-YYYZ-V.pdf, where XXXXX is the 5-digit number corresponding to the specification section, YYY is a 3-digit O&M manual number, e.g., 001, Z is the letter signifying a resubmittal, A, B, C, etc, and V is a number used only when more than one 10 MB file is required for an O&M manual.
- c. Documents prepared in PDF format shall be processed as follows:
- d. Pages shall be searchable (processed for optical character recognition) and indexed when multiple files are required.
 - 1. Of material to update the manual provided by the manufacturer. Pages shall be rotated for viewing in proper orientation.
 - 2. A bookmark shall be provided in the navigation frame for each entry in the Table of Contents.
 - 3. Embedded thumbnails shall be generated for each completed PDF file.
 - 4. The opening view for PDF files shall be as follows:
 - 5. Initial View: Bookmarks and Page
 - 6. Page Number: Title Page (usually Page 1)
 - 7. Magnification: Set to Fit in Window
 - 8. Page: Single Page
 - 9. Where the bookmark structure is longer than 1 page, the bookmarks shall be collapsed to show the chapter headings only.

10. When multiple files are required the first file of the series (the parent file) shall list every major topic in the Table of Contents. The parent file shall also include minor headings bookmarked based on the Table of Contents. Major headings, whose content is contained in subsequent files (children) shall be linked to be called from the parent to the specific location in the child file. The child file shall contain bookmark entries for both major and minor headings contained in the child file. The first bookmark of any child file shall link back to the parent file and shall read as follows "Return to the Equipment Name Table of Contents," e.g., Return to the Polymer Feed System Table of Contents.
11. Drawings shall be bookmarked individually.
12. Files shall be delivered without security settings to permit editing, insertion and deletion.

1.08 LABELING

- a. As a minimum, the following information shall be included on all final O&M manual materials:
 - Equipment name and/or O&M title spelled out in complete words.
 - Project Name.
 - Agency Project/Contract Number.
 - Specification Section Number. Example: "Section 15 55 00"
 - Manufacturer's name.
 - File Name and Date.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

01 33 00 CONSTRUCTION PROGRESS SCHEDULE

PART 1 GENERAL

1.01 PROGRESS SCHEDULE

- a. A Progress Schedule shall be used to control the Work and to provide a definitive basis for determining Project progress. The Progress Schedule shall be prepared, maintained and updated by the Contractor and historical dates agreed monthly with the Engineer. The Contractor shall submit a preliminary Progress Schedule and a Progress Schedule for acceptance by the Engineer. These schedules shall be the Contractor's working schedules and shall be used to plan, organize and execute the Work, record and report actual performance and progress, and show how the Contractor plans to complete all remaining Work as of the end of each progress report period.
- b. The Progress Schedule shall comprise all the detailed construction-related activities using the CPM. The Progress Schedule shall provide sufficient detail and clarity to reflect the intricacies and interdependencies of activities so the Contractor can plan, schedule, monitor, control and report on the progress of its work. In addition, it shall provide the Engineer and Agency a tool to monitor and follow the progress for all phases of the Work.
- c. The Contractor shall perform Work and furnish materials, labor, tools, equipment or services that may be reasonably inferred as being required to produce the intended result, whether specifically called for in the Contract Documents, at no additional cost to the Agency.
- d. Visible, existing improvements for which no specific disposition is made on the Plans, but which interfere with the Work, shall be removed and disposed of by the Contractor with the prior approval of the Engineer.
- e. Scheduling software shall be Primavera Project Manager (P6) without exception.

1.02 PRE-CONSTRUCTION SCHEDULING CONFERENCE

- a. The Engineer will conduct a pre-construction scheduling conference with the Contractor to review requirements for the schedules including [SOV] [cost-loading] and schedule configuration. The conference shall be conducted sufficiently early to allow the Contractor to submit the preliminary Progress Schedule within 10 Calendar Days of the Effective Date of the Contract.
- b. At this meeting, the Contractor shall explain in detail the procedure to be used to develop the schedule activity cost-loading or SOV and cash flow. This procedure is subject to the review and acceptance of the Engineer.

1.03 PRELIMINARY PROGRESS SCHEDULE

- a. Following the pre-construction scheduling conference but within 10 Calendar Days of the Effective Date of the Contract, the Contractor shall submit a preliminary Progress Schedule for review by the Engineer. The preliminary Progress Schedule shall show detailed construction-related activities for the first 60 Calendar Days of the Project. The remainder of the Contract activities shall be shown as summary bars within the

milestones of the Work. If the Engineer has comments on the preliminary Progress Schedule, Contractor shall make the necessary changes and resubmit it within 10 Calendar Days. No progress payments will be made during the period specified above for the preliminary Progress Schedule until the preliminary Progress Schedule has been accepted by the Engineer.

- b. The preliminary Progress Schedule shall:
 - 1. Illustrate a feasible schedule for completion of the Work within the time and milestones specified.
 - 2. Provide an elementary example of the schedule in the format to be used for the Progress Schedule.
 - 3. Include the activity code structure as described in paragraph 1.18 ACTIVITY CODES.

1.04 PROGRESS SCHEDULE

- a. The Progress Schedule comprises all the construction-related activities for the Work and shall show the order in which the Contractor proposes to carry out the Work. Contractor shall include milestones, coordination necessitated by limited access and available work areas, and the availability and use of the labor force, material and equipment. Contractor shall use the Progress Schedule to plan, schedule and coordinate the Work including activities of Subcontractors, equipment vendors, and suppliers.
- b. The Progress Schedule shall be to the level of detail acceptable to the Engineer, and shall include the following:
 - 1. Organization and structural breakdown of the Project;
 - 2. Milestones and completion dates;
 - 3. Type of Work to be performed and the labor trades involved;
 - 4. Purchase, manufacture and delivery activities for major materials and equipment;
 - 5. Preparation, submittal, and acceptance of shop drawings and material samples;
 - 6. Deliveries of Agency-furnished equipment and/or materials;
 - 7. Acceptances required by regulatory agencies and/or other third parties;
 - 8. Assignment of responsibility for each activity;
 - 9. Access requirements to Work areas;
 - 10. Identification of interfaces and dependencies with preceding, concurrent and follow on Contractors;
 - 11. Tests, submittal of test reports and acceptance of test results;
 - 12. Planning for phased or total acceptance by Agency; including start up and commissioning;
 - 13. Identification of any labor force, material and equipment restrictions.
 - 14. Sequence of construction to maintain plant operations;
 - 15. Planned outages.
- c. The activities included in the Progress Schedule shall be defined in Working Days. Durations shall be based on the labor (crafts), equipment, and materials required to perform each activity on a normal workday basis. Activity durations shall be 20 Working

Days or less except in the case of non-construction activities such as procurement of materials, delivery of equipment, and concrete curing. All durations shall be the result of definitive labor force and resource planning by Contractor to perform the Work, in consideration of contractually defined on Site Work conditions and Contractor's planned means and methods.

- d. When the Progress Schedule is accepted by the Engineer, the Engineer will save a copy of the Progress Schedule as the baseline schedule and will use it for analysis of Contractor's progress.
- e. The Contractor shall update the Progress Schedule monthly.

1.05 ELECTRONIC PROGRESS SCHEDULE FORMAT AND REPORTING

- a. The Progress Schedule shall be created using Primavera P6 scheduling software. Contractor shall use Engineer's file-naming format throughout the Project.
 - 1. Electronic schedule files shall be saved with .XML or .XER file extensions.
 - 2. Primavera Project Manager settings for "Baseline Type" shall be used in the following manner:
 - i. Select <None> as the baseline type for the Preliminary Schedule Submittal.
 - ii. Once the Preliminary and Project Schedule are accepted, the baseline type shall be named <Initial Plan>.
 - iii. Each subsequent Project Schedule update shall set the baseline type to <Last Performance Update>.
 - 3. The data date for schedule calculation in the preliminary Progress Schedule and Progress Schedule shall be set as the date of the Notice to Proceed unless otherwise specified by the Engineer.

1.06 COST LOADING

- a. Except for manufacturer lead-time, each Progress Schedule activity that has an actual cost shall have a cost value assigned to it. Equipment or material delivery activities bearing cost shall be separate activities. Each activity's assigned cost shall consist of all costs associated with that activity including all Project management, superintendence, overhead and profit costs. The sum of all activity costs shall be equal to the current Contract value at all times, including approved Change Orders. The Contractor shall certify that the costs are not unbalanced and that the value assigned to each activity represents the Contractor's total cost to perform that activity.
- b. If the Engineer or Agency determines cost data does not meet the requirements for a balanced bid breakdown, the Contractor shall submit documentation substantiating any cost allocation questioned. Cost allocations will be considered unbalanced if activity on the Progress Schedule has been assigned a disproportionate allocation of direct costs, overhead and profit. If documentation of the cost data does not, in the opinion of the Engineer substantiate cost allocations, the Progress Schedule will be returned to the Contractor for action.

- c. Unit Price items required to be paid on a unit cost basis as identified in the Bid Form and the Measurement and Payment section shall be incorporated into the Progress Schedule and measured and updated as specified in this part and as specified in the Measurement and Payment section.
- d. The Contractor shall produce Cash Flow Projection reports and graphics from the Primavera application.
- e. Cost-loaded data shall be the basis for monthly payment applications and shall be included with monthly updates of the Progress Schedule.

1.07 RESOURCE LOADING

- a. The Contractor shall build a resource (labor force) library within Primavera and assign resources to each applicable Progress Schedule activity. Resource-loading shall determine the activity duration based on the assigned resource. The Contractor shall submit a resource analysis report produced from Primavera in the form of a series of graphics showing the principal trades. The report shall show the number of worker-days of effort for each month over the life of the Contract. The labor force requirements forecast shall be updated monthly and shall include the actual labor force used by trade as of the current report period and the labor force required to complete the Work.

1.08 COORDINATING PROGRESS SCHEDULE WITH OTHER CONTRACT SCHEDULES

- a. Where Work is to be performed under this Contract concurrently with or contingent upon work performed on the same facilities or area under other contracts, the Progress Schedule shall be coordinated with the schedules of the other contracts. Agency will provide the schedules of other contracts for preparation and updating of the Progress Schedule. Contractor shall revise the Progress Schedule as required by changes in schedules of other contracts.
- b. In case of interference between the operations of different Contractors, the Agency will determine the work priority of each Contractor and the sequence of work necessary to expedite the completion of the entire Project. In all such cases, the decision of Agency shall be accepted as final.

1.09 SUBMITTALS

- a. The Progress Schedule and associated reports shall be submitted to the Engineer for acceptance within the period of the preliminary Progress Schedule specified in 1.05(3). If the Progress Schedule is not submitted, no progress payments will be made after the due date until the Progress Schedule has been submitted.
- b. Printouts and electronic layouts required as part of the Progress Schedule submittal and monthly updates are as follows:
 - 1. Summary Schedule: 1-page milestone and summary schedule, sorted by total float, early-start, early-finish;
 - 2. Detailed Project Schedule: organized by WBS or area of Work; sorted by total float, early-start, early-finish;

3. Critical Path Schedule: sorted based on the total float, early-start, early-finish;
 4. 60-Calendar-Day Look Ahead Schedule: sorted by total float, early-start, early-finish;
 5. Activities in Progress: organized by WBS or area of Work; sorted by total float, early-start, early-finish;
 6. Cash Flow Trending Report: presented in an S-Curve format based on original planned early start and late start forecasted expenditures. In addition, the historical actual data point(s) are to be graphed within the S-Curve graphic report;
 7. Monthly payment projections;
 8. Out-of-sequence Report: tabular report showing Work performed out-of-sequence.
- c. Contractor shall submit additional layouts if directed by Engineer.
- d. The submittal shall include the following:
1. Narrative report summarizing the Contract milestones, Critical Path, Project approach including phasing or use of crews, significant submittal and fabrication items, coordination or interface requirements, Agency-provided items, and list of Subcontractors and vendors.
 2. Graphic reports including Critical Path report (longest path), summary schedule report, total float report by early-start early-finish, look-ahead report grouped by work breakdown structure or Project phasing, and cash flow projection. Cash flow projections include estimated cumulative cost curves based on early and late start dates and projection of monthly payments over the life of the Project.
- e. The schedule, Critical Path, and look-ahead schedules shall be submitted on E (34"x44") size paper or 36" wide plots;
- f. The Progress Schedule file shall be submitted in an executable format, using Primavera Project Manager format.

1.10 MONTHLY SCHEDULE UPDATES

- a. Monthly Progress Schedule updates shall be submitted for the duration of the Contract on a date agreed to by the Agency, Engineer, and Contractor. If monthly Progress Schedule updates are not submitted by the due date, progress payments will be withheld until the required information is submitted.
- b. The updated schedule shall be reviewed each month in a meeting with Engineer to verify:
 1. Actual start dates,
 2. Actual completion dates,
 3. Activity percent completion,
 4. Revised logic (as-built and projected) and changes in activity durations, cost assigned,
 5. Cost influence of Change Orders, if any,

6. Revisions due to extension of time.
- c. Prior to each meeting, Contractor shall prepare a complete and accurate report of current procurement and construction progress through the end of the update period, and a depiction of how Contractor plans to continue the Work to meet all Contract completion dates. All network changes and status data agreed to during each update meeting shall be considered as accepted by both parties unless written notice of any exceptions is given within 5 Calendar Days after the meeting.
- d. For major network changes that cannot be agreed to during an updating meeting, Contractor shall submit the proposed changes for Engineer's acceptance prior to inserting such changes into the network. Submittals may be in the form of marked up networks, fragnets, or schedule abstracts, provided they are submitted with a letter of transmittal. A fragnet is defined as a sequence of new activities and/or activity revisions that are proposed to be added to the existing schedule to demonstrate how Project events have an impact on the schedule.

1.11 DATA DATE

- a. The data date is the re-settable date in P6 that serves as the end of a reporting period. The reporting period will be recorded on a monthly basis, e.g., January 1st through January 31st with the 31st as the data date. If required for coordination purposes by the Agency, the Engineer will provide specific data dates to be used by the Contractor.

1.12 REVIEW PROCESS

- a. Engineer will review Contractor's preliminary Progress Schedule and full Progress Schedule submittals within 15 Calendar Days after receipt of all required information.
- b. At the request of Agency or Engineer, Contractor shall participate in any meetings necessary to reach a mutual agreement and acceptance of the preliminary Progress Schedule, Progress Schedules, or Cash Flow Projections.
- c. If any of the required submittals are returned to Contractor for corrections or revisions, they shall be resubmitted within 10 Calendar Days after the return mailing date. Resubmittals shall include all information and media included in the first submittal. Review and response by Engineer will be given within 10 Calendar Days after receipt of each resubmittal.
- d. Schedules shall show Contract completion of the Work on the Contract completion date and with zero or positive total float even if the Contractor plans to finish early. In no event shall acceptance of the schedule be a basis for a claim for delay against Agency or Engineer by Contractor for an early finish. A Progress Schedule containing activities with negative float or that extend beyond the Contract completion date will not be acceptable.
- e. Acceptance of the Progress Schedule by Engineer does not relieve Contractor of responsibility for accomplishing the Work by the Contract completion date. Omissions and errors in the accepted Progress Schedule shall not relieve the Contractor of obligations under the Contract. Acceptance by Engineer in no way makes Engineer or

Agency an insurer of the Schedule's success or liable for time or cost overruns. Engineer and Agency disclaim any obligation or liability by reason of acceptance of the Progress Schedule by the Engineer.

1.13 RESPONSIBILITY OF SCHEDULE COMPLIANCE

- a. Whenever it becomes apparent from the current Progress Schedule that the Critical Path is delayed and the Contract completion date will not be met, Contractor shall mitigate the delay by taking some or all of the following actions at no additional cost to Agency.
 1. Increase construction labor force in such quantities and crafts as will bring the Project back on schedule within the completion dates and milestones.
 2. Increase the number of working hours per shift, shifts per day, Working Days per week, and the amount of construction equipment, or any combination of the foregoing, to substantially eliminate the backlog of Work.
 3. Re-schedule activities to achieve maximum practical concurrence of activities and to comply with the schedule date(s).
- b. Within 10 Calendar Days of the Engineer's request, Contractor shall submit a recovery schedule and written statement of the steps intended to remove or arrest the delay to the Critical Path in the schedule. If the Contractor fails to submit the required information or should fail to take measures acceptable to the Engineer, the Engineer with Agency concurrence may direct Contractor to increase labor force, equipment and scheduled Work hours to remove or arrest the delay to the Critical Path and the Contractor shall promptly provide such level of effort at no additional cost to Agency.
- c. In the event Contractor fails to follow the updated or revised recovery schedule, Agency may elect to withhold progress payments until Contractor complies with the revised schedule.
- d. Should Contractor's efforts not remove or arrest the delay to the Critical Path of the accepted schedule, then Agency shall be entitled to supplement Contractor's workforce and equipment to remove and arrest any delay, and shall be entitled to deduct all costs and expenses associated with the supplemental workforce and equipment from payments due to the Contractor. If insufficient Contract funds remain, Agency may recover such funds from Contractor and its Surety.

1.14 CHANGE ORDERS, DELAYS, AND EXTENSIONS OF TIME

- a. When Change Orders or delays are experienced by Contractor and Contractor requests an extension of time, Contractor shall submit a written time impact analysis to the Engineer illustrating the influence of each change or delay to the current Contract Schedule completion date. Each time impact analysis shall include a fragment incorporating the Change Order or delay into the Progress Schedule to demonstrate how Contractor was delayed.
- b. Each time impact analysis shall demonstrate the estimated time impact based on the events of the change or the delay; the date the change was given to Contractor or the delay incurred, the status of construction at that point in time, and the event time

computation of all activities affected by the change or delay. The event times used in the analysis shall be those included in the latest update of the Progress Schedule or as adjusted for the events of delay.

- c. An electronic copy shall be submitted within 7 Calendar Days of delay occurrence or direction to proceed with a change is given to Contractor. No time extensions will be considered if the time impact analysis is not submitted within the specified time.
- d. The Engineer will review Contractor's time impact analysis. Contractor shall furnish such justification and supporting evidence as the Engineer deems necessary to determine whether Contractor is entitled to an extension of time. Engineer's review of each time impact analysis will be made within 5 Working Days of receipt of the time impact analysis and additional information as required by the Engineer, unless subsequent meetings and negotiations are necessary.
- e. The Contract completion time will be adjusted only for causes specified in paragraph 15. Time extensions will be granted only to the extent that equitable time adjustments for the activity or activities affected exceed the total or remaining float along the Critical Path at the time of actual delay. Delays in activities which are not on the Critical Path and do not affect Contract completion dates, will not be considered for an extension of time.

1.15 CAUSES FOR EXTENSIONS OF TIME

- a. Additional positive total float in the Progress Schedule generated by efficiencies of Agency or Contractor is a shared commodity to be reasonably used by either party, and belongs exclusively to the Project. The Contractor is not entitled to any additional compensation for completion of the Project prior to expiration of the Contract Times.
- b. Agency-Initiated Changes. Agency initiated changes to the Contract Work that absorb float time will not be considered for an extension of time. Agency-initiated changes that affect the Critical Path of the Progress Schedule shall be grounds for extending or shortening completion dates. Use of float time for Contractor initiated changes will require Agency's concurrence. Contractor's changes, however, shall give way to Agency-initiated changes competing for the same float time.
- c. Outside Contractor's Control. Events outside of the Contractor's control that affect the Critical Path of the Progress Schedule will be considered for an extension or reduction of the Contract Times.
- d. Weather Delays. Engineer will obtain weather data during construction from a reputable source and will maintain weather records.
 - 1. Engineer will determine Contractor's entitlement to an extension of the Contract Time as a result of weather delays. Extensions of time will be granted at the discretion of the Engineer for circumstances not covered by the flow chart.
 - 2. Any weather-related extension of Contract Time shall be non-compensable. Efficiencies gained as a result of favorable weather within a calendar month, where the number of days of normally anticipated weather days is less than

expected, shall contribute to the Project float and shall not affect the Contract Times.

3. Application for a weather-related extension of time shall be submitted to the Engineer, and shall state the extension requested and be supported by the relevant weather data.

1.16 AS-BUILT SCHEDULE

- a. As a condition precedent to release of final payment, the last update to the Progress Schedule submitted shall be identified by the Contractor as the "As-Built Schedule." The "As-Built Schedule" shall reflect the exact manner in which the Project was actually constructed (including actual start and completion dates, activities, sequences, and logic) and shall be signed and certified by the Contractor's Project manager.

1.17 SCHEDULE SOFTWARE SETTINGS AND RESTRICTIONS

- a. Contractor shall consult with Engineer for acceptable Primavera Project Manager software settings and restrictions. The following shall apply unless otherwise directed by the Engineer.
 1. Schedule Options:
 - i. Shall be defined only to "Use expected finish dates";
 - ii. Scheduling progressed activities to be set to "Use only retained logic," not progress override option;
 - iii. Critical Path activities defined as Total Float less than or equal to zero;
 - iv. Calculating start-to-start lag from "early start" dates; and computing total float as "finish float = late finish – early finish";
 - v. Calendar to be set for scheduling relationship lag as "Predecessor Activity Calendar."
 2. Activity progress shall be shown using Remaining Duration. Date format shall be DDMMYY.
 3. Default activity type shall be set to "Independent Task."
 4. Date/time activity constraint(s), other than those required by the Contract, will not be allowed unless accepted by Engineer. Contractor shall identify proposed constraints and explain the constraint purpose in the Narrative Report.
 5. Lags shall not be used in the creation of an activity that will perform the same function, e.g., concrete cure time. Lag durations contained in the Project Schedule shall not have a negative value. Contractor shall identify any lag proposed and explain the purpose of the lag in the Narrative Report.
 6. Actual Start and Finish dates shall not be automatically updated by default mechanism that may be included in the CPM scheduling software system. Actual Start and Actual Finish dates on the CPM schedule shall be updated by actual Work progression.

1.18 ACTIVITY CODES

- a. The Primavera (P6) activity codes and WBS to be confirmed or revised by the Engineer are listed below. Confirmation or revision of the activity codes and WBS will be provided to

the Contractor within 3 Working Days of the Effective Date of the Contract. Use of the Engineer prescribed activity codes and WBS is mandatory.

- b. "Project Codes" as defined by Primavera P6 is reserved for the Agency. Only "Activity Codes" at Project Level will be permitted for Contractor use.

<u>Activity Code</u>	<u>Code</u>	<u>Description</u>
Phase	0005	Construction Phase
Construction Phase	A	Milestones
	BC	Administrative
	D	Submittals
	E	Construction Activities
		Closeout Phase
Submittals	SUB	Submittals
	R&A	Review & Approve
	F&D	Fabricate & Deliver

Other Codes to be prescribed by Engineer or requested by Contractor for Project specific criteria.

1.19 ACTIVITY RELATIONSHIPS

- a. Relationships between activities shall be identified with the following information:
 1. Predecessor and successor activity ID.
 2. Relationship types:
 - i. FS Finish to start
 - ii. SS Start to start
 - iii. FF Finish to finish
 - iv. SF Start to finish – This relationship is not allowed, unless authorized by Engineer.

1.20 PROJECT CALENDARS

- a. Project Calendars shall use Working Days and Calendar Days as the planning unit for the schedule. Use of Global Calendars is reserved for Agency. Each calendar shall be set to start on Mondays with holidays in accordance with Agency policy. The following calendars shall be used for each activity except as otherwise accepted by Engineer:
 1. 5-Day x 8 Hour Workweek (with holidays) shall be used for 5-day 40-hour workweek activities: Monday through Friday. All holidays and non-work days shall be assigned to this calendar. This calendar shall be used for all normal work activities, submittals, and fabricate and delivery activities. This calendar shall be the default calendar for the Project unless otherwise specified.
 2. 5-Day x 10-Hour Workweek (with holidays) shall be used for 5-day 50-hour workweek activities: Monday through Friday. All holidays and non-work days shall be assigned to this calendar.
 3. 6-Day x 10-Hour Workweek (with holidays) shall be used for 6-day 60-hour workweek activities. Monday through Saturday. All holiday and non-work days shall be assigned to this calendar.
 4. 7-Day Calendar (no holidays) shall be used for 7-day workweek activities. No non-work days shall be entered into this calendar.
 5. Additional Calendars may be assigned depending on need. However, Contractor shall consult with the Engineer before other calendars are entered and/or used in the Project schedule.
- b. The workday to calendar day correlation shall be based on a single shift and 5-day work week with adequate allowance for holidays, adverse weather, and all other special requirements of the Work. Contractor may, at his option, propose alternate baseline calendars to allow a second shift and/or a single shift on Saturdays subject to the concurrence and acceptance of Agency. Under no circumstances will a schedule be accepted which allows regularly scheduled Work on Sundays.

1.21 FLOAT

- a. Contractor shall not use float suppression techniques, including preferential sequencing (arranging Critical Path through activities more susceptible to Agency caused delay); lag logic restraints; zero total or free float constraints; extended activity times; or imposing constraint dates other than as required by the Contract. Float suppression will be cause

for rejection of the preliminary Progress Schedule or full Progress Schedule and its updates.

1.22 MANDATORY MILESTONES

- a. The Contract duration shall be equal to the time period between the Notice to Proceed and the completion milestone. The following milestones are mandatory.
 1. Project Award Milestone
 2. Notice to Proceed Milestone
 3. Substantial Completion is [Insert number and type (i.e., Working or Calendar)] days from Notice to Proceed
 4. Completion is [Insert number and type i.e., Working or Calendar] days from Notice to Proceed
- b. The following additional milestones are to be considered and incorporated into the Progress Schedule in accordance with the Contract terms, if applicable.
 1. Permit constraints
 2. Facility shut down or outage milestone requirements
 3. Applicable phasing milestones
 4. Other milestones deemed appropriate by the Engineer.

PART 2 EXECUTION

2-1.1 Preconstruction Meeting

After, or upon, notification of Contract award, the Engineer will set the time and location for the Preconstruction Meeting. Attendance of the Contractor's management personnel responsible for the management, administration, and execution of the Project is mandatory for the meeting to be convened. Failure of the Contractor to have the Contractor's responsible Project personnel attend the Preconstruction Meeting will be grounds for default by Contractor per Supplemental General Provisions Section 6-7. No separate payment will be made for the Contractor's attendance at the meeting. The Notice to Proceed will only be issued on or after the completion of the Preconstruction Meeting.

2-1.2 Preparation and Review of the Baseline Construction Schedule

The Contractor shall prepare the Baseline Construction Schedule as a CPM Schedule in the precedence diagram method (activity-on-node) format. The Baseline Construction Schedule shall depict a workable plan showing the sequence, duration, and interdependence of all activities required to represent the complete performance of all Project Work as well as periods where Work is precluded. The Baseline Construction Schedule shall begin with the projected date of issuance of the Notice to Proceed and conclude with the date of final completion per the Contract duration. The Baseline Construction Schedule shall include detail of all Project phasing, staging, and sequencing, including all milestones necessary to define beginning and ending of each phase or stage.

2-1.2.1 Time-Scaled Network Diagram

As a part of the Baseline Construction Schedule the Contractor shall prepare and submit to the Engineer a complete time-scaled network diagram showing all of the activities, logic relationships, and milestones comprising the schedule.

2-1.2.2 Tabular Listing

As a part of the Baseline Construction Schedule the Contractor shall prepare and submit to the Engineer a tabular listing of all of the activities, showing for each activity the identification number, the description, the duration, the early start, the early finish, the late start, the late finish, the total float, and all predecessor and successor activities for the activity described.

2-1.2.3 Bar Chart

As a part of the Baseline Construction Schedule the Contractor shall prepare and submit to the Engineer a chart showing individual tasks and their durations arranged with the tasks on the vertical axis and duration on the horizontal axis. The bar chart shall use differing texture patterns or distinctive line types to show the Critical Path.

2-1.2.4 Schedule Software

The Contractor shall use commercially available software equal to the Windows 2000 compatible "Suretrak" program by Primavera or "Project" program by Microsoft Corporation to prepare the Baseline Construction Schedule and all updates thereto. The Contractor shall submit to the Agency a digital file with all network information contained on it, in a format readable by a Microsoft Windows 2000 system. The Agency will use a "Suretrak," "Project" or equal software program for review of the Contractor's schedule. Should the Contractor elect to use a scheduling program other than the "Suretrak" program by Primavera or "Project" program by Microsoft Corporation, the Contractor shall provide the Engineer 3 copies of the substituted program that are fully licensed to the Agency and 32 class hours of on-site training by the program publisher for up to 8 Agency staff members. The classes shall be presented on Mondays through Thursdays, inclusive, between the hours of 8:00 a.m. and 5:00 p.m. The on-site training shall be held at 1635 Faraday Avenue, Carlsbad, California. The dates and times of the on-site training shall be submitted to the Engineer for approval 5 Working Days before the start of the on-site training. The on-site training shall be completed prior to the submittal of the first Baseline Construction Schedule.

2-1.2.5 Schedule Activities

Except for submittal activities, activity durations shall not be shorter than 1 Working Day nor longer than 15 Working Days, unless specifically and individually allowed by the Engineer. The Baseline Construction Schedule shall include between 100 and 500 activities, including submittals, interfaces between utility companies and other agencies, Project milestones and equipment and material deliveries. The number of activities will be sufficient, in the judgment of the Engineer, to communicate the Contractor's plan for Project execution, to accurately describe the Project Work, and to allow monitoring and evaluation of progress and of time impacts. Each

activity's description shall accurately define the work planned for the activity and each activity shall have recognizable beginning and end points.

2-1.2.6 Float

Float or slack time within the schedule is available without charge or compensation to whatever party or contingency first exhausts it.

2-1.2.7 Restraints to Activities

Any submittals, utility interfaces, or any furnishing of Agency supplied materials, equipment, or services, which may impact any activity's construction shall be shown as a restraint to those activities. Time periods to accommodate the review and correction of submittals shall be included in the schedule.

2-1.2.8 Late Completion

A Baseline Construction Schedule showing a Project duration longer than the specified Contract duration will not be acceptable and will be grounds for determination of default by Contractor, per Agency Supplemental General Provisions Section 6-4.

2-1.2.9 Early Completion

The Baseline Construction Schedule will show the Contractor's plan to support and maintain the Project for the entire contractual time span of the Project. Should the Contractor propose a Project duration shorter than Contract duration, a complete Baseline Construction Schedule must be submitted, reflecting the shorter duration, in complete accordance with all schedule requirements of Agency Supplemental General Provisions Section 6-1. The Engineer may choose to accept the Contractor's proposal of a Project duration shorter than the duration specified; provided the Agency is satisfied the shortened Baseline Construction Schedule is reasonable and the Agency and all other entities, public and private, which interface with the Project are able to support the provisions of the shortened Baseline Construction Schedule. The Agency's acceptance of a shortened duration Project will be confirmed through the execution of a Contract Change Order revising the Project duration and implementing all contractual requirements including liquidated damages in accordance with the revised duration.

2-1.2.10 Engineer's Review

The Construction Schedule is subject to the review of the Engineer. The Engineer's determination that the Baseline Construction Schedule proposed by the Contractor complies with the requirements of these supplemental provisions shall be a condition precedent to issuance of the Notice to Proceed by the Engineer. If the Engineer determines that the Construction Schedule does not meet the requirements of these specifications the Contractor shall correct the Construction Schedule to meet these specifications and resubmit it to the Engineer. Failure of the Contractor to obtain the Engineer's determination that the initial Construction Schedule proposed by the Contractor complies with the requirements of these supplemental provisions within 30 Working Days after the date of the Preconstruction Meeting shall be grounds for termination of the Contract per Agency Supplemental General Provisions Section 6-4. Days used

by the Engineer to review the initial Construction Schedule will not be included in the 30 Working Days.

The Engineer will review and return to the Contractor, with any comments, the Baseline Construction Schedule within 15 Working Days of submittal. The Baseline Construction Schedule will be returned marked as per Sections 2-1.2.10.1 through 2-1.2.10.3.

2-1.2.10.1 “Accepted”

The Contractor may proceed with the Project Work upon issuance of the Notice to Proceed, and will receive payment for the schedule in accordance with Section 2-1.8.1.

2-1.2.10.2 “Accepted with Comments”

The Contractor may proceed with the Project Work upon issuance of the Notice to Proceed. The Contractor must resubmit the schedule incorporating the comments prior to receipt of payment per Section 2-1.8.1.

2-1.2.10.3 “Not Accepted”

The Contractor must resubmit the schedule incorporating the corrections and changes of the comments prior to receipt of payment per Section 2-1.8.1. The Notice to Proceed will not be issued by the Engineer if the changes of the comments are not submitted as required and marked “Accepted” or “Accepted with Comments” by the Engineer. The Contractor, at the sole option of the Engineer, may be considered as having defaulted the Contract under the provisions of Supplemental General Provisions Section 2-7 TERMINATION OF THE CONTRACT FOR DEFAULT if the changes of the comments are not submitted as required and marked “Accepted” by the Engineer.

2-1.3 Preparation of Schedule Updates and Revisions

The Contractor shall meet with the Engineer during the last week of each month to agree upon each activity’s schedule status and shall submit monthly updates of the Baseline Construction Schedule confirming the agreements no later than the fifth Working Day of the following month. The monthly update will be submitted on hard (paper) copy and electronic media conforming to Section 6-1.3.3 Electronic Media per the submittal requirements of Section 1.05 (Electronic Progress Schedule Format and Reporting) and will include each item and element of Sections 2-1.2 through 2-1.2.9 and 2-1.3.1 through 2-1.3.7.

2-1.3.1 Actual Activity Dates

The actual dates each activity was started and/or completed during the month. After first reporting an actual date, the Contractor shall not change that actual date in later updates without specific notification to the Engineer with the update.

2-1.3.2 Activity Percent Complete

For each activity underway at the end of the month, the Contractor shall report the percentage determined by the Engineer as complete for the activity.

2-1.3.3 Electronic Media

The electronic schedule data file shall be labeled with the Project name and number, the Contractor's name and the date of preparation of the schedule. The schedule data shall be readable by the software specified in Section 6-1.2.4 "Schedule Software" and shall be free of file locking, encryption or any other protocol that would impede full access of all data stored on it.

2-1.3.4 List of Changes

A list of all changes made to the activities or to the interconnecting logic, with an explanation for each change.

2-1.3.5 Change Orders

Each monthly update will include the addition of the network revisions reflecting the Change Orders approved in the previous month. The network revisions will be as agreed upon during the review and acceptance of the Contractor's Change Orders.

2-1.3.6 Bar Chart

Each monthly update will include a chart showing individual tasks and their durations arranged with the tasks on the vertical axis and duration on the horizontal axis. The bar chart shall use differing texture patterns or distinctive line types to show the Critical Path.

2-1.4 Engineer's Review of Updated Construction Schedule

The Engineer will review and return the Updated Construction Schedule to the Contractor, with any comments, within 5 Working Days of submittal. The Updated Construction Schedule will be returned marked as per Sections 6-1.4.1 through 6-1.4.3. Any Updated Construction Schedule marked "Accepted with Comments" or "Not Accepted" by the Engineer will be returned to the Contractor for correction. Upon resubmittal the Engineer will review and return the resubmitted Updated Construction Schedule to the Contractor, with any comments, within 5 Working Days. Failure of the Contractor to submit a monthly Updated Construction Schedule will invoke the same consequences as the Engineer returning a monthly Updated Construction Schedule marked "Not Accepted."

2-1.4.1 "Accepted"

The Contractor may proceed with the Project Work upon issuance of the Notice to Proceed, and will receive payment for the schedule in accordance with Section 2-1.8.1.

2-1.4.2 "Accepted with Comments"

The Contractor may proceed with the Project Work upon issuance of the Notice to Proceed. The Contractor must resubmit the schedule incorporating the comments prior to receipt of payment per Section 2-1.8.1.

2-1.4.3 "Not Accepted"

The Contractor must resubmit the Updated Construction Schedule to the Engineer incorporating the corrections and changes noted in the Engineer's comments prior to receipt of payment per Section 6-1.8.2. The Contractor, at the sole option of the Engineer, may be considered as having

defaulted the Contract under the provisions of Agency Supplemental General Provisions Section 6-7 TERMINATION OF THE CONTRACT FOR DEFAULT if the changes of the comments are not submitted and marked “Accepted” by the Engineer before the last day of the month in which the Updated Construction Schedule is due. If the Contractor fails to submit the corrected Updated Construction Schedule as required the Contractor may elect to proceed with the Project at its own risk. Should the Contractor elect not to proceed with the Project, any resulting delay, impact, or disruption to the Project will be the Contractor’s responsibility.

2-1.5 Late Completion or Milestone Dates

Should the Schedule Update indicate a completion or contractually required milestone date later than the properly adjusted Contract or milestone duration, the Agency may withhold liquidated damages for the number of Calendar Days late. Should a subsequent “Accepted” Schedule Update remove all or a portion of the delay, all or the allocated portion of the previously held liquidated damages shall be released in the monthly payment to the Contractor immediately following the “Accepted” schedule.

2-1.6 Interim Revisions

Should the actual or projected progress of the Work become substantially different from that depicted in the Project Schedule, independently of and prior to the next monthly update, the Contractor will submit a revised Baseline Construction Schedule, with a list and explanation of each change made to the schedule. The Revised Construction Schedule will be submitted per the submittal requirements of Section 1.05 (Electronic Progress Schedule Format and Reporting) and per the schedule review and acceptance requirements of Agency Supplemental General Provisions Section 6-1, including but not limited to the acceptance and payment provisions. As used in this section “substantially different” means a time variance greater than 5 percent of the number of Calendar Days of duration for the Project.

2-1.7 Final Schedule Update

The Contractor shall prepare and submit a Final Schedule Update when 100% of the Construction Work is completed. The Contractor’s Final Schedule Update must accurately represent the actual dates for all activities. The Final Schedule Update shall be prepared and reviewed per Sections 6-1.3. Preparation of Schedule Updates and Revisions and 6-1.4 Engineer’s Review of Updated Construction Schedule. Acceptance of the Final Schedule Update is required for completion of the Project and release of any and all funds retained per Section 9-3.2.

2-1.8 Measurement and Payment for Construction Schedule

The Contractor’s preparation, revision and maintenance of the Construction Schedule are incidental to the Work and no separate payment will be made for them.

END OF SECTION

01 41 26 PERMIT REQUIREMENTS

PART 1 GENERAL

1.01 WORK COVERED BY CONTRACT DOCUMENTS

- a. The Contractor is responsible to obtain all local, state and federal permits and licenses required to perform the Work. Payment for obtaining and complying with permits and licenses including, but not limited to, general construction permits, building permits, grading permits, encroachment permits, haul route permits, excavation permits, drilling permits, water discharge permits, temporary easements, licenses, inspection fees, and Federal, State and local taxes shall be borne by the Contractor and shall be included in prices Bid for Work for which such costs are appurtenant.
- b. The Contractor shall obtain and pay for all costs incurred for permits necessitated by its operations such as, but not limited to, permits required for sewage bypass pumping or discharge; Night Work; overload; blasting or demolition or for any permit related to the operation of equipment used in such Work.
- c. The Contractor shall obtain and pay for all permits for the disposal of all waste or surplus materials removed from the Project. The cost of the permit(s) shall be included in the price for the Bid items requiring the permits and no additional compensation will be allowed for them.
- d. The Contractor shall provide a copy of the permit or license to the Agency prior to performing the Work requiring the permit or license.
- e. Contractor shall pay for all fees applicable to Contractor's operations.
- f. Contractor shall not begin Work until all permits applicable to the Work are obtained. Permits shall be maintained in valid status until acceptance of the Work by the Agency.
- g. The Contractor shall pay all business taxes or license fees that are required for the Work.
 1. To the extent that there is a change in the type or cost of any permits, fees, licenses, or inspections after Contract award, there shall be an equitable adjustment in the Contract Price on account of such change under the Extra Work provisions.
 2. The Contractor shall comply with and give notices required by Applicable Laws. The Contractor is not entitled to damages or additional payment for delays attributable to the acquisition of permits.
 3. The Contractor shall pay the Agency for regulatory fees, fines, or penalties imposed on the Agency arising from the Contractor's failure to complete the Work in accordance with the Contract Documents.
- h. The Contractor shall obtain, pay for, and comply with required permits, licenses, work permits, and authorizations from appropriate agencies, including the following:
 1. Licenses
 - i. Before submitting Bids, Contractors shall be licensed in accordance with provisions of Chapter 9, Division 3, of the Business and Professions Code.

- ii. City of Carlsbad Business License.
- 2. State and Federal permits
 - i. Excavation and Dirt Moving Permit from Cal/OSHA
 - ii. Safety permit from California Division of Industrial Safety
 - iii. NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (LUP Type 2)
 - iv. NPDES Permit for discharge of hydrostatic test water and potable water
- 3. Other permits (if/as necessary)
 - i. City Haul Route Permit
 - ii. Traffic Control Plan Permit
 - iii. Grading Permit
 - iv. Right of Way Permit
 - v. Oversize Load Permit
 - vi. Blasting Permit
 - vii. Written authorization from private property owners for property utilized for staging.
- i. The Agency will obtain for the Contractor, the following:
 - 1. Building Permit
 - 2. Air Pollution Control District, Authority to Construct
 - 3. County Department of Health Permit

1.02 HAUL ROUTE PERMIT

- a. The Contractor shall prepare a Project specific haul route plan detailing the streets intended for use in delivery of materials and import and export of soil. Contractor will be limited to the routes approved by the City of Carlsbad according to the approved haul route plan contained in the permit.

1.03 TRAFFIC CONTROL PLANS

- a. The Contractor shall prepare Project specific traffic control plans, and haul route plan and use such plans to obtain a traffic control permit from the City of Carlsbad Development Services Department.

1.04 RAILROAD – Not Used

- ~~a. The Contractor shall cooperate with NCTD, the BNSF and AMTRAK (collectively “Railroad”). It is understood the Railroad shall have absolute authority and right to cause the Contractor’s Work on the Railroad Property to cease.~~
- ~~b. It shall be the responsibility of the Contractor to obtain a “Right of Entry” Permit from the NCTD Board, prior to the commencement of any Work. A sample permit is included with this specification. All fees and costs associated with obtaining and complying with the terms of this permit, including but not limited to engineering review, submittal review, railway flaggers and construction inspection, shall be the responsibility of the Contractor, and no other payment will be allowed, except as specified in the Contract.~~

- ~~c. All fees and costs associated with obtaining and complying with the terms of the Right of Entry permit shall be the responsibility of the Contractor. Contractor shall be required to make an \$XX,XXX (XXXX), deposit to NCTD. The deposit to NCTD will be required prior to the issuance of the Right of Entry permit. Any portion of the deposit remaining after acceptance of the Contract by the Agency will be returned to the Contractor. Payment to the Contractor for all costs associated with obtaining and complying with the Right of Entry permit shall be considered as included in various items of Work and no additional compensation will be allowed for the permit. The Contractor after receipt of the Right of Entry Permit approved by the NCTD Board shall furnish the Engineer with 2 copies of the executed Right of Entry permit.~~
- ~~d. The Contractor shall notify NCTD in writing at least 10 Working Days prior to commencement of Work on Railroad Right of Way at: <insert Name of Contact> North County Transit District, 810 Mission Avenue, Oceanside, CA 92504, Phone: (760) 966 6504; Fax: (760) 754 9403.~~
- ~~e. The details of construction, including proposed method of setup to perform the Work shall be submitted to the Railroad for approval and shall not be undertaken without approval and shall not be undertaken until approval by the Railroad is given.~~
- ~~f. All persons entering into the Railroad right of way will be required to attend a preconstruction Railroad Safety Training course conducted by NCTD. No additional compensation to Contractor will be allowed for attendance at a Railroad Safety Training course.~~
- ~~g. Railway Flaggers (will/ will not) be required on this Project. The presence of equipment, materials, or labor force will not be allowed within 25 feet of the centerline of any track without the presence of Railway Flaggers. The Contractor shall be responsible for coordination with NCTD to schedule Railway Flaggers. Costs for Railway Flaggers shall be the responsibility of the Contractor and subtracted from the deposit made to NCTD. The current cost for Railway flaggers average \$XX.XX per hour. The Contractor shall verify the cost for Railway Flaggers and include such costs in the Bid.~~

1.05 STORMWATER POLLUTION PREVENTION PLAN (SWPPP)/ GENERAL PERMIT

PROJECTS LESS THAN ONE ACRE (TIER 1 and TIER 2 or Maintenance ONLY Projects that may be over an acre)

Notes to Engineer: You must complete Form E-32 -DETERMINATION OF PROJECT'S SWPPP TIER LEVEL AND CONSTRUCTION THREAT LEVEL before continuing. If the Project is a Tier 1 or Tier 2 Project, use the following language.

- A. Water Pollution Prevention. The Contractor shall plan for and implement temporary construction BMPs to mitigate the water quality impacts of land disturbance and non-storm water discharges related to construction activities in accordance the Agency's current Municipal Stormwater Permit and Carlsbad Municipal Code Chapter 15.12. BMPs are the schedules of activities, prohibitions of practices, maintenance procedures and other management practices employed during construction activities to prevent or

reduce pollution of bodies of water protected by the federal Clean Water Act (33 U.S.C. § 1251 *et seq.*) and the state Porter-Cologne Water Quality Control Act (Water Code, § 13000 *et seq.*), which include oceans, lagoons, lakes, streams and other sensitive water bodies and water courses. Construction BMPs also include physical devices and structural construction control measures designed to prevent soil erosion from occurring on the Work Site, or that are designed to prevent sediment from leaving the Work Site, both of which are referred to hereafter as “Water Pollution.” BMPs are also intended to protect the health, safety and welfare of the public and to prevent damage to adjoining public and private property resulting from construction activities.

- B. Pollution prevention practices and the minimum BMPs are required during all 12 months of the year. BMPs and other erosion control practices must be implemented as the most important “first line of defense.” The Agency has adopted the CASQA ‘Stormwater Best Management Practices Handbook: Construction,’ latest edition, as its preferred source for adopting construction BMPs. All BMPs must correspond to the BMP Fact Sheets included in the CASQA Construction Handbook. With the approval of the Engineer, or designee, the Agency may accept comparable BMPs from reputable alternative sources. As used in this section, “Engineer” shall have the same meaning as “Construction Manager.”
- C. The Contractor shall utilize the Agency’s Tier 1 or Tier 2 SWPPP templates and include all applicable elements provided in the template. The SWPPP templates are available on the Agency’s website at [PROJECT ENGINEER insert website address here]. Tier 1 and Tier 2 SWPPP templates include standard storm water prevention construction notes, a Project information block, a Storm Water Compliance Statement, Agency approval block and a BMP Checklist Table. The BMP Checklist Table is intended to help the Contractor select appropriate BMPs best suited to the Project and the Work. Additionally, the SWPPP shall include a Site plan showing the proposed Project Site and depicting the areas of proposed construction and proposed locations of construction BMPs. The Tier 1 and Tier 2 SWPPP plans shall be submitted as additional sheets to the construction plan set.
- D. The Engineer may require Contractor to adopt additional BMPs if the Engineer determines the selected BMP(s) are ineffective or incapable of preventing Water Pollution from escaping the Work site. Tier 1 and Tier 2 SWPPPs must be combined with proper and timely installation of the BMPs, thorough and frequent inspections, maintenance, and documentation. The Contractor shall ensure that the selected BMPs are appropriately incorporated into the Site design and, if required by the Engineer, must employ a qualified professional to ensure proper installation and maintenance of the BMPs.
- E. The Engineer may suspend the Work, consistent with Supplemental General Provisions Section 6-6, at the Contractor’s cost, that create Water Pollution or otherwise violate water quality standards required by the federal Clean Water Act (33 U.S.C. § 1251 *et seq.*) and the state Porter-Cologne Water Quality Control Act (Water Code, § 13000 *et seq.*) if the Engineer determines that the Contractor has failed to satisfy all requirements of this section. If the Contractor violates any provisions of this subsection, or if Water Pollution

occurs in the Work Site for any reason, the Contractor shall immediately notify the Engineer.

- F. The Contractor shall immediately notify the Agency if there is a non-stormwater discharge to the storm drain conveyance system resulting from the Work or Project-related activities. In addition, the Contractor shall, within 24 hours, submit a written report to the Engineer describing the incident and corrective actions taken. If for any reason the Engineer detects Water Pollution, before notification by the Contractor, this written report shall also include an explanation of why the Contractor had not timely notified the Engineer.
- G. Implementation Costs. Preparation, implementation and management of Water Pollution prevention activities are incidental to the items of Work and Agency shall not make additional payment to Contractor for these costs.

~~PROJECTS GREATER THAN ONE ACRE (TIER 3) – Not Maintenance Only Projects~~

~~**Water Pollution Prevention.** The Contractor shall plan for and implement temporary construction BMPs to mitigate the water quality impacts of land disturbance and non-storm water discharges related to construction activities. BMPs are the schedules of activities, prohibitions of practices, maintenance procedures and other management practices employed during construction activities to prevent or reduce pollution of bodies of water protected by the federal Clean Water Act (33 U.S.C. § 1251, *et seq.*) and the state Porter Cologne Water Quality Control Act (Water Code, § 13000, *et seq.*), which include oceans, lagoons, lakes, streams and other sensitive water bodies and water courses. Construction BMPs also include physical devices and structural construction control measures designed to prevent soil erosion from occurring on the Work Site, or that are designed to prevent sediment from leaving the Work Site, both of which are referred to hereafter as “Water Pollution.” BMPs are also intended to protect the health, safety and welfare of the public and to prevent damage to adjoining public and private property resulting from construction.~~

~~This Project, and all Project Work, requires compliance with Carlsbad Municipal Code Chapter 15.12 and coverage under the California Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2022-0057 DWQ, NPDES No. CAS000002, or subsequent order, and any amendment, revision or re-issuance of it (Construction General Permit).~~

~~STORM WATER POLLUTION PREVENTION PLAN DEVELOPMENT AND IMPLEMENTATION~~

~~The Contractor shall prepare and submit to the Engineer a SWPPP in accordance with the current requirements established by the Construction General Permit. As used in this section, “Engineer” shall have the same meaning as “Construction Manager.” The Contractor shall not initiate any land disturbance activities, until the final SWPPP has been accepted by the Engineer. At least 1 copy of the final SWPPP shall be kept at the construction Site and shall be available upon request of a representative of the Regional Water Quality Control Board, State Water Resources Control Board, U.S. Environmental Protection Agency or local storm water management agency.~~

~~Requests for a copy of the final SWPPP by members of the public shall be forwarded to the Engineer.~~

~~**SWPPP Template Availability.** A model SWPPP is provided to the Contractor, in Appendix X, for use in preparing the Project SWPPP for approval by the Agency. The Contractor shall be responsible for the preparation and implementation of the SWPPP and coordination with the Agency and the Regional Water Quality Control Board. All costs for preparing and implementing the Storm Water Pollution Prevention and Monitoring Plans and coordination with the Agency and the Regional Water Quality Control Board shall be included as part of the contract bid price.~~

~~**SWPPP Delivery.** Within 15 Calendar Days after the execution of the Contract, the Contractor shall submit 3 copies of the SWPPP to the Engineer. Contractor will be provided the digital format for SWPPP to complete required sections. If revisions are required, as determined by the Engineer, the Contractor shall revise and resubmit the SWPPP within 15 Calendar Days of receipt of the Engineer's comments and shall allow 5 Calendar Days for the Engineer to review the revisions. Upon the Engineer's acceptance of the SWPPP, 3 additional copies of the SWPPP, incorporating the required changes, shall be submitted to the Engineer. To allow construction activities to proceed, the Engineer may conditionally approve the SWPPP while minor revisions are being completed.~~

~~**QSD/QSP Designation.** The Contractor shall designate a QSD and a QSP who has satisfied the certification requirements and received approval by the SWRCB as specified in Construction General Permit. The QSD and QSP shall provide and maintain levels of insurance, and comply with all other insurance related requirements, as required in Agency Supplemental General Provisions Section 5-4.~~

~~**SWPPP Amendments.** All amendments to the SWPPP shall be completed by the Contractor's QSD in a timely manner and provided to the Engineer within 7 Calendar Days. All amendments must be signed and dated by the Contractor's QSD and directly attached to the SWPPP once accepted by the Engineer.~~

~~Accepted amendments shall be dated and logged in the SWPPP. Upon acceptance of the amendment, the Contractor shall implement the additional control measures or revised operations. The SWPPP amendment log in the SWPPP shall be maintained by the Contractor's QSD.~~

~~The SWPPP shall also be amended if it violates any condition or has not effectively achieved the objective of reducing pollution in storm water discharges. Amendments shall show additional control measures or revised operations, including those in areas not shown in the initially accepted SWPPP, which are required on the Project to control Water Pollution effectively. Amendments to the SWPPP shall be submitted for review and acceptance by the Engineer in the same manner specified for the initially accepted SWPPP.~~

~~**SWPPP Implementation.** Upon acceptance of the SWPPP, the Contractor shall be responsible throughout the duration of the Project for installing, constructing, inspecting and maintaining the control measures included in the SWPPP and any amendments thereto and for removing and disposing of temporary control measures. Unless otherwise directed by the Engineer or specified~~

in these supplemental provisions, the Contractor's responsibility for SWPPP implementation shall continue throughout any temporary suspension of Work ordered in accordance with Section 6-6, "Suspension of the Work." Requirements for installation, construction, inspection, maintenance, removal and disposal of control measures are specified in the "Handbook" and these supplemental provisions.

Permit Registration Documents. The Contractor's QSD shall then complete final SWPPP, and other required Permit Registration Documents (PRDs), and submit them to the Engineer for review and subsequent submittal to the SWRCB via the Stormwater Multi-Application, Reporting, and Tracking System (SMARTS System).

PRD Item	Responsible Party	Notes
NOI Filing	Agency	Project Engineer/MPM
NOI Fee	Agency	Project Engineer/MPM
Annual Permit Fee	Agency	Project Engineer/MPM
Legally Responsible Person	Agency	Project Engineer/MPM
Assigned Signatory	Agency	Project Engineer/MPM
Data Submitter	Contractor/QSD/QSP	
SWPPP	QSD	
Risk Determination	QSD	
SWPPP Certification Statement	QSD	
SWPPP Amendments	QSD	Must be approved by the Project Engineer/MPM
Site Map	Contractor/QSD	
BMP Exhibit/Erosion Control Notes	Contractor/QSD	
Inspections/Training Records	QSP	
Water Quality Monitoring Reports	QSP	
NOT Preparation and Submittal	Contractor/QSD	Submitted as part of Project Completion Tasks. No later than 90 Calendar Days after Project completion
NOT Certification	Agency	Project Engineer/MPM
Annual Report Preparation and Submittal to SMARTS	Contractor/QSD	By July 15th for prior year period of July 1st through June 30th
Annual Report Certification	Agency	Project Engineer/MPM. No later than September 1st

Non-Compliance. The Engineer may suspend the Work, as provided in Agency Supplemental General Provisions Section 6-6, at the Contractor's cost, if the Engineer determines that the

~~Contractor has failed to satisfy all requirements of this Section. If the Contractor violates any provisions of this subsection, or if Water Pollution occurs in the Work Site for any reason, the Contractor shall immediately notify the Engineer.~~

~~The Contractor shall also submit a written report to the Engineer describing the incident and corrective actions taken within 24 hours of the occurrence of the incident. If for any reason the Engineer detects Water Pollution before notification by the Contractor, the required written report shall also include an explanation of why the Contractor had not timely notified the Engineer.~~

~~**Implementation Costs.** Preparation, implementation and management of Water Pollution prevention activities are incidental to the items of Work and Agency shall not make additional payment to Contractor for these costs.~~

~~**Project Completion.** Within 7 Calendar Days of Project completion, the Project-specific SWPPP shall be relinquished to the Agency. In addition, the Contractor shall submit the NOT to the SWRCB. The NOT shall be submitted to the Agency at the same time it is submitted to the SWRCB. The Contractor shall only submit the NOT once the Project has been accepted by the Agency. If the Contractor fails to submit the NOT to the SWRCB, the Contractor shall continue to be responsible for paying the annual fee associated with the "General Permit" until the NOT is submitted and accepted by the SWRCB.~~

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION