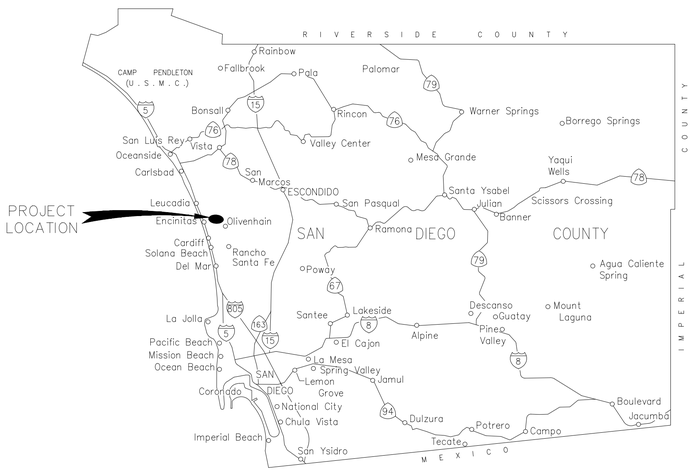
GARDENDALE AND VILLAGE PARK WEST PRESSURE REDUCING STATION (PRS) REPLACEMENTS
FINAL DESIGN

MAY 2024

OMWD PROJECT NUMBER D120104 & D120105



VICINITY MAP
N.T.S.

SURVEY CONTROL

HORIZONTAL DATUM: CALIFORNIA COORDINATE SYSTEM
NAD83, ZONE 6 (1991.35 EPOCH)
VERTICAL DATUM: NAVD 88

POINT	NORTHING	EASTING	ELEVATION
1007	1969591.693	6251923.819	84.683
1030	1961044.005	6250269.682	388.479

OLIVENHAIN MUNICIPAL WATER DISTRICT
1966 OLIVENHAIN ROAD
ENCINITAS, CA, 92024
(760) 753-6466

BOARD OF DIRECTORS

CHRISTY GUERIN - President
MATTHEW R HAHN - Vice President
NEAL MEYERS - Treasurer
LAWRENCE A WATT - Secretary
MARCO SAN ANTONIO - Director

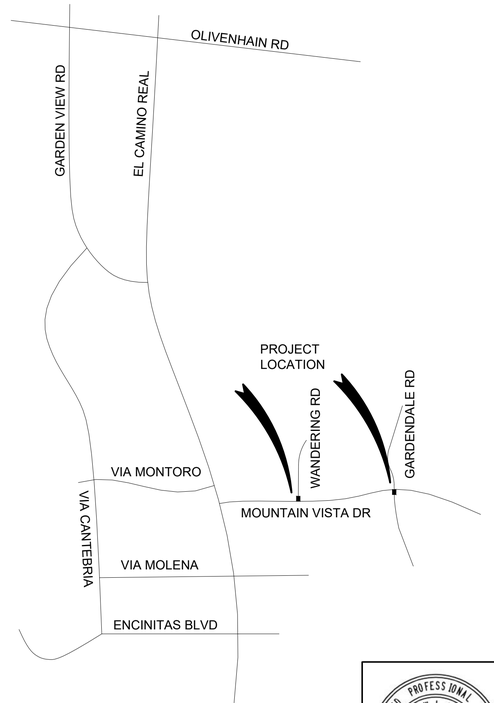
ACCEPTED BY:

LARS

LINDSEY STEPHENSON, P.E. R.C.E. C80453
ENGINEERING MANAGER EXPIRES 03/31/2025

05/08/2024

DATE



LOCATION MAP
N.T.S.

REGISTERED PROFESSIONAL ENGINEER
MATTHEW L DOGMAN
No. 50141
Exp. 6/30/25
CIVIL
STATE OF CALIFORNIA

MARK	DATE	BY	REVISIONS

DESIGN | DRAWN | CHECK

BALBOA ENGINEERING, INC.

OLIVENHAIN
Municipal Water District
1966 Olivenhain Road
Encinitas,CA 92024 (760)753-6466

GARDENDALE AND VILLAGE PARK WEST
PRS REPLACEMENTS

TITLE SHEET

SHEET 1 OF 22

DRAWING G-1

ORIGINAL SCALE IN INCHES

0 1 2 3 4

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GENERAL NOTES

1. APPLICABLE LAWS:

   CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE GOVERNMENTAL AND LOCAL LAWS, REGULATIONS, AND ORDINANCES WITH REGARD TO TRAFFIC SAFETY, WORK HOURS, OPERATING HOURS, NOISE AND AIR POLLUTION, AND SANITARY CONDITIONS.

2. DIMENSIONS AND ELEVATIONS:

   LOCATION, DIMENSION, AND ELEVATION OF IMPROVEMENTS TO BE MET BY WORK OF THIS CONTRACT SHALL BE CONFIRMED BY FIELD MEASUREMENTS PRIOR TO CONSTRUCTION OF NEW WORK OR PROCUREMENT. ALL DISCREPANCIES SHALL BE REPORTED TO THE DISTRICT'S REPRESENTATIVE WITHIN 48 HOURS.

3. SAFETY:

   A. CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT IS NOT LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE DISTRICT AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF THIS WORK, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DISTRICT OR THE ENGINEER.

   B. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF LOCAL, CITY, STATE, AND FEDERAL REGULATIONS CONCERNING CONFINED SPACE ENTRY.

4. JOB-SITE CONDITIONS:

   A. UPON COMPLETION OF EACH DAY'S WORK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LEAVING THE WORK AREA SECURE AND FREE OF HAZARDS. THE CONTRACTOR SHALL PROVIDE NECESSARY TEMPORARY SIGNS, WARNING DEVICES, AND BARRICADES. TEMPORARY ACCESS SHALL BE PROVIDED TO ALL ADJACENT ACTIVITIES DURING NON-CONSTRUCTION HOURS.

   B. THE EXISTING FACILITIES MUST REMAIN IN OPERATION FOR THE DURATION OF THE WORK. THE CONTRACTOR SHALL COORDINATE ALL ON-SITE ACTIVITIES WITH THE DISTRICT'S OPERATIONS STAFF. ACCESS SHALL BE PROVIDED FOR OPERATIONS AND MAINTENANCE PURPOSES. CONTRACTOR SHALL REFER TO SPECIFICATION SECTION 01043 FOR CONSTRUCTION SEQUENCING AND MAINTENANCE OF OPERATION.

   C. THE CONTRACTOR SHALL PROTECT ALL EXPOSED AREAS OF THE SITE DURING THE CONSTRUCTION PERIOD AGAINST DAMAGE. ANY AND ALL SITE DAMAGE FROM THE CONTRACTOR'S ACTIVITIES SHALL BE REPAIRED BY THE CONTRACTOR AS DIRECTED BY THE DISTRICT.

   D. CONTRACTOR SHALL PROVIDE MINIMUM 14-DAYS NOTICE TO THE OWNERS PROJECT MANAGER FOR ANY TIE-INS OR SHUT-DOWNS REQUIRED FOR EXECUTION OF WORK.

   E. CONTRACTOR SHALL NOT BLOCK OR IMPEDE ACCESS TO OTHERS ALONG ACCESS PATH WITHOUT DISTRICT APPROVAL.

   F. ELEVATIONS SHOWN THROUGHOUT DRAWINGS MATCH RECORD DRAWING INFORMATION. ACTUAL ELEVATIONS AND DIMENSIONS SHALL BE CONFIRMED AS NECESSARY BY THE CONTRACTOR.

5. AS-BUILT DRAWINGS:

   A. THE CONTRACTOR SHALL MAINTAIN CURRENT BLACKLINE DRAWINGS DURING CONSTRUCTION NEATLY MARKED IN RED INK TO REFLECT THE AS-BUILT CONDITIONS. CONTRACTOR SHALL MAKE UPDATES TO THE AS-BUILT DRAWINGS ON A DAILY BASIS. AS-BUILT DOCUMENTS SHALL BE MAINTAINED ON SITE AT ALL TIMES.

   B. AS-BUILT DRAWINGS SHALL INCLUDE ANY DEVIATION FROM PLANS INCLUDING PIPELINE LINE AND GRADE AND SUB-GRADE UTILITY LOCATIONS AND SIZE.

   C. CURRENT AS-BUILT DRAWINGS SHALL BE A CONDITION OF MONTHLY PROGRESS PAYMENT. CONTRACTOR SHALL REVIEW AS-BUILT DRAWINGS WITH THE DISTRICT PRIOR TO SUBMITTING PROGRESS PAYMENT REQUEST.

   D. AS-BUILT DRAWINGS SHALL BE SUBMITTED TO THE DISTRICT FOR APPROVAL PRIOR TO RELEASE OF RETENTION.

ABBREVIATIONS

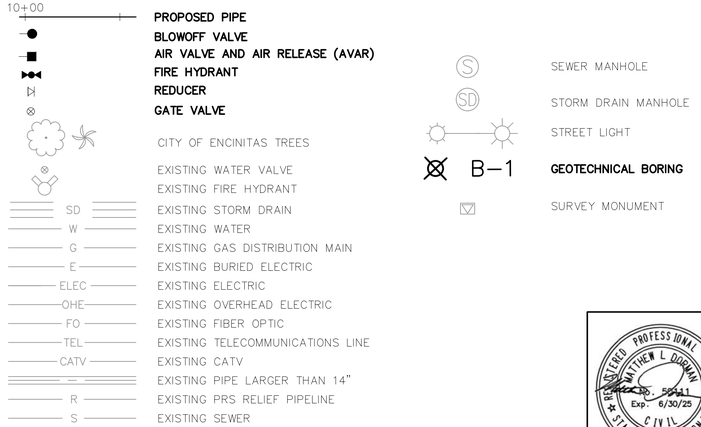
ABAND	ABANDONED	OMWD	OLIVENHAIN MUNICIPAL WATER DISTRICT
ACP	ASBESTOS CONCRETE PIPE	PE	PLAIN END
AML	APPROVED MATERIALS LIST	POC	POINT OF CONNECTION
AVAR	COMBINATION AIR VALVE AND AIR RELEASE	PPM	PARTS PER MILLION
		PROP	PROPOSED
BC	BEGIN CURVE	PS	PUMP STATION
BLVD	BOULEVARD	PVC	POLYVINYL CHLORIDE
BO	BLOWOFF	RCP	REINFORCED CONCRETE PIPE
BOT	BOTTOM	RD	ROAD
CATV	CABLE TV	ROW, R/W	RIGHT OF WAY
CAV	COMBINATION AIR VALVE	RW	RECYCLED WATER
CL	CENTERLINE	S	SLOPE
CONC	CONCRETE	SCH	SCHEDULE
DIA	DIAMETER	SD	STORM DRAIN
DI	DUCTILE IRON	STA	STATION
DIP	DUCTILE IRON PIPE	STD	STANDARD
DLB	DOUBLE	STL	STEEL
DR	DIMENSION RATIO	TEMP	TEMPORARY
DTL	DETAIL	TELE	TELEPHONE LINE
DWG	DRAWING	TOP	TOP OF PIPE
EC	END OF CURVE	TS	TRAFFIC SIGNAL
ELEC	ELECTRICAL	TYP	TYPICAL
ELEV, EL	ELEVATION	UNK	UNKNOWN
EX	EXISTING	UT	UTILITY
(E)	EXISTING	VERT	VERTICAL
FH	FIRE HYDRANT	VCP	VITRIFIED CLAY PIPE
FO	FIBER OPTIC	W	WEST
FS	FINISHED SURFACE	WM	WATER METER
GV	GATE VALVE		
GR	GRADE		
HGL	HYDRAULIC GRADE LINE		
HORIZ	HORIZONTAL		
IE	INVERT ELEVATION		
MIN	MINIMUM		
MH	MANHOLE		
MFR	MANUFACTURER		
N	NORTH		
NO	NUMBER		

OWMD GENERAL POTABLE WATER SYSTEM NOTES

1. POTABLE WATER WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS AND MATERIALS AS SPECIFIED IN THE MOST RECENT EDITION OF THE OLIVENHAIN MUNICIPAL WATER DISTRICT (DISTRICT) STANDARD SPECIFICATIONS AND DRAWINGS FOR THE CONSTRUCTION OF WATER MAINS AND FACILITIES, INCLUDING ALL AMENDMENTS ADOPTED PRIOR TO THE DISTRICT APPROVAL DATE ON THESE PLANS. CONTRACTOR SHALL HAVE A COPY OF THE STANDARD SPECIFICATIONS ON THE JOB SITE AT ALL TIMES.
2. THE SUBMISSION AND REVIEW OF ALL SUBMITTALS (SHOP DRAWINGS, SIX SETS) AS REQUIRED BY THE STANDARD SPECIFICATIONS ARE TO BE ACCOMPLISHED PRIOR TO THE PRE-CONSTRUCTION MEETING WITH THE DISTRICT'S INSPECTOR.
3. UNLESS OTHERWISE NOTED, CONNECTIONS TO EXISTING MAINS SHALL BE MADE DRY. THE TIME AND DURATION OF ANY SHUTDOWNS OF EXISTING MAINS SHALL BE SUBJECT TO APPROVAL BY THE DISTRICT. DISTRICT SHALL BE NOTIFIED TWO WEEKS MINIMUM IN ADVANCE OF ANY SHUTDOWN.
4. CONTRACTOR SHALL COORDINATE WITH DISTRICT ALL ARRANGEMENTS FOR HIGH-LINING TEMPORARY SERVICES PRIOR TO SHUTDOWNS. NO SHUTDOWNS WILL BE SCHEDULED ON A MONDAY OR FRIDAY.
5. CONTRACTOR SHALL REVIEW ALL PROPOSED TRENCH WORK WITH CAL/OSHA. A COPY OF EXEMPTION LETTER OR TRENCHING PERMIT, IF REQUIRED, SHALL BE SUBMITTED TO THE DISTRICT PRIOR TO CONSTRUCTION.
6. NO WORK MAY BEGIN OR PROCEED WITHOUT DIRECTION OF DISTRICT'S INSPECTOR. CONTRACTOR SHALL NOTIFY THE DISTRICT INSPECTIONS DEPARTMENT 48 HOURS PRIOR TO THE BEGINNING OF WORK TO ARRANGE FOR INSPECTION OF THE PROJECT.
7. THE CONTRACTOR MUST CALL "DIG ALERT OF SOUTHERN CALIFORNIA" TO HAVE UNDERGROUND SERVICE UTILITIES LOCATED PRIOR TO CONSTRUCTION. THIS CALL WILL BE MADE AT LEAST 48 HOURS IN ADVANCE PRIOR TO ANY WORK BEING PERFORMED IN PUBLIC RIGHT-OF-WAY. (DIG ALERT PHONE: 800-227-2600)
8. ALL EXISTING FACILITIES WHICH MAY AFFECT PROJECT CONSTRUCTION, I.E., LINE CROSSINGS, LINE PARALLELING, OR PROPOSED CONNECTIONS SHALL BE FIELD VERIFIED BEFORE ANY CONSTRUCTION BEGINS.
9. THE CONTRACTOR SHALL FURNISH AND INSTALL PER THE STANDARD SPECIFICATIONS THE APPROPRIATE BURIED UTILITY WARNING AND IDENTIFICATION TAPE ABOVE ALL PUBLIC WATER LINES INCLUDING WATER LATERALS LOCATED IN PUBLIC RIGHT-OF-WAY.
10. WHERE ELEVATIONS AND GRADES ARE NOT SHOWN ON THE WATER MAIN PROFILE, TOP OF PIPE PROFILE IS 48-INCHES BELOW CENTERLINE OF FINISH GRADE OF STREET.
11. ALL DEFLECTIONS (HORIZONTAL AND VERTICAL) SHALL BE MADE BY USE OF JOINT COUPLINGS WITH 4° MAXIMUM DEFLECTION PER COUPLING (2° PER JOINT). NO BENDING (CURVING) OF PIPE SHALL BE PERMITTED.
12. INSTALL A MINIMUM 1-INCH WATER SERVICE TO EACH LOT. METER TO BE LOCATED 5-FEET FROM A SIDE LOT LINE. A 3/4-INCH HIGH LETTER "W" SHALL BE CHISELED IN TOP OF EXISTING CURB OR IMPRINTED IN NEW CURB AT ALL WATER SERVICE CROSSINGS.
13. METER BOXES SHALL NOT BE PLACED WITHIN DRIVEWAYS OR SIDEWALKS WITHOUT THE DISTRICT'S PRIOR WRITTEN CONSENT.
14. ALL WATER SERVICES FOR IRRIGATION, MULTIPLE RESIDENTIAL COMPLEXES, COMMERCIAL OR INDUSTRIAL DEVELOPMENT SHALL HAVE APPROVED BACKFLOW PREVENTION DEVICE ON CUSTOMER'S SIDE OF WATER METER.
15. CONTRACTOR SHALL TIE OFF ALL VALVE LOCATIONS AND PROVIDE WRITTEN DIMENSIONS TO INSPECTOR IMMEDIATELY UPON INSTALLATION OF VALVES.
16. LINE VALVES, WHERE REQUIRED AT STREET INTERSECTIONS SHALL BE LOCATED AT THE TEE WHENEVER POSSIBLE.
17. FIRE HYDRANTS, AS APPROVED BY THE APPROPRIATE FIRE DISTRICT AND MEETING THE DISTRICT'S STANDARD SPECIFICATIONS, ARE TO BE INSTALLED AT LOCATIONS SPECIFIED BY THE FIRE DISTRICT.
18. ALL DESIGN CHANGES TO THE WATER SYSTEM SHALL BE APPROVED BY THE DISTRICT REPRESENTATIVE IN WRITING PRIOR TO CONSTRUCTION AND ACCEPTANCE OF THE CHANGE.
19. THE WATER SYSTEM SHALL BE PRESSURE TESTED IN ACCORDANCE WITH THE PROCEDURES IN THE OMWD STANDARD SPECIFICATIONS. THE CLASS OF PIPE SHALL BE USED AS THE DESIGNATED WORKING PRESSURE FOR TESTING ALL PIPE, VALVES (CLOSED) AND APPURTENANCES.
20. PIPELINES AND APPURTENANCES SHALL BE DISINFECTED IN ACCORDANCE WITH SECTION 15141 OF THE OMWD STANDARD SPECIFICATIONS PRIOR TO TIE-IN OR CONNECTION TO EXISTING SYSTEM FACILITIES. BACTERIOLOGIC QUALITY TEST RESULTS SHALL CONFORM TO THE CRITERIA SPECIFIED IN THAT SPECIFICATION.
21. CONTRACT RECORD DRAWINGS MUST BE SUBMITTED PRIOR TO FINAL ACCEPTANCE OF WORK. THE PLANS MUST PROVIDE POST CONSTRUCTION VERIFICATION OF THE LOCATION AND ELEVATION OF PIPES AND APPURTENANCES.
22. CONTRACTOR SHALL GUARANTEE ALL WORK FOR A PERIOD OF TWO (2) YEARS AFTER THE DATE OF ACCEPTANCE FOR THE PROJECT. CONTRACTOR SHALL REPAIR OR REPLACE ANY OR ALL SUCH WORK, TOGETHER WITH ANY OTHER WORK WHICH MAY BE DISPLACED IN SO DOING THAT MAY PROVE DEFECTIVE IN WORKMANSHIP AND/OR MATERIALS WITHIN THE TWO-YEAR PERIOD FROM THE DATE OF ACCEPTANCE WITHOUT EXPENSE WHATSOEVER TO THE DISTRICT, ORDINARY WEAR AND TEAR, UNUSUAL ABUSE OR NEGLECT EXCEPTED.
23. ALL IRRIGATION METERS SHALL BE SERVED WITH RECYCLED WATER UNLESS PREVIOUSLY APPROVED IN WRITING BY THE DISTRICT.
24. ALL BURIED FITTINGS AND VALVES SHALL BE WAX TAPE WRAPPED IN ACCORDANCE WITH OMWD STANDARD SPECIFICATIONS. SECTIONS 09952 AND 15310 AND STANDARD DETAIL G-6.
25. NO CONCRETE THRUST BLOCKS ARE ALLOWED ON VERTICAL BENDS. VERTICAL BENDS REQUIRE DR14 PIPE AND RESTRAINED JOINTS.

SHEET INDEX

LEGEND



REGISTERED PROFESSIONAL ENGINEER
MATTHEW L DOORMAN
No. 50141
Exp. 6/30/25
CIVIL
STATE OF CALIFORNIA

MARK	DATE	BY	REVISIONS

DESIGN | DRAWN | CHECK

BALBOA ENGINEERING, INC.

OLIVENHAIN
Municipal Water District
1966 Olivenhain Road
Encinitas,CA 92024 (760)753-6466

GARDENDALE AND VILLAGE PARK WEST PRS REPLACEMENTS

GENERAL NOTES, SHEET INDEX, AND ABBREVIATIONS

SHEET 2 OF 22 | DRAWING G-2

ORIGINAL SCALE IN INCHES

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REFERENCE DRAWINGS

OMWD	PROJECT TITLE
949 SHT 1, 7, 11	VILLAGE PARK UNIT NO. 3, 4, & 5
7055 SHT 1, 7, 10	MOUNTAIN VISTA DRIVE IN VILLAGE PARK NORTH COUNTRY UNIT NO. 4
10178, 10180, 10181, 10188	IMPROVEMENT DISTRICT NO. 1 UNIT G
10119	MOUNTAIN VISTA DRIVE VILLAGE PARK WEST
10124	WANDERING ROAD – VILLAGE PARK WEST
10129	PRS – MTN VISTA DR & WANDERING RD
10261, 10411	GARDENDALE ROAD IN VILLAGE PARK NORTH COUNTRY UNIT NO. 4
10526	SHADOW MOUNTAIN DRIVE
ENCINITAS	
TM 3605 SHT 3, 4 5, 11, 13	UNITS 1 & 2
TM 3281–1 SHT 4, 9, 10, 12, 14, 15	VILLAGE PARK WEST
TM 3449 SHT 3	IN VILLAGE PARK NORTH COUNTRY UNIT NO 4
C833 SHT 2	MOUNTAIN VISTA DRIVE
TM 2840–4 SHT 7, 10	IN VILLAGE PARK NORTH COUNTRY UNIT NO 4
LWWD	
TM 2840–3 SHT 14, 16	OFFSITE SEWER & 18" RCP – VILLAGE PARK UNIT NO. 3
TM 2840–4 SHT 10	MOUNTAIN VISTA DR – IN VILLAGE PARK UNIT NO. 4
SDGE ELEC	
15615–119980	MOUNTAIN VISTA AT WANDERING RD
15637–119985	MOUNTAIN VISTA AT GARDENDALE RD
SDGE GAS	
15615–119980	MOUNTAIN VISTA AT WANDERING RD
15637–119985	MOUNTAIN VISTA AT GARDENDALE RD
CHARTER	
MAP 1	MOUNTAIN VISTA AT WANDERING RD
MAP 2	MOUNTAIN VISTA AT GARDENDALE RD
ATT	

GENERAL CONSTRUCTION NOTES

1. ALL EXISTING UTILITIES INDICATED ON THE DRAWINGS ARE SHOWN DIAGRAMMATICALLY AND APPROXIMATELY AND ARE BASED ON AS–BUILT DRAWINGS AND THE ORIGINAL CONSTRUCTION DRAWINGS. THE CONTRACTOR SHALL POTHOLE ALL CONNECTING UTILITIES, CROSSING UTILITIES, AND PARALLEL UTILITIES THAT ARE LOCATED WITHIN 5 FEET OF THE PROPOSED PIPE ALIGNMENT, VERIFY THE SIZE, MATERIAL, HORIZONTAL & VERTICAL LOCATION, BEARING, AND INCLINATION OF ALL EXISTING UTILITIES, AND SUBMITT THE POTHOLE RESULTS AND UTILITY CONNECTION PLAN TO THE DISTRICT FOR REVIEW AND APPROVAL, PRIOR TO ANY ORDERING MATERIALS AND DEMOLITION WORK OR INSTALLATION OF NEW WORK. CONDUCT POTHOLING ACTIVITIES AFTER ALIGNMENT STAKING AND PRIOR TO SAW CUTTING OF PAVEMENTS. THE CONTRACTOR SHALL SCHEDULE THE WORK TO INCLUDE A PERIOD OF TEN WORKING DAYS FOR DESIGN REVISIONS, AT NO ADDITIONAL COST TO THE DISTRICT, IN LOCATIONS WHERE ADVANCE POTHOLING IS SPECIFICALLY NOTED ON THE DRAWINGS AND UTILITY CONFLICTS ARE DISCOVERED DURING THE COURSE OF POTHOLING. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES TO PROTECT ANY EXISTING UTILITIES OR STRUCTURES AT THE WORK SITE.
2. THE CONTRACTOR SHALL FIELD VERIFY THE DEPTHS OF EXISTING SEWER MAINS THAT CROSS UNDER, AND WITHIN 3 FEET OF, THE PROPOSED PIPELINE BY MEASURING THE DEPTH TO INVERT OF EACH NEAREST MANHOLE LOCATED ON SIDE OF THE PROPOSED PIPELINE.
3. THE CONTRACTOR SHALL DESIGN, CONSTRUCT, AND MAINTAIN ALL SAFETY DEVICES INCLUDING SHORING, AND SHALL BE RESPONSIBLE FOR COMPLIANCE WITH ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS, AND REGULATIONS. THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND WILL NOT BE LIMITED TO NORMAL WORKING HOURS.
4. THE CONTRACTOR SHALL PROTECT EXISTING UTILITIES THAT CROSS OR PARALLEL THE PROPOSED WORK IN ACCORDANCE WITH THE STANDARDS OF THE UTILITY OWNER, THE DISTRICT OR THE STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION. THE METHOD OF UTILITY SUPPORT OR PROTECTION SHALL BE APPROVED BY THE DISTRICT. THE MINIMUM VERTICAL SEPARATION BETWEEN CROSSING UTILITIES SHALL BE 1 FOOT UNLESS OTHERWISE APPROVED BY THE DISTRICT.
5. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES REQUIRED TO PROTECT ADJACENT PROPERTIES AND IMPROVEMENTS DURING ALL PROJECT OPERATIONS. DAMAGED OR DESTROYED ITEMS SHALL BE REPAIRED OR REPLACED TO THE CONDITION EXISTING PRIOR TO WORK BY THE CONTRACTOR AT NO COST TO THE DISTRICT.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MONUMENTATION AND/OR BENCHMARKS WHICH WILL BE DISTURBED OR DESTROYED BY CONSTRUCTION. SUCH POINTS SHALL BE REFERENCED AND REPLACED WITH APPROPRIATE MONUMENTATION BY A LICENSED LAND SURVEYOR OR A REGISTERED CIVIL ENGINEER AUTHORIZED TO PRACTICE LAND SURVEYING. A CORNER RECORD OR RECORD OF SURVEY, AS APPROPRIATE, SHALL BE FILED BY THE LICENSED LAND SURVEYOR OR REGISTERED CIVIL ENGINEER AS REQUIRED BY THE LAND SURVEYOR'S ACT. THE CONTRACTOR SHALL PROTECT ALL EXISTING SURVEY MONUMENTS THAT ARE LOCATED WITHIN 10 FEET OF THE CENTERLINE OF CONSTRUCTION BY COVERING THE MONUMENTS WITH 1–INCH THICK STEEL PLATE DURING EXCAVATION AND BACKFILL OPERATIONS OR SHALL EMPLOY ALTERNATIVE PROTECTION MEASURES NECESSARY TO AVOID DISTURBANCE OR DAMAGE TO THE MONUMENTS. ALTERNATIVE PROTECTION MEASURES SHALL BE SUBMITTED FOR DISTRICT REVIEW AND APPROVAL IN ACCORDANCE WITH OMWD STANDARD SPEC 01300. THE CAP OF ANY MONUMENT WITHIN THE WORK AREA SHALL BE RAISED TO MATCH FINISHED GRADE.
7. THESE DOCUMENTS HAVE BEEN PREPARED FOR A SPECIFIC PROJECT AND SHALL NEITHER BE ALTERED NOR REUSED FOR ANY OTHER PURPOSE. ALSO, THESE DOCUMENTS DO NOT REPRESENT AS–BUILT CONDITIONS. IF THESE DOCUMENTS ARE ALTERED INTENTIONALLY OR UNINTENTIONALLY, OR REUSED WITHOUT THE DESIGN ENGINEER'S WRITTEN APPROVAL, IT WILL BE AT THE SOLE RISK AND RESPONSIBILITY OF THE USER. THE ACT OF ALTERING OR REUSING IS CONSTRUED AS INDEMNIFYING AND HOLDING THE DESIGN ENGINEERING FIRM AND ITS EMPLOYEES HARMLESS FROM ALL CLAIMS, DAMAGES, AND EXPENSES, INCLUDING ATTORNEY FEES, ARISING OUT OF SUCH ACT.
8. CONTRACTOR SHALL COORDINATE THEIR CONSTRUCTION STAGING AREAS WITH THE DISTRICT AND CITY OF ENCINITAS PRIOR TO MOBILIZATION PER SUPPLEMENT TO GENERAL PROVISIONS.
9. CONTRACTOR SHALL REFER TO SPECIFICATION SECTION 00810 FOR HOURS OF WORK. NO WORK OF ANY KIND, INCLUDING WARMING UP OR MOVEMENT OF EQUIPMENT IS PERMITTED OUTSIDE THESE HOURS OF OPERATION.
10. THE CONTRACTOR SHALL FURNISH TO THE ENGINEER OF WORK AS–BUILT PLANS FOR ALL NEW IMPROVEMENTS SHOWN ON THESE PLANS.
11. FINISH GRADE OF NEW CONCRETE PAVING SHALL CONFORM TO EXISTING SITE GRADES OR AS SHOWN ON THESE DRAWINGS AS DIRECTED BY THE ENGINEER. STRAIGHT GRADES SHALL BE MAINTAINED BETWEEN FINISH ELEVATIONS AS SHOWN.
12. ALL SURPLUS EXCAVATED SOIL AND DEBRIS SHALL BE LEGALLY DISPOSED OFF SITE. ALL COSTS FOR TRANSPORTATION AND DISPOSAL SHALL BE INCLUDED IN THEIR APPURTENANT ITEMS OF WORK. ESTIMATED QUANTITIES FOR EARTHWORK AND IMPORTED MATERIALS ARE APPROXIMATE AND CONTRACTOR SHALL DEVELOP HIS/HER OWN ESTIMATES FOR BIDDING PURPOSES.

CITY OF ENCINITAS NOTES

1. CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE AND THE CITY OF ENCINITAS FIRE DEPARTMENT, FIRE PREVENTION AT 760–633–2820 AT LEAST 72 HOURS IN ADVANCE OF ANY STREET CLOSURES OR POTABLE WATERLINE SHUTDOWNS. CONTRACTOR SHALL CONTACT COUNTY OF SAN DIEGO SHERIFF'S DEPARTMENT, ENCINITAS STATION AT 760–966–3500 AT LEAST 72 HOURS IN ADVANCE OF ANY STREET CLOSURES OR DETOURS.
2. TREES WITH TRUNKS GREATER THAN 3" IN DIAMETER SHALL BE HANDLED BY THE CONTRACTOR ACCORDING TO THE FOLLOWING REQUIREMENTS:
   - ALL TREES IN THE VICINITY OF THE PROJECT SHALL BE PROTECTED IN PLACE.
   - ALL TREES WITH TRUNKS THAT ARE LOCATED OUTSIDE THE DISTRICT'S EASEMENTS SHALL BE PROTECTED IN PLACE.
   - THE DRAWINGS IDENTIFY SPECIFIC TREES ALONG THE DISTRICT EASEMENTS THAT THE CONTRACTOR SHALL EITHER PROTECT IN PLACE OR REMOVE.
   - FOR ANY TREE, OR TREE CLUSTER, THAT IS NOT SPECIFICALLY DESIGNATED FOR PROTECTION OR REMOVAL ON THE DRAWINGS OR AS DESCRIBED ABOVE, THE CONTRACTOR MAY CHOOSE TO EITHER PROTECT THE TREE, OR TREE CLUSTER, IN PLACE, OR THE CONTRACTOR MAY REQUEST TO REMOVE THE TREE AND REIMBURSE OMWD FOR THE TOTAL COST OF PROVIDING AND PLANTING A TREE OF COMPARABLE SPECIES AND SIZE AT A LOCATION DESIGNATED BY OMWD WITHIN THE CITY OF ENCINITAS. THE DECISION TO ALLOW THE REMOVAL OF A TREE, OR CLUSTER OF TREES, WITH NO PARTICULAR DESIGNATION WILL BE MADE BY THE DISTRICT AT THE DISTRICT'S SOLE DISCRETION.
   - TREES LOCATED WITHIN CITY STREET RIGHT–OF–WAY, ON CITY PROPERTY, OR WITHIN CITY EASEMENTS ARE REFERRED TO AS CITY TREES AND SHALL BE PROTECTED IN PLACE DURING CONSTRUCTION UNLESS SPECIFICALLY APPROVED OTHERWISE. NO GRADING, EXCAVATION, OR DISTURBANCE OF CITY TREE ROOT SYSTEMS SHALL OCCUR WITHIN THE CITY TREE DRIP LINE AREA (THE AREA FROM THE TRUNK OF A TREE TO THE OUTERMOST EDGE OF THE TREE CANOPY PROJECTION ON THE GROUND). IF A CITY TREE IS NOT CLEARLY LABELED TO BE REMOVED, IT MUST BE PROTECTED IN PLACE. PROPOSED SERVICES AND APPURTENANCES SHALL NOT BE CONSTRUCTED WITHIN THE DRIP LINE OF CITY TREES.
   - ANY TREE DESIGNATED FOR PROTECTION IN PLACE SHALL BE PROTECTED IN ACCORDANCE WITH CITY OF ENCINITAS URBAN FOREST MANAGEMENT PLAN, ADMINISTRATIVE MANUAL PROCEDURES, DATED FEBRUARY 28, 2012, AND AS REQUIRED BY THE DISTRICT REPRESENTATIVE AND CITY OF ENCINITAS ARBORIST. TREE PROTECTION SHALL INCLUDE, BUT IS NOT LIMITED TO, NOT CUTTING ANY ROOT GREATER THAN 2 INCHES IN DIAMETER AND HAND–DIGGING AROUND THE TREE ROOTS.
   - ANY TREE DESIGNATED TO BE PROTECTED IN PLACE THAT IS DAMAGED, AS DEFINED BY THE CITY OF ENCINITAS ARBORIST, SHALL BE REPLACED IN KIND BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE DISTRICT OR THE CITY OF ENCINITAS.
4. CURBS, GUTTERS, CROSS GUTTERS AND SIDEWALKS DAMAGED DURING CONSTRUCTION SHALL BE REPLACED FROM JOINT TO JOINT PER SAN DIEGO REGIONAL STANDARDS. ANY DECORATIVE CONCRETE PAVING OR FLATWORK, IF DAMAGED DURING CONSTRUCTION, SHALL BE REPLACED WITH LIKE KIND INCLUDING COLOR, PATTERN, AND TEXTURE. THE FOLLOWING SAN DIEGO REGIONAL STANDARD DRAWINGS SHALL APPLY TO THE WORK AND ARE NOT CONSIDERED TO BE ALL–INCLUSIVE OF THOSE PERTINENT TO THE WORK:

ITEM	DRAWING NO.
CURB AND GUTTER – COMBINED	G–2
SIDEWALK	G–7
SIDEWALK JOINT LOCATIONS	G–9
CONCRETE JOINT DETAILS	G–10
CONCRETE CURB, GUTTER, SIDEWALK AND PAVEMENT REMOVAL AND REPLACEMENT	G–11
CROSS GUTTER	G–12
CURB RAMP – TYPES A–1 AND B–1 (FOR EXISTING SIDEWALK)	G–28
TRUNCATED DOMES	G–30
GENERAL NOTES FOR CURB RAMPS	G–32A

5. STOP BAR STRIPING OR PAVEMENT MARKINGS DAMAGED BY CONSTRUCTION SHALL BE REMOVED IN THEIR ENTIRETY AND REPLACED WITH NEW THERMOPLASTIC STRIPING OR MARKINGS CONFORMING TO SECTION 84 OF THE CALTRANS STANDARD SPECIFICATIONS, 2010 EDITION, TO THE SATISFACTION OF THE CITY OF ENCINITAS.
6. CONTRACTOR SHALL REFER TO SPECIFICATION APPENDIX A FOR GEOTECHNICAL WORK, INCLUDING COORDINATING WITH OWNER'S REPRESENTATIVE AND PROVIDING 72 HOUR NOTIFICATION FOR INSPECTIONS.
7. UTILITY TRENCH AND EXCAVATION RESURFACING IN STREETS NOT UNDER MORATORIUM SHALL BE PER CITY OF ENCINITAS STANDARD DRAWINGS S–01A AND S–01B, ADOPTED OCTOBER 2023.

REGISTERED PROFESSIONAL ENGINEER
MATTHEW L DOWNEY
No. 50141
Exp. 6/30/25
CIVIL
STATE OF CALIFORNIA

MARK	DATE	BY	REVISIONS

DESIGN | DRAWN | CHECK

BALBOA ENGINEERING, INC.

OLIVENHAIN
Municipal Water District
1966 Olivenhain Road
Encinitas,CA 92024 (760)753–6466

GARDENDALE AND VILLAGE PARK WEST
PRS REPLACEMENTS

GENERAL NOTES

SHEET 3 OF 22 | DRAWING G–3

ORIGINAL SCALE IN INCHES 0 1 2 3 4

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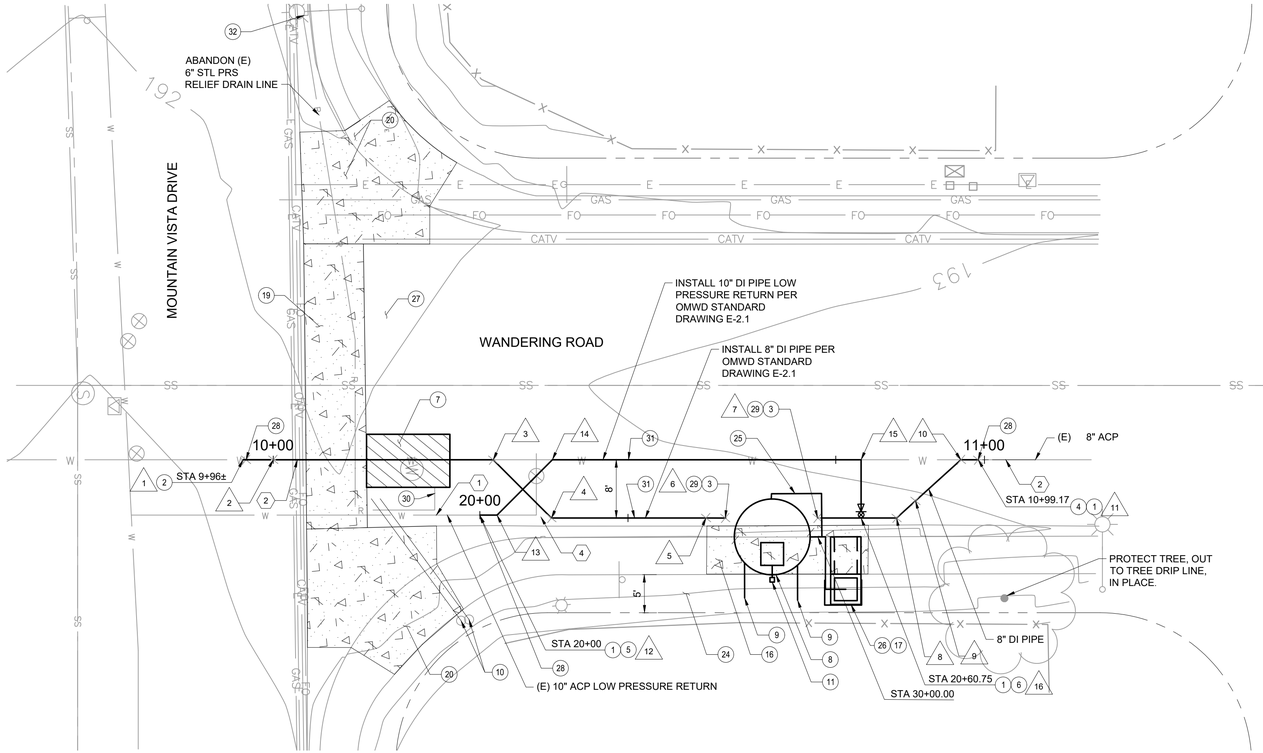

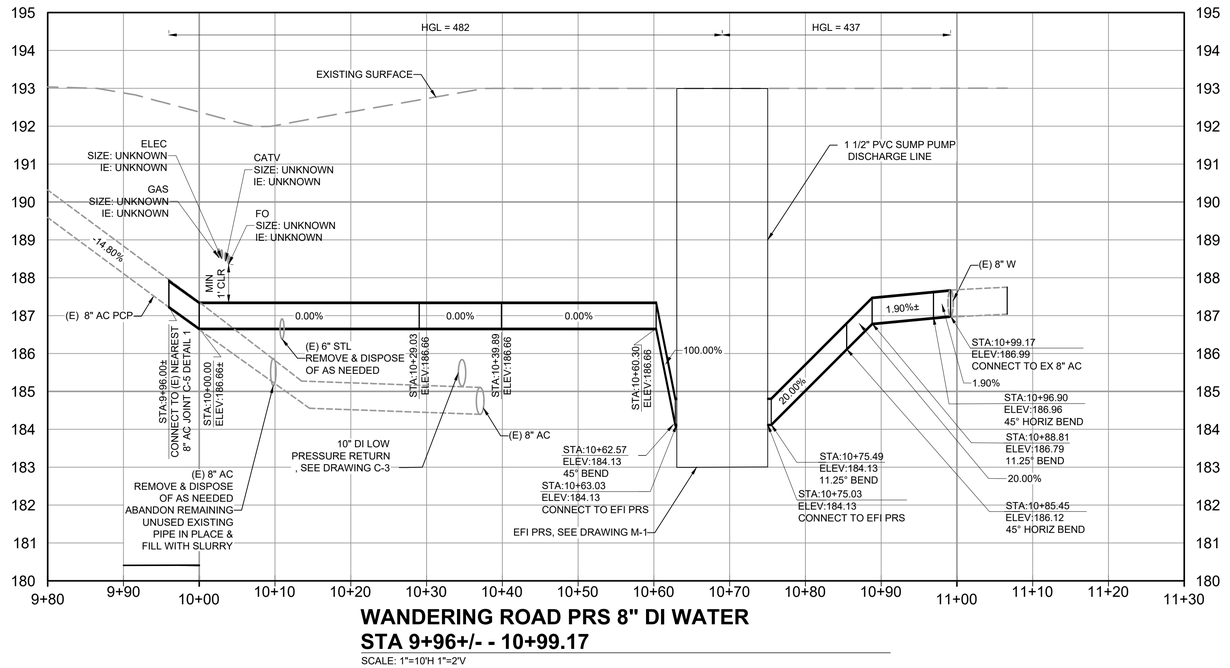

WANDERING ROAD PRS 8" DI WATER
STA 9+96+/- - 10+99.17

SCALE: 1"=10'H 1"=2'V

CONSTRUCTION NOTES

1. FLEXIBLE TRANSITION COUPLING PER OMWD APPROVED MATERIALS LIST. CONNECTION SHALL BE AT NEAREST AC PIPE JOINT. FIELD VERIFY ALL CONNECTION POINT DEPTHS, SLOPES, JOINTS AND O.D. PRIOR TO ORDERING MATERIALS.
2. CONNECT TO EXISTING 8" ACP, SEE SHEET C-5, DETAIL 1
3. CONNECT TO PRS OUTLET WITH MJ X FLG DI RESTRAINED BEND. SEE DRAWINGS M-1 OR M-3 AS APPROPRIATE.
4. CONNECT TO EXSITING 8" ACP , SEE SHEET C-5, DETAIL 2.
5. CONNECT TO EXISTING 10" ACP, SEE SHEET C-5, DETAIL 3.
6. CONNECT NEW 10" DI TO 10"x8" DI REDUCER, 8" GV, 8"x8"x8" TEE. SEE SHEET C-5, DETAIL 4.
7. DEMOLISH EXISTING PRS BY REMOVING AND DISPOSING OF ALL EXISTING PIPING, EQUIPMENT AND APPURTENANCES. REMOVE EXISTING PRECAST VAULT, A MINIMUM OF ONE FOOT BELOW THE BOTTOM OF THE PROPSED 8" PIPING. BREAKOUT WALLS AS NEEDED TO INSTALL (N) 8" DI WATER. FILL VAULT WITH SAND OR 1-SACK SANDICEMENT SLURRY AND COMPACT PER SPECIFICATIONS. IF FILLING REMAINING VAULT WITH SAND, BREAK OR DRILL VAULT BOTTOM FOR DRAINAGE.
8. OBTAIN AND INSTALL OWNER FURNISHED PRS FROM DISTRICT HEADQUARTERS, SEE DRAWINGS M-1 THROUGH M-4 AS APPROPRIATE.
9. 4" STEEL VENT PIPE, SEE SHEET C-6, DETAIL 2.
10. DEMOLISH EXISTING VENT PIPING AS NEEDED AND TWO FEET BELOW FINISH GRADE. REPLACE SECTION OF CURB AND GUTTER REMOVED DURING DEMOLITION TO MATCH EXISTING
11. 1" PVC DRAIN LINE FROM HATCH TO 12" X 12" FILTER FABRIC WRAPPED GRAVEL PACK, OR SIMILAR
16. REMOVE AND REPLACE EXISTING CURB, GUTTER, AND SIDEWALK. AS-NEEDED, MATCHING EXISTING GRADES, AND TO THE NEAREST JOINT, TO CONSTRUCT THE EFI FOUNDATION AND INSTALL THE EFI PRS AND PIPE CONNECTIONS. REPLACE CURB, GUTTER, SIDEWALK, CROSS CUTTERS, AND MISC PCC PER CITY OF ENCINITAS NOTE 4.
17. NEW 6" DI RELIEF DRAIN PIPE AND CANDY CANE WITH DUCK BILL OUTLET, CATCH BASIN TYPE I, AND MODIFIED CURB OUTLET PER SDRSD D-25A AND D29.
19. REMOVE AND REPLACE EXISTING CROSS GUTTER PER SDRD G-12
20. REMOVE EXISTING CURB RAMP AND REPLACE WITH TYPE C PER SDRD G-29. REMOVE AND REPLACE EXISTING CURB RAMP GUTTER PER SDRD G-12
21. SEE GENERAL CONSTRUCTION NOTE 1 ON DRAWING G-3
24. REPLACE VEGETATION, GROUND COVER, HARDSCAPE, AND IRRIGATION, DISTURBED BY CONSTRUTION, IN KIND AND SIMILAR SIZE. TEST IRRIGATION TO CONFIRM IT FUNCTIONS PROPERLY.
25. CONNECT 1 1/2" PVC SCH 80 SUMP PUMP DISCHARGE LINE TO 6" RELIEF PIPELINE PER OMWD STD DTL D-1.1
26. ROUGHLY 2' HIGH MASONRY RETAINING WALL TYPE 6, PER SDRSD C-06.
27. EXISTING CROSSWALK TO BE RESTRIPED AS A CONTINENTAL CROSSWALK. PER SAN DIEGO COUNTY DESIGN STANDARD DS-24C.
28. INSTALL 2-WIRE CTS WITH ANODES IN ACCORDANCE WITH STD DETAIL G-10. INSTALL TWO 32-LB STANDARD POTENTIAL MAGNESIUM ANODES WITH #12 THHN WIRE LEAD. ANODES TO BE PROVIDED BY THE PRS MANUFACTURER.
29. INSTALL FLANGE ISOLATION KIT AND TEST STATION IN ACCORDANCE WITH STD DETAIL G-8. SEE TEST STATION WIRING DIAGRAM ON CP-1.
30. CAP OR CONCRETE PLUG THE END OF THE ABANDONED 6" RELIEF DRAIN LINE.
31. UTILITY TRENCH AND RESURFACING PER CITY OF ENCINITAS STANDARD DRAWING S-01A.
32. GROUT END OF EXISTING 6" RELIEF DRAIN LINE.

GENERAL NOTES

1. ALL DI PIPING TO BE FULLY RESTRAINED WITH FLG X FLG CONNECTIONS. DISMANTLING JOINTS, PER AML, CAN BE USED FOR CLOSURES AS APPROVED BY THE DISTRICT. EXCEPT WHERE INSULATING FLANGES ARE DESIGNATED, BOND ALL METALLIC PIPE JOINTS AND IN-LINE MECHANICAL JOINTS, IN ACCORDANCE WITH OMWD STANDARD DETAILS G-5 AND G-6. ALL BURIED DI PIPE TO BE POLYETHYLENE ENCASED (PER STD. DETAIL G-5). ALL BURIED PIPE FITTINGS TO BE WAX TAPED (PER STD. DETAIL G-6).
2. CONTRACTOR TO EXPECT GROUNDWATER. SEE GEOTECHNICAL REPORT, DATED SEPTEMBER, 2023, IN APPENDIX A OF THE SPECIFICATIONS.
3. PROTECT ALL PCC IMPROVEMENTS IN PLACE, UNLESS INDICATED OTHERWISE.
4. FIELD VERIFY SLOPES OF ALL CONNECTING PIPES TO CONFIRM BENDS PRIOR TO ORDERING MATERIALS.

WATER COORDINATE TABLE

NO	STATION	NORTHING	EASTING	DESCRIPTION	SIZE
1	9+96±	1964014.80	6253502.46	POC (21)	8"
2	10+00.00	1964018.38	6253502.82	8.5° BEND	8"
3	10+29.03	1964047.26	6253505.72	45° BEND	8"
4	10+39.89	1964054.14	6253514.13	45° BEND	8"
5	10+60.30	1964076.96	6253516.41	45° BEND	8"
6	10+62.57	1964076.96	6253516.41	45° BEND/POC	8"
7	10+75.45	1964076.96	6253516.41	11.25° BEND	8"
8	10+85.45	1964099.47	6253518.67	45° BEND	8"
9	10+88.81	1964102.17	6253516.68	11.25° BEND	8"
10	10+96.90	1964108.69	6253511.88	45° BEND	8"
11	10+99.17	1964110.94	6253512.10	POC (21)	8"
12	20+00.00	1964044.78	1964044.78	POC (21)	10"
13	20+02.27	1964047.04	6253513.03	45° BEND	10"
14	20+12.59	1964055.03	6253506.50	45° BEND	10"
15	20+53.34	1964095.57	6253510.56	90° BEND	10"
16	20+61.02	1964094.80	6253518.20	POC TEE	10"

POTHOLE INVESTIGATION

#	UTILITY	SIZE	MATERIAL	DEPTH TO TOP
1	DRAIN	6"	STL	DRY HOLE
2	WATER	8"	ACP	DRY HOLE
3	WATER	8"	ACP	CONCRETE
4	WATER	10"	ACP	DRY HOLE

1" = 10'

10 5 0 10'

REGISTERED PROFESSIONAL ENGINEER
MATTHEW L DOUMAN
No. 56121
Exp. 6/30/25
CIVIL
STATE OF CALIFORNIA

MARK	DATE	BY	REVISIONS

DESIGN | DRAWN | CHECK

BALBOA ENGINEERING, INC.

OLIVENHAIN
Municipal Water District
1966 Olivenhain Road
Encinitas,CA 92024 (760)753-6466

GARDENDALE AND VILLAGE PARK WEST
PRS REPLACEMENTS

VILLAGE PARK WEST PRS, WANDERING ROAD
10" WATER LINE IMPROVEMENTS

SHEET 4 OF 22 | DRAWING C-1

ORIGINAL SCALE IN INCHES

0 1 2 3 4

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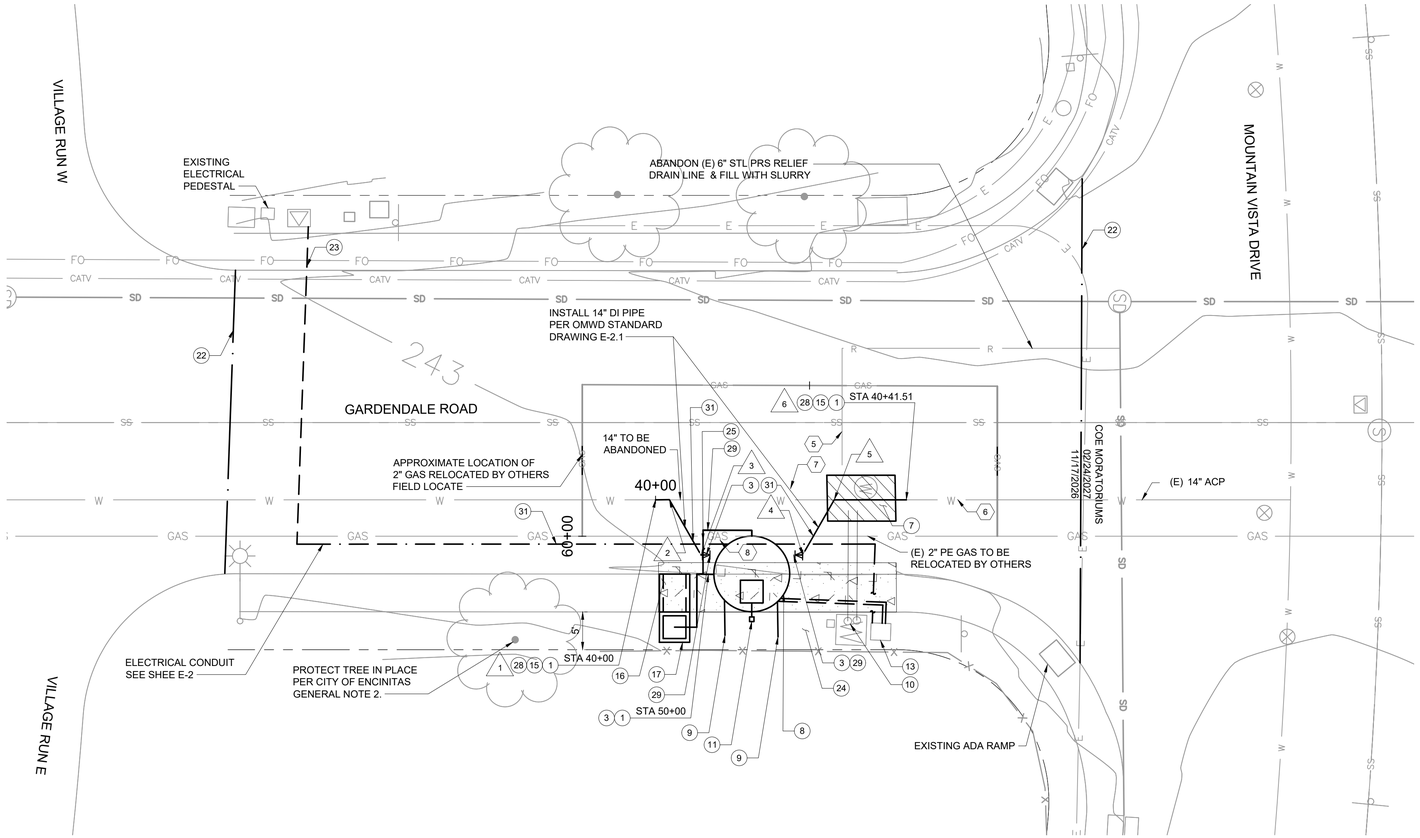

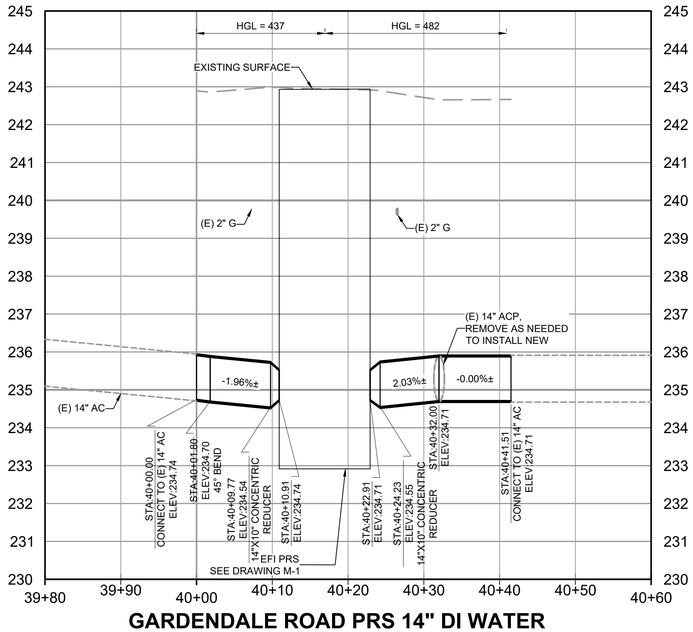

GARDENDALE ROAD PRS 14" DI WATER
STA 40+00 - 40+41.51

SCALE: 1"=10'H 1"=2'V

CONSTRUCTION NOTES

1. FLEXIBLE TRANSITION COUPLING PER OMWD APPROVED MATERIALS LIST. CONNECTION SHALL BE AT NEAREST AC PIPE JOINT. FIELD VERIFY ALL CONNECTION POINT DEPTHS, SLOPES, JOINTS AND O.D. PRIOR TO ORDERING MATERIALS.
3. CONNECT TO PRS OUTLET WITH MJ X FLG DI RESTRAINED BEND, PER OMWD AML. SEE DRAWINGS M-1 OR M-3 AS APPROPRIATE.
7. DEMOLISH EXISTING PRS BY REMOVING AND DISPOSING OF EXISTING UPPER THREE FEET OF PRECAST WATERPROOFED VAULT A MINIMUM OF ONE FOOT BELOW THE BOTTOM OF THE PROPSED 14" DI PIPING. BREAK OR DRILL VAULT BOTTOM FOR DRAINAGE. BREAKOUT WALLS AS NEEDED TO INSTALL (N) 14" DI WATER. FILL VAULT WITH SAND OR 1-SACK SAND/CEMENT SLURRY AND COMPACT PER SPECIFICATIONS.
8. OBTAIN AND INSTALL OWNER FURNISHED PRS FROM DISTRICT HEADQUARTERS, SEE DRAWINGS M-1 THROUGH M-4 AS APPROPRIATE.
9. 4" STEEL VENT PIPE, SEE SHEET C-6, DETAIL 2
10. DEMOLISH EXISTING VENT PIPING. REPLACE SECTION OF CURB AND GUTTER REMOVED DURING DEMOLITION TO MATCH EXISTING
11. 1 1/2" PVC DRAIN LINE FROM HATCH TO 12" X 12" FILTER FABRIC WRAPPED GRAVEL PACK, OR SIMILAR
13. PROTECT IN PLACE AND REUSE EXISTING SCADA PANEL. PROTECT EXISTING ANTENNA POLE IN PLACE.
15. CONNECT TO EXISTING 14" ACP, SEE SHEET C-6, DETAIL 1.
16. REMOVE AND REPLACE EXISTING CURB, GUTTER, AND SIDEWALK, AS-NEEDED , MATCHING EXISTING GRADES, AND TO THE NEAREST JOINT, TO CONSTRUCT THE EFI FOUNDATION AND INSTALL THE EFI PRS AND PIPE CONNECTIONS. REPLACE CURB, GUTTER, SIDEWALK, CROSS CUTTERS, AND MISC PCC PER CITY OF ENCINITAS NOTE 4.
17. NEW 6" DI RELIEF DRAIN PIPE AND CANDY CANE WITH DUCK BILL OUTLET, CATCH BASING TYPE I, AND CURB OUTLET PER SDRSD D-25A AND D29, SEE C-4
21. SEE GENERAL CONSTRUCTION NOTE 1 ON DRAWING G-3
22. LIMITS OF PROJECT 2" FULL ROAD WIDTH GRIND AND OVERLAY EXTENDS FROM THE MORATORIUM LINE ON THE NORTH TO THE CURB RETURN AT THE SOUTH. RESTRIPE INCLUDING CROSSWALK PER CITY OF ENCINITAS NOTE 5. CONTRACTOR TO OBTAIN MORATORIUM WAIVER PER SPECIFICATION SPECIAL PROVISIONS
23. 1.5" POWER AND COMMUNICATION CONDUITS PER SDRSD G-33. SEE DRAWING E-2.
24. REPLACE VEGETATION, GROUND COVER, HARDSCAPE, AND IRRIGATION, DISTURBED BY CONSTRUCTION, IN KIND AND SIMILAR SIZE. TEST IRRIGATION TO CONFIRM IT FUNCTIONS PROPERLY.
25. CONNECT 1 1/2" PVC SCH 80 SUMP PUMP DISCHARGE LINE TO 6" RELIEF PIPELINE PER OMWD STD DTL D-1.1
28. INSTALL 2-WIRE CTS WITH ANODES IN ACCORDANCE WITH STD DETAIL G-10. INSTALL TWO 32-LB STANDARD POTENTIAL MAGNESIUM ANODES WITH #12 THHN WIRE LEAD. ANODES TO BE PROVIDED BY THE MANUFACTURER.
29. INSTALL FLANGE ISOLATION KIT AND TEST STATION IN ACCORDANCE WITH STD DETAIL G-8. SEE TEST STATION WIRING DIAGRAM ON CP-2.
31. UTILITY TRENCH AND RESURFACING PER CITY OF ENCINITAS STANDARD DRAWING S-01A

GENERAL NOTES

1. ALL DI PIPING TO BE FULLY RESTRAINED WITH FLG X FLG CONNECTIONS. DISMANTLING JOINTS, PER AML, CAN BE USED FOR CLOSURES AS APPROVED BY THE DISTRICT. EXCEPT WHERE INSULATING FLANGES ARE DESIGNATED, BOND ALL METALLIC PIPE JOINTS AND IN-LINE MECHANICAL JOINTS, IN ACCORDANCE WITH OMWD STANDARD DETAILS G-5 AND G-6. ALL BURIED DI PIPE TO BE POLYETHYLENE ENCASED (PER STD. DETAIL G-5). ALL BURIED PIPE FITTINGS TO BE WAX TAPED (PER STD. DETAIL G-6).
2. CONTRACTOR TO EXPECT GROUND WATER. SEE GEOTECHNICAL REPORT, DATED SEPTEMBER, 2023, IN APPENDIX A OF THE SPECIFICATIONS.
3. PROTECT ALL PCC IMPROVEMENTS IN PLACE, UNLESS INDICATED OTHERWISE.
4. FIELD VERIFY SLOPES OF ALL CONNECTING PIPES TO CONFIRM BENDS PRIOR TO ORDERING MATERIALS.

POTHOLE INVESTIGATION

#	UTILITY	SIZE	MATERIAL	DEPTH TO TOP
5	DRAIN	6"	STL	5.12'
6	WATER	14"	ACP	7.60'
7	WATER	14"	ACP	8.90'
8	GAS	2"	PE	3.04'

COORDINATE TABLE

NO	STATION	NORTHING	EASTING	DESCRIPTION	SIZE
1	40+00.00	1964328.98	6255852.77	POC (21)	14"
2	40+01.80	1964330.78	6255852.70	45° BEND	14"
3	40+10.91	1964335.23	6255859.82	45° BEND POC	14"
4	40+22.91	1964348.65	6255859.34	45° BEND POC	14"
5	40+32.00	1964352.58	6255851.92	45° BEND	14"
6	40+41.51	1964362.07	6255851.58	POC (21)	14"

1" = 10'

10 5 0 10'

REGISTERED PROFESSIONAL ENGINEER MATTHEW L. DOHMAN No. 50411 Exp. 6/30/25 CIVIL STATE OF CALIFORNIA

MARK	DATE	BY	REVISIONS

DESIGN | DRAWN | CHECK

BALBOA ENGINEERING, INC.

OLIVENHAIN
Municipal Water District
1966 Olivenhain Road
Encinitas,CA 92024 (760)753-6466

GARDENDALE AND VILLAGE PARK WEST
PRS REPLACEMENTS

GARDENDALE ROAD
14" WATER LINE IMPROVEMENTS

SHEET 5 OF 22 | DRAWING C-2

ORIGINAL SCALE IN INCHES 0 1 2 3 4

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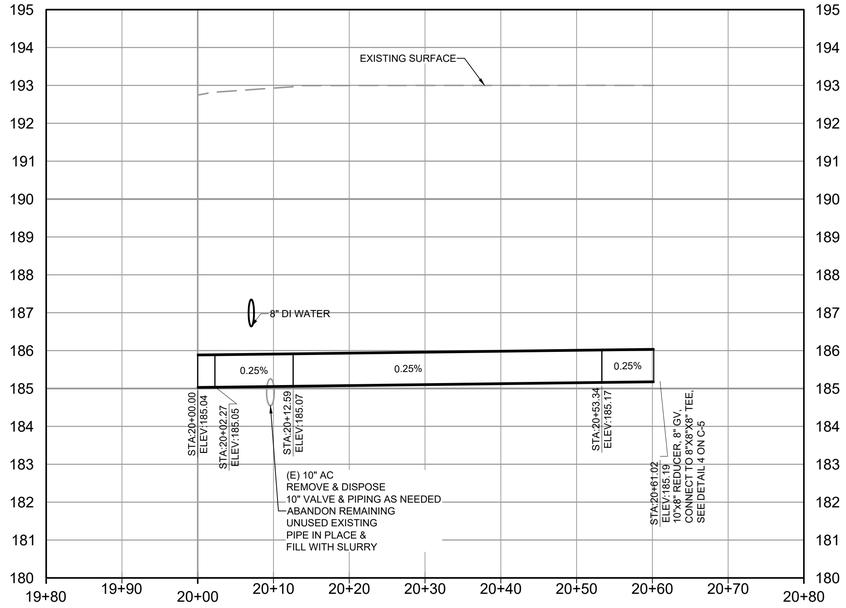
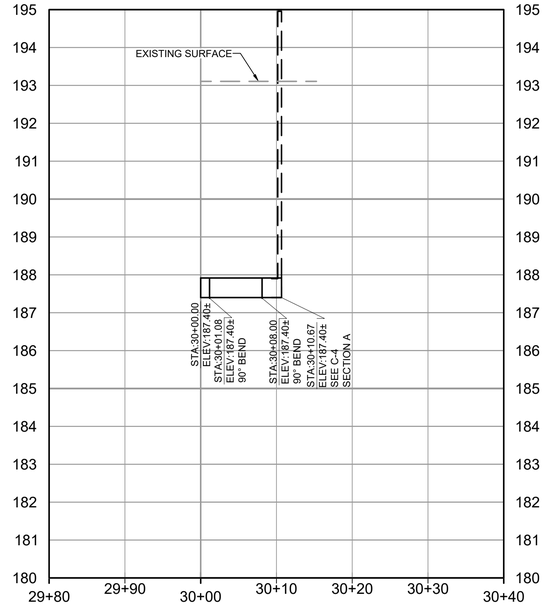


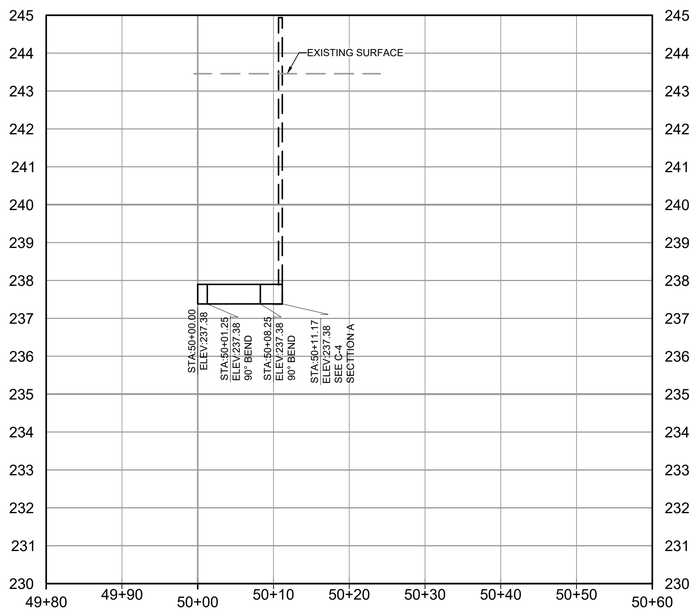
WANDERING ROAD PRS 10" DI LOW PRESSURE RETURN
STA 20+00 - 20+61.02

SCALE: 1"=10'H 1"=2'V



WANDERING ROAD PRS 6" DI DRAIN LINE
STA 30+00 - 30+10.67

SCALE: 1"=10'H 1"=2'V



GARDENDALE ROAD PRS 6" DI DRAIN LINE
STA 50+00 - 50+11.17

SCALE: 1"=10'H 1"=2'V

REGISTERED PROFESSIONAL ENGINEER
MATTHEW L DOGMAN
No. 58141
Exp. 6/30/25
CIVIL
STATE OF CALIFORNIA

MARK	DATE	BY	REVISIONS

DESIGN | DRAWN | CHECK

BALBOA ENGINEERING, INC.

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Municipal Water District
1966 Olivenhain Road
Encinitas,CA 92024 (760)753-6466

GARDENDALE AND VILLAGE PARK WEST
PRS REPLACEMENTS

PRS PIPING PROFILES

SHEET: 6 OF 22

DRAWING: C-3

ORIGINAL SCALE IN INCHES

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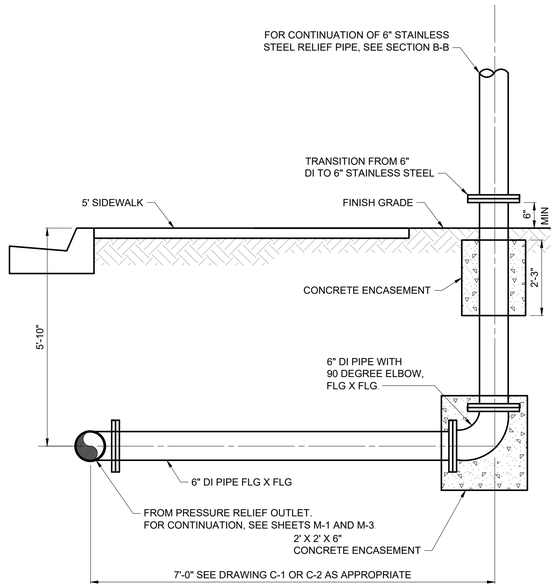
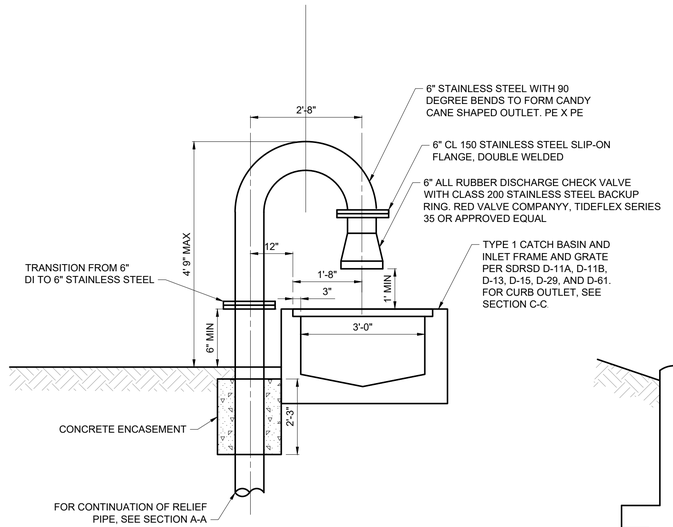


SECTION A-A
NTS



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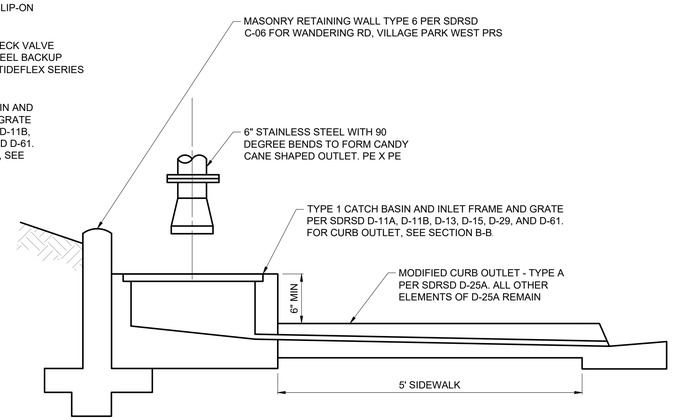
NTS



SECTION C-C
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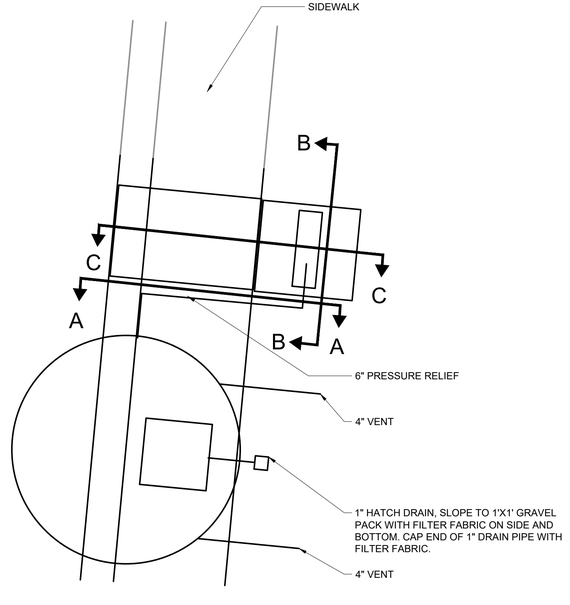
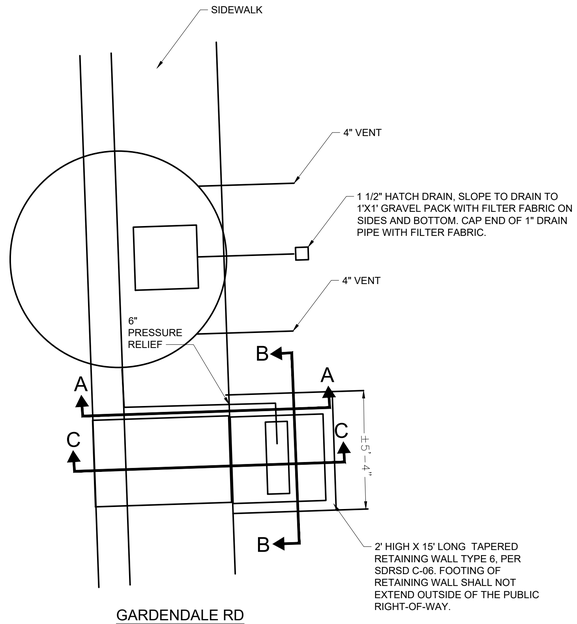


WANDERING RD



GARDENDALE RD

REGISTERED PROFESSIONAL ENGINEER
MATTHEW L. DOMAN
No. 58411
Exp. 6/30/25
CIVIL
STATE OF CALIFORNIA

MARK	DATE	BY	REVISIONS

DESIGN | DRAWN | CHECK

BALBOA ENGINEERING, INC.

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Municipal Water District
1966 Olivenhain Road
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GARDENDALE AND VILLAGE PARK WEST
PRS REPLACEMENTS

CURB OUTLET SECTIONS

SHEET 7 OF 22 | DRAWING C-4

ORIGINAL SCALE IN INCHES 0 1 2 3 4

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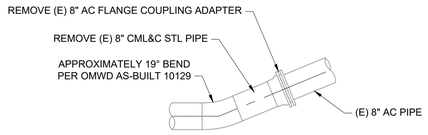
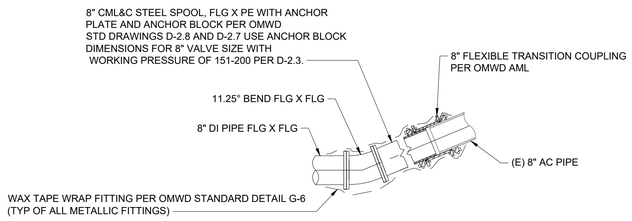


EXISTING CONDITIONS



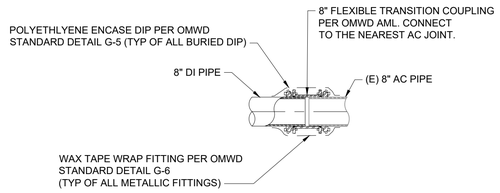
NOTE:
CML&C STEEL SPOOL JOINTS SHALL BE BONDED PER OMWD STD DWG G-5.

NEW WORK

WANDERING ROAD - VILLAGE PARK WEST_PRS
STA 9+96± 8" CONNECTION

1

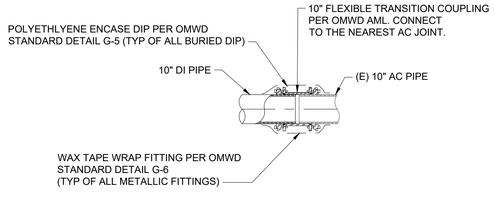
NOT TO SCALE



WANDERING ROAD - VILLAGE PARK WEST_PRS
STA 10+99.17 8" CONNECTION

2

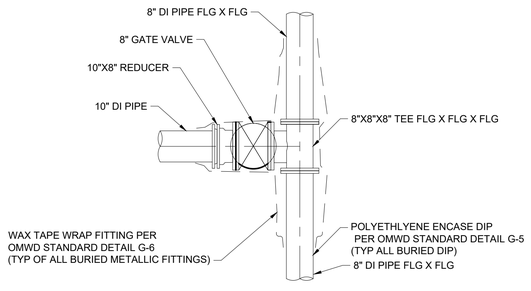
NOT TO SCALE



WANDERING ROAD - VILLAGE PARK WEST_PRS
STA 20+00 10"CONNECTION

3

NOT TO SCALE



WANDERING ROAD - VILLAGE PARK WEST_PRS
STA 20+60.75 10" CONNECTION

4

NOT TO SCALE

CONSTRUCTION NOTES

1. FIELD VERIFY ALL CONNECTION POINT EXISTING MATERIAL DEPTHS, SLOPES, JOINTS, AND O.D. PRIOR TO ORDER MATERIALS (TYP).

REGISTERED PROFESSIONAL ENGINEER
MATTHEW L. DOGMAN
No. 58211
Exp. 6/30/25
CIVIL
STATE OF CALIFORNIA

MARK	DATE	BY	REVISIONS

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GARDENDALE AND VILLAGE PARK WEST
PRS REPLACEMENTS

PRS PIPING DETAILS I

SHEET: 8 OF 22

DRAWING: C-5

ORIGINAL SCALE IN INCHES 0 1 2 3 4

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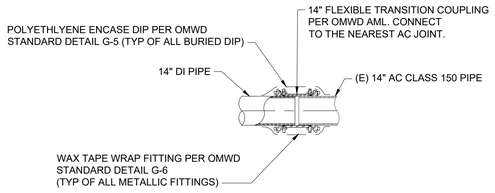

GARDENDALE PRS
STA 40+00 AND STA 40+41.51 14" CONNECTION

1
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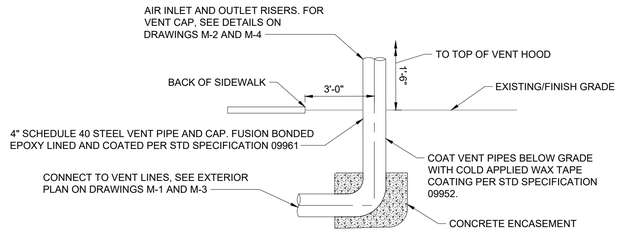
NOT TO SCALE



AIR INLET AND OUTLET RISERS (TYP)

2
–

NOT TO SCALE

REGISTERED PROFESSIONAL ENGINEER
MATTHEW L. DOGMAN
No. 58211
Exp. 6/30/25
CIVIL
STATE OF CALIFORNIA

MARK	DATE	BY	REVISIONS

DESIGN | DRAWN | CHECK

BALBOA ENGINEERING, INC.

OLIVENHAIN
Municipal Water District
1966 Olivenhain Road
Encinitas,CA 92024 (760)753-6466

GARDENDALE AND VILLAGE PARK WEST
PRS REPLACEMENTS

PRS PIPING DETAILS II

SHEET 9 OF 22

DRAWING C-6

ORIGINAL SCALE IN INCHES 0 1 2 3 4

GENERAL STRUCTURAL NOTES

G-1 THESE NOTES ARE GENERAL AND SUPPLEMENT THE SPECIFICATIONS. THESE NOTES APPLY TO THE ENTIRE PROJECT UNLESS MODIFIED OR NOTED OTHERWISE IN THE CONTRACT DOCUMENTS.

G-2 STANDARD DETAILS SHALL BE USED WHEN REFERRED TO OR WHEN NO MORE RESTRICTIVE OR DIFFERENT DETAILS ARE SHOWN ON THE DRAWINGS.

G-3 DESIGN IS IN ACCORDANCE WITH AND CONSTRUCTION SHALL COMPLY WITH THE PROVISIONS OF THE 2022 CALIFORNIA BUILDING CODE. THE DESIGN LOADS AND OTHER DESIGN VALUES GIVEN IN NOTES G-4 THROUGH G-8 WERE USED FOR DESIGN OF STRUCTURES UNLESS NOTED OTHERWISE ON THE DRAWINGS.

G-4 LIVE LOADS:

LEVEL / STRUCTURE	TOP / FIRST FLOOR	BOTTOM / GROUND FLOOR
PRESSURE REDUCING STATION	H-20	300 PSF

-ALL STAIRWAYS, LANDINGS AND PLATFORMS ARE DESIGNED FOR A LIVE LOAD = 100 PSF UNLESS NOTED OTHERWISE.

G-5 SNOW LOAD:

GROUND SNOW LOAD (Pg) = 0 PSF

G-6 WIND DESIGN CRITERIA:

BASIC DESIGN WIND SPEED (V) = 102 MPH
ALLOWABLE STRESS DESIGN WIND SPEED (Vasd) = 79 MPH
RISK CATEGORY = III
WIND EXPOSURE = C

G-7 SEISMIC LOAD:

RISK CATEGORY = III
SEISMIC IMPORTANCE FACTOR (Ie) = 1.25
SITE CLASS = D
SITE 1: WANDERING ROAD
MAPPED SPECTRAL RESPONSE ACCELERATIONS (Ss/S1) = 1.054/0.379
SPECTRAL RESPONSE ACCELERATIONS (SMS/SM1) = 1.137/1.092
SPECTRAL RESPONSE COEFFICIENTS (SDS/SD1) = 0.758/0.728
SEISMIC DESIGN CATEGORY = D

SITE 2: GARDENDALE ROAD
MAPPED SPECTRAL RESPONSE ACCELERATIONS (Ss/S1) = 1.026/0.370
SPECTRAL RESPONSE ACCELERATIONS (SMS/SM1) = 1.118/1.071
SPECTRAL RESPONSE COEFFICIENTS (SDS/SD1) = 0.745/0.714
SEISMIC DESIGN CATEGORY = D

G-8 RAIN LOAD:
RAIN INTENSITY (i) = 1.2 IN/HR BASED ON 60-MIN PRECIPITATION INTENSITY

G-9 ALL DIMENSIONS INDICATED FOR EXISTING STRUCTURES SHALL BE VERIFIED BY FIELD MEASUREMENT. ALL DIMENSIONS THAT ARE CONTROLLED BY OR RELATED TO EQUIPMENT SHALL BE VERIFIED BY THE CONTRACTOR WITH THE MANUFACTURER SHOP DRAWINGS PRIOR TO CONSTRUCTION.

G-10 THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING INFORMATION IN THE FIELD AS REQUIRED FOR NEW WORK.

G-11 IF A CONFLICT IS FOUND BETWEEN DIFFERENT PORTIONS OF THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. CONTINUED CONSTRUCTION OF THE AREA IN CONFLICT SHALL BE AT THE CONTRACTOR'S OWN RISK UNTIL THE CONFLICT IS RESOLVED.

G-12 EQUIPMENT ANCHOR SIZES, TYPES, EMBEDMENT AND PATTERNS SHALL BE DESIGNED BY THE MANUFACTURER OF THE EQUIPMENT. IF EQUIPMENT MANUFACTURER IS UNABLE TO PROVIDE DESIGN OF ANCHOR EMBEDMENT, DESIGN SHALL BE BY ENGINEER RETAINED BY CONTRACTOR BASED ON LOADS PROVIDED BY EQUIPMENT MANUFACTURER. CONTRACTOR SHALL SUBMIT SIZE, PLACEMENT, AND EMBEDMENT REQUIREMENTS. ALL ANCHOR PATTERNS SHALL BE TEMPLATED TO ENSURE ACCURACY OF PLACEMENT.

G-13 STRUCTURAL DRAWINGS SHALL BE USED IN COORDINATION WITH THE DRAWINGS OF ALL OTHER DISCIPLINES AND MANUFACTURER'S SHOP DRAWINGS.

G-14 STRUCTURES HAVE BEEN DESIGNED FOR OPERATIONAL LOADS ON THE COMPLETED STRUCTURE. DURING CONSTRUCTION, THE STRUCTURES SHALL BE PROTECTED BY BRACING AND TEMPORARY SUPPORTS WHEREVER EXCESSIVE CONSTRUCTION LOADS MAY OCCUR. OVERSTRESSING OF ANY STRUCTURAL ELEMENT IS PROHIBITED.

G-15 IF CONTRACTOR DESIRES TO TEMPORARILY PLACE OR MOVE LOADS ON OR ADJACENT TO EXISTING STRUCTURES OR UTILITIES DURING CONSTRUCTION PROCESS, CONTRACTOR IS EXCLUSIVELY RESPONSIBLE FOR MAINTAINING STRUCTURAL INTEGRITY AND AVOIDING OVERSTRESSING AND DAMAGING EXISTING STRUCTURES AND UTILITIES. CONTRACTOR SHALL SUBMIT STRUCTURAL CALCULATIONS AND DRAWINGS VERIFYING THAT PROPOSED CONSTRUCTION {INCLUDING APPLICATION OF TEMPORARY CONSTRUCTION LOADS} WILL NOT OVERSTRESS OR DAMAGE EXISTING STRUCTURES AND UTILITIES. DRAWINGS AND CALCULATIONS SHALL BE SEALED BY A PROFESSIONAL ENGINEER CURRENTLY REGISTERED IN THE STATE OF CALIFORNIA.

STRUCTURAL METALS

M-1 DETAIL, FABRICATE, AND ERECT STRUCTURAL STEEL IN ACCORDANCE WITH ANSI/AISC 360 SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, LATEST EDITION.

M-2 STEEL MATERIAL:

A)	STRUCTURAL HSS:	ASTM A500, GRADE C (46/50 KSI) OR A1085 GRADE A (50 KSI)
B)	STRUCTURAL PIPE:	ASTM A53, GRADE B (35 KSI)
C)	PLATES, BARS AND ANGLES:	ASTM A36 UNO (36 KSI)
D)	STRUCTURAL W, C, & MC SHAPES:	ASTM A992 (50 KSI)
E)	STRUCTURAL M & S SHAPES:	ASTM A36 (36 KSI)
F)	STRUCTURAL HP	ASTM A572 GRADE 50 (50 KSI)
G)	ANCHOR RODS	ASTM F1554 GRADE 55 (55 KSI)

M-3 PROVIDE MINIMUM 3/4" DIAMETER ASTM F3125 GRADE A325 TYPE 1 OR GRADE F1852 TYPE 1 HIGH STRENGTH BOLTS WITH SNUG TIGHTENED TYPE N CONNECTIONS FOR STRUCTURAL STEEL UNLESS NOTED OTHERWISE. HOLES FOR BOLTS SHALL BE STANDARD SIZE UNLESS NOTED OTHERWISE.

M-4 PROVIDE TYPICAL STEEL BEAM CONNECTIONS FOR A CAPACITY OF NOT LESS THAN ONE HALF OF THE TOTAL UNIFORM LOAD CAPACITY TABULATED IN THE AISC TABLES FOR ALLOWABLE LOADS OF BEAMS UNLESS NOTED OTHERWISE.

M-5 DO NOT PAINT STEEL SURFACES WHICH ARE TO BE WELDED OR ARE TO BE ENCASED IN CONCRETE.

M-6 ALL STAINLESS STEEL FABRICATIONS EXPOSED TO UNDERWATER SERVICE SHALL BE TYPE 316. ALL OTHER STAINLESS STEEL FABRICATIONS SHALL BE TYPE 304 UNLESS NOTED OTHERWISE.

M-7 ALUMINUM SHALL BE ALLOY 6061-T6 UNLESS NOTED OTHERWISE.

M-8 ALL BOLTS, ANCHORS, AND CONCRETE ANCHORS CONNECTING ALUMINUM SHALL BE STAINLESS STEEL TYPE 316 FOR UNDERWATER APPLICATIONS AND TYPE 304 FOR ALL OTHER APPLICATIONS.

M-9 ALUMINUM SHALL BE ISOLATED FROM CONTACT WITH CONCRETE AND DISSIMILAR METALS.

M-10 ALL GROOVE AND BUTT WELDS SHALL BE FULL PENETRATION.

M-11 FILLET WELD SIZES SHALL NOT BE LESS THAN THE MINIMUM SIZE REQUIRED BY AISC CODE FOR PLATE SIZES TO BE CONNECTED AND SHALL BE APPLIED TO THE ENTIRE JOINT CONTACT LENGTH, AND NOT LESS THAN 3/16".

STRUCTURAL METAL NOTES, CONTINUED

M-12 ALL WELDS SHALL BE PERFORMED IN THE SHOP UNLESS NOTED BY A FIELD WELD SYMBOL OR APPROVED BY ENGINEER.

M-13 BOTTOM SURFACES OF BASE PLATES SHALL BE GROUTED TO ENSURE FULL BEARING CONTACT WITH CONCRETE SLAB.

M-14 WHENEVER ONE MEMBER IS FASTENED TO ANOTHER WITH FASTENINGS (BOLTS, WELDS, ETC.) SET AT A UNIFORM SPACING, A MINIMUM OF TWO FASTENINGS PER PIECE SHALL BE CONNECTED AND THE FIRST AND LAST FASTENINGS SHALL BE LOCATED NOT TO EXCEED 0.25 OF FASTENER SPACING FROM EACH END.

FOUNDATIONS

F-1 CONCRETE (CAST-IN-PLACE) NOTES APPLY TO FOUNDATIONS.

F-2 SOIL PROPERTIES, ALLOWABLE DESIGN VALUES, GRADE AND COMPACTION REQURIEMENTS ARE BASED ON THE GEOTECHNICAL INVESTIGATION REPORT BY NOVA SERVICES (PROJECT NO. 2022250), DATED SEPTEMBER 18, 2023. REFER TO APPENDIX FOR REFORT.

F-3 ALLOWABLE SOIL BEARING PRESSURE

PARAMETER / STRUCTURE	ALLOWABLE SOIL BEARING PRESSURE
PRS FOUNDATION ABOVE GROUNDWATER	2500 PSF
PRS FOUNDATION BELOW GROUNDWATER	1200 PSF

F-4 MINIMUM DEPTH FROM ADJACENT FINISHED GRADE TO BOTTOM OF FOUNDATION = 24 INCHES.

F-5 STRUCTURES ARE LOCATED IN AN AREA OF MINIMAL FLOOD HAZARD, ZONE X, PER FEMA FLOOD MAP 06073C1042H.

F-6 PRESSURE REDUCING STATIONS SHALL BE DESIGNED FOR AN ALLOWABLE PASSIVE PRESSURE OF 300 PSF PER FOOT OF DEPTH FOR LEVELS ABOVE GROUND WATER AND 140 PSF PER FOOT OF DEPTH FOR LEVELS BELOW GROUNDWATER. LATERAL PRESSURES DO NOT INCLUDE SURCHARGE PRESSURES.

CONCRETE NOTES:

C-1 CAST IN PLACE CONCRETE SHALL BE CLASS A, NORMAL WEIGHT CONCRETE IN ACCORDANCE WITH SPECIFICATION 03000. CONCRETE FOUNDATION SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI.

C-2 SUBMIT MIX DESIGN (COMPLETE WITH MATERIAL SOURCES) AND FIELD EXPERIENCE RECORDS FOR MIX FOR REVIEW. CONCRETE SHALL MEET THE REQUIREMENTS OF THE CALIFORNIA BUILDING CODE AND APPLICABLE ACI DOCUMENTS. CONCRETE QUALITY, MIXING, AND PLACING SHALL MEET THE REQUIREMENTS OF ACI-318 CHAPTER 5, AT A MINIMUM.

C-3 PORTLAND CEMENT SHALL BE TYPE I OR TYPE II, CONFORMING TO THE REQUIREMENTS OF ASTM C 150. THE TOTAL ALKALIES IN THE CEMENT SHALL NOT EXCEED 0.40%.

C-4 SLAG CEMENT OR FLY ASH ARE OPTIONAL TO INCLUDE IN THE MIX. FLY ASH SHALL MEET THE REQUIREMENTS OF ASTM C618, CLASS F. FLY ASH SHALL BE BETWEEN 15% AND 25% OF THE TOTAL WEIGHT OF THE COMBINED PORTLAND CEMENT AND FLY ASH. IF SLAG CEMENT IS USED, IT SHALL MEET THE REQUIREMENTS OF ASTM C989. SLAG CEMENT SHALL BE BETWEEN 35% AND 40% OF THE COMBINED PORTLAND CEMENT AND SLAG CEMENT CONTENT.

C-5 ALL AGGREGATES USED IN CONCRETE SHALL CONFORM TO ASTM C33. REFER TO SPECIFICATION 03000.

C-6 AIR ENTRAINING AGENT IN CONCRETE IS OPTIONAL. AIR ENTRAINING AGENT SHALL MEET THE REQUIREMENTS OF ASTM C260.

C-7 BAR REINFORCING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615 FOR GRADE 60 BILLET STEEL REINFORCING. ALL REINFORCING STEEL SHALL BE FROM DOMESTIC MILLS AND SHALL HAVE THE MANUFACTURER'S MILL MARKING ROLLED INTO THE BAR WHICH SHALL INDICATE THE PRODUCER, SIZE, TYPE, AND GRADE. ALL REINFORCING BARS SHALL BE DEFORMED BARS. SMOOTH REINFORCING BARS SHALL NOT BE USED UNLESS SPECIFICALLY CALLED FOR ON DRAWINGS.

C-8 DETAILED PLACING AND SHOP FABRICATING DRAWINGS, PREPARED IN ACCORDANCE WITH ACI 315 AND ACI DETAILING MANUAL - (SP66), SHALL BE SUBMITTED FOR ALL CONCRETE REINFORCING. THESE DRAWINGS SHALL BE MADE TO SUCH A SCALE AS TO CLEARLY SHOW JOINT LOCATIONS, OPENINGS, AND THE ARRANGEMENT, SPACING AND SPLICING OF THE BARS.

C-9 SUBMIT MANUFACTURER'S DATA ON ALL ADMIXTURES PROPOSED FOR USE FOR REVIEW. ADMIXTURES SHALL CONFORM TO THE REQUIREMENTS OF ASTM C494. REFER TO SPECIFICATION 03000.

C-10 CONCRETE COVER FOR REINFORCING (UNLESS NOTED OTHERWISE ON THE DRAWINGS):

A)	CONCRETE DEPOSITED DIRECTLY AGAINST SOIL:	3"
B)	CONCRETE EXPOSED TO WEATHER (#5 OR SMALLER):	1 1/2"
	CONCRETE EXPOSED TO WEATHER (#6 OR LARGER):	2"
C)	SLABS: AT SURFACES CONTACTING FLUID:	1 1/2" 2"

NONSTRUCTURAL COMPONENT ANCHORAGE AND BRACING

A-1 ANCHORAGE AND BRACING SHALL BE PROVIDED FOR NONSTRUCTURAL COMPONENTS IN ACCORDANCE WITH ASCE 7. "NONSTRUCTURAL COMPONENTS" INCLUDES ALL ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING ELEMENTS OR SYSTEMS (AND THEIR SUPPORTS OR ATTACHMENTS) WHICH ARE PERMANENTLY ATTACHED TO A SUPPORTING STRUCTURE. DESIGN OF ANCHORAGE AND BRACING SHALL BE PROVIDED BY CONTRACTOR'S ENGINEER UNLESS SPECIFICALLY DETAILED ON THE CONTRACT DRAWINGS.

A-2 ANCHORAGE AND BRACING OF ALL NONSTRUCTURAL COMPONENTS SHALL BE DESIGNED AND INSTALLED TO RESIST THE CONTROLLING LOAD COMBINATION OF GRAVITY LOADS, OPERATIONAL FORCES, WIND FORCES, SEISMIC FORCES, AND ANY OTHER APPLICABLE FORCES IN ACCORDANCE WITH THE GOVERNING BUILDING CODE. WIND AND SEISMIC FORCES SHALL BE AS PER ASCE 7. COMPONENTS SHALL BE BOLTED, WELDED, OR OTHERWISE POSITIVELY FASTENED WITHOUT CONSIDERATION OF FRICTIONAL RESISTANCE PRODUCED BY THE EFFECTS OF GRAVITY. A CONTINUOUS LOAD PATH OF SUFFICIENT STRENGTH AND STIFFNESS TO RESIST REQUIRED FORCES SHALL BE PROVIDED BETWEEN THE COMPONENT AND THE SUPPORTING STRUCTURE. ANCHORAGE AND BRACING SHALL BE DESIGNED TO RESIST LOADS IN BOTH ORTHOGONAL DIRECTIONS (TRANSVERSE AND LONGITUDINAL) AND SHALL BE DESIGNED AND SEALED BY THE CONTRACTOR'S ENGINEER CURRENTLY REGISTERED IN THE STATE OF CALIFORNIA.

A-3 COMPONENT REACTION FORCES AT THE POINT OF ATTACHMENT TO THE STRUCTURE SHALL BE SUBMITTED TO AND COORDINATED WITH THE ENGINEER FOR CONFIRMATION THAT SUPPORTING STRUCTURE IS ADEQUATE TO RESIST REQUIRED REACTION FORCES.

A-4 CONTRACTOR SHALL PROVIDE SPECIAL SEISMIC CERTIFICATION (SSC) FROM MANUFACTURER OF EQUIPMENT FOR ALL SYSTEMS REQUIRED BY SPECIFICATIONS. SPECIAL SEISMIC CERTIFICATION SHALL BE IN COMPLIANCE WITH ASCE 7.

EXISTING INFORMATION

X-1 THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING INFORMATION IN THE FIELD AS REQUIRED FOR DEMOLITION AND MODIFICATIONS.

SPECIAL INSPECTIONS

SI-1 SPECIAL INSPECTIONS SHALL BE IN ACCORDANCE WITH THE 2022 CALIFORNIA BUILDING CODE.

SI-2 SPECIAL INSPECTIONS ARE REQUIRED DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE INSPECTION TASK TABLE AS SHOWN ON THESE DRAWINGS. THE SPECIAL INSPECTOR(S) SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE SPECIFIC ASPECTS OR COMPONENTS OF THE CONSTRUCTION AND CONDUCTS INSPECTION ACTIVITIES IN THESE SPECIFIC ASPECTS OF CONSTRUCTION. OWNER OR OWNER'S REPRESENTATIVE SHALL BE SYNONYMOUS WITH 'BUILDING OFFICIAL" IN THE FORGOING IF THE PROJECT IS NOT UNDER THE JURISDICTION OF A BUILDING DEPARTMENT.

SI-3 THE REQUIRED SPECIAL INSPECTION TASK TABLE IS IN CONFORMANCE WITH SECTION 1705 OF THE 2022 CBC.

SI-4 CONTINUOUS INSPECTION REFERS TO THE FULL TIME OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED.

SI-5 PERIODIC INSPECTION REFERS TO THE PART TIME OR INTERMITTENT OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK HAS BEEN OR IS BEING PERFORMED AND AT THE COMPLETION OF THE WORK.

SCHEDULE OF SPECIAL INSPECTIONS - SOILS (CBC 2022-1705.6)

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	-	X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	-	X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	-	X
4. DURING FILL PLACEMENT, VERIFY USE OF PROPER MATERIALS AND PROCEDURES IN ACCORDANCE WITH PROVISIONS OF THE APPROVED GEOTECHNICAL REPORT. VERIFY DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	-
5. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	-	X

STRUCTURAL OBSERVATION NOTES

S0-1 STRUCTURAL OBSERVATION IS REQUIRED FOR THE STRUCTURAL SYSTEM IN ACCORDANCE WITH CBC SECTION 1704.6. THE STRUCTURAL ENGINEER OR ANOTHER ENGINEER DESIGNATED BY THE STRUCTURAL ENGINEER SHALL BE RETAINED BY THE OWNER TO PERFORM STRUCTURAL OBSERVATIONS. STRUCTURAL OBSERVATIONS SHALL BE PROVIDED DURING THE STAGES OF CONSTRUCTION LISTED BELOW. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE AT LEAST 48 HOURS ADVANCED NOTICE TO THE STRUCTURAL ENGINEER WHEN HIS/HER WORK IS READY FOR STRUCTURAL OBSERVATION FOR EACH OF THESE STAGES.

CONSTRUCTION STAGE	ELEMENTS / CONNECTIONS TO BE OBSERVED
1. CONCRETE	REINFORCING STEEL AND EMBEDED STRUCTURAL ANCHORAGES PRIOR TO PLACEMENT OF CONCRETE FOR THE FOLLOWING: A. FOUNDATIONS

DELEGATED STRUCTURAL DESIGN ITEMS

DSD-1 THE FOLLOWING ITEMS SHALL BE SUBMITTED AS DELEGATED STRUCTURAL DESIGNS DURING CONSTRUCTION, IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS.

A) PRE-ENGINEERED PRESSURE REDUCING STATIONS (OWNER FURNISHED)
B) ANCHORAGE AND BRACING OF NONSTRUCTURAL COMPONENTS NOT SPECIFICALLY DESIGNED AND DETAILED ON THE CONTRACT DRAWINGS (INCLUDING, BUT NOT LIMITED TO, PIPE SUPPORTS AND EQUIPMENT)

DSD-2 DRAWINGS AND CALCULATIONS FOR EACH ITEM SHALL BE SIGNED AND SEALED BY A PROFESSIONAL CIVIL OR STRUCTURAL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA.

REGISTERED PROFESSIONAL ENGINEER
WYATT T. DRESSLER
No.C75660
CIVIL
STATE OF CALIFORNIA
2/07/24

MARK	DATE	BY	REVISIONS

DESIGN JEB | DRAWN TR | CHECK WTD

BALBOA ENGINEERING, INC.

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1966 Olivenhain Road
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GARDENDALE AND VILLAGE PARK WEST
PRS REPLACEMENTS

GENERAL STRUCTURAL NOTES

SHEET 10 OF 21 | DRAWING S-1

ORIGINAL SCALE IN INCHES 0 1 2 3 4

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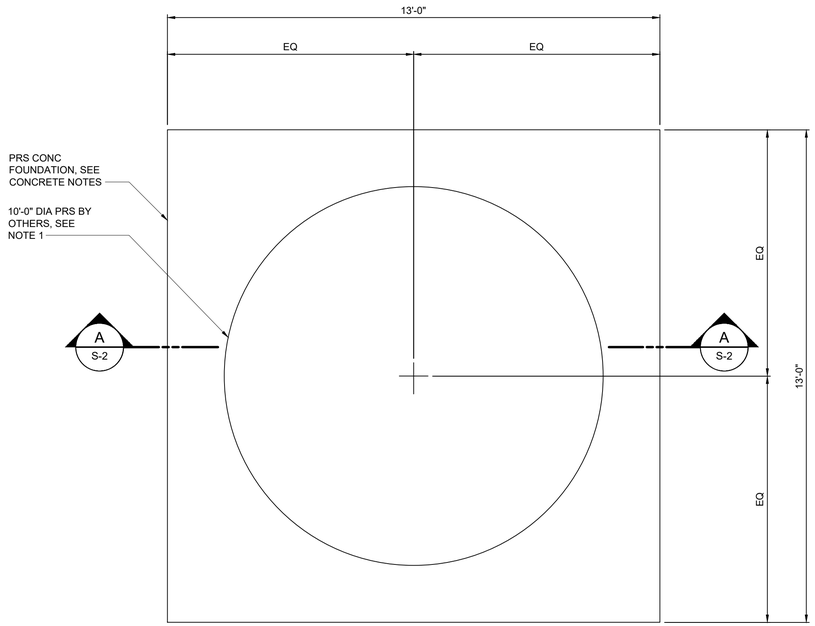
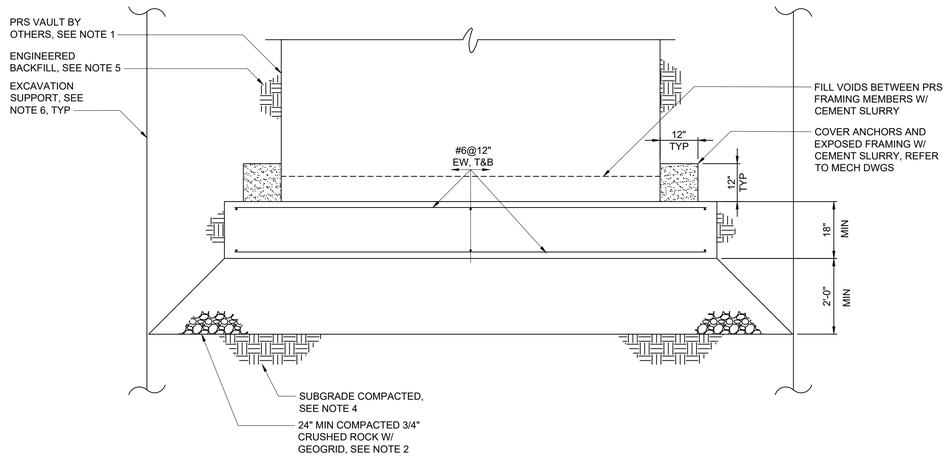


PLAN
1/2" = 1'-0"



NOTE: PRS VAULT IS SHOWN SCHEMATICALLY. REFER TO VENDOR DRAWINGS FOR DETAILED DRAWINGS.

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

NOTES:

1. PRS VAULT IS SHOWN SCHEMATICALLY. PRS VAULT IS OWNER FURNISHED AND SHALL BE CONTRACTOR INSTALLED. CONTRACTOR SHALL COORDINATE PLAN DIMENSIONS OF CONCRETE FOUNDATION AND ANCHORAGE REQUIREMENTS WITH EQUIPMENT VENDOR DRAWINGS AND CALCULATIONS. CONSTRUCTION OF CONCRETE FOUNDATION PAD SHALL NOT COMMENCE PRIOR TO ANCHOR DESIGN APPROVAL.
2. IN CONFORMANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS, PLACE A MINIMUM OF 24 INCHES OF CRUSHED 3/4" ROCK BELOW FOUNDATION. PLACE TENSAR INTERAX NX650 REINFORCING GEOGRID WITHIN CRUSHED ROCK LAYER WITH A MINIMUM OF 6 INCHES OF CRUSHED ROCK BENEATH THE GEOGRID.
3. A QUALIFIED GEOTECHNICAL ENGINEER SHALL BE PRESENT TO OBSERVE CONDITIONS DURING CONSTRUCTION. OBSERVATIONS AND TESTING SHALL BE PERFORMED AS NEEDED TO VERIFY COMPLIANCE WITH THE SPECIFICATIONS.
4. LIMITS OF OVEREXCAVATION VERTICALLY AND HORIZONTALLY BEYOND EACH EDGE OF FOUNDATION SHALL BE AS SHOWN ON THE DRAWING. EXPOSED BOTTOM OF EXCAVATION SHALL BE SCARIFIED A MINIMUM DEPTH OF 6 INCHES, MOISTURE CONDITIONED TO NEAR OPTIMUM MOISTURE CONTENT, AND COMPACTED TO AT LEAST 90% RELATIVE COMPACTION.
5. IN CONFORMANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS, ENGINEERED BACKFILL MATERIAL SHALL BE PLACED IN LOOSE LIFTS NO GREATER THAN 8 INCHES IN THICKNESS, MOISTURE CONDITIONED TO NEAR OPTIMUM MOISTURE CONTENT, AND COMPACTED TO AT LEAST 90% RELATIVE COMPACTION PER ASTM D1557. RECOMPACT AT LEAST THE UPPER 12 INCHES OF SUBGRADE SOILS BELOW PAVEMENTS TO AT LEAST 95% OF LABORATORY MAXIMUM DRY DENSITY.
6. EXCAVATION SUPPORT IS SHOWN SCHEMATICALLY AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DESIGN. SUBMIT TO THE ENGINEER DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL CIVIL OR STRUCTURAL ENGINEER CURRENTLY REGISTERED IN THE STATE OF CALIFORNIA. CONTRACTOR SHALL REFER TO THE SITE SPECIFIC GEOTECHNICAL REPORT FOR MINIMUM REQUIREMENTS OF EXCAVATION SUPPORT, DEWATERING AND GROUND STABILIZATION. EXCAVATION SUPPORT SHALL BE REMOVED FOLLOWING COMPLETION OF CONSTRUCTION ACTIVITIES.

REGISTERED PROFESSIONAL ENGINEER
WYATT T. DRESSLER
No.C75660
CIVIL
STATE OF CALIFORNIA
2/09/24

MARK	DATE	BY	REVISIONS

DESIGN JEB | DRAWN TR | CHECK WTD

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GARDENDALE AND VILLAGE PARK WEST
PRS REPLACEMENTS

PRS FOUNDATION
PLAN AND SECTION

SHEET 11 OF 21 | DRAWING S-2

ORIGINAL SCALE IN INCHES 0 1 2 3 4

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LIGHTING

X DENOTES FIXTURE TYPE (TYP.)
SEE SPECIFICATION 26 50 00/16500 FOR FIXTURE SCHEDULE
# DENOTES CIRCUIT NUMBER (TYP.)

RECTANGULAR FIXTURE

LEFT: CEILING MOUNTED FIXTURE
RIGHT: WALL MOUNTED FIXTURE

EMERGENCY WALL-MOUNTED FIXTURE:
LEFT: STANDARD
RIGHT: REMOTE-HEAD

LEFT: CEILING MOUNTED EXIT SIGN
RIGHT: WALL MOUNTED EXIT SIGN
SHADED PORTION DENOTES SIGN FACE

POLE-MOUNTED FIXTURE

PHOTOCELL

LEFT: CEILING MOUNTED OCCUPANCY SENSOR
RIGHT: WALL MOUNTED OCCUPANCY SENSOR
X DENOTES TYPE

RECEPTACLES

X DENOTES RECEPTACLE TYPE (TYP.):
GFCI DENOTES GROUND FAULT CIRCUIT INTERRUPT
UPS DENOTES UNINTERRUPTIBLE POWER SUPPLY
WPCR DENOTES WEATHERPROOF CORROSION RESISTANT
# DENOTES CIRCUIT NUMBER (TYP.)

RECEPTACLES:
LEFT: SIMPLEX
MIDDLE: DUPLEX
RIGHT: QUADRUPLEX

MULTI-OUTLET RECEPTACLE:
LEFT: SIMPLEX
RIGHT: DUPLEX

OTHER RECEPTACLES:
LEFT: 240 VOLT
RIGHT: SPECIAL PURPOSE

FLOOR-MOUNTED RECEPTACLES:
LEFT: SIMPLEX
MIDDLE: DUPLEX
RIGHT: QUADRUPLEX

HVAC AND FIRE ALARM

FIRE ALARM CONTROL PANEL

FIRE ALARM ANNUNCIATOR PANEL

FIRE ALARM PULL STATION

FIRE ALARM INDICATOR:
X DENOTES ALERT TYPE (TYP.):
A DENOTES AUDIBLE
V DENOTES VISIBLE (# DENOTES STROBE INTENSITY)

FIRE ALARM INDICATOR MOUNTED
ABOVE A FIRE ALARM PULL STATION

DUCT DETECTOR

SMOKE DETECTOR:
X DENOTES TYPE:
Z DENOTES IONIZATION
P DENOTES PHOTOELECTRIC
T DENOTES THERMAL

HEAT DETECTOR

THERMOSTAT

AMBIENT TEMPERATURE TRANSMITTER

SWITCHES

WALL SWITCH:
X DENOTES TYPE:
NO SUBSCRIPT DENOTES SINGLE-POLE SWITCH
3 DENOTES 3-WAY SWITCH
4 DENOTES 4-WAY SWITCH
M DENOTES MANUAL MOTOR STARTER
# DENOTES CIRCUIT NUMBER
WPCR DENOTES WEATHERPROOF CORROSION RESISTANT

COMBINATION MOTOR STARTER

DISCONNECT SWITCH

LOCAL CONTROL STATION

LOCAL CONTROL STATION WITH LOCKABLE COVER

SINGLE-LINE DIAGRAMS

ATS
480V, 800A
3Ø 4W 4P
65kA
OPEN TRANSITION
CONTACTOR-STYLE ATS OR MTS

ATS
480V, 800A
3Ø 4W 4P
65kA
OPEN TRANSITION
CONTACTOR-STYLE ATS OR MTS WITH OFF POSITION

100AF
100AT
ATS
480V, 800A
3Ø 4W 4P
65kA
OPEN TRANSITION
CONTACTOR-STYLE ATS OR MTS, SERVICE-ENTRANCE RATED

ATS
480V, 800AF/800AT
3Ø 4W 4P
65kA
OPEN TRANSITION
MCCB-STYLE ATS OR MTS

ATS
480V, 800AF/800AT
3Ø 4W 4P
65kA
OPEN TRANSITION
DRAWOUT CB-STYLE ATS OR MTS

MISC PLAN VIEW SYMBOLS

EQUIPMENT CONNECTION

GROUND RODS:
LEFT: BURIED
RIGHT: IN TESTWELL

DUCTBANK SECTION CUT IDENTIFIER:
DBXX DENOTES DUCTBANK ID
EXX DENOTES DRAWING NUMBER WHERE
SECTION CUT IS LOCATED

DUCTBANK TAG:
X DENOTES DUCTBANK ID

CABLE TRAY TAG:
X DENOTES CABLE TRAY ID
Y DENOTES SCHEDULE REFERENCE

INSTRUMENT TAG:
X DENOTES INSTRUMENT TYPE
# DENOTES INSTRUMENT NUMBER
SEE DRAWING I1 FOR INSTRUMENT ABBREVIATIONS

CONDUIT TAGS:
P DENOTES POWER
C DENOTES CONTROL
I DENOTES INSTRUMENTATION
XXXX DENOTES CONDUIT ID
XXX-XXX DENOTES CONDUIT ID

COMMUNICATIONS

TELEPHONE OR NETWORK DROP

FLOOR-MOUNTED TELEPHONE OR NETWORK DROP

PAGER RECEPTACLE

HORN/LIGHT DEVICE

PA UNIT

WIRING

FLEXIBLE CONDUIT

CONDUIT EXPOSED

CONDUIT CONCEALED

CONCRETE ENCASED DUCTBANK

CONCRETE ENCASED CONDUIT

DIRECT BURIED CONDUIT

LEFT: CONDUIT RISE (TURN UP)
RIGHT: CONDUIT DROP (TURN DOWN)

ABBREVIATIONS

AE	ANALYSIS ELEMENT
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CAPACITY
AIT	ANALYSIS INDICATING TRANSMITTER
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
AF	AMPERE FRAME
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
BC	BYPASS CONTACTOR
BKR	BREAKER
(L/V)CP	(LOCAL/VENDOR) CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
DB	DUCTBANK
DSW	DISCONNECT SWITCH
(*)HH	HANDHOLE*
(*)MH	MANHOLE*
EO	ELECTRICALLY OPERATED
ETM	ELAPSED TIME METER
ETU	ELECTRONIC TRIP UNIT
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FS	FLOW SWITCH
FSL	FLOW SWITCH LOW
FVNR	FULL VOLTAGE NON-REVERSING
FVR	FULL VOLTAGE REVERSING
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFCT	GROUND FAULT CURRENT TRANSFORMER
GNG	GO-NO GO
GND	GROUND
HOA	HAND-OFF-AUTO
HH	HANDHOLE
HPU	HYDRAULIC POWER UNIT
IC	INPUT CONTACTOR
IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
ISO	INTERNATIONAL ORGANIZATION FOR STANDARDIZATION
(*)JB	JUNCTION BOX*
LCS	LOCAL CONTROL STATION
LP	LIGHTING PANEL
LS	LEVEL SWITCH
LSL	LEVEL SWITCH LOW
LSLL	LEVEL SWITCH LOW-LOW
LSH	LEVEL SWITCH HIGH
LSHH	LEVEL SWITCH HIGH-HIGH
LT	LEVEL TRANSMITTER
MFR	MULTI-FUNCTION RELAY
MH	MANHOLE
MOD	MOTOR OPERATED DAMPER
MOG	MOTOR OPERATED GATE
MOL	MOTOR OPERATED LOUVER
MOV	MOTOR OPERATED VALVE
MPR	MOTOR PROTECTION RELAY
MTD	MOUNTED
MTS	MANUAL TRANSFER SWITCH
MWTS	MOTOR WINDING TEMPERATURE SWITCH
N	NEW
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSN
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OC	OUTPUT CONTACTOR
OL	OVERLOAD

ABBREVIATIONS, CONT.

(*)PB	PULLBOX*
PC	PHOTOCELL
PCC	POINT OF COMMON COUPLING
PE	PRESSURE ELEMENT
PIT	PRESSURE INDICATING TRANSMITTER
PLC	PROGRAMMABLE LOGIC CONTROLLER
PP	POWER PANEL
PST	PHASE SHIFTING TRANSFORMER
PT	POTENTIAL TRANSFORMER
PTT	PUSH TO TEST
RCS	REMOTE CONTROL STATION
RECP	RECEPTACLE
RIO	REMOTE I/O
RM	ROOM
RTD	RESISTANCE THERMAL DEVICE
RTU	REMOTE TELEMETRY UNIT
RVAT	REDUCED VOLTAGE AUTO TRANSFORMER
RVSS	REDUCED VOLTAGE SOLID STATE STARTER
SA	SUPPLY AIR
S.E.	SERVICE ENTRANCE
SP. C.	SPARE CONDUIT
SPD	SURGE PROTECTIVE DEVICE
SSOL	SOLID STATE OVERLOAD
SST	STAINLESS STEEL
TB	TEST BLOCK
TC	TIMED CLOSE
TO	TIMED OPEN
TSH	TWISTED SHIELDED
TX	TRANSFORMER
TYP	TYPICAL
UPS	UNINTERRUPTIBLE POWER SUPPLY
VFD	VARIABLE FREQUENCY DRIVE
WPCR	WEATHER PROOF CORROSION RESISTANT
WT	WALK THROUGH
XFMR	TRANSFORMER

*DESIGNATED ABBREVIATIONS CAN HAVE THE FOLLOWING PREFIXES:

E	ELECTRIC
P	POWER
C	CONTROL
I	INSTRUMENTATION
F	FIBER

REGISTERED PROFESSIONAL ENGINEER
A. V. W. MILT
04/23/24
ELECTRICAL
STATE OF CALIFORNIA

MARK	DATE	BY	REVISIONS

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BALBOA ENGINEERING, INC.

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GARDENDALE AND VILLAGE PARK WEST PRS REPLACEMENTS

GARDENDALE ROAD
ELECTRICAL LEGEND AND SYMBOL

SHEET 12 OF 22 | DRAWING E-1

ORIGINAL SCALE IN INCHES
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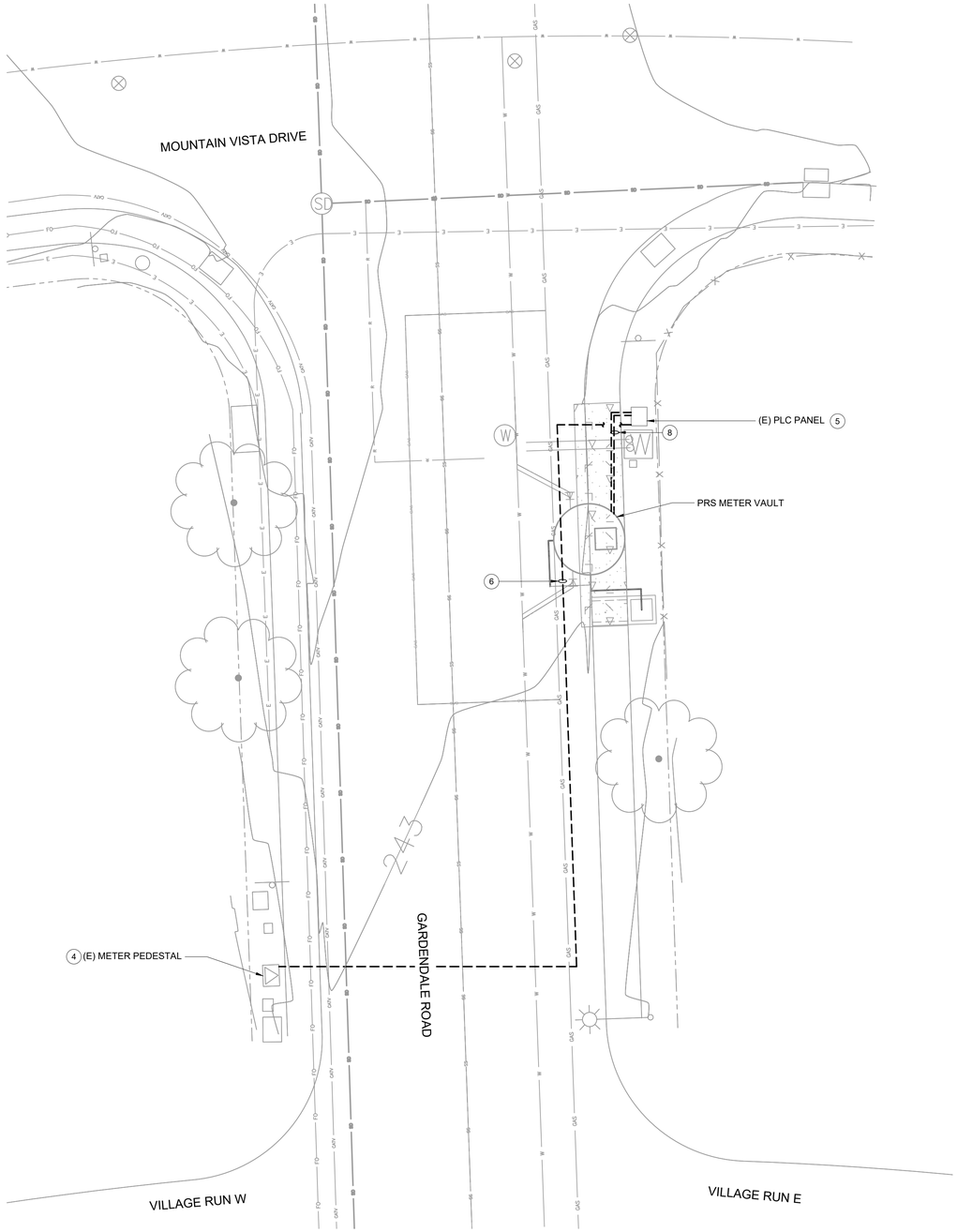

GARDENDALE ROAD PRS
SCALE: 1" = 10'

CONSTRUCTION NOTES

1. LOCATION OF UTILITIES MUST BE VERIFIED AND MARKED BY A DIG ALERT 14 DAYS PRIOR TO THE START OF DIGGING.
2. LOCATE EXISTING UTILITIES PER GENERAL CONSTRUCTION NOTE 1 ON DRAWING G-3.
3. CONTRACTOR SHALL MODIFY CONDUIT ROUTING AS REQUIRED BASED ON FIELD CONDITIONS AND POTHOLING RESULTS.
4. EXISTING METER PEDESTAL IS A 120/240V, 1 PHASE, 3 WIRE, 100 AMP RATED MYERS METER PEDESTAL MODEL: MEUG16-M100-SD, S.O: 59555. UTILIZE EXISTING 20A, 1-POLE CIRCUIT BREAKER TO RE-SUPPLY POWER TO PLC PANEL.
5. PROVIDE AN APPROPRIATE CONDUIT FITTING TO FACILITATE CONDUIT ROUTING TO PLC PANEL. I&C WIRING BY OWNER.
6. CONTRACTOR SHALL PROVIDE A NEW 1.5" CONDUIT FROM EXISTING METER PEDESTAL TO EXISTING PLC PANEL. NEW CONDUIT SHALL BE BURIED ON TOP OF NEW PRS VAULT AS REQUIRED. PROVIDE NEW CONDUCTORS OF 2#12, #12 GND IN CONDUIT FROM METER PEDESTAL TO PLC PANEL.
7. CONTRACTOR SHALL COORDINATE WITH DRAWINGS SUPPLIED BY PRS VAULT VENDOR FOR POWER PANEL, CONTROL/INTERFACE PANEL, AND VAULT VENDOR PROVIDED CONDUIT LOCATIONS TO DETERMINE TERMINATION LOCATIONS OF CONTRACTOR PROVIDED CONDUIT. REFER TO EFI DRAWING M-3 FOR ADDITIONAL INFORMATION.
8. CONTRACTOR SHALL PROVIDE THE FOLLOWING CONDUITS BETWEEN EXISTING PLC PANEL AND NEW PRS METER VAULT TO FACILITATE MONITORING OF PRESSURE TRANSMITTER, RELIEF VALVE LIMIT SWITCH AND INTRUSION SWITCH.
   - 1.5" INSTRUMENTATION CONDUIT: PULL STRING
   - 1.5" CONTROLS CONDUIT: PULL STRING
9. ALL UNDERGROUND CONDUIT SHALL BE DIRECT BURIED CONDUIT, PER DETAIL 1611801.

N

1" = 10'

10 5 0 10'

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STATE OF CALIFORNIA

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GARDENDALE AND VILLAGE PARK WEST
PRS REPLACEMENTS

GARDENDALE ROAD
ELECTRICAL SITE PLAN

SHEET: 13 OF 22
DRAWING: E-2

ORIGINAL SCALE IN INCHES 0 1 2 3 4

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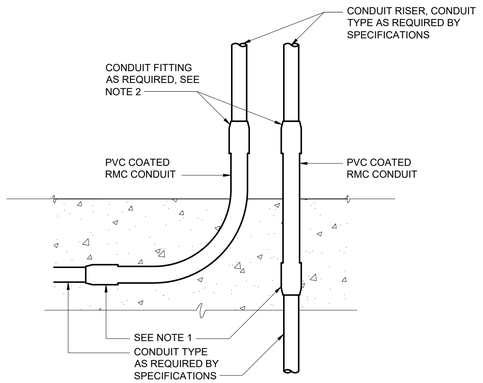
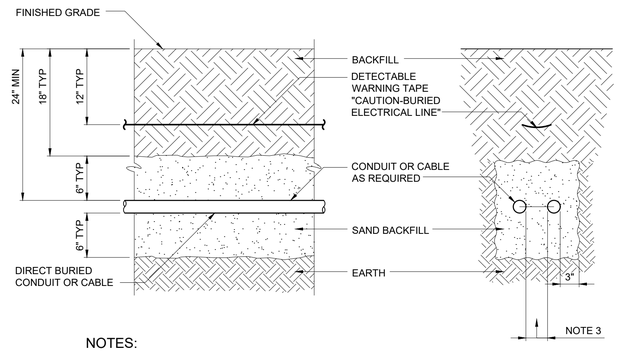


NOTES:

1. FOR ENCASED PVC CONDUIT USE PVC TERMINAL ADAPTER. FOR ALL OTHER CONDUIT TYPES, USE PVC COATED RMC COUPLINGS.
2. IF ANY THREADS OF THE PVC COATED RMC CONDUIT ARE EXPOSED AFTER INSTALLATION OF THE CONDUIT FITTING, THE CONDUIT FITTING SHALL BE PVC COATED TYPE WITH APPROPRIATE PVC SKIRTS. IF THE THREADS OF THE PVC COATED RMC CONDUIT ARE PROPERLY CUT SO THAT THEY ARE NOT EXPOSED AFTER INSTALLATION OF THE CONDUIT FITTING, THE CONDUIT MATERIAL SHALL BE AS REQUIRED BY THE SPECIFICATIONS, BASED ON THE MATERIAL OF THE CONDUIT RISER.

CONDUIT EXITING CONCRETE ENCASEMENT

1611102



NOTES:

1. CONDUIT SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH SPECIFICATION SECTION 16111.
2. BACKFILL THAT CONTAINS LARGE ROCKS, PAVING MATERIALS, CINDERS, LARGE OR SHARPLY ANGULAR SUBSTANCES, OR CORROSIVE MATERIAL SHALL NOT BE USED.
3. MAINTAIN A MINIMUM OF 2" BETWEEN POWER, CONTROL, AND INSTRUMENTATION CONDUITS OR CONDUCTORS.

TYPICAL DIRECT BURIED CONDUIT & CABLE

1611801

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STATE OF CALIFORNIA

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BALBOA ENGINEERING, INC.

GARDENDALE AND VILLAGE PARK WEST PRS REPLACEMENTS

GARDENDALE ROAD
ELECTRICAL DETAILS

SHEET: 14 OF 22

DRAWING: E-3

OLIVENHAIN

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ORIGINAL SCALE IN INCHES 0 1 2 3 4

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INSTRUMENT AND FUNCTION SYMBOLS

LOCATION AND ACCESSIBILITY	SHARED DISPLAY/SHARED CONTROL: PRIMARY CHOICE OR BASIC PROCESS CONTROL SYSTEM	SHARED DISPLAY/SHARED CONTROL: ALTERNATE CHOICE OR SAFETY INSTRUMENTED SYSTEM	COMPUTER SYSTEMS AND SOFTWARE	DISCRETE
- LOCATED IN FIELD - NOT PANEL, CABINET, OR CONSOLE MOUNTED - VISIBLE AT FIELD LOCATION - NORMALLY OPERATOR ACCESSIBLE	ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345
- LOCATED IN OR ON FRONT OF CENTRAL OR MAIN PANEL OR CONSOLE - VISIBLE ON FRONT OF PANEL OR ON VIDEO DISPLAY - NORMALLY OPERATOR ACCESSIBLE AT PANEL FRONT OR CONSOLE	ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345
- LOCATED IN REAR OF CENTRAL OR MAIN PANEL - LOCATED IN CABINET BEHIND PANEL - NOT VISIBLE ON FRONT OF PANEL OR ON VIDEO DISPLAY - NOT NORMALLY OPERATOR ACCESSIBLE AT PANEL OR CONSOLE	ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345
- LOCATED IN OR ON FRONT OF SECONDARY OR LOCAL PANEL OR CONSOLE - VISIBLE ON FRONT OF PANEL OR ON VIDEO DISPLAY - NORMALLY OPERATOR ACCESSIBLE AT PANEL FRONT OR CONSOLE	ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345
- LOCATED IN REAR OF SECONDARY OR LOCAL PANEL - LOCATED IN FIELD CABINET - NOT NORMALLY OPERATOR ACCESSIBLE AT PANEL OR CONSOLE	ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345

X — SUFFIX (X) TO DIFFERENTIATE BETWEEN INSTRUMENTS AND FUNCTIONS THAT WOULD OTHERWISE HAVE THE SAME IDENTIFICATION.

SINGLE INSTRUMENT OR OTHER COMPONENT HAVING MULTIPLE FUNCTIONS OR SHARING A COMMON HOUSING

(ZZZ) — DESIGNATIONS OF CONTROL FUNCTIONS (ZZZ) ASSOCIATED WITH INSTRUMENT OR OTHER COMPONENTS.

AHC -	AUTO/HOLD/CLOSE	OC -	OPEN/CLOSE
AM -	AUTO/MANUAL	OSC -	OPEN/STOP/CLOSED
CALC -	CALCULATION	POT -	POTENTIOMETER
DEV -	DEVIATION	RL -	RAISE/LOWER
FRA -	FOWARD/REVERSE/ALT	ROJ -	RUN/OFF/JOG
MOA -	MANUAL/OFF/AUTO	RS -	RUN/STOP
HOR -	HAND/OFF/REMOTE	RSL -	RAISE/STOP/LOWER
LOS -	LOCKOUT STOP	SD -	SHUTDOWN
LR -	LOCAL/REMOTE	SEL -	SELECT
LSR -	LOCAL/STOP/REMOTE	SP -	SET POINT
00 -	ON / OFF	SR -	START/RESET
		SS -	STOP/START

ABCD 12345 — INSTRUMENT WITH COMPUTING OR CONVERTING FUNCTION

ABCD 12345 — CONTROL SYSTEM COMPUTING FUNCTION

CONVERT

E - VOLTAGE		H - HYDRAULIC	
I - CURRENT		O - ELECTROMAGNETIC, SONIC	
P - PNEUMATIC		R - RESISTANCE (ELECT.)	
A - ANALOG		D - DIGITAL	
B - BINARY			

COMPUTE

Σ	SUMMING	P	PROPORTIONAL	△	DIFFERENCE
—	SUBTRACTOR	R	DERIVATIVE	>	HIGH SELECTING
X	MULTIPLYING	Σ/n	AVERAGING	<	LOW SELECTING
÷	DIVIDING	I:I	RATIO	∫	INTEGRAL
n √	ROOT EXTRACTION	PID	PID	#	COMPLEX FUNCTION

= 1, 2, 3, etc.
REFER TO NOTE ON SAME SHEET FOR BRIEF DESCRIPTION

ELECTRICAL CONTROL INTERLOCK
(A RELAY SHALL BE PROVIDED AS ADDITIONAL CONTROL FUNCTIONALITY)

COMPLEX INTERLOCK
= 1, 2, 3, etc.
REFER TO NOTE ON SAME SHEET FOR BRIEF DESCRIPTION

AND — AND LOGIC

OR — OR LOGIC

ABCD 1234 — PILOT LIGHT

IPR — INTERPOSING RELAY(S)

VALVE, GATE, AND ACTUATOR SYMBOLS

GATE VALVE
PLUG VALVE
GLOBE VALVE
BALL VALVE
BUTTERFLY VALVE
BALL CHECK VALVE
SWING CHECK VALVE
CHECK VALVE
3-WAY VALVE
4-WAY VALVE
DIAPHRAGM VALVE
PINCH VALVE
NEEDLE VALVE
SLUICE GATE
STOP/SLIDE GATE
SOLENOID ACTUATOR (S)
PNEUMATIC ACTUATOR (P)

BACKFLOW PREVENTER
PRESSURE RELIEF VALVE
VACUUM RELIEF VALVE
COMBINATION VACUUM AND PRESSURE RELIEF VALVE
PRESSURE-REDUCING REGULATOR
BACKPRESSURE REGULATOR
AIR RELEASE VALVE (V)
COMBINATION AIR VACUUM RELEASE VALVE (V)
ROTARY MOTOR (M)
ELECTROHYDRAULIC ACTUATOR (E/H)
MANUAL ACTUATOR

PUMP AND EQUIPMENT SYMBOLS

CENTRIFUGAL WET PIT PUMP (OR DRY-PIT SUBMERSIBLE)
BLOWER (CENTRIFUGAL)
GEAR PUMP OR BLOWER (POSITIVE DISPLACEMENT)
CHOPPER PUMP
PISTON PUMP
DIAPHRAGM PUMP
ROTARY LOBE PUMP OR BLOWER (POSITIVE DISPLACEMENT)
METERING PUMP
COMPRESSOR
PROGRESSIVE CAVITY PUMP
VERTICAL PUMP
INLINE GRINDER (M)
CENTRIFUGAL PUMP
SCREW CENTRIFUGAL PUMP
MIXER (M)
FAN
PROPELLER PUMP
SUMP PUMP

MISCELLANEOUS SYMBOLS

BASKET STRAINER
QUICK CONNECT
BLIND FLANGE
FLEXIBLE HOSE
CALIBRATION CYLINDER
STRAINER
PULSATION DAMPENER
EXPANSION TANK
HORN
FLAME ARRESTOR
HORN/STROBE
RUPTURE DISK
VENT (V)
THERMOWELL CONNECTION
DIAPHRAGM SEAL
IN-LINE RING SEAL
DRAIN (D)
GAS DIFFUSER
EQUIPMENT OR PANEL TAG (XX-YY-ZZZZ)
PISTON ACTUATOR
CONTAINMENT PIPE AND FLEXIBLE TUBING
CAMERA
AIR FILTER
STATIC MIXER
INJECTOR

IDENTIFICATION LETTERS

	FIRST LETTERS: MEASURED OR INITIATING VARIABLE	FIRST LETTERS: VARIABLE MODIFIER	SUCCEEDING LETTERS: READOUT/ PASSIVE FUNCTION	SUCCEEDING LETTERS: OUTPUT/ ACTIVE FUNCTION	SUCCEEDING LETTERS: FUNCTION MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	CONDUCTIVITY			CONTROL	CLOSE
D	DENSITY (MASS) OR SPECIFIC	DIFFERENCE, DIFFERENTIAL			DEVIATION
E	GRAVITY VOLTAGE (EMF)		SENSOR, PRIMARY ELEMENT		
F	FLOW, FLOW RATE	RATIO			
G	USER'S CHOICE		GLASS, GAUGE, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT		INDICATE		
J	POWER		SCAN		
K	TIME, SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	MOISTURE OR HUMIDITY	MOMENTARY			MIDDLE, INTERMEDIATE
N	TORQUE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION		OPEN
P	PRESSURE		POINT (TEST CONNECTION)		
Q	QUANTITY	INTEGRATE, TOTALIZE	INTEGRATE, TOTALIZE		
R	RADIATION		RECORD		RUN
S	SPEED, FREQUENCY	SAFETY		SWITCH	STOP
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL PROBE		
X	UNCLASSIFIED	X-AXIS	ACCESSORY DEVICES, UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE, PRESENCE	Y-AXIS		AUXILIARY DEVICES	
Z	POSITION, DIMENSION	Z-AXIS, SAFETY INSTRUMENTED SYSTEM		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

PRIMARY ELEMENT SYMBOLS

MAGNETIC FLOW METER (M)
SONIC FLOW METER
THERMAL MASS FLOW METER (ΔT)
TURBINE OR PROPELLER FLOW METER
VENTURI FLOW METER
AVERAGING PITOT TUBE
VARIABLE AREA ROTAMETER(R) (FI XXXX)
VORTEX FLOW METER
POSITIVE DISPLACEMENT FLOW METER
PARSHALL FLUME
WEIR
ORIFICE PLATE
ROTAMETER WITH INTEGRAL VALVE (FICV)
XX: RF=ADMITTANCE/CAPACITANCE MAN=MANOMETER (XX ABCD 1234)
ULTRASONIC LEVEL SENSOR
SUBMERSIBLE LEVEL SENSOR
NON-CONTACT RADAR LEVEL SENSOR
GUIDED WAVE RADAR LEVEL SENSOR
FLOAT LEVEL SWITCH
CAPACITANCE LEVEL SENSOR
COALESCING FILTER
DESICCANT DRYER
SUCTION DIFFUSER
PARTICULATE FILTER
VIBRATING FORK LEVEL SWITCH
FLEXIBLE JOINT W/ MEDIA TRAP
FLEXIBLE JOINT

ANALYTICAL ABBREVIATIONS

XXX 12345 (ZZZ) — ANALYSIS INSTRUMENT

(ZZZ) =

ALK	- ALKALINITY	NO3	- NITRATE
CH4	- METHANE	O2	- OXYGEN
CL2	- CHLORINE	O3	- OZONE
COMB	- COMBUSTIBLE GAS	ORP	- OXIDATION/REDUCTION POTENTIAL
CON	- CONDUCTIVITY	PETRO	- PETROLEUM VAPOR
DO	- DISSOLVED OXYGEN	PH	- HYDROGEN ION CONCENTRATION
IR	- INFRARED	PO4	- PHOSPHATE
H2S	- HYDROGEN SULFIDE	SC	- STREAMING CURRENT
LEL	- LOWER EXPLOSIVE LIMIT	SO2	- SULFUR DIOXIDE
METH	- METHANOL VAPOR	TH	- TOTAL HARDNESS
NH2CL	- MONOCHLORAMINE	TOC	- TOTAL ORGANIC CARBON
NH3	- AMMONIA	TSS	- TOTAL SUSPENDED SOLIDS
NO2	- NITRITE	TURB	- TURBIDITY
		UV	- ULTRAVIOLET

1115 / 1113 — BISECTED HEXAGON ADJACENT TO EQUIPMENT ITEM INDICATES THAT THE ELECTRICAL DEVICES (SWITCHES, CONTROL STATIONS, CONTROL PANELS, MCC COMPARTMENTS, WIRING, ETC.) AND SCADA DEVICES (I/O POINTS, HMI OBJECTS, ETC) FOR THE EQUIPMENT ITEM WITH THE LOOP NUMBER IN THE TOP OF THE HEXAGON ARE THE SAME AS THOSE FOR THE EQUIPMENT ITEM WITH THE LOOP NUMBER IN THE BOTTOM OF THE HEXAGON.

GENERAL NOTES

1. SYMBOLS AND NOMENCLATURE ARE BASED ON ANSI/ISA-5.1-2009.
2. REFER TO LEGEND SHEETS OF OTHER DISCIPLINES FOR ADDITIONAL SYMBOLS AND ABBREVIATIONS.
3. REFER TO SPECIFICATIONS FOR ADDITIONAL DETAIL ON CONTROL SYSTEM FUNCTIONAL REQUIREMENTS.
4. INSTRUMENTS AND PANELS DENOTED WITH AN ASTERISK (*) ARE PROVIDED BY OTHER DISCIPLINES. REFER TO THE DRAWINGS AND SPECIFICATIONS OF OTHER DISCIPLINES FOR ADDITIONAL DETAIL.
5. POWER SUPPLIES FOR LOOPS OR SYSTEMS SHALL BE FURNISHED BY THE INSTRUMENTATION SUPPLIER TO MEET THE PARTICULAR CHARACTERISTICS (E.G., VOLTAGE AND CURRENT REQUIREMENTS) OF COMPONENTS IN EACH LOOP OR SYSTEM.

LINE SYMBOLS AND LEGEND

MAJOR PROCESS PIPES OR CHANNELS
SECONDARY PROCESS OR MECHANICAL CONNECTION
AIR SUPPLY OR SIGNAL
ELECTRICAL SIGNAL/ COPPER CABLE
DATA LINK OR INTERNAL SOFTWARE LINK
CAPILLARY TUBE

NEW EQUIPMENT, INSTRUMENTS, I/O, CONNECTIONS, STRUCTURES, PANELS, ETC SHOWN AS BLACK, EXISTING SHOWN AS GRAY.

REFER TO SYSTEM ARCHITECTURE SHEETS FOR LINETYPES REPRESENTING OTHER MEDIA AND PROTOCOLS

PROCESS/SIGNALS NOT CONNECTED (CROSSING)
PROCESS/SIGNALS CONNECTED
TAG / DRAWNG — OFF-SHEET CONNECTOR
DISCRETE ELECTRICAL SIGNALS
DISCRETE DIGITAL SIGNALS
ANALOG ELECTRICAL SIGNALS
ANALOG DIGITAL SIGNALS

REGISTERED PROFESSIONAL ENGINEER — ALAN W. MUIR — 04/23/24 — ELECTRICAL — STATE OF CALIFORNIA

REVISIONS | BY | DATE | MARK

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GARDENDALE AND VILLAGE PARK WEST
PRS REPLACEMENTS

GARDENDALE ROAD
INSTRUMENTATION LEGEND AND SYMBOL

SHEET 15 OF 22 | DRAWING I-1

ORIGINAL SCALE IN INCHES 0 1 2 3 4

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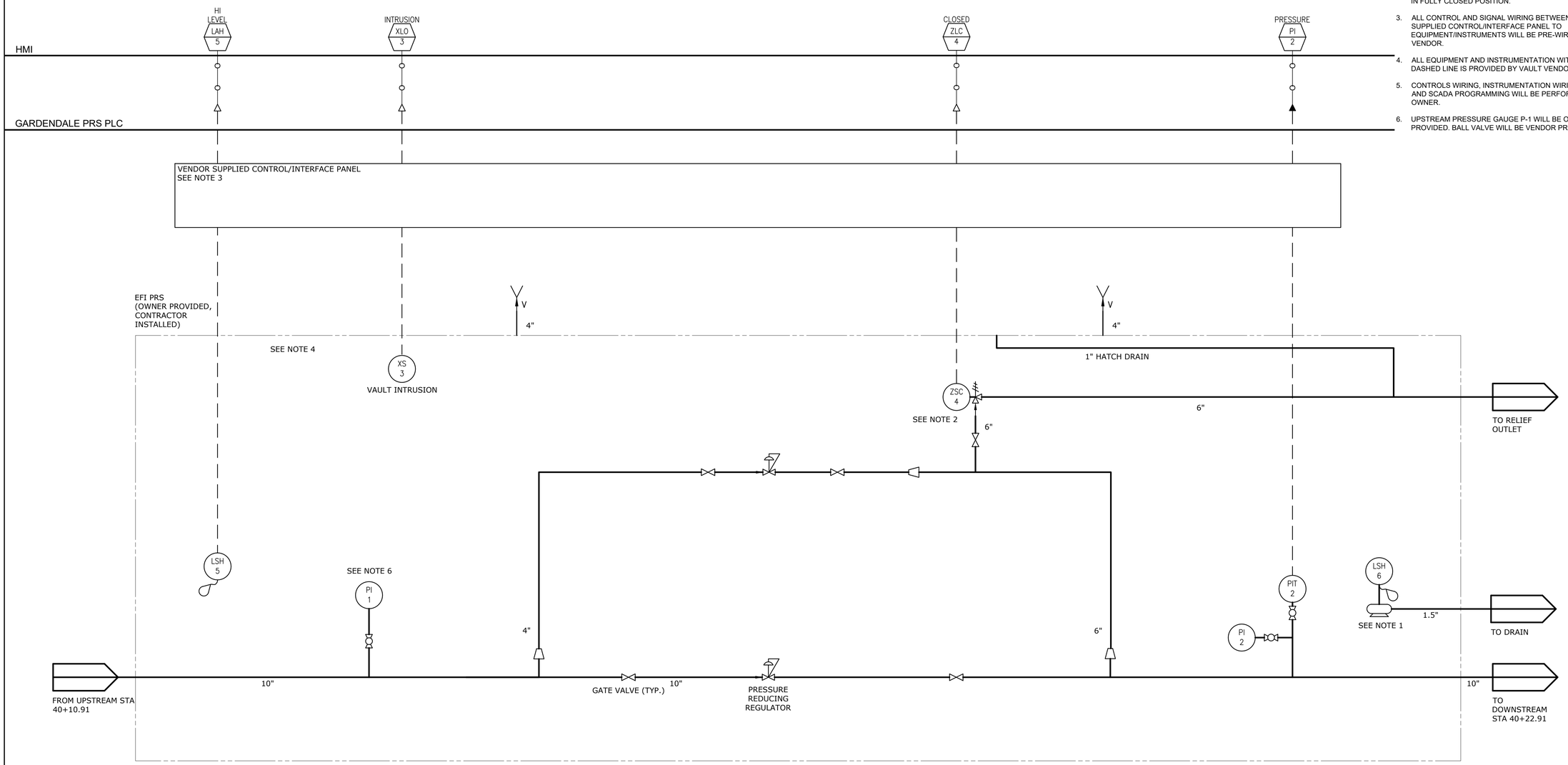
NOTES:

1. PUMP WILL BE OWNER PROVIDED. CONTRACTOR SHALL INSTALL AND CONNECT TO DRAIN LINE. START/STOP BASED ON FLOAT POSITION.
2. VALVE LIMIT SWITCH SHALL OPEN WHEN VALVE IS NOT IN FULLY CLOSED POSITION.
3. ALL CONTROL AND SIGNAL WIRING BETWEEN VENDOR SUPPLIED CONTROL/INTERFACE PANEL TO EQUIPMENT/INSTRUMENTS WILL BE PRE-WIRED BY VENDOR.
4. ALL EQUIPMENT AND INSTRUMENTATION WITHIN DASHED LINE IS PROVIDED BY VAULT VENDOR.
5. CONTROLS WIRING, INSTRUMENTATION WIRING, PLC AND SCADA PROGRAMMING WILL BE PERFORMED BY OWNER.
6. UPSTREAM PRESSURE GAUGE P-1 WILL BE OWNER PROVIDED. BALL VALVE WILL BE VENDOR PROVIDED.



REGISTERED PROFESSIONAL ENGINEER
ALAN W. MILLER
04/23/24
ELECTRICAL
STATE OF CALIFORNIA

MARK	DATE	BY	REVISIONS

DESIGN | DRAWN | CHECK

OLIVENHAIN
Municipal Water District
1966 Olivenhain Road
Encinitas,CA 92024 (760)753-6466

GARDENDALE AND VILLAGE PARK WEST PRS REPLACEMENTS

GARDENDALE ROAD
INSTRUMENTATION P&ID

SHEET: 16 OF 22
DRAWING: I-2

ORIGINAL SCALE IN INCHES

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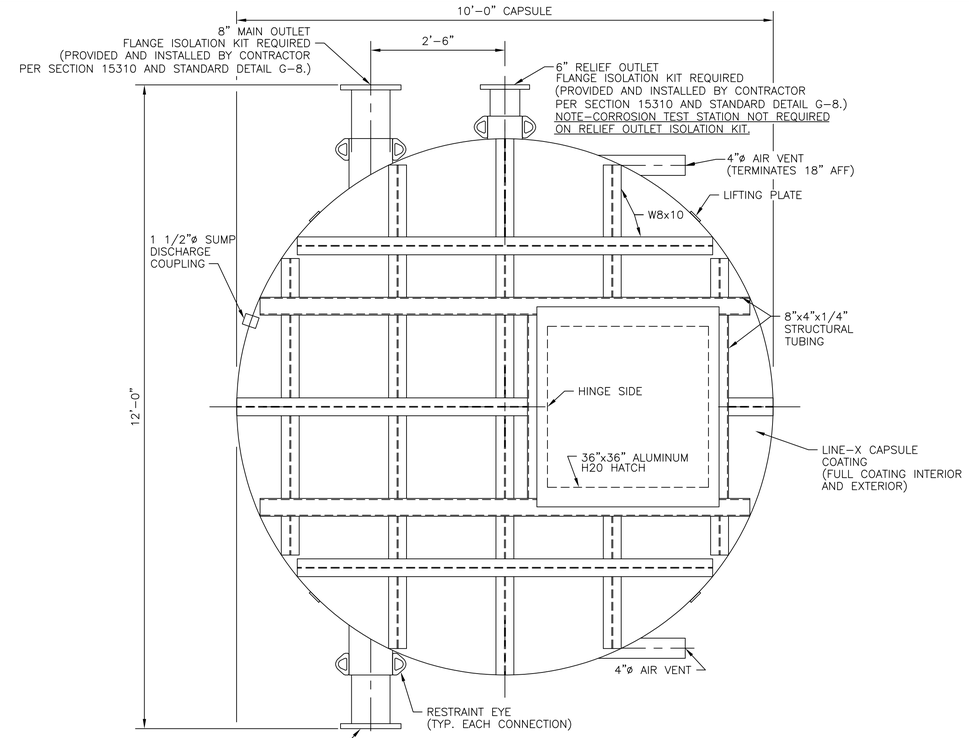
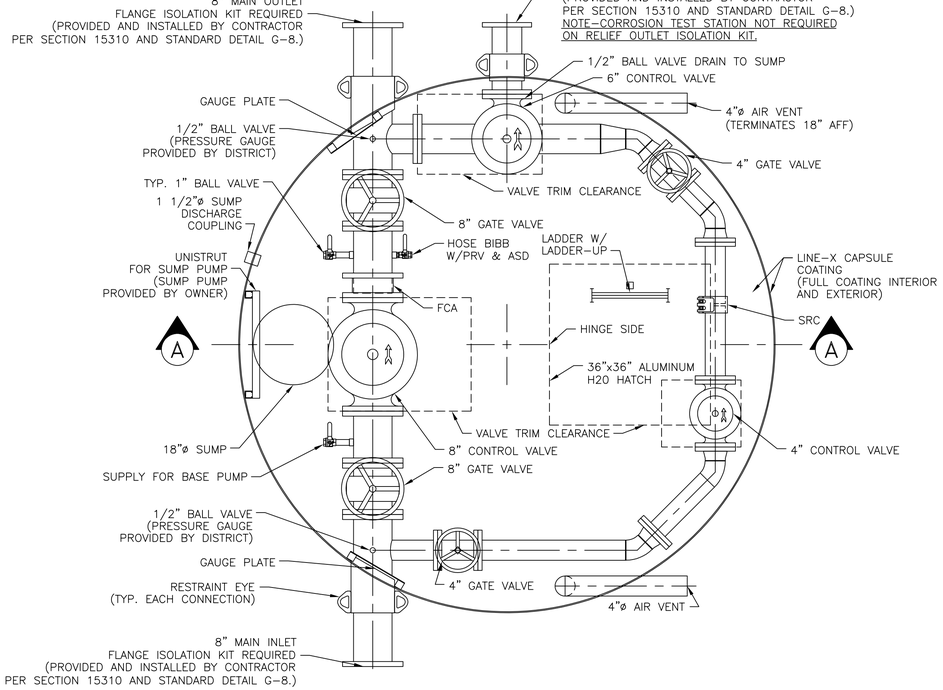
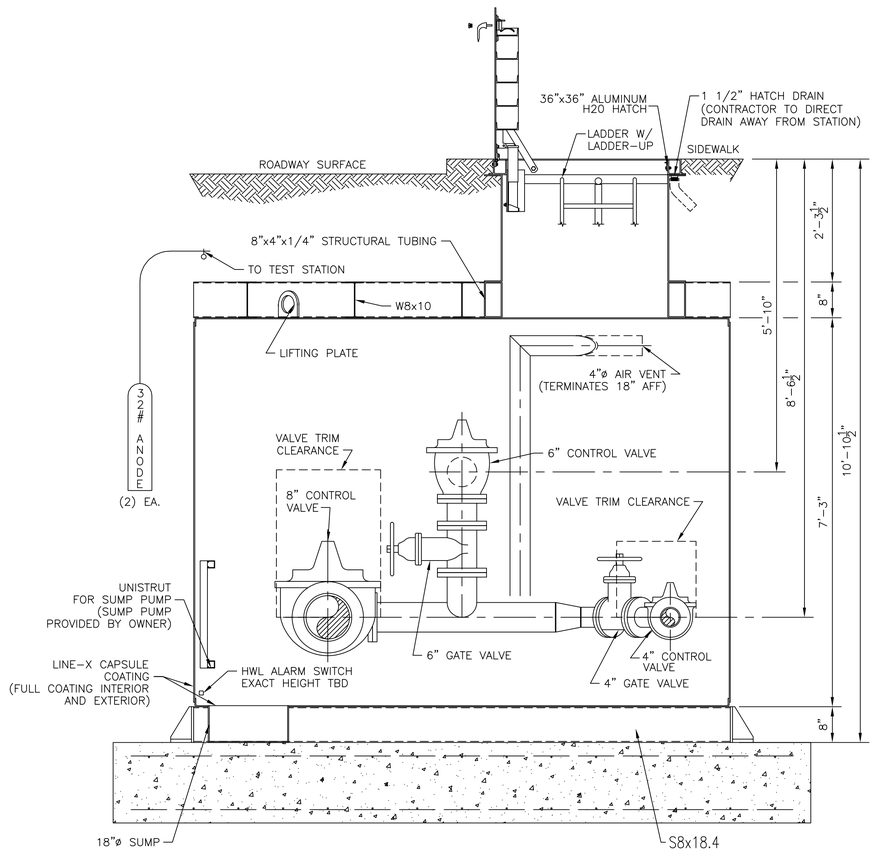


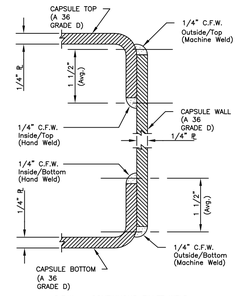
EXTERIOR PLAN



INTERIOR PLAN



SECTION A–A



LAP JOINT CONNECTION OF CAPSULE WALL PLATE WITH FLANGE TOP AND BOTTOM

CONSTRUCTION NOTES:

- FIBERGLASS UNISTRUT
- FLUOROCARBON COATED HARDWARE WITH WASHERS REQUIRED ON INTERNAL PIPING CONNECTIONS.
- ELECTRICAL COMPONENTS TO BE ISOLATED FROM TANK SHELL AND PIPELINE COMPONENTS.
- THIS CAPSULE IS DESIGNED FOR H20 TRAFFIC LOADING AND ALUMINUM HATCH IS DESIGNED FOR H20 LOADING.
- NO TRIM PIPING ACROSS THE FLOOR
- FOUNDATION AND ANCHOR BOLTS ARE TO BE DESIGNED AND SIZED BY EFI.
- ELECTRICAL ISOLATION SHALL BE MAINTAINED BETWEEN THE STEEL CAPSULE STRUCTURE AND THE CONCRETE FOUNDATION EMBEDDED STEEL REINFORCEMENT.

INLET PRESSURE = 129 PSI
OUTLET PRESSURE = 110 PSI

NOTE: FCA – FLANGED COUPLING ADAPTER
SRC – SELF RESTRAINED COUPLING

REVISION #	DATE	REVISED BY	DESCRIPTION
1	3/23/23	SM	ADD ELEC. CONV., FLANGE MAINS, MOVE RELIEF
2	4/03/23	SM	REMOVE ELECTRIC
3	11/20/23	CK	ENGINEERING COMMENTS
4	2/12/24	AC	ENGINEERING COMMENTS

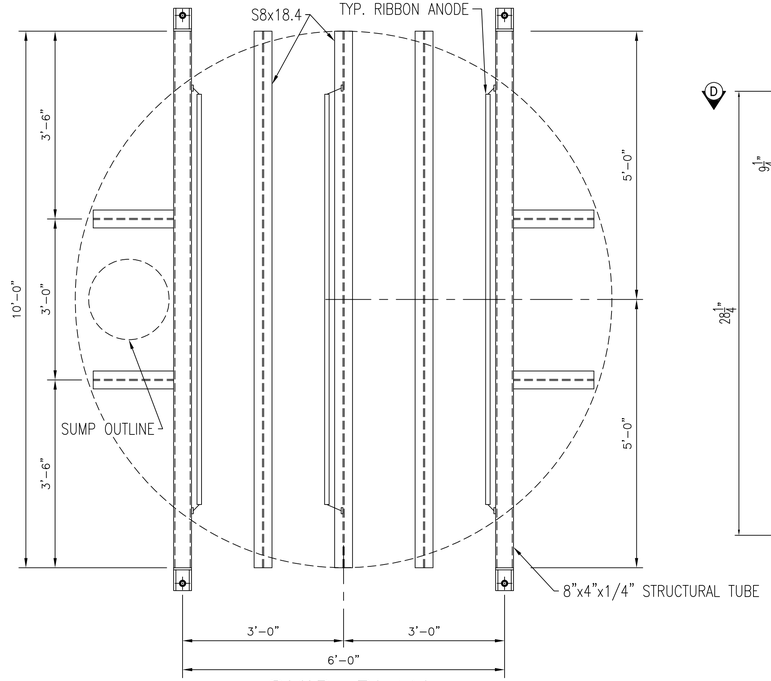
DESIGNED BY: LS	MECHANICAL CHECKED BY (C.E.):	ELECTRICAL CHECKED BY:	SCALE: 3/4" = 1'–0"
DRAWN BY: CK			

ENGINEERED FLUID, INC.
P.O. DRAWER 723 • CENTRALIA, ILLINOIS 62801 • 618–533–1351

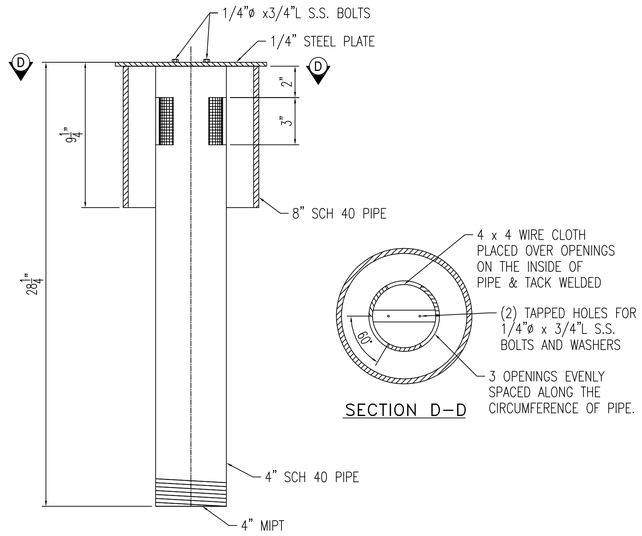
PRESSURE REDUCING STATION

VILLAGE PARK WEST PRS
ON WANDERING ROAD
EXTERIOR AND INTERIOR PLAN
ENCINITAS, CA

JOB REF NO. 5198–02 | DRWG. NO. M–1



SKID PLAN

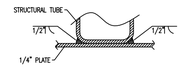
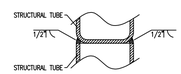
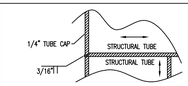
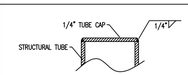
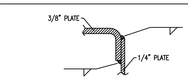
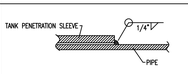
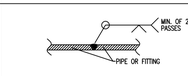
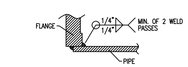
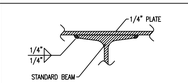
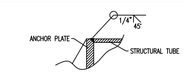


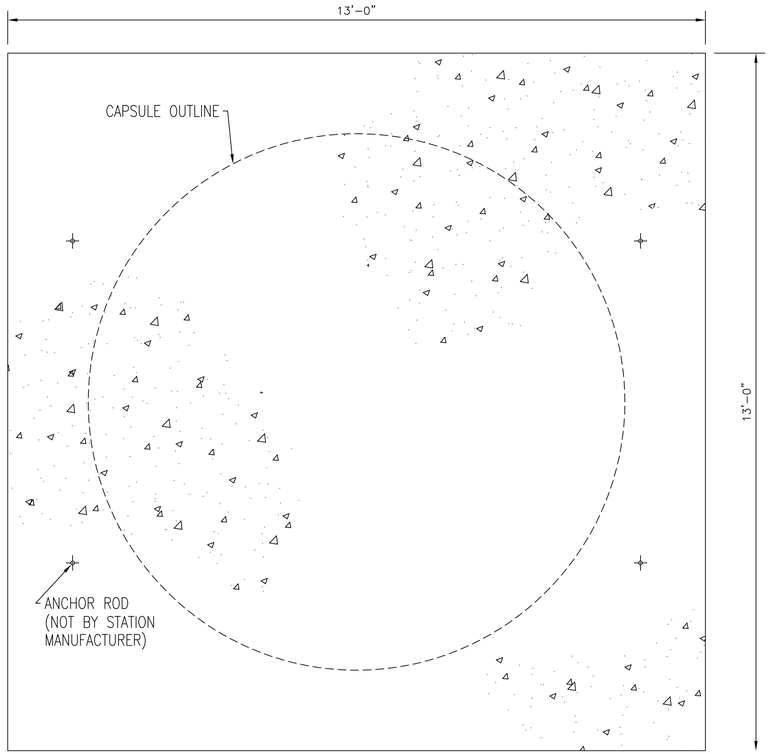
SECTION D–D

VENT CAP DETAIL

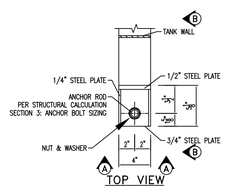
NOTE:
1. PAINT – TO BE DETERMINED
2. 2 EACH
3. SHIPPED LOOSE

WELD SCHEDULE

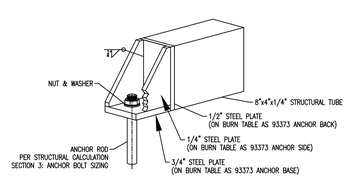
STRUCTURAL TUBE TO PLATE (FLAIR–BEVEL–GROOVE WELD)	
STRUCTURAL TUBE TO STRUCTURAL TUBE (FLAIR–BEVEL–GROOVE WELD)	
TUBE CAP TO STRUCTURAL TUBES (BUTT WELD)	
TUBE CAP TO STRUCTURAL TUBE (FILLET WELD)	
1/4" PLATE TO 1/4" PLATE (DOUBLE SIDED BUTT WELD) (REF. SQUIBB PROCEDURE STC001)	
3/8" PLATE TO 1/4" PLATE T JOINT (FILLET WELD BY SQUIBB) (REF. SQUIBB PROCEDURE STC002)	
TANK PENETRATION SLEEVE TO PIPE (FILLET WELD)	
PIPE TO PIPE OR FITTING (V–GROOVE WELD)	
PIPE TO FLANGE (FILLET WELD)	
STANDARD BEAM TO PLATE (FILLET WELD)	
STRUCTURAL TUBE TO ANCHOR PLATE (BEVEL GROOVE WELD)	



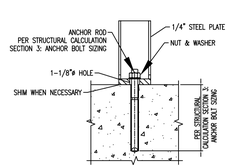
FOUNDATION PLAN



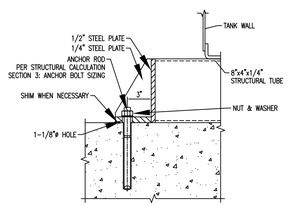
TOP VIEW



4 EACH



SECTION A–A



SECTION B–B

TYPICAL ANCHOR DETAIL

NOTE: MATERIAL AND SIZE OF ANCHOR ROD, WASHERS, NUTS AND SHIMS PROVIDED BY STATION MANUFACTURER.

CONSTRUCTION NOTES:

- FIBERGLASS UNISTRUT
- FLUOROCARBON COATED HARDWARE WITH WASHERS REQUIRED ON INTERNAL PIPING CONNECTIONS.
- ELECTRICAL COMPONENTS TO BE ISOLATED FROM TANK SHELL AND PIPELINE COMPONENTS.
- THIS CAPSULE IS DESIGNED FOR H20 TRAFFIC LOADING AND ALUMINUM HATCH IS DESIGNED FOR H20 LOADING.
- NO TRIM PIPING ACROSS THE FLOOR
- FOUNDATION AND ANCHOR BOLTS ARE TO BE DESIGNED AND SIZED BY EFI.
- ELECTRICAL ISOLATION SHALL BE MAINTAINED BETWEEN THE STEEL CAPSULE STRUCTURE AND THE CONCRETE FOUNDATION EMBEDDED STEEL REINFORCEMENT.

REVISION #	DATE	REVISED BY	DESCRIPTION
1	3/23/23	SM	ADD ELEC. CONV., FLANGE MAINS, MOVE RELIEF
2	4/03/23	SM	REMOVE ELECTRIC
3	11/20/23	CK	ENGINEERING COMMENTS
4	2/12/24	AC	ENGINEERING COMMENTS

DESIGNED BY: LS	MECHANICAL CHECKED BY (C.E.):	ELECTRICAL CHECKED BY:	SCALE: 3/4" = 1'–0"
DRAWN BY: CK			

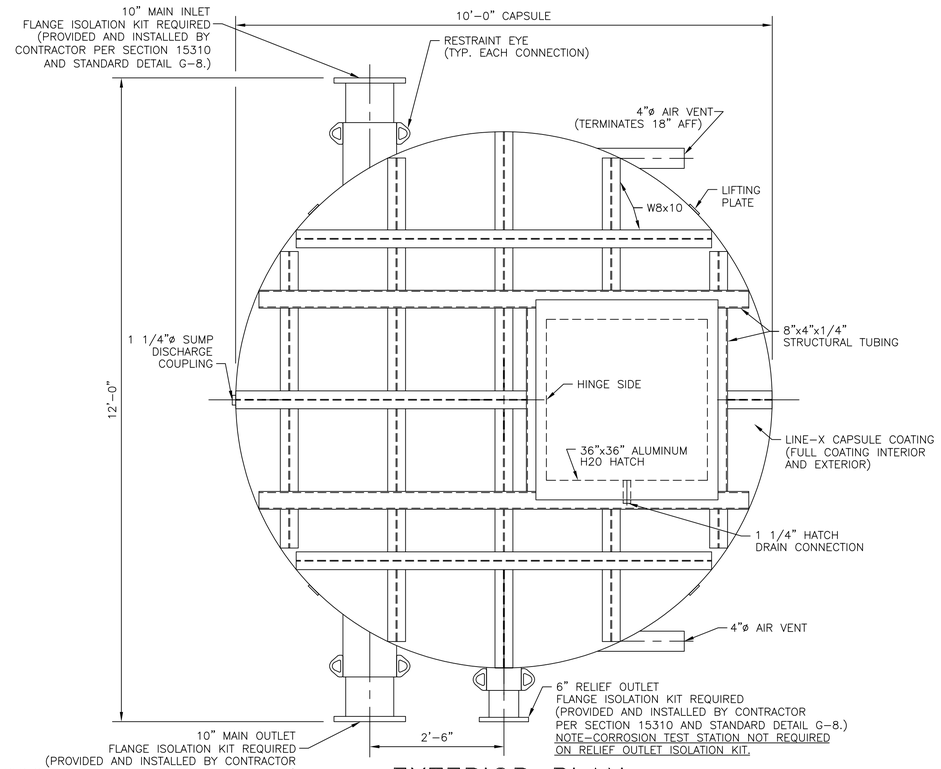
ENGINEERED FLUID, INC.
P.O. DRAWER 723 * CENTRALIA, ILLINOIS 62801 * 618–533–1351

PRESSURE REDUCING STATION

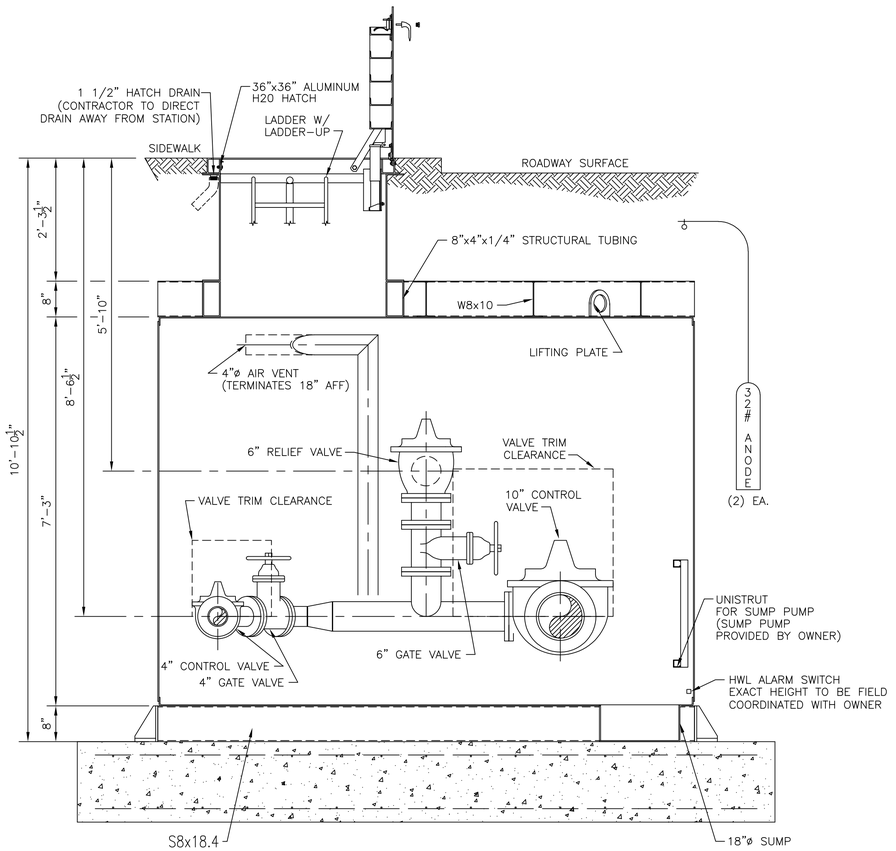
VILLAGE PARK WEST PRS
ON WANDERING ROAD
SKID AND FOUNDATION PLAN
ENCINITAS, CA

JOB REF NO. 5198–02

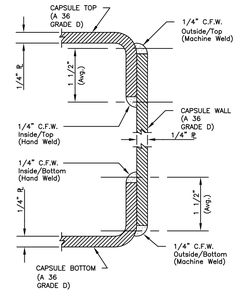
DRWG. NO. M–2



EXTERIOR PLAN

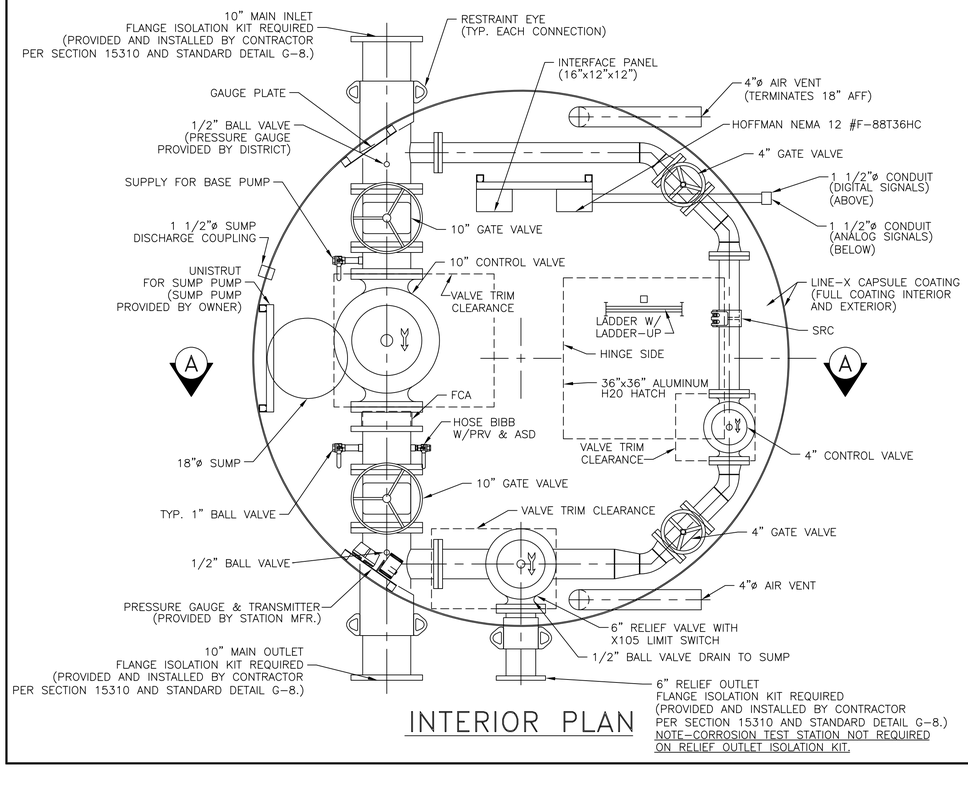


SECTION A–A



C.F.W. – CONTINUOUS FILLET WELD

LAP JOINT CONNECTION OF CAPSULE WALL PLATE WITH FLANGE TOP AND BOTTOM



INTERIOR PLAN

CONSTRUCTION NOTES:

- FIBERGLASS UNISTRUT
- FLUOROCARBON COATED HARDWARE WITH WASHERS REQUIRED ON INTERNAL PIPING CONNECTIONS.
- ELECTRICAL COMPONENTS TO BE ISOLATED FROM TANK SHELL AND PIPELINE COMPONENTS.
- THIS CAPSULE IS DESIGNED FOR H20 TRAFFIC LOADING.
- NO TRIM PIPING ACROSS THE FLOOR
- ELECTRICAL ISOLATION SHALL BE MAINTAINED BETWEEN THE STEEL CAPSULE STRUCTURE AND THE CONCRETE FOUNDATION EMBEDDED STEEL REINFORCEMENT.

INLET PRESSURE = 107 PSI
OUTLET PRESSURE = 87 PSI

NOTE: FCA – FLANGED COUPLING ADAPTER
SRC – SELF RESTRAINED COUPLING

REVISION #	DATE	REVISED BY	DESCRIPTION
1	3/23/23	SM	FLANGE MAINS
2	4/03/23	SM	ADD ELECTRIC
3	11/20/23	CK	ENGINEERING COMMENTS
4	2/12/24	AC	ENGINEERING COMMENTS

DESIGNED BY: LS	MECHANICAL CHECKED BY (C.E.):	ELECTRICAL CHECKED BY:	SCALE: 3/4" = 1'–0"
DRAWN BY: CK			

ENGINEERED FLUID, INC.
P.O. DRAWER 723 • CENTRALIA, ILLINOIS 62801 • 618–533–1351

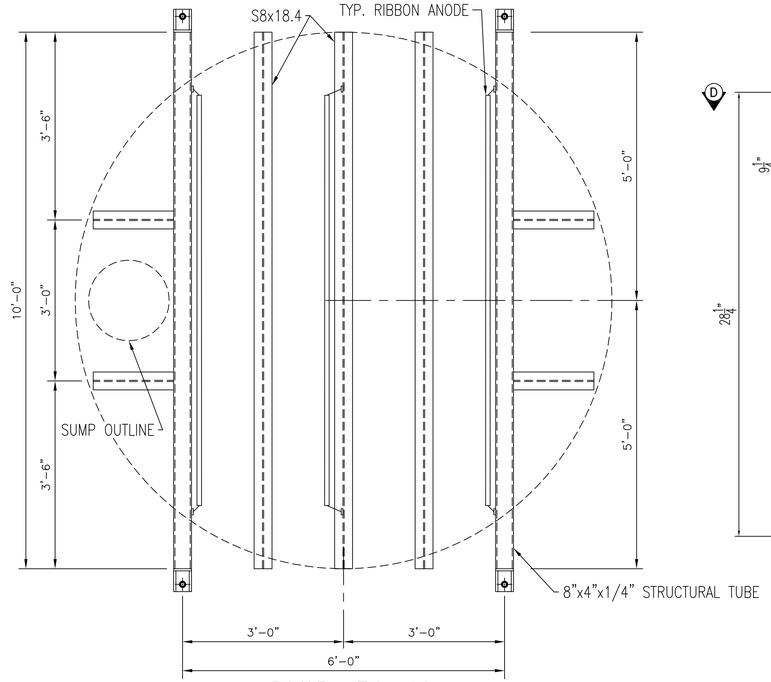
PRESSURE REDUCING STATION

GARDENDALE ROAD PRS
EXTERIOR AND INTERIOR PLAN

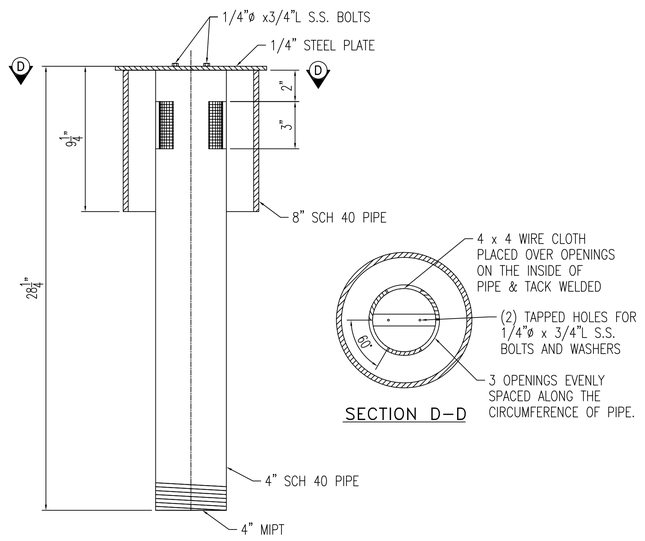
ENCINITAS, CA

JOB REF NO. 5198–01

DRWG. NO. M–3



SKID PLAN

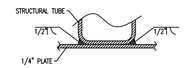
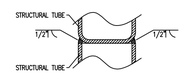
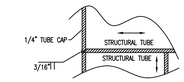
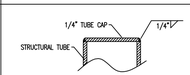
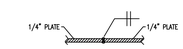
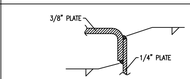
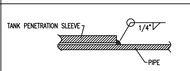
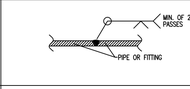
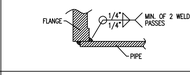
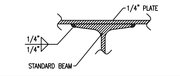
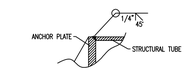


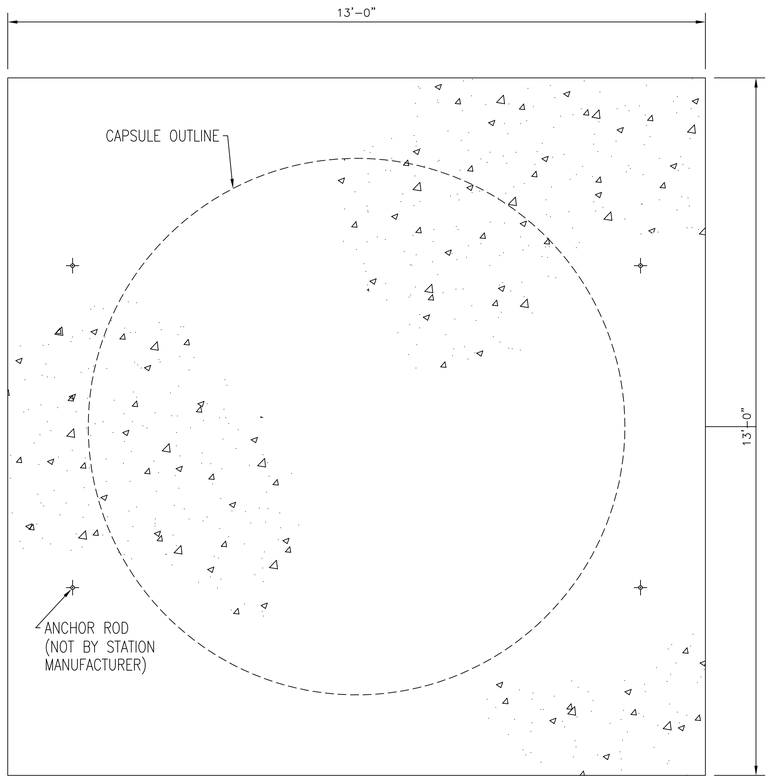
SECTION D—D

VENT CAP DETAIL

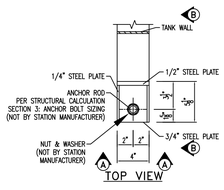
NOTE:
1. PAINT — TO BE DETERMINED
2. 2 EACH
3. SHIPPED LOOSE

WELD SCHEDULE

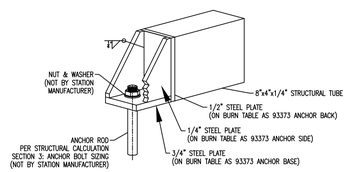
STRUCTURAL TUBE TO PLATE (FLAIR-BEVEL-GROOVE WELD)	
STRUCTURAL TUBE TO STRUCTURAL TUBE (FLAIR-BEVEL-GROOVE WELD)	
TUBE CAP TO STRUCTURAL TUBES (BUTT WELD)	
TUBE CAP TO STRUCTURAL TUBE (FILLET WELD)	
1/4" PLATE TO 1/4" PLATE (DOUBLE SIDED BUTT WELD) (REF. SQUIBB PROCEDURE STC001)	
3/8" PLATE TO 1/4" PLATE T JOINT (FILLET WELD BY SQUIBB) (REF. SQUIBB PROCEDURE STC002)	
TANK PENETRATION SLEEVE TO PIPE (FILLET WELD)	
PIPE TO PIPE OR FITTING (V-GROOVE WELD)	
PIPE TO FLANGE (FILLET WELD)	
STANDARD BEAM TO PLATE (FILLET WELD)	
STRUCTURAL TUBE TO ANCHOR PLATE (BEVEL GROOVE WELD)	



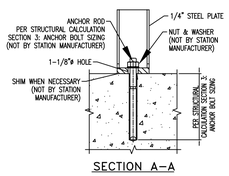
FOUNDATION PLAN



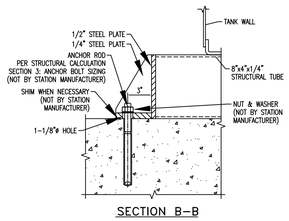
TOP VIEW



4 EACH



SECTION A—A



SECTION B—B

TYPICAL ANCHOR DETAIL

NOTE: ANCHOR ROD, WASHERS, AND NUTS NOT BY STATION MANUFACTURER.

CONSTRUCTION NOTES:

- FIBERGLASS UNISTRUT
- FLUOROCARBON COATED HARDWARE WITH WASHERS REQUIRED ON INTERNAL PIPING CONNECTIONS.
- ELECTRICAL COMPONENTS TO BE ISOLATED FROM TANK SHELL AND PIPELINE COMPONENTS.
- THIS CAPSULE IS DESIGNED FOR H20 TRAFFIC LOADING.
- NO TRIM PIPING ACROSS THE FLOOR
- ELECTRICAL ISOLATION SHALL BE MAINTAINED BETWEEN THE STEEL CAPSULE STRUCTURE AND THE CONCRETE FOUNDATION EMBEDDED STEEL REINFORCEMENT.

REVISION #	DATE	REVISED BY	DESCRIPTION
1	3/23/23	SM	FLANGE MAINS
2	4/03/23	SM	ADD ELECTRIC
3	11/20/23	CK	ENGINEERING COMMENTS
4	2/12/24	AC	ENGINEERING COMMENTS

DESIGNED BY: LS	MECHANICAL CHECKED BY (C.E.):	ELECTRICAL CHECKED BY:	SCALE: 3/4" = 1'-0"
DRAWN BY: CK			

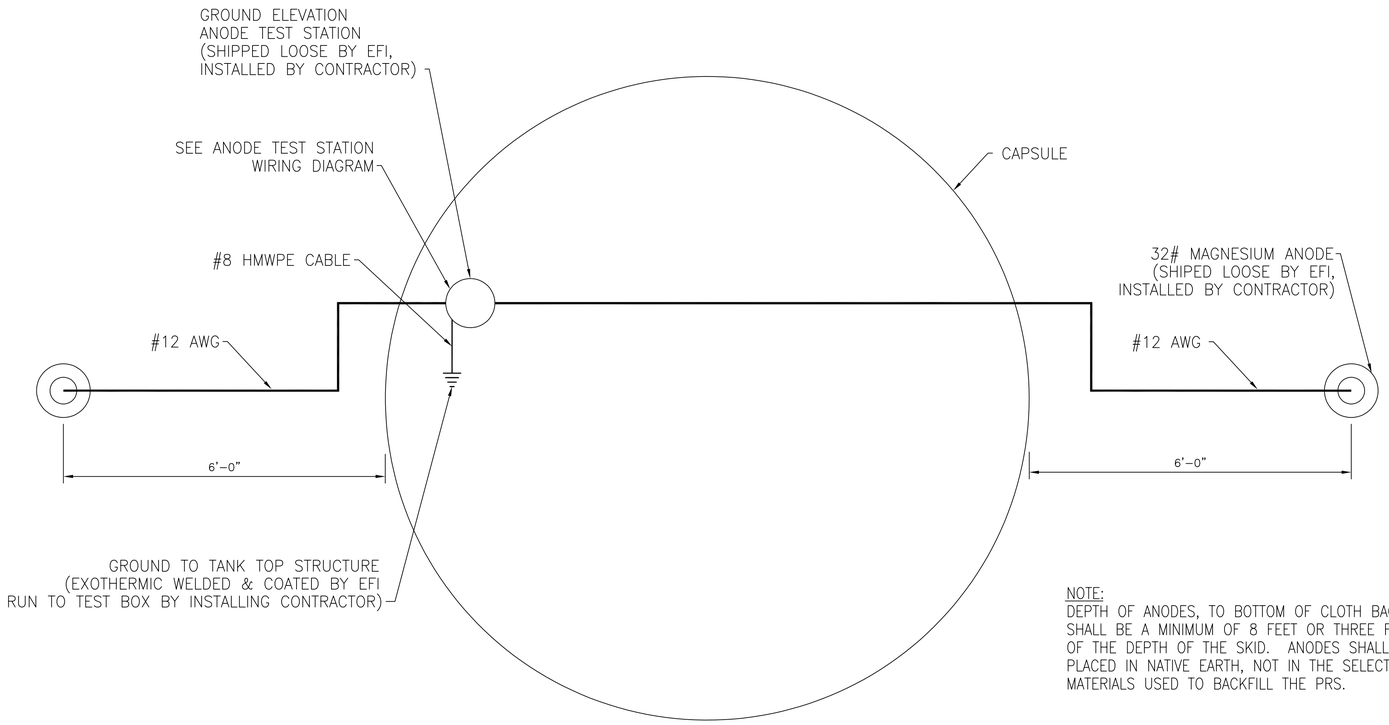
ENGINEERED FLUID, INC.
P.O. DRAWER 723 * CENTRALIA, ILLINOIS 62801 * 618-533-1351

PRESSURE REDUCING STATION

GARDENDALE ROAD PRS
SKID AND FOUNDATION PLAN
ENCINITAS, CA

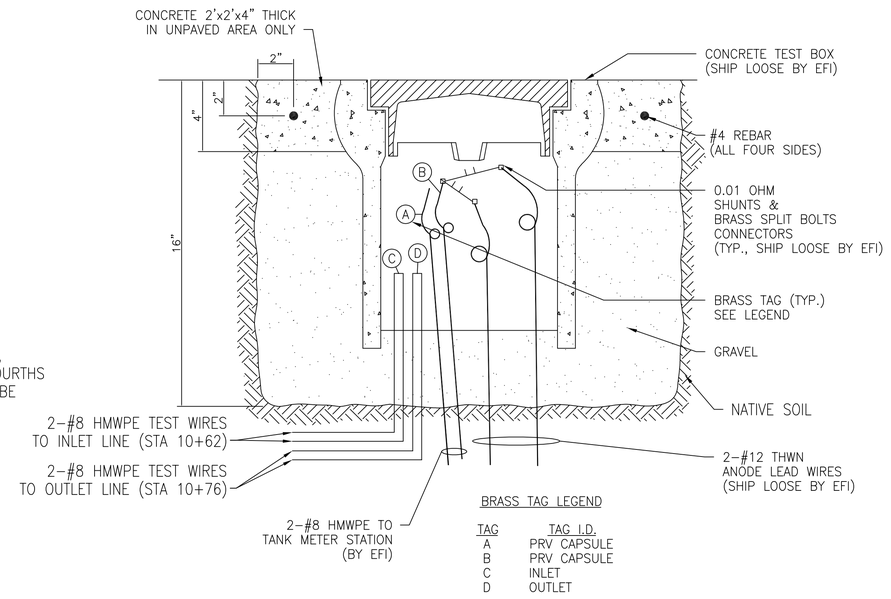
JOB REF NO. 5198-01

DRWG. NO. M-4



ANODE BAG PLACEMENT
(FIELD INSTALLED BY CONTRACTOR)

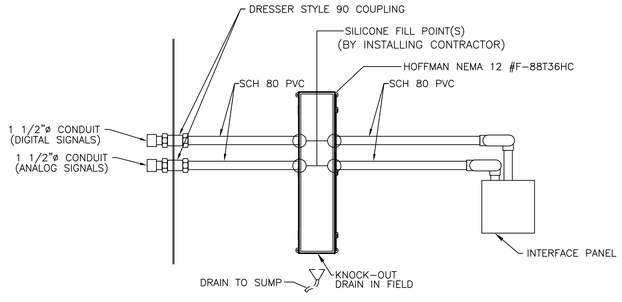
NOTE:
DEPTH OF ANODES, TO BOTTOM OF CLOTH BAG, SHALL BE A MINIMUM OF 8 FEET OR THREE FOURTHS OF THE DEPTH OF THE SKID. ANODES SHALL BE PLACED IN NATIVE EARTH, NOT IN THE SELECT MATERIALS USED TO BACKFILL THE PRS.



BRASS TAG LEGEND

TAG	TAG I.D.
A	PRV CAPSULE
B	PRV CAPSULE
C	INLET
D	OUTLET

ANODE TEST STATION WIRING DIAGRAM
N.T.S.



PANEL & CONDUIT DETAIL

NOTES

1. INSTALLATION METHODS SHALL COMPLY WITH THESE DRAWINGS AND OMWD STANDARD SPECIFICATION 15310.
2. THE ANODES SHALL BE ACTIVATED, TESTED, AND APPROVED BY THE DISTRICT'S REPRESENTATIVE IN ACCORDANCE WITH OMWD STANDARD SPECIFICATION 15310.

REVISION #	DATE	REVISED BY	DESCRIPTION
1	3/23/23	SM	ADD ELEC. CONV., FLANGE MAINS, MOVE RELIEF
2	4/03/23	SM	REMOVE ELECTRIC
3	11/20/23	CK	ENGINEERING COMMENTS
4	2/12/24	AC	ENGINEERING COMMENTS

DESIGNED BY: LS	MECHANICAL CHECKED BY (C.E.):	ELECTRICAL CHECKED BY:	SCALE: 3/4" = 1'-0"
DRAWN BY: CK			

ENGINEERED FLUID, INC.
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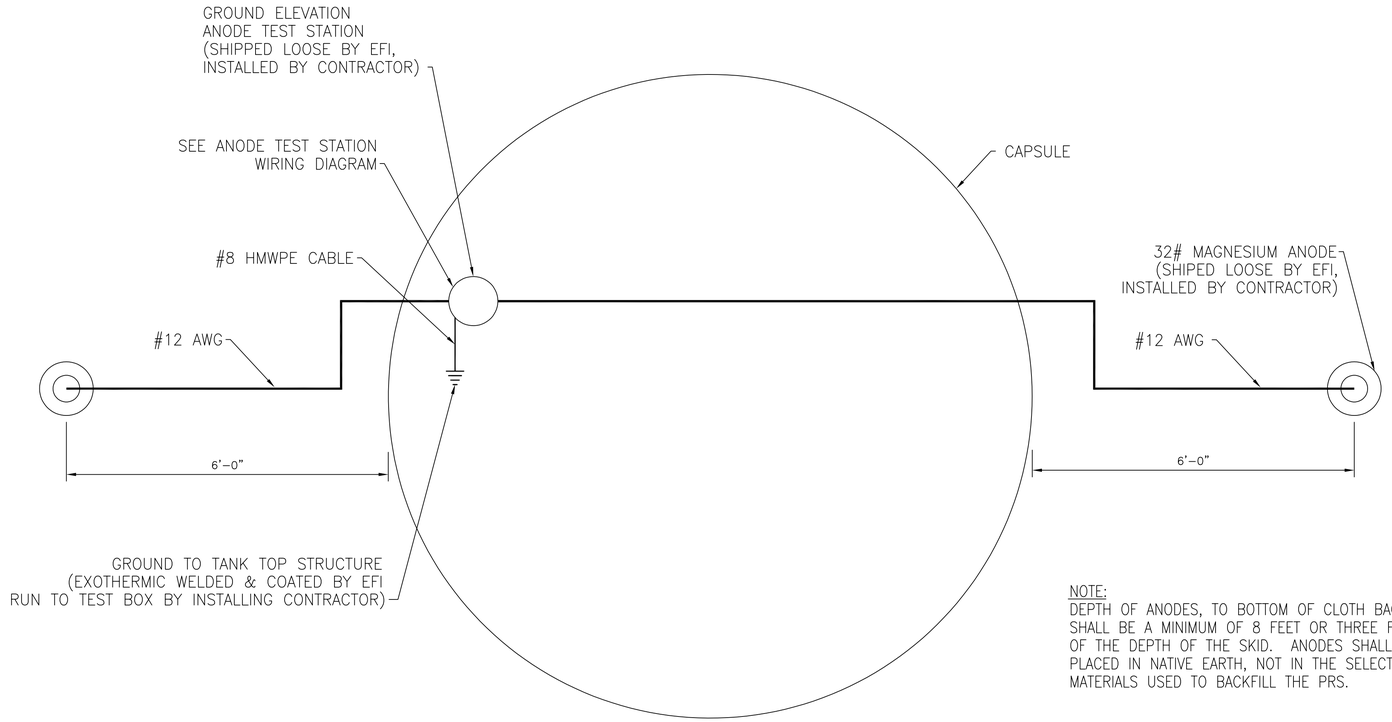
PRESSURE REDUCING STATION
VILLAGE PARK WEST PRS
ON WANDERING ROAD
ANODE PROTECTION DETAIL
ENCINITAS, CA

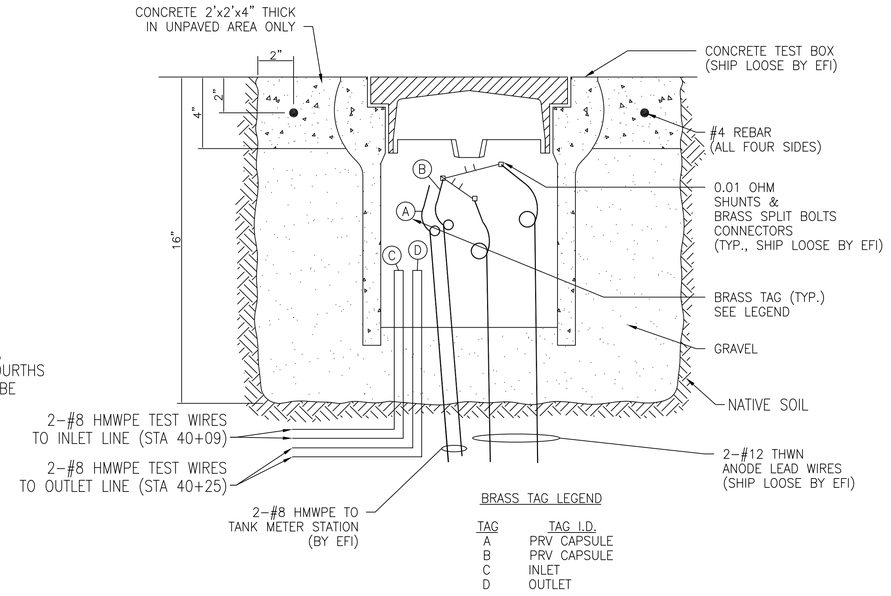
JOB REF NO. 5198-02

DRWG. NO. CP-1



ANODE BAG PLACEMENT
(FIELD INSTALLED BY CONTRACTOR)

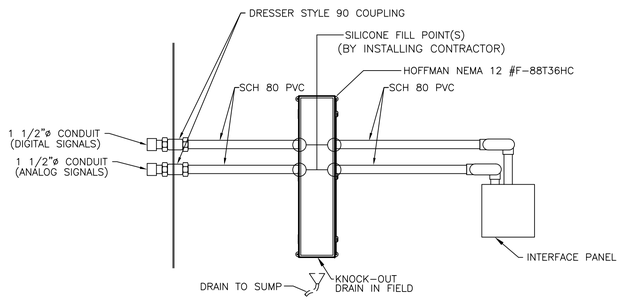
NOTE:
DEPTH OF ANODES, TO BOTTOM OF CLOTH BAG, SHALL BE A MINIMUM OF 8 FEET OR THREE FOURTHS OF THE DEPTH OF THE SKID. ANODES SHALL BE PLACED IN NATIVE EARTH, NOT IN THE SELECT MATERIALS USED TO BACKFILL THE PRS.



BRASS TAG LEGEND

TAG	TAG I.D.
A	PRV CAPSULE
B	PRV CAPSULE
C	INLET
D	OUTLET

ANODE TEST STATION WIRING DIAGRAM
N.T.S.



PANEL & CONDUIT DETAIL

NOTES

1. INSTALLATION METHODS SHALL COMPLY WITH THESE DRAWINGS AND OMWD STANDARD SPECIFICATION 15310.
2. THE ANODES SHALL BE ACTIVATED, TESTED, AND APPROVED BY THE DISTRICT'S REPRESENTATIVE IN ACCORDANCE WITH OMWD STANDARD SPECIFICATION 15310.

REVISION #	DATE	REVISED BY	DESCRIPTION
1	3/23/23	SM	FLANGE MAINS
2	4/03/23	SM	ADD ELECTRIC
3	11/20/23	CK	ENGINEERING COMMENTS
4	2/12/24	AC	ENGINEERING COMMENTS

DESIGNED BY: LS	MECHANICAL CHECKED BY (C.E.):	ELECTRICAL CHECKED BY:	
DRAWN BY: CK			SCALE: 3/4" = 1'–0"

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PRESSURE REDUCING STATION
GARDENDALE ROAD PRS
ANODE PROTECTION DETAIL
ENCINITAS, CA

JOB REF NO. 5198–01

DRWG. NO. CP–2