## CONTACT INFORMATION

MARINA COAST WATER DISTRICT 920 2ND AVENUE, SUITE A MARINA, CA 93933

GARRETT HAERTEL (831) 883-5929

CIVIL ENGINEER

WHITSON ENGINEERS 6 HARRIS COURT MONTEREY, CA 93940

ANDREW HUNTER, RCE 67730 (831) 649-5225

# **BENCHMARK**

• NGS BENCHMARK GU2130 (L813 RESET), TRACK, ON THE NORTH SIDE OF A FOOT PATH, VERTICAL 1ST ORDER, CLASS 1, ELEVATION 145.94 (NAVD 88)

# SHEET INDEX

COVER SHEET

CIVIL NOTES & SPECIFICATIONS

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PLAN AND PROFILE STA. 9+50 - 16+50

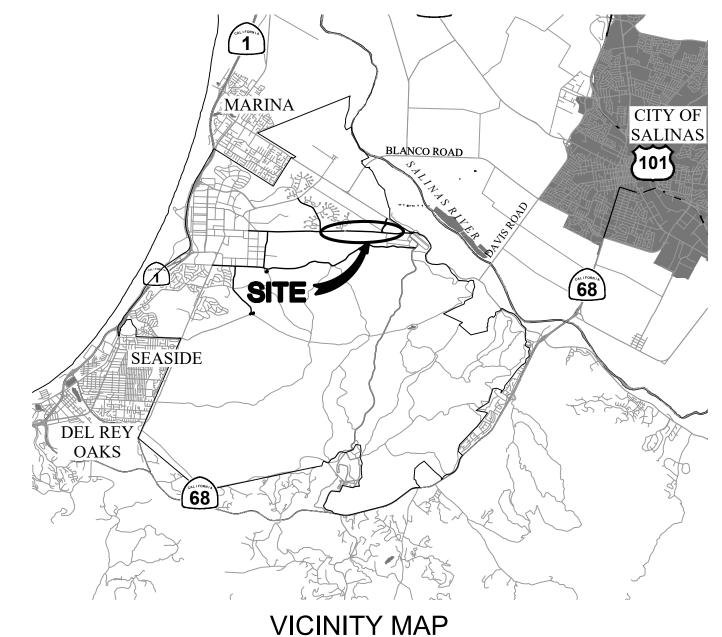
PLAN AND PROFILE STA. 16+50 - 25+50

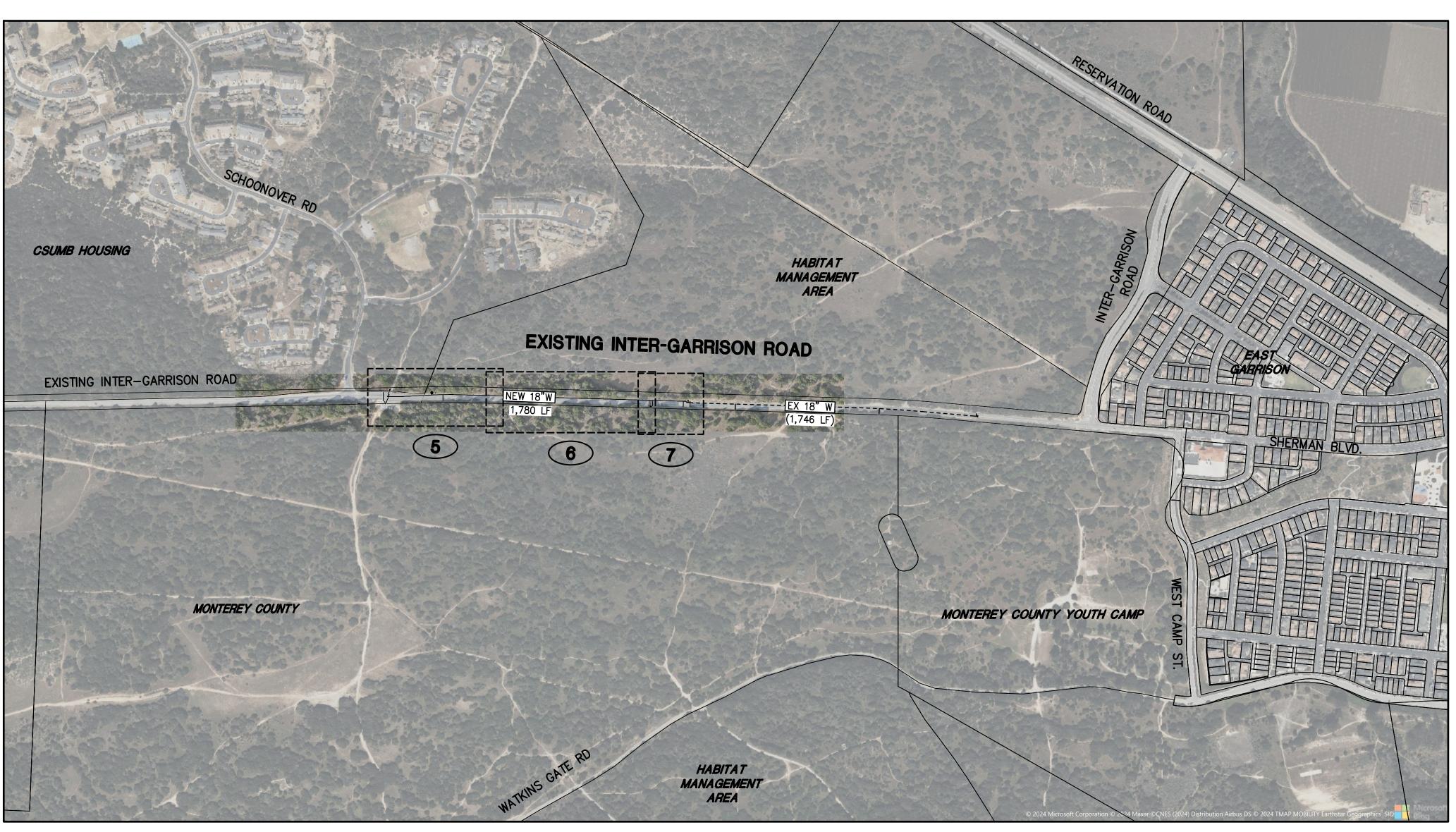
PLAN AND PROFILE STA. 25+50 - 28+50

# MARINA COAST WATER DISTRICT INTER-GARRISON ROAD

# WATER DISTRIBUTION PIPELINE PROJECT

(CIP OW-2421) JANUARY 2025





KEY MAP

6 Harris Court

DATE APPR REVISION DESCRIPTION

MARINA COAST WATER DISTRICT

11 RESERVATION ROAD
MARINA, CA 93933
(831) 384-6131 GARRETT HAERTEL, P.E., DISTRICT ENGINEER DATE



**Civil Engineering** whitsonengineers.com

INTER-GARRISON ROAD WATER LINE **COVER SHEET** 

DATE: SCALE:	01/31/25 1"=400'	SHEET
DESIGN:	ML	<b>1</b> 0f
DRAWN: CHECK:	ML APH	7

#### **GENERAL**

- 1. CONSTRUCTION CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY: THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL(S) HARMLESS FROM ANY AND ALL LIABILITY, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL(S).
- 2. ALL WORK SHALL BE PERFORMED IN CONFORMANCE WITH:
- A. ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, REGULATIONS, ORDINANCES, AND RULES, INCLUDING WITHOUT LIMITATION:
  - CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATIVE CODE (CAL-OSHA) CALIFORNIA CODE 4216 - PROTECTION OF UNDERGROUND INFRASTRUCTURE
  - MARINA COAST WATER DISTRICT STANDARD PLANS AND SPECIFICATIONS (LATEST EDITION)
- B. THE 2022 CALIFORNIA BUILDING STANDARDS CODE (CCR TITLE 24), WITH AMENDMENTS ADOPTED BY THE JURISDICTION HAVING AUTHORITY
- C. CALIFORNIA EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
- D. THE PROJECT PLANS AND SPECIFICATIONS
- E. THE 2022 EDITION OF "STANDARD SPECIFICATIONS," STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION (CALTRANS), AS AMENDED BY THE MOST CURRENT "REVISED STANDARD SPECIFICATIONS". THE "STANDARD SPECIFICATIONS" AND "REVISED STANDARD SPECIFICATIONS" CAN BE DOWNLOADED FOR FREE FROM
- http://www.dot.ca.gov/hq/esc/oe/construction\_standards.html
- F. THE 2022 EDITION OF "STANDARD PLANS," STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION (CALTRANS), AS AMENDED BY THE MOST CURRENT "REVISED STANDARD PLANS". THE "STANDARD PLANS" AND "REVISED STANDARD PLANS" CAN BE DOWNLOADED FOR FREE FROM http://www.dot.ca.gov/hq/esc/oe/construction\_standards.html
- 3. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL CURRENTLY APPLICABLE SAFETY LAWS OF ALL APPLICABLE JURISDICTIONAL BODIES. FOR INFORMATION REGARDING THIS PROVISION, THE CONTRACTOR IS DIRECTED TO CONTACT STATE OF CALIFORNIA, DIVISION OF OCCUPATIONAL SAFETY AND HEALTH, SALINAS, CALIFORNIA AT PHONE (831) 443-3050.
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BARRICADES. SAFETY DEVICES AND CONTROL OF TRAFFIC WITHIN THE CONSTRUCTION AREA.
- 5. ESTIMATED START: 03/01/2025, ESTIMATED COMPLETION: 05/01/2025
- 6. IF, DURING THE COURSE OF CONSTRUCTION, CULTURAL, ARCHAEOLOGICAL, HISTORICAL OR PALEONTOLOGICAL RESOURCES ARE UNCOVERED AT THE SITE (SURFACE OR SUBSURFACE RESOURCES) WORK SHALL BE HALTED IMMEDIATELY WITHIN 50 METERS (165 FEET) OF THE FIND UNTIL A QUALIFIED PROFESSIONAL ARCHEOLOGIST CAN EVALUATE IT. MONTEREY COUNTY RMA - PLANNING AND A QUALIFIED ARCHAEOLOGIST (I.E. AN ARCHAEOLOGIST REGISTERED WITH THE REGISTER OF PROFESSIONAL ARCHAEOLOGISTS) SHALL BE IMMEDIATELY CONTACTED BY THE RESPONSIBLE INDIVIDUAL PRESENT ON-SITE. WHEN CONTACTED, THE PROJECT PLANNER AND THE ARCHAEOLOGIST SHALL IMMEDIATELY VISIT THE SITE TO DETERMINE THE EXTENT OF THE RESOURCES AND TO DEVELOP PROPER MITIGATION MEASURES REQUIRED FOR THE DISCOVERY

#### **EXISTING CONDITIONS**

- 1. TOPOGRAPHY IS BASED ON AN AERIAL SURVEY PREPARED BY WHITSON ENGINEERS IN JULY 2010 ORTHORECTIFIED IMAGE OBTAINED BY SMALL UNMANNED AIRCRAFT ON NOVEMBER 11, 2024. SUPPLEMENTAL GROUND SURVEY COMPLETED DECEMBER 9, 2024.
- 2. ALL "MATCH" OR "JOIN" CALLOUTS ON THE PLANS SHALL BE FIELD VERIFIED FOR EXACT LOCATION AND ELEVATION PRIOR TO CONSTRUCTION. NOTIFY THE ENGINEER IN THE CASE OF ANY FIELD DISCREPANCY.
- 3. THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A CURRENT, COMPLETE, AND ACCURATE RECORD OF ALL DEVIATIONS FROM THE WORK PROPOSED IN THESE PLANS AND SPECIFICATIONS, AND A RECORD DRAWING SET SHALL BE PREPARED AND PROVIDED TO THE ENGINEER AT THE COMPLETION OF WORK. CHANGES SHALL NOT BE MADE WITHOUT THE PRIOR WRITTEN APPROVAL OF THE DESIGN ENGINEER.
- 4. THE EXISTENCE, LOCATION AND ELEVATION OF ANY UNDERGROUND FACILITIES ARE SHOWN ON THESE PLANS IN A GENERAL WAY ONLY. NOT ALL UTILITIES MAY BE SHOWN. IT IS MANDATORY THAT THE CONTRACTOR EXPOSE AND VERIFY THE TOP AND BOTTOM OF ALL UTILITIES PRIOR TO ANY WORK ON SYSTEMS WHICH MAY BE AFFECTED BY THE EXISTING UTILITY'S LOCATION. IT IS THE RESPONSIBILITY AND DUTY OF THE CONTRACTOR TO MAKE THE FINAL DETERMINATION AS TO THE EXISTENCE, LOCATION AND ELEVATION OF ALL UTILITIES AND TO BRING ANY DISCREPANCY TO THE ATTENTION OF THE ARCHITECT.
- 5. BOUNDARY INFORMATION SHOWN IS FROM RECORD DATA. A BOUNDARY SURVEY WAS NOT PERFORMED AS A PART OF THIS WORK. THERE MAY BE EASEMENTS OR OTHER RIGHTS, RECORDED OR UNRECORDED, AFFECTING THE SUBJECT PROPERTY WHICH ARE NOT SHOWN HEREON.

# GRADING AND DRAINAGE

- 1. ONSITE GRADING AND EARTHWORK, SITE PREPARATION, EXCAVATION, TRENCHING AND COMPACTION SHALL BE OBSERVED AND TESTED BY THE GEOTECHNICAL ENGINEER DESIGNATED BY THE OWNER. ALL GRADING AND EARTHWORK SHALL BE DONE TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.
- 2. SHOULD THE RESULTS OF ANY COMPACTION TEST FAIL TO MEET THE MINIMUM REQUIRED DENSITY AS SPECIFIED BY MCWD, THE DEFICIENCY SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE. THE EXPENSE OF RETESTING SUCH AREAS SHALL ALSO BE BORNE BY THE CONTRACTOR. AT NO COST TO
- 3. RELATIVE COMPACTION SHALL BE EXPRESSED AS A PERCENTAGE OF THE MAXIMUM DRY DENSITY OF THE MATERIAL AS DETERMINED BY ASTM TEST D-1557. IN-PLACE DENSITY TESTS SHALL BE CONDUCTED IN ACCORDANCE WITH ASTM TESTS D-1556 AND D-6938.
- 4. SURPLUS EXCAVATED MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFF THE SITE IN A LEGAL MANNER.
- 5. ALL RE-COMPACTED AND ENGINEERED FILL SOILS SHALL BE COMPACTED WITHIN 2 PERCENT OF THE LABORATORY OPTIMUM MOISTURE CONTENT FOR THE SOIL.

## MCWD STANDARD WATER NOTES:

- 1. THE WATER SYSTEM AS SHOWN ON THESE PLANS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD PLANS AND SPECIFICATIONS OF THE MARINA COAST WATER DISTRICT. CONTRACTOR SHALL KEEP A COPY OF THE STANDARD SPECIFICATIONS AND DRAWINGS ON THE JOBSITE AT ALL TIMES.
- 2. THE MARINA COAST WATER DISTRICT SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO COMMENCING WORK ON THE WATER SYSTEM. PHONE (831) 883-5929 FOR INSPECTION. A PRE-CONSTRUCTION MEETING SHALL BE HELD AT LEAST 24 HOURS BEFORE STARTING CONSTRUCTION.
- 3. ALL WATER SYSTEM WORK SHALL CONFORM TO THE DISTRICT'S "STANDARD PLANS AND SPECIFICATIONS," AS LAST REVISED. THE CONTRACTOR SHALL HAVE A COPY OF THESE PLANS AND STANDARD SPECIFICATIONS ON THE JOB AT ALL TIMES.
- 4. A CONFERENCE OF REPRESENTATIVES FROM AFFECTED AGENCIES AND THE CONTRACTOR SHALL BE HELD ON THE JOB SITE 24 HOURS PRIOR TO START OF WORK.
- 5. DOMESTIC WATER MAINS SHALL BE INSTALLED AS STAKED BY THE DISTRICT'S SURVEYOR AT A

ALL NUTS AND BOLTS, SHALL BE GRADE 316 STAINLESS STEEL. ALL BURIED FLANGES, VALVES AND

- MINIMUM 50-FOOT STATIONING, IF THERE ARE NO EXISTING CURBS.
- 7. ANY WATER SERVICE FOUND TO BE WITHIN A DRIVEWAY OR SIDEWALK SHALL BE REMOVED AT CORPORATION VALVE AND REINSTALLED AT THE PROPER LOCATION, AT NO COST TO THE DISTRICT.
- 8. ALL MAIN LINE VALVES SHALL BE MAINTAINED SO AS TO BE ACCESSIBLE DURING TRACT DEVELOPMENT, AND ALL VALVE STEM TOPS HAVING OVER 48 INCHES OF COVER MAY REQUIRE AN EXTENSION AS PER MCWD STANDARD PLAN W-7.
- THE TOP OF THE PIPE SHALL BE A MINIMUM OF 42 INCHES OF COVER FROM THE FINISHED GRADE IN PAVED SECTIONS, UNLESS INDICATED OTHERWISE ON THE JOB PLANS OR DIRECTED OTHERWISE BY THE DISTRICT BECAUSE OF UNUSUAL CONDITIONS. PIPE SHALL BE BEDDED AND BACKFILLED PER MCWD STANDARD PLAN W-12.
- 10. FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROPRIATE DETAILS HEREIN AND INSTALLED BEHIND CURBS AND SIDEWALKS WHERE THE SIDEWALKS ARE ADJACENT TO THE CURBS. FIRE HYDRANTS SHALL BE PER THE DISTRICT'S SPECIFICATIONS AND SHALL HAVE A CONCRETE PAD POURED AROUND THEM. ALL FIRE HYDRANTS SHALL BE SET WITH THE BOTTOM FLANGE 4 INCHES ABOVE THE CONCRETE PAD OR SIDEWALK.
- 11. NO FACILITY IS TO BE BACKFILLED UNTIL INSPECTED BY THE DISTRICT.

FITTINGS SHALL BE WRAPPED WITH 10-MIL POLYETHYLENE SHEET

- 12. SHUT DOWN OR TAPPING OF EXISTING DOMESTIC WATERLINES TO FACILITATE CONNECTION TO EXISTING FACILITIES SHALL BE COORDINATED WITH THE DISTRICT AT LEAST 24 HOURS IN ADVANCE. ANY RELOCATION OF EXISTING FACILITIES IS SUBJECT TO APPROVAL OF THE DISTRICT ENGINEER.
- 13. NO TAPS OR OTHER CONNECTIONS SHALL BE MADE TO EXISTING DISTRICT WATER MAINS PRIOR TO CONDUCTING AN APPROVED PRESSURE AND BACTERIOLOGICAL TEST ON THE NEW WATER DISTRIBUTION SYSTEM. TAPPING SLEEVES SHALL BE PRESSURE TESTED IN AN APPROVED MANNER IN THE FIELD IN THE PRESENCE OF THE DISTRICT INSPECTOR, PRIOR TO TAPPING THE MAIN LINE. TAPPING OF THE MAIN LINE SHALL NOT PROCEED UNLESS A DISTRICT INSPECTOR IS PRESENT.
- 14. ALL WATER SERVICES SHALL BE INSTALLED PER THE DISTRICT'S STANDARD SPECIFICATIONS. ALL METERS SHALL BE INSTALLED IN GRASS OR PLANTER AREAS AND ACCESSIBLE BY VEHICLE. ANY SERVICES LOCATED IN SIDEWALKS ARE SUBJECT TO THE APPROPRIATE GOVERNING AGENCY AND DISTRICT APPROVAL. ANY METERS LOCATED IN BANKS OF 4 SHALL BE MANIFOLDED PER MCWD STANDARD PLAN W-3. ALL METER REGISTERS AND LIDS SHALL BE MARKED WITH ADDRESS IDENTIFICATION.
- 15. WHERE METERS AND METER BOXES ARE LOCATED WITHIN SLOPES, THE ANGLE METER STOPS SHALL BE SO LOCATED THAT THE METERS AND BOXES WILL BE PARALLEL AND FLUSH, RESPECTIVELY, WITH THE FINISHED STREET SURFACE. A RETAINING WALL MAY BE REQUIRED AROUND THE METER BOX.
- 16. THE APPLICANT SHALL FURNISH AND INSTALL THE SERVICE CONNECTIONS BETWEEN WATER MAINS AND METERS AND METER BOXES. WATER SERVICES SHALL BE INSTALLED TO THE PROPERTY LINE PRIOR TO PAVING OF THE STREET.
- 17. ALL VALVES SHALL BE LOCATED OFF THE TEE UNLESS OTHERWISE APPROVED BY THE DISTRICT. AT INTERSECTIONS AND BUS STOPS WITH CONCRETE PADS. THE MAIN LINE SHALL BE ROPED TO AVOID CROSS GUTTER CONFLICT.
- 18. ALL WATER METERS WILL BE FURNISHED BY THE MARINA COAST WATER DISTRICT FOLLOWING RECEIPT OF APPLICATION AND DEPOSIT. THE DISTRICT WILL INSTALL WATER METERS UP TO 2 INCHES. THE CONTRACTOR SHALL INSTALL WATER METERS 3 INCHES AND GREATER. THE CONTRACTOR SHALL PLACE ALL PIPING PER DISTRICT PLANS AND PROPERLY LOCATE THE METER BOXES TO GRADE PRIOR TO INSTALLATION OF THE METERS BY THE DISTRICT.
- 19. ANY DISTRICT WATER USED FOR CONSTRUCTION SHALL BE METERED WITH A CONSTRUCTION METER OBTAINED FROM THE DISTRICT.
- 20. AN ENCROACHMENT PERMIT FROM THE COUNTY OR CITY HAVING JURISDICTION IS REQUIRED PRIOR TO ANY WORK WITHIN PUBLIC RIGHT-OF-WAY OR EASEMENT
- 21. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. APPROVAL OF THESE PLANS BY THE DISTRICT DOES NOT GUARANTEE THE ACCURACY, COMPLETENESS, LOCATION, OR THE EXISTENCE OR NON-EXISTENCE OF ANY UTILITY PIPE OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT. THE CONTRACTOR IS REQUIRED TO TAKE ALL DUE PRECAUTIONARY MEANS NECESSARY TO PROTECT THOSE UTILITY LINES NOT SHOWN ON THESE PLANS.
- 22. THE APPLICANT SHALL REMOVE TO THE SATISFACTION OF THE MCWD INSPECTOR ALL UNUSED WATER STUBS AND/OR SERVICES THAT WERE PROVIDED TO THE PROJECT SITE.

## **DEMOLITION**

#### REPLACEMENT OF PAVEMENTS

PIPE TRENCHING WORK IN EXISTING IMPROVED STREETS SHALL INCLUDE REPLACEMENT OF EXISTING PAVEMENT. THE THICKNESS OF THE NEW AC AND AB SHALL BE AT A MINIMUM EQUIVALENT TO THE EXISTING AC AND AB THICKNESS. TRENCH PATCH SHALL EXTEND A MINIMUM 6" BEYOND TRENCH WALL.

#### SAWCUTTING

SAWCUTTING SHALL BE DONE SO AS TO PROVIDE A STRAIGHT, NEAT EDGE. WHERE CONSTRUCTION OPERATIONS CAUSE DAMAGE BEYOND THE LIMITS OF THE SAWCUT LINE, THE DAMAGED AREA SHALL ALSO BE REMOVED AND REPLACED TO A SAWCUT EDGE.

SAWCUT SLURRY SHALL BE VACUUMED AND NOT BE ALLOWED TO RUN INTO CATCH BASINS.

ASPHALT CONCRETE PAVEMENT SHALL BE SAWCUT AT THE LOCATIONS INDICATED BY THE ENGINEER AND AS SHOWN ON THE PLANS. SAWCUT LINES SHALL BE PARALLEL OR PERPENDICULAR TO AN ADJACENT CURB LINE OR PAVEMENT EDGE WHERE POSSIBLE. SAWCUT SHALL BE TO A MINIMUM DEPTH OF 2 INCHES.

#### UTILITY REMOVAL AND ABANDONMENT

PRECAUTION SHOULD BE TAKEN DURING GRADING AND UTILITY REMOVAL ACTIVITIES TO PREVENT BREAKAGE OF ACP OR TRANSITE PIPES AS NOT TO RENDER THE PIPE MATERIAL FRIABLE. WHEN ACP OR TRANSITE PIPE IS ENCOUNTERED, APPROPRIATE ACTION FOR REMOVAL AND DISPOSAL SHOULD BE

## WATER SYSTEM

#### BURIED WATER PIPE AND FITTINGS

EX. 4'± GRAVEL SHOULDER

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DUCTILE IRON PIPE: AWWA C-151, 18" PIPE = CLASS 250, 10"-12" PIPE = CLASS 350, CEMENT MORTAR LINED PER AWWA C-104

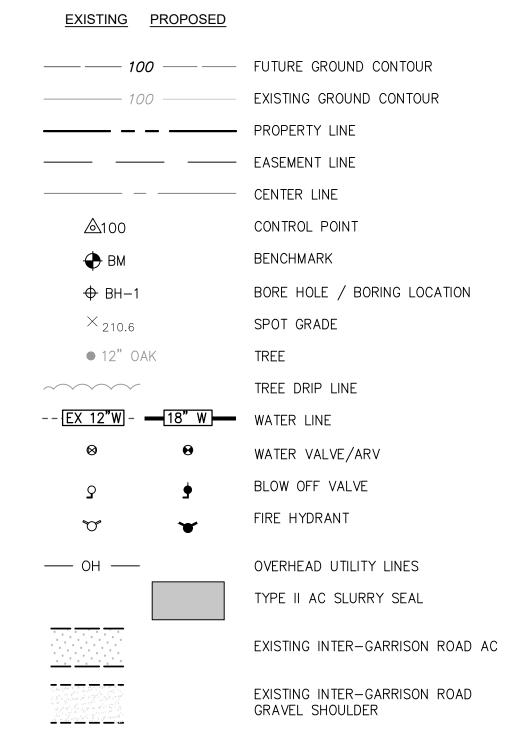
DUCTILE IRON FITTINGS: AWWA C-110 OR C-153, CLASS 250, WITH RUBBER GASKETED JOINT PER AWWA

# THRUST RESTRAINT

C-111. FITTING SHALL BE CEMENT MORTAR LINED PER AWWA C-104.

RESTRAIN ALL PIPE JOINTS PER DETAIL ON SHEET 3 USING FIELD LOK 350 GASKETS. RESTRAIN ALL FITTINGS USING EBAA MEGALUG SERIES 1100.

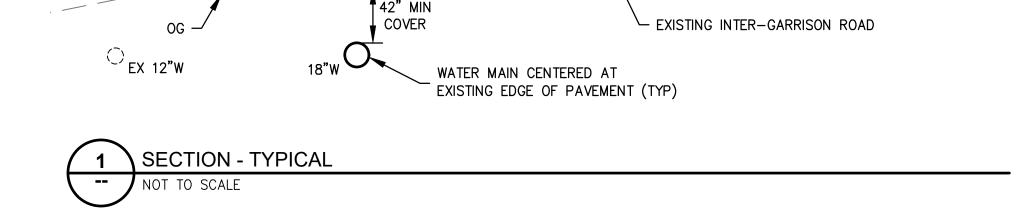
# **LEGEND**

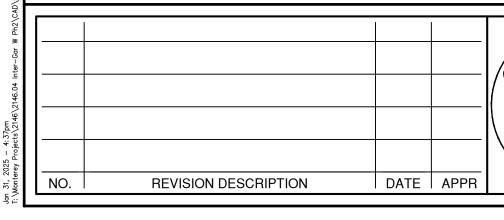


# **ABBREVIATIONS**

PLUS OR MINUS; APPROX

@	AT
AB AC	AGGREGATE BASE ASPHALT CONCRETE
AD	AREA DRAIN
APPROX	
ARV	AIR RELEASE VALVE AGGREGATE SUBBASE
ASB BC	BEGIN CURVE
BO	BLOW OFF VALVE
BVC	BEGIN VERTICAL CURVE
BVCE BVCS	BVC ELEVATION BVC STATION
C&G	CURB AND GUTTER
CATV	CABLE TV
CGSW	CURB, GUTTER AND SIDEWALK
ը CL	CENTERLINE CLASS
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CO CONC	CLEANOUT CONCRETE
CONST	CONSTRUCT
CONT	CONTINUOUS
DEMO DI	DEMOLISH AND DISPOSE OF DUCTILE IRON
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
(E)	EXISTING
EC EG	END CURVE EXISTING GRADE
ELEC	ELECTRIC
ELEV	ELEVATION
EQ. ETW	EQUAL EDGE OF TRAVELED WAY
EVC	END VERTICAL CURVE
EVCE	FVC FLEVATION
EVCS	EVC STATION EACH WAY
E.W. EX	EXISTING
F	FUTURE
FC	FACE OF CURB
FG FH	FINISHED GRADE FIRE HYDRANT
FH FL	FLOWLINE
FS	FINISHED SURFACE
GB GBE	GRADE BREAK GB ELEVATION
GBS	GB STATION
GRT	GRATE
GV	GAS VALVE/VAULT
HP HORIZ.	HIGH POINT HORIZONTAL
INV	INVERT
JP	JOINT UTILITY POLE
LF LP	LINEAR FEET LOW POINT
LT	LEFT
MATCH	MATCH EXISTING GRADE
MAX MCWD	MAXIMUM MARINA COAST WATER DISTRICT
MH MH	MANHOLE
MINI	MINIMUM
N.I.C. O.C.	NOT IN CONTRACT (BY OTHERS) ON CENTER
O.C. OG	ORIGINAL GROUND
DC	POINT OF CURVATURE
P.O.C.	POINT OF CONNECTION
PP PRC	POWER POLE POINT OF REVERSE CURVATURE
PRV	PRESSURE REDUCING VALVE
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
R	RADIUS
R.C.	RELATIVE COMPACTION
RT SD	RIGHT STORM DRAIN
STA	STATION
STD	STANDARD
TBM TC	TEMPORARY BENCH MARK TOP OF CURB
TFC	TOP OF FLUSH CURB
TG	TOP OF GRATE
TOP TYP	TOP OF PIPE TYPICAL
ÜĞ	UNDERGROUND
U.O.N.	UNLESS OTHERWISE NOTED
UP UNKN	UTILITY POLE UNKNOWN
VAR	VARIES
VERT.	VERTICAL
W WM	WATER WATER METER
WV	WATER WALVE





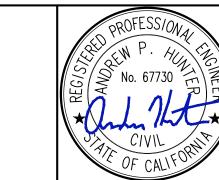


# MARINA COAST WATER DISTRICT 11 RESERVATION ROAD

APPROVED FOR CONSTRUCTION: GARRETT HAERTEL. P.E., DISTRICT ENGINEER



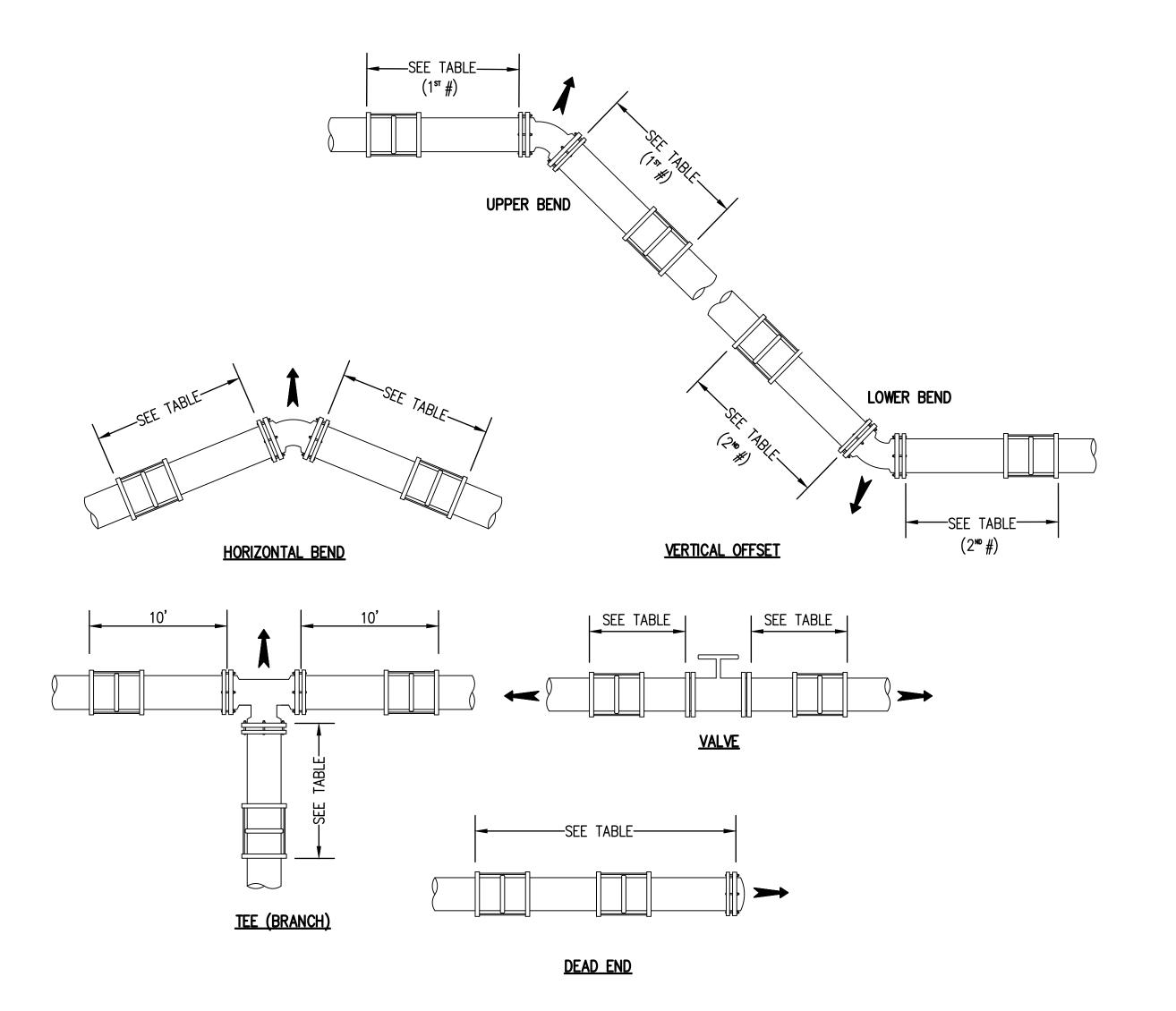
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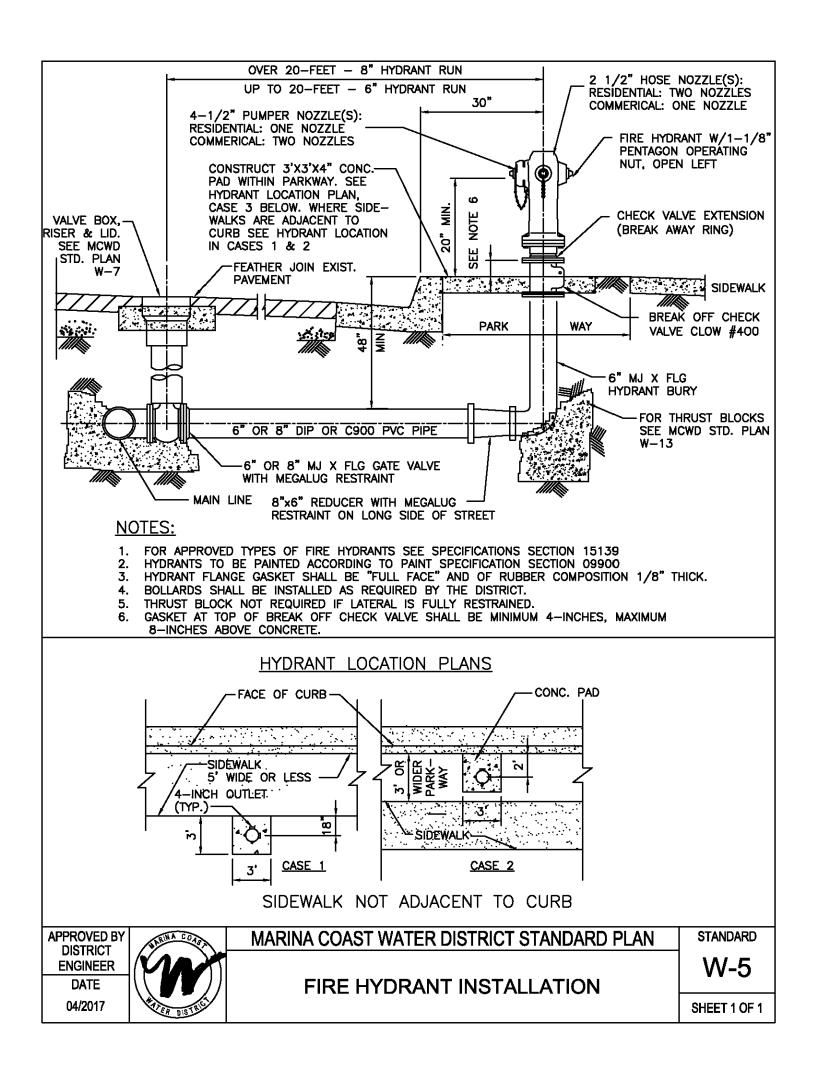


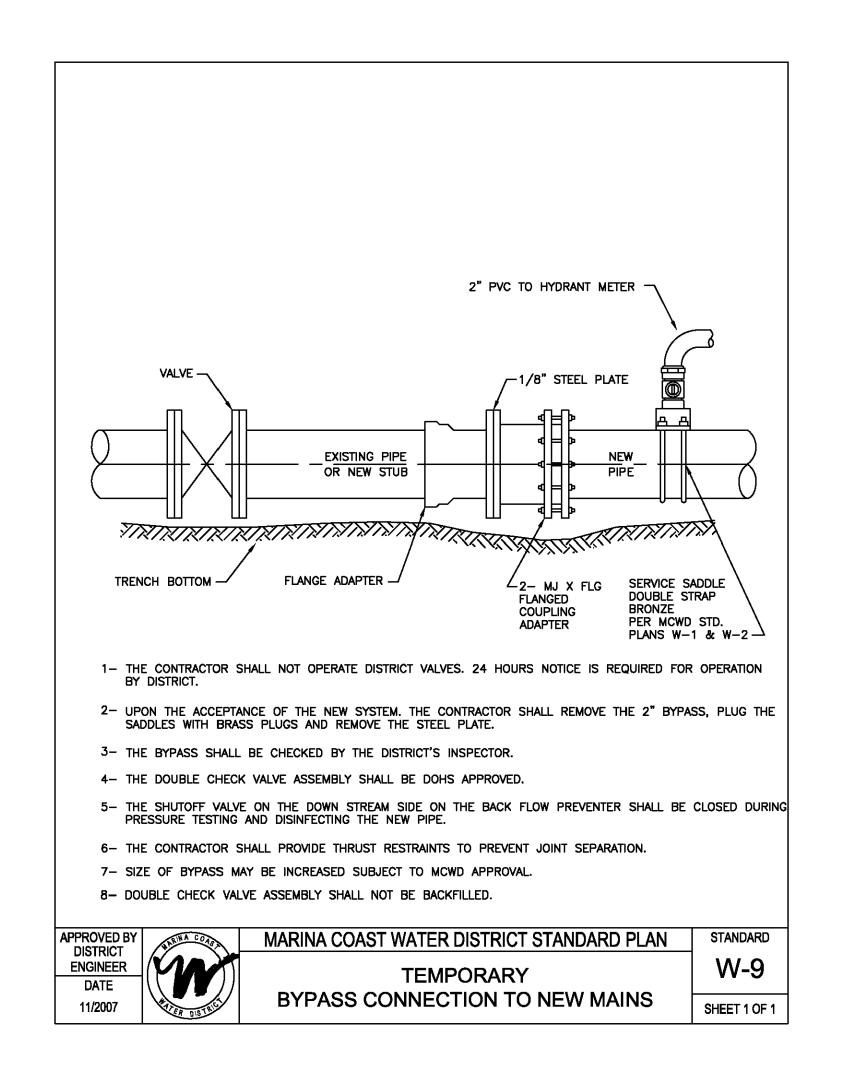


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SHEET







		REQUIRED LENGTH OF RESTRAINED JOINTS (FEET)							
		HORIZONTAL RESTRAINING			VERTICAL RESTRAINING				
TYPE OF PIPE	TEE (BRANCH)	DEAD END/ VALVE	BEND 90°	BEND 45°	BEND 22.5°	BEND 11.25°	VERTICAL OFFSET, 11.25°	VERTICAL OFFSET, 22.5°	VERTICAL OFFSET, 45°
12" DUCTILE IRON	51	91	39	16	8	4	9, 3	19, 6	38, 12
18" DUCTILE IRON	88	129	54	23	11	6	13, 4	26, 8	54, 17

# THRUST RESTRAINT DETAILS

NOT TO SCALE

## BASIS OF CALCULATIONS (CONSULT DISTRICT FOR OTHER CONDITIONS)

-RESTRAINT LENGTHS IN TABLE ARE TO BE APPLIED IN BOTH DIRECTIONS OF FEATURE.

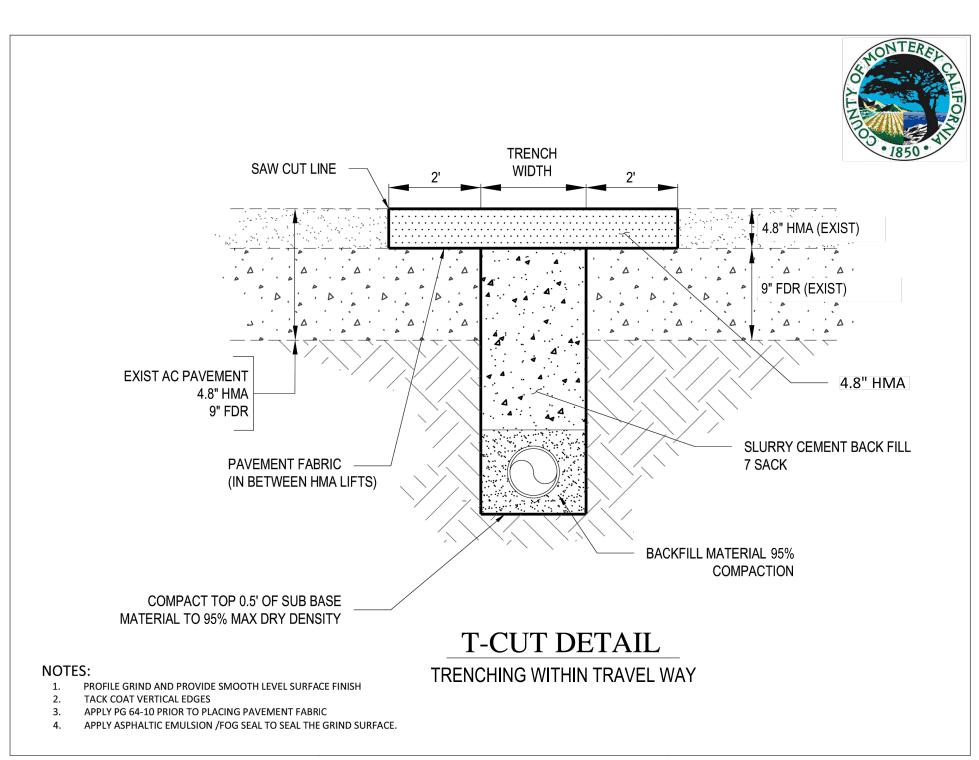
-RESTRAINT LENGTH CALCULATION CRITERIA: SOIL TYPE: SP (SAND)

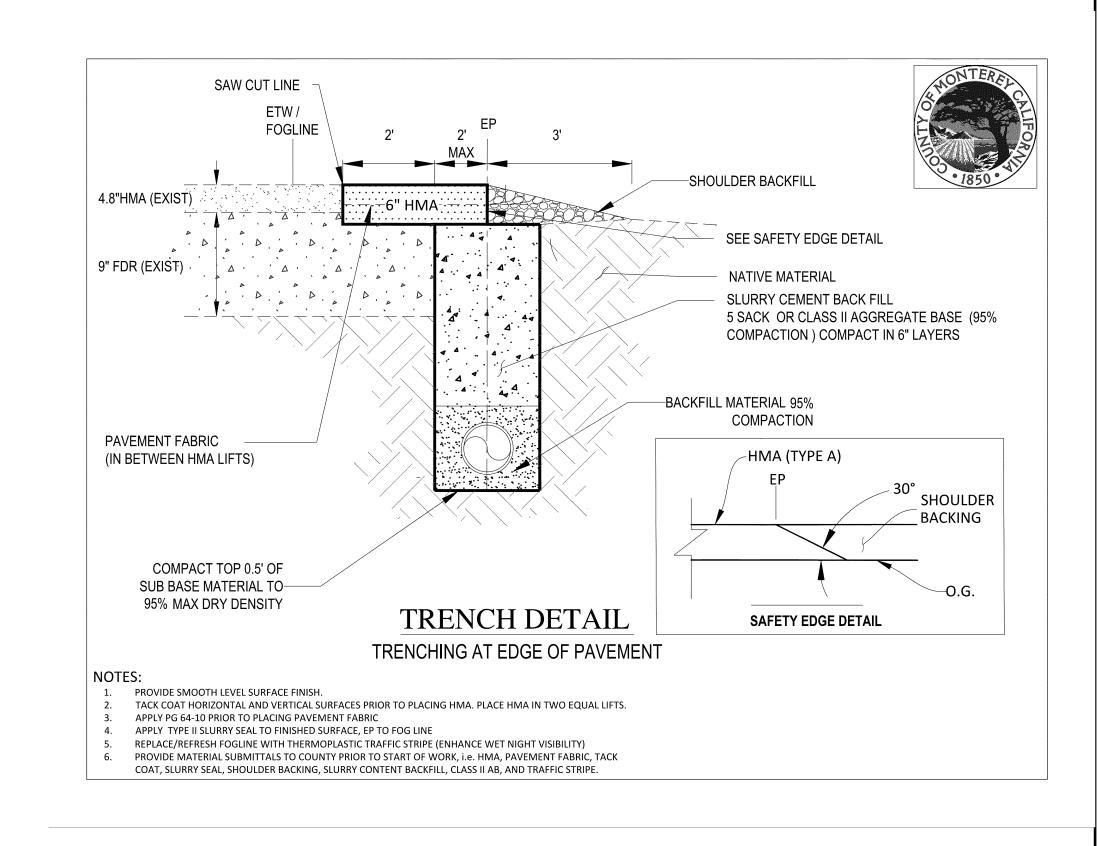
SAFETY FACTOR: 1.5 TRENCH TYPE: TYPE 5

DEPTH OF BURY: 3.5 FEET TYP, 5 FEET LOW SIDE BEND TEST PRESSURE: 250 PSI

## NOTES:

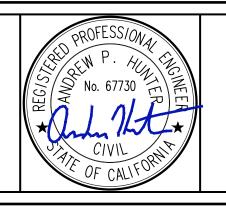
- 1. MCWD PREFERS THAT ALL PIPES BE MECHANICALLY RESTRAINED AT JOINTS PER REQUIREMENTS INCLUDED WITH TABLE TO LEFT. THRUST BLOCKS TO BE ALLOWED ON A CASE-BY-CASE BASIS PER MCWD APPROVAL.
- 2. CONTRACTOR SHALL OBTAIN MCWD APPROVAL FOR RESTRAINED JOINT FITTINGS AND LENGTHS NOT LISTED IN THIS TABLE, OR FOR MODIFICATIONS TO CALCULATION CRITERIA.
- 3. FOR VERTICAL OFFSETS, THE FIRST NUMBER LISTED IS THE RESTRAINING LENGTH AT THE UPPER BEND, AND THE SECOND NUMBER IS THE RESTRAINING LENGTH AT THE LOWER BEND.
- 4. LENGTH OF RESTRAINED JOINTS ALONG A BRANCH OF A TEE IS BASED ON A UNIFORM TEE FITTING SIZE. CONTRACTOR SHALL OBTAIN MCWD APPROVAL FOR LENGTH OF RESTRAINED JOINTS AT REDUCING TEES.





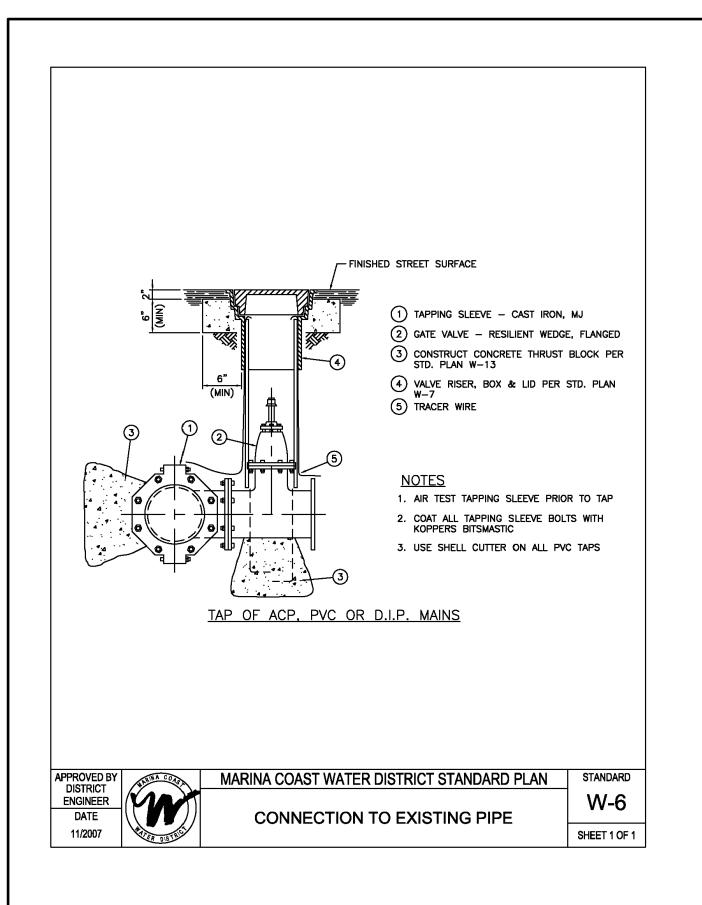


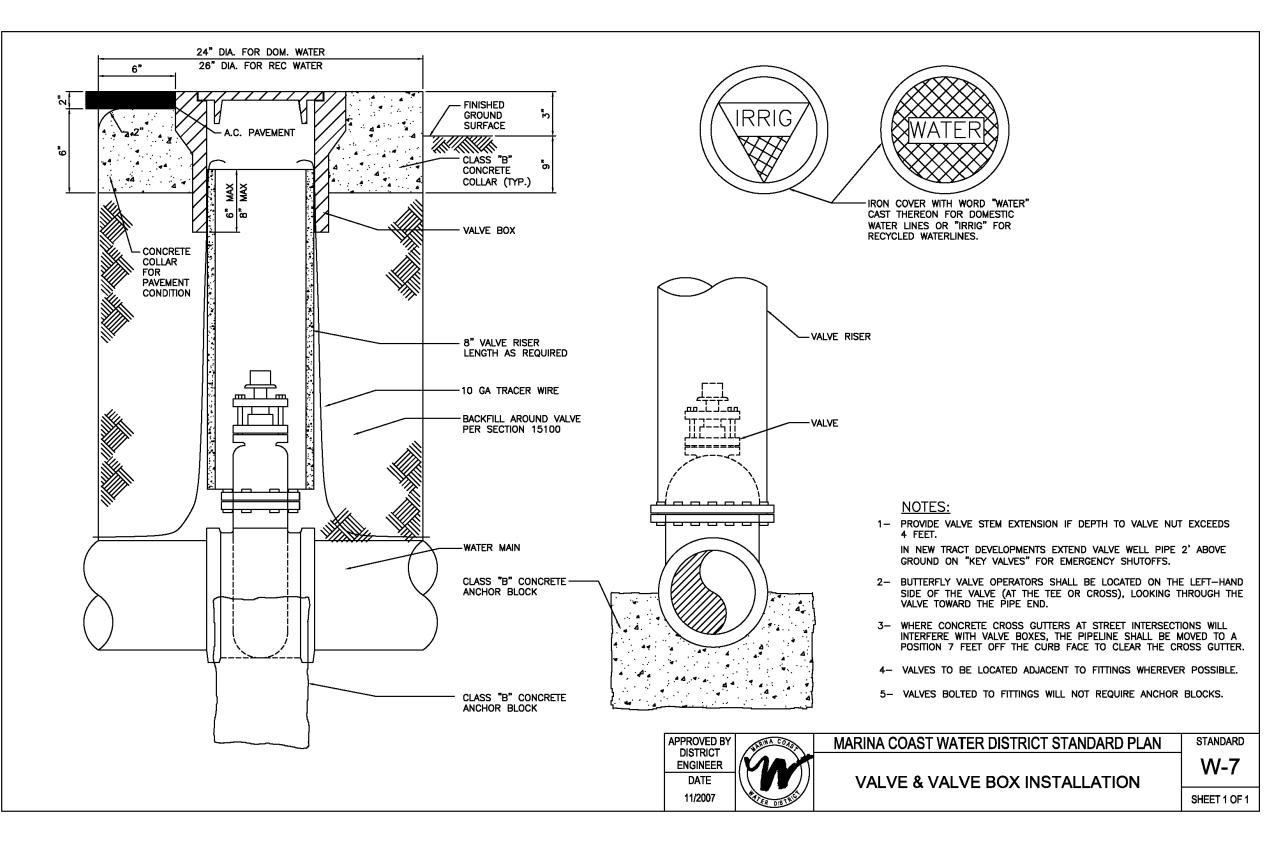


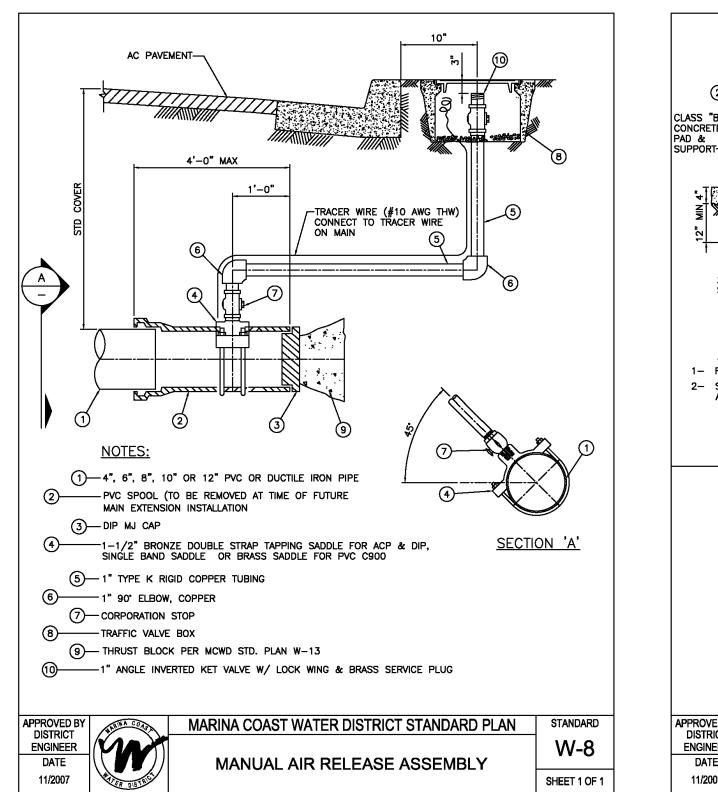


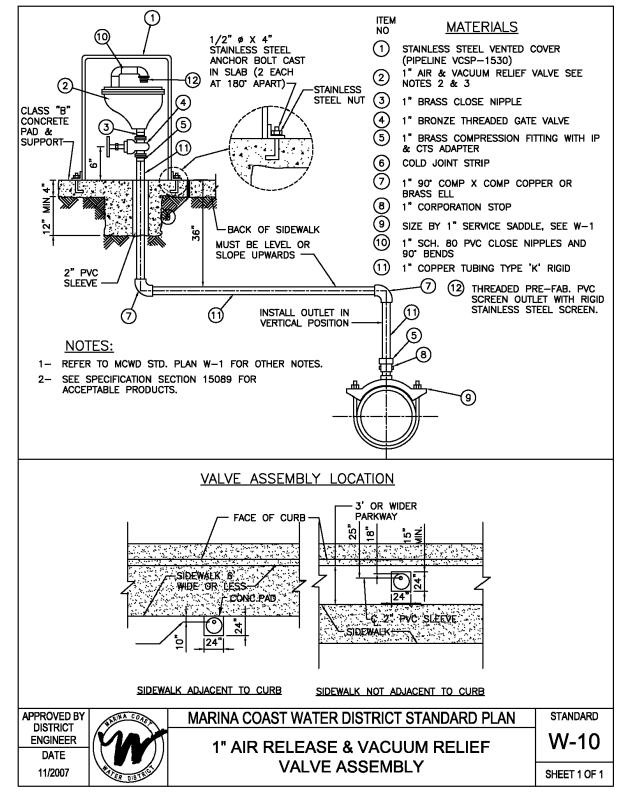
# INTER-GARRISON ROAD WATER LINE THRUST RESTRAINT AND MCWD DETAILS

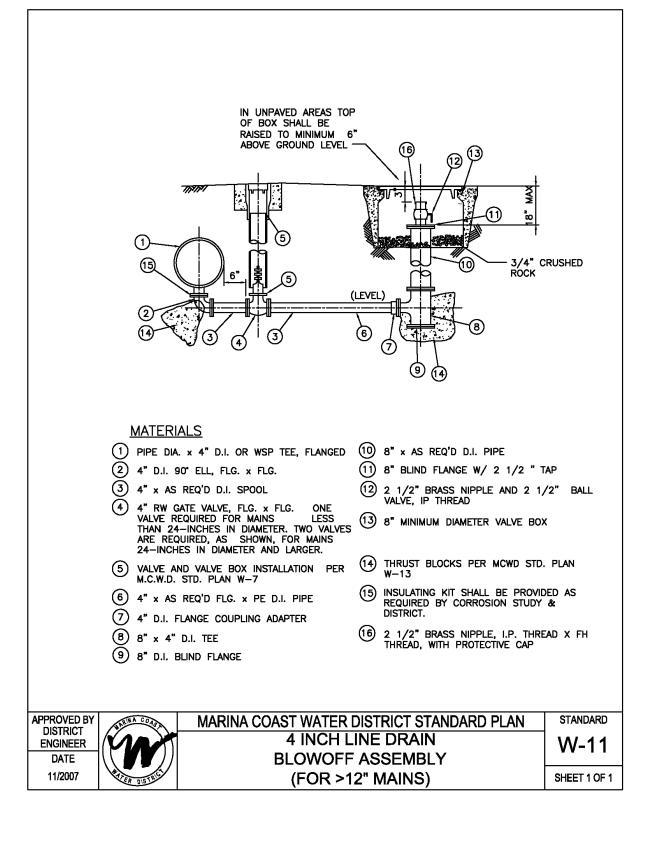
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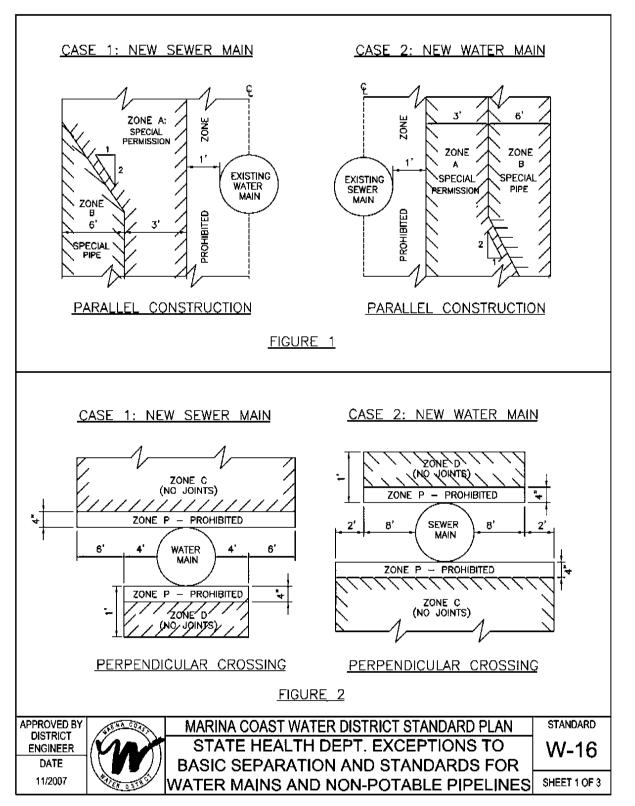










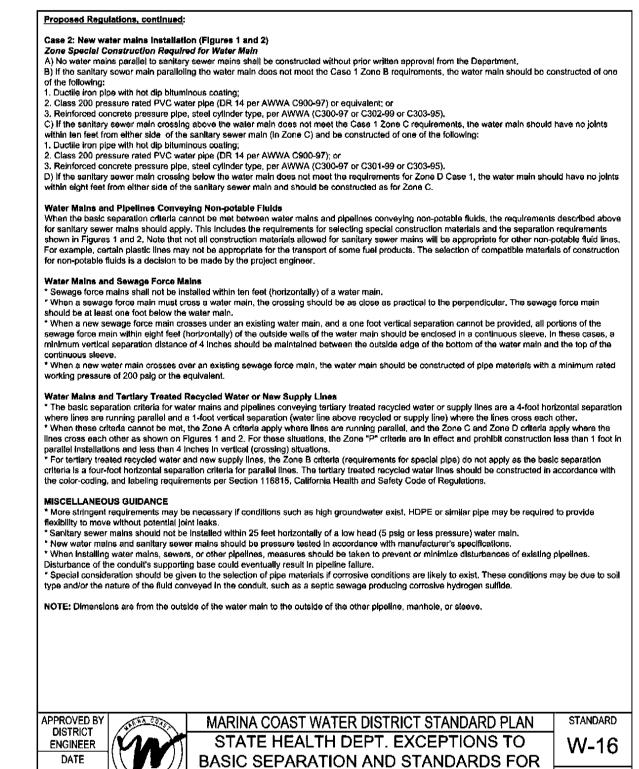




BASIC SEPARATION AND STANDARDS FOR

WATER MAINS AND NON-POTABLE PIPELINES SHEET 2 OF 3

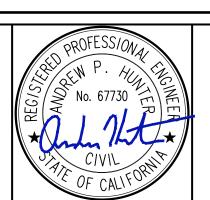
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WATER MAINS AND NON-POTABLE PIPELINES SHEET 3 OF 3



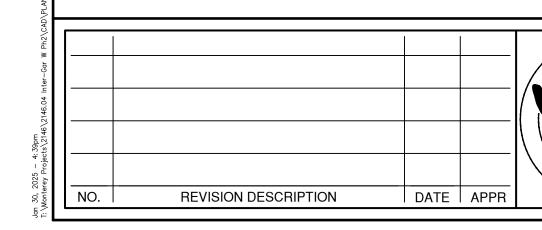
**Civil Engineering** Land Surveying 6 Harris Court Monterey, California Whitson 831.649.5225 whitsonengineers.com ENGINEER\$



11/2007

# INTER-GARRISON ROAD WATER LINE MCWD STANDARD DETAILS

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RAWN:	ML	7
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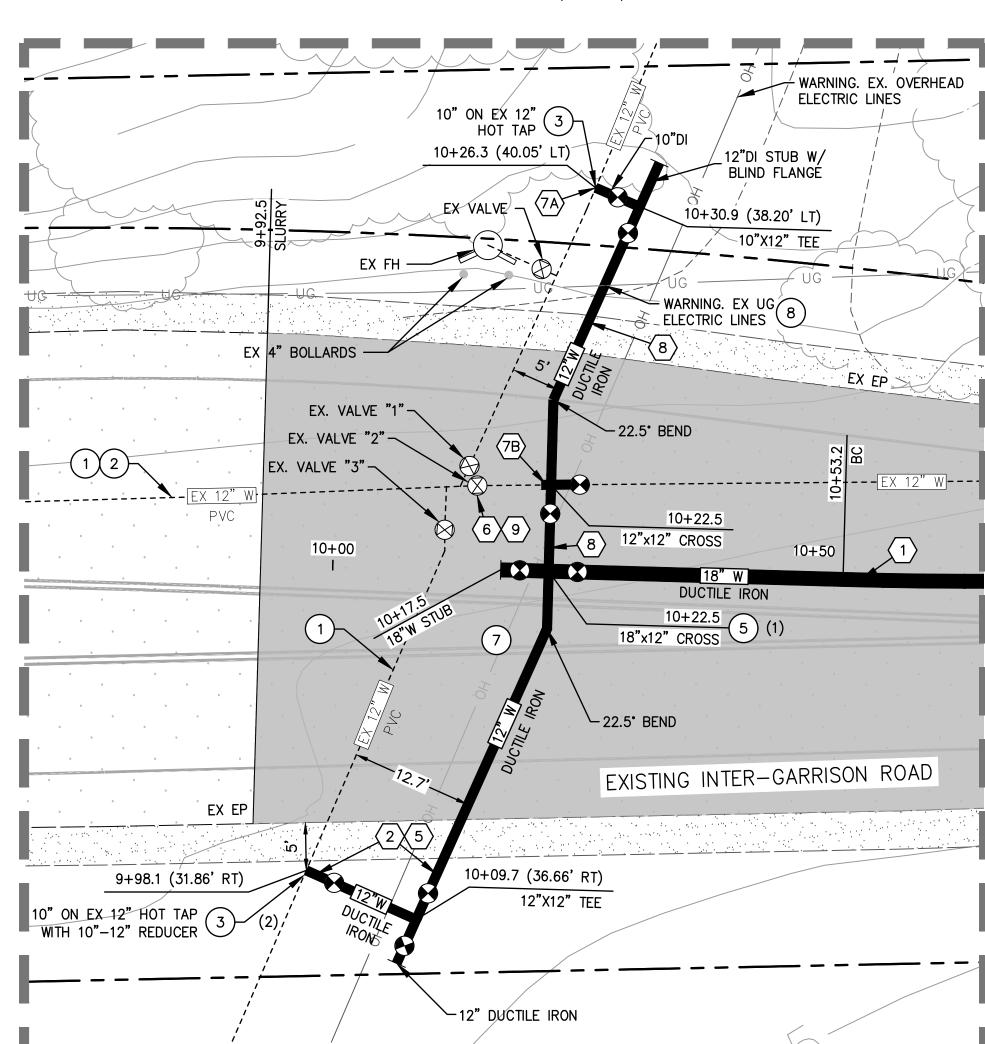


## KEYNOTES

- EXISTING WATER MAIN TO REMAIN IN SERVICE. PROTECT IN PLACE.
- COORDINATE THE OPERATION OF ALL EXISTING VALVES WITH MCWD STAFF.
- CONNECT TO EXISTING 12" WATER LINE WITH HOT TAP PER MCWD SPECIFICATIONS. CONTRACTOR TO POTHOLE TO DETERMINE PIPE MATERIAL, EXACT LOCATION, AND DEPTH OF EXISTING WATER MAIN PRIOR TO CONSTRUCTION OR ORDERING MATERIALS. CONNECTIONS AND REMOVAL OF EXISTING PIPE TO BE COORDINATED WITH MCWD.
- CONNECT TO EXISTING 18" WATER STUB PER MCWD SPECIFICATIONS. CONTRACTOR TO POTHOLE TO DETERMINE EXACT LOCATION AND DEPTH OF EXISTING WATER MAIN PRIOR TO CONSTRUCTION.
- 18"x12" CROSS FITTING AND 3 VALVES.
- UTILITY TRENCHING PER COUNTY DETAILS ON SHEET 3. SEE KEYNOTE DELINEATIONS ON PLAN-VIEW FOR T-CUT VS EDGE OF PAVEMENT TRENCHING TYPE.
- TYPE II SLURRY SEAL FROM EP TO EP AS SHOWN. CARE SHALL BE TAKEN NEAR EXISTING VALVES TO PREVENT CONCEALING VALVE
- DEFLECT PROPOSED WATER PIPE UNDER EXISTING UNDERGROUND POWER AS NECESSARY. CONTRACTOR TO POTHOLE TO DETERMINE LOCATION AND DEPTH OF EXISTING UNDERGROUND POWER PRIOR TO CONSTRUCTION OR ORDERING MATERIALS.

#### GENERAL WATER SHUT-OFF PHASING NOTES

- SUBMIT DISINFECTION, TESTING, AND TIE-IN PLAN FOR APPROVAL BY MCWD. COORDINATE WITH (0) MCWD TO NOTIFY THE EAST GARRISON COMMUNITY OF CONSTRUCTION DATES AND IF THERE ARE TO BE SERVICE INTERRUPTIONS.
- CONSTRUCT 18" DUCTILE IRON WATER MAIN, FROM CROSS AT STATION 10+22.5 TO ELBOW AT STATION 27+81.7. INSTALL TEMPORARY BLIND FLANGE TO NORTH AT CROSS. DO NOT CONNECT
- HOT TAP CONNECTION TO EXISTING 12" MAIN AND INSTALL A TEMPORARY BACKFLOW PREVENTION DEVICE. CONSTRUCT SOUTHERN PORTION OF 12" DUCTILE IRON MAIN TO CROSS AT STATION
- FILL THE NEW 18" WATER MAIN THROUGH TEMPORARY BACKFLOW PREVENTION DEVICE. COMPLETE DISINFECTION AND TESTING PER APPROVED PLAN WITH MCWD.
- DISCHARGE FLUSHING WATER AT TEMPORARY TERMINUS AT STATION 27+81.7. DIRECT FLOW TO EXISTING DEPRESSION NORTH OF INTER-GARRISON ROAD. CONTRACTOR TO ACQUIRE APPLICABLE DISCHARGE PERMIT FROM MONTEREY COUNTY AS NECESSARY AND INSTALL MEASURES TO
- REMOVE TEMPORARY BACKFLOW PREVENTION DEVICE. COMPLETE FINAL 18" MAIN CONNECTION TO THE EXISTING 18" PIPE STUB AT STATION 27+95.
- NEW 18" WATER MAIN IS NOW LIVE AND IN-SERVICE TO THE EAST GARRISON COMMUNITY. CLOSE 6 EXISTING 12" WATER MAIN VALVE "2" AT WEST TIE-IN (SHEET 5) AND VALVE "A" AT EAST TIE-IN (SHEET 7).
- HOT TAP INTO EXISTING 12" MAIN AT STATION 10+26.3. CUT IN NEW 12"X12" CROSS ON EXISTING 12" MAIN AT STATION 10+22.5.
- CONSTRUCT NORTHERN PORTION OF 12" MAIN. CONNECT HOT TAP LOCATION TO NEW 12"X12" CROSS AND BLIND FLANGE AT 12"X18" CROSS. COMPLETE NECESSARY DISINFECTION AND TESTING OF THIS NORTHERN PIPE SECTION PER MCWD SPECIFICATIONS.
- OPEN EXISTING 12" WATER MAIN VALVE "2" AT WEST TIE-IN (SHEET 5) AND VALVE "A" AT EAST TIE-IN (SHEET 7) AND VALVES ON NORTHERN SECTION OF NEW 12" MAIN.





1 CONNECTION TO EXISTING 12" WATER LINE

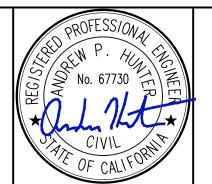
NOTE: RESTRAIN ALL PIPE JOINTS PER DETAIL ON SHEET 3 USING FIELD LOK 350 GASKETS. RESTRAIN ALL FITTINGS USING EBAA MEGALUG SERIES 1100.



Civil Engineering Land Surveying Monterey, California 831.649.5225

11+00

10+50



11+50

12+00

12+50

13+00

# **INTER-GARRISON ROAD WATER LINE** PLAN AND PROFILE STA. 9+50 - 16+50

14+00

14+50

15+00

15+50

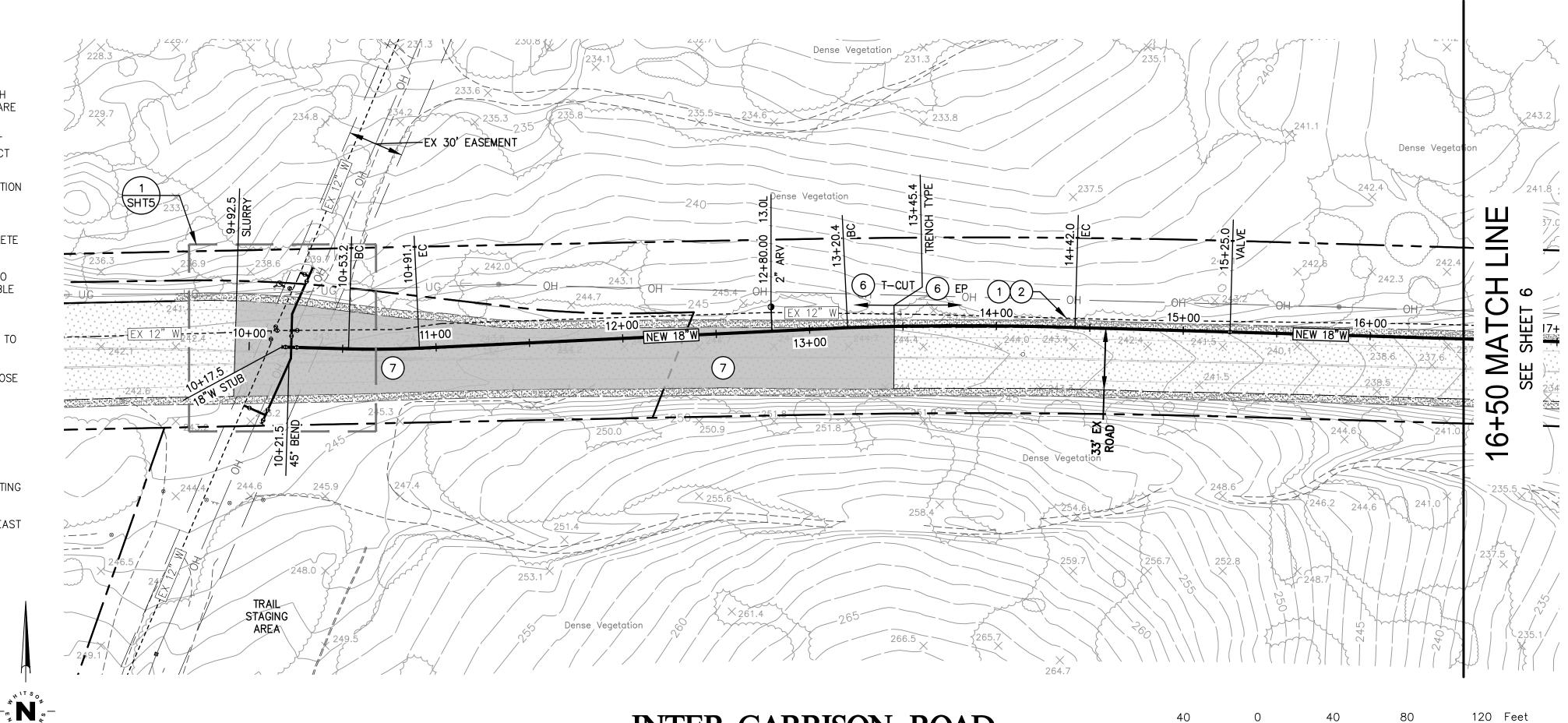
13+50

SCALE:         1"=40'           DESIGN:         ML           DRAWN:         ML           7	DATE:	01/31/25	SHEET
DESIGN: ML OF T	SCALE:	1"=40'	
DRAWN: ML 7	DESIGN:	ML	•
CHECK: ADII	DRAWN:	ML	<b>7</b>
OFFICIAL APPLI	CHECK:	APH	

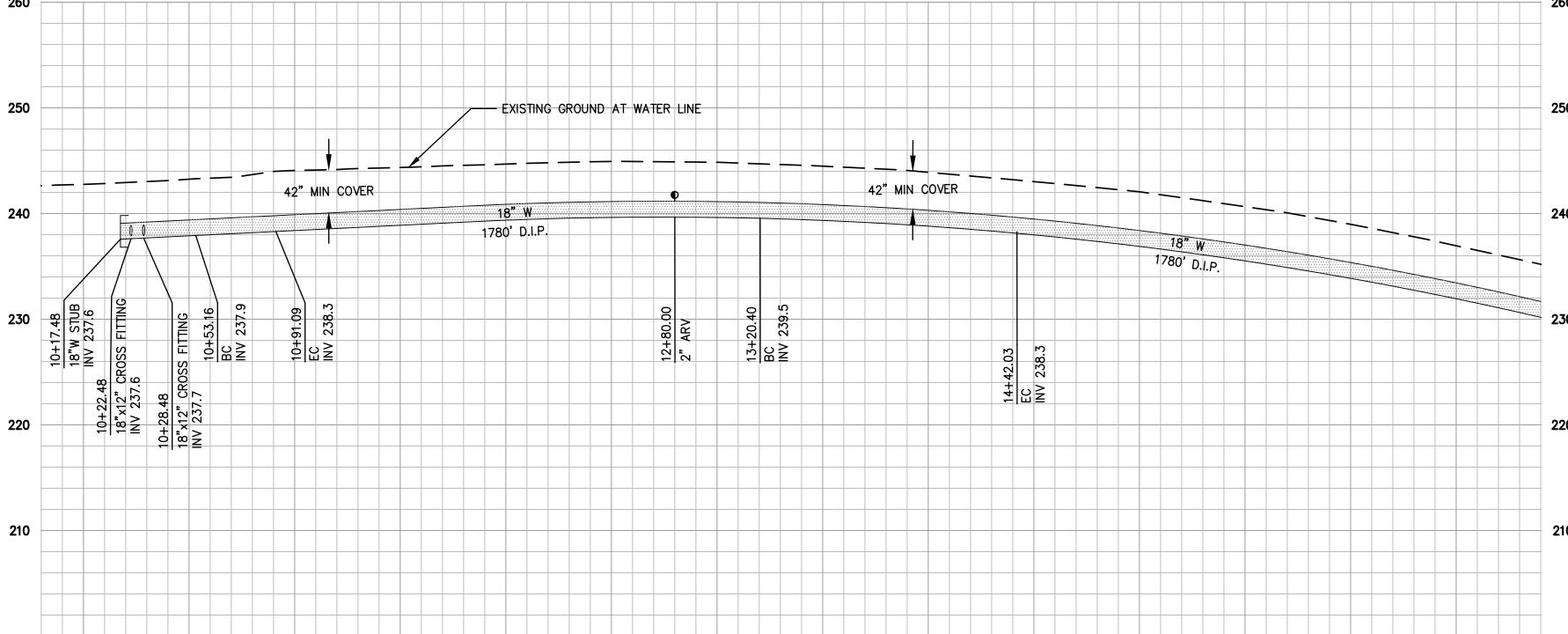
16+50

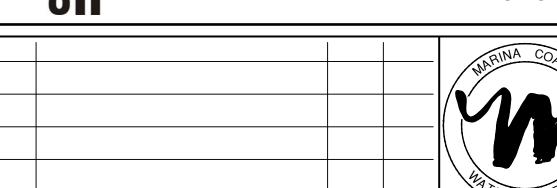
16+00

120 Feet



INTER-GARRISON ROAD SCALE: 1" = 40'SCALE: HORIZONTAL 1"=40' VERTICAL 1"=8'





DATE APPR

REVISION DESCRIPTION

# MARINA COAST WATER DISTRICT (831) 384-6131

GARRETT HAERTEL, P.E., DISTRICT ENGINEER

APPROVED FOR CONSTRUCTION:

# KEYNOTES ×<sub>209.8</sub> 209.3 (1) EXISTING WATER MAIN TO REMAIN IN SERVICE. PROTECT IN PLACE. Dense Veget COORDINATE THE OPERATION OF ALL EXISTING VALVES WITH MCWD STAFF. CONNECT TO EXISTING 12" WATER LINE WITH HOT TAP PER MCWD SPECIFICATIONS. CONTRACTOR TO POTHOLE TO DETERMINE PIPE MATERIAL, EXACT LOCATION, AND DEPTH OF EXISTING WATER MAIN PRIOR TO CONSTRUCTION OR ORDERING MATERIALS. CONNECTIONS AND REMOVAL OF EXISTING PIPE TO BE COORDINATED WITH MCWD. CONNECT TO EXISTING 18" WATER STUB PER MCWD SPECIFICATIONS. CONTRACTOR TO POTHOLE TO DETERMINE EXACT LOCATION AND DEPTH OF EXISTING WATER MAIN PRIOR TO CONSTRUCTION. CULVERT 18"x12" CROSS FITTING AND 3 VALVES. -50 MA<sup>-</sup> + 21+00----23+00-EX 12" W-----23+00--UTILITY TRENCHING PER COUNTY DETAILS ON SHEET 3. SEE KEYNOTE DELINEATIONS ON PLAN-VIEW FOR T-CUT VS EDGE OF PAVEMENT TRENCHING TYPE. TYPE II SLURRY SEAL FROM EP TO EP AS SHOWN. CARE SHALL BE TAKEN NEAR EXISTING VALVES TO PREVENT CONCEALING VALVE 16 DEFLECT PROPOSED WATER PIPE UNDER EXISTING UNDERGROUND POWER AS NECESSARY. CONTRACTOR TO POTHOLE TO DETERMINE LOCATION AND DEPTH OF EXISTING UNDERGROUND POWER PRIOR TO CONSTRUCTION OR ORDERING MATERIALS. Dense Vegetation INTER-GARRISON ROAD SCALE: HORIZONTAL 1"=40' VERTICAL 1"=8' SCALE: 1" = 40'42" MIN COVER 17+00 17+50 18+00 19+00 19+50 20+00 20+50 21+00 21+50 22+00 22+50 23+00 23+50 24+00 24+50 25+00 16+50

NOTE: RESTRAIN ALL PIPE JOINTS PER DETAIL ON SHEET 3 USING FIELD LOK 350 GASKETS. RESTRAIN ALL FITTINGS USING EBAA MEGALUG SERIES 1100.

2025 — 4:43pm rey Projects\2146\2146.04 Inter-Gar W Ph2\C.		MARINA COAST WATER DISTRICT  11 RESERVATION ROAD MARINA, CA 93933 (831) 384-6131  APPROVED FOR CONSTRUCTION:  CARRETT HAERTEL DE DISTRICT ENCINEER
30, Aonte	NO.   REVISION DESCRIPTION   DATE   APPR	GARRETT HAERTEL, P.E., DISTRICT ENGINEER DATE





INTER-GARRISON ROAD WATER LINE PLAN AND PROFILE STA. 16+50 - 25+50

SHEET 6	01/31/25 1"=40' ML ML APH	
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26+50

26+00

25+50

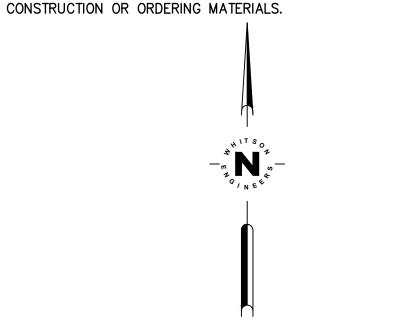
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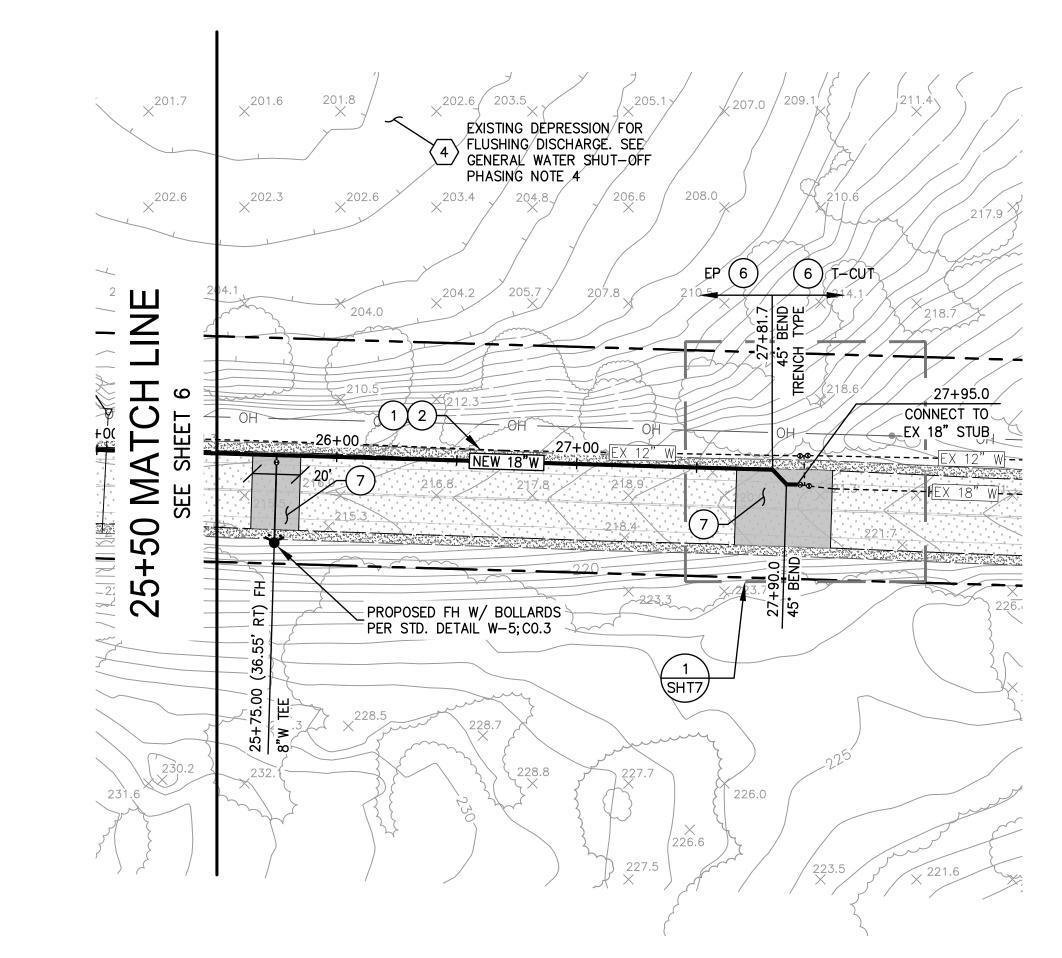
7

#### KEYNOTES

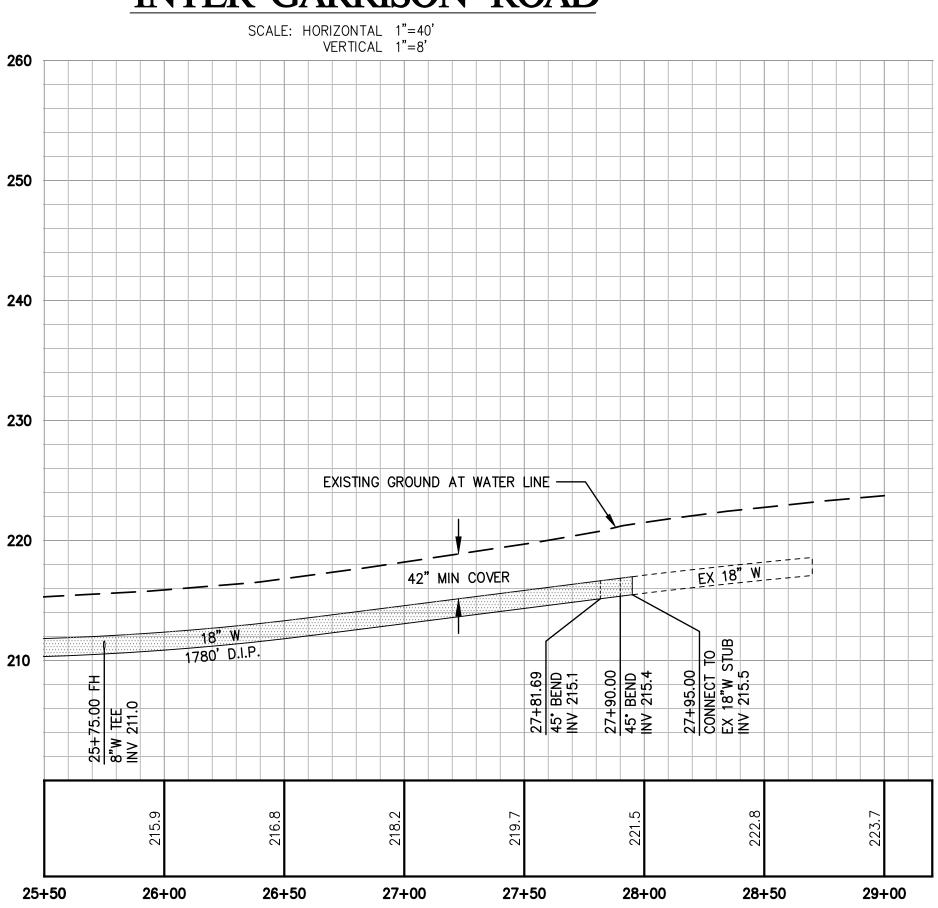
- EXISTING WATER MAIN TO REMAIN IN SERVICE. PROTECT IN PLACE.
- COORDINATE THE OPERATION OF ALL EXISTING VALVES WITH MCWD
- CONNECT TO EXISTING 12" WATER LINE WITH HOT TAP PER MCWD SPECIFICATIONS. CONTRACTOR TO POTHOLE TO DETERMINE PIPE MATERIAL, EXACT LOCATION, AND DEPTH OF EXISTING WATER MAIN PRIOR TO CONSTRUCTION OR ORDERING MATERIALS. CONNECTIONS AND REMOVAL OF EXISTING PIPE TO BE COORDINATED WITH MCWD.
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- TYPE II SLURRY SEAL FROM EP TO EP AS SHOWN. CARE SHALL BE TAKEN NEAR EXISTING VALVES TO PREVENT CONCEALING VALVE
- DEFLECT PROPOSED WATER PIPE UNDER EXISTING UNDERGROUND POWER AS NECESSARY. CONTRACTOR TO POTHOLE TO DETERMINE LOCATION AND DEPTH OF EXISTING UNDERGROUND POWER PRIOR TO







# INTER-GARRISON ROAD

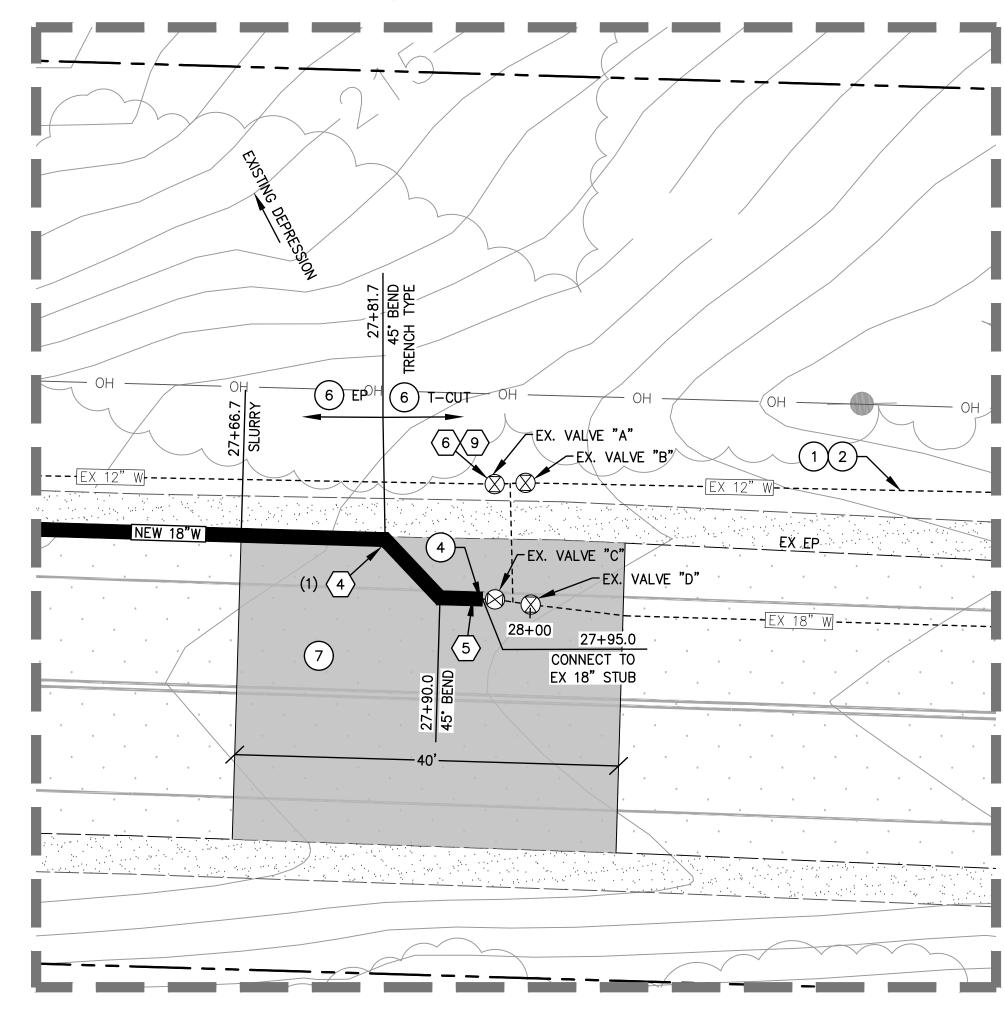


#### GENERAL WATER SHUT-OFF PHASING NOTES

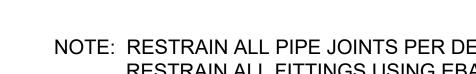
- SUBMIT DISINFECTION, TESTING, AND TIE-IN PLAN FOR APPROVAL BY MCWD. COORDINATE WITH MCWD TO NOTIFY THE EAST GARRISON COMMUNITY OF CONSTRUCTION DATES AND IF THERE ARE TO BE SERVICE INTERRUPTIONS.
- CONSTRUCT 18" DUCTILE IRON WATER MAIN, FROM CROSS AT STATION 10+22.5 TO ELBOW AT STATION 27+81.7. INSTALL TEMPORARY BLIND FLANGE TO NORTH AT CROSS. DO NOT CONNECT TO EXISTING 18" STUB AT STATION 27+95.
- HOT TAP CONNECTION TO EXISTING 12" MAIN AND INSTALL A TEMPORARY BACKFLOW PREVENTION DEVICE. CONSTRUCT SOUTHERN PORTION OF 12" DUCTILE IRON MAIN TO CROSS AT STATION
- FILL THE NEW 18" WATER MAIN THROUGH TEMPORARY BACKFLOW PREVENTION DEVICE. COMPLETE DISINFECTION AND TESTING PER APPROVED PLAN WITH MCWD.
- DISCHARGE FLUSHING WATER AT TEMPORARY TERMINUS AT STATION 27+81.7. DIRECT FLOW TO EXISTING DEPRESSION NORTH OF INTER-GARRISON ROAD. CONTRACTOR TO ACQUIRE APPLICABLE DISCHARGE PERMIT FROM MONTEREY COUNTY AS NECESSARY AND INSTALL MEASURES TO CONTROL EROSION.
- REMOVE TEMPORARY BACKFLOW PREVENTION DEVICE. COMPLETE FINAL 18" MAIN CONNECTION TO THE EXISTING 18" PIPE STUB AT STATION 27+95.
- NEW 18" WATER MAIN IS NOW LIVE AND IN-SERVICE TO THE EAST GARRISON COMMUNITY. CLOSE  $\langle 6 \rangle$  Existing 12" water main valve "2" at West Tie-in (sheet 5) and valve "a" at east TIE-IN (SHEET 7).
- $/_7$  HOT TAP INTO EXISTING 12" MAIN AT STATION 10+26.3. CUT IN NEW 12"X12" CROSS ON EXISTING 12" MAIN AT STATION 10+22.5.
- CONSTRUCT NORTHERN PORTION OF 12" MAIN. CONNECT HOT TAP LOCATION TO NEW 12"X12"

  CROSS AND BLIND FLANCE AT 12"X18" CROSS COMPLETE VICENTIAL CONTROLLED TO NEW 12"X12" CROSS AND BLIND FLANGE AT 12"X18" CROSS. COMPLETE NECESSARY DISINFECTION AND TESTING OF THIS NORTHERN PIPE SECTION PER MCWD SPECIFICATIONS.
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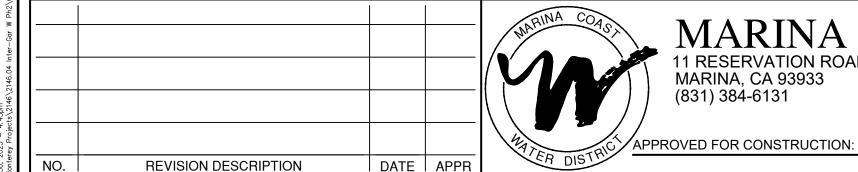
#### SEE SHEET 5 FOR SEQUENCING NOTES 7-9



CONNECTION TO EXISTING 18" WATER LINE



NOTE: RESTRAIN ALL PIPE JOINTS PER DETAIL ON SHEET 3 USING FIELD LOK 350 GASKETS. RESTRAIN ALL FITTINGS USING EBAA MEGALUG SERIES 1100.





GARRETT HAERTEL, P.E., DISTRICT ENGINEER





# INTER-GARRISON ROAD WATER LINE PLAN AND PROFILE STA. 25+50 - 28+50

CHEE	01/31/25	DATE:
SHEE 7	1"=40'	SCALE:
	ML	DESIGN:
0F <b>7</b>	ML	DRAWN:
1	APH	CHECK:
	•	