

# SACRAMENTO SUBURBAN WATER DISTRICT

## STANDARD DETAILS

- |  |                                     |
|--|-------------------------------------|
| 1. GENERAL NOTES                           | 15. 1.5" AND 2" SERVICE             |
| 2. DRAFTING STANDARDS AND SIGNATURE BLOCKS | 16. 3" SERVICE                      |
| 3. TRENCH SECTIONS                         | 17. 4" SERVICE                      |
| 4. TRACER WIRE                             | 18. 6" SERVICE                      |
| 5. VALVE BOX AND RISER                     | 19. 8" SERVICE                      |
| 6. FIRE HYDRANT                            | 20. 12" SERVICE                     |
| 7. GUARD POST                              | 21. TIE-IN CONNECTION               |
| 8. 2" BLOW OFF                             | 22. TIE-IN WITH TEE                 |
| 9. 4" BLOW OFF                             | 23. TIE-IN WITH TEE INCREASING MAIN |
| 10. THRUST BLOCK                           | 24. TIE-IN WITH CROSS               |
| 11. PIPE RESTRAINED LENGTH                 | 25. CROSSING EXISTING DRY UTILITY   |
| 12. 2" AIR VALVE ASSEMBLY                  | 26. PIPE AND VALVE ABANDONMENT      |
| 13. DOUBLE WATER SERVICE                   | 27. FIRE HYDRANT ABANDONMENT        |
| 14. 3/4" AND 1" SERVICE                    | 28. SAMPLE STATION                  |



PHONE (916) 972-7171  
3701 MARCONI AVENUE  
SUITE 100  
SACRAMENTO, CA  
95821-5303

STANDARD DETAIL

### TABLE OF CONTENTS

DATE: AUGUST 2018

## General Notes

1. Sacramento Suburban Water District is a member of U.S.A. one call program. Call for public water system information.
2. All materials used and work performed in water system construction and installation shall comply with approved plans, Special Conditions and the District Standards and Technical Specifications. Any and all deviations from these documents shall require prior written approval by the General Manager or an appointed representative of the District.
3. Ten (10) days prior to pre-construction meeting, the Contractor shall furnish to the District a list of materials proposed to be used in constructing the water system, including manufacturer information and model number.
4. Pre-construction meeting with the District Inspector, Consulting Engineer, County Inspector and Contractor must be held at least two (2) days in advance of construction to inspect materials, schedule inspections, review the approved water system plans and schedule any tie-in connections. Pre-construction meetings will not be scheduled until all District required fees have been paid, all material submittals are approved, and the District receives original guarantee letters, encroachment/maintenance bonds, final signed plans and reproducible plans.
5. No work shall begin until items in General Notes 3. and 4., above, are completed.
6. All water system SHUTDOWNS shall be made ONLY by District personnel. Under no circumstances shall anyone other than the District open or close any valve in the District system. Shutdowns for the purpose of making connections to existing mains must be scheduled at least three (3) days in advance, and are ONLY permitted on Tuesday, Wednesday and Thursday, excluding District Holidays. The hours of the shutdown shall be determined by the District. All connections will be supervised and controlled by the District.
7. The finish grade shall be established, staked and marked at each water service connection and hydrant location. Permanent property corner markers shall be placed by a licensed Civil Engineer or Surveyor.
8. A separate water service connection must be installed for each lot, parcel or premise, and shall be one (1) inch in diameter unless otherwise specified on the approved water plan. No service shall be permitted within 20-feet of a blow off assembly.
9. The completed water system must be disinfected, hydro-tested and flushed.
10. No water service will be provided and no connections to water service will be permitted until the requirements for temporary water approval have been completed.
11. At the time of final acceptance by the District, the completed water system and main extensions with all appurtenances, apparatus, fittings and equipment shall become and forever remain the property of the District.
12. All existing water services not required for this project shall be abandoned according to Technical Specifications 2-2.19 of these Specifications. The exact method shall be determined by the District Inspector and shall be no less than the following:
  - A. Removing section of pipe and replacing with a new section.
  - B. Removal of the weld-on coupling, corporation stop, saddle and install a full-circle 20-inch wide, stainless steel repair band.
13. All backflow prevention devices shall be TESTED by certified County approved testers prior to FINAL ACCEPTANCE. Copies of satisfactory test results shall be furnished to the District prior to FINAL ACCEPTANCE of system at no cost to the District. Water service shall not be provided until District receives the satisfactory test results.
14. Upgrade of existing facilities shall include but not limited to bringing facility to current standards and/or replacement as required or directed by the District.
15. A separate sampling station(s) shall be installed as necessary to meet State Water Resources Control Board Division of Drinking Water requirements for coliform testing.
16. All above ground appurtenances (ARV's, Fire Hydrants, Sample Stations, etc.) shall have 4 Guard Posts installed per District Standard Detail No. 7 unless directed by District.

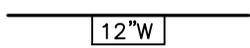


PHONE (916) 972-7171  
3701 MARCONI AVENUE  
SUITE 100  
SACRAMENTO, CA  
95821-5303

STANDARD DETAIL

## GENERAL NOTES

DATE: AUGUST 2018 | STD. DET. NO. 1



DOMESTIC PIPE WITH SIZE



AIR RELEASE VALVE OR COMBINATION AIR VACUUM AND AIR RELEASE VALVE WITH SIZE



REDUCING PRESSURE BACKFLOW DEVICE



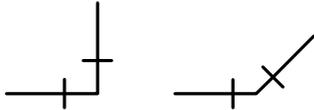
BUTTERFLY VALVE



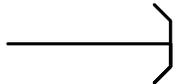
GATE VALVE



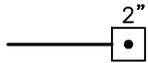
REDUCER



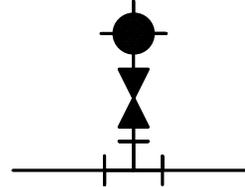
BENDS



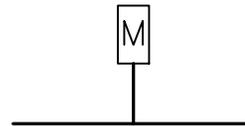
BLIND FLANGE



PERMANENT BLOW OFF WITH SIZE



FIRE HYDRANT



SERVICE LINE WITH METER BOX

SIGNATURE BLOCKS:

<b><i>SACRAMENTO SUBURBAN WATER DISTRICT</i></b>	
APPROVED FOR CONSTRUCTION OF WATER SYSTEM:	
_____	_____
BY:	DATE
NOTE: THIS PLAN EXPIRES ONE YEAR FROM APPROVAL	

<b><i>SACRAMENTO METRO FIRE DISTRICT</i></b>	
APPROVED AS TO FIRE SERVICE LOCATIONS ONLY. MAIN SIZE DETERMINED BY SACRAMENTO SUBURBAN WATER DISTRICT.	
_____	_____
BY:	DATE

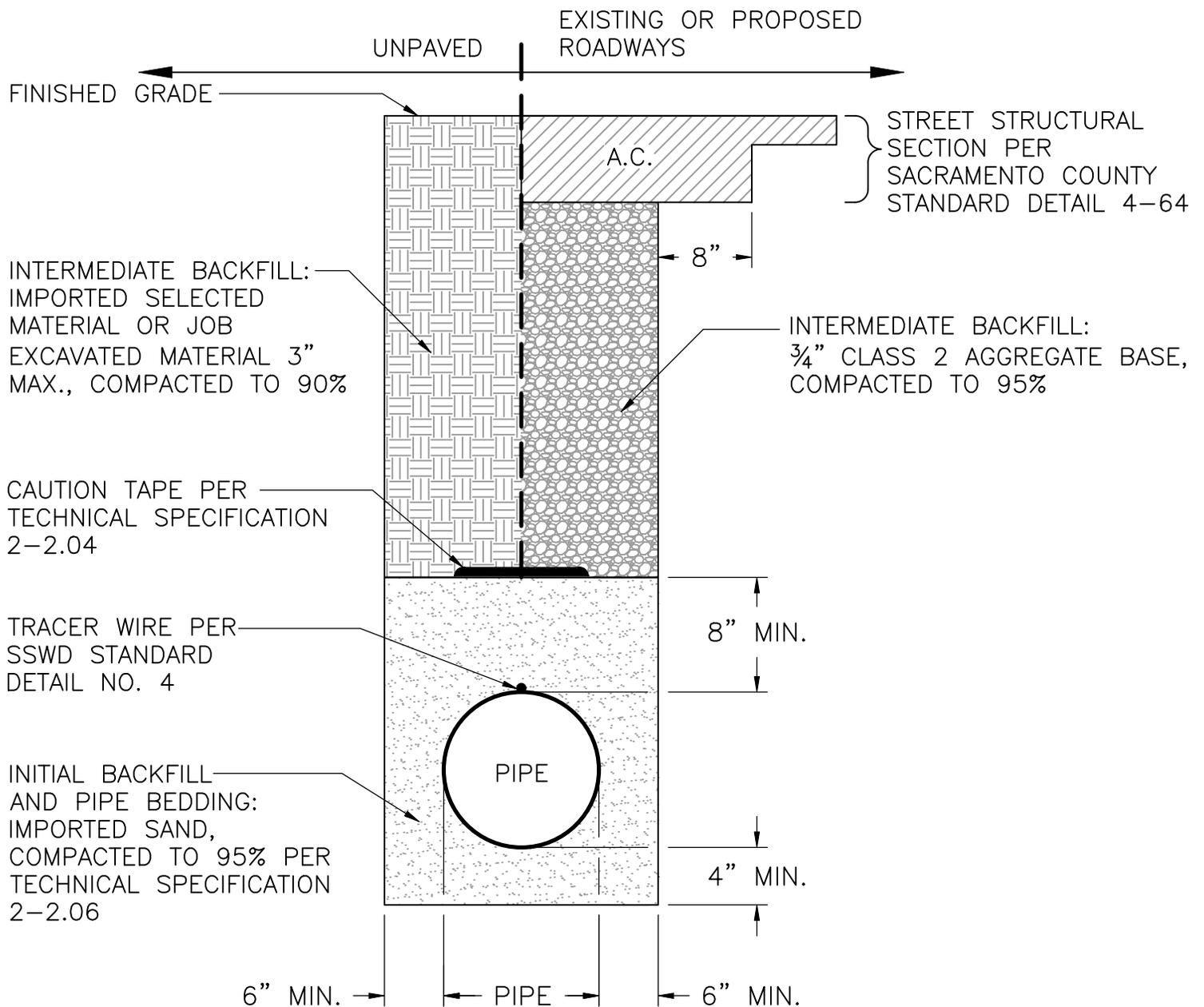


PHONE (916) 972-7171  
3701 MARCONI AVENUE  
SUITE 100  
SACRAMENTO, CA  
95821-5303

STANDARD DETAIL

**DRAFTING STANDARDS AND SIGNATURE BLOCKS**

DATE: AUGUST 2018 | STD. DET. NO. 2



NOTES:

1. MINIMUM COVER FROM TOP OF PIPE TO FINISHED GRADE SHALL BE PER THE FOLLOWING PIPE DIAMETERS:
  - A. 12" & SMALLER = 36"
  - B. GREATER THAN 12" = 42"
2. MAXIMUM LENGTH OF OPEN TRENCH SHALL BE 100 FEET.
3. PAVEMENT SAW CUT SHALL BE CLEAN AND STRAIGHT LINES, PARALLEL AND PERPENDICULAR TO EXISTING ROADWAY IMPROVEMENTS.
4. MECHANICAL COMPACTION REQUIRED.

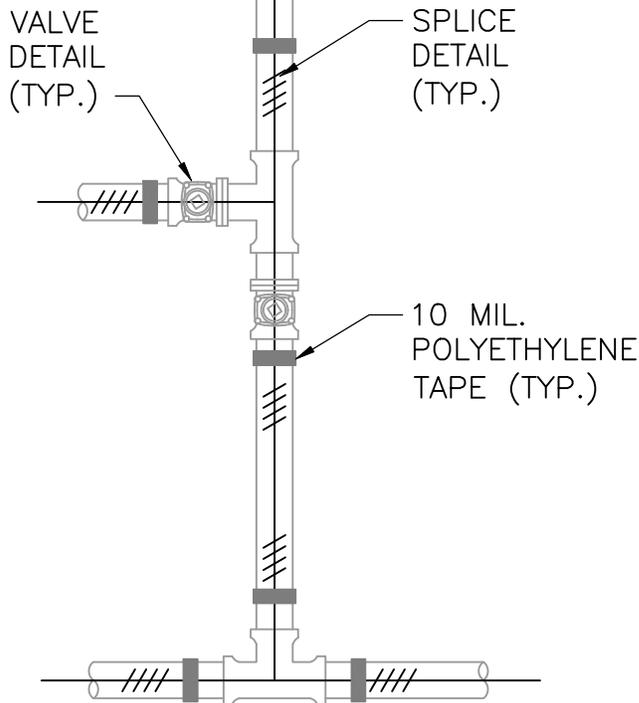


PHONE (916) 972-7171  
 3701 MARCONI AVENUE  
 SUITE 100  
 SACRAMENTO, CA  
 95821-5303

STANDARD DETAIL

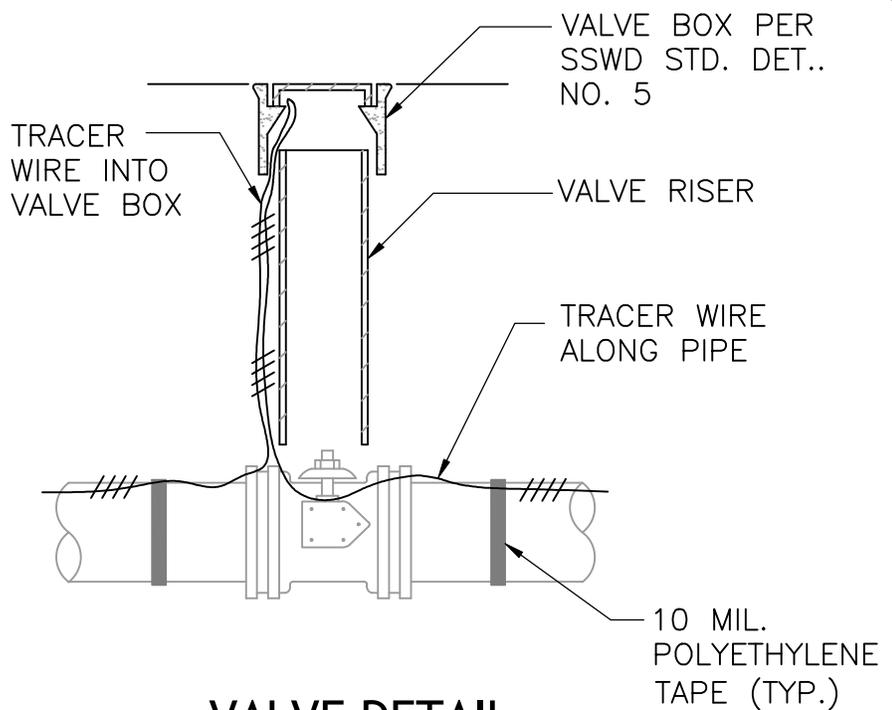
**TRENCH SECTIONS**

DATE: AUGUST 2018 | STD. DET. NO. 3

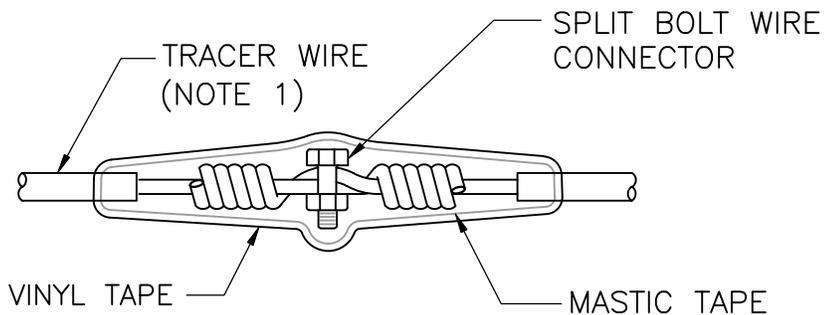


ALL RUNS TO BE SPLICED TOGETHER CLEAR OF FITTINGS

### TYPICAL LAYOUT



### VALVE DETAIL



### SPLICE DETAIL

#### NOTES:

1. TRACER WIRE TO BE NUMBER 10 AMERICAN WIRE GAUGE (AWG) SOLID COPPER HARD DRAWN WITH 45 MIL BLUE INSULATION JACKET COMPLYING WITH ASTM-D-1248, 30 VOLT RATING.
2. TRACER WIRE TO BE CONTINUOUS BETWEEN VALVE BOXES.
3. TRACER WIRE SHALL NOT TOUCH VALVES OR FITTINGS.
4. TRACER WIRE SHALL BE TAPED ON TOP OF POLYWRAP, CENTERED ON PIPE.
5. SPLICE DETAIL SHALL BE USED FOR ANY NECESSARY IN-LINE TRACER WIRE SPLICES. T-TYPE SPICES AT PIPE JUNCTIONS SHALL BE SIMILAR. TWIST THE WIRE A MINIMUM OF FIVE (5) TIMES AT EACH END. SPLIT BOLT TO BE INSTALLED WITH ENTIRE SPLICE COVERED IN MASTIC TAPE, THEN WRAPPED WITH VINYL TAPE AS SHOWN IN SPLICE DETAIL ABOVE.
6. CONTRACTOR TO VERIFY AT COMPLETION OF PROJECT THAT TRACER WIRE IS IN PROPER WORKING ORDER.

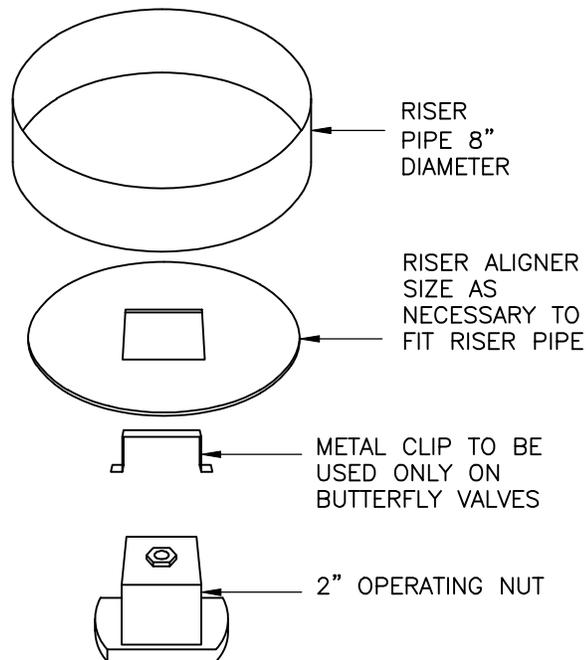
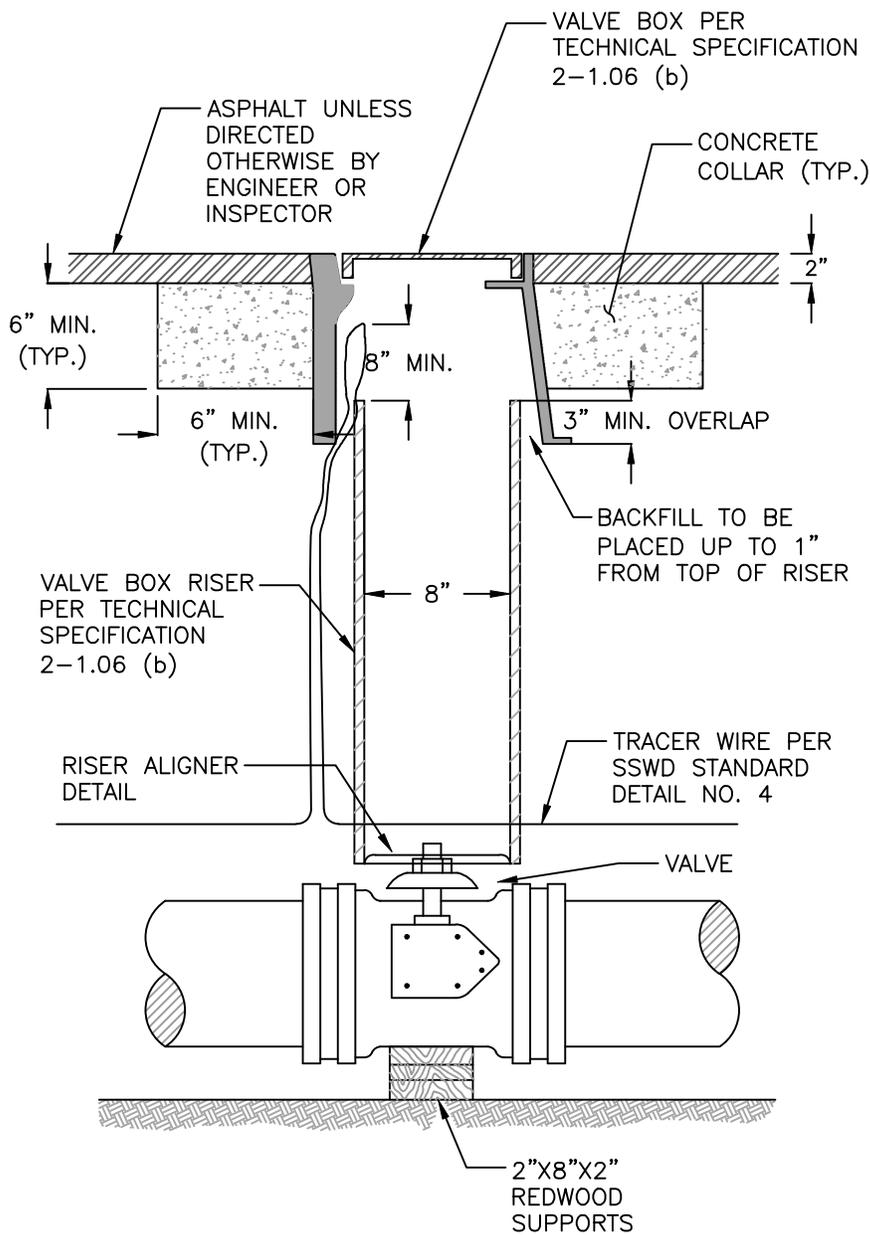


PHONE (916) 972-7171  
3701 MARCONI AVENUE  
SUITE 100  
SACRAMENTO, CA  
95821-5303

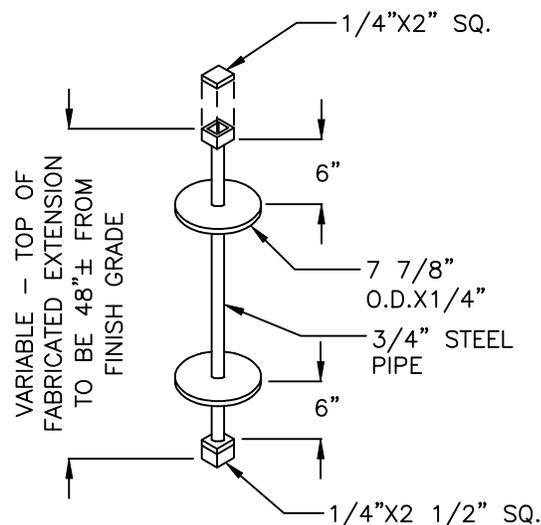
STANDARD DETAIL

### TRACER WIRE

DATE: AUGUST 2018 | STD. DET. NO. 4



### RISER ALIGNER DETAIL



### VALVE OPERATING EXTENSION DETAIL

REQUIRED WHERE VALUE NUT IS IN EXCESS OF 48" DEEP

#### NOTES:

1. CONCRETE MIX FOR COLLAR:  
5 SACK MIX 3/4" AGGREGATE (NO PEA-GRAVEL).
2. CONCRETE COLLAR TO BE POURED AGAINST COMPACTED GROUND IN ALL AREAS, AND SHALL BE SLOPED AWAY FROM BOX.

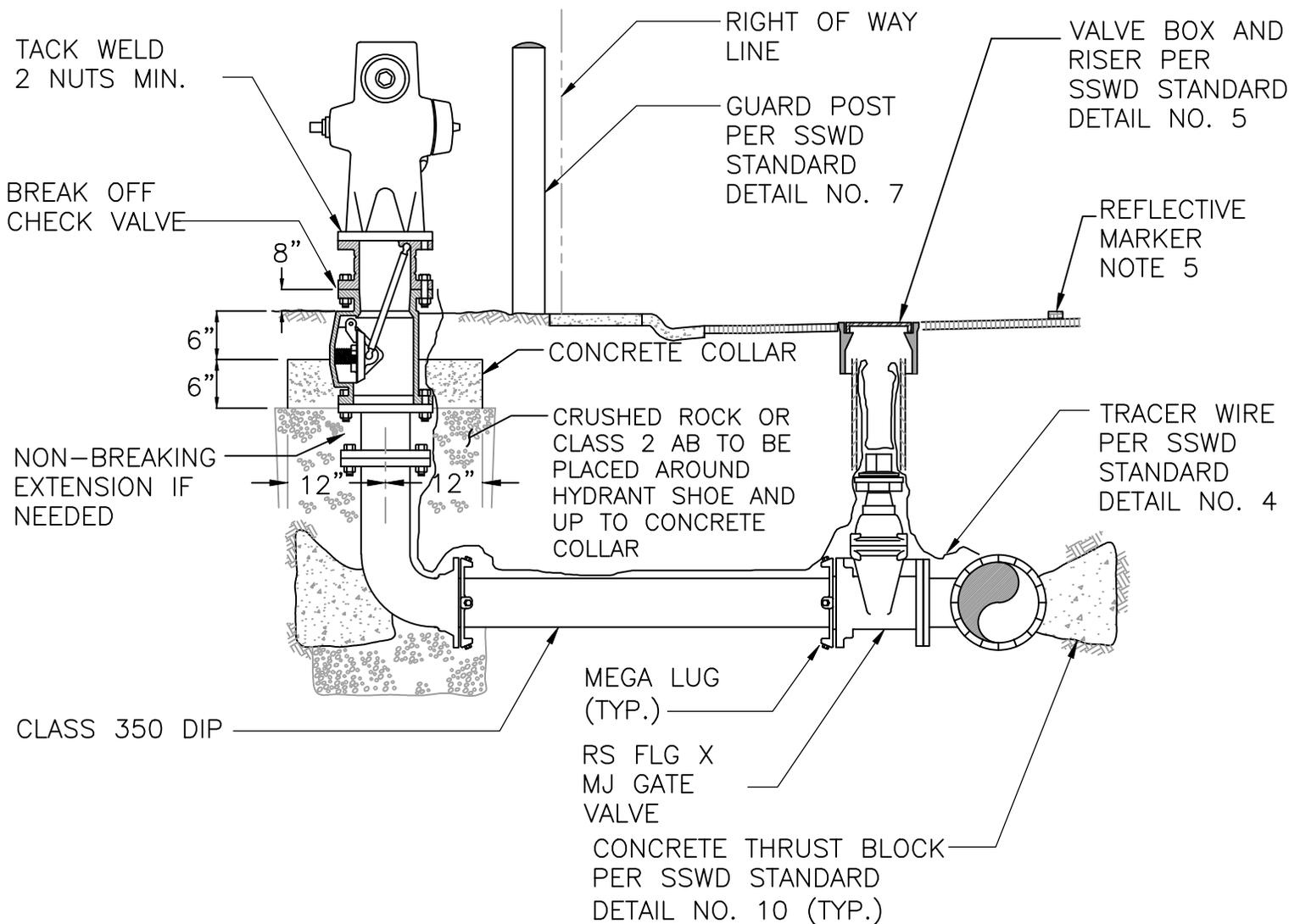


PHONE (916) 972-7171  
3701 MARCONI AVENUE  
SUITE 100  
SACRAMENTO, CA  
95821-5303

STANDARD DETAIL

### VALVE BOX AND RISER

DATE: AUGUST 2018 | STD. DET. NO. 5



NOTES:

1. HYDRANT LATERAL VALVE SHALL BE FLANGE CONNECTED TO MAIN TEE.
2. ALL HYDRANT LATERALS SHALL BE RESTRAINT TYPE CONNECTIONS INCLUDING HYDRANT.
3. CONCRETE COLLAR TO BE PLACED AGAINST COMPACTED LOAD BEARING SOIL.
4. FIRE HYDRANTS SHALL BE PER TECHNICAL SPECIFICATION 2-1.07.
5. BLUE REFLECTIVE HYDRANT MARKERS SHALL BE SET PER IMPROVEMENT STANDARD D-5 (c).

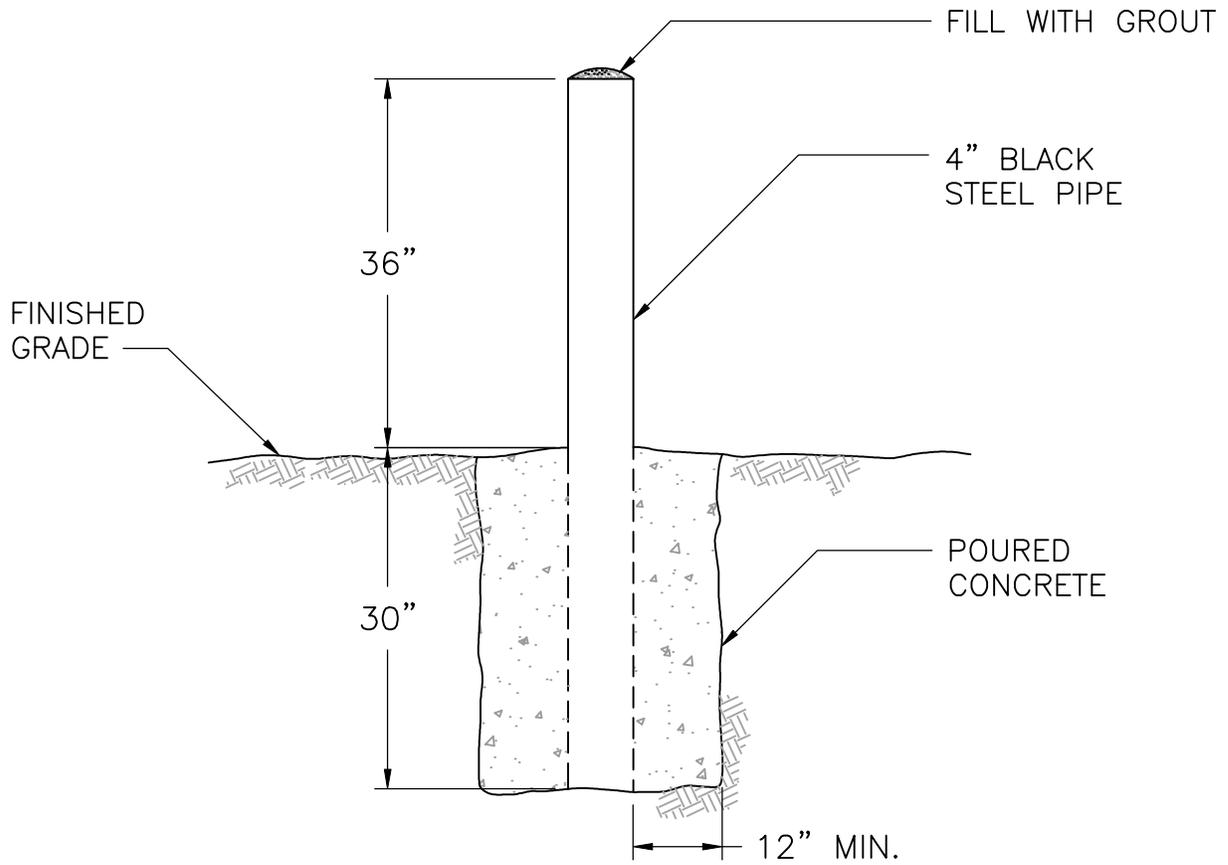


PHONE (916) 972-7171  
3701 MARCONI AVENUE  
SUITE 100  
SACRAMENTO, CA  
95821-5303

STANDARD DETAIL

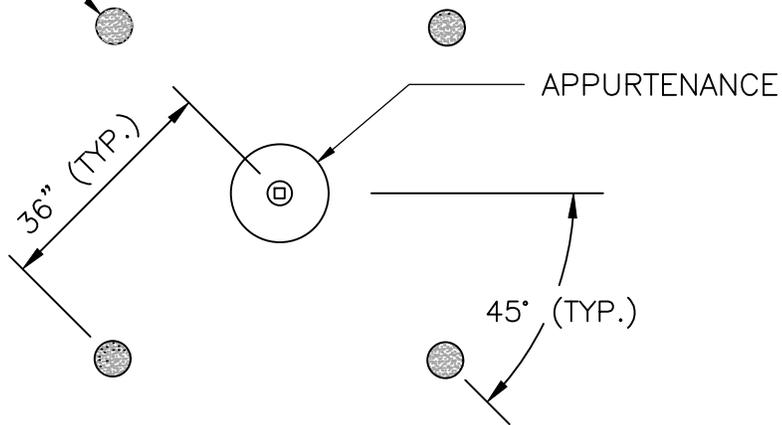
**FIRE HYDRANT**

DATE: AUGUST 2018 | STD. DET. NO. 6



GUARD POST  
(TYP.)

INSTALLATION



LOCATION

NOTES:

1. A MINIMUM OF FOUR (4) GUARD POSTS ARE REQUIRED AT ALL ABOVE GROUND APPURTENANCES PER SSWD STANDARD DETAIL NO. 1, NOTE 16.
2. PIPE SHOULD BE 10-GAUGE AND PAINTED WITH RUST-O-CRYLIC™ NO. 5747 YELLOW.

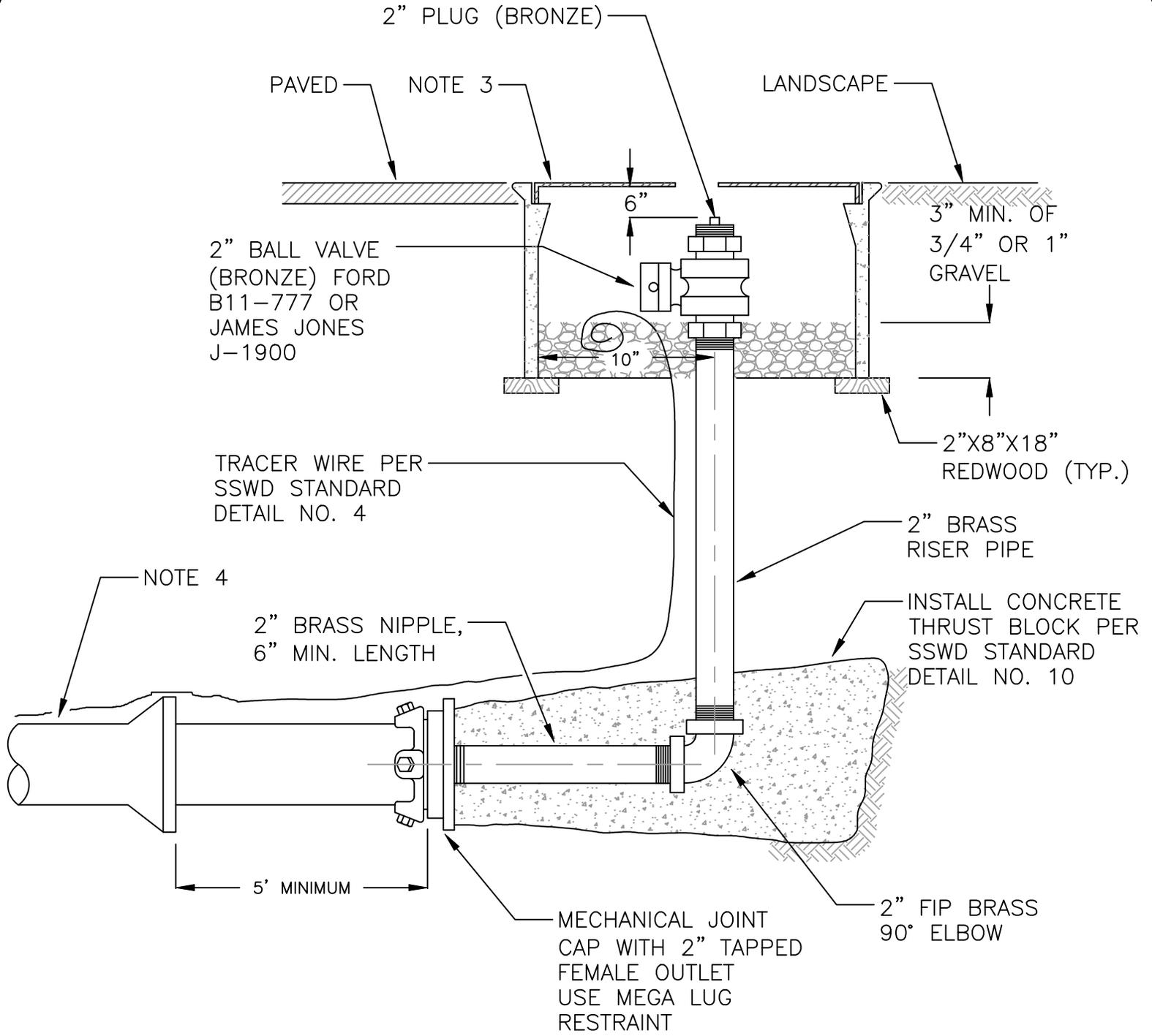


PHONE (916) 972-7171  
3701 MARCONI AVENUE  
SUITE 100  
SACRAMENTO, CA  
95821-5303

STANDARD DETAIL

**GUARD POST**

DATE: AUGUST 2018 | STD. DET. NO. 7



**NOTES:**

- \* METER BOX SHALL NOT BE PLACED UNTIL BACKFILL IS FULLY COMPACTED
- 1. USE TEFLON PLUMBER'S TAPE ON ALL PIPE THREADS.
- 2. ALL UNDERGROUND PIPE AND FITTINGS TO BE WRAPPED WITH VINYL TAPE.
- 3. METER BOX TYPE PER TECHNICAL SPECIFICATION 2-1.08 (e) AND APPROVED BY DISTRICT
- 4. IF LENGTH IS LESS THAN 18' FIELD LOCK GASKET REQUIRED.

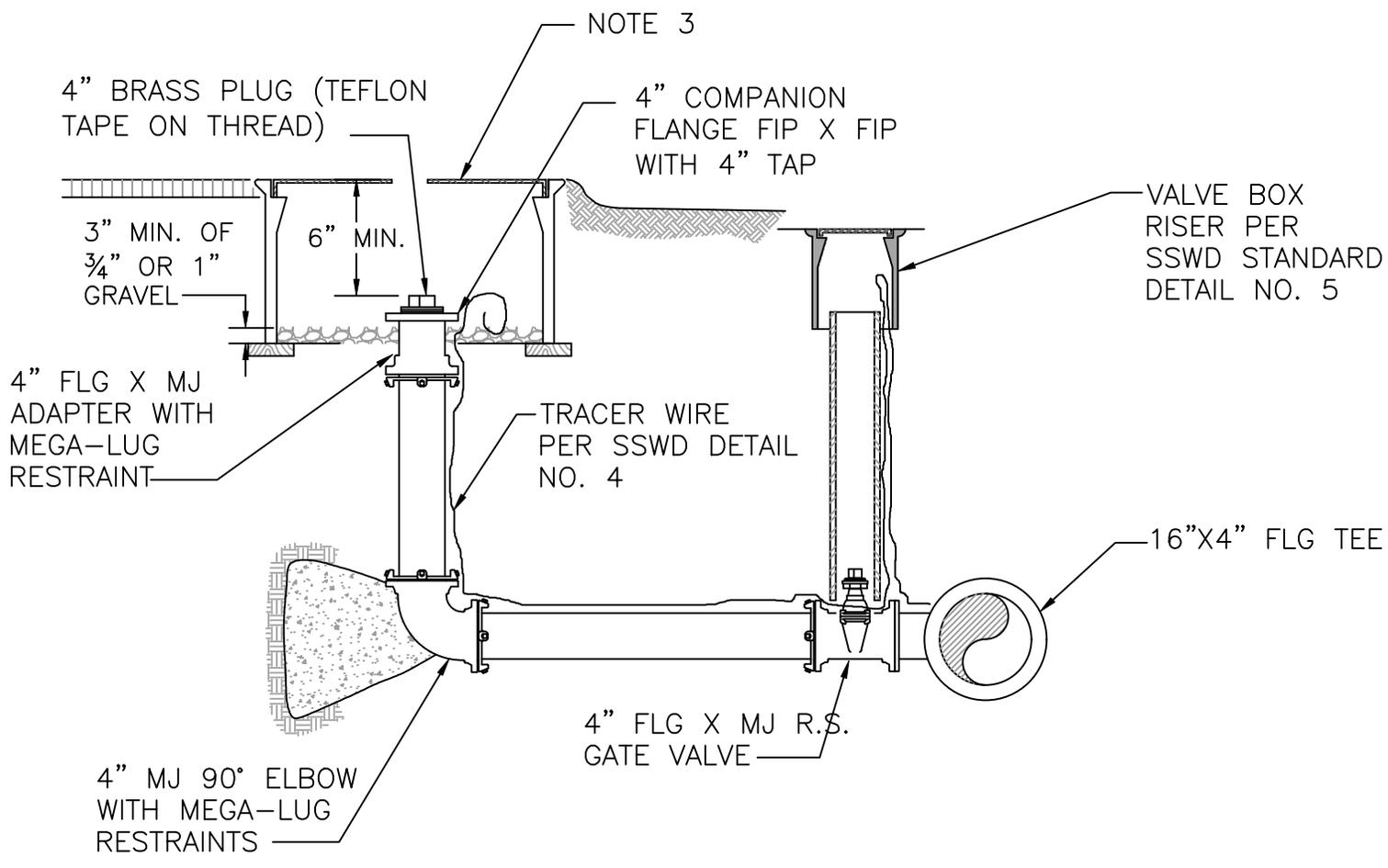
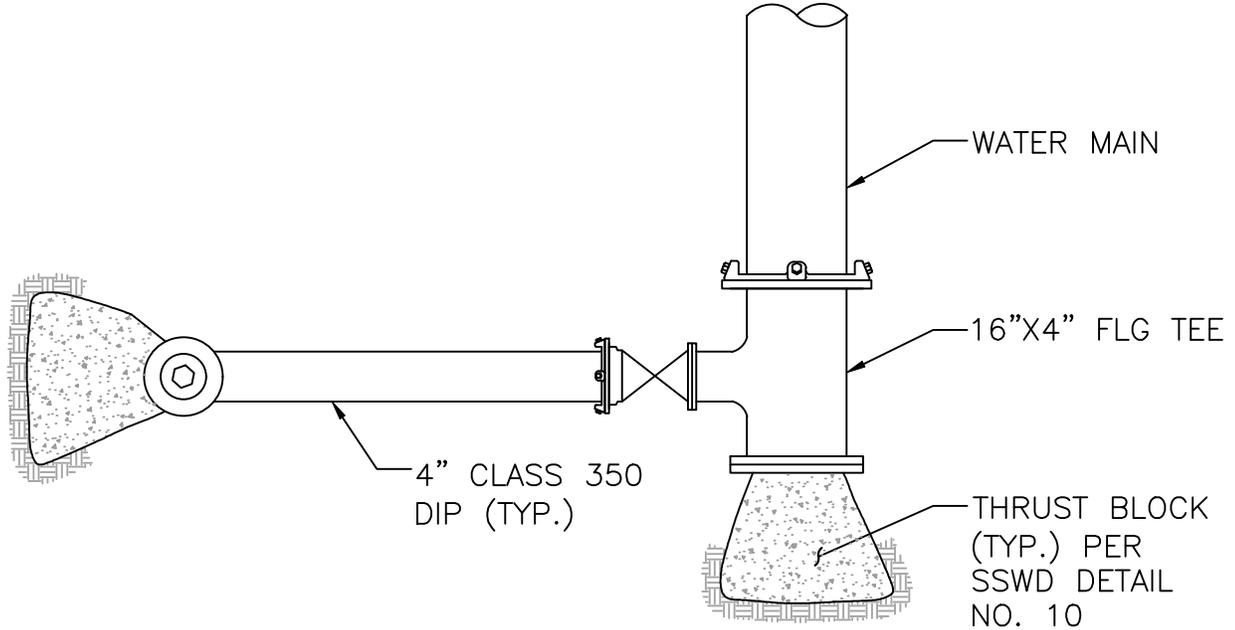


PHONE (916) 972-7171  
 3701 MARCONI AVENUE  
 SUITE 100  
 SACRAMENTO, CA  
 95821-5303

STANDARD DETAIL

**2" BLOW OFF**

DATE: AUGUST 2018 | STD. DET. NO. 8



**NOTES:**

1. ALL CONNECTIONS SHALL BE RESTRAINED WITH MEGA-LUG RESTRAINTS.
2. ALL UNDERGROUND PIPE AND FITTINGS TO BE WRAPPED PER AWWA STANDARD C-105.
3. METER BOX PER TECHNICAL SPECIFICATION 2-1.08 (e) AND APPROVED BY DISTRICT.



PHONE (916) 972-7171  
 3701 MARCONI AVENUE  
 SUITE 100  
 SACRAMENTO, CA  
 95821-5303

STANDARD DETAIL

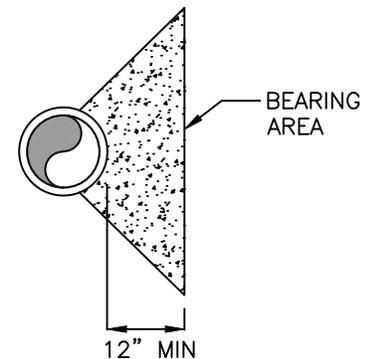
**4" BLOW OFF**

DATE: AUGUST 2018 | STD. DET. NO. 9

# THRUST BLOCK BEARING AREAS (SQUARE FEET)

TYPE OF FITTING	90° ELBOW	45° ELBOW	22.5° ELBOW	11.25° ELBOW	TEE BRANCH	TEE W/PLUG	CROSS W/PLUG	CROSS	DEAD END	
TYPICAL INSTALLATION										
PIPE SIZE	6"	4	4	2	2	4	4	4	4	3
	8"	10	6	3	3	10	10	10	10	5
	10"	12	8	4	4	15	15	15	15	8
	12"	16	10	6	6	20	20	20	20	12
	14"	21	12	6	6	22	21	22	21	15
	16"	27	15	8	8	22	27	27	27	20
	18"	45	25	13	13	32	45	45	45	25
	24"	65	35	18	18	45	65	65	65	30

## SECTION



## NOTES:

1. PIPELINE INSTALLED WITH FITTINGS TO BE APPROVED BY SSWD.
2. THRUST BLOCKS ARE TO BE CONSTRUCTED OF CLASS 'B' CONCRETE.
3. AREAS GIVEN FOR CLASS 150 PIPE AT TEST PRESSURE OF 150 P.S.I. IN SOIL WITH 2,000 P.S.F. BEARING CAPACITY. INSTALLATIONS USING DIFFERENT DATA SHALL ADJUST AREAS SUBJECT TO SSWD APPROVAL.
4. THRUST BLOCKS TO BE POURED AGAINST UNDISTURBED SOIL.
5. JOINTS, FLANGE BOLTS, AND FACE OF BLIND FLANGES TO BE KEPT CLEAR OF CONCRETE.
6. THRUST BLOCKS SHALL BE FREE, SEPARATE, AND INDEPENDENT OF ADJACENT OR NEARBY THRUST BLOCKS.
7. MECHANICAL RESTRAINTS MAY BE REQUIRED IN CONJUNCTION WITH CONCRETE THRUST BLOCKS IF DETERMINED NECESSARY BY ENGINEER. VERIFY WITH ENGINEER PRIOR TO INSTALLATION. IF RESTRAINTS ARE REQUIRED BY ENGINEER, INSTALL PER SSWD STANDARD DETAIL NO. 11.



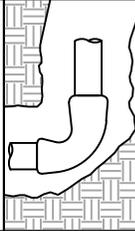
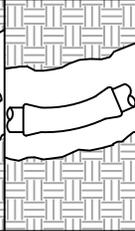
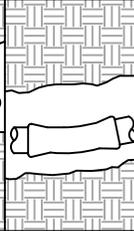
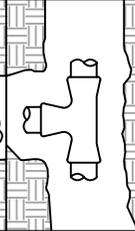
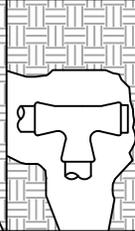
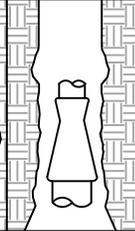
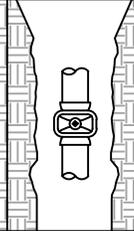
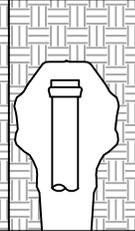
PHONE (916) 972-7171  
 3701 MARCONI AVENUE  
 SUITE 100  
 SACRAMENTO, CA  
 95821-5303

STANDARD DETAIL

## THRUST BLOCK

DATE: AUGUST 2018 | STD. DET. NO. 10

# PIPE RESTRAINED LENGTH

TYPE OF FITTING	90° ELBOW	45° ELBOW	22.5° ELBOW	11.25° ELBOW	TEE BRANCH <sup>(1)</sup>	TEE W/PLUG	REDUCER <sup>(2)</sup>	VALVE INLINE	VALVE AT END	DEAD END	
TYPICAL INSTALLATION											
PIPE SIZE	6"	16'	7'	4'	2'	10'(1)	16'	61'	63'	63'	63'
	8"	21'	9'	5'	2'	10'(1)	21'	62'	82'	82'	82'
	10"	25'	10'	5'	3'	16'	25'	63'	99'	99'	99'
	12"	29'	12'	6'	3'	23'	29'	64'	117'	117'	117'
	14"	33'	14'	7'	4'	39'	33'	64'	133'	133'	133'
	16"	36'	15'	8'	4'	55'	36'	65'	150'	150'	150'
	18"	40'	17'	8'	4'	71'	40'	92'	167'	167'	167'

- (1) MINIMUM 10' RESTRAINED LENGTH ON EACH RUN ON BOTH SIDES OF BRANCH.  
 (2) LENGTHS GIVEN ARE VALID FOR UP TO 4" INCREASE IN NOMINAL DIAMETER FROM SIZE SHOWN.

NOTES:

- ALL MINIMUM RESTRAINED LENGTH CALCULATIONS BASED ON MINIMUM 10' PIPE LENGTH.
- THRUST BLOCKING MAY BE REQUIRED IN CONJUNCTION WITH MECHANICAL THRUST RESTRAINED SYSTEMS IF DETERMINED NECESSARY BY ENGINEER. IF THRUST BLOCKING IS REQUIRED BY ENGINEER, INSTALL PER SSWD STANDARD DETAIL NO. 10.
- ALL VALVE CLUSTERS (CROSS OR TEE) USE RESTRAINED LENGTH FOR THE 90° ELBOW.

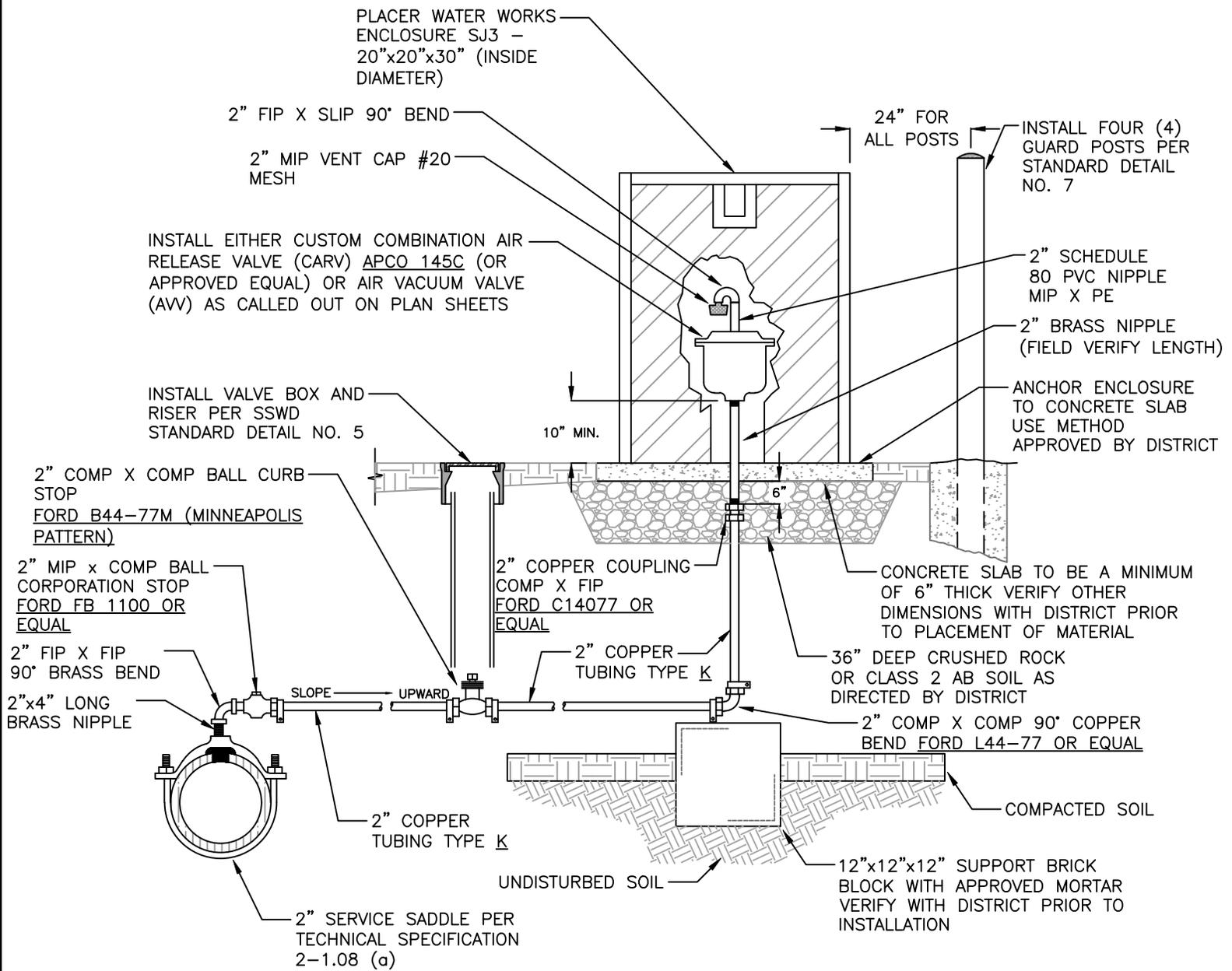


PHONE (916) 972-7171  
 3701 MARCONI AVENUE  
 SUITE 100  
 SACRAMENTO, CA  
 95821-5303

STANDARD DETAIL

## PIPE RESTRAINED LENGTH

DATE: AUGUST 2018 | STD. DET. NO. 11



**NOTES:**

1. USE TEFLON PLUMBER'S TAPE ON ALL PIPE THREADS.
2. POLYETHYLENE WRAP REQUIRED FOR ALL COPPER PIPE, VALVES AND FITTINGS. EXCEPT WHERE COATED TYPE K COPPER IS INSTALLED.

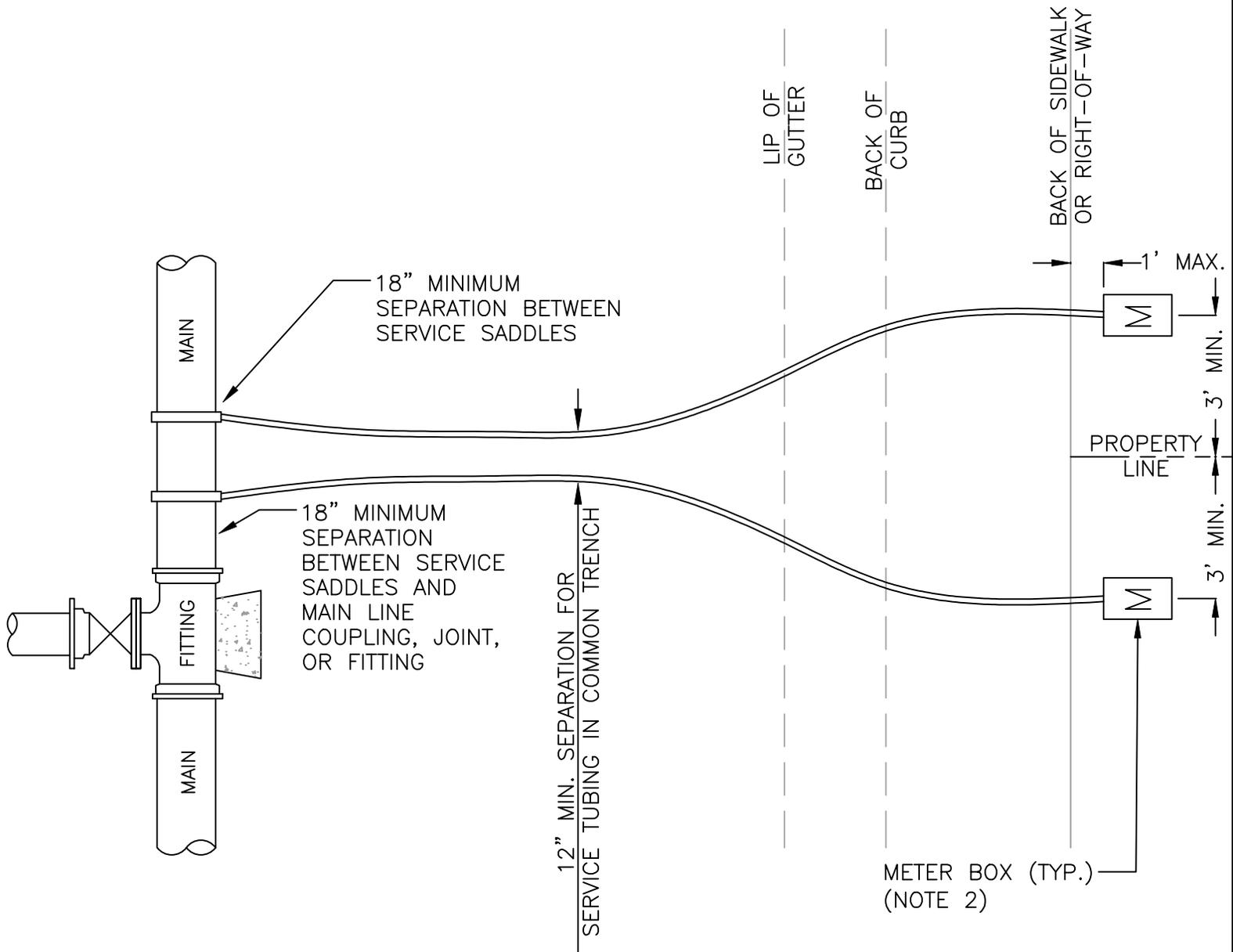


PHONE (916) 972-7171  
3701 MARCONI AVENUE  
SUITE 100  
SACRAMENTO, CA  
95821-5303

STANDARD DETAIL

**2" AIR VALVE ASSEMBLY**

DATE: AUGUST 2018 | STD. DET. NO. 12



**NOTES:**

1. SERVICES SHALL BE BEDDED AND BACKFILLED AS PER SSWD STANDARD DETAIL NO. 3.
2. METER BOX SHALL BE INSTALLED PERPENDICULAR, AT A MAXIMUM OF 1-FOOT OFF BACK OF SIDEWALK AND SHALL COMPLY WITH TECHNICAL SPECIFICATION 2-1.08 (e).

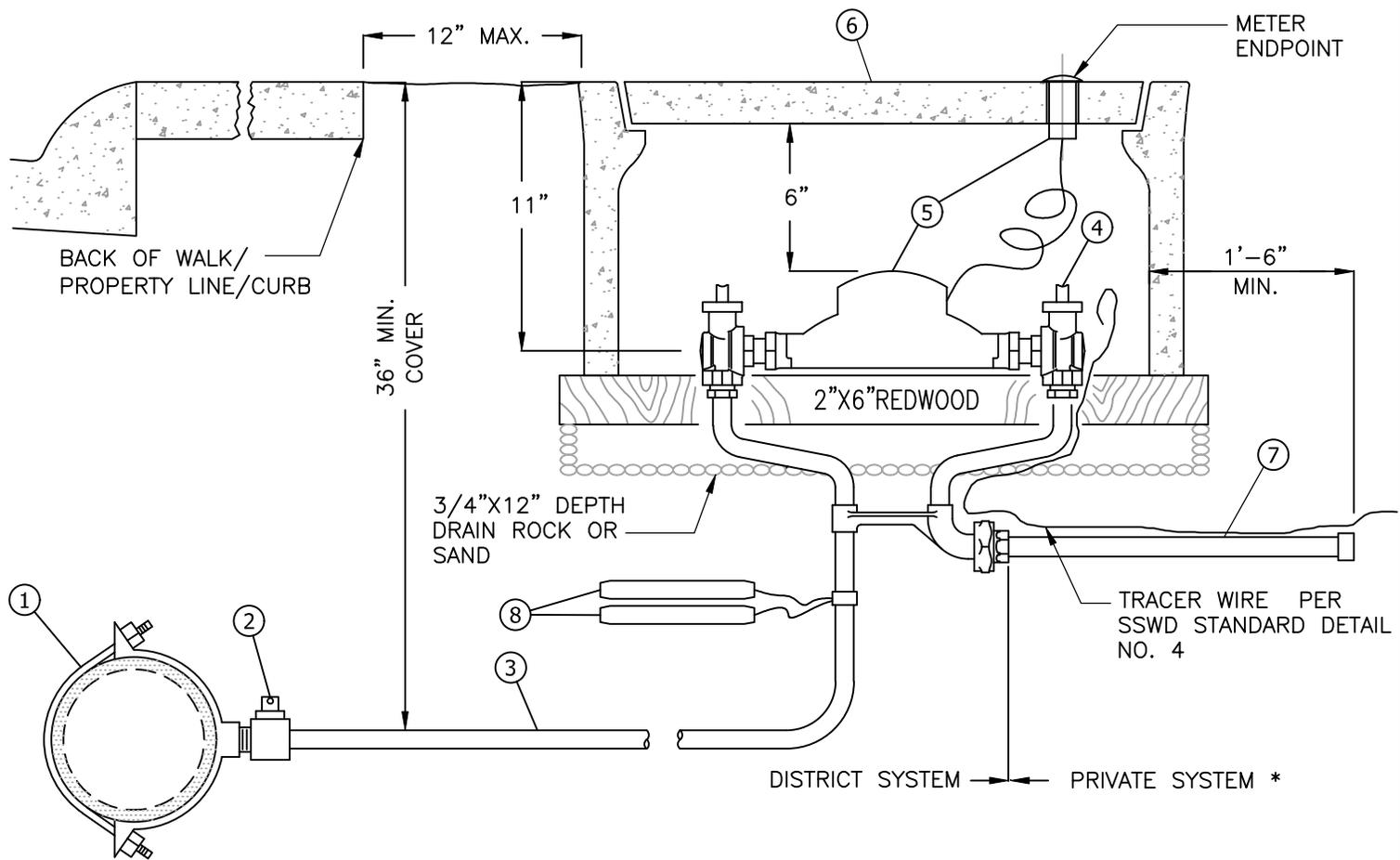


PHONE (916) 972-7171  
 3701 MARCONI AVENUE  
 SUITE 100  
 SACRAMENTO, CA  
 95821-5303

STANDARD DETAIL

**DOUBLE WATER SERVICE**

DATE: AUGUST 2018 | STD. DET. NO. 13



**LEGEND:**

- ① 1" SERVICE SADDLE FIP PER TECHNICAL SPECIFICATION 2-1.08 (a).
- ② 1" CORPORATION STOP, MIP X COMP, PER TECHNICAL SPECIFICATION 2-1.08 (b).
- ③ 1" TYPE K POLYETHYLENE-COATED COPPER TUBING, PER TECHNICAL SPECIFICATION 2-1.08 (c).
- ④ 1" COPPER METER SETTER WITH CT PACK JOINT INLET AND FIP OUTLET PER TECHNICAL SPECIFICATION 2-1.08 (d).
- ⑤ METER AND ENDPOINT TO BE INSTALLED BY CONTRACTOR, PAID FOR BY DEVELOPER AT FURNISH ONLY FEE.
- ⑥ 1" METER BOX AND LID (MARKED "WATER") PER TECHNICAL SPECIFICATION 2-1.08 (e).
- ⑦ BRASS NIPPLE - 18" LONG WITH FIP X FIP COUPLING WITH MIP PLUG BRASS PLUG (1" MINIMUM).
- ⑧ ANODES TO BE USED ON ALL EXISTING COPPER SERVICE LINES. TWO 4-POUND HIGH PURITY ZINC ANODES WITH INSULATED SOLID CORE COPPER WIRE 10 FEET LONG AND BRASS CABLE TO PIPE CLAMP.

\* PRIVATE SYSTEM TO CONFORM WITH SACRAMENTO COUNTY STANDARDS.

**NOTES:**

- 1. SERVICE LINES PER SSWD STANDARD DETAIL NO. 13, MINIMUM 10' FROM SEWER.
- 2. METER BOX IS PART OF DISTRICT SYSTEM.
- 3. POLYETHYLENE WRAP IS REQUIRED FOR ALL COPPER PIPE, SETTER AND FITTINGS.

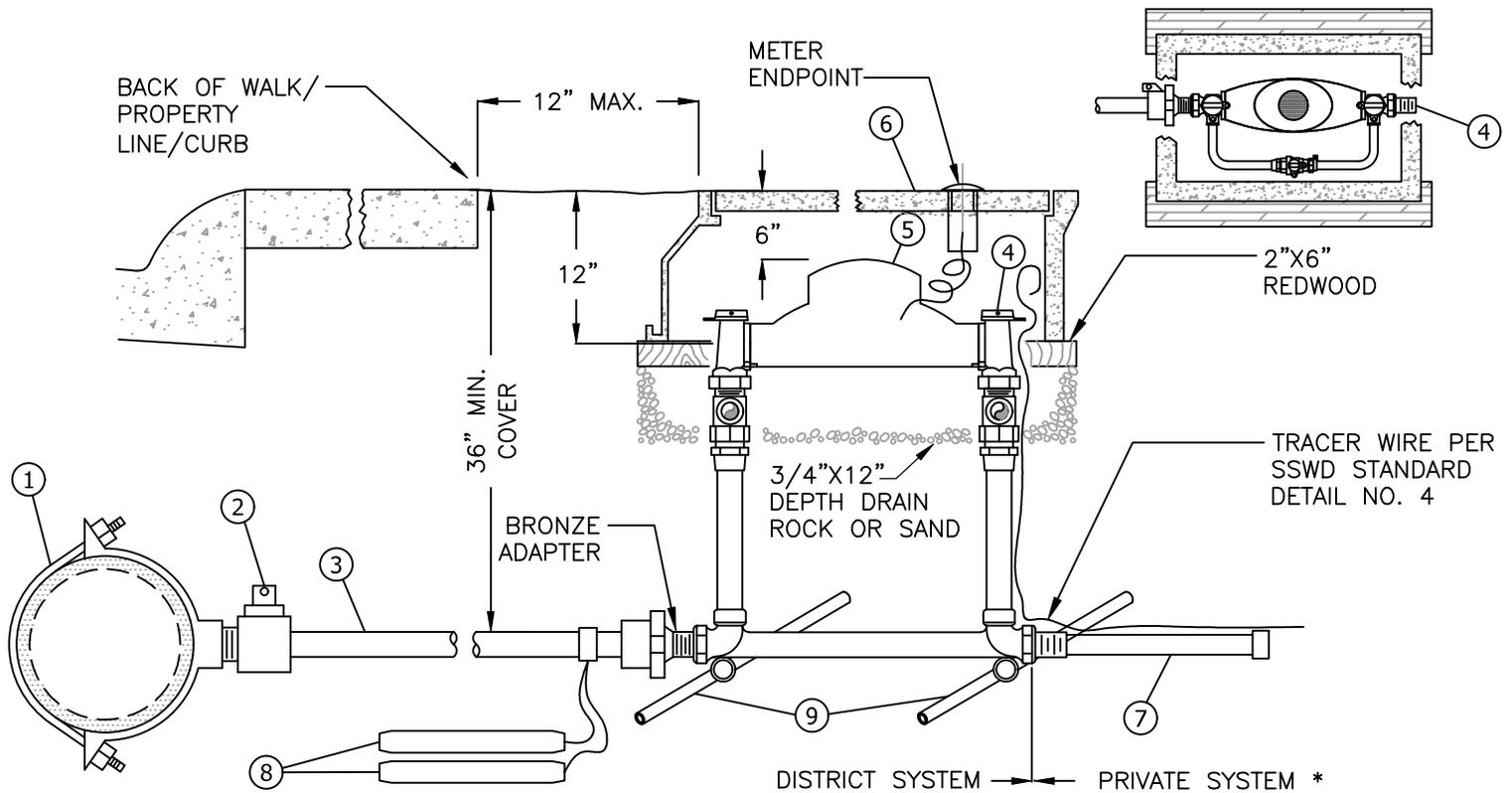


PHONE (916) 972-7171  
 3701 MARCONI AVENUE  
 SUITE 100  
 SACRAMENTO, CA  
 95821-5303

STANDARD DETAIL

**3/4" AND 1" SERVICE**

DATE: AUGUST 2018 | STD. DET. NO. 14



**LEGEND:**

- ① SERVICE SADDLE FIP PER TECHNICAL SPECIFICATION 2-1.08 (a).
- ② BALL CORPORATION STOP, M.I.P. X COMP., PER TECHNICAL SPECIFICATION 2-1.08 (b),
- ③ 1.5" OR 2" TYPE K POLYETHYLENE-COATED COPPER TUBING PER TECHNICAL SPECIFICATION 2-1.08 (c).
- ④ CUSTOM SETTER WITH HIGH BYPASS OR EQUAL PER TECHNICAL SPECIFICATION 2-1.08 (d).
- ⑤ METER AND ENDPOINT TO BE INSTALLED BY CONTRACTOR, PAID FOR BY DEVELOPER AT FURNISH ONLY FEE.
- ⑥ METER BOX AND LID (MARKED "WATER") PER TECHNICAL SPECIFICATION 2-1.08 (e).
- ⑦ BRASS NIPPLE - 18" LONG WITH FIP X FIP COUPLING WITH MIP PLUG BRASS PLUG (1" MINIMUM).
- ⑧ ANODES TO BE USED ON ALL EXISTING COPPER SERVICE LINES. 2 - 4 POUND HIGH PURITY ZINC ANODES WITH INSULATED SOLID CORE COPPER WIRE 10 FEET LONG AND BRASS CABLE TO PIPE CLAMP.
- ⑨ 1" PVC OR IRON PIPE THROUGH BRACE PIPE.

\* PRIVATE SYSTEM TO CONFORM WITH SACRAMENTO COUNTY STANDARDS.

**NOTES:**

- 1. SERVICE LINES PER SSWD STANDARD DETAIL NO. 13, MINIMUM 10' FROM SEWER.
- 2. METER BOX IS PART OF DISTRICT SYSTEM.
- 3. POLYETHYLENE WRAP IS REQUIRED FOR ALL COPPER PIPE, SETTER AND FITTINGS.

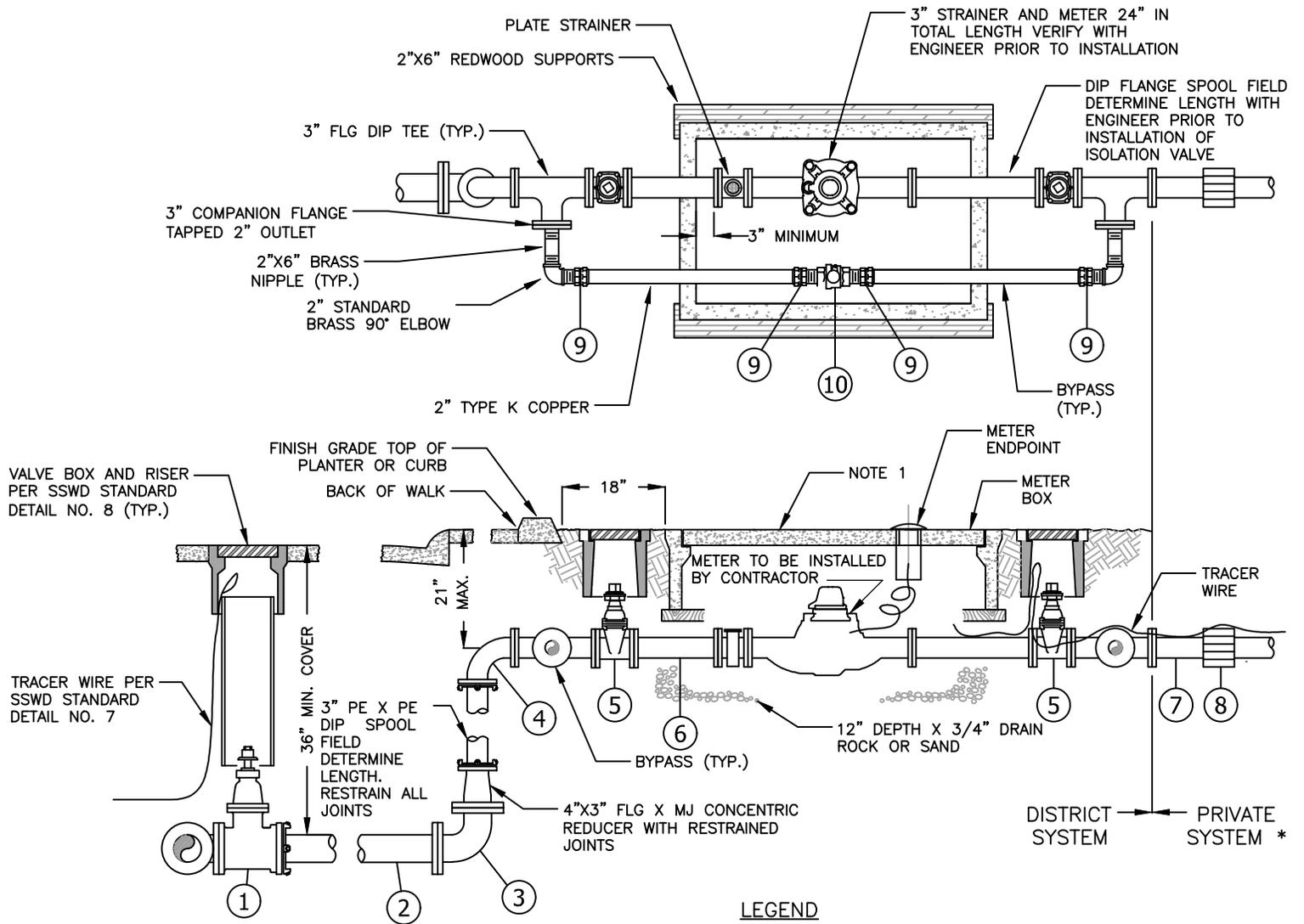


PHONE (916) 972-7171  
 3701 MARCONI AVENUE  
 SUITE 100  
 SACRAMENTO, CA  
 95821-5303

STANDARD DETAIL

**1.5" AND 2" SERVICE**

DATE: AUGUST 2018 | STD. DET. NO. 15



\* PRIVATE SYSTEM TO CONFORM WITH SACRAMENTO COUNTY STANDARDS.

**NOTES:**

1. METER, STRAINER, AND ENDPOINT TO BE INSTALLED BY CONTRACTOR, PAID FOR BY DEVELOPER AT FURNISHED ONLY FEE.
2. DEVELOPER WILL BE FURNISHED METER AFTER ALL DISTRICT FEES & CHARGES HAVE BEEN PAID.
3. SERVICE LINES PER SSWD STANDARD DETAIL NO. 13, MINIMUM 10' FROM SEWER.
4. USE TEFLON PLUMBERS TAPE & JOINT COMPOUND ON ALL PIPE THREADS.
5. POLYETHYLENE WRAP WILL BE REQUIRED FOR ALL COPPER AND DUCTILE PIPE INSTALLATION. ENCASUREMENT MATERIAL AND INSTALLATION METHODS SHALL CONFORM TO AWWA STANDARD C-105.
6. METER BOX IS PART OF DISTRICT SYSTEM.

**LEGEND**

- ① 4" FLG X MJ R.S. GATE VALVE PER TECHNICAL SPECIFICATION 2-1.06 (a)
- ② 4" CLASS 350 DIP FLG X PE SPOOL MINIMUM 12" LENGTH
- ③ 4" FLG 90° ELBOW
- ④ 3" FLG X MJ 90° ELBOW
- ⑤ 3" FLG R.S. GATE VALVE
- ⑥ 3"x16" FLG DIP SPOOL
- ⑦ 3" CLASS 350 DIP FLG X PE SPOOL
- ⑧ FLEX COUPLING OR MJ SLEEVE PER SSWD STANDARD DETAIL NO. 21
- ⑨ MIP X COMP ADAPTER JONES J-2605SG OR EQUAL
- ⑩ 2" BALL VALVE FIP X FIP, FORD B-11-777W OR EQUAL

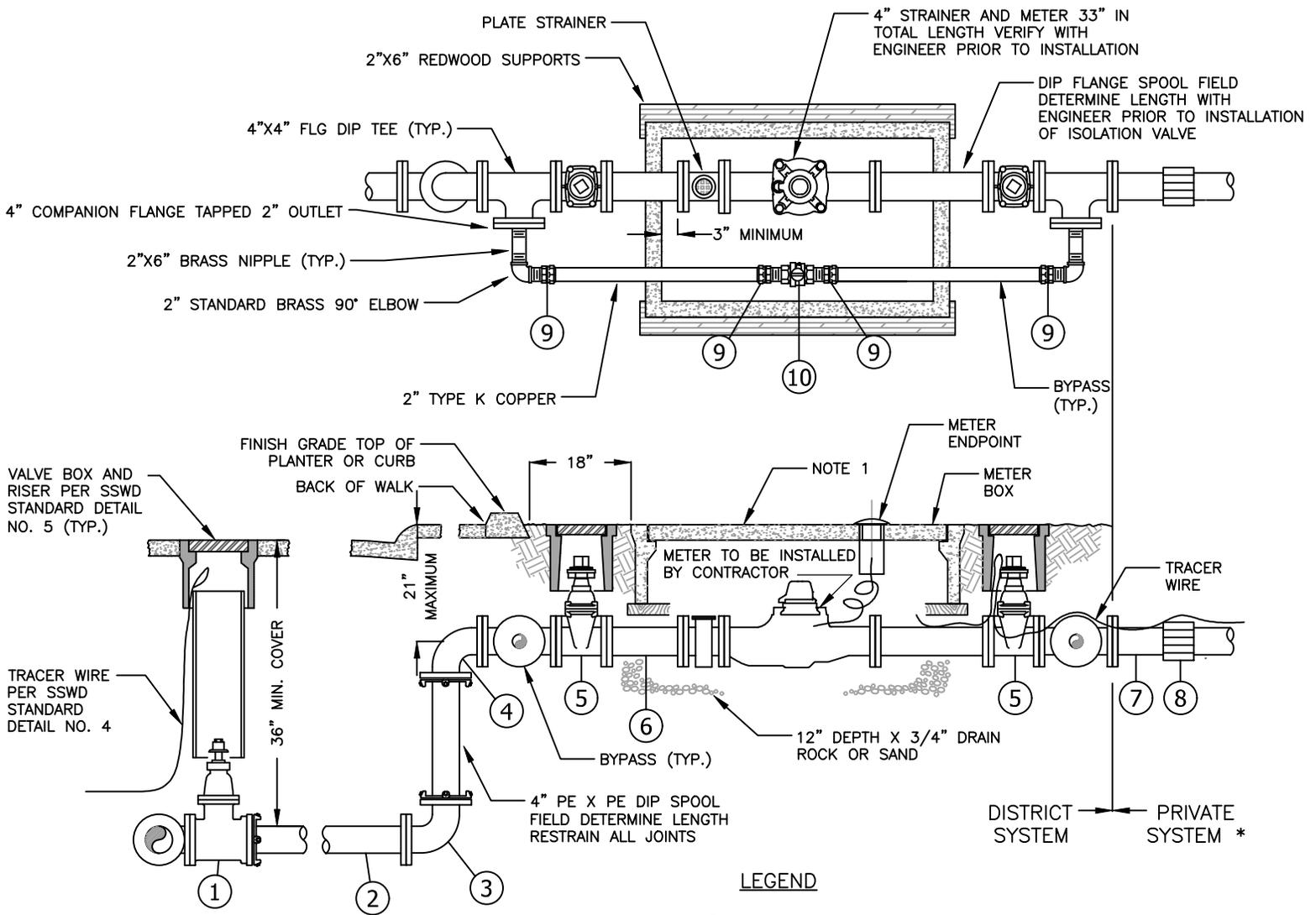


PHONE (916) 972-7171  
 3701 MARCONI AVENUE  
 SUITE 100  
 SACRAMENTO, CA  
 95821-5303

STANDARD DETAIL

**3" SERVICE**

DATE: AUGUST 2018 | STD. DET. NO. 16



\* PRIVATE SYSTEM TO CONFORM WITH SACRAMENTO COUNTY STANDARDS.

**NOTES:**

1. METER, STRAINER, AND ENDPOINT TO BE INSTALLED BY CONTRACTOR, PAID FOR BY DEVELOPER AT FURNISHED ONLY FEE.
2. DEVELOPER WILL BE FURNISHED METER AFTER ALL DISTRICT FEES & CHARGES HAVE BEEN PAID.
3. SERVICE LINES PER SSWD STANDARD DETAIL NO. 13, MINIMUM 10' FROM SEWER.
4. USE TEFLON PLUMBERS TAPE & JOINT COMPOUND ON ALL PIPE THREADS.
5. POLYETHYLENE WRAP WILL BE REQUIRED FOR ALL COPPER AND DUCTILE PIPE INSTALLATION. ENCASUREMENT MATERIAL AND INSTALLATION METHODS SHALL CONFORM TO AWWA STANDARD C-105.
6. METER BOX IS PART OF DISTRICT SYSTEM.

**LEGEND**

- ① 4" FLG X MJ RS GATE VALVE PER TECHNICAL SPECIFICATION 2-1.06 (a)
- ② 4" CLASS 350 DIP FLG X PE SPOOL MINIMUM 12" LENGTH
- ③ 4" FLG 90° ELBOW
- ④ 4" FLG X MJ 90° ELBOW
- ⑤ 4" FLG RS GATE VALVE
- ⑥ 4"x16" FLANGE DIP SPOOL
- ⑦ 4" CLASS 350 DIP FLG X PE SPOOL MINIMUM OF 36"
- ⑧ FLEX COUPLING OR MJ SLEEVE PER SSWD STANDARD DETAIL NO. 21
- ⑨ MIP X COMP ADAPTER JONES J-2605SG OR EQUAL
- ⑩ 2" BALL VALVE FIP X FIP, FORD B-11-777W OR EQUAL

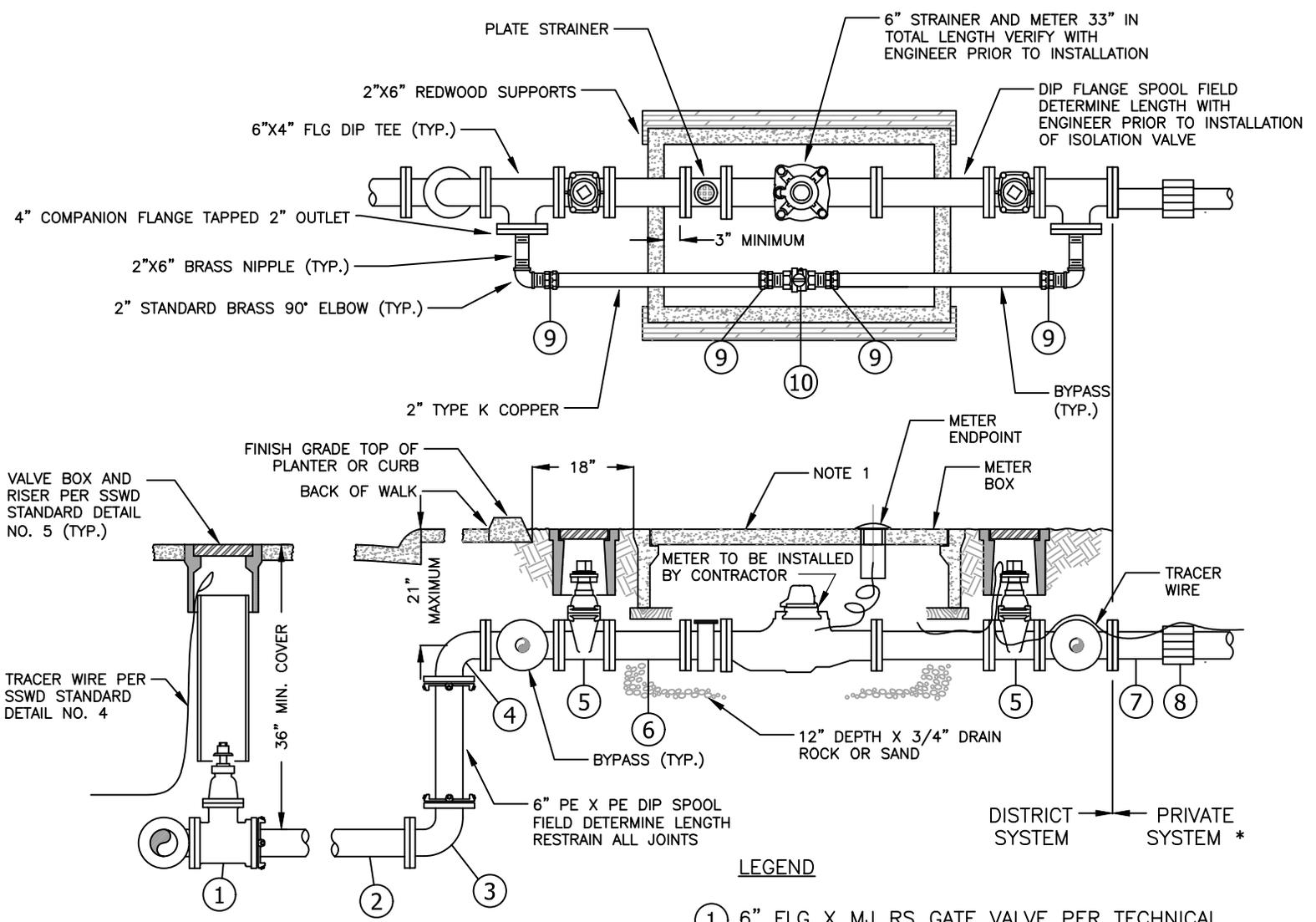


PHONE (916) 972-7171  
3701 MARCONI AVENUE  
SUITE 100  
SACRAMENTO, CA  
95821-5303

STANDARD DETAIL

**4" SERVICE**

DATE: AUGUST 2018 | STD. DET. NO. 17



\* PRIVATE SYSTEM TO CONFORM WITH SACRAMENTO COUNTY STANDARDS.

**NOTES:**

1. METER, STRAINER, AND ENDPOINT TO BE INSTALLED BY CONTRACTOR, PAID FOR BY DEVELOPER AT FURNISHED ONLY FEE.
2. DEVELOPER WILL BE FURNISHED METER AFTER ALL DISTRICT FEES & CHARGES HAVE BEEN PAID.
3. SERVICE LINES PER SSWD STANDARD DETAIL NO. 13, MINIMUM 10' FROM SEWER.
4. USE TEFLON PLUMBERS TAPE & JOINT COMPOUND ON ALL PIPE THREADS.
5. POLYETHYLENE WRAP WILL BE REQUIRED FOR ALL COPPER AND DUCTILE PIPE INSTALLATION. ENCASEMENT MATERIAL AND INSTALLATION METHODS SHALL CONFORM TO AWWA STANDARD C-105.
6. METER BOX IS PART OF DISTRICT SYSTEM.

**LEGEND**

- ① 6" FLG X MJ RS GATE VALVE PER TECHNICAL SPECIFICATION 2-1.06 (a)
- ② 6" CLASS 350 DIP FLG X PE SPOOL MINIMUM 12" LENGTH
- ③ 6" FLG 90° ELBOW
- ④ 6" FLG X MJ 90° ELBOW
- ⑤ 6" FLG RS GATE VALVE
- ⑥ 6"x16" FLANGE DIP SPOOL FOR ALL METERS
- ⑦ 6" CLASS 350 DIP FLG X PE SPOOL MINIMUM OF 36"
- ⑧ FLEX COUPLING OR MJ SLEEVE PER SSWD STANDARD DETAIL NO. 21
- ⑨ MIP X COMP ADAPTER JONES J-2605SG OR EQUAL
- ⑩ 2" BALL VALVE FIP X FIP, FORD B-11-777W OR EQUAL

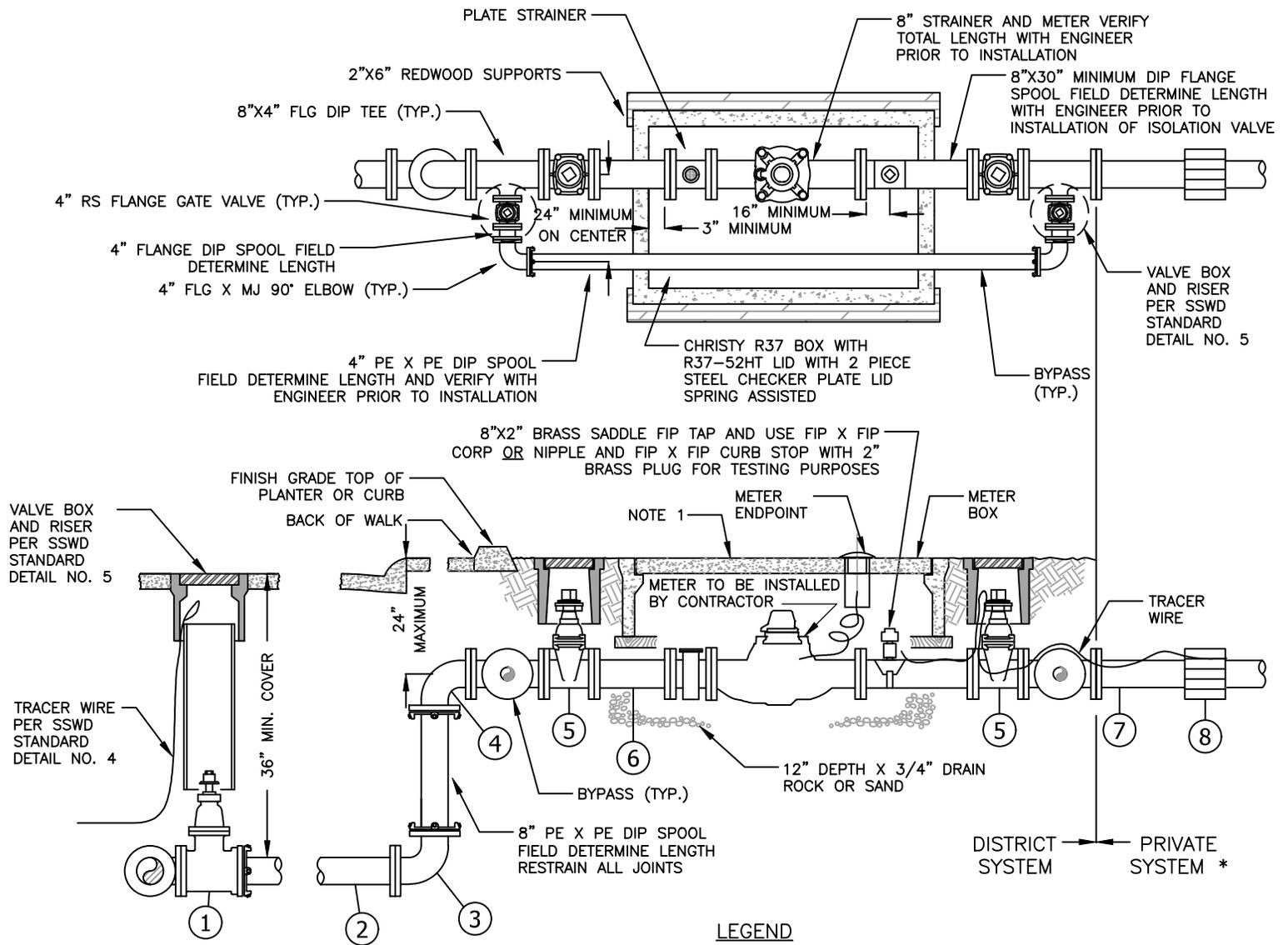


PHONE (916) 972-7171  
 3701 MARCONI AVENUE  
 SUITE 100  
 SACRAMENTO, CA  
 95821-5303

STANDARD DETAIL

**6" SERVICE**

DATE: AUGUST 2018 | STD. DET. NO. 18



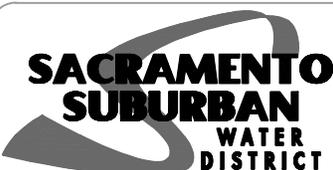
**LEGEND**

- ① 8" FLG X MJ RS GATE VALVE PER TECHNICAL SPECIFICATION 2-1.06 (a)
- ② 8" CLASS 350 DIP FLG X PE SPOOL MINIMUM 12" LENGTH
- ③ 8" FLG 90° ELBOW
- ④ 8" FLG X MJ 90° ELBOW
- ⑤ 8" FLG RS GATE VALVE
- ⑥ 8"x40" FLANGE DIP SPOOL FOR ALL METERS
- ⑦ 8" CLASS 350 DIP FLG X PE SPOOL MINIMUM OF 36"
- ⑧ FLEX COUPLING OR MJ SLEEVE PER SSWD STANDARD DETAIL NO. 21

\* PRIVATE SYSTEM TO CONFORM WITH SACRAMENTO COUNTY STANDARDS.

**NOTES:**

1. METER, STRAINER, AND ENDPOINT TO BE INSTALLED BY CONTRACTOR, PAID FOR BY DEVELOPER AT FURNISHED ONLY FEE.
2. DEVELOPER WILL BE FURNISHED METER AFTER ALL DISTRICT FEES & CHARGES HAVE BEEN PAID.
3. SERVICE LINES PER SSWD STANDARD DETAIL NO. 13, MINIMUM 10' FROM SEWER.
4. USE TEFLON PLUMBERS TAPE & JOINT COMPOUND ON ALL PIPE THREADS.
5. POLYETHYLENE WRAP WILL BE REQUIRED FOR ALL COPPER AND DUCTILE PIPE INSTALLATION. ENCASEMENT MATERIAL AND INSTALLATION METHODS SHALL CONFORM TO AWWA STANDARD C-105.
6. METER BOX IS PART OF DISTRICT SYSTEM.

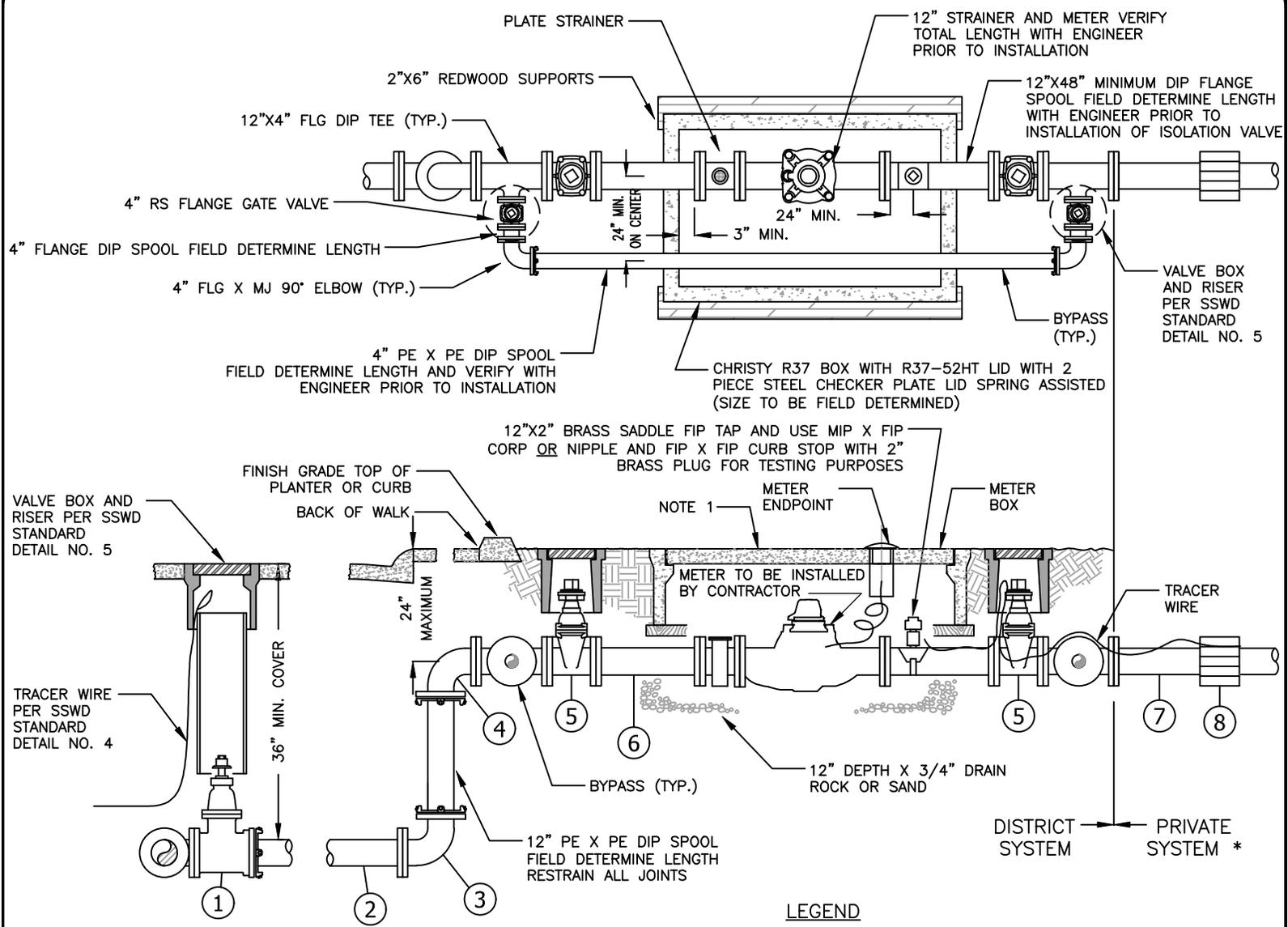


PHONE (916) 972-7171  
 3701 MARCONI AVENUE  
 SUITE 100  
 SACRAMENTO, CA  
 95821-5303

STANDARD DETAIL

**8" SERVICE**

DATE: AUGUST 2018 | STD. DET. NO. 19



**LEGEND**

- ① 12" FLG X MJ RS GATE VALVE PER TECHNICAL SPECIFICATION 2-1.06 (a)
- ② 12" CLASS 350 DIP FLG X PE SPOOL MINIMUM 12" LENGTH
- ③ 12" FLG 90° ELBOW
- ④ 12" FLG X MJ 90° ELBOW
- ⑤ 12" FLG RS GATE VALVE
- ⑥ 12"x60" FLANGE DIP SPOOL FOR ALL METERS
- ⑦ 12" CLASS 350 DIP FLG X PE SPOOL MINIMUM OF 36"
- ⑧ FLEX COUPLING OR MJ SLEEVE PER SSWD STANDARD DETAIL NO. 21

\* PRIVATE SYSTEM TO CONFORM WITH SACRAMENTO COUNTY STANDARDS.

**NOTES:**

1. METER, STRAINER, AND ENDPOINT TO BE INSTALLED BY CONTRACTOR, PAID FOR BY DEVELOPER AT FURNISHED ONLY FEE.
2. DEVELOPER WILL BE FURNISHED METER AFTER ALL DISTRICT FEES & CHARGES HAVE BEEN PAID.
3. SERVICE LINES PER SSWD STANDARD DETAIL NO. 13, MINIMUM 10' FROM SEWER.
4. USE TEFLON PLUMBERS TAPE & JOINT COMPOUND ON ALL PIPE THREADS.
5. POLYETHYLENE WRAP WILL BE REQUIRED FOR ALL COPPER AND DUCTILE PIPE INSTALLATION. ENCASEMENT MATERIAL AND INSTALLATION METHODS SHALL CONFORM TO AWWA STANDARD C-105.
6. METER BOX IS PART OF DISTRICT SYSTEM.

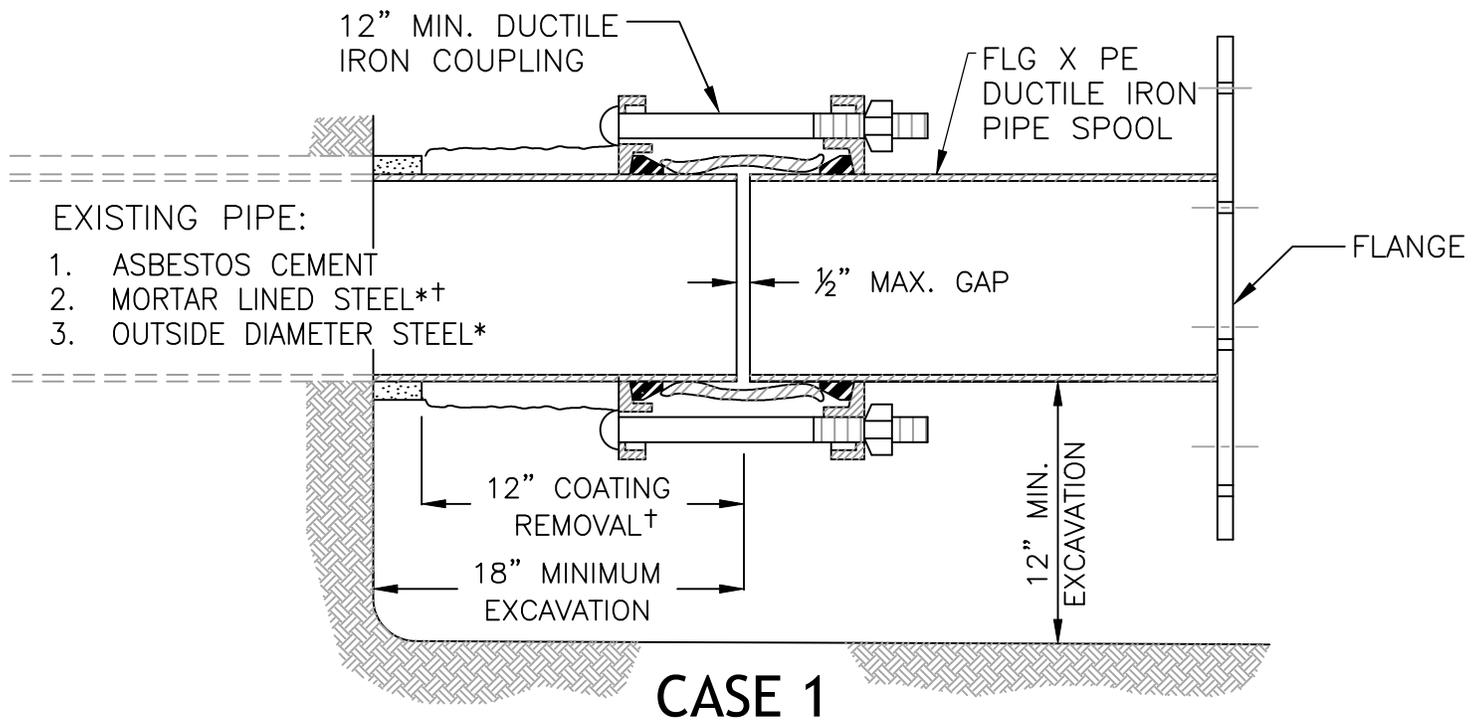


PHONE (916) 972-7171  
 3701 MARCONI AVENUE  
 SUITE 100  
 SACRAMENTO, CA  
 95821-5303

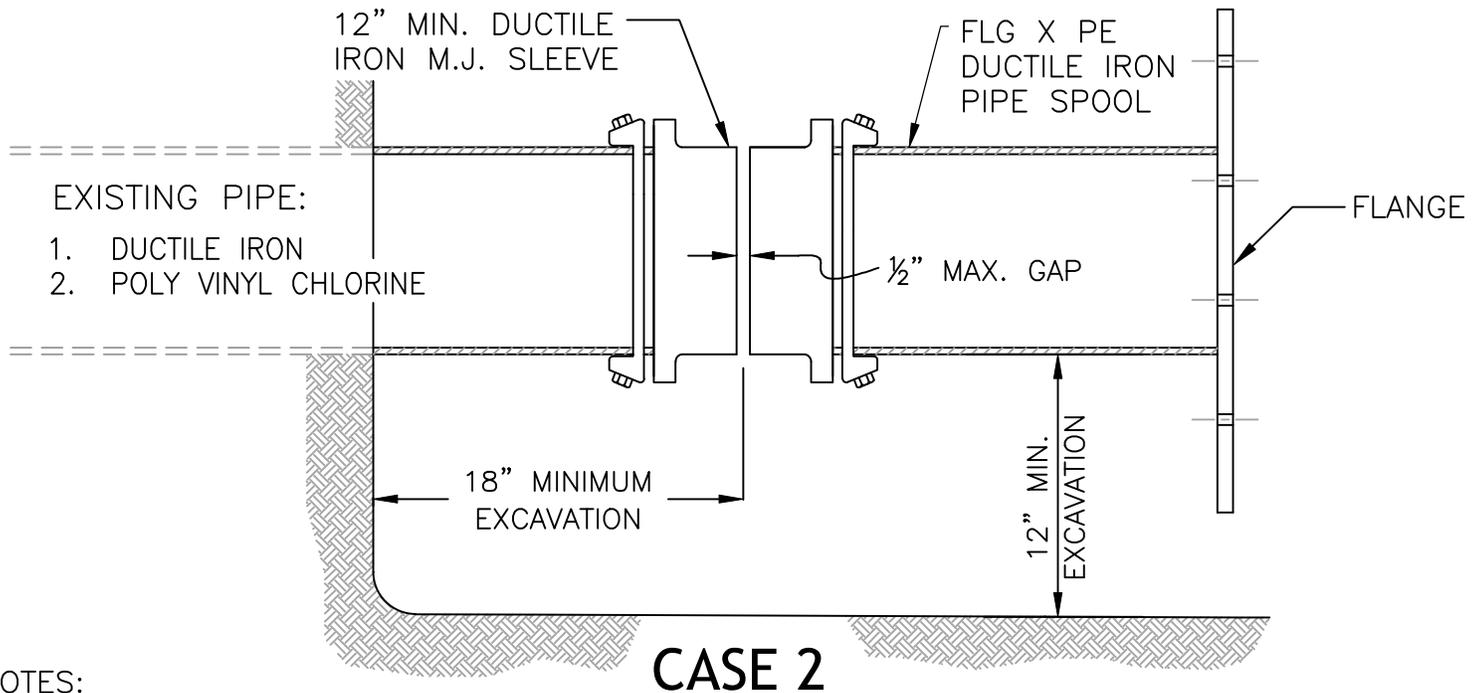
STANDARD DETAIL

**12" SERVICE**

DATE: AUGUST 2018 | STD. DET. NO. 20



\* PRIMER, MASTIC, AND GROUT ARE REQUIRED PER TECHNICAL SPECIFICATION 2-1.09.



**NOTES:**

1. PIPE TO BE CUT IN CONFORMANCE WITH DIVISION OF INDUSTRIAL SAFETY REQUIREMENTS.
2. INSTALL POLY WRAP PER TECHNICAL SPECIFICATION 2-1.03.
3. COUPLINGS AND SLEEVES SHALL BE PER TECHNICAL SPECIFICATION 2-1.09.
4. PIPE TRENCH PER SSWD STANDARD DETAIL NO. 3.

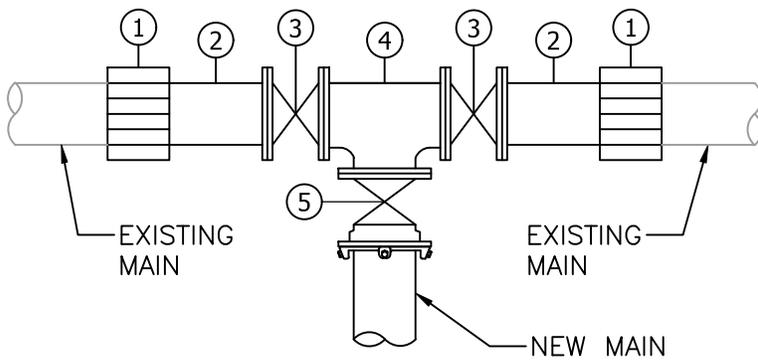


PHONE (916) 972-7171  
 3701 MARCONI AVENUE  
 SUITE 100  
 SACRAMENTO, CA  
 95821-5303

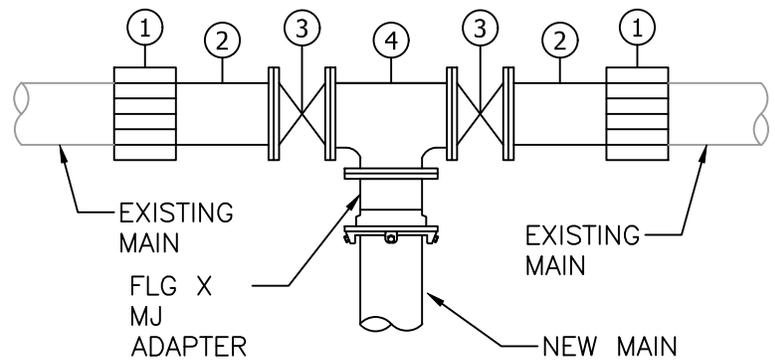
STANDARD DETAIL

## TIE-IN CONNECTION

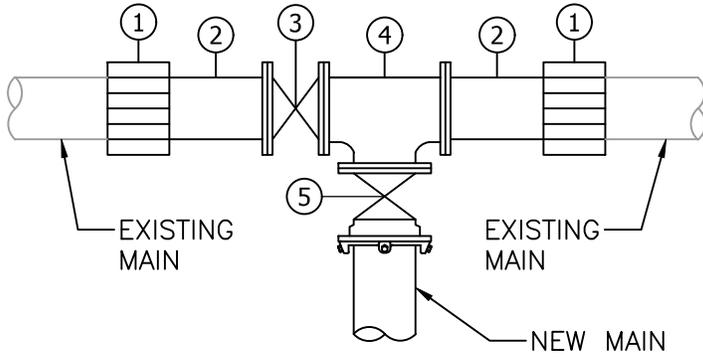
DATE: AUGUST 2018 | STD. DET. NO. 21



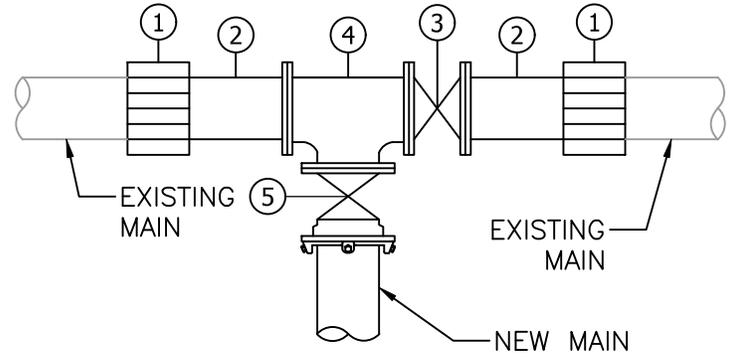
CASE 1



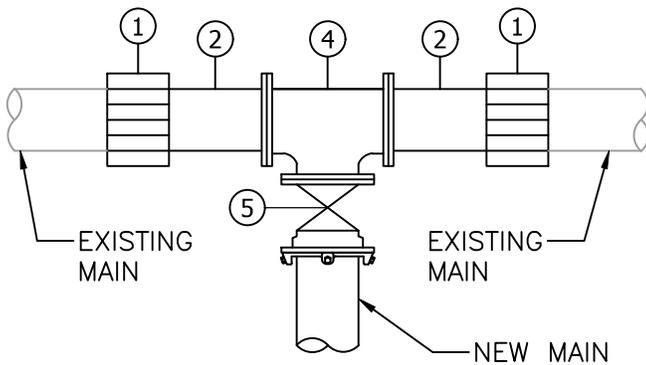
CASE 2



CASE 3



CASE 4



CASE 5

**NOTES:**

1. TIE-INS PER SSWD STANDARD DETAIL NO. 21.
2. VALVE BOX AND RISER PER SSWD STANDARD DETAIL NO. 5.
3. THRUST BLOCK AT EVERY TEE PER SSWD STANDARD DETAIL NO. 10.
4. RESTRAINED JOINTS ON NEW MAINLINE PER SSWD STANDARD DETAIL NO. 11.
5. ALL PAVEMENT RESTORATION SHALL COMPLY WITH SACRAMENTO COUNTY ENCROACHMENT PERMIT AND DISTRICT REQUIREMENTS.
6. TEE OR CROSS SHALL BE SIZED TO MATCH THE LARGEST SIZE MAIN CONNECTING TO IT.

**LEGEND**

- ① FLEX COUPLING OR MJ SLEEVE
- ② FLG X PE DIP SPOOL, 36" MIN. LENGTH
- ③ FLG VALVE
- ④ FLG TEE
- ⑤ FLG X MJ VALVE

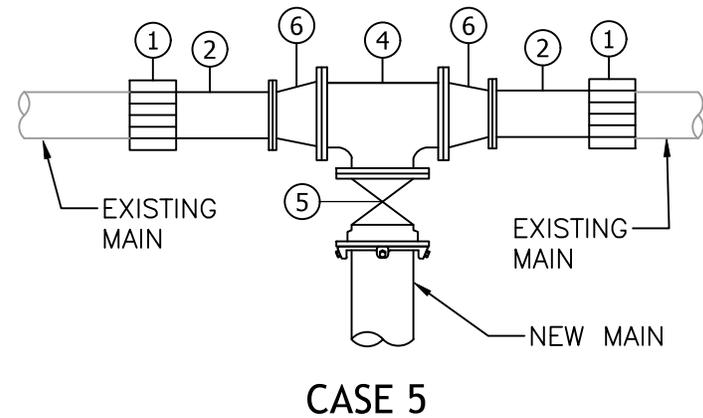
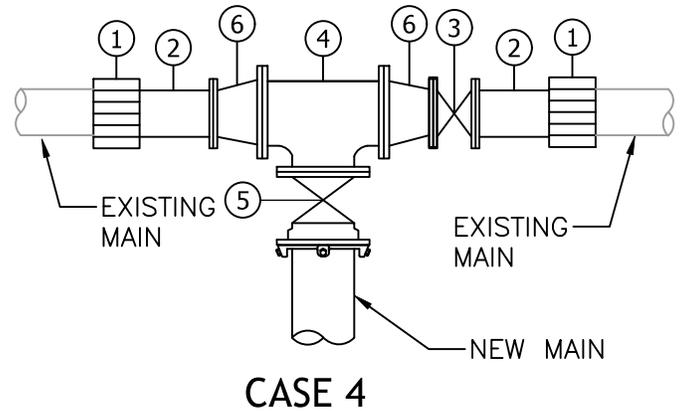
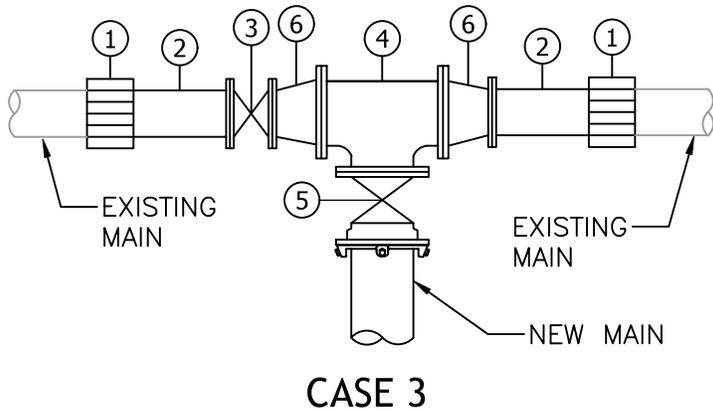
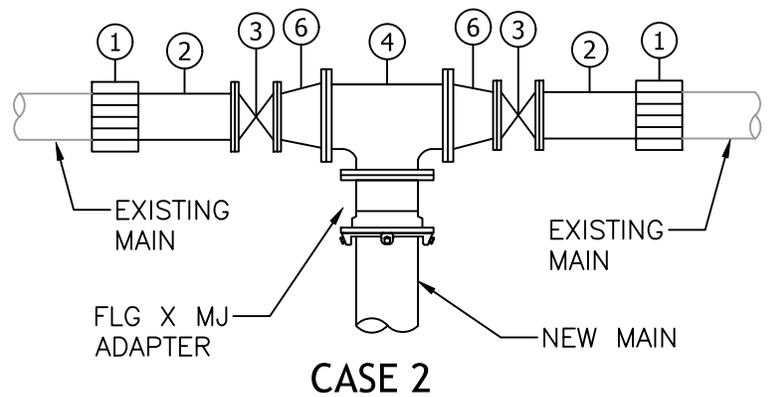
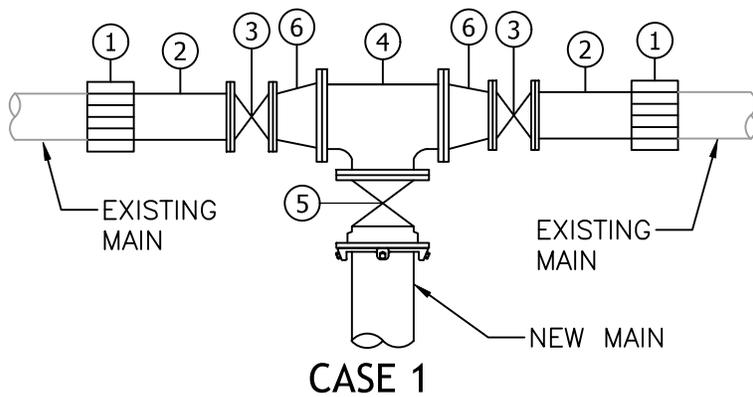


PHONE (916) 972-7171  
3701 MARCONI AVENUE  
SUITE 100  
SACRAMENTO, CA  
95821-5303

STANDARD DETAIL

**TIE-IN WITH TEE**

DATE: AUGUST 2018 | STD. DET. NO. 22



**NOTES:**

1. TIE-INS PER SSWD STANDARD DETAIL NO. 21.
2. VALVE BOX AND RISER PER SSWD STANDARD DETAIL NO. 5.
3. THRUST BLOCK AT EVERY TEE PER SSWD STANDARD DETAIL NO. 10.
4. RESTRAINED JOINTS ON NEW MAINLINE PER SSWD STANDARD DETAIL NO. 11.
5. ALL PAVEMENT RESTORATION SHALL COMPLY WITH SACRAMENTO COUNTY ENCROACHMENT PERMIT AND DISTRICT REQUIREMENTS.
6. TEE OR CROSS SHALL BE SIZED TO MATCH THE LARGEST SIZE MAIN CONNECTING TO IT.

**LEGEND**

- ① FLEX COUPLING OR MJ SLEEVE
- ② FLG X PE DIP SPOOL, 36" MIN. LENGTH
- ③ FLG VALVE
- ④ FLG TEE
- ⑤ FLG X MJ VALVE
- ⑥ FLG REDUCER

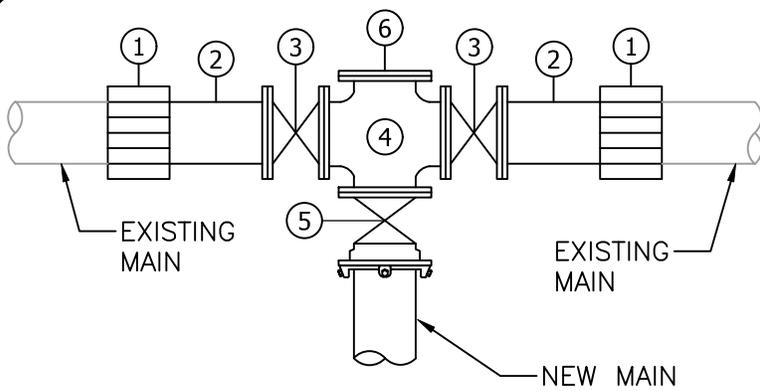


PHONE (916) 972-7171  
 3701 MARCONI AVENUE  
 SUITE 100  
 SACRAMENTO, CA  
 95821-5303

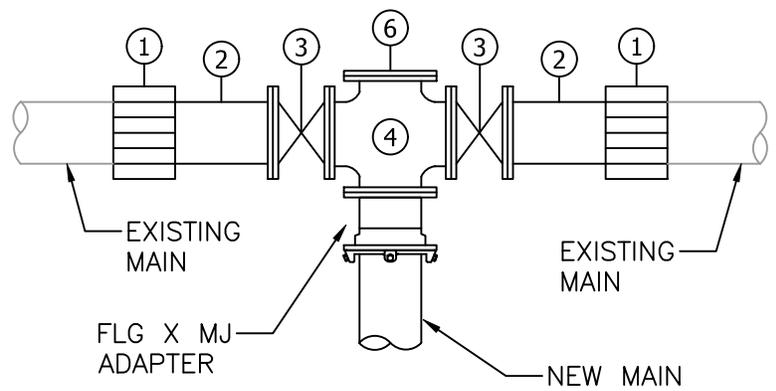
STANDARD DETAIL

**TIE-IN WITH TEE INCREASING MAIN**

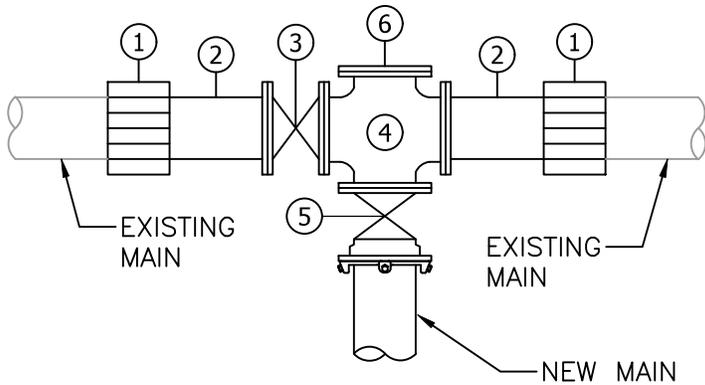
DATE: AUGUST 2018 | STD. DET. NO. 23



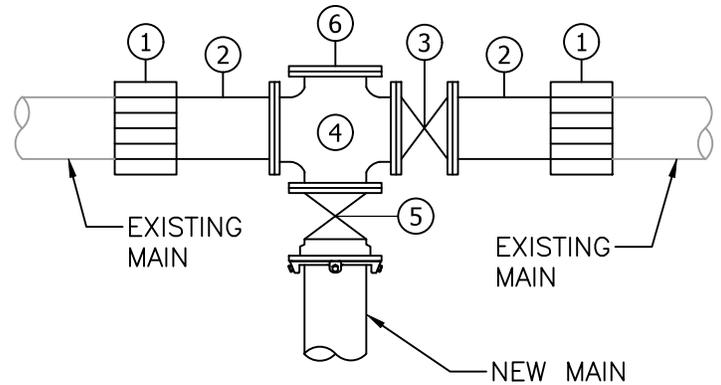
CASE 1



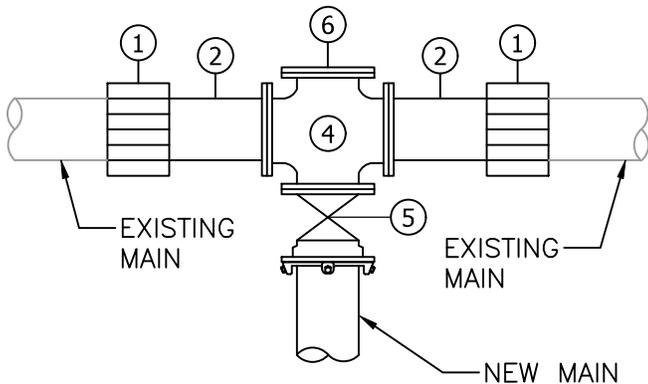
CASE 2



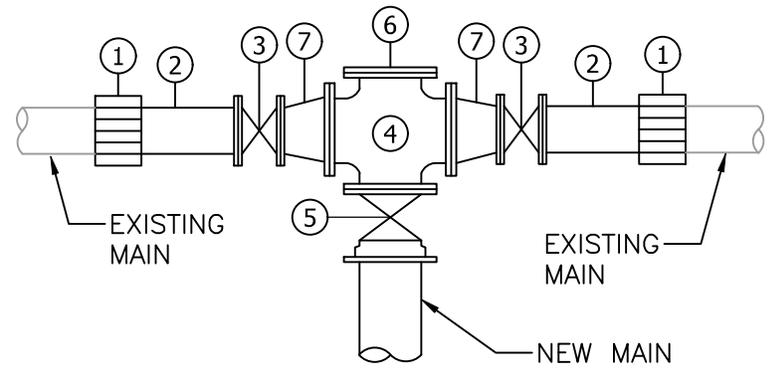
CASE 3



CASE 4



CASE 5



CASE 6

**NOTES:**

1. TIE-INS PER SSWD STANDARD DETAIL NO. 21.
2. VALVE BOX AND RISER PER SSWD STANDARD DETAIL NO. 5.
3. THRUST BLOCK AT EVERY BLIND FLANGE PER SSWD STANDARD DETAIL NO. 10.
4. RESTRAINED JOINTS ON NEW MAINLINE PER SSWD STANDARD DETAIL NO. 11.
5. ALL PAVEMENT RESTORATION SHALL COMPLY WITH SACRAMENTO COUNTY ENCROACHMENT PERMIT AND DISTRICT REQUIREMENTS.
6. CROSS SHALL BE SIZED TO MATCH THE LARGEST SIZE MAIN CONNECTING TO IT.

**LEGEND**

- ① FLEX COUPLING OR MJ SLEEVE
- ② FLG X PE DIP SPOOL, 36" MIN. LENGTH
- ③ FLG VALVE
- ④ FLG CROSS
- ⑤ FLG X MJ VALVE
- ⑥ BLIND FLANGE
- ⑦ FLG REDUCER

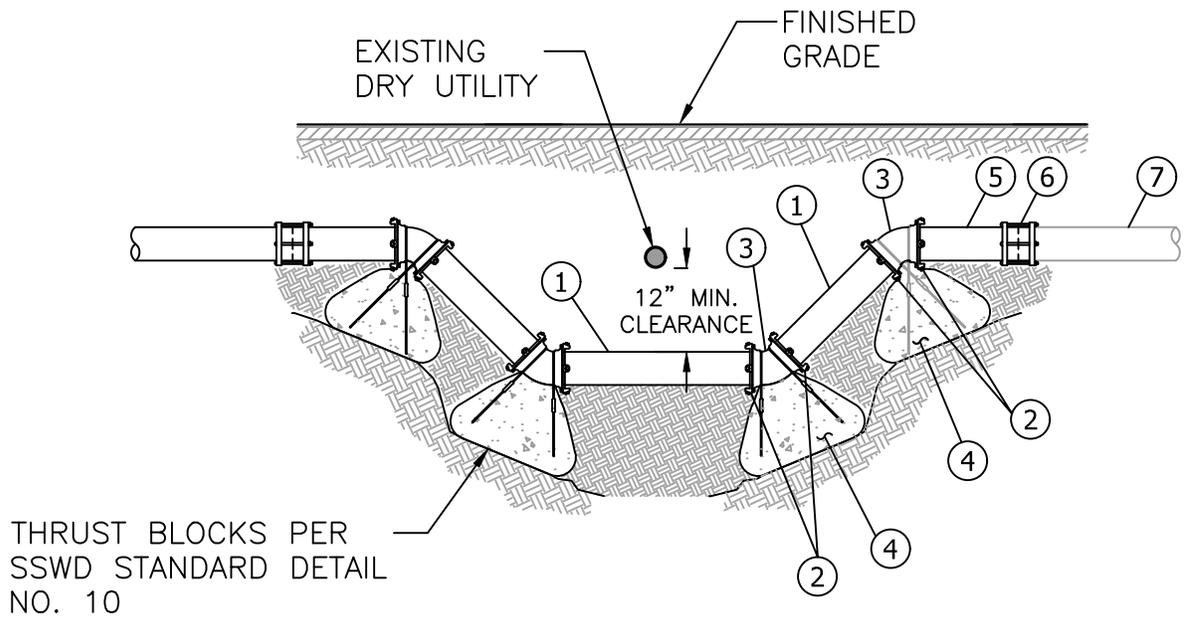


PHONE (916) 972-7171  
 3701 MARCONI AVENUE  
 SUITE 100  
 SACRAMENTO, CA  
 95821-5303

STANDARD DETAIL

**TIE-IN WITH CROSS**

DATE: AUGUST 2018 | STD. DET. NO. 24



## WATER PIPE CROSSING

LEGEND:

- ① DIP WATER MAIN (FIELD DETERMINE LENGTH, MINIMUM LENGTH: PIPE O.D. + 48")
- ② MEGA-LUG RESTRAINTS
- ③ 45° MJ ELBOW
- ④ THRUST BLOCK WITH 2-#5 REBAR STRAPS EACH THRUST BLOCK (AT SSWD INSPECTOR'S DISCRETION) PER SSWD STANDARD DETAIL NO. 10
- ⑤ DIP WATER MAIN (MIN. LENGTH 36")
- ⑥ FLEX COUPLING OR MJ SLEEVE PER SSWD STANDARD DETAIL NO. 21
- ⑦ EXISTING WATER MAIN

NOTES:

- 1. WRAP ALL FITTINGS & PIPE PER TECHNICAL SPECIFICATIONS.
- 2. THIS DETAIL IS FOR CONNECTION TO EXISTING PIPELINES ONLY. **METHOD NOT APPLICABLE FOR NEW INSTALLATIONS.**

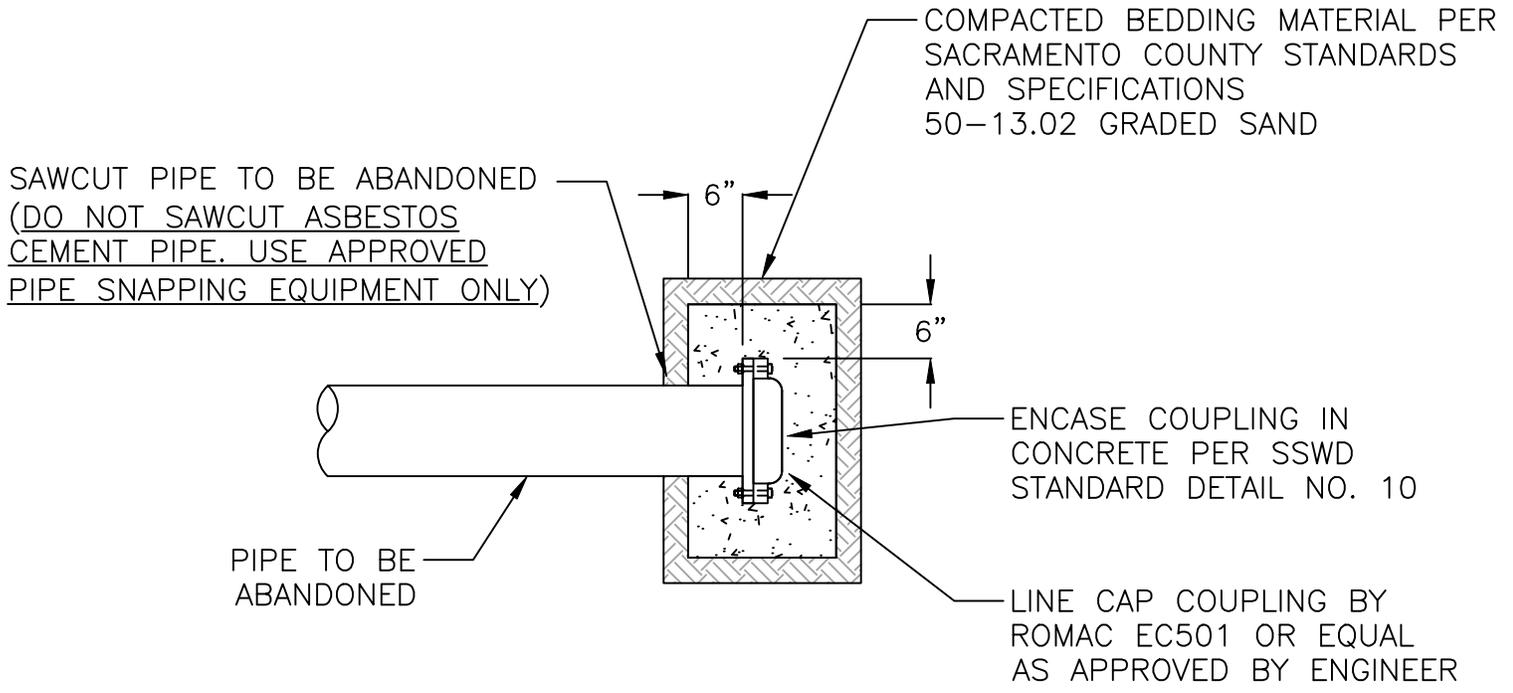


PHONE (916) 972-7171  
 3701 MARCONI AVENUE  
 SUITE 100  
 SACRAMENTO, CA  
 95821-5303

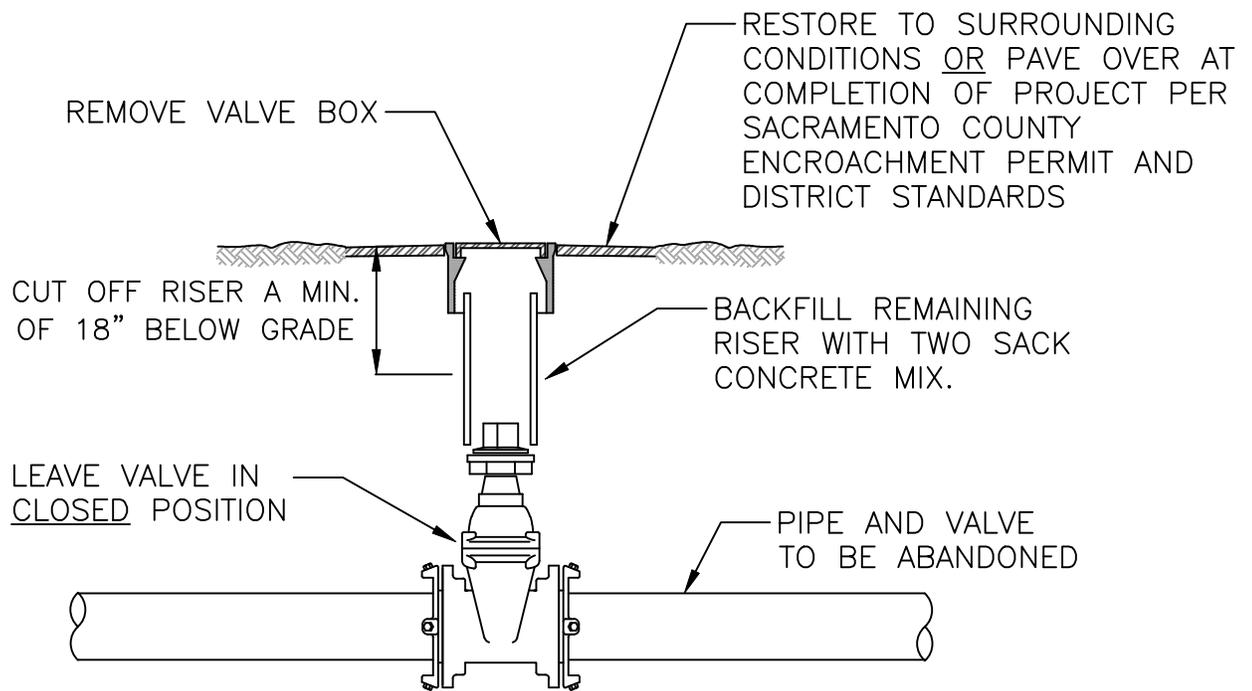
STANDARD DETAIL

### CROSSING EXISTING DRY UTILITY

DATE: AUGUST 2018 | STD. DET. NO. 25



## PIPE ABANDONMENT



## VALVE BOX AND RISER ABANDONMENT

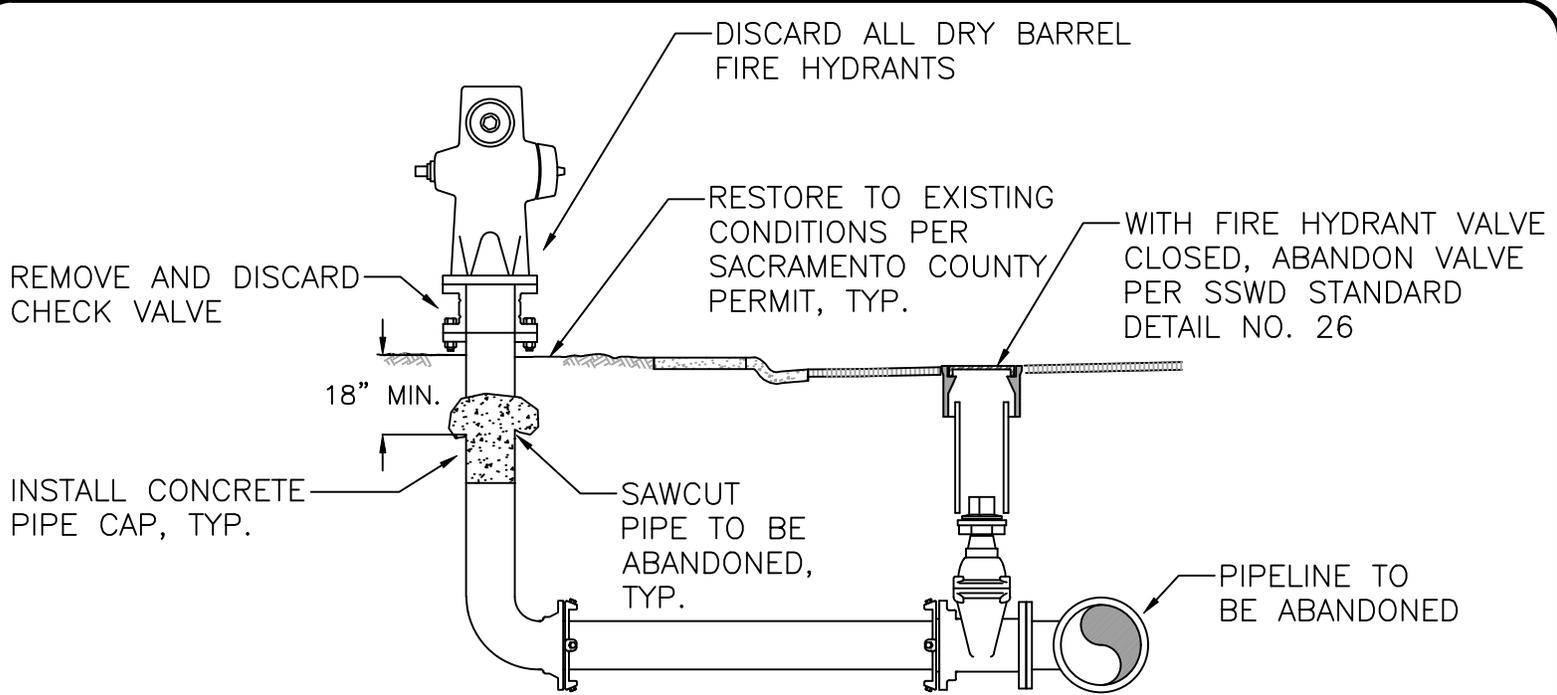


PHONE (916) 972-7171  
3701 MARCONI AVENUE  
SUITE 100  
SACRAMENTO, CA  
95821-5303

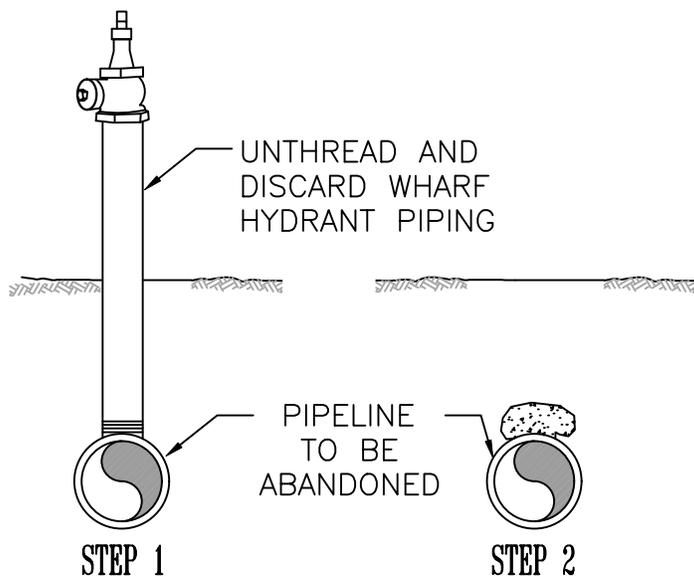
STANDARD DETAIL

## PIPE AND VALVE ABANDONMENT

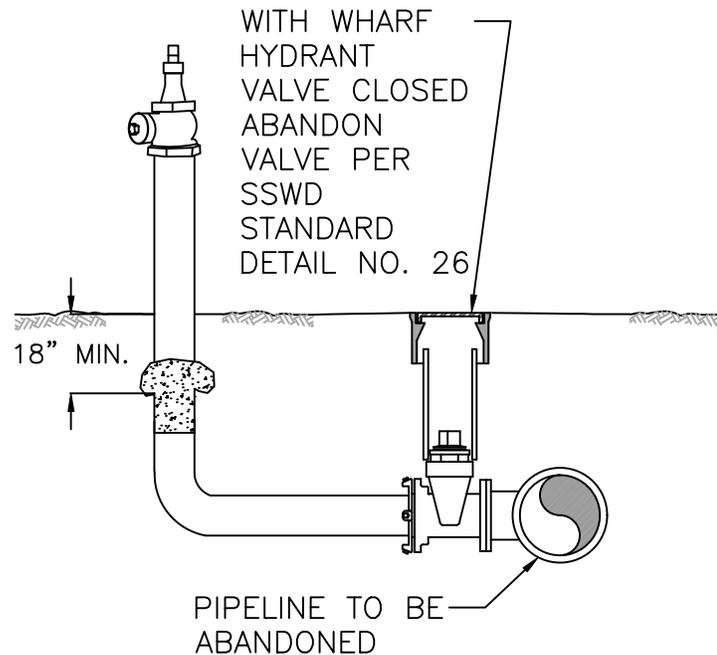
DATE: AUGUST 2018 | STD. DET. NO. 26



**STEAMER FIRE HYDRANT**



**WHARF FIRE HYDRANT CASE 1**



**WHARF FIRE HYDRANT CASE 2**

NOTES

1. FIRE HYDRANT TEMPORARILY TAKEN OUT OF SERVICES SHALL BE BAGGED WITH "OUT OF SERVICE".
2. REMOVE ALL WET BARREL FIRE HYDRANTS AND WHARF FIRE HYDRANT HEADS AND RETURN TO SSWD.
3. FIRE HYDRANT AND ANY ASSOCIATED VALVE MUST BE LEFT OPEN TO ATMOSPHERE FOR A MINIMUM OF 3 WORKING DAYS PRIOR TO ABANDONMENT.

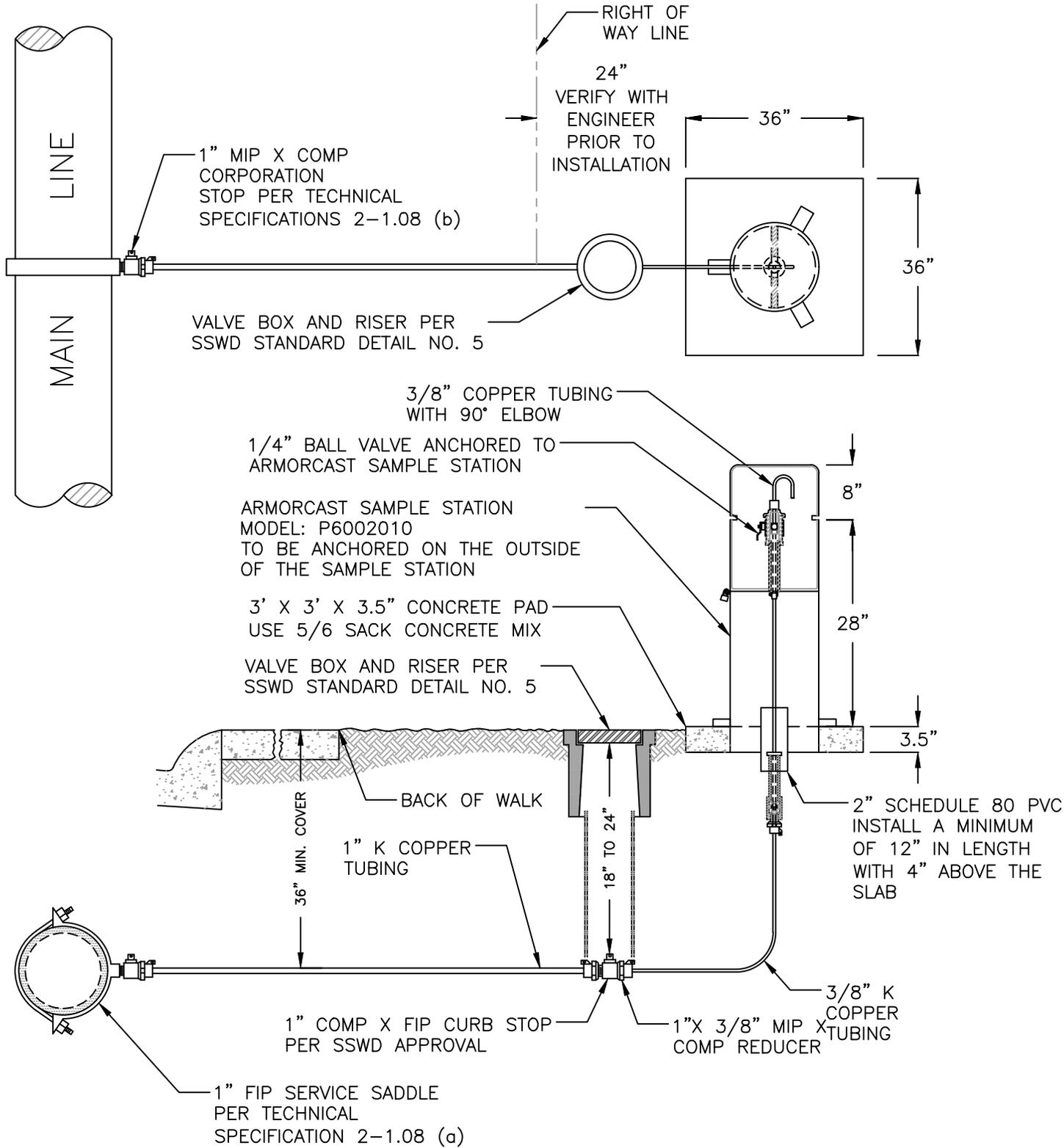


PHONE (916) 972-7171  
 3701 MARCONI AVENUE  
 SUITE 100  
 SACRAMENTO, CA  
 95821-5303

STANDARD DETAIL

**FIRE HYDRANT ABANDONMENT**

DATE: AUGUST 2018 | STD. DET. NO. 27



**NOTES:**

1. POLYETHYLENE ENCASEMENT WILL BE REQUIRED FOR ALL COPPER PIPE INSTALLATION. ENCASEMENT MATERIAL AND INSTALLATION METHODS SHALL CONFORM TO AWWA STANDARD C-105.
2. INSTALL GUARD POSTS PER SSWD STANDARD DETAIL NO. 7.



PHONE (916) 972-7171  
 3701 MARCONI AVENUE  
 SUITE 100  
 SACRAMENTO, CA  
 95821-5303

STANDARD DETAIL

**SAMPLE STATION**

DATE: AUGUST 2018 | STD. DET. NO. 28