



# Standard Drawings

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**Walnut Valley Water District**  
*271 S Brea Canyon Road*  
*Walnut, CA 91789*  
*(909) 595-7554*



## SECTION 6

### STANDARD DRAWINGS

JUNE 2011

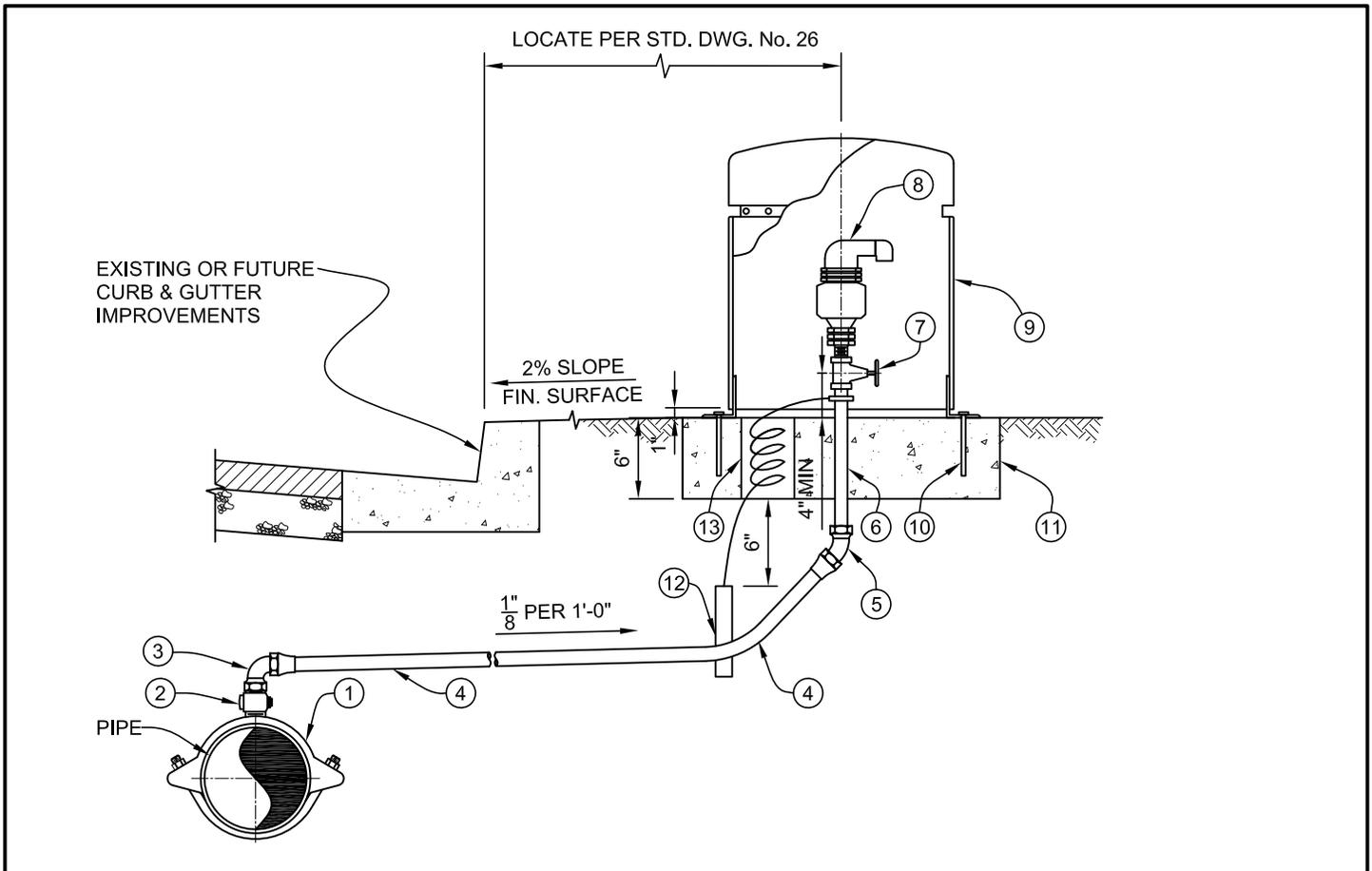
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Revisions:

- Standard Drawings No. 16.R & 18.R added. 01/31/11
- Plastic combination air valve from A.R.I. replaced metal combination air/vac. 06/14/11
- Cover w/ ORION recess & reading lid replaced solid cover for Std. Drawings 16, 16.A, 16.R, 18, 18.A & 18.R. 06/14/11
- Cover & reading lid replaced solid cover for Std. Drawings 3, 3.A, 20A & 20B. 06/14/11

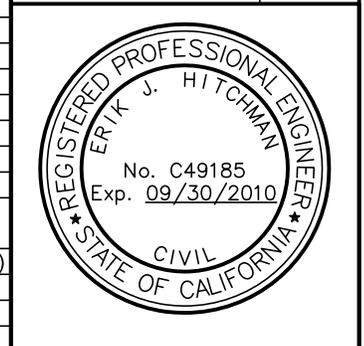


**NOTES:**

1. ITEM No. 12 SHALL BE FURNISHED AND INSTALLED BY INSTALLATION CONTRACTOR.
2. FOR RECYCLED WATER SYSTEM, THE AIR/VAC. HOUSING SHALL BE MANUFACTURED WITH A PURPLE STRIP.
3. FOR RECYCLED WATER SYSTEM, INSTALLATION CONTRACTOR SHALL WRAP RECYCLED WARNING TAPE AROUND COPPER TUBING - TAPE SHALL BE FURNISHED BY THE DISTRICT.
4. FOR CONNECTION TO STEEL PIPE, SEE STANDARD DRAWING No. 5.
5. FOR DIRECT TAP, SEE STANDARD DRAWING NO. 17.
6. WHERE STREET DOES NOT HAVE NORMAL CURB, INSTALLATION CONTRACTOR SHALL FURNISH AND INSTALL GUARD POST PER STD. DWG. No. 27.
7. SADDLE, CORPORATION STOP, AND COPPER TUBE SHALL BE WRAPPED WITH POLYETHYLENE FILM A MINIMUM OF 3 FEET FROM THE WATER MAIN.
8. 12" AND SMALLER SADDLE SHALL BE SINGLE STRAP, LARGER THAN 12" SHALL BE DOUBLE STRAP.
9. ALL TUBING, VALVES AND FITTINGS SHALL BE "LEAD FREE" CONTAINING NO MORE THAN 0.25% OF LEAD CONTENT BY WEIGHT.

| REVISIONS |    |
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| 06/14/11  | TD |
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| ITEM | QUAN. | DESCRIPTION   |
|------|-------|---|
| 1    | 1     | BRONZE SERVICE SADDLE WITH 1" TAP   |
| 2    | 1     | 1" BRONZE CORPORATION STOP, M.I.P. x FLARE  |
| 3    | 1     | 1"-90° COPPER BEND, F.C.T x FLARE   |
| 4    | -     | 1" COPPER TUBING, TYPE K SOFT   |
| 5    | 1     | 1"-45° COPPER BEND, F.I.P. x FLARE  |
| 6    | 1     | 1" x 18" BRASS NIPPLE   |
| 7    | 1     | 1" BRONZE GATE VALVE  |
| 8    | 1     | 1" COMBINATION AIR VALVE W/ 1" MALE NPT INLET, STD. 3-250 psi (ARI D-40-PO1W-S)           |
| 9    | 1     | 20" DIA. x 20"H AIR & VACUUM VALVE HOUSING WITH SANDSTONE FINISH (ARMORCAST P6002002-SND) |
| 10   | 3     | 1/2" DIA. x 3-3/4" ZINC PLATED WEDGE TYPE EXPANSION ANCHOR (RED HEAD TRUBOLT)             |
| 11   | -     | 6" x 32" x 32" CONCRETE BASE PAD, POUR IN PLACE   |
| 12   | 1     | ZINC ANODE  |
| 13   | 1     | 4" DIA. P.V.C. PIPE, 8" LONG  |

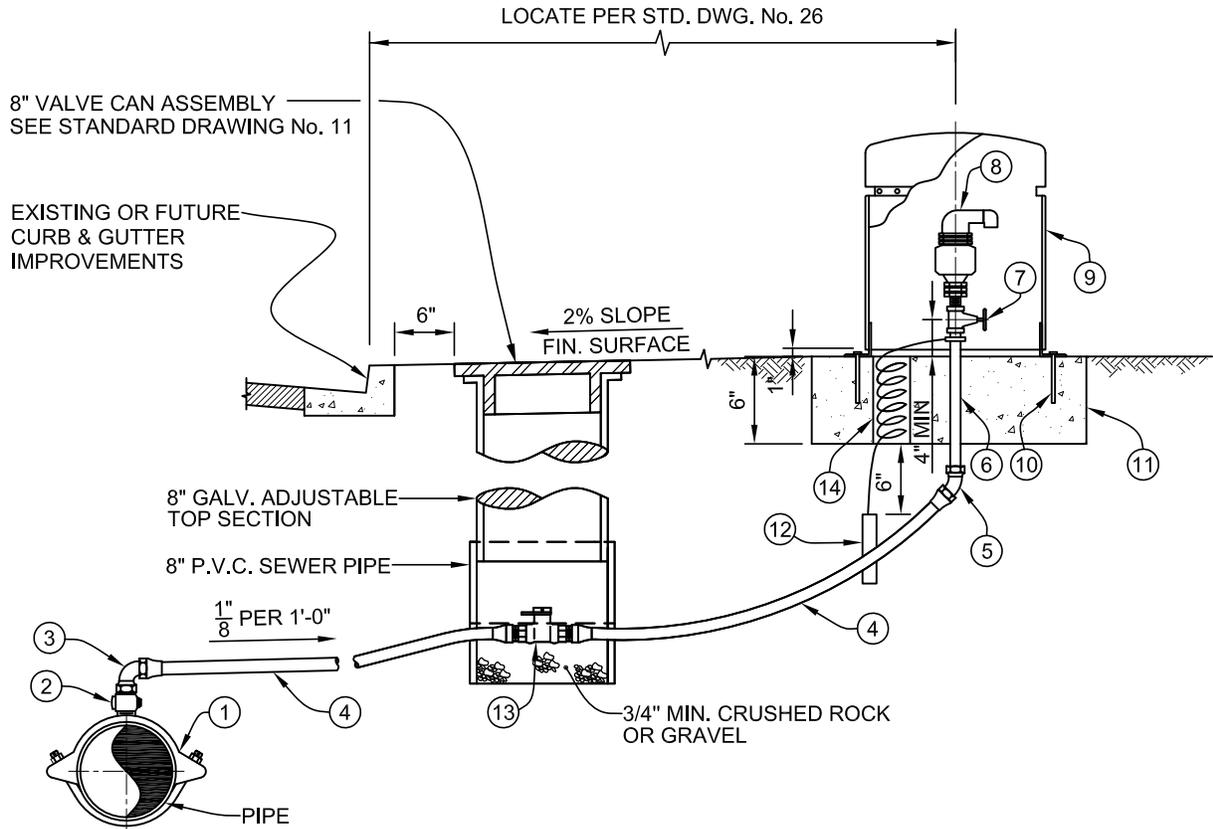


**WALNUT VALLEY WATER DISTRICT**

APPROVED BY:  
  
 DRAWN BY: TD/ML

**1" COMBINATION AIR VALVE ASSEMBLY**

STANDARD DRAWING No.  
1  
 DATE: 02/05/10



**NOTES:**

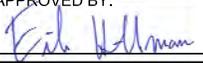
1. ITEM No. 12 SHALL BE FURNISHED AND INSTALLED BY INSTALLATION CONTRACTOR.
2. FOR RECYCLED WATER SYSTEM, THE AIR/VAC. HOUSING SHALL BE MANUFACTURED WITH A PURPLE STRIP.
3. FOR RECYCLED WATER SYSTEM, INSTALLATION CONTRACTOR SHALL WRAP RECYCLED WARNING TAPE AROUND COPPER TUBING - TAPE SHALL BE FURNISHED BY THE DISTRICT.
4. FOR CONNECTION TO STEEL PIPE, SEE STANDARD DRAWING No. 5.
5. FOR DIRECT TAP, SEE STANDARD DRAWING NO. 17.
6. WHERE STREET DOES NOT HAVE NORMAL CURB, INSTALLATION CONTRACTOR SHALL FURNISH AND INSTALL GUARD POST PER STD. DWG. No. 27.
7. SADDLE, CORPORATION STOP, AND COPPER TUBE SHALL BE WRAPPED WITH POLYETHYLENE FILM A MINIMUM OF 3 FEET FROM THE WATER MAIN.
8. 12" AND SMALLER SADDLE SHALL BE SINGLE STRAP, LARGER THAN 12" SHALL BE DOUBLE STRAP.
9. ALL TUBING, VALVES AND FITTINGS SHALL BE "LEAD FREE" CONTAINING NO MORE THAN 0.25% OF LEAD CONTENT BY WEIGHT.

| REVISIONS |    |
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| ITEM | QUAN. | DESCRIPTION   |
|------|-------|---|
| 1    | 1     | BRONZE SERVICE SADDLE WITH 1" TAP   |
| 2    | 1     | 1" BRONZE CORPORATION STOP, M.I.P. x FLARE  |
| 3    | 1     | 1"-90° COPPER BEND, F.C.T x FLARE   |
| 4    | -     | 1" COPPER TUBING, TYPE K SOFT   |
| 5    | 1     | 1"-45° COPPER BEND, F.I.P. x FLARE  |
| 6    | 1     | 1" x 18" BRASS NIPPLE   |
| 7    | 1     | 1" BRONZE GATE VALVE  |
| 8    | 1     | 1" COMBINATION AIR VALVE W/ 1" MALE NPT INLET, STD. 3-250 psi (A.R.I. D-40-PO1W-S)        |
| 9    | 1     | 20" DIA. x 20"H AIR & VACUUM VALVE HOUSING WITH SANDSTONE FINISH (ARMORCAST P6002002-SND) |
| 10   | 3     | 1/2" DIA. x 3-3/4" ZINC PLATED WEDGE TYPE EXPANSION ANCHOR (RED HEAD TRUBOLT)             |
| 11   | -     | 6" x 32" x 32" CONCRETE BASE PAD, POUR IN PLACE   |
| 12   | 1     | ZINC ANODE  |
| 13   | 1     | BALL VALVE CURB STOP, FLARE x FLARE   |
| 14   | 1     | 4" P.V.C. PIPE, 8" LONG   |

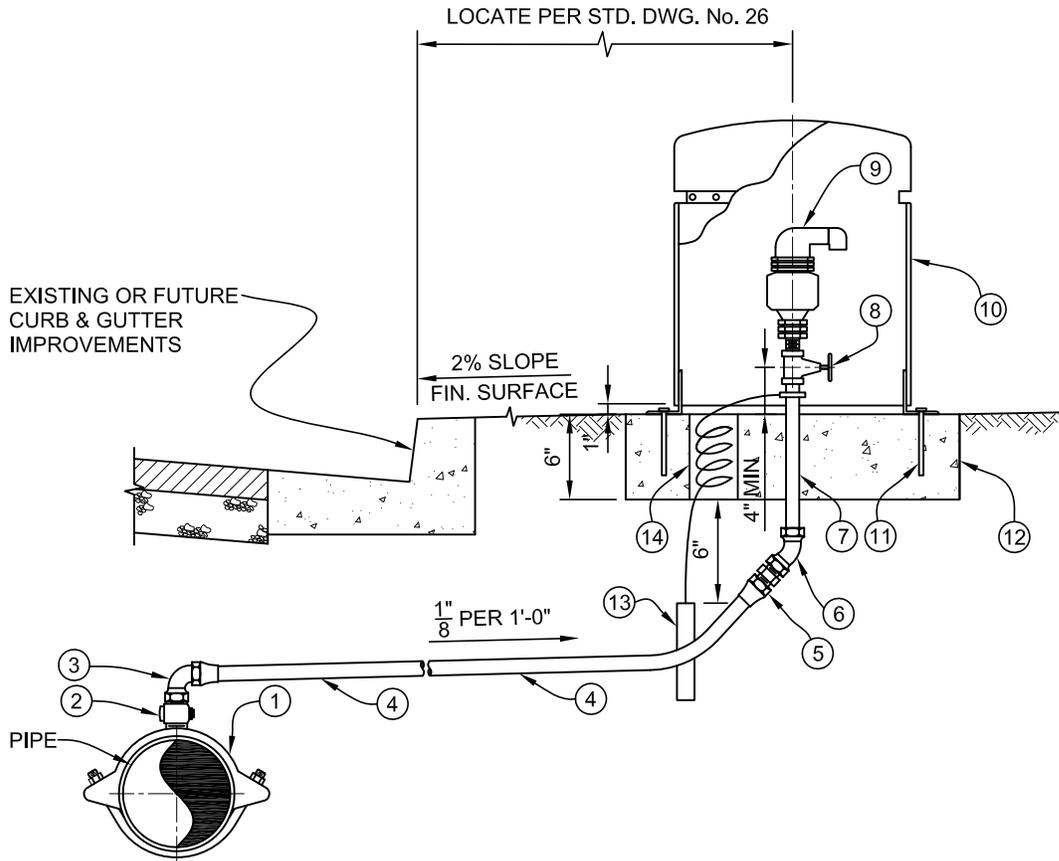


**WALNUT VALLEY WATER DISTRICT**

APPROVED BY:  
  
 DRAWN BY: TD/ML

1" MODIFIED COMBINATION AIR VALVE ASSEMBLY

STANDARD DRAWING No.  
 1.A  
 DATE: 02/05/10



**NOTES:**

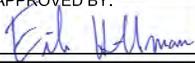
1. ITEM No. 13 SHALL BE FURNISHED AND INSTALLED BY INSTALLATION CONTRACTOR.
2. FOR RECYCLED WATER SYSTEM, THE AIR/VAC. HOUSING SHALL BE MANUFACTURED WITH A PURPLE STRIP.
3. FOR RECYCLED WATER SYSTEM, INSTALLATION CONTRACTOR SHALL WRAP RECYCLED WARNING TAPE AROUND COPPER TUBING - TAPE SHALL BE FURNISHED BY THE DISTRICT.
4. FOR CONNECTION TO STEEL PIPE, SEE STANDARD DRAWING No. 5.
5. FOR DIRECT TAP, SEE STANDARD DRAWING NO. 17.
6. WHERE STREET DOES NOT HAVE NORMAL CURB, INSTALLATION CONTRACTOR SHALL FURNISH AND INSTALL GUARD POST PER STD. DWG. No. 27.
7. SADDLE, CORPORATION STOP, AND COPPER TUBE SHALL BE WRAPPED WITH POLYETHYLENE FILM A MINIMUM OF 3 FEET FROM THE WATER MAIN.
8. ALL TUBING, VALVES AND FITTINGS SHALL BE "LEAD FREE" CONTAINING NO MORE THAN 0.25% OF LEAD CONTENT BY WEIGHT.

| REVISIONS |    |
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| ITEM | QUAN. | DESCRIPTION   |
|------|-------|---|
| 1    | 1     | BRONZE SERVICE SADDLE WITH 2" TAP   |
| 2    | 1     | 2" BRONZE CORPORATION STOP, M.I.P. x FLARE  |
| 3    | 1     | 2"-90° COPPER BEND, F.C.T x FLARE   |
| 4    | -     | 2" COPPER TUBING, TYPE K SOFT   |
| 5    | 1     | 2" COPPER COUPLING, M.I.P. x FLARE  |
| 6    | 1     | 2"-45° COPPER BEND, F.I.P. x F.I.P.   |
| 7    | 1     | 2" x 18" BRASS NIPPLE   |
| 8    | 1     | 2" BRONZE GATE VALVE  |
| 9    | 1     | 2" COMBINATION AIR VALVE W/ 2" MALE NPT INLET, STD. 3-250 psi (ARI D-40-PO2W-S)           |
| 10   | 1     | 24" DIA. x 24"H AIR & VACUUM VALVE HOUSING WITH SANDSTONE FINISH (ARMORCAST P6002001-SND) |
| 11   | 3     | 1/2" DIA. x 3-3/4" ZINC PLATED WEDGE TYPE EXPANSION ANCHOR (RED HEAD TRUBOLT)             |
| 12   | -     | 6" x 32" x 32" CONCRETE BASE PAD, POUR IN PLACE   |
| 13   | 1     | ZINC ANODE  |
| 14   | 1     | 4" DIA. P.V.C. PIPE, 8" LONG  |

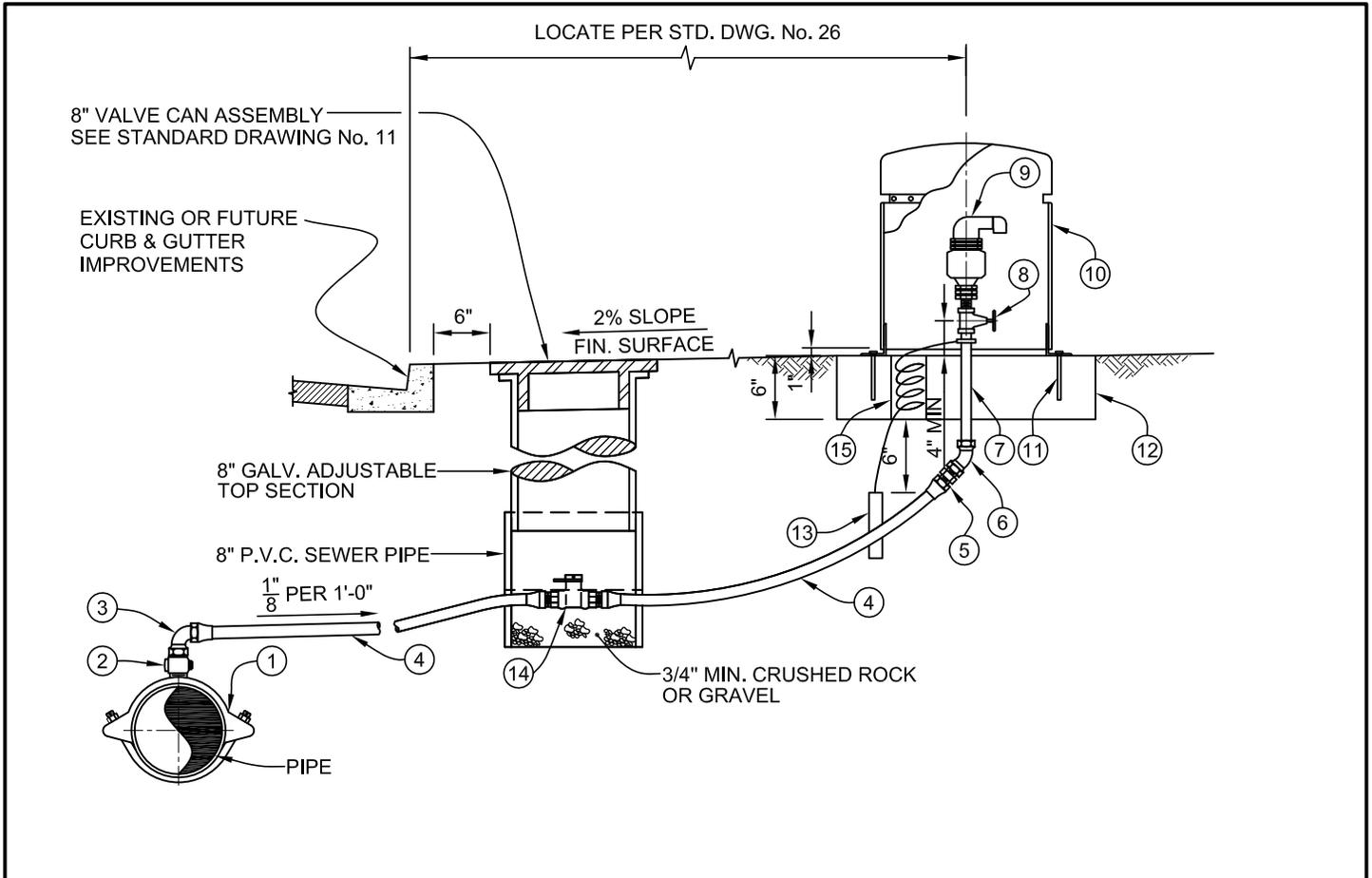


**WALNUT VALLEY WATER DISTRICT**

APPROVED BY:  
  
 DRAWN BY: TD/ML

2" COMBINATION AIR VALVE ASSEMBLY

STANDARD DRAWING No.  
 1A  
 DATE: 02/05/10



**NOTES:**

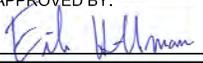
1. ITEM No. 13 SHALL BE FURNISHED AND INSTALLED BY INSTALLATION CONTRACTOR.
2. FOR RECYCLED WATER SYSTEM, THE AIR/VAC. HOUSING SHALL BE MANUFACTURED WITH A PURPLE STRIP.
3. FOR RECYCLED WATER SYSTEM, INSTALLATION CONTRACTOR SHALL WRAP RECYCLED WARNING TAPE AROUND COPPER TUBING - TAPE SHALL BE FURNISHED BY THE DISTRICT.
4. FOR CONNECTION TO STEEL PIPE, SEE STANDARD DRAWING No. 5.
5. FOR DIRECT TAP, SEE STANDARD DRAWING NO. 17.
6. WHERE STREET DOES NOT HAVE NORMAL CURB, INSTALLATION CONTRACTOR SHALL FURNISH AND INSTALL GUARD POST PER STD. DWG. No. 27.
7. SADDLE, CORPORATION STOP, AND COPPER TUBE SHALL BE WRAPPED WITH POLYETHYLENE FILM A MINIMUM OF 3 FEET FROM THE WATER MAIN.
8. ALL TUBING, VALVES AND FITTINGS SHALL BE "LEAD FREE" CONTAINING NO MORE THAN 0.25% OF LEAD CONTENT BY WEIGHT.

| REVISIONS |    |
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| ITEM | QUAN. | DESCRIPTION   |
|------|-------|---|
| 1    | 1     | BRONZE SERVICE SADDLE WITH 2" TAP   |
| 2    | 1     | 2" BRONZE CORPORATION STOP, M.I.P. x FLARE  |
| 3    | 1     | 2"-90° COPPER BEND, F.C.T x FLARE   |
| 4    | -     | 2" COPPER TUBING, TYPE K SOFT   |
| 5    | 1     | 2" COPPER COUPLING, M.I.P. x FLARE  |
| 6    | 1     | 2"-45° COPPER BEND, F.I.P. x F.I.P.   |
| 7    | 1     | 2" x 18" BRASS NIPPLE   |
| 8    | 1     | 2" BRONZE GATE VALVE  |
| 9    | 1     | 2" COMBINATION AIR VALVE W/ 2" MALE NPT INLET, STD. 3-250 psi (ARI D-40-PO2W-S)           |
| 10   | 1     | 24" DIA. x 24"H AIR & VACUUM VALVE HOUSING WITH SANDSTONE FINISH (ARMORCAST P6002001-SND) |
| 11   | 3     | 1/2" DIA. x 3-3/4" ZINC PLATED WEDGE TYPE EXPANSION ANCHOR (RED HEAD TRUBOLT)             |
| 12   | -     | 6" x 32" x 32" CONCRETE BASE PAD, POUR IN PLACE   |
| 13   | 1     | ZINC ANODE  |
| 14   | 1     | BALL VALVE CURB STOP, FLARE x FLARE   |
| 15   | 1     | 4" DIA. P.V.C. PIPE, 8" LONG  |

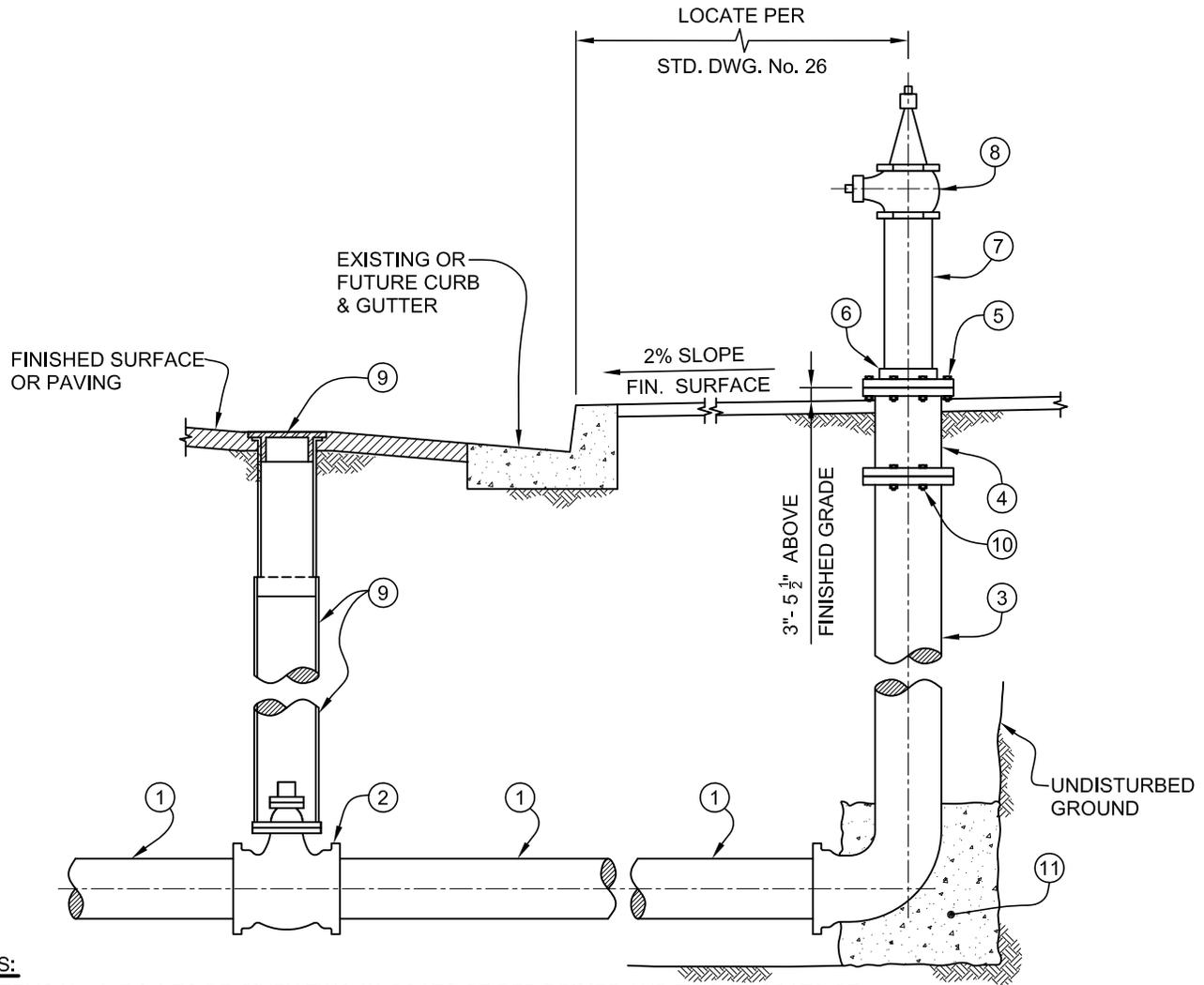


## WALNUT VALLEY WATER DISTRICT

APPROVED BY:  
  
 DRAWN BY: TD/ML

**2" MODIFIED COMBINATION AIR VALVE ASSEMBLY**

STANDARD DRAWING No.  
1A.A  
 DATE: 02/05/10



**NOTES:**

1. ITEMS No. 6, 7 & 8 TO BE GIVEN TWO (2) COATS OF RED PRIMER AND TWO (2) COATS OF "HI-VIS YELLOW" FOR DOMESTIC WATER SYSTEM OR PURPLE FOR RECYCLED WATER SYSTEM FOR OUTSIDE ONLY - PAINT SHALL BE FURNISHED BY THE DISTRICT.
2. WHERE STREET DOES NOT HAVE NORMAL CURB, INSTALLATION CONTRACTOR SHALL FURNISH AND INSTALL GUARD POST PER STD. DWG. No. 27.
3. FOR RECYCLED WATER SYSTEM, PIPE SHALL BE PURPLE P.V.C. C900. IF DUCTILE-IRON IS USED, WRAP PIPE W/PURPLE POLYETHYLENE ENCASUREMENT. IF STEEL PIPE IS USED, INSTALLATION CONTRACTOR SHALL INSTALL DISTRICT'S FURNISHED RECYCLED WARNING TAPE - TAPE SHALL BE FURNISHED BY THE DISTRICT
4. ALL EXPOSED BURIED METAL SHALL BE COATED WITH "METAL GUARD 301" CORROSION PROTECTION GREASE. GREASE SHALL BE FURNISHED BY THE CONTRACTOR.
5. ALL PIPE, VALVES AND FITTINGS SHALL BE "LEAD FREE" CONTAINING NO MORE THAN 0.25% OF LEAD CONTENT BY WEIGHT.

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| ITEM | QUAN. | DESCRIPTION   |
|------|-------|---|
| 1    | -     | 6" PIPE (DUCTILE-IRON OR STEEL M.L.&C. PIPE)  |
| 2    | 1     | 6" GATE VALVE   |
| 3    | 1     | 6" x 42" D.I.C.L. BURY WITH 6" TY INLET AND 6" 6-HOLE FLANGED OUTLET                  |
| 4    | 1     | 6" FLANGED SPOOL, FLAT-FACE 150# WITH 6 HOLES   |
| 5    | 1     | SET OF HOLLOW BREAK-OFF NUTS AND BOLTS AND FULL-FACE NON-ASBESTOS GASKET WITH 6 HOLES |
| 6    | 1     | 6" x 4" C.I. COMPANION FLANGE WITH 6 HOLES  |
| 7    | 1     | 4" x 18" SCH. 40 GALV. NIPPLE, T.B.E.   |
| 8    | 1     | ANGLE FIRE PLUG VALVE WITH 4" I.P.T. x 2 1/2" N.H.T.                                  |
| 9    | 1     | VALVE CAN ASSEMBLY (STD. DWG. No. 11)   |
| 10   | 1     | SET OF NUTS, BOLTS, AND FULL FACE NON-ASBESTOS GASKET FOR 6-HOLE FLANGE               |
| 11   | 1     | THRUST BLOCK (STD. DWG. No. 13)   |

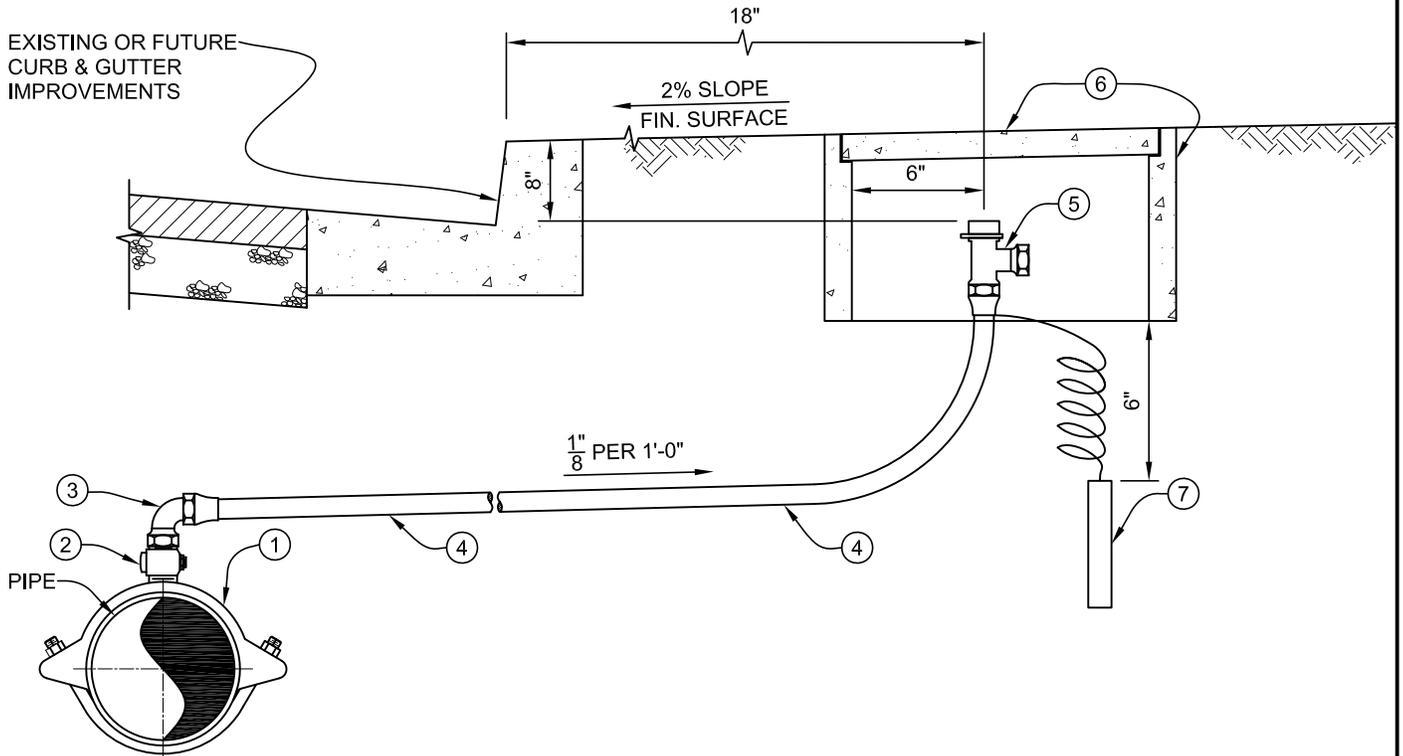
REGISTERED PROFESSIONAL ENGINEER  
ERIK J. HITCHMAN  
No. C49185  
Exp. 09/30/2010  
CIVIL  
STATE OF CALIFORNIA

## WALNUT VALLEY WATER DISTRICT

APPROVED BY:  
*Erik Hitchman*  
DRAWN BY: TD/ML

4" x 2 1/2" BLOW-OFF ASSEMBLY

STANDARD DRAWING No.  
2  
DATE: 02/05/10



**NOTES:**

1. FOR RECYCLED WATER SYSTEM, POLYMER CONCRETE METER BOX COVER AND READING LID SHALL BE PAINTED PURPLE AND MARKED "RECYCLED WATER".
2. FOR RECYCLED WATER SYSTEM, INSTALLATION CONTRACTOR SHALL WRAP RECYCLED WARNING TAPE AROUND COPPER TUBING - TAPE SHALL BE FURNISHED BY THE DISTRICT.
3. FOR CONNECTION TO STEEL PIPE, SEE STANDARD DRAWING No. 5.
4. FOR DIRCT TAP, SEE STANDARD DRAWING No. 17.
5. 12" AND SMALLER SADDLE SHALL BE SINGLE STRAP, LARGER THAN 12" SHALL BE DOUBLE STRAP.
6. ALL TUBING, VALVES AND FITTINGS SHALL BE "LEAD FREE" CONTAINING NO MORE THAN 0.25% OF LEAD CONTENT BY WEIGHT.

| REVISIONS |    |
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| ITEM | QUAN. | DESCRIPTION  |
|------|-------|--|
| 1    | 1     | BRONZE SERVICE SADDLE WITH 3/4" TAP  |
| 2    | 1     | 3/4" BRONZE CORPORATION STOP, M.I.P. x FLARE   |
| 3    | 1     | 3/4" 90° COPPER BEND, F.C.T. x FLARE   |
| 4    | -     | 3/4" COPPER TUBING, TYPE K SOFT  |
| 5    | 1     | 3/4" BRONZE ANGLE METER STOP WITH LOCKWING   |
| 6    | 1     | 13" x 24" x 12" POLYMER CONC. METER BOX (ARMORCAST A6001946PCX12)<br>13" x 24" POLYMER CONC. COVER (ARMORCAST A6001866DQ)<br>5" x 7" POLYMER CONC. READING LID MARKED "WATER" (ARMORCAST A6000487) |
| 7    | 1     | ZINC ANODE   |



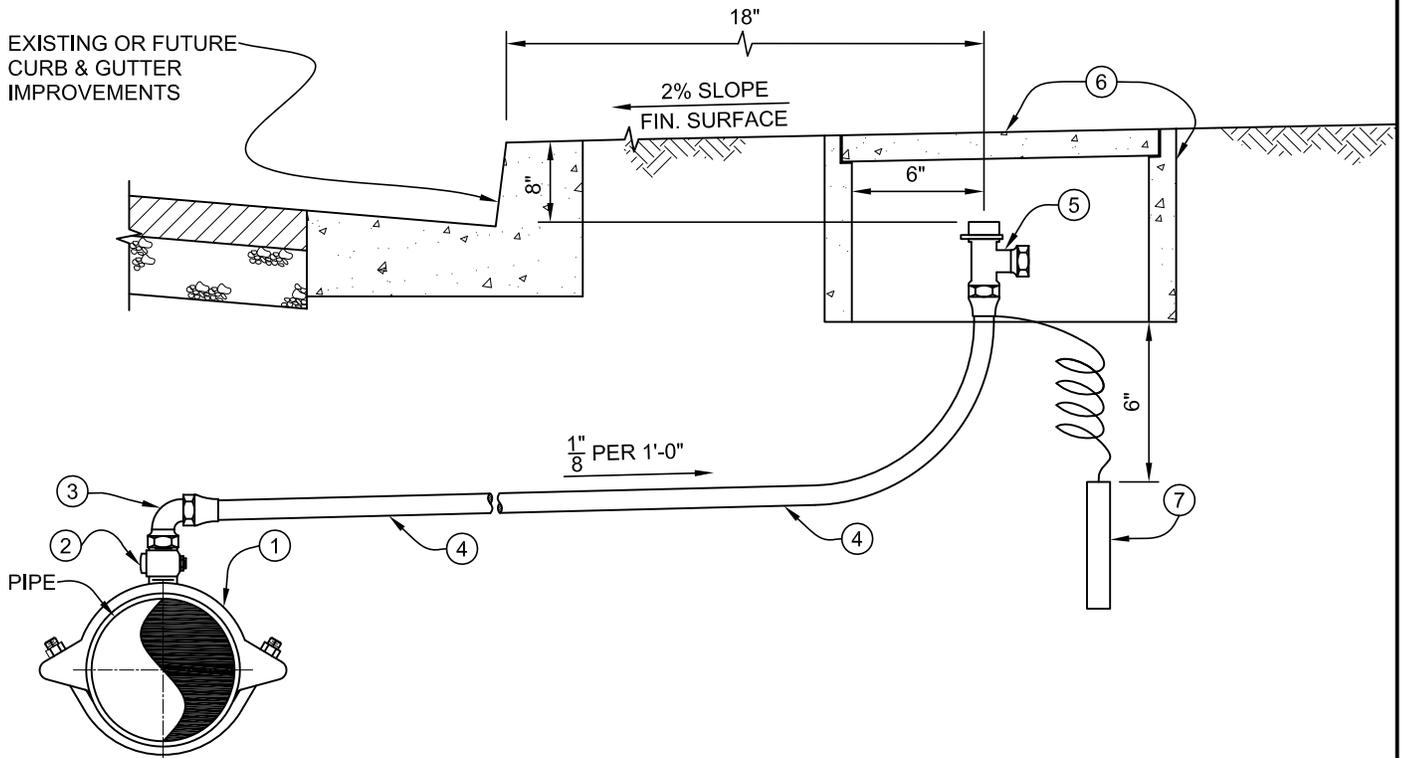
## WALNUT VALLEY WATER DISTRICT

APPROVED BY:  
*Erik Hitchman*  
DRAWN BY: TD/ML

3/4" MANUAL AIR RELEASE ASSEMBLY

STANDARD DRAWING No. 3  
DATE: 02/05/10

EXISTING OR FUTURE  
CURB & GUTTER  
IMPROVEMENTS



**NOTES:**

1. FOR RECYCLED WATER SYSTEM, POLYMER CONCRETE METER COVER AND READING LID SHALL BE PAINTED PURPLE AND MARKED "RECYCLED WATER".
2. FOR RECYCLED WATER SYSTEM, INSTALLATION CONTRACTOR SHALL WRAP RECYCLED WARNING TAPE AROUND COPPER TUBING - TAPE SHALL BE FURNISHED BY THE DISTRICT.
3. FOR CONNECTION TO STEEL PIPE, SEE STANDARD DRAWING No. 5.
4. FOR DIRECT TAP, SEE STANDARD DRAWING No. 17.
5. ALL TUBING, VALVES AND FITTINGS SHALL BE "LEAD FREE" CONTAINING NO MORE THAN 0.25% OF LEAD CONTENT BY WEIGHT.

| ITEM | QUAN. | DESCRIPTION   |
|------|-------|---|
| 1    | 1     | BRONZE SERVICE SADDLE WITH 2" TAP   |
| 2    | 1     | 2" BRONZE CORPORATION STOP, M.I.P. x FLARE  |
| 3    | 1     | 2" 90° COPPER BEND, F.C.T. x FLARE  |
| 4    | -     | 2" COPPER TUBING, TYPE K SOFT   |
| 5    | 1     | 2" BRONZE ANGLE METER STOP WITH LOCKWING  |
| 6    | 1     | 17" x 30" x 12" POLYMER CONC. METER BOX (ARMORCAST A6001640PCX12)<br>17" x 30" POLYMER CONC. COVER (ARMORCAST A6001643DZ)<br>9" x 14" POLYMER CONC. READING LID MARKED "WATER" (ARMORCAST A6000482) |
| 7    | 1     | ZINC ANODE  |

| REVISIONS |    |
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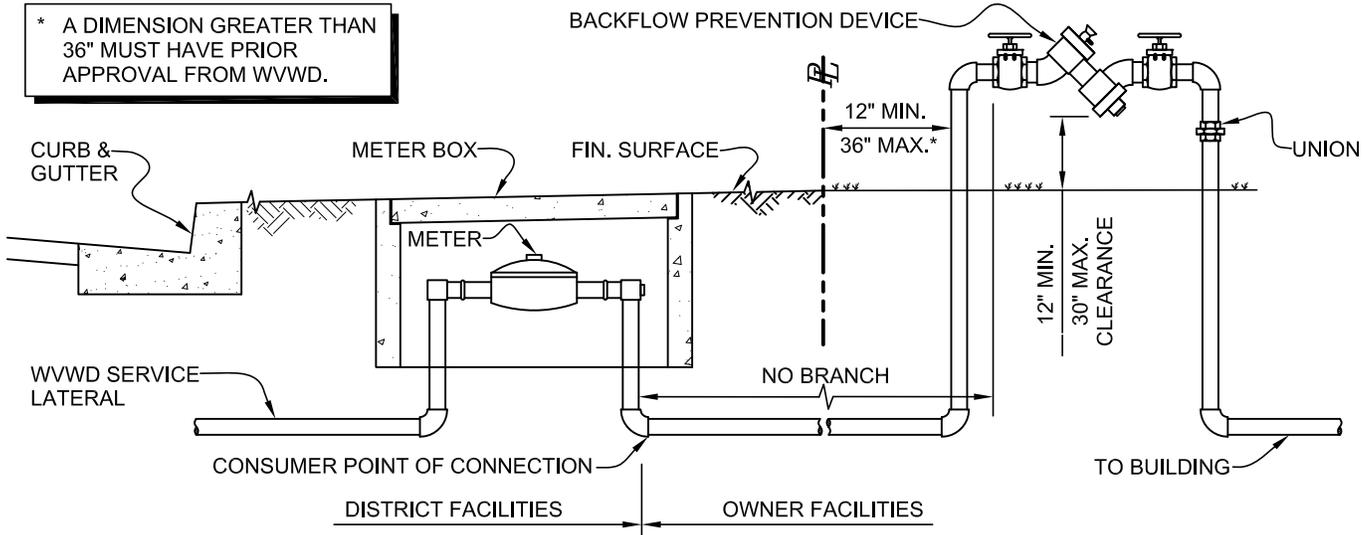
**WALNUT VALLEY WATER DISTRICT**

APPROVED BY:  
*Erik Hitchman*  
DRAWN BY: TD/ML

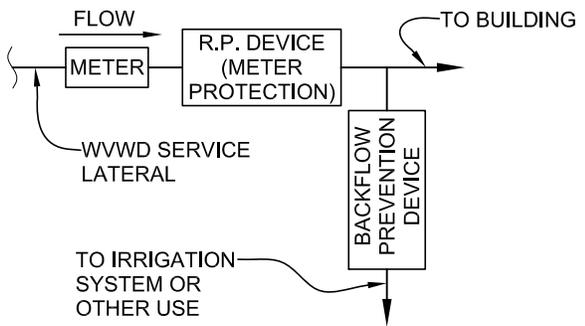
2" MANUAL AIR RELEASE ASSEMBLY

STANDARD DRAWING No.  
**3.A**  
DATE: 02/05/10

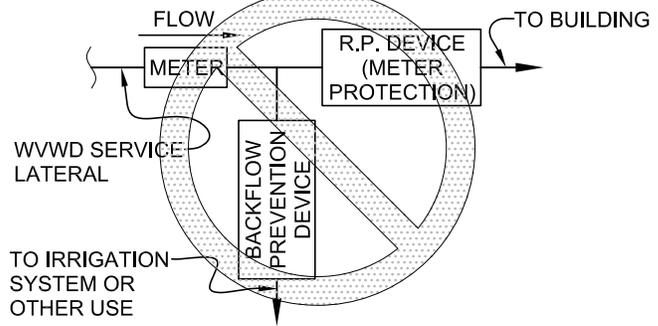
\* A DIMENSION GREATER THAN 36" MUST HAVE PRIOR APPROVAL FROM WVWD.



**TYPICAL INSTALLATION FOR BACKFLOW PREVENTION DEVICE**  
N.T.S.



**SCHEMATIC OF APPROVED CONNECTION**  
N.T.S.



**SCHEMATIC OF UNAPPROVED CONNECTION**  
N.T.S.

**GENERAL PROVISIONS:**

1. ALL COMMERCIAL, INDUSTRIAL, INSTITUTIONAL METERED SERVICES AND RESIDENTIAL FIRE METERED SERVICE SHALL BE PROTECTED BY A REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION DEVICE (R.P. DEVICE). R.P. DEVICE MUST BE INSTALLED BEFORE SERVICE IS TURNED ON.
2. R.P. DEVICES MUST BE PLACED ON PRIVATE PROPERTY AS CLOSE AS PRACTICAL TO THE METERED SERVICE.
3. NO BRANCHES (i.e., TEES, CROSSES, ETC.) SHALL BE ALLOWED BETWEEN THE R.P. DEVICE AND THE METER.
4. R.P. DEVICE MUST BE APPROVED BY THE FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH, UNIVERSITY OF SOUTHERN CALIFORNIA.
5. R.P. DEVICE MUST BE THE SAME SIZE AS THE SERVICE LINE, UNLESS APPROVED BY WALNUT VALLEY WATER DISTRICT.
6. R.P. DEVICE MUST BE INSTALLED ABOVE GROUND PREFERABLY IN A LANDSCAPE AREA WITH TWELVE INCHES (12") MINIMUM TO THIRTY (30") MAXIMUM VERTICAL CLEARANCE FROM GRADE.
7. ONLY ONE R.P. DEVICE WILL BE ALLOWED PER METER TO SERVE AS METER PROTECTION, UNLESS APPROVED BY WALNUT VALLEY WATER DISTRICT.
8. METER PROTECTION DEVICE MUST BE INSPECTED AND TESTED ANNUALLY BY A LICENSED, LOS ANGELES COUNTY HEALTH DEPARTMENT CERTIFIED BACKFLOW DEVICE TESTER, AND RESULTS SUBMITTED TO THE WALNUT VALLEY WATER DISTRICT.
9. FAILURE TO PROPERLY INSTALL AND MAINTAIN METER PROTECTION MAY RESULT IN TERMINATION OF WATER SERVICE.
10. A LIST OF APPROVED BACKFLOW DEVICES IS AVAILABLE AT THE WALNUT VALLEY WATER DISTRICT OFFICE.
11. R.P. DEVICE ARE NOT ALLOWED ON RECYCLED WATER SYSTEM.

| REVISIONS |  |
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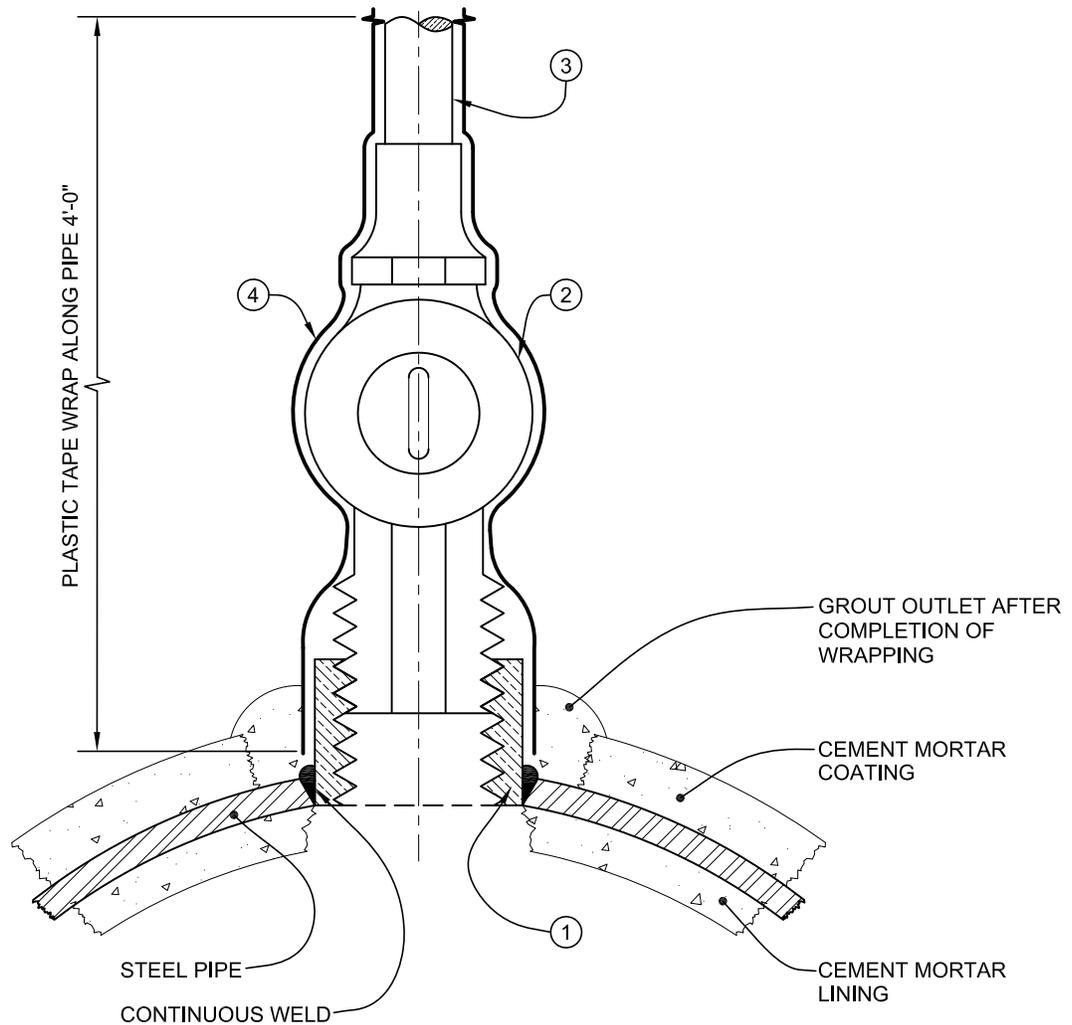


**WALNUT VALLEY WATER DISTRICT**

APPROVED BY:  
*Erik Hitchman*  
DRAWN BY: TD/ML

BACKFLOW PREVENTION DEVICE INSTALLATION

STANDARD DRAWING No.  
4  
DATE: 02/05/10



| COPPER TUBING | CORP. STOP | STEEL COUPLING |
|---------------|------------|----------------|
| 3/4"          | 3/4"       | 3/4"           |
| 1"            | 1"         | 1"             |
| 1 1/2"        | 1 1/2"     | 1 1/2"         |
| 2"            | 2"         | 2"             |

| REVISIONS |  |
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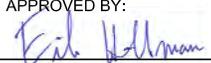
**NOTES:**

1. DIELECTRIC CONNECTIONS SHALL BE REQUIRED ON ALL ASSEMBLIES WHERE COPPER OR BRASS IS TIED TO STEEL PIPE.
2. FOR WRAPPING, USE DOUBLE WRAP OF 10 MIL, PRESSURE SENSITIVE TAPE OR SINGLE WRAP OF 20 MIL TAPE. WRAP CORP. STOP IN OPEN POSITION UNLESS OTHERWISE DIRECTED.
3. ALL TUBING, VALVES AND FITTINGS SHALL BE "LEAD FREE" CONTAINING NO MORE THAN 0.25% OF LEAD CONTENT BY WEIGHT.

| ITEM | QUAN. | DESCRIPTION  |
|------|-------|--|
| 1    | 1     | EXTRA HEAVY BLACK IRON PIPE COUPLING, WELD TO STEEL PIPE |
| 2    | 1     | BRONZE CORPORATION STOP, M.I.P. x FLARE                  |
| 3    | -     | COPPER TUBING, TYPE K SOFT                               |
| 4    | -     | PRESSURE SENSITIVE TAPE                                  |



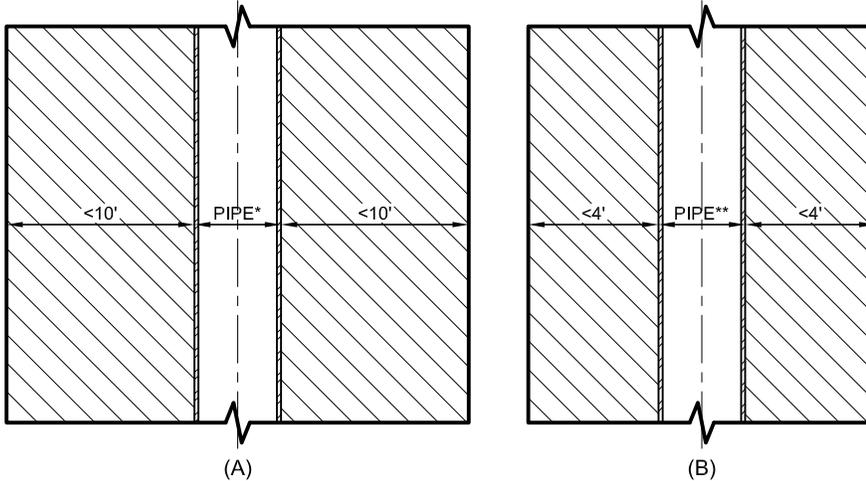
## WALNUT VALLEY WATER DISTRICT

APPROVED BY:  
  
 DRAWN BY: TD/ML

DIELECTRIC CONNECTION TO STEEL MAIN

STANDARD DRAWING No. 5  
 DATE: 02/05/10

## PARALLEL CONSTRUCTION



### LEGENDS:

PIPE\* - PIPELINE CONVEYING:

- UNTREATED OR TREATED SEWAGE
- DISINFECTED SECONDARY-2.2 OR 23 RECYCLED WATER
- HAZARDOUS FLUIDS SUCH AS FUELS, INDUSTRIAL WASTES & WASTEWATER SLUDGE

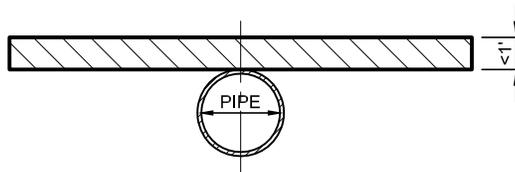
PIPE\*\* - PIPELINE CONVEYING:

- DISINFECTED TERTIARY RECYCLED WATER
- STORM DRAINAGE

WATER MAINS AND SUPPLY LINES SHALL BE INSTALLED:

- (A) AT LEAST 10 FEET HORIZONTALLY FROM AND 1 FOOT ABOVE ANY PARALLEL SEWER LINES, DISINFECTED SECONDARY RECYCLED WATER LINES, OR HAZARDOUS FLUID LINES.
- (B) AT LEAST 4 FEET HORIZONTALLY FROM AND 1 FOOT ABOVE ANY PARALLEL DISINFECTED TERTIARY RECYCLED WATER LINES AND STORM DRAINAGE LINES.

## CROSSING CONSTRUCTION



IF CROSSING A PIPELINE CONVEYING FLUIDS MENTIONED ABOVE, WATER MAIN SHALL BE CONSTRUCTED NO LESS THAN 45-DEGREES AND AT LEAST 1 FOOT ABOVE THAT PIPELINE. NO CONNECTION JOINTS SHALL BE MADE IN THE WATER MAIN WITHIN 8 FEET HORIZONTALLY OF THE FLUID PIPELINE.

### GENERAL NOTES

1. WATER MAINS AND SUPPLY LINES SHALL NOT BE INSTALLED IN THE SAME TRENCH AS SEWER LINES, DISINFECTED SECONDARY 2.2 OR 23 RECYCLED WATER LINES, HAZARDOUS FLUID LINES, OR STORM DRAINAGE LINES.
2. THE VERTICAL SEPARATION SPECIFIED ABOVE IS REQUIRED ONLY WHEN THE HORIZONTAL DISTANCE BETWEEN A WATER MAIN AND FLUID PIPELINE IS LESS THAN 10 FEET.
3. THE MINIMUM SEPARATION DISTANCES SET FORTH SHALL BE MEASURED FROM THE NEAREST OUTSIDE EDGE OF EACH PIPE BARREL.
4. THE "CALIFORNIA WATERWORKS STANDARDS" SETS FORTH THE MINIMUM SEPARATION REQUIREMENTS FOR WATER MAINS AND SEWER LINES. THESE STANDARDS ARE CONTAINED IN SECTION 64572, TITLE 22, CALIFORNIA CODE OF REGULATIONS.
5. WITH CDPH APPROVAL, NEWLY INSTALLED WATER MAINS MAY BE EXEMPT FROM THE SEPARATION DISTANCES IF THE NEWLY INSTALLED MAIN IS:
  - (1) LESS THAN 1,320 LINEAR FEET,
  - (2) REPLACING EXIST. MAINS, INSTALLED IN THE SAME LOCATION, AND HAS A DIAMETER NO GREATER THAN 6 INCHES MORE THAN THE DIAMETER IT IS REPLACING, AND
  - (3) INSTALLED IN A MANNER THAT MINIMIZES THE POTENTIAL FOR CONTAMINATION, INCLUDING, BUT NOT LIMITED TO:
    - (A) SLEEVING THE NEWLY INSTALLED MAIN, OR
    - (B) UTILIZING UPGRADED PIPING MATERIAL.

### REVISIONS

| NO. | DESCRIPTION |
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# WALNUT VALLEY WATER DISTRICT

APPROVED BY:

*Erik Hitchman*

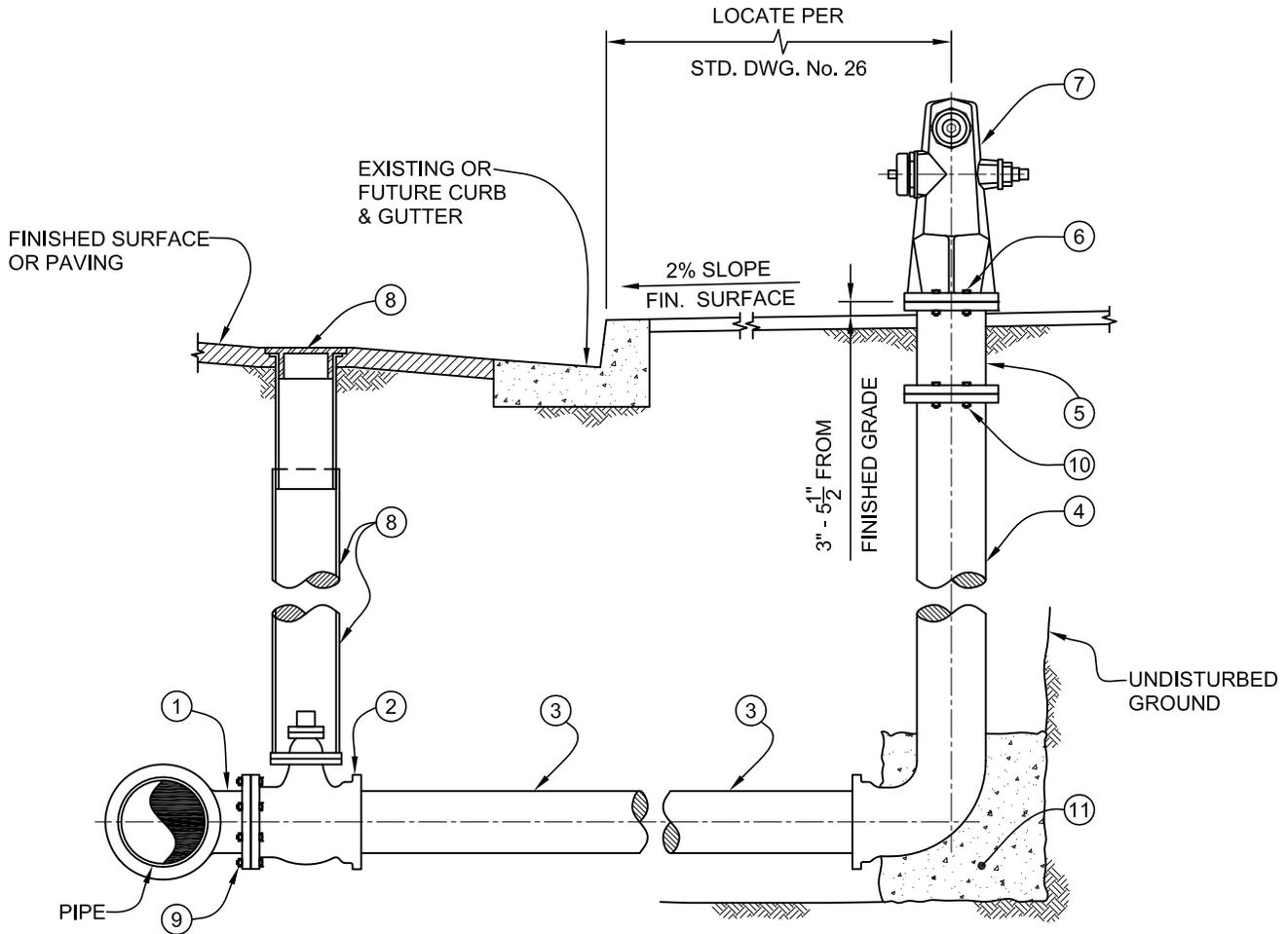
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WATER MAIN SEPARATION

STANDARD DRAWING No.

7

DATE: 02/05/10

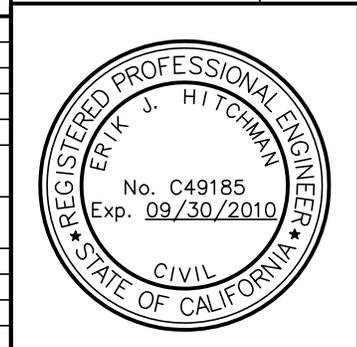


**NOTES:**

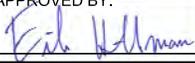
1. STEEL COVER TO BE GIVEN TWO (2) PRIME COATS OF RED PRIMER AND TWO (2) COATS OF "HI-VIS YELLOW" FOR OUTSIDE ONLY- PAINT SHALL BE FURNISHED BY THE DISTRICT.
2. WHERE STREET DOES NOT HAVE NORMAL CURB, INSTALLATION CONTRACTOR SHALL FURNISH AND INSTALL GUARD POST PER STD. DWG. No. 27.
3. ALL EXPOSED BURIED METAL SHALL BE COATED WITH "METAL GUARD 301" CORROSION PROTECTION GREASE. GREASE SHALL BE FURNISHED BY THE CONTRACTOR.
4. ALL PIPE, VALVES AND FITTINGS SHALL BE "LEAD FREE" CONTAINING NO MORE THAN 0.25% OF LEAD CONTENT BY WEIGHT.

| REVISIONS |  |
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| ITEM | QUAN. | DESCRIPTION   |
|------|-------|---|
| 1    | 1     | 6" FLANGED OUTLET   |
| 2    | 1     | 6" GATE VALVE   |
| 3    | -     | 6" PIPE (DUCTILE-IRON OR STEEL M.L.&C. PIPE)  |
| 4    | 1     | 6" x 42" D.I.C.L. BURY WITH 6" TY INLET AND 6" 6-HOLE FLANGED OUTLET  |
| 5    | 1     | 6" FLANGED SPOOL, FLAT-FACE 150# WITH 6 HOLES   |
| 6    | 1     | SET OF HOLLOW BREAK-OFF NUTS AND BOLTS AND FULL-FACE NON-ASBESTOS GASKET WITH 6 HOLES   |
| 7    | 1     | FIRE HYDRANT, 6"-6 HOLE FLANGED INLET WITH ONE 4" STEAMER HOSE AND ONE 2 1/2" FIRE HOSE OUTLET, COMPLETE WITH PLASTIC CAPS AND GALV. CHAINS |
| 8    | 1     | 6" VALVE CAN ASSEMBLY (STD. DWG. No. 11)  |
| 9    | -     | SET OF NUTS, BOLTS, AND FULL-FACE NON-ASBESTOS GASKET   |
| 10   | 1     | SET OF NUTS, BOLTS, AND FULL-FACE NON-ASBESTOS GASKET FOR 6-HOLE FLANGE   |
| 11   | 1     | THRUST BLOCK (STD. DWG. No. 13)   |

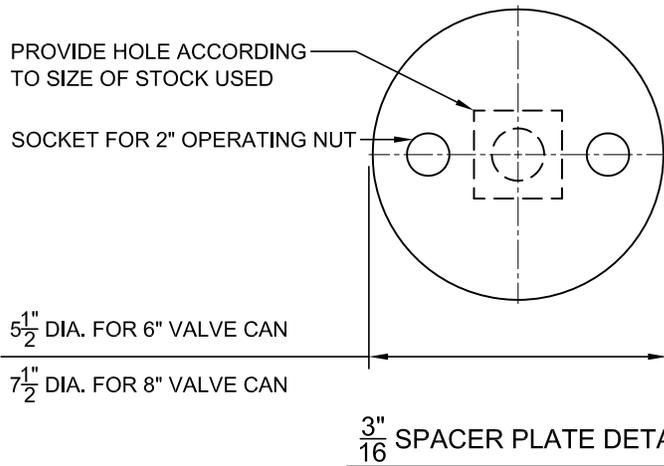
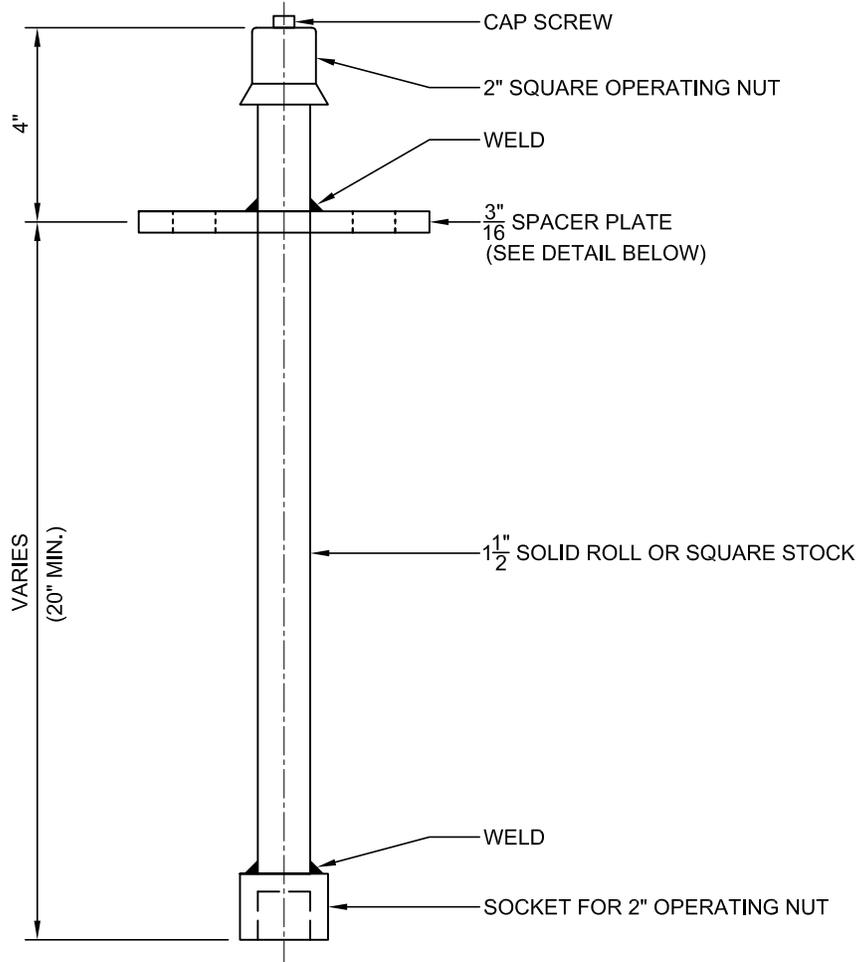


## WALNUT VALLEY WATER DISTRICT

APPROVED BY:  
  
 DRAWN BY: TD/ML

6" x 4" x 2 1/2" FIRE HYDRANT ASSEMBLY

STANDARD DRAWING No.  
8  
 DATE: 02/05/10



| REVISIONS |  |
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**NOTES:**

1. PROVIDE EXTENSION WHEN DEPTH TO OPERATING NUT EXCEEDS TEN FEET (10'). FABRICATE EXTENSION TO FIELD MEASUREMENTS. PROVIDE ADDITIONAL SPACER PLATE WHEN EXTENSION EXCEEDS THIRTY-SIX INCHES (36") IN LENGTH. THE EXTENSION SHALL BE OF SOLID DESIGN, PINNED COUPLERS ARE UNACCEPTABLE. GALVANIZE THE EXTENSION AFTER FABRICATION.
2. TERMINATE EXTENSION BETWEEN TWENTY-FOUR INCHES (24") AND THIRTY-SIX INCHES (36") FROM FINISHED GRADE.

## WALNUT VALLEY WATER DISTRICT

APPROVED BY:

*Erik Hitchman*

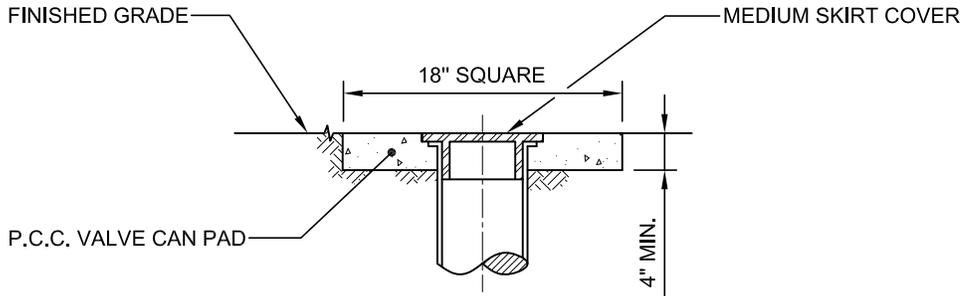
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VALVE STEM EXTENSION

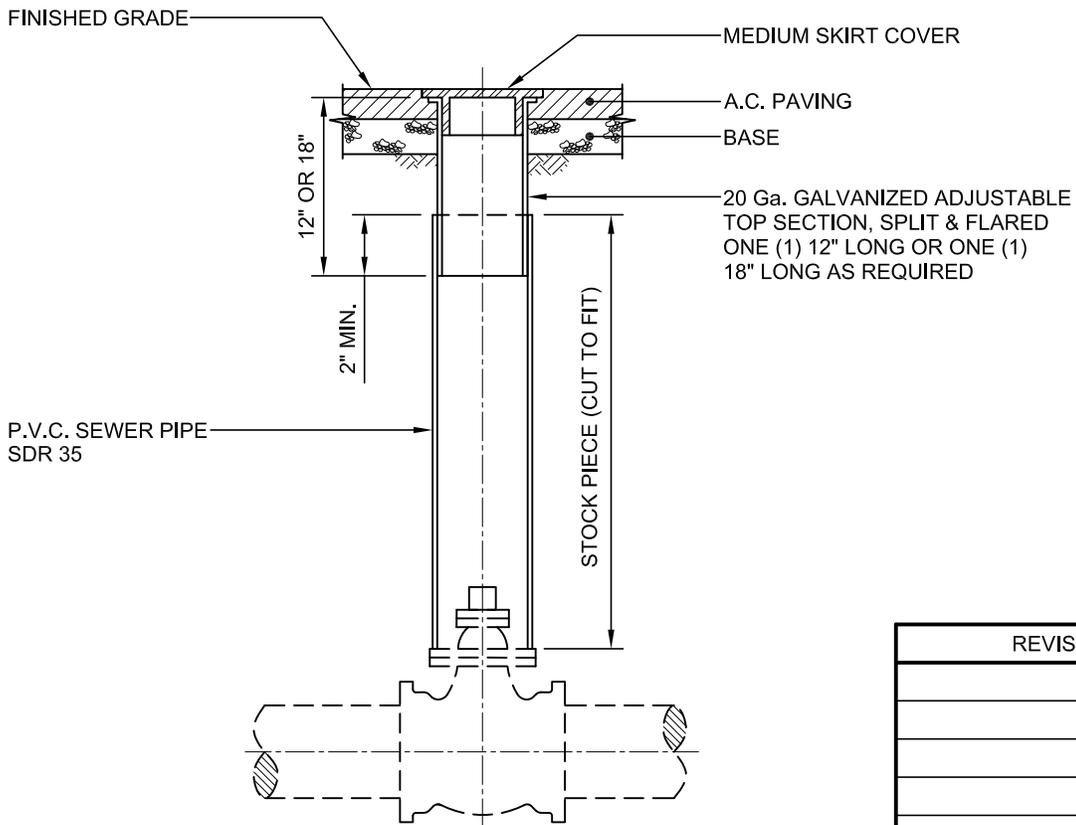
STANDARD DRAWING No.

10

DATE: 02/05/10



**FOR UNPAVED AREAS**  
N.T.S.



**FOR PAVED AREAS**  
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**NOTES:**

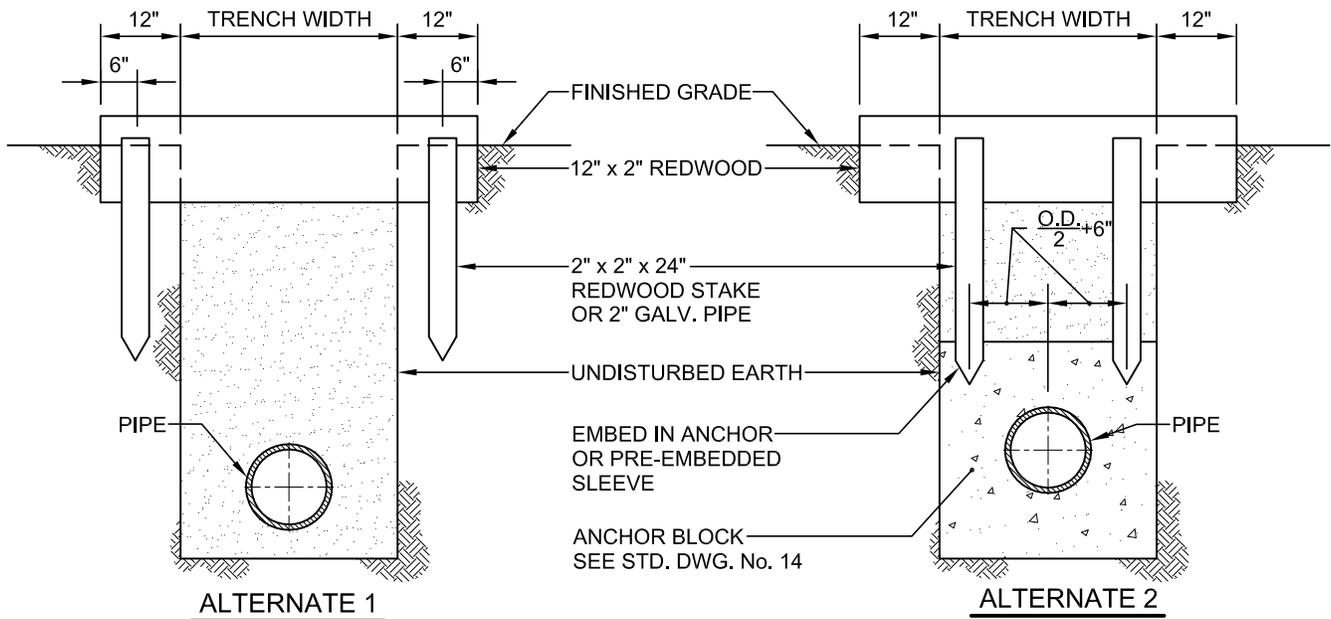
- FOR SIX INCH (6") VALVES AND SMALLER, USE SIX INCH (6") VALVE CAN ASSEMBLY. FOR EIGHT INCH (8") VALVES AND LARGER, USE EIGHT INCH (8") VALVE CAN ASSEMBLY. P.V.C COUPLING, WHEN REQUIRED, SHALL BE FURNISHED BY THE DISTRICT.
- MEDIUM SKIRT COVER SHALL BE MARKED "WATER" FOR DOMESTIC WATER SYSTEM AND MARKED "RECYCLED WATER" AND PAINTED PURPLE FOR RECYCLED WATER SYSTEM.

**WALNUT VALLEY WATER DISTRICT**

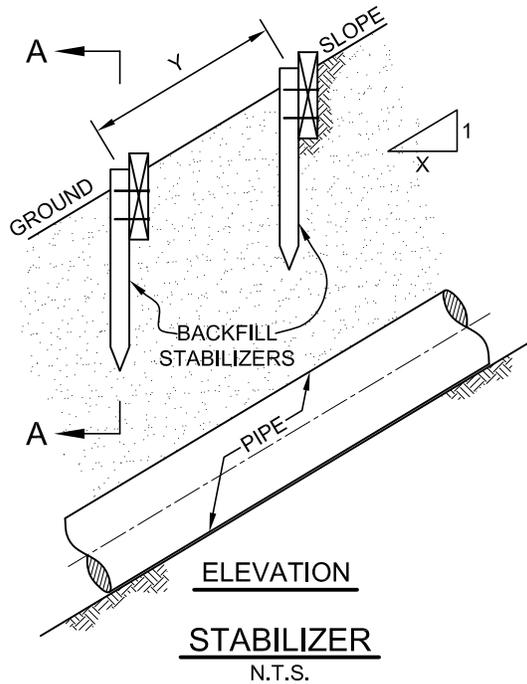
APPROVED BY:  
*Erik Hitchman*  
DRAWN BY: TD/ML

VALVE CAN ASSEMBLY

STANDARD DRAWING No.  
**11**  
DATE: 02/05/10



**SECTION A-A**



**TABLE A**

| GROUND SLOPE<br>X:1 | Y<br>(MAX.) |
|---------------------|-------------|
| 1:1                 | 5'          |
| 1½:1                | 9'          |
| 2:1                 | 12'         |
| 2½:1                | 16'         |
| 3:1                 | 20'         |

**NOTES:**

1. REDWOOD BOARDS SHALL BE PLACED ON THE HIGH GROUND SIDE OF THE POSTS.
2. SECOND HAND MATERIAL MAY BE USED WITH APPROVAL FROM THE DISTRICT.
3. SLOPE STABILIZER SHALL BE USED ON ALL SLOPES AS DIRECTED BY THE DISTRICT.
4. EACH REDWOOD BOARD SHALL BE FASTENED BY USING 2-16d NAILS TO EACH REDWOOD POST OR THREE-EIGHTH INCH (3/8") NUT AND BOLT WITH WASHERS TO EACH GALVANIZED PIPE. ALL HARDWARE SHALL BE GALVANIZED.
5. TRENCH BACKFILL SHALL BE CONSOLIDATED BY MECHANICAL COMPACTION. IN LIEU OF MECHANICAL COMPACTION, SOIL CEMENT MAY BE USED. HOWEVER, THE TOP TWELVE INCHES (12") OF BACKFILL SHALL BE NATIVE SOIL, MECHANICALLY COMPACTED.
6. SPACING OF STABILIZERS FOR GROUND SLOPE BETWEEN VALUES SHOWN IN TABLE "A" MAY BE PROPORTIONED.

| REVISIONS |  |
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**WALNUT VALLEY WATER DISTRICT**

APPROVED BY:

*Erik Hitchman*

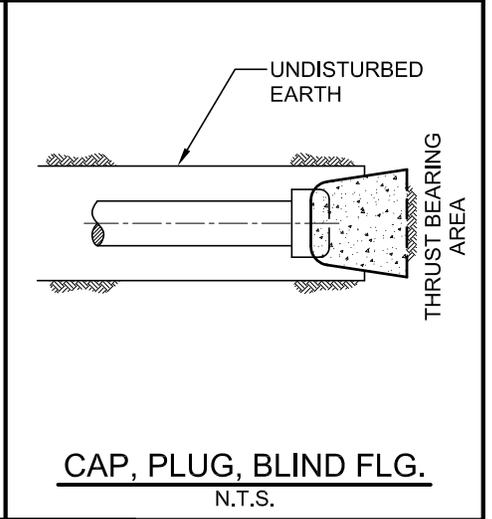
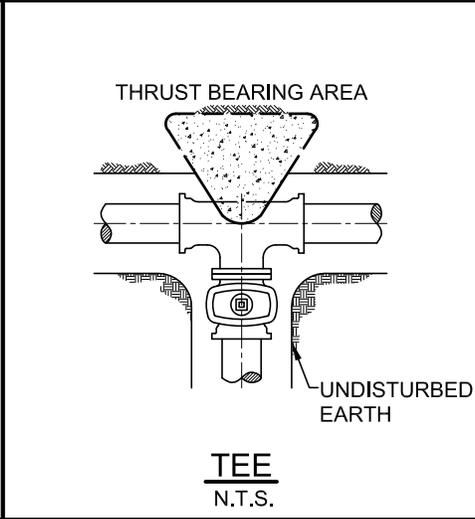
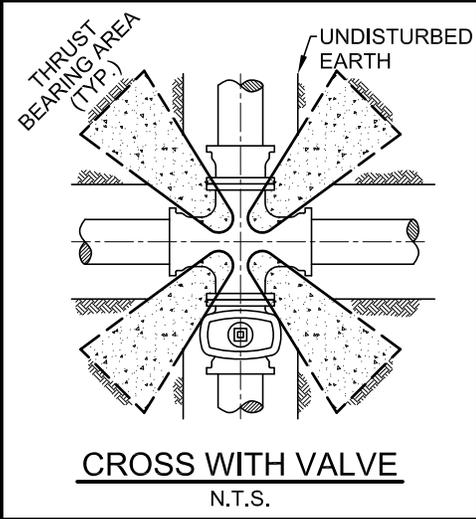
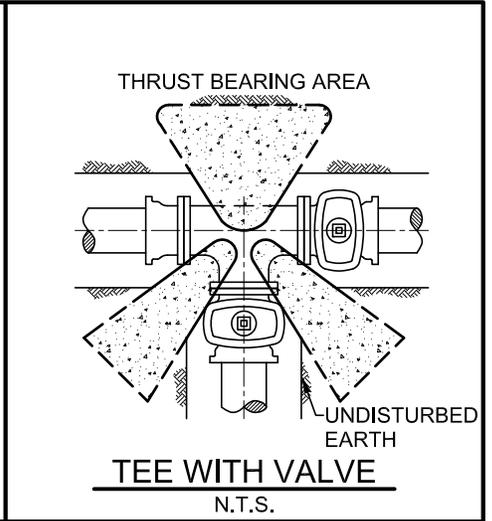
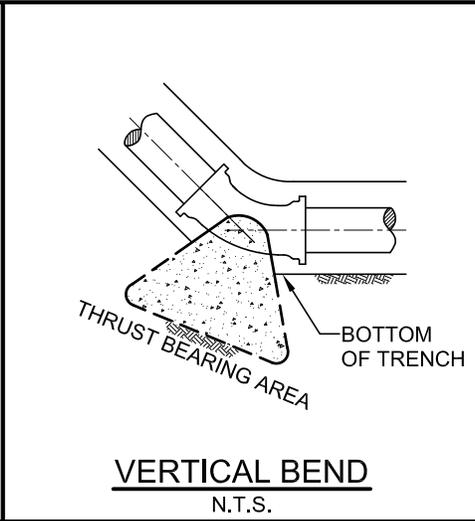
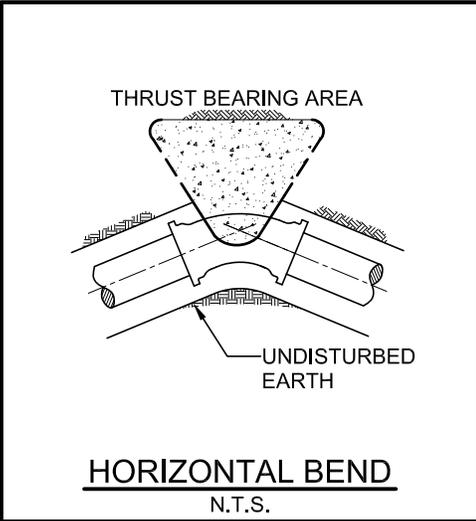
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**SLOPED TRENCH EROSION CONTROL**

STANDARD DRAWING No.

12

DATE: 02/05/10



|                            | PIPE SIZE | 4"   |     | 6"  |     | 8"   |      | 10"  |      | 12"  |      | 14"  |      | 16"  |      | LARGER SIZES |                  |
|----------------------------|-----------|------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|--------------|------------------|
|                            | PRESSURE  | 150  | 200 | 150 | 200 | 150  | 200  | 150  | 200  | 150  | 200  | 150  | 200  | 150  | 200  |              |                  |
| THRUST BEARING AREAS (ft²) | BENDS     | 90°  | 3.0 | 4.0 | 6.0 | 8.0  | 11.0 | 14.0 | 16.0 | 21.0 | 22.0 | 30.0 | 30.0 | 40.0 | 38.0 | 51.0         | TO BE CALCULATED |
|                            |           | 60°  | 3.0 | 3.0 | 5.0 | 6.0  | 8.0  | 10.0 | 11.0 | 15.0 | 16.0 | 21.0 | 21.0 | 28.0 | 27.0 | 36.0         |                  |
|                            |           | 45°  | 2.0 | 3.0 | 4.0 | 5.0  | 6.0  | 8.0  | 9.0  | 12.0 | 12.0 | 16.0 | 16.0 | 22.0 | 21.0 | 28.0         |                  |
|                            |           | 30°  | 2.0 | 2.0 | 3.0 | 3.0  | 4.0  | 5.0  | 6.0  | 8.0  | 8.0  | 11.0 | 11.0 | 15.0 | 14.0 | 19.0         |                  |
|                            |           | 22½° | 1.0 | 2.0 | 2.0 | 3.0  | 3.0  | 4.0  | 5.0  | 6.0  | 7.0  | 9.0  | 9.0  | 11.0 | 11.0 | 14.0         |                  |
|                            |           | 11½° | 1.0 | 1.0 | 1.0 | 2.0  | 2.0  | 2.0  | 3.0  | 3.0  | 4.0  | 5.0  | 5.0  | 6.0  | 6.0  | 7.0          |                  |
|                            | TEE¹      | 3.0  | 3.0 | 5.0 | 6.0 | 8.0  | 10.0 | 11.0 | 15.0 | 16.0 | 21.0 | 21.0 | 28.0 | 27.0 | 36.0 |              |                  |
| CROSS²                     | 2.0       | 2.0  | 3.0 | 4.0 | 6.0 | 7.0  | 8.0  | 11.0 | 11.0 | 15.0 | 15.0 | 20.0 | 19.0 | 26.0 |      |              |                  |
| CAP                        | 3.0       | 3.0  | 5.0 | 6.0 | 8.0 | 10.0 | 11.0 | 15.0 | 16.0 | 21.0 | 21.0 | 28.0 | 27.0 | 36.0 |      |              |                  |

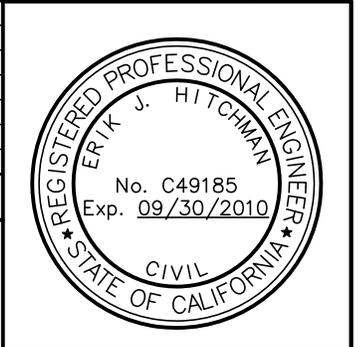
¹ BRANCH SIZE USED.  
² THRUST BLOCKS ARE REQUIRED WHEN ANY VALVE OR STUB-OUT CONNECTED TO CROSS.

| SOIL TYPE                           | SOIL STRENGTH (LB/FT²) | MULTIPLIER |
|-------------------------------------|------------------------|------------|
| MUCK, PEAT, ETC.                    | 0                      | 0.00       |
| SOFT CLAY                           | 500                    | 4.00       |
| SAND                                | 1000                   | 2.00       |
| SAND AND GRAVEL                     | 1500                   | 1.33       |
| SAND AND GRAVEL WITH CLAY           | 2000                   | 1.00       |
| SAND AND GRAVEL, CEMENTED WITH CLAY | 4000                   | 0.50       |
| HARD PAN                            | 5000                   | 0.40       |

TABLES BASED ON ESTIMATED BEARING STRENGTH OF UNDISTURBED SOIL FROM BURIED PIPE DESIGN SECOND EDITION BY DR. A.P. MOSER, NEW YORK, 2001

- NOTES:
- CONCRETE SHOULD HAVE A 28-DAY COMPRESSIVE STRENGTH OF 2000 PSI MINIMUM.
  - CONCRETE SHALL BE POURED AGAINST UNDISTURBED SOIL.
  - BLOCK HEIGHT SHOULD BE LESS THAN ONE-HALF THE TOTAL DEPTH FROM FINISHED SURFACE TO THE BOTTOM OF THE BLOCK, BUT NOT LESS THAN THE PIPE DIAMETER.
  - BLOCK WIDTH SHOULD VARY BETWEEN ONE AND TWO TIMES THE BLOCK HEIGHT.

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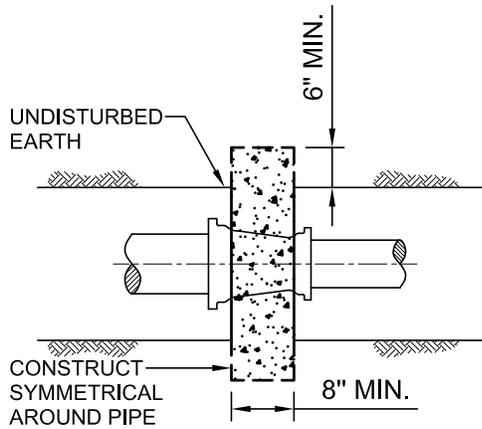


## WALNUT VALLEY WATER DISTRICT

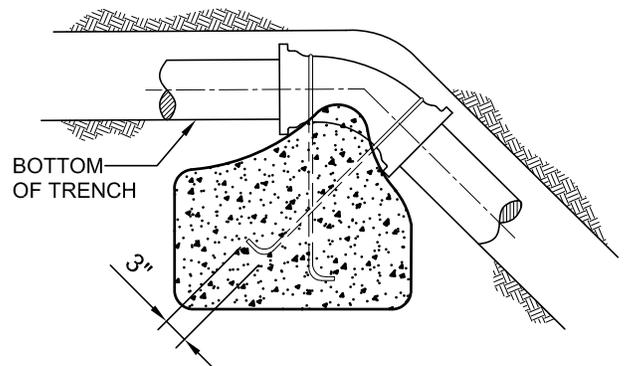
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*Erik Hitchman*  
DRAWN BY: TD/ML

THRUST BLOCKS

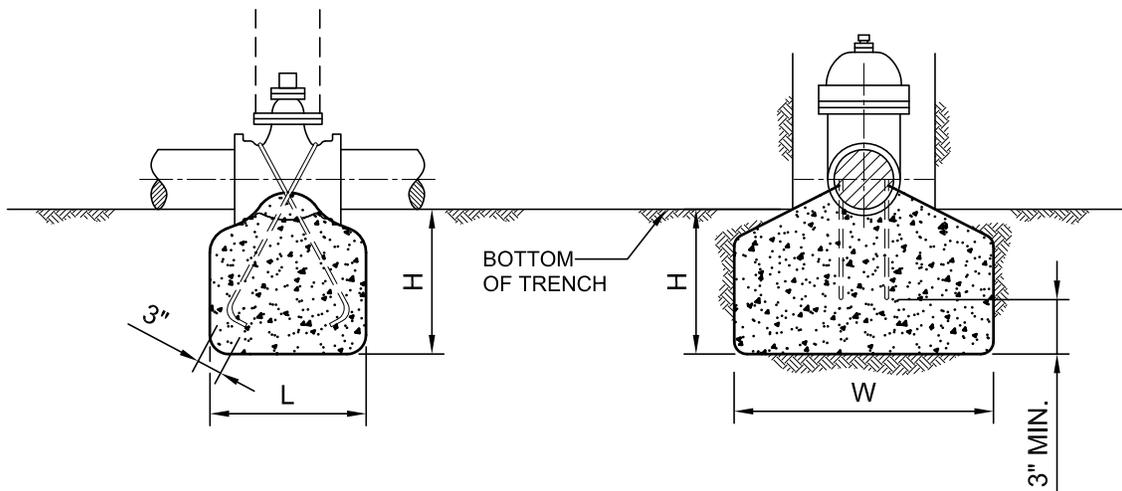
STANDARD DRAWING No.  
**13**  
DATE: 02/05/10



**IN-LINE REDUCER**  
N.T.S.



**VERTICAL BENDS**  
N.T.S.



**IN-LINE VALVE**  
N.T.S.

| REVISIONS |  |
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| ANCHOR BLOCK VOLUME (ft <sup>3</sup> ) | PIPE SIZE   | 4"                                 |      | 6"   |      | 8"   |       | 10"   |       | 12"   |       | 14"       |       | 16"   |       | LARGER SIZES     |
|--|-------------|------------------------------------|------|------|------|------|-------|-------|-------|-------|-------|-----------|-------|-------|-------|------------------|
|  | PRESSURE    | 150                                | 200  | 150  | 200  | 150  | 200   | 150   | 200   | 150   | 200   | 150       | 200   | 150   | 200   |                  |
| BENDS                                  | 90°         | 28.0                               | 37.0 | 57.0 | 75.0 | 97.0 | 129.0 | 146.0 | 194.0 | 206.0 | 274.0 | 276.0     | 368.0 | 357.0 | 476.0 | TO BE CALCULATED |
|  | 60°         | 24.0                               | 32.0 | 49.0 | 65.0 | 84.0 | 112.0 | 126.0 | 168.0 | 178.0 | 238.0 | 239.0     | 319.0 | 309.0 | 412.0 |                  |
|  | 45°         | 20.0                               | 26.0 | 40.0 | 53.0 | 69.0 | 91.0  | 103.0 | 137.0 | 146.0 | 194.0 | 196.0     | 261.0 | 253.0 | 337.0 |                  |
|  | 30°         | 14.0                               | 19.0 | 29.0 | 38.0 | 49.0 | 65.0  | 73.0  | 97.0  | 103.0 | 137.0 | 138.0     | 184.0 | 179.0 | 238.0 |                  |
|  | 22½°        | 11.0                               | 14.0 | 22.0 | 29.0 | 37.0 | 50.0  | 56.0  | 75.0  | 79.0  | 105.0 | 106.0     | 141.0 | 137.0 | 182.0 |                  |
| 11½°                                   | 6.0         | 8.0                                | 11.0 | 15.0 | 19.0 | 26.0 | 29.0  | 38.0  | 41.0  | 54.0  | 54.0  | 72.0      | 70.0  | 93.0  |       |                  |
| VALVE                                  | LENGTH (ft) | 1' MIN.                            |      |      |      |      |       |       |       |       |       | 1.5' MIN. |       |       |       |                  |
|  | HEIGHT (ft) | 0.7                                | 0.9  | 1.3  | 1.7  | 2.0  | 2.7   | 2.7   | 3.7   | 3.6   | 4.7   | 4.4       | 5.9   | 5.3   | 7.1   |                  |
|  | WIDTH (ft)  | TRENCH WIDTH + TWICE PIPE DIAMETER |      |      |      |      |       |       |       |       |       |           |       |       |       |                  |

**NOTES:**

1. CONCRETE SHOULD HAVE A 28-DAY COMPRESSIVE STRENGTH OF 2000 PSI MINIMUM.
2. CONCRETE SHALL BE POURED AGAINST UNDISTURBED SOIL.
3. ANCHOR ROD SHALL BE REINFORCING STEEL WITH A MINIMUM 1/2" DIAMETER.
4. ANCHOR ROD SHALL BE INSTALLED A MINIMUM 3" CLEAR FROM THE EDGE OF CONCRETE.



**WALNUT VALLEY WATER DISTRICT**

APPROVED BY:

*Erik Hitchman*

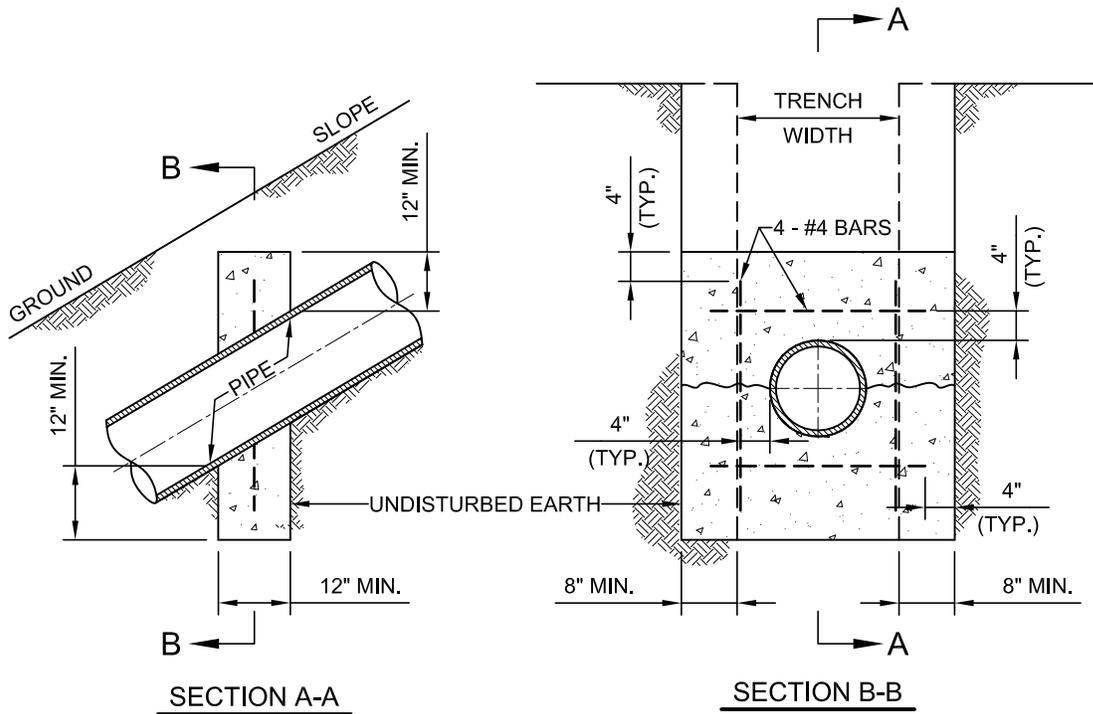
**ANCHOR BLOCKS**

STANDARD DRAWING No.

14

DRAWN BY: TD/ML

DATE: 02/05/10

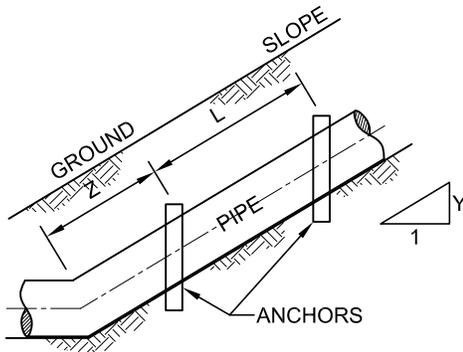


**PIPE ANCHOR DETAILS**

N.T.S.

**TABLE A**

| PIPE SLOPE (%)<br>Y:1 (100) | DISTANCE (L)<br>(MAX.) | DISTANCE (Z)<br>(MAX.) |
|-----------------------------|------------------------|------------------------|
| 100                         | 12'                    | 4'                     |
| 67                          | 14'                    | 8'                     |
| 50                          | 16'                    | 12'                    |
| 40                          | 18'                    | 18'                    |
| 33                          | 20'                    | 20'                    |



**ELEVATION**

**PIPE ANCHOR**

N.T.S.

**NOTES:**

1. CONCRETE FOR ANCHOR SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF AT LEAST 2000 psi.
2. TRENCH BACKFILL SHALL BE CONSOLIDATED BY MECHANICAL COMPACTION. IN LIEU OF MECHANICAL COMPACTION, SOIL CEMENT MAY BE USED. HOWEVER, THE TOP TWELVE INCHES (12") OF BACKFILL SHALL BE NATIVE SOIL, MECHANICALLY COMPACTED.
3. SPACING OF ANCHORS FOR PIPE SLOPES BETWEEN VALUES SHOWN IN TABLE "A" MAY BE PROPORTIONED.

| REVISIONS |  |
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**WALNUT VALLEY WATER DISTRICT**

APPROVED BY:

*Erik Hitchman*

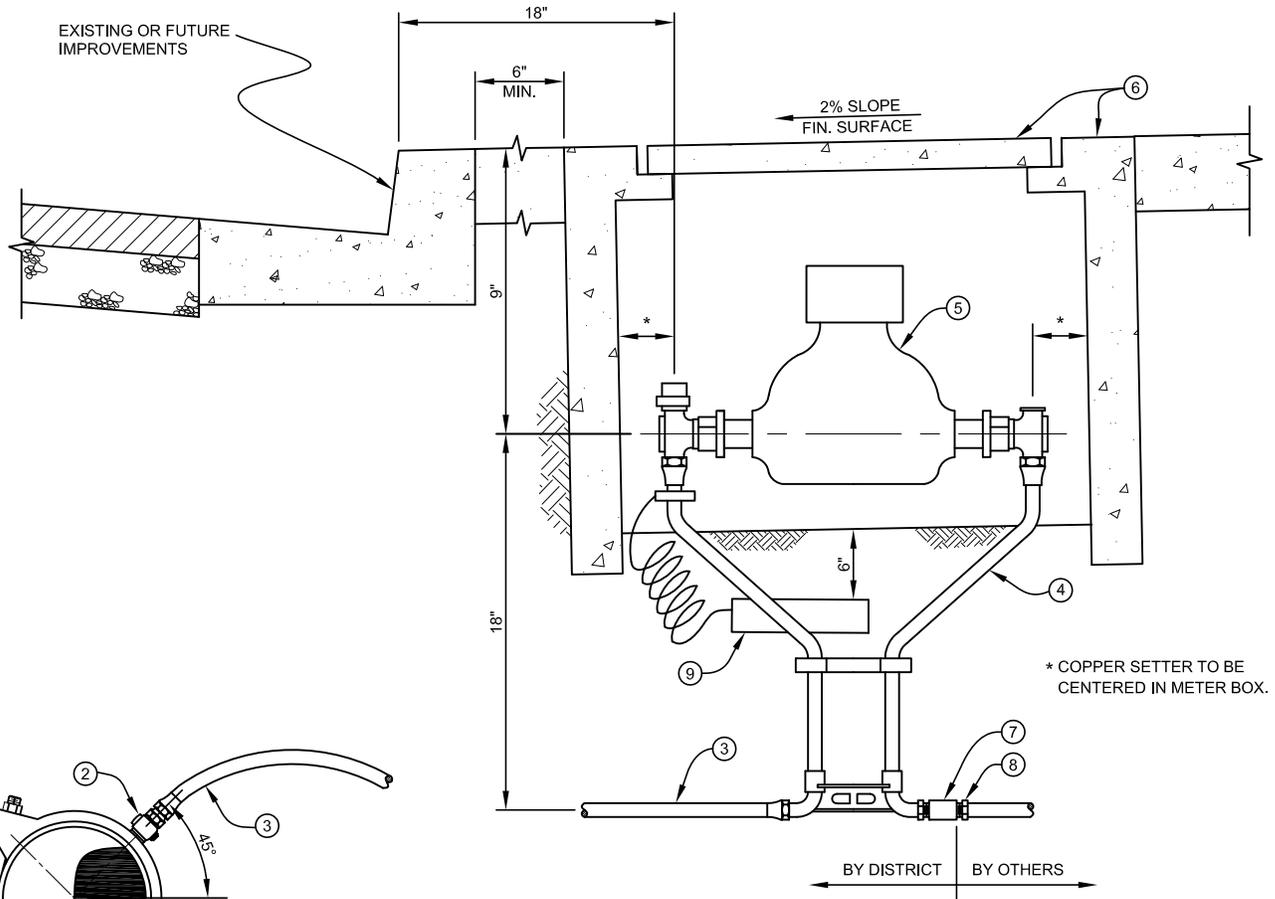
DRAWN BY: TD/ML

**SLOPED PIPE ANCHOR BLOCKS**

STANDARD DRAWING No.

15

DATE: 02/05/10



**NOTES:**

1. FOR CONNECTION TO STEEL PIPE, SEE STANDARD DRAWING NO. 5.
2. FOR DIRECT TAP, SEE STANDARD DRAWING NO. 17.
3. FOR RECYCLED WATER SYSTEM, INSTALLATION CONTRACTOR SHALL WRAP RECYCLED WARNING TAPE AROUND COPPER TUBING - TAPE SHALL BE FURNISHED BY THE DISTRICT.
4. FOR RECYCLED WATER SYSTEM, POLYMER CONCRETE METER BOX COVER AND READING LID SHALL BE PAINTED PURPLE AND MARKED "RECYCLED WATER".
5. FOR ADAPTED SERVICE, INSTALL ADAPTER SET TO FIT ADAPTED METER.
6. 12" AND SMALLER SADDLE SHALL BE SINGLE STRAP, LARGER THAN 12" SHALL BE DOUBLE STRAP.
7. SADDLE, CORPORATION STOP, AND COPPER TUBE SHALL BE WRAPPED WITH POLYETHYLENE FILM A MINIMUM OF 3 FEET FROM THE MAIN.
8. ALL TUBING, VALVES AND FITTINGS SHALL BE "LEAD FREE" CONTAINING NO MORE THAN 0.25% OF LEAD CONTENT BY WEIGHT.

| REVISIONS |    |
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| ITEM | QUAN. | DESCRIPTION  |
|------|-------|--|
| 1    | 1     | BRONZE SERVICE SADDLE WITH 3/4" TAP  |
| 2    | 1     | 3/4" BRONZE CORPORATION STOP, M.I.P. x FLARE   |
| 3    | -     | 3/4" COPPER TUBING, TYPE K SOFT  |
| 4    | 1     | 3/4" COPPER SETTER, 18" HIGH (FORD VH73-18W-18-33)   |
| 5    | 1     | 3/4" RADIO READ METER (BADGER MODEL 35)  |
| 6    | 1     | 13" x 24" x 13" POLYMER CONC. METER BOX (ARMORCAST A6001946PCX12)<br>13" x 24" POLYMER CONC. COVER W/ ORION RECESS (ARMORCAST A6001866DQ)<br>5" x 7" POLYMER CONC. READING LID MARKED "WATER" (ARMORCAST A6000487) |
| 7    | 1     | 3/4" STAINLESS STEEL REINFORCED SCH. 80 P.V.C COUPLING, F.I.P. x F.I.P.  |
| 8    | 1     | 3/4" P.V.C. THREADED PLUG  |
| 9    | 1     | ZINC ANODE   |

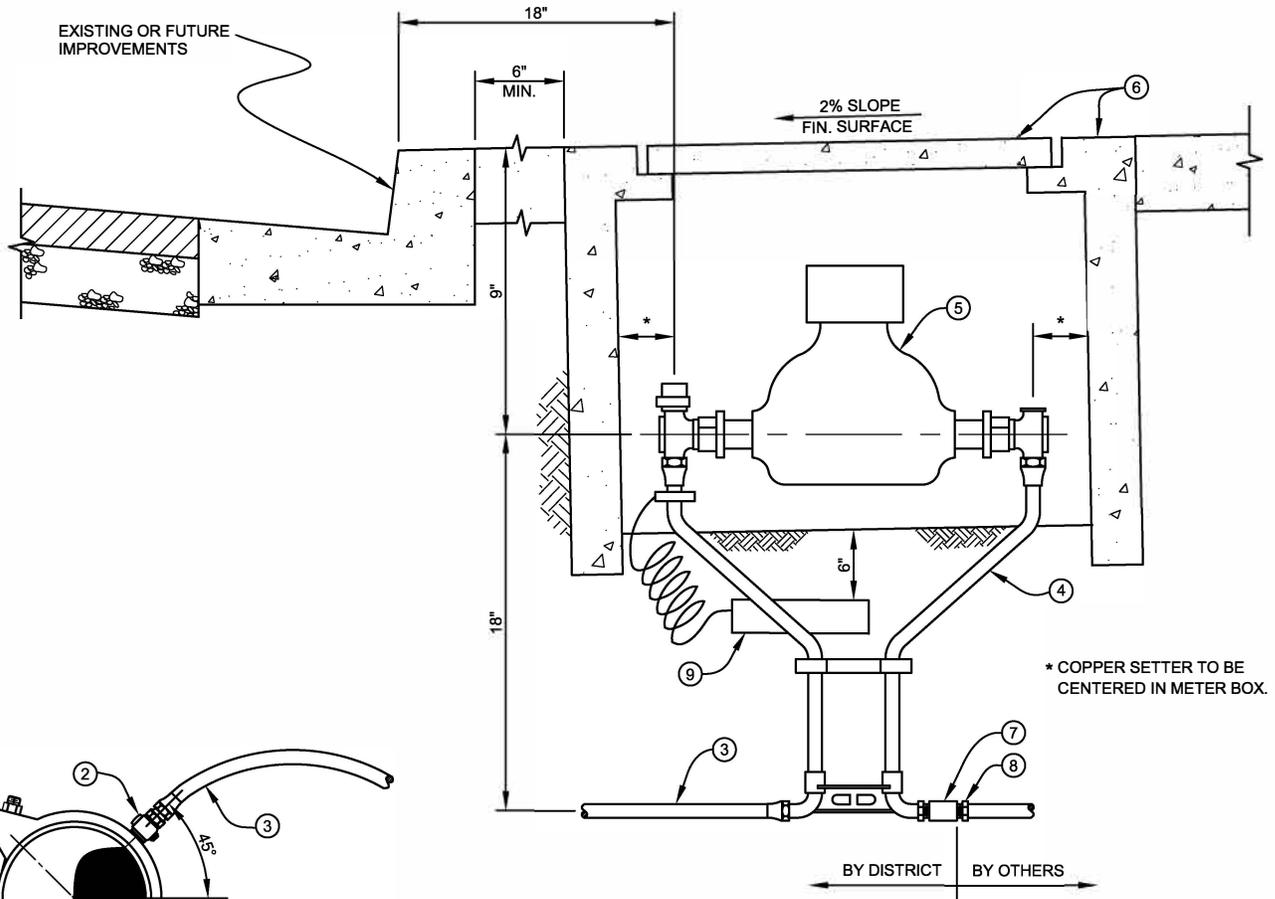


# WALNUT VALLEY WATER DISTRICT

APPROVED BY:  
*Erik Hitchman*  
DRAWN BY: AA/ML

## 3/4" WATER SERVICE ASSEMBLY

STANDARD DRAWING No.  
16  
DATE: 02/05/10



**NOTES:**

1. FOR CONNECTION TO STEEL PIPE, SEE STANDARD DRAWING NO. 5.
2. FOR DIRECT TAP, SEE STANDARD DRAWING NO. 17.
3. FOR RECYCLED WATER SYSTEM, INSTALLATION CONTRACTOR SHALL WRAP RECYCLED WARNING TAPE AROUND COPPER TUBING - TAPE SHALL BE FURNISHED BY THE DISTRICT.
4. FOR RECYCLED WATER SYSTEM, POLYMER CONCRETE METER BOX COVER AND READING LID SHALL BE PAINTED PURPLE AND MARKED "RECYCLED WATER".
5. FOR ADAPTED SERVICE, INSTALL ADAPTER SET TO FIT ADAPTED METER.
6. 12" AND SMALLER SADDLE SHALL BE SINGLE STRAP, LARGER THAN 12" SHALL BE DOUBLE STRAP.
7. SADDLE, CORPORATION STOP, AND COPPER TUBE SHALL BE WRAPPED WITH POLYETHYLENE FILM A MINIMUM OF 3 FEET FROM THE MAIN.
8. ALL TUBING, VALVES AND FITTINGS SHALL BE "LEAD FREE" CONTAINING NO MORE THAN 0.25% OF LEAD CONTENT BY WEIGHT.

| REVISIONS |    |
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| ITEM | QUAN. | DESCRIPTION  |
|------|-------|--|
| 1    | 1     | BRONZE SERVICE SADDLE WITH 1" TAP  |
| 2    | 1     | 1" BRONZE CORPORATION STOP, M.I.P. x FLARE   |
| 3    | -     | 1" COPPER TUBING, TYPE K SOFT  |
| 4    | 1     | 1" COPPER SETTER, 18" HIGH (FORD VH74-18W-18-44)   |
| 5    | 1     | 1" RADIO READ METER (BADGER MODEL 70)  |
| 6    | 1     | 13" x 24" x 13" POLYMER CONC. METER BOX (ARMORCAST A6001946PCX12)<br>13" x 24" POLYMER CONC. COVER W/ ORION RECESS (ARMORCAST A6001866DQ)<br>5" x 7" POLYMER CONC. READING LID MARKED "WATER" (ARMORCAST A6000487) |
| 7    | 1     | 1" STAINLESS STEEL REINFORCED SCH. 80 P.V.C COUPLING, F.I.P. x F.I.P.  |
| 8    | 1     | 1" P.V.C. THREADED PLUG  |
| 9    | 1     | ZINC ANODE   |

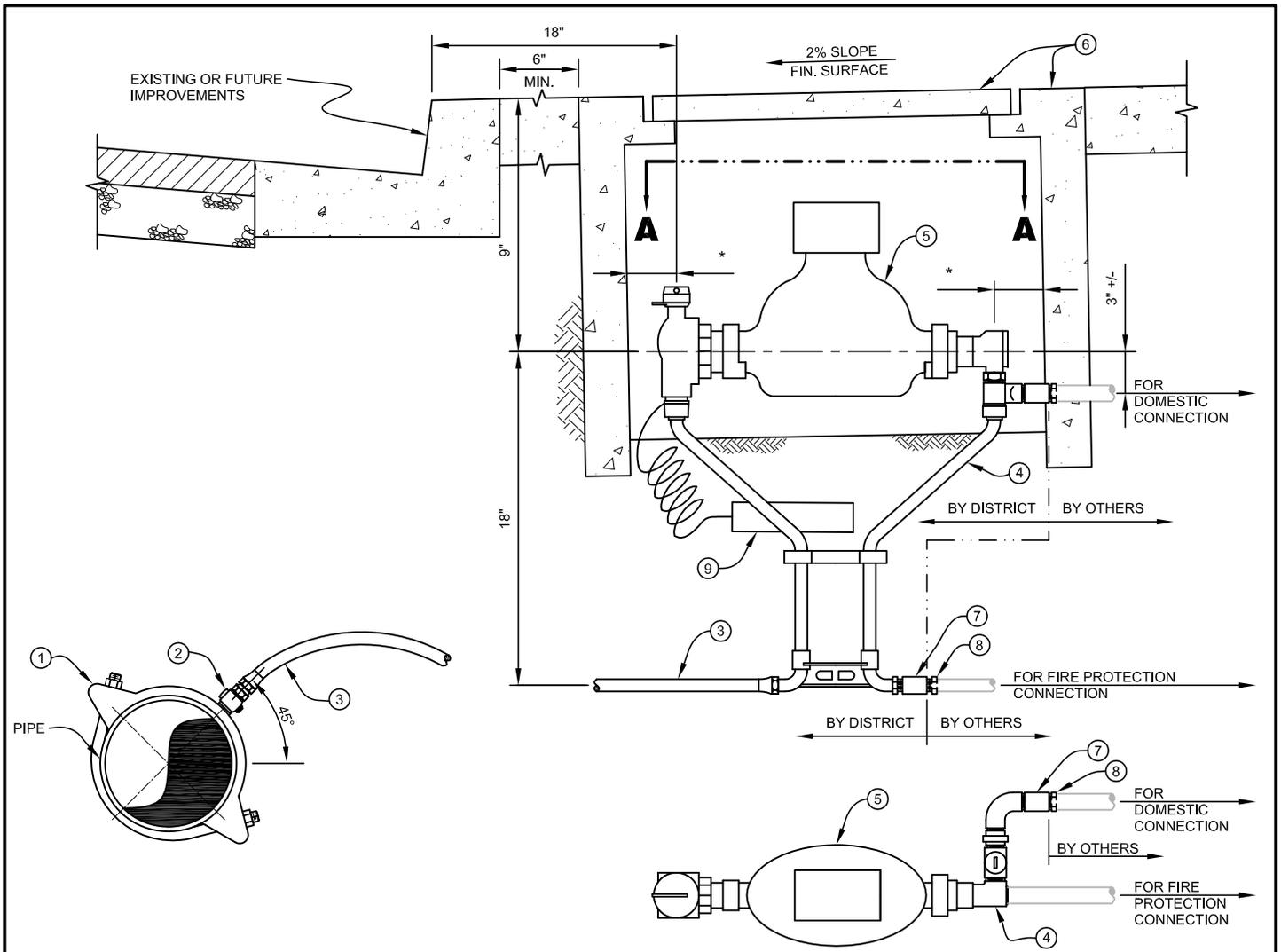


# WALNUT VALLEY WATER DISTRICT

APPROVED BY:  
*Erik Hitchman*  
DRAWN BY: AA/ML

## 1" WATER SERVICE ASSEMBLY

STANDARD DRAWING No.  
**16.A**  
DATE: 02/05/10



**SECTION A-A**

**NOTES:**

1. FOR CONNECTION TO STEEL PIPE, SEE STANDARD DRAWING NO. 5.
2. FOR DIRECT TAP, SEE STANDARD DRAWING NO. 17.
3. FOR ADAPTED SERVICE, INSTALL ADAPTER SET TO FIT ADAPTED METER.
4. 12" AND SMALLER SADDLE SHALL BE SINGLE STRAP, LARGER THAN 12" SHALL BE DOUBLE STRAP.
5. SADDLE, CORPORATION STOP, AND COPPER TUBE SHALL BE WRAPPED WITH POLYETHYLENE FILM A MINIMUM OF 3 FEET FROM THE MAIN.
6. ALL TUBING, VALVES AND FITTINGS SHALL BE "LEAD FREE" CONTAINING NO MORE THAN 0.25% OF LEAD CONTENT BY WEIGHT.
- \* COPPER SETTER TO BE CENTERED IN METER BOX.

| REVISIONS |    |
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| ITEM | QUAN. | DESCRIPTION   |
|------|-------|---|
| 1    | 1     | BRONZE SERVICE SADDLE WITH 1" TAP   |
| 2    | 1     | 1" BRONZE CORPORATION STOP, M.I.P. x FLARE  |
| 3    | -     | 1" COPPER TUBING, TYPE K SOFT   |
| 4    | 1     | 1" COPPER SETTER WITH DUAL OUTLET CONNECTIONS, 18" HIGH (FORD VBH74-95217-007-NL)   |
| 5    | 1     | 1" RADIO READ METER (BADGER MODEL 70)   |
| 6    | 1     | 17" x 30" x 12" POLYMER CONC. METER BOX (ARMORCAST A6001640PCX12)<br>17" x 30" POLYMER CONC. COVER W/ ORION RECESS (ARMORCAST A6001643DZ)<br>9" x 14" POLYMER CONC. READING LID MARKED "WATER" (ARMORCAST A6000482) |
| 7    | 2     | 1" STAINLESS STEEL REINFORCED SCH. 80 P.V.C COUPLING, F.I.P. x F.I.P.   |
| 8    | 2     | 1" P.V.C. THREADED PLUG   |
| 9    | 1     | ZINC ANODE  |

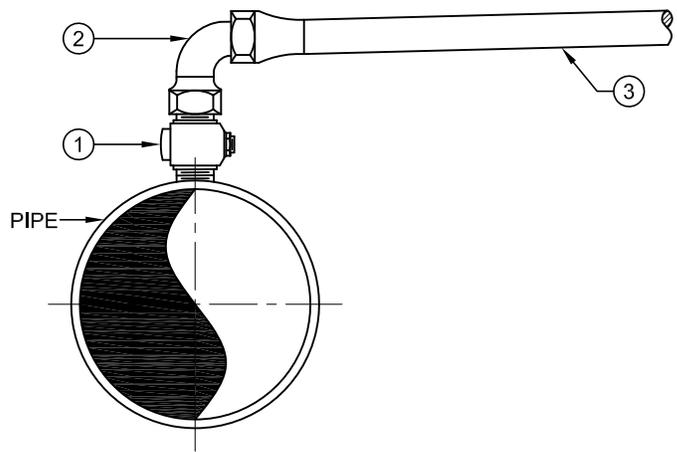
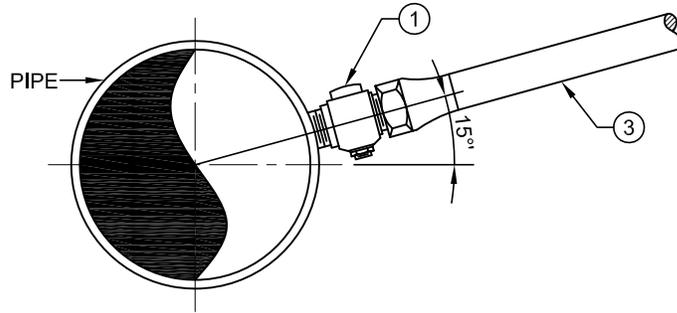


**WALNUT VALLEY WATER DISTRICT**

APPROVED BY:  
*Erik Hitchman*  
DRAWN BY: VD/TD

1" WATER SERVICE ASSEMBLY  
(FOR RESIDENTIAL ONLY)

STANDARD DRAWING No.  
**(16.R)**  
DATE: 01/31/11



**NOTES:**

1. CORPORATION STOP AND COPPER TUBING SHALL BE WRAPPED WITH POLYETHYLENE FILM A MINIMUM OF 3 FEET FROM MAIN.
2. ALL TUBING, VALVES AND FITTINGS SHALL BE "LEAD FREE" CONTAINING NO MORE THAN 0.25% OF LEAD CONTENT BY WEIGHT.

MAXIMUM RECOMMENDED DIRECT TAP SIZE FOR 3" THROUGH 18"

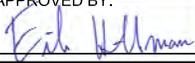
| SIZE (IN) | PRESSURE CLASS |     |       |       |       |
|-----------|----------------|-----|-------|-------|-------|
|           | 150            | 200 | 250   | 300   | 350   |
| 3         | -              | -   | -     | -     | 3/4   |
| 4         | -              | -   | -     | -     | 3/4   |
| 6         | -              | -   | -     | -     | 1     |
| 8         | -              | -   | -     | -     | 1     |
| 10        | -              | -   | -     | -     | 1     |
| 12        | -              | -   | -     | -     | 1 1/4 |
| 14        | -              | -   | 1 1/4 | 1 1/2 | 1 1/2 |
| 16        | -              | -   | 1 1/2 | 2     | 2     |
| 18        | -              | -   | 2     | 2     | 2     |

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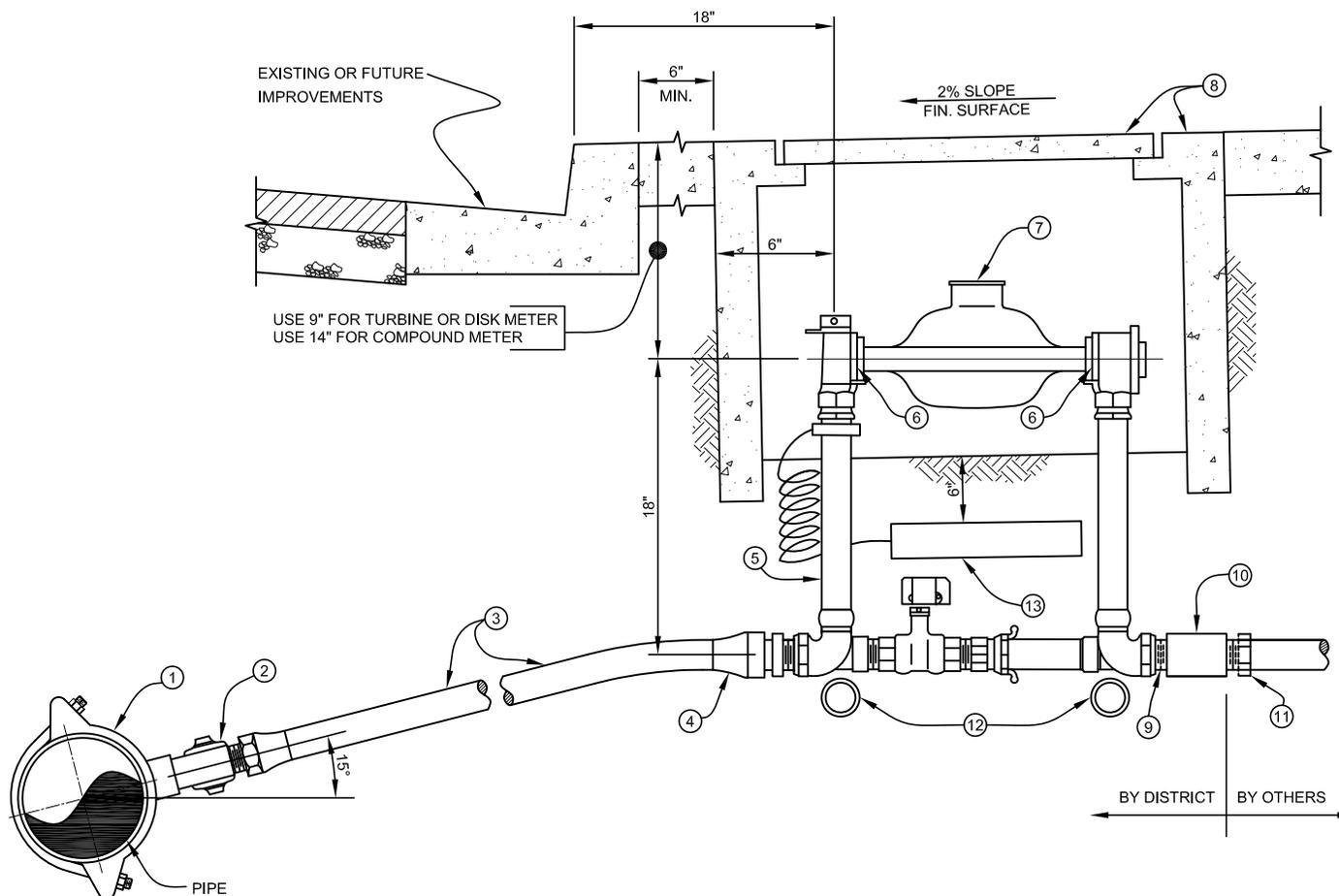
| ITEM | QUAN. | DESCRIPTION                             |
|------|-------|---|
| 1    | 1     | BRONZE CORPORATION STOP, M.I.P. x FLARE |
| 2    | 1     | 90° COPPER BEND, F.C.T. x FLARE         |
| 3    | -     | COPPER TUBING, TYPE "K" SOFT            |

**WALNUT VALLEY WATER DISTRICT**

APPROVED BY:  
  
 DRAWN BY: TD/VD

**DIRECT TAP FOR DUCTILE IRON PIPE**

STANDARD DRAWING No.  
 17  
 DATE: 02/05/10



**NOTES:**

1. FOR CONNECTION TO STEEL MAIN, SEE STANDARD DRAWING No. 5.
2. FOR DIRECT TAP, SEE STANDARD DRAWING No. 17.
3. FOR RECYCLED WATER SYSTEM, INSTALLATION CONTRACTOR SHALL WRAP RECYCLED WARNING TAPE AROUND COPPER TUBING - TAPE SHALL BE FURNISHED BY THE DISTRICT.
4. FOR RECYCLED WATER SYSTEM, POLYMER CONCRETE METER BOX COVER AND READING LID SHALL BE PAINTED PURPLE AND MARKED "RECYCLED WATER".
5. FOR ADAPTED SERVICE, INSTALL ADAPTER SET TO FIT THE ADAPTED METER.
6. SADDLE, CORPORATION STOP, AND COPPER TUBE SHALL BE WRAPPED WITH POLYETHYLENE FILM A MINIMUM OF 3 FEET FROM THE WATER MAIN.
7. ALL TUBING, VALVES AND FITTINGS SHALL BE "LEAD FREE" CONTAINING NO MORE THAN 0.25% OF LEAD CONTENT BY WEIGHT.

| ITEM | QUAN. | DESCRIPTION   |
|------|-------|---|
| 1    | 1     | BRONZE DOUBLE-STRAP SERVICE SADDLE WITH 1 1/2" TAP  |
| 2    | 1     | 1 1/2" BRONZE CORPORATION STOP, M.I.P. x FLARE  |
| 3    | -     | 1 1/2" COPPER TUBING, TYPE "K" SOFT   |
| 4    | 1     | 1 1/2" COPPER COUPLING M.I.P. x FLARE   |
| 5    | 1     | 1 1/2" CUSTOM SETTER WITH BY-PASS, 18" HIGH (FORD VH76-18B-11-66)   |
| 6    | 1     | SET OF 1 1/2" SILICONE BRONZE NUTS AND BOLTS AND FULL-FACE CLOTH-INSERTED GASKET  |
| 7    | 1     | 1 1/2" RADIO READ METER (BADGER MODEL 120)  |
| 8    | 1     | 17" x 30" x 12" POLYMER CONC. METER BOX (ARMORCAST A6001640PCX12)<br>17" x 30" POLYMER CONC. COVER W/ ORION RECESS (ARMORCAST A6001643DZ)<br>9" x 14" POLYMER CONC. READING LID MARKED "WATER" (ARMORCAST A6000482) |
| 9    | 1     | 1 1/2" BRASS CLOSE NIPPLE   |
| 10   | 1     | 1 1/2" STAINLESS STEEL REINFORCED SCH. 80 P.V.C. COUPLING, F.I.P. x F.I.P.  |
| 11   | 1     | 1 1/2" P.V.C. THREADED PLUG   |
| 12   | 1     | REDWOOD OR 1" SCH. 40 P.V.C. PIPE CROSS BRACE   |
| 13   | 1     | ZINC ANODE  |

| REVISIONS |    |
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# WALNUT VALLEY WATER DISTRICT

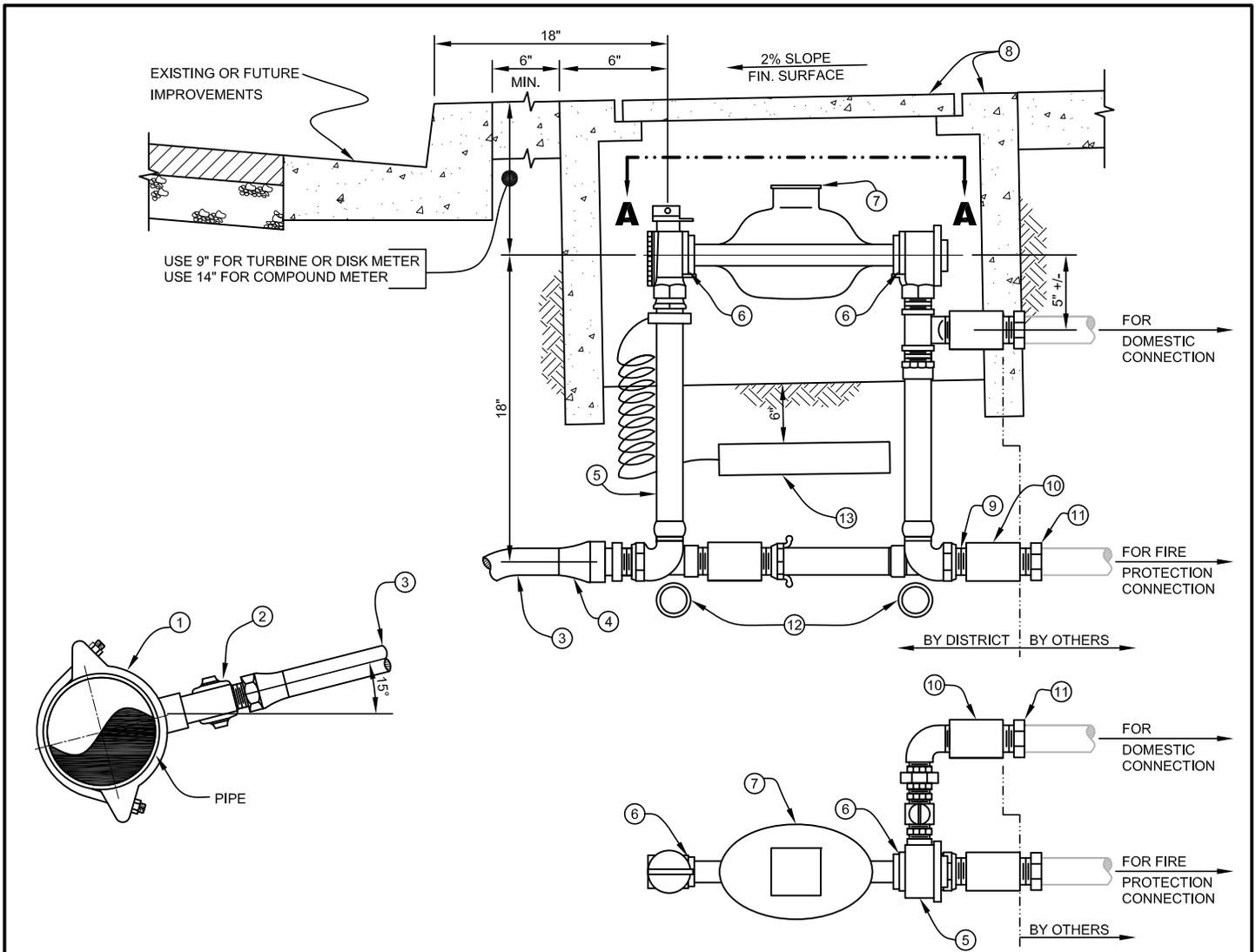
APPROVED BY:  
*Erik Hitchman*

DRAWN BY: AA/ML

1 1/2" WATER SERVICE ASSEMBLY

STANDARD DRAWING No.  
**18**

DATE: 02/05/10



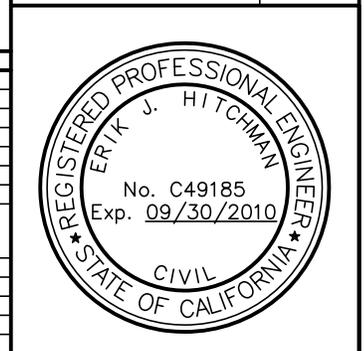
**SECTION A-A**

**NOTES:**

1. FOR CONNECTION TO STEEL MAIN, SEE STANDARD DRAWING No. 5.
2. FOR DIRECT TAP, SEE STANDARD DRAWING No. 17.
3. FOR ADAPTED SERVICE, INSTALL ADAPTER SET TO FIT THE ADAPTED METER.
4. SADDLE, CORPORATION STOP, AND COPPER TUBE SHALL BE WRAPPED WITH POLYETHYLENE FILM A MINIMUM OF 3 FEET FROM THE WATER MAIN.
5. ALL TUBING, VALVES AND FITTINGS SHALL BE "LEAD FREE" CONTAINING NO MORE THAN 0.25% OF LEAD CONTENT BY WEIGHT.

| ITEM | QUAN. | DESCRIPTION   |
|------|-------|---|
| 1    | 1     | BRONZE DOUBLE-STRAP SERVICE SADDLE WITH 1 1/2" TAP  |
| 2    | 1     | 1 1/2" BRONZE CORPORATION STOP, M.I.P. x FLARE  |
| 3    | -     | 1 1/2" COPPER TUBING, TYPE "K" SOFT   |
| 4    | 1     | 1 1/2" COPPER COUPLING M.I.P. x FLARE   |
| 5    | 1     | 1 1/2" CUSTOM SETTER WITHOUT BY-PASS, 18" HIGH (FORD VBH76-95037-123-NL)  |
| 6    | 1     | SET OF 1 1/2" SILICONE BRONZE NUTS AND BOLTS AND FULL-FACE CLOTH-INSERTED GASKET  |
| 7    | 1     | 1 1/2" RADIO READ METER (BADGER MODEL 120)  |
| 8    | 1     | 24" x 36" x 12" POLYMER CONC. METER BOX (ARMORCAST A6001974PCX12)<br>24" x 36" POLYMER CONC. COVER W/ ORION RECESS (ARMORCAST A6001975DZ)<br>9" x 14" POLYMER CONC. READING LID MARKED "WATER" (ARMORCAST A6000482) |
| 9    | 1     | 1 1/2" BRASS CLOSE NIPPLE   |
| 10   | 2     | 1 1/2" STAINLESS STEEL REINFORCED SCH. 80 P.V.C. COUPLING, F.I.P. x F.I.P.  |
| 11   | 2     | 1 1/2" P.V.C. THREADED PLUG   |
| 12   | 1     | REDWOOD OR 1" SCH. 40 P.V.C. PIPE CROSS BRACE   |
| 13   | 1     | ZINC ANODE  |

| REVISIONS |    |
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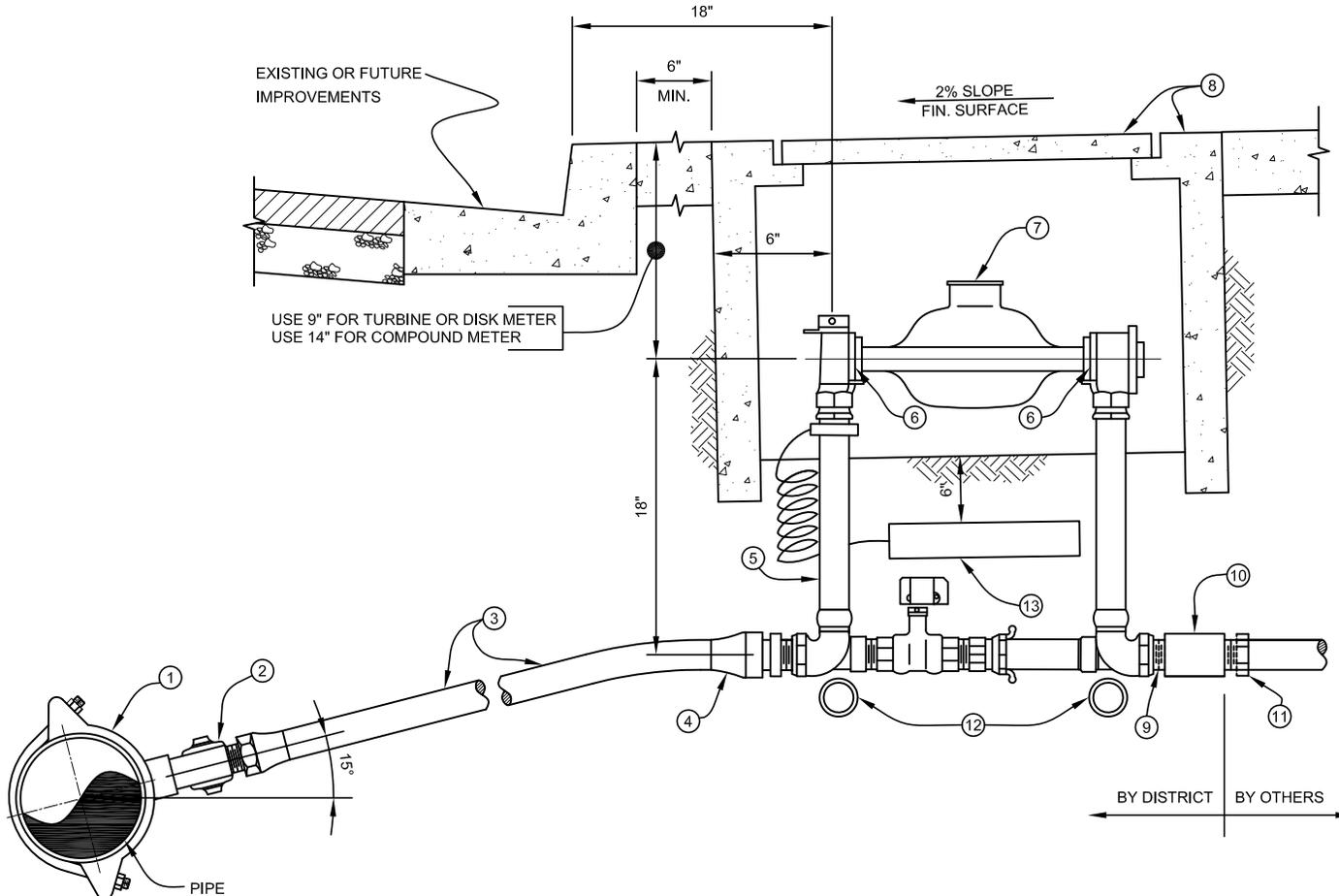


**WALNUT VALLEY WATER DISTRICT**

APPROVED BY:  
*Erik Hitchman*  
DRAWN BY: VD/TD

1 1/2" WATER SERVICE ASSEMBLY  
(FOR RESIDENTIAL ONLY)

STANDARD DRAWING No.  
**(18.R)**  
DATE: 01/31/11



**NOTES:**

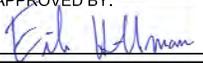
1. FOR CONNECTION TO STEEL MAIN, SEE STANDARD DRAWING No. 5.
2. FOR DIRECT TAP, SEE STANDARD DRAWING No. 17.
3. FOR RECYCLED WATER SYSTEM, INSTALLATION CONTRACTOR SHALL WRAP RECYCLED WARNING TAPE AROUND COPPER TUBING - TAPE SHALL BE FURNISHED BY THE DISTRICT.
4. FOR RECYCLED WATER SYSTEM, POLYMER CONCRETE METER BOX COVER AND READING LID SHALL BE PAINTED PURPLE AND MARKED "RECYCLED WATER".
5. FOR ADAPTED SERVICE, INSTALL ADAPTER SET TO FIT THE ADAPTED METER.
6. SADDLE, CORPORATION STOP, AND COPPER TUBE SHALL BE WRAPPED WITH POLYETHYLENE FILM A MINIMUM OF 3 FEET FROM THE WATER MAIN.
7. ALL TUBING, VALVES AND FITTINGS SHALL BE "LEAD FREE" CONTAINING NO MORE THAN 0.25% OF LEAD CONTENT BY WEIGHT.

| REVISIONS |    |
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| ITEM | QUAN. | DESCRIPTION   |
|------|-------|---|
| 1    | 1     | BRONZE DOUBLE-STRAP SERVICE SADDLE WITH 2" TAP  |
| 2    | 1     | 2" BRONZE CORPORATION STOP, M.I.P. x FLARE  |
| 3    | -     | 2" COPPER TUBING, TYPE "K" SOFT   |
| 4    | 1     | 2" COPPER COUPLING M.I.P. x FLARE   |
| 5    | 1     | 2" CUSTOM SETTER WITH BY-PASS, 18" HIGH (FORD VH77-18B-11-77)   |
| 6    | 1     | SET OF 2" SILICONE BRONZE NUTS AND BOLTS AND FULL-FACE CLOTH-INSERTED GASKET  |
| 7    | 1     | 2" RADIO READ METER (BADGER MODEL 170)  |
| 8    | 1     | 17" x 30" x 12" POLYMER CONC. METER BOX (ARMORCAST A6001640PCX12)<br>17" x 30" POLYMER CONC. COVER W/ ORION RECESS (ARMORCAST A6001643DZ)<br>9" x 14" POLYMER CONC. READING LID MARKED "WATER" (ARMORCAST A6000482) |
| 9    | 1     | 2" BRASS CLOSE NIPPLE   |
| 10   | 1     | 2" STAINLESS STEEL REINFORCED SCH. 80 P.V.C. COUPLING, F.I.P. x F.I.P.  |
| 11   | 1     | 2" P.V.C. THREADED PLUG   |
| 12   | 1     | REDWOOD OR 1" SCH. 40 P.V.C. PIPE CROSS BRACE   |
| 13   | 1     | ZINC ANODE  |

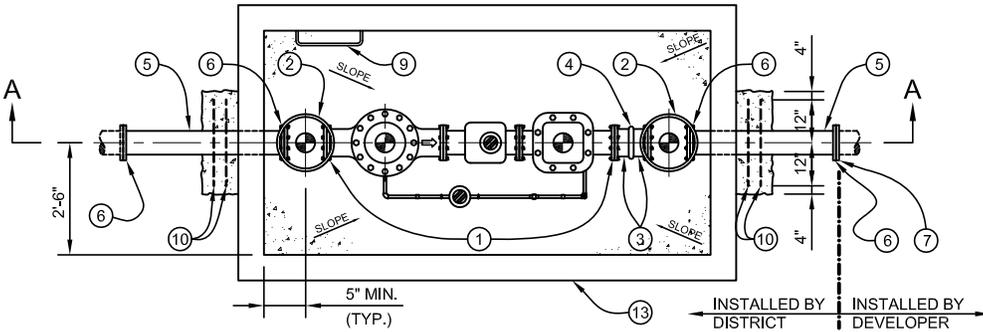


# WALNUT VALLEY WATER DISTRICT

APPROVED BY:  
  
 DRAWN BY: AA/ML

2" WATER SERVICE ASSEMBLY

STANDARD DRAWING No.  
18.A  
 DATE: 02/05/10

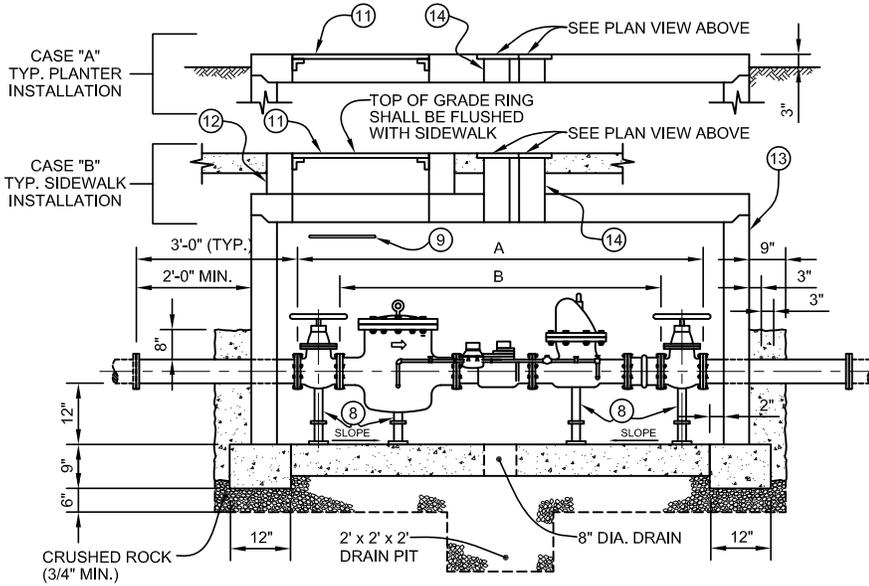


**PLAN**  
N.T.S.

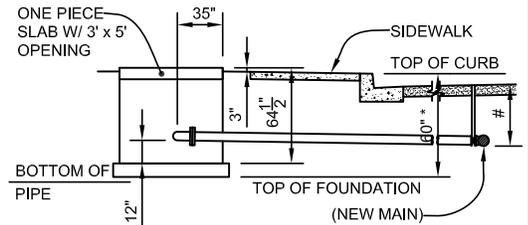
- LEGENDS:**
- DENOTES LOCATION OF PIPE SUPPORT IN PLAN
  - ⊙ DENOTES LOCATION OF CORE DRILLED 6"Ø HOLES - FIT WITH VALVE SLEEVE AND LID AS REQUIRED
  - # 64" FOR 12" OR SMALLER MAINS
  - ## 60" FOR 12" OR SMALLER MAINS
  - \* EXACT DEPTH OF FOUNDATION SHALL BE DETERMINED IN FIELD

**DIMENSION**

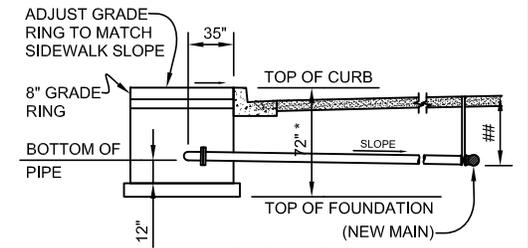
| SIZE | A      | B     |
|------|--------|-------|
| 4"   | 4'-11" | 2'-9" |
| 6"   | 6'-2"  | 3'-9" |
| 8"   | 7'-0"  | 4'-5" |



**SECTION A-A**  
N.T.S.



**CASE "A"**  
N.T.S.



**CASE "B"**  
N.T.S.

**NOTE:**

1. THE DEVELOPER SHALL SUPPLY AND INSTALL AN APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION DEVICE AT EACH METER ASSEMBLY PRIOR TO DISTRICT PROVIDING PERMANENT DOMESTIC SERVICE.
2. ALL EXPOSED BURIED METAL SHALL BE COATED WITH "METER GUARD 301" CORROSION PROTECTION GREASE. GREASE SHALL BE FURNISHED BY THE CONTRACTOR.
3. ALL PIPE, VALVES AND FITTINGS SHALL BE "LEAD FREE" CONTAINING NO MORE THAN 0.25% OF LEAD CONTENT BY WEIGHT.

| ITEM | QUAN. | DESCRIPTION   |
|------|-------|---|
| 1    | 1     | METER ASSEMBLY (BADGER METER)   |
| 2    | 2     | GATE VALVES, FLANGED WITH N.R.S. HANDWHEEL  |
| 3    | 2     | STEEL SPOOLS, F.E. x VIC. END (4" LONG)   |
| 4    | 1     | VICTAULIC COUPLING, STYLE 77  |
| 5    | -     | STEEL M.L.&C. PIPE (CUT-TO-FIT IN FIELD)  |
| 6    | 4     | SLIP-ON WELD FLANGE FLAT-FACED 150#   |
| 7    | 1     | BLIND FLANGE FLAT-FACED 150#  |
| 8    | 4     | ADJUSTABLE PIPE SUPPORT (STD. DWG. No. 21)  |
| 9    | 1     | GALVANIZED STEEL LADDER WITH WALL BRACKETS (ALHAMBRA A-3400)  |
| 10   | 4     | #4 REBAR, WELDED TO PIPE  |
| 11   | 1     | 3' x 5' HINGED DIAMOND PLATE COVER, GALVANIZE, WITH LOCKING MECHANISM   |
| 12   | 1     | 3' x 5' GRADE RING (CASE "A", 12" HIGH; CASE "B", 8" HIGH)  |
| 13   | 1     | PRECAST CONCRETE VALUT (BEST CONCRETE PRODUCTS MC-5 OR EQUAL) 5' x 7' FOR 4" METER, 5' x 8' FOR 6" OR 8" METER (INSIDE DIMENSION) |
| 14   | 2     | 6" VALVE CANS AND LIDS (CENTERED ABOVE METER READ DIALS)  |

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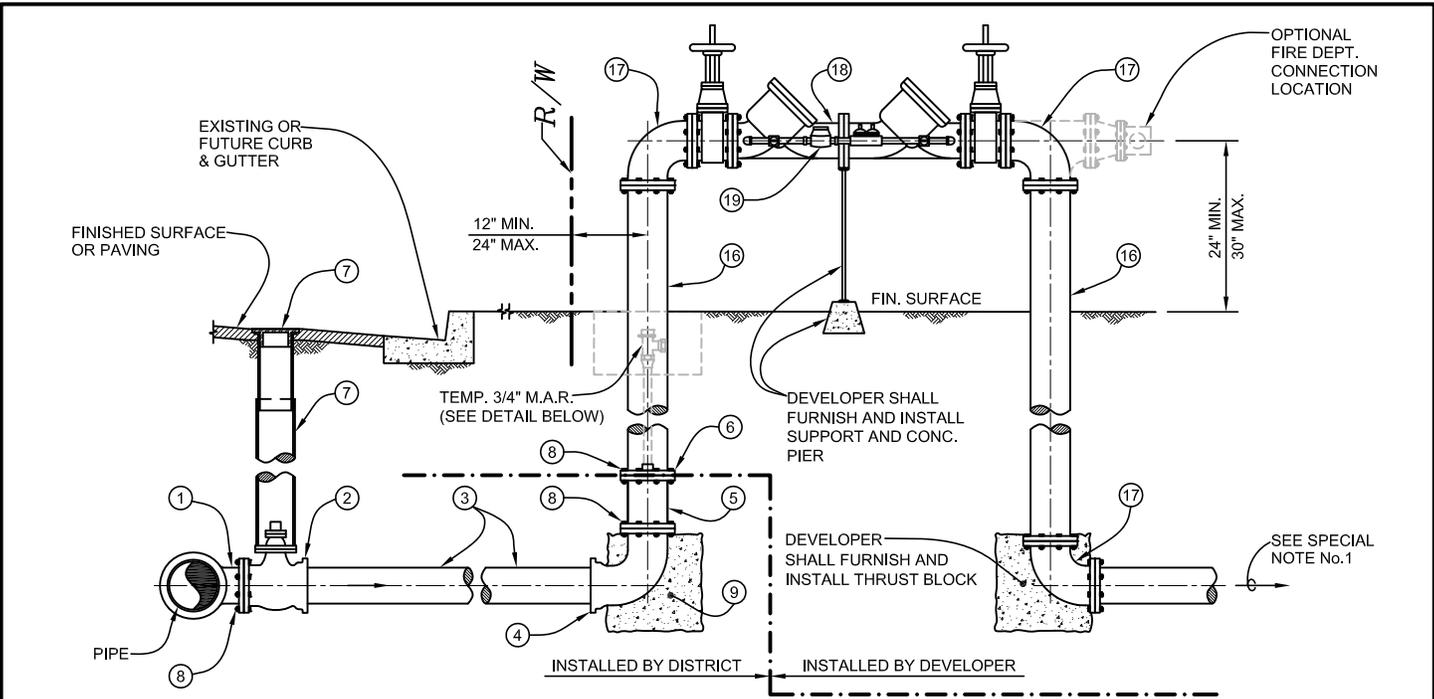


**WALNUT VALLEY WATER DISTRICT**

APPROVED BY:  
*Erik Hitchman*  
DRAWN BY: TD/ML

**LARGE METER ASSEMBLY (4", 6" & 8")**

STANDARD DRAWING No.  
**19**  
DATE: 02/05/10



**TYP. DOUBLE DETECTOR CHECK ASSEMBLY**

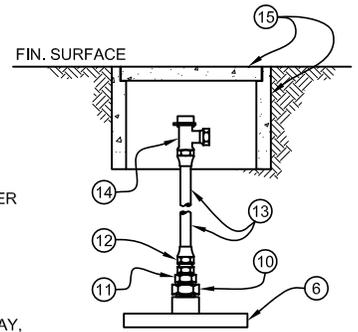
N.T.S.

**NOTES:**

1. ITEMS No. 1-15 FROM WATER MAIN TO STREET RIGHT-OF-WAY AND ITEM No. 19 SHALL BE FURNISHED, INSTALLED AND MAINTAINED BY THE DISTRICT; THE DEVELOPER SHALL PAY ALL COST FOR THE WORK. ITEMS No. 16-18 AND MATERIALS FOR ON-SITE SHALL BE FURNISHED AND INSTALLED BY THE DEVELOPER.
2. ANY DEVIATION FROM DESIGN OR MATERIALS SHOWN HEREON WITHOUT WRITTEN PERMISSION OF THE DISTRICT WILL PRECLUDE PERMANENT WATER SERVICE FOR FIRE PROTECTION.
3. THE OWNER WILL BE RESPONSIBLE FOR THE OPERATION, REPAIR AND MAINTENANCE OF ALL FACILITIES INSTALLED FOR FIRE SERVICE DOWNSTREAM OF THE DISTRICT STUB-OUT.
4. THE OWNER SHALL NOTIFY THE DISTRICT AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO ANY TESTING OR OTHER USE OF WATER FROM THE FIRE PROTECTION SYSTEM.
5. THE MAKE, MODEL, SIZE, SERIAL NUMBER OF THE DOUBLE DETECTOR CHECK AND THE DATE OF INSTALLATION SHALL BE PROVIDED TO THE DISTRICT UPON COMPLETION OF ITS INSTALLATION.
6. THE DISTRICT WILL CHARGE THE OWNER FOR ANY UNAUTHORIZED USE OF WATER FROM THIS FIRE SERVICE OR ITS APPURTENANCES.
7. THIS FIRE LINE SHALL NOT INTERCONNECT WITH ANY OTHER WATER SYSTEM.
8. THE DOUBLE DETECTOR CHECK ASSEMBLY SHALL BE LOCATED IN A PROTECTED AREA, OUTSIDE OF THE STREET RIGHT-OF-WAY, AT A LOCATION ACCEPTABLE TO BOTH THE DISTRICT AND APPLICANT.
9. TEST COCKS FITTED WITH BRASS PLUGS SHALL BE PROVIDED FOR THE MAINLINE AND BY-PASS DOUBLE DETECTOR CHECKS.
10. THE DISTRICT RESERVES THE RIGHT TO DETERMINE THE LOCATION OF THE BY-PASS ASSEMBLY IN RELATION TO THE DOUBLE DETECTOR CHECK VALVE.
11. TEMPORARY BLIND FLANGE WITH TAP AND THREE-QUATER INCH (3/4") MANUAL AIR RELEASE ASSEMBLY SHALL BE RETURNED TO THE DISTRICT AFTER DEVELOPER HAS CONNECTED TO THE FIRE SERVICE.
12. ALL EXPOSED BURIED METAL SHALL BE COATED WITH "METAL GUARD 301" CORROSION PROTECTION GREASE. GREASE SHALL BE FURNISHED BY THE CONTRACTOR.
13. ALL PIPE, VALVES AND FITTINGS SHALL BE "LEAD FREE" CONTAINING NO MORE THAN 0.25% OF LEAD CONTENT BY WEIGHT.

**SPECIAL NOTES:**

1. ON-SITE PUMPING OR LOOP SYSTEM WILL REQUIRE INSTALLATION OF A REDUCED PRESSURE PRINCIPLE DETECTOR BACKFLOW PREVENTION DEVICE (EPOXY-LINED) IN LIEU OF A DOUBLE DETECTOR CHECK ASSEMBLY. INTERIOR OF DOUBLE CHECK ASSEMBLY SHALL BE EPOXY LINED (4 MILS) OR GALVANIZED. ALL BY-PASS FITTINGS AND PIPES SHALL BE BRASS OR BRONZE.



**3/4" M.A.R. DETAIL**

N.T.S.

| REVISIONS |    |
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| 06/14/11  | TD |
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| ITEM | QUAN. | DESCRIPTION  |
|------|-------|--|
| 1    | 1     | FLANGED OUTLET   |
| 2    | 1     | GATE VALVE   |
| 3    | -     | PIPE (DUCTILE-IRON OR STEEL M.L.&C. PIPE)  |
| 4    | 1     | 90° BEND, TY x FL  |
| 5    | 1     | FLANGED SPOOL, FLAT-FACE 150#, 12" LONG  |
| 6    | 1     | BLIND FLANGE FLAT-FACE 150# WITH 2" I.P.T. TAP   |
| 7    | 1     | VALVE CAN ASSEMBLY (STD. DWG. No. 11)  |
| 8    | -     | SET OF NUTS, BOLTS, AND FULL-FACE NON-ASBESTOS GASKET  |
| 9    | 1     | THRUST BLOCK (STD. DWG. No. 13)  |
| 10   | 1     | 2" x 1" GALVANIZED BUSHING, I.P.T.   |
| 11   | 1     | 1" x 3/4" BRASS BUSHING, I.P.T.  |
| 12   | 1     | 3/4" COPPER COUPLING, M.I.P. x FLARE   |
| 13   | -     | 3/4" COPPER TUBING, TYPE K SOFT  |
| 14   | 1     | 3/4" BRONZE ANGLE METER STOP WITH LOCKWING   |
| 15   | 1     | 13" x 24" x 12" POLYMER CONC. METER BOX (ARMORCAST A6001946PCX12)<br>13" x 24" COVER MARKED "WATER" (ARMORCAST A6001866DQ)<br>5" x 7" READING LID (ARMORCAST A6000487) |
| 16   | 2     | SCHEDULE 40 STEEL FLANGED SPOOL M.L.&C. OR DUCTILE-IRON FLANGED SPOOL  |
| 17   | 3     | 90° BEND, FL x FL  |
| 18   | 1     | DISTRICT APPROVED DOUBLE DETECTOR CHECK VALVE WITH 3/4" BRASS OR BRONZE BY-PASS (SEE SPECIAL NOTE No. 1)   |
| 19   | 1     | 5/8" x 3/4" RADIO READ METER (BADGER MODEL M25)  |

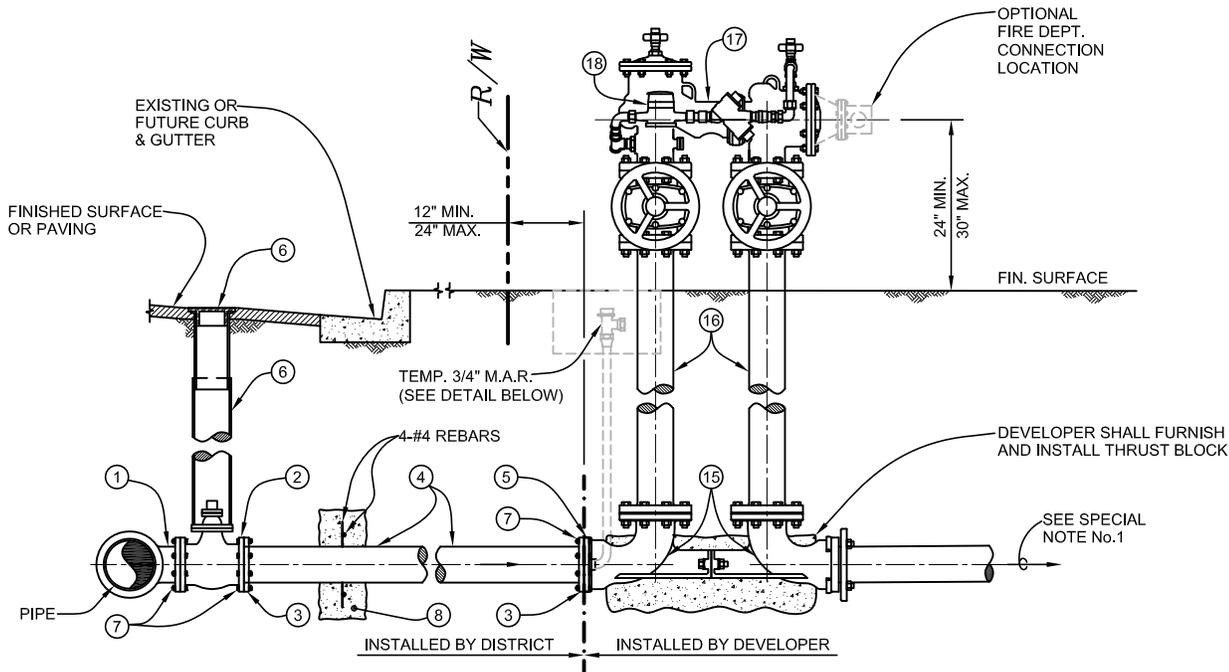


**WALNUT VALLEY WATER DISTRICT**

APPROVED BY:  
*Erik Hitchman*  
DRAWN BY: TD/ML

FIRE SERVICE ASSEMBLY (6", 8" & 10")  
WITH DOUBLE DETECTOR CHECK ASSEMBLY

STANDARD DRAWING No.  
**20A**  
DATE: 02/05/10



**TYP. DOUBLE DETECTOR CHECK ASSEMBLY**

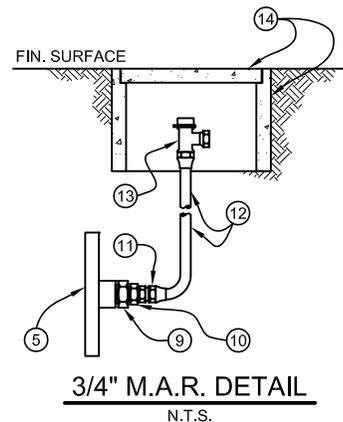
N.T.S.

**NOTES:**

1. ITEMS No. 1-14 FROM WATER MAIN TO STREET RIGHT-OF-WAY AND ITEM No. 18 SHALL BE FURNISHED, INSTALLED AND MAINTAINED BY THE DISTRICT; THE DEVELOPER SHALL PAY ALL COST FOR THE WORK. ITEMS No. 15-17 AND MATERIALS FOR ON-SITE SHALL BE FURNISHED AND INSTALLED BY THE DEVELOPER.
2. ANY DEVIATION FROM DESIGN OR MATERIALS SHOWN HEREON WITHOUT WRITTEN PERMISSION OF THE DISTRICT WILL PRECLUDE PERMANENT WATER SERVICE FOR FIRE PROTECTION.
3. THE OWNER WILL BE RESPONSIBLE FOR THE OPERATION, REPAIR AND MAINTENANCE OF ALL FACILITIES INSTALLED FOR FIRE SERVICE DOWNSTREAM OF THE DISTRICT STUB-OUT.
4. THE OWNER SHALL NOTIFY THE DISTRICT AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO ANY TESTING OR OTHER USE OF WATER FROM THE FIRE PROTECTION SYSTEM.
5. THE MAKE, MODEL, SIZE, SERIAL NUMBER OF THE DOUBLE DETECTOR CHECK AND THE DATE OF INSTALLATION SHALL BE PROVIDED TO THE DISTRICT UPON COMPLETION OF ITS INSTALLATION.
6. THE DISTRICT WILL CHARGE THE OWNER FOR ANY UNAUTHORIZED USE OF WATER FROM THIS FIRE SERVICE OR ITS APPURTENANCES.
7. THIS FIRE LINE SHALL NOT INTERCONNECT WITH ANY OTHER WATER SYSTEM.
8. THE DOUBLE DETECTOR CHECK ASSEMBLY SHALL BE LOCATED IN A PROTECTED AREA, OUTSIDE OF THE STREET RIGHT-OF-WAY, AT A LOCATION ACCEPTABLE TO BOTH THE DISTRICT AND APPLICANT.
9. TEST COCKS FITTED WITH BRASS PLUGS SHALL BE PROVIDED FOR THE MAINLINE AND BY-PASS DOUBLE DETECTOR CHECKS.
10. THE DISTRICT RESERVES THE RIGHT TO DETERMINE THE LOCATION OF THE BY-PASS ASSEMBLY IN RELATION TO THE DOUBLE DETECTOR CHECK VALVE.
11. TEMPORARY BLIND FLANGE WITH TAP AND THREE-QUARTER INCH (3/4") MANUAL AIR RELEASE ASSEMBLY SHALL BE RETURNED TO THE DISTRICT AFTER DEVELOPER HAS CONNECTED TO THE FIRE SERVICE.
12. ALL EXPOSED BURIED METAL SHALL BE COATED WITH "METAL GUARD 301" CORROSION PROTECTION GREASE. GREASE SHALL BE FURNISHED BY THE CONTRACTOR.
13. ALL PIPE, VALVES AND FITTINGS SHALL BE "LEAD FREE" CONTAINING NO MORE THAN 0.25% OF LEAD CONTENT BY WEIGHT.

**SPECIAL NOTES:**

1. ON-SITE PUMPING OR LOOP SYSTEM WILL REQUIRE INSTALLATION OF A REDUCED PRESSURE PRINCIPLE DETECTOR BACKFLOW PREVENTION DEVICE (EPOXY-LINED) IN LIEU OF A DOUBLE DETECTOR CHECK ASSEMBLY. INTERIOR OF DOUBLE CHECK ASSEMBLY SHALL BE EPOXY LINED (4 MILS) OR GALVANIZED. ALL BY-PASS FITTINGS AND PIPES SHALL BE BRASS OR BRONZE.



| REVISIONS |    |
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| ITEM | QUAN. | DESCRIPTION  |
|------|-------|--|
| 1    | 1     | FLANGED OUTLET   |
| 2    | 1     | GATE VALVE, FL x FL  |
| 3    | 2     | SLIP-ON WELD FLANGE FLAT-FACE 150#   |
| 4    | -     | STEEL M.L.&C. PIPE   |
| 5    | 1     | BLIND FLANGE FLAT-FACE 150# WITH 2" I.P.T. TAP   |
| 6    | 1     | VALVE CAN ASSEMBLY (STD. DWG. No. 11)  |
| 7    | 3     | SET OF NUTS, BOLTS, AND FULL-FACE NON-ASBESTOS GASKET  |
| 8    | 1     | ANCHOR BLOCK (STD. DWG. No. 14)  |
| 9    | 1     | 2" x 1" GALVANIZED BUSHING, I.P.T.   |
| 10   | 1     | 1" x 3/4" BRASS BUSHING, I.P.T.  |
| 11   | 1     | 3/4" COPPER COUPLING, M.I.P. x FLARE   |
| 12   | -     | 3/4" COPPER TUBING, TYPE K SOFT  |
| 13   | 1     | 3/4" BRONZE ANGLE METER STOP WITH LOCKWING   |
| 14   | 1     | 13" x 24" x 12" POLYMER CONC. METER BOX (ARMORCAST A6001946PCX12)<br>13" x 24" COVER MARKED "WATER" (ARMORCAST A6001866DQ)<br>5" x 7" READING LID (ARMORCAST A6000487) |
| 15   | 1     | SCHEDULE 40 STEEL FLANGED SPOOL M.L.&C. OR DUCTILE-IRON FLANGED SPOOL  |
| 16   | 1     | VALVE SETTER FOR DOUBLE DETECTOR CHECK VALVE   |
| 17   | 1     | DISTRICT APPROVED DOUBLE DETECTOR CHECK VALVE WITH 3/4" BRASS OR BRONZE BY-PASS (SEE SPECIAL NOTE No. 1  |
| 18   | 1     | 5/8" x 3/4" RADIO READ METER (BADGER MODEL M25)  |

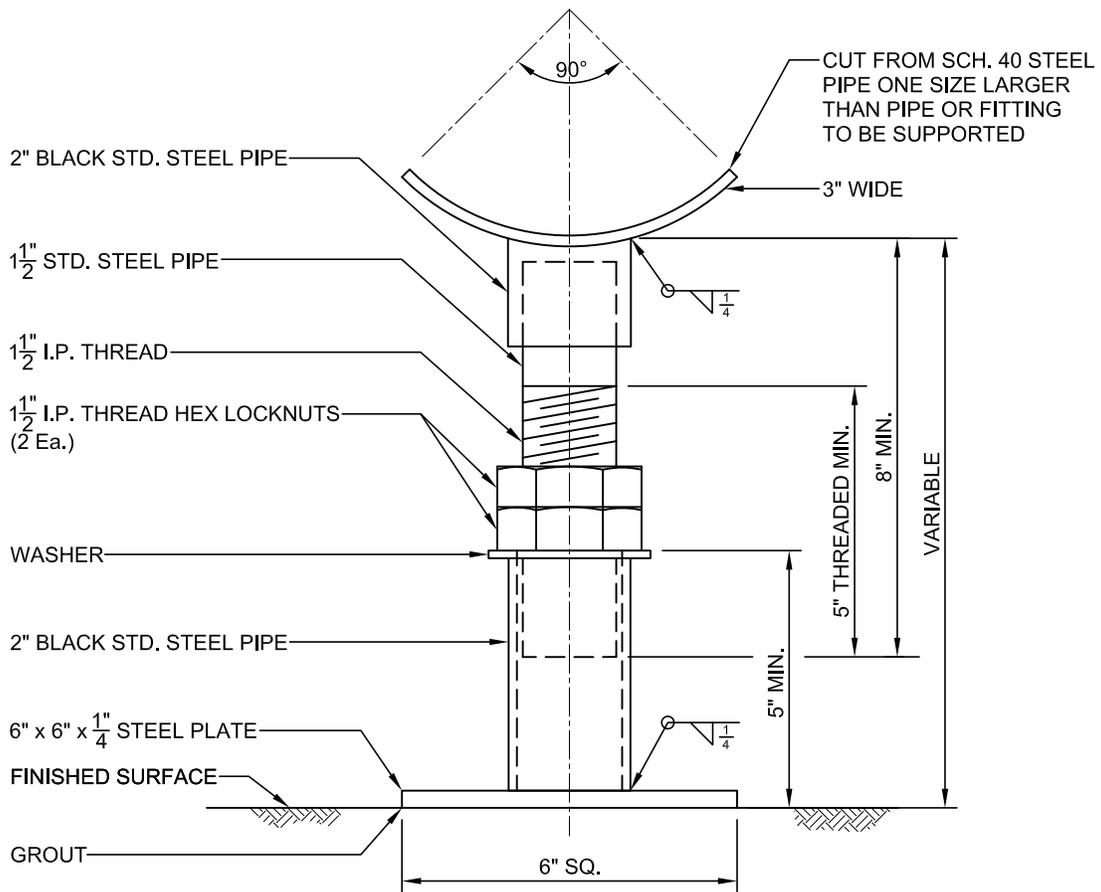


**WALNUT VALLEY WATER DISTRICT**

APPROVED BY:  
*Erik Hitchman*  
DRAWN BY: TD/ML

ALTERNATE FIRE SERVICE ASSEMBLY (6", 8" & 10")  
WITH COMPACT DOUBLE DETECTOR CHECK ASSEMBLY

STANDARD DRAWING No.  
**20B**  
DATE: 02/05/10



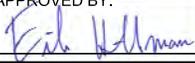
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**NOTE:**

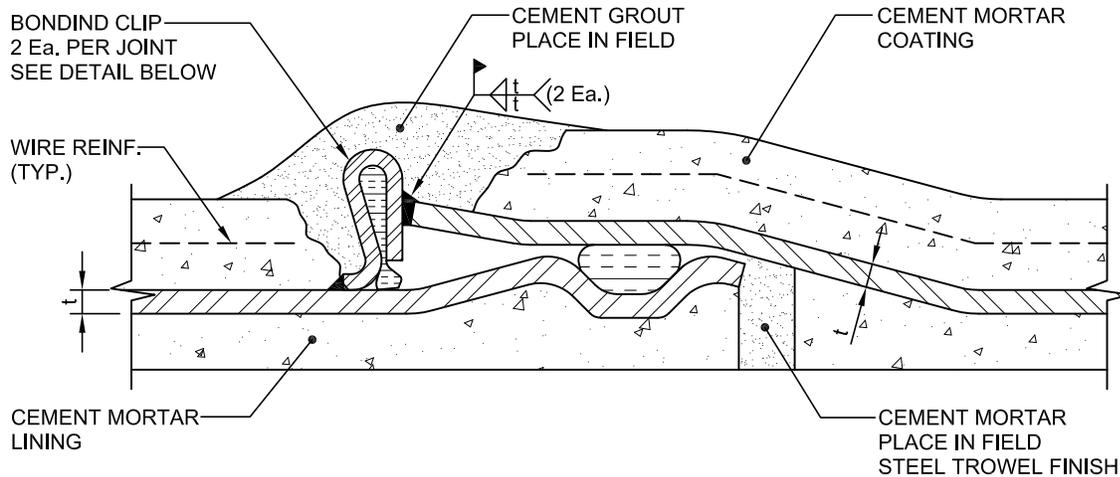
ALL EXPOSED METAL SURFACES TO BE PAINTED IN ACCORDANCE WITH THE DISTRICT SPECIFICATIONS, EXCEPT FOR THE THREADS.

# WALNUT VALLEY WATER DISTRICT

APPROVED BY:  
  
 DRAWN BY: TD/ML

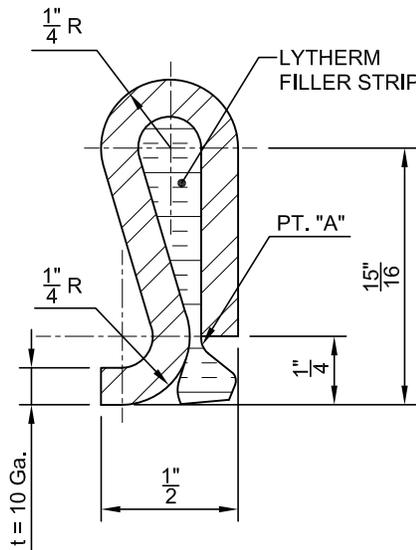
ADJUSTABLE PIPE SUPPORT

STANDARD DRAWING No.  
 (21)  
 DATE: 02/05/10



**BONDING CLIP WELDING DETAIL**

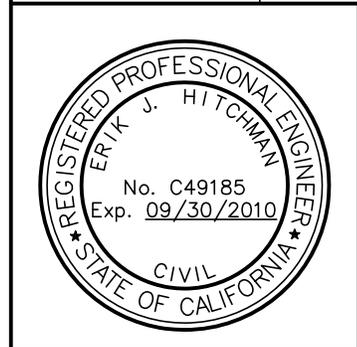
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**BONDING CLIP DETAIL**

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**NOTES:**

- BONDING CLIP SHALL BE SPACED 45° FROM TOP OF PIPE.
- CEMENT MORTAR LINING AND COATING APPLY IN FIELD SHALL CONFORM TO SECTION 4.6 "FIELD JOINT" OF AWWA C205-95.
- FIELD WELDING SHALL CONFORM TO AWWA C206-97.

**WALNUT VALLEY WATER DISTRICT**

APPROVED BY:

*Erik Hitchman*

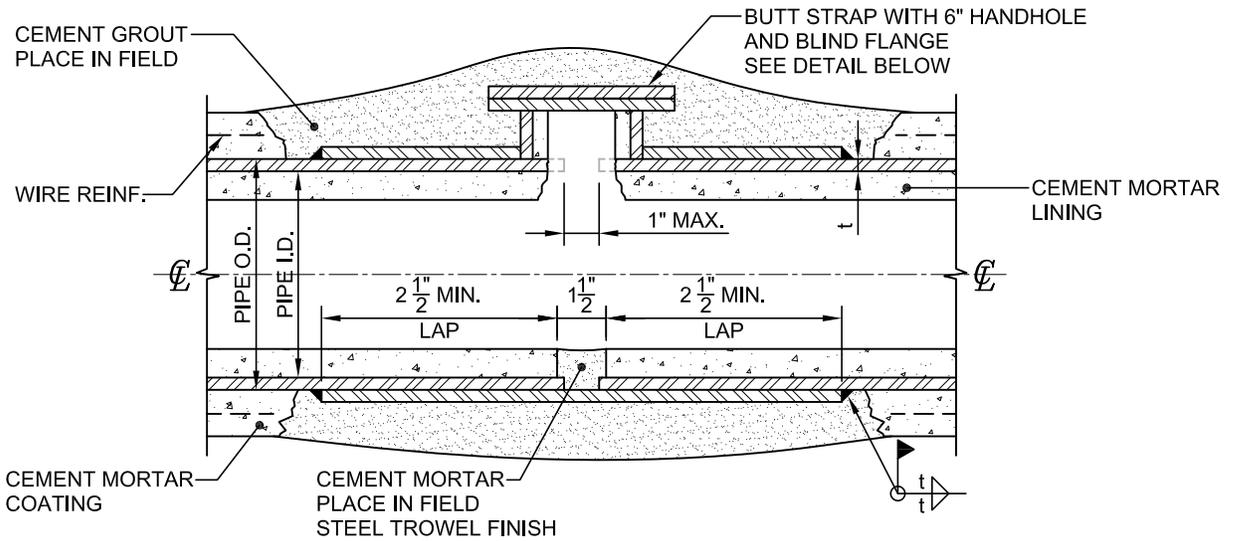
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RUBBER GASKET BELL-AND-SPIGOT JOINT  
WITH BOND CLIP

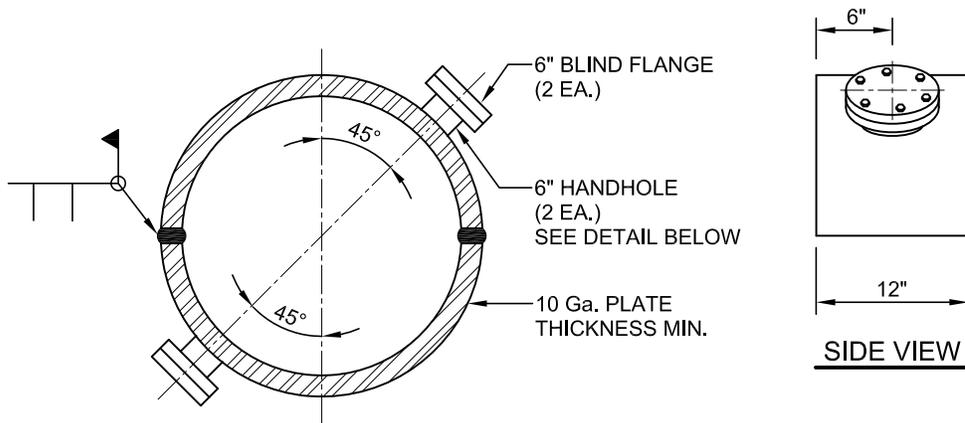
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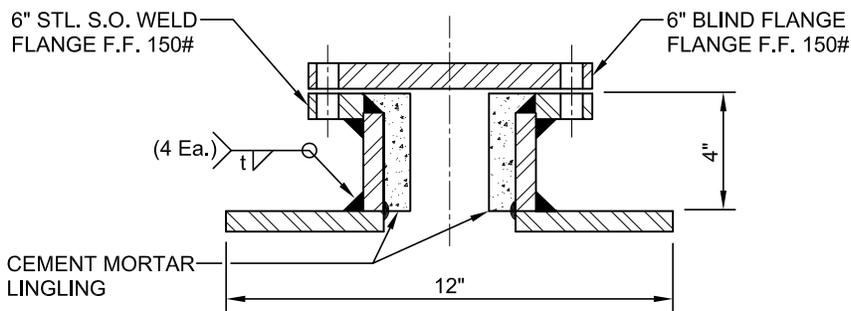
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**BUTT STRAP WELDING DETAIL**

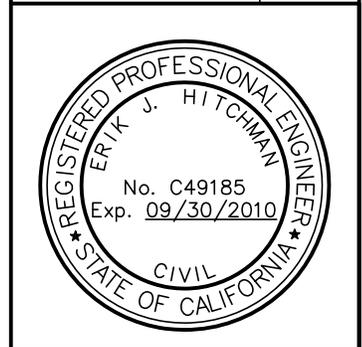


**BUTT STRAP DETAIL**



**HANDHOLE DETAIL**

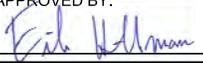
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**NOTES:**

1. BUTT STRAP SHALL BE SHIPPED IN HALVES AND BARE.
2. CEMENT MORTAR LINE AND COATING APPLY IN FIELD SHALL CONFORM WITH SECTION 4.6 "FIELD JOINT" OF AWWA STANDARD C205-95.
3. ALL FABRICATED STEEL FITTINGS SHALL CONFORM TO AWWA C-200 AND C208-96.

**WALNUT VALLEY WATER DISTRICT**

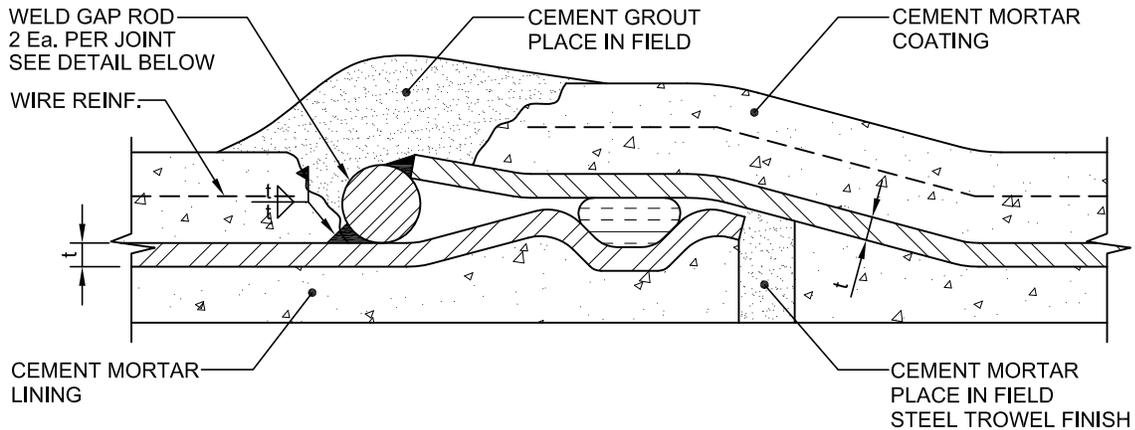
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BUTT STRAP ENCLOSURE

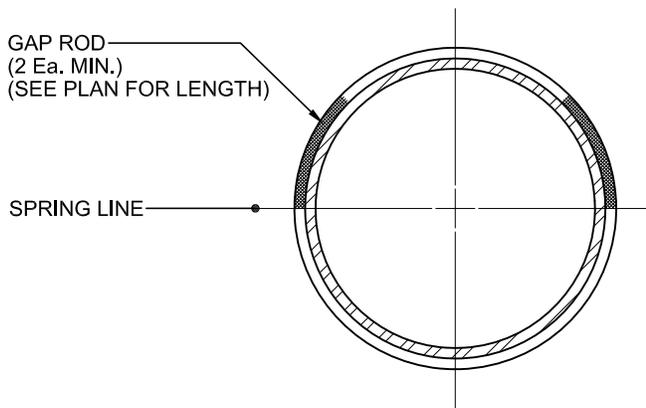
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DATE: 02/05/10

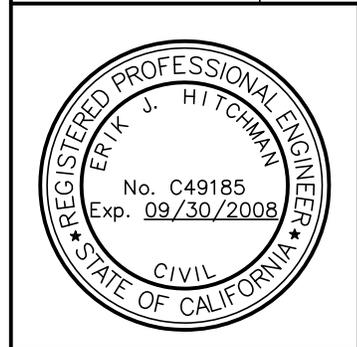


**GAP ROD WELDING DETAIL**



**CROSS SECTION**

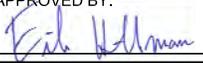
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**NOTES:**

1. GAP ROD SHALL BE WELDING ON.
2. CEMENT MORTAR LINING AND COATING APPLY IN FIELD SHALL CONFORM TO SECTION 4.6 "FIELD JOINT" OF AWWA C205-95.
3. FIELD WELDING SHALL CONFORM TO AWWA C206-97.

**WALNUT VALLEY WATER DISTRICT**

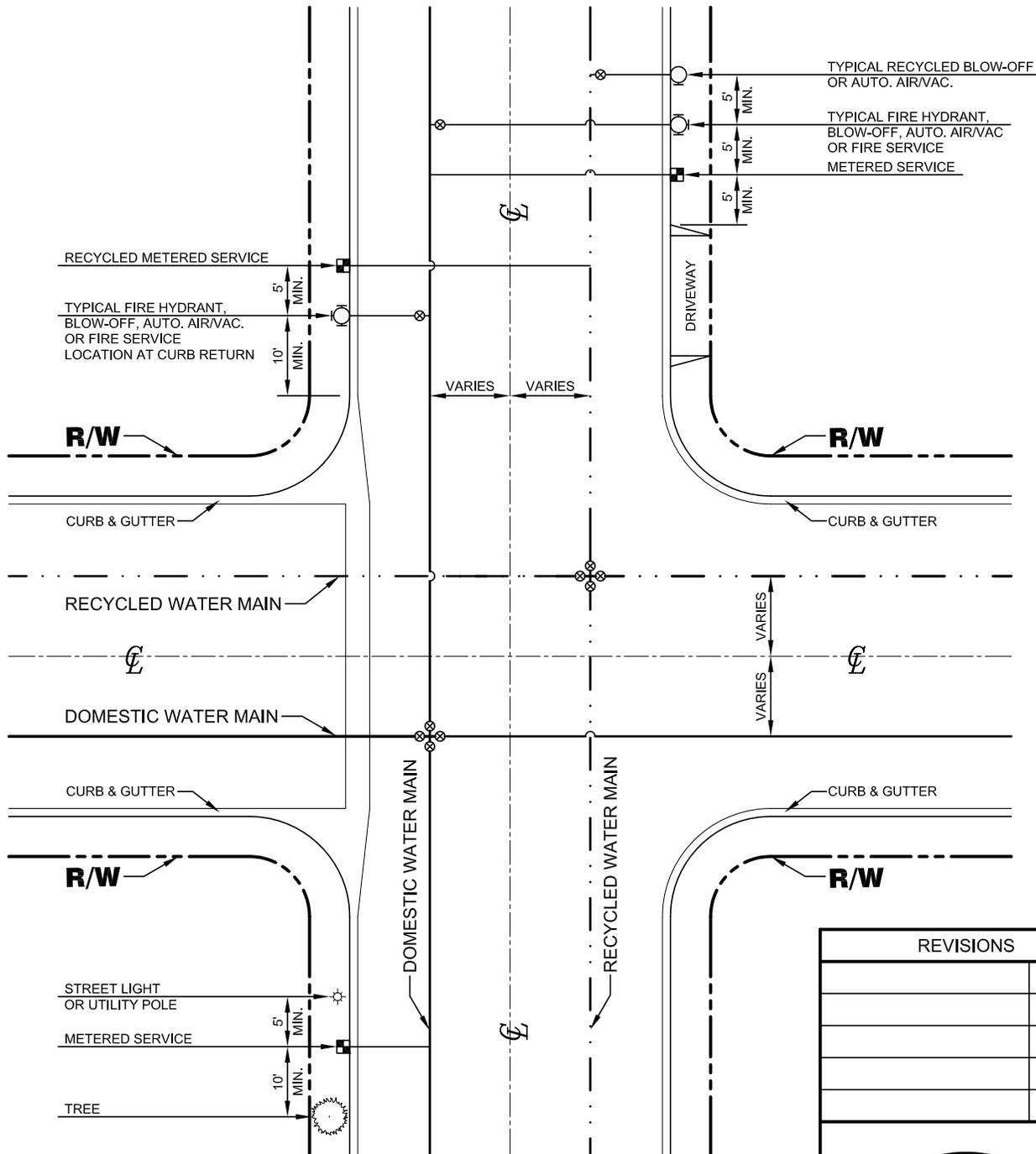
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 DRAWN BY: TD/ML

RUBBER GASKET BELL-AND-SPIGOT JOINT  
 WITH GAP ROD WELD JOINT DETAIL

STANDARD DRAWING No.

24

DATE: 02/05/10



TYPICAL RECYCLED BLOW-OFF OR AUTO. AIR/VAC.  
 TYPICAL FIRE HYDRANT, BLOW-OFF, AUTO. AIR/VAC OR FIRE SERVICE  
 METERED SERVICE

RECYCLED METERED SERVICE

TYPICAL FIRE HYDRANT, BLOW-OFF, AUTO. AIR/VAC. OR FIRE SERVICE  
 LOCATION AT CURB RETURN

RECYCLED WATER MAIN

DOMESTIC WATER MAIN

STREET LIGHT OR UTILITY POLE  
 METERED SERVICE

TREE

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**NOTES:**

1. WATER MAIN SIZE TO BE DETERMINED BY WALNUT VALLEY WATER DISTRICT.
2. GATE VALVES AND VALVE BOX ASSEMBLY NOT TO BE LOCATED IN CONCRETE GUTTER.
3. IRRIGATION METERED SERVICE SHALL BE INSTALLED A MINIMUM 5 FEET FROM DOMESTIC METERED SERVICE, FIRE HYDRANT, BLOW-OFF, AUTO. AIR/VAC. OR FIRE SERVICE.
4. BASED ON STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION STD. PLAN 101-2.

# WALNUT VALLEY WATER DISTRICT

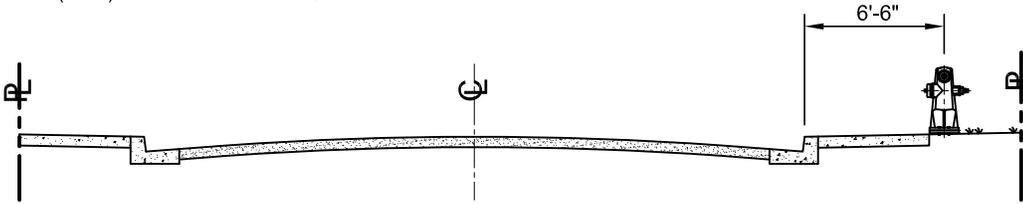
APPROVED BY:  
*Erik Hitchman*  
 DRAWN BY: TD/VD

TYPICAL WATER FACILITY LAYOUT  
 (1 OF 2)

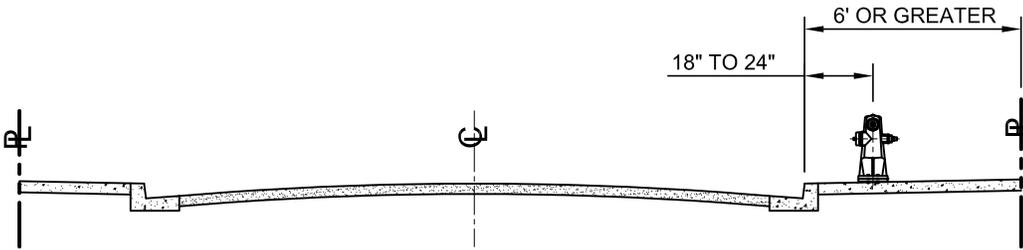
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26  
 DATE: 02/05/10

**EXAMPLE: FIRE HYDRANT**

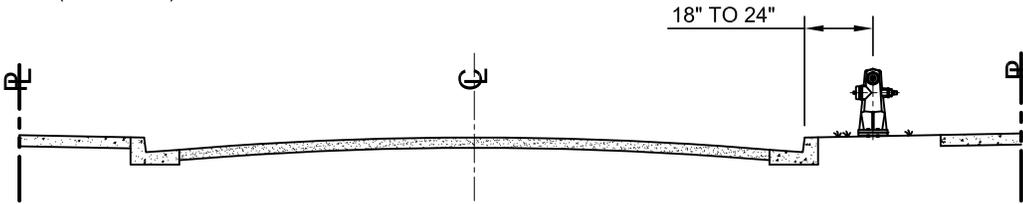
A) WHEN FIVE FEET (5') SIDEWALKS ARE ADJACENT TO CURB, CENTERLINE OF HYDRANT SHALL BE SIX FEET SIX INCHES (6'-6") FROM CURB FACE.



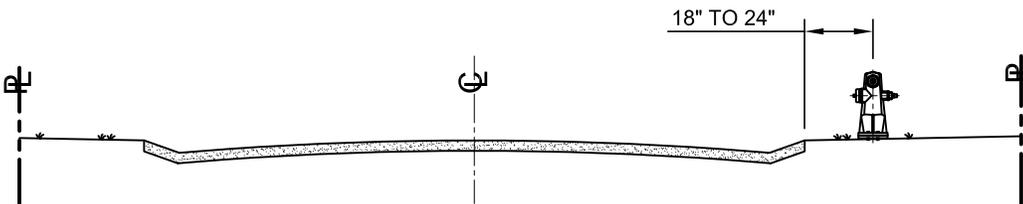
B) WHEN SIDEWALKS ARE CONSTRUCTED AT WIDTHS GREATER THAN SIX FEET (6') FROM CURB FACE TO BACK OF SIDEWALK, CENTERLINE OF HYDRANT SHALL BE EIGHTEEN TO TWENTY-FOUR INCHES (18" TO 24") FROM CURB FACE.



C) WHEN SIDEWALKS ARE PLACED AWAY FROM CURB CENTERLINE OF HYDRANT SHALL BE EIGHTEEN TO TWENTY-FOUR INCHES (18" TO 24") FROM CURB FACE.



D) WHEN INVERTED SHOULDER IS CONSTRUCTED, HYDRANT SHALL BE CENTERED EIGHTEEN TO TWENTY-FOUR INCHES (18" TO 24") BEHIND EDGE OF PAVEMENT.



**LOCATION OF ABOVE GROUND UTILITIES  
IN RELATION TO SIDEWALK AND CURB**

**NOTES:**

1. WHEN SIDEWALKS ARE CONSTRUCTED IN VARIOUS RELATIONSHIPS TO CURBS, ABOVE GROUND UTILITIES SUCH AS AIR RELEASE VALVES, FIRE HYDRANTS, AND BLOW-OFFS SHALL BE LOCATED AS SHOWN ABOVE.
2. BASED ON STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION STD. PLAN 101-2.

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**WALNUT VALLEY WATER DISTRICT**

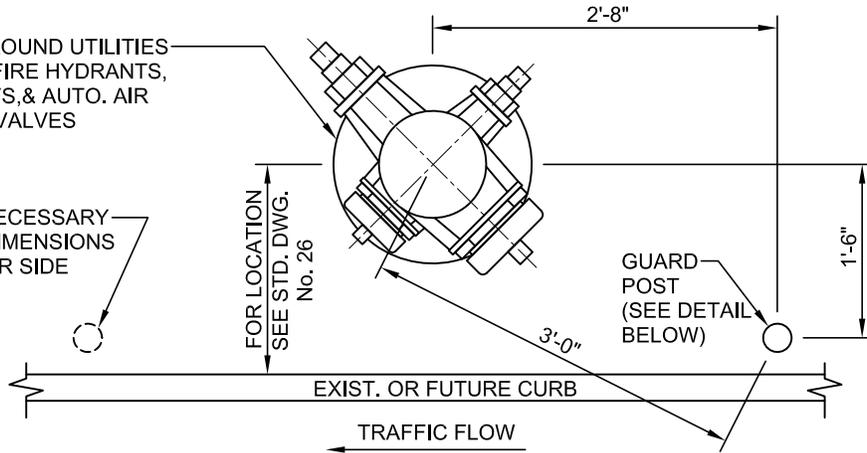
APPROVED BY:  
*Erik Hitchman*  
DRAWN BY: TD/ML

TYPICAL WATER FACILITY LAYOUT  
(2 OF 2)

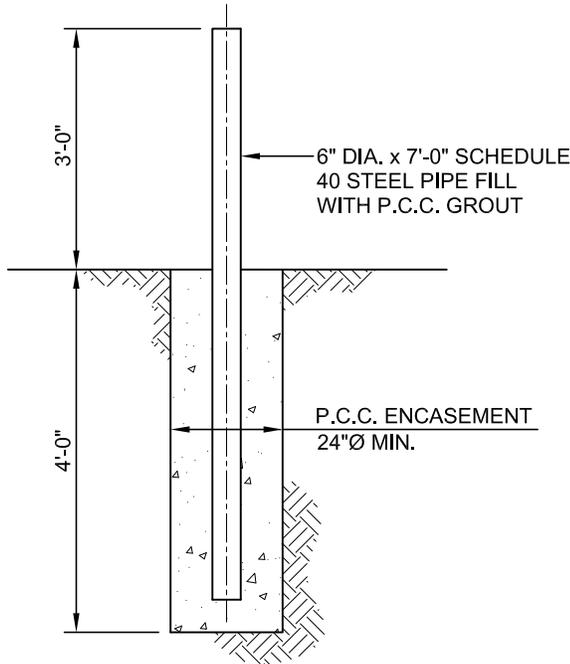
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26  
DATE: 02/05/10

ABOVE GROUND UTILITIES  
SUCH AS FIRE HYDRANTS,  
BLOW-OFFS, & AUTO. AIR  
RELEASE VALVES

IF POST NECESSARY  
REPEAT DIMENSIONS  
PER OTHER SIDE

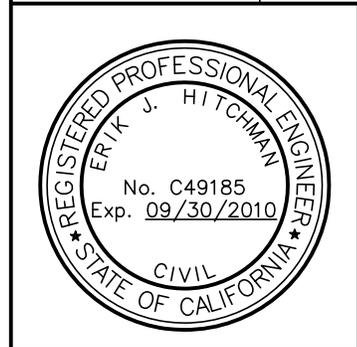


**PLAN**  
N.T.S.



**ELEVATION**  
N.T.S.

| REVISIONS |  |
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**NOTES:**

1. INSTALLATION CONTRACTOR SHALL FURNISH AND INSTALL ALL GUARD POSTS.
2. PIPE SHALL BE PAINTED ONE COAT OF RED AND ONE COAT OF "HI-VIS YELLOW"  
- PAINT SHALL BE FURNISHED BY DISTRICT.
3. PORTLAND CONCRETE CEMENT SHALL BE TYPE I OR II.

**WALNUT VALLEY WATER DISTRICT**

APPROVED BY:

*Erik Hitchman*

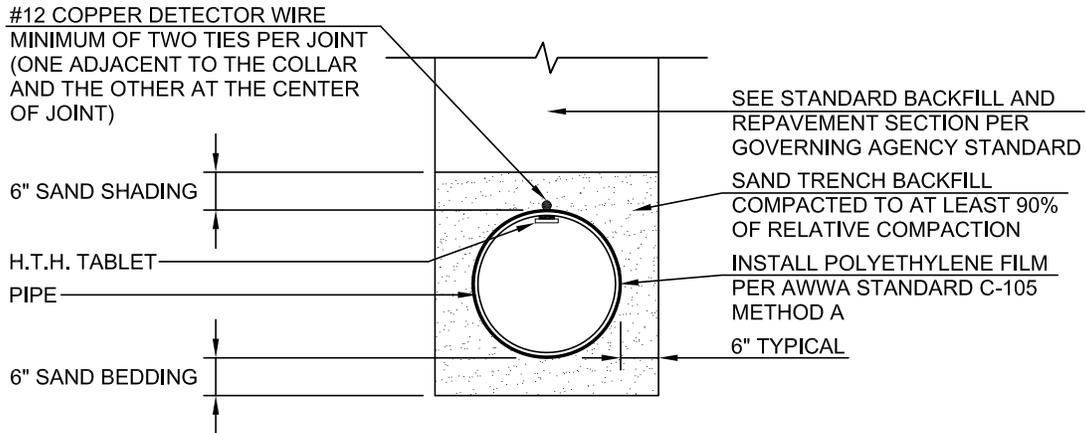
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**GUARD POST DETAILS**

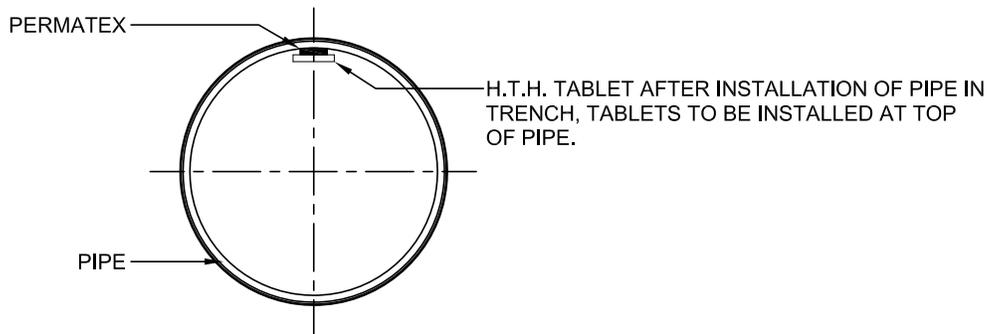
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DATE: 02/05/10



**PIPE ZONE SECTION**



**CHLORINIZATION DETAIL**

**NOTES:**

1. THE EXCAVATED TRENCH MATERIAL, UNLESS OTHERWISE NOTED ON PLANS, SHALL BE FREE OF ROCKS OVER 1-1/2 INCHES IN DIAMETER AND SUFFICIENTLY PERMEABLE TO READILY ABSORB WATER AND SHALL BE FREE OF ROOTS, TRASH, DIRT CLOUDS AND ORGANIC MATTER. THERE MUST BE ENOUGH FINES TO SURROUND ALL FIRM PARTICLES TO PRODUCE A MIXTURE WITHOUT OBVIOUS VOIDS. ANY UNSUITABLE TRENCH MATERIAL SHALL BE REMOVED, TRANSPORTED AND DISPOSED AT APPROVED LANDFILL.
2. THE EXCAVATED TRENCH MATERIAL TO BE USED FOR BACKFILL SHALL ONLY BE USED IF ALLOWED BY THE JURISDICTIONAL AGENCY.
3. THE INSTALLATION CONTRACTOR IS RESPONSIBLE TO VERIFY AND COMPLY WITH ALL PROVISIONS OF AWWA C651-05 LATEST STANDARD.

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NUMBER OF 5-g CALCIUM HYPOCHLORITE TABLETS REQUIRED FOR DOSE OF 25 mg/L\*

| PIPE DIAMETER | LENGTH OF SECTION (ft)                     |    |    |    |    |
|---------------|--|----|----|----|----|
|               | 13 OR LESS                                 | 18 | 20 | 30 | 40 |
| in.           | NUMBER OF 5-g CALCIUM HYPOCHLORITE TABLETS |    |    |    |    |
| 4             | 1  | 1  | 1  | 1  | 1  |
| 6             | 1  | 1  | 1  | 2  | 2  |
| 8             | 1  | 2  | 2  | 3  | 4  |
| 10            | 2  | 3  | 3  | 4  | 5  |
| 12            | 3  | 4  | 4  | 6  | 7  |
| 16            | 4  | 6  | 7  | 10 | 13 |

\* PER TABLE 2 OF AWWA C651-05



**WALNUT VALLEY WATER DISTRICT**

APPROVED BY:

*Erik Hitchman*

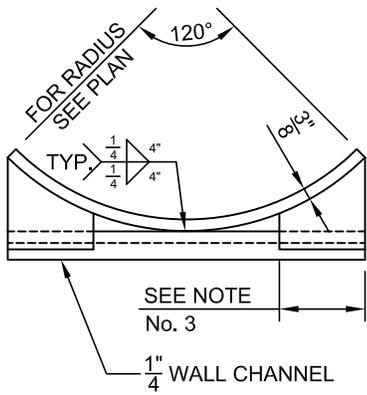
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PIPE ZONE TRENCH BACKFILL & LINE CHLORINATION

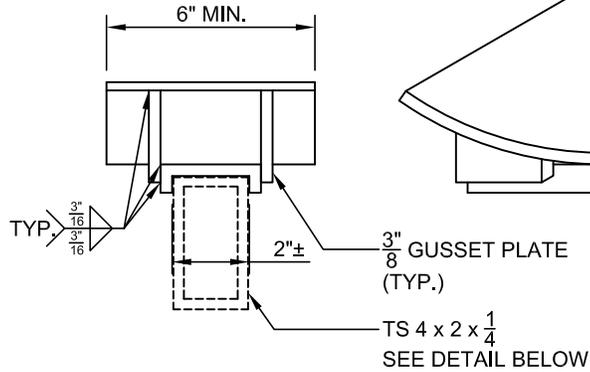
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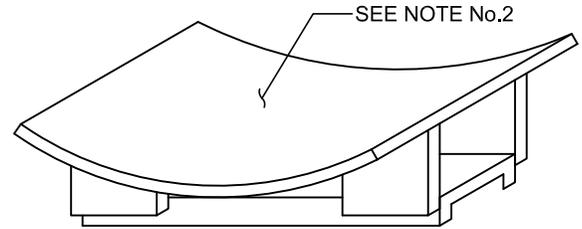
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FRONT VIEW



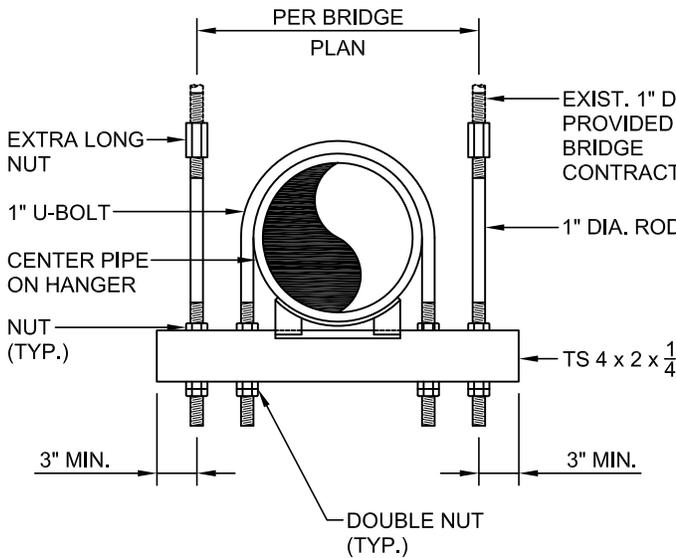
SIDE VIEW



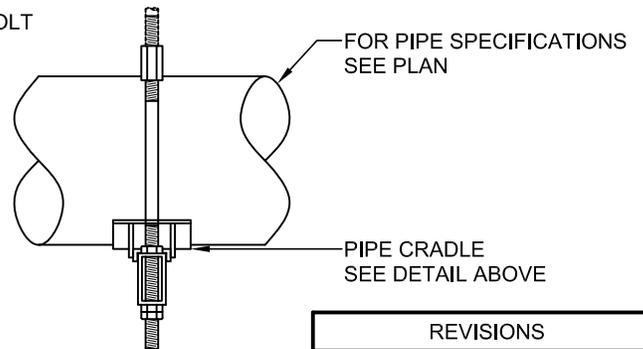
ISOMETRIC VIEW

**PIPE CRADLE DETAIL**

N.T.S.



FRONT VIEW



SIDE VIEW

**PIPE HANGER DETAIL**

N.T.S.

**NOTES:**

1. ALL HANGER AND CRADLE MATERIAL SHALL BE GALVANIZED (AFTER FABRICATION) AND FURNISHED AND INSTALLED BY THE INSTALLATION CONTRACTOR.
2. PLACE 100# BUILDING FELT BETWEEN PIPE AND CRADLE.
3. DIMENSION IS EQUAL TO NOMINAL PIPE DIAMETER DIVIDED BY SIX.

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**WALNUT VALLEY WATER DISTRICT**

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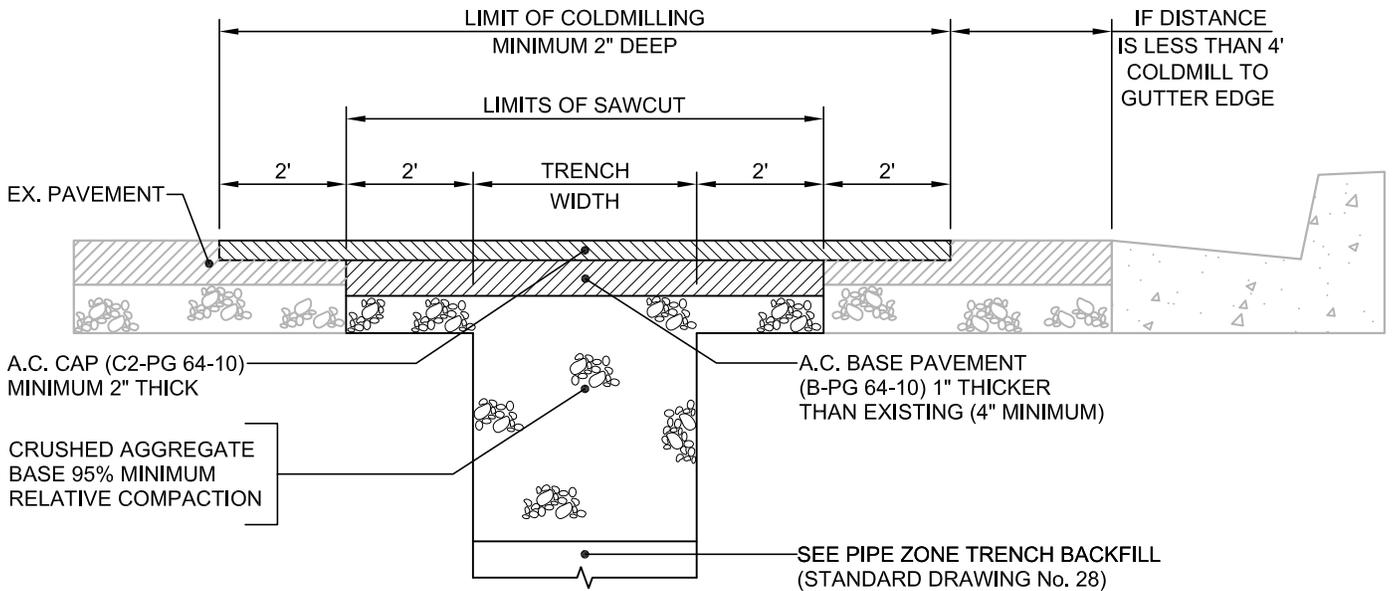
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PIPE CRADLE AND HANGER ASSEMBLY

STANDARD DRAWING No.

31

DATE: 02/05/10



**NOTES: BEDDING REQUIREMENTS**

1. BEDDING FOR SEWER LINES SHALL CONFORM TO SECTION 306-1 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION)
2. BEDDING FOR STORM DRAIN LINES SHALL CONFORM TO THE L.A.C.P.W.D. (FLOOD CONTROL DIVISION)
3. BEDDING FOR UTILITY LINES SHALL CONFORM TO THE REQUIREMENT OF THE UTILITY COMPANY AS LONG AS IT MEETS OR EXCEEDS THAT OF SECTION 306-1 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION)
4. COLDMILLING AND PAVING SHALL BE CONTINUOUS OVER CONSECUTIVE CUTS UNLESS THE DISTANCE BETWEEN THE CUTS (AFTER BEING OVERLAID IN ACCORDANCE TO THIS STANDARD) IS MORE THAN 20 FEET.

**SPECIAL NOTE:**

IF THE STREET HAS BEEN PAVED WITHIN 3 YEARS OR SLURRIED WITHIN 2 YEARS, THEN COMPLY WITH CITY ORDINANCE No. 2083.

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**WALNUT VALLEY WATER DISTRICT**

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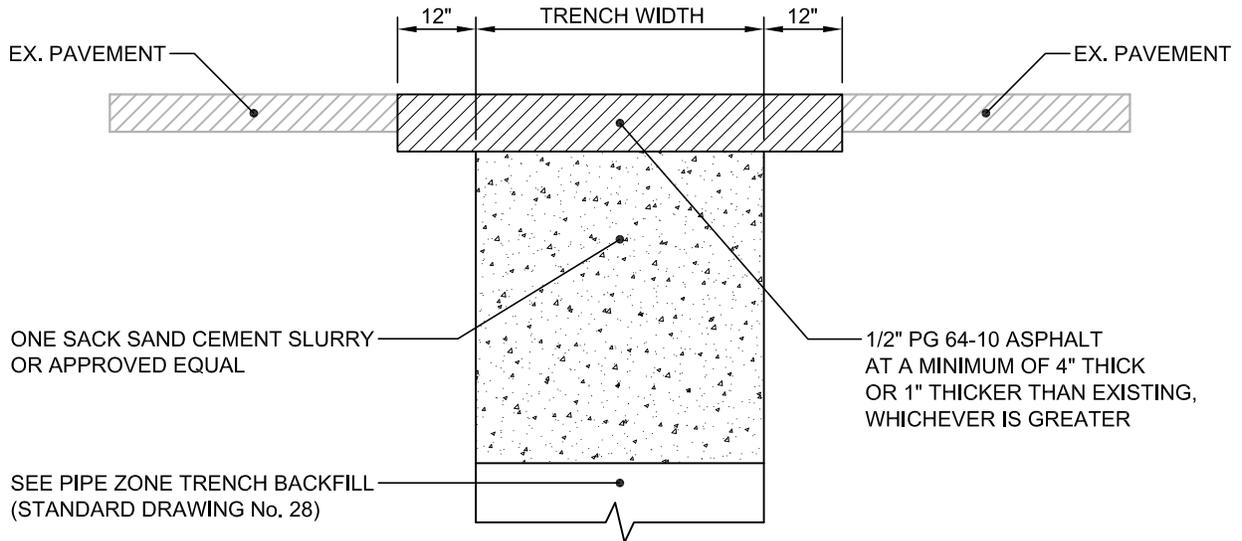
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TYPICAL BACKFILL AND REPAVEMENT SECTION  
WITHIN CITY OF WEST COVINA

STANDARD DRAWING No.

32

DATE: 02/05/10



MAINTAIN PAVEMENT FLUSH AT ALL TIMES

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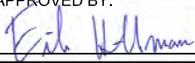
**NOTES:**

ON A CASE-BY-CASE BASIS, THE CITY OF DIAMOND BAR WILL ALLOW FOR AN EXCEPTION TO THE TRENCH BACKFILL STANDARD PROVIDED THAT:

1. THE MINIMUM AC SECTION SHALL BE 4 INCHES.
2. ALL TRENCH WORK BELOW 25 LINEAR FEET SHALL COMPLY WITH THE CITY'S APPROVED TRENCH BACKFILL STANDARD.
3. COMPACTED BACKFILL AS PER SECTION 306-1.3.6 OF THE LATEST STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

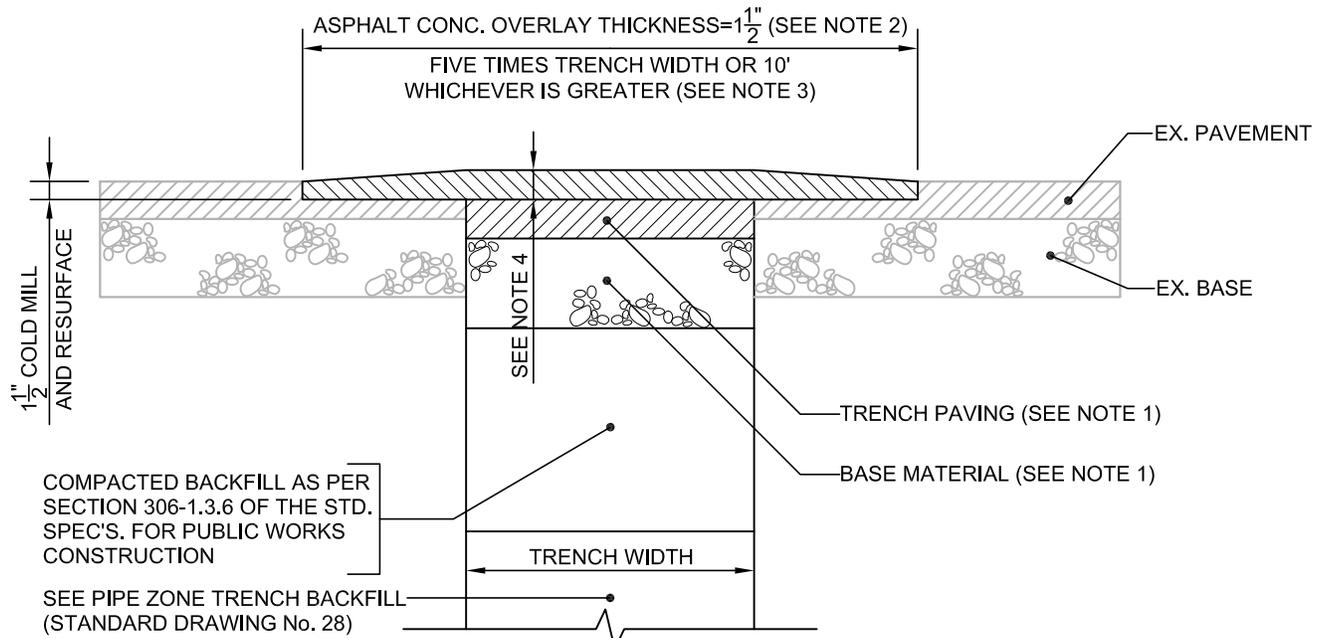


**WALNUT VALLEY WATER DISTRICT**

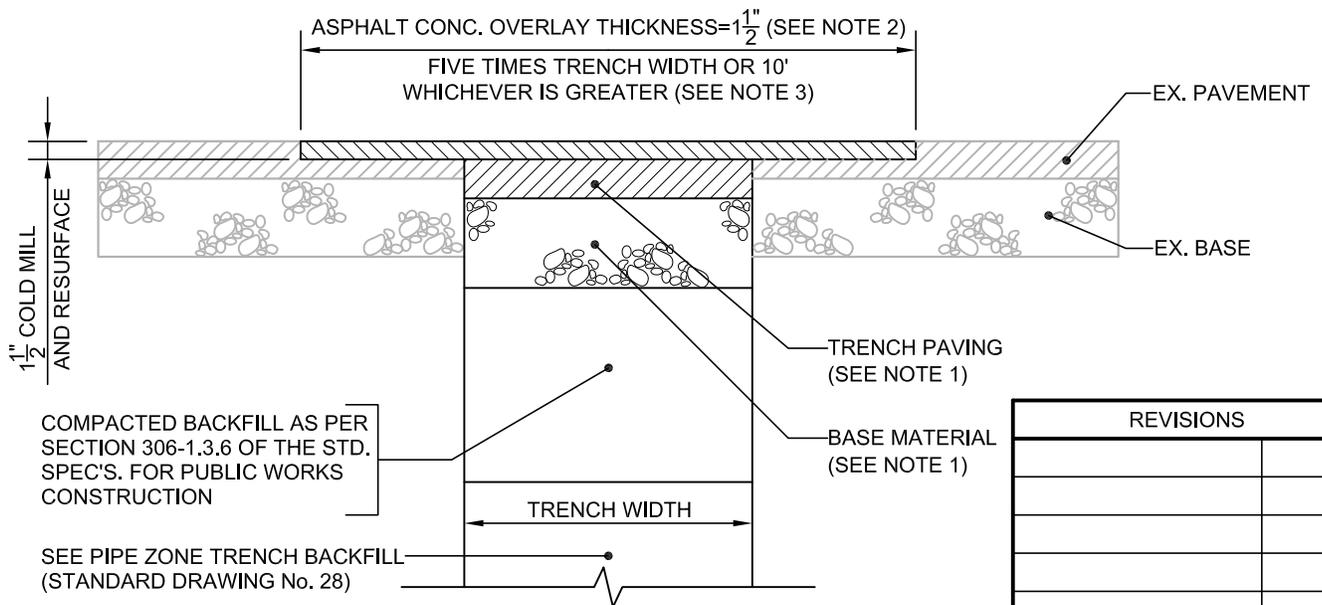
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TYPICAL BACKFILL AND REPAVEMENT SECTION  
 WITHIN CITY OF DIAMOND BAR

STANDARD DRAWING No.  
 33  
 DATE: 02/05/10



**CONDITION A: FOR TRENCH PARALLEL TO STREET**



**CONDITION B: FOR TRENCH PERPENDICULAR TO STREET**

**NOTES:**

1. PAVEMENT REPLACEMENT SECTION SHALL BE AS SHOWN ON THE APPROVED IMPROVEMENT PLANS. MINIMUM SECTION SHALL BE THREE INCHES (3") A.C. OR EXISTING PAVEMENT THICKNESS PLUS ONE INCH (1") WHICHEVER IS GREATER ON SIX INCHES (6") AGGREGATE BASE, OR GREATER.
2. ASPHALT CONCRETE OVERLAY SHALL BE PLACED AT LEAST SIXTY (60) BUT NOT MORE THAN ONE HUNDRED AND TWENTY (120) DAYS AFTER TRENCH PAVING.
3. IF THE LANE OR LIP OF GUTTER OR EDGE OF PAVEMENT IS WITHIN FOUR FEET (4') OF THE LIMITS OF ASPHALT CONCRETE OVERLAY, THE LIMITS MAY BE EXTENDED AS DETERMINED IN THE FIELD BY THE CITY ENGINEER.
4. PLACE ONE EXTRA INCH (1") OF ASPHALT CONCRETE OVERLAY WHEN TRENCH IS PARALLEL TO TRAFFIC LANES.
5. THE INSTALLATION CONTRACTOR IS RESPONSIBLE TO VERIFY AND COMPLY WITH ALL PROVISIONS OF THE CITY'S LATEST STANDARDS.

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**WALNUT VALLEY WATER DISTRICT**

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*Erik Hitchman*

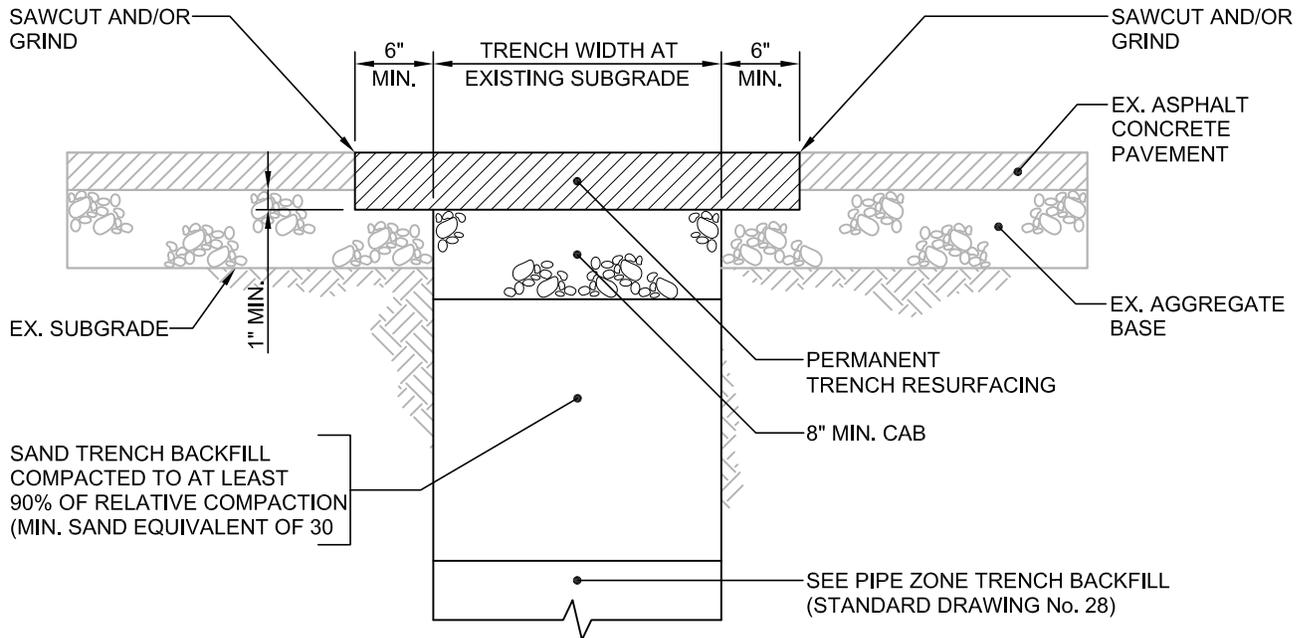
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TYPICAL BACKFILL AND REPAVEMENT SECTION  
WITHIN CITY OF WALNUT

STANDARD DRAWING No.

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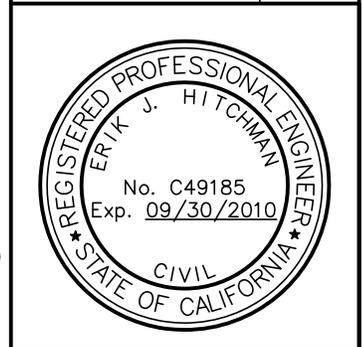
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**NOTES:**

1. PERMANENT TRENCH RESURFACING SHALL CONSIST OF AN ASPHALT CONCRETE SURFACE COURSE OF TYPE C2-AR-4000 ONE AND ONE-HALF INCHES (1 1/2") THICK PLACED ON AN ASPHALT CONCRETE BASE COURSE OF TYPE B-AR-4000.
2. SAW CUTS SHALL BE ONE AND ONE-HALF INCHES (1 1/2") DEEP. IF SAW CUT IS WITHIN THREE FEET (3') OF A PREVIOUS PARALLEL SAW CUT OF 3 FEET OR GREATER IN LENGTH OR A CONCRETE EDGE, THE EXISTING PAVEMENT SHALL BE REMOVED TO SAID SAW CUT OR CONCRETE EDGE, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
3. THE CONTACT SURFACES OF EXISTING PAVEMENT, MANHOLE FRAMES AND SHAFTS AND CONCRETE SURFACES SHALL BE GIVEN A TACK COAT BEFORE PERMANENT TRENCH RESURFACING IS PLACED.
4. TEMPORARY TRENCH RESURFACING MAY BE PLACED AT THE CONTRACTOR'S EXPENSE. IT SHALL BE PLACED LEVEL WITH THE EXISTING PAVEMENT ON COMPACTED TRENCH BACKFILL AND SHALL BE MAINTAINED FREE OF DEPRESSIONS.
5. PERMANENT OR TEMPORARY TRENCH RESURFACING SHALL BE PLACED IMMEDIATELY AFTER TRENCH BACKFILL.
6. THE WIDTH OF P.C.C. PAVEMENT REPLACEMENT SHALL BE A MINIMUM OF TEN FEET (10') WIDE AND/OR TO THE NEAREST CONSTRUCTION JOINT WITH #4 DOWELS EPOXIED @ TWELVE INCHES (12") O.C.
7. ANY TUNNELING UNDER EXISTING CURB AND GUTTER SHALL REQUIRE A SLURRY BACKFILL TO THE SATISFACTION OF THE INSPECTOR.
8. THE INSTALLATION CONTRACTOR IS RESPONSIBLE TO VERIFY AND COMPLY WITH ALL PROVISIONS OF THE CITY'S LATEST STANDARDS.

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## WALNUT VALLEY WATER DISTRICT

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*Erik Hitchman*

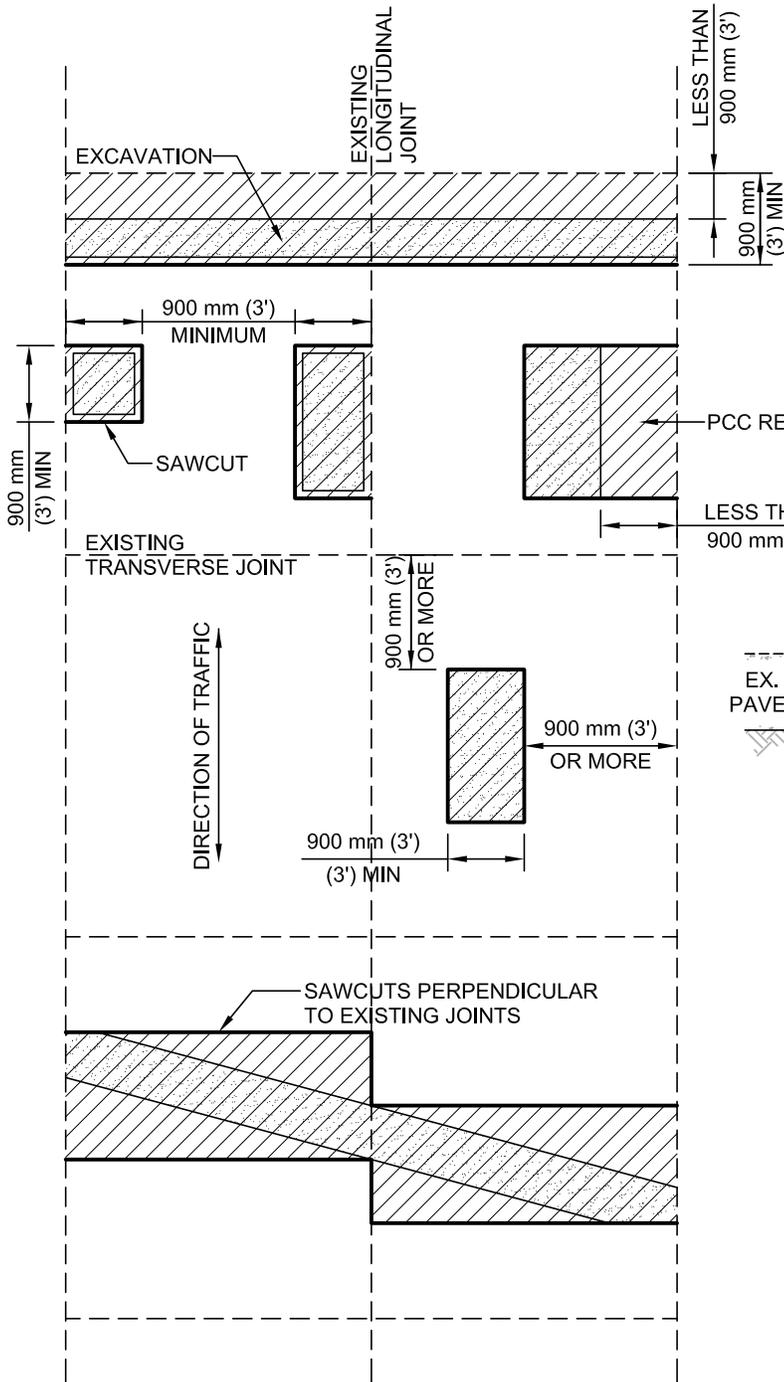
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TYPICAL BACKFILL AND REPAVEMENT SECTION  
WITHIN CITY OF INDUSTRY

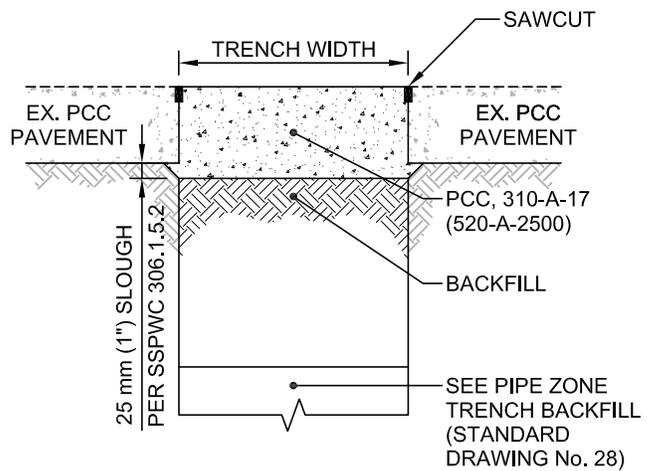
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PLAN



REPLACEMENT SECTION

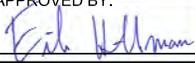
**NOTES:**

1. THE EXTENT OF REPAIRS FOR CONCRETE CUTS NOT SHOWN ON THIS STANDARD OR CUTS MADE WITHIN 900 mm (3') OF EXISTING PATCHES, CRACKS, OR DETERIORATED SLABS SHALL BE DETERMINED BY THE ENGINEER.
2. CONCRETE PAVEMENT SHALL BE REMOVED PER SSPWC 300-1.3.
3. BACKFILL AND DENSIFICATION SHALL CONFORM TO SSPWC 306-1.3.
4. TEMPORARY RESURFACING SHALL BE PLACED PER SSPWC 306-1.5.1.

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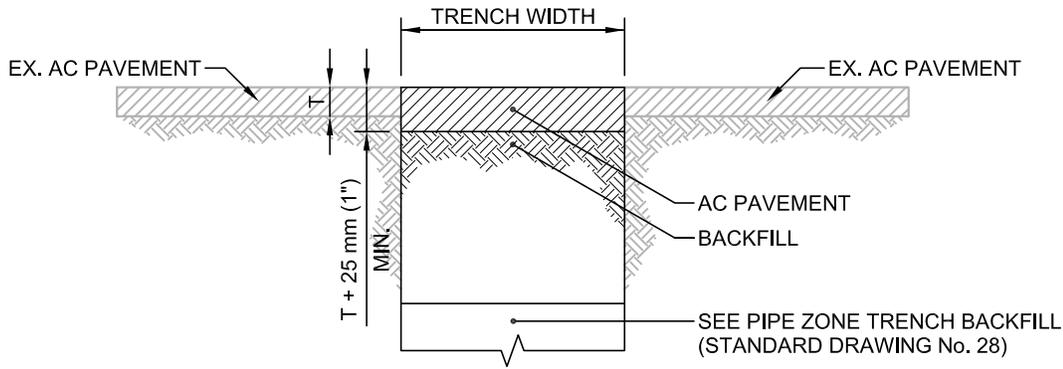


**WALNUT VALLEY WATER DISTRICT**

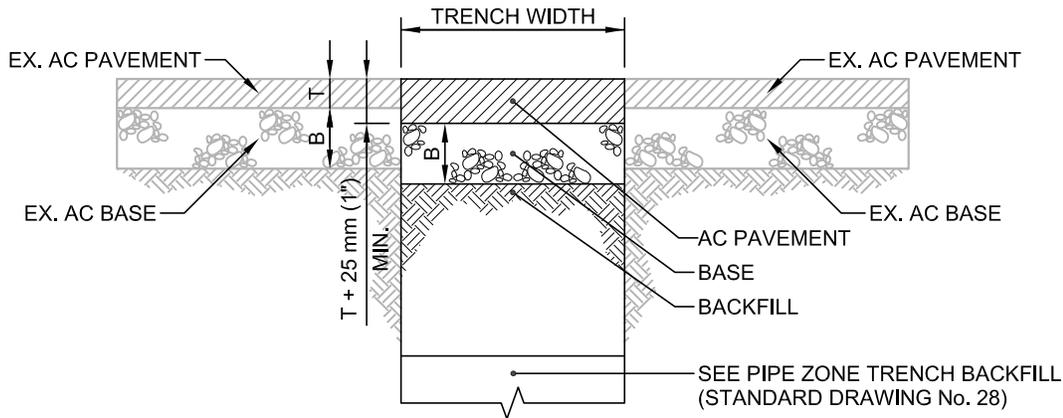
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TYPICAL BACKFILL AND REPAVEMENT SECTION  
 WITHIN UNINCORPORATED LOS ANGELES COUNTY  
 (1 OF 2)

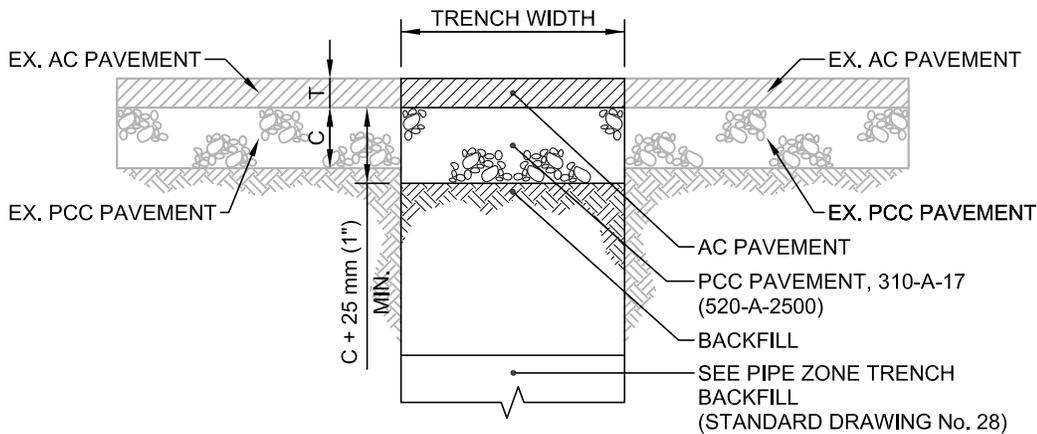
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**CASE I - WITHOUT BASE**



**CASE II - WITH BASE**



**CASE III - AC PAVMT ON PCC PAVMT**

**NOTES:**

1. BACKFILL AND DENSIFICATION SHALL CONFORM TO SSPWC 306-1.3.
2. TEMPORARY RESURFACING SHALL BE PLACED PER SSPWC 306-1.5.1.

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**WALNUT VALLEY WATER DISTRICT**

APPROVED BY:

*Erik Hitchman*

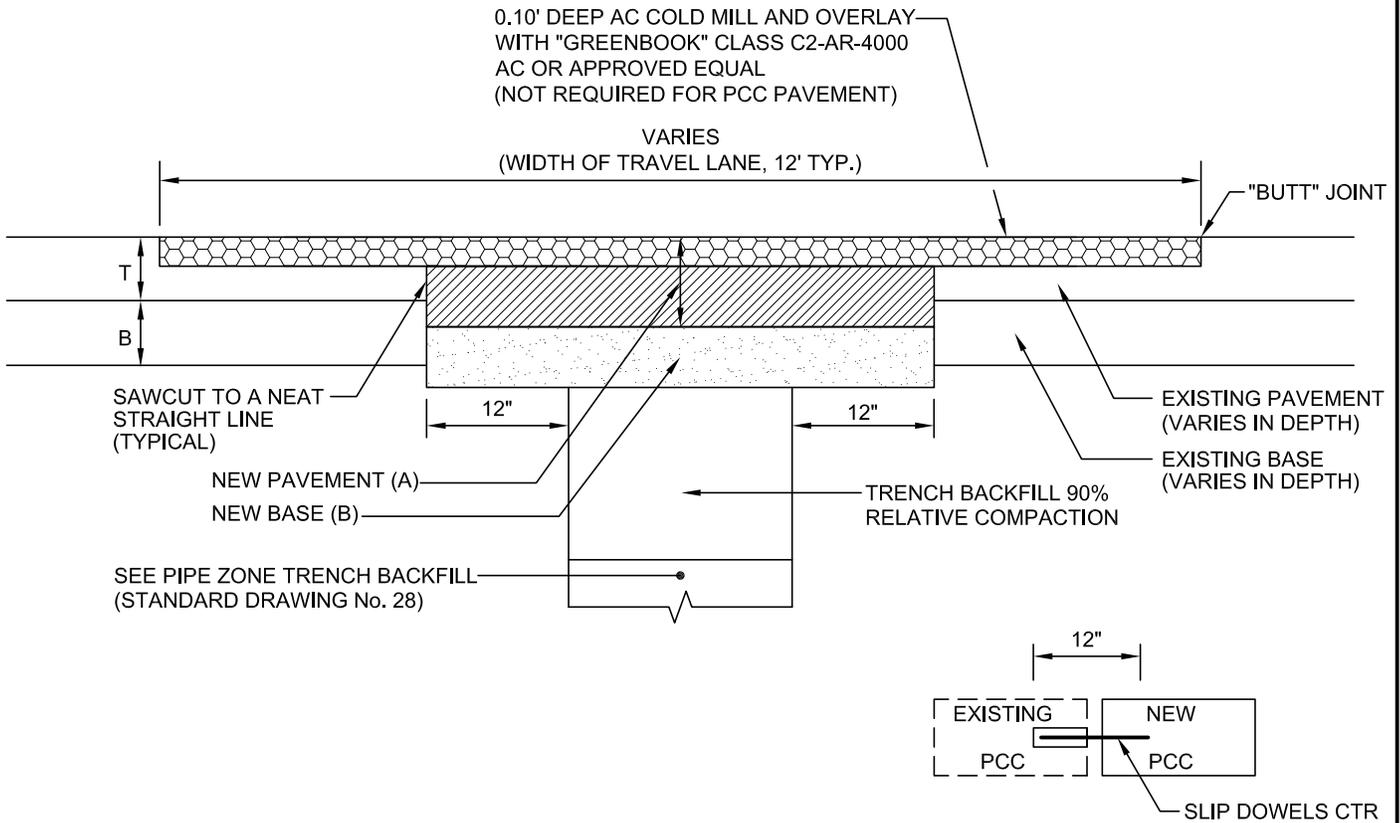
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TYPICAL BACKFILL AND REPAVEMENT SECTION  
WITHIN UNINCORPORATED LOS ANGELES COUNTY  
(2 OF 2)

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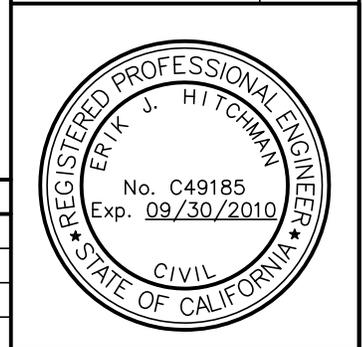


## LONGITUDINAL TRENCH PAVEMENT RESTORATION (LANE)

### NOTES:

1. AC SHALL BE B-AR-4000 PER "GREEN BOOK" OR APPROVED EQUAL.
2. WHERE DOWELS ARE REQUIRED, USE #5 AT 36 INCHES ON CENTER ALONG ALL JOINTS.
3. PCC PAVEMENT SHALL HAVE 3 DAY STRENGTH OF 2500 PSI MINIMUM. USE HIGH EARLY STRENGTH CONCRETE ON HIGH TRAFFIC STREETS, IF REQUIRED BY CITY ENGINEER.
4. PCC PAVEMENT PLACEMENT SHALL BE PER APWA STANDARD PLAN 132-1 UNLESS OTHERWISE STATED HEREIN.
5. ALL STREET IMPROVEMENTS AFFECTED SHALL BE REPLACED TO CITY STANDARDS.
6. WHERE REMAINING PAVEMENT WIDTH FROM THE SAWCUT LINE TO GUTTER, CURB OR EDGE OF PAVEMENT IS LESS THAN 24 INCHES FOR AC OR 36 INCHES FOR PCC, FULL DEPTH PAVEMENT REPAIR SHALL EXTEND TO GUTTER, CURB OR EDGE OF PAVEMENT.
7. BASE SHALL BE CAB OR CMB PER STD. SPECS. (REV. OCTOBER 2006).

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| EXISTING SECTION    | NEW PAVEMENT (A)    | NEW BASE (B)                      |
|---------------------|---------------------|-----------------------------------|
| AC ON NATIVE        | AC = T+1", 4" MIN.  | TOP 6" NATIVE COMPACTED TO 95%    |
| AC ON BASE MATERIAL | AC = T+1", 4" MIN.  | CAB COMPACTED TO 95% = B, 6" MIN. |
| AC ON PCC           | AC = T              | PCC= B WITH DOWELS                |
| PCC PAVEMENT        | PCC = T WITH DOWELS | CAB COMPACTED TO 95% = B, 6" MIN. |

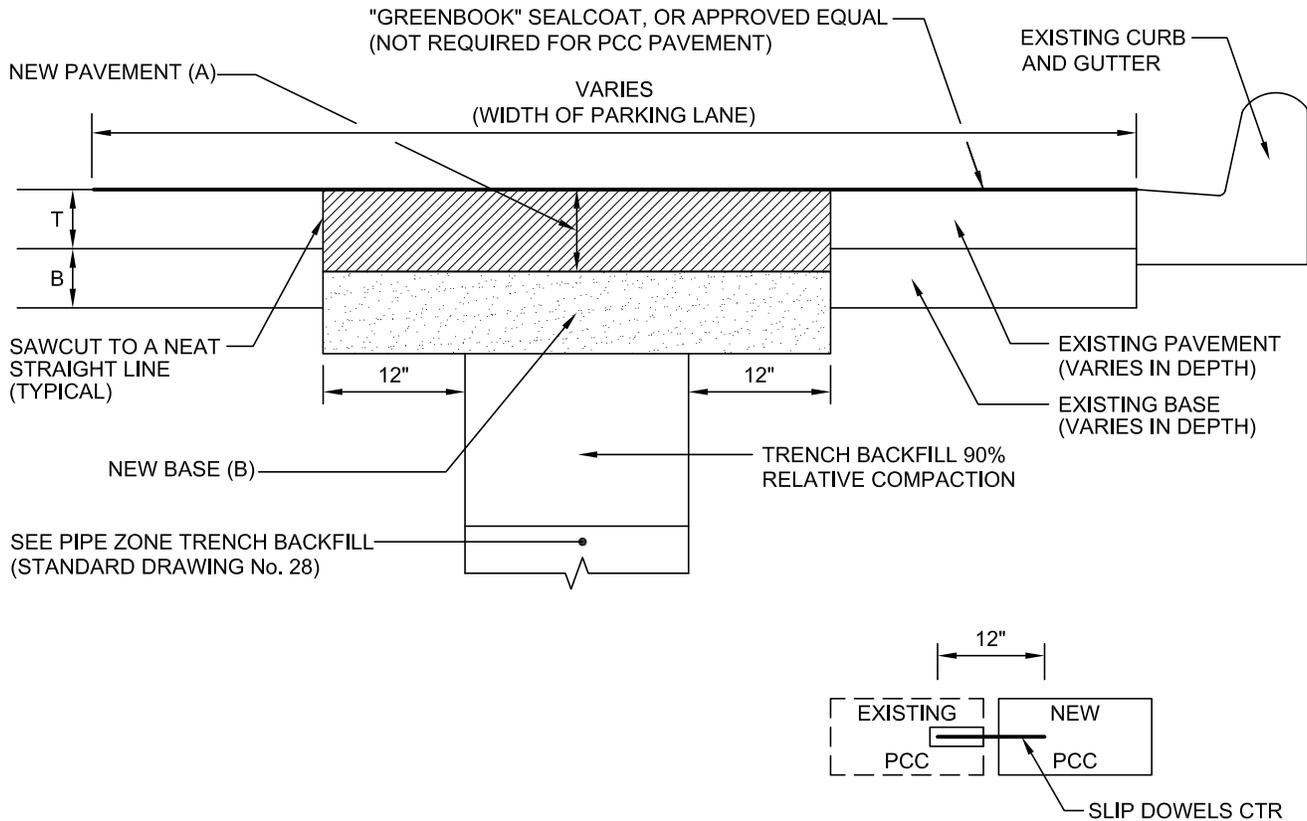
## WALNUT VALLEY WATER DISTRICT

APPROVED BY:  
*Erik Hitchman*

DRAWN BY: TD/VD

TYPICAL BACKFILL AND REPAVEMENT SECTION  
WITHIN CITY OF POMONA  
(1 OF 3)

STANDARD DRAWING No.  
**37**  
DATE: 02/05/10

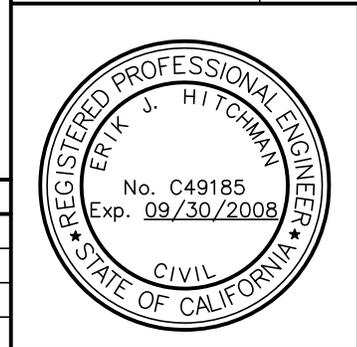


## LONGITUDINAL TRENCH PAVEMENT RESTORATION (SHOULDER)

### NOTES:

1. AC SHALL BE B-AR-4000 PER "GREEN BOOK" OR APPROVED EQUAL.
2. WHERE DOWELS ARE REQUIRED, USE #5 AT 36 INCHES ON CENTER ALONG ALL JOINTS.
3. PCC PAVEMENT SHALL HAVE 3 DAY STRENGTH OF 2500 PSI MINIMUM. USE HIGH EARLY STRENGTH CONCRETE ON HIGH TRAFFIC STREETS, IF REQUIRED BY CITY ENGINEER.
4. PCC PAVEMENT PLACEMENT SHALL BE PER APWA STANDARD PLAN 132-1 UNLESS OTHERWISE STATED HEREIN.
5. ALL STREET IMPROVEMENTS AFFECTED SHALL BE REPLACED TO CITY STANDARDS.
6. WHERE REMAINING PAVEMENT WIDTH FROM THE SAWCUT LINE TO GUTTER, CURB OR EDGE OF PAVEMENT IS LESS THAN 24 INCHES FOR AC OR 36 INCHES FOR PCC, FULL DEPTH PAVEMENT REPAIR SHALL EXTEND TO GUTTER, CURB OR EDGE OF PAVEMENT.
7. BASE SHALL BE CAB OR CMB PER STD. SPECS. (REV. OCTOBER 2006).

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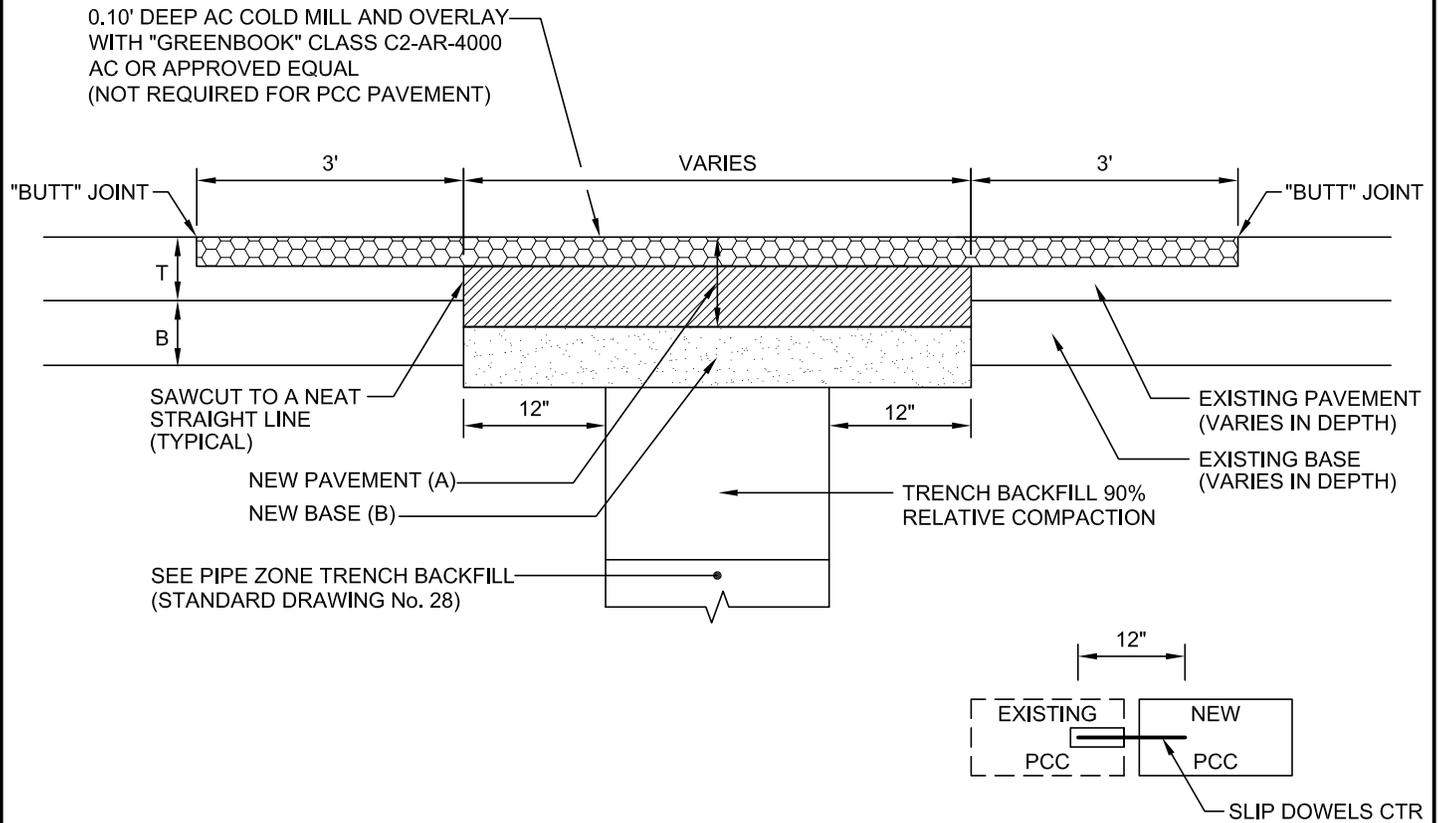
| EXISTING SECTION    | NEW PAVEMENT (A)    | NEW BASE (B)                      |
|---------------------|---------------------|-----------------------------------|
| AC ON NATIVE        | AC = T+1", 4" MIN.  | TOP 6" NATIVE COMPACTED TO 95%    |
| AC ON BASE MATERIAL | AC = T+1", 4" MIN.  | CAB COMPACTED TO 95% = B, 6" MIN. |
| AC ON PCC           | AC = T              | PCC= B WITH DOWELS                |
| PCC PAVEMENT        | PCC = T WITH DOWELS | CAB COMPACTED TO 95% = B, 6" MIN. |

## WALNUT VALLEY WATER DISTRICT

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 DRAWN BY: TD/VD

TYPICAL BACKFILL AND REPAVEMENT SECTION  
 WITHIN CITY OF POMONA  
 (2 OF 3)

STANDARD DRAWING No.  
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 DATE: 02/05/10



**TRANSVERSE TRENCH PAVEMENT RESTORATION**

**NOTES:**

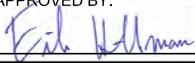
1. AC SHALL BE B-AR-4000 PER "GREEN BOOK" OR APPROVED EQUAL.
2. WHERE DOWELS ARE REQUIRED, USE #5 AT 36 INCHES ON CENTER ALONG ALL JOINTS.
3. PCC PAVEMENT SHALL HAVE 3 DAY STRENGTH OF 2500 PSI MINIMUM. USE HIGH EARLY STRENGTH CONCRETE ON HIGH TRAFFIC STREETS, IF REQUIRED BY CITY ENGINEER.
4. PCC PAVEMENT PLACEMENT SHALL BE PER APWA STANDARD PLAN 132-1 UNLESS OTHERWISE STATED HEREIN.
5. ALL STREET IMPROVEMENTS AFFECTED SHALL BE REPLACED TO CITY STANDARDS.
6. WHERE MULTIPLE NEW TRENCHES OR POTHOLES ARE IN CLOSE PROXIMITY, SLURRY SEAL OF AN EXPANDED AREA MAY BE REQUIRED BY THE CITY ENGINEER INSTEAD OF THE COLD MILL AND OVERLAY. POTHOLES SPACED CLOSER THAN 20 FEET WILL BE CONSIDERED A COMMON TRENCH.
7. BASE SHALL BE CAB OR CMB PER STD. SPECS. (REV. OCTOBER 2006).

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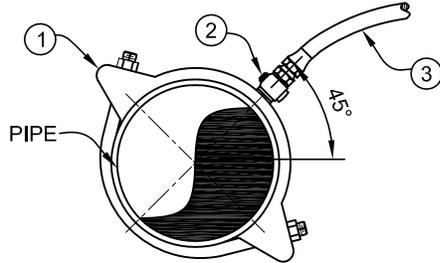
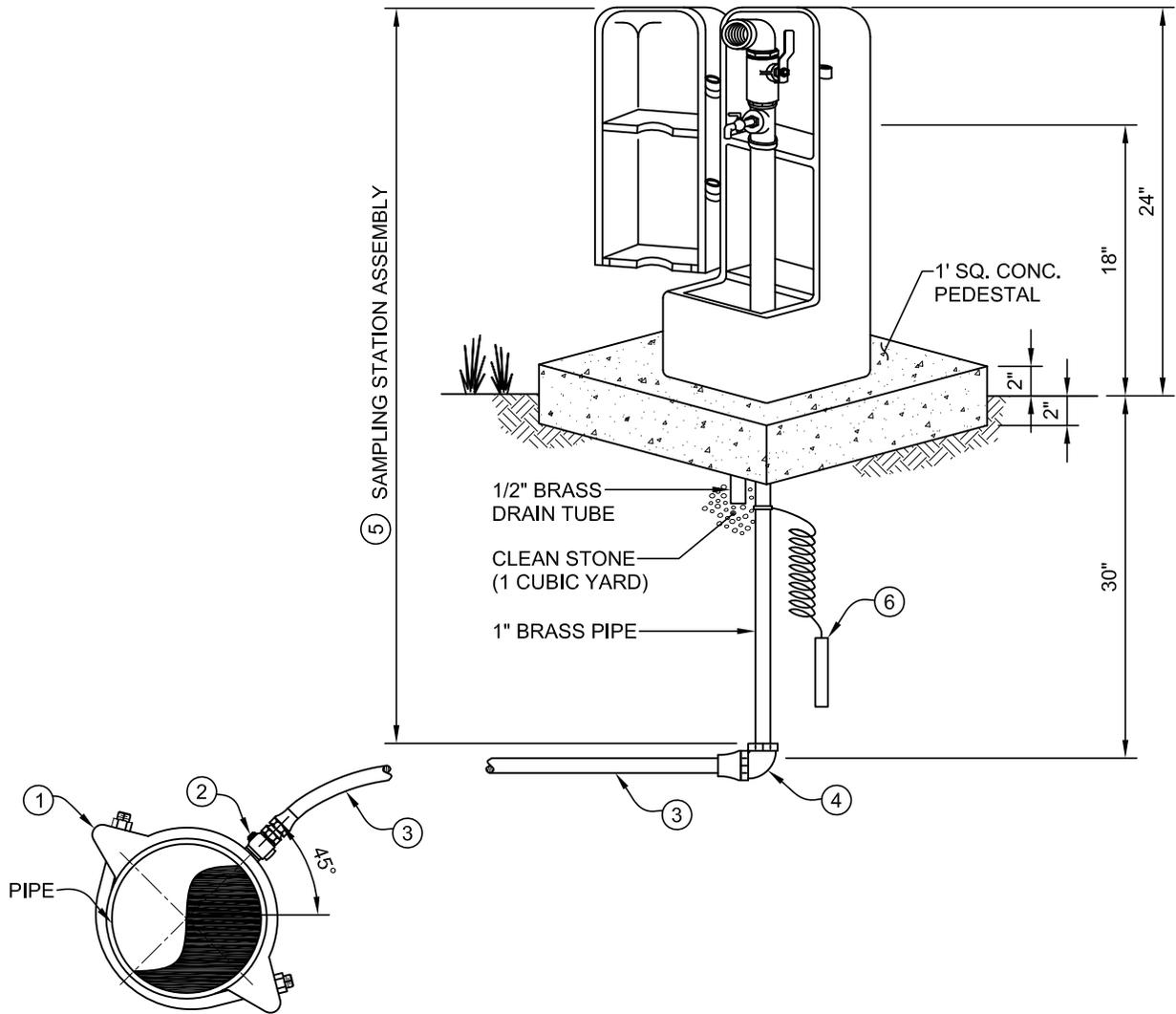
| EXISTING SECTION    | NEW PAVEMENT (A)    | NEW BASE (B)                      |
|---------------------|---------------------|-----------------------------------|
| AC ON NATIVE        | AC = T+1", 4" MIN.  | TOP 6" NATIVE COMPACTED TO 95%    |
| AC ON BASE MATERIAL | AC = T+1", 4" MIN.  | CAB COMPACTED TO 95% = B, 6" MIN. |
| AC ON PCC           | AC = T              | PCC = B WITH DOWELS               |
| PCC PAVEMENT        | PCC = T WITH DOWELS | CAB COMPACTED TO 95% = B, 6" MIN. |

**WALNUT VALLEY WATER DISTRICT**

APPROVED BY:  
  
 DRAWN BY: TD/VD

TYPICAL BACKFILL AND REPAVEMENT SECTION  
 WITHIN CITY OF POMONA  
 (3 OF 3)

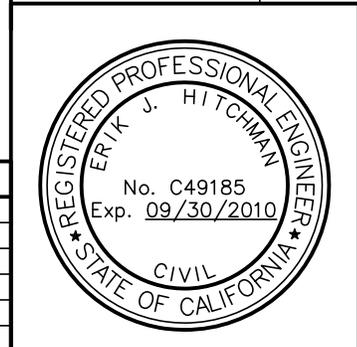
STANDARD DRAWING No.  
 (37)  
 DATE: 02/05/10



**NOTES:**

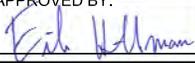
1. FOR CONNECTION TO STEEL PIPE, SEE STANDARD DRAWING NO. 5.
2. FOR DIRECT TAP, SEE STANDARD DRAWING NO. 17.
3. SAMPLING STATIONS SHALL INCLUDE A 30" BURY, WITH A 1" MIP INLET AND A 1" FIP DISCHARGE. A 1/4" BENT-NOSE SAMPLING BIBB SHALL BE LOCATED BEFORE THE DISCHARGE.
4. ALL STATIONS SHALL BE ENCLOSED IN A LOCKABLE, NONREMOVABLE, ALUMINUM-CAST HOUSING.
5. 12" AND SMALLER SADDLE SHALL BE SINGLE STRAP, LARGER THAN 12" SADDLE SHALL BE DOUBLE STRAP.
6. SADDLE, CORPORATION STOP, AND COPPER TUBE SHALL BE WRAPPED WITH POLYETHYLENE FILM A MINIMUM OF 3 FEET FROM THE WATER MAIN.
7. ALL TUBING, VALVES AND FITTINGS SHALL BE "LEAD FREE" CONTAINING NO MORE THAN 0.25% OF LEAD CONTENT BY WEIGHT.

| REVISIONS |  |
|-----------|--|
|           |  |
|           |  |
|           |  |
|           |  |
|           |  |



| ITEM | QUAN. | DESCRIPTION  |
|------|-------|--|
| 1    | 1     | BRONZE SERVICE SADDLE WITH 1" TAP  |
| 2    | 1     | 1" BRONZE CORPORATION STOP, M.I.P. x FLARE                                   |
| 3    | -     | 1" COPPER TUBING, TYPE K SOFT  |
| 4    | 1     | 1" COPPER ELBOW, F.I.P. x FLARE  |
| 5    | 1     | 1" SAMPLING STATION W/ALUMINUM HOUSING (KUPFERLE FOUNDRY - ECLIPSE No. 88WC) |
| 6    | 1     | ZINC ANODE   |

## WALNUT VALLEY WATER DISTRICT

APPROVED BY:  
  
 DRAWN BY: MSB/ML

1" SAMPLING STATION ASSEMBLY

STANDARD DRAWING No.  
38  
 DATE: 02/05/10