Contra Costa Water District
Standard Details
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### Thrust Block Minimum Bearing Area Required (sq.ft.)

<table>
<thead>
<tr>
<th>Fittings</th>
<th>Allowable Soil Bearing Value 500 p.s.f.</th>
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<th>1500 p.s.f.</th>
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### Notes

1. Thrust blocks and anchor blocks shall be of 2500 p.s.i. concrete and poured against undisturbed soil.

2. Thrust restraint sizes required are based on 150 p.s.i. hydrostatic test pressure and a 1.25 factor of safety.

3. Stirrups shall be minimum 1/2" diameter.

4. Two stirrups required on 4" - 8" fittings, four stirrups required on 12" fittings.

5. All cast iron and steel surfaces (including iron saddles) shall be encased in polyethylene.

### Minimum Tie Rod Size

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<th>Tie Rod Ø</th>
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**Typical Reverse Anchor**

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**CONTRA COSTA WATER DISTRICT**
**CONCORD, CALIFORNIA**

**STANDARD DETAIL**
**TITLE:**
**THRUST BLOCK & ANCHOR BLOCK DETAILS FOR 4", 6", 8" & 12" FITTINGS**

**REV.**
**SD-1 2**

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**Approved Date:**
**Date: 11/05/03**

**Sheet 1 of 2**
THREUT BLOCK & ANCHOR BLOCK DETAILS FOR 4", 6", 8" & 12" FITTINGS
**TRACER WIRE CONNECTION**

**1" SERVICE W/SADDLE**

**COPPER SPLICE CONNECTION, TYP. (SEE NOTE 9)**

**STRIP WIRE COVERING AT CONNECTION**

**PVC PIPE/ASBESTOS CEMENT PIPE**

**D.I. PIPE/CI PIPE**

**SERVICE PIPE REQUIREMENTS FOR PIPELINES**

<table>
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<tr>
<th>PIPE SIZE &amp; PIPE</th>
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<tr>
<td>4&quot; &amp; LARGER</td>
<td>MDS</td>
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<tr>
<td>STEEL PIPE 10&quot; &amp; SMALLER</td>
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<tr>
<td>ASBESTOS CEMENT PIPE</td>
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**KEY:**
- **BSP**—BRONZE SADDLE FOR PLASTIC
- **MSS**—MALLEABLE SINGLE-STRAP SADDLE
- **MDS**—MALLEABLE DOUBLE-STRAP SADDLE
- **TLT**—THREADLET OR EQUIVALENT
- **CTS**—COPPER TUBING SIZE

**NOTES**

1. SEE TABLE FOR SERVICE SADDLE REQUIREMENTS.
2. ALL CAST IRON AND STEEL SURFACES (INCLUDING IRON SADDLES) SHALL BE ENCASED IN POLYETHYLENE.
3. BACKFILL AND COMPACT SOIL BELOW CORP STOP AND COPPER SERVICE BEFORE BACKFILLING TRENCH.
4. PIPE COATINGS SHALL BE REPAIRED TO ORIGINAL CONDITION AFTER CONNECTION IS MADE.
5. USE A COMPATIBLE NSF 61 APPROVED THREAD SEALANT.
6. 1/4" THICK FABRICATED TAPPING SLEEVE REQUIRED FOR STEEL-CYLINDER CONCRETE PRESSURE PIPE.
7. TUBING SHALL BE TYPE K, SOFT COPPER, CONTINUOUS FROM CORP STOP TO ANGLE STOP.
8. FITTINGS SHALL BE BRASS CTS COMPRESSION OR FLARE TYPE; COMPRESSION FITTINGS SHALL BE MUELLER 110 CONDUCTIVE COMPRESSION CONNECTION FOR CTS O.D. TUBING, OR APPROVED EQUAL.
9. AFFIX SOLID NO. 12 COPPER WIRE TO PIPE WITH 10 MIL POLYVINYL TAPE, CONNECT TO ALL SEGMENTS OF EXISTING TRACER WIRE AT JUNCTION POINT WITH COPPER SPLIT BOLT CONNECTOR.

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**CONTRA COSTA WATER DISTRICT**

**CIVIL**

**TITLE:**

**1" & 2" SERVICE CONNECTION (COPPER)**

**DIAGRAM:**

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**APPROVED DATE:** 2/21/20

**DATE:** 2/21/20

**SHEET 1 OF 2**

**STD. DETAIL NO.** SD-2

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**ENGINEERING REVIEW:**

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**O & M REVIEW:**

---
TRACER WIRE CONNECTION, TYP. (SEE NOTE 2)

COPPER TRACER WIRE, TYP. (SEE NOTE 2)

2" COPPER STOP I.P. (INSULATING FOR DI AND STEEL PIPE) X FLARE OR COMPRESSION 2" COPPER TUBING (SEE NOTE 3)

PVC PIPE

SADDLE (PER CHART) W/2" I.P. OUTLET

SADDLE PER CHART W/ 2 1/2" I.P. OUTLET

STEEL (SMALLER THAN 12" O.D.) AND D.I. PIPE

2" THREADOLET I.P

STEEL PIPE (12" OR LARGER O.D.)

2" SERVICE CONNECTIONS

NOTES
1. SEE SHEET 1 FOR SERVICE SADDLE CHART AND TRACER WIRE CONNECTION.
2. REFER TO STANDARD DETAIL 2, SHEET 1, NOTES #2-9.
3. COUPLINGS ARE NOT PERMITTED ON SERVICE RUNS THAT ARE LESS THAN 20 FEET.
1. INSTALL MARKER POST WITHIN 12" OF METER BOX, BURY MIN. DEPTH 3'. PAINT WHITE WITH BLACK LETTERS "AR".

2. 1" PVC PIPE SHALL BE SCHEDULE 80.

3. REFER TO STANDARD DETAIL SD-4 FOR BOX DIMENSIONS. LOCATIONS SIMILAR TO "METER INSTALLATIONS WITH RPBPD" SHOWN ON SHEET 2 OF 2, SD-4, USE TRAFFIC RATED BOXES AND LIDS IN ROADWAYS, DRIVEWAYS OR SIDEWALKS. MAY USE LIGHT WEIGHT BOXES AND LIDS IN NON-TRAFFIC AREAS ONLY.

4. INSTALL LOCATOR WIRE FROM WATER MAIN TO BRASS ANGLE METER VALVE. LOCATOR WIRE SHALL BE A CONTINUOUS #12 AWG SOLID THHN-THWN COPPER WIRE, DISTRICT-FURNISHED. TAPE WIRE TO 1" P.E. TUBING @ 5" G.C.

5. AIR RELIEF VALVE ASSEMBLY MAY BE INSTALLED ABOVE GROUND IF REQUIRED TO PROVIDE RISING SLOPE FOR PE TUBING. WHEN ANY ASSEMBLY IS INSTALLED ABOVE GROUND, Omit METER BOXES AND INSTALL COMBINATION AIR VALVE AND VENT INSIDE METAL ENCLOSURE ON CONCRETE PAD PER STANDARD DETAIL SD-15 WITH AIR VALVE ENCLOSURE PER STANDARD DETAIL SD-13.

6. ALL MATERIALS SHALL BE PROVIDED BY THE DISTRICT, UNLESS NOTED OTHERWISE.

CONTRA COSTA WATER DISTRICT
CONCORD, CALIFORNIA

STANDARD DETAIL

TITLE:
1" AIR RELIEF ASSEMBLY
(PIPES LESS THAN 12" DIA.)

ENGINEERING REVIEW:

O & M REVIEW:

APPROVED FOR USE:

REVISION HISTORY:

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<td>JL</td>
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CAD FILE: SD03S1R2.DWG
SCALE: NONE

APPROVED DATE: 12/31/19

STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER
EXP. 07071

DATE: 5/7/19
SHEET 1 OF 1
### 5/8", 3/4", OR 1" METER INSTALLATION

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<th>METER &amp; DCVA BOX SIZES</th>
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<tr>
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<td>1&quot;</td>
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**NOTES:**

1. ALL MATERIALS SHALL BE PROVIDED BY THE DISTRICT, UNLESS NOTED OTHERWISE.

2. USE TRAFFIC RATED BOXES AND LIDS IN ROADWAYS, DRIVEWAYS OR SIDEWALKS. MAY USE LIGHT WEIGHT BOXES AND LIDS IN NON-TRAFFIC AREAS ONLY.

3. INSTALL DOWEL AS NEEDED IF RFBPD ASSY IS WITHIN 5 FEET OF A DRIVEWAY OR PARKING LOT, OR IF LOCATED IN A HIGH RISK LOCATION.

4. SEE SHEET 3 OF 3 FOR METER INSTALLATIONS WITH RFBPD.

5. USE 76 LB-FT TORQUE ON 5/8" BRASS BOLT.

6. DCVA REQUIRED FOR RESIDENTIAL FIRE SPRINKLER SYSTEMS UNLESS DISTRICT DETERMINED RFBPD REQUIRED.

7. FITTINGS SHALL BE BRASS CTS COMPRESSION OR FLARE TYPE; COMPRESSION FITTINGS SHALL BE MUELLER 110 CONDUCTING COMPRESSION FOR CTS O.D. TUBING, OR APPROVED EQUAL.

8. INSTALL 15-LB. ZINC ANODES FOR SERVICES LESS THAN 25 FEET LONG, AND 30-LB ZINC ANODES FOR SERVICES GREATER THAN 25 FEET LONG. BURY IN NATIVE SOIL (NOT SAND OR ROCK BACKFILL) AND INSTALL AT MAXIMUM DISTANCE FROM LATERAL WITHIN EXCAVATION. SATURATE ANODE WITH WATER PRIOR TO BACKFILL (MIN. 5 GALLONS).

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**CONTRA COSTA WATER DISTRICT**

**Concord, California**

**TITLE:** 5/8" TO 1" METER INSTALLATIONS W/ DCVA (IF REQ'D)

**APPROVED DATE:** 2/20/20

**CAD FILE:** SD0451R3.DWG  **SCALE:** NONE  **STD. DETAIL NO.:** SD-4  **REV.:** 3

**DATE:** 2/27/20  **SHEET 1 OF 3**
12" OF TRACER WIRE SLACK

**NOTES:**

1. REFER TO STANDARD DETAIL 4, SHEET 1 NOTES #1-7.

2. INSTALL 30-48 ZINC ANODE ON SERVICES LESS THAN 25 FEET AND 48-144 ZINC ANODE ON SERVICES GREATER THAN 25 FEET. BURY IN NATIVE SOIL (NOT IN SAND OR ROCK BACKFILL) AND INSTALL AT MAXIMUM DISTANCE FROM SERVICE LINE WITHIN EXCAVATION. SATURATE ANODE WITH WATER PRIOR TO BACKFILL (MIN. 5 GALLONS).

3. SEE SHEET 1 FOR METER BOX INSTALLATION DETAILS.
### RPBPD Installation Dimensions

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<td>35&quot;</td>
<td>17&quot;</td>
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A (APPROXIMATE)

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**Notes:**
1. Provide metal enclosure or cage (10"W x 24"H x 22"L) with lift-off cover in high traffic areas or where vandalism is a concern, or as required by the district. Forest green color.

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**Contra Costa Water District, Concord, California**

**Title:**
5/8" to 2" Meter Installations W/ RPBPD

**Standard Detail**

**Revision Date:** 2/21/20

**Approved Date:** 2/26/20

**CAD File:** SD0483R2.DWG

**Scale:** None

**Std. Detail No.:** SD-4

**Rev.:** 2

**Issued for Distribution:** HN JL 8/10

**Reviewed:** JS SA 5/19

**Revised Detail:** JS JL 2/20

**Plastic to Copper:** JS JL 2/20

**Civil Reference:**

**Registration:**

**No. 06D 88100**

**Engineer:**

**Date:** 2/21/20

**Sheet:** 3 of 3

---
**NOTES**

1. SEE DRAWING SD-1 FOR THRUST BLOCK DETAIL.

2. INSTALL HYDRANT HEAD AT 2'-4" FROM FACE OF CURB FOR AREAS WITH NO SIDEWALK ADJACENT TO CURB OR FOR MONOLITHIC SIDEWALK GREATER THAN 5'-6" WIDE. INSTALL HYDRANT HEAD AT 1'-6" FROM BACK OF SIDEWALK FOR MONOLITHIC SIDEWALK OF 5' OR LESS IN WIDTH.

3. EAST BAY TYPE FIRE HYDRANT HEAD WITH 1-4 1/2" AND 1-2 1/2" OUTLET.

4. DUCTILE IRON (D) PIPE AND METAL FITTINGS INSTALLED BELOW GROUND SHALL BE ENCASED WITH POLYWRAP AND TAPE IN ACCORDANCE WITH AWWA C105 AND DISTRICT SPECIFICATIONS.

5. ALL MATERIALS SHALL BE PROVIDED BY THE DISTRICT, UNLESS NOTED OTHERWISE.
STANDARD 8'' VALVE CAN
INSTALLED IN TRAFFIC AREA

1. OPERATING NUT IS GREATER THAN 48" BELOW FINISHED GRADE, A 1'' DIAMETER STEEL EXTENSION SHAFT SHALL BE PROVIDED AND INSTALLED WITH A 7 1/2'' DIAMETER CENTERING DISK.

2. ALL MATERIALS SHALL BE PROVIDED BY THE DISTRICT UNLESS NOTED OTHERWISE.

CONTRA COSTA WATER DISTRICT
CONCORD, CALIFORNIA

STANDARD DETAIL

TITLE:
STANDARD 8'' VALVE CAN ASSEMBLY

APP. DATE: 9/24/13
SHEET 1 OF 2

SD-6

APPROVED DATE:
NOTES:

1. PREVENT CONCRETE AND DEBRIS FROM SPILLING ONTO VALVE.

2. FAST SETTING CONCRETE SHALL BE QUICKCRETE OR APPROVED EQUAL.

3. THIS DETAIL IS REQUIRED FOR ALL VALVE CAN ADJUSTMENTS, INCLUDING RAISING THE VALVE CAN FOLLOWING PAVEMENT IMPROVEMENT PROJECTS.

4. PREVENT DAMAGE TO LOCATOR WIRE.

5. ALL MATERIALS OTHER THAN AB AND AC SHALL BE PROVIDED BY DISTRICT.

8" VALVE CAN ADJUSTMENT
INSTALLED IN TRAFFIC AREA

CONTRA COSTA WATER DISTRICT
CONCORD, CALIFORNIA

STANDARD DETAIL

STANDARD 8" VALVE CAN ASSEMBLY ADJUSTMENT

ENGINEERING REVIEW: [Signature]

CONSTRUCTION REVIEW: [Signature]

O & M REVIEW: [Signature]

APPROVED FOR USE: [Signature]

DATE: 11/29/10

SHEET 2 OF 2

CAD FILE: SD06S2R0.0WG
SCALE: NONE

STD. DETAIL NO. SD-6

APPROVED DATE: EXP. 11/29/10

DRAWN BY: [Signature]

CHECKED BY: [Signature]

REV. 0

ISSUED FOR DISTRIBUTION: HN JPM

TITLE:

CONTRA COSTA WATER DISTRICT
CONCORD, CALIFORNIA

STANDARD DETAIL

STANDARD 8" VALVE CAN ASSEMBLY ADJUSTMENT

ENGINEERING REVIEW: [Signature]

CONSTRUCTION REVIEW: [Signature]

O & M REVIEW: [Signature]

APPROVED FOR USE: [Signature]

DATE: 11/29/10

SHEET 2 OF 2

CAD FILE: SD06S2R0.0WG
SCALE: NONE

STD. DETAIL NO. SD-6

APPROVED DATE: EXP. 11/29/10

DRAWN BY: [Signature]

CHECKED BY: [Signature]

REV. 0
LIST OF MATERIALS

1/4" STAINLESS SPIGOT 4/ PLASTIC CAP
1/2" X 1" NIPPLE STD. BRASS
1/2" X 3/4" BUSHING STD. BRASS
3/4" COUPLING C FL X MA. I.P.
3/4" COUPLING C FL X FE. I.P.
3/4" COPPER TUBING *
3/4" SERVICE COCK
3/4" NIPPLE STD. BRASS
1" CLOSE NIPPLE STD. BRASS
1" X 3/4" TEE STD. BRASS
2- #36 METER BOX & COVER
SAMPLING STATION RISER
PEA GRAVEL
CONCRETE (1,500 PSI MIN. STRENGTH)
STAINLESS STEEL WOOL
10 MIL PE TAPE

NOTE:

1. USE LIGHT WEIGHT QUAZITE BOXES.
   IF EQUIVALENT SIZES IN NON-TRAFFIC
   AREAS ONLY. DO NOT USE QUAZITE
   BOXES IN SIDEWALKS OR DRIVeways.

EXIST. 1" X 3/4"
ANGLE STOP I.P.

1" CLOSE
NIPPLE STD.
BRASS

1" X 3/4" TEE
STD. BRASS

EXIST. 1" SERVICE LINE

3/4" COUPLING C FL X MA. I.P.

3/4" COPPER TUBING *

3/4" SERVICE COCK

1/2" STAINLESS SPIGOT
1/2" X 1" NIPPLE STD. BRASS
1/2" X 3/4" BUSHING STD. BRASS
3/4" COUPLING C FL X MA. I.P.
3/4" COUPLING C FL X FE. I.P.

WADDNG OF
STAINLESS
STEEL WOOL

R= MIN. BEND
RADIUS OF 4 1/2"

2-#36 (B9X) METER BOX
& COVER
(SEE NOTE 1)

10 MIL PE TAPE, 1/2 LAR WRAPPING,
APPLY AROUND ALUMINUM RISER
AND COPPER TUBING TO BE ENCASED
IN CONCRETE FOOTING

18" DIA.
CONCRETE
FOOTING

LEAVE BOTTOM
OPEN TO DRAIN

2" X 12" CUT OUT

CONTRA COSTA
WATER DISTRICT
CONCORD, CALIFORNIA

STANDARD DETAIL

TITLE:
EXIST. SERVICE
SAMPLING STATION

APPROVED DATE: 1/3/05

SD-7
LIST OF MATERIALS

1/4" STAINLESS SPIGOT W/ PLASTIC CAP
1/2" X 1" NIPPLE STD. BRASS
1/2" x 3/4" BUSHING STD. BRASS
3/4" COUPLING C FL X MA. I.P.
3/4" COUPLING C FL X FE. I.P.
3/4" COPPER TUBING *
3/4" SERVICE COCK
3/4" STREET ELL.
3/4" COUPLING INSERT X MA. I.P.
1" SERVICE LINE PER DWG. SD-2 AND SD-4
1- #36 METER BOX & COVER
SAMPLING STATION RISER
PEA GRAVEL
CONCRETE (1,500 PSI M.N. STRENGTH)
STAINLESS STEEL WOOL
10 MIL PE TAPE

NOTES:

1. UNLESS DIRECTED OTHERWISE
   BY DISTRICT, ALL ITEMS SHOWN
   SHALL BE INSTALLED BY APPLICANT.

2. USE LIGHT WEIGHT QUATZITE BOXES
   OF EQUIVALENT SIZES IN NON-TraFFIC
   AREAS ONLY. DO NOT USE QUATZITE
   BOXES IN SIDEWALKS OR DRIVEWAYS.

* FIELD DETERMINED BY ENGINEER

CONTRA COSTA
WATER DISTRICT
CONCORD, CALIFORNIA

TITLE:
APPLICANT
NEW SERVICE
SAMPLING STATION

STANDARD DETAIL

APPROVED DATE: 1/3/05
NON-POTABLE PIPELINE
CROSSING SEPARATION

FINISHED GRADE

LOCATOR WIRE, TYP.

DUCTILE IRON PIPE W/ HOT DIP BITUMINOUS COATING (SEE NOTE 3)

DEPTHE PER GENERAL SPECIFICATIONS UNLESS OTHERWISE NOTED

BELLO RESTRAINT

C-900 PVC PIPE

C-900 PVC PIPE

MJ SLEEVE WITH RETAINER GLANDS

MIN. 1' ABOVE

8' MIN.
(SEE NOTE 2)

NON-POTABLE PIPELINE

NOTES:

1. CROSSING SHALL BE AT AN ANGLE OF NO LESS THAN 45° HORIZONTALLY FROM THE NON-POTABLE PIPELINE.

2. NO JOINT IN THE NEW TREATED WATER MAIN SHALL BE WITHIN 8' OF A FLUID PIPELINE CONVEYING THE FOLLOWING (REQUIRED BY § 64572 OF THE CALIFORNIA WATERWORKS STANDARDS): SEWAGE, STORM WATER, RECYCLED WATER, AND HAZARDOUS LIQUIDS.

3. DUCTILE IRON (DI) PIPE AND METAL FITTINGS INSTALLED BELOW GRADE SHALL BE ENCASED WITH POLYWRAP AND TAPE IN ACCORDANCE WITH AWWA C105 AND DISTRICT STANDARDS.

4. ANY EXCEPTION TO THIS STANDARD REQUIRES PRIOR WRITTEN APPROVAL FROM THE DISTRICT'S ENGINEERING MANAGER.

5. TAPE LOCATOR WIRE ON ALL PIPES. REFER TO STD. DETAIL SD-6 FOR MORE DETAILS.
**NOTE:**

LOCATE AND USE METER AND DCVA BOXES PER SD-4

---

### BILL OF MATERIAL

**DUAL 2" METER INSTALLATION**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QTY.</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>A</td>
<td>-</td>
<td>4&quot; PVC PIPE (C.I.O.D.)</td>
</tr>
<tr>
<td>B</td>
<td>2</td>
<td>4&quot; TEE F.G.</td>
</tr>
<tr>
<td>C</td>
<td>1</td>
<td>4&quot; FIG. ADAPTER F/C900 PVC</td>
</tr>
<tr>
<td>D</td>
<td>4</td>
<td>2&quot; x 4&quot; NIPPLE STD. BRASS</td>
</tr>
<tr>
<td>E</td>
<td>4</td>
<td>METER BOX &amp; COVER</td>
</tr>
</tbody>
</table>

CONTINUED ON SHEET 2 OF 2

### BILL OF MATERIAL

**DUAL 1 1/2" METER INSTALLATION**
SAME AS 2" (EXCEPT AS LISTED BELOW)

<table>
<thead>
<tr>
<th>ITEM</th>
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<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>4</td>
<td>1 1/2&quot; x 4&quot; NIPPLE STD. BRASS</td>
</tr>
</tbody>
</table>

CONTINUED ON SHEET 2 OF 2

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**CONTRA COSTA WATER DISTRICT**

**CONCORD, CALIFORNIA**

**STANDARD DETAIL**

**TITLE:**

**DUAL 2" & 1 1/2" METER INSTALLATION W/ DCVA**

**DATE:** 2/1/12

**SHEET 1 OF 2**

**CAD FILE:** SD10S1R3.DWG

**SCALE:** NONE

**STD. DETAIL NO.:** SD-10

**REV.:** 3

---

**ENGINEERING REVIEW:**

**CONSTRUCTION REVIEW:**

**O & M REVIEW:**

**APPROVED FOR USE:**
## Bill of Material

**Continued from Sht. 1 of 2**

### Dual 2" Meter Installation

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<tr>
<td>F</td>
<td>4</td>
<td>4&quot; FLG. TAPPED 2&quot; I.P.</td>
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<tr>
<td>G</td>
<td>2</td>
<td>2&quot; x 4&quot; NIPPLE STD. BRASS</td>
</tr>
<tr>
<td>H</td>
<td>4</td>
<td>2&quot; ELL 90° STD. BRASS</td>
</tr>
<tr>
<td>I</td>
<td>2</td>
<td>2&quot; x 24&quot; NIPPLE STD. BRASS</td>
</tr>
<tr>
<td>J</td>
<td>2</td>
<td>2&quot; ANGLE METER STOP FLG.</td>
</tr>
<tr>
<td>K</td>
<td>2</td>
<td>2&quot; METER</td>
</tr>
<tr>
<td>L</td>
<td>2</td>
<td>2&quot; BRONZE OVAL METER FLG.</td>
</tr>
<tr>
<td>M</td>
<td>2</td>
<td>2&quot; x 10&quot; NIPPLE STD. BRASS</td>
</tr>
<tr>
<td>N</td>
<td>2</td>
<td>2&quot; ST. ELL 90° STD. BRASS</td>
</tr>
<tr>
<td>P</td>
<td>2</td>
<td>2&quot; UNION STD. BRASS</td>
</tr>
<tr>
<td>Q</td>
<td>2</td>
<td>2&quot; x 20&quot; NIPPLE STD. BRASS</td>
</tr>
<tr>
<td>R</td>
<td></td>
<td>THRUST BLOCK (SD-1)</td>
</tr>
<tr>
<td>S</td>
<td>2</td>
<td>2&quot; D.C.V.A. ASSY.</td>
</tr>
</tbody>
</table>

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**Contra Costa Water District**

**Concord, California**

**Standard Detail**

**Title:** Dual 2" & 1 1/2" Meter Installation W/D.C.V.A.

**Approved Date:** 5/24/04

**Sheet 2 of 2**

**SD-10**

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### Profile

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**Bill of Material**

**Continued from Sht. 1 of 2**

### Dual 1 1/2" Meter Installation

*Same as 2" (except as listed below)*

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QTY.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>2</td>
<td>1 1/2&quot; x 4&quot; NIPPLE STD. BRASS</td>
</tr>
<tr>
<td>K</td>
<td>2</td>
<td>1 1/2&quot; METER</td>
</tr>
<tr>
<td>L</td>
<td>2</td>
<td>1 1/2&quot; BRONZE OVAL METER FLG.</td>
</tr>
<tr>
<td>M</td>
<td>2</td>
<td>1 1/2&quot; x 10&quot; NIPPLE STD. BRASS</td>
</tr>
<tr>
<td>N</td>
<td>2</td>
<td>1 1/2&quot; ST. ELL 90° STD. BRASS</td>
</tr>
<tr>
<td>T</td>
<td>2</td>
<td>2&quot; x 1 1/2&quot; BRASS BUSHING (NOT SHOWN)</td>
</tr>
<tr>
<td>S</td>
<td>2</td>
<td>1 1/2&quot; D.C.V.A. ASSY.</td>
</tr>
</tbody>
</table>
NOTE:
USE LIGHT WEIGHT QUAZITE BOXES OF EQUIVALENT SIZES IN NON-TRAFFIC AREAS ONLY. DO NOT USE QUAZITE BOXES IN SIDEWALKS OR DRIVEWAYS.
### BY-PASS ASSEMBLY BILL OF MATERIAL

**CONTINUED FROM SHT. 1 OF 2**

<table>
<thead>
<tr>
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<th>DESCRIPTION</th>
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</thead>
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<td></td>
<td></td>
<td>SERVICE(-FS)</td>
</tr>
<tr>
<td>F</td>
<td>2</td>
<td>3/4&quot; CPLG. KxI.P. FE.-SL</td>
</tr>
<tr>
<td>G</td>
<td>10'</td>
<td>3/4&quot; COPPER TUBING(REF.)</td>
</tr>
<tr>
<td>H</td>
<td>2</td>
<td>3/4&quot; ELL 90° KxK-SL.</td>
</tr>
<tr>
<td>I</td>
<td>1</td>
<td>3/4&quot; ANGLE STOP I.P.</td>
</tr>
<tr>
<td>J</td>
<td>5/8&quot; x 3/4&quot; METER</td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>1</td>
<td>3/4&quot; LONG METER COUPLING</td>
</tr>
<tr>
<td>L</td>
<td>1</td>
<td>1/4&quot; PITCH</td>
</tr>
<tr>
<td>M</td>
<td>1</td>
<td>3/4&quot; SWING CHECK VALVE OR APPROVED EQUAL</td>
</tr>
<tr>
<td>N</td>
<td>2</td>
<td>3/4&quot; x CLOSE NIPPLE</td>
</tr>
<tr>
<td>P</td>
<td>1</td>
<td>3/4&quot; TEE SS BRASS</td>
</tr>
<tr>
<td>Q</td>
<td>1</td>
<td>3/4&quot; HOSE BIB</td>
</tr>
<tr>
<td>R</td>
<td>1</td>
<td>3/4&quot; x 1/4&quot; TEE SS-BRASS</td>
</tr>
</tbody>
</table>

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**CONTRA COSTA WATER DISTRICT**

**CONCORD, CALIFORNIA**

**STANDARD DETAIL**

**DETECTOR CHECK VALVE INSTALLATION**

**APPROVED DATE:**

**CAD FILE:** SD11S2R0.DGN **SCALE:** NONE

**STD. DETAIL NO.:** SD-11 **REV.:** 0
ANCHOR BLOCK WIDTH TO BE 30" MINIMUM

NOTES:

1. U-STRAP SHALL BE FABRICATED OF 1/2" STEEL REINFORCING BAR.

2. FIELD DETERMINE SUITABILITY OF ANCHOR BLOCK FOR SITE SOIL TYPE AND WHEN IN PROXIMITY OF OTHER UTILITIES. CONTACT DISTRICT INSPECTOR FOR ALTERNATIVE INSTALLATIONS AS REQUIRED.

3. MINIMUM BEARING AREA FOR THRUST/ANCHOR BLOCK SHALL BE AS PROVIDED FOR THE CORRESPONDING TEE OR BLOW-OFF DIAMETERS LISTED IN STD. DWG. SD-1.
Air Valve Pipe Location may vary near center of enclosure.

Section A

Scale: 1" = 1'-0"

Detail

Scale: 1" = 1'-0"

Detail

Stamped louvers 8" long, stacked 5" high w/ 1/4" galv. mesh screen behind louvers

Enclosure leg, 4 req'd. L 2" x 2" x 3/16" x 1'-6"

Front

Scale: 1" = 1'-0"

SECTION B

Detail

Mounting foot

Section B

Scale: 1" = 1'-0"

SEE NOTES ON SHEET 3 OF 3

Contra Costa Water District
Concord, California

Title:

Air Valve Enclosure

Standard Detail

Approved Date:

SD-13 0

Date: 8/31/00 Sheet 1 of 3
DETAIL

SCALE: 3/4" = 1'-0"

SHT. 1

ENCLOSURE LEG
L 2" x 2" x 3/16" x 1'-6" (REF.)

TYP.
1/8
1/2" - 3"

SEAL WELD TYP.
3/16

(4 REQ'D.)

BAR 2" SQ. x 1/4"
W/ 9/16" DIA. HOLE FOR
1/2" DIA. ANCHOR BOLT

DETAIL

SCALE: 3/4" = 1'-0"

SHT. 1

MOUNTING FOOT

DETAIL

SCALE: 3/4" = 1'-0"

SHT. 1

ROOF,
12 GA. STEEL

SIDE WALL,
12 GA. STEEL

SEAL

WELD

CONTRA COSTA WATER DISTRICT
CONCORD, CALIFORNIA

STANDARD DETAIL

TITLE:
AIR VALVE ENCLOSURE

// Issued for distribution
// Date: 8/31/00
// Sheet 2 of 3
// Rev. 0

SD-13

Approved Date:

State of California
Registered Professional Engineer
No. CO41727
Exp. 3/31/09

(a)
NOTES FOR PAINTING PROCEDURE:

1. DRY SANDBLAST ALL SURFACES TO AN EVEN, GRAY-WHITE COLOR AS DEFINED BY THE STEEL STRUCTURES PAINTING COUNCIL IN "SURFACE PREPARATION SPECIFICATION NO. 5, BLAST CLEANING TO WHITE METAL."

2. IMMEDIATELY AFTER SANDBLASTING, APPLY TO ALL SURFACES A COATING, 5 MILS IN THICKNESS OF DIMETCOTE NO. 4 MANUFACTURED BY AMERCOAT CORPORATION, 4809 FIRESTONE BLVD., SOUTH GATE, CALIFORNIA OR APPROVED EQUAL, STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

3. AFTER INSTALLATION, TWO EXTERIOR FINISH COATS OF ALKYD ENAMEL SHALL BE APPLIED BY INSTALLING CONTRACTOR. COLOR SHALL BE TAUPE OR AS DIRECTED BY CONSTRUCTION ADMINISTRATOR.

NOTES ON CONSTRUCTION:

1. ALL EXTERIOR WELDS SHALL BE GROUND SMOOTH. ALL WELD SPATTER SHALL BE REMOVED AND GROUND SMOOTH.

2. MATERIAL SHALL BE PRIME QUALITY, COMMERCIAL GRADE HOT ROLLED SHEET.

3. FINISHED ENCLOSURE SHALL PRESENT SMOOTH AND FINISHED APPEARANCE, TOLERANCE WITHIN ±1/32 -INCH, WRINKLES, DISTORTION FROM WELD SHRINKAGE, AND OTHER POOR WORKMANSHIP WILL NOT BE ACCEPTABLE.
NOTE:

1. ONLY TO BE USED IF EXISTING S.C.C. PIPE IS CATHODICALLY PROTECTED.

2. COATING TYP. FOR SIDE AND TOP OUTLETS AND VALVES.


4. #10 AWG BOND WIRE SHALL CONNECT STEEL WELD-ON OUTLET TO VALVE, VIA EXOTHERMIC WELD CONNECTIONS.
AWG #10 THHN OR THW (SEE NOTE #5)

6" MIN. OVERLAP OR AS REQ'D. TO REPAIR COATING

S.C.M. OR S.C.B. PIPE

BUILD UP WITH MASTIC TO COVER NUTS AND BOLTS

COLD APPLIED 4" OR 6" COAL TAR, GLASS REINFORCED TAPE 20 MIL. DOUBLE LAP

POLYETHYLENE SLEEVE (SEE NOTE #2)

VALVE CAN & COVER PER DWG. SD-6

M.J. FOLLOWER RING NOT COATED: TO BE POLY-WRAPPED ONLY.

NOTE:

1. ONLY TO BE USED IF EXISTING S.C.M./S.C.B. IS CATHODICALLY PROTECTED.

2. EXTEND POLYETHYLENE TO COVER ALL METAL PIPE AND FITTINGS.

3. COATING TYP. FOR SIDE AND TOP OUTLETS AND VALVES.


5. #10 AWG BOND WIRE SHALL CONNECT STEEL WELD-ON OUTLET TO VALVE, VIA EXOTHERMIC WELD CONNECTIONS.
1. To retrofit existing air relief assemblies, remove existing meter 30x with lid and air relief valve. Install 4" d.i. spool on remaining flg. of buried assembly, length to provide clearance above finish grade as shown. Backfill and pour concrete pad as shown.

2. Install air valve enclosure per manufacturer's instructions, using 1/2" dia. anchor bolts through each mounting foot.

3. Ductile iron (d.i.) pipe and metal fittings installed below grade shall be encased with polywrap and tape in accordance with awma c105 and district specifications.

4. All materials shall be provided by the district, unless noted otherwise.

5. Tape locator wire on all pipes. Refer to std. detail SD-6 for more details.

CONTRA COSTA WATER DISTRICT
CONCORD, CALIFORNIA

STANDARD DETAIL

TITLE: 4" AND 3" COMBINATION AIR RELIEF ASSEMBLY

CAD FILE: SD15S1R2.DWG SCALE: NONE STD. DETAIL NO. SD-15

APPROVED DATE: 5/7/19 SHEET 1 OF 1 REV.

APPROVED FOR USE: [Signature] 5/7/19

ENGINEERING REVIEW: [Signature] 5/7/19

O & M REVIEW: [Signature] 5/7/19

REV. DESCRIPTION BY APP. DATE
NOTES:

1. INSTALL 4" X 4" X 6' REDWOOD MARKER POST WITHIN 12" OF METER BOX. BURY MIN. DEPTH 3'. PAINT WHITE WITH BLACK LETTERS "AR".

2. PVC PIPE SHALL BE SCHEDULE 80.

3. USE TRAFFIC RATED BOXES AND LIDS IN ROADWAYS, DRIVEWAYS, AND SIDEWALKS. MAY ONLY USE LIGHTWEIGHT BOXES AND LIDS IN NON-TRAFFIC AREAS.

4. TAPE LOCATOR WIRE ON ALL PIPES. REFER TO STD. DETAIL SD-6 FOR MORE DETAILS.
GENERAL NOTES:
1. DETAILS SHALL ONLY BE USED FOR VERTICAL SLOPE HEIGHTS LESS THAN 45 FT, SLOPES OF 1:1 OR SHALLOWER AND SLOPES BETWEEN THE CANAL LINER AND BENCH OR OPERATIONS ROAD.
2. REPAIR WIDTH (RW) EQUALS WIDTH OF SCARP PLUS 2 FT EITHER SIDE OF SCARP. REPAIR LENGTH (RL) EQUALS HORIZONTAL SLOPE LENGTH FROM TOP OF CANAL LINER TO BENCH OR OPERATIONS ROAD.
3. INSTALL FIBERGLASS KNOCKDOWN POSTS, ONE ON EACH END OF THE TRM REPAIR LIMIT. LOCATE AT THE EDGE OF BENCH OR ACCESS ROAD. POST SHALL READ "TRM REPAIR, MONTH/YEAR" DESCRIBING DATE INSTALLED WITH AN ARROW POINTING IN DIRECTION OF REPAIR.
4. DETAILS SHALL NOT BE USED TO DIVERT STORM WATER RUNOFF FROM BENCH OR OPERATIONS ROAD DOWN SLOPE TO THE CANAL SITE SPECIFIC DRAINAGE IMPROVEMENTS SHALL BE IMPLEMENTED TO ADDRESS STORM WATER RUNOFF.

SUBGRADE PREPARATION NOTES:
1. CLEAR AREA TO BE COVERED WITH TRM OF ANY DISTURBED SOIL, SOIL CLods, LOOSE ROCKS, GRASS CLUMP, AND OTHER DEBRIS.
2. AFTER AREA IS CLEARED, SHAPE AND SMOOTH AREA TO BE COVERED WITH TRM SO THAT TRM WILL LIE FLUSH AND CREATE SMOOTH TRANSITION TO MATCH TOPOGRAPHY OF ADJACENT UNDAMAGED SLOPES. SUBGRADE SHALL BE FLAT AND SMOOTH.
3. PRIOR TO TRM PLACEMENT, APPLY SEED, FERTILIZER, AND FIBER TO SLOPE BY HYDROSEEDING. (SEE HYDROSEEDING STANDARD TECHNICAL SPECIFICATION, D2925).

TRM NOTES:
1. FOLLOWING MATERIALS ARE APPROVED FOR USE AS TRM: PROPEx LANDLOCK 300, NORTH AMERICA GREEN PS50 OR EQUAL.
2. TRM ANCHOR PINS SHALL BE 12" LONG AND 0.20" DIAMETER GALVANIZED STEEL WITH 1-1/2" GALVANIZED STEEL WASHER AT THE HEAD OF THE PIN. METAL PIN SHALL BE DRIVEN FLUSH TO THE SOIL SURFACE.
3. ANCHOR TRM UPPER ANCHOR IN TRENCH AT TOP OF SLOPE. BACKFILL WITH ENGINEERED FILL (SEE ENGINEERED FILL NOTES) AND COMPACT UPPER ANCHOR TRENCH AFTER INSTALLING TRENCH TRM ANCHOR PINS.
4. UNROLL TRM DOWN SLOPE MAINTAINING EDGE AND END OVERLAP SHOWN. AT ROLL ENDS, LAP UPSLOPE TRM EDGE OVER DOWNSLOPE TRM EDGE.
5. LAY TRM LOSELY AND MAINTAIN DIRECT CONTACT WITH SOIL SURFACE. DO NOT PULL TRM TAUT AND DO NOT ALLOW BRIDGING OF TRM OVER SOIL SURFACE.
6. SECURE TRM TO GROUND SURFACE WITH TRM ANCHOR PINS IN PATTERN SHOWN. AT TRM EDGE OVERLAP, secure with one row of pins at 12" O.C. CENTERED WITHIN OVERLAP. AT TRM END OVERLAP, secure with two rows of pins staggered 12" apart at 12" O.C. AS SHOWN.
7. PLACE BOTTOM TRM EDGE IN LOWER ANCHOR TRENCH, INSTALL TRM ANCHOR PINS, AND BACKFILL.
8. HYDROSEED SURFACE (SEE HYDROSEEDING STANDARD TECHNICAL SPECIFICATION, D2925) OF TRM AND OTHER AREAS WHERE EXISTING VEGETATION WAS DISTURBED BY CONSTRUCTION ACTIVITIES.

ENGINEERED FILL NOTES:
1. ENGINEERED FILL SHALL BE A SELECT MIXTURE OF NATIVE EARTH WITH A MAXIMUM PARTICLE SIZE OF 4", OBTAINED FROM REQUIRED EXCAVATIONS AND FREE OF ORGANIC MATERIALS, DEBRIS AND TRASH.
2. BEFORE PLACING ENGINEERED FILL ON OR AGAINST SOIL AND SUBGRADES, MOISTURE CONDITION, REPLACE, AND/OR RECOMPACT ANY SURFACES WHICH HAVE BECOME SOFT OR LOOSE, WHICH CONTAIN EROSION CHANNELS OR CRACKS, OR ARE EXCESSIVELY DRY.
3. PLACE MATERIAL TO FORM A HOMOGENEOUS LAYER IN 8-INCH MAXIMUM THICKNESS LOOSE LIFTS. EACH LAYER SHALL BE CONSTRUCTED CONTINUOUSLY AND APPROXIMATELY HORIZONTAL, FOR THE WIDTH AND LENGTH OF EACH PORTION OF THE LAYER. EACH LAYER SHALL BE INCLINED SLIGHTLY FROM THE HORIZONTAL TO PROVIDE SURFACE DRAINAGE TOWARDS THE BACK OF THE BENCH.
4. DO NOT PLACE WHEN THE FILL OR THE FOUNDATION IS SATURATED. FILL PLACEMENT SHALL BE TEMPORARILY STOPPED DURING UNSUITABLE WEATHER CONDITIONS.
5. COMPACT MATERIAL IN PLACE "0.90 PERCENT OF MAXIMUM DRY DENSITY AND AT A MOISTURE CONTENT WITHIN A RANGE OF THE OPTIMUM TO 3 PERCENTAGE POINTS ABOVE optimum when tested in accordance with ASTM D1557. Process the material as required to achieve the specified moisture content.

SITE CLEAN-UP NOTES:
1. CLEAR ALL DEBRIS, WASTE, GRASS CLUMPS, AND OTHER VEGETATION FROM SITE UPON PROJECT COMPLETION.
2. REMAINING DISTURBED SOIL, SOIL CLods AND LOOSE ROCKS REMOVED DURING SUBGRADE PREPARATION CAN BE SPREAD AND COMPACTED ALONG NON OPERATIONS SIDE ROAD. GRAVE ROAD AWAY FROM CANAL TOWARD EXISTING V-DoCHES WHERE PRESENT.

CONTRA COSTA WATER DISTRICT
CONCORD, CALIFORNIA

STANDARD DETAIL

CANAL SLOPE VENEER SLIDE REPAIR - TURF REINFORCEMENT MATRIX (TRM)

APPROVED DATE: 12/21/11

REV.
0

ISSUED FOR DISTRIBUTION: HN 12/11

CADE FILE: SD175280.DWG

SCALE: NONE

STD. DETAIL NO. SD-17

REVISION DATE: 12/21/11

SHEET 2 OF 2
NOTES:
1. 4" DIAMETER SERVICE AND MATERIALS Shown. SIMILAR INSTALLATION AND MATERIALS FOR 3" AND 6" DIAMETER SERVICES WITH COMPOUND METERS AND RPBPD. SEE SHEET 2 OF 2 TABLE "WILKINS 300 SERIES LAY LENGTHS" FOR DIMENSIONS 3" VARIOUS DIAMETER SERVICES.

2. PROVIDE A METAL ENCLOSURE, OR CASE (GUARDSHACK BY PBDI, INC. PAINTED FOREST GREEN COLOR) IN HIGH TRAFFIC AREAS OR WHERE VANDALISM IS A CONCERN, OR AS REQUIRED BY THE DISTRICT.

3. DUCTILE IRON PIPE AND METAL FITTINGS INSTALLED BELOW GROUND SHALL BE ENCASED WITH POLYWRAP AND TAPE IN ACCORDANCE WITH ANWA C1105 AND DISTRICT SPECIFICATIONS.

4. ALL MATERIALS SHALL BE PROVIDED BY THE DISTRICT, UNLESS NOTED OTHERWISE.

5. LOCATION FOR INSTALLATION SHALL BE APPROVED BY THE DISTRICT.

6. FOR 6" COMPOUND METER INSTALLATION, A TEST STACK INSTALLATION IS REQUIRED. INSTALL 2" TAPPING SADDLE.
WILKINS 300 SERIES LAY LENGTHS (INCHES)

<table>
<thead>
<tr>
<th>PIPE DIAMETER</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
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<tr>
<td>3</td>
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</table>

A = OVERALL LENGTH
B = BACKFLOW PREVENTION DEVICE (WILKINS MODEL)
C = SPOOL LENGTH MUST BE GREATER THAN OR EQUAL TO 2 X PIPE DIAMETER
D = METER
E = SPOOL (F) AND STRAINER (G) LENGTH MUST BE GREATER THAN OR EQUAL TO 5 X PIPE DIAMETER (MIN. OR WITHIN 1" IN LENGTH)
F = SPOOL
G = STRAINER FLANGE

CONTRA COSTA WATER DISTRICT
CONCORD, CALIFORNIA

STANDARD DETAIL

3" TO 6" SERVICE
W/ COMPOUND METER AND RPBPD

CAD FILE: SD18S2K.DWG
SCALE: NTS
DATE: 8/30/10
SHEET: 2 OF 2

APPROVED FOR USE:

APPROVED DATE:
NOTES:

1. 6" DIAMETER MATERIALS AND INSTALLATION SHOWN. SIMILAR INSTALLATION AND MATERIALS FOR 4", 8" AND 10" DIAMETER FIRE SERVICES W/ RPDA OR DCDA. SEE TABLE AT RIGHT FOR LAY LENGTHS OF DIFFERENT DIAMETERS.

2. CLASS I FIRE SERVICES WILL REQUIRE WILKINS 450 DCDA (DOUBLE CHECK DETECTOR ASSEMBLY). PRIVATE/COMMERCIAL SPRINKLER SYSTEMS OTHER THAN CLASS I WILL REQUIRE WILKINS 475 RPDA.

3. REFER TO SD--11 FOR DETECTOR CHECK VALVE INSTALLATIONS FOR PRIVATE FIRE HYDRANTS.

4. DUCTILE IRON PIPE AND METAL FITTINGS INSTALLED BELOW GROUND SHALL BE ENGAGED WITH POLYWRAP AND TAPE IN ACCORDANCE WITH AWWA C105 AND DISTRICT SPECIFICATIONS.

5. ALL MATERIALS SHALL BE PROVIDED BY THE DISTRICT, UNLESS NOTED OTHERWISE.

6. LOCATION FOR INSTALLATION SHALL BE APPROVED BY THE DISTRICT.

7. PROVIDE A METAL ENCLOSURE OR CAGE PAINTED FOREST GREEN (GUARDSHACK BY PBDI, INC) IN HIGH TRAFFIC AREAS, WHERE VANDALISM IS A CONCERN, OR AS REQUIRED BY THE DISTRICT.

8. ORIENT VALVES AND VALVE STEMS AS SHOWN ON PLAN DRAWINGS.

CONTRA COSTA WATER DISTRICT CONCORD, CALIFORNIA

STANDARD DETAIL

TITLE:
4" TO 10" FIRE SERVICE W/ RPDA OR DCDA

APPROVED DATE:

ENGINEERING REVIEW:

CONSTRUCTION REVIEW:

O & M REVIEW:

APPROVED FOR USE:

CAD FILE: SD19S1R2.DWG SCALE: NTS STD. DETAIL NO. REV.

01/19

SD-19

2/12/14 SHEET 1 OF 1

WILKINS 475DA (RPDA) & 450 (DCDA)
LAY LENGTHS (INCHES)

<table>
<thead>
<tr>
<th>PIPE DIAMETER</th>
<th>A</th>
<th>B</th>
<th>CONCRETE PAD</th>
<th>CAGE MODEL</th>
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<td>29</td>
<td>47-1/2</td>
<td>84&quot;x84&quot;x4&quot;</td>
<td>CUSTOM</td>
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</table>

6" WILKINS MODEL

475DA RPDA

CAGE SEE NOTE 7

SEE NOTE 8

2' OF 6" DI PIPE FBE
#4 REBAR @ 12" OC EW

LOCATOR WIRE-CONTINUOUS #12 AWG SOLID THHN-THWN WIRE (TYP)

6" PVC PIPE CLASS 305 (DR14)

WILKINS VALVE SETTER MJ X FLG (TYP)

CONCRETE PAD

MIN 6" OF AB (90% REL COMPL)

PRIVATE SYSTEM

SEE DETAIL DESIGN DRAWING FOR USE OF VALVE SETTER OR ORIENTATION OF FITTING

COVER OPENING W/ POLYWRAP UNTIL CONNECTION BY OTHERS

CONCRETE PAD NOT REQUIRED FOR DCDA UNLESS CAGE IS REQUIRED

TAPE LOCATOR WIRE TO PIPE @ 5" O.C. (TYP)

12" MAX.

12" CHAMFER (TYP)
NOTES:

1. SEE SHEET 2 OF 2 TABLE "WILKINS 300 SERIES LAY LENGTHS" FOR DIMENSIONS OF 8" DIAMETER SERVICE.

2. PROVIDE A METAL ENCLOSURE OR CAGE (GUARDSHACK BY PADI, INC.) IN HIGH TRAFFIC AREAS OR WHERE VANDALISM IS A CONCERN, OR AS REQUIRED BY THE DISTRICT. PAINTED FOREST GREEN COLOR.

3. DUCTILE IRON PIPE AND METAL FITTINGS INSTALLED BELOW GRADE SHALL BE ENGAGED WITH POLYWRAP AND TAPE IN ACCORDANCE WITH AWWA C110S AND DISTRICT SPECIFICATIONS.

4. ALL MATERIALS SHALL BE PROVIDED BY THE DISTRICT, UNLESS NOTED OTHERWISE.

5. LOCATION FOR INSTALLATION SHALL BE APPROVED BY THE DISTRICT.
WILKINS 300 SERIES LAY LENGTHS (INCHES)

<table>
<thead>
<tr>
<th>PIPE DIAMETER</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
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<tr>
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CONTRA COSTA WATER DISTRICT
CONCORD, CALIFORNIA

STANDARD DETAIL

8" SERVICE
W/ COMPOUND METER
AND RPBPD

APPROVED DATE: 8/30/10
SHEET 2 OF 2

SD-20
NOTES:

1. FOR 2" BLOWOFF ASSY ON A 2" PVC MAIN, IN PLACE OF MJ CAP AND 2" ST ELL USE:
   2" ADAPTER PVC 5W x MA IP
   2" CPLG STD BRASS
   2" x 24" NIPPLE STD BRASS
   2" ELL 90° STD BRASS
   REMAINDER OF BLOWOFF IS AS SHOWN ABOVE.

2. ALL MATERIALS SHALL BE PROVIDED BY THE DISTRICT UNLESS NOTED OTHERWISE.