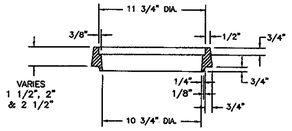
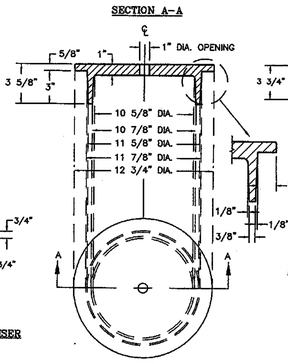
NOTE:

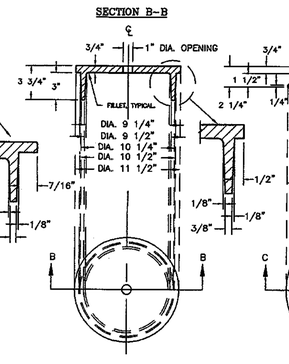
1. FRAME, COVER AND CASING EXTENSIONS TO BE OF GOOD QUALITY DOMESTIC CAST IRON, FREE FROM FLAWS AND BLOW HOLES, AND OF SUFFICIENT STRENGTH TO RESIST BREAKAGE BY STREET TRAFFIC.
2. CASTINGS TO BE TRUE, AND IF NECESSARY TO BE TRIMMED ON EMERY WHEEL TO PREVENT ROCKING OF COVER IN ANY POSITION IN THE FRAME.
3. SEE DRAWING CW 439 FOR VALVE COVER, CASING, AND FRAME INSTALLATION DETAILS.
4. COVER "A" DOES NOT HAVE A MATCHING CAST FRAME.



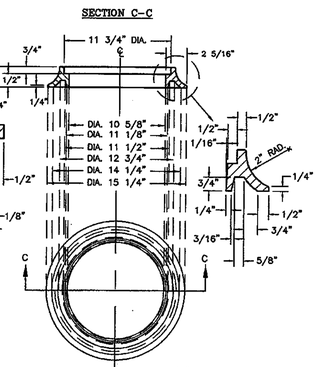
TYPICAL CENTER SECTION OF FRAME RISER FOR PAVED AREAS



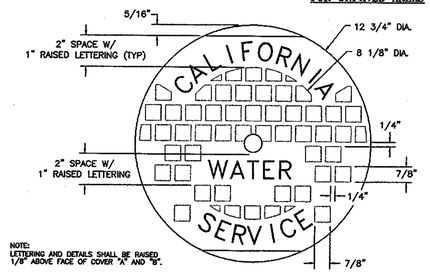
COVER "A" FOR UNPAVED AREAS



COVER "B" FOR PAVED AREAS

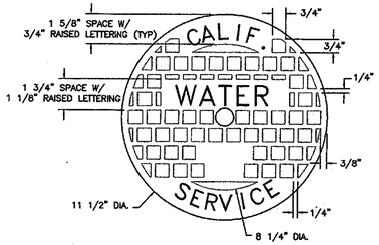


FRAME DETAIL FOR COVER "B" IN PAVED AREAS.



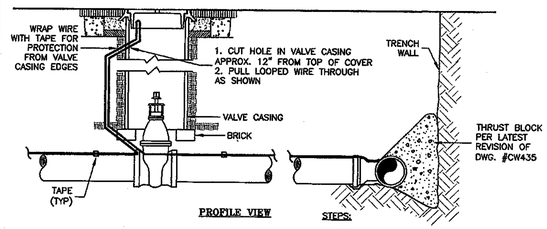
NOTE: LETTERING AND DETAILS SHALL BE RAISED 1/8" ABOVE FACE OF COVER "A" AND "B".

TOP VIEW OF COVER "A"



TOP VIEW OF COVER "B"

CW 14R5 — VALVE COVER AND FRAME FABRICATION DETAILS FOR PAVED AND UNPAVED AREAS



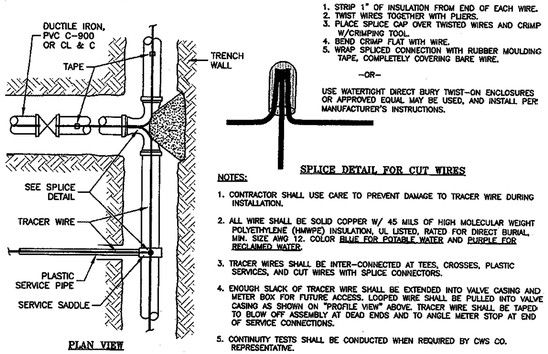
PROFILE VIEW

STEPS:

1. STRIP 1" OF INSULATION FROM END OF EACH WIRE.
2. TWIST WIRES TOGETHER WITH PLIERS.
3. PLACE SPLICE CAP OVER TWISTED WIRES AND CRIMP W/CRIMPING TOOL.
4. BEND CRIMP FLAT WITH WIRE.
5. WRAP SPLICED CONNECTION WITH RUBBER MOULDING TAPE, COMPLETELY COVERING BARE WIRE.

-OR-

USE WATERTIGHT DIRECT BURY TWIST-ON ENCLOSURES OR APPROVED EQUAL MAY BE USED, AND INSTALL PER MANUFACTURER'S INSTRUCTIONS.



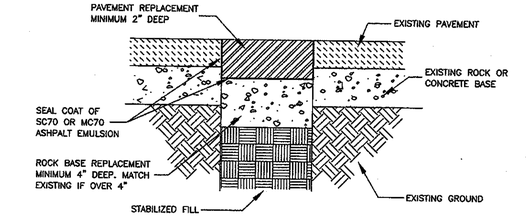
PLAN VIEW

SPLICE DETAIL FOR CUT WIRES

NOTES:

1. CONTRACTOR SHALL USE CARE TO PREVENT DAMAGE TO TRACER WIRE DURING INSTALLATION.
2. ALL WIRE SHALL BE SOLID COPPER W/ 45 MILS OF HIGH MOLECULAR WEIGHT POLYETHYLENE (HMWPE) INSULATION, UL LISTED, RATED FOR DIRECT BURIAL, MIN. SIZE AWG 12. COLOR BLUE FOR POTABLE WATER AND PURPLE FOR RECLAIMED WATER.
3. TRACER WIRES SHALL BE INTER-CONNECTED AT TEES, CROSSES, PLASTIC SERVICES, AND CUT WIRES WITH SPLICE CONNECTORS.
4. ENOUGH SLACK OF TRACER WIRE SHALL BE EXTENDED INTO VALVE CASING AND METER BOX FOR FUTURE ACCESS. LOOPED WIRE SHALL BE PULLED INTO VALVE CASING AS SHOWN ON "PROFILE VIEW" ABOVE. TRACER WIRE SHALL BE TAPED TO BLOW OFF ASSEMBLY AT DEAD ENDS AND TO ANGLE METER STOP AT END OF SERVICE CONNECTIONS.
5. CONTINUITY TESTS SHALL BE CONDUCTED WHEN REQUIRED BY CWS CO. REPRESENTATIVE.
6. TRACER WIRE SHALL BE REQUIRED ON ALL MAINS.

CW 850R3 — STANDARD INSTALLATION DETAILS FOR TRACER WIRE ON MAINS

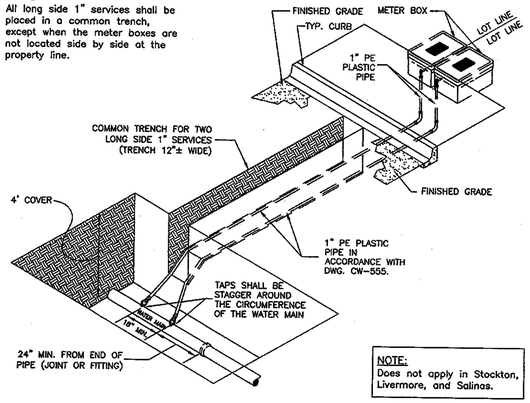


NOTES

1. Place seal coat as shown on base in all cases before placing top pavement.
2. If the paving being replaced is A.C., then the replacement paving and rock base shall match the existing pavement section, or with a minimum of four inches of rock base and two inches of A.C., whichever is the greater.
3. Pavement base shall be replaced as concrete to match existing when concrete has been removed.
4. If the paving being replaced is oil and screenings, then the replacement paving and rock base shall match the existing pavement section.

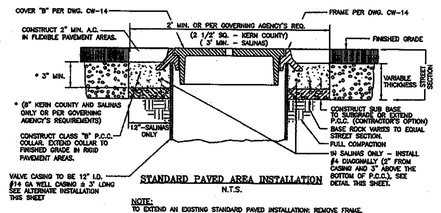
CW 236R2 — RECOMMENDED PLAN AND SPECIFICATIONS FOR REPLACING PAVEMENT

NOTE:
All long side 1" services shall be placed in a common trench, except when the meter boxes are not located side by side at the property line.



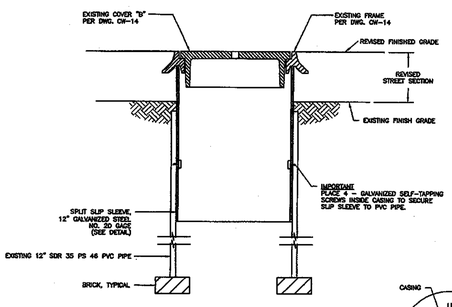
NOTE:
Does not apply in Stockton, Livermore, and Salinas.

CW 837R3 — TWO 1" LONG SIDE SERVICES IN COMMON TRENCH

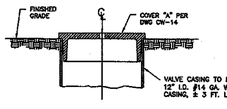


STANDARD PAVED AREA INSTALLATION
N.T.S.

NOTE:
TO EXTEND AN EXISTING STANDARD PAVED INSTALLATION: REMOVE FRAME, ADD STANDARD CAST FRAME RISER PER CW-14, OR TACK WELD ADDITIONAL STEEL CASING AS REQUIRED, REPLACE FRAME.

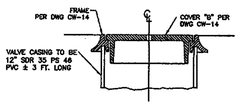


EXISTING PAVED AREA PVC CASING AND SLIP SLEEVE EXTENSION
N.T.S.



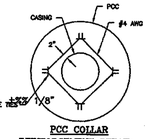
STANDARD INSTALLATION IN UNPAVED AREAS

NOTE:
TO EXTEND AN EXISTING STANDARD UNPAVED INSTALLATION: REMOVE COVER, TACK WELD ADDITIONAL STEEL CASING AS REQUIRED, AND REPLACE COVER.

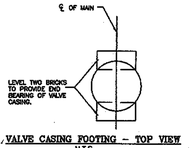


ALTERNATE INSTALLATION IN PAVED AREAS

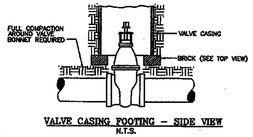
NOTE:
TO EXTEND PVC CASING IN PAVED AREA SEE SLIP SLEEVE EXTENSION DETAILS THIS SHEET



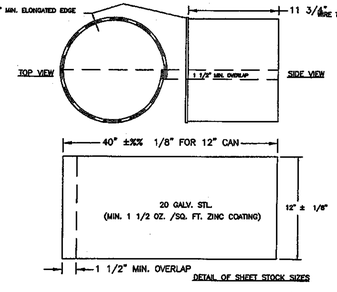
PCC COLLAR REINFORCEMENT DETAIL-SALINAS ONLY
N.T.S.



VALVE CASING FOOTING - TOP VIEW
N.T.S.



VALVE CASING FOOTING - SIDE VIEW
N.T.S.



DETAIL OF GALVANIZED SLIP SLEEVE
N.T.S.

CW 439R4 — VALVE CASING, COVER AND FRAME INSTALLATION DETAILS

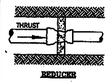
THRUST BLOCK SCHEDULE

PIPE SIZE	FITTING	TYPE OF SOIL: SOFT CLAY (1000 P.S.F.) MIN. BEARING AREA (SQ. FT.)	SOFT CLAY DIMENSION (FEET) A	SOFT CLAY DIMENSION (FEET) B	SAND (2000 P.S.F.) MIN. BEARING AREA (SQ. FT.)	SAND DIMENSION (FEET) A	SAND DIMENSION (FEET) B	ROCK (3000 P.S.F.) MIN. BEARING AREA (SQ. FT.)	ROCK DIMENSION (FEET) A	ROCK DIMENSION (FEET) B
6"	PLUG, CAP	6	3	2	3	2	1.5	2	2	1
	90° ELL	8	3.2	2.5	4.1	2.7	1.5	3	2	1.5
	45° ELL	4.4	2.2	2	2.3	1.5	1.5	1.5	1.5	1
	22 1/2° ELL	2.3	1.5	1.5	1	1	1	1	1	1
	TEE W/ 6"OUTLET	6	3	2	3	2	1.5	2	2	1
8"	PLUG, CAP	10	4	2.5	5	2.5	2	3.3	2.3	1.5
	90° ELL	14	4	3.5	7	2.8	2.5	5	2.5	2
	45° ELL	7.5	3	2.5	3.8	2	1.9	2.6	1.7	1.5
	22 1/2° ELL	4	2	2	2	2	1	1.5	1.5	1
	TEE W/8"OUTLET	10	4	2.5	5	2.5	2	3.3	2.3	1.5
12"	PLUG, CAP	24	6	4	12	4	3	7.5	3	2.5
	90° ELL	32.5	6.5	5	16.1	4.8	3.5	10.8	3.6	3
	45° ELL	17.5	5	3.5	8.6	3.5	2.5	6	3	2
	22 1/2° ELL	9	3.6	2.5	4.6	2.3	2	3	2	1.5
	TEE W/12"OUTLET	24	6	4	12	4	3	7.5	3	2.5
14"	PLUG, CAP	31.5	6.3	5	15.8	4.5	3.5	10.5	3.5	3
	90° ELL	44.4	7.4	6	22	5.5	4	14.7	4.2	3.5
	45° ELL	24	6	4	12	4	3	8.1	3	2.7
	22 1/2° ELL	12	4	3	6	3	2	4	2	2
	TEE W/ 14"OUTLET	31.5	6.3	5	15.8	4.5	3.5	10.5	3.5	3
16"	PLUG, CAP	40.7	7.4	5.5	20	5	4	13.5	4.5	3
	90° ELL	56	8	7	28.8	6.4	4.5	20	5	4
	45° ELL	31	6.5	5	15.8	4.5	3.5	10.5	3.5	3
	22 1/2° ELL	15.8	4.5	3.5	7.8	3	2.8	5.2	2.6	2
	TEE W/ 16"OUTLET	40.7	7.4	5.5	20	5	4	13.5	4.5	3
18"	PLUG, CAP	52	8	6.5	25.4	6.6	4	17.2	5	3.5
	90° ELL	75	10	7.5	37	7.4	5	24.8	6.2	4
	45° ELL	40.7	7.4	5.5	20	5	4	14	4	3.5
	22 1/2° ELL	20	5	4	10.5	3.5	3	6.9	3	2.3
	TEE W/ 18"OUTLET	52	8	6.5	26.4	6.8	4	17.5	5	3.5

NOTE:
1. THRUST BLOCKS DESIGNED FOR A MAXIMUM OF 150 PSI WATER PRESSURE
2. ALL CONCRETE SHALL CONTAIN 6 SACKS OF CEMENT PER CUBIC YARD.
3. THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED SOIL.
4. KEEP ALL CONCRETE CLEAR OF THE JOINTS ON ALL FITTINGS.
5. FORMS ARE REQUIRED ON ALL THRUST BLOCKS AND TO BE SUPPLIED BY CONTRACTOR. ALL FITTINGS TO BE WRAPPED WITH POLYETHELENE PRIOR TO POURING THRUST BLOCKS.

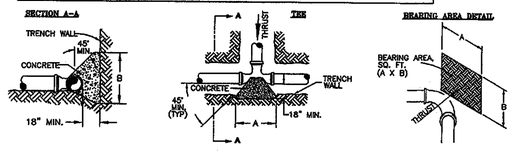
TEE & SOLID PLUG

NOTE:
SEE PLANS FOR SIZE & DETAIL OF CONCRETE BLOCK WHEN REQUIRED FOR REDUCER.

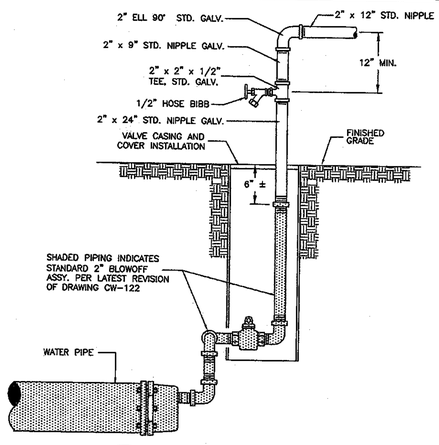


REDUCER

90° ELL



CW 435R4 — TYPICAL THRUST BLOCK INSTALLATION



CW 638R1 — SAMPLING DEVICE FOR 2" BLOW-OFF

ENGINEERING

CALIFORNIA WATER SERVICE CO.

DEPARTMENT

REVISIONS:

	DATE:	DIV.
DISTRIBUTION MAP		
PLAT SHEET		
SYSTEM SCHEMATIC		
STATION SCHEMATIC		
ZONE MAP		
VALVE RECORD		

PLAT SHEET NO.:

SCALE: N.T.S.

DRAWN BY: M. FONG

DESIGNED BY:

CHECKED BY: DATE: SDJansen 1/25/2010

APPROVED BY: DATE: 1/26/2010

TITLE: CALIFORNIA WATER SERVICE COMPANY STANDARD DRAWINGS

DISTRICT: ALL

DATE: 1-21-2010

PROJECT ID.:

DRAWING NO.: CWDWGS

SHT 1 OF 2