BACK OF SIDEWALK OR 18" BEHIND BACK OF CURB WHERE SIDEWALK IS NOT PRESENT (SEE C.O.B. STANDARD DRAWING W-301 AND W-302).

NOTE:
LEATHER WASHERS REQUIRED AT METER COUPLINGS.

"ANAconda" TYPE "K" COPPER SERVICE PIPE. 6" (1" MINIMUM)

NOTES:
1. J. JONES J-979 IPT FOR A.C. PIPE & J-969 IPT FOR PVC PIPE DOUBLE "FLAT" STRAP SERVICE CLAMP, O.A.E., SIZE TO SERVICE PIPE. 1"-MUELLER 825025.
2. 1 1/2" STOP J-1920, O.A.E.
3. J. JONES J-1984W FOR 1" J-1973W FOR 1 1/2" & 2", O.A.E. RIGHT ANGLE CURB STOP TO MATCH PIPE.
4. CUSTOMER'S BRASS GATE SHUT-OFF VALVE OR S.S. BALL VALVE.
5. FOR TRAFFIC INSTALLATIONS, SPECIFY POLYMER, L.BF FOR NON-Traffic, USE CONCRETE LID. 1"= J&A 4-1/2-OR BROOKS-33-TR-TOUCH READ; 1 1/2" & 2"= 36"X-B-OR BROOKS-368-TR-TOUCH READ.
6. TYPE "K" SEAMLESS COPPER 1" SIZE. CONTINUOUS SERVICE (NO COUPLINGS, CORP. STOP TO CURB STOPS). PLASTIC APPROVED ONLY ON CUSTOMER'S SIDE. 1 1/2" & 2"= TYPE K SEAMLESS COPPER WELDED COUPLINGS WITH 95/9 SILVER SOLDER.
7. SENSUS SR-II ZOUCH READ. READ IN GALLONS, 1000 GALLON INCREMENTS.
8. THE REQUIRED SIZE OF THE SERVICE MUST BE APPROVED BY THE CITY (1" MIN., 2" MAX.).
9. THE CORPORATION STOP TAP ON A.C. PIPE WILL BE MADE AS SPECIFIED BY THE JOHNS-MANVILLE INSTALLATION GUIDE. ALL DRY TAPS WILL BE MADE BY MACHINE WITH GUIDE OR PILOT TAP. SERVICE SADDLES ON EXISTING MAINS MUST BE PRESSURE/LEAK TESTED PRIOR TO HOT TAP.
10. THE WATER SERVICE SHALL EXTEND PERPENDICULAR TO THE CENTERLINE OF THE STREET FROM THE WATER MAIN TO THE METER STOP, WHERE EVER POSSIBLE.
11. THE METER LOCATION SHALL BE AS SHOWN UNLESS OTHERWISE SPECIFIED BY THE CITY.
12. TRAFFIC LID REQUIRED WHEN TYPE "O" (S-2088) CURB IS USED.

CITY OF BLYTHE
WATER METER INSTALLATION
1" TO 2"

STANDARD DRAWING NO. W-300
NOTES:

1. PLACE METER & METER BOX ASSEMBLY 18" BEHIND BACK OF CURB WHEN SIDEWALK IS NOT PRESENT.

NOTE:

ALL PLUMBING AND/OR FIXTURES WHICH ARE EXPOSED TO THE ELEMENTS SHOULD BE PROTECTED FROM FREEZING.
**METER INSTALLATION AT PROPERTY LINE**

**METER INSTALLATION AT CURB OR SIDEWALK**

**NOTES:**
1. IF SIDEWALK IS ADJACENT TO CURB THE METER BOX IS LOCATED OUTSIDE OF AND ADJACENT TO THE SIDEWALK.
2. FOR SERVICE INSTALLATION DETAILS SEE STD. DRAWINGS W-300 & W-301.
3. TWO SIMILAR SERVICES SUCH AS 2 WATER OR 2 SEWER LATERALS MAY BE INSTALLED IN THE SAME TRENCH TO A COMMON LOT LINE, BUT NOT TWO DISSIMILAR UTILITIES.
4. SEE NOTE 1, STANDARD DRAWING W-301.
NOTES:

1. EXTEND BOTH ENDS OF CRADLE OR ENCASEMENT TO A POINT ONE INCH SHORT OF FIRST PIPE JOINT BEYOND LOCATIONS SPECIFIED ON PLAN.

2. APPLY FORM OIL, THIN PLASTIC SHEET, OR OTHER ACCEPTABLE MATERIAL TO PIPE TO PREVENT BOND BETWEEN PIPE AND CONCRETE.

3. USE CLASS "3", TYPE V CONCRETE.

4. SEE W-304 & W-304A / SS-410 & SS-410A FOR WATER AND SEWER CROSSING REQUIREMENTS.

5. EXPANSION JOINTS MUST BE PLACED AT 20' INTERVALS, AT THE PIPE JOINT ON CONTINUOUS ENCASMENT OR CRADLE.

6. DR-14 PVC C-900, 12" AND SMALLER; DR-18 PVC C-905, 14" AND LARGER MAY BE USED IN LIEU OF CONCRETE ENCASMENT.
CROSSING
SANITARY SEWER
AND WATER LINE

\( W \) INDICATES PRESSURE WATERMAIN FOR POTABLE WATER

NOTE:
DIMENSIONS ARE FROM OUTSIDE
OF PIPE TO OUTSIDE OF PIPE.

CROSSING
HOUSE SERVICE CONNECTION
FOR POTABLE WATER

NO JOINTS PERMITTED
IN WATER LINE

2'-MIN. COVER ON
SERVICE CONNECTION

HOUSE SERVICE CONNECTION
FOR POTABLE WATER, 2" MAX.

REVISION
BY DATE

CITY OF
BLYTHE

SEPARATION REQUIREMENTS FOR
SEWER AND WATER CROSSINGS

STANDARD DRAWING NO. W-304
CASE 1 - NEW SEWER

ZONE   SPECIAL CONSTRUCTION
P   CONSTRUCTION PROHIBITED
A   CONSTRUCTION PROHIBITED
B   1. VCP, TYPE "G" JOINT
    2. PVC-AWWA C-900, CL 200
    OR AWWA C-905 DR-18

CASE 2 - NEW WATER

ZONE   SPECIAL CONSTRUCTION
P   CONSTRUCTION PROHIBITED
A   CONSTRUCTION PROHIBITED
B   D.I.P. (CEMENT MORTAR LINED)
CASE 1 - NEW SEWER

ZONE SPECIAL CONSTRUCTION
C 1. PVC-AWWA C-900, CL 200 OR AWWA C-905 DR-18
2. D.I.P. IN 1/4" STEEL SLEEVE, WELDED JOINTS

- NEW PIPE TO BE CENTERED OVER PIPE BEING INSTALLED

CASE 2 - NEW WATER

ZONE SPECIAL CONSTRUCTION
P CONSTRUCTION PROHIBITED
D CONSTRUCTION PROHIBITED
D.I.P.(CEMENT MORTAR LINED)

- NEW PIPE TO BE CENTERED OVER PIPE BEING INSTALLED

CASE 3 - NEW WATER SERVICE

ZONE SPECIAL CONSTRUCTION
C COPPER - NO JOINTS

CITY OF BLYTHE
SEPARATION AND CONSTRUCTION REQUIREMENTS FOR SEWER AND WATER LINES (CROSSING)
STANDARD DRAWING NO. W-304B
NOTE: SEE STD NO. W-305A FOR GENERAL NOTES

NOTES:

1. BACKFILL – NATIVE OR IMPORT, COMPACTED TO 90% RELATIVE DENSITY. IF NOT IN A ROADWAY, 90% RELATIVE DENSITY IS REQUIRED TO FINISHED SURFACE.

2. PIPE BEDDING – COMPACT TO 85% RELATIVE DENSITY. BEDDING MATERIAL SHALL MEET CALTRANS SPECIFICATIONS 26-1.02A & 26-1.02B, 100% PASSING 19MM SIEVE, SAND EQUIVALENT 25 MIN.

3. A MINIMUM 6” OF AGGREGATE BASE CLASS 2 TO BE COMPACTED TO 95% RELATIVE DENSITY IN PAVED SECTIONS OR AS DIRECTED BY THE PROJECT SOILS REPORT.

4. A.C. PAVING – MATCH EXISTING THICKNESS WITH NEW A.C., MIN. 4” – 2 LIFTS.

5. TRENCH OVERLAY SHALL EXTEND A MIN. OF 1 FT. OUTSIDE THE TRENCH CUT. IN NO CASE SHALL THE FINISHED PAVING BE LESS THAN 4 FT. IN WIDTH.

6. GRIND 1’ x 0.12’ HEADER EACH SIDE OF TRENCH. APPLY TACK COAT TO ENTIRE SURFACE.

7. THE CITY MAY DIRECT THAT REMAINING PORTIONS OF A.C. PAVEMENT ADJACENT TO TRENCH EDGE, MEASURING LESS THAN 6 FEET IN ANY DIMENSION, BE REMOVED AND REPLACED.

8. OVEREXCAVATION BELOW PIPE LAYING GRADE SHALL BE RECOMPACTED TO 90% MAXIMUM DENSITY, INSPECTED AND APPROVED PRIOR TO PIPE PLACEMENT.

CITY OF
BLYTHE
TRENCH REPLACEMENT

STANDARD DRAWING NO. W-305
GENERAL NOTES:

SPECIFICATIONS
ALL BACKFILL SHALL BE PLACED IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION EXCEPT AS OTHERWISE NOTED HEREIN.

MAXIMUM LIFTS *

MECHANICAL COMPACTION
HYDROHAMMER NOT ALLOWED
SHEEP-FOOT WHEEL 2.50'
VIBRATORY 2.00'
ROLLING STOCK 1.00'
HAND TAMPER 0.33'

* A LIFT IS ONE LAYER OF MATERIAL PLACED, PROCESSED, AND COMPACTED AS A UNIT. IF A LIFT IS THicker THAN ONE (1) FOOT, THE "LOWER PORTION" IS BELOW THE MIDPOINT OF SAID LIFT.

CONTROL OF COMPACTION
VISUAL INSPECTION AND BY TESTS IN THE LOWER PORTION OF LIFTS AS REQUIRED BY THE C; T4.

MAXIMUM LIFTS *
SUFFICIENT SAND AND FINES MUST BE MIXED INTO THE BACKFILL TO FILL Voids WHEN SOIL CONTAINS ROCKS. MAXIMUM SIZE ROCK IN FILL IS 6 INCHES.

LABORATORY MAXIMUM DENSITY
METHOD 1: LABORATORY MAXIMUM DENSITY OF SOIL SHALL BE DETERMINED BY ASTM D1557-91 MODIFIED BY USING THREE LAYERS INSTEAD OF FIVE LAYERS. (COMPACTIVE EFFORT EQUALS 33,750 FT-LBS PER CUBIC FOOT.)

METHOD 2: LABORATORY MAXIMUM DENSITY OF BASE AND SUBBASE MATERIALS SHALL BE DETERMINED BY TEST METHOD NO. CALIF. 216, METHOD A.

SAND EQUIVALENT
SAND EQUIVALENT SHALL BE DETERMINED BY TEST METHOD NO. CALIF. 217.

FIELD DENSITY
FIELD DENSITY OF SOIL SHALL BE DETERMINED BY ASTM D1556-64T, USING THE BASE PLATE AND MAKING SUITABLE ADJUSTMENTS FOR VOLUMES OF ROCKS IN THE TEST HOLE, OR BY TEST METHOD NO. ASTM D-2922-91 FOR NUCLEAR DEVICES.

THE WORDS "RELATIVE COMPACTION" OR "RELATIVE DENSITY" SHALL MEAN THE RATIO OF THE FIELD DENSITY TO THE LABORATORY MAXIMUM DENSITY EXPRESSED IN PERCENT.

CITY OF BLYTHE
TRENCH REPLACEMENT
STANDARD DRAWING NO. W-305A
POST INDICATOR VALVE (P.I.V.)

FIRE DEPT. CONNECTION (F.D.C.)

CHECK VALVE

DUCTILE IRON, CLASS 53 FLANGED FITTINGS WITH STAINLESS STEEL NUTS AND BOLTS BELOW GROUND

SOURCE

DUCTILE IRON, CLASS 53 FLANGED FITTINGS WITH STAINLESS STEEL NUTS AND BOLTS BELOW GROUND

BUILDING

NOTES:

1. FDC SHALL BE AT A MINIMUM DISTANCE OF 25' AND A MAXIMUM DISTANCE OF 50' FROM BUILDING.

2. FDC SHALL BE AT A MINIMUM DISTANCE OF 50' AND A MAXIMUM DISTANCE OF 90' FROM THE NEAREST FIRE HYDRANT.

3. FDC MAY BE MOUNTED ON THE EXISTING (UPSTREAM OF O.S. & Y VALVE) SIDE OF A DOUBLE CHECK BACKFLOW PREVENTOR IF USED.
NOTES:
1. BREAKOFF BOLTS AND SHEAR SPOOL.
2. 6" DUCTILE IRON BURY ELL--6 HOLE FLANGE MJ.
3. ALL NUTS AND BOLTS BELOW GRADE SHALL BE STAINLESS STEEL 304 OR BETTER.
4. MEGA--LUG SERIES 2000 OR STAR ALL GRIP WITH MJ. ALL INTERMEDIATE JOINTS MUST BE RESTRAINED WITH EBAA 1500 SERIES BELL RESTRainers.
5. HYDRANT LOCATIONS MUST BE COORDINATED WITH ALL OTHER UTILITY COMPANIES IN THE CITY.
6. APPLY 2 COATS OF WHITE ENAMEL TO HYDRANT. PLACE A BLUE REFLECTIVE MARKER ONE FOOT ON HYDRANT SIDE OF CENTERLINE.
7. HYDRANTS SHALL BE JAMES JONES J--3700, J--4040, OR CLOW F--845 FOR RESIDENTIAL INSTALLATIONS OR JAMES JONES J--3765, J--4060, CLOW F--860, OR LBI 615 FOR COMMERCIAL INSTALLATIONS.
8. 6" LATERAL PIPE SHALL BE CLASS 150 MINIMUM.

CITY OF BLYTHE
FIRE HYDRANT INSTALLATION
STANDARD DRAWING NO. W-308

ROBERT K. HOLT, P.E.
DATE 6/30/00

APPROVED: PUBLIC WORKS DIRECTOR
JAMES J. RODKEY, JR.
DATE 9/1/00

APPROVED: CITY ENGINEER
ROBERT K. HOLT
DATE 6/30/00

SUPPORT COLLAR

VALVE BOX AND LID PER W-314

SHEAR SPOOL WITH BREAKAWAY BOLTS TOP FLANGE ONLY.

6" R.W. GATE VALVE FLANGE BY MJ

TRUST BLOCKS PER W-315A-D

MAIN SIZE X 6" FLANGED TEE OUTLET
1. Fill redwood form 3/4" thick, minus untreated rock base, to within 1" of the form top and tamp. Pave with hot asphaltic concrete. Use a 1" lift at form edges to 2" lift at center of pad. Hand finish holding drain slopes of 1/4" to 1" to edges of form.

2. Unless otherwise noted fire hydrant installation shall conform to Standard W-308.

3. Apply 2 coats of white enamel to hydrant and barricade. Install blue reflective marker 1 foot inside street centerline.

NOTES:

PAINT FIRE HYDRANT PER STD. W-308.

APPROVED: PUBLIC WORKS DIRECTOR
JAMES W. RODKEY, JR. DATE 9/21/00

APPROVED: CITY ENGINEER
ROBERT K. HOLT, P.E. DATE 9/21/00
"a" = 1.5' BEHIND SIDEWALK OR 1.5' BEHIND CURB WHEN THERE IS NO SIDEWALK, OR AS APPROVED BY THE CITY OF BLYTHE.

NOTES:
1. LOCATION OF WATER LINES AND VALVES SHALL BE SHOWN ON THE PLAN VIEW.
2. HYDRANT TO BE SET PLUMB WITH CENTERLINE OF LOWEST NOZZLE SET AT A MINIMUM OF EIGHTEEN INCHES (18") ABOVE GROUND LEVEL.
3. NO OBSTRUCTIONS SUCH AS POLES, GUY LINES, ETC. SHOULD BE PLACED CLOSER THAN FIVE (5') FEET TO HYDRANT.
FIRE HYDRANT INSTALLATION AND PROTECTION IN PARKING AREAS.
STANDARDS FOR PARKING STALL RAISED PROTECTIVE BERM AND PLANTERS.
CONDITIONS FOR PARALLEL, 45', 60', AND 90' PARKING AREAS.

TYPES OF RAISED AREAS

- **CONDITION I**: 100% RAISED PARKING STALL BERM, 100% FILLED AND PAVED.
- **CONDITION II**: 100% RAISED PARKING STALL BERM, 50% FILLED AND PAVED, 50% PLANTED.
- **CONDITION III**: 100% RAISED PARKING STALL BERM, 100% UNPAVED AND PLANTED.
- **CONDITION IV**: 100% RAISED PARKING STALL ISLAND, 100% FILLED AND PAVED.

![Diagram of Types of Raised Areas](image)

SCHEMATIC EXAMPLES, TYPES OF RAISED AREAS.

TYPES OF BERM OR CURB

- SUPERPOSED CONCRETE CURB
- CONCRETE CURB
- ASPHALT CONCRETE BERM

NOTE: WITH THE EXCEPTION OF ASPHALT CONCRETE BERM, JOINTS SHALL BE PER CITY STANDARD DRAWING UNLESS OTHERWISE SHOWN.

CONFIGURATION

(Fig. 1) PARALLEL PARKING STALL:

- PAVEMENT AS SPECIFIED
- BERM OR CURB AS SPECIFIED
- 10' PROPOSED BERM, CURB OR PAINT STRIPE
- 5' 2'-0" RADIUS (TYP.)

⚠️ PAINT CURB, RED ENAMEL, J.E. BAUER CO. OR APPROVED EQUAL.

⚠️ IF ABUTTING EDGE TO RAISED AREA IS NOT CLOSED BY A BERM, CURB OR WALL, OPEN AREA SHALL BE CLOSED WITH BERM OR CURB AS SPECIFIED, AND RADII MAINTAINED ON ALL FOUR CORNERS.

CITY OF BLYTHE
FIRE HYDRANT INSTALLATION FOR PARKING AREAS

STANDARD DRAWING NO. W-310A
(FIG. 2) 45' PARKING STALL

PROPOSED BERM, CURB, WALL OR PAINT STRIPE (SEE FIG. 1)

4" WHITE PAINT STRIPES IF COND. IV

TYPE OF RAISED AREA AS SPECIFIED

See FIG. 1

PAINT WHITE STRIPES REFLECTIVE TRAFFIC LINE

2' RADIUS (TYP.) SEE FIG. 1

(FIG. 3) 60' PARKING STALL

SEE FIG. 1

SEE FIG. 2

SEE FIG. 2

SEE FIG. 2

SEE FIG. 2

2' RADIUS (TYP.) SEE FIG. 1

(FIG. 4) 90' PARKING STALL

SEE FIG. 2

SEE FIG. 2

SEE FIG. 2

SEE FIG. 2

SEE FIG. 2

CITY OF
BLYTHE

FIRE HYDRANT INSTALLATION FOR PARKING AREAS

STANDARD DRAWING NO. W-310B

ROBERT K. HOLT
REGISTERED PROFESSIONAL ENGINEER
No. 27943
Exp. 3-31-02

CIVIL

APPROVED: PUBLIC WORKS DIRECTOR
JAMES W. RODKEY, JR. DATE 9/7/00

APPROVED: CITY ENGINEER
ROBERT K. HOLT DATE 8/31/00
NOTES:

1. CORPORATION STOP 1" - MUeller B25025 CORPORATION STOP & 2" J. JONES 1929 IFT.
2. SERVICE CLAMP W/DOUBLE FLAT BRONZE EVERDUR STRAPS= J. JONES J-979 FOR ABS PIPE AND J-969 FOR PVC, C-900 PIPE.
3. LATERAL PIPE= ANACONDA TYPE "K" COPPER (SIZE 7 ).
4. BASE ASSEMBLY= SEE DETAIL SHEET W-3128.
5. GATE VALVE LINE SIZE MILWAUKEE NO. 105.
6. BRASS NIPPLE SIZE x CLOSE.
7. AIR VACUUM RELEASE VALVE ASSEMBLY 1"= CRISPIN UNIVERSAL UL-10 AIR VACUUM RELEASE VALVE SCREWED BODY WITH 1-5 TOP; 2" REQUIRED FOR 12" PIPE AND LARGER, UL-20.
8. OVERFLOW ASSEMBLY 1" (GALVANIZED NIPPLE 1"X4" LENGTH, 1" GALVANIZED ELBOW).
9. COVER ASSEMBLY= SEE STD. DRAWING W-312C.
10. MALEX FLARE ADAPTER J-1531.
11. 2" ONLY= FLARE 90° X F FLARE.
13. ALL MANUFACTURED ITEMS INDICATED SHALL BE AS NOTED OR AN APPROVED EQUAL AUTHORIZED BY THE CITY ENGINEER IN WRITING.
14. ALL FITTINGS SHALL BE SWEAT FITTINGS EXCEPT AS NOTED. ALL SOLDERED JOINTS TO BE POLISHED WITH NO. 00 STEEL WOOL OR FINE GRADE SANDCLOTH TO OBTAIN A BRIGHT AND CLEAN SURFACE. SOLDER PER STANDARD W-300.
15. OPERATOR VALVE COVER PER STANDARD W-314.
REINFORCE WITH A SINGLE LAYER OF 6"x6"x10" W.W. MESH, 20"x20" OR CONSTRUCT CLASS "3" CONCRETE WITH 1-1/2 LBS. POLYPROPYLENE FIBER PER CUBIC YARD. POLYPROPYLENE FIBER BY FIBERMESH CO., FORTA MONO, O.A.E.

CONCRETE SHALL BE CLASS "3"

3/8"x3" LENGTH ANCHOR BOLTS SET 2" DEEP IN CONCRETE (TYP. 4 PLACES). COORDINATE WITH COVER ASSEMBLY, STD. DWG. 312C.

NOTE:
1. TO BE CAST IN PLACE UNLESS OTHERWISE INDICATED BY ENGINEERING DESIGN.
2. ALL METAL FORM STAKES MUST HAVE PROTECTIVE DEVICES SUCH AS "MUSHROOMS" INSTALLED AT ALL TIMES DURING USE, TO ADEQUATELY INSURE THE PUBLIC SAFETY.
1/4" x 1" TACK WELDS
2" C.C.

STEEL CAP

STEEL PIPE (REF.)

DETAIL OF TACK WELD

1/2" DIA. HOLES STAGGERED AS SHOWN (DRILL).

1/4" x 14 1/4" DIA.
STEEL CAP

14 I.D. 1/4" WALL STEEL PIPE

2" LETTERS—STENCIL BLACK.

A 1/4" x 2" x 2" ANGLE IRON (4 PIECES).

B BASE, SEE STD.
DWG. W-312B

JOIN A TO C, 1/4" x 1"
TACK WELDS 3 PLACES AS SHOWN (TYPICAL 4 PLACES).

DETAIL COVER ASSEMBLY

NOTES:
1. FABRICATION BY CEB E CO., PARAMOUNT,
   CA; PIPELINE PRODUCTS, SAN MARCOS,
   CA, O.A.E.
2. PIPELINE PRODUCTS, SAN MARCOS, CA
   PART #: 1" & 2"—VC-3150
       4"—VC-3240
       6"—VC-3300, O.A.E.
3. HOT DIP GALVANIZE.
4. PRIMER (2 COATS) — ZINC CHROMATE
   OR RED OXIDE METAL PRIMER.
5. PAINT ALUMINUM (BRUSH OR SPRAY).
6. STENCIL "BLY" IDENTIFICATION (BLACK
   ENAMEL) MARINE TYPE MOISTURE
   RESISTANT.

ROBERT K. HOLT
No. 27943
Exp. 3-31-02
REGISTERED PROFESSIONAL ENGINEER
CIVIL
STATE OF CALIFORNIA

APPROVED: PUBLIC WORKS DIRECTOR

JAMES H. RODNEY, JR. DATE 9/17/02

APPROVED: CITY ENGINEER

ROBERT K. HOLT, P.E. DATE 9/17/02

CITY OF

BLYTHE

STANDARD AIR AND VACUUM
RELEASE ASSEMBLY COVER

STANDARD DRAWING NO. W-312C
NOTES:

1. CONCRETE FOR SUPPORT COLLAR SHALL BE CLASS "3" CONCRETE WHICH SHALL ATTAIN A COMPRESSIVE STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C39M-99 AND SHALL CONTAIN 1-1/2 LBS. POLYPROPYLENE FIBER PER CUBIC YARD. POLYPROPYLENE FIBER AS MANUFACTURED BY FIBERMESH CO. OR APPROVED EQUAL.

2. VALVE COVER ASSEMBLY SHALL BE SERIES 6855 AS MANUFACTURED BY TYLER PIPE, OR APPROVED EQUAL.

3. SUPPORT COLLAR SHALL NOT BE INSTALLED UNTIL A.C. PAVING HAS CURED ENOUGH TO PRODUCE A CLEAN AND STABLE EDGE.

4. VALVE COVER INSTALLATIONS IN UNPAVED PORTIONS OF RIGHT-OF-WAY SHALL HAVE 2' WIDE X 6" THICK ASPHALT APRON AS SHOWN IN STANDARD DRAWING NO. SS-401.
FIG. 1  90° TEE

VAR.

2' 0" MIN.

4"  4.0 S.F.
6"  8.0 S.F.
8" 13.0 S.F.
10" 22.0 S.F.
12" 31.0 S.F.
* 14" 42.0 S.F.
* 16" 54.0 S.F.

FIG. 2  90° BEND

VAR.

2' 0" MIN.

4"  5.0 S.F.
6" 11.0 S.F.
8" 19.0 S.F.
10" 31.0 S.F.
12" 43.0 S.F.
* 14" 59.0 S.F.
* 16" 78.0 S.F.

FIG. 3  90° TEE

VAR.

2' 0" MIN.

4"  3.0 S.F.
6"  6.0 S.F.
8" 10.0 S.F.
10" 16.0 S.F.
12" 23.0 S.F.
* 14" 32.0 S.F.
* 16" 41.0 S.F.

FIG. 4  22 1/2° BEND

VAR.

2' 0" MIN.

4"  1.0 S.F.
6"  3.0 S.F.
8"  5.0 S.F.
10"  8.0 S.F.
12" 12.0 S.F.
* 14" 16.0 S.F.
* 16" 21.0 S.F.

FIG. 4  45° BEND

VAR.

2' 0" MIN.

4"  3.0 S.F.
6"  6.0 S.F.
8" 10.0 S.F.
10" 16.0 S.F.
12" 23.0 S.F.
* 14" 32.0 S.F.
* 16" 41.0 S.F.

SEE STD. DWG. W-315D FOR GENERAL NOTES.
**VALVE ANCHOR BLOCK**

- **Fig. 9**
  - #4 BAR. SEE NOTE 3, STD. DWG. 315D
  - TRENCH BOTTOM
  - UNDISTURBED SOIL
  - WORKING PRESSURE (P.S.I.)
    - 50 - 100
    - 101 - 150
    - 151 - 200
  - SIZE OF VALVE REQUIRING ANCHOR
    - 12" & UP
    - 8" & UP
    - ALL SIZES
  - SHAPE AND DIMENSIONS OF FIG. 9 & 10 ANCHOR BLOCKS TO BE DETERMINED BY DESIGN ENGINEER.

**VERTICAL BEND**

- **Fig. 10**
  - EXISTING GROUND
  - #4 BARS. SEE NOTE 3, STD. DWG. 315D

**FIRE HYDRANT BURY THRUST BLOCK**

- **Fig. 11**
  - FIRE HYDRANT
  - EXIST. GROUND
  - BURY
  - BLOCK SIZE = 3' x 3' x 3'
  - SEE STD. DWG. W-315D FOR GENERAL NOTES.

**SECTION A - A**

- SHEAR SPOOL

**EXIST. GROUND**

- 2' - 0" MIN.

**THE THRUST BLOCK SHOULD HAVE A PYRAMIDAL SHAPE IN ORDER TO DEVELOP MAX. BEARING AREA.**

- **Fig. 12**
  - EXIST. GROUND
  - 2' - 0" MIN.
  - (SEE NOTE)
  - FOR HIGH PRESSURE AND/OR LARGE DIAMETER PIPE, THE BEARING AREA MAY BE INCREASED, AS SHOWN IN THE ABOVE SKETCH.
GENERAL NOTES:

1. BEARING AREAS MAY BE INCREASED AT THE OPTION OF THE CITY IF SOIL BEARING PRESSURE IS LESS THAN 1,000 P.S.F.

2. APPROVED COMPACTED BACKFILL MAY BE REQUIRED BY THE CITY TO IMPROVE THRUST BLOCK BEARING AREA.

3. ANY METAL COMPONENT WHICH IS NOT STAINLESS STEEL, BRONZE, COPPER, DUCTILE IRON OR CAST IRON, SHALL BE WRAPPED 4 PLY OF 10 MIL. PLASTIC SHEETING BEFORE CONCRETE PLACEMENT OR BURIAL.

4. UNLESS OTHERWISE NOTED, THRUST BLOCK BEARING FORCES SHALL BE POURED AGAINST UNDISTURBED SOIL OR APPROVED COMPACTED BACKFILL.

5. AFTER THE TRENCH HAS BEEN BACKFILLED TO THE TOP OF THE PIPE, AREAS TO BE OCCUPIED BY THRUST BLOCKS SHALL BE RE-EXCAVATED AND SHAPED. AFTER SHAPING, SIMPLE PLYWOOD OR BOX WOOD FORMS SHALL BE INSERTED ADJACENT TO THE VERTICAL NON-PRESSURE BEARING SIDES OF THE MOLD. CITY INSPECTION OF THE MOLD FORM MUST BE OBTAINED PRIOR TO CASTING THE THRUST BLOCK.

6. THE THRUST BLOCK IS TO BE CAST IN SUCH A MANNER AS TO CRADLE THE FITTING. CONCRETE ENCASEMENT SHALL BE PERPENDICULAR TO THE LINE OF THRUST. CONCRETE SHALL NOT CONTACT THE PIPE.

7. ALL BOLTS ON FITTINGS SHALL BE EXPOSED AND CONCRETE SHALL NOT INTERFERE WITH REMOVAL AND REPLACEMENT AFTER THRUST BLOCK INSTALLATION IS COMPLETE.
NOTES:

1. FEBCO 806YP DOUBLE-CHECK O.A.E.
2. 4’ x 10’ x 4” - 3000 LB. CONCRETE SLAB-STEEL TROWEL FINISHED WITH MEDIUM BROOM.
3. 90° DUCTILE IRON BEND-FLANGE.
4. OS & Y VALVE (SUPPLIED BY DOUBLE-CHECK MANUFACTURER).
5. DUCTILE IRON-CLASS 52 SPOOL-FLANGE.
6. CONCRETE THRUST BLOCK.
7. 90° DUCTILE IRON BEND-FLANGED BY MECHANICAL JOINT.
NOTE:
Hose bib to be facing down for sample collection. Contractor to turn angle meter stop to on position after installation of sample riser.
NOTE: If concrete curbs are not installed locate blowoff 3 feet from edge of pavement. Marker post in accordance with W-331 required.

Concrete support collar shall be class "3" concrete which shall attain a 28-day compressive strength of 4000 psi in accordance with ASTM C39/C39M-99 and shall contain 1-1/2 lbs. polypropylene fiber per cubic yard. Fiber by Fibermesh Co., Forta Mono, O.A.E.

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>REQ'D</th>
<th>SIZE &amp; DESCRIPTION</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>4&quot;x2-1/2&quot;</td>
<td>JAMES JONES J-344HF or O.A.E.</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>4&quot; x REQUIRED LENGTH OF PIPE</td>
<td>DUCTILE IRON, FLANGED</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>4&quot; x 90° BEND</td>
<td>DUCTILE IRON, FLANGED</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>NUTS AND BOLTS</td>
<td>304 SS MIN.</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>4&quot; RESILIENT WEDGE GATE VALVE</td>
<td>FLANGED</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>MAIN SIZE x4&quot; TEE (OR REDUCER)</td>
<td>DUCTILE IRON - FLANGED BRANCH</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>VALVE COVER</td>
<td>SEE STD. DWG. W-314</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>THRUST BLOCK</td>
<td>CLASS &quot;3&quot; CONCRETE</td>
</tr>
</tbody>
</table>

CITY OF
BLYTHE
4" BLOWOFF ASSEMBLY
BEHIND CURB

STANDARD DRAWING NO. W-318
NOTE: IF CONCRETE CURBS ARE NOT INSTALLED LOCATE BLOWOFF 5 FEET FROM EDGE OF PAVEMENT.

CONCRETE FOR SUPPORT COLLAR SHALL BE CLASS "3" CONCRETE WHICH SHALL ATTAIN A COMPREHENSIVE STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C99M AND CONTAIN 1-1/2 LBS. POLYPROPYLENE FIBER BY FIBERMESH CO., O.A.E.

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>NO. REQ'D</th>
<th>SIZE &amp; DESCRIPTION</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>12&quot; GATE CAP</td>
<td>MARKED &quot;WATER&quot;</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>12&quot; x 2' - DI PIPE</td>
<td>CL - 50</td>
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<tr>
<td>3</td>
<td>1</td>
<td>10&quot; x REQUIRED DI PIPE</td>
<td>CL - 50</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>4&quot; OR 6&quot; COMPANION FLG</td>
<td>SS 304 NUTS AND BOLTS AT ALL FLANGED CONNECTIONS</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>4&quot; OR 6&quot; GALVIRON PIPE - LENGTH AS REQUIRED</td>
<td>TBE</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>4&quot; OR 6&quot; 90' BEND - DI</td>
<td>FLG</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>4&quot; OR 6&quot; x 18 DI PIPE</td>
<td>FLG - CL 50</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>4&quot; OR 6&quot; RWGV</td>
<td>FLG</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>MAIN x 4&quot; OR 6&quot; TEE OR REDUCER</td>
<td>FLG</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>VALVE OPERATOR WELL</td>
<td>SEE STANDARD DRAWING W - 314</td>
</tr>
</tbody>
</table>

ROBERT K. HOLT
No. 27943
Exp. 3-31-02
CIVIL

CITY OF BLYTHE
4" & 6" BLOWOFF ASSEMBLY INSTALLATION

STANDARD DRAWING NO. W-318A
NOTES:
1. PIPE ANCHORS ARE REQUIRED ON ALL SLOPES OF 3:1 OR STEEPER.
2. ALL REINFORCING STEEL SHALL BE NUMBER 4 BARS.
3. "E" SHALL BE 8 INCHES UNLESS OTHERWISE SPECIFIED.

<table>
<thead>
<tr>
<th>PIPE SLOPE</th>
<th>X DISTANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:1</td>
<td>12'</td>
</tr>
<tr>
<td>1 1/2:1</td>
<td>14'</td>
</tr>
<tr>
<td>2:1</td>
<td>16'</td>
</tr>
<tr>
<td>2 1/2:1</td>
<td>18'</td>
</tr>
<tr>
<td>3:1</td>
<td>20'</td>
</tr>
</tbody>
</table>

CITY OF BLYTHE
PIPE ANCHOR ON SLOPE

NO. 27943
STATE OF CALIFORNIA

Robert K. Holt
Registered Professional Engineer

Approved: Public Works Director
James W. Rodkey, Jr.

Approved: City Engineer
Robert K. Holt, P.E.

Standard Drawing No. W-320
NOTES:

1. SAND MORTAR PLUG SHALL BE MADE OF 1 PART CEMENT AND 3 PARTS SAND AND SHALL PENETRATE THE ENDS OF THE CASING SURROUNDING THE WATER MAIN TO A MINIMUM DEPTH OF 1 FOOT.

2. JOINTS MAY BE RESTRAINED BY FLANGES OR MEGA-LUGS.

TABLE 1

<table>
<thead>
<tr>
<th>WATER MAIN</th>
<th>CASING - INSIDE DIAMETER</th>
<th>WALL THICKNESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 INCHES</td>
<td>12 INCHES</td>
<td>1/4 INCH</td>
</tr>
<tr>
<td>8 INCHES</td>
<td>14 INCHES</td>
<td>1/4 INCH</td>
</tr>
<tr>
<td>10 INCHES</td>
<td>16 INCHES</td>
<td>3/8 INCH</td>
</tr>
<tr>
<td>12 INCHES</td>
<td>18 INCHES</td>
<td>3/8 INCH</td>
</tr>
<tr>
<td>14 INCHES</td>
<td>20 INCHES</td>
<td>3/8 INCH</td>
</tr>
<tr>
<td>LARGER THAN 14&quot;</td>
<td>REQUIRES ENGINEERING APPROVAL</td>
<td></td>
</tr>
</tbody>
</table>
SAND CUSHION SCHEDULE – DIMENSION ‘B’

<table>
<thead>
<tr>
<th>PIPE TYPE</th>
<th>‘B’ DIMENSION REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>LESS THAN 3'</td>
<td>‘B’ DIMENSION SHALL BE A MINIMUM OF 12 INCHES IF ‘A’ IS 3 FEET OR LESS.</td>
</tr>
<tr>
<td>MORE THAN 3'</td>
<td>‘B’ DIMENSION SHALL BE A MINIMUM OF 6 INCHES IF ‘A’ IS IN EXCESS OF 3 FEET.</td>
</tr>
</tbody>
</table>


NOTES:
1. MAXIMUM ALLOWABLE ANGLE OF FITTINGS = 45°.
2. MAXIMUM ALLOWABLE PIPE JOINT DEFLECTION SHALL BE MANUFACTURER’S RECOMMENDATION LESS 1° ± 1/2°.
3. IF RETURN TO DESIGNED PIPE DEPTH BY DEFLECTION CANNOT BE ACCOMPLISHED WITHIN 2 STANDARD PIPE LENGTHS (40 FEET), PIPE FITTINGS AND APPURTENANCES SHALL BE REQUIRED, UNLESS OTHERWISE NOTED OR DIRECTED IN THE FIELD.
4. ALL PIPE ANGLE JOINTS 22 1/2° OR GREATER SHALL BE THRUST BLOCK PROTECTED PER STD. DWGS. W-315A, B, C & D.
5. AIR VACUUM RELEASE ASSEMBLY INSTALLATION PER STD. DWGS. W-312A, B & C MAY BE REQUIRED AS DETERMINED IN THE FIELD OR INDICATED BY ENGINEERING DESIGN.
6. JOINTS MAY BE RESTRAINED BY FLANGES OR MEGA-LUGS FOR DUCTILE IRON PIPE.
INCISED LETTERS 3" HIGH, PAINTED BLACK

4"x4"x6' REDWOOD POST PAINTED WITH 3 COATS OUTSIDE WHITE.

PLACE 6" TAMPED BACKFILL OVER CONCRETE


TOP CHAMFERED

SEE LEGEND FOR PROPER MARKINGS

LEGEND

BO = BLOW OFF
SL = SEWER LINE
WL = WATER LINE
GV = GATE VALVE
PR = PRESSURE REGULATOR
BV = BUTTERFLY VALVE
MH = MANHOLE
CO = CLEAN OUT

CITY OF BLYTHE

STANDARD MARKER POST

STANDARD DRAWING NO. W-331
SUPPORT COLLAR SHALL BE CLASS "3" CONCRETE WHICH SHALL ATTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C39M-99 AND SHALL CONTAIN 1-1/2 LBS. POLYPROPYLENE FIBER PER CUBIC YARD. FIBER BY FIBERMESH CO., FORTA MONO, O.A.E.
CONCRETE FOR SUPPORT COLLAR SHALL BE CLASS "3" CONCRETE WHICH SHALL ATTAIN A COMPRESSIVE STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C39M-99.

NOTES:

A 24" DIA. CLEAR OPENING MANHOLE FRAME AND COVER ALHAMBRA #A-1254, OR APPROVED EQUAL FOR 48" MANHOLE LETTERED "C.O.B.-SEWER."

B 30" DIA. CLEAR OPENING FRAME AND COVER ALHAMBRA #A-1252 LETTERED "C.O.B.-SEWER," O.A.E.

C INTERIOR SURFACE OF THE PRECAST MANHOLE SHALL BE COATED WITH AN EPOXY LINING SYSTEM, ZEBRON OR APPROVED EQUAL
GENERAL NOTES:

1. MANHOLE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE HAVING A MINIMUM THICKNESS OF SIX INCHES AND CONFORMING TO ASTM C-478 REQUIREMENTS FOR MATERIALS AND MANUFACTURE AND ASTM REQUIREMENTS FOR REINFORCEMENT.

2. VERTICAL WALL OF CONE SHALL BE OPPOSITE OUTLET SIDE OF MANHOLE.

3. CONE SHALL BE RAISED WHEN GRADE RINGS EXCEED 18".

4. SUPPORT COLLAR SHALL CONSIST OF CLASS "3" CONCRETE.

5. JOINTS SHALL CONSIST OF 1–2 CEMENT MORTAR, NEATLY STRUCK AND POINTED, 3/8" MIN. THICKNESS, OR RAM–NECK, EXCEPT FOR GRADE ADJUSTING RINGS WHICH SHALL BE 1–2 CEMENT MORTAR ONLY.


7. SHELF SHALL HAVE A MEDIUM BROOM FINISH.

8. THE MAXIMUM DROP BETWEEN THE OUTLET AND INLET OF THIS STRUCTURE IS 0.60' FOR STRAIGHT THROUGH FLOW AND 1.00' FOR SIDE INLET FLOW.

9. THIS MANHOLE IS FOR DEPTHS GREATER THAN 3'-0" AND LESS THAN 20'. MAXIMUM CARRIER PIPE 24" INTERNAL DIAMETER.

10. TROUGH:
   A. SHALL NOT HAVE A FLAT BOTTOM.
   B. SHALL HAVE A STEEL TROWELED FINISH.
   C. DIAMETER OF FEEDLINE SHALL NOT "FLARE OUT" WHERE IT JOINS THE MAINLINE TROUGH.

11. "JIFFY RINGS" SHALL NOT BE ALLOWED.

12. FOR STRAIGHT THROUGH FLOW THE "Y" SHALL NOT BE CONSTRUCTED UNLESS A STUB OR LATERAL IS SHOWN ON THE PLANS AS BEING REQUIRED.

13. PVC T–LOCK LINING MAY BE REQUIRED AS DIRECTED BY THE CITY.

14. MANHOLE RING AND COVER SHALL BE RAISED TO FINISHED GRADE AND SUPPORT CollAR INSTALLED AFTER PAVING OR FINE GRADING.

15. EXFILTRATION RINGS SHALL BE CONSISTENT WITH PIPE MANUFACTURER'S RECOMMENDATIONS.
NOTE: SEE STD NO. SS-403A FOR GENERAL NOTES

NOTES:

1. BACKFILL - NATIVE OR IMPORT, COMPACTED TO 90% RELATIVE DENSITY. IF NOT IN A ROADWAY, 90% RELATIVE DENSITY IS REQUIRED TO FINISHED SURFACE.

2. PIPE BEDDING - COMPACT TO 85% RELATIVE DENSITY. BEDDING MATERIAL SHALL MEET CALTRANS SPECIFICATIONS 26-1.02A & 26-1.02B, 100% PASSING 19MM SIEVE, SAND EQUIVALENT 25 MIN.

3. A MINIMUM 6" OF AGGREGATE BASE CLASS 2 TO BE COMPACTED TO 95% RELATIVE DENSITY IN PAVED SECTIONS OR AS DIRECTED BY THE PROJECT SOILS REPORT.

4. A.C. PAVING - MATCH EXISTING THICKNESS WITH NEW A.C., MIN. 4" - 2 LIFTS.

5. TRENCH OVERLAY SHALL EXTEND A MIN. OF 1 FT. OUTSIDE THE TRENCH CUT. IN NO CASE SHALL THE FINISHED PAVING BE LESS THAN 4 FT. IN WIDTH.

6. GRIND 1’ X 0.12’ HEADER EACH SIDE OF TRENCH. APPLY TACK COAT TO ENTIRE SURFACE.

7. THE CITY MAY DIRECT THAT REMAINING PORTIONS OF A.C. PAVEMENT ADJACENT TO TRENCH EDGE, MEASURING LESS THAN 6 FEET IN ANY DIMENSION, BE REMOVED AND REPLACED.

8. OVEREXCAVATION BELOW PIPE LAYING GRADE SHALL BE RECOMPACTED TO 90% MAXIMUM DENSITY, INSPECTION AND APPROVED PRIOR TO PIPE PLACEMENT.
GENERAL NOTES:

SPECIFICATIONS
ALL BACKFILL SHALL BE PLACED IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR
PUBLIC WORKS CONSTRUCTION EXCEPT AS OTHERWISE NOTED HEREIN.

MAXIMUM LIFTS *

MECHANICAL COMPACTION        NOT ALLOWED
HYDROHAMMER                   NOT ALLOWED
SHEEP-FOOT WHEEL              2.50'
VIBRATORY                     2.00'
ROLLING STOCK                 1.00'
HAND TAMPER                   0.33'

* A LIFT IS ONE LAYER OF MATERIAL PLACED, PROCESSED, AND COMPACTED
   AS A UNIT. IF A LIFT IS THICKER THAN ONE (1) FOOT, THE "LOWER
   PORTION" IS BELOW THE MID POINT OF SAID LIFT.

CONTROL OF COMPACTION
VISUAL INSPECTION AND BY TESTS IN THE LOWER PORTION OF LIFTS AS REQUIRED BY
CITY.

MAXIMUM LIFTS *
SUFFICIENT SAND AND FINES MUST BE MIXED INTO THE BACKFILL TO FILL VOIDS WHEN SOIL
CONTAINS ROCKS. MAXIMUM SIZE ROCK IN FILL IS 6 INCHES.

LABORATORY MAXIMUM DENSITY
METHOD 1: LABORATORY MAXIMUM DENSITY OF SOIL SHALL BE DETERMINED BY
ASTM D1557-91 MODIFIED BY USING THREE LAYERS INSTEAD OF FIVE LAYERS.
(COMPACTIVE EFFORT EQUALS 33,750 FT- LBS PER CUBIC FOOT.)

METHOD 2: LABORATORY MAXIMUM DENSITY OF BASE AND SUBBASE MATERIALS SHALL
BE DETERMINED BY TEST METHOD NO. CALIF. 216, METHOD A.

SAND EQUIVALENT
SAND EQUIVALENT SHALL BE DETERMINED BY TEST METHOD NO. CALIF. 217.

FIELD DENSITY
FIELD DENSITY OF SOIL SHALL BE DETERMINED BY ASTM D1556-64T, USING THE BASE PLATE
AND MAKING SUITABLE ADJUSTMENTS FOR VOLUMES OF ROCKS IN THE TEST HOLE, OR BY
TEST METHOD NO. ASTM D-2922-91 FOR NUCLEAR DEVICES.

THE WORDS "RELATIVE COMPACTION" OR "RELATIVE DENSITY" SHALL MEAN THE RATIO
OF THE FIELD DENSITY TO THE LABORATORY MAXIMUM DENSITY EXPRESSED IN PERCENT.
NOTE:
FOUNDATION FOR DROP SECTION SHALL BE POURED MONOLITHIC WITH MANHOLE BASE.

SEE STD. DWG. SS-402 FOR MANHOLE DETAILS

SEWER PIPE
CONSTRUCTION JOINT
DROP MANHOLE 1/4 BEND
INVERT ELEV. SHOWN ON PLANS

SECTION A-A

SLOPE 1":12"

OUTLET
INLET PLAN

EXFILTRATION RING (TYP.)
NON-SHRINK GROUT
ANNUALAR SPACE.

DROP MANHOLE TEE

4" MIN.

4" MIN.
GENERAL NOTES:

1. MANHOLE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE HAVING A MINIMUM THICKNESS OF SIX INCHES AND CONFORMING TO ASTM C-478 REQUIREMENTS FOR MATERIALS AND MANUFACTURE AND ASTM REQUIREMENTS FOR REINFORCEMENT.

2. VERTICAL WALL OF CONE SHALL BE OPPOSITE OUTLET SIDE OF MANHOLE.

3. CONE SHALL BE RAISED WHEN GRADE RINGS EXCEED 18".

4. SUPPORT COLLAR SHALL CONSIST OF CLASS "3" CONCRETE.

5. JOINTS SHALL CONSIST OF 1–2 CEMENT MORTAR, NEATLY STRUCK AND POINTED, 3/8" MIN. THICKNESS, OR RAM–NECK, EXCEPT FOR GRADE ADJUSTING RINGS WHICH SHALL BE 1–2 CEMENT MORTAR ONLY.


7. SHELF SHALL HAVE A MEDIUM BROOM FINISH.

8. THE MINIMUM DROP BETWEEN THE UPPER AND LOWER INLETS OF THIS STRUCTURE IS 2.20'.

9. THIS MANHOLE IS FOR DEPTHS GREATER THAN 3'–0" AND LESS THAN 20'. MAXIMUM PIPE INTERNAL DIAMETER IS 24".


11. TROUGH:
   A. SHALL NOT HAVE A FLAT BOTTOM.
   B. SHALL HAVE A STEEL TROWELED FINISH.
   C. DIAMETER OF FEEDLINE SHALL NOT "FLARE OUT" WHERE IT JOINS THE MAINLINE TROUGH.

12. "JIFFY RINGS" SHALL NOT BE ALLOWED.

13. FOR STRAIGHT THROUGH FLOW THE "Y" SHALL NOT BE CONSTRUCTED UNLESS A STUB OR LATERAL IS SHOWN ON THE PLANS AS BEING REQUIRED.

14. PVC T–LOCK LINING MAY BE REQUIRED AS DIRECTED BY THE CITY.

15. MANHOLE RING AND COVER SHALL BE RAISED TO FINISHED GRADE AND SUPPORT COLLAR INSTALLED AFTER PAVING OR FINE GRADING.

16. EXFILTRATION RINGS SHALL BE CONSISTENT WITH PIPE MANUFACTURER'S RECOMMENDATIONS.

ROBERT K. HOLTON
REGISTERED PROFESSIONAL ENGINEER
No. 27943
Exp. 3–31–02
CIVIL

CITY OF
BLYTHE
PRECAST DROP MANHOLE
STANDARD DRAWING NO. SS–404A
CONCRETE FOR SUPPORT COLLAR SHALL BE CLASS "3" CONCRETE WHICH SHALL ATTAIN A COMPRRESSIVE STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C39-99.

SECTION A-A

NOTES:
(A) 24" DIA. CLEAR OPENING MANHOLE FRAME AND COVER ALHAMBRA #A-1254B FOR 48" MANHOLES, LETTERED "C.O.B.-SEWER" OR APPROVED EQUAL.
(B) 30" CLEAR OPENING MANHOLE FRAME AND COVER ALHAMBRA #A-1252B LETTERED "C.O.B.-SEWER," O.A.E.
(C) PVC T-LOCK LINING.
GENERAL NOTES:

1. MANHOLE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE HAVING A MINIMUM THICKNESS OF SIX INCHES AND CONFORMING TO ASTM C-478 REQUIREMENTS FOR MATERIALS AND MANUFACTURE AND ASTM REQUIREMENTS FOR REINFORCEMENT.

2. VERTICAL WALL OF CONE SHALL BE OPPOSITE OUTLET SIDE OF MANHOLE.

3. CONE SHALL BE RAISED WHEN GRADE RINGS EXCEED 18”.

4. JOINTS SHALL CONSIST OF 1–2 CEMENT MORTAR, NEATLY STRUCK AND POINTED, 3/8” MIN. THICKNESS, OR RAM–NECK, EXCEPT FOR GRADE ADJUSTING RINGS WHICH SHALL BE 1–2 CEMENT MORTAR ONLY.

5. CONCRETE SHALL BE CLASS “3” CONCRETE WHICH SHALL ATTAIN A 28-DAY COMpressive STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C39M–99 AND SHALL CONTAIN 1–1/2 LBS. POLYPROPYLENE FIBER PER CUBIC YARD. FIBER BY FIBERMESH CO., FORTA MONO, O.A.E.

6. SHELF SHALL HAVE A MEDIUM BROOM FINISH.

7. THE MAXIMUM DROP BETWEEN THE OUTLET AND INLET OF THIS STRUCTURE IS 0.60’ FOR STRAIGHT THROUGH FLOW AND 1.00’ FOR SIDE INLET FLOW.

8. THIS MANHOLE IS FOR DEPTHS GREATER THAN 3’–0” AND LESS THAN 20’. MAXIMUM PIPE INTERNAL DIAMETER IS 24”.

9. TROUGH:
   A. SHALL NOT HAVE A FLAT BOTTOM.
   B. SHALL HAVE A STEEL TROWELED FINISH.
   C. DIAMETER OF FEEDLINE SHALL NOT “FLARE OUT” WHERE IT JOINS THE MAINLINE TROUGH.

10. "JIFFY RINGS" SHALL NOT BE ALLOWED.

11. FOR STRAIGHT THROUGH FLOW ONLY. A "Y" SHALL NOT BE CONSTRUCTED.

12. MANHOLE INTERIOR SHAFT, CONE AND BASE SHALL BE T–LOCK (O.A.E.) PVC LINED. PVC LINING TO EXTEND TO TOP OF RING AND COVER. IT SHALL BE SECURELY ATTACHED THERETO.

13. MANHOLE RING AND COVER SHALL BE RAISED TO FINISHED GRADE AND SUPPORT COLLAR INSTALLED AFTER PAVING OR FINE GRADING.

14. EXFILTRATION RINGS SHALL BE CONSISTENT WITH PIPE MANUFACTURER'S RECOMMENDATIONS.
CAST IRON FRAME AND COVER: ALHAMBRA FOUNDRY NO. A-1240 (G.A.E.), LETTERED "SEWER".

CONCRETE SHALL BE CLASS "3" CONCRETE WHICH SHALL ATTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C39M-99 AND SHALL CONTAIN 1-1/2 LBS. POLYPROPYLENE FIBER PER CUBIC YARD. FIBER BY FIBERMESH CO., FORTA MONO, G.A.E.

6" DIA. PIPE

GASKETED STOPPED

D X 6" WYE FITTING

NOTES:
1. CLEANOUT RING AND COVER SHALL BE RAISED TO FINISHED GRADE AND SUPPORT COLLAR INSTALLED AFTER PAVING OR FINE GRADING.
2. D = DIAMETER OF MAIN LINE PIPE.
SEWER LOCATOR ROD, 1/2" x 12" REBAR ENCASED IN 1" x 14" PVC PIPE. CEMENT CAP BOTH ENDS.

6" DEPTH
12" MAX. DEPTH
24" MAX.

SIDEWALK OR FINISHED GRADE
A.C. PAVING

APPROX. LOCATION OF WATER LINE
1.0' MIN. CLEAR

1 4" OR 6" P.V.C. SDR-35

BELLED INLET "Y"
45° BEND

NOTES:

① MINIMUM SLOPE FOR 4" PIPE = 2%
MINIMUM SLOPE FOR 6" PIPE = 1%

② "S" STAMPED IN NEW CURB FACE OR CHISLED INTO EXISTING CURB DIRECTLY OVER LATERAL PIPE.
BARS ARE TO BE LEFT VERTICAL OR BENT IN PLACE WHEN WHEN BEAM IS FORMED

EMS LOCATOR MARKER 3 FEET BELOW GROUND SURFACE

PVC PLUG

1 3/4" CLEAR VERTICAL REBAR (TYP.)

#4 STIRRUPS @ 15' O.C.

CLASS "3" CONCRETE

#4 STIRRUPS @ 15' O.C.

#4 BAR LONGITUDINAL (SEE NOTE 3)

CLASS "3," 4000 PSI CONCRETE

SECTION A-A

1. THE UPPER END OF THE CHIMNEY PIPE SHALL BE 8 FEET BELOW THE GRACE OF THE LOWER CURB, UNLESS OTHERWISE SPECIFIED.


3. NO CONNECTION IS PERMITTED TO TOP OF CHIMNEY PIPE.

4. WHERE ONE HOUSE LATERAL IS TO BE JOINED TO THE CHIMNEY PIPE, USE A SINGLE "Y" AND FACE THE "Y" TOWARDS PROPERTY TO BE SERVED.

5. WHERE TWO OR MORE HOUSE LATERALS ARE TO BE JOINED TO THE CHIMNEY PIPE, INSTALL "Y" BRANCHES AS FOLLOWS:
   - FOR TWO HOUSE LATERALS WITH ONE FACING EACH SIDE OF THE STREET, USE A DOUBLE "Y" BRANCH.
   - FOR TWO HOUSE LATERALS FACING THE SAME SIDE OF THE STREET, USE TWO SINGLE "Y" BRANCHES FACING THE PROPERTY SERVED.
   - FOR THREE OR FOUR HOUSE LATERALS, USE TWO DOUBLE "Y" BRANCHES PLACED AT 30° WITH EACH OTHER.

6. THE FITTING SHALL BE A MINIMUM OF 5 FEET IN LENGTH WITH THE TEE APPROXIMATELY CENTERED.

7. ALL REBARS ARE #4 BARS AND SHALL BE FABRICATED AND PLACED IN POSITION PER ACI SPECIFICATION.

8. FOR MAINLINE ENCASEMENT USE 8 #4 BARS EQUALLY SPACED FOR PIPE EQUAL TO OR LARGER THAN 15" DIA. OR USE 4 #4 LONGITUDINAL BARS EQUALLY SPACED FOR PIPE SMALLER THAN 15" DIA.

SECTION B-B

CITY OF BLYTHE

CHIMNEY PIPE AND BASE

STANDARD DRAWING NO. SS-408
NOTES:
1. EXTEND BOTH ENDS OF CRADLE OR ENCASEMENT TO A POINT ONE INCH SHORT OF FIRST PIPE JOINT BEYOND LOCATIONS SPECIFIED ON PLAN.
2. APPLY FORM OIL, THIN PLASTIC SHEET, OR OTHER ACCEPTABLE MATERIAL TO PIPE TO PREVENT BOND BETWEEN PIPE AND CONCRETE.
4. SEE W-304 & W-304A / SS-410 & SS-410A FOR WATER AND SEWER CROSSING REQUIREMENTS.
5. EXPANSION JOINTS MUST BE PLACED AT 20' INTERVALS, AT THE PIPE JOINT ON CONTINUOUS ENCASCMENT OR CRADLE.
6. DR-14 PVC C-900, 12" AND SMALLER; DR-14 PVC C-905, 14" OR LARGER MAY BE USED IN LIEU OF CONCRETE ENCASCMENT.
CROSSING
SANITARY SEWER
AND WATER LINE

W INDICATES PRESSURE WATERMAIN FOR POTABLE WATER

NOTE:
DIMENSIONS ARE FROM OUTSIDE
OF PIPE TO OUTSIDE OF PIPE.

2' MIN. COVER ON
SERVICE CONNECTION

NO JOINTS PERMITTED
IN WATER LINE

HOUSE SERVICE CONNECTION
FOR POTABLE WATER, 2" MAX.

CROSSING
HOUSE SERVICE CONNECTION
FOR POTABLE WATER
CASE 1 - NEW SEWER

ZONE    SPECIAL CONSTRUCTION
P        CONSTRUCTION PROHIBITED
A        CONSTRUCTION PROHIBITED
B        1. VCP, TYPE "C" JOINT
          2. PVC-AWWA C-900, CL 200
          OR AWWA C-905 DR-18

CASE 2 - NEW WATER

ZONE    SPECIAL CONSTRUCTION
P        CONSTRUCTION PROHIBITED
A        CONSTRUCTION PROHIBITED
B        D.I.P. (CEMENT MORTAR LINED)

*W = EXISTING WATER LINE
**S = EXISTING SEWER LINE
CASE 1 - NEW SEWER
ZONE SPECIAL CONSTRUCTION
CONSTRUCTION PROHIBITED
D CONSTRUCTION PROHIBITED
C 1. PVC-AWWA C-900, CL 200
2. D.I.P. IN 1/4" STEEL SLEEVE, WELDED JOINTS
• NEW PIPE TO BE CENTERED OVER PIPE BEING INSTALLED

CASE 1
NEW SEWER
*W= EXISTING WATER

CASE 2 - NEW WATER
ZONE SPECIAL CONSTRUCTION
P CONSTRUCTION PROHIBITED
D CONSTRUCTION PROHIBITED
D.I.P.(CEMENT MORTAR LINED)
• NEW PIPE TO BE CENTERED OVER PIPE BEING INSTALLED

CASE 2&3
NEW WATER/WATER SERVICE
**S= EXISTING SEWER

CASE 3 - NEW WATER SERVICE
ZONE SPECIAL CONSTRUCTION
C COPPER - NO JOINTS

CITY OF BLYTHE
SEPARATION AND CONSTRUCTION REQUIREMENTS FOR SEWER AND WATER LINES (CROSSING)
STANDARD DRAWING NO. SS-4108
NOTES:
1. THE PRY NOTCH SHALL BE COMPLETELY COVERED BY THE FRAME SEATS TO PREVENT SURFACE WATER INTRUSION.
2. MACHINE SEATS AND GRIND LUGS SMOOTH, PERIMETER OF COVER SHALL BE GROUND SMOOTH, DIAMETER TOLERANCE ± 1/16".
3. THE CAST IRON USED SHALL HAVE A TENSILE STRENGTH OF 30,000 LBS. PER SQUARE INCH.
4. "COB SEWER" SHALL BE ON THE COVER AS SHOWN ABOVE.
5. MANHOLE COVER SHALL BE NON–ROCKING ALHAMBRA A–1254, OR APPROVED EQUAL.
6. SEALED MANHOLE COVER SHALL BE ALHAMBRA A–1254B, OR APPROVED EQUAL.
7. TO BE USED ON 48" DIAMETER MANHOLE SHAFTING.
NOTES:

1. THE PRY NOTCH SHALL BE COMPLETELY COVERED BY THE FRAME SEATS TO PREVENT SURFACE WATER INTRUSION.

2. MACHINE SEATS AND GRIND LUGS SMOOTH, DIAMETER TOLERANCE ± 1/8".

   THE CAST IRON USED SHALL HAVE A TENSILE STRENGTH OF 30,000 LBS. PER SQUARE INCH.

3. "COB SEWER" SHALL BE ON THE COVER AS SHOWN ABOVE.

4. MANHOLE COVER SHALL BE NON-ROCKING ALHAMBRA A-1325, OR APPROVED EQUAL.

5. SEATED MANHOLE COVER SHALL BE ALHAMBRA A-1251 B-6, OR APPROVED EQUAL.

6. TO BE USED ON 60" DIAMETER MANHOLE SHAFTING.

CITY OF

BLYTHER

MANHOLE FRAME & COVER

TYPE B

STANDARD DRAWING NO. SS-411A
INCISED LETTERS 3" HIGH, PAINTED BLACK

4"x4"x6' REDWOOD POST PAINTED WITH 3 COATS OUTSIDE WHITE.

PLACE 6" TAMPED BACKFILL OVER CONCRETE


LEGEND
BO = BLOW OFF
SL = SEWER LINE
WL = WATER LINE
GV = GATE VALVE
PR = PRESSURE REGULATOR
BV = BUTTERFLY VALVE
MH = MANHOLE
CO = CLEAN OUT

CITY OF BLYTHE
STANDARD MARKER POST

STANDARD DRAWING NO. SS-431
FOR ANY LOT OF SUBDIVISION LARGER THAN 25,000 SQ. FT. IMPROVED WITHIN THE CITY OF BLYTHE, THE DEVELOPER "WILL BE REQUIRED TO DETAIN A Q-10 AR STORM OF 2.2", 24 HOUR DURATION ON SITE. THAT WATER MUST BE TOTALLY DISPOSED OF, I.E. (EVAPORATION, INJECTION OR PUMPED OFF SITE) WITHIN 72 HOURS AFTER THE STORM ENDS. THE INTENT IS ONLY TO ELIMINATE THE STORM PEAK INTO THE EXISTING STORM SYSTEM. PROVIDE CALCULATIONS ON YOUR HYDROLOGY MAP TO SUPPORT YOUR CONCLUSIONS. OFFSITE UPGRADE ARE A POTENTIAL TRADE OFF FOR FULL COMPLIANCE.

A Q-100 YEAR STORM, 3.79" IN 24 HOURS, SHALL BE CALCULATED SO AS TO NOT INUNDATE ANY PROPOSED ON SITE, OR EXISTING OFF SITE HOUSE PADS. THIS MEANS YOUR DETENTION BASIN, AND AVAILABLE RIGHT OF WAY CAN BE USED FOR STORAGE AS LONG AS NO HOUSES BECOME FLOODED.

RETENTION/DETECTION BASINS SHALL NOT HAVE A SLOPE TO BE MAINTAINED, I.E. PLANTED IN GRASS, GREATER THAN 1’. ROCK EMBANKMENTS MAY BE SLOPED AT 2:1. THOSE BASINS DESIGNED AS PLAYGROUNDS OR THAT HAVE THE POTENTIAL FOR PUBLIC ACCESS WILL BE CONTAINED WITH LOCKABLE 6’ CHAIN LINK FENCING, SO THEY MAY BE SECURED ANY TIME THERE IS STANDING WATER INSIDE.

INJECTION WELL

CITY OF BLYTHE

INJECTION/DRY WELL DETAIL

STANDARD DRAWING NO. SD-500
FOR ANY LOT OR SUBDIVISION LARGER THAN 25,000 S.F. IMPROVED WITHIN THE CITY OF BLYTHE, THE DEVELOPER SHALL BE REQUIRED TO DETAIN A Q-10 YEAR STORM OF 2.2", 24 HOUR DURATION, ON SITE. THAT WATER MUST BE TOTALLY DISPOSED OF (I.E.: EVAPORATION, INJECTION, OR PUMPED OFF SITE) WITHIN 72 HOURS AFTER THE STORM ENDS. THE INTENT IS TO ELIMINATE THE STORM PEAK FROM ENTERING AND OVERLOADING THE STORM DRAIN SYSTEM. THE DESIGN ENGINEER SHALL PROVIDE CALCULATIONS ON THE HYDROLOGY MAP TO SUPPORT THOSE CONCLUSIONS. OFF SITE UPGRADES ARE A POTENTIAL TRADE OFF FOR FULL COMPLIANCE.

A Q-100 YEAR STORM OF 3.79", 24 HOUR DURATION, SHALL BE CALCULATED SO AS TO NOT INUNDATE ANY PROPOSED ON-SITE OR EXISTING OFF-SITE HOUSE PADS. THIS MEANS THE DETENTION BASIN, AND AVAILABLE RIGHT OF WAY, CAN BE USED FOR STORAGE AS LONG AS NO DWELLINGS BECOME FLOODED.

RETENTION/DETENTION BASINS SHALL NOT HAVE A SLOPE GREATER THAN 3:1. ROCK EMBANKMENTS MAY BE DESIGNED AT 2:1. BASINS DESIGNED AS PLAYGROUNDS OR THAT HAVE THE POTENTIAL FOR PUBLIC ACCESS SHALL BE CONTAINED WITH LOCKABLE 6" CHAIN LINK FENCING SO THAT BASIN AREA MAY BE SECURED ANY TIME THERE IS STANDING WATER INSIDE.
EXCEPT FOR REINFORCING BARS SHOWN ADJACENT TO FRAME, REINFORCE TOP SLAB WITH #4 BARS @ 6" O.C.

CLEAR OPENING

24"

T

2"  

3"  

T

2" CLEARANCE

EXTRACTION JOINT

MANHOLE FRAME AND COVER SHALL BE ALHAMBRA A-1328, OR APPROVED EQUAL.

CURB DEPRESSION 1 1/2" OR AS SPECIFIED ON PLANS

CURB LINE

EXPANSION JOINT

GUTTER

FLOW LINE

STRAIGHT GRADE

ANCHOR

4'-0" MIN. OPENING

4" R

2'-6" MIN.

9'-0" MINIMUM

INLET DETAIL: SEE STD. SD-508 & SD-510

LOCAL DEPRESSION: SEE STD. SD-507

NORMAL GUTTER FLOWLINE

NOTE:
A DEBRIS BASIN EQUAL TO 36 CUBIC FEET OR GREATER MAY BE REQUIRED TO BE CONSTRUCTED IN THE BOTTOM OF THIS STRUCTURE, OR AN ADJACENT ONE, FOR SAND/TRASH SEPARATION.

ROBERT K. HOLT
No. 27943
Exp. 3-31-02
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA
CIVIL

APPROVED: PUBLIC WORKS DIRECTOR
JAMES W. ROOKER, JR.  DATE 9/7/00

APPROVED: CITY ENGINEER
ROBERT K. HOLT, P.E.  DATE 9/7/00

CITY OF BLYTHE
CURB INLET CATCH BASIN

STANDARD DRAWING NO.  SD-501
WHEN THE BASIN IS TO BE CONSTRUCTED WITHIN THE LIMITS OF A PROPOSED SIDEWALK OR IS CONTIGUOUS TO SUCH A SIDEWALK, CONCRETE SHALL BE CLASS "3" CONCRETE WHICH SHALL ATTAIN A 28-DAY COMpressive STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C39M-99. THE TOP OF THE BASIN SHALL BE POURED MONOLITHIC WITH SIDEWALK, USING CLASS "3" CONCRETE IN THE SIDEWALK. THE TOP OF THE CATCH BASIN SHALL BE FINISHED PER SIDEWALK STANDARDS.

CONNECTION PIPES MAY BE PLACED IN ANY POSITION AROUND THE WALLS, PROVIDED THAT THEY POINT IN THE PROPER DIRECTION AND THE POSITION IS OTHERWISE CONSISTENT WITH THE IMPROVEMENT PLANS.

DIMENSIONS:

T = 6 INCHES IF H IS 3.5 FEET OR LESS.
T = 8 INCHES IF H IS GREATER THAN 3.5 FEET AND LESS THAN 8 FEET.
T = 10 INCHES IF H IS 8 FEET OR GREATER.
H = SHALL BE SHOWN ON THE PLANS.
W = SHALL BE SHOWN ON THE PLANS (4" MIN.)

THE SURFACE OF ALL EXPOSED CONCRETE SHALL CONFORM TO SLOPE, GRADE, COLOR, FINISH, AND SCORING IN EXISTING OR PROPOSED IMPROVEMENTS ADJACENT TO THE BASIN. WHERE NO SIDEWALK EXISTS, THE TOP SHALL BE FINISHED TO CONFORM TO STANDARD SIDEWALK SLOPE AND FINISH. WHERE NO CURB EXISTS, THE BATTER OF EXPOSED END WALLS ABOVE THE STREET SURFACE SHALL CONFORM TO BATTER FOR STANDARD CURB. THE BASIN FLOOR SHALL BE GIVEN A SMOOTH TROWEL FINISH. CURVATURE OF THE LIP AND ENDWALLS AT THE CUTTER OPENING SHALL NOT BE MADE BY PLASTERING. THE OUTLET PIPE SHALL BE TRIMMED TO FINAL SHAPE AND LENGTH BEFORE THE CONCRETE IS POURED.

REINFORCING STEEL SHALL BE NO. 4 BARS DEFORMED BARS. CLEARANCE SHALL BE 1 1/2 INCH FROM INSIDE OF BOX. SEE STANDARD DRAWING SD-508 FOR WALL AND FLOOR STEEL REINFORCING.

STEPS SHALL BE 3/4 INCH PLAIN ROUND GALVANIZED STEEL STEPS AS REQUIRED BY STANDARD DRAWING SD-506, AND SHALL BE INSTALLED AS FOLLOWS:

IF H IS 3.5 FEET OR LESS, NO STEPS ARE REQUIRED.

IF H IS MORE THAN 3.5 FEET, BUT NOT MORE THAN 5.0 FEET, INSTALL ONE STEP 16 INCHES ABOVE FLOOR OF BASIN.

IF H IS MORE THAN 5.0 FEET, INSTALL STEPS 12" APART, WITH THE TOP STEP 6 INCHES BELOW THE TOP OF THE GRATING.

ALL STEPS SHALL BE 4 INCHES CLEAR FROM THE WALL, EXCEPT THE TOP STEP, WHICH SHALL BE 2 1/2 INCHES (CLEAR) FROM THE WALL AND ANCHORED NOT LESS THAN 4 INCHES IN WALL OF BASIN.

ROBERT K. HOLT
No. 27943
Exp. 3-31-02
STATE OF CALIFORNIA

APPROVED: PUBLIC WORKS DIRECTOR

JAMES W. RODKET, JR.
DATE 9/7/00

APPROVED: CITY ENGINEER

ROBERT K. HOLT, P.E.
DATE 6/7/60

CITY OF
BLYTHE
CURB INLET CATCH BASIN

STANDARD DRAWING NO. SD-501A
BASIN SHALL HAVE TWO GRATES MINIMUM, UNLESS OTHERWISE SPECIFIED ON IMPROVEMENT PLANS.

WHEN THE BASIN IS TO BE CONSTRUCTED WITHIN THE LIMITS OF A PROPOSED SIDEWALK OR IS CONTIGUOUS TO SUCH A SIDEWALK, CONCRETE SHALL BE CLASS "3" CONCRETE WHICH SHALL ATTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C39M-99. THE TOP OF THE BASIN SHALL BE Poured MONOLITHIC WITH SIDEWALK, USING CLASS "3" CONCRETE IN THE SIDEWALK. THE TOP OF THE CATCH BASIN SHALL BE FINISHED PER SIDEWALK STANDARDS.

CONNECTION PIPES MAY BE PLACED IN ANY POSITION AROUND THE WALLS, PROVIDED THAT THEY POINT IN THE PROPER DIRECTION AND THE POSITION IS OTHERWISE CONSISTENT WITH THE IMPROVEMENT PLANS.

DIMENSIONS:
GRATE SHALL BE PARALLEL TO PLANE OF GUTTER SLOPE 3/4" TO 1"-0".

T = 6 INCHES IF H IS 3.5 FEET OR LESS.
T = 8 INCHES IF H IS GREATER THAN 3.5 FEET AND LESS THAN 8 FEET.
T = 10 INCHES IF H IS 8 FEET OR GREATER.

H = SHALL BE SHOWN ON THE PLANS.

W = 6 FEET 4 3/4 INCHES MINIMUM. ADD 3 FEET 5 3/8 INCHES FOR EACH ADDITIONAL GRATING.

THE SURFACE OF ALL EXPOSED CONCRETE SHALL CONFORM TO SLOPE, GRADE, COLOR, FINISH, AND SCORING IN EXISTING OR PROPOSED IMPROVEMENTS ADJACENT TO THE BASIN. WHERE NO SIDEWALK EXISTS, THE TOP SHALL BE FINISHED TO CONFORM TO STANDARD SIDEWALK SLOPE AND FINISH. WHERE NO CURB EXISTS, THE BATTER OF EXPOSED END WALLS ABOVE THE STREET SURFACE SHALL CONFORM TO BATTER FOR STANDARD CURB. THE BASIN FLOOR SHALL BE GIVEN A SMOOTH TROWEL FINISH. CURVATURE OF THE LIP AND ENDWALLS AT THE GUTTER OPENING SHALL NOT BE MADE BY PLASTERING. THE OUTLET PIPE SHALL BE TRIMMED TO FINAL SHAPE AND LENGTH BEFORE THE CONCRETE IS POURED.

REINFORCING STEEL SHALL BE NO. 4 BARS DEFORMED BARS. CLEARANCE SHALL BE 1 1/2 INCH FROM INSIDE OF BOX. SEE STANDARD DRAWING SD-506 FOR WALL AND FLOOR STEEL REINFORCING.

STEPS SHALL BE 3/4 INCH PLAIN ROUND GALVANIZED STEEL STEPS AS REQUIRED BY STANDARD DRAWING SD-506, AND SHALL BE INSTALLED AS FOLLOWS:

IF H IS 3.5 FEET OR LESS, NO STEPS ARE REQUIRED.

IF H IS MORE THAN 3.5 FEET, BUT NOT MORE THAN 5.0 FEET, INSTALL ONE STEP 16 INCHES ABOVE FLOOR OF BASIN.

IF H IS MORE THAN 5.0 FEET, INSTALL STEPS 12" APART, WITH THE TOP STEP
6 INCHES BELOW THE TOP OF THE GRATING.

ALL STEPS SHALL BE 4 INCHES CLEAR FROM THE WALL EXCEPT THE TOP STEP, WHICH SHALL BE 2 1/2 INCHES (CLEAR) FROM THE WALL AND ANCHORED NOT LESS THAN 4 INCHES IN WALL OF BASIN.
BICYCLE GRATE

SECTION A-A

ALTERNATIVE WELDED GRATE

ALTERNATIVE BOLTED GRATE

GRATE DETAILS

SEE TABLE BELOW

<table>
<thead>
<tr>
<th>TYPE</th>
<th>NO. BARS</th>
<th>W</th>
<th>X</th>
<th>USAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>24-9</td>
<td>9</td>
<td>2&quot;</td>
<td>1 1/8&quot;</td>
<td>USE IN LOCATIONS OFF THE ROADBED ON ALL TYPES OF HIGHWAYS</td>
</tr>
<tr>
<td>24-12</td>
<td>12</td>
<td>1 5/8&quot;</td>
<td>1 1/4&quot;</td>
<td>USE WITHIN THE ROADBED ON HIGHWAYS WHERE BICYCLE AND PEDESTRIANS ARE EXCLUDED, OR FOR RURAL CONDITIONS</td>
</tr>
<tr>
<td>24-18</td>
<td>18</td>
<td>3/4&quot;</td>
<td>1 5/8&quot;</td>
<td>USE WITHIN THE ROADBED UNDER URBAN CONDITIONS WHERE BICYCLES AND PEDESTRIANS ARE PERMITTED</td>
</tr>
</tbody>
</table>

TYPE 450-8S (CALTRANS D77B) OR ALHAMBRA A-1546 & 1555

ON FRAMES FOR TYPE 24-18 GRATES, PROVIDE 3-3/4"x1 1/2"x3 3/4" BLOCKS. PLACE ON ROADWAY SIDE OR HIGH SIDE OF GRATE OPENING.

FRAME DETAIL

OMIT ANCHOR IF WF BEAM SUPPORT IS USED

WEIGHTS

<table>
<thead>
<tr>
<th>TYPE</th>
<th>WELDED</th>
<th>BOLTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>24-9</td>
<td>200</td>
<td>230</td>
</tr>
<tr>
<td>24-12</td>
<td>258</td>
<td>286</td>
</tr>
<tr>
<td>24-18</td>
<td>372</td>
<td>400</td>
</tr>
<tr>
<td>24&quot;</td>
<td>90</td>
<td></td>
</tr>
</tbody>
</table>

GENERAL NOTES:
1. GRATE TYPE NUMBERS REFER TO WIDTH OF GRATE IN INCHES AND NUMBER OF BARS RESPECTIVELY.
2. GRATES AND FRAMES TO BE GALVANIZED.
3. ROUNDED TOP OF BARS OPTIONAL ON ALL GRATES.
4. BARS SHALL BE PLACED SO THAT THEY ARE PARALLEL TO DIRECTION OF PRINCIPAL SURFACE FLOW.

CITY OF BLYTHE

STORM DRAIN FRAME AND GRATE DETAIL

STANDARD DRAWING NO. SD-502B
Curb Opening Detail
Standard 6" or 8" Curb
See Std. Dwg. S-208 & S208A

Face Angle Anchor Detail

#4 Bar, 12" O.C. Each Direction. Tie In Floor and Top With Vertical Steel.

Frame and Plate Anchor Detail
Provide One 3/8" x 1/2" Brass Flathead Screw in Each Corner of Plate Cover. Total of 4.

Edger Finish
1/2" Dia. Bend to Clear. Place Two Per Side.

Curb Opening Detail

1/4" Checker Plate Cover and Frame

Catch Basin Cross Section Detail

Pipe Size and Slope Per Plan

When:
H = 3'-0" to 8'-0"; T = 6"
H = 8'-1" to 12'-0"; T = 8"

City of Blythe
Street/Storm Water Catch Basin

Standard Drawing No. SD-503
NOTE: SEE STD NO. SD-505A FOR GENERAL NOTES

NOTES:

1. BACKFILL – NATIVE OR IMPORT, COMPACTED TO 90% RELATIVE DENSITY. IF NOT IN A ROADWAY, 90% RELATIVE DENSITY IS REQUIRED TO FINISHED SURFACE.

2. PIPE BEDDING – COMPACT TO 85% RELATIVE DENSITY. BEDDING MATERIAL SHALL MEET CALTRANS SPECIFICATIONS 26-1.02A & 26-1.02B, 100% PASSING 19MM SIEVE, SAND EQUIVALENT 25 MIN.

3. A MINIMUM 6" OF AGGREGATE BASE CLASS 2 TO BE COMPACTED TO 95% RELATIVE DENSITY IN PAVED SECTIONS OR AS DIRECTED BY THE PROJECT SOILS REPORT.

4. A.C. PAVING – MATCH EXISTING THICKNESS WITH NEW A.C., MIN. 4" – 2 LIFTS.

5. TRENCH OVERLAY SHALL EXTEND A MIN. OF 1 FT. OUTSIDE THE TRENCH CUT. IN NO CASE SHALL THE FINISHED PAVING BE LESS THAN 4 FT. IN WIDTH.

6. GRIND 1" x 0.12" HEADER EACH SIDE OF TRENCH. APPLY TACK COAT TO ENTIRE SURFACE.

7. THE CITY MAY DIRECT THAT REMAINING PORTIONS OF A.C. PAVEMENT ADJACENT TO TRENCH EDGE, MEASURING LESS THAN 6 FEET IN ANY DIMENSION, BE REMOVED AND REPLACED.

8. OVEREXCAVATION BELOW PIPE LAYING GRADE SHALL BE RECOMPACTED TO 90% MAXIMUM DENSITY, INSPECTED AND APPROVED PRIOR TO PIPE PLACEMENT.
GENERAL NOTES:

SPECIFICATIONS
ALL BACKFILL SHALL BE PLACED IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION EXCEPT AS OTHERWISE NOTED HEREIN.

MAXIMUM LIFTS *

MECHANICAL COMPACTION
HYDROHAMMER NOT ALLOWED
SHEEP-FOOT WHEEL 2.50'
VIBRATORY 2.00'
ROLLING STOCK 1.00'
HAND TAMPER 0.33'

* A LIFT IS ONE LAYER OF MATERIAL PLACED, PROCESSED, AND COMPACTED AS A UNIT. IF A LIFT IS THICKER THAN ONE (1) FOOT, THE "LOWER PORTION" IS BELOW THE MID POINT OF SAID LIFT.

CONTROL OF COMPACTION
VISUAL INSPECTION AND BY TESTS IN THE LOWER PORTION OF LIFTS AS REQUIRED BY THE INSPECTOR.

MAXIMUM LIFTS *
SUFFICIENT SAND AND FINES MUST BE MIXED INTO THE BACKFILL TO FILL VOIDS WHEN SOIL CONTAINS ROCKS. MAXIMUM SIZE ROCK IN FILL IS 6 INCHES.

LABORATORY MAXIMUM DENSITY
METHOD 1: LABORATORY MAXIMUM DENSITY OF SOIL SHALL BE DETERMINED BY ASTM D1557-91 MODIFIED BY USING THREE LAYERS INSTEAD OF FIVE LAYERS. (COMPACTIVE EFFORT EQUALS 33,750 FT-LBS PER CUBIC FOOT.)

METHOD 2: LABORATORY MAXIMUM DENSITY OF BASE AND SUBBASE MATERIALS SHALL BE DETERMINED BY TEST METHOD NO. CALIF. 216, METHOD A.

SAND EQUIVALENT
SAND EQUIVALENT SHALL BE DETERMINED BY TEST METHOD NO. CALIF. 217.

FIELD DENSITY
FIELD DENSITY OF SOIL SHALL BE DETERMINED BY ASTM D1556-64T, USING THE BASE PLATE AND MAKING SUITABLE ADJUSTMENTS FOR VOLUMES OF ROCKS IN THE TEST HOLE, OR BY TEST METHOD NO. ASTM D-2922-91 FOR NUCLEAR DEVICES.

THE WORDS "RELATIVE COMPACTION" OR "RELATIVE DENSITY" SHALL MEAN THE RATIO OF THE FIELD DENSITY TO THE LABORATORY MAXIMUM DENSITY EXPRESSED IN PERCENT.
NOTE:
▲ = WHEN STEEL FORMS ARE USED, ELIMINATE HOOK AND USE UPSET END.

PLAN VIEW

FRONT ELEVATION

* VARIES TO SUIT DIMENSION SHOWN ON STRUCTURE

3/4" ROUND STEEL BAR, BEND HOT

SECTION A-A
GALVANIZE AFTER BENDING

NOTE:
THIS DETAIL SHALL BE USED WHEREVER STEPS ARE REQUIRED.

CITY OF BLYTHE
STANDARD DROP STEP

STANDARD DRAWING NO. SD-506
NOTES:
1. LOCAL DEPRESSION SHALL BE CONSTRUCTED OF CLASS "3" CONCRETE 6" THICK.
2. CURB AND GUTTER SHALL BE CONSTRUCTED PRIOR TO CONSTRUCTING TOP OF CATCH BASIN AND CURB TRANSITIONS.
3. FOR "T" SEE STANDARD DRAWINGS SD-501A AND SD-502A.
1. WALL & FLOORING REINFORCING SHOWN HEREOF SHALL BE USED WITH CATCH BASIN STANDARD DRAWINGS.

2. REINFORCING STEEL SHOWN HEREOF SHALL BE USED IN ALL CATCH BASINS ON STATE HIGHWAYS REGARDLESS OF BASIN LENGTH OR DEPTH.

3. PROVIDE WALL & FLOOR STEEL REINFORCING WHEN THE FOLLOWING "H" DEPTHS ARE EQUALLED OR EXCEEDED:
   - BASIN LENGTH = W
   - BASIN DEPTH = H
   - TO 7.0' 9.5'
   - 7' TO 14.0' 7.5'
   - 14' TO 21.0' 6.5'
   - OVER 21.0' ALL DEPTHS

WALL AND FLOOR STEEL

CATCH BASIN REINFORCEMENT—"W" TO 14'(INCL.)

WALL AND FLOOR STEEL

CATCH BASIN REINFORCEMENT—"W" GREATER THAN 14'

GRATING BASIN REINFORCEMENT

CITY OF BLYTHE

CATCH BASIN REINFORCEMENT

ROBERT K. HOLT, P.E.
APPROVED: PUBLIC WORKS DIRECTOR
DATE 9/1/00

JAMES W. ROCKEY, JR.
APPROVED: CITY ENGINEER
DATE 9/1/00

ROBERT K. HOLT
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA
No. 27043
Exp. 3-31-02

REVISED BY DATE

STANDARD DRAWING NO. SD-508
5/16" x 10" ROLLED PLATE (A.S.T.M. A36) FORMED AS SHOWN

65 1/2"  11/16" R.

REINFORCING STEEL BAR APPLICABLE
STD. DWG. OR AS OTHERWISE REQUIRED.

SIDEWALK SLABS

HEX NUTS
1 1/8" HOLE IN PLATE
ADJUSTABLE STIRRUP - SEE DETAIL STD. DWG. SD-510
3/8" x 1 1/2" ALLEN HD. BRASS SET SCREW CUP END (3/16" ALLEN WRENCH)
CUT OR PUNCH 1/2" HOLE 1/4" DEEP 1" C.C. ON SUPPORT BOLT FOR SET SCREW
1" GALV. STEEL - STD. SQUARE HEAD OR HEXAGONAL HEAD - MACHINE BOLT - SEE
NOTE 2, STANDARD DRAWING SD-510

NOTE: "S" IS THE SHORTEST DISTANCE BETWEEN THE SILL OF THE CATCH BASIN AND
THE CENTER OF THE NEAREST PROTECTION BAR. SEE NOTE 4, STD. DWG. SS-510.

DETAIL OF CATCH BASIN OPENING

NOTE:
SEE STANDARD DRAWING SD-510 FOR
ADDITIONAL DETAILS AND NOTES FOR CATCH BASIN
OPENINGS AND INSTALLATION REQUIREMENTS.

ALTERNATE METHODS FOR FACE PLATE ANCHORAGE

NOTE: REINFORCING STEEL AND SPlice NOT SHOWN. SPACE "A" ANCHORS APPROXIMATELY EVENLY
AT 15" MAX. O.C. BETWEEN END ANCHORS AND ANCHORS AT SPlice JOINTS EXCEPT OMIT AT "B"
ANCHOR LOCATION. SPACE "B" ANCHORS AT APPROXIMATELY 45" MAX. BETWEEN END ANCHORS.
ADJUSTABLE PROTECTION BAR STIRRUP

NOTES:
1. SUPPORT BOLT ANGLE "C" SHALL VARY TO CONFORM WITH BATTER OF ADJOINING CURB.
2. SUPPORT BOLTS SHALL BE EQUAL IN LENGTH TO CURB FACE PLUS 4" FOR ALL CURB BATTERS.
3. ALL EXPOSED METAL PARTS SHALL BE GALVANIZED AFTER FABRICATION.
4. PROTECTION BAR SPACING: PROTECTION BAR(S) SHALL BE INSTALLED WHEN THE MINIMUM CLEAR OPENING OF THE CATCH BASIN IS GREATER THAN 6" IN BAR(S) AND SHALL BE PLACED SUCH THAT NO MINIMUM CLEAR OPENING EXCEEDS 6".
   (A) WHEN ONE BAR IS REQUIRED, "S" SHALL BE 6 3/4". HOWEVER, THIS SHALL BE REDUCED IF NECESSARY SO THAT THE CENTER OF THE PROTECTION BAR IS NOT LESS THAN 2 1/2" FROM THE ROLLED PLATE.
   (B) WHEN TWO OR MORE BARS ARE REQUIRED, "S" SHALL BE 6 3/4" WITH REMAINING BARS SPACED AT 6 3/4" O.C. THE SPACING OF THE TOP BARS SHALL BE REDUCED IF NECESSARY SO THAT THE CENTER OF THE BAR IS NOT LESS THAN 2 1/2" FROM THE ROLLED PLATE.
5. WHERE CATCH BASINS ARE TO BE CONSTRUCTED ON CURVES, THE MAXIMUM CHORD LENGTH FOR FACE PLATE SHALL BE SUCH THAT THE MAXIMUM DIMENSION FROM SAID CHORD (MEASURED PERPENDICULAR THERETO) TO THE TRUE CURVE WILL NOT EXCEED ONE INCH. WHERE MORE THAN ONE CHORD IS REQUIRED, CHORD LENGTH SHALL BE EQUAL.
6. WHERE LENGTH OF FACE PLATE IS BETWEEN 22" AND 43", TWO SECTIONS MAY BE USED. WHEN LENGTH EXCEEDS 43", THREE SECTIONS MAY BE USED. SECTIONS SHALL BE SPACED ACCORDING TO THE SPLICE DETAIL. SPLICES SHALL BE PLACED ONE FOOT FROM SUPPORT BOLT.
7. LENGTH OF FACE PLATE IS 6 + 12" FOR ALL CATCH BASINS.
8. CATCH BASIN OPENING = NORMAL CURB FACE + 1 1/2" UNLESS OTHERWISE SPECIFIED.
9. SPACING OF ALL ANCHORAGE:
   A. SET END ANCHORS 3" FROM ENDS OF FACE PLATE.
   B. PLACE AN "A" ANCHOR AT EACH SIDE OF ANY AND ALL SPLICE JOINTS AND WITHIN 6" THEREOF.

FACE PLATE END & SPLICE DETAILS
NOTE: SEE STD. DWG. SD-509 TOP ALTERNATE ANCHORAGE DETAIL FOR ADDITIONAL SPLICE DETAILS.

Robert K. Holt
No. 27943
Exp. 3-31-02

CITY OF BLYTHE

DETAIL OF CATCH BASIN OPENING & INSTALLATION DETAILS

PUBLIC WORKS DIRECTOR

JAMES H. BAGBY, JR.
9/7/02

CITY ENGINEER

ROBERT K. HOLT, P.E.
5/7/00

STANDARD DRAWING NO. SD-510

REVISION

SD-510

DATE

SD-510

SD-510

SD-510
NOTE:
SEE SHEET 513A FOR COMPACTION REQUIREMENTS AROUND THIS STRUCTURE.

NOTES:
1. 3/8" x 1 1/2" GALVANIZED BOLTS WITH HEX NUTS. FIELD WELD EACH NUT TO ANGLE.
2. DRILL HOLE 7/16" MATCHED 4 PLACES AS SHOWN IN PLAN.
3. PLATE AND ANGLE ASSEMBLY SHALL BE GALVANIZED.


CITY OF BLYTHE
INLET TYPE IX
(CHECKERED PLATE)

STANDARD DRAWING NO. SD-512
**GRATE (OR CHECKERED P) OPTIONAL** SEE STANDARD DRAWING SD-512

LUG 3/4"x 1 1/2"  PUNCH 1" HOLE IN PIPE TO RECEIVE LUG.

GRADE 6" MIN. CIRCLE AROUND INLET WHERE POSSIBLE.

SEE DETAIL "B"

EXISTING GRADE

6 OPENINGS @ L=12"

36" C.M.P.
THICKNESS = 0.109"

VARIABLE - Y DEPTH
NOTED ON PLANS.

SECTION A-A

NOTES:
1. PLACE GRATE BARS PARALLEL TO FLOW.
2. GRATE AND FRAME SHALL BE GALVANIZED.

CITY OF BLYTHE

INLET TYPE X (GRATE)

STANDARD DRAWING NO. SD-513
GENERAL NOTES:

SPECIFICATIONS
ALL BACKFILL SHALL BE PLACED IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION EXCEPT AS OTHERWISE NOTED HEREFIN.

MAXIMUM LIFTS *

MECHANICAL COMPACTATION
HYDROHAMMER 3.00'
VIBRATORY 2.00'
ROLLING STOCK 1.00'
HAND TAMPER 0.33'

* A LIFT IS ONE LAYER OF MATERIAL PLACED, PROCESSED, AND COMPACTED AS A UNIT. IF A LIFT IS THICKER THAN ONE (1) FOOT, THE "LOWER PORTION" IS BELOW THE MID POINT OF SAID LIFT.

CONTROL OF COMPACTION
VISUAL INSPECTION AND BY TESTS IN THE LOWER PORTION OF LIFTS AS REQUIRED BY THE INSPECTOR.

MAXIMUM LIFTS *
SUFFICIENT SAND AND FINES MUST BE MIXED INTO THE BACKFILL TO FILL Voids WHEN SOIL CONTAINS ROCKS. MAXIMUM SIZE ROCK IN FILL IS 6 INCHES.

LABORATORY MAXIMUM DENSITY
METHOD 1: LABORATORY MAXIMUM DENSITY OF SOIL SHALL BE DETERMINED BY ASTM D1557-91 MODIFIED BY USING THREE LAYERS INSTEAD OF FIVE LAYERS. (COMPACTIVE EFFORT EQUALS 33,750 FT-LBS PER CUBIC FOOT.)

METHOD 2: LABORATORY MAXIMUM DENSITY OF BASE AND SUBBASE MATERIALS SHALL BE DETERMINED BY TEST METHOD NO. CALIF. 216, METHOD A.

SAND EQUIVALENT
SAND EQUIVALENT SHALL BE DETERMINED BY TEST METHOD NO. CALIF. 217.

FIELD DENSITY
FIELD DENSITY OF SOIL SHALL BE DETERMINED BY ASTM D1556-64T, USING THE BASE PLATE AND MAKING SUITABLE ADJUSTMENTS FOR VOLUMES OF ROCKS IN THE TEST HOLE, OR BY TEST METHOD NO. ASTM D-2922-91 FOR NUCLEAR DEVICES.

THE WORDS "RELATIVE COMPACTION" OR "RELATIVE DENSITY" SHALL MEAN THE RATIO OF THE FIELD DENSITY TO THE LABORATORY MAXIMUM DENSITY EXPRESSED IN PERCENT.
NOTES:

1. ALL JOINTS SHALL BE FILLED WITH 1-2 MORTAR AND NEATLY POINTED OR WIPE INSIDE OF SHAFT.

2. STEPS SHALL BE 3/4 INCH ROUND GALVANIZED STEEL PER STANDARD DRAWING SD-506. TOP STEP SHALL BE PLACED DIRECTLY BENEATH THE MANHOLE COVER FRAME. WIDTH OF ALL STEPS SHALL BE 14 INCHES BETWEEN LEG CENTERS. EXCEPT WHERE SHOWN OTHERWISE, SPACING OF STEPS IN SHAFT SHALL BE 16 INCHES ON CENTER.

3. ECCENTRIC MANHOLE SHAFT, REDUCER, AND RINGS MINIMUM THICKNESS SHALL BE 6 INCHES. THE CONCRETE USED SHALL BE CLASS "3".

CITY OF BLYTHE
PRE CAST MANHOLE SHAFT

STANDARD DRAWING NO. SD-514
NOTES:

1. HEIGHT H SHALL BE NOT LESS THAN 4'-0" BUT MAY BE INCREASED AT
   OPTION OF CONTRACTOR PROVIDED THAT THE VALUE OF M SHALL
   NOT BE LESS THAN THE MINIMUM SPECIFIED AND THAT THE
   REDUCER SHALL BE USED. FOR H (IN SEC. C-C) SEE NOTE 4.

2. LENGTH L SHALL BE 4' UNLESS OTHERWISE SHOWN ON IMPROVEMENT PLAN.
   L MAY BE INCREASED OR LOCATION OF MANHOLE SHIFTED TO MEET
   PIPE ENDS AT THE OPTION OF THE CONTRACTOR, EXCEPT THAT ANY
   CHANGE IN LOCATION OF MANHOLE MUST BE APPROVED BY THE
   ENGINEER.

3. SHAFT SHALL BE CONSTRUCTED AS PER SEC. C-C AND DETAIL N WHEN
   DEPTH M FROM STREET GRADE TO TOP OF BOX IS LESS THAN
   2'-10 1/2" FOR PAVED STREETS OR 3'-6" FOR UNPAVED STREETS.

4. DEPTH P MAY BE REDUCED TO An ABSOLUTE LIMIT OF 6 INCHES WHEN
   LARGER VALUES OF P WOULD REDUCE H (IN SEC. C-C) TO BE
   3'-6" OR LESS.

5. T SHALL BE 8" FOR VALUES OF H UP TO AND INCLUDING 8 FEET.
   T SHALL BE 10" FOR VALUES OF H OVER 8 FEET.

6. STEPS SHALL BE 3/4" ROUND, GALVANIZED STEEL PER STANDARD DRAWING
   SD-506 AND ANCHORED NOT LESS THAN 4" IN THE WALLS OF
   STRUCTURES. UNLESS OTHERWISE SHOWN, STEPS SHALL BE SPACED
   16" ON CENTER. THE LOWEST STEP SHALL BE NOT MORE THAN
   2 FEET ABOVE THE INVERT.

7. REINFORCING STEEL SHALL BE NO. 4 AND 1-1/2" CLEAR FROM INSIDE FACE
   OF CONCRETE.

8. STATIONS REFER TO PLAN AND PROFILE SHEETS. ELEVATIONS AT Q AND
   PROLONGED INVERT GRADE LINE. SEE NOTE 2 FOR SHIFTING
   LOCATION.

9. RINGS, REDUCER, AND PIPE FOR ACCESS SHAFT SHALL BE SEATED IN
   CEMENT MORTAR AND NEATLY POINTED OR WIRED INSIDE SHAFT.

10. FLOOR OF MANHOLE SHALL BE STEEL-TROWELED.

11. CONCRETE SHALL BE CLASS "3" CONCRETE WHICH SHALL
    ATTAIN A 28-DAY COMpressive STRENGTH OF 4000 PSI IN

CITY OF
BLYTHE

STORM DRAIN
MANHOLE NO. 1

STANDARD DRAWING NO. SD-515A
TABLE OF BAR SIZES

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<th>Diameter</th>
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<th>D &amp; F Bars</th>
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<td>90&quot; - 144&quot;</td>
<td>No. 7 @ 3&quot;</td>
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* Use D₂ or D₁, whichever is greater, or B.

CITY OF BLYTHE
STORM DRAIN MANHOLE NO. 3

REVISION BY DATE

SD-517
Table of Bar Sizes

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<th>D &amp; F Bars</th>
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* Use D<sub>2</sub> or D<sub>1</sub>, whichever is greater, or B.

SECTION G-G

(SEE STD. DWG. SD-517)

PLAN

(RINGS AND COVER NOT SHOWN)

TIE BARS

F BARS

OPTIONAL OUTSIDE FACE OF CONCRETE

#4 H BARS 3'-0" LONG

LONGITUDINAL SECTION

(SEE STD. DWG. SD-517)

5" 3'-0"

LEVEL

5" 4"

BUILT UP DECK OF MANHOLE TO PROVIDE LEVEL PIPE SEAT

VARIABLE

SEAT FOR SHAFT WHEN TOP IS NOT LEVEL

0" 0"

5"X2" PIPE SEAT

D BARS F BARS

5" 2'-4"

ROUND EDGES TO 3" RADIUS

5" 5"

#4 BARS & 18" O.C. BOTH WAYS TO BE USED WHEN D<sub>2</sub> IS 60" OR OVER

CITY OF BLYTHE

STORM DRAIN MANHOLE NO. 3

STANDARD DRAWING NO. SD-517A
1. Values for A, B, C, D₁, D₂, ELEV. R and ELEV. S are shown on the improvement plans. Table of values for F and T hereon.

2. Laterals: If laterals enter on both sides of manhole, access shaft shall be located on side receiving the smaller lateral.

3. Center of manhole shaft shall be located over centerline of main storm drain when D₁ is 48" or less, in which case place B.E. bars symmetrically around shaft at 45° with centerline.

4. Length L may be increased at option of contractor to meet pipe ends, but any change in location of spur must be approved by the engineer.

5. Detail M: When depth of manhole from street grade to top of box is less than 2'-10 1/2" for paved streets or 3'-6" for unpaved streets, construct monolithic shaft per detail M. The contractor shall have the option of constructing shaft as per detail M for any depth of manhole when diameter D₂ is 48" or less, center of shaft shall be located per note 3.

6. Reinforcing steel shall be round, deformed, straight bars, 1 1/2" clear from inside face unless otherwise shown. Tie bars shall be No. 4 and spaced 18" on centers or closer.

7. Concrete shall be Class "3" concrete which shall attain a 28-day compressive strength of 4000 psi in accordance with ASTM C39/C39M-99.

8. Steps shall be 3/4" galvanized steel per Std. DWG. SD-508, and anchored not less than 4" in walls of structure unless otherwise shown. The spacing shall be 16" on center. The lowest step shall be not more than 2 ft. above the invert.

9. Rings, reducers, and pipe for access shaft shall be seated in cement mortar and neatly pointed or wiped inside shaft.

10. Body of manhole, including spur, shall be poured in one continuous operation, except that the contractor shall have the option of placing at the spring line a construction joint with longitudinal keyway.

* Use D₁ or D₂, whichever is greater, or B.

** If D₂, D₁, or B falls between tabulated values then use the next highest value to determine F or T.

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CITY OF
BLYTHE
STORM DRAIN
MANHOLE NO. 3

STANDARD DRAWING NO. SD-517B
MATERIAL: CAST IRON (ASPHALT COATED OR GALVANIZED)

NOTES:
1. SEATS OF FRAME AND COVER SHALL BE MACHINED TO PREVENT NOISE.
2. TOTAL WEIGHT OF FRAME AND COVER APPROX. 130 LBS.
3. MINIMUM CLEAR OPENING 22" DIAMETER. ALL OTHER DIMENSIONS ARE NOMINAL.

ALHAMBRA A-1530 OR EQUIVALENT
NOTES:
1. SEATS OF FRAME AND COVER SHALL BE
   MACHINED TO PREVENT NOISE

2. TOTAL WEIGHT OF FRAME AND COVER
   APPROX. 380 LBS.

3. MINIMUM CLEAR OPENING 24" DIA. FOR
   48" MANHOLES ALL OTHER DIMENSIONS
   ARE NOMINAL. ALHAMBRA-A-1254-
   LETTERED-"COB-SD."
   MATERIAL: CAST IRON (ASPHALT COATED) 1"
   3/4"

4. MINIMUM CLEAR OPENING 30" DIA. FOR
   ALL 60" & LARGER MANHOLES ALHAMBRA
   A-1252-LETTERED-"COB-SD."

CITY OF
BLYTHE
MANHOLE FRAME &
COVER - ROADWAY

STANDARD DRAWING NO. SD-519
NOTES:

1. MANHOLE FRAME AND COVER SHALL BE MADE OF GRAY CAST IRON CONFORMING TO THE LATEST A.S.T.M. STANDARD A48, CLASS 30 OR BETTER. PRESSURE PLATE SHALL BE STEEL.

2. ALL PARTS OF THE MANHOLE FRAME AND COVER EXCEPT MACHINED SURFACES SHALL BE COATED WITH ASPHALTUM PAINT.

3. MANHOLE FRAME AND COVER SHALL BE TESTED FOR ACCURACY OF FIT AND SHALL BE MARKED IN SETS BEFORE DELIVERY. THE COVER SHALL FIT THE FRAME SNUGLY BUT NOT TIGHTLY.

4. WEIGHTS OF FRAME, COVER, AND PRESSURE PLATE SHALL NOT VARY MORE THAN TWO PERCENT FROM THOSE GIVEN HEREIN.

5. THIS STRUCTURE SHALL BE USED WITH STANDARD PRESSURE MANHOLE SHAFT. IT MAY BE USED FOR HYDROSTATIC HEADS UP TO 25 FEET ABOVE STEEL PLATE.

CITY OF BLYTHE
MANHOLE FRAME & COVER
PRESSURE TYPE

STANDARD DRAWING NO. SD-520
NOTES:
1. VALUES FOR A, B, C, ELEV. R AND ELEV. S ARE SHOWN ON PROJECT DRAWINGS. TABLE OF VALUES FOR T SHOWN ON THIS PLAN.
2. STATIONS SPECIFIED ON DRAWINGS APPLY AT THE INTERSECTION OF CENTERLINES AT MAIN LINE AND LATERALS, EXCEPT THAT STATIONS FOR CATCH BASIN CONNECTOR PIPE APPLY AT INSIDE WALL OF STRUCTURE.
3. REINFORCING STEEL SHALL BE STRAIGHT BARS 1 1/2" CLEAR FROM INSIDE FACE OF CONCRETE UNLESS OTHERWISE SHOWN. W BARS ARE OF SIZE AND SPACING SPECIFIED FOR WALL STEEL ON PLAN AND SHALL BE CUT IN CENTER OF OPENING AND BENT INTO TOP AND BOTTOM OF JUNCTION STRUCTURE.
OMIT W BARS WHEN SOFFIT OF SPUR IS 12" OR LESS BELOW SOFFIT OF MAIN LINE AND OMIT G BARS WHEN INVERT OF SPUR IS 12" OR LESS ABOVE FLOOR LINE AT MAIN LINE.
4. JUNCTION STRUCTURE SHALL BE PORED MONOLITHICALLY WITH MAIN LINE STORM DRAIN, MANHOLE OR TRANSITION.
5. FLOOR OF STRUCTURE SHALL BE STEEL-TROWELED TO THE SPRING LINE.
7. EMBEDMENT P SHALL BE 5" FOR B = 96" OR LESS AND 8" FOR B OVER 96".
8. BACKFILL UNDER STRUCTURE WITH 1-3-5 MIX CONCRETE, OR COMPACT SOIL TO RELATIVE DENSITY REQUIRED BY SPECIFICATIONS. BACKFILL MAY BE OMITTED IF STRUCTURE IS LAID ON UNDISTURBED EARTH TO STORM DRAIN WALL.

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<td>#4 @ 6</td>
</tr>
</tbody>
</table>

CITY OF BLYTHE
JUNCTION STRUCTURE
NO. 1

STANDARD DRAWING NO. SD-521

REVISED BY DATE

ROBERT K. HOLT, P.E.

APPROVED: PUBLIC WORKS DIRECTOR
JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER
ROBERT K. HOLT, P.E.
NOTES FOR JUNCTION STRUCTURE NO. 2

1. VALUES FOR A, B, C, D, E, F, G, L, ELEVATION R, AND ELEVATION S SHOWN ON IMPROVEMENT PLAN.

2. PIPE SHALL BE CRADLED IN CLASS A CONCRETE EXTENDING LONGITUDINALLY TO POINTS 1 FT. BEYOND THE LIMITS OF L. \( H = \frac{1}{2} \) OUTSIDE DIAMETER OF PIPE + 4" AS A MINIMUM. CRADLE MAY BE OMITTED ON SIDE OPPOSITE LATERAL INLET WHEN CONSTRUCTED IN CONNECTION WITH EXISTING STORM DRAIN.

3. A AND B BARS SHALL BE CARRIED TO POINT NOT LESS THAN J DISTANCE FROM CENTERLINE, J = \( \frac{2D + 6\"}{12} \).

4. RECTANGULAR OPENING IN MAIN LINE PIPE SHALL BE CUT WITHIN THESE LIMITS NORMAL TO PIPE SURFACE WITHOUT DAMAGING STEEL. VALUES FOR F, G, AND L ON IMPROVEMENT PLAN.

5. TRANSVERSE REINFORCEMENT IN PIPE SHALL BE CUT IN CENTER OF OPENING AND BENT TO UNIFORM DISTANCE FROM TOP AND BOTTOM OF JUNCTION STRUCTURE.


7. REINFORCING STEEL SHALL BE ROUND, DEFORMED, STRAIGHT BARS, 1-1/2" CLEAR FROM INSIDE FACE OF CONCRETE UNLESS OTHERWISE SHOWN.

8. STEEL SCHEDULE AS SHOWN.

9. MONOLITHIC ARCH: WHEN JUNCTION STRUCTURE NO. 2 IS SPECIFIED WITH REINFORCED MONOLITHIC ARCH STORM DRAIN, VALUE D SHALL REFER TO THE CLEAR SPAN OF THE ARCH. REINFORCING STEEL SHALL BE CUT AND BENT INTO JUNCTION STRUCTURE THE SAME AS FOR PIPE. CONCRETE CRADLE UNDER REINFORCED MONOLITHIC ARCH IS NOT REQUIRED.

10. FLOOR OF STRUCTURE SHALL BE STEEL-TROWELED TO SPRING LINE.

CITY OF
BLYTHE
JUNCTION STRUCTURE
NO. 2
STANDARD DRAWING NO. SD-522A

ROBERT K. HOLT, P.E.
APPROVED: PUBLIC WORKS DIRECTOR
DATE 9/1/00

JAMES A. ROKEY, JR.
APPROVED: CITY ENGINEER
DATE 9/3/00

REVISION BY DATE
CASE 1 - BEAM SUPPORT D = 30" OR LESS

CASE 2 - COLUMN SUPPORT
D = 60" OR LESS FOR C.M.P.
D = 30" OR LESS FOR R.C.P. OR C.P.

NOTES:
1. ALL CORRUGATED METAL PIPE AND FITTINGS SHALL BE GALVANIZED
2. USE JUNCTION STRUCTURE NO. 1 WHERE SIZE OF THE INLET PIPE EXCEEDS DIMENSIONS GIVEN ABOVE.
3. UNLESS OTHERWISE SPECIFIED, CASE 2 SUPPORT SHALL BE USED.
4. ELEVATION "S" SHALL BE SPECIFIED ON PROJECT DRAWINGS.

1:3:5 MIX CONC. ENCASEMENT WHEN MORE THAN ONE SECTION OF PIPE IS USED

#5 @ 6" LENGTH = D IN FT. + 3', PLACED UNDER CUT BARS AND ON TOP OF UNCUT BARS IN BOTTOM OF TOP SLAB. OMIT BARS THAT FALL OVER SIDEWALKS.
**Case-2**

Catch Basin Above Storm Drain

**Note:**

All connector pipes (within the angles specified for case 2) shall be encased when laid within the main line excavated trench, or when laid on fill which has not been densified.

**Notes: Cases 1 & 2**

1. D shall be 24" or less, and in no case shall the outside diameter of the inlet pipe exceed one-half the inside diameter of the main line. If "S" is 45° or less, use case 1. If "S" is greater than 45°, use case 2.

2. E of inlet shall be on radius of main storm drain except when elevation "S" is shown on the project drawing profile.

3. The minimum opening into the existing storm drain shall be the outside diameter of the connecting pipe + 1 inch.

4. All corrugated metal pipe and fittings shall be galvanized.

5. STA at F.L. & Center of pipe, shown on project dwg. profile.

6. Concrete shall be Class "S" concrete that shall attain a 28-day compressive strength of 4000 PSI in accordance with ASTM C39/C39M-98.

**Notes: Case-3 - Saddle Connection**

1. Connections to pipes 21" or less in diameter without junction structures or precast y branches shall be made with saddles.

2. Trim or cut saddle to fit snugly over the outside of the main pipe and so its axis will be on the line and grade of the connecting pipe.

3. The opening into the pipe shall be cut and trimmed to fit the saddle so that no part will project within the bore of the saddle pipe.

4. The connection pipe shall be supported as shown in case 1 and 2.
NOTES:
1. VALUES FOR C, D, L, ELEV. S, ELEV. R, ∞ AND STA. X ARE SHOWN ON PROJECT DRAWINGS.
2. REINFORCING STEEL SHALL BE STRAIGHT BARS 1.5" CLEAR FROM FACE OF CONCRETE.

SECTION A-A

SECTION B-B

SECTION C-C

TABLE FOR DIMENSIONS AND BAR SIZES

<table>
<thead>
<tr>
<th>D (IN.)</th>
<th>T (IN.)</th>
<th>A BARS</th>
<th>B BARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>4.5</td>
<td>4 @ 3&quot;</td>
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<td>42</td>
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TABLE
FOR DIMENSIONS AND BAR SIZES

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<td>84</td>
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</table>

NOTES:

1. VALUES FOR D, L, C, EL, R, EL, S, ANGLE A AND STA. "X" ARE TO BE SHOWN ON PROJECT DRAWINGS.
2. REINFORCING BARS SHALL BE PLACED 1 1/2" CLEAR FROM FACE OF CONCRETE.
4. PLACE #4-12"X18" BARS WITH SHORT LEG HORIZONTAL IN VERTICAL J.S. WALL. ROTATE LONGER LEG INTO CENTER OF SLOPE PAVING.
5. REINFORCEMENT SHALL BE PROVIDED IN ALL PORTIONS OF THE JUNCTION STRUCTURE AS INDICATED ON DRAWINGS REGARDLESS OF BAR LENGTH MODIFICATIONS REQUIRED TO ACHIEVE PROPER CLEARANCES.

CITY OF BLYTHE
JUNCTION STRUCTURE
NO. 6
STANDARD DRAWING NO. SD-526
NOTES:

1. THE CONTRACTOR HAS THE OPTION TO CONSTRUCT CASE 1 OR CASE 2 UNLESS OTHERWISE NOTED. SEE STD. DWG. SD-527A.

2. HORIZONTAL ANGLE OF CONFLUENCE, "A" MUST BE BETWEEN 60' AND 90'.

3. VALUES FOR D, SS, A, C, EL."S", AND STA. "X" SHALL BE SHOWN ON PROJECT DRAWINGS.

4. D SHALL NOT EXCEED 24'.

5. SIDE SLOPE, SS, SHALL NOT BE FLATTER THAN 2:1.


7. JUNCTION STRUCTURE NO. 7 TO BE USED ON TRAPEZOIDAL CHANNELS ONLY.

8. CASE 1 SHALL BE MONolithically POURED WITH CHANNEL AND CASE 2 SHALL BE POURED SEPARATE FROM THE CHANNEL. SEE STD. DWG. SD-527A.

9. 4-#4 X 2' TIES SPACED EQUALLY, TYPICAL. SEE STD. DWG. SD-527A.
NOTES:
1. SEE STD. DWG. SD-527 FOR NOTES AND PLAN VIEW.
NOTES:


2. REINFORCING STEEL SHALL BE #4 BARS FOR "W" UP TO 60". ABOVE "W"=60" #5 BARS SHALL BE USED. 2" MINIMUM CLEARANCE, 30 DIAMETER LAP, ALL STEEL.

3. ADJACENT SLOPES SHALL BE 1-1/2 TO 1 OR FLATTER.

4. MULTIPLE PIPES TO BE SET WITH LONGITUDINAL CENTERS 1-2/3 DIAMETERS APART.

5. ALL EXPOSED CORNERS TO BE ROUNDED 3/4" RADIUS.

6. "W" SHALL BE INCREASED WHEN MULTIPLE PIPES OR PIPES ON SKEW ARE USED.
NOTES:
1. REINFORCING STEEL IN WALLS AND BASE SHALL BE THE SAME AS STD. DWG. SD-528.
2. NOTES SHALL BE THE SAME AS STD. DWG. SD-528.
3. SECTION A-A IS THE SAME AS STD. DWG. SD-528.

CITY OF BLYTHE
HEADWALL "U" - TYPE
STANDARD DRAWING NO. SD-529
NOTES:

1. A CONCRETE COLLAR IS REQUIRED WHERE THE CHANGE IN GRADE EXCEEDS 0.10 FT. PER FOOT, OR IF CHANGE IN ALIGNMENT EXCEEDS 0.10 FT. PER FOOT.

2. WHERE PIPES OF DIFFERENT DIAMETERS ARE JOINED WITH A CONCRETE COLLAR, L AND T SHALL BE THOSE OF THE LARGER PIPE. D=D₁ OR D₂ WHICHEVER IS GREATER.

3. FOR PIPE LARGER THAN 66" A SPECIAL COLLAR DETAIL IS REQUIRED.

4. FOR PIPE SIZE NOT LISTED USE NEXT SIZE LARGER.

5. OMIT REINFORCING ON PIPES 24" AND LESS IN DIAMETER AND ON ALL PIPE WHERE ANGLE "A" IS LESS THAN 10°.

6. WHERE REINFORCING IS REQUIRED, THE DIAMETER OF THE CIRCULAR TIES SHALL BE D+(2x WALL THICKNESS)+8".

7. WHEN D₁ IS EQUAL TO OR LESS THAN D₂ JOIN INVERTS AND WHEN D₁ IS GREATER THAN D₂, JOIN SOFFITS.

8. PIPE MAY BE CORRUGATED METAL PIPE, CONCRETE PIPE, OR REINFORCED CONCRETE PIPE.

**CASE 1**
REINFORCED CONCRETE BEAM
* SEE TABLE FOR MINIMUM LENGTH OF BEARING.

**CASE 2**
CONCRETE SUPPORT WALL

**CASE 3**
CAST IRON PIPE OR SPUN REINFORCED CONCRETE PIPE

### Dimensions of Reinforced Concrete Beam

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<th>S OR C</th>
<th>T</th>
<th>BAR NO.</th>
<th>T</th>
<th>BAR NO.</th>
<th>T</th>
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<tr>
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</tr>
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### Allowable Spans for Cast Iron Pipe

<table>
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<tr>
<th>DEPTH OF COVER</th>
<th>CLASS 150 PIPE</th>
<th>CLASS 250 PIPE</th>
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<td>12&quot;</td>
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<td>8&quot;-8&quot;-0&quot;</td>
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<tr>
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<td>10'-0&quot;</td>
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<td>10'-0&quot;</td>
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### Minimum Length of Bearing of Ends of R.C. Beams

<table>
<thead>
<tr>
<th>DESIGN OF COVER</th>
<th>S</th>
<th>MIN. BEARING</th>
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<td>10&quot;-1&quot;-12&quot;-0&quot;</td>
<td>30&quot;</td>
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</tbody>
</table>
GENERAL NOTES:

1. IN THE CASE OF STORM SEWER SUPPORTS PER CASE 1, 2 OR 3 OF THIS STANDARD, THE SEWER SHALL BE ENCASED PER THE SECTION E-E, AND THE SUPPORT SHALL BE LENGTHENED AND WIDENED TO FULLY SUPPORT SUCH ENCA SEMENT.

2. ANY OF THE CASES SHOWN ON THIS STANDARD MAY BE USED AT THE CONTRACTOR'S OPTION UNLESS OTHERWISE SHOWN ON THE PROJECT DRAWING.

3. THE MINIMUM LENGTHS OF BEARING SHOWN AT THE ENDS OF R.C. BEAMS, CAST IRON AND STEEL PIPES SHALL BE INCREASED IF SO DIRECTED BY THE ENGINEER.

4. "S" IN ALL CASES EQUALS THE SPAN OF THE PIPE SUPPORT MEASURED ALONG ITS CENTERLINE BETWEEN THE SIDES OF THE TRENCH OR TO CENTERLINE OF COLUMN SUPPORTS.


CASE 1 NOTES:

1. WIDTH OF BEAM SHALL BE OUTSIDE DIAMETER OF PIPE PLUS 2".

2. REINFORCING STEEL SHALL BE PLACED 1 1/2" CLEAR FROM THE SIDES AND BOTTOMS OF BEAMS.

3. IF BEAMS ARE PRECAST, ENDS OF BEAMS SHALL BE BEDDED IN 1:3:5 MIX CONCRETE TO EDGE OF TRENCH.

4. 1:2 MIX MORTAR SHALL BE PLACED BETWEEN TOP OF BEAMS AND BOTTOM OF PIPE TO GIVE BEARING.

CASE 2 NOTES:

1. SUPPORTING WALL SHALL HAVE A FIRM BEARING ON THE SUBGRADE AND AGAINST THE SIDES OF THE EXCAVATION.

2. WALL SHALL BE AT LEAST 2" FREE AND CLEAR OF GAS OR WATER MAIN OR OTHER CONDUIT OR DUCT.

3. EITHER TYPE A OR TYPE B CROSS SECTION MAY BE USED AT CONTRACTOR'S OPTION.


CASE 3 NOTES:

1. CLASS 2000-D SPUN REINFORCED CONCRETE PIPE OF THE SAME DIAMETER AS EXISTING PIPE MAY BE USED ONLY WHERE WIDTH OF TRENCH IS 5'-0" OR LESS.

CITY OF BLYTHE

PIPE SUPPORTS ACROSS TRENCHES

STANDARD DRAWING NO. SD-531A
COAT ENTIRE COVER AND VAULT INTERIOR W/50 MIL HIGH BUILD POLYURETHANE, SANCON, OR APPROVED EQUAL

CASTING SHALL DISPLAY "A/V" ON THE TOP ON THE LID

VALVE CAN WITH LID

4'-6" x 6'-6" BROOKS VAULT, OR APPROVED EQUAL

(2) STAINLESS STEEL PLUG VALVES W/2" OPERATING NUT

SCHEDULE 80 SOLVENT WELD OR THREADED PVC PIPE AND FITTINGS (USE DEB 90° S SWING JOINT)

EPOXY COATED SADDLE W/SS 7WARE

DEPTH OF PIPE PER PLANS MIN. DEPTH 48"

FORCE MAIN (SIZE PER PLAN)

STAINLESS STEEL BODY AND TRIM SEWAGE COMBINATION AIR-VALVE APCO SERIES 440, OR APPROVED EQUAL

CONTRACTOR TO MINIMIZE HEIGHT OF STRUCTURE AS SHOWN ON DETAIL AND REGRADE SHOULDER TO MAINTAIN FLOWS AROUND VAULT

AIR RELEASE VALVE

EXISTING GRADE H-20 COVER

STAINLESS STEEL PLUG VALVE W/LEVER, OR APPROVED EQUAL. SEE NOTE 3

SCHEDULE 80 PVC

BLOW OFF SIZE SAME AS SEWAGE COMBINATION

SEE NOTE 5

6" THICK 3/4" CRUSHED ROCK BASE

MINIMUM 12"x12"x6" CONCRETE PIPE SUPPORT

PVC - SIZE TO BE SAME AS SIZE OF VALVE INDICATED ON CONSTRUCTION DRAWINGS.

NOTES:

1. ALL ITEMS REQUIRE APPROVAL BY THE CITY OF BLYTHE BEFORE INSTALLATION.

2. STAINLESS STEEL PLUG VALVES W/ 2" OPERATING NUT SHALL BE WRAPPED W/10 MIL. POLYETHYLENE MEMBRANE.

3. FRP OR NON-CORROSION DIAPHRAGM, PLUG OR STAINLESS STEEL BALL VALVES MAY BE SUBSTITUTED FOR VALVE INDICATED ABOVE.

4. SECURE WITH STRUT AND U-BOLT, GALVANIZED. USE 3/8" STAINLESS STEEL HILTI QUIK STUDS, 2 EACH AT EACH WALL FACE.

5. DISCHARGE TO ADJACENT SEWER MANHOLE MAY BE PERMITTED WITH CITY OF BLYTHE APPROVAL.

CITY OF BLYTHE
AIR RELEASE AND AIR VACUUM ASSEMBLY
STANDARD DRAWING NO. SFM–701A
- TYPAR TYPE 3401 GEOTEXTILE FABRIC, OR APPROVED EQUAL
- EARTH FILTER FOR AIR RELEASE GASES
- NATIVE BACKFILL
- SCH. 80 PVC PERFORATED PIPE
  1/4" PERFORATIONS @ 1" O.C.
  ON BOTTOM OF PIPE
- 3/4" CRUSHED ROCK
- SLOPE CAP
- 20' LONG X 1'-6" WIDE TRENCH

CITY OF BLYTHE

MODIFIED AIR RELEASE AND AIR VACUUM ASSEMBLY DETAIL

STANDARD DRAWING NO. SEM-701R