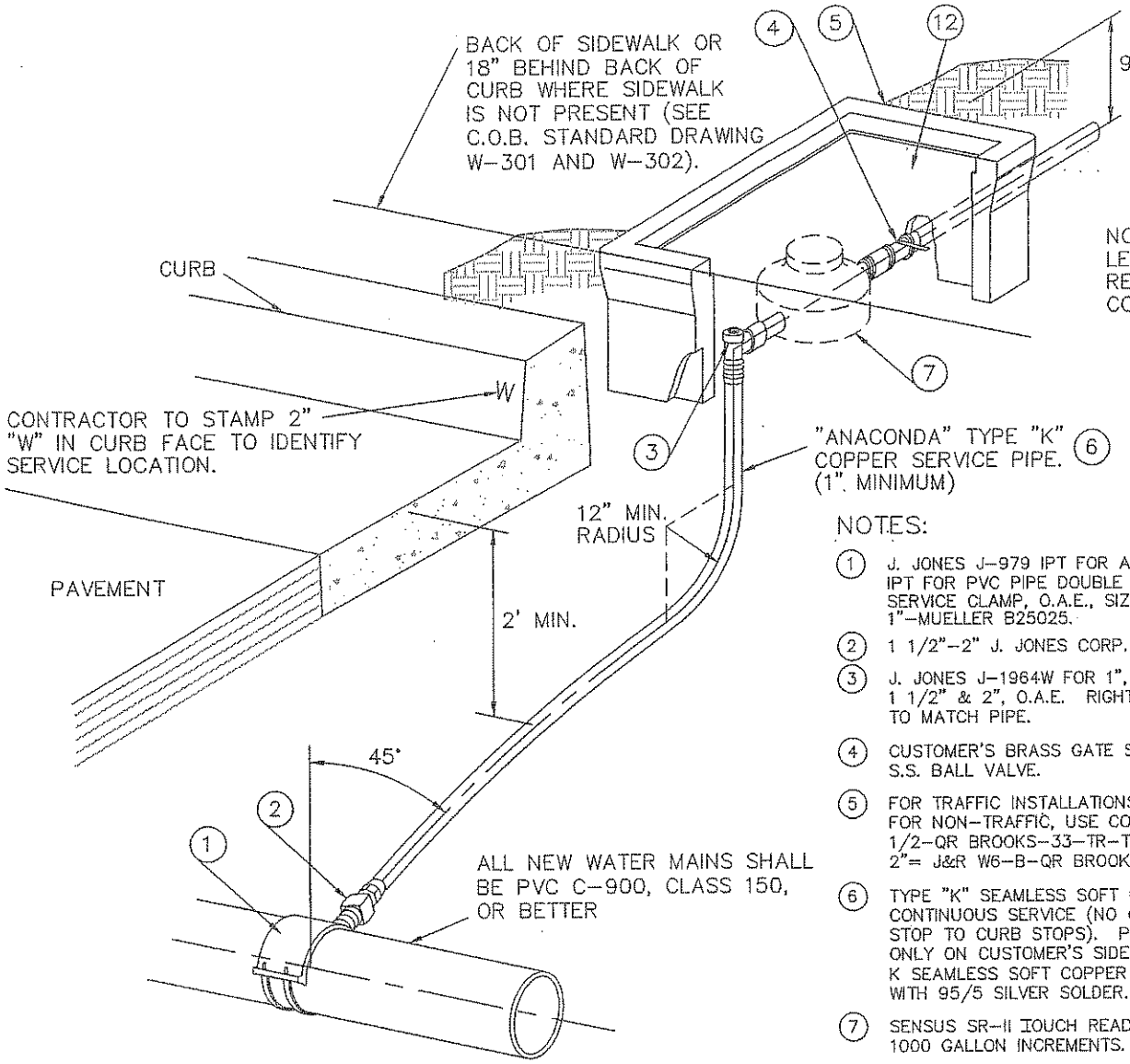
CITY OF BLYTHE

STANDARD SPECIFICATIONS

2000

(PART B)



NOTE:
LEATHER WASHERS REQUIRED AT METER COUPLINGS.

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 B25025.
2. 1 1/2"-2" J. JONES CORP. STOP J-1929, O.A.E.
3. J. JONES J-1964W 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, LID FOR NON-TRAFFIC, USE CONCRETE LID. 1"= J&R 4-1/2-QR BROOKS-33-TR-TOUCH READ; 1 1/2" & 2"= J&R W6-B-QR BROOKS-66B-TR-TOUCH READ.
6. TYPE "K" SEAMLESS SOFT 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 SOFT COPPER WELDED COUPLINGS WITH 95/5 SILVER SOLDER.
7. SENSUS SR-II IOUCH 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 PERPEN-DICULAR 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 "C" (S-208B) CURB IS USED.

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No. 27943
Exp. 3-31-02
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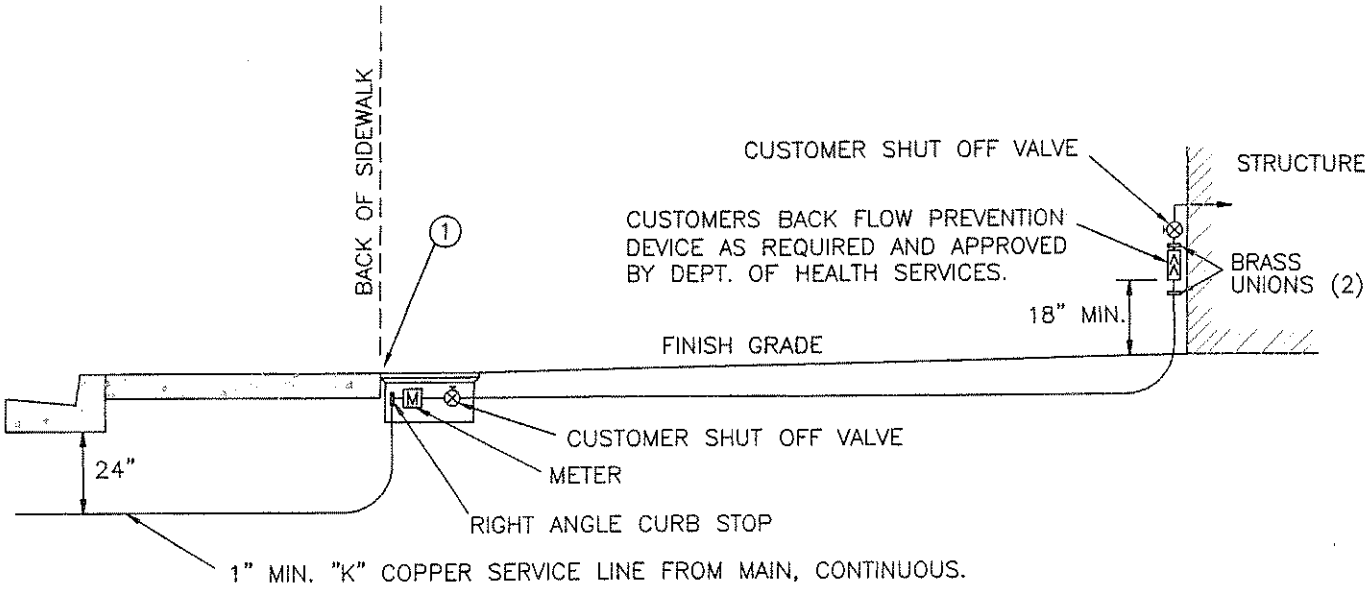
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CITY OF
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WATER METER INSTALLATION
1" TO 2"

STANDARD DRAWING NO. W-300



NOTES:

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

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NOTE:
ALL PLUMBING AND/OR FIXTURES WHICH ARE EXPOSED TO THE ELEMENTS SHOULD BE PROTECTED FROM FREEZING

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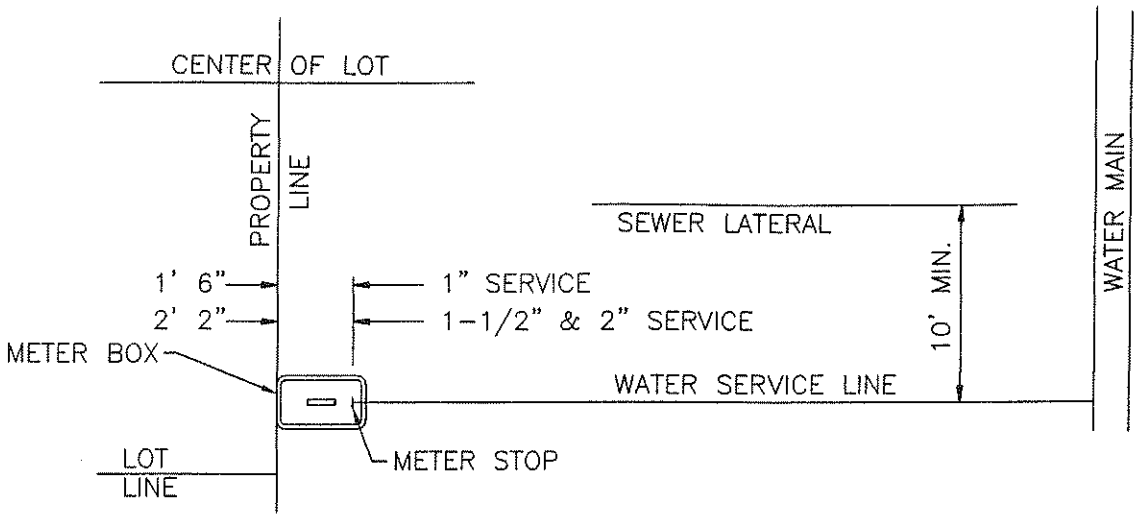
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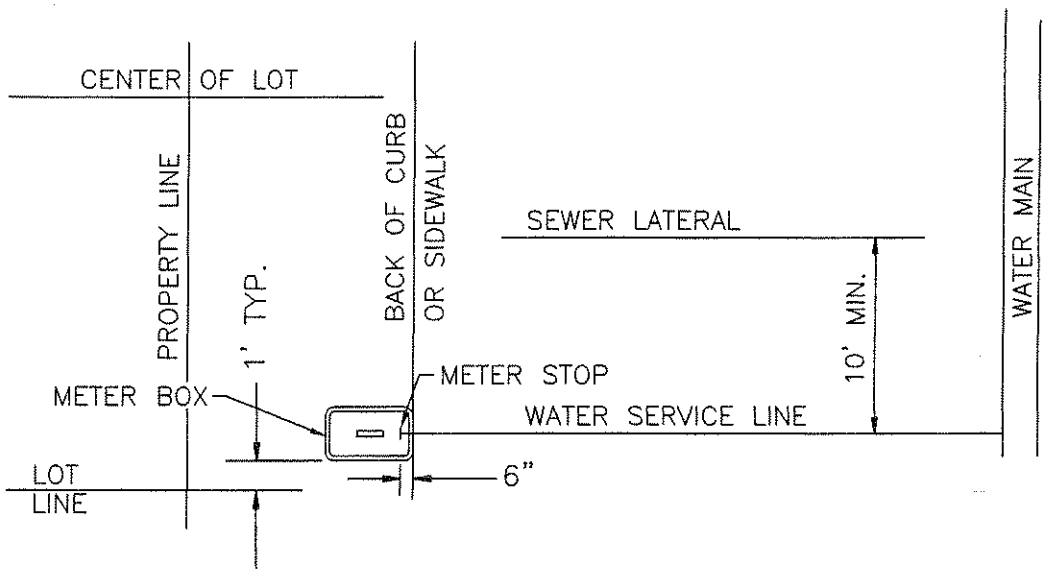
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SINGLE LINE DRAWING
CUSTOMER WATER SERVICE

STANDARD DRAWING NO. W-301



METER INSTALLATION AT PROPERTY LINE



METER INSTALLATION AT CURB OR SIDEWALK

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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.

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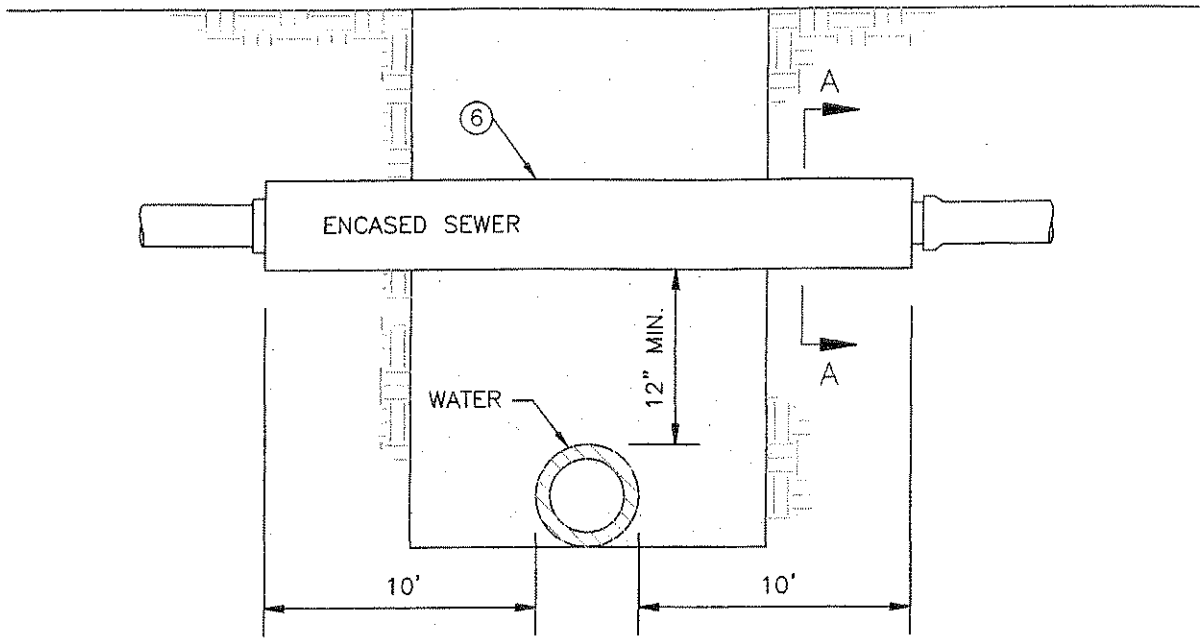
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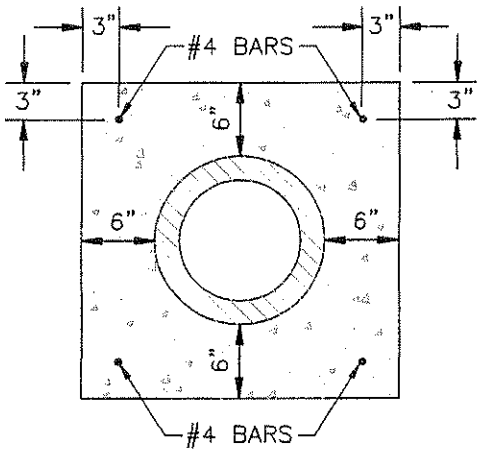
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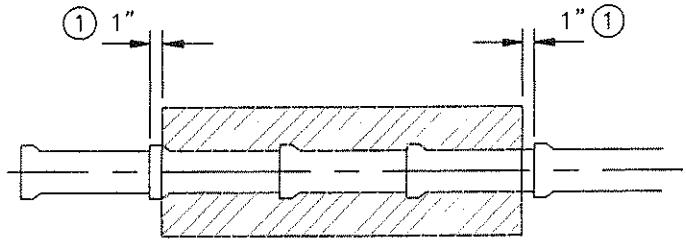
GENERAL LOCATION OF LOT SERVICES

STANDARD DRAWING NO. W-302





SECTION A–A



PLAN

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 ENCASEMENT 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 ENCASEMENT.

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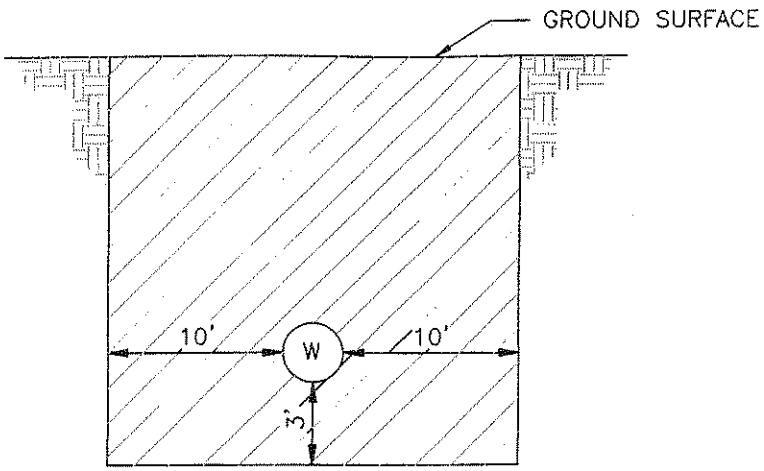
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CONSTRUCTION DETAIL FOR SEWER AND WATER CROSSINGS

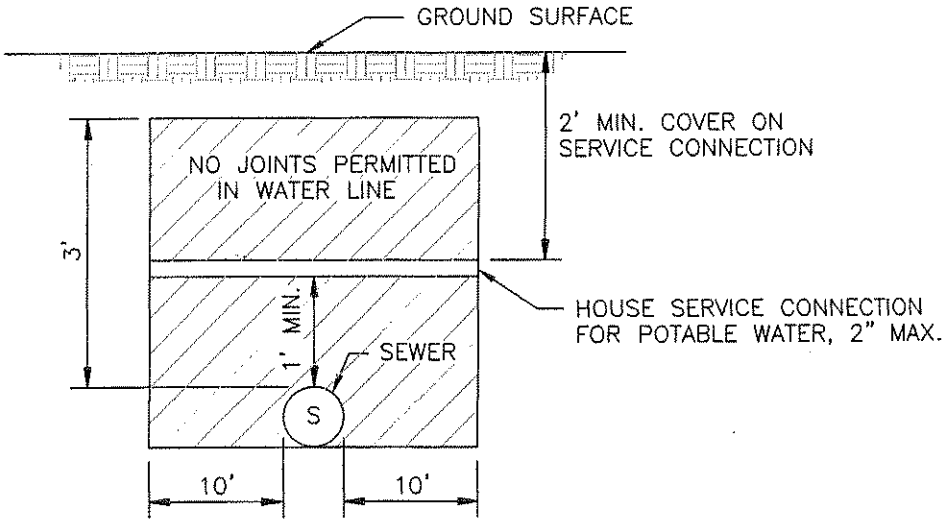
STANDARD DRAWING NO. W–303



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

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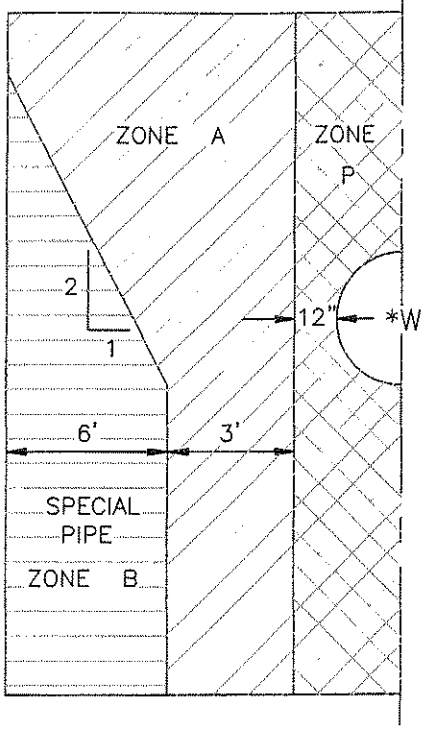
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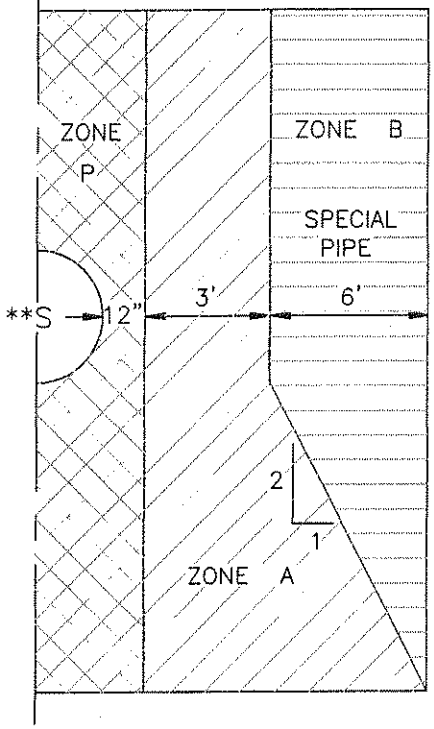
SEPARATION REQUIREMENTS FOR
SEWER AND WATER CROSSINGS

STANDARD DRAWING NO. W-304

CASE-1
NEW SEWER



CASE-2
NEW WATER



*W = EXISTING WATER LINE
**S = EXISTING SEWER LINE

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)

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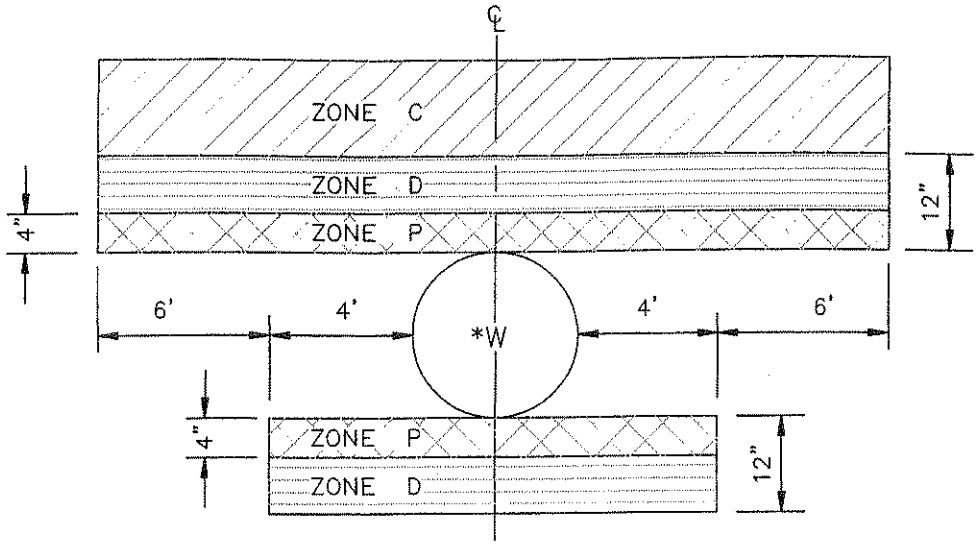
SEPARATION AND CONSTRUCTION REQUIREMENTS FOR SEWER & WATER LINES (PARALLEL CONSTRUCTION)

STANDARD DRAWING NO. W–304A

CASE 1 – NEW SEWER

ZONE	SPECIAL CONSTRUCTION
P	CONSTRUCTION PROHIBITED
D	CONSTRUCTION PROHIBITED
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

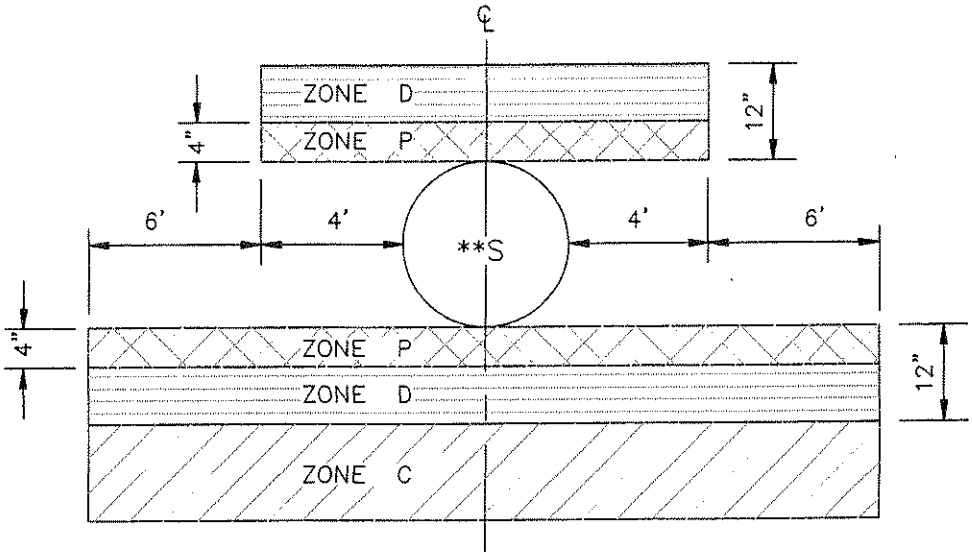


CASE–1
NEW SEWER
*W= EXISTING WATER

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

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CASE 3 – NEW WATER SERVICE

ZONE	SPECIAL CONSTRUCTION
C	COPPER – NO JOINTS

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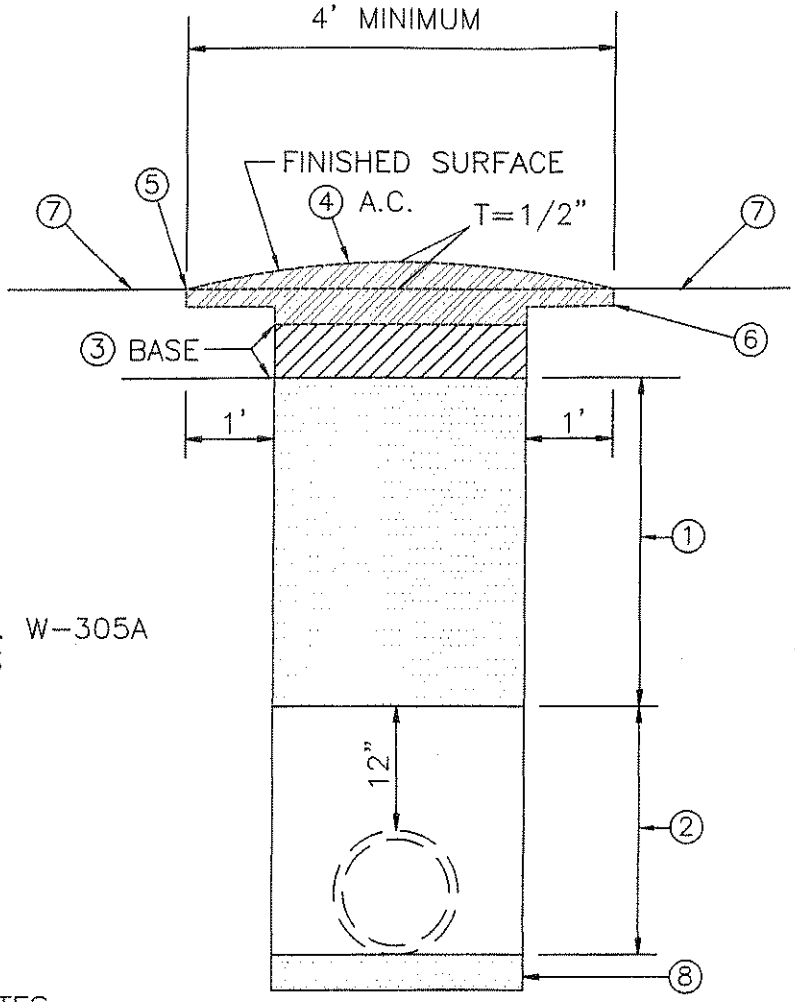
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SEPARATION AND CONSTRUCTION REQUIREMENTS FOR SEWER AND WATER LINES (CROSSING)

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.

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CITY OF
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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 MID POINT 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.

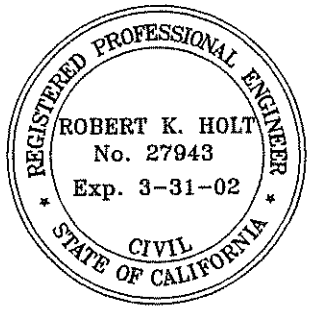
LABORATORY MAXIMUM DENSITY
METHOD 1: LABORATORY MAXIMUM DENSITY OF SOIL SHALL BE DETERMINED BY ASTM D1557-91 MODIFIED BY USING THREE LAYERS INSTEAD OF FIVE LAYERS. (COMPACTIVE EFFORT EQUALS 33,750 FT-LBS PER CUBIC FOOT.)

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.



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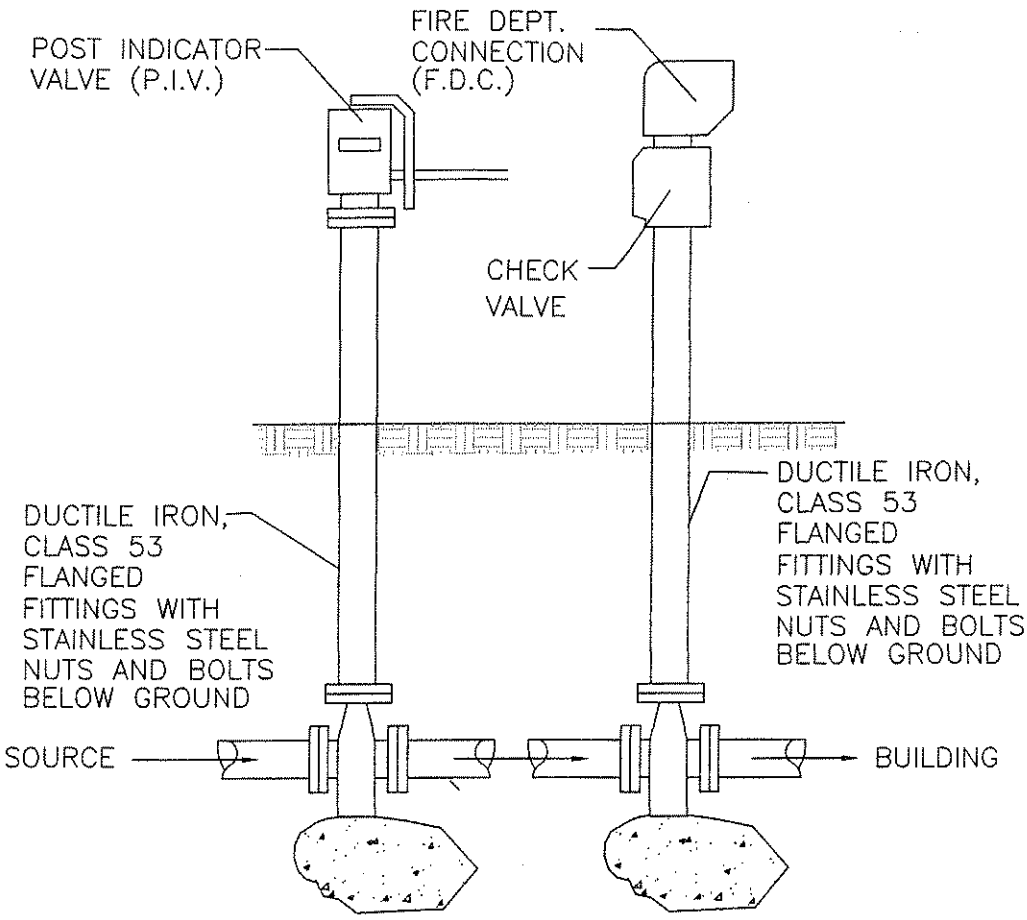
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CITY OF
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TRENCH REPLACEMENT

STANDARD DRAWING NO. W-305A



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.

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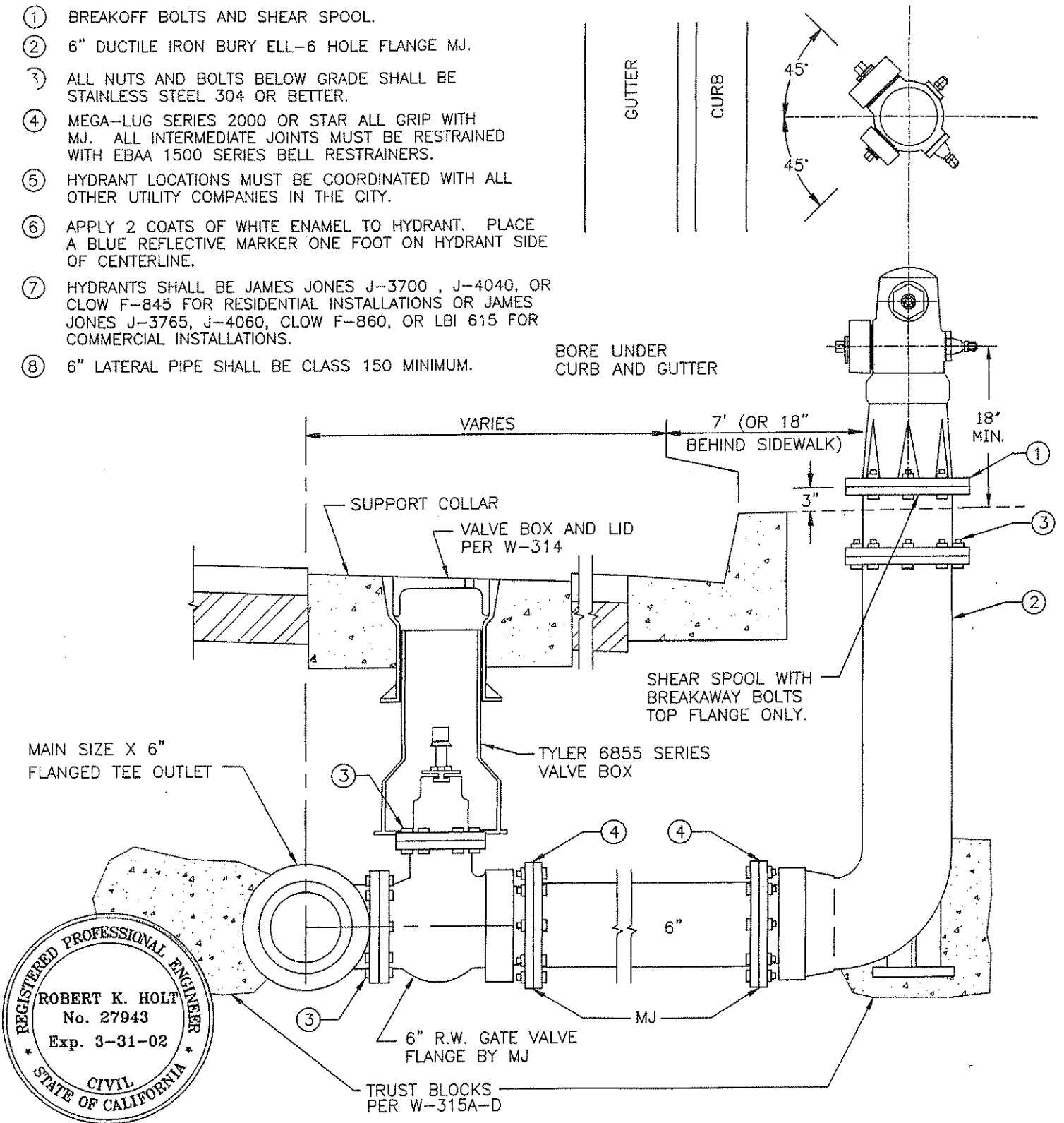
CITY OF
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FDC/PIV INSTALLATIONS

STANDARD DRAWING NO. W-306

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.



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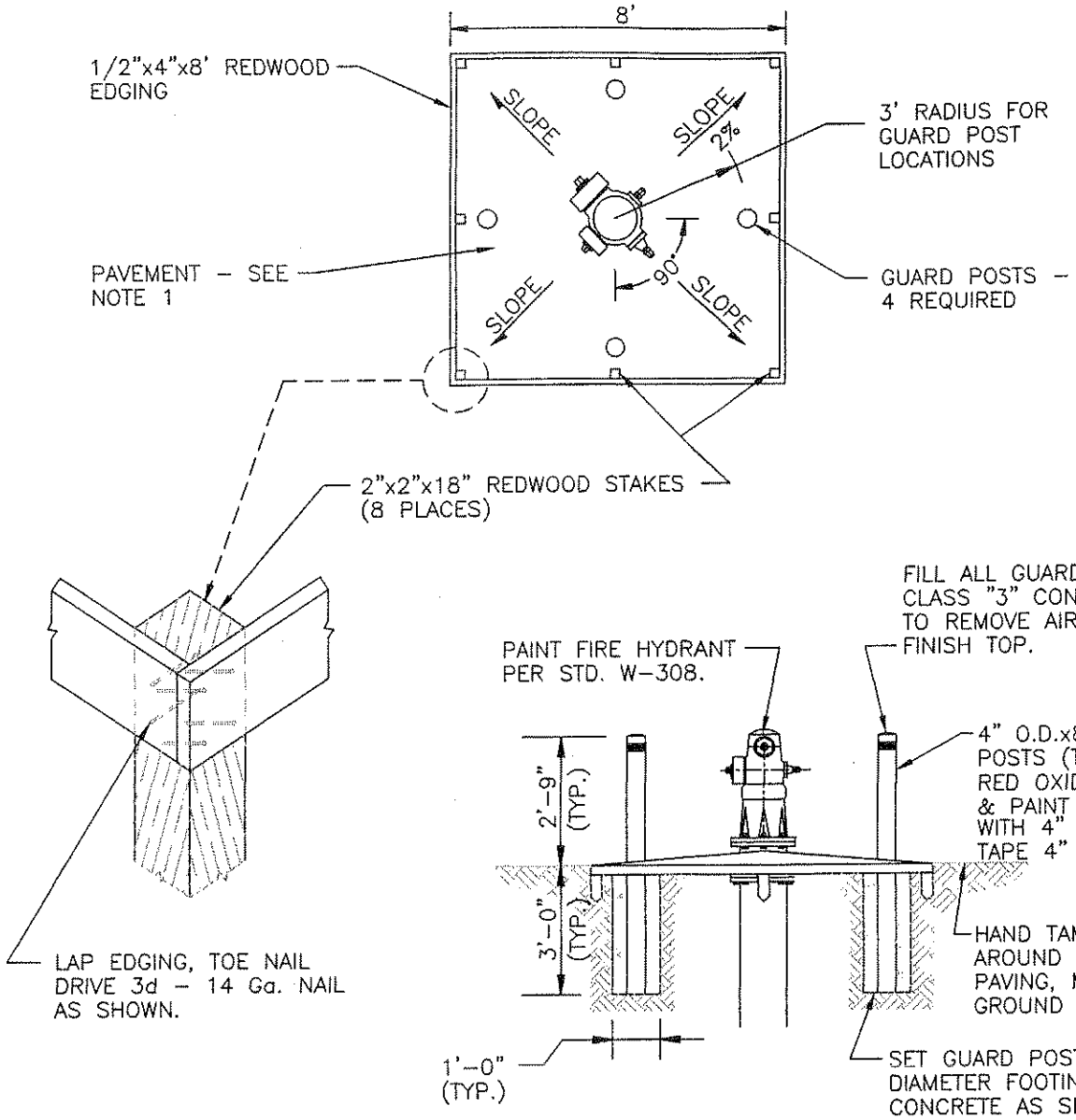
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CITY OF

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FIRE HYDRANT INSTALLATION

STANDARD DRAWING NO. W-308



NOTES:

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.

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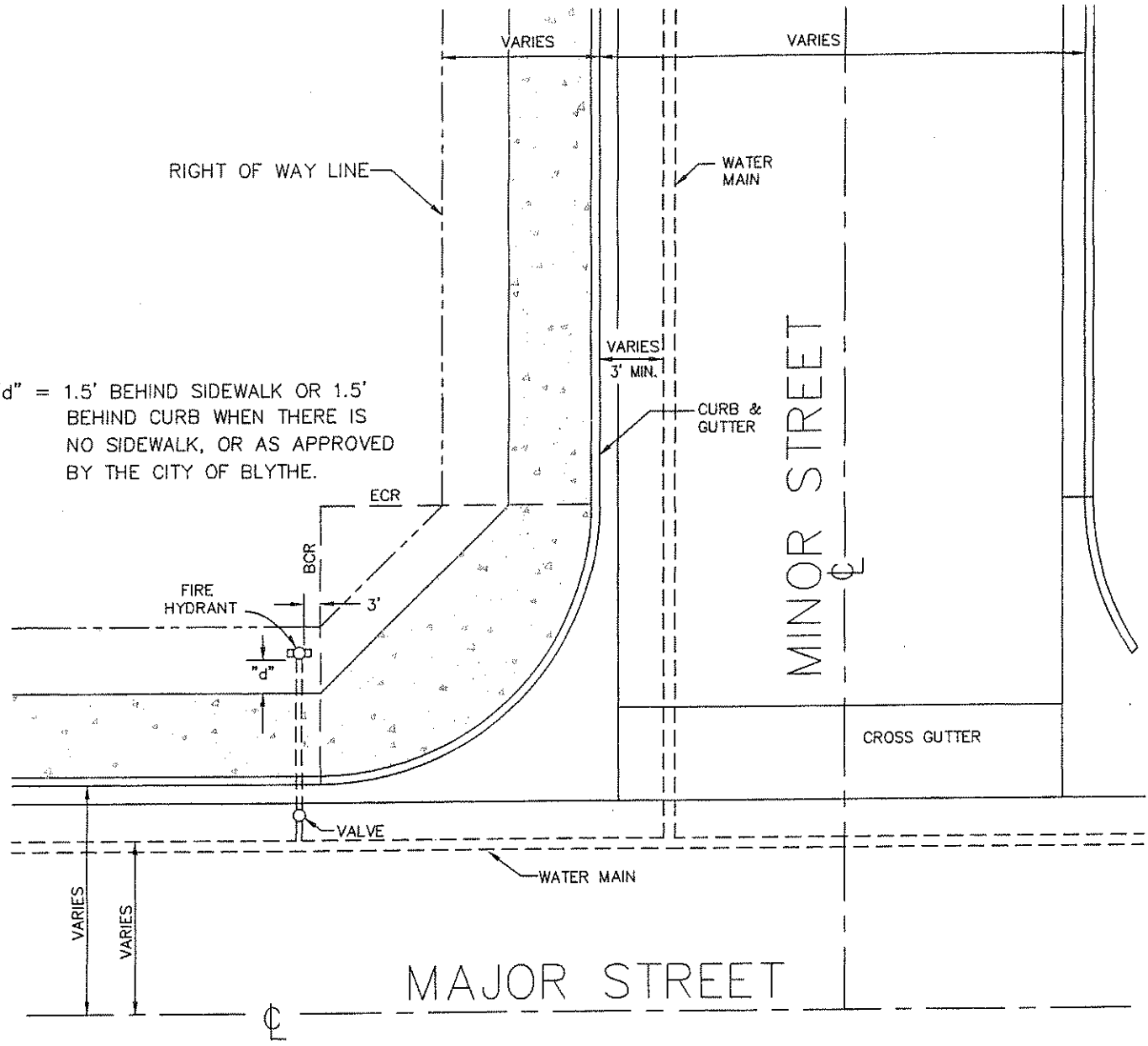
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FIRE HYDRANT INSTALLATION FOR UNIMPROVED AREAS

STANDARD DRAWING NO. W–309



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.

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BLYTHE

FIRE HYDRANT LOCATION

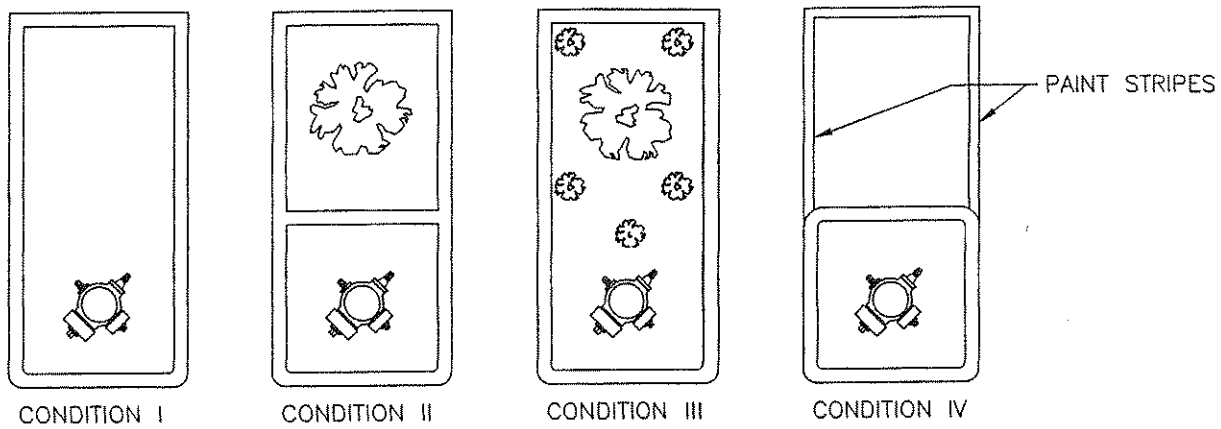
STANDARD DRAWING NO. W-310

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.



SCHEMATIC EXAMPLES, TYPES OF RAISED AREAS.

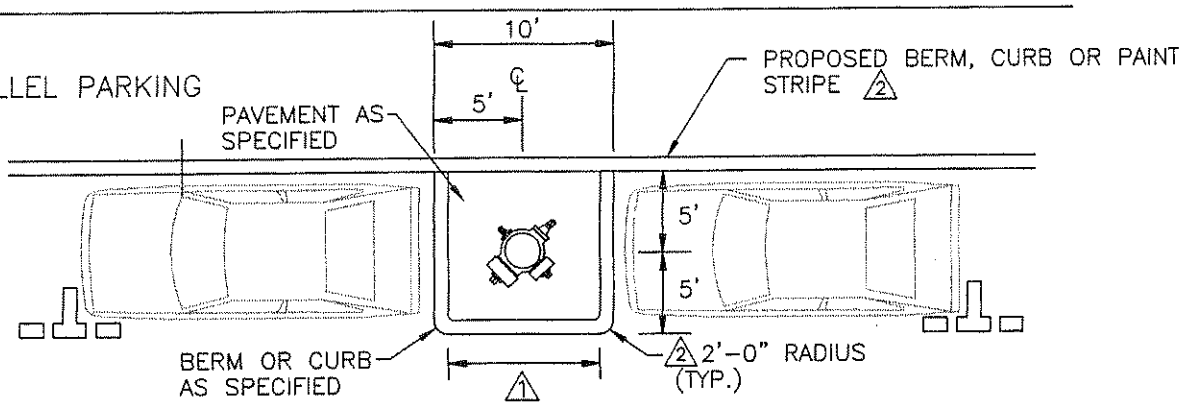
TYPES OF BERM OR CURB

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:



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

2 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.

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

APPROVED: CITY ENGINEER
Robert K. Holt DATE 8/31/00
ROBERT K. HOLT, P.E.

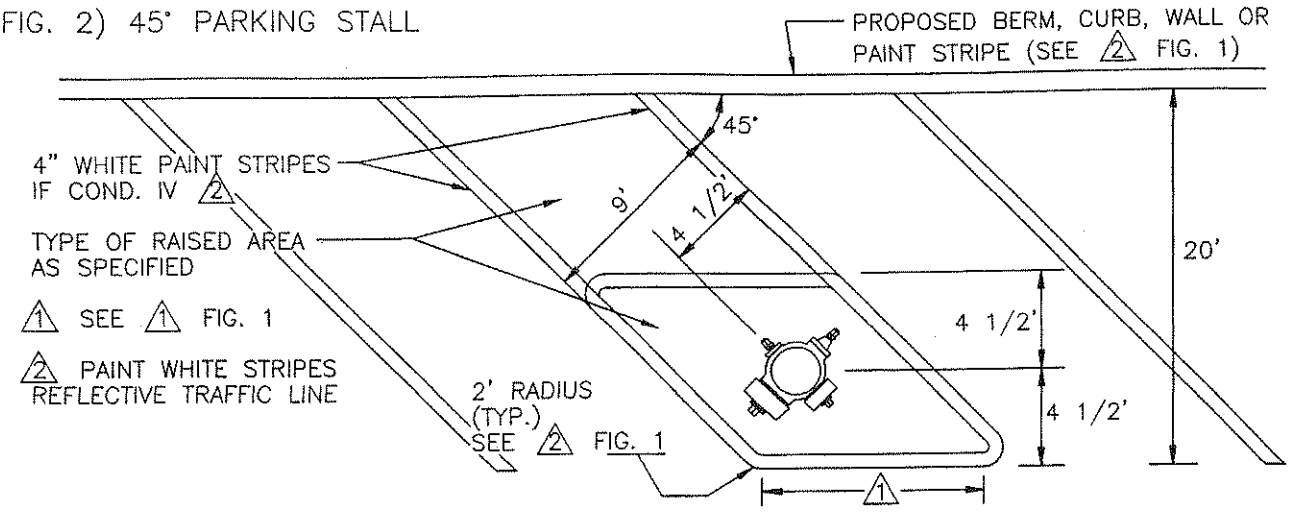
REVISION	BY	DATE

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BLYTHE

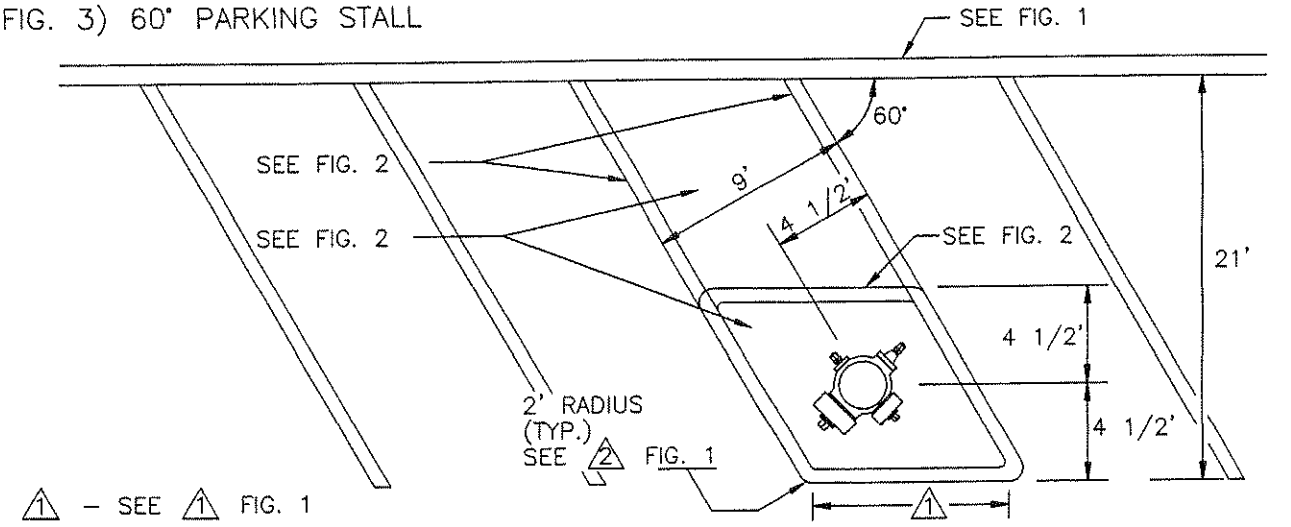
FIRE HYDRANT INSTALLATION FOR PARKING AREAS

STANDARD DRAWING NO. W-310A

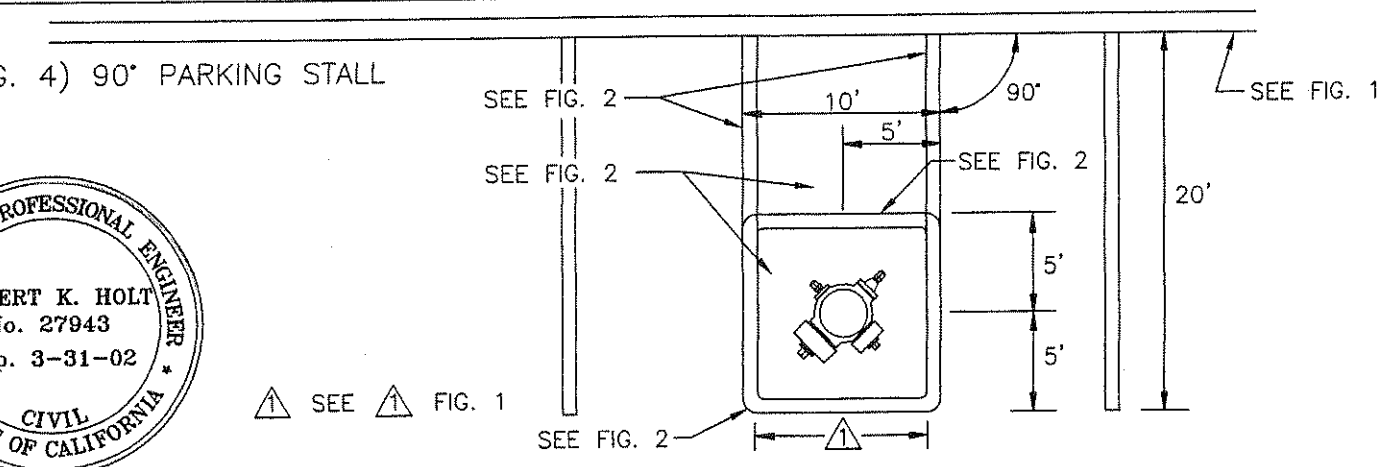
(FIG. 2) 45° PARKING STALL



(FIG. 3) 60° PARKING STALL



(FIG. 4) 90° PARKING STALL



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JAMES W. RODKEY, JR.

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Robert K. Holt DATE 8/31/00

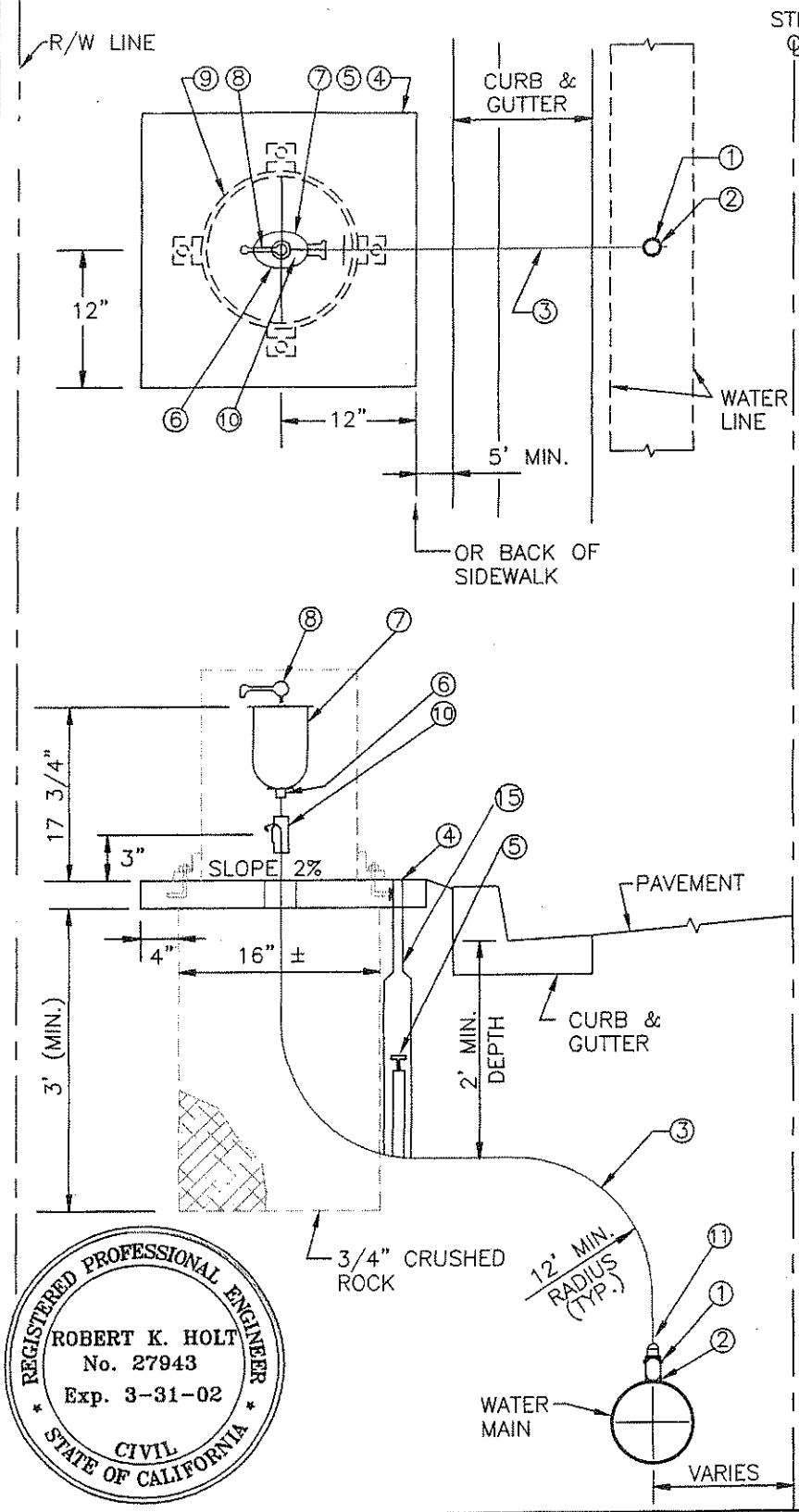
ROBERT K. HOLT, P.E.

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FIRE HYDRANT INSTALLATION FOR PARKING AREAS

STANDARD DRAWING NO. W-310B



NOTES:

① CORPORATION STOP 1"–MUELLER B25025 CORPORATION STOP & 2" J. JONES 1929 IPT.

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–312B.

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–S 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.

⑫ CONCRETE SHALL BE CLASS "3" CONCRETE WHICH SHALL ATTAIN A 28–DAY COMPRESSIVE STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C39M–99.

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.

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JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER

Robert K. Holt DATE 8/31/00

ROBERT K. HOLT, P.E.

	BY	DATE

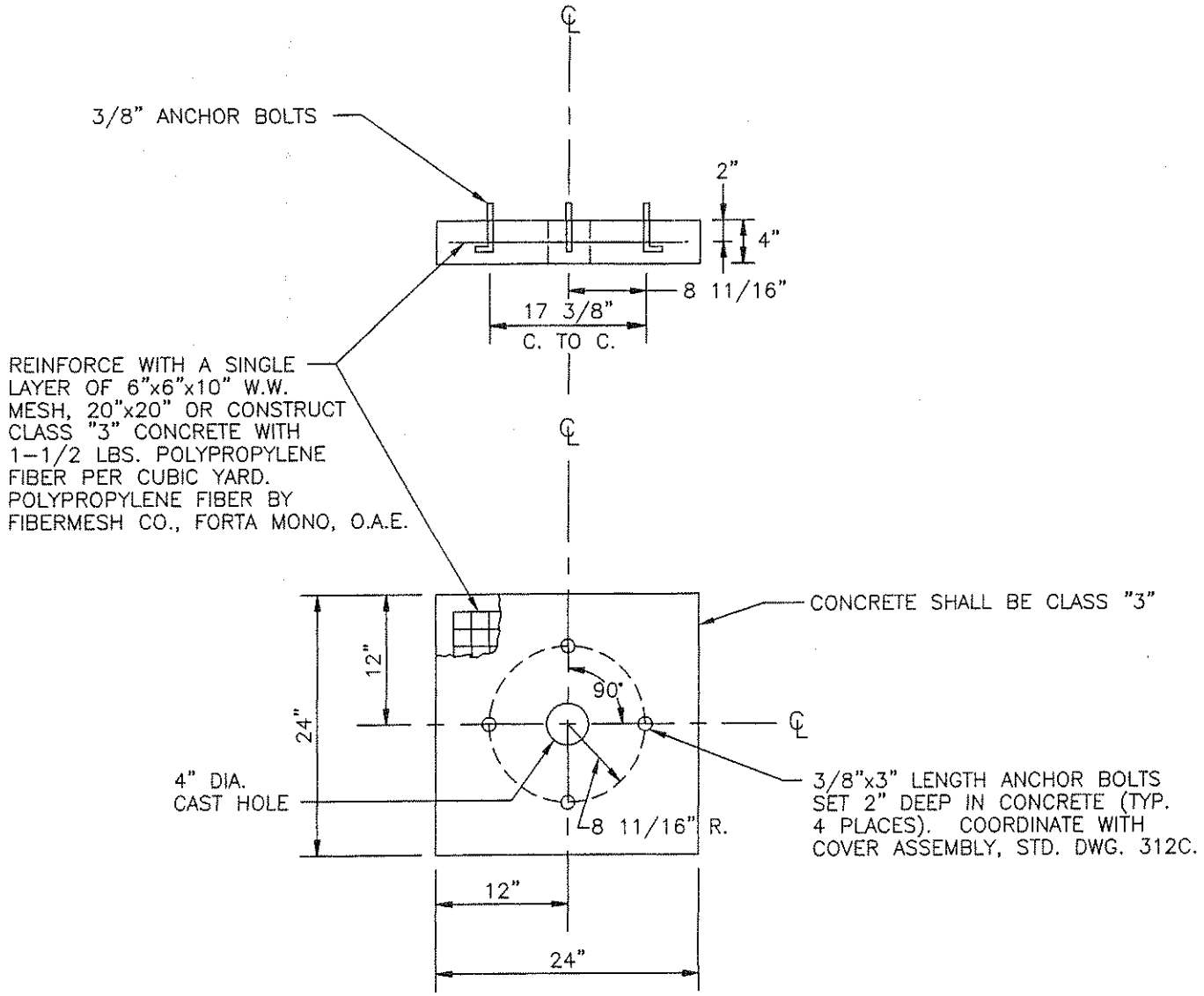
REVISION

CITY OF

BLYTHE

STANDARD AIR AND VACUUM RELEASE ASSEMBLY

STANDARD DRAWING NO. W–312A



BASE ASSEMBLY

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

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.

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

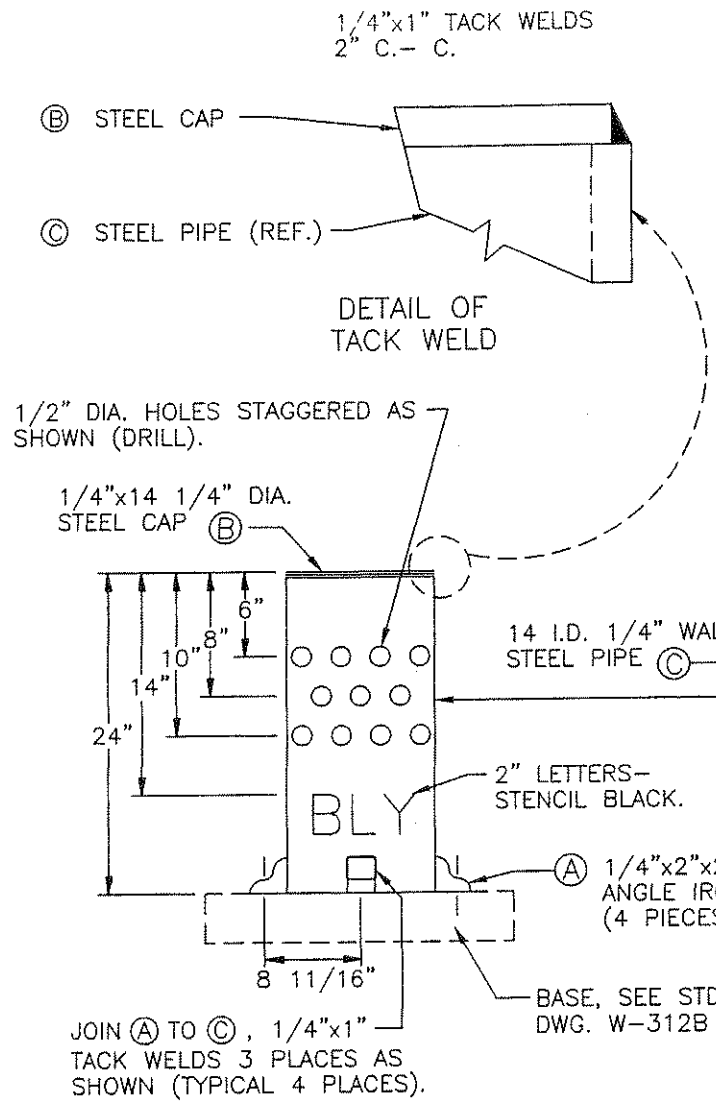
APPROVED: CITY ENGINEER
Robert K. Holt DATE 8/31/00
ROBERT K. HOLT, P.E.

REVISION	BY	DATE

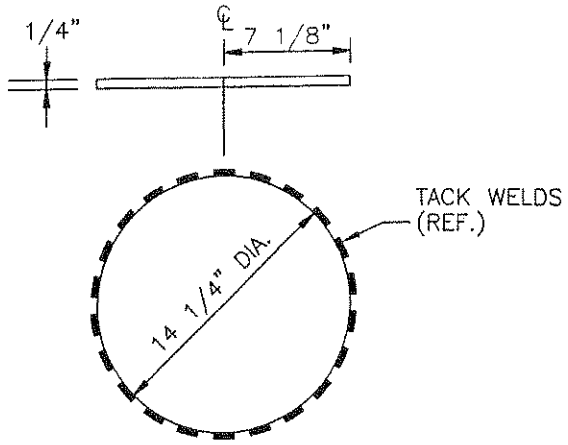
CITY OF
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STANDARD AIR AND VACUUM RELEASE ASSEMBLY BASE

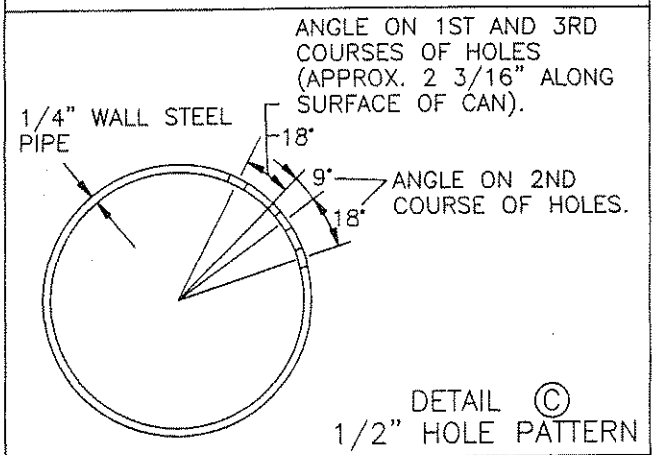
STANDARD DRAWING NO. W-312B



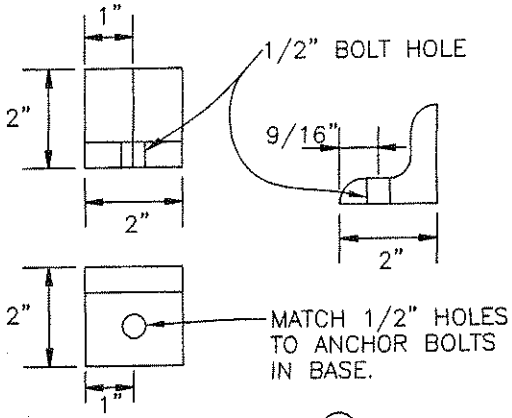
DETAIL
COVER ASSEMBLY



DETAIL Ⓑ
STEEL CAP



DETAIL Ⓒ
1/2" HOLE PATTERN



DETAIL Ⓐ
ANGLE IRON

NOTES:

1. FABRICATION BY CEBE CO., PARAMOUNT, CA; PIPELINE PRODUCTS, SAN MARCOS, CA, O.A.E.
2. PIPELINE PRODUCTS, SAN MARCOS, CA PART #: 1" & 2"–VC–316D
   4"–VC–324D
   6"–VC–330D, 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.

REGISTERED PROFESSIONAL ENGINEER
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Exp. 3-31-02
CIVIL
STATE OF CALIFORNIA

APPROVED: PUBLIC WORKS DIRECTOR

James W Rodkey Jr. DATE 9/7/00

JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER

Robert K. Holt DATE 8/31/00

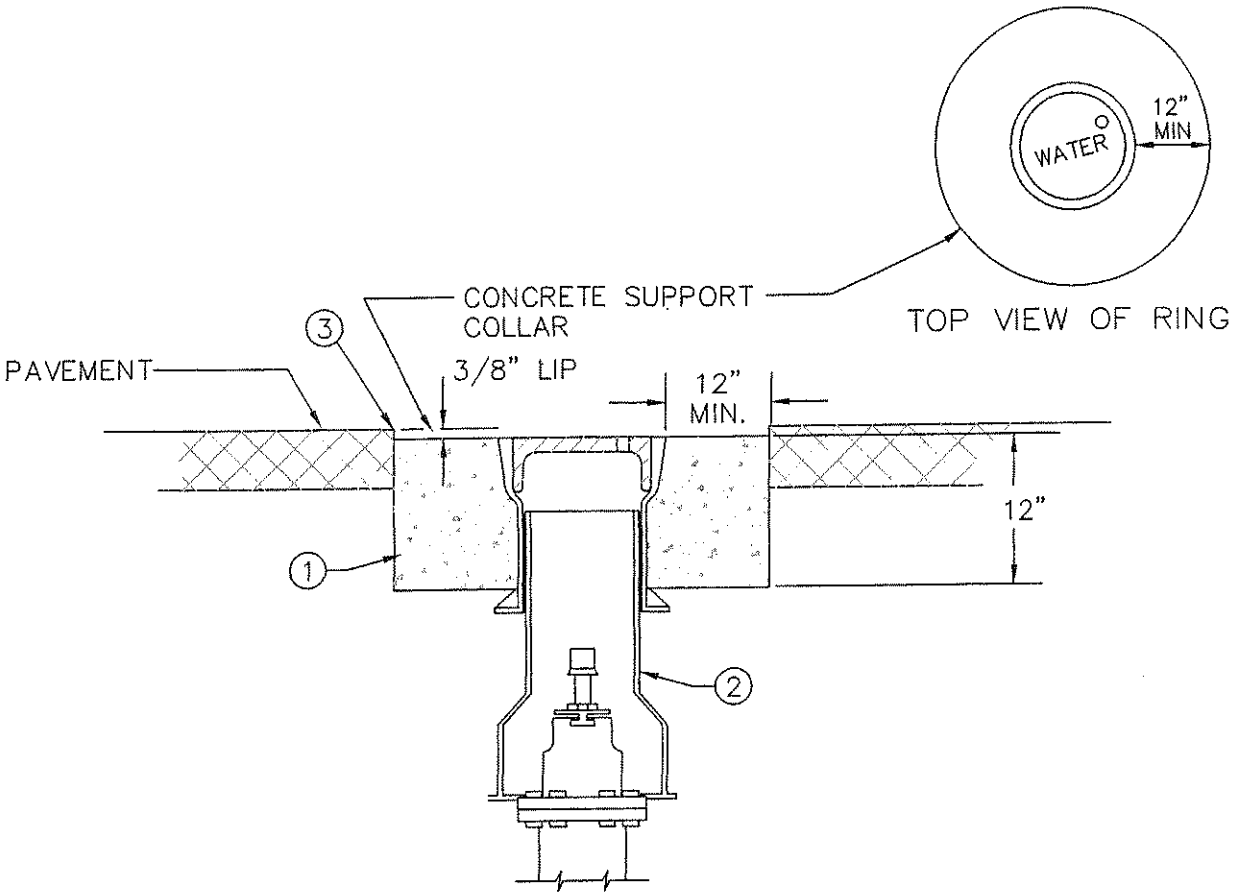
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	BY	DATE

CITY OF
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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.

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JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER
Robert K. Holt DATE 8/31/00
ROBERT K. HOLT, P.E.

REVISION	BY	DATE

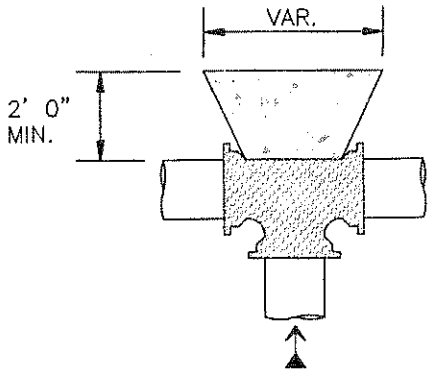
CITY OF
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VALVE OPERATOR WELL INSTALLATION

STANDARD DRAWING NO. W-314

FIG. 1

90° TEE



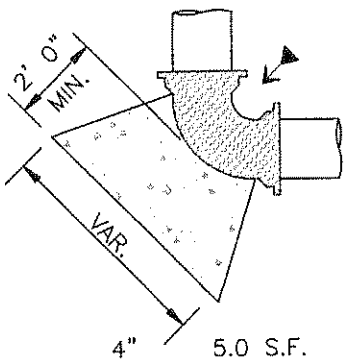
	4"	4.0 S.F.
	6"	8.0 S.F.
	8"	13.0 S.F.
	10"	22.0 S.F.
	12"	31.0 S.F.
*	14"	42.0 S.F.
*	16"	54.0 S.F.

* – DESIGN ENGINEER TO DETERMINE CONFIGURATION

– DIRECTION OF THRUST

FIG. 2

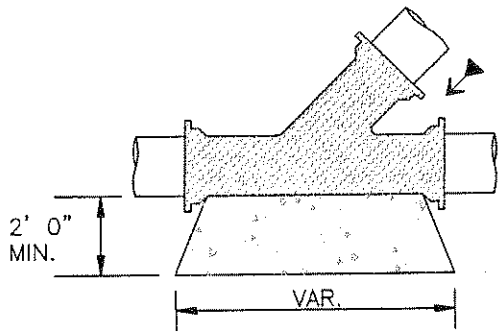
90° BEND



	4"	5.0 S.F.
	6"	11.0 S.F.
	8"	19.0 S.F.
	10"	30.0 S.F.
	12"	43.0 S.F.
*	14"	59.0 S.F.
*	16"	76.0 S.F.

FIG. 3

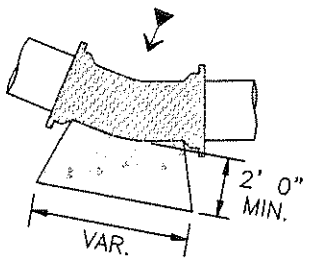
90° TEE



	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.

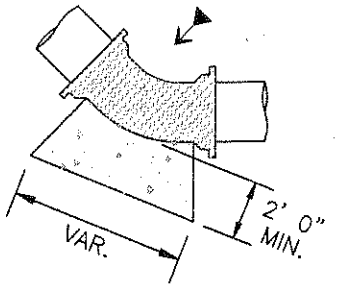
FIG. 4

22 1/2° BEND



	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.

45° BEND



	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.

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Exp. 3-31-02
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SEE STD. DWG. W-315D FOR GENERAL NOTES.

APPROVED: PUBLIC WORKS DIRECTOR

James W Rodkey Jr. DATE 9/7/00

JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER

Robert K. Holt DATE 8/31/00

ROBERT K. HOLT, P.E.

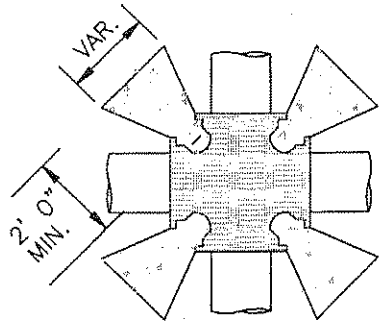
CITY OF
BLYTHE

THRUST
BLOCKING

STANDARD DRAWING NO. W-315A

FIG. 5

CROSS



	4"	2.0 S.F./EA.
	6"	4.0 S.F./EA.
	8"	7.0 S.F./EA.
	10"	11.0 S.F./EA.
	12"	18.0 S.F./EA.
*	14"	21.0 S.F./EA.
*	16"	27.0 S.F./EA.

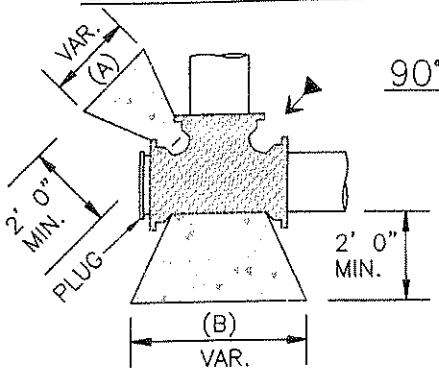
* – DESIGN ENGINEER TO DETERMINE CONFIGURATION

– DIRECTION OF THRUST

FIG. 6

BLIND PLUGGED

90° TEE

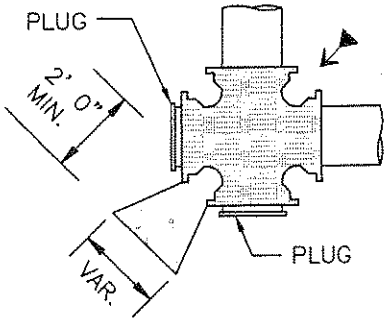


		(A)	(B)
	4"	3.0 S.F.	3.0 S.F.
	6"	5.0 S.F.	5.0 S.F.
	8"	9.0 S.F.	9.0 S.F.
	10"	15.0 S.F.	15.0 S.F.
	12"	21.0 S.F.	21.0 S.F.
*	14"	29.0 S.F.	29.0 S.F.
*	16"	38.0 S.F.	38.0 S.F.

FIG. 7

BLIND DOUBLE PLUGGED

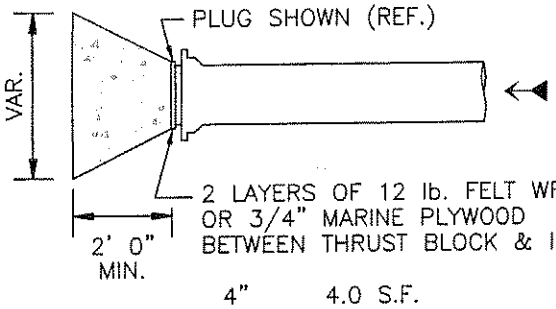
CROSS



	4"	5.0 S.F.
	6"	11.0 S.F.
	8"	19.0 S.F.
	10"	30.0 S.F.
	12"	43.0 S.F.
*	14"	59.0 S.F.
*	16"	76.0 S.F.

FIG. 8

LIVE CAP or PLUG



	4"	4.0 S.F.
	6"	8.0 S.F.
	8"	14.0 S.F.
	10"	22.0 S.F.
	12"	30.0 S.F.
*	14"	42.0 S.F.
*	16"	55.0 S.F.

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ROBERT K. HOLT
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STATE OF CALIFORNIA

SEE STD. DWG. W-315D FOR GENERAL NOTES.

APPROVED: PUBLIC WORKS DIRECTOR

James W. Rodkey Jr. DATE 9/7/00

JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER

Robert K. Holt DATE 8/31/00

ROBERT K. HOLT, P.E.

REVISION	BY	DATE

CITY OF

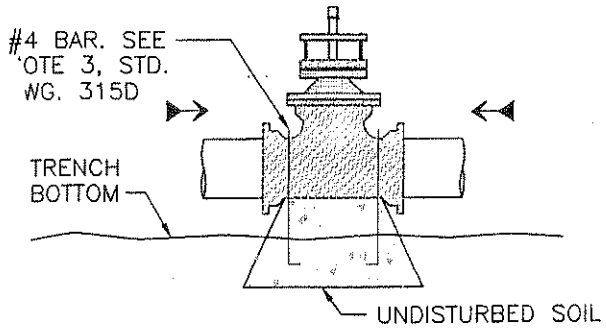
BLYTHE

THRUST BLOCKING

STANDARD DRAWING NO. W-315B

FIG. 9

VALVE ANCHOR BLOCK



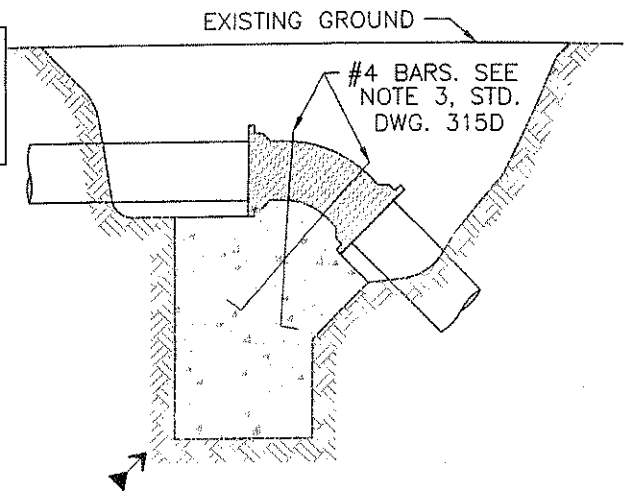
WORKING PRESSURE (P.S.I.)	SIZE OF VALVE REQUIRING ANCHOR
50 – 100	12" & UP
101 – 150	8" & UP
151 – 200	ALL SIZES

FIG. 10

VERTICAL BEND

* – DESIGN ENGINEER TO DETERMINE CONFIGURATION

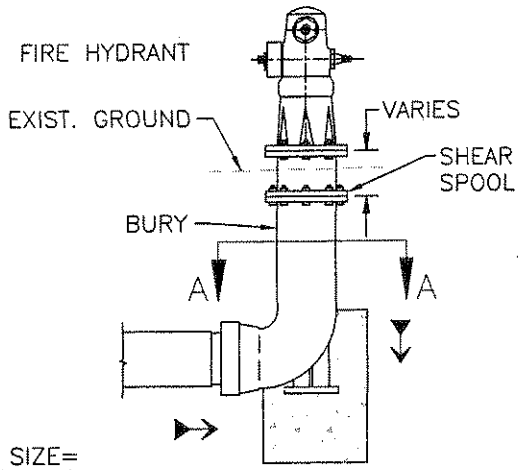
▲ – DIRECTION OF THRUST



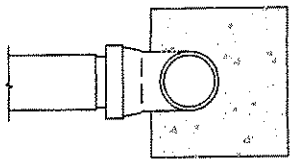
SHAPE AND DIMENSIONS OF FIG. 9 & 10 ANCHOR BLOCKS TO BE DETERMINED BY DESIGN ENGINEER.

FIG. 11

FIRE HYDRANT BURY THRUST BLOCK



BLOCK SIZE=
3' x 3' x 3'

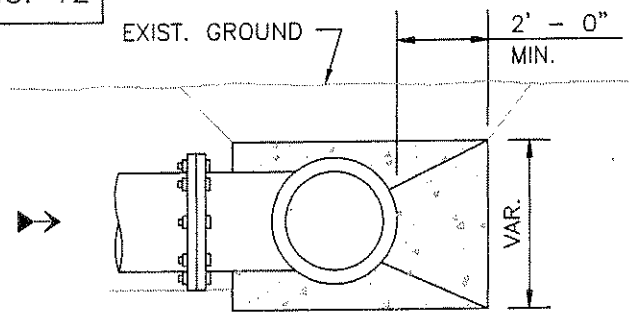


SECTION A – A

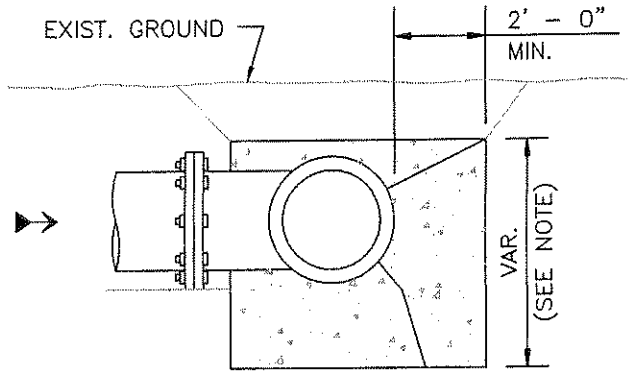
REGISTERED PROFESSIONAL ENGINEER
ROBERT K. HOLT
No. 27943
Exp. 3-31-02
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STATE OF CALIFORNIA

SEE STD. DWG. W-315D FOR GENERAL NOTES.

FIG. 12



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



FOR HIGH PRESSURE AND/OR LARGE DIAMETER PIPE, THE BEARING AREA MAY BE INCREASED, AS SHOWN IN THE ABOVE SKETCH.

APPROVED: PUBLIC WORKS DIRECTOR

James W. Rodkey Jr. DATE 9/7/00

JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER

Robert K. Holt DATE 8/31/00

ROBERT K. HOLT, P.E.

CITY OF
BLYTHE

THRUST BLOCKING

STANDARD DRAWING NO. W-315C

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.

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

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

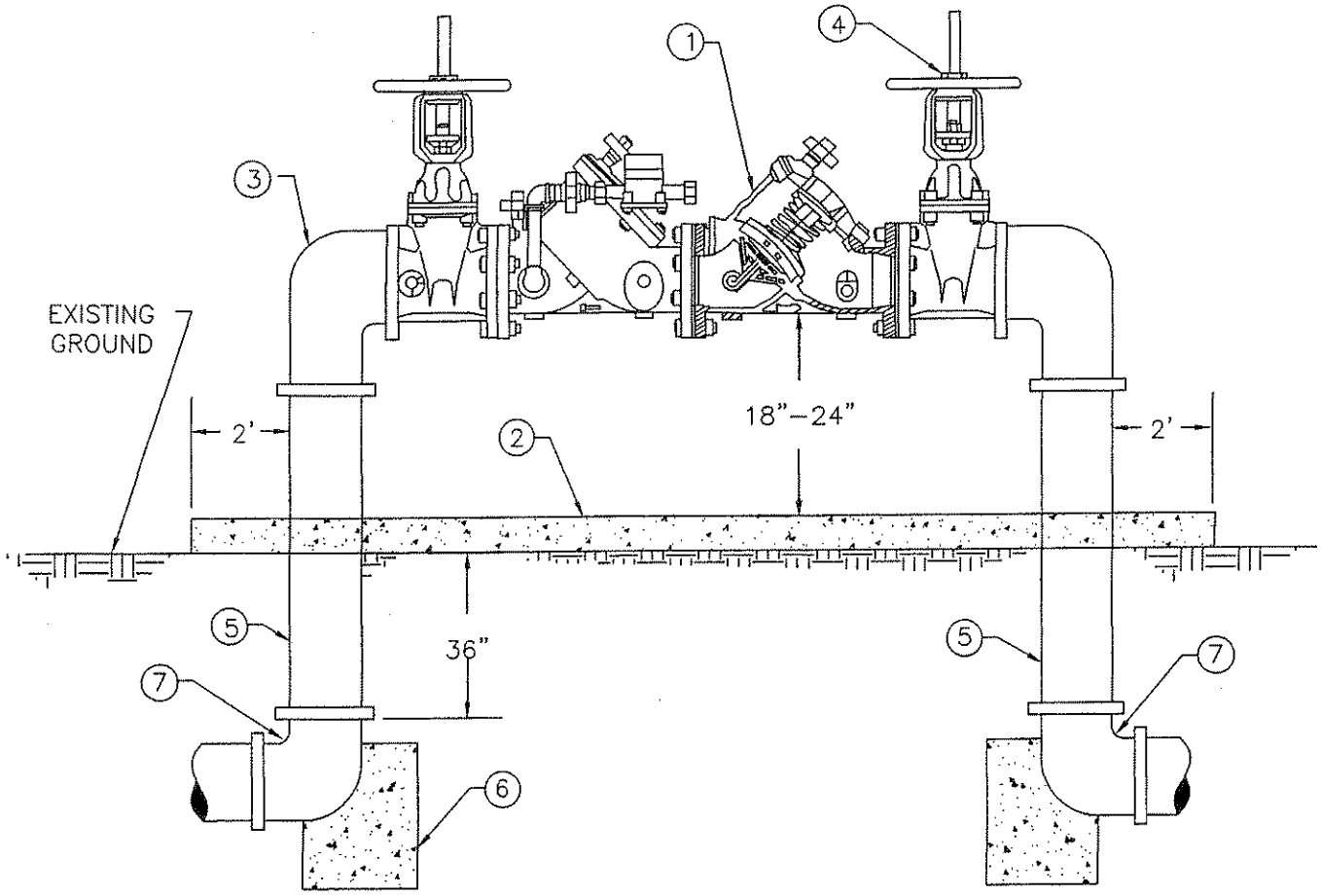
APPROVED: CITY ENGINEER
Robert K. Holt DATE 8/31/00
ROBERT K. HOLT, P.E.

REVISION	BY	DATE

CITY OF
BLYTHE

THRUST
BLOCKING

STANDARD DRAWING NO. W-315D



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 MANUFACTOR).

⑤ DUCTILE IRON–CLASS 52 SPOOL–FLANGE.

⑥ CONCRETE THRUST BLOCK.

⑦ 90° DUCTILE IRON BEND–FLANGED BY MECHANICAL JOINT.

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

APPROVED: PUBLIC WORKS DIRECTOR

James W Rodkey Jr. DATE 9/7/00

JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER

Robert K. Holt DATE 8/7/00

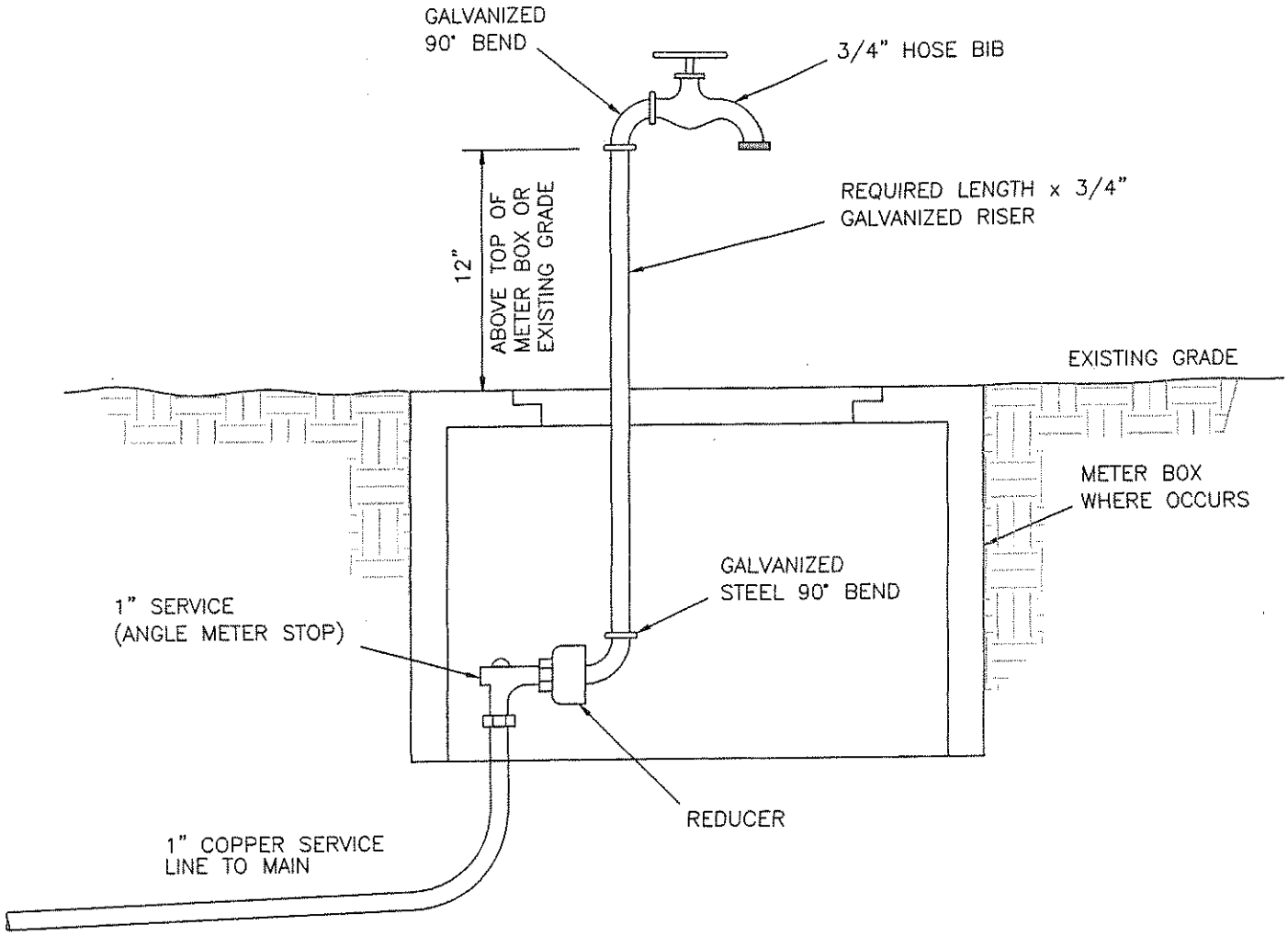
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CITY OF
BLYTHE

2–1/2" THROUGH 10" BACK FLOW CHECK & BY PASS DETECTOR INSTALLATION

STANDARD DRAWING NO. W–316



NOTE:

HOSE BIB TO BE FACING DOWN FOR SAMPLE COLLECTION. CONTRACTOR TO TURN ANGLE METER STOP TO ON POSITION AFTER INSTALLATION OF SAMPLE RISER.

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

APPROVED: PUBLIC WORKS DIRECTOR

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

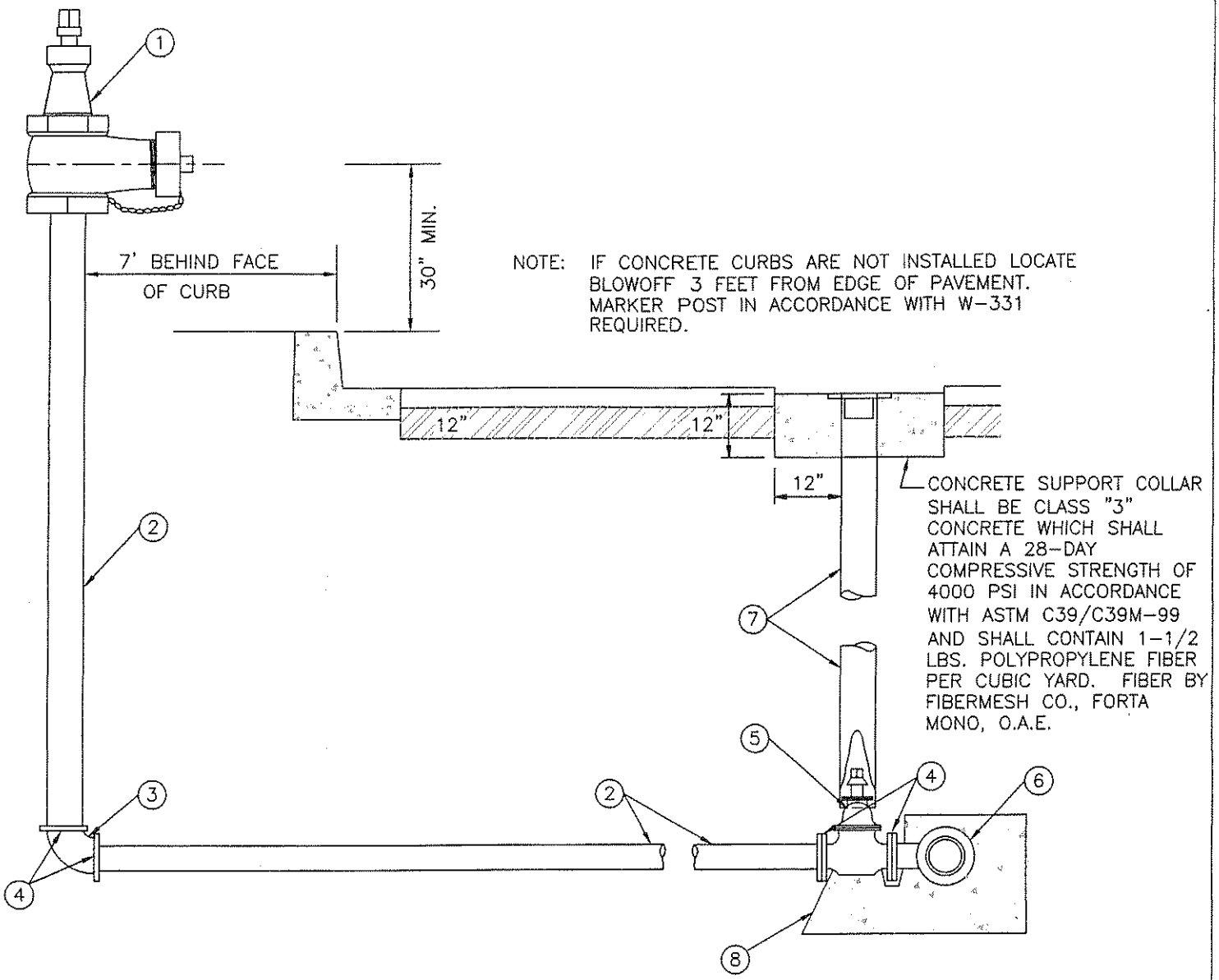
APPROVED: CITY ENGINEER

ROBERT K. HOLT, P.E. DATE 8/31/00

CITY OF
BLYTHE

TEMPORARY BACTERIA SAMPLE RISER

STANDARD DRAWING NO. W-317



ITEM NO.	NO. REQ'D	SIZE & DESCRIPTION	REMARKS
1	1	4"X2-1/2"	JAMES JONES J-344HP OR O.A.E.
2	2	4" x REQUIRED LENGTH OF PIPE	DUCTILE IRON, FLANGED.
3	1	4" x 90° BEND	DUCTILE IRON, FLANGED.
4	1	NUTS AND BOLTS	304 SS MIN.
5	1	4" RESILIENT WEDGE GATE VALVE	FLANGED
6	1	MAIN SIZE x4" TEE(OR REDUCER)	DUCTILE IRON - FLANGED BRANCH
7	1	VALVE COVER	SEE STD. DWG. W-314
8	1	THRUST BLOCK	CLASS "3" CONCRETE

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

APPROVED: PUBLIC WORKS DIRECTOR

James W. Rodkey Jr. DATE 9/7/00

JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER

Robert K. Holt DATE 8/31/00

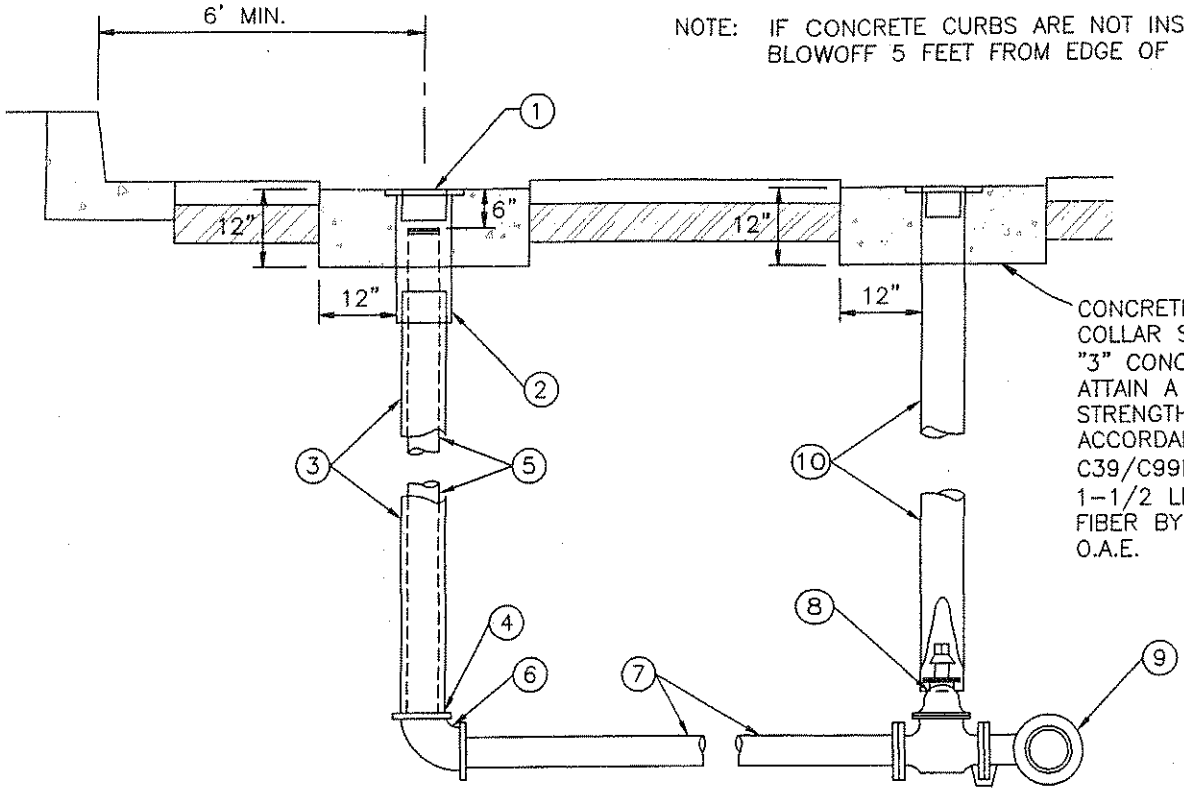
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REVISION	BY	DATE

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 COMPRESSIVE STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C99M AND CONTAIN 1-1/2 LBS. POLYPROPYLENE FIBER BY FIBERMESH CO., O.A.E.

ITEM NO.	NO. REQ'D	SIZE & DESCRIPTION	REMARKS
1	1	12" GATE CAP	MARKED 'WATER'
2	1	12" x 2' – DI PIPE	CL – 50
3	1	10" x REQUIRED DI PIPE	CL – 50
4	1	4" OR 6" COMPANION FLG	SS 304 NUTS AND BOLTS AT ALL FLANGED CONNECTIONS
5	1	4" OR 6" GALVIRON PIPE – LENGTH AS REQUIRED	TBE
6	1	4" OR 6" 90° BEND – DI	FLG
7	1	4" OR 6" x 18 DI PIPE	FLG – CL 50
8	1	4" OR 6" RWGV	FLG
9	1	MAIN x 4" OR 6" TEE OR REDUCER	FLG
10	1	VALVE OPERATOR WELL	SEE STANDARD DRAWING W – 314

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

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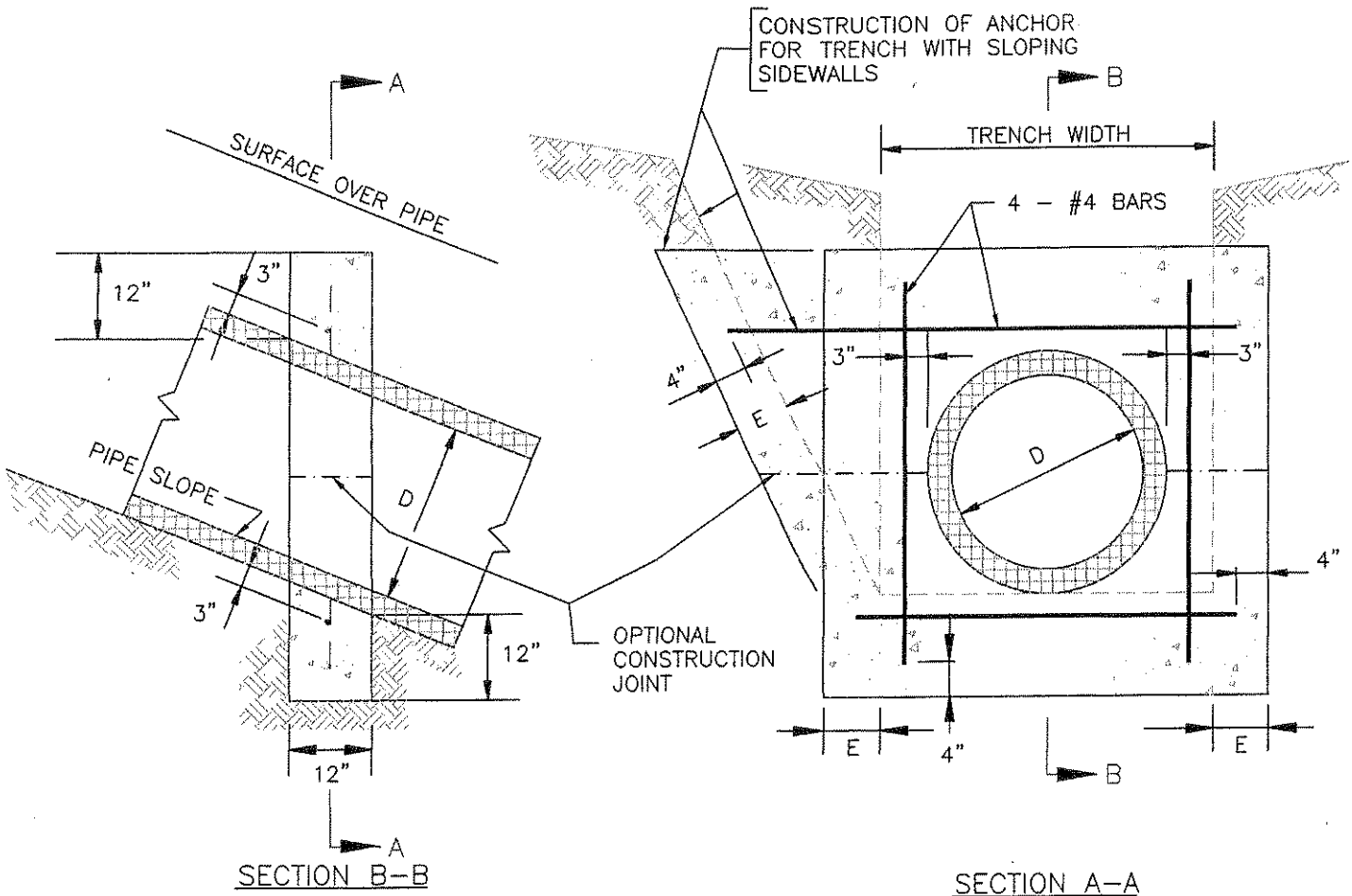
APPROVED: CITY ENGINEER
Robert K. Holt DATE 8/31/00
ROBERT K. HOLT, P.E.

REVISION	BY	DATE

CITY OF
BLYTHE

4" & 6" BLOWOFF ASSEMBLY INSTALLATION

STANDARD DRAWING NO. W-318A

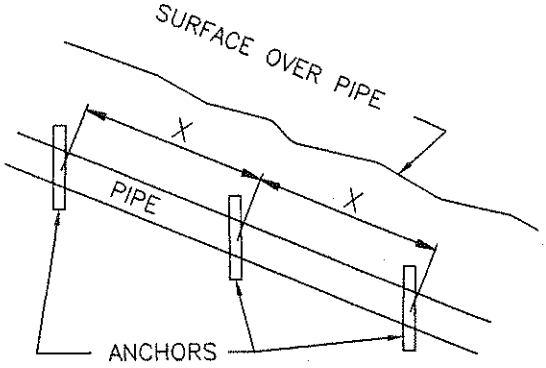


SECTION B–B

SECTION A–A

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.
4. CONCRETE SHALL BE CLASS "3" CONCRETE WHICH SHALL ATTAIN A 28–DAY COMPRESSIVE STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C39M–99.



ELEVATION
CONCRETE PIPE ANCHORS

PIPE SLOPE	X DISTANCE
1:1	12'
1 1/2:1	14'
2:1	16'
2 1/2:1	18'
3:1	20'

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

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JAMES W. RODKEY, JR.

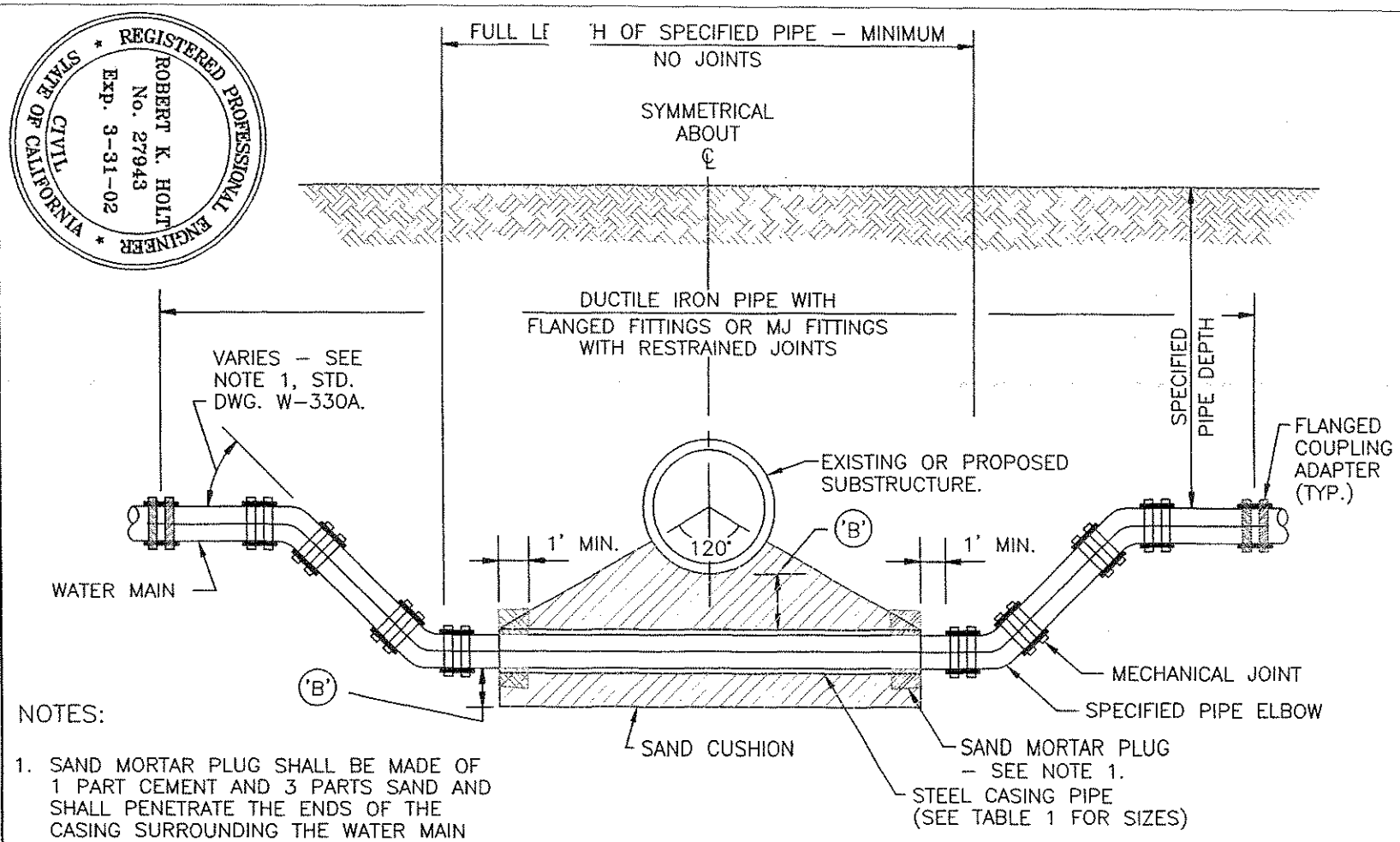
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Robert K. Holt DATE 8/31/00
ROBERT K. HOLT, P.E.

REVISION	BY	DATE

CITY OF
BLYTHE

PIPE ANCHOR
ON SLOPE

STANDARD DRAWING NO. W–320



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

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		
WATER MAIN	CASING – INSIDE DIAMETER	WALL THICKNESS
6 INCHES	12 INCHES	1/4 INCH
8 INCHES	14 INCHES	1/4 INCH
10 INCHES	16 INCHES	3/8 INCH
12 INCHES	18 INCHES	3/8 INCH
14 INCHES	20 INCHES	3/8 INCH
LARGER THAN 14"	REQUIRES ENGINEERING APPROVAL	

('B') DIMENSION SHALL BE A MINIMUM OF 12 INCHES IN ALL CASES

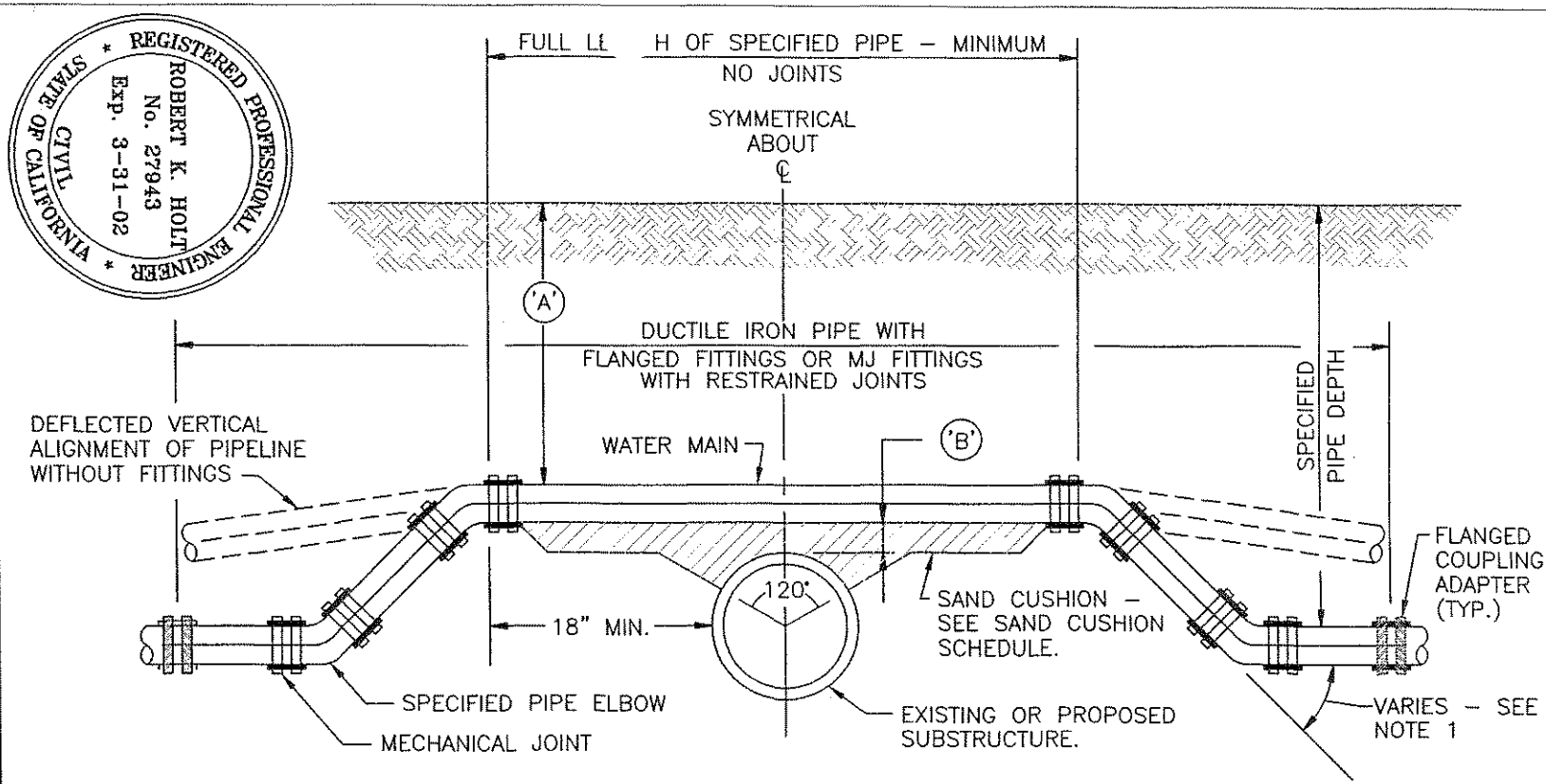
APPROVED: PUBLIC WORKS DIRECTOR
JAMES W. RODKEY, JR. DATE 2/7/02
APPROVED: CITY ENGINEER
ROBERT K. HOLT, P.E. DATE 2/7/02

REVISION	BY	DATE

CITY OF
BLYTHE

STANDARD CULVERT
CROSSING

STANDARD DRAWING NO. W–330



SAND CUSHION SCHEDULE – DIMENSION 'B'		
PIPE DEPTH	LESS THAN 3'	('B') DIMENSION SHALL BE A MINIMUM OF 12 INCHES IF ('A') IS 3 FEET OR LESS.
	MORE THAN 3'	('B') DIMENSION SHALL BE A MINIMUM OF 6 INCHES IF ('A') IS IN EXCESS OF 3 FEET.

NOTE: IF DIMENSION ('A') IS LESS THAN 30 INCHES, CASING PIPE SHALL BE INSTALLED PER STD. DWG. W–330.

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.

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

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JAMES W. RODKEY, JR.
DATE 2/7/02

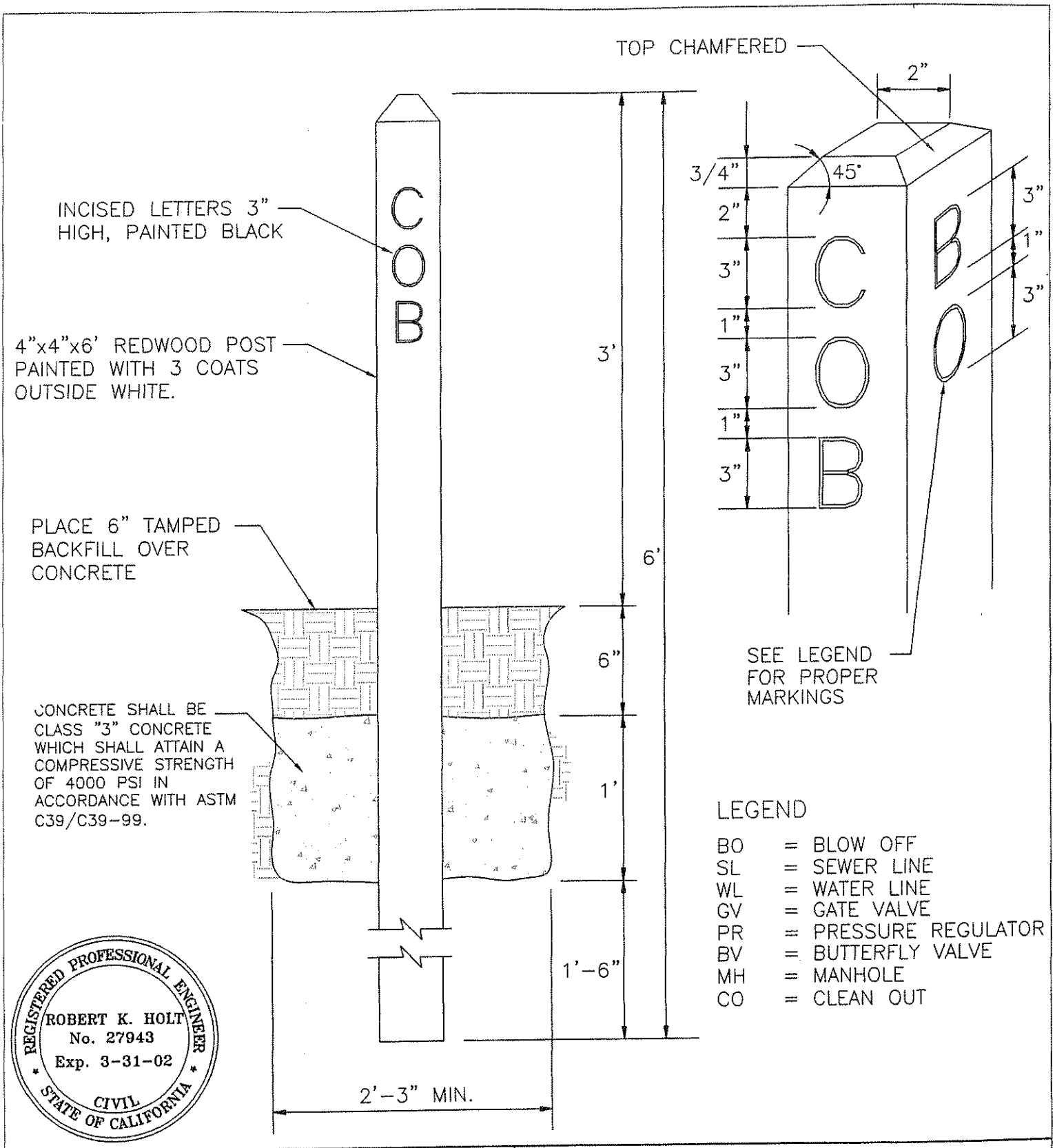
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ROBERT K. HOLT, P.E.
DATE 2/7/02

REVISION	BY	DATE

CITY OF
BLYTHE

STANDARD OVERHEAD
SIPHON CROSSING

STANDARD DRAWING NO. W–330A



LEGEND

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

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

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

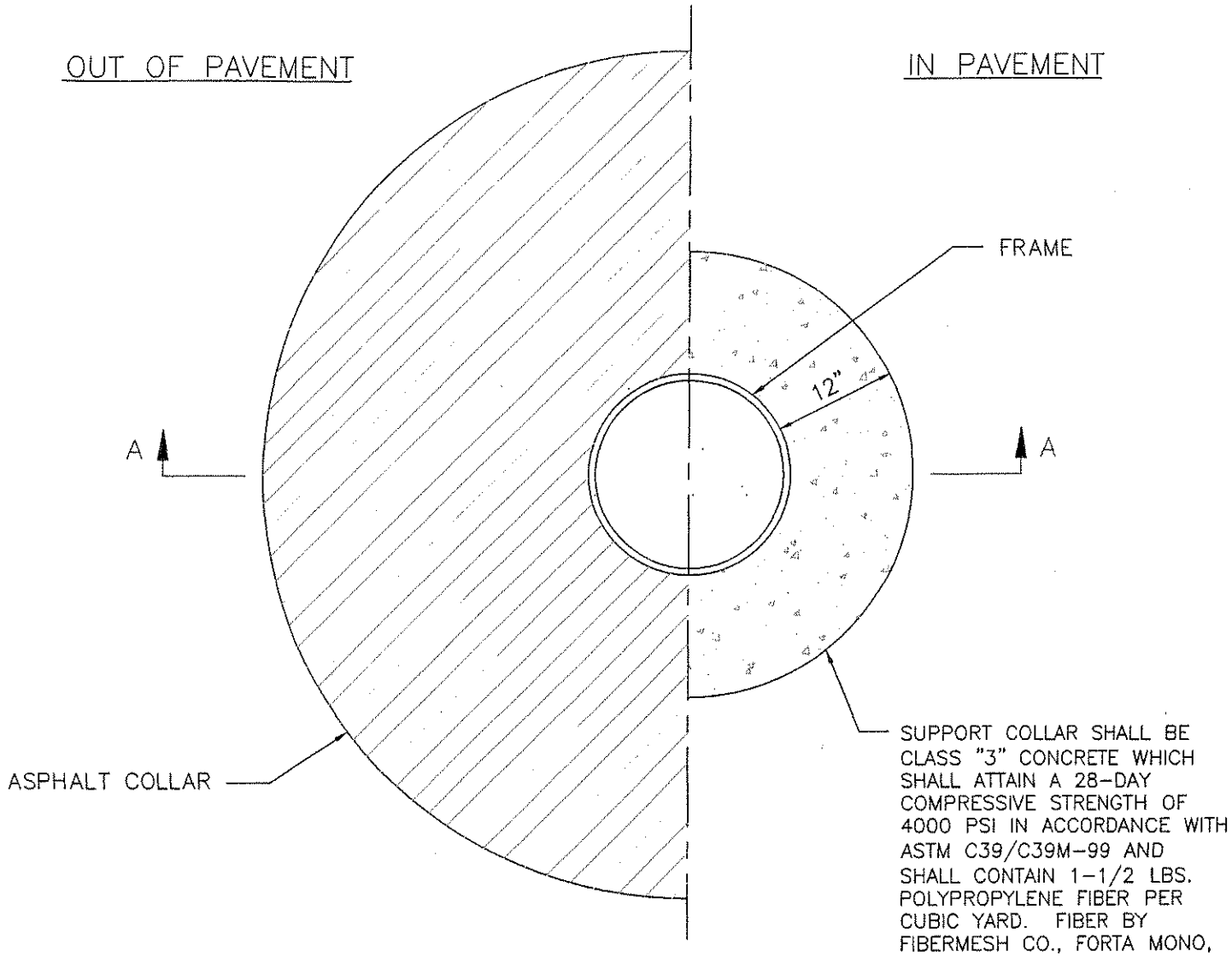
APPROVED: CITY ENGINEER
Robert K. Holt DATE 8/31/00
ROBERT K. HOLT, P.E.

REVISION	BY	DATE

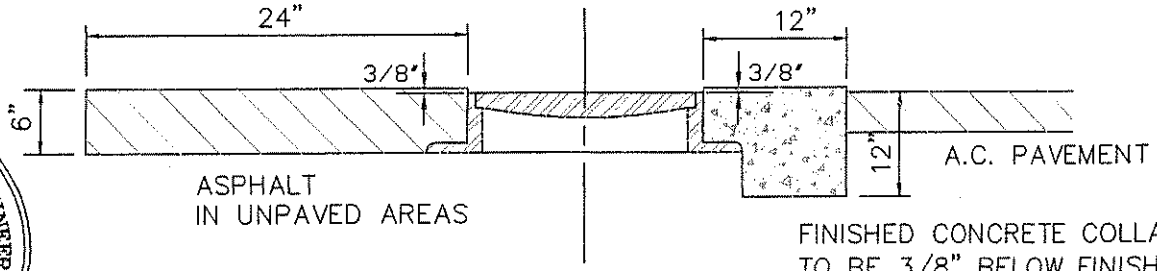
CITY OF
BLYTHE

STANDARD MARKER POST

STANDARD DRAWING NO. W-331



FRAME & COLLAR



SECTION A-A

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

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

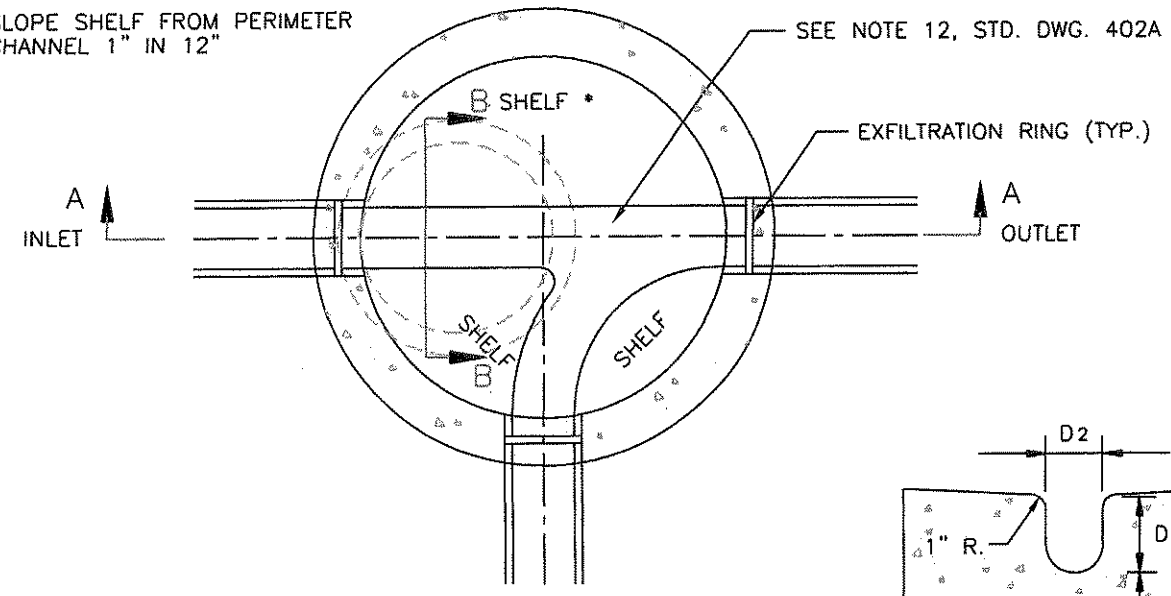
APPROVED: CITY ENGINEER
Robert K. Holt DATE 8/31/00
ROBERT K. HOLT, P.E.

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CITY OF
BLYTHE

MANHOLE SUPPORT COLLAR

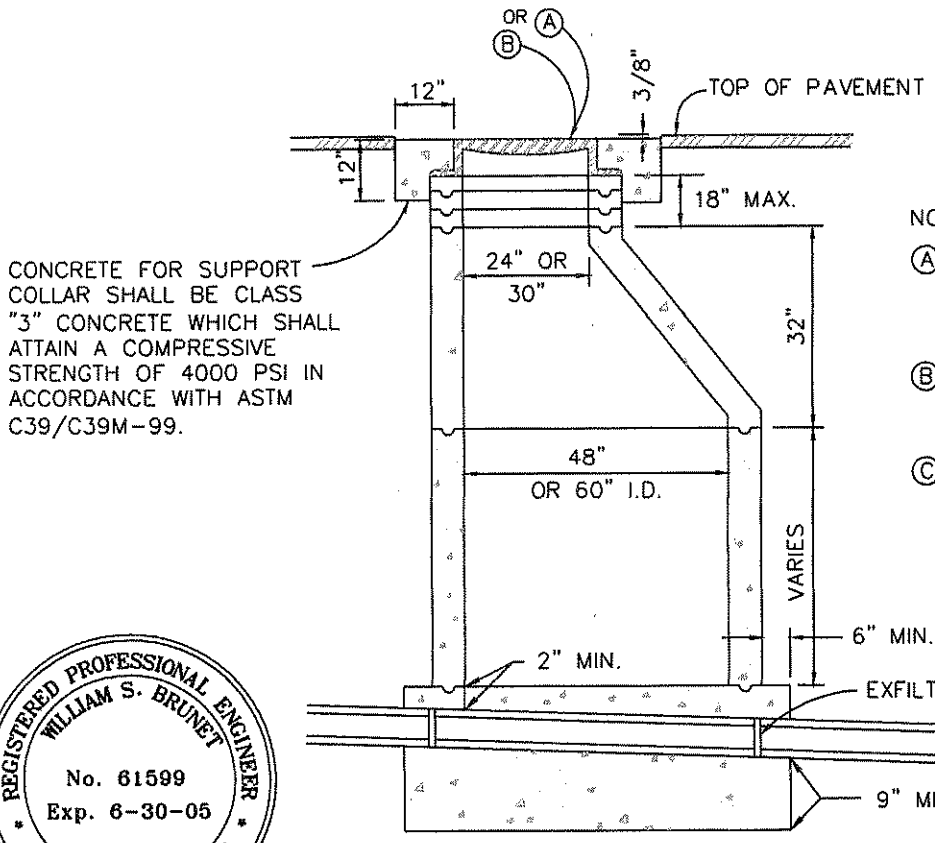
STANDARD DRAWING NO. SS-401



PLAN

D1= PIPE O.D., 12" MIN.
D2= PIPE I.D.

SECTION B-B



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.

SECTION A-A

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

REGISTERED PROFESSIONAL ENGINEER
WILLIAM S. BRUNET
No. 61599
Exp. 6-30-05
CIVIL
STATE OF CALIFORNIA

APPROVED: PUBLIC WORKS DIRECTOR
James W. Rookey Jr. DATE 1/14/02
JAMES W. ROOKEY, JR.
APPROVED: CITY ENGINEER
William S. Brunet DATE 1/14/02
WILLIAM S. BRUNET, P.E.

REVISION	BY	DATE

CITY OF
BLYTHE

PRECAST MANHOLE
DETAIL

STANDARD DRAWING NO. SS-402

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.
6. CONCRETE SHALL BE CLASS "3" CONCRETE WHICH SHALL ATTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C39M-99.
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.

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

APPROVED: PUBLIC WORKS DIRECTOR

James W. Rodkey Jr. DATE 9/7/00

JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER

Robert K. Holt DATE 8/31/00

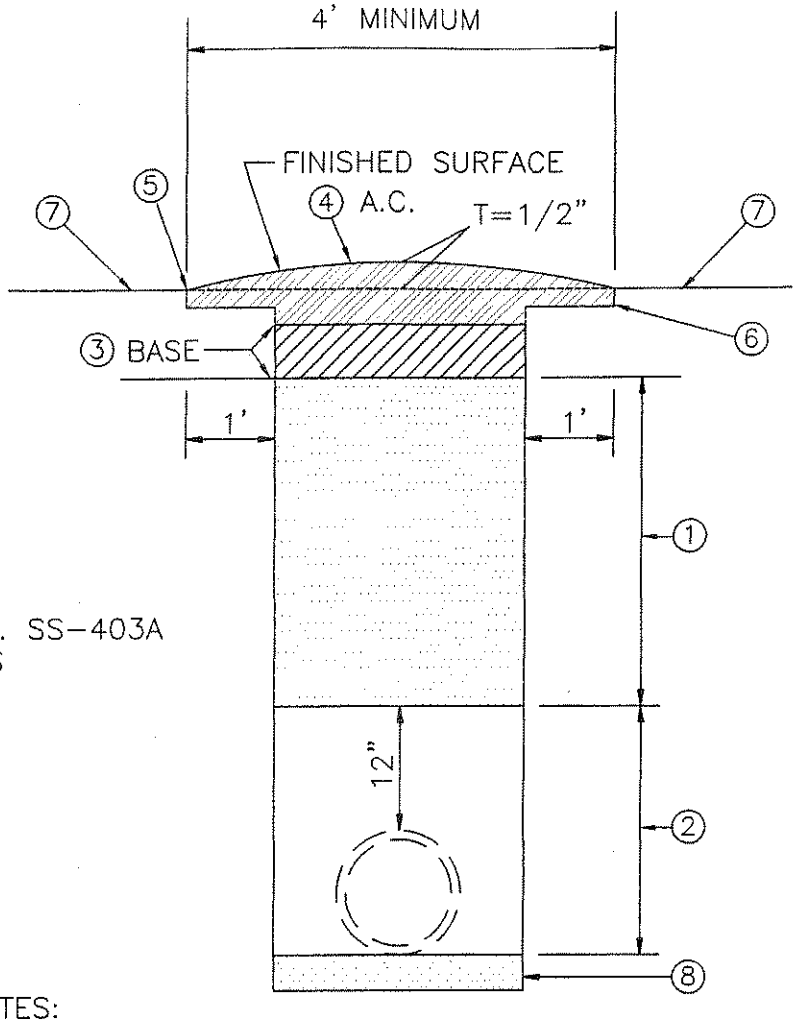
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CITY OF
BLYTHE

PRECAST MANHOLE
DETAIL

STANDARD DRAWING NO. SS-402A



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, INSPECTED AND APPROVED PRIOR TO PIPE PLACEMENT.

REGISTERED PROFESSIONAL ENGINEER
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STATE OF CALIFORNIA

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

APPROVED: CITY ENGINEER
Robert K. Holt DATE 8/31/00
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REVISION	BY	DATE

CITY OF
BLYTHE

TRENCH REPLACEMENT

STANDARD DRAWING NO. SS-403

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 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.

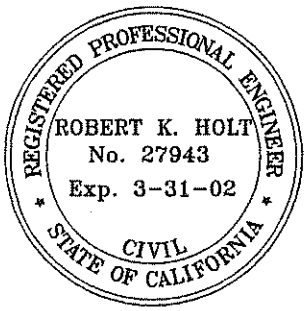
LABORATORY MAXIMUM DENSITY
METHOD 1: LABORATORY MAXIMUM DENSITY OF SOIL SHALL BE DETERMINED BY ASTM D1557-91 MODIFIED BY USING THREE LAYERS INSTEAD OF FIVE LAYERS. (COMPACTIVE EFFORT EQUALS 33,750 FT-LBS PER CUBIC FOOT.)

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.



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

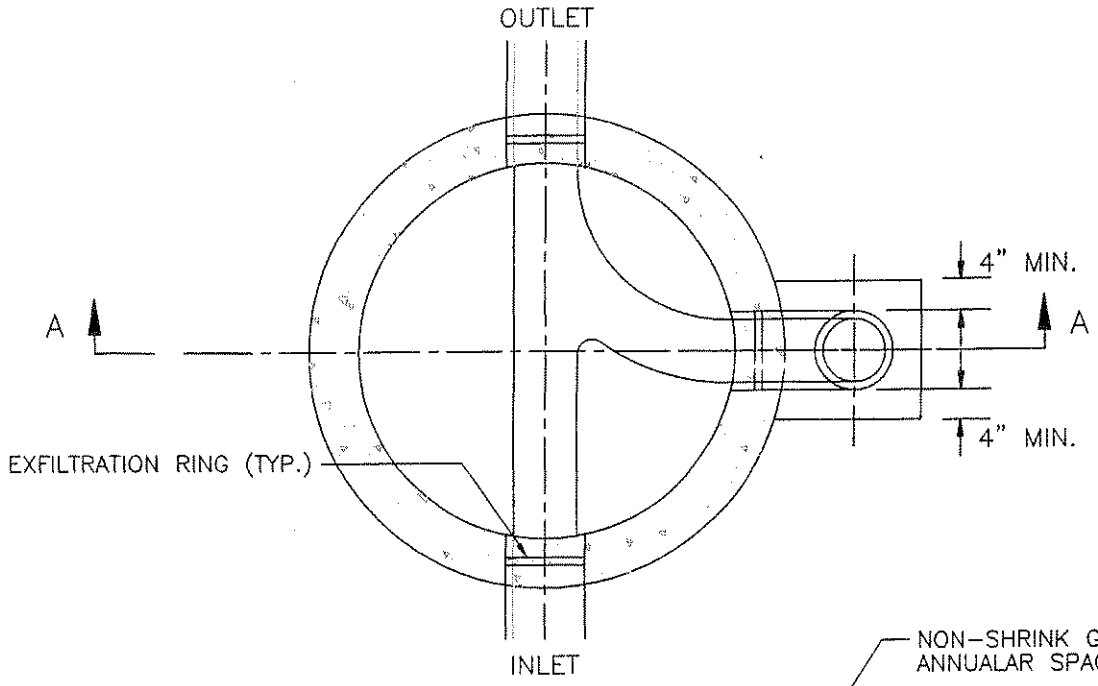
APPROVED: CITY ENGINEER
Robert K. Holt DATE 8/31/00
ROBERT K. HOLT, P.E.

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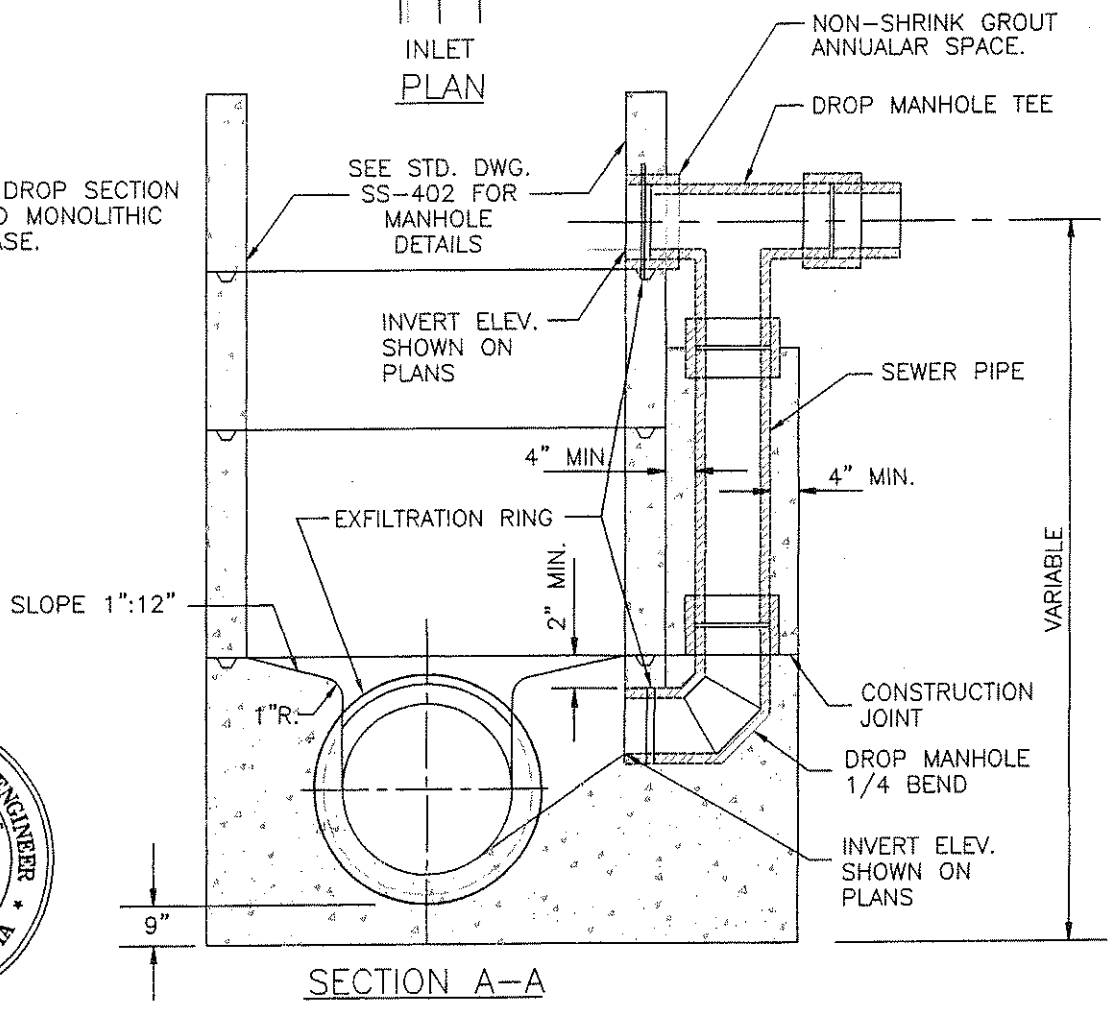
TRENCH REPLACEMENT

STANDARD DRAWING NO. SS-403A



PLAN

NOTE:
FOUNDATION FOR DROP SECTION SHALL BE POURED MONOLITHIC WITH MANHOLE BASE.



SECTION A-A

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

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

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Robert K. Holt DATE 8/31/00
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CITY OF
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PRECAST DROP MANHOLE

STANDARD DRAWING NO. SS-404

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.
6. CONCRETE FOR SUPPORT COLLAR SHALL BE CLASS "3" CONCRETE WHICH SHALL ATTAIN A COMPRESSIVE STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C39-99.
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".
10. ALL PIPE AND FITTINGS IN DROP CONNECTION SHALL BE SDR-35, ASTM 3034 AND OF THE SAME SIZE AS THE SEWER MAIN, UNLESS SHOWN OTHERWISE ON THE PLANS.
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.

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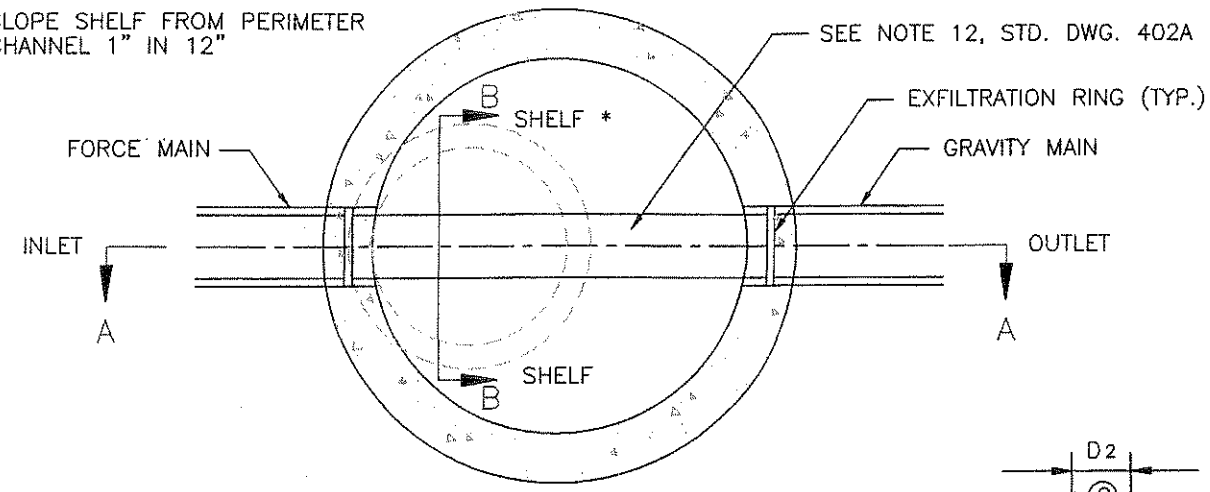
APPROVED: CITY ENGINEER
Robert K. Holt DATE 8/31/00
ROBERT K. HOLT, P.E.

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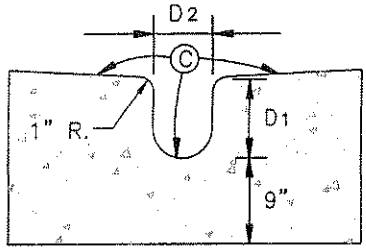
CITY OF
BLYTHE

PRECAST DROP MANHOLE

STANDARD DRAWING NO. SS-404A

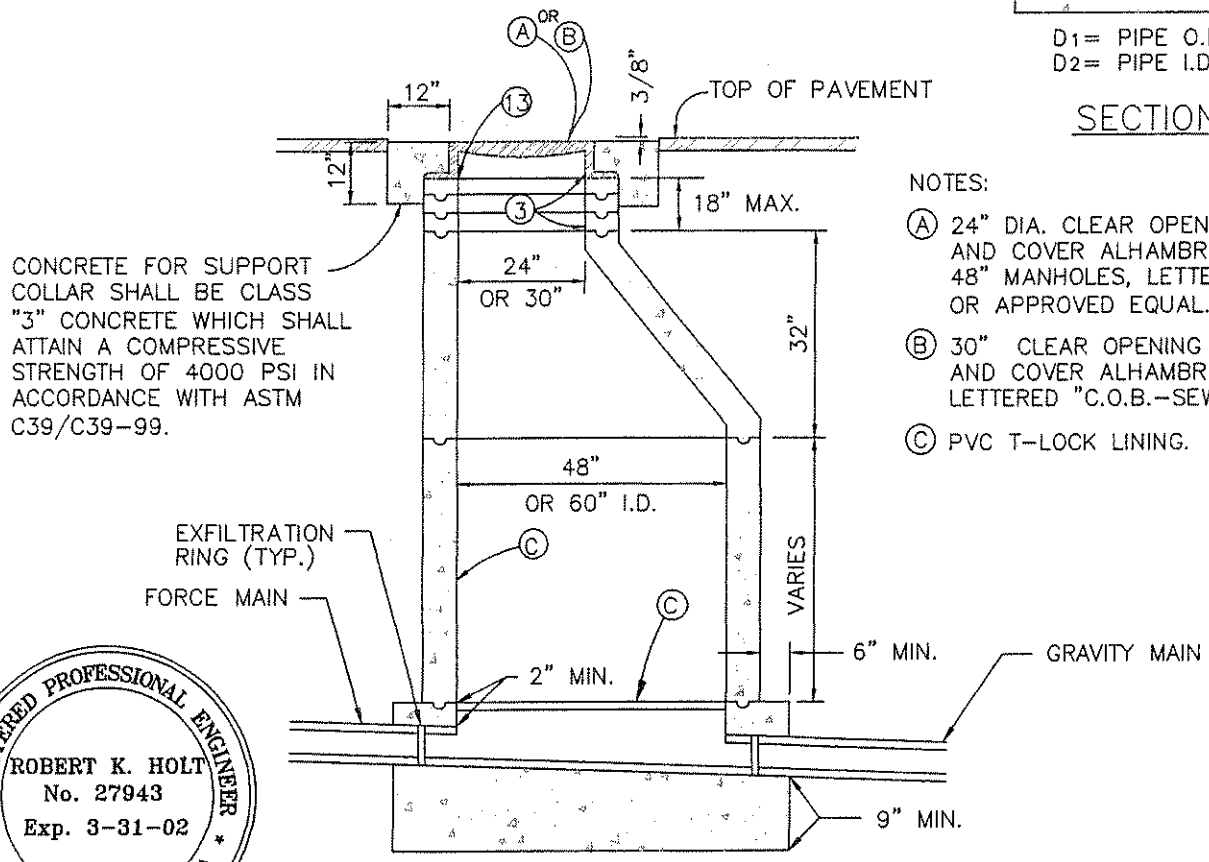


PLAN



D_1 = PIPE O.D., 12" MIN.
D_2 = PIPE I.D.

SECTION B–B



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.

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

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JAMES W. RODKEY, JR.

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Robert K. Holt DATE 6/31/00
ROBERT K. HOLT, P.E.

REVISION	BY	DATE

CITY OF
BLYTHE

PVC LINED MANHOLE

STANDARD DRAWING NO. SS-405

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.

REGISTERED PROFESSIONAL ENGINEER
ROBERT K. HOLT
No. 27943
Exp. 3-31-02
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JAMES W. RODKEY, JR.

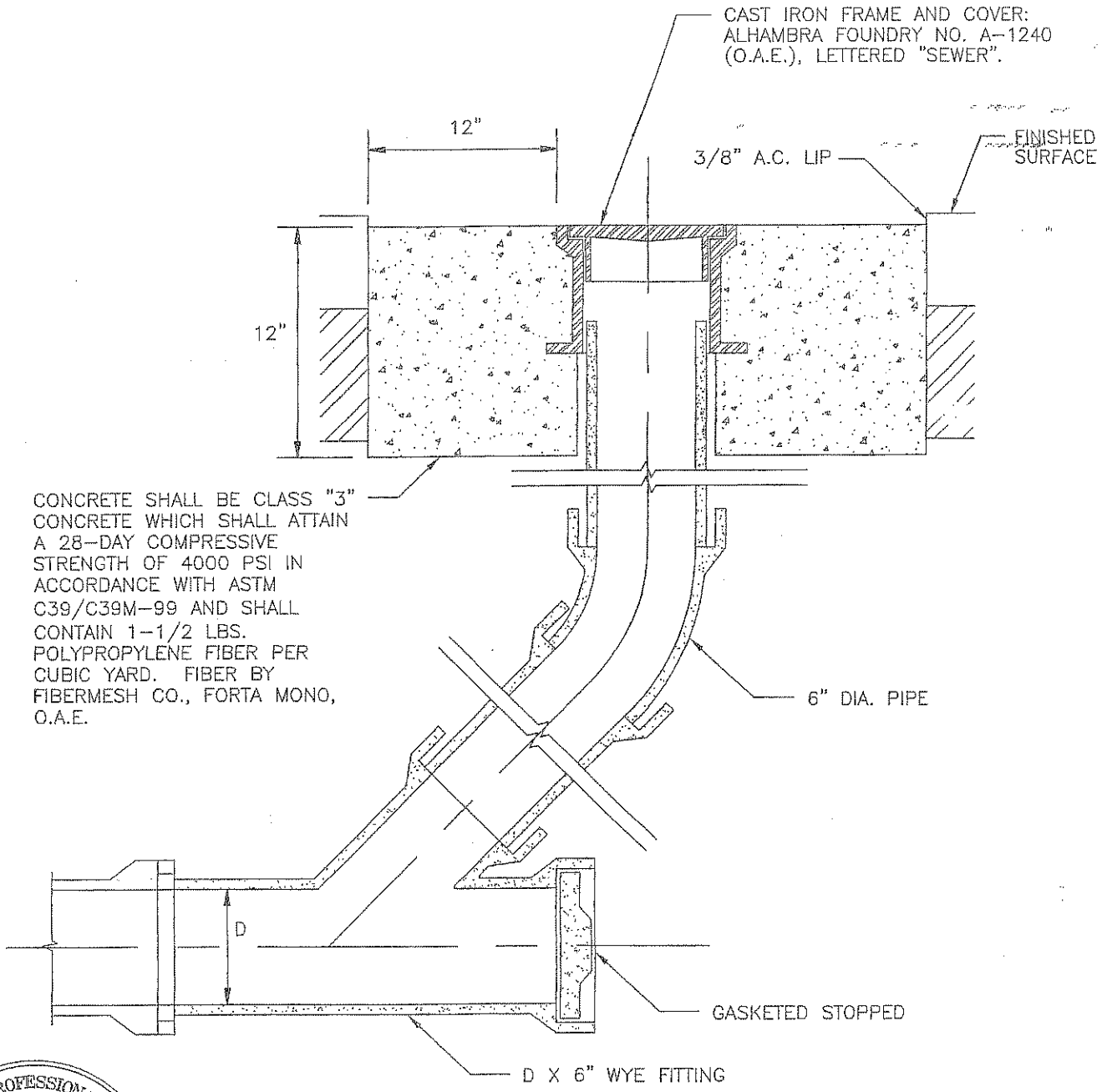
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CITY OF
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PVC LINED MANHOLE

STANDARD DRAWING NO. SS-405A



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

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.

APPROVED: PUBLIC WORKS DIRECTOR

James W. Rodkey Jr. DATE 9/7/00

JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER

Robert K. Holt DATE 9/7/00

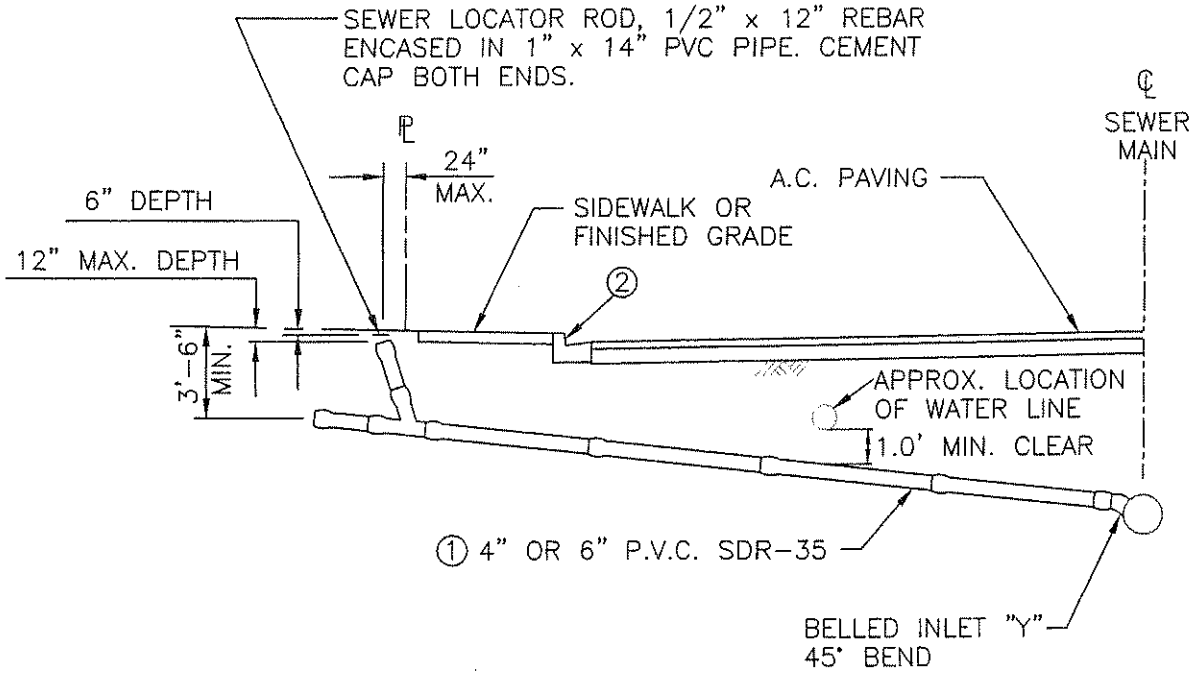
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CITY OF
BLYTHE

STANDARD CLEANOUT

STANDARD DRAWING NO. SS-406



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.

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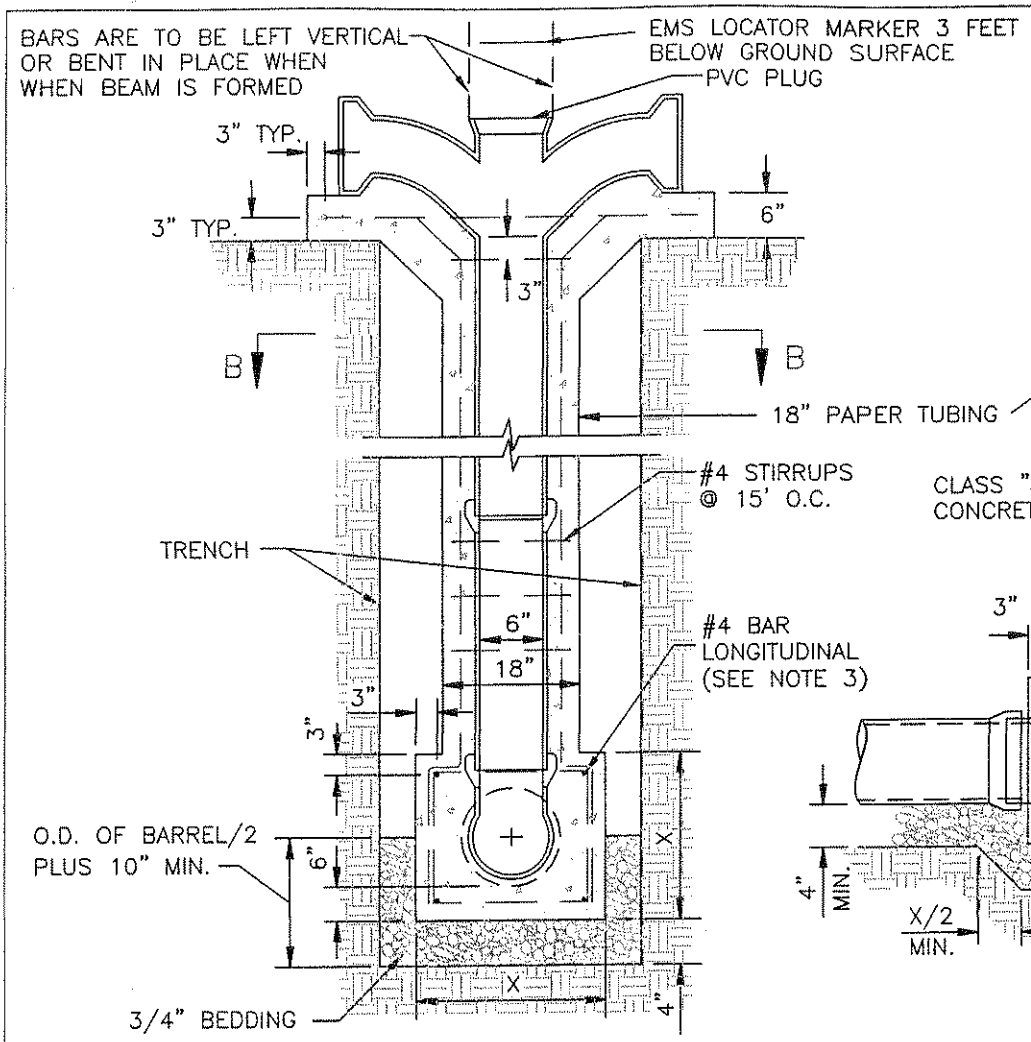
APPROVED: CITY ENGINEER
Robert K. Holt DATE 8/31/00
ROBERT K. HOLT, P.E.

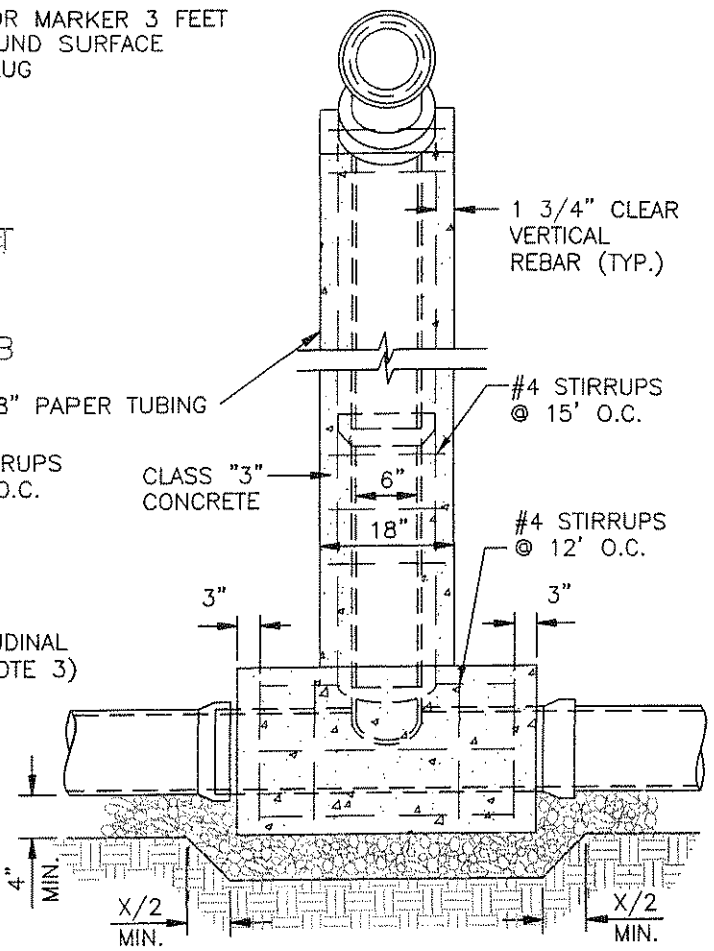
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CITY OF
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SEWER LATERAL

STANDARD DRAWING NO. SS-407





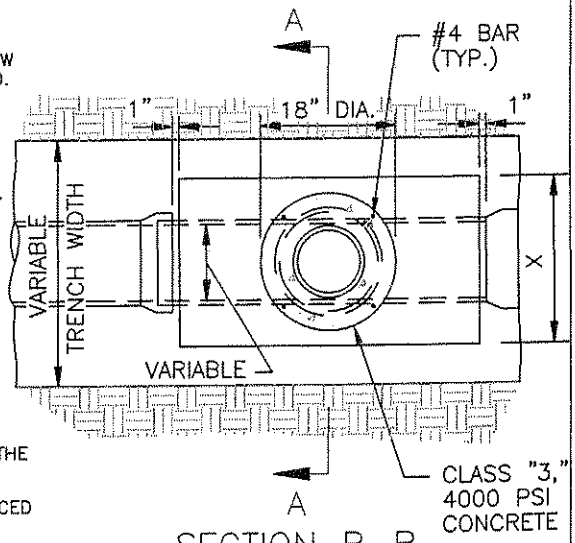
SECTION A–A

MAINLINE PIPE DIA.	X
8"	22"
10"	25"
12"	27"
15"	31"
18"	34"

NOTES:

1. THE UPPER END OF THE CHIMNEY PIPE SHALL BE 8 FEET BELOW THE GRADE OF THE LOWER CURB, UNLESS OTHERWISE SPECIFIED.
2. THE CHIMNEY PIPE SHALL BE PVC, SDR–35, ASTM 3034.
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

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

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

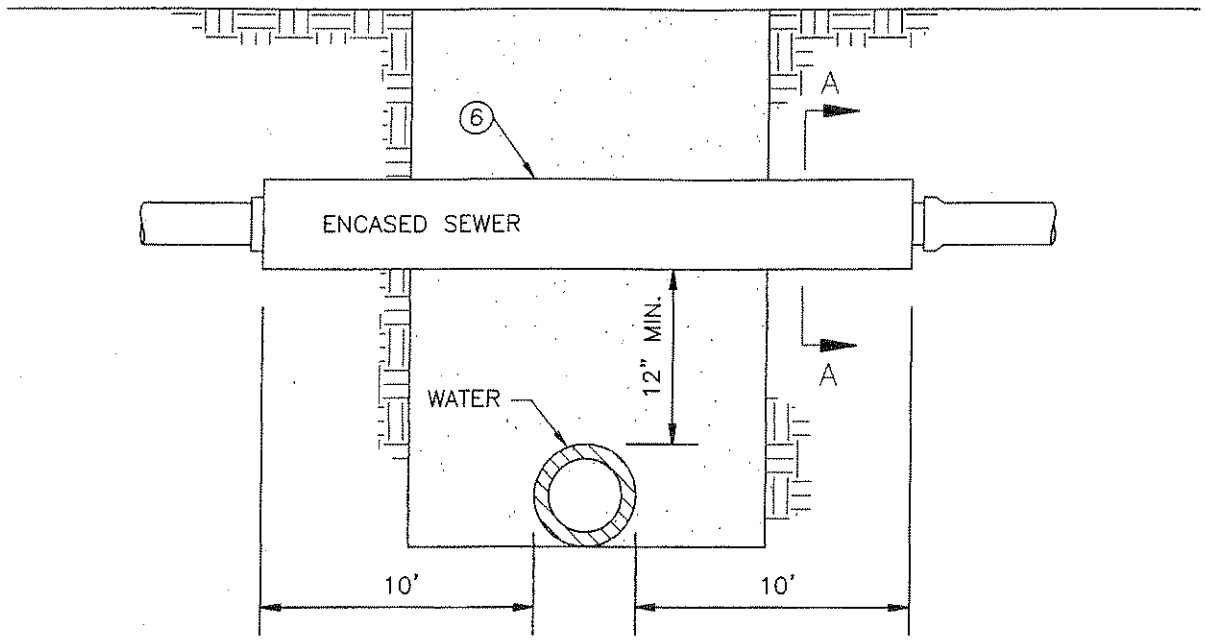
APPROVED: CITY ENGINEER
ROBERT K. HOLT, P.E. DATE 8/31/00

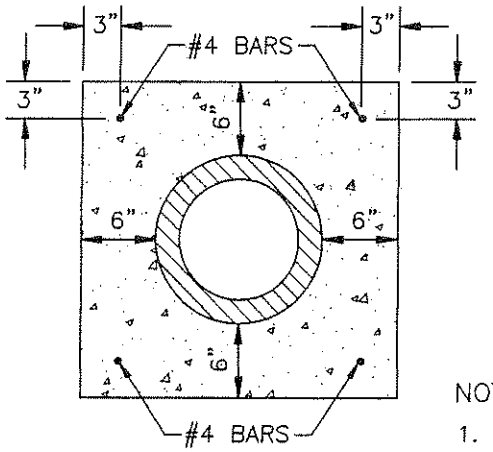
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CITY OF
BLYTHE

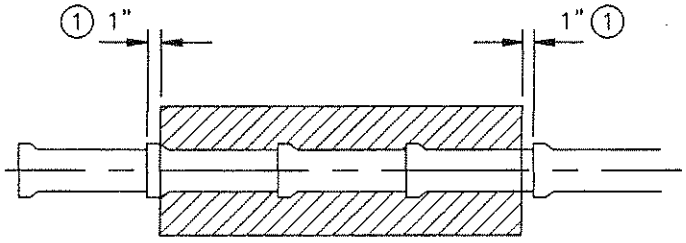
CHIMNEY PIPE AND BASE

STANDARD DRAWING NO. SS–408





SECTION A–A



PLAN

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. ALL CONCRETE SHALL BE CLASS "3" CONCRETE WHICH SHALL ATTAIN A 28–DAY COMPRESSIVE STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C39M–99.
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 ENCASEMENT 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 ENCASEMENT.

REGISTERED PROFESSIONAL ENGINEER
ROBERT K. HOLT
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JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER

Robert K. Holt DATE 8/31/00

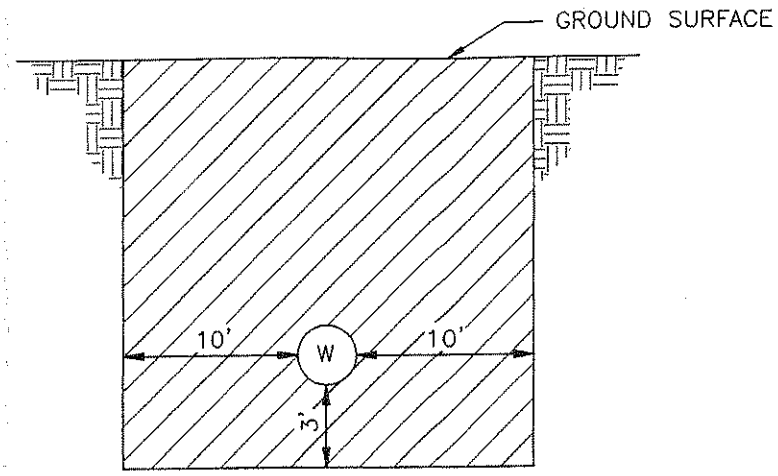
ROBERT K. HOLT, P.E.

REVISION	BY	DATE

CITY OF
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CONSTRUCTION DETAIL FOR SEWER AND WATER CROSSINGS

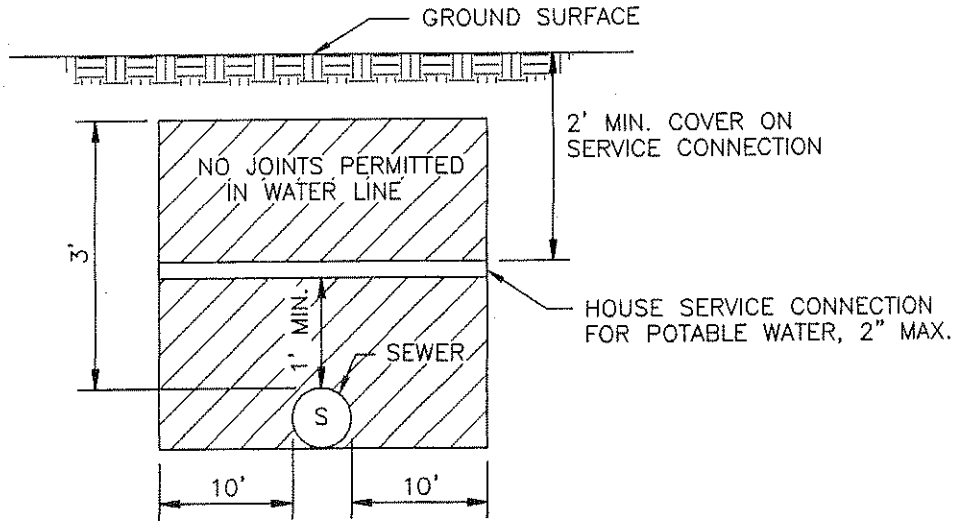
STANDARD DRAWING NO. SS–409



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

REGISTERED PROFESSIONAL ENGINEER
ROBERT K. HOLT
No. 27943
Exp. 3-31-02
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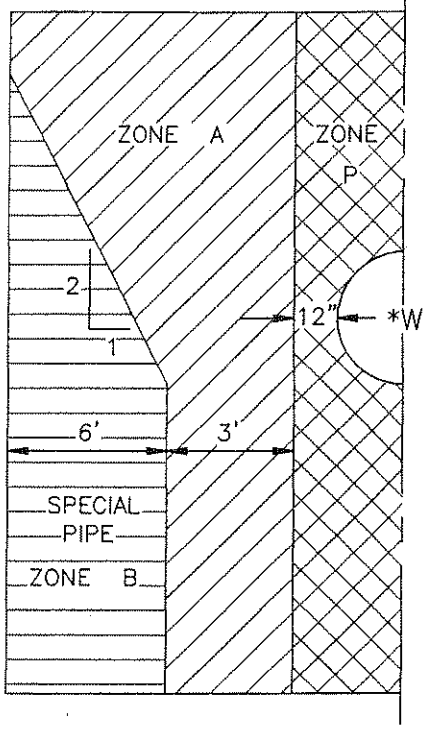
APPROVED: CITY ENGINEER
Robert K. Holt DATE 8/31/00
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BLYTHE

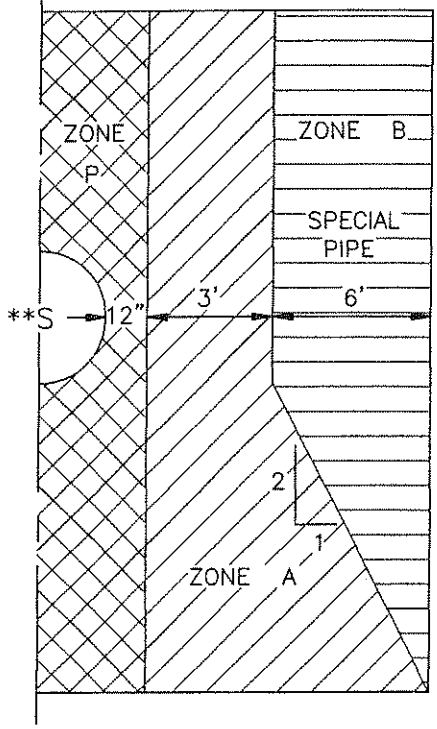
SEPARATION REQUIREMENTS FOR
SEWER AND WATER CROSSINGS

STANDARD DRAWING NO. SS-410

CASE–1
NEW SEWER



CASE–2
NEW WATER



*W = EXISTING WATER LINE
**S = EXISTING SEWER LINE

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)

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ROBERT K. HOLT
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Exp. 3-31-02
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James W. Rodkey Jr. DATE 9/6/00
JAMES W. RODKEY, JR.

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Robert K. Holt DATE 8/31/00
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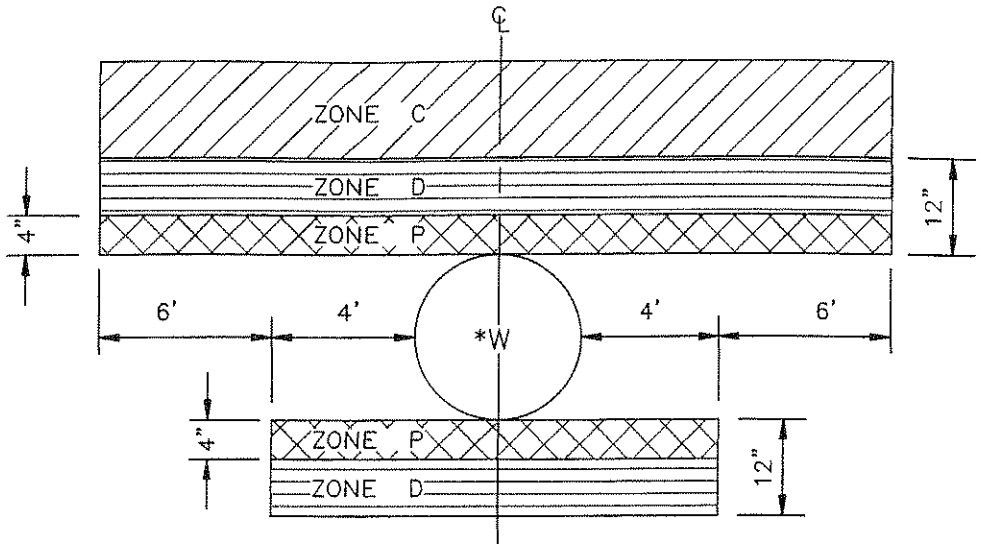
SEPARATION AND CONSTRUCTION REQUIREMENTS FOR SEWER & WATER LINES (PARALLEL CONSTRUCTION)

STANDARD DRAWING NO. SS–410A

CASE 1 – NEW SEWER

ZONE	SPECIAL CONSTRUCTION
.	CONSTRUCTION PROHIBITED
D	CONSTRUCTION PROHIBITED
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

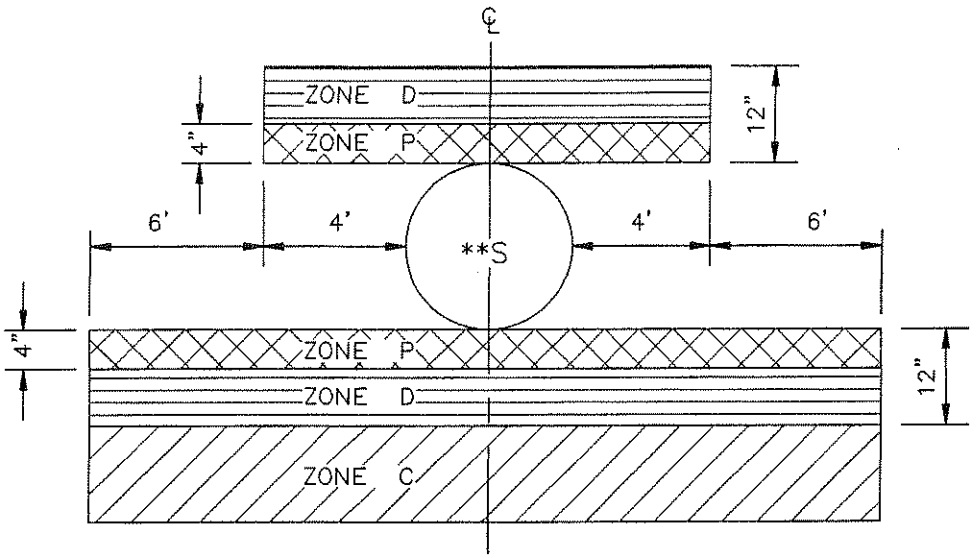


CASE–1
NEW SEWER
*W= EXISTING WATER

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

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

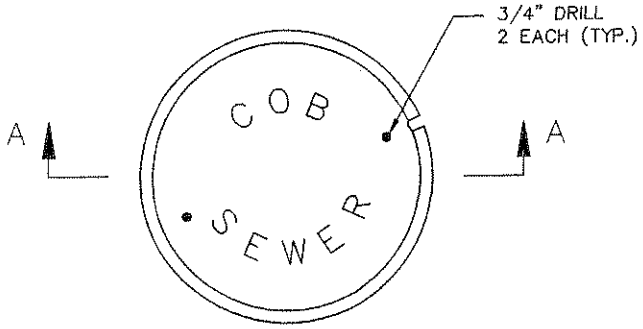
APPROVED: PUBLIC WORKS DIRECTOR
James W. Rodkey Jr. DATE 9/7/00
JAMES W. RODKEY, JR.

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Robert K. Holt DATE 8/31/00
ROBERT K. HOLT, P.E.

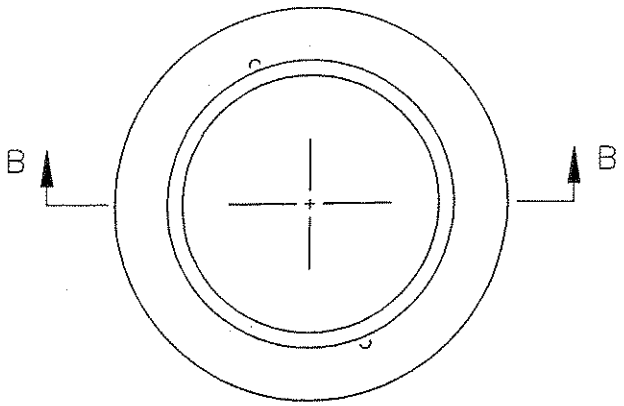
CITY OF
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SEPARATION AND CONSTRUCTION REQUIREMENTS FOR SEWER AND WATER LINES (CROSSING)

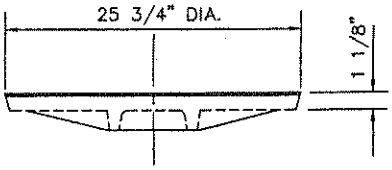
STANDARD DRAWING NO. SS–410B



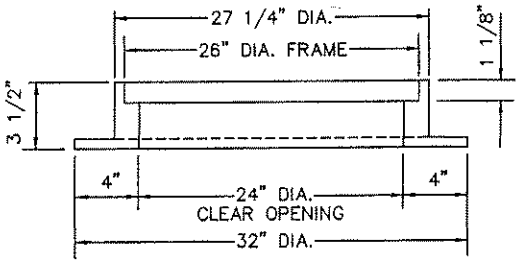
TOP PLAN OF COVER



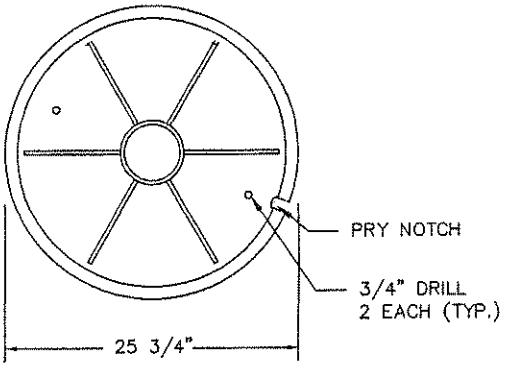
PLAN OF FRAME



SECTION A–A



SECTION B–B



BOTTOM PLAN OF COVER

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.

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

APPROVED: PUBLIC WORKS DIRECTOR

James W. Rodkey Jr. DATE 9/7/00

JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER

Robert K. Holt DATE 8/31/00

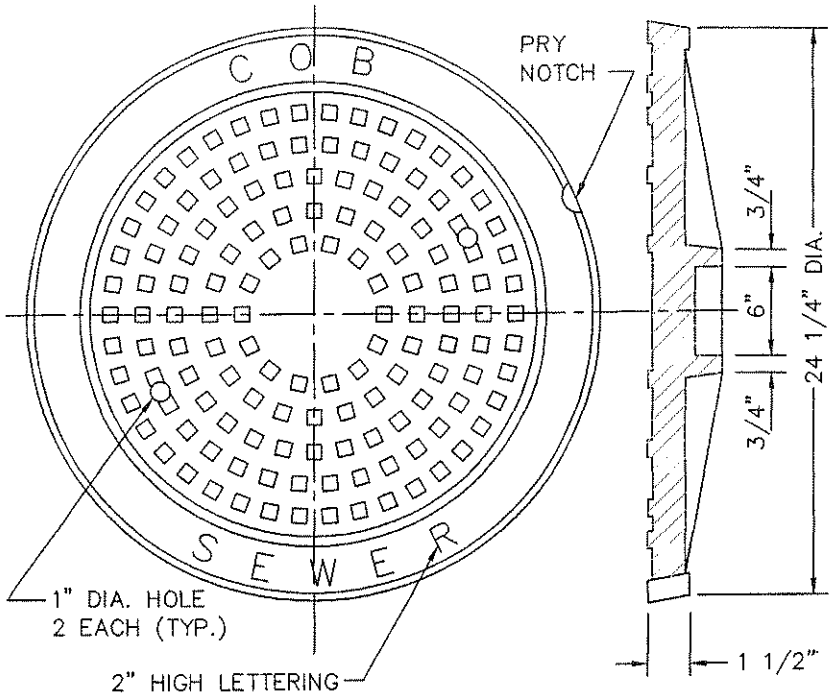
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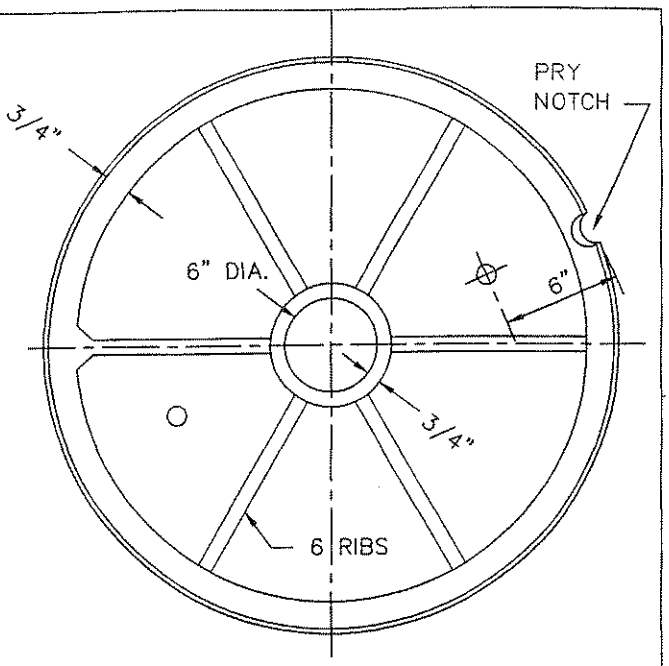
CITY OF
BLYTHE

MANHOLE FRAME AND COVER
TYPE A

STANDARD DRAWING NO. SS–411



PLAN

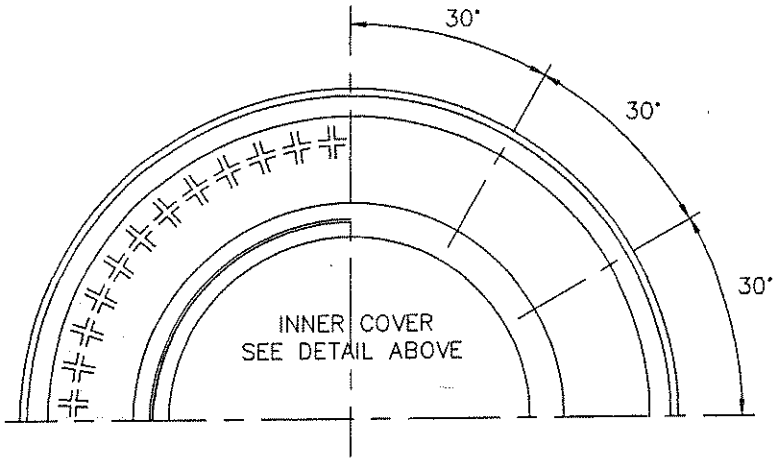


COVER

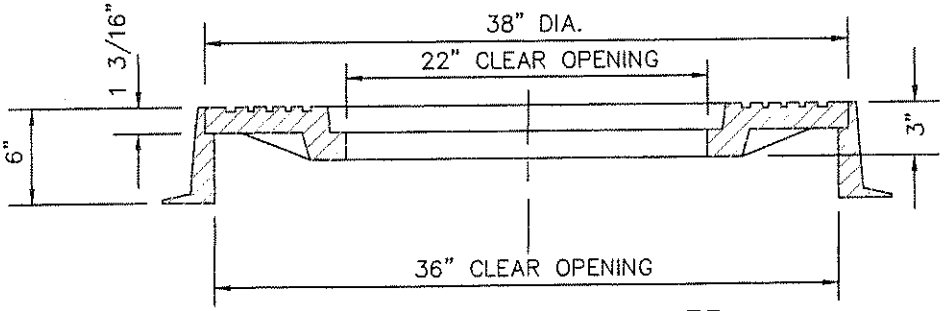
NOTES:

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.
4. "COB SEWER" SHALL BE ON THE COVER AS SHOWN ABOVE.
5. MANHOLE COVER SHALL BE NON-ROCKING ALHAMBRA A-1325, OR APPROVED EQUAL.
6. SEALED MANHOLE COVER SHALL BE ALHAMBRA A-1251 B-6, OR APPROVED EQUAL.
7. TO BE USED ON 60" DIAMETER MANHOLE SHAFTING.



PLAN – BOTTOM VIEW



A-1325 OUTER COVER

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CIVIL
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James W. Rodkey Jr. DATE 9/7/00

JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER

Robert K. Holt DATE 8/31/00

ROBERT K. HOLT, P.E.

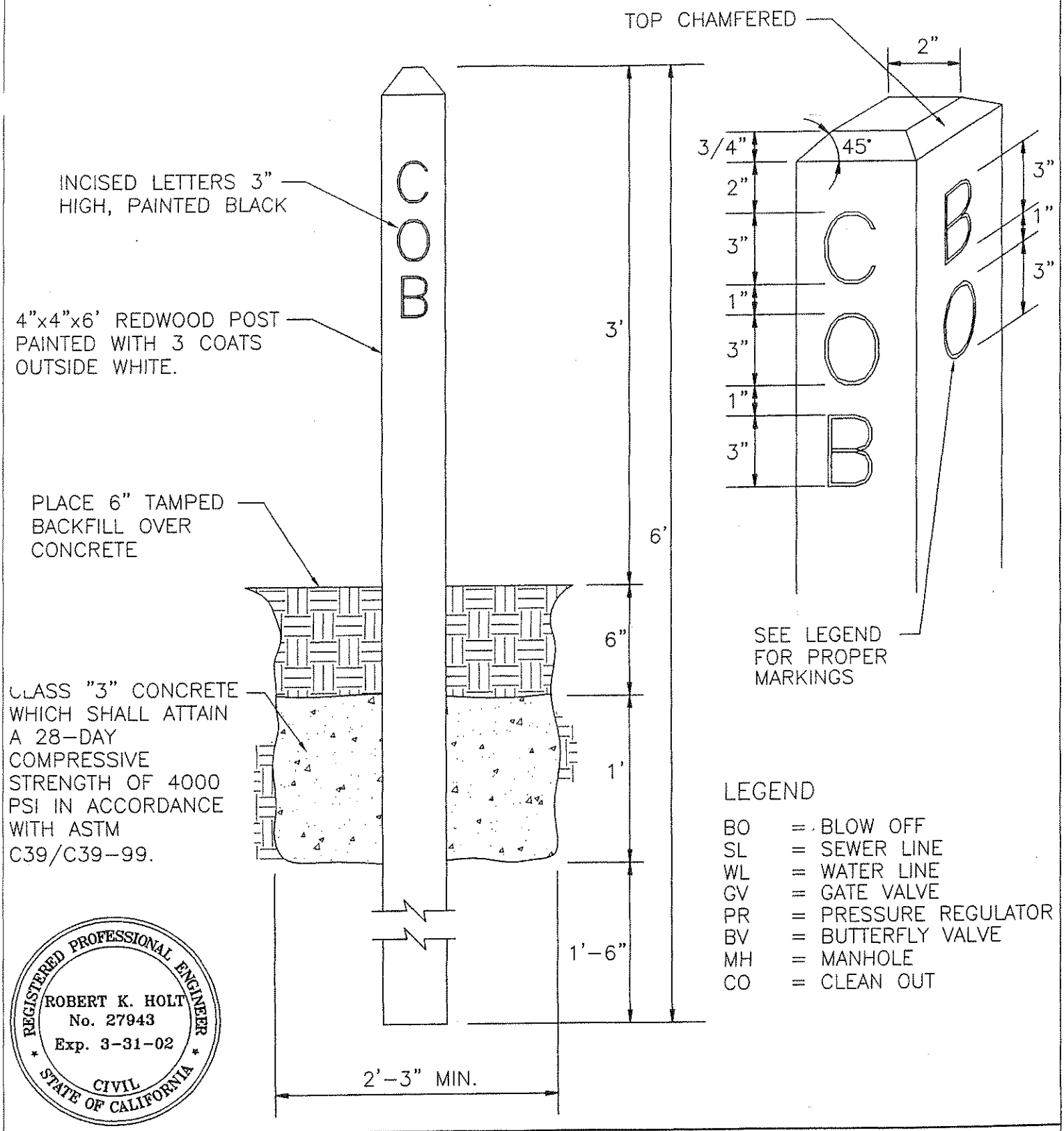
CITY OF

BLYTHE

MANHOLE FRAME & COVER

TYPE B

STANDARD DRAWING NO. SS-411A



LEGEND

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

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

APPROVED: PUBLIC WORKS DIRECTOR

James W. Rodkey Jr. DATE 9/7/00

JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER

Robert K. Holt DATE 8/31/00

ROBERT K. HOLT, P.E.

REVISION	BY	DATE

CITY OF
BLYTHE

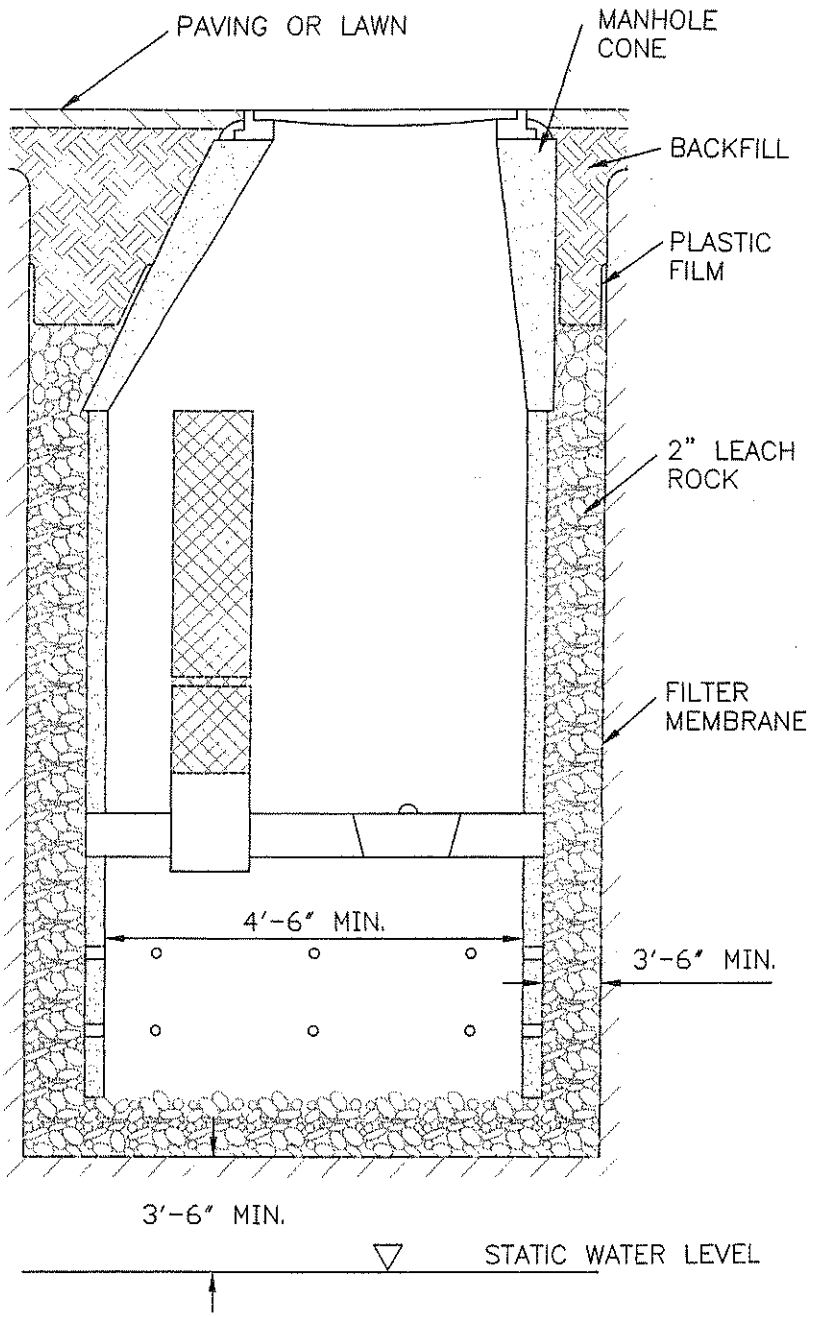
STANDARD MARKER POST

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 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 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/DETENTION BASINS SHALL NOT HAVE A SLOPE TO BE MAINTAINED, I.E. PLANTED IN GRASS, GREATER THAN 7:1. ROCK EMBANKMENTS MAY BE DESIGNED 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.



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Exp. 3-31-02
CIVIL
STATE OF CALIFORNIA

INJECTION WELL

APPROVED: PUBLIC WORKS DIRECTOR

James W. Rodkey Jr. DATE 9/7/00

JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER

Robert K. Holt DATE 8/31/00

ROBERT K. HOLT, P.E.

REVISION	BY	DATE

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.

REGISTERED PROFESSIONAL ENGINEER
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Exp. 3-31-02
CIVIL
STATE OF CALIFORNIA

APPROVED: PUBLIC WORKS DIRECTOR

James W. Rodkey Jr. DATE 9/7/00

JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER

Robert K. Holt DATE 8/31/00

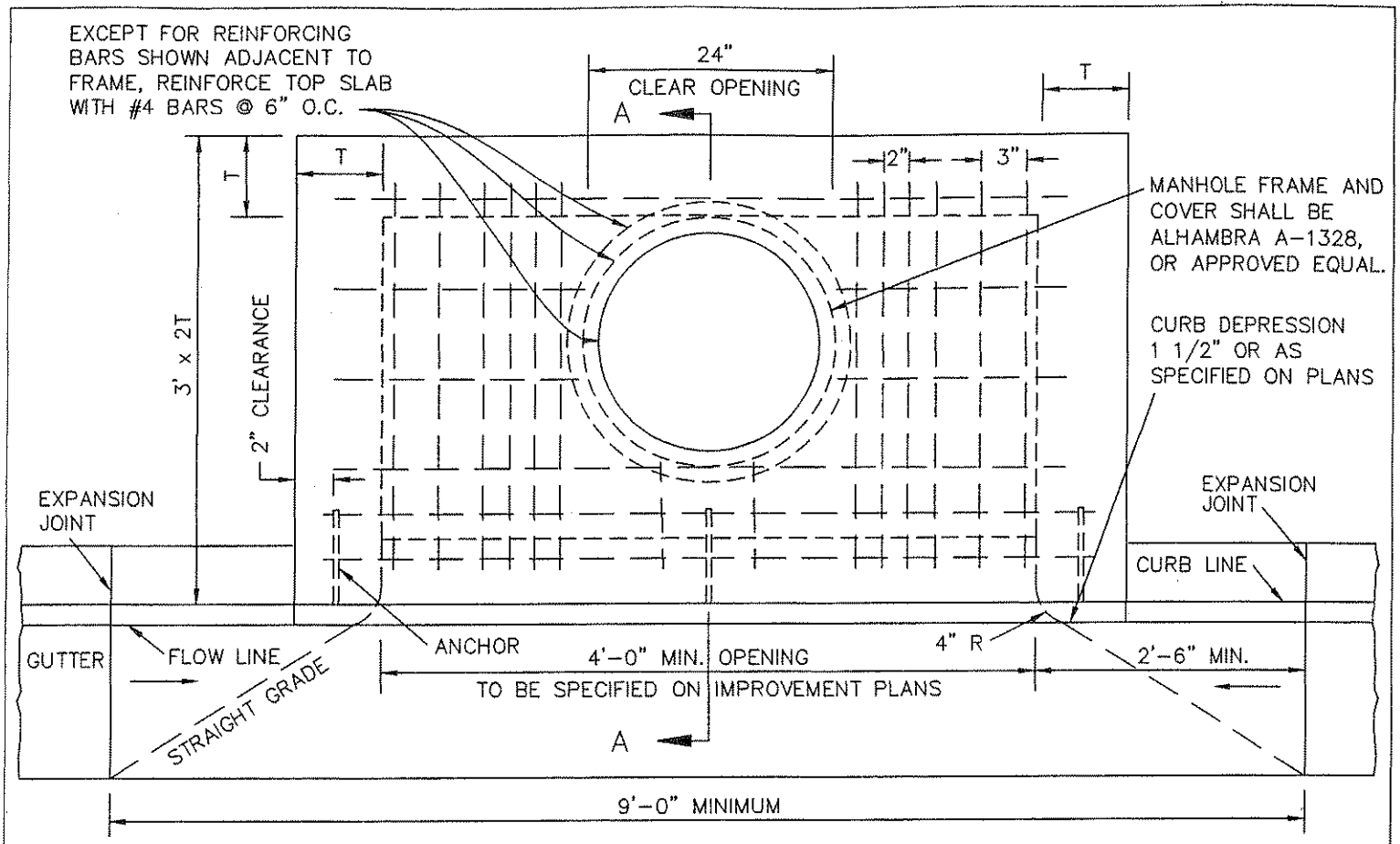
ROBERT K. HOLT, P.E.

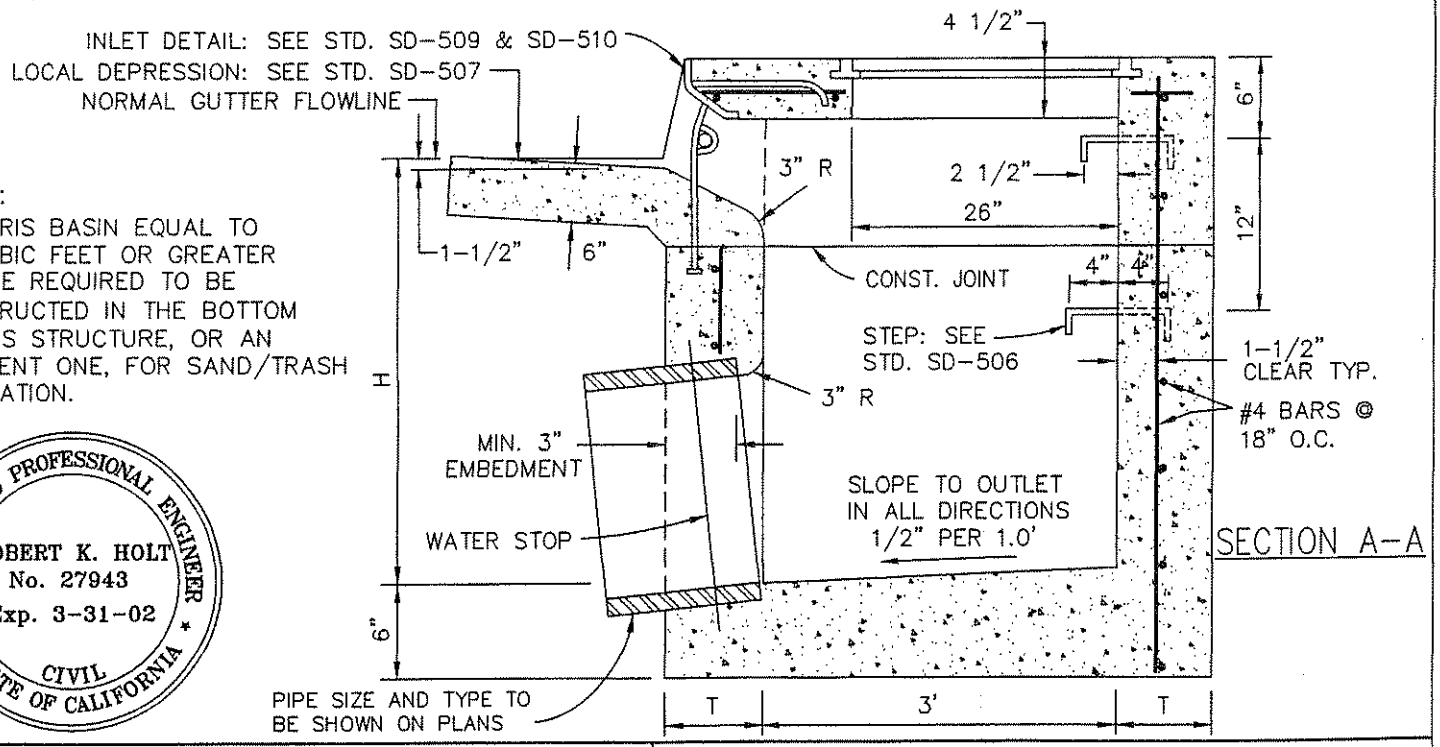
REVISION	BY	DATE

CITY OF
BLYTHE

DRYWELL/HYDROLOGY NOTES

STANDARD DRAWING NO. SD–500A





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.

REGISTERED PROFESSIONAL ENGINEER
ROBERT K. HOLT
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Exp. 3-31-02
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STATE OF CALIFORNIA

APPROVED: PUBLIC WORKS DIRECTOR

James W. Rodkey Jr. DATE 9/7/00
JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER

Robert K. Holt DATE 8/31/00
ROBERT K. HOLT, P.E.

REVISION	BY	DATE

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 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-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.

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

APPROVED: PUBLIC WORKS DIRECTOR

James W Rodkey Jr. DATE 9/7/00

JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER

Robert K. Holt DATE 8/31/00

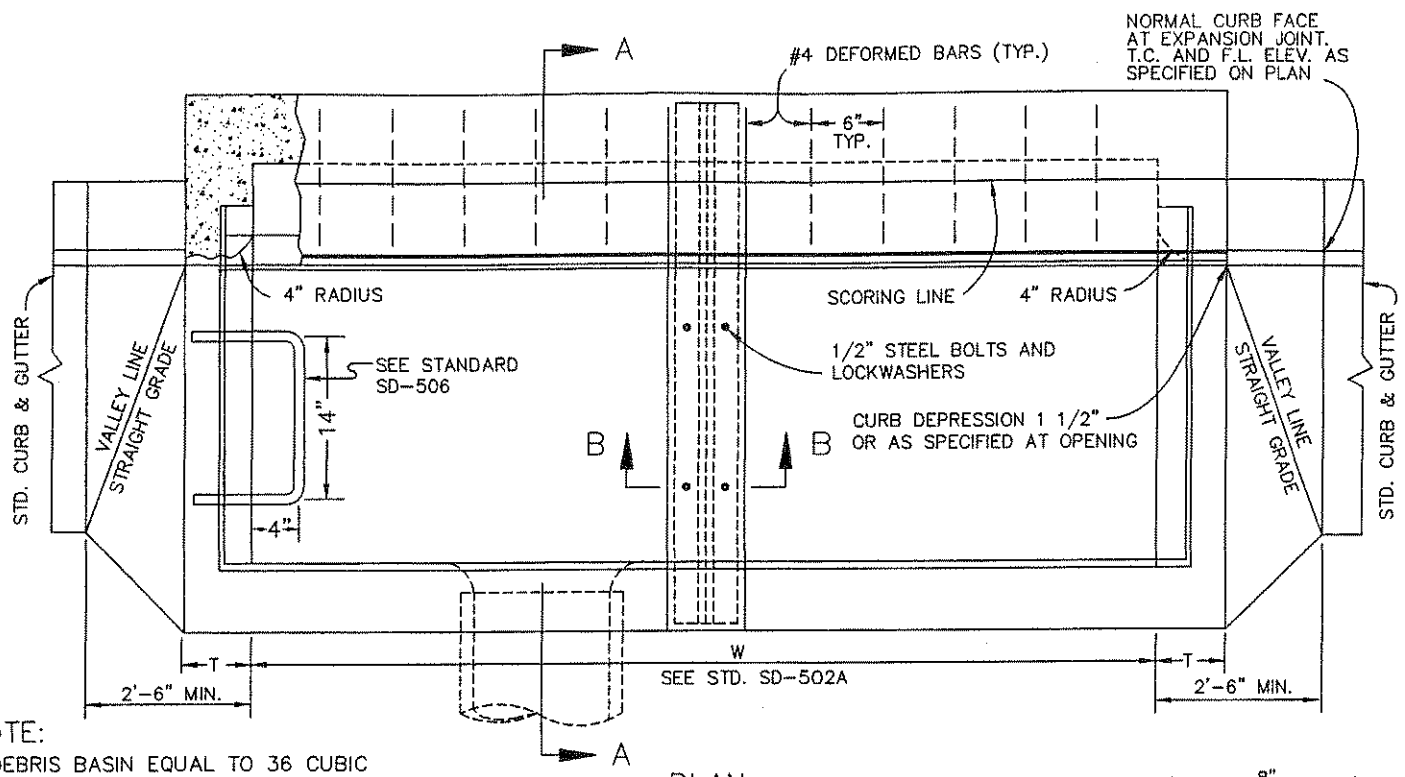
ROBERT K. HOLT, P.E.

REVISION	BY	DATE

CITY OF
BLYTHE

CURB INLET CATCH BASIN

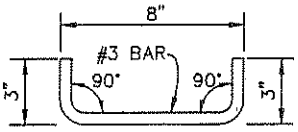
STANDARD DRAWING NO. SD-501A



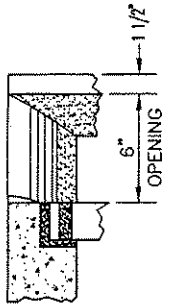
PLAN

NOTE:

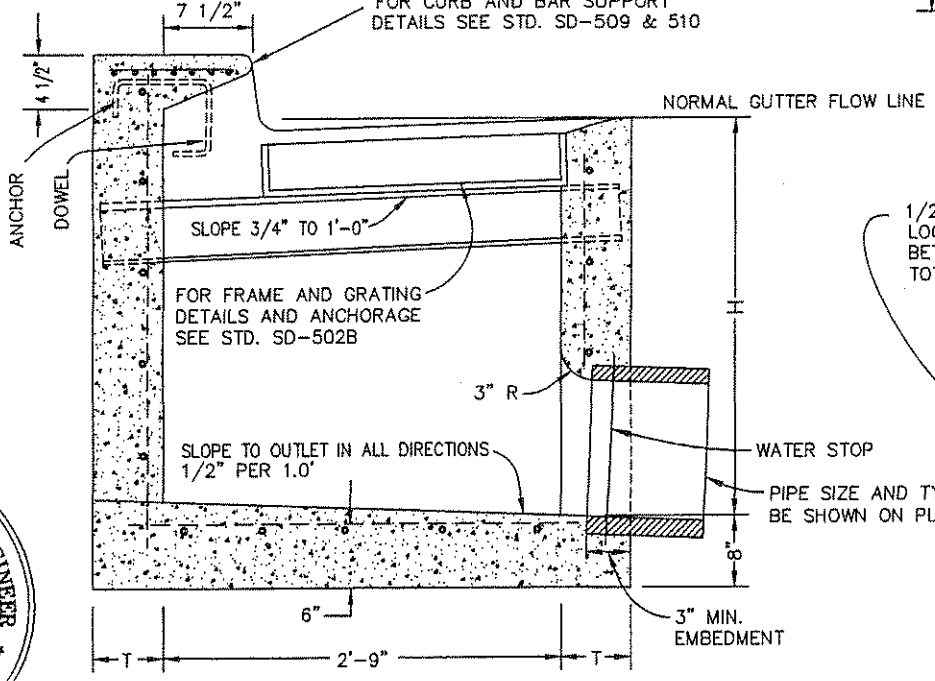
A DEBRIS BASIN EQUAL TO 36 CUBIC FEET OR GREATER MAY BE REQUIRED TO BE CONSTRUCTED IN THE BOTTOM OF THIS STRUCTURE, OR AN ADJACENT MANHOLE, FOR SAND/TRASH SEPARATION.



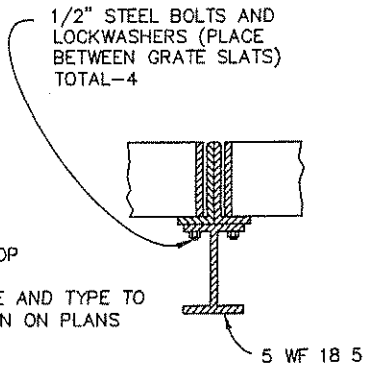
DETAIL OF DOWEL



DETAIL OF END WALL



SECTION A-A



SECTION B-B

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

APPROVED: PUBLIC WORKS DIRECTOR

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JAMES W. RODKEY, JR.

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Robert K. Holt DATE 8/31/00

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REVISION	BY	DATE

CITY OF

BLYTHE

CURB INLET WITH GUTTER GRATE CATCH BASIN

STANDARD DRAWING NO. SD-502

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-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.

REGISTERED PROFESSIONAL ENGINEER
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Exp. 3-31-02
CIVIL
STATE OF CALIFORNIA

APPROVED: PUBLIC WORKS DIRECTOR

James W. Rodkey Jr. DATE 9/7/00

JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER

Robert K. Holt DATE 9/31/00

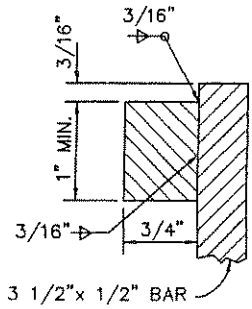
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REVISION	BY	DATE

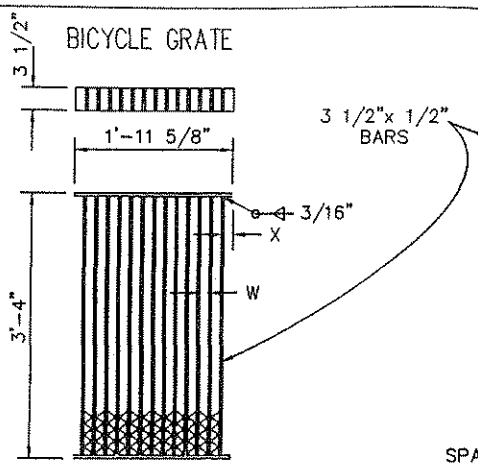
CITY OF
BLYTHE

CURB INLET WITH GUTTER GRATE CATCH BASIN

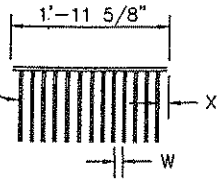
STANDARD DRAWING NO. SD-502A



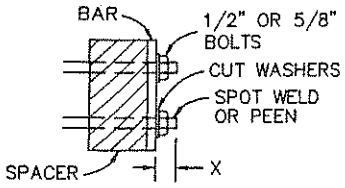
SECTION A–A



ALTERNATIVE WELDED GRATE

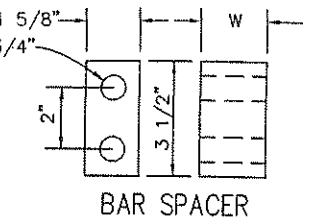


BOLTED END BLOCK

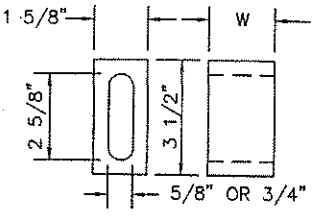


BOLTING DETAIL

ALTERNATIVE BOLTED GRATE



BAR SPACER



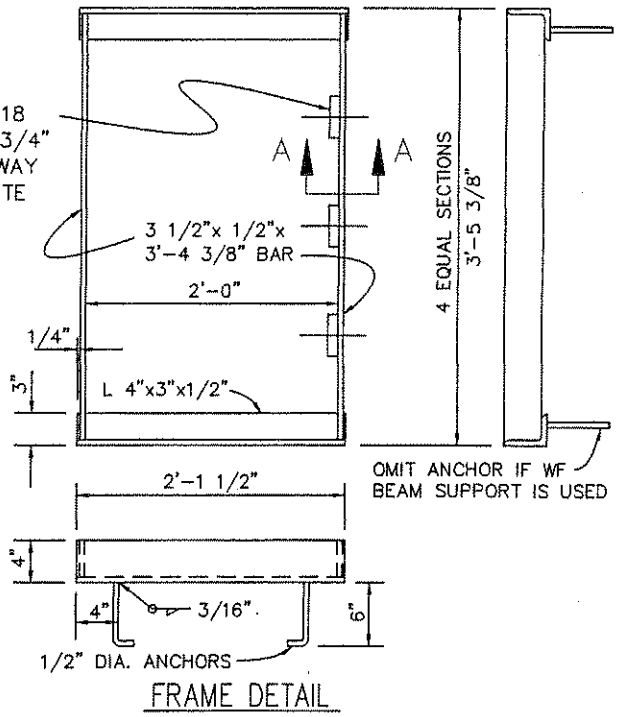
ALTERNATIVE SPACER

GRATE DETAILS
SEE TABLE BELOW

TYPE	NO. BARS	W	X	USAGE
24–9	9	2"	1 9/16"	USE IN LOCATIONS OFF THE ROADBED ON ALL TYPES OF HIGHWAYS
24–12	12	1 5/8"	1 1/4"	USE WITHIN THE ROADBED ON HIGHWAYS WHERE BICYCLE AND PEDESTRIANS ARE EXCLUDED, OR FOR RURAL CONDITIONS
24–18	18	3/4"	15/16"	USE WITHIN THE ROADBED UNDER URBAN CONDITIONS WHERE BICYCLES AND PEDESTRIANS ARE PERMITTED

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

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



FRAME DETAIL

WEIGHTS		
TYPE	WELDED	BOLTED
24–9	200	230
24–12	258	286
24–18	372	400
24" FRAME	90	

GENERAL NOTES:

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

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James W. Rodkey Jr. DATE 9/7/00
JAMES W. RODKEY, JR.

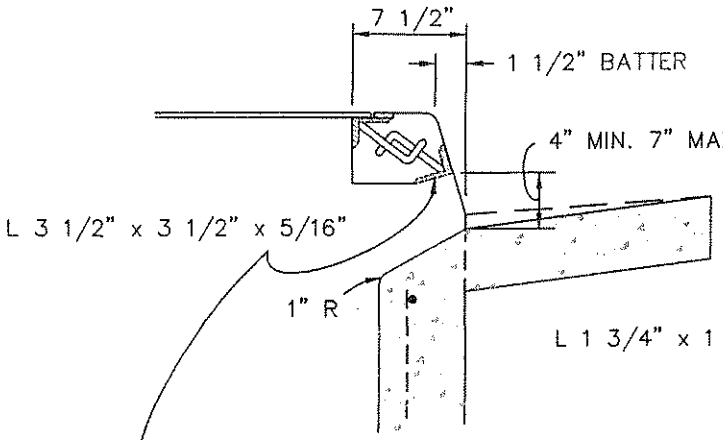
APPROVED: CITY ENGINEER
Robert K. Holt DATE 8/31/00
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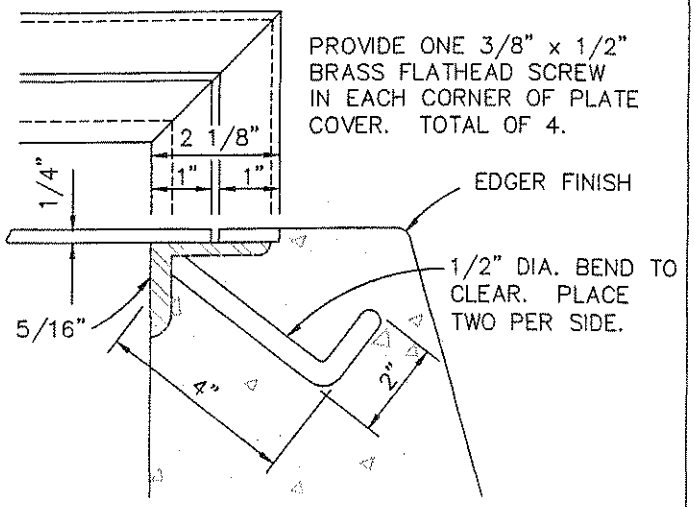
STORM DRAIN FRAME AND GRATE DETAIL

STANDARD DRAWING NO. SD–502B

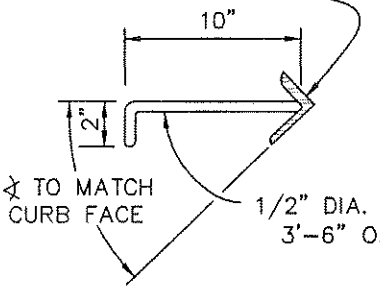


CURB OPENING DETAIL

STANDARD 6" OR 8" CURB
SEE STD. DWGS. S-208 & S208A



FRAME AND PLATE ANCHOR DETAIL



FACE ANGLE ANCHOR DETAIL

CATCH BASIN CROSS SECTION DETAIL

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

APPROVED: PUBLIC WORKS DIRECTOR

James W. Rodkey, Jr. DATE 9/7/00

JAMES W. RODKEY, JR.

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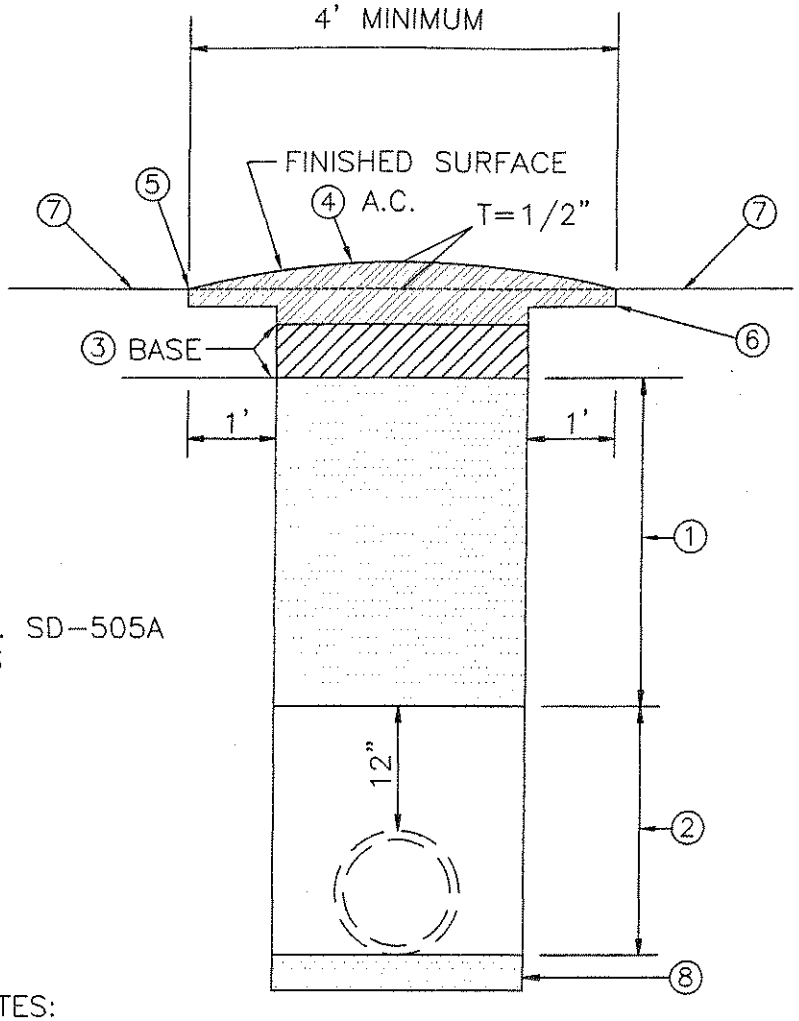
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CITY OF BLYTHE

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. PAVMENT 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.

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TRENCH REPLACEMENT

STANDARD DRAWING NO. SD-505

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.

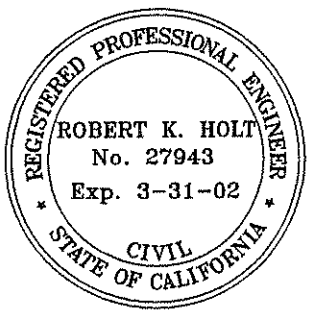
LABORATORY MAXIMUM DENSITY
METHOD 1: LABORATORY MAXIMUM DENSITY OF SOIL SHALL BE DETERMINED BY ASTM D1557-91 MODIFIED BY USING THREE LAYERS INSTEAD OF FIVE LAYERS. (COMPACTIVE EFFORT EQUALS 33,750 FT-LBS PER CUBIC FOOT.)

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.



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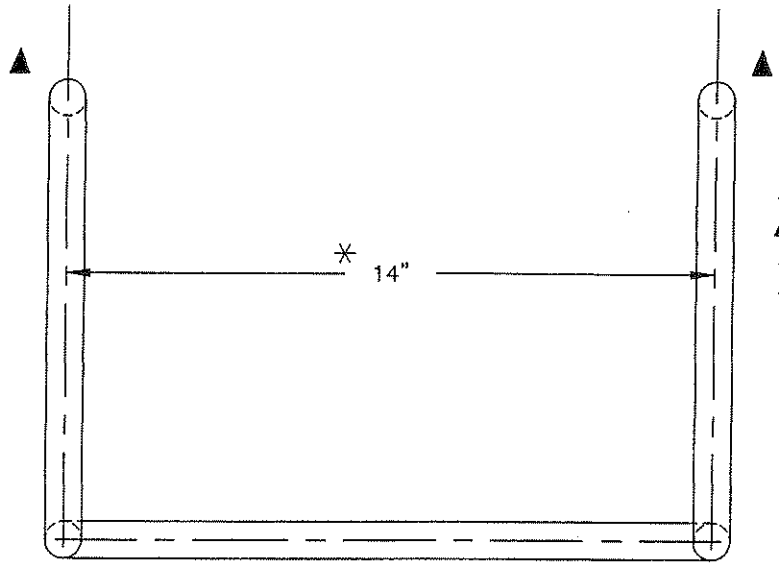
APPROVED: CITY ENGINEER
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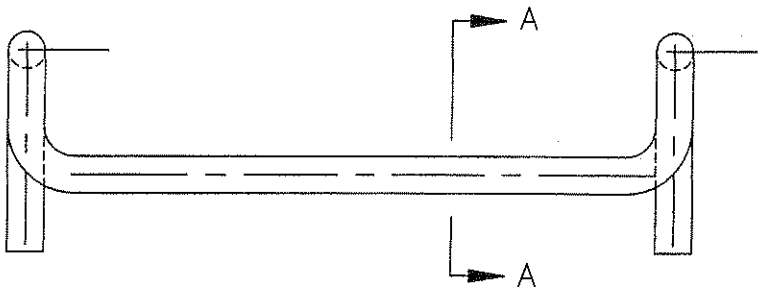
TRENCH REPLACEMENT

STANDARD DRAWING NO. SD-505A

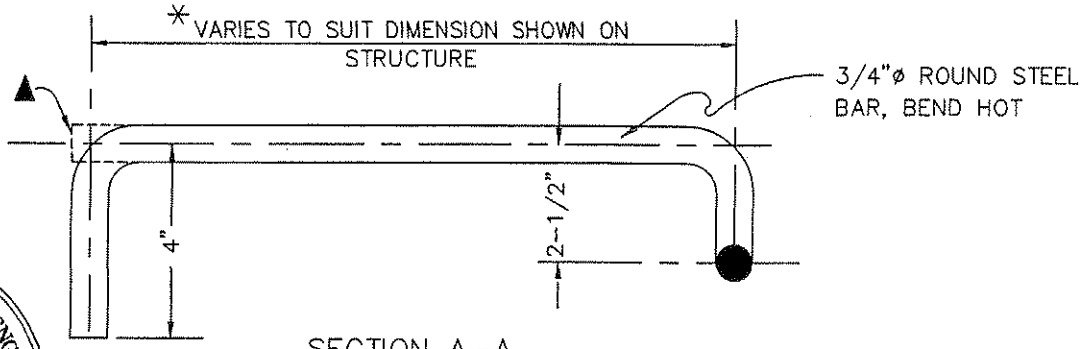


NOTE:
▲ = WHEN STEEL FORMS ARE USED, ELIMINATE HOOK AND USE UPSET END.

PLAN VIEW



FRONT ELEVATION



SECTION A–A
GALVANIZE AFTER BENDING

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

REGISTERED PROFESSIONAL ENGINEER
ROBERT K. HOLT
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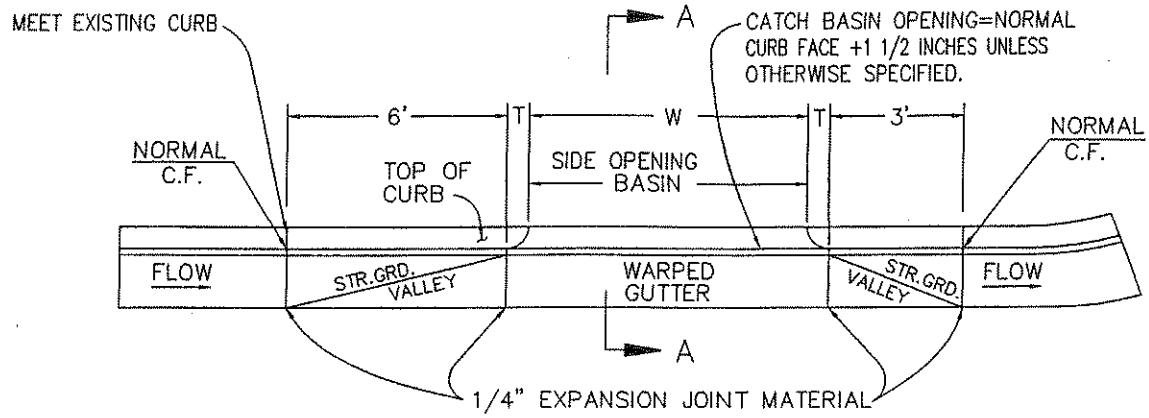
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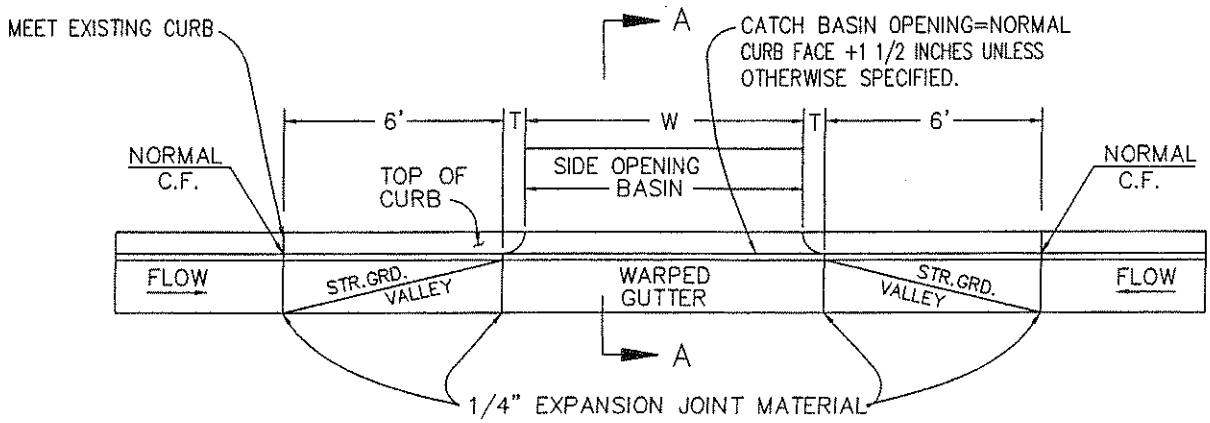
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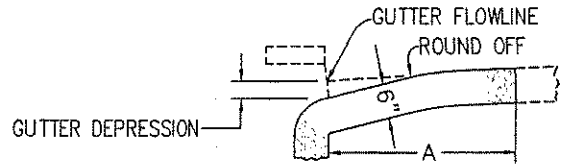
CITY OF
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STANDARD
DROP STEP

STANDARD DRAWING NO. SD–506







SECTION A–A

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

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.

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James W. Rodkey Jr. DATE 9/7/00

JAMES W. RODKEY, JR.

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LOCAL DEPRESSION

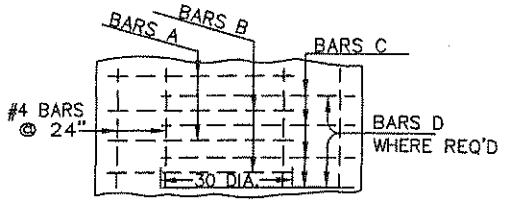
STANDARD DRAWING NO. SD-507

NOTES

1. WALL & FLOORING REINFORCING SHOWN HEREON SHALL BE USED WITH CATCH BASIN STANDARD DRAWINGS.
2. REINFORCING STEEL SHOWN HEREON 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 EQUALED 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

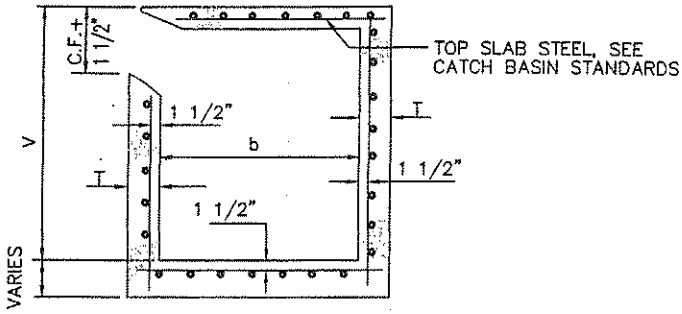
REINFORCING STEEL SHOWN HEREON SHALL BE USED IN ALL CATCH BASINS WHEN EXCAVATION OR SOIL CONDITIONS REQUIRE BOTH SIDES OF THE WALLS TO BE FORMED REGARDLESS OF BASIN LENGTH OR DEPTH.



FLOOR REINFORCEMENT SECTION 2

W OF C.B.	V (FT.) FROM	V (FT.) TO (INCL)	T (IN)	FRONT WALL STEEL HOR.	FRONT WALL STEEL VERT.	REAR & END WALLS & FLOOR STEEL EACH WAY
TO 7'		4	6	#3@ 6"	#3@ 6"	# 3 @ 6"
TO 7'	4	8	8	#4@ 12"	#4@ 12"	# 4 @ 12"
TO 7'	8	12	10	#4@ 10"	#4@ 10"	# 4 @ 10"
14'		3.5'	6	#3@ 6"	#3@ 6"	# 3 @ 6"
14'	3.5'	8	8	#4@ 12"	#4@ 12"	# 4 @ 12"
14'	8	10	10	#4@ 8"	#4@ 12"	# 4 @ 10"
14'	10	12	10	#4@ 6"	#4@ 12"	# 4 @ 10"

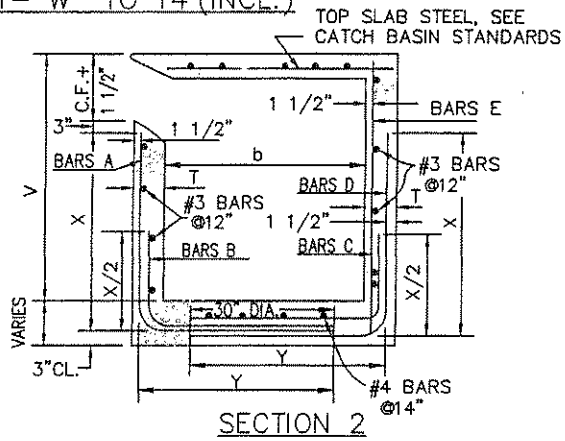
WALL AND FLOOR STEEL



SECTION 1

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

V (FT.) FROM	V (FT.) TO (INCL)	T (IN)	FRONT WALL STEEL BAR A & B	REAR WALL STEEL BARS C	BARS D	STEEL BARS E	END WALL STEEL HOR. & VERT.
	4	6	# 3 @ 24"	#3@ 12"	-----	#4@ 24"	#3@ 18"
4	5	8	# 3 @ 20"	#3@ 12"	-----	#4@ 24"	#3@ 14"
5	6	8	# 3 @ 12"	#3@ 10 1/2"	-----	#4@ 24"	#3@ 14"
6	7	8	# 4 @ 17"	#3@ 8 1/2"	-----	#4@ 24"	#3@ 14"
7	8	8	# 4 @ 13"	#3@ 6 1/2"	-----	#4@ 24"	#3@ 14"
8	9	10	# 4 @ 15"	#3@ 7 1/2"	-----	#4@ 20"	#3@ 11"
9	10	10	# 4 @ 12"	#4@ 12"	-----	#4@ 20"	#3@ 11"
10	11	10	# 5 @ 15"	-----	#4@ 11"	#4@ 18"	#3@ 11"
11	12	10	# 6 @ 18"	-----	#4@ 9"	#4@ 13"	#3@ 11"
	X=(V+T)-(C.F.+4 1/2")				Y= $(\frac{b}{2}+21)$+15 DIA.-1 1/2"		

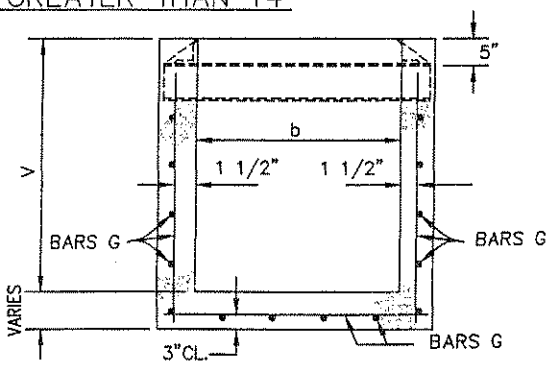


SECTION 2

WALL AND FLOOR STEEL

CATCH BASIN REINFORCEMENT-"W" GREATER THAN 14'

V (FT.) FROM	V (FT.) TO (INCL)	T (IN)	SIDE & END WALL STEEL BARS G
	4	6	# 3 @ 6"
4	8	8	# 4 @ 6"
8	12	10	# 5 @ 6"



GRATING BASIN REINFORCEMENT

REGISTERED PROFESSIONAL ENGINEER
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Exp. 3-31-02
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James W. Rodkey Jr. DATE 9/7/00

JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER

Robert K. Holt DATE 8/31/00

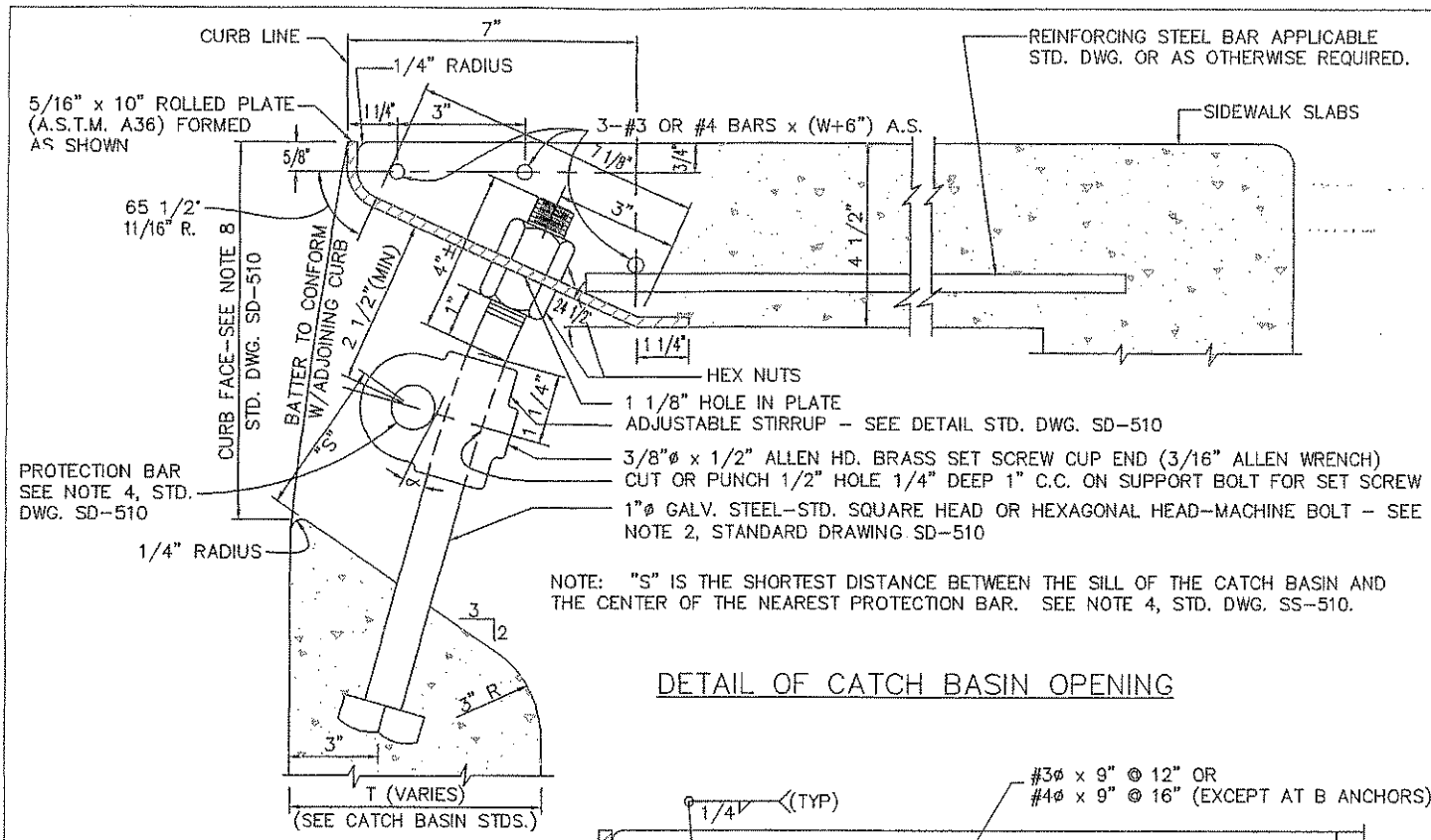
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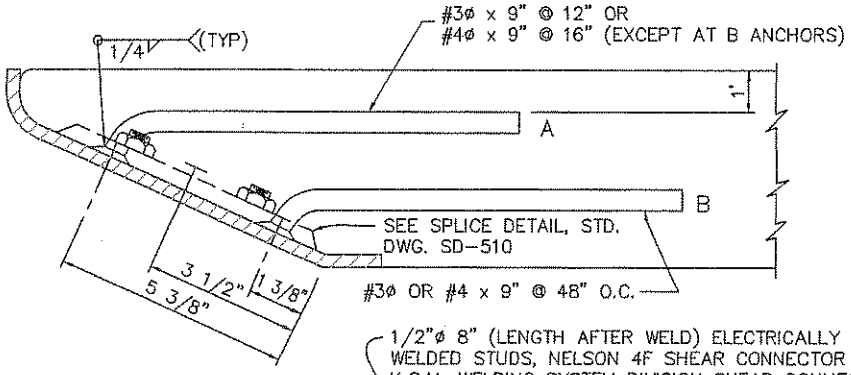
CATCH BASIN REINFORCEMENT

STANDARD DRAWING NO. SD-508



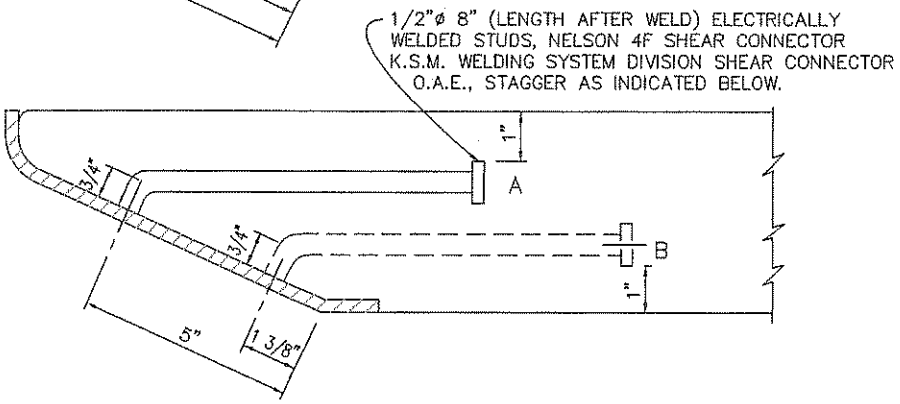
NOTE: "S" IS THE SHORTEST DISTANCE BETWEEN THE SILL OF THE CATCH BASIN AND THE CENTER OF THE NEAREST PROTECTION BAR. SEE NOTE 4, STD. DWG. SS-510.

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.

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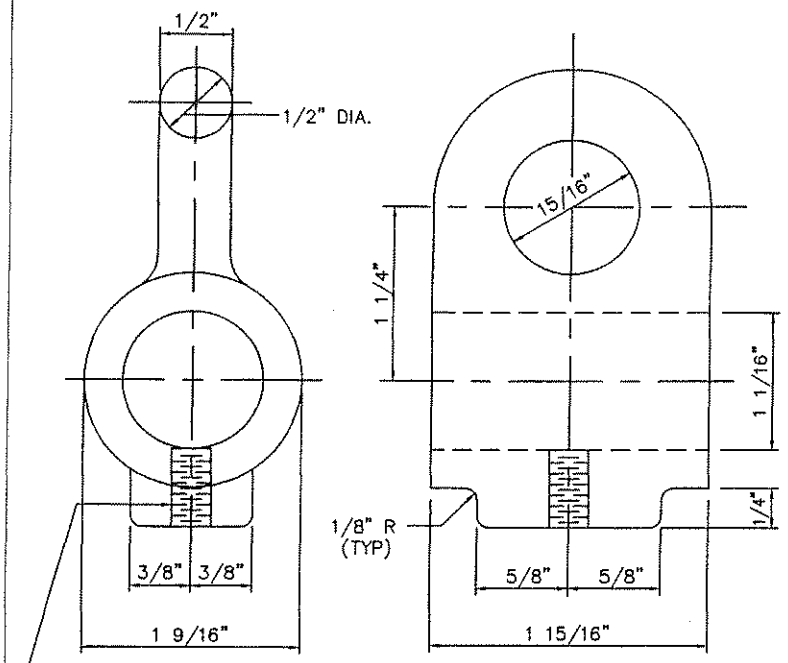
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DETAIL OF CATCH BASIN OPENING & INSTALLATION DETAILS

SHEET 1 OF 2

STANDARD DRAWING NO. SD-509



1. MATERIAL SHALL BE CAST STEEL.
2. STIRRUPS SHALL BE GALVANIZED.
3. FOR INSTALLATION DETAIL, SEE STD. DWG. SD-509

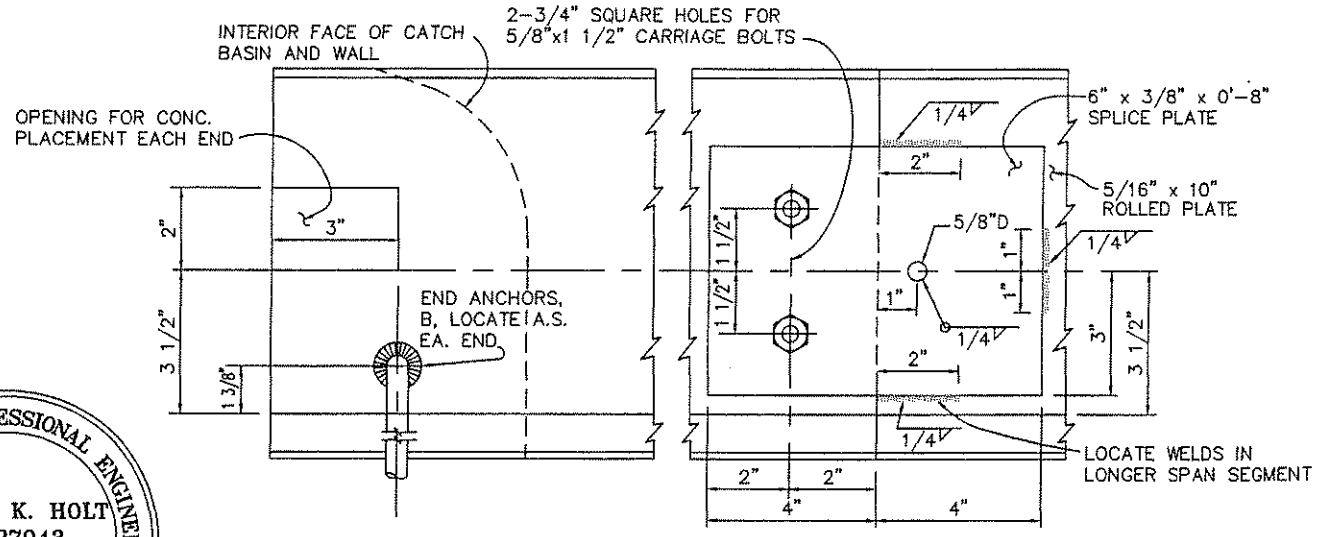
ADJUSTABLE PROTECTION BAR STIRRUP

NOTES:

1. SUPPORT BOLT ANGLE "∝" SHALL VARY TO CONFORM WITH BATTER OF ADJOINING CURB.
2. SUPPORT BOLTS SHALL BE EQUAL IN LENGTH TO CURB FACE +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 EXCEEDS 6" BARS(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 BAR 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 SPLICED ACCORDING TO THE SPLICE DETAIL. SPLICES SHALL BE PLACED ONE FOOT FROM SUPPORT BOLT.
7. LENGTH OF FACE PLATE IS W + 12" FOR ALL CATCH BASINS.
8. CATCH BASIN OPENING = NORMAL CURB FACE + 1 1/2" INCHES UNLESS OTHERWISE SPECIFIED.
9. SPACING OF ALL ANCHORAGE:
   A. SET END ANCHORS 3" FROM ENDS OF FACE PLATE.
   B. PLACE ONE "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.

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Robert K. Holt DATE 8/31/00
ROBERT K. HOLT, P.E.

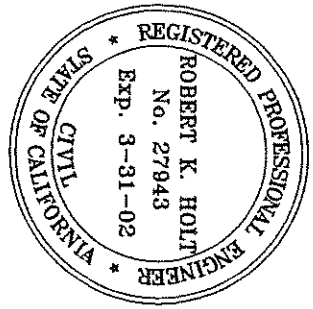
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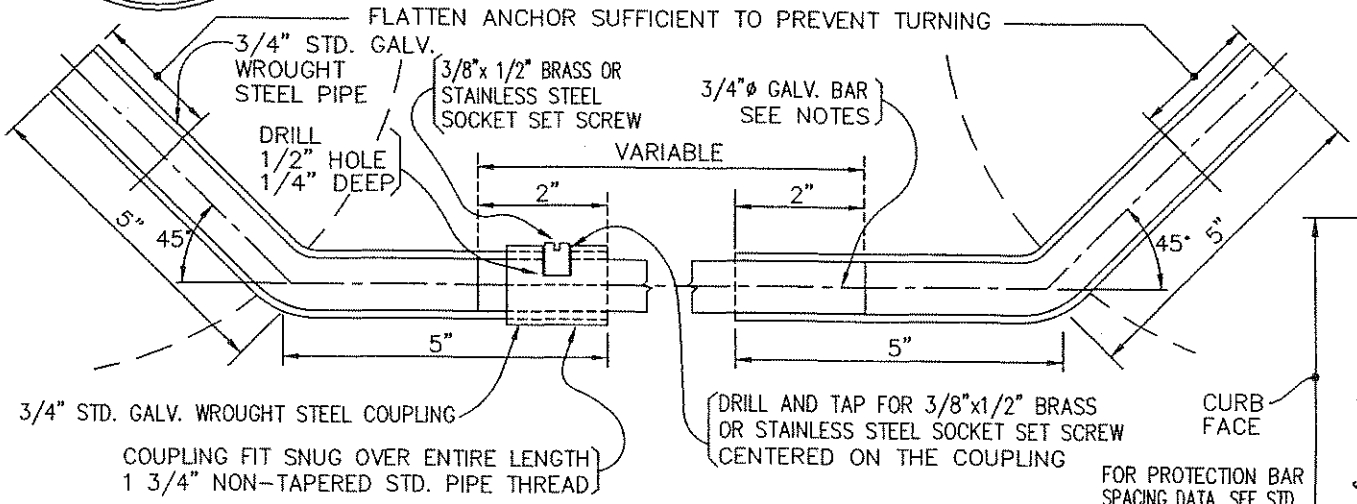
CITY OF
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DETAIL OF CATCH BASIN OPENING & INSTALLATION DETAILS
SHEET 2 OF 2

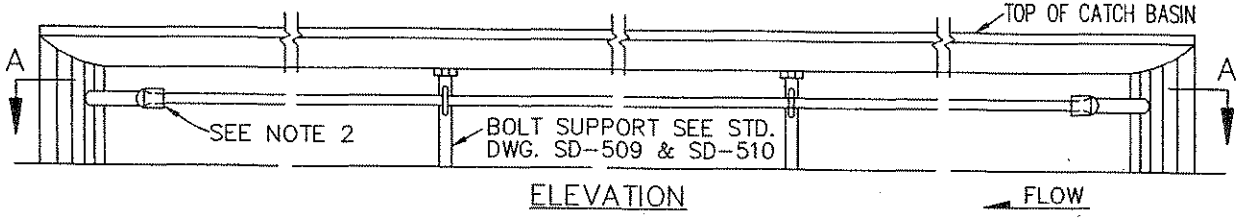
STANDARD DRAWING NO. SD-510

"W" (INCL)	NUMBER OF SUPPORT BOLTS	NUMBER OF "X" LENGTHS
5' to 10'	1	2
10' to 15'	2	3
15' to 20'	3	4
20' to 25'	4	5
25' to 30'	5	6

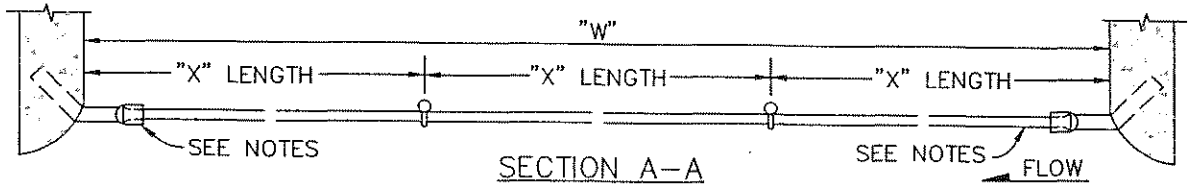




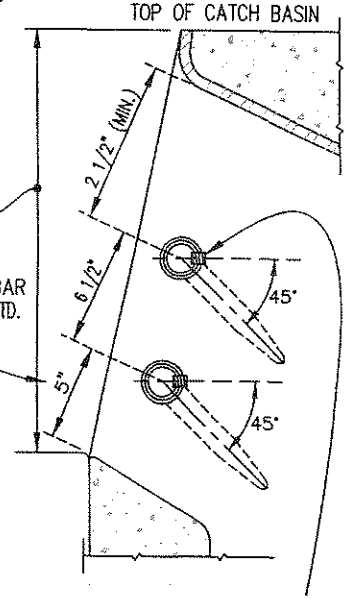
DETAIL OF ANCHOR



ELEVATION



SECTION A-A



SECTION SHOWING LOCATION OF ANCHOR AT WALL OF CATCH BASIN

NOTES:

1. ALL BARS SHALL BE 3/4" GALV. HOT-ROLLED STEEL PER A.S.T.M. DESIGNATION A-36. BAR LENGTHS SHALL NOT EXCEED 21' AND SHALL BE CUT TO FIT IN THE FIELD. WHEN "W" IS OVER 21', PROTECTION BAR SHALL CONSIST OF TWO OR MORE SECTIONS DEPENDING UPON LENGTH OF BASIN. LOCATION OF SPECIAL SUPPORT BARS AND ADDITIONAL SOCKET SET SCREW TO BE DETERMINED BY THE ENGINEER IN THE FIELD.
2. INSTALL COUPLING AT DOWNSTREAM END OF CATCH BASIN OPENING.

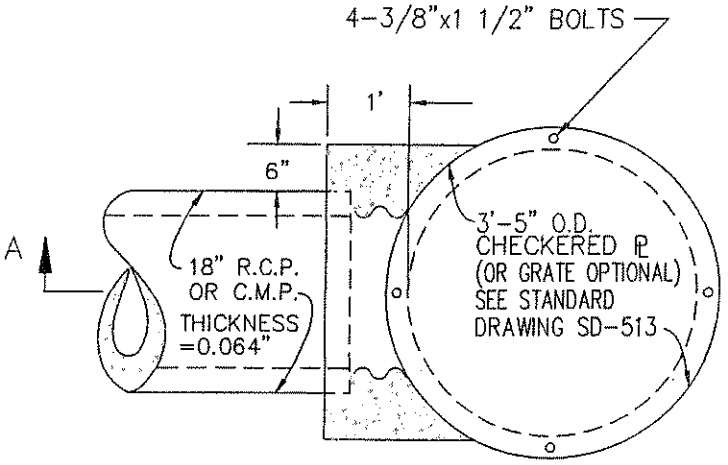
APPROVED: PUBLIC WORKS DIRECTOR
JAMES W. RODKEY, JR. DATE 9/7/00
APPROVED: CITY ENGINEER
ROBERT K. HOLT, P.E. DATE 9/12/00

REVISION	BY	DATE

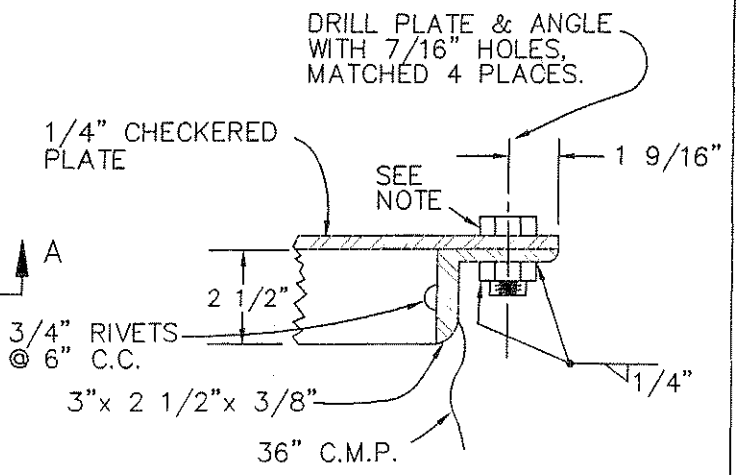
CITY OF BLYTHE

REMOVABLE PROTECTION BAR FOR CATCH BASINS

STANDARD DRAWING NO. SD-511



PLAN

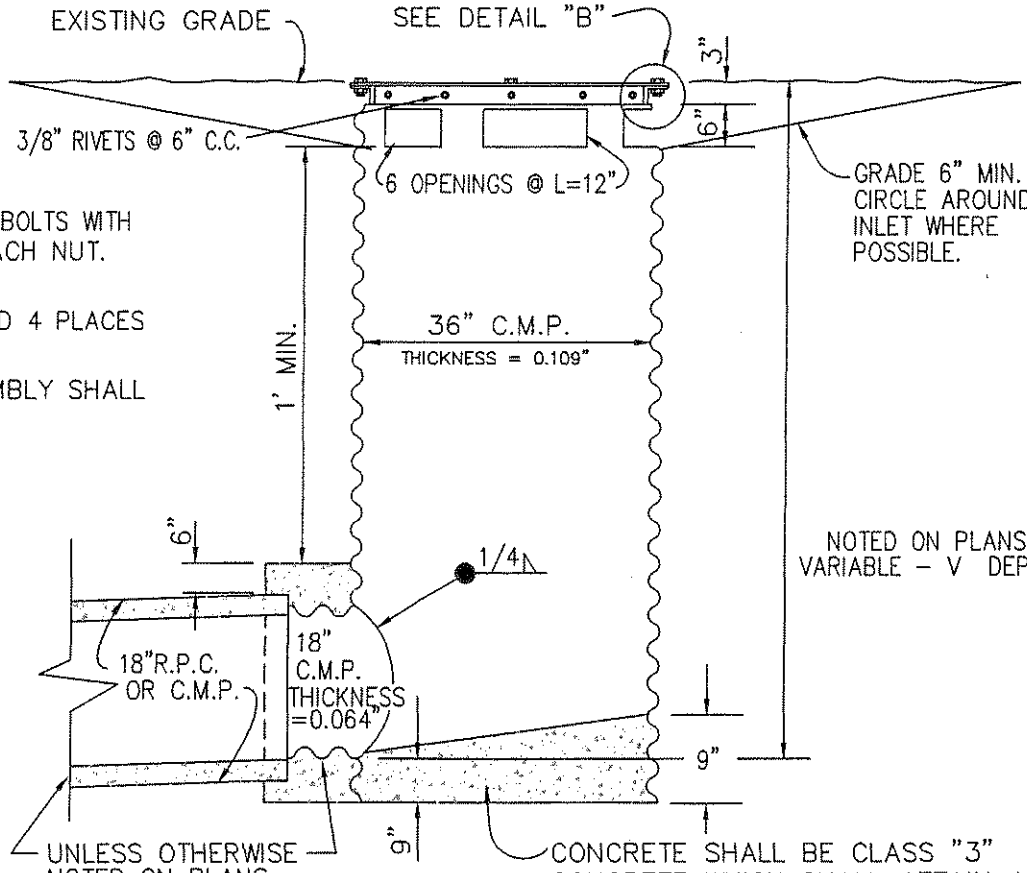


DETAIL "B"

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.



SECTION A-A

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STATE OF CALIFORNIA

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

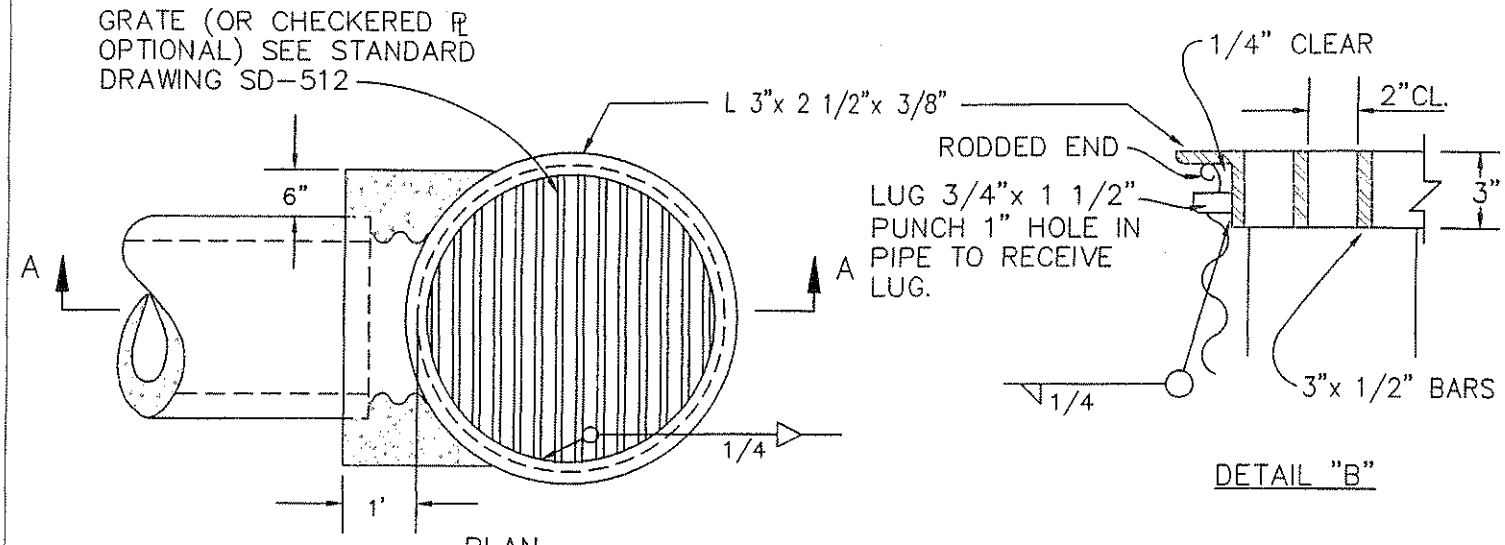
APPROVED: CITY ENGINEER
Robert K. Holt DATE 8/31/00
ROBERT K. HOLT, P.E.

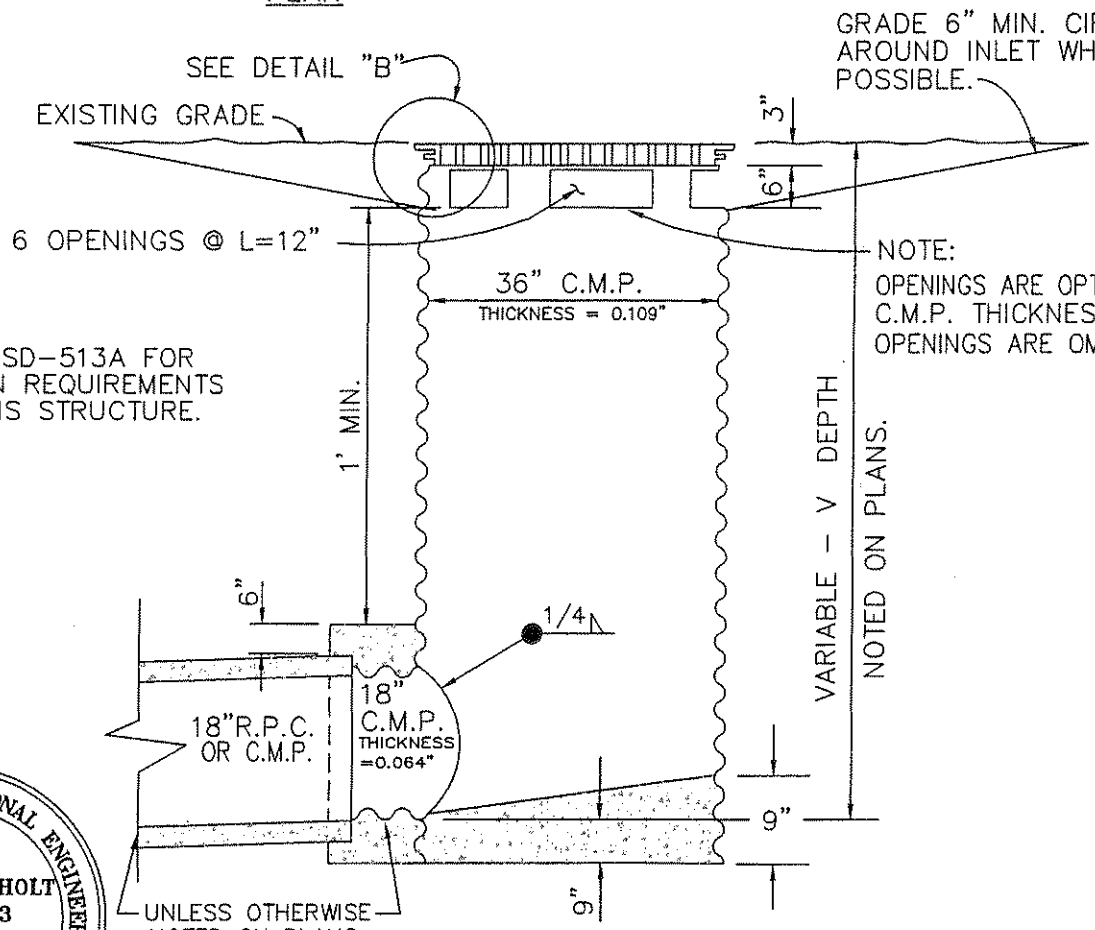
REVISION	BY	DATE

CITY OF
BLYTHE

INLET TYPE IX
(CHECKERED PLATE)

STANDARD DRAWING NO. SD-512





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

SECTION A-A

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

REGISTERED PROFESSIONAL ENGINEER
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STATE OF CALIFORNIA

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

APPROVED: CITY ENGINEER
Robert K. Holt DATE 8/31/00
ROBERT K. HOLT, P.E.

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CITY OF
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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 HEREIN.

MAXIMUM LIFTS *

MECHANICAL COMPACTION	
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.

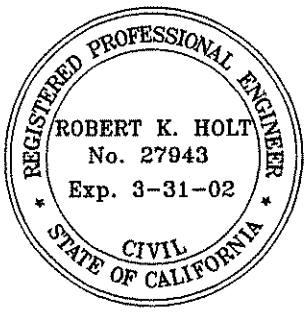
LABORATORY MAXIMUM DENSITY
METHOD 1: LABORATORY MAXIMUM DENSITY OF SOIL SHALL BE DETERMINED BY ASTM D1557-91 MODIFIED BY USING THREE LAYERS INSTEAD OF FIVE LAYERS. (COMPACTIVE EFFORT EQUALS 33,750 FT-LBS PER CUBIC FOOT.)

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.



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James W. Rodkey Jr. DATE 9/7/00
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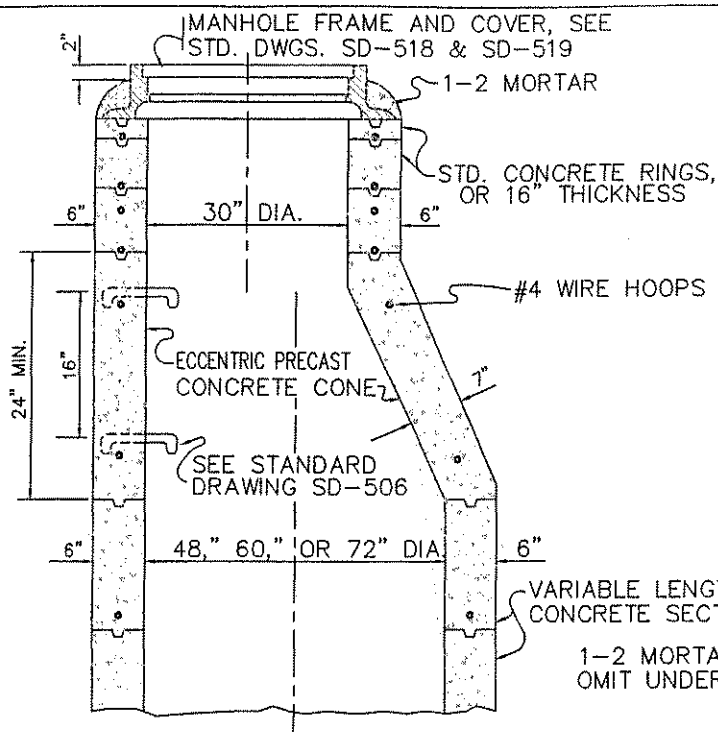
APPROVED: CITY ENGINEER
Robert K. Holt DATE 8/31/00
ROBERT K. HOLT, P.E.

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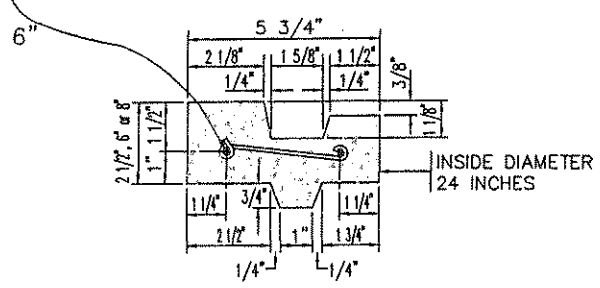
CITY OF
BLYTHE

TRENCH REPLACEMENT

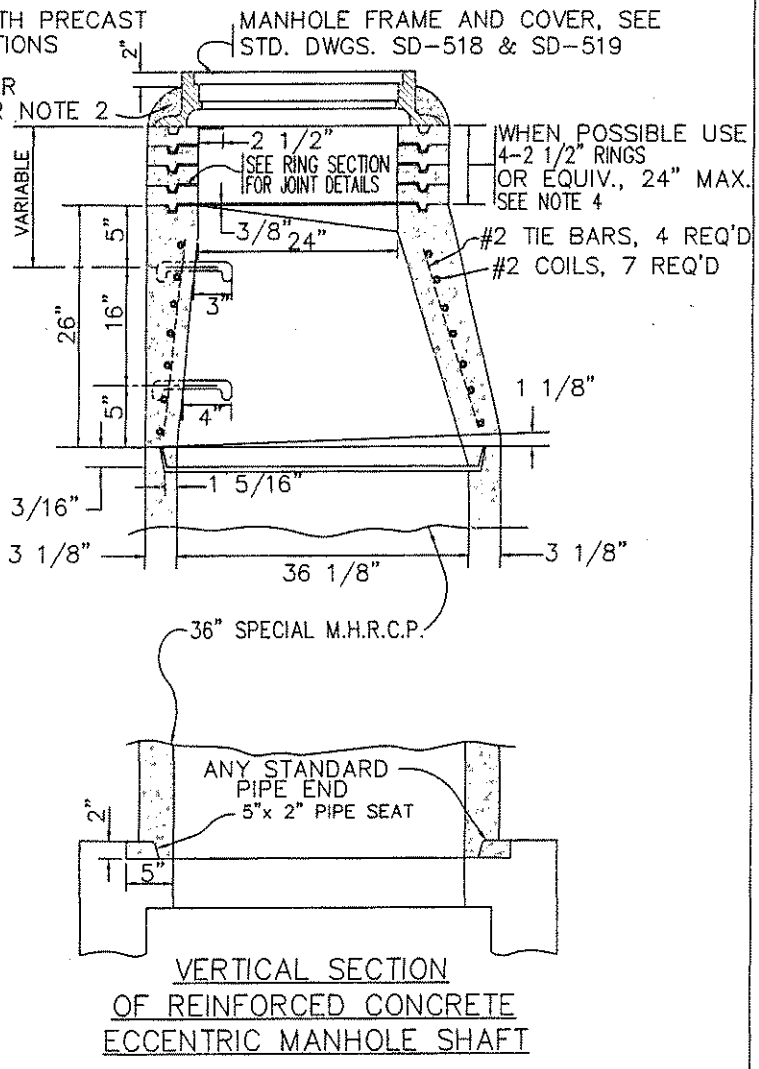
STANDARD DRAWING NO. SD-513A



VERTICAL SECTION OF PLAIN CONCRETE ECCENTRIC MANHOLE SHAFT



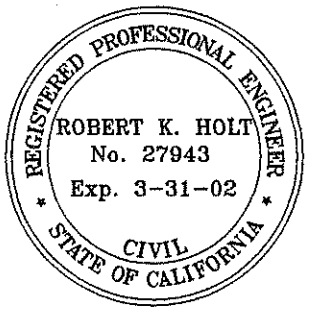
CROSS SECTION OF REINFORCED CONCRETE RING



VERTICAL SECTION OF REINFORCED CONCRETE ECCENTRIC MANHOLE SHAFT

NOTES:

1. ALL JOINTS SHALL BE FILLED WITH 1-2 MORTAR AND NEATLY POINTED OR WIPED 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".



APPROVED: PUBLIC WORKS DIRECTOR

James W. Rodkey Jr. DATE 9/7/00

JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER

Robert K. Holt DATE 8/31/00

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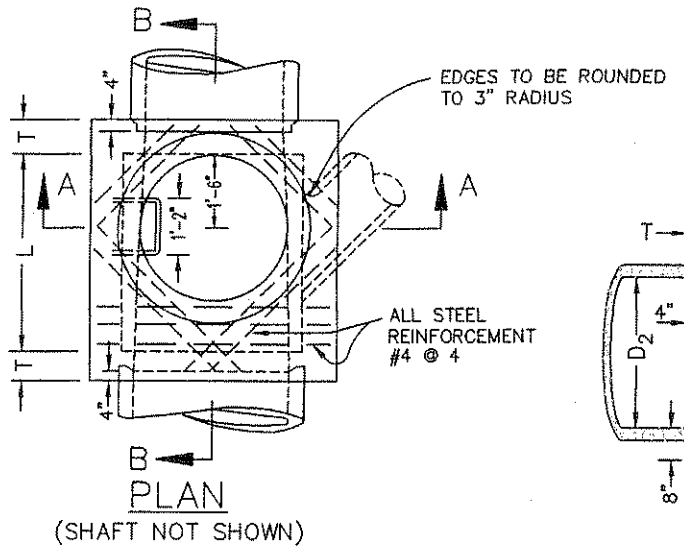
REVISION	BY	DATE

CITY OF

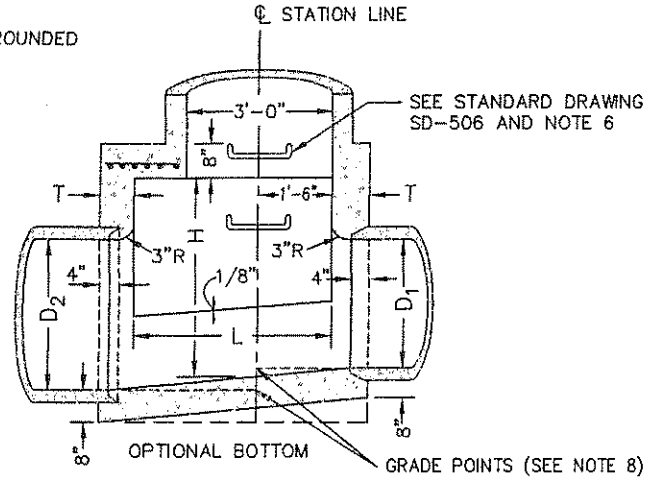
BLYTHE

PRE CAST MANHOLE SHAFT

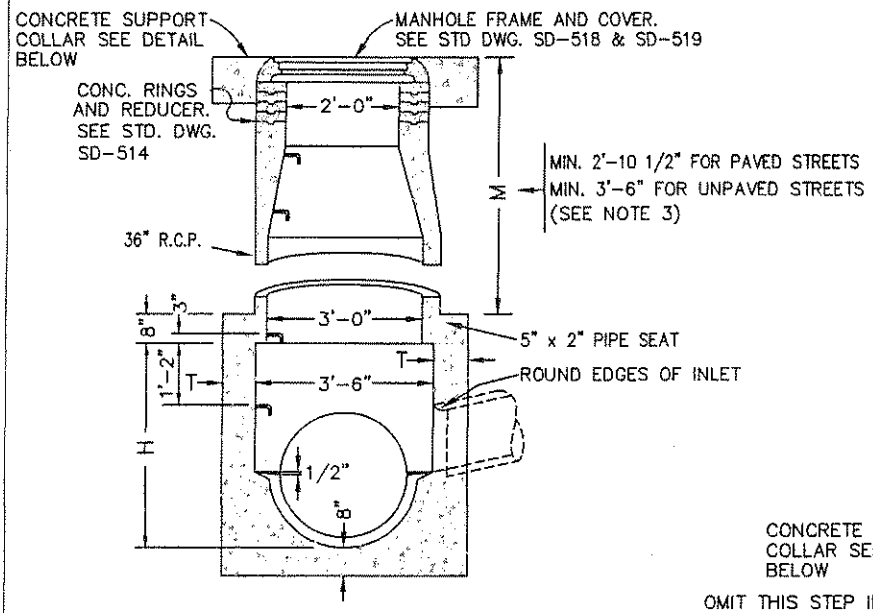
STANDARD DRAWING NO. SD-514



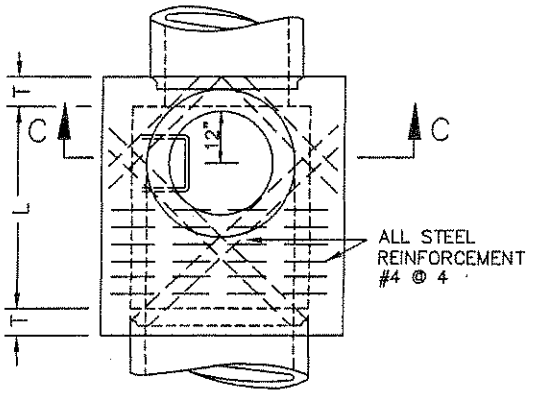
PLAN
(SHAFT NOT SHOWN)



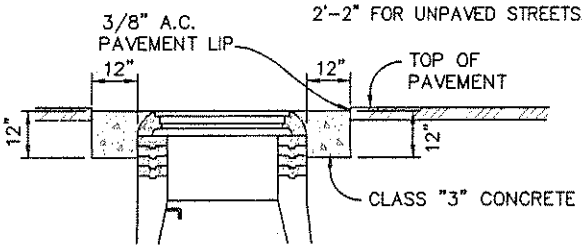
SECTION B-B



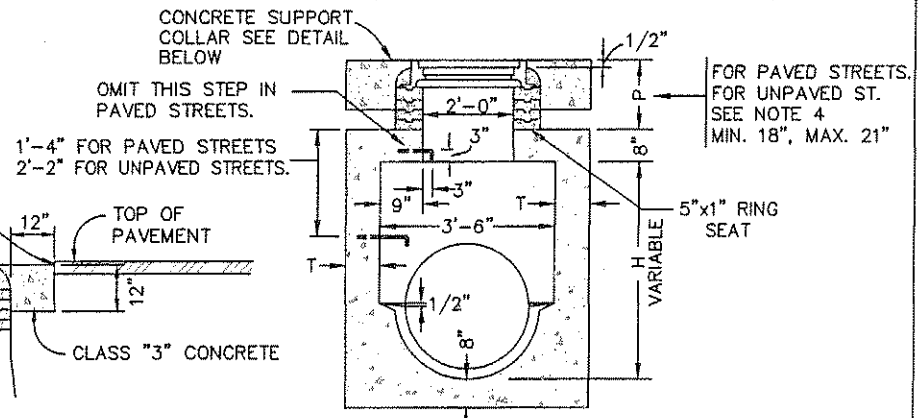
SECTION A-A



DETAIL N
PLAN
(SHAFT NOT SHOWN, SEE NOTE 3)



SUPPORT COLLAR DETAIL



SECTION C-C

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

APPROVED: PUBLIC WORKS DIRECTOR

James W. Rodkey Jr. DATE 9/1/00

JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER

Robert K. Holt DATE 8/31/00

ROBERT K. HOLT, P.E.

REVISION	BY	DATE

CITY OF
BLYTHE

STORM DRAIN
MANHOLE NO. 1

STANDARD DRAWING NO. SD-515

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 ℄ 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 WIPED 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 ACCORDANCE WITH ASTM C39/C39M–99.

REGISTERED PROFESSIONAL ENGINEER
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STATE OF CALIFORNIA

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

APPROVED: CITY ENGINEER
Robert K. Holt DATE 8/31/00
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CITY OF
BLYTHE

STORM DRAIN
MANHOLE NO. 1

STANDARD DRAWING NO. SD–515A

APPROVED: PUBLIC WORKS DIRECTOR

JAMES W. RODKEY, JR. DATE 9/1/00

APPROVED: CITY ENGINEER

ROBERT K. HOLT, P.E. DATE 9/5/00

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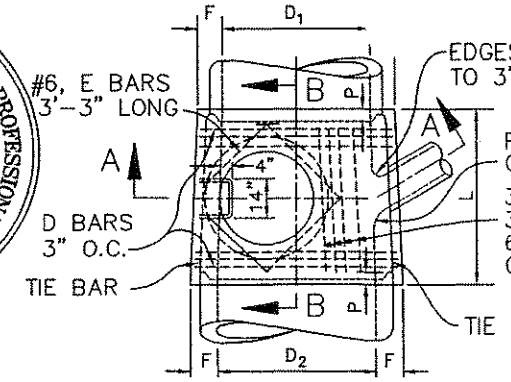
CITY OF BLYTHE

STORM DRAIN MANHOLE No. 2

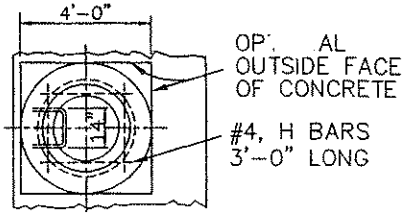
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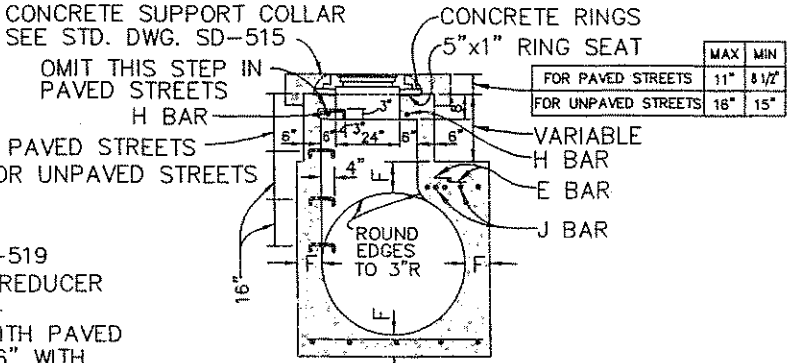
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PLAN
(SHAFT NOT SHOWN)

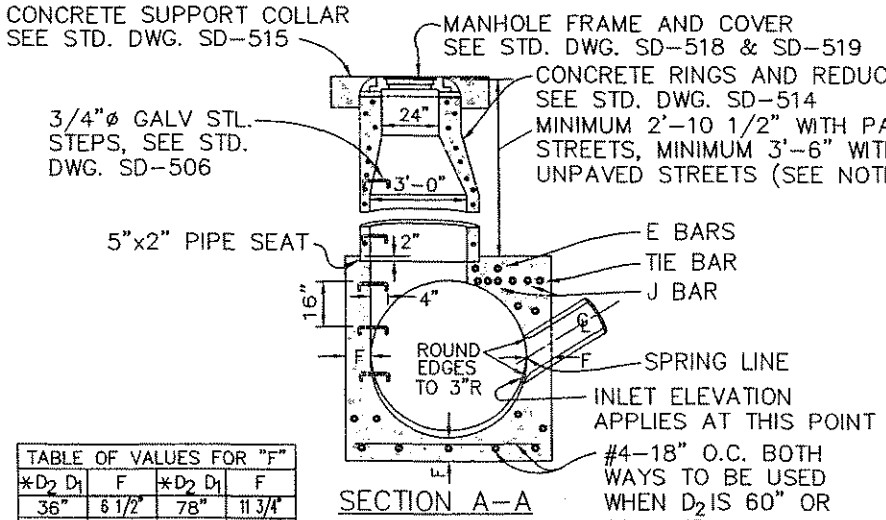


PLAN
(RINGS AND COVER NOT SHOWN)



	MAX	MIN
FOR PAVED STREETS	11"	8 1/2"
FOR UNPAVED STREETS	18"	15"

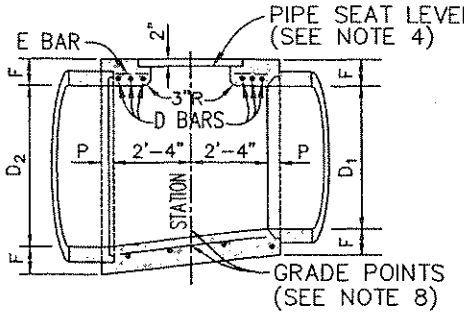
DETAIL M
(SEE NOTE 3)



SECTION A-A

TABLE OF VALUES FOR "F"			
*D_2 D_1	F	*D_2 D_1	F
36"	6 1/2"	78"	11 3/4"
39"	7"	84"	12 1/2"
42"	7 1/2"	90"	13 1/4"
45"	7 3/4"	96"	14"
48"	8"	102"	15 1/2"
51"	8 1/2"	108"	16"
54"	9"	114"	16 1/2"
57"	9 1/4"	120"	17"
60"	9 1/2"	126"	17"
63"	10"	132"	17 1/2"
66"	10 1/4"	138"	17 1/2"
69"	10 3/4"	144"	18"
72"	11"		

*USE D_2 OR D_1, WHICHEVER IS GREATER



SECTION B-B

NOTES:

1- TABLE OF VALUES FOR "F" ARE ON THIS PLAN.

2- CENTER OF MANHOLE SHAFT SHALL BE LOCATED OVER CENTERLINE OF STORM DRAIN WHEN DIAMETER D IS 48" OR LESS, IN WHICH CASE PLACE E BARS SYMMETRICALLY AROUND SHAFT AT 45° WITH CENTERLINE AND OMIT J BARS.

3- 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. SHAFT FOR ANY DEPTH OF MANHOLE MAY BE CONSTRUCTED PER DETAIL M. WHEN DIAMETER D IS 48" OR LESS, CENTER OF SHAFT MAY BE LOCATED PER NOTE 2.

4- THICKNESS OF DECK SHALL VARY WHEN NECESSARY TO PROVIDE LEVEL PIPE SEAT BUT SHALL NOT BE LESS THAN TABULAR VALUES FOR F SHOWN ON THIS PLAN.

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

6- STEPS SHALL 3/4" ROUND, GALVANIZED STEEL AND ANCHORED NOT LESS THAN 4" IN THE WALL OF STRUCTURE. UNLESS OTHERWISE SHOWN, THE SPACING SHALL BE 16". THE LOWEST STEP SHALL NOT BE MORE THAN 2'-0" ABOVE THE INVERT. SEE STD. DWG. SD-506.

7- RINGS, REDUCER AND PIPE FOR ACCESS SHAFT SHALL BE SEATED IN MORTAR AND NEATLY POINTED OR WIPED INSIDE THE SHAFT.

8- STATIONS OF MANHOLES SHOWN ON PLAN APPLY AT CENTER OF SHAFT. ELEVATIONS SHOWN AT STATIONS REFER TO PROLONGED INVERT GRADE LINES.

9- FLOOR OF MANHOLE SHALL BE STEEL-TROWELED TO SPRING LINE.

10- BODY OF MANHOLE SHALL BE POURED IN ONE CONTINUOUS OPERATION EXCEPT THAT A CONSTRUCTION JOINT WITH A LONGITUDINAL KEYWAY MAY BE PLACED AT THE SPRING LINE.

11- LENGTH L AND EMBEDMENT P SHALL HAVE THE FOLLOWING VALUES UNLESS OTHERWISE SHOWN ON PLAN:
FOR D_2=96" OR LESS, L=5'-6", P=5"
D_2 OVER 96", L=6'-0", P=8"
L MAY BE INCREASED OR LOCATION OF MANHOLE SHIFTED TO MEET PIPE ENDS. WHEN L GREATER THAN THAT SHOWN ABOVE IS SPECIFIED, D BARS SHALL BE CONTINUED 6" O.C.

12- D BARS SHALL BE #4 FOR D_2=39" OR LESS, #5 FOR D =42" TO 84" INCLUSIVE AND #6 FOR D_2=90" OR OVER. TIE BARS SHALL BE #3 BARS.

13- STRUCTURAL CONCRETE SHALL BE CLASS "3" CONCRETE WHICH SHALL ATTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C39M-99.

14- CENTERLINE OF INLET PIPE TO INTERSECT INSIDE FACE OF CONE AT SPRING LINE UNLESS OTHERWISE SHOWN.

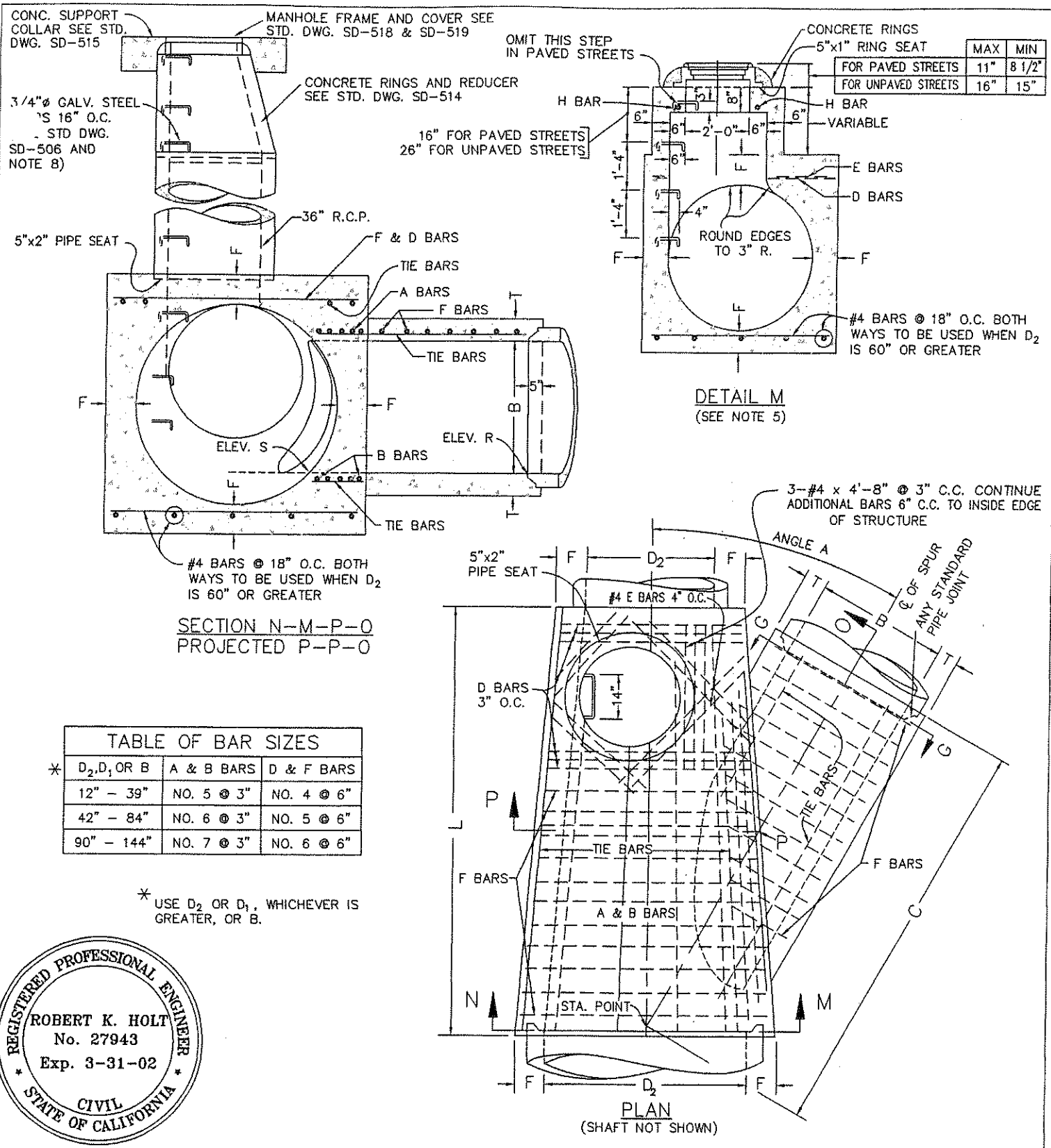


TABLE OF BAR SIZES		
* D_2, D_1 OR B	A & B BARS	D & F BARS
12" – 39"	NO. 5 @ 3"	NO. 4 @ 6"
42" – 84"	NO. 6 @ 3"	NO. 5 @ 6"
90" – 144"	NO. 7 @ 3"	NO. 6 @ 6"

* USE D_2 OR D_1, WHICHEVER IS GREATER, OR B.

REGISTERED PROFESSIONAL ENGINEER
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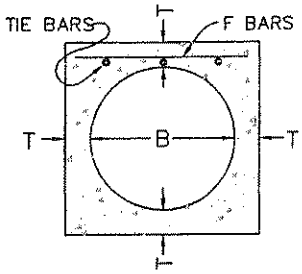
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ROBERT K. HOLT, P.E. DATE 8/31/00

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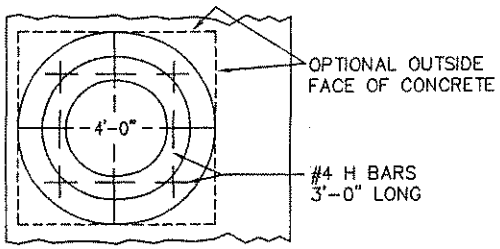
CITY OF
BLYTHE

STORM DRAIN
MANHOLE NO. 3

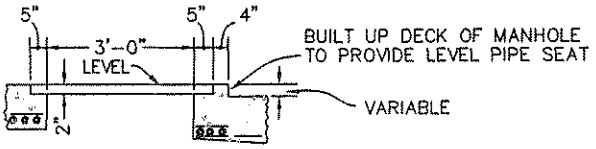
STANDARD DRAWING NO. SD-517



SECTION G-G
(SEE STD. DWG. SD-517)



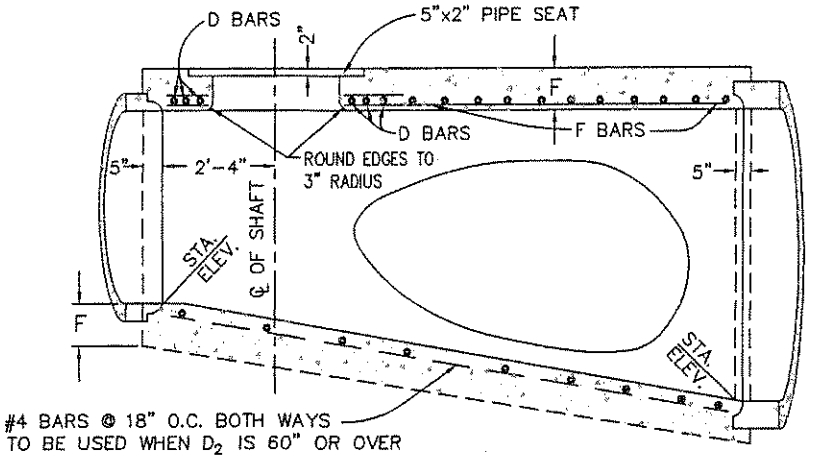
PLAN
(RINGS AND COVER NOT SHOWN)



SEAT FOR SHAFT
WHEN TOP IS NOT LEVEL

TABLE OF BAR SIZES		
* D_2, D_1 OR B	A & B BARS	D & F BARS
12" – 39"	NO. 5 @ 3"	NO. 4 @ 6"
42" – 84"	NO. 6 @ 3"	NO. 5 @ 6"
90" – 144"	NO. 7 @ 3"	NO. 6 @ 6"

* USE D_2 OR D_1, WHICHEVER IS GREATER, OR B.



LONGITUDINAL SECTION
(SEE STD. DWG. SD-517)

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

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

APPROVED: CITY ENGINEER
Robert K. Holt DATE 8/31/00
ROBERT K. HOLT, P.E.

REVISION	BY	DATE

CITY OF
BLYTHE

STORM DRAIN
MANHOLE NO. 3

STANDARD DRAWING NO. SD-517A

1– VALUES FOR A, B, C, D_1, D_2, 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 D_1 IS 48" OR LESS, IN WHICH CASE PLACE 8 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 D_1 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-506, 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– FLOOR OF MANHOLE SHALL BE STEEL-TROWELED TO SPRING LINE.

11– 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 D_1 OR D_2, WHICHEVER IS GREATER, OR B.

** IF D_2, D_1, OR B FALLS BETWEEN TABULATED VALUES THEN USE THE NEXT HIGHEST VALUE TO DETERMINE F OR T.

** TABLE OF VALUES FOR F AND T

* D_1, D_2	F
12"	4"
15"	4 1/4"
18"	4 1/2"
21"	5"
24"	5 1/4"
27"	5 1/2"
30"	6"
33"	6 1/4"
36"	6 1/2"
39"	7"
42"	7 1/2"
45"	7 3/4"
48"	8"
51"	8 1/2"
54"	9"
57"	9 1/4"
60"	9 1/2"
63"	10"
66"	10 1/4"
69"	10 3/4"
72"	11"
78"	11 3/4"
84"	12 1/2"
90"	13 1/4"
96"	14"
102"	15 1/2"
108"	16"
114"	16 1/2"
120"	17"
126"	17"
132"	17 1/2"
138"	17 1/2"
144"	18"

B	T
12"	4"
15"	4 1/4"
18"	4 1/2"
21"	5"
24"	5 1/4"
27"	5 1/2"
30"	6"
33"	6 1/4"
36"	6 1/2"
39"	7"
42"	7 1/2"
45"	7 3/4"
48"	8"
51"	8 1/2"
54"	9"
57"	9 1/4"
60"	9 1/2"
63"	10"
66"	10 1/4"
69"	10 3/4"
72"	11"

B	T
78"	11 3/4"
84"	12 1/2"
90"	13 1/4"
96"	14"
102"	15 1/2"
108"	16"
114"	16 1/2"
120"	17"
126"	17"
132"	17 1/2"
138"	17 1/2"
144"	18"

REGISTERED PROFESSIONAL ENGINEER
ROBERT K. HOLT
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APPROVED: PUBLIC WORKS DIRECTOR

James W. Rodkey Jr. DATE 9/7/00

JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER

Robert K. Holt DATE 8/31/00

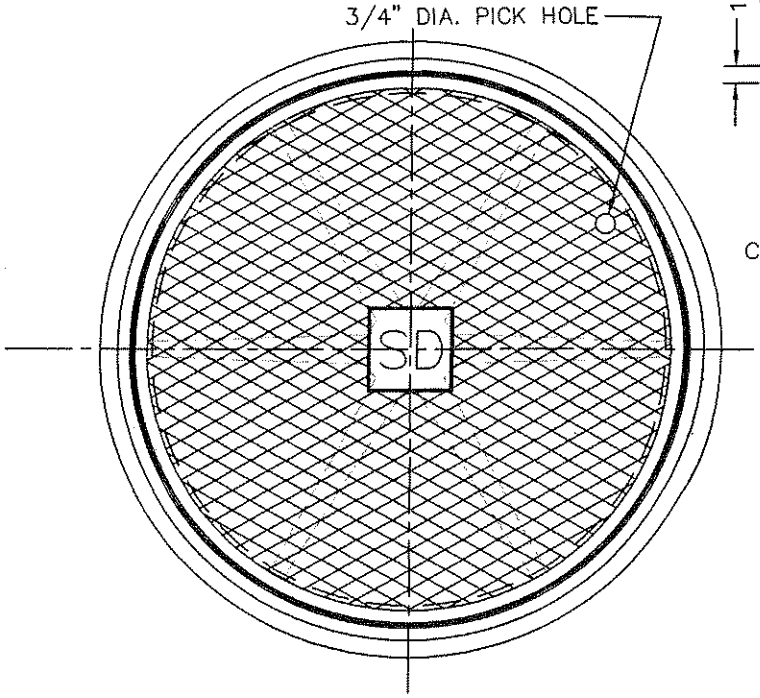
ROBERT K. HOLT, P.E.

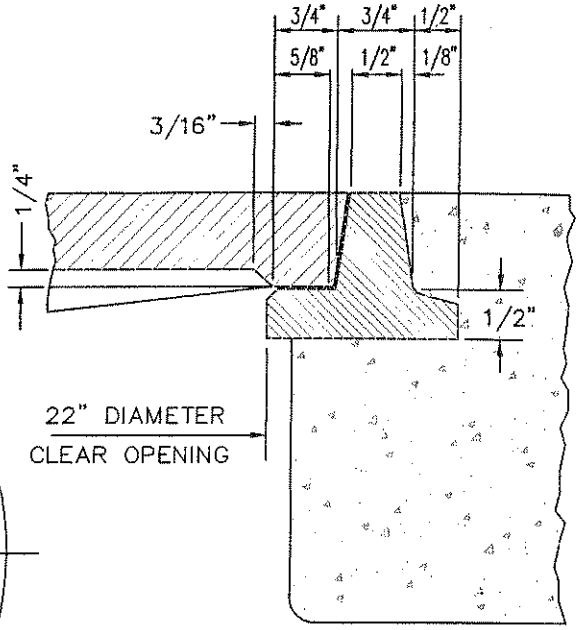
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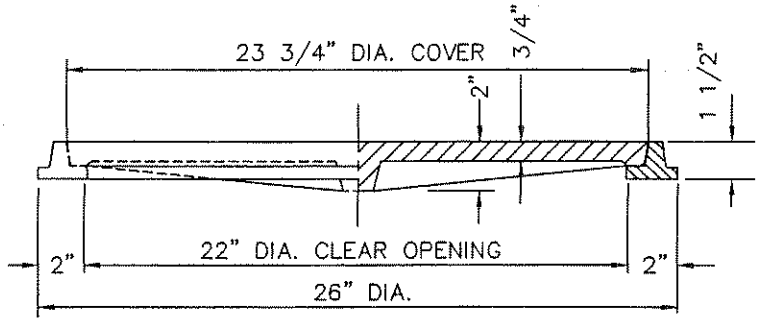
CITY OF
BLYTHE

STORM DRAIN
MANHOLE NO. 3

STANDARD DRAWING NO. SD-517B







MATERIAL: CAST IRON (ASPHALT COATED OR GALVANIZED)

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

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

APPROVED: PUBLIC WORKS DIRECTOR
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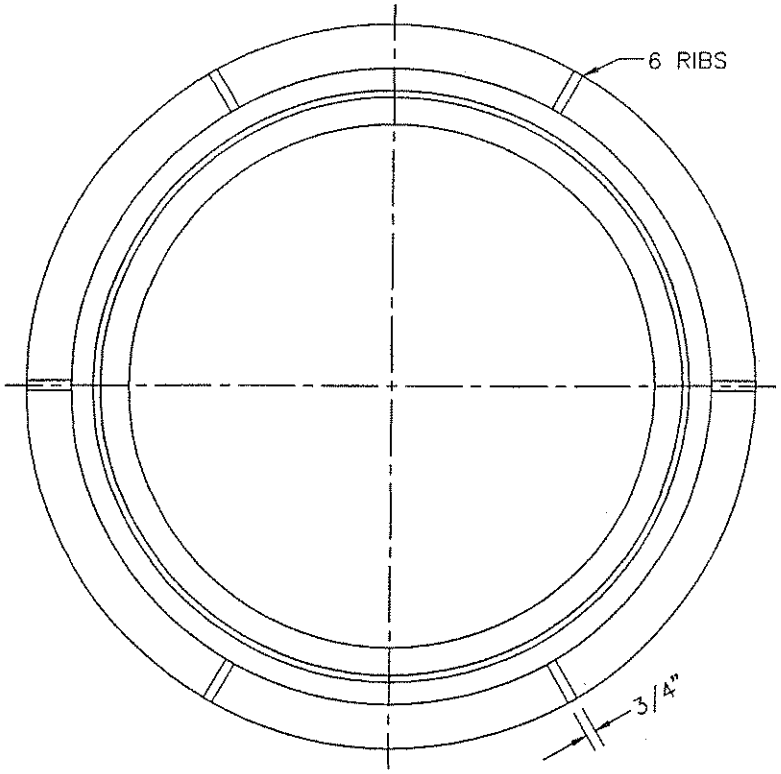
APPROVED: CITY ENGINEER
Robert K. Holt DATE 8/31/00
ROBERT K. HOLT, P.E.

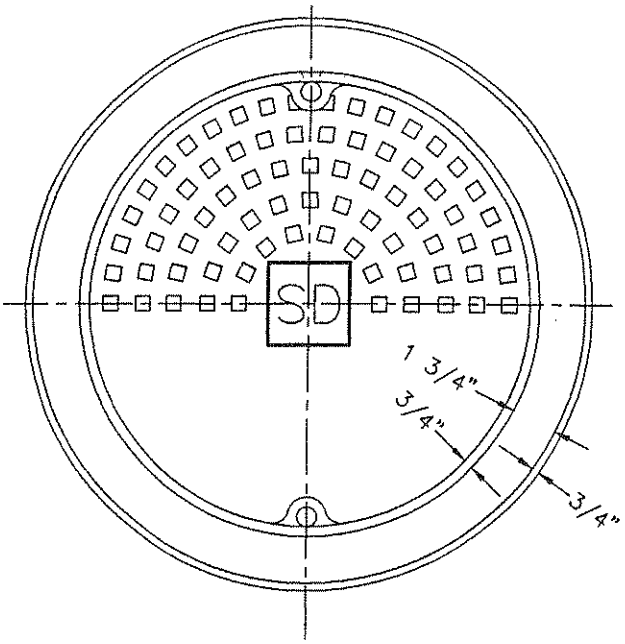
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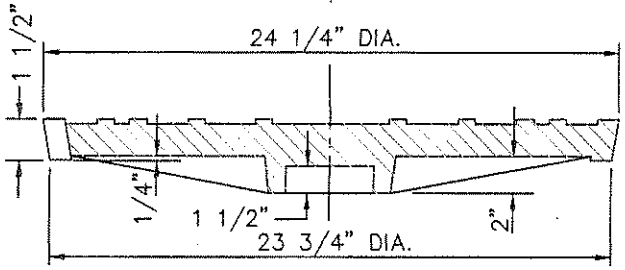
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BLYTHE

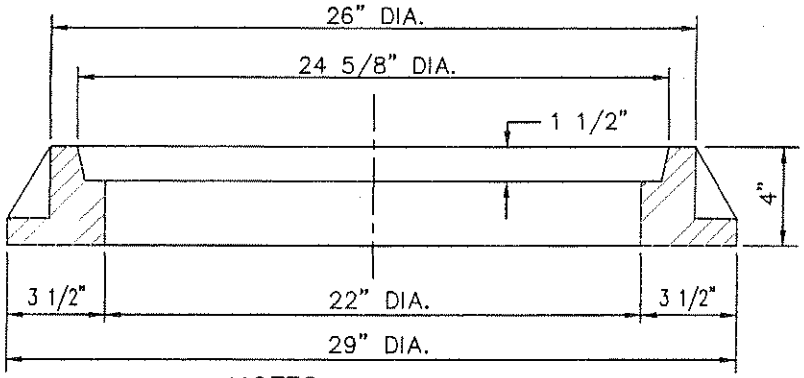
MANHOLE FRAME &
COVER - PARKWAY

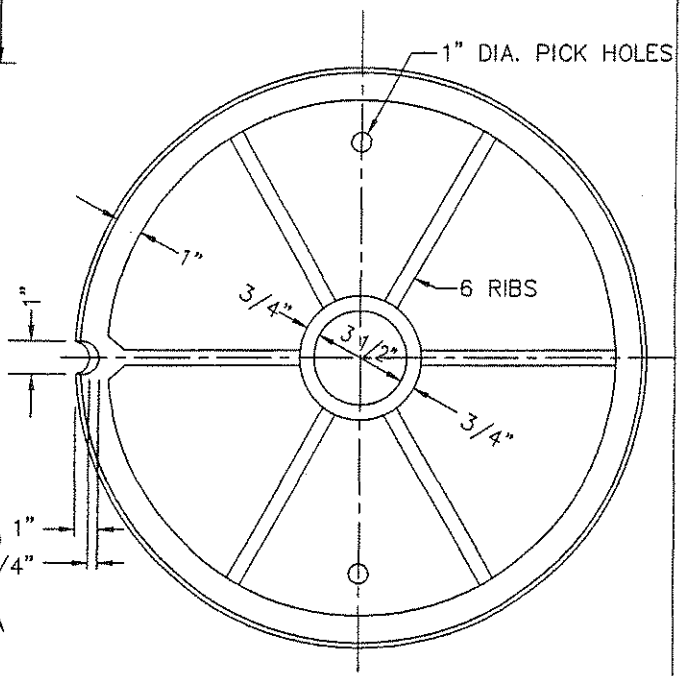
STANDARD DRAWING NO. SD-518











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

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STATE OF CALIFORNIA

APPROVED: PUBLIC WORKS DIRECTOR

James W Rodkey Jr DATE 9/1/00

JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER

Robert K. Holt DATE 8/31/00

ROBERT K. HOLT, P.E.

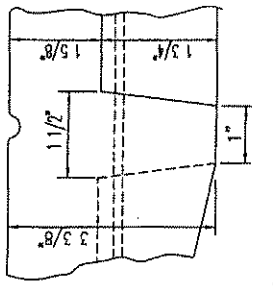
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CITY OF

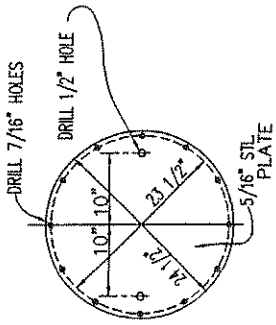
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MANHOLE FRAME & COVER – ROADWAY

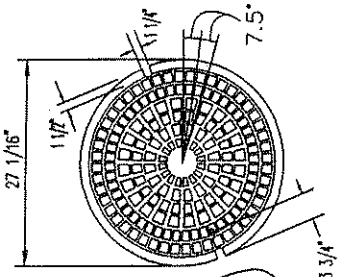
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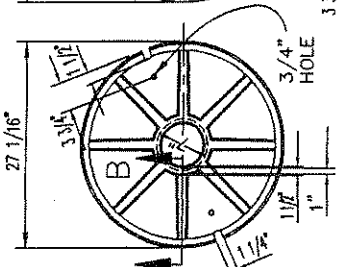


SECTION B–B
HALF SIZE

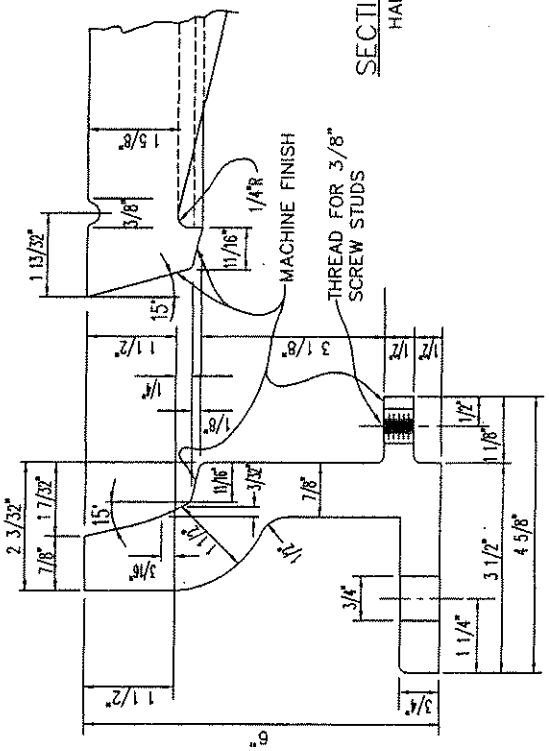


PRESSURE–PLATE
WEIGHT=42 LBS.

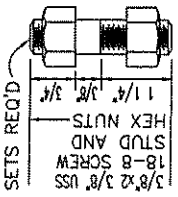




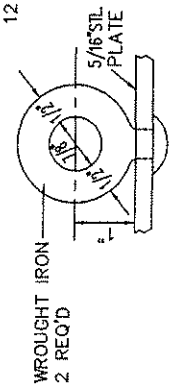
COVER–TOP
COVER–BOTTOM
WEIGHT=262 LBS.
3/4"= 1'–0"



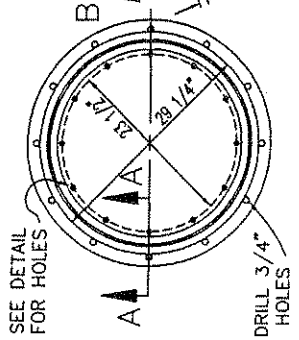
SECTION A–A
HALF SIZE



DETAIL "Z"



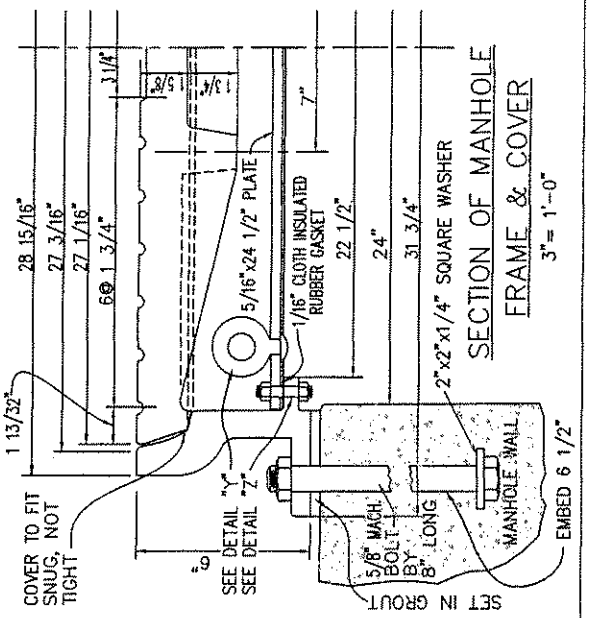
DETAIL "Y"
HALF SIZE



FRAME–PLAN
WEIGHT=195 LBS.

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 HEREON.
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.



SECTION OF MANHOLE FRAME & COVER
3"= 1'–0"

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James W. Rodkey Jr. DATE 9/7/00

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APPROVED: CITY ENGINEER

Robert K. Holt DATE 8/31/00

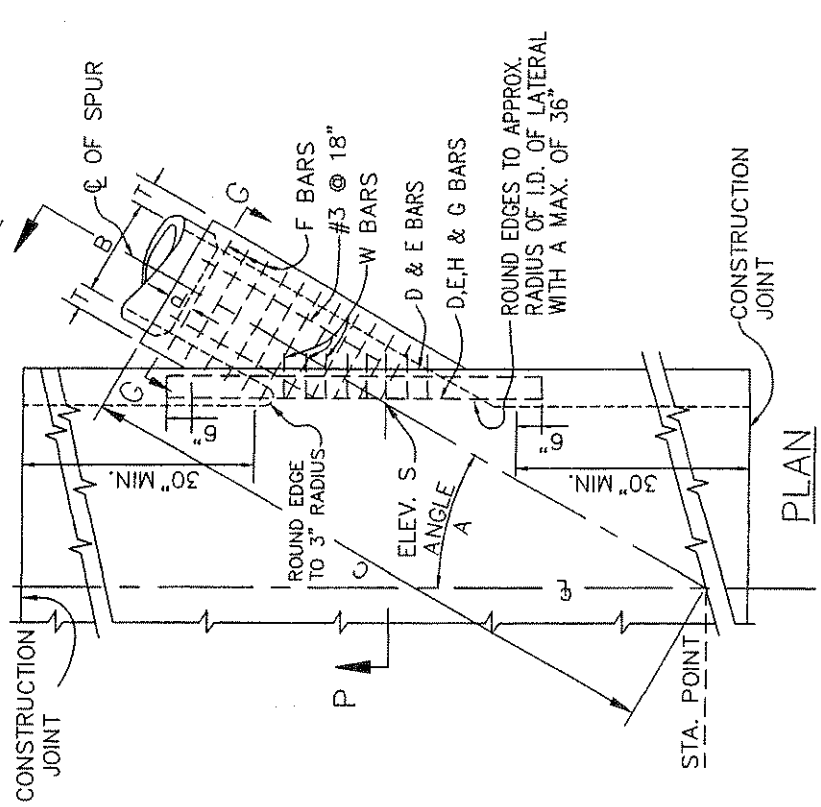
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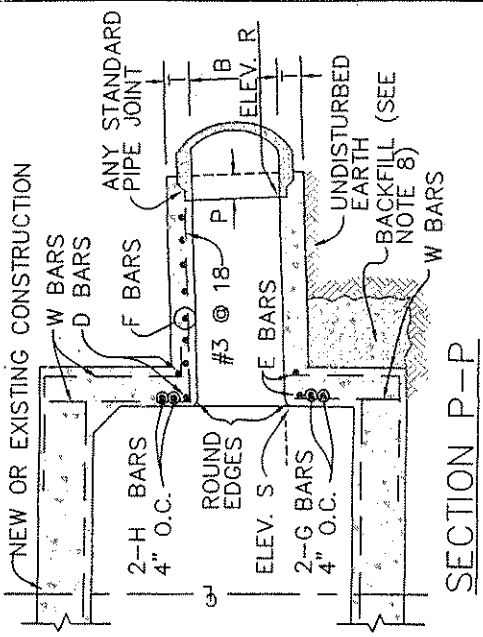
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CITY OF
BLYTHE

MANHOLE FRAME & COVER
PRESSURE TYPE

STANDARD DRAWING NO. SD–520





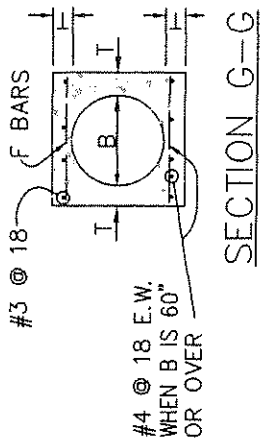


TABLE
FOR DIMENSIONS AND BAR SIZE

B (INCHES)	T (INCHES)	D,E,H & G BARS	F BARS
12	4	#5	# 4 @ 6
15	4 1/4		
18	4 1/2		
21	5		
24	5 1/4		
27	5 1/2		
30	6		
33	6 1/4		
36	6 1/2		
39	7		
42	7 1/2	#6	# 5 @ 6
45	7 3/4		
48	8		
51	8 1/2		
54	9		
57	9 1/4		
60	9 1/2		
63	10		
66	10 1/4		
69	10 3/4		
72	11		
78	11 3/4		
84	12 1/2		
90	13 1/4	#7	# 6 @ 6
96	14		
102	15 1/2		
108	16		
114	16 1/2		
120	17		
126	17		
132	17 1/2		
138	17 1/2		
144	18		

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 H 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 POURED MONOLITHICALLY WITH MAIN LINE STORM DRAIN, MANHOLE OR TRANSITION.
5. FLOOR OF STRUCTURE SHALL BE STEEL-TROWELED TO THE SPRING LINE.
6. STRUCTURAL CONCRETE SHALL BE CLASS "3" CONCRETE WHICH SHALL ATTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C39M-99.
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.

REGISTERED PROFESSIONAL ENGINEER
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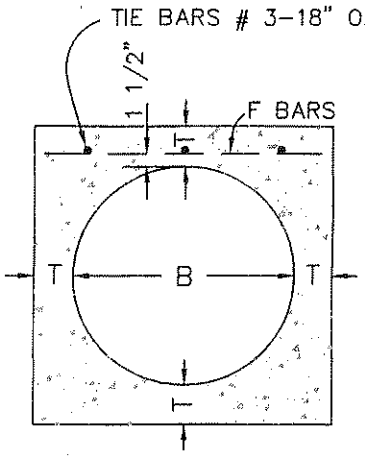
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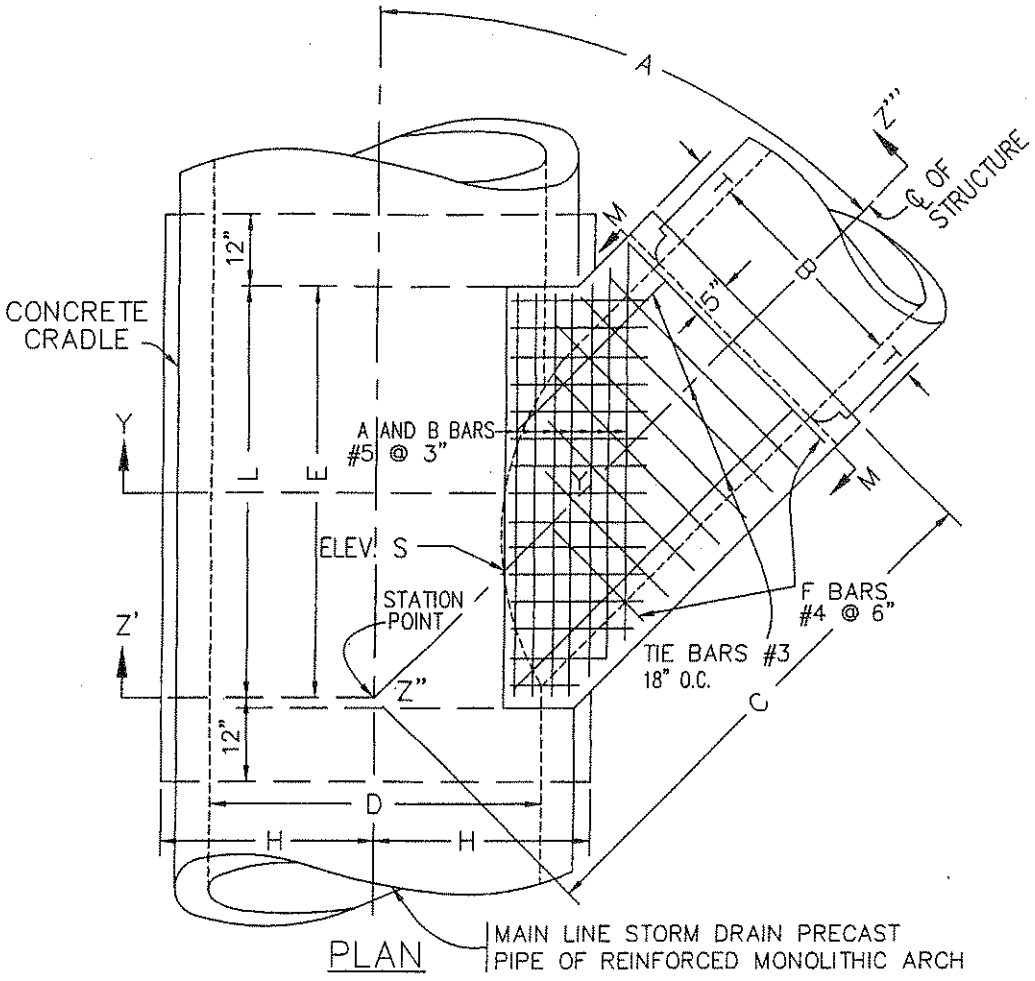
CITY OF
BLYTHE

JUNCTION STRUCTURE
NO. 1

STANDARD DRAWING NO. SD-521



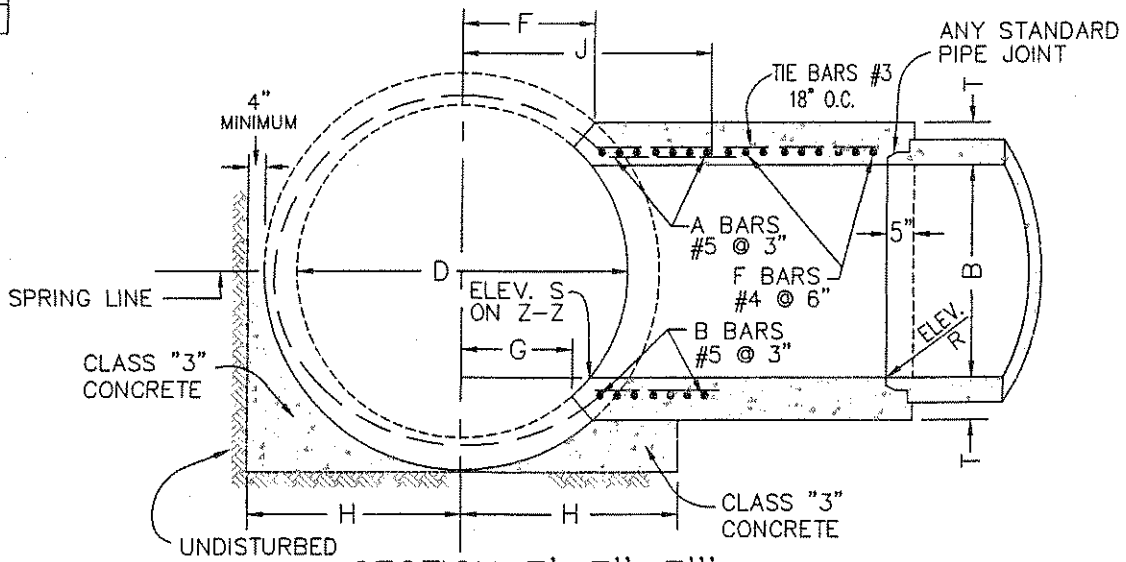
SECTION M-M



PLAN

MAIN LINE STORM DRAIN PRECAST PIPE OF REINFORCED MONOLITHIC ARCH

TABLE OF VALUES FOR T	
B	T
12"	4"
15"	4 1/4"
18"	4 1/2"
21"	5"
24"	5 1/4"
27"	5 1/2"
30"	6"
33"	6 1/4"
36"	6 1/2"
39"	7"



SECTION Z'-Z''-Z'''
PROJECTED ON Y-Y-Z"

REGISTERED PROFESSIONAL ENGINEER
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APPROVED: CITY ENGINEER
ROBERT K. HOLT, P.E. DATE 8/31/00

REVISION	BY	DATE

CITY OF
BLYTHE

JUNCTION STRUCTURE
NO. 2

STANDARD DRAWING NO. SD-522

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=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, $J=\frac{7D}{12}+6"$.
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.
6. STRUCTURAL CONCRETE SHALL BE CLASS "3" CONCRETE WHICH SHALL ATTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C39M-99.
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.

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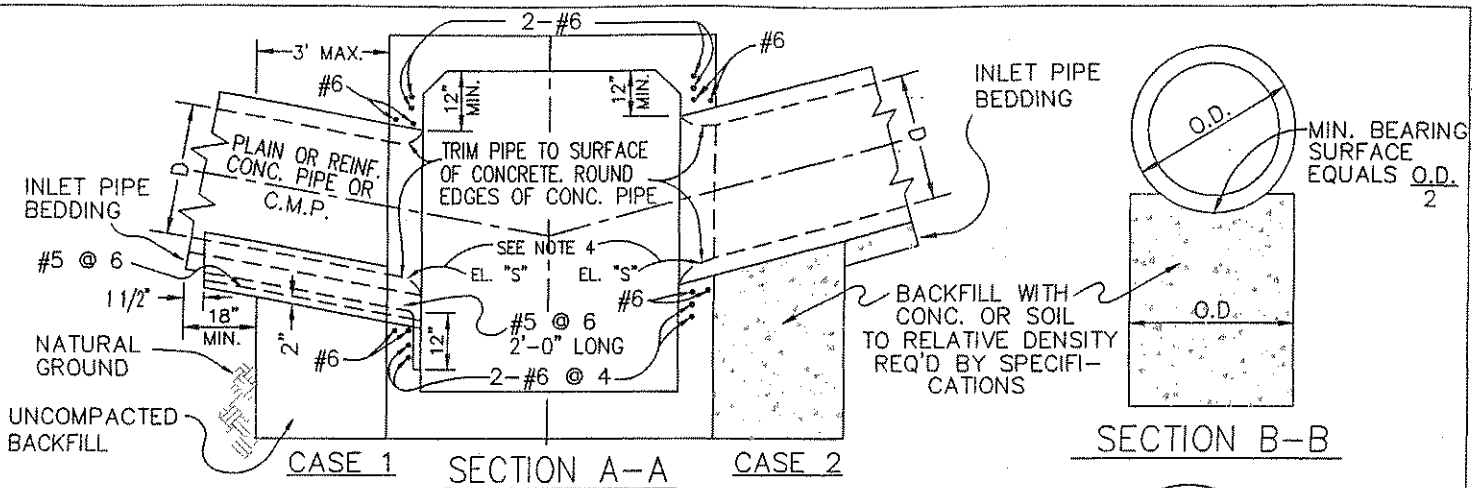
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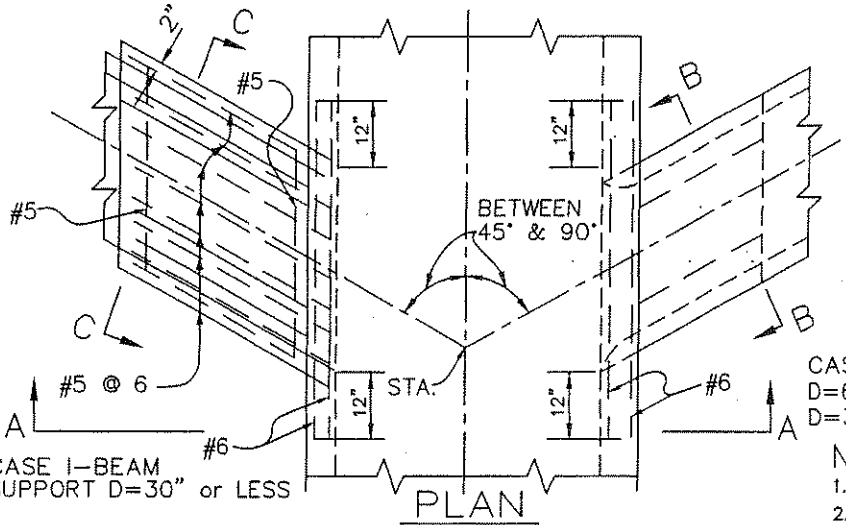
CITY OF
BLYTHE

JUNCTION STRUCTURE
NO. 2

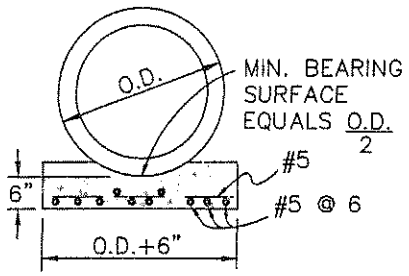
STANDARD DRAWING NO. SD-522A



SECTION B-B



PLAN

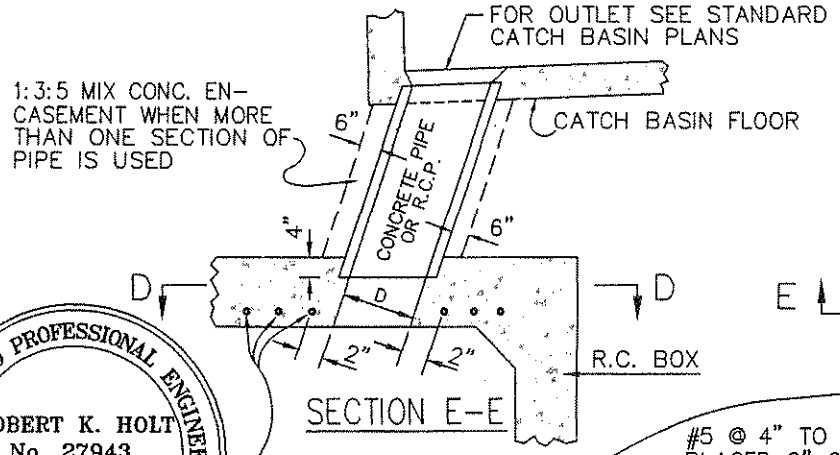


SECTION C-C

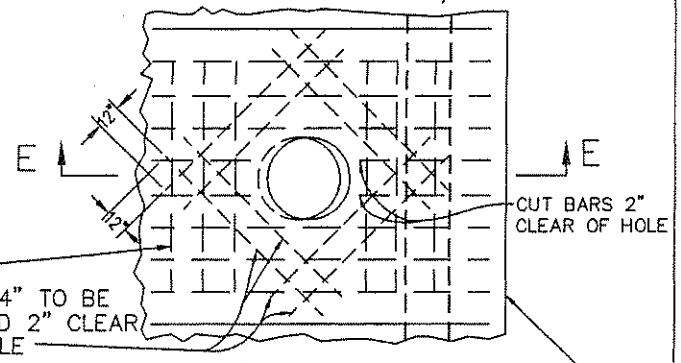
CASE 2-COLUMN SUPPORT
D=60"OR LESS FOR C.M.P.
D=30"OR LESS FOR R.C.P. OR C.P.

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.
5. CONCRETE SHALL BE CLASS "3" AND ATTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C39M-99.



SECTION E-E



SECTION D-D

#6 @ 4" 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 3-TOP SLAB ENTRANCE D=30" OR LESS

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JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER

Robert K. Holt DATE 8/31/00

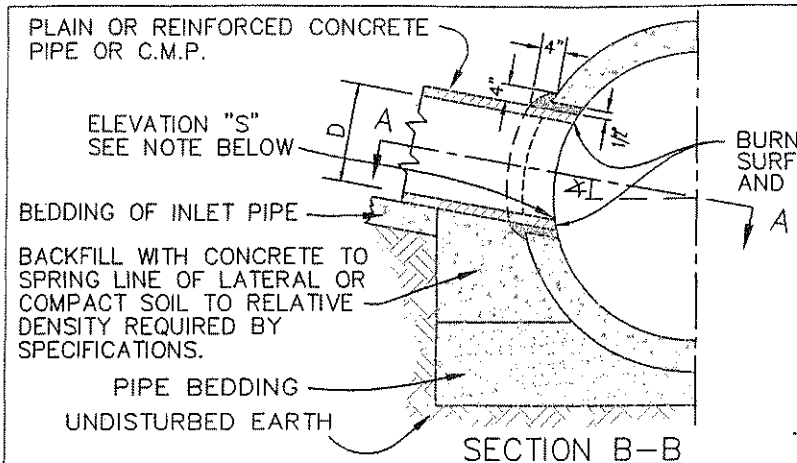
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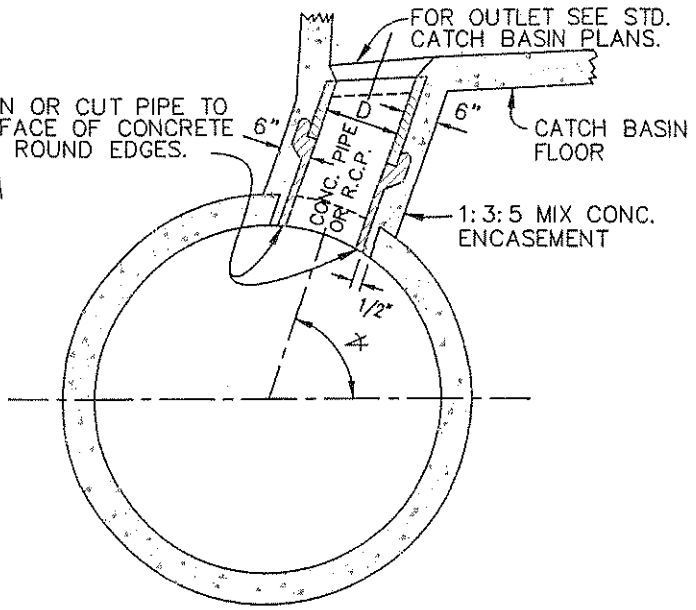
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JUNCTION STRUCTURE
NO. 3

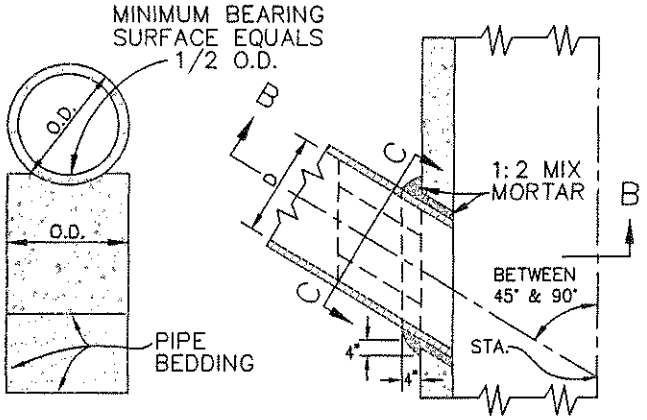
STANDARD DRAWING NO. SD-523



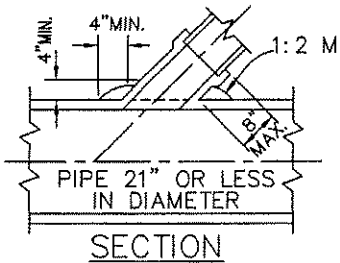
SECTION B–B
CASE–1



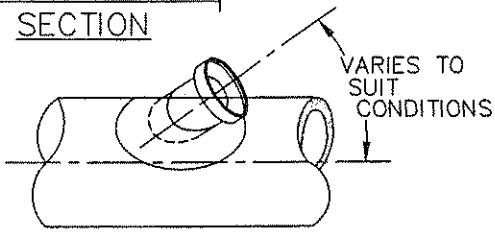
CASE–2
CATCH BASIN ABOVE STORM DRAIN



SECTION C–C
SECTION A–A
CASE–1–SIDE INLET



SECTION



PLAN
CASE–3–SADDLE CONNECTION

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 ∠ IS 45° OR LESS, USE CASE 1. IF ∠ IS GREATER THAN 45°, USE CASE 2.
2. ℄ 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 "3" CONCRETE THAT SHALL ATTAIN A 28–DAY COMPRESSIVE STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C39M–99.

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.

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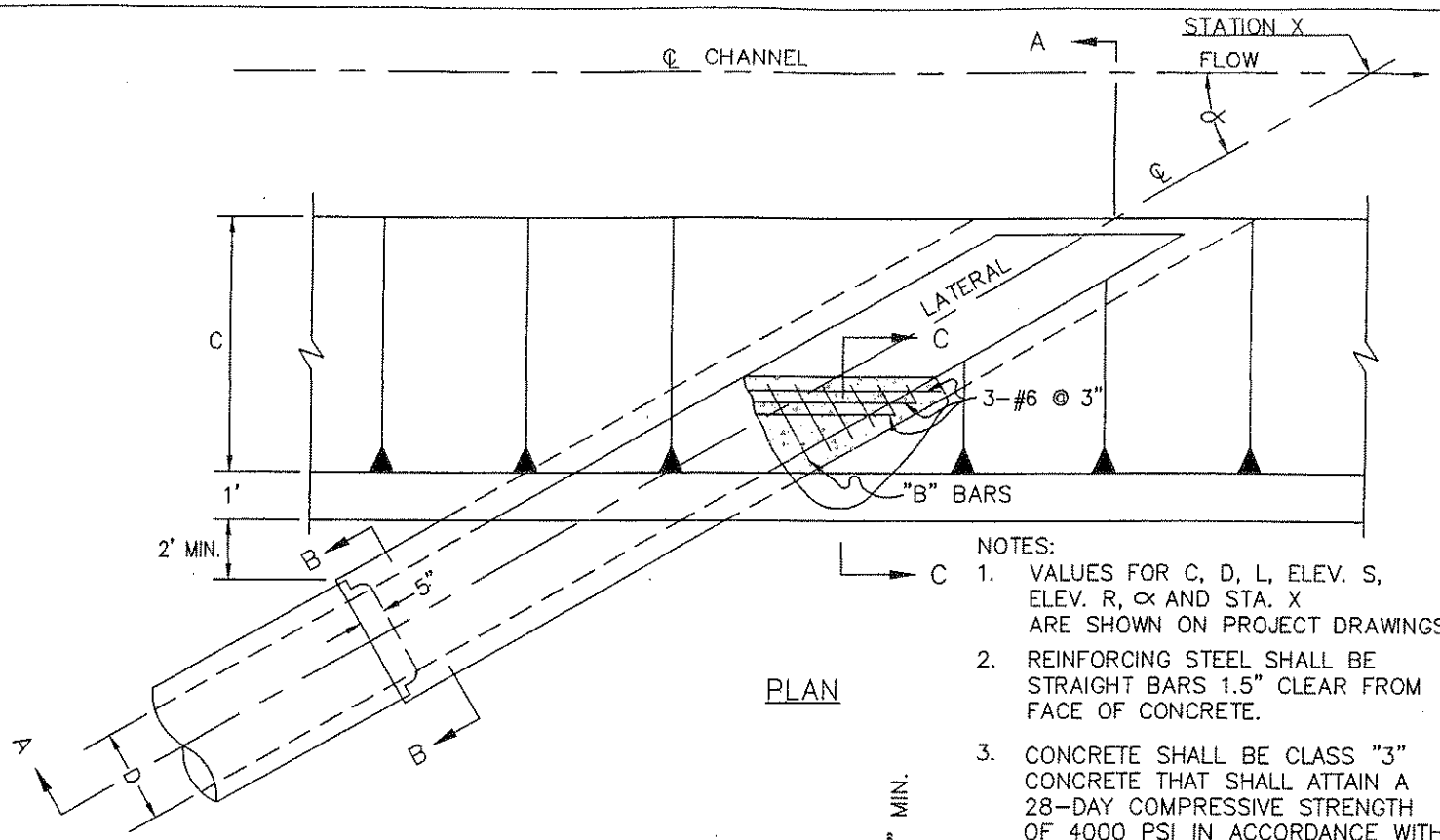
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JUNCTION STRUCTURE
NO. 4

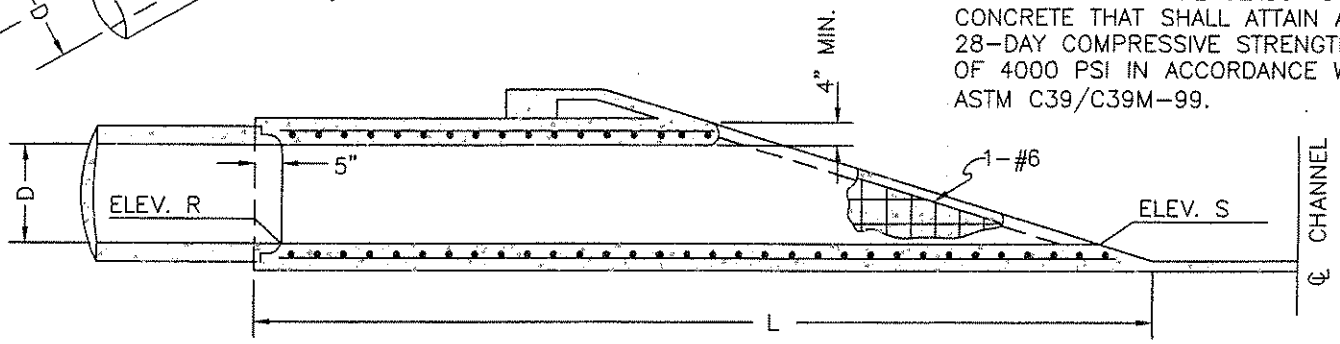
STANDARD DRAWING NO. SD–524



PLAN

NOTES:

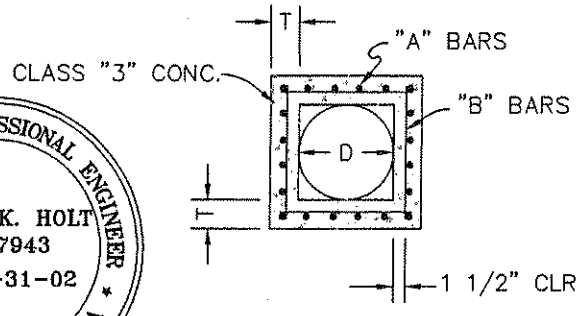
1. VALUES FOR C, D, L, ELEV. S, ELEV. R, ∝ AND STA. X ARE SHOWN ON PROJECT DRAWINGS.
2. REINFORCING STEEL SHALL BE STRAIGHT BARS 1.5" CLEAR FROM FACE OF CONCRETE.
3. CONCRETE SHALL BE CLASS "3" CONCRETE THAT SHALL ATTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C39M-99.



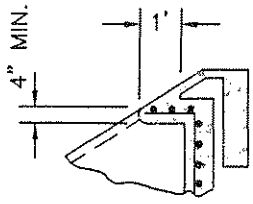
SECTION A-A

TABLE FOR DIMENSIONS AND BAR SIZES

D (IN.)	T (IN.)	A BARS	B BARS
18	4.5	#4 @ 6"	#4 @ 6"
21	5		
24	5.25		
27	5.5		
30	6		
33	6.25		
36	6.5		
39	7		
42	7.5	#5 @ 6"	#5 @ 6"
45	7.75		
48	8		
51	8.5		
54	9		
57	9.25		
60	9.5		



SECTION B-B



SECTION C-C

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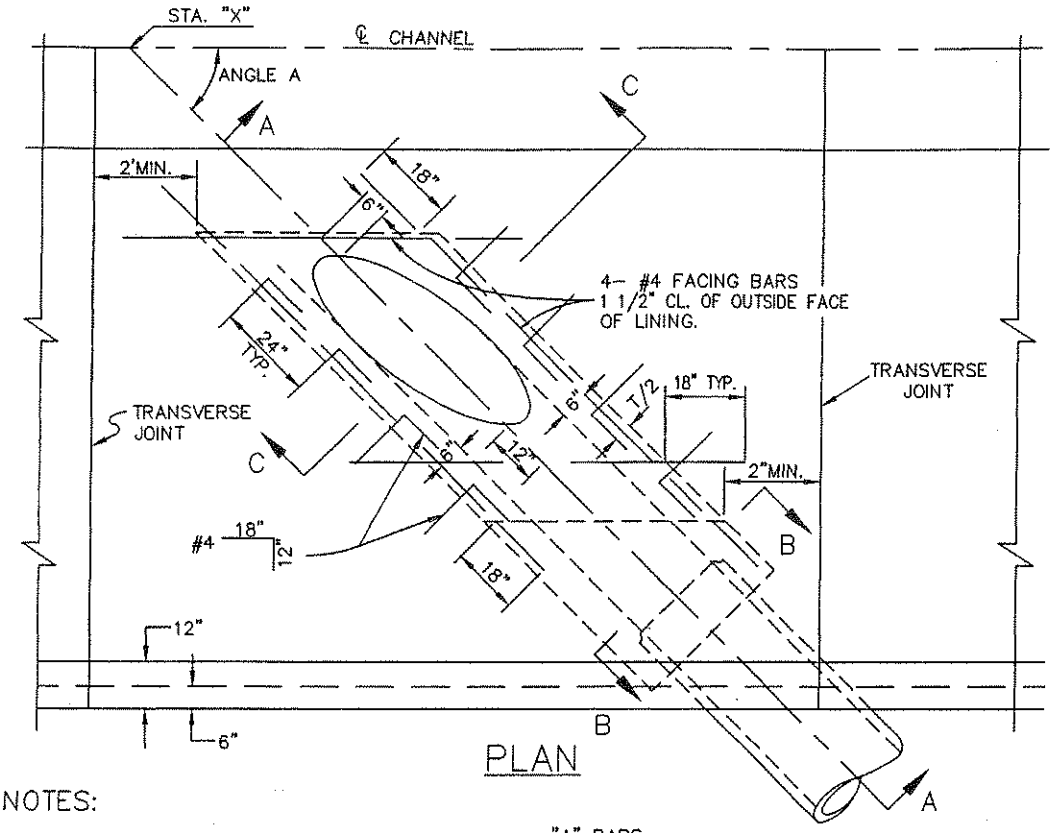
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CITY OF
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JUNCTION STRUCTURE
NO. 5

STANDARD DRAWING NO. SD-525



PLAN

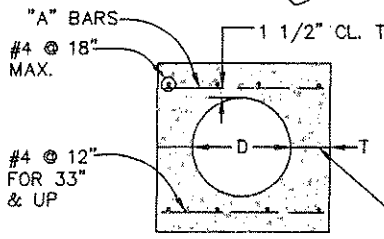
TABLE

FOR DIMENSIONS AND BAR SIZES

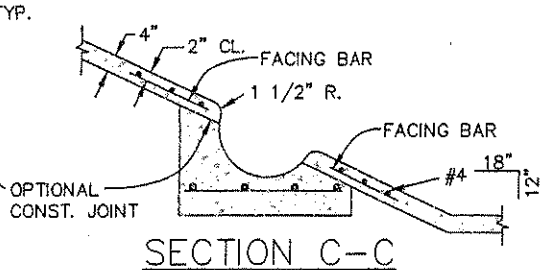
D (IN)	T (IN)	"A" BARS
18	9	NO LONGITUDINAL OR "A" BARS
21	9	
24	9	
27	9	
30	9	
33	7	#4 @ 6"
36	7	
39	7	
42	8	#5 @ 6"
45	8	
48	8	
51	9	
54	9	
57	10	
60	10	
63	10	
66	11	
69	11	
72	11	
78	12	
84	13	

NOTES:

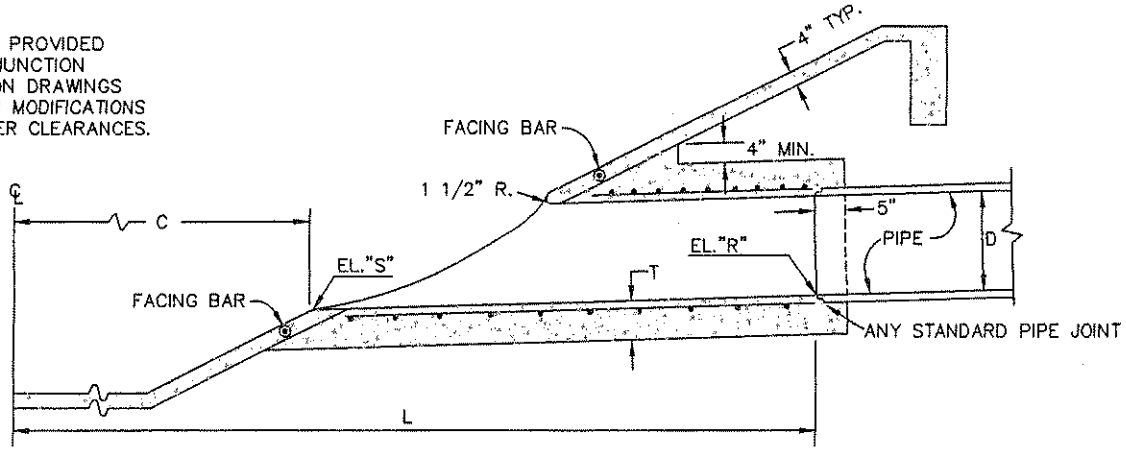
1. VALUES FOR D, L, C, EL. R, EL. S, ANGLE A AND STA. "X" ARE TO BE SHOWN ON PROJECT DRAWINGS.
2. REINFORCING BARS SHALL BE PLACED 1 1/2" CLEAR FROM FACE OF CONCRETE.
3. CONCRETE SHALL BE CLASS "3" CONCRETE WHICH SHALL ATTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C39M-99.
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.



SECTION B-B



SECTION C-C



SECTION A-A

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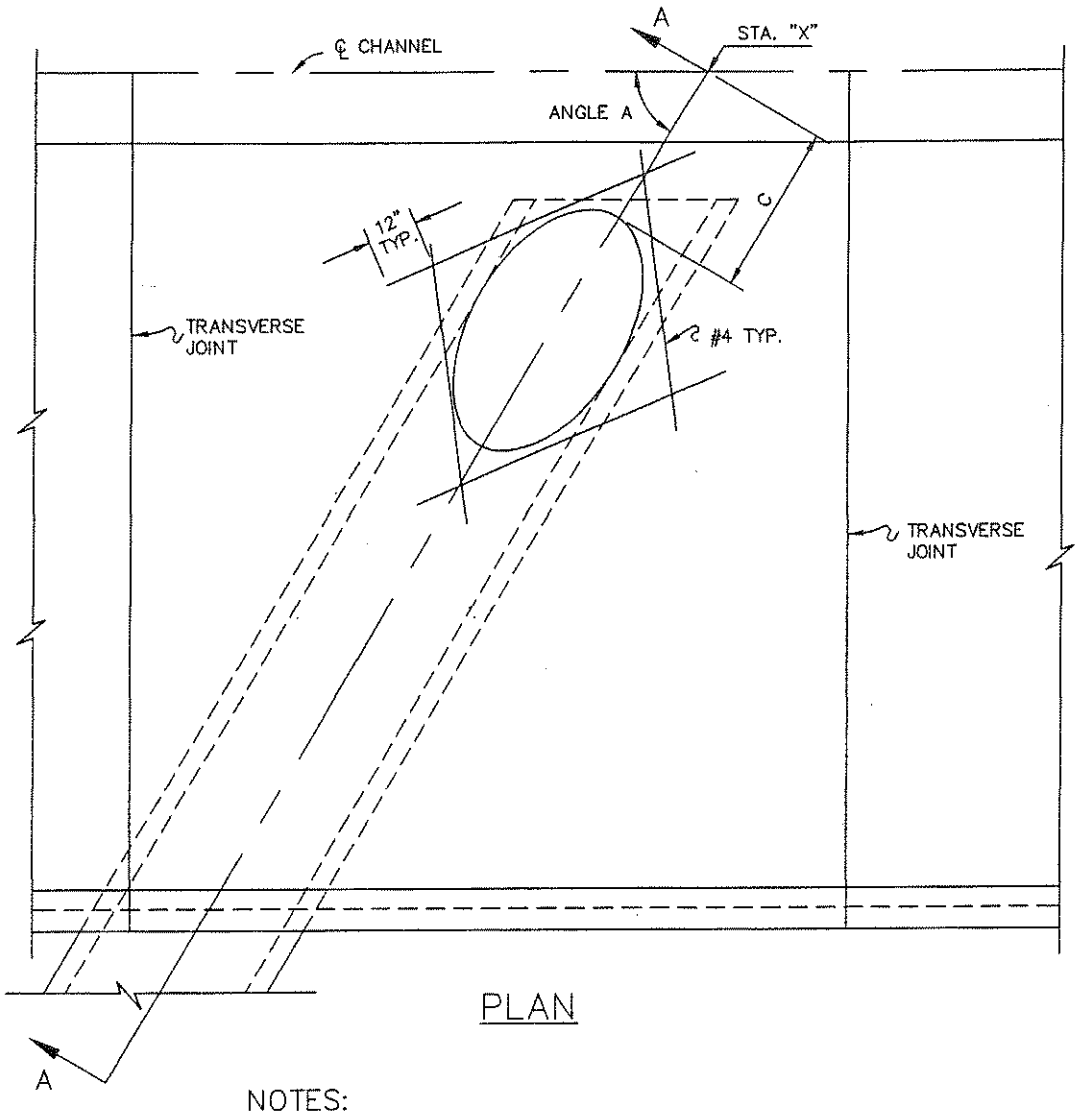
CITY OF

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JUNCTION STRUCTURE

NO. 6

STANDARD DRAWING NO. SD-526



PLAN

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.
6. CONCRETE SHALL BE CLASS "3" CONCRETE WHICH SHALL ATTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C39M-99.
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.

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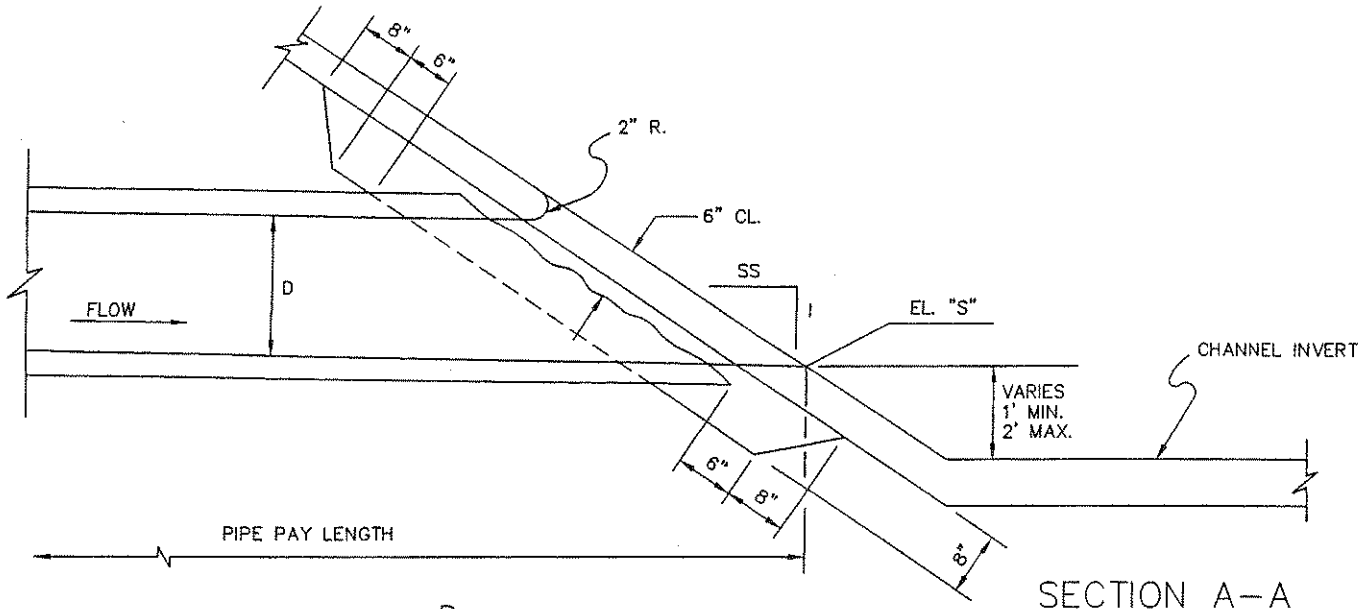
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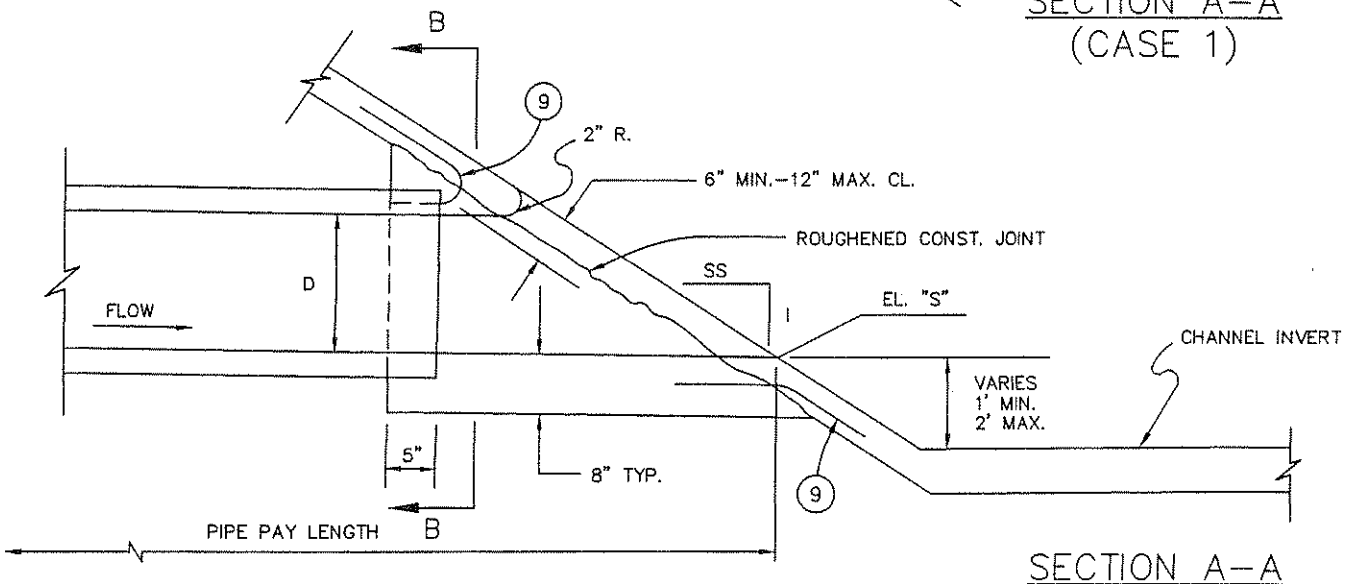
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JUNCTION STRUCTURE NO. 7

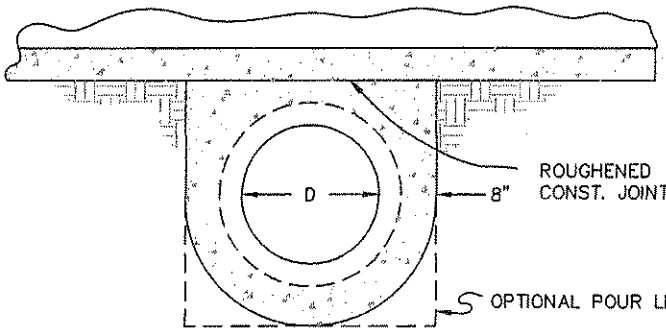
STANDARD DRAWING NO. SD-527



SECTION A–A
(CASE 1)



SECTION A–A
(CASE 2)



SECTION B–B

NOTES:

1. SEE STD. DWG. SD–527 FOR NOTES AND PLAN VIEW.
2. CONCRETE SHALL BE CLASS "3" CONCRETE WHICH SHALL ATTAIN A 28–DAY COMPRESSIVE STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C39M–99.

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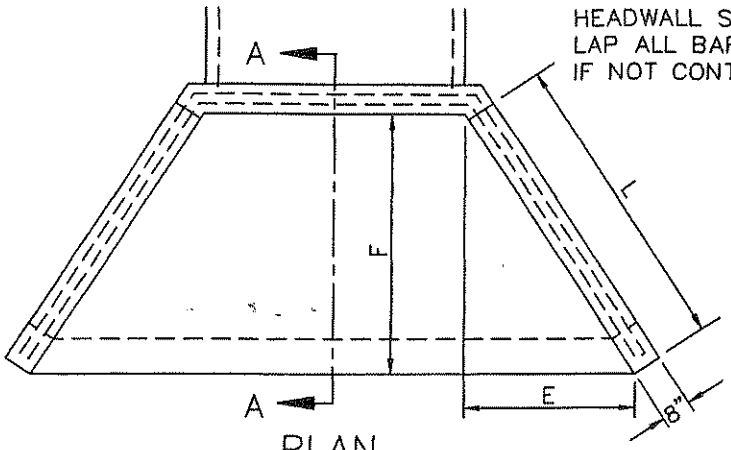
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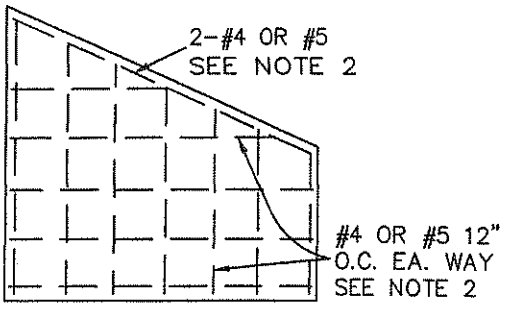
JUNCTION STRUCTURE
NO. 7

STANDARD DRAWING NO. SD–527A

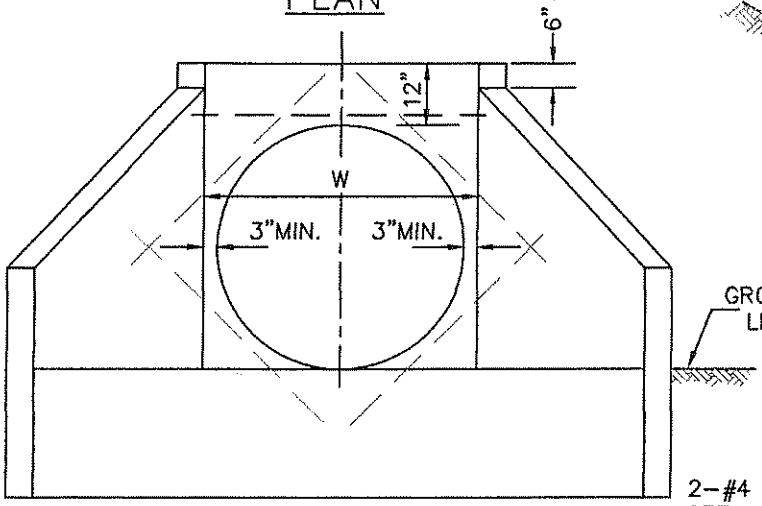


PLAN

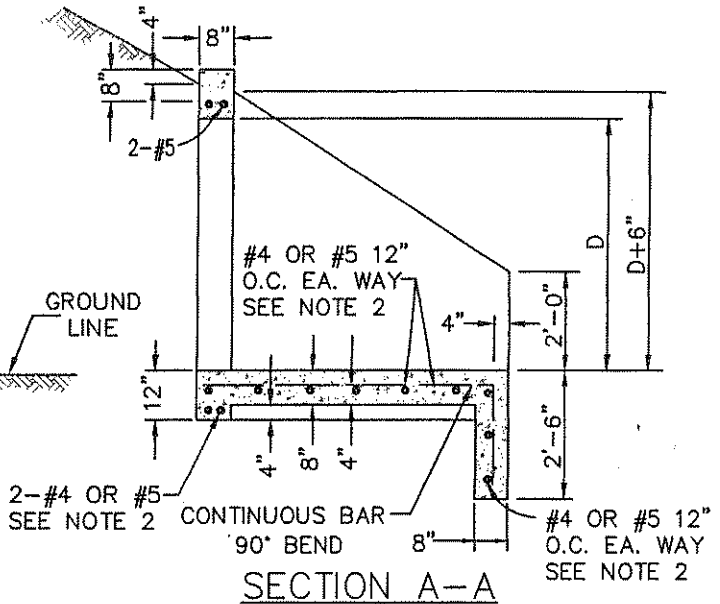
HEADWALL SHALL BE MONOLITHIC.
LAP ALL BARS AT CORNERS 30 DIAMETERS
IF NOT CONTINUOUS.



REINFORCING DETAIL



ELEVATION



SECTION A-A

DIMENSIONS				
PIPE DIA.	L	E	F	W
24"	4'-9"	2'-8"	4'-0"	2'-6"
30"	5'-5"	3'-0"	4'-6"	3'-0"
36"	6'-0"	3'-4"	5'-0"	3'-8"
42"	6'-7"	3'-8"	5'-6"	4'-2"
48"	7'-3"	4'-0"	6'-0"	4'-10"
54"	8'-2"	4'-6"	6'-9"	5'-4"

NOTES:

1. CONCRETE SHALL BE CLASS "3" CONCRETE WHICH SHALL ATTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C39M-99.
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.

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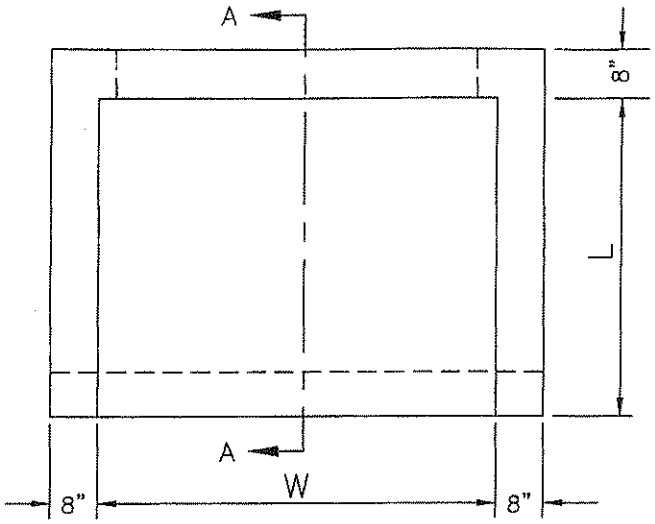
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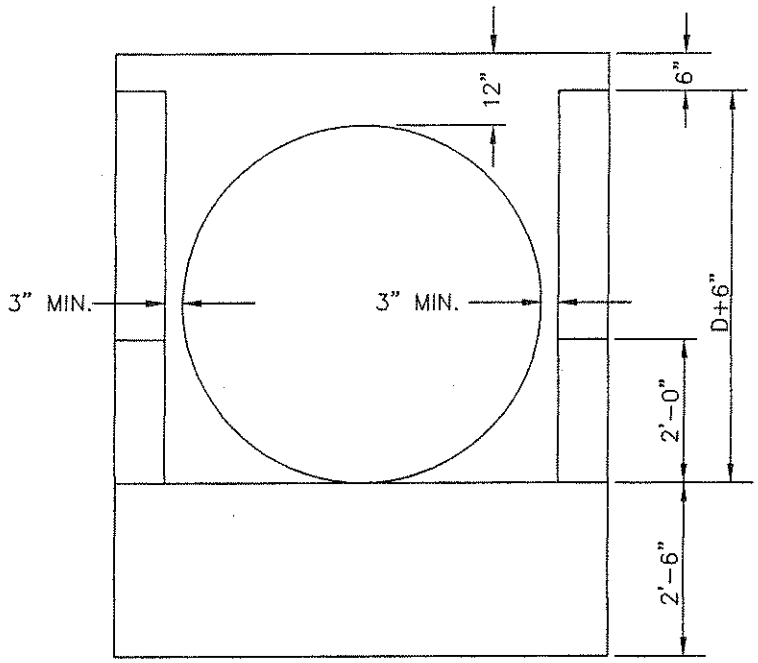
HEADWALL
WING - TYPE

STANDARD DRAWING NO. SD-528



PLAN

DIMENSIONS		
PIPE DIA.	L	W
24"	4'-0"	2'-6"
30"	4'-6"	3'-0"
36"	5'-0"	3'-8"
42"	5'-6"	4'-2"
48"	6'-0"	4'-10"
54"	6'-9"	5'-4"



ELEVATION

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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.

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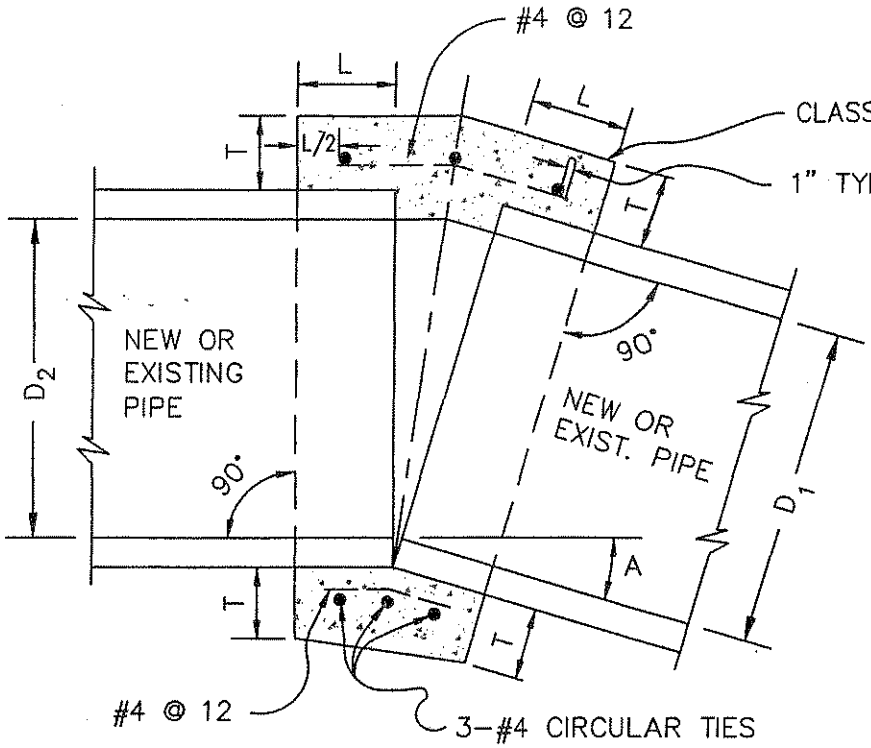
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HEADWALL
"U" - TYPE

STANDARD DRAWING NO. SD-529



D	L	T
12"	1.0'	4"
18"	1.0'	5"
24"	1.0'	6"
36"	1.5'	8"
48"	1.5'	10"
57"	1.5'	10"
60"	1.75'	11"
66"	1.75'	11"

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. $D=D_1$ OR D_2 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 D_1 IS EQUAL TO OR LESS THAN D_2 JOIN INVERTS AND WHEN D_1 IS GREATER THAN D_2, JOIN SOFFITS.
8. PIPE MAY BE CORRUGATED METAL PIPE, CONCRETE PIPE, OR REINFORCED CONCRETE PIPE.
9. CONCRETE SHALL BE CLASS "3" CONCRETE WHICH SHALL ATTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C39M-99.

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

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

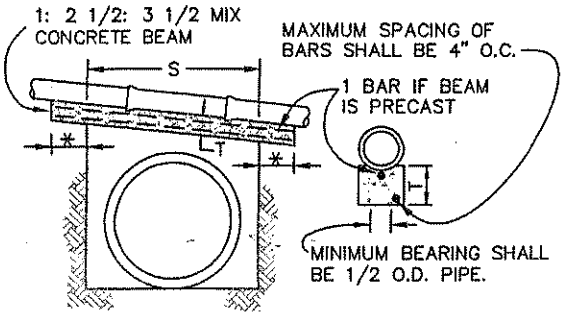
APPROVED: CITY ENGINEER
Robert K. Holt DATE 8/31/00
ROBERT K. HOLT, P.E.

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CITY OF
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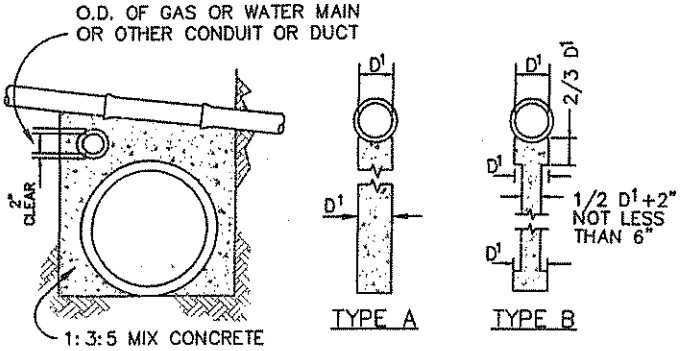
CONCRETE COLLAR
FOR PIPE 12 INCHES THROUGH
66 INCHES

STANDARD DRAWING NO. SD-530

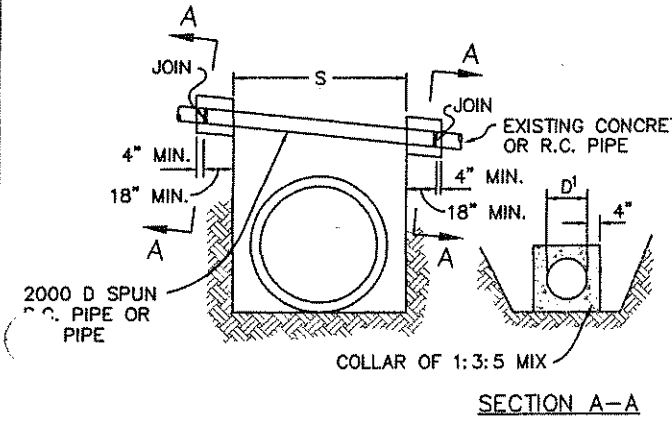


CASE 1
REINFORCED CONCRETE BEAM

* SEE TABLE FOR MINIMUM LENGTH OF BEARING.

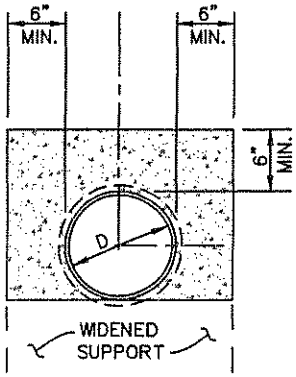


CASE 2
CONCRETE SUPPORT WALL



SECTION A–A

CASE 3
CAST IRON PIPE OR SPUN
REINFORCED CONCRETE PIPE



SECTION E–E
SEE NOTE 1

DIMENSIONS OF
REINFORCED CONCRETE BEAM

S OR C	DEPTH OF COVER					
	0'–8'–0"		8'–1"–16'–0"		16'–1"–25'–0"	
	T	BAR NO.	T	BAR NO.	T	BAR NO.
4	8"	4	8"	4	9 1/2"	5
5	8"	4	9"	5	11"	5
6	8 1/2"	5	10 1/2"	5	12 1/2"	6
7	9"	5	11 1/2"	6	13 1/2"	6
8	10"	5	12 1/2"	6	15"	7
9	11"	6	13 1/2"	6	16 1/2"	7
10	12"	6	15"	7	18"	7
11	13"	6	16"	7	19 1/2"	8
12	13 1/2"	6	17"	7	21"	8
13	14 1/2"	7	18 1/2"	7		
14	15 1/2"	7	20"	8		
15	16 1/2"	7	21"	8		
16	17 1/2"	7				
17	18 1/2"	8				
18	19 1/2"	8				

ALLOWABLE SPANS FOR CAST IRON PIPE

DEPTH OF COVER	CLASS 150 PIPE			CLASS 250 PIPE		
	INSIDE DIAMETER			INSIDE DIAMETER		
	6"	8"	10"	6"	8"	10"
0'–8'–0"	8'–6"	11'–0"	13'–0"	8'–6"	11'–6"	13'–0"
8'–1"–16'	6'–6"	8'–0"	10'–0"	8'–6"	8'–6"	10'–6"
16'–1"–25'	5'–0"	6'–0"	8'–0"	5'–0"	6'–6"	6'–6"

MINIMUM LENGTH OF BEARING OF
ENDS OF R.C. BEAMS

DESIGN OF COVER	S	MIN. BEARING
0'–8'–0"	0'–18'–0"	18"
8'–1"–16'–0"	0'–12'–0"	18"
	12'–1"–18'–0"	24"
16'–1"–25'–0"	0'–7'–0"	18"
	7'–1"–10'–0"	24"
	10'–1"–12'–0"	30"

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JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER
Robert K. Holt DATE 8/31/00
ROBERT K. HOLT, P.E.

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CITY OF
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PIPE SUPPORTS
ACROSS TRENCHES

STANDARD DRAWING NO. SD-531

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 ENCASEMENT.
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.
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.

CASE 1 NOTES:

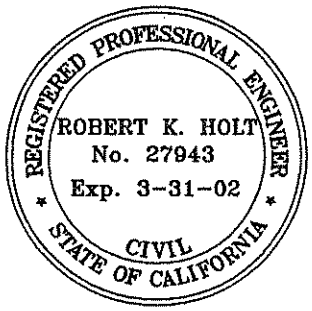
1. WIDTH OF BEAM SHALL BE OUTSIDE DIAMETER OF PIPE PLUS 2".
2. REINFORCING STEEL SHALL BE PLACED 1 1/2" CLEAR FROM THE SIDES AND BOTTOMS OF BEAMS.
3. IF BEAMS ARE PRECAST, ENDS OF BEAMS SHALL BE BEDDED IN 1:3:5 MIX CONCRETE TO EDGE OF TRENCH.
4. 1:2 MIX MORTAR SHALL BE PLACED BETWEEN TOP OF BEAMS AND 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.
4. WHENEVER SO DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL PIERCE THE WALL WITH SUITABLE OPENINGS TO PREVENT PRESSURE RESULTING FROM FLOODING THE BACKFILL. THE VOLUME OF THE PIERCED OPENING SHALL NOT EXCEED 1/2 THE VOLUME OF THE SUPPORTING WALL.

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.



APPROVED: PUBLIC WORKS DIRECTOR

James W. Rodkey Jr. DATE 9/6/00

JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER

Robert K. Holt DATE 8/31/00

ROBERT K. HOLT, P.E.

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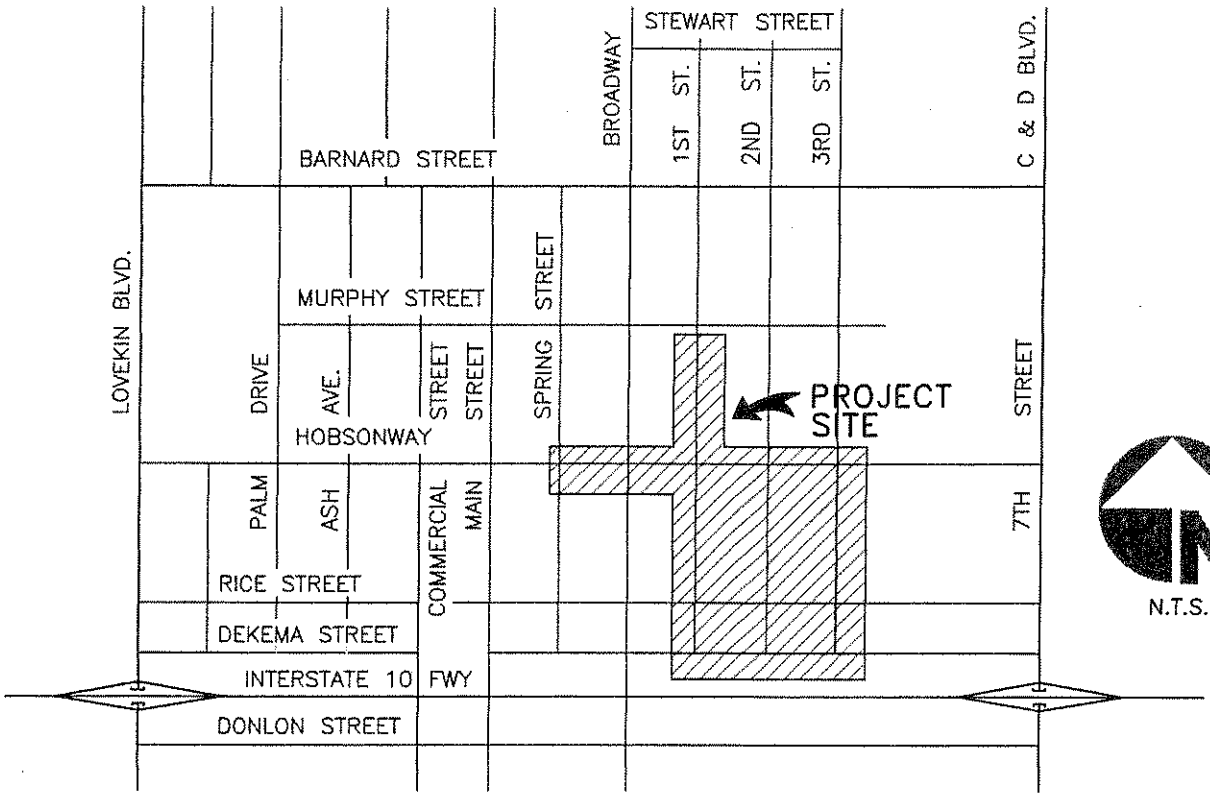
BLYTHE

PIPE SUPPORTS
ACROSS TRENCHES

STANDARD DRAWING NO. SD–531A

VICINITY MAP

(EXAMPLE)



REGISTERED PROFESSIONAL ENGINEER
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APPROVED: PUBLIC WORKS DIRECTOR

James W Rodkey Jr DATE 9/7/00

JAMES W. RODKEY, JR.

APPROVED: CITY ENGINEER

Robert K. Holt DATE 9/7/00

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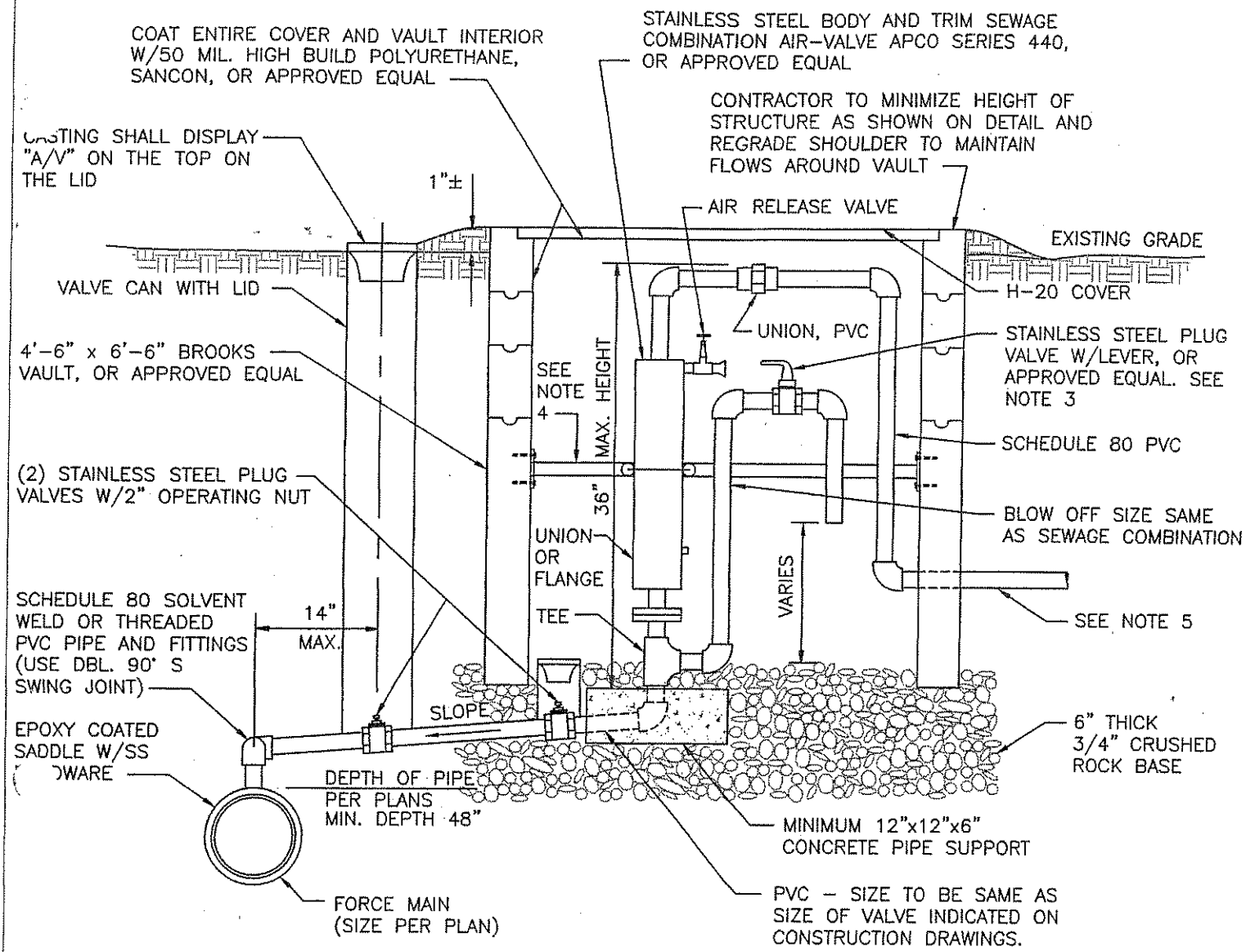
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CITY OF

BLYTHE

PROJECT LOCATION MAP

STANDARD DRAWING NO. M-601



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-CORROSIVE 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.

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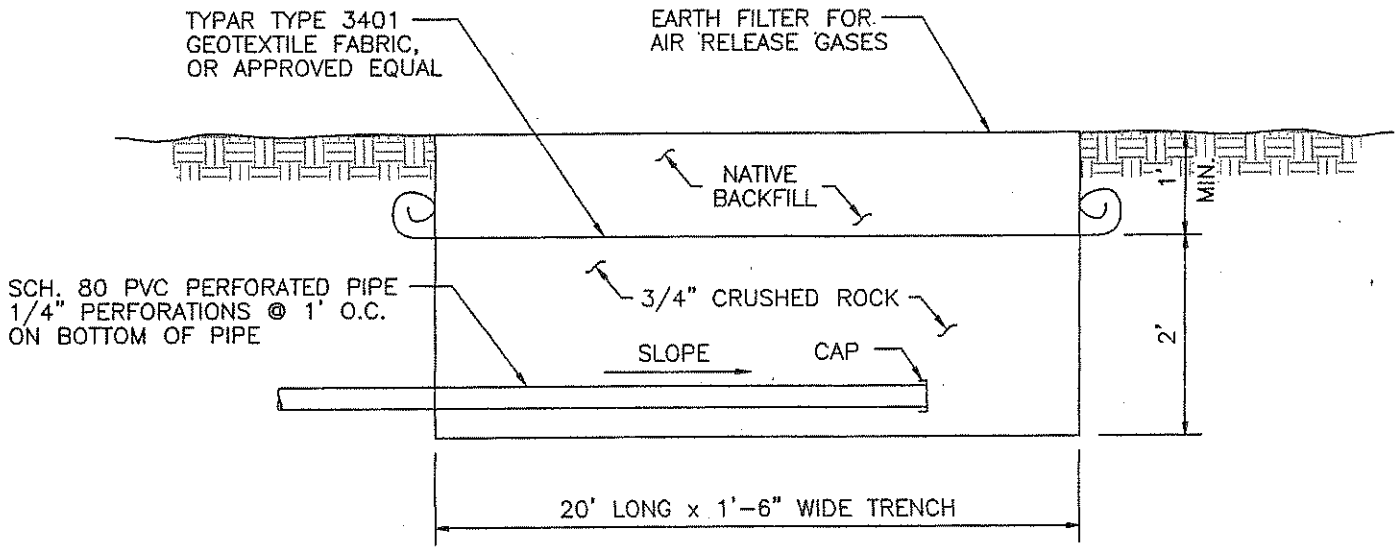
APPROVED: CITY ENGINEER
ROBERT K. HOLT, P.E. DATE 8/31/00

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CITY OF
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AIR RELEASE AND AIR VACUUM ASSEMBLY

STANDARD DRAWING NO. SFM-701A



REGISTERED PROFESSIONAL ENGINEER
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APPROVED: CITY ENGINEER
Robert K. Holt DATE 8/31/00
ROBERT K. HOLT, P.E.

CITY OF
BLYTHE

MODIFIED AIR RELEASE AND AIR VACUUM ASSEMBLY DETAIL

STANDARD DRAWING NO. SEM-701B