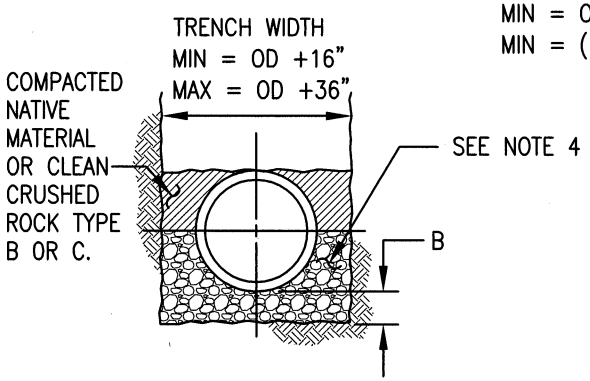
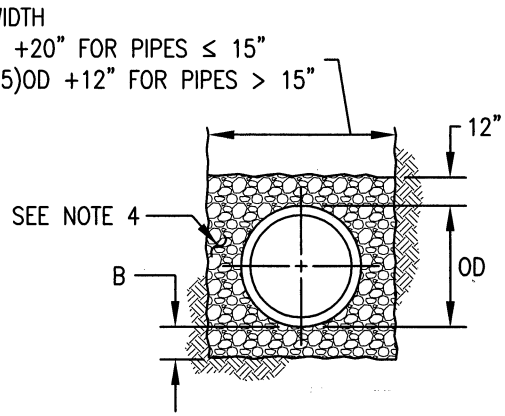
DRAWING NUMBER	TITLE
9-1	STORM DRAIN PIPE BEDDING AND INITIAL BACKFILL (4/07)
9-7A	STANDARD PRECAST CONCRETE DRAINAGE MANHOLE (6/07)
9-8A	TYPE A SADDLE MANHOLE (11/98)
9-9	GREY CAST IRON STANDARD 24” MANHOLE FRAME & COVER (8/07)
9-10	GREY CAST IRON STANDARD 36” MANHOLE FRAME & COVER (04/07)
9-11	GRATE TYPE MANHOLE COVER (08/07)
9-13B	DROP INLET TYPE B (06/07)
9-13C	DROP INLET TYPE C (09/00)
9-14	WELDED STEEL GRATE FRAME (04/07)
9-15	WELDED STEEL GRATE (04/07)
9-16	CENTER SUPPORT ASSEMBLY FOR MULTIPLE GRATES (04/07)
9-17	CATCH BASIN FACE PLATE ASSEMBLY AND PROTECTION BAR (04/07)
9-18	DROP INLET TYPE F (08/07)
9-19	DROP INLET TYPE G (04/07)
9-21	CORRUGATED METAL PIPE DRAINAGE INLET TYPE I (11/98)
9-22	CORRUGATED PIPE FITTINGS (11/98)
9-23	PIPE CONNECTIONS (1/03)
9-24	LINED CHANNEL SECTION (7/98)
9-26G	TRASH RACK 24”-36” PIPE (1/03)
9-26H	PIPE HEADWALL, ENDWALL WINGWALL STRUCTURE (11/06)
9-27	EROSION CONTROL DITCH DISCHARGE (11/98)
9-28	BARBED WIRE AND WIRE MESH FENCES (11/98)
9-29	CHAIN LINK FENCE (12/99)
9-30	UTILITY STREAM CROSSING(11/98)
9-31	FLEXIBLE CONNECTOR PIPE TO MANHOLE (5/07)
9-32	CONSTRUCTION SITE SIGN (04/07)
9-33	UTILITY CROSSING (04/97)
9-34	CAST IRON 24” MANHOLE FRAME & COVER FOR TYPE G AND 300-1 INLET (4/07)
300-1	CURB OPENING CATCH BASIN (12/02)
301-1	CURB OPENING CATCH BASIN (12/02)
308-0	MONOLITHIC CATCH BASIN CONNECTION (3/07)
309-0	CATCH BASIN REINFORCEMENT (01/06)



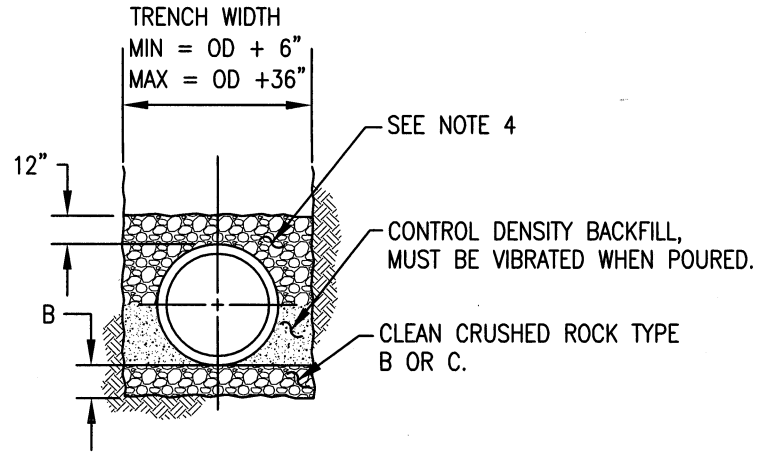
RIGID PIPE

REINFORCED CONCRETE PIPE C-76



FLEXIBLE PIPE

PVC, CORRUGATED AND RIBBED METAL

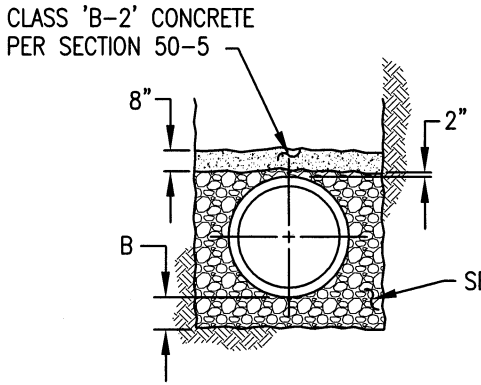


CONTROL DENSITY BACKFILL FOR FLEXIBLE PIPE

SEE NOTE 5

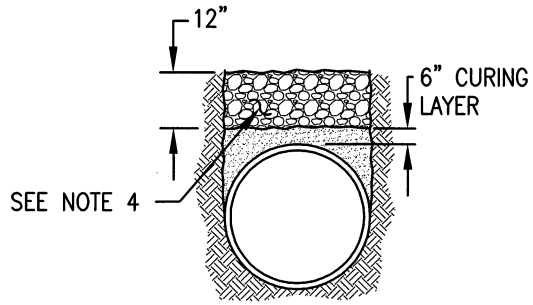
GENERAL NOTES:

1. AREA ABOVE BEDDING AND INITIAL BACKFILL PER DRAWING 4-31.
2. SEE SECTION 19 "TRENCH EXCAVATION BEDDING AND BACKFILL".
3. MINIMUM DEPTH OF BEDDING MATERIAL SHALL BE 1½" BELOW THE PIPE BELL.
4. BACKFILL WITH CLEAN CRUSHED ROCK TYPE B OR C.
5. IF MINIMUM TRENCH WIDTH CANNOT BE ACHIEVED, CONTROL DENSITY BACKFILL, PER SECTION 50-15 SHALL BE USED (UP TO SPRING LINE) IN LIEU OF CLEAN CRUSHED ROCK AT NO EXTRA COST (WITH APPROVAL OF THE DIRECTOR).
6. WILL ONLY BE ALLOWED IF THE MINIMUM COVER OVER THE PIPE BELL IS LESS THAN TABLE 38-1 AND WITH THE APPROVAL OF THE DIRECTOR.
7. B=4" FOR PIPES WITH 12"-54" ID. B=6" FOR PIPES > 54" ID.
8. THE TRENCH WIDTH ABOVE THE PIPE MAY BE INCREASED FOR CONSTRUCTION PURPOSES.



COVER LESS THAN 12"

SEE NOTE 6



CAST IN PLACE CONCRETE PIPE (CIPCP)

Keith DeVore

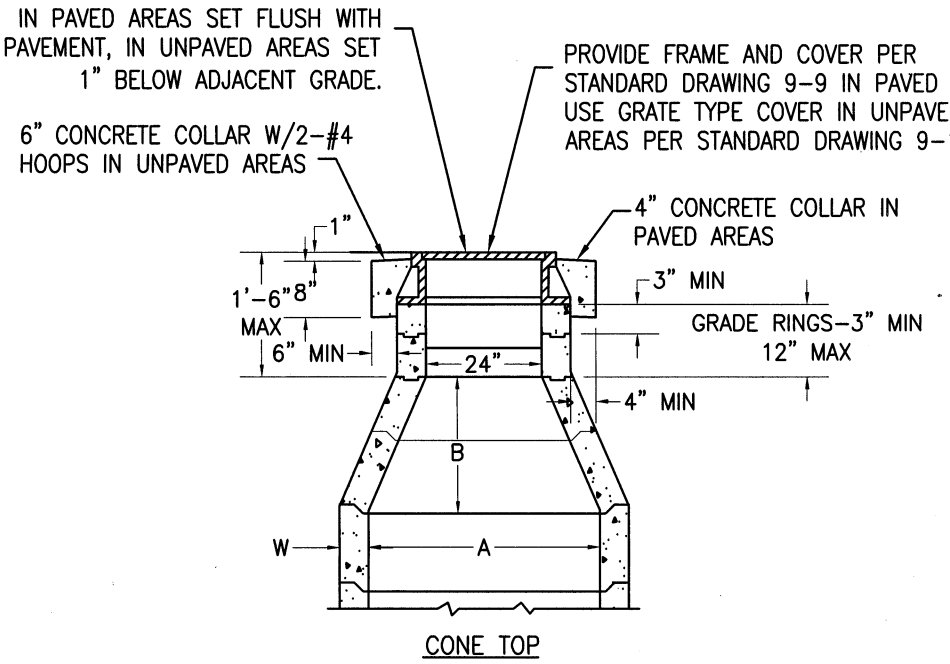
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

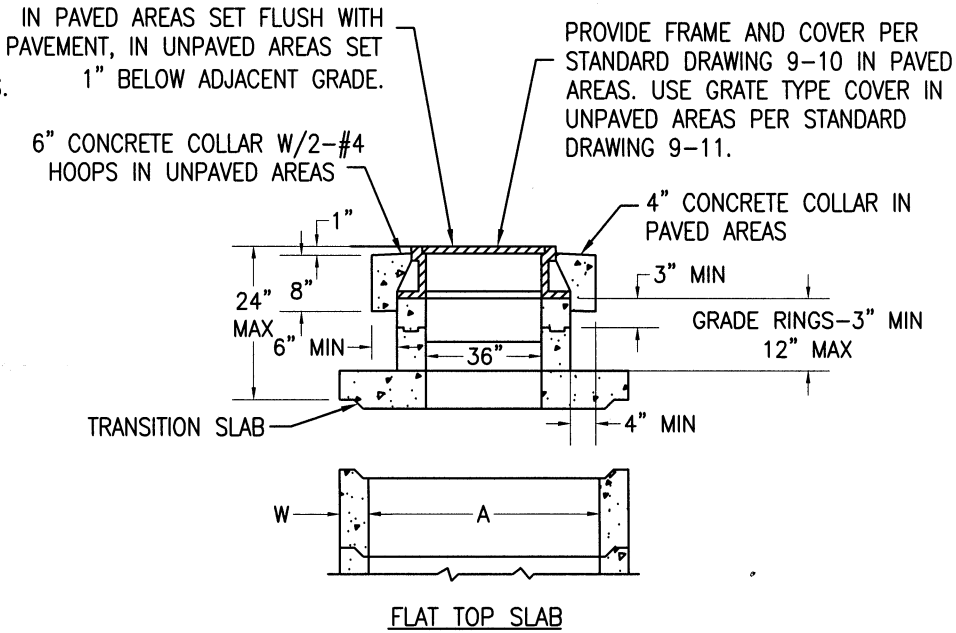
STORM DRAIN PIPE BEDDING AND INITIAL BACKFILL

DRAWN BY: STAFF
SCALE: NONE
DATE: 4/07

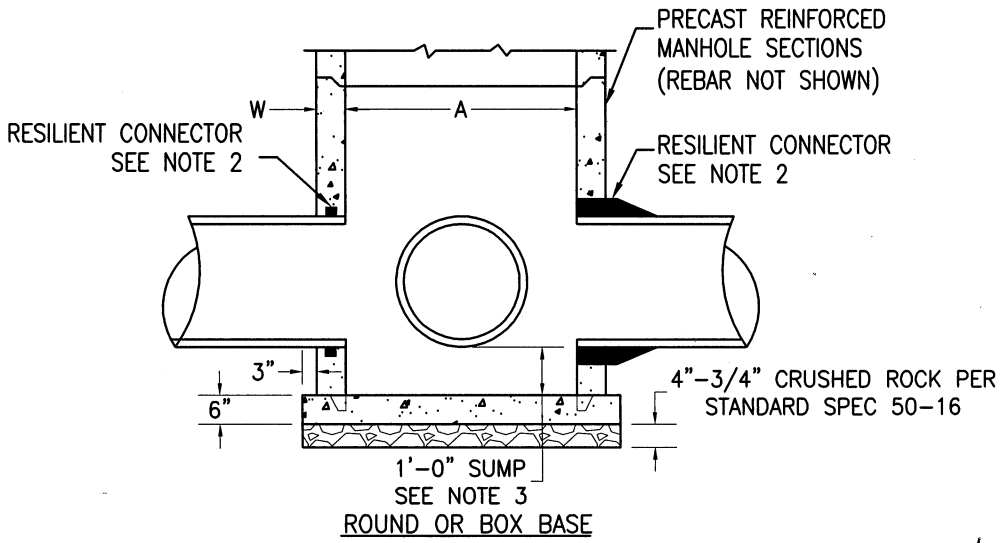
9-1



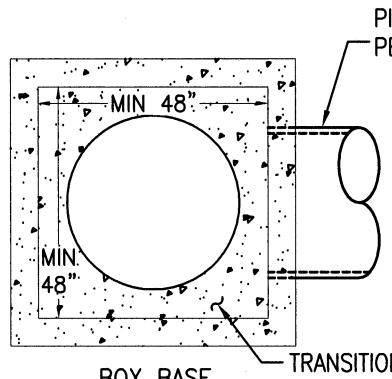
CONE TOP



FLAT TOP SLAB



ROUND OR BOX BASE



BOX BASE
(PLAN VIEW)

TABLE OF MINIMUM DIMENSIONS FOR ROUND MANHOLES

M.H.	A	B	W
48"	48"	18"	5"
60"	60"	30"	6"
72"	72"	**	7"
84"	84"	54"	8"
96"	96"	---	9"

** - TRANSITION SLAB REDUCES THE INSIDE DIAMETER FROM 72" TO 60"

DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

STANDARD PRECAST CONCRETE DRAINAGE MANHOLE

DRAWN BY: S. PIMENTEL
SCALE: NONE
DATE: 6/07

9-7A
SHEET 1 OF 2

NOTES:

1. ALL MANHOLES SHALL MEET H–20 LOAD SPECIFICATIONS.

2. ON ALL PIPE UP TO 30" I.D. USE FLEXIBLE COMPRESSION GASKET OR BOOT CONNECTOR CONFORMING TO ASTM C–923. CONNECTION SHALL BE WATER AND SOIL TIGHT. FOR PIPES GREATER THAN 30" I.D., BASE MAY BE CAST–IN–PLACE AND A WATER STOP CONFORMING TO ASTM C–923 SHALL BE USED.

3. SUMP SHALL BE 1'–0" DEEP, MEASURED FROM INVERT OF OUTFALL PIPE. SUMP NOT REQUIRED IF OUTFALL PIPE IS 24" I.D. OR LARGER. SUMPS SHALL NOT BE ALLOWED OUT OF THE COUNTY RIGHT OF WAY.

4. RISER SECTIONS, CONES, AND ADJUSTING RINGS SHALL CONFORM TO ASTM C–478.

5. ALL JOINTS SHALL BE MADE WITH PREFORMED PLASTIC JOINT SEALING COMPOUND OR PRE–LUBRICATED GASKET. FOLLOWING INSTALLATION GROUT ALL INTERIOR AND EXTERIOR JOINTS.

6. CONCENTRIC COMPONENTS SHALL BE USED UNLESS OTHERWISE SPECIFIED ON THE PLANS.

7. PRECAST MANHOLES SHALL BE SIZED TO PROVIDE THE FOLLOWING: THE ANNULAR SPACE ON THE INSIDE OF THE MANHOLE BARREL BETWEEN CORED PIPE CONNECTION HOLES SHALL BE A MINIMUM OF 10–INCHES. IF THE CONNECTION HOLE IS CAST MONOLITHICALLY WITH THE MANHOLE BARREL THE MEASUREMENT SHALL BE TAKEN FROM THE FINISHED CONCRETE CONNECTION SURFACE.

8. SEE SECTION 39, "MANHOLES".

9. CONSTRUCT WITH FLAT SLAB–TOP WHEN HEIGHT IS TOO SHALLOW TO CONSTRUCT WITH CONES.

10. FOR THE SLAB REDUCER OF THE BOX MANHOLE (BOX TO ROUND DIAMETER), THE DIAMETER OF THE ROUND REDUCER SHALL BE A MAX OF 12" SMALLER THAN THE INSIDE BOX WIDTH.

11. FLAT SLAB TOP MANHOLES SHALL HAVE A 36" MANHOLE FRAME AND COVER PER 9–10.

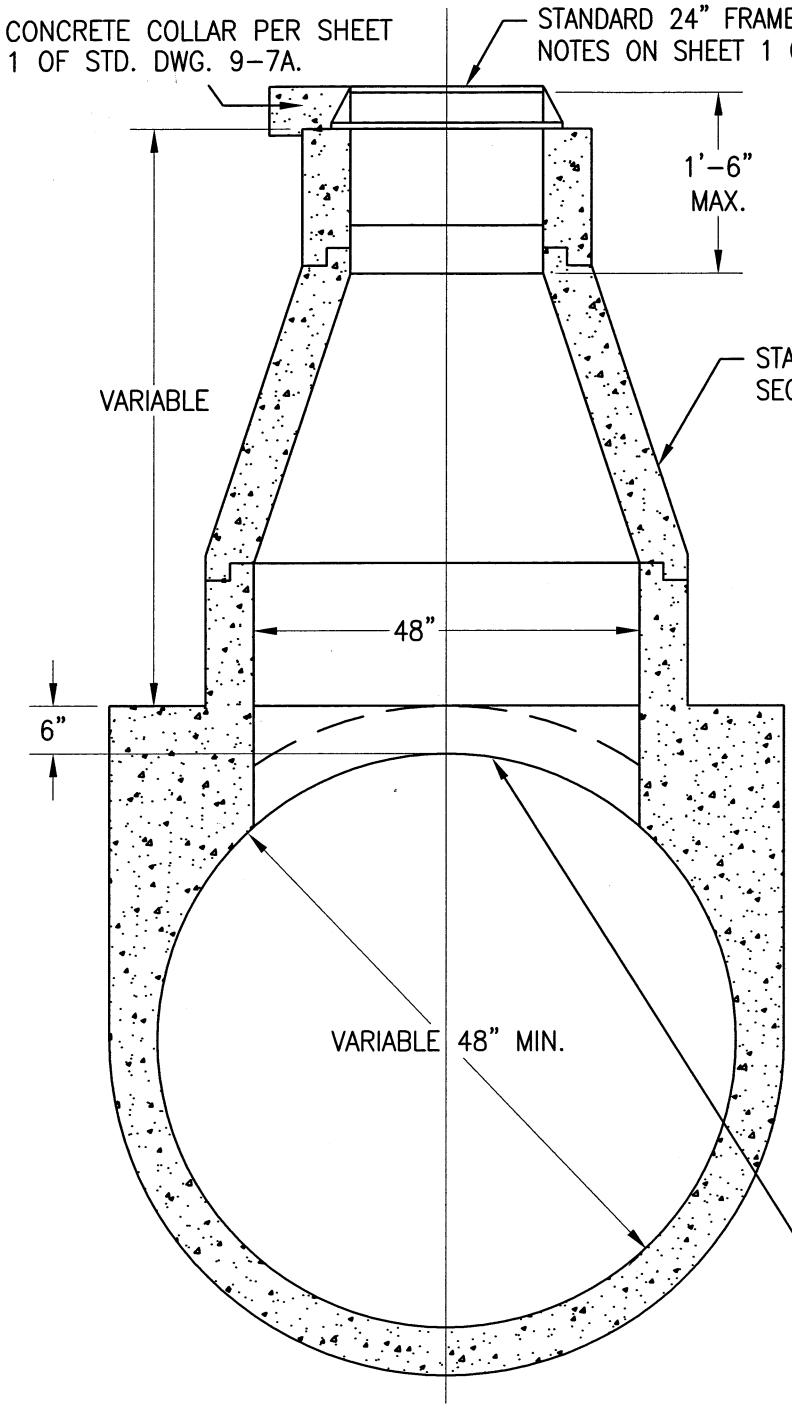
Keith DeVore

DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

STANDARD PRECAST CONCRETE DRAINAGE MANHOLE

DRAWN BY: S. PIMENTEL SCALE: NONE DATE: 05/07	**9-7A** SHEET 2 OF 2



TYPE A
CAST-IN-PLACE PIPE ONLY

NOTE:
REMOVE CONCRETE IN MANHOLE OPENING AND CONSTRUCT RISER BASE WHILE CONCRETE IS STILL WORKABLE.

PLACE RISER SECTION AFTER CONCRETE HAS SET.

SEE SECTION 39, "MANHOLES", AND SECTION 36, "CAST-IN-PLACE CONCRETE PIPE".

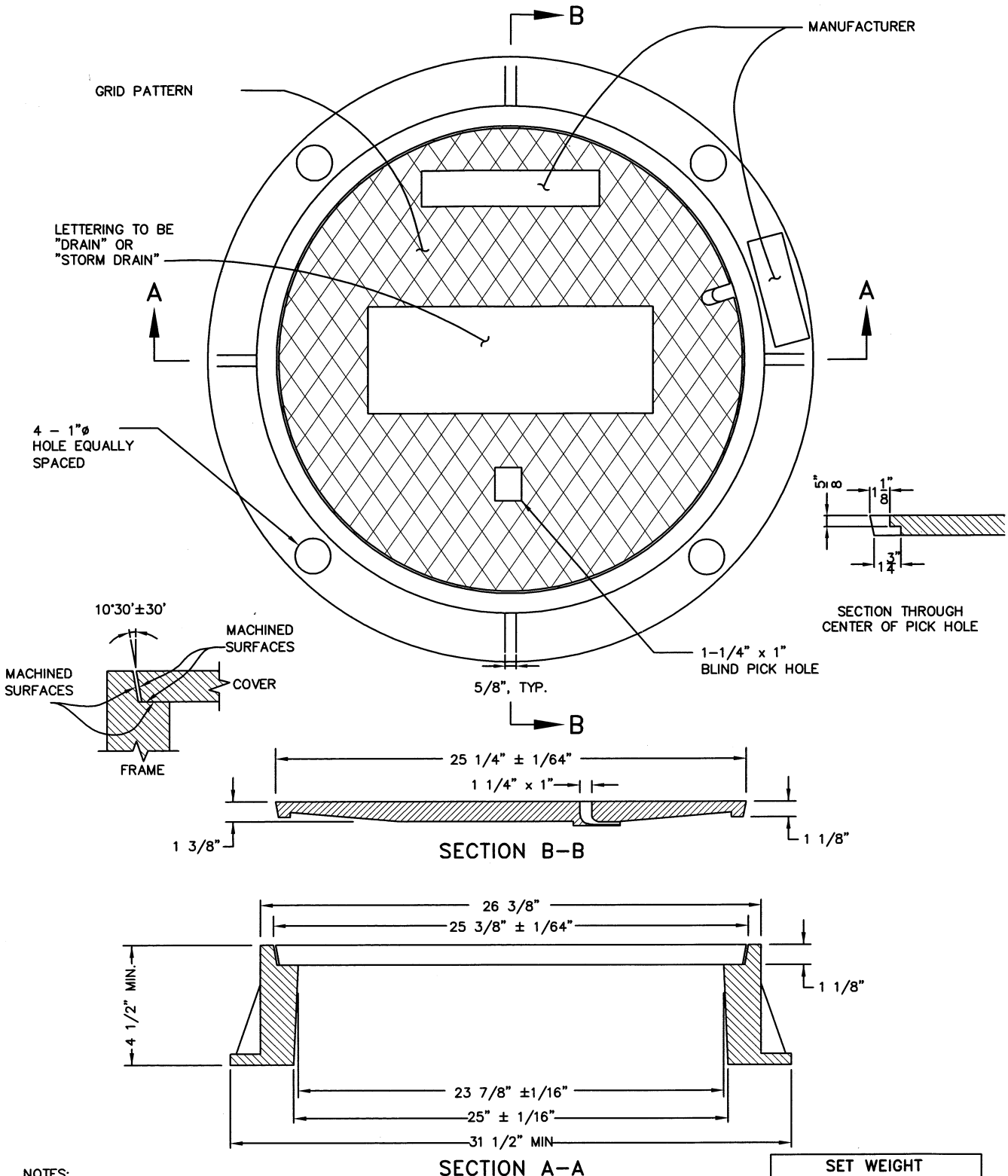
Keith DeVore
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

TYPE A
SADDLE MANHOLE

DRAWN BY: M.FIELDS
SCALE: NONE
DATE: 11/98

9-8A



NOTES:

1. ALL CASTINGS TO CONFORM TO ASTM A48, CLASS 35B.
2. FRAME AND COVER TO MEET H–20 LOAD SPECIFICATIONS.
3. EXPOSED SURFACES OF THE CASTING WITH THE PARTS ASSEMBLED AND DISASSEMBLED SHALL BE PAINTED WITH COMMERCIAL QUALITY ASPHALTUM PAINT AFTER TESTING AND ASSEMBLY.
4. LOCKING COVER TYPE FRAME AND COVERS SHALL BE USED IN EASEMENT AREAS UNLESS OTHERWISE APPROVED.
5. SHALL NOT BE USED ON FLAT SLAB TOP MANHOLES.
6. MACHINED HORIZONTAL AND VERTICAL BEARING SURFACES NOT TO EXCEED 1/64" TOLERANCE.

SET WEIGHT	
FRAME	140 LBS
COVER	130 LBS
TOTAL	270 LBS

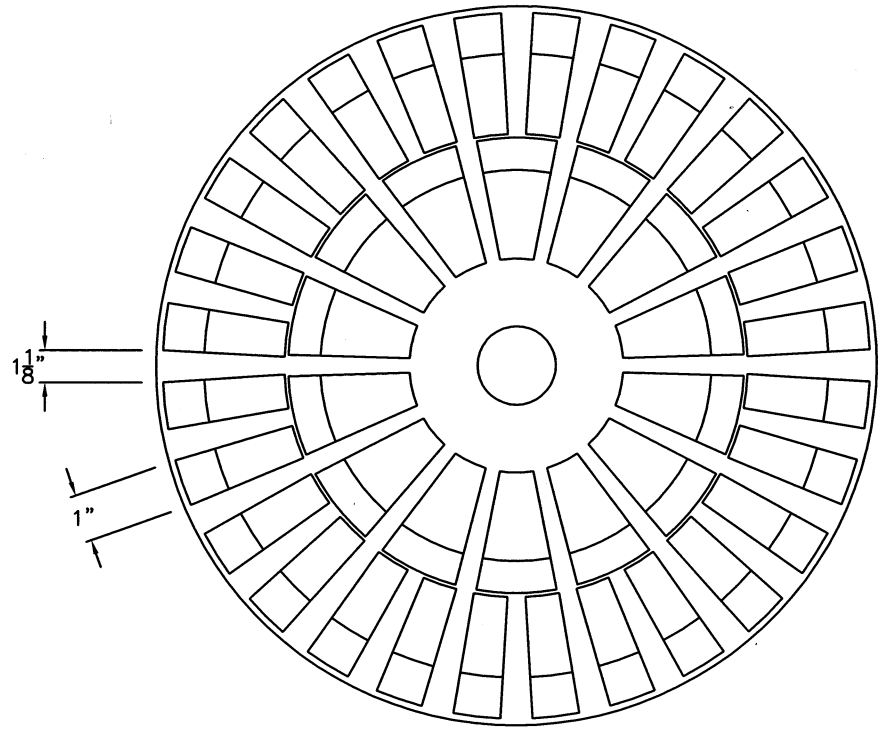
Keith DeVore
DIRECTOR, DEPARTMENT OF WATER RESOURCES

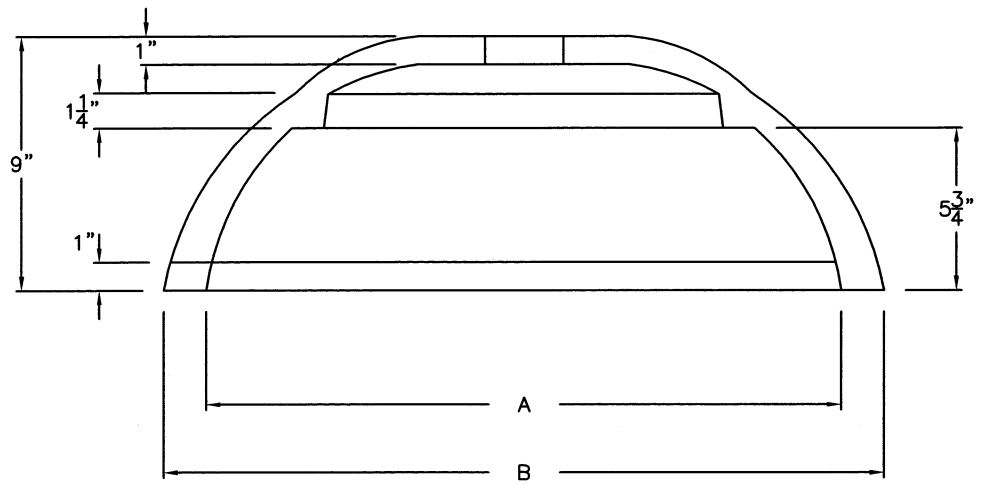
SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

GREY CAST IRON STANDARD 24" MANHOLE FRAME & COVER

DRAWN BY: S. PIMENTEL
SCALE: NONE
DATE: 8/07

9-9
SHEET 1 OF 2





DIMINISION TABLE

LID	A	B
24"	22 5/16"	25 5/16"
36"	35 1/4"	38 1/4"

GENERAL NOTES:

1. CAST IRON TO CONFORM TO ASTM A-48, CLASS 30B.
2. NOT TO BE USED IN COUNTY RIGHT-OF-WAY.
3. EXPOSED SURFACES OF THE CASTING WITH THE PARTS ASSEMBLED AND DISASSEMBLED SHALL BE PAINTED WITH COMMERCIAL QUALITY ASPHALTUM PAINT AFTER TESTING AND ASSEMBLY.
4. LOCKING COVER TYPE FRAME AND COVERS SHALL BE REQUIRED UNLESS OTHERWISE APPROVED.

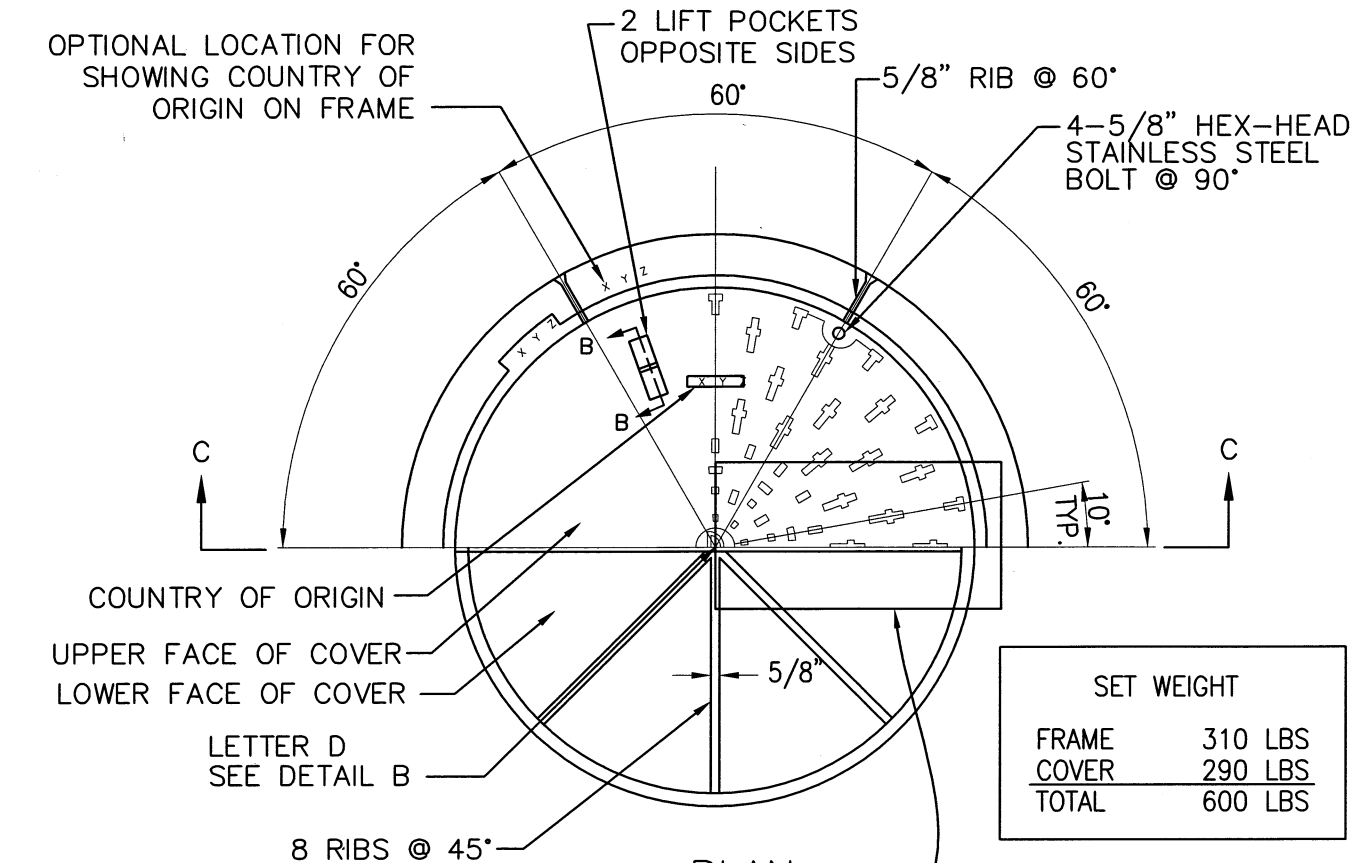
Keith DeVore
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

STANDARD 24"/36" MANHOLE COVER

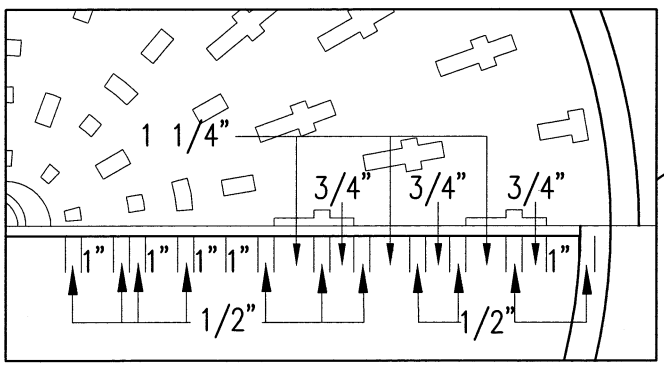
DRAWN BY: S. PIMENTEL
SCALE: NONE
DATE: 04/07

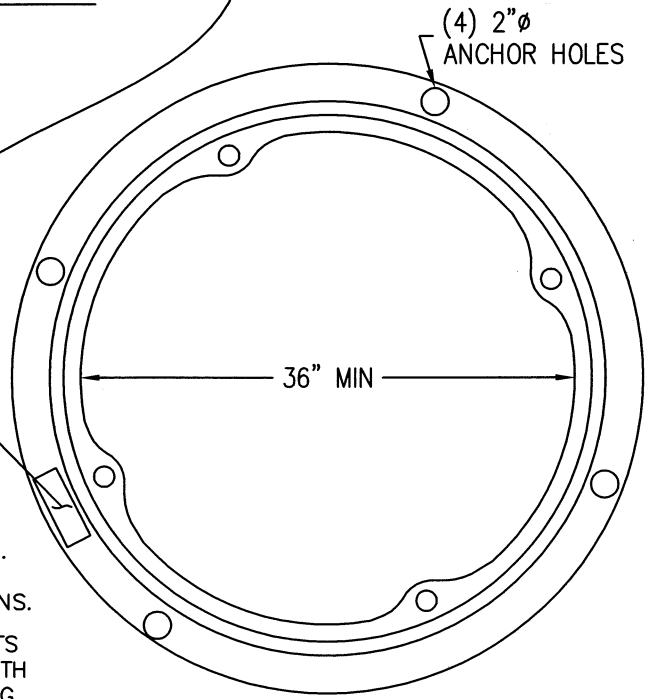
9-9
SHEET 2 OF 2



PLAN

SET WEIGHT	
FRAME	310 LBS
COVER	290 LBS
TOTAL	600 LBS





MANUFACTURER

NOTES:

1. MACHINED HORIZONTAL AND VERTICAL BEARING SURFACES NOT TO EXCEED 1/64" TOLERANCE.
2. ALL CASTINGS TO CONFORM TO ASTM A48, CLASS 35B.
3. FRAME AND COVER TO MEET H-20 LOAD SPECIFICATIONS.
4. EXPOSED SURFACES OF THE CASTINGS, WITH THE PARTS ASSEMBLED AND DISASSEMBLED, SHALL BE PAINTED WITH COMMERCIAL QUALITY ASPHALTUM PAINT AFTER TESTING AND ASSEMBLY.
5. LOCKING COVER TYPE FRAME AND COVERS SHALL BE USED WHEN SPECIFIED IN CONTRACT DOCUMENTS.
6. H-20 RATED SLOTTED GRATE OR GRATE TYPE MANHOLE COVER MAY BE SUBSTITUTED FOR COVER WHEN SPECIFIED IN CONTRACT DOCUMENTS OR UPON APPROVAL OF DIRECTOR.
7. SHALL BE USED ON ALL FLAT SLAB TOP MANHOLES.

Keith DeVore

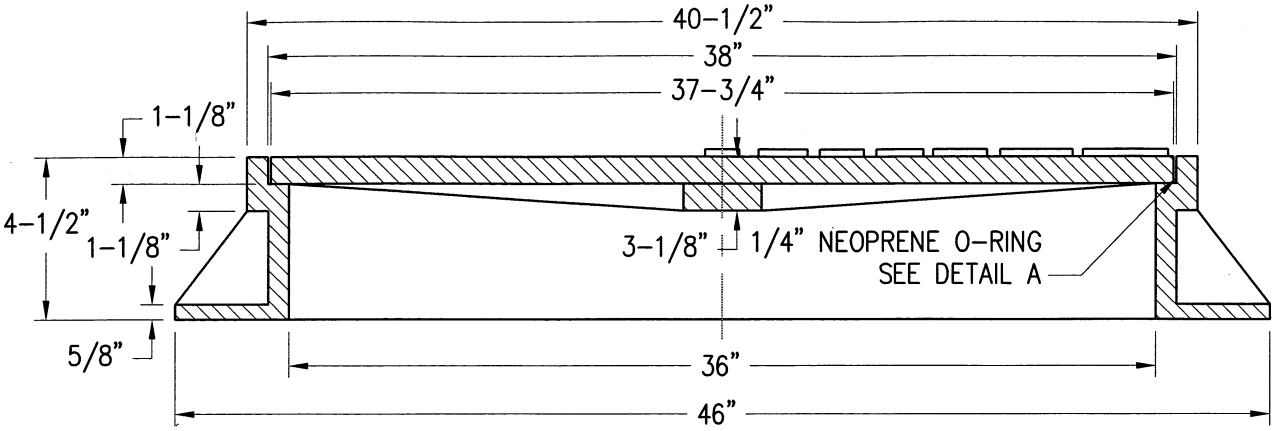
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

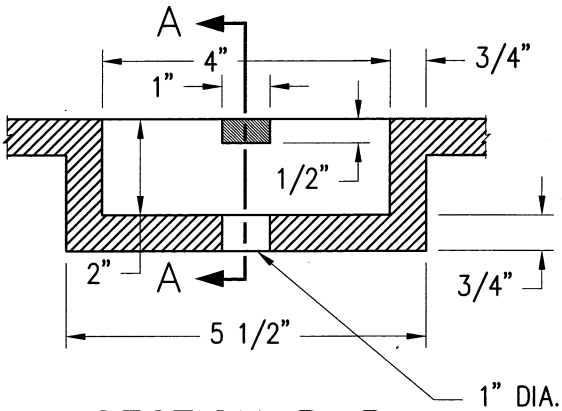
GREY CAST IRON STANDARD 36" MANHOLE FRAME & COVER

DRAWN BY: STAFF
SCALE: NONE
DATE: 04/07

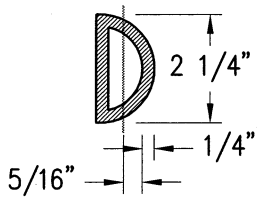
9-10
SHEET 1 OF 2



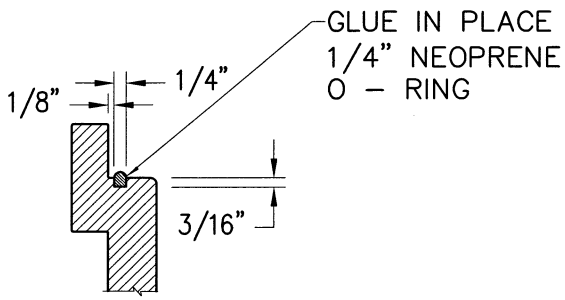
SECTION C-C



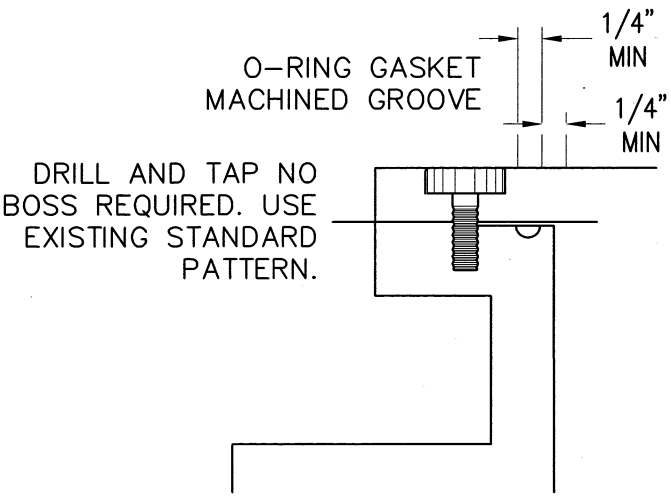
SECTION B-B
NTS.



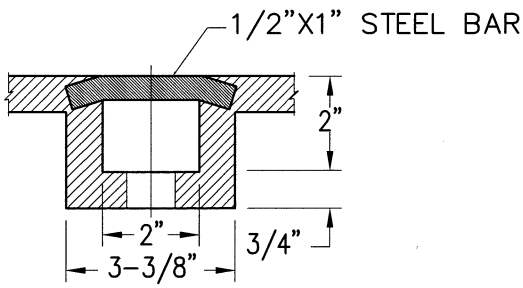
DETAIL B
NTS.



DETAIL A
NTS.



BOLT DOWN COVER DETAIL
NTS.



SECTION A-A
NTS.

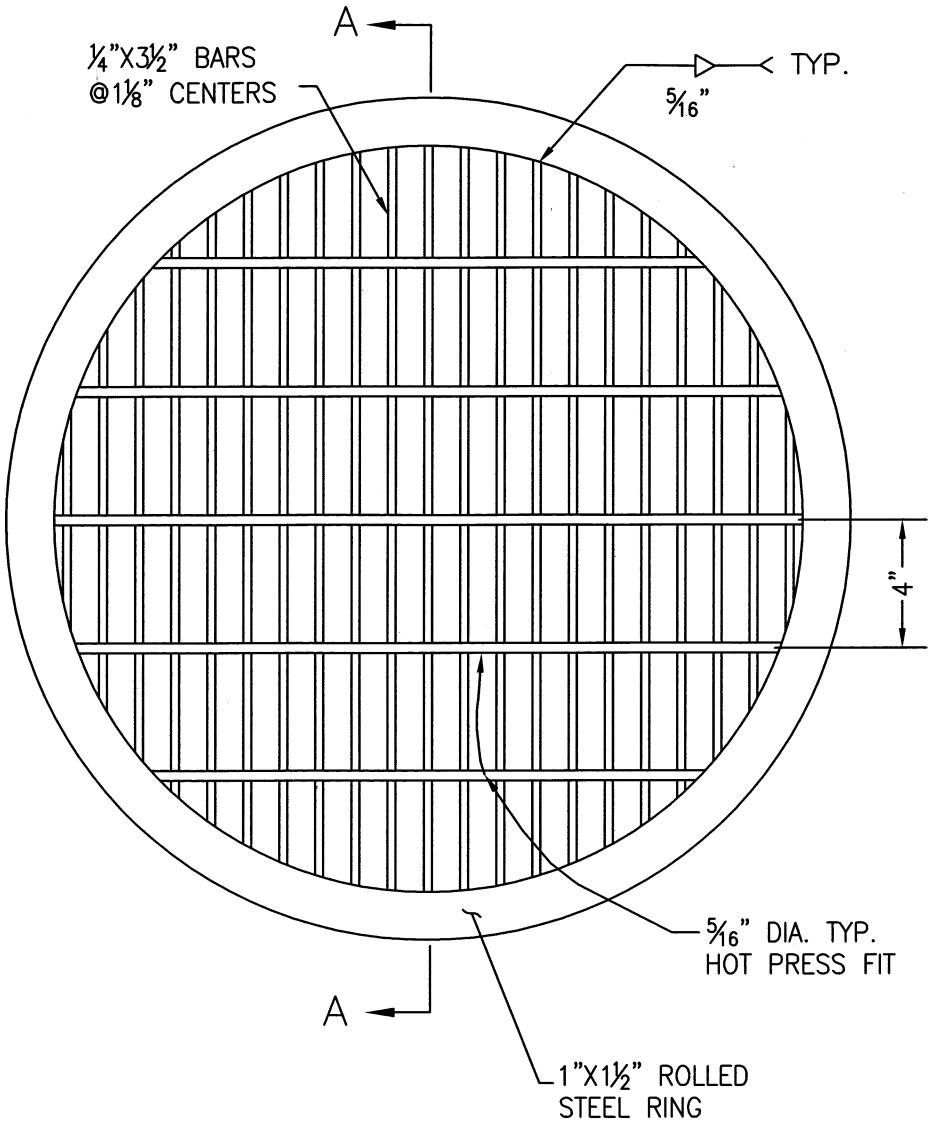
Keith DeVore
DIRECTOR, DEPARTMENT OF WATER RESOURCES

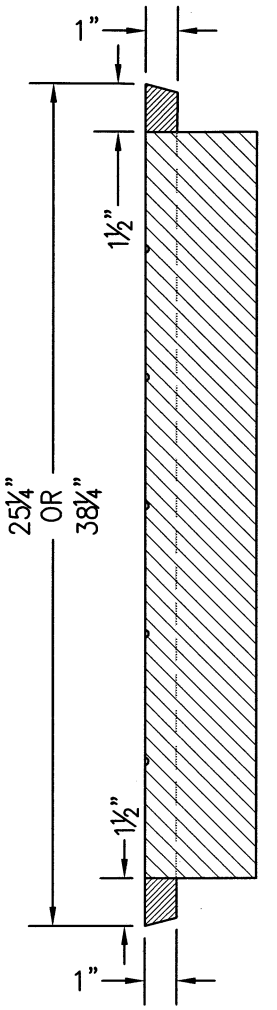
SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

GREY CAST IRON STANDARD 36" MANHOLE FRAME & COVER

DRAWN BY: TRU PHAN
SCALE: NONE
DATE: 6/07

9-10
SHEET 2 OF 2





SECTION A–A

NOTES

1. MANHOLE COVER SHALL FIT FRAME SHOWN ON DRAWING 9–9 or 9–10.
2. SEATING SURFACES SHALL BE MACHINED AS SHOWN IN DETAIL ON DRAWING 9–9.
3. THIS COVER MAY BE USED ONLY WITH APPROVAL OF DIRECTOR.
4. EXPOSED SURFACES OF THE CASTINGS, WITH THE PARTS ASSEMBLED AND DISASSEMBLED, SHALL BE PAINTED WITH COMMERCIAL QUALITY ASPHALTUM PAINT AFTER TESTING AND ASSEMBLY.

Keith DeVore

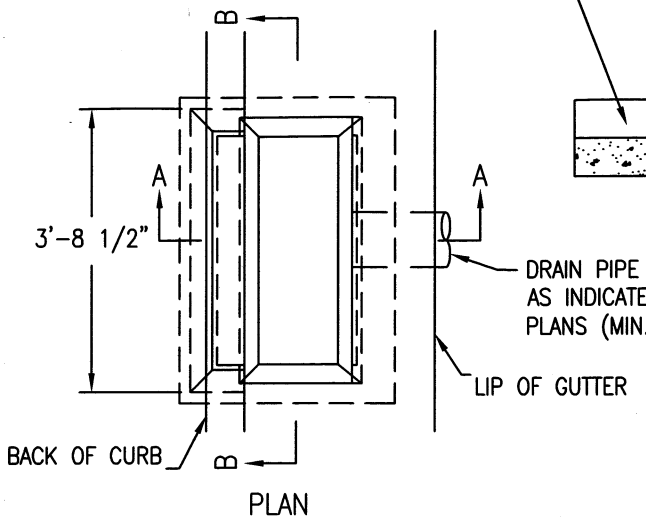
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

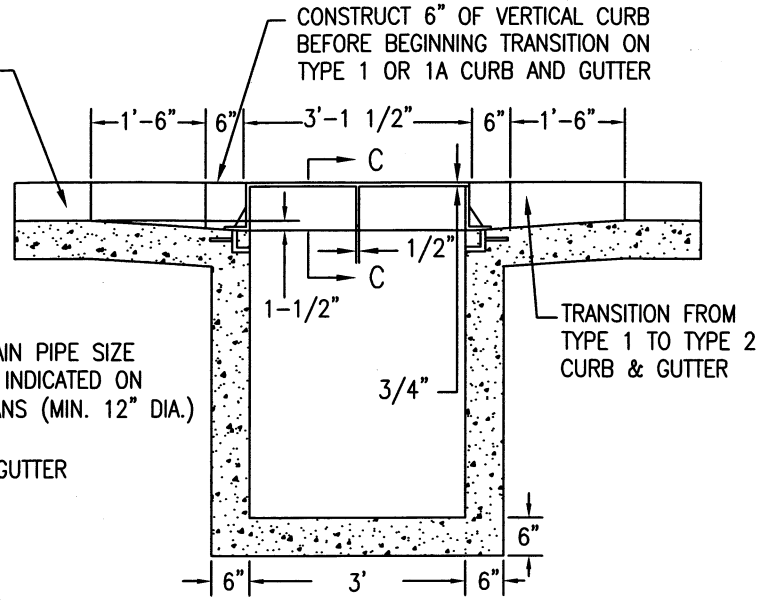
GRATE TYPE MANHOLE COVER

DRAWN BY: STAFF
SCALE: NONE
DATE: 08/07

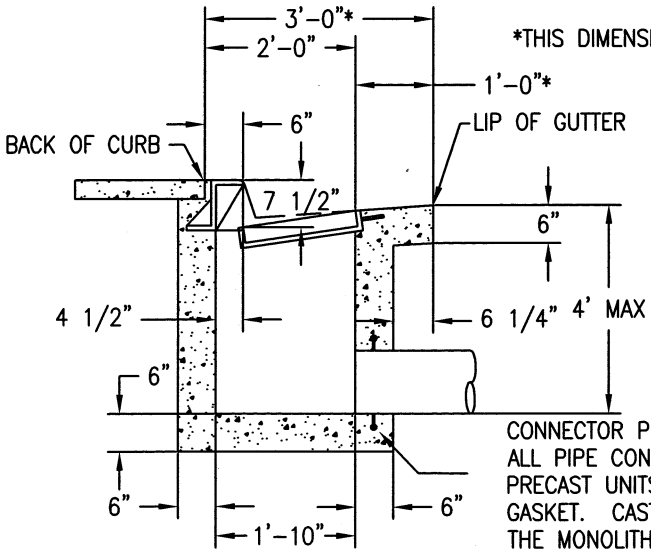
9-11



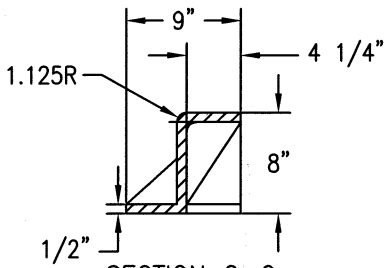
PLAN



SECTION B-B

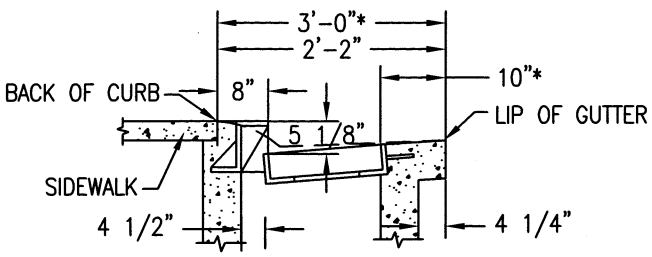


SECTION A-A
TYPE 2-VERTICAL C&G

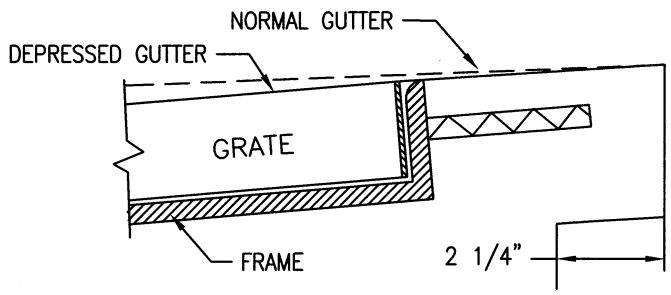


SECTION C-C
OPEN-BACK HOOD

CONNECTOR PIPE OR MONOLITHIC CATCH BASIN CONNECTION. ALL PIPE CONNECTIONS SHALL CONFORM TO ASTM C-923. PRECAST UNITS SHALL BE BOOT TYPE OR INTEGRAL COMPRESSION GASKET. CAST IN PLACE UNITS SHALL INCLUDE A WATER STOP IF THE MONOLITHIC CATCH BASIN CONNECTION IS NOT REQUIRED.



SECTION A-A
TYPE 1&1A-ROLLED C&G



GUTTER WITH
FRAME DETAIL

Keith DeVore
DIRECTOR, DEPARTMENT OF WATER RESOURCES

NOTES

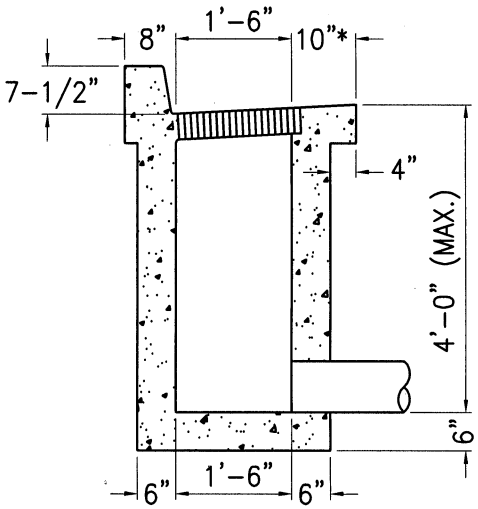
1. STANDARD DEPRESSION FOR INLET IS 1-1/2".
2. FRAME AND GRATE SHALL CONFORM TO DRAWINGS 9-14 AND 9-15.
3. OPEN-BACK HOOD SHALL BE H-20 RATED.
4. ALL EXPOSED EDGES SHALL HAVE A 1/8" R (MINIMUM).
5. AN EDGING TOOL SHALL BE USED ON ALL EDGES WHERE THE CONCRETE SIDEWALK AND CURB MEET THE TOP OF THE HOOD.
6. EXPOSED SURFACES OF THE GRATES, FRAMES AND HOODS WITH THE PARTS ASSEMBLED AND DISASSEMBLED SHALL BE PAINTED WITH COMMERCIAL QUALITY ASPHALTUM PAINT AFTER TESTING AND ASSEMBLY.
7. CAST IRON HOODS SHALL BE 3/4" THICK.

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

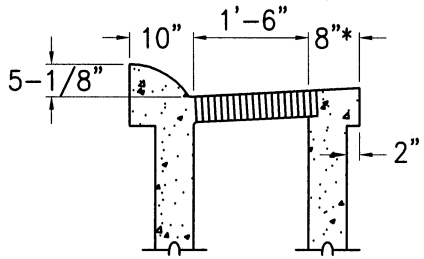
DROP INLET
TYPE B

DRAWN BY: STAFF
SCALE: NONE
DATE: 06/07

9-13B



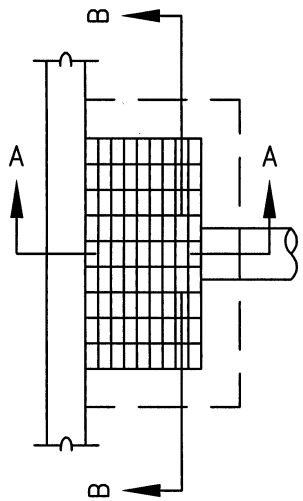
TYPE 2 CURB

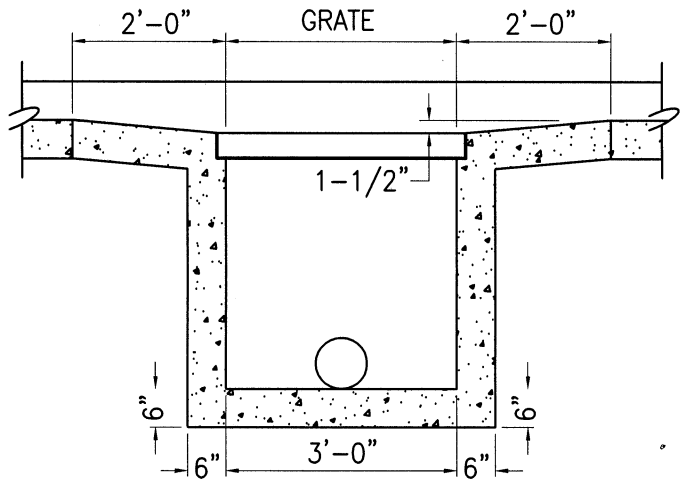


TYPE 1 OR 1A CURB

SECTION A-A

*THIS DIMENSION MAY VARY.





SECTION B-B

NOTES:

1 SEE DRAWINGS 9-14 AND 9-15 FOR FRAME AND GRATE DETAILS.

2 BOTTOM OF INLET SHALL BE PLACED PRIOR TO OR AT THE SAME TIME AS SIDE WALLS.

3 SEE NOTE 1 OF DRAWING 9-13B FOR GUTTER DEPRESSION.

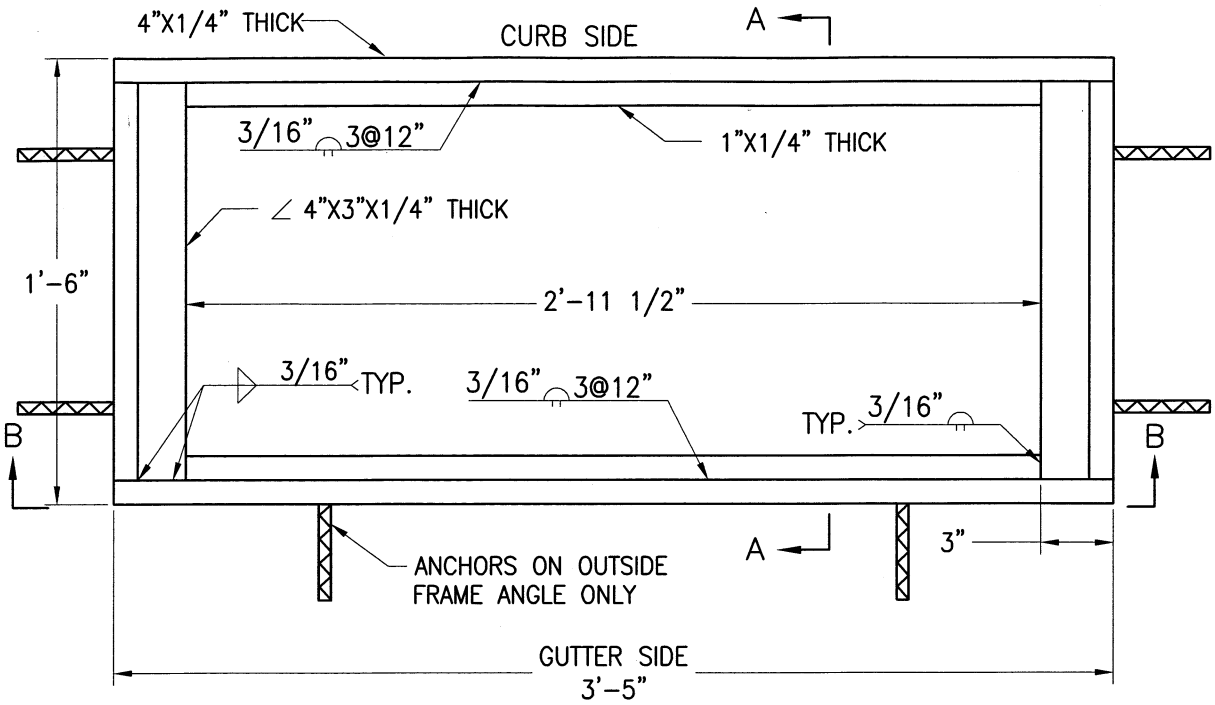
Keith DeVore
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

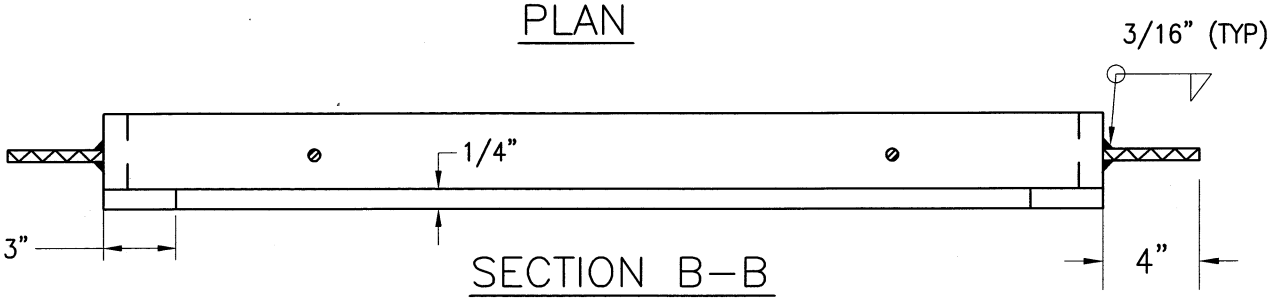
DROP INLET
TYPE C

DRAWN BY: G. OGREN
SCALE: NONE
DATE: 09/00

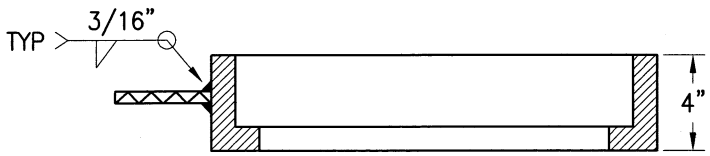
9-13C



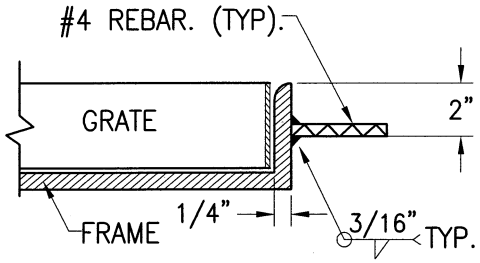
PLAN



SECTION B-B



SECTION A-A



FRAME ANCHOR DETAIL

NOTES:

1. OMIT 1/2" FRAME ANCHORS OVER CENTER SUPPORT ASSEMBLY WHEN MULTIPLE FRAMES ARE USED.
2. MATERIAL: ASTM A36 MILD STEEL.
3. SEE ARTICLE 50-34, "SEWER AND STORM DRAIN CASTINGS," OF SECTION 50.
4. EXPOSED SURFACES OF THE GRATES, FRAMES AND HOODS WITH THE PARTS ASSEMBLED AND DISASSEMBLED SHALL BE PAINTED WITH COMMERCIAL QUALITY ASPHALTUM PAINT AFTER TESTING AND ASSEMBLY.

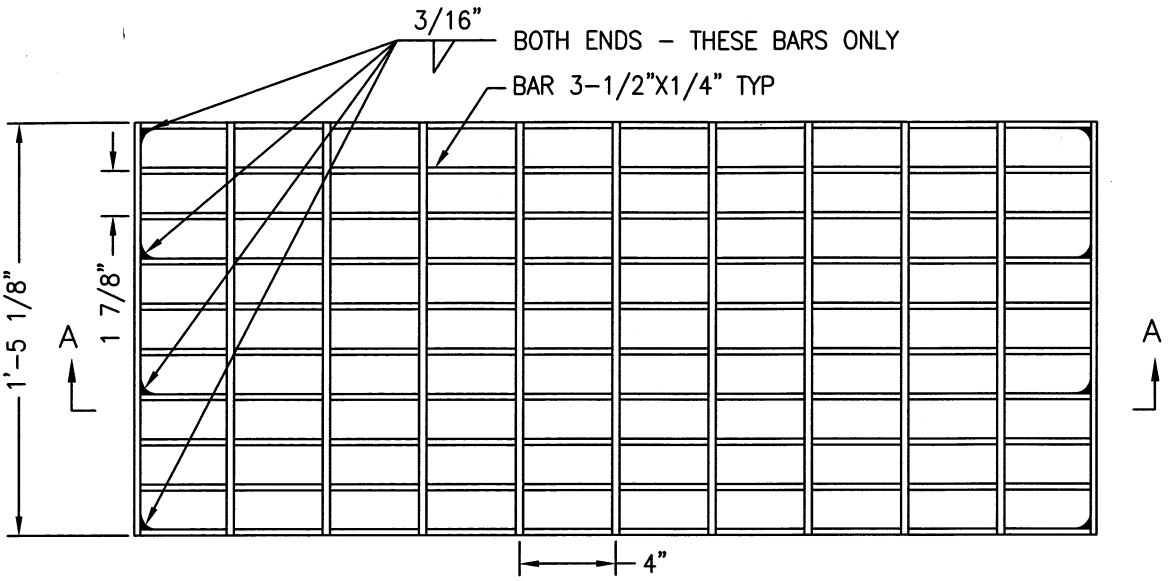
Keith DeVore
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

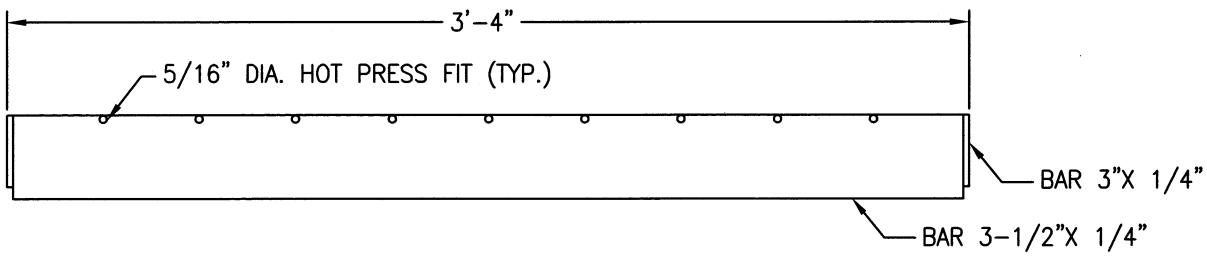
WELDED STEEL GRATE FRAME

DRAWN BY: L. PETERS
SCALE: NONE
DATE: 04/07

9-14



PLAN



SECTION A–A

NOTES:
1. DIMENSIONS TO CENTERLINE OF BARS UNLESS OTHERWISE NOTED.

2. EXPOSED SURFACES OF THE GRATES, FRAMES AND HOODS, WITH THE PARTS ASSEMBLED AND DISASSEMBLED, SHALL BE PAINTED WITH COMMERCIAL QUALITY ASPHALTUM PAINT AFTER TESTING AND ASSEMBLY.

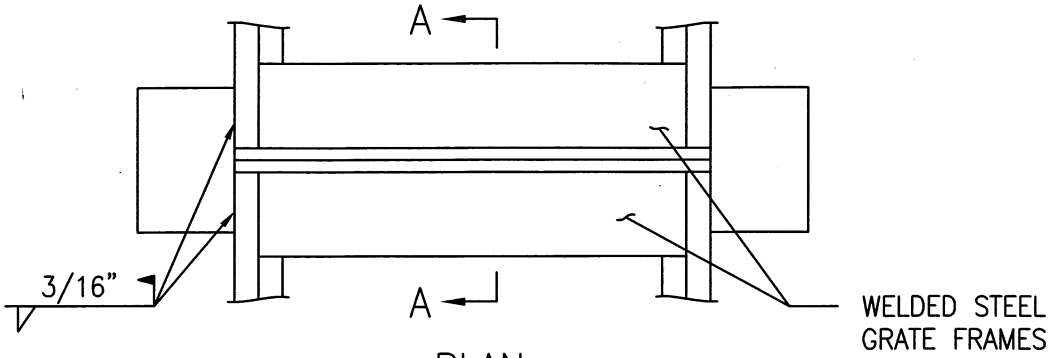
Keith DeVore
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

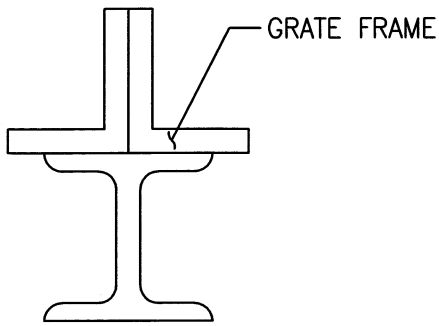
WELDED STEEL GRATE

DRAWN BY: M. FIELDS
SCALE: NONE
DATE: 04/07

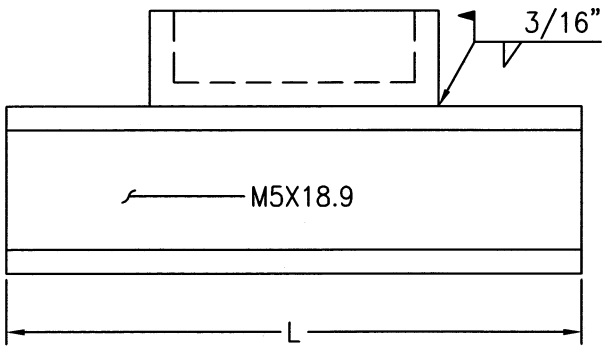
9-15



PLAN



SECTION A–A



ELEVATION

NOTES:

1. OMIT 1/2" FRAME ANCHORS OVER CENTER SUPPORT

2. L=57 INCHES FOR CURB OPENING CATCH BASIN WITH GRATING(S) AND DEBRIS SKIMMER (STANDARD PLAN 301).

3. EXPOSED SURFACES OF THE GRATES, FRAMES AND HOODS, WITH PARTS ASSEMBLED AND DISASSEMBLED, SHALL BE PAINTED WITH COMMERCIAL QUALITY ASPHALTUM PAINT AFTER TESTING AND ASSEMBLY.

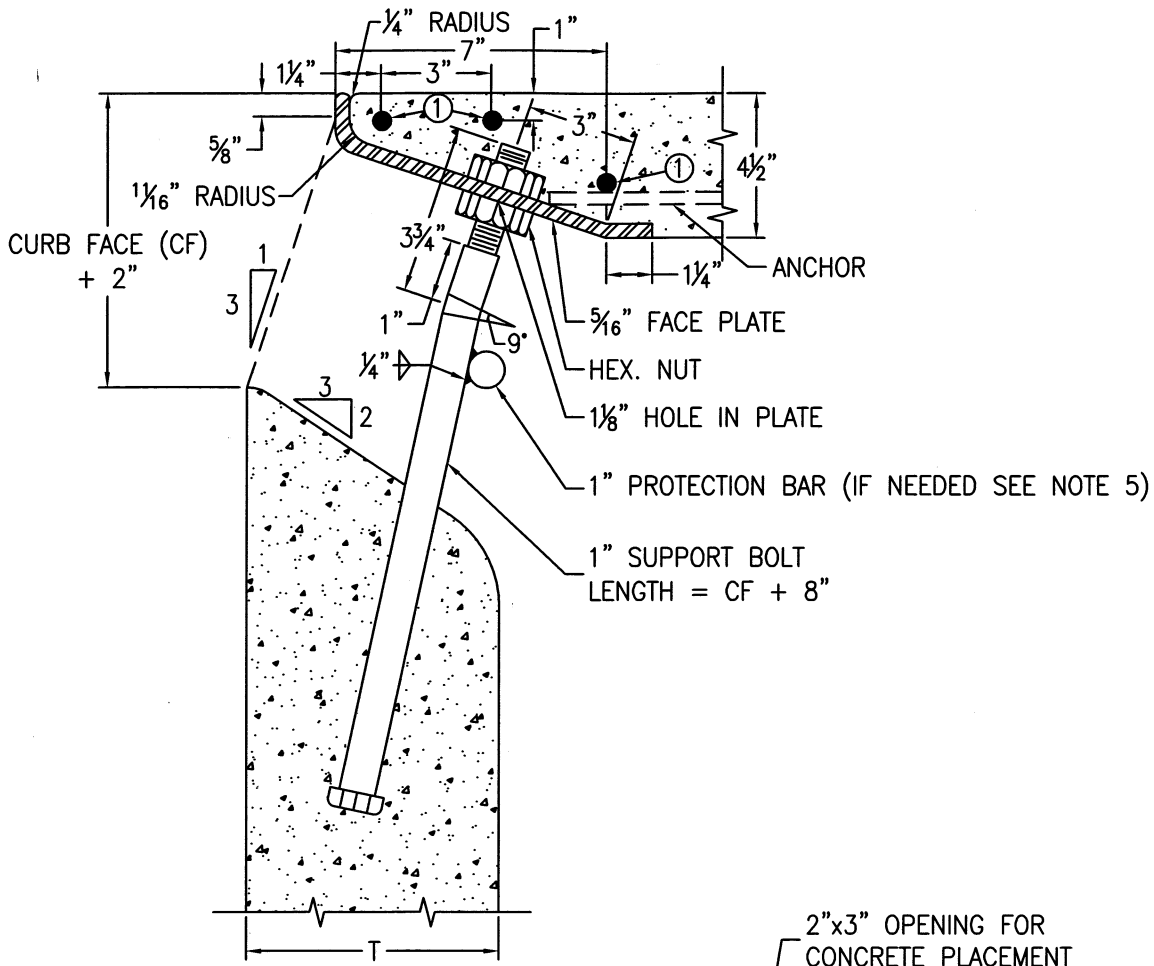
Keith DeVore
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

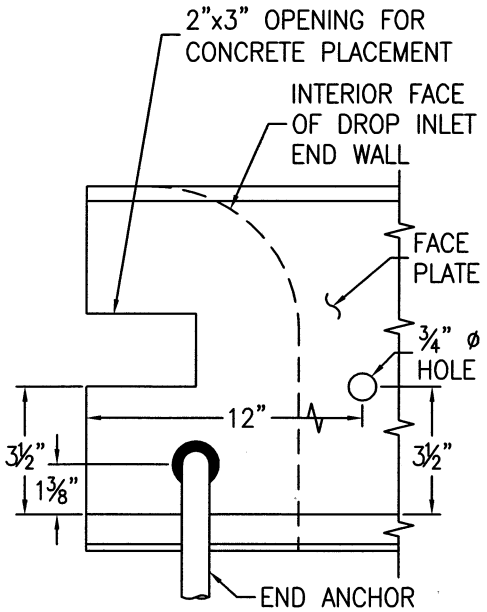
CENTER SUPPORT ASSEMBLY FOR MULTIPLE GRATES

DRAWN BY: M. FIELDS
SCALE: NONE
DATE: 04/07

9-16



① #4 BAR x W+6". IN ADDITION TO REINFORCING STEEL PER 9-19, 300-1 AND 301-1.



END DETAIL

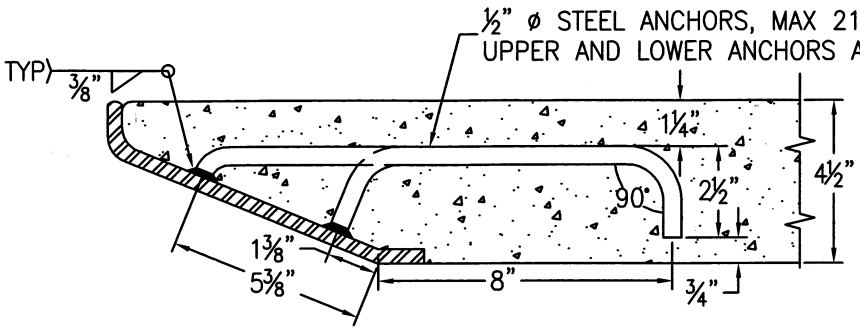
Keith DeVore
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

CATCH BASIN FACE PLATE ASSEMBLY AND PROTECTION BAR

DRAWN BY: S. PIMENTEL
SCALE: NONE
DATE: 04/07

9-17
SHEET 1 OF 2



FACE PLATE ANCHORS

GENERAL NOTES:

1. TO BE USED ONLY IN TYPE 2 CURB AND GUTTER WITH 2" DEPRESSION. USE IN TYPE 1 CURB AND GUTTER ONLY UPON APPROVAL OF THE DIRECTOR. ALTERNATE ANGLE IRON SIZE, DEPRESSION DEPTH, AND SLAB THICKNESS MAY BE USED UPON APPROVAL OF THE DIRECTOR.
2. ALL PARTS SHALL BE STEEL, EXCEPT SET SCREWS, WHICH SHALL BE STAINLESS STEEL OR BRASS.
3. EXPOSED SURFACES OF THE GRATES, FRAMES AND HOODS WITH THE PARTS ASSEMBLED AND DISASSEMBLED SHALL BE PAINTED WITH COMMERCIAL QUALITY ASPHALTUM PAINT AFTER TESTING AND ASSEMBLY.
4. FACE PLATE LENGTHS SHALL BE CAST INTO STRUCTURE CONTINUOUS FOR THE FULL LENGTH + 12".
5. WHEN CURB INLET OPENING HEIGHT EXCEEDS: 6" INSTALL 1" ø STEEL PROTECTION BAR, 12" INSTALL 2–1" ø STEEL PROTECTION BARS (EQUALLY SPACED), 17" INSTALL 3–1" ø STEEL PROTECTION BARS (EQUALLY SPACED).
6. WHEN CURB INLET OPENING LENGTH EXCEEDS 7' INSTALL 1" ø STEEL SUPPORT BOLTS, SPACED AT NOT MORE THAN 5' O.C.
7. ALTERNATE ANGLE IRON SIZE, DEPRESSION DEPTH, AND SLAP THICKNESS MAY BE USED UPON APPROVAL OF THE DIRECTOR.
8. TOP SLAB OVER INLET SHALL BE 4½".

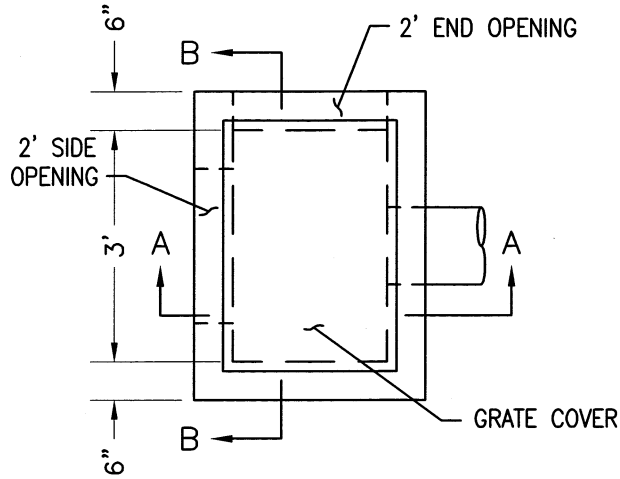
Keith DeVore
DIRECTOR, DEPARTMENT OF WATER RESOURCES

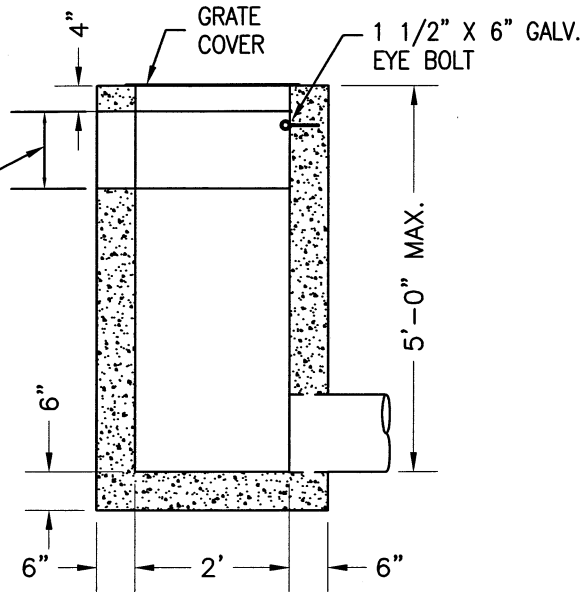
SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

CATCH BASIN FACE PLATE ASSEMBLY AND PROTECTION BAR

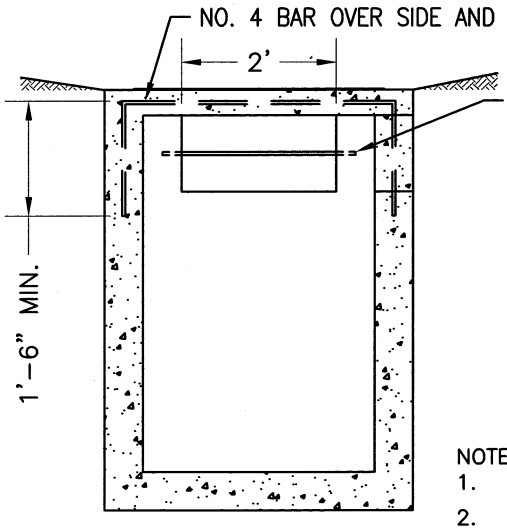
DRAWN BY: S. PIMENTEL
SCALE: NONE
DATE: 04/07

9-17
SHEET 2 OF 2





SECTION A–A



SECTION B–B

NOTES:

1. PROVIDE 1/4" X 18" CHAIN WELD TO COVER AND EYE BLOT.
2. PROVIDE END OR SIDE OPENINGS AS SHOWN ON PLAN OR CROSS SECTION.
3. TOP OF ALL WALLS TO BE FINISHED TO A FLAT PLANE TO PROVIDE EVEN BEARING FOR THE GRATE COVER.
4. ALL METAL SHALL BE GALVANIZED PER ASTM A123.
5. INSTALL A GREEN CARSONITE UTILITY MARKER PRODUCT NUMBER CRM306607 OR EQUIVALENT. UTILITY MARKER SHALL HAVE A 3"X12" SILVER/WHITE HIGH INTENSITY STRIP ON THE FRONT AND A 3"X3" SILVER/WHITE HIGH INTENSITY STRIP ON THE BACK. INSTALL THE UTILITY MARKER PER MANUFACTURER'S STANDARDS. THE MARKER SHALL BE INSTALLED 1' FROM THE EDGE OF PAVEMENT AT THE CENTERLINE OF THE DROP INLET.

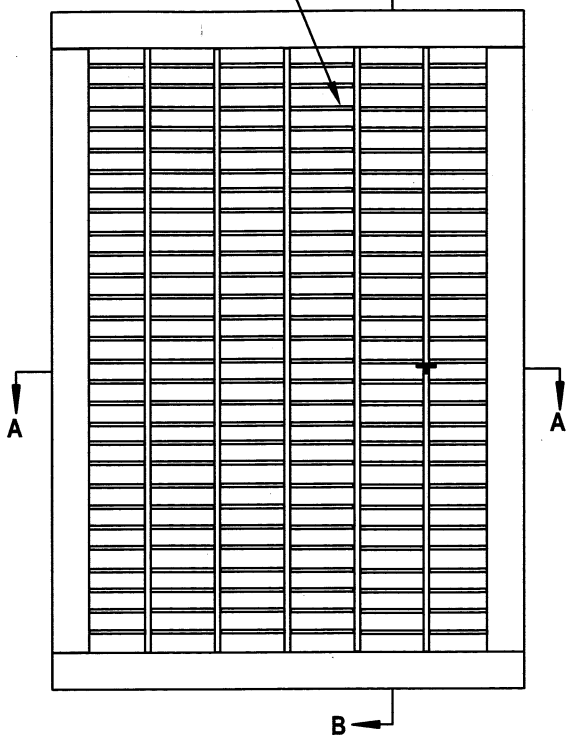
Keith DeVore
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

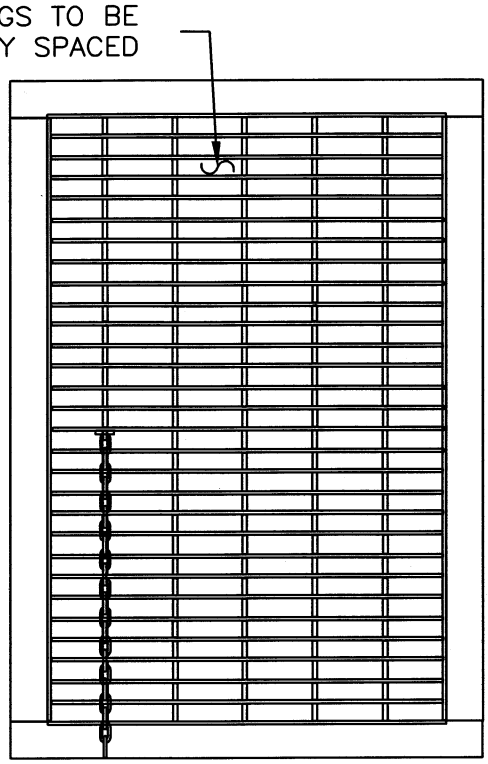
DROP INLET
TYPE F

DRAWN BY: STAFF
SCALE: NONE
DATE: 08/07

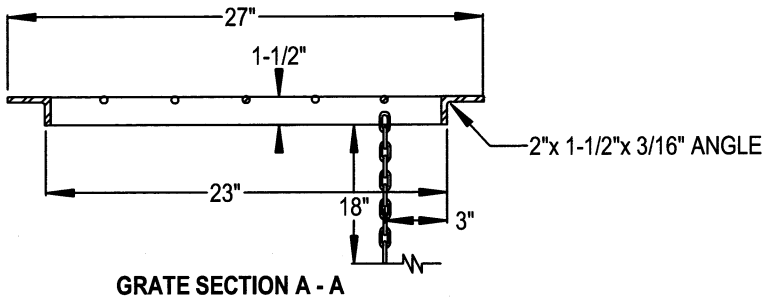
9-18
SHEET 1 OF 2



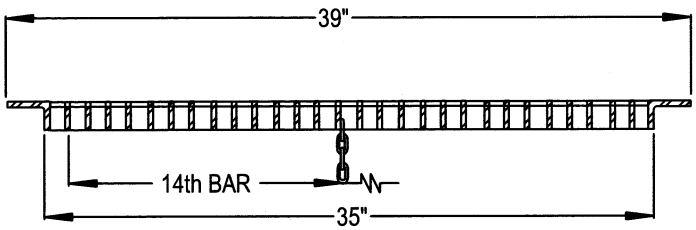
GRATE TOP VIEW



GRATE BOTTOM VIEW



GRATE SECTION A - A



GRATE SECTION B - B

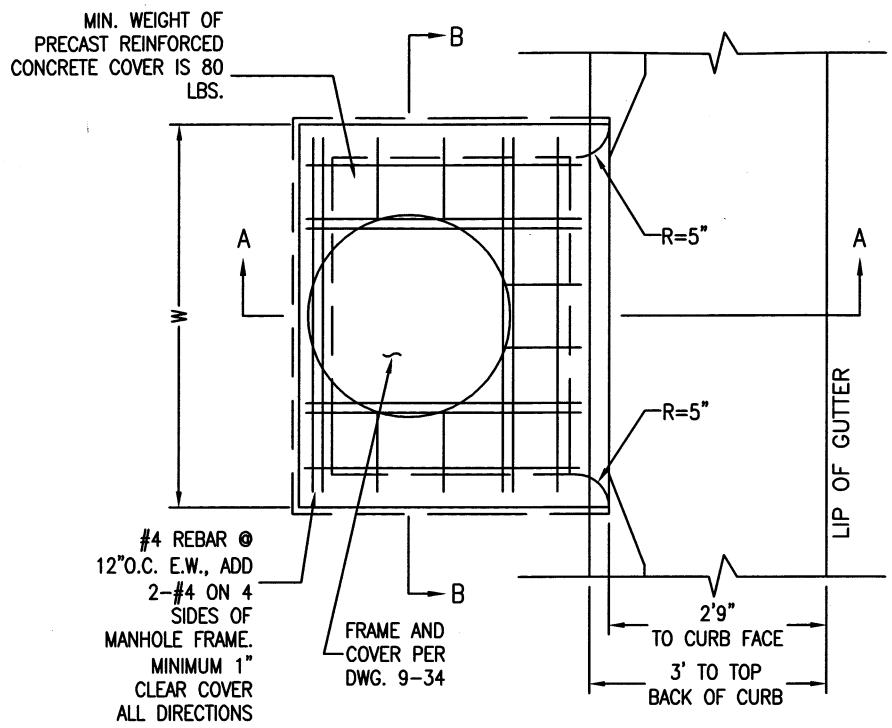
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

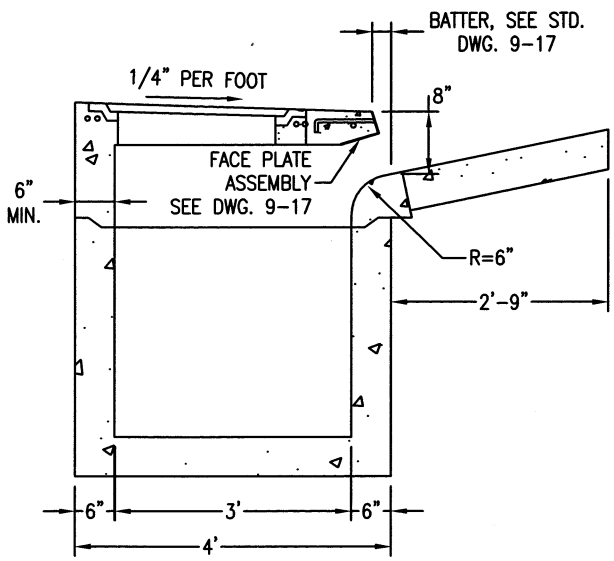
DROP INLET
TYPE F

DRAWN BY: S. PIMENTEL
SCALE: NONE
DATE: 04/07

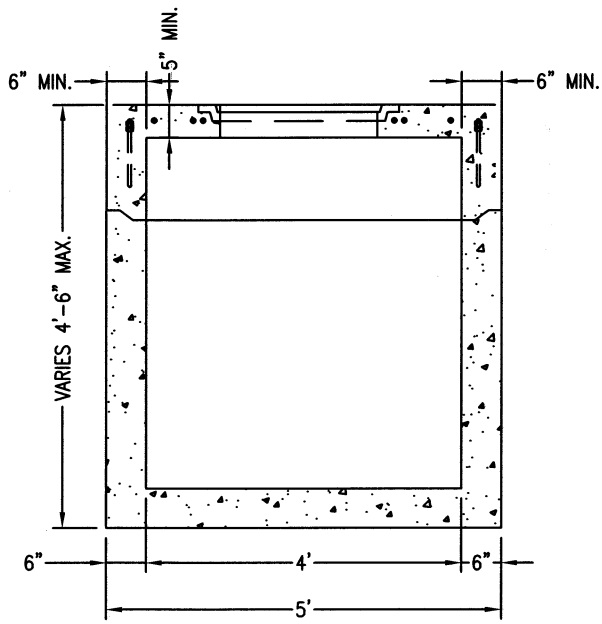
9-18
SHEET 2 OF 2



PLAN



SECTION A-A



SECTION B-B

NOTES:

1. CURB INLET ASSEMBLY MAY BE PRECAST CONCRETE, OR FORMED AND CAST-IN-PLACE P.C.C.

2. EXPOSED SURFACES OF THE GRATES, FRAMES AND HOODS, WITH THE PARTS ASSEMBLED AND DISASSEMBLED, SHALL BE PAINTED WITH COMMERCIAL QUALITY ASPHALTUM PAINT AFTER TESTING AND ASSEMBLY.

3. SEE STD. DWG. 9-17 FOR FACE PLATE ASSEMBLY.

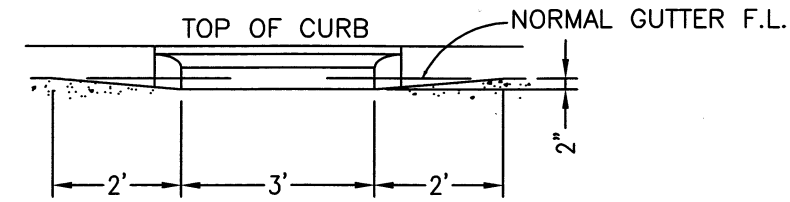
Keith Dehr
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

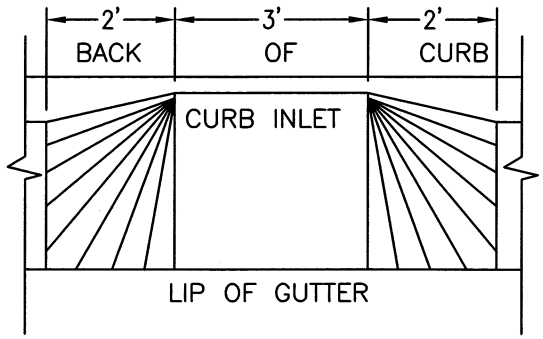
DROP INLET
TYPE G
Type 2 C & G Only

DRAWN BY: L. PETERS
SCALE: NONE
DATE: 04/07

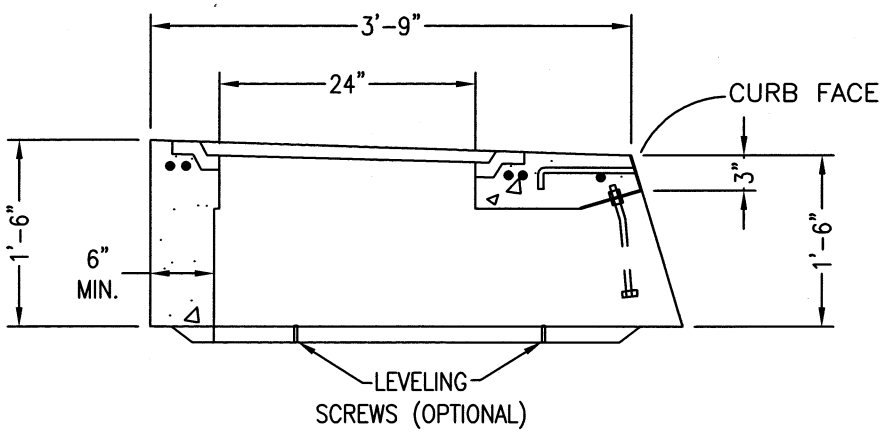
9-19
SHEET 1 OF 2



GUTTER TRANSITION ELEVATION



GUTTER TRANSITION PLAN



CURB INLET DETAIL

NOTES:

1. CURB INLET ASSEMBLY MAY BE PRECAST CONCRETE, OR FORMED AND CAST-IN-PLACE P.C.C.

2. EXPOSED SURFACES OF THE GRATES, FRAMES AND HOODS, WITH THE PARTS ASSEMBLED AND DISASSEMBLED, SHALL BE PAINTED WITH COMMERCIAL QUALITY ASPHALTUM PAINT AFTER TESTING AND ASSEMBLY.

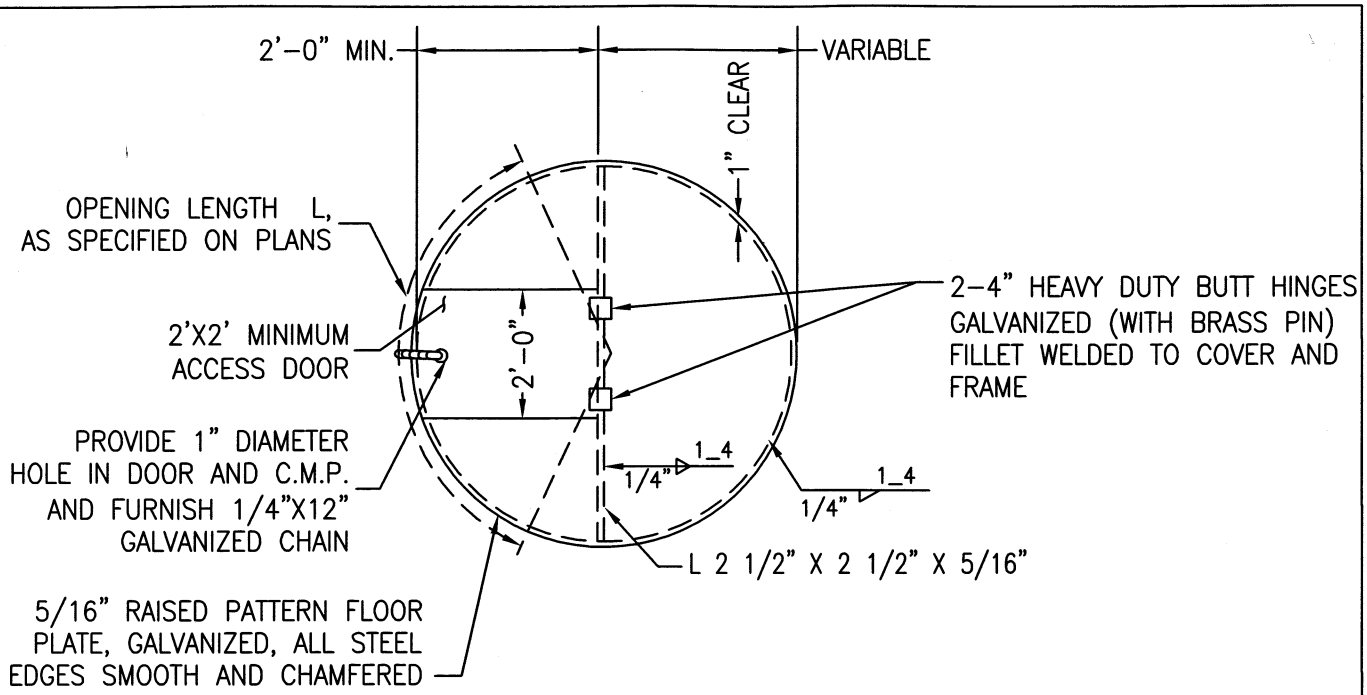
Keith Dellin
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

DROP INLET
TYPE G
Type 2 C & G Only

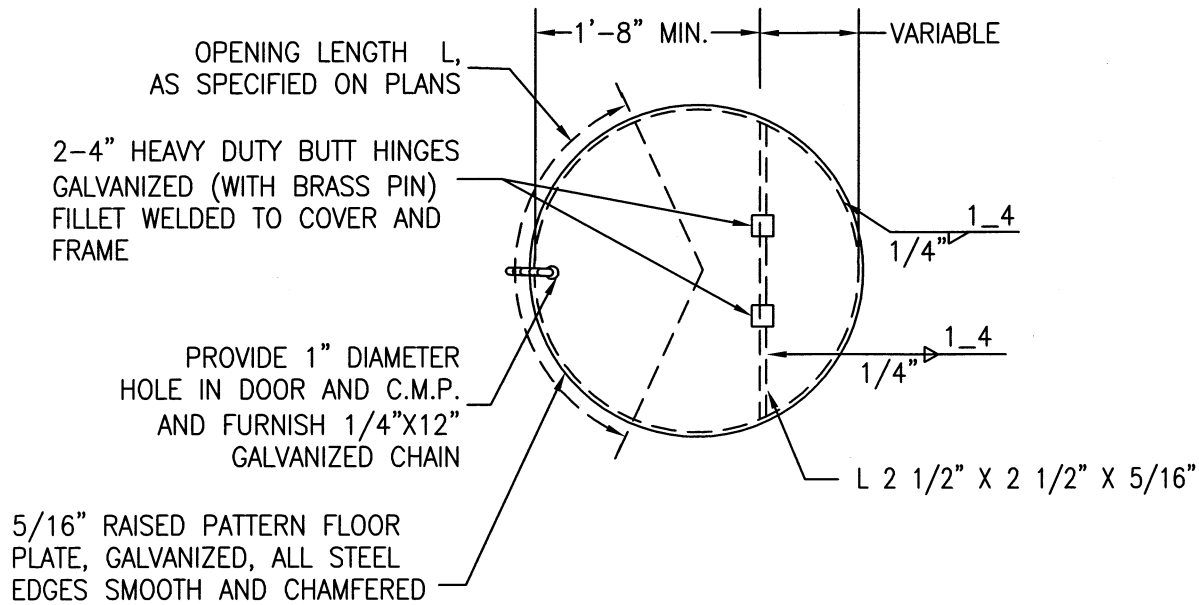
DRAWN BY: L. PETERS
SCALE: NONE
DATE: 04/07

9-19
SHEET 2 OF 2



PLAN

42" DIAMETER TO 72" DIAMETER
C.M.P. INLET



PLAN

24" DIAMETER TO 36" DIAMETER
C.M.P. INLET

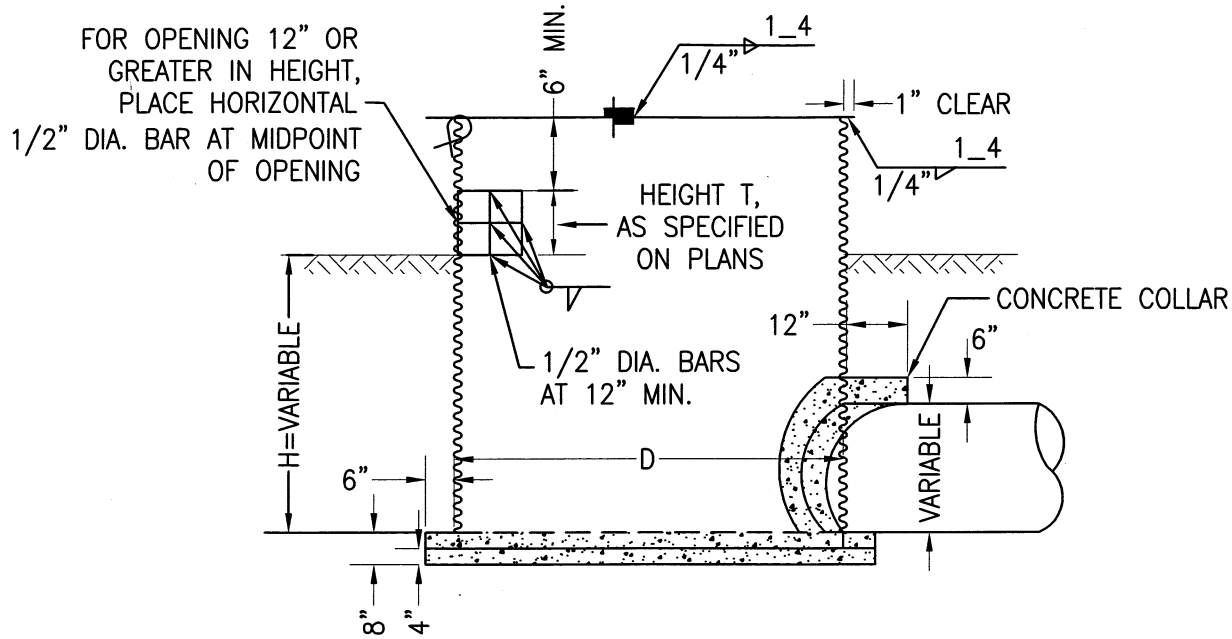
Keith DeVore
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

CORRUGATED METAL PIPE
DRAINAGE INLET
TYPE I

DRAWN BY: M. FIELDS
SCALE: NONE
DATE: 11/98

9-21
SHEET 1 OF 2



SECTION
24" DIAMETER TO 36" DIAMETER C.M.P. INLET

NOTES

1. LOCATIONS, HEIGHTS, AND LENGTH OF OPENINGS SHALL BE AS SHOW ON THE PLANS.
2. AREA OF THE OPENING SHALL NOT BE LESS THAN THE AREA OF OUTFALL PIPE.
3. OUTFALL PIPE TO BE CUT FLUSH WITH INSIDE OF RISER.
4. NOT TO BE USED AS A JUNCTION STRUCTURE.
5. DIAMETER OF RISER PIPE SHALL BE AT LEAST ONE SIZE LARGER THAN OUTFALL PIPE.
6. TO BE USED ONLY WITH THE SPECIFIC APPROVAL OF THE DIRECTOR.
7. INSTALL A GREEN CARSONITE UTILITY MARKER PRODUCT NUMBER CRM306607 OR EQUIVALENT. UTILITY MARKER SHALL HAVE A 3"X12" SILVER/WHITE HIGH INTENSITY STRIP ON THE FRONT AND A 3"X3" SILVER/WHITE HIGH INTENSITY STRIP ON THE BACK. INSTALL THE UTILITY MARKER PER MANUFACTURER'S STANDARDS. THE POST SHALL BE INSTALLED 1' FROM THE EDGE OF PAVEMENT AT THE CENTERLINE OF THE DROP INLET.

RISER DIAMETER,D	H, MAX.	HEIGHT T, MAX.	GAGES (MINIMUM)
24"	4'	8"	0.079"
30"	4'	8"	0.079"
36"	5'	8"	0.109"
42"	8'	12"	0.109"
48"	8'	12"	0.109"
54"	10'	18"	0.109"
60"	10'	18"	0.109"
72"	10'	18"	0.109"

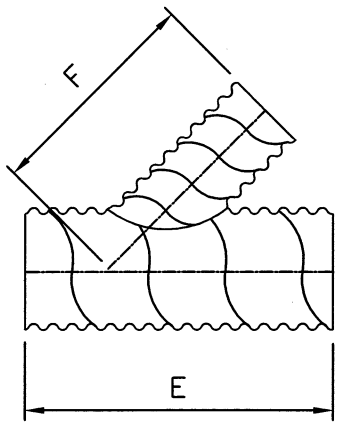
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

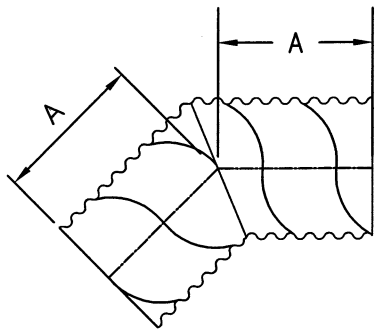
CORRUGATED METAL PIPE DRAINAGE INLET TYPE I

DRAWN BY: STAFF
SCALE: NONE
DATE: 2/07

9-21
SHEET 2 OF 2



WYE LATERAL



ELBOW
0° to 45°

FITTING SIZES

DIA (in)	A (ft)	E (ft)	F (ft)
12	1	4	2
15	1	4	4
18	1	4	4
21	2	6	4
24	2	6	4
30	2	6	4
36	2	8	6
42	2	8	6
48	2	10	8
54	3	10	8
60	3	12	10
66	3	12	10
72	3	14	10
78	3	14	10
84	3	16	12
90	3	16	12
96	3	16	12

NOTES

1. To use table, refer to diagram and select letter representing desired dimension, then enter table at correct pipe dimension and read dimension in column under appropriate letter heading.

2. Dimensions on table allow for use of standard 12 inch wide band coupler on sizes 12 inch through 54 inch and 24 inch wide band on 60 inch and larger sizes.

3. For pipe–arch fittings, choose pipe diameter equal to or greater than arch span. (Example: 35 inch x 24 inch pipe–arch; use dimensions for 36 inch pipe).

4. Structural reinforcement may be required on some larger sizes.

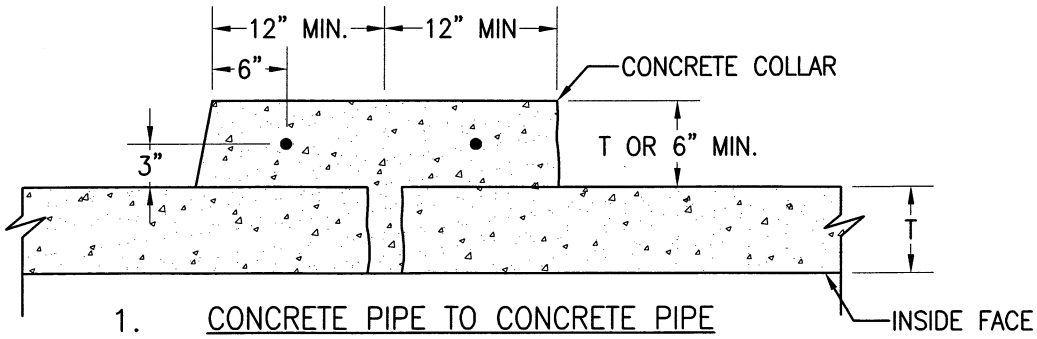
Keith Dellar
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

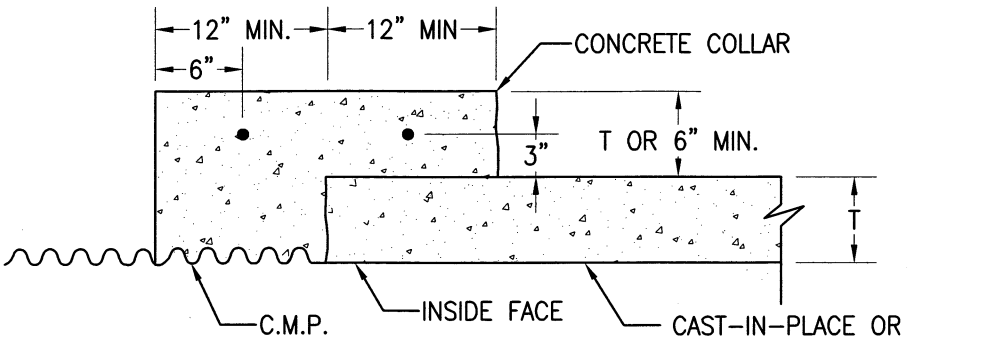
CORRUGATED PIPE FITTINGS

DRAWN BY: C. SCHUMAKER
SCALE: NONE
DATE: 11/98

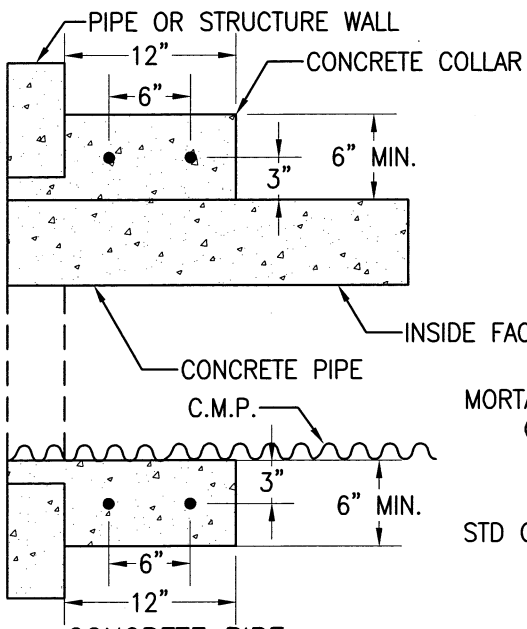
9-22



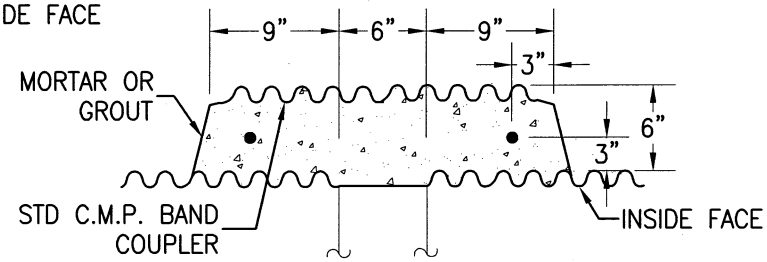
1. CONCRETE PIPE TO CONCRETE PIPE WITHOUT STANDARD JOINT



2. CAST-IN-PLACE OR PRE-CAST CONCRETE PIPE TO CSP



3. CONCRETE PIPE, C.M.P. INTO EXISTING PIPE OR STRUCTURE



4. PIPES OF DISSIMILAR METALS

NOTES:

1. TO CONNECT HDPE TYPE S OR D PIPE TO OTHER PIPES USE COLLAR SHOWN IN DETAIL 1 OR USE MANUFACTURERS STANDARD HDPE REPAIR COUPLING.
2. ALL REINFORCEMENT SHALL BE #3 REBAR.

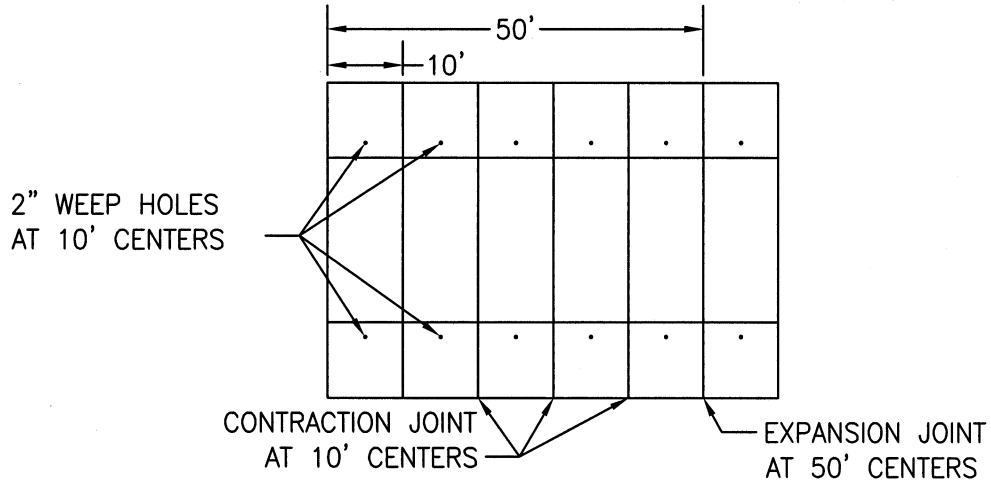
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

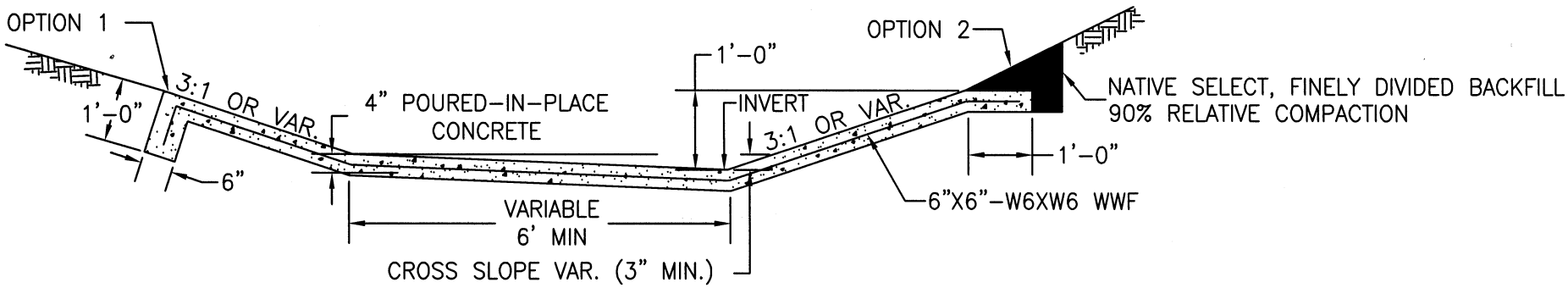
PIPE CONNECTIONS

DRAWN BY: M.FIELDS
SCALE: NONE
DATE: 1/03

9-23



PLAN VIEW



TYPICAL BOTTOM LINING

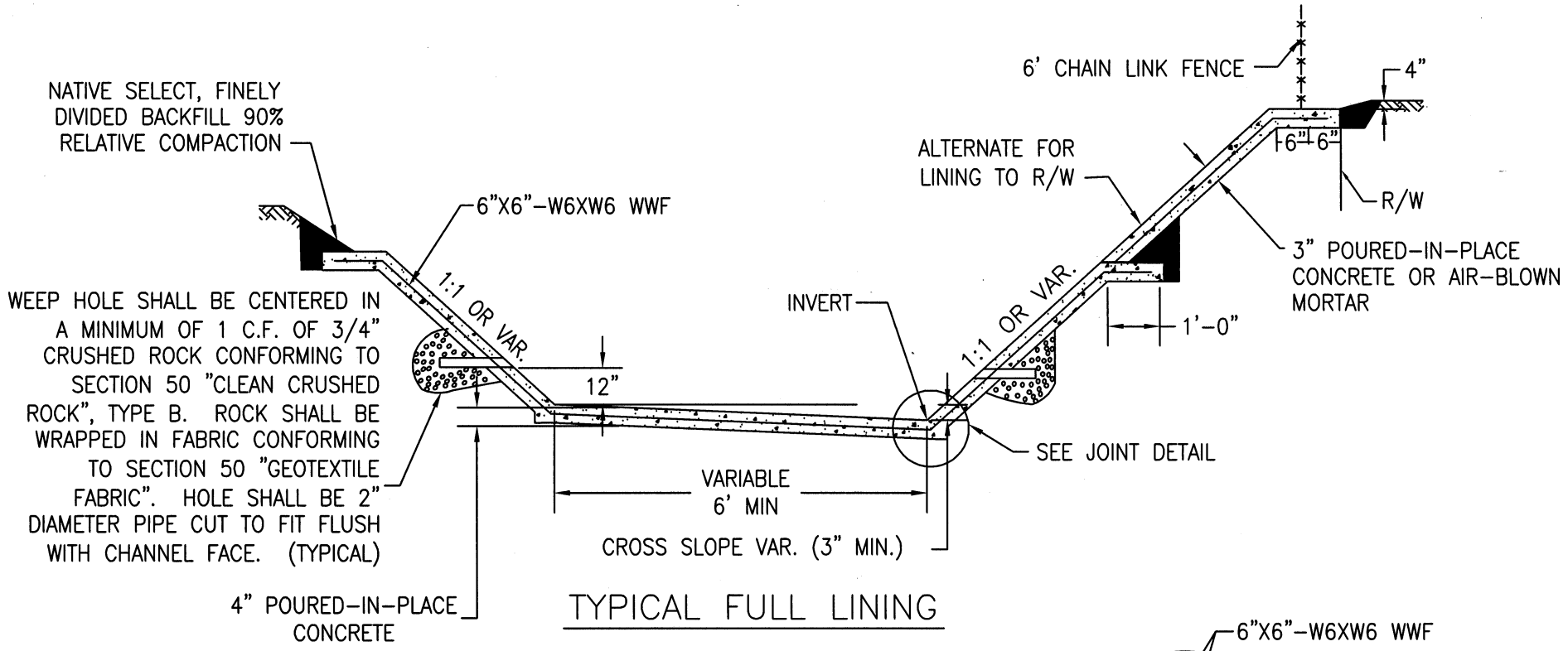
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

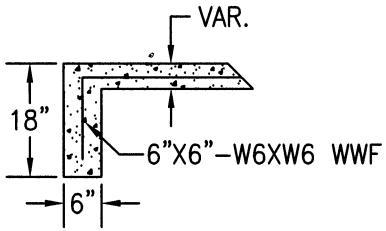
LINED CHANNEL SECTION

DRAWN BY: MYRA FIELDS
SCALE: NONE
DATE: 7/98

9-24
SHEET 1 OF 2

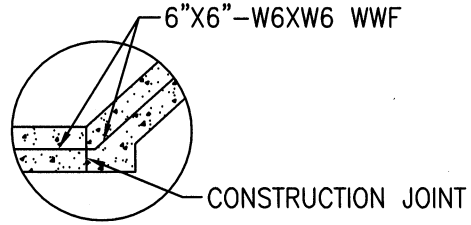


TYPICAL FULL LINING



CUTOFF WALL

TO BE PLACED ALONG ENTIRE END OF LINED SECTION AT BEGINNING AND AT END OF LINING



JOINT DETAIL

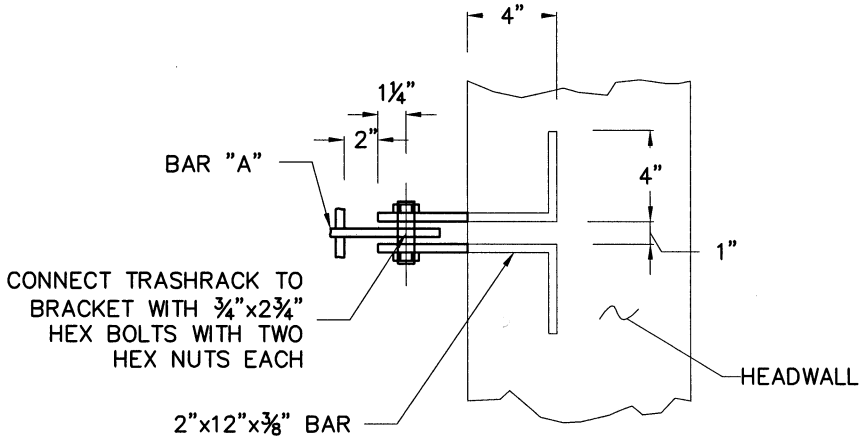
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

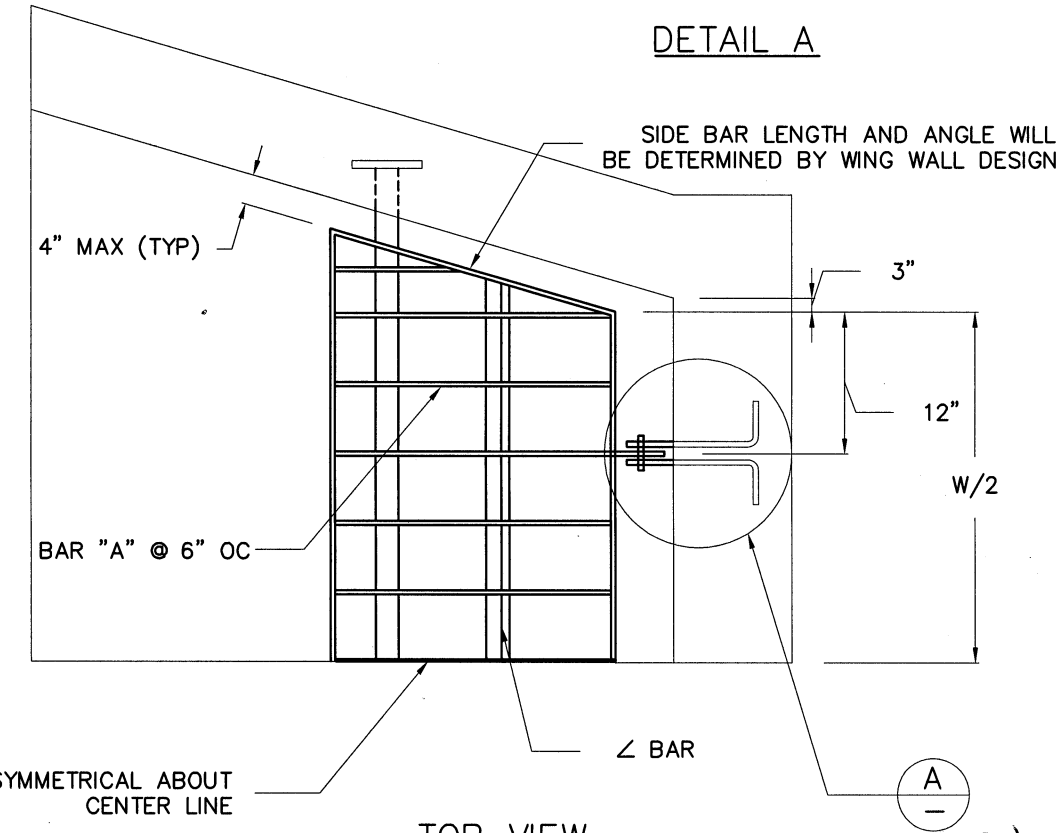
LINED CHANNEL SECTION

DRAWN BY: MYRA FIELDS
SCALE: NONE
DATE: 7/98

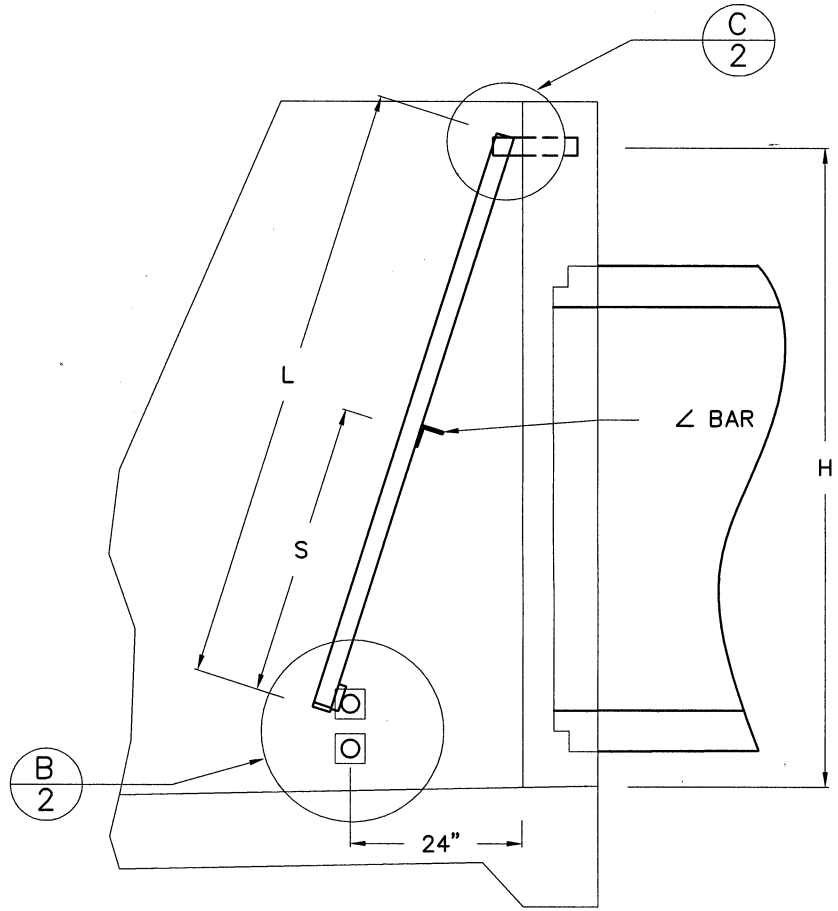
9-24
SHEET 2 OF 2



DETAIL A



TOP VIEW



SIDE VIEW

Keith DeLuz
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

TRASH RACK
24" - 36" PIPE

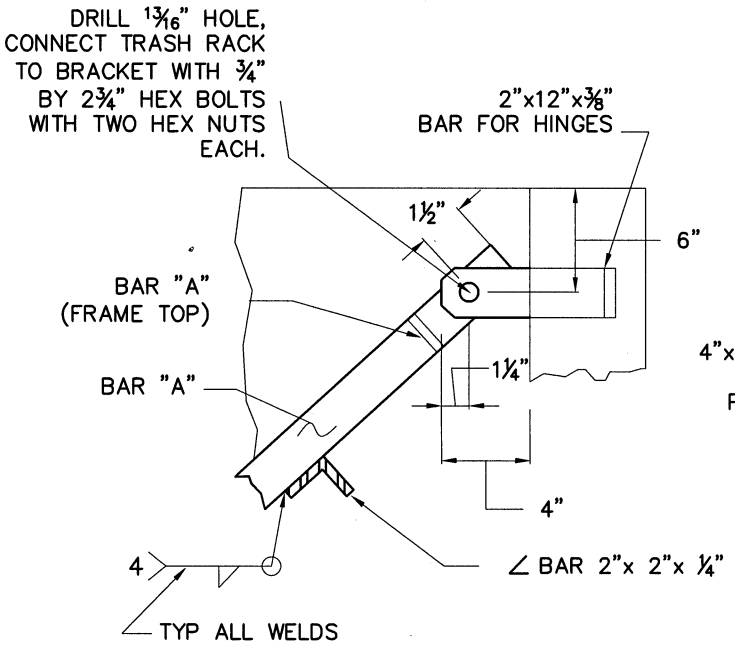
DRAWN BY: J. ESLABON
SCALE: NONE
DATE: 1/03

9-26G
SHEET 1 OF 4

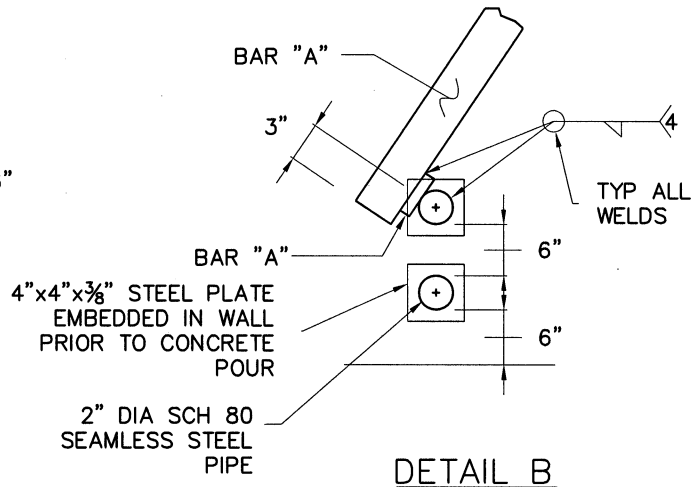
TRASH RACK DIMENSIONS

PIPE DIA (IN)	PIPE OD (IN)	QUANTITY* BAR "A"	BAR "A" SIZE (IN)	H (IN)	W (IN)	L (IN)	S (IN)
24	30	11	3/8 x 2 1/2	46	48	40	18
27	33.5	11	3/8 x 2 1/2	50	48	42	19
30	37	11	3/8 x 2 1/2	53	48	46	21
33	40.5	11	3/8 x 2 1/2	57	48	52	24
36	44	13	3/8 x 2 1/2	60	60	52	24

*** INCLUDES OUTSIDE FRAME**



DETAIL C



DETAIL B

NOTES:

1. SEE FIGURE 9-26H FOR PIPE HEADWALL DETAILS.
2. MATERIAL TO CONFORM TO ASTM DESIGNATION A-36. GALVANIZE ALL EXPOSED FERROUS PARTS AFTER FABRICATION.
3. ALL FILLET WELDS TO BE 3/16".
4. ALL STEEL SHALL CONFORM TO SECTION 75 OF THE STATE SPECIFICATIONS AND ASTM A36, A575 AND A576.

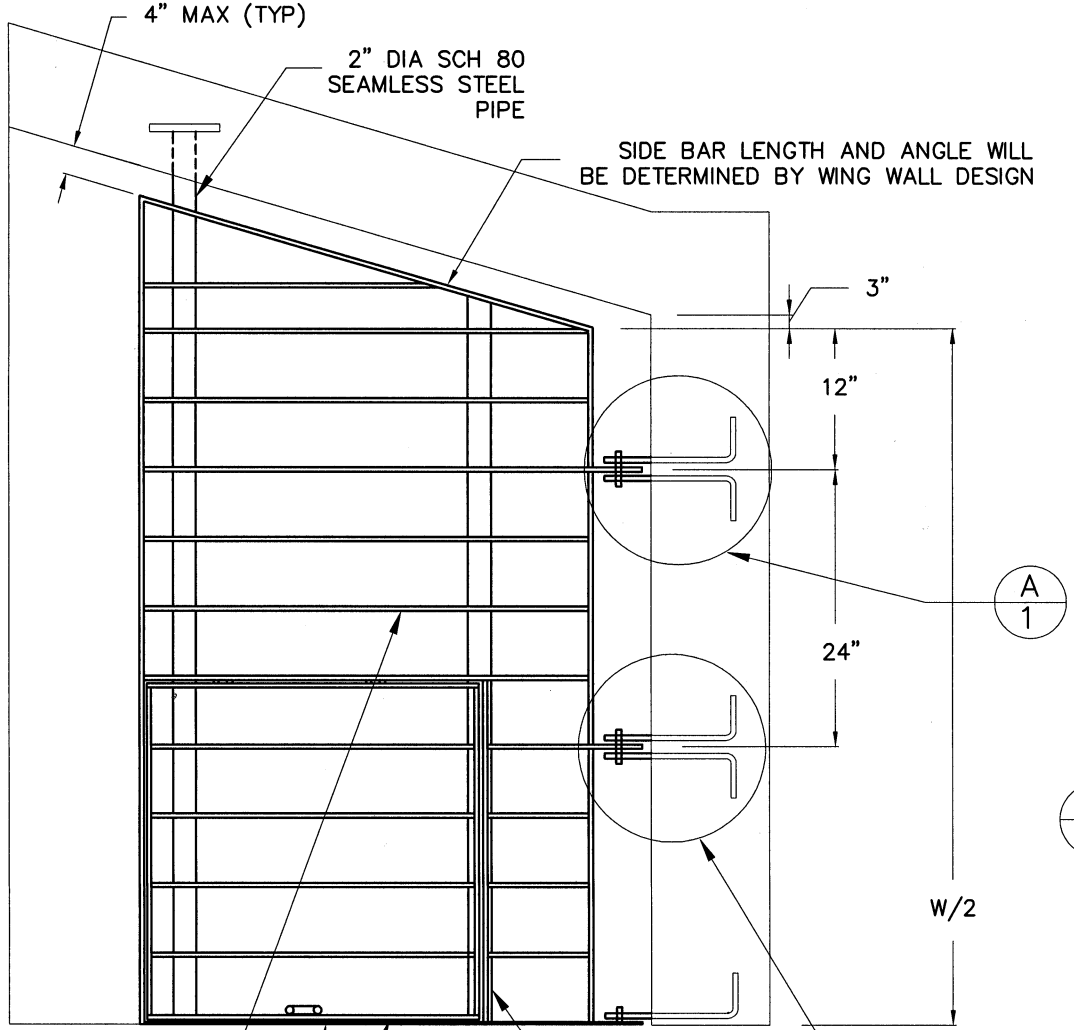
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

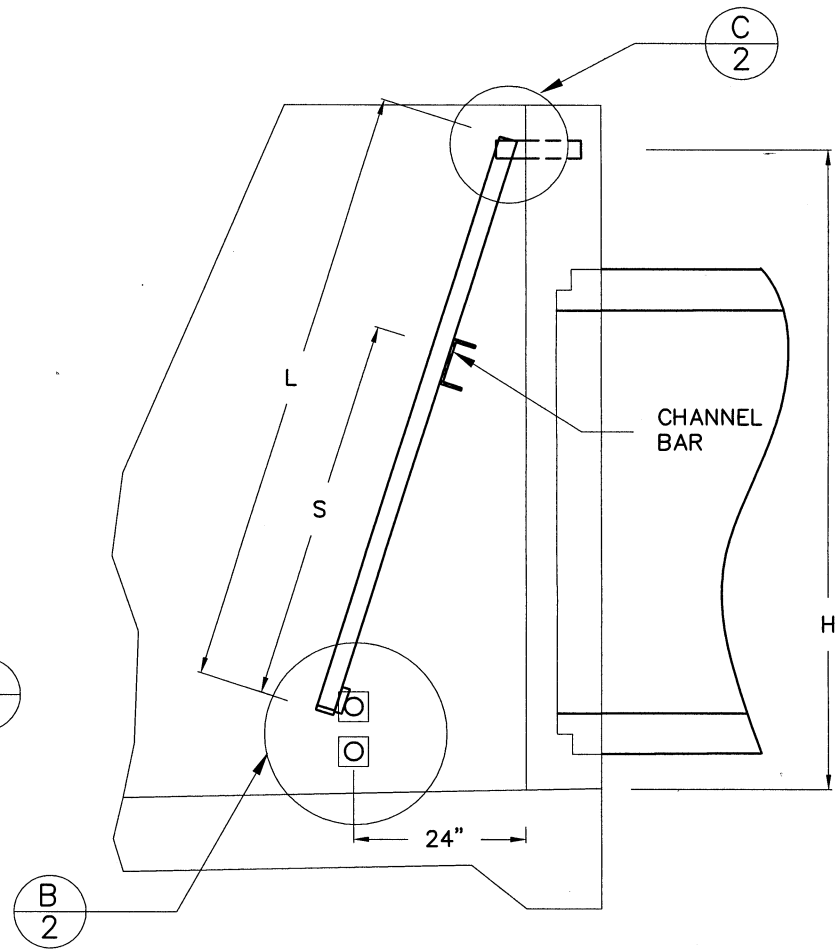
TRASH RACK
24" - 36" PIPE

DRAWN BY: J. ESLABON
SCALE: NONE
DATE: 1/03

9-26G
SHEET 2 OF 4



TOP VIEW



SIDE VIEW

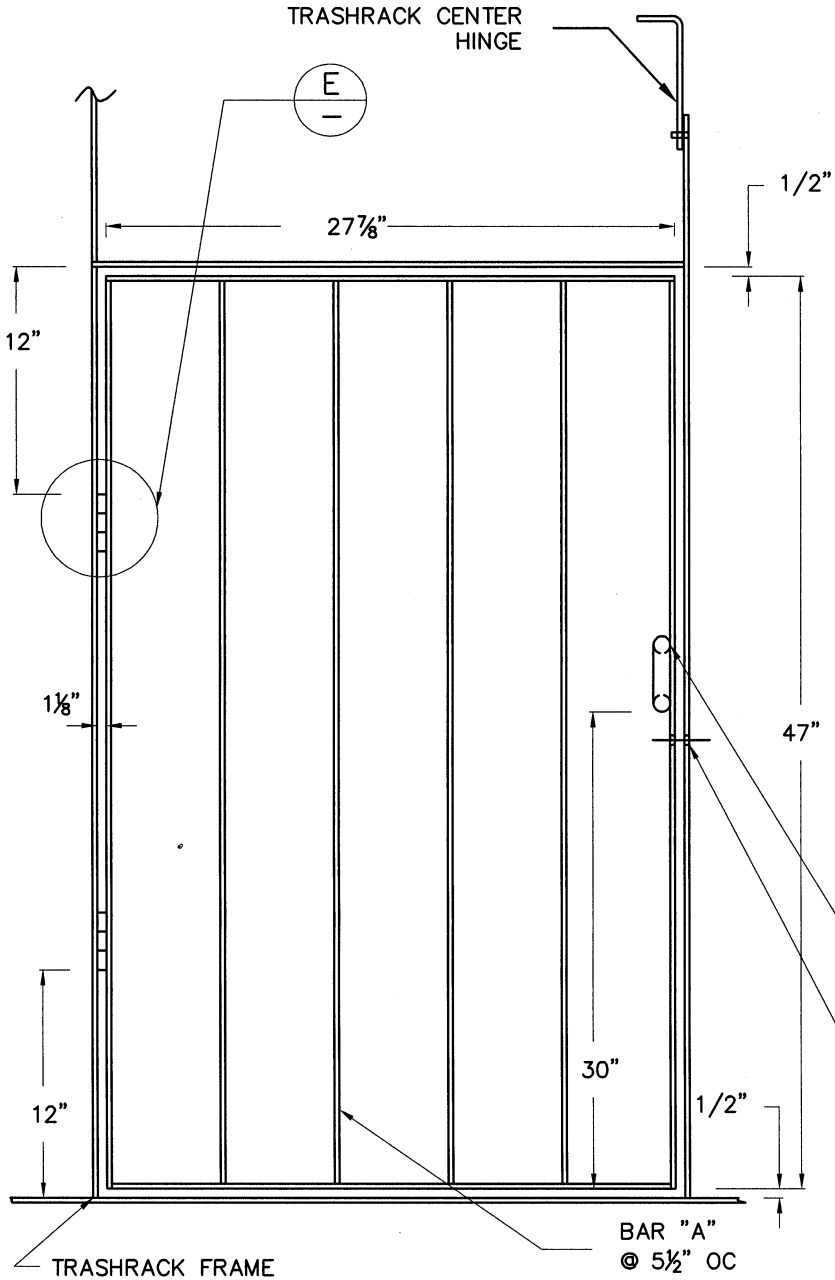
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

TRASH RACK
42" PIPE AND LARGER

DRAWN BY: J. ESLABON
SCALE: NONE
DATE: 1/03

9-26G
SHEET 3 OF 4

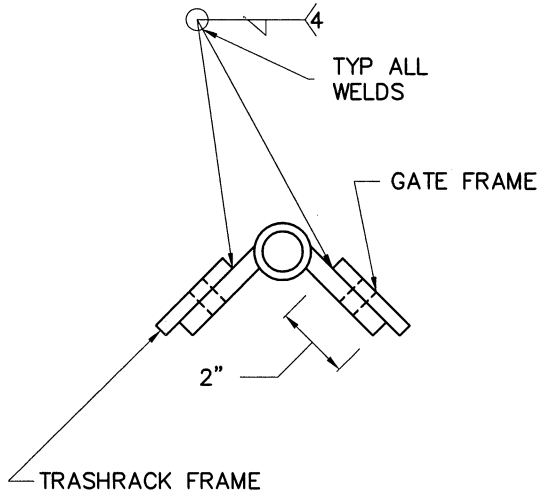


ACCESS GATE DETAIL

TRASH RACK DIMENSIONS

PIPE DIA (IN)	PIPE OD (IN)	QUANTITY* BAR "A"	BAR "A" SIZE (IN)	H (IN)	W (IN)	L (IN)	S (IN)
42	51	15	3/8x2-1/2	67	72	60	47-3/4
48	58	17	3/8x2-1/2	74	84	70	47-3/4
54	65	21	3/8x2-1/2	81	108	72	47-3/4
60	72	23	3/8x2-1/2	88	120	80	47-3/4
72	86	27	3/8x2-1/2	102	144	96	47-3/4

*Includes outside frame



DETAIL E

½" ROLLED STEEL HANDLE WELDED TO GATE FRAME

DRILL ½" DIA HOLE FOR HEAVY DUTY PAD LOCK

NOTES:

1. SEE FIGURE 9-26H FOR PIPE HEADWALL DETAILS.
2. MATERIAL TO CONFORM TO ASTM DESIGNATION A-36. GALVANIZE ALL EXPOSED FERROUS PARTS AFTER FABRICATION.
3. ALL FILLET WELDS TO BE 3/16".
4. ALL STEEL SHALL CONFORM TO SECTION 75 OF THE STATE SPECIFICATIONS AND ASTM A36, A575 AND A576.
5. GATE HINGES TO BE COATED TO RESIST CORROSION.

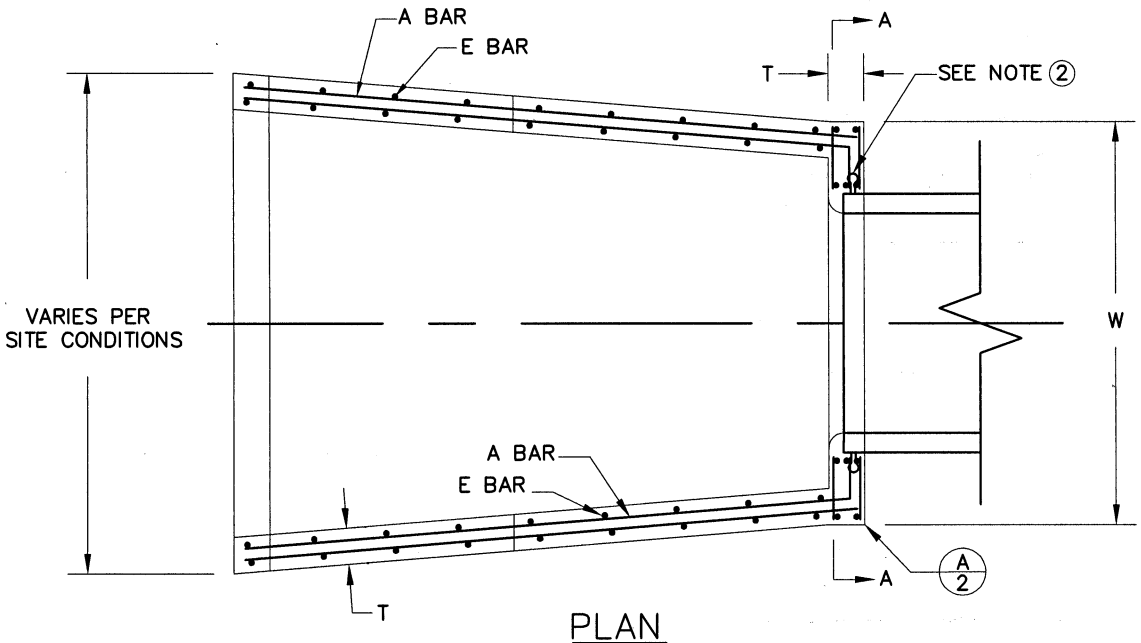
Keith DeVore
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

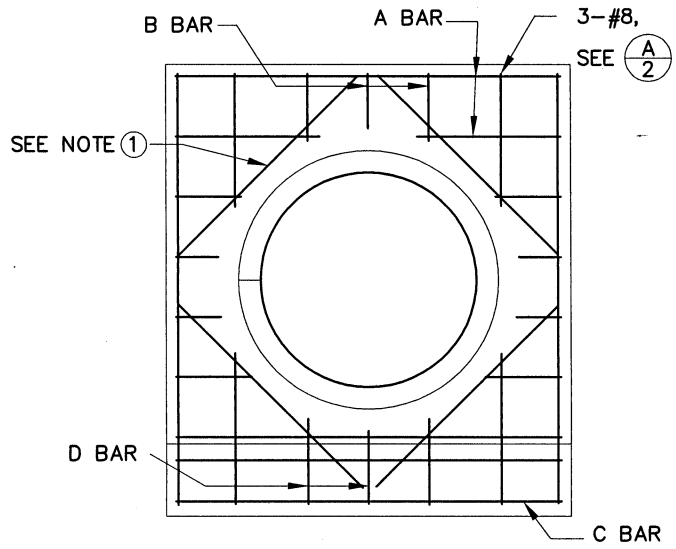
TRASH RACK
42" PIPE AND LARGER

DRAWN BY: J. ESLABON
SCALE: NONE
DATE: 1/03

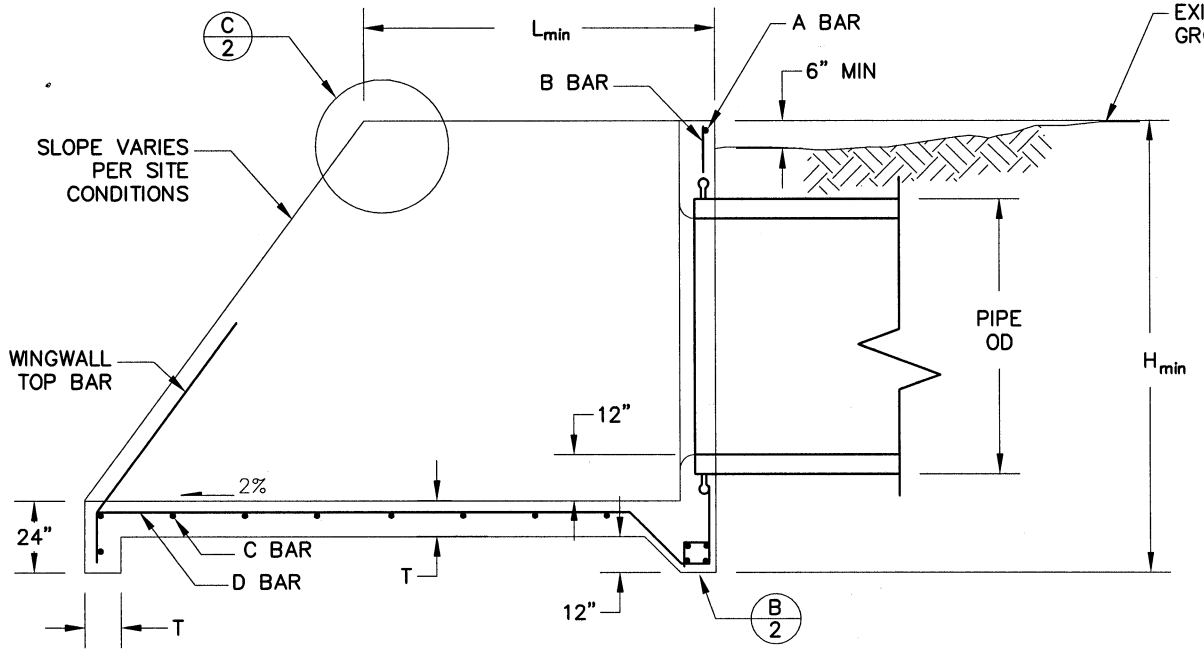
9-26G
SHEET 4 OF 4



PLAN



SECTION A–A



SIDE ELEVATION

NOTE

SEE DWG 9–26G FOR EMBEDMENT OF TRASH RACK COMPONENTS PRIOR TO POURING CONCRETE

DIRECTOR, DEPARTMENT OF WATER RESOURCES

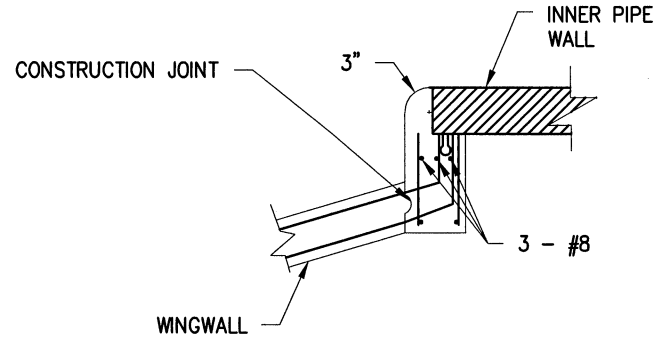
SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

PIPE HEADWALL, ENDWALL WINGWALL STRUCTURE

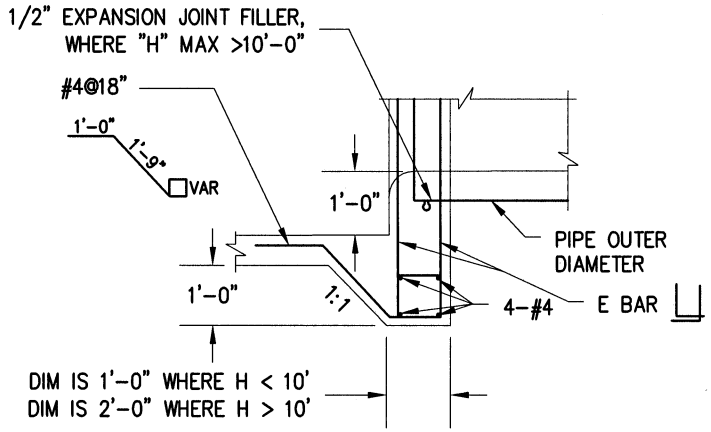
DRAWN BY: B. FORRESTER
SCALE: NONE
DATE: 11/06

9-26H

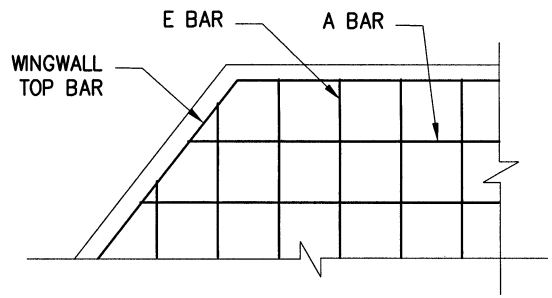
SHEET 1 OF 3



DETAIL A



DETAIL B



DETAIL C

NOTES

1. PLACE #5 REBAR ON DIAGONALS @ 4" FROM PIPE OD.
2. PIPE CONNECTIONS SHALL CONFORM TO ASTM C-923. UNITS SHALL INCLUDE A WATER STOP.
3. CHAMFER ALL EXPOSED EDGES ¾".
4. ALL STEEL MINIMUM 2" FROM CONCRETE EDGES.
5. ALL LAP SPLICES MINIMUM 12".

HEADWALL DIMENSIONS

PIPE DIA	PIPE OD	W	H_{min}	T*	L_{min}
24"	30"	4'-6"	4'-8"	8"	2'-9"
27"	33.5	4'-6"	4'-10"	8"	3'-0"
30"	37"	4'-6"	5'-3"	8"	3'-3"
33"	40.5"	4'-6"	5'-9"	8"	3'-6"
36"	44"	5'-6"	5'-9"	8"	3'-9"
42"	51"	6'-6"	6'-6"	8"	4'-3"
48"	58"	7'-6"	7'-5"	10"	5'-3"
54"	65"	9'-6"	7'-7"	10"	5'-9"
60"	72"	10'-6"	8'-3"	10"	6'-0"
72"	86"	12'-6"	9'-8"	10"	7'-3"

*T IS TO BE 10" IF A HAND RAILING IS PLACED ON THE WALL STRUCTURE.

REINFORCING STEEL DIMENSIONS AND DATA

	A BAR	B BAR	C BAR	D BAR	E BAR	WINGWALL TOP BAR
H ≤ 7'	#4@12"OC	#4@12"OC	#4@12"OC	#4@12"OC	#4@12"OC	#4
7' < H ≤ 8'	#4@12"OC EF	#4@12"OC EF	#4@12"OC EF	#4@12"OC EF	#4@12"OC EF	#4
8' < H ≤ 10'	#5@12"OC EF	#5@6"OC EF	#5@12"OC EF	#5@12"OC EF	#5@12"OC EF	#5

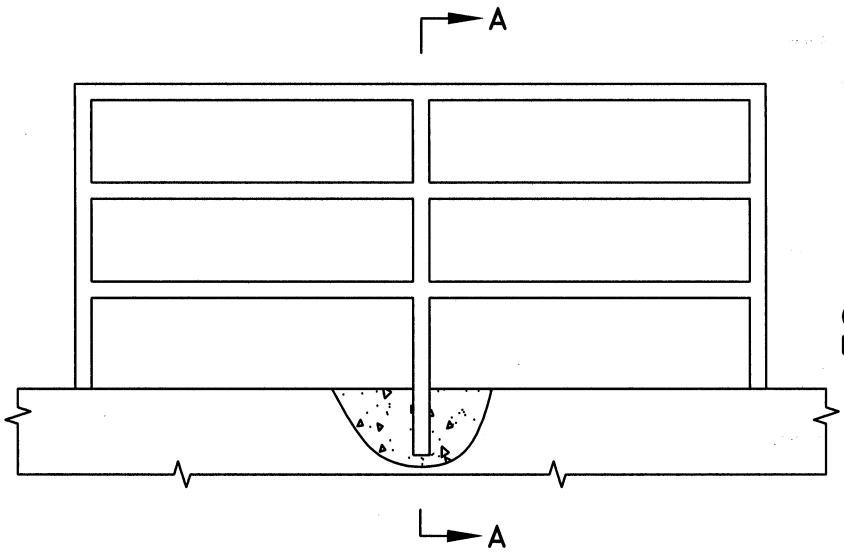
Keith DeVore
DIRECTOR, DEPARTMENT OF WATER RESOURCES

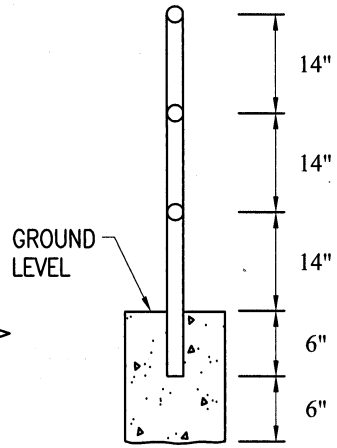
SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

PIPE HEADWALL, ENDWALL WINGWALL STRUCTURE

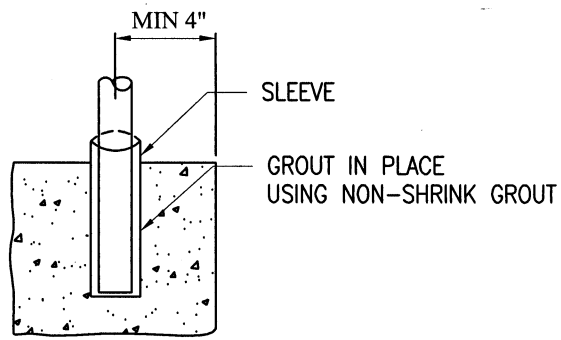
DRAWN BY: STAFF
SCALE: NONE
DATE: 03/07

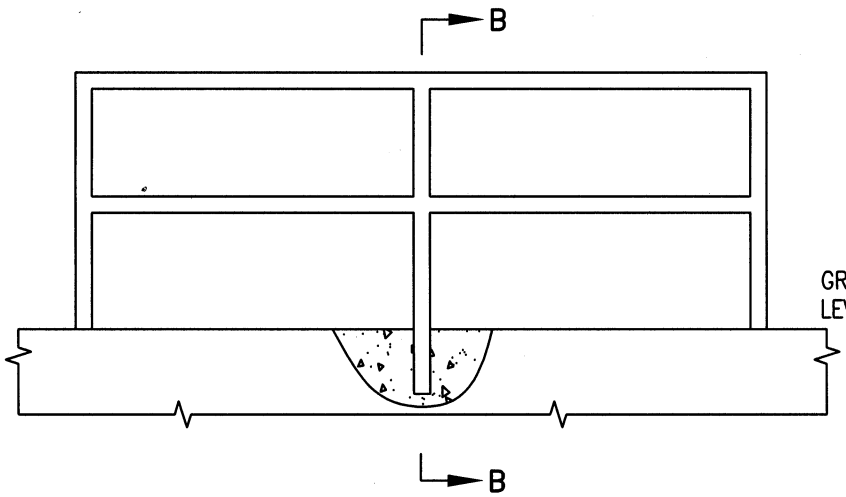
9-26H

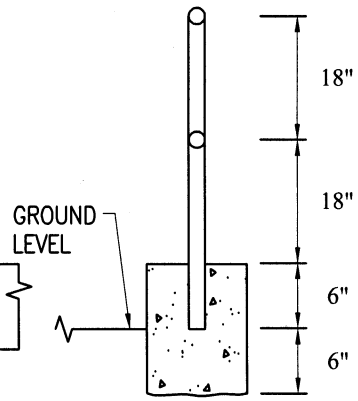




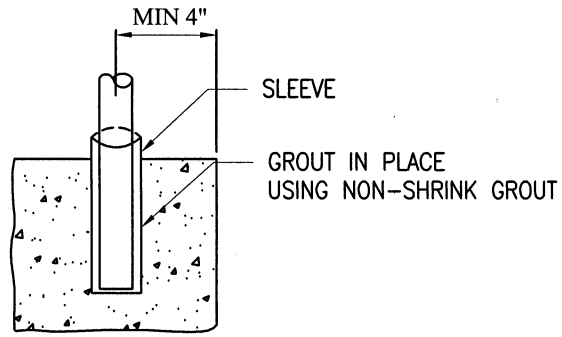
SECTION A–A







SECTION B–B



GENERAL NOTES:

1. GUARDRAIL – 1½" SEAMLESS STEEL PIPE ASTM 53 GRADE B, HOT DIP GALVANIZED. PAINT COLOR (IF NEEDED) TO BE SPECIFIED ON PLANS AT NO EXTRA COST.
2. ALL GUARDRAIL WELDS $\frac{3}{16}$" FILLET GROUND SMOOTH.
3. MAXIMUM SPACING OF POSTS SHALL BE 6'.
4. TO BE SHOWN ON IMPROVEMENT PLANS FOR PLACEMENT.

Keith DeVore
DIRECTOR, DEPARTMENT OF WATER RESOURCES

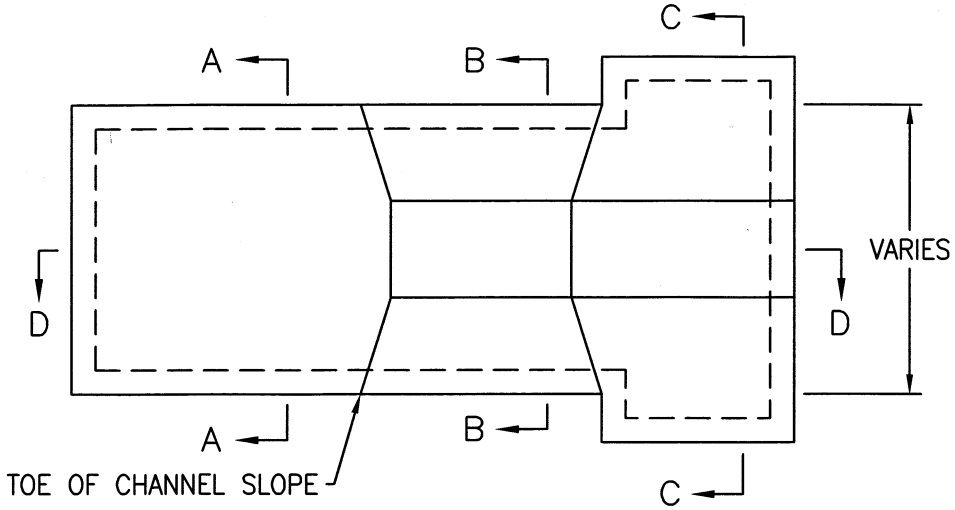
SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

PIPE HEADWALL, ENDWALL WINGWALL STRUCTURE

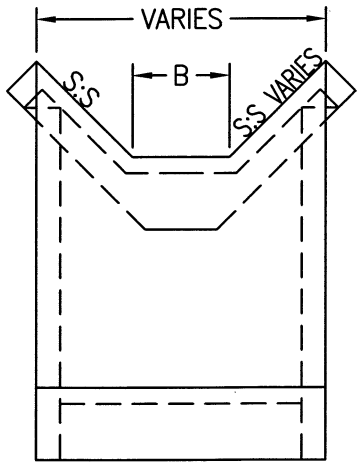
DRAWN BY: S. PIMENTEL
SCALE: NONE
DATE: 04/07

9-26H

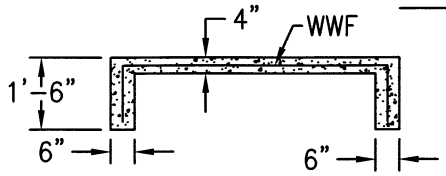
SHEET 3 OF 3



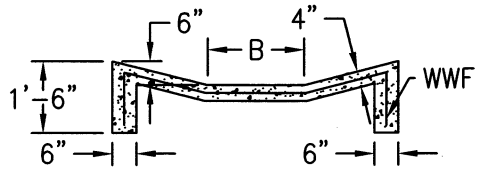
TOP VIEW



FRONT VIEW



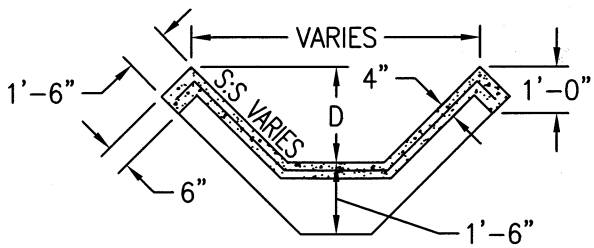
SECTION A–A



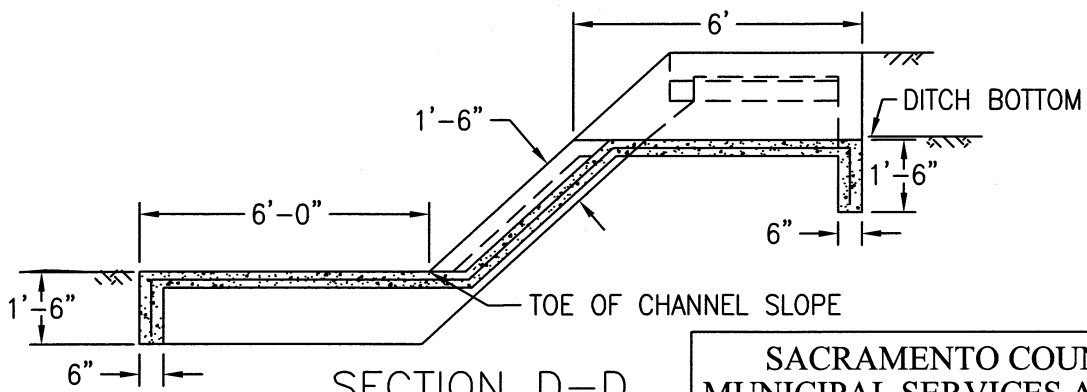
SECTION B–B

NOTES

1. USE CLASS "B" CONCRETE OR GROUTED COBBLES AS SPECIFIED.
2. 6"X6"–W6XW6 WWF THROUGHOUT CONCRETE
3. ON LINED CHANNELS APRON SHALL CONNECT TO SIDE LINING.
4. B=DITCH BOTTOM WIDTH OR AS SHOWN ON PLANS.
5. D=DITCH WATER DEPTH PLUS ONE FOOT OF FREEBOARD.



SECTION C–C



SECTION D–D

Walt DeVore

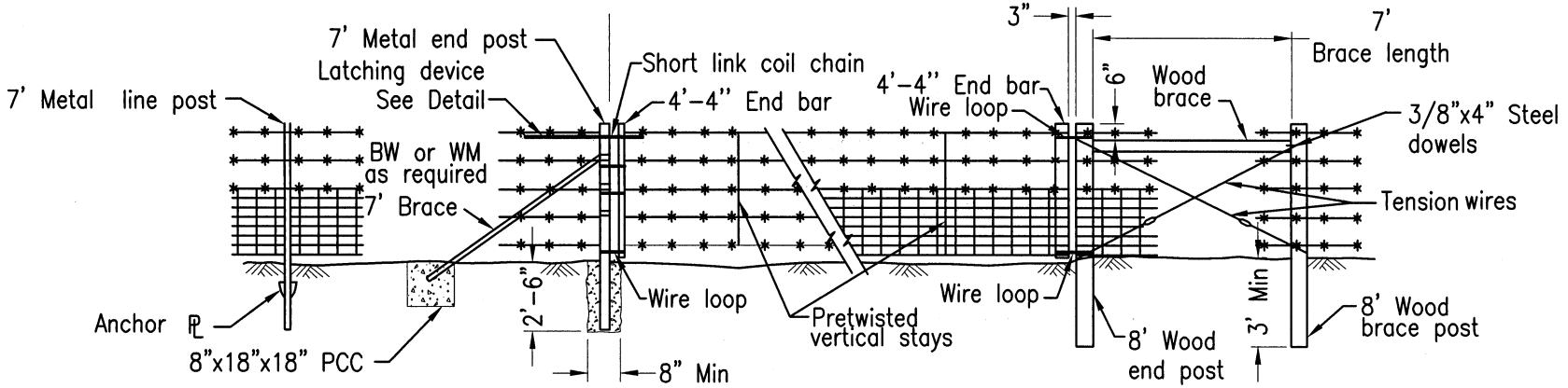
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

EROSION CONTROL DITCH DISCHARGE

DRAWN BY: M.FIELDS
SCALE: NONE
DATE: 11/98

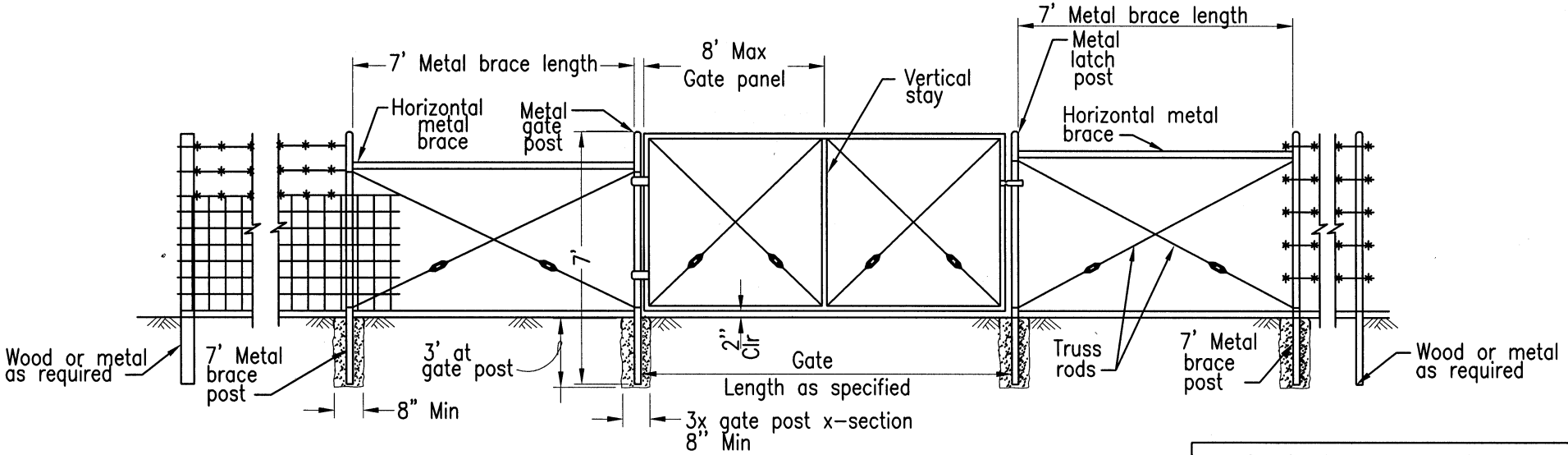
9-27



METAL POST INSTALLATION

WOOD POST INSTALLATION

GATEWAY
See Note 3



WIRE MESH GATE INSTALLATION FOR
EITHER WOOD OR METAL POST FENCES

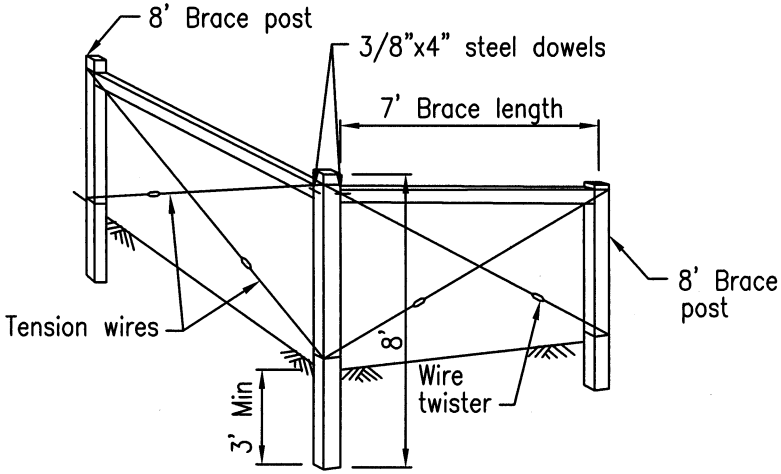
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

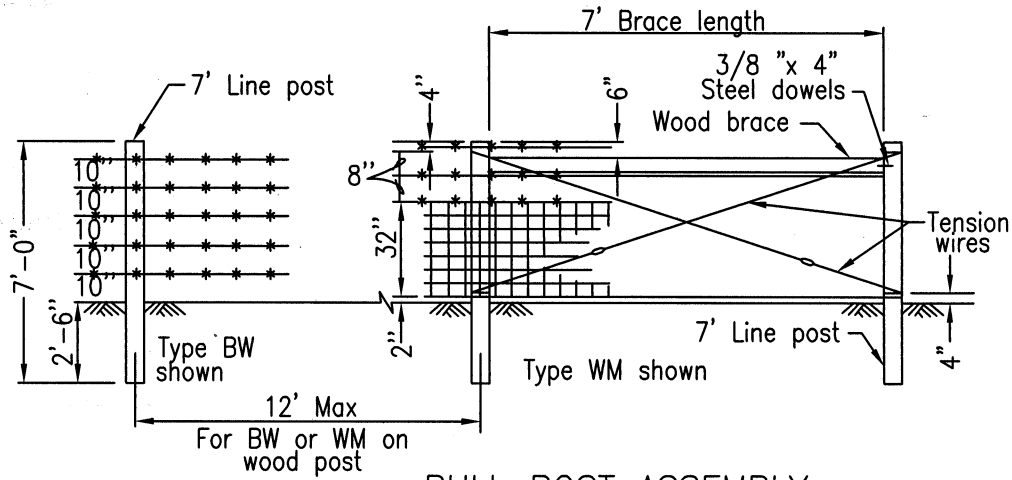
BARBED WIRE AND WIRE MESH FENCES

DRAWN BY: STAFF
SCALE: NONE
DATE: 11/98

9-28
SHEET 1 OF 3



END AND CORNER POST ASSEMBLY

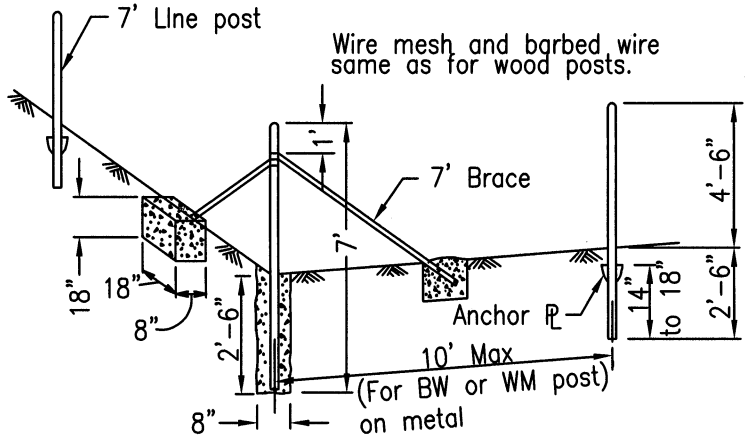


Type BW = 5 lines of barbed wire.
Type WM = Wire mesh and 3 lines of barbed wire.

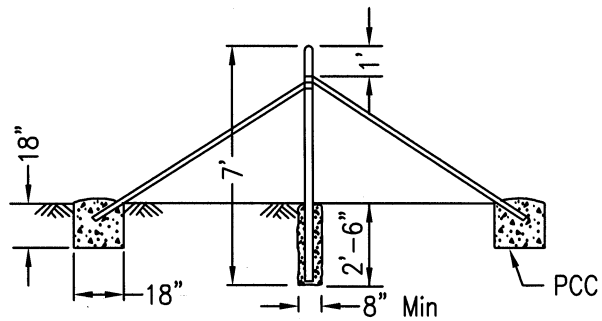
PULL POST ASSEMBLY

At 660' maximum intervals for WM fence.
At 1320' maximum intervals for BW fence.

WOOD POST INSTALLATION



END AND CORNER POST ASSEMBLY



PULL POST ASSEMBLY

At 660' maximum intervals for WM fence.
At 1320' maximum intervals for BW fence.

METAL POST INSTALLATION

DIRECTOR, DEPARTMENT OF WATER RESOURCES

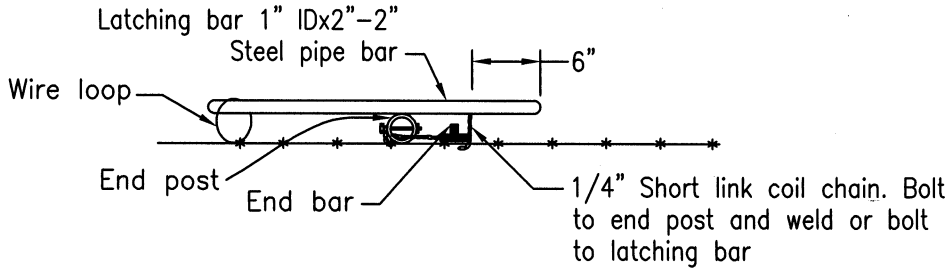
SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

BARBED WIRE AND WIRE MESH FENCES

DRAWN BY: STAFF
SCALE: NONE
DATE: 11/98

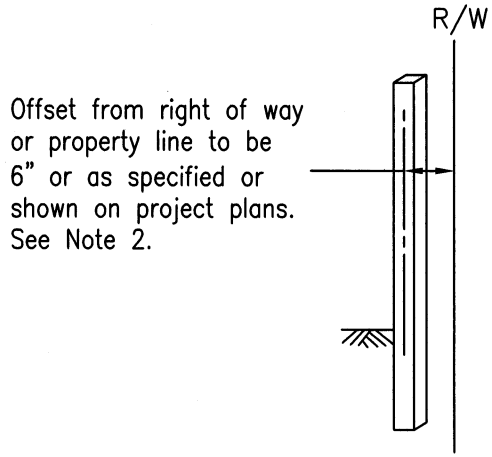
9-28
SHEET 2 OF 3

WIRE MESH GATE POST (See Note 4)		
GATE WIDTHS	NOMINAL OD	WEIGHT PER FT
Up thru 6'	2-7/8"	5.79
Over 6', thru 12'	4"	9.11
Over 12' thru 18'	5 -9/16"	14.62
Over 18' to 24' Max	6-5/8"	18.97



LATCHING DEVICE FOR GATEWAYS

See Note 1



FENCE LOCATION

NOTES

1. Metal end post and end bar shown. Use wood end post and end bar for wood post installation.

2. Offset to be 2' at monument locations, measured at right angles to R/W lines. Taper to achieve offset to be at least 20' long.

3. Gateway to be used when specified in the special provisions.

4. Post dimensions and weights are minimums. Larger sizes may be used on approval of Engineer.

5. Line post spacing for wood post equals 12' maximum. Line post spacing for metal post equals 10' maximum.

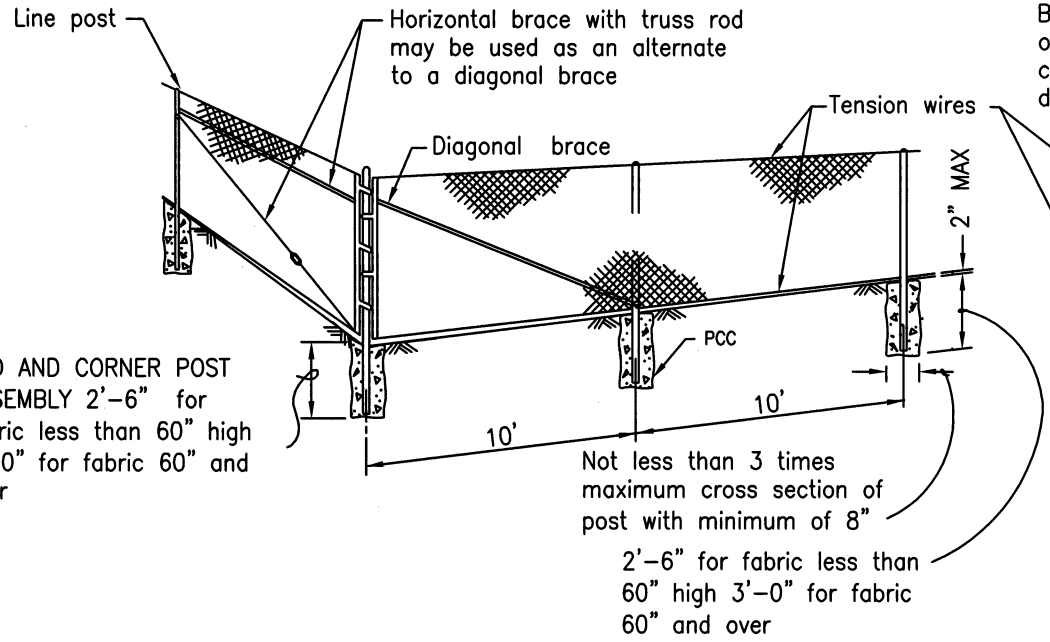
DIRECTOR, DEPARTMENT OF WATER RESOURCES

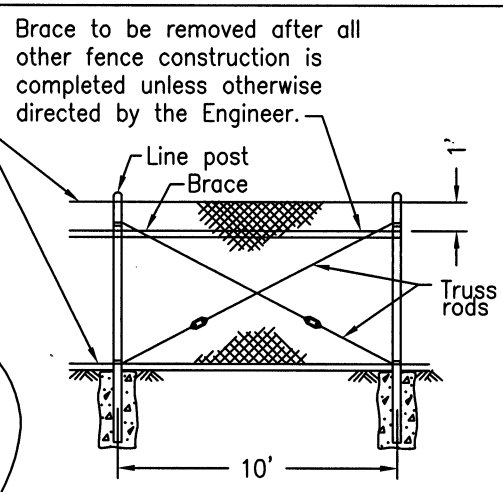
SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

BARBED WIRE AND WIRE MESH FENCES

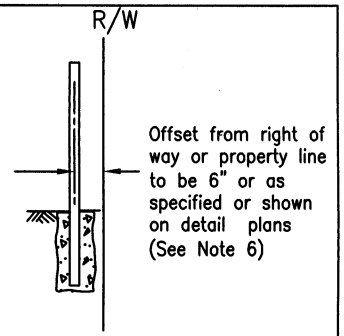
DRAWN BY: STAFF
SCALE: NONE
DATE: 4/07

9-28
SHEET 3 OF 3

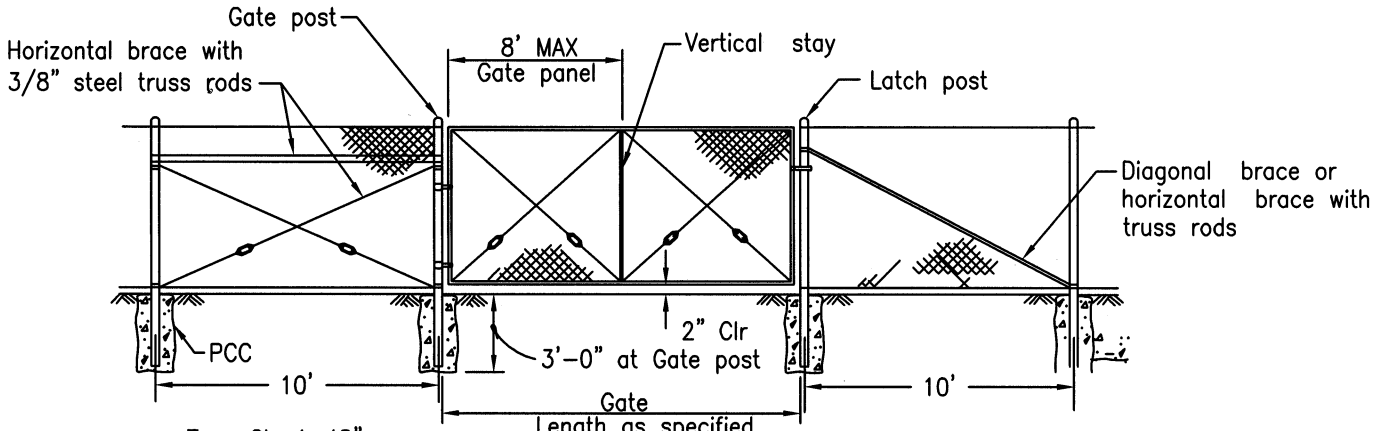




Line posts at 1000' maximum intervals braced and trussed in both directions except that this bracing and trussing may be omitted when the fabric is stretched by the equipment



FENCE LOCATION



Type CL-4=48" fabric Type CL-6=72" fabric

Notes:

1. Chain link fabric shall be zinc coated steel manufactured in compliance with ASTM Standard A 392 with a 2 inch mesh of 9 gauge wire with knuckled selvage.

2. Tension wire shall be 7 gauge.

3. Where barbed wire is specified, it shall include 3 strands of galvanized 4 point wire attached with extension arms set at 45 degrees.

DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

CHAIN LINK FENCE

DRAWN BY: STAFF
SCALE: NONE
DATE: 12/99

9-29
SHEET 1 OF 2

TYPICAL MEMBER DIMENSIONS (See Notes)										
FENCE HEIGHT	LINE POSTS			END, LATCH & CORNER POSTS				RAILS & BRACES			
	NOMINAL ROUND O.D. (NOTES 7 & 8)	H	ROLL FORMED	NOMINAL ROUND O.D. (NOTES 7 & 8)	ROLL FORMED			NOMINAL ROUND O.D. (NOTES 7 & 8)	H	ROLL FORMED	
6' & less	2-3/8"	1-7/8"x 1-5/8"	1-7/8"x 1-5/8"	2-7/8"	3-1/2" x 3-1/2"	2" x 1-3/4"		1-5/8"	1-1/2" x 1-5/16"	1-5/8" x 1-1/4"	1-3/4" x 1-1/4"
Over 6'	2-3/8"	2-1/4" x 2"	2" x 1-3/4"	2-7/8"	3-1/2" x 3-1/2"	2-1/2" x 2-1/2"		1-5/8"	1-1/2" x 1-5/16"	1-5/8" x 1-1/4"	1-3/4" x 1-1/4"

GATE POST (NOTE 7)			
FENCE HEIGHT	GATE WIDTHS	NOMINAL O.D.	WEIGHT PER FOOT
6'-0" and Less	Up thru 6'	2-7/8"	5.79
	Over 6' thru 12'	4-1/2"	10.79
	Over 12' thru 18'	5-11/16"	14.62
	Over 18' to 24' max	6-5/8"	18.97
Over 6'-0"	Up thru 6'	3-1/2"	7.58
	Over 6' thru 12'	5-11/16"	14.62
	Over 12' thru 18'	6-5/8"	18.97
	Over 18' to 24' max	8-5/8"	28.55

Above post dimensions and masses are minimums. Larger sizes may be used on approval of the Engineer.

NOTES

1. The above table shows examples of post and brace sections which may comply with the Standard Construction Specifications.
2. Sections shown in the tables must also comply with the strength requirements and other provisions of the Standard Construction Specifications.
3. Other sections which comply with the strength requirements and other provisions of the Standard Construction Specifications may be used on approval of the Engineer.
4. Options exercised shall be uniform on any one project.
5. Dimensions shown are nominal.
6. Offset to be 2'-0" at monument locations, measured at right angles to R/W lines. Taper to achieve offset to be at least 20' long.
7. Pipe sections for posts, rails, braces, and gates shall be schedule 40 galvanized pipe manufactured in conformance with ASTM F 1083.
8. Weight per foot values for 1-5/8" O.D. pipe = 2.27 lbs/ft, 2-3/8" O.D. pipe = 3.65 lbs/ft, 2-7/8" O.D. pipe = 5.79 lbs/ft.
9. Chain link gate frames shall be a minimum of 1-7/8" pipe weighing 2.72 lbs/ft.
10. Galvanized gate holders of heavy cast construction with counterbalanced latches shall be provided for all gates. Gate holders shall be anchored with a minimum 24" length of 1-5/8" schedule 40 pipe set in 8" ø concrete base.
11. Double gate assemblies shall also be fitted with heavy duty hinges and lift bar interlocking device with drop anchor at midspan that latches to embedded pipe.

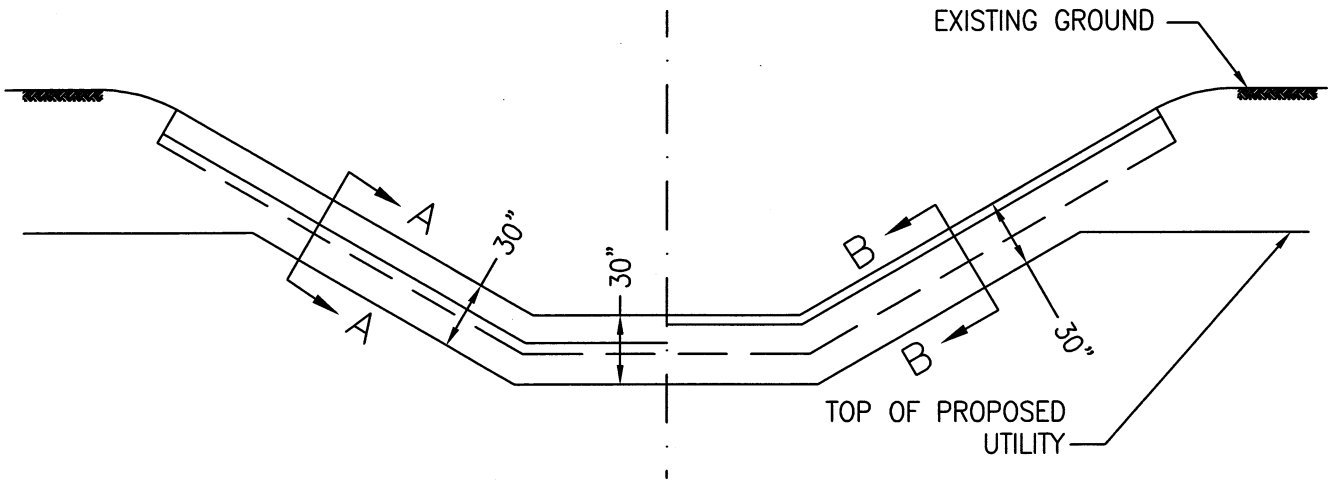
DIRECTOR, DEPARTMENT OF WATER RESOURCES

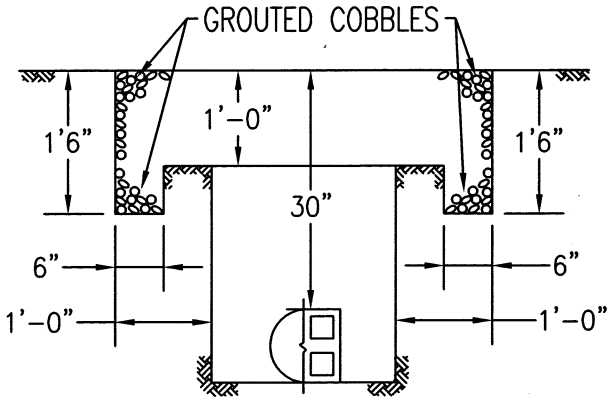
SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

CHAIN LINK FENCE

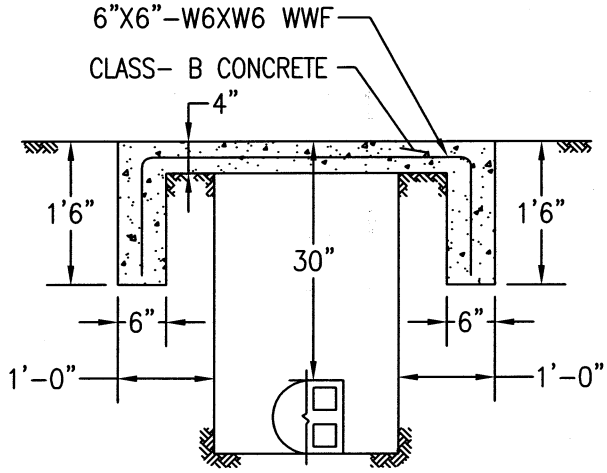
DRAWN BY: STAFF
SCALE: NONE
DATE: 4/07

9-29
SHEET 2 OF 2





SECTION A–A



SECTION B–B

NOTES

1. ALL UTILITY CROSSINGS OF EXISTING STREAMS SHALL BE AT LEAST 30" BELOW EXISTING CHANNEL SIDES AND BOTTOMS. DEEPER PLACEMENT MAY BE REQUIRED IF FUTURE CHANNEL IMPROVEMENTS ARE ANTICIPATED.

2. THE CUT SHALL BE SEALED AS SHOWN WITH GROUTED COBBLES OR CLASS B CONCRETE TO A WIDTH OF 1' ON EACH SIDE OF THE UTILITY TRENCH. ALL NATURAL STREAMS, AS SHOWN ON THE NATURAL STREAMS PLAN, SHALL UTILIZE GROUTED COBBLES.

3. CONSTRUCTION IS TO CONFORM TO SECTION 44 OF THE COUNTY CONSTRUCTION SPECIFICATIONS WITH CUT OFF WALLS CONFORMING TO STANDARD DRAWING 9–24.

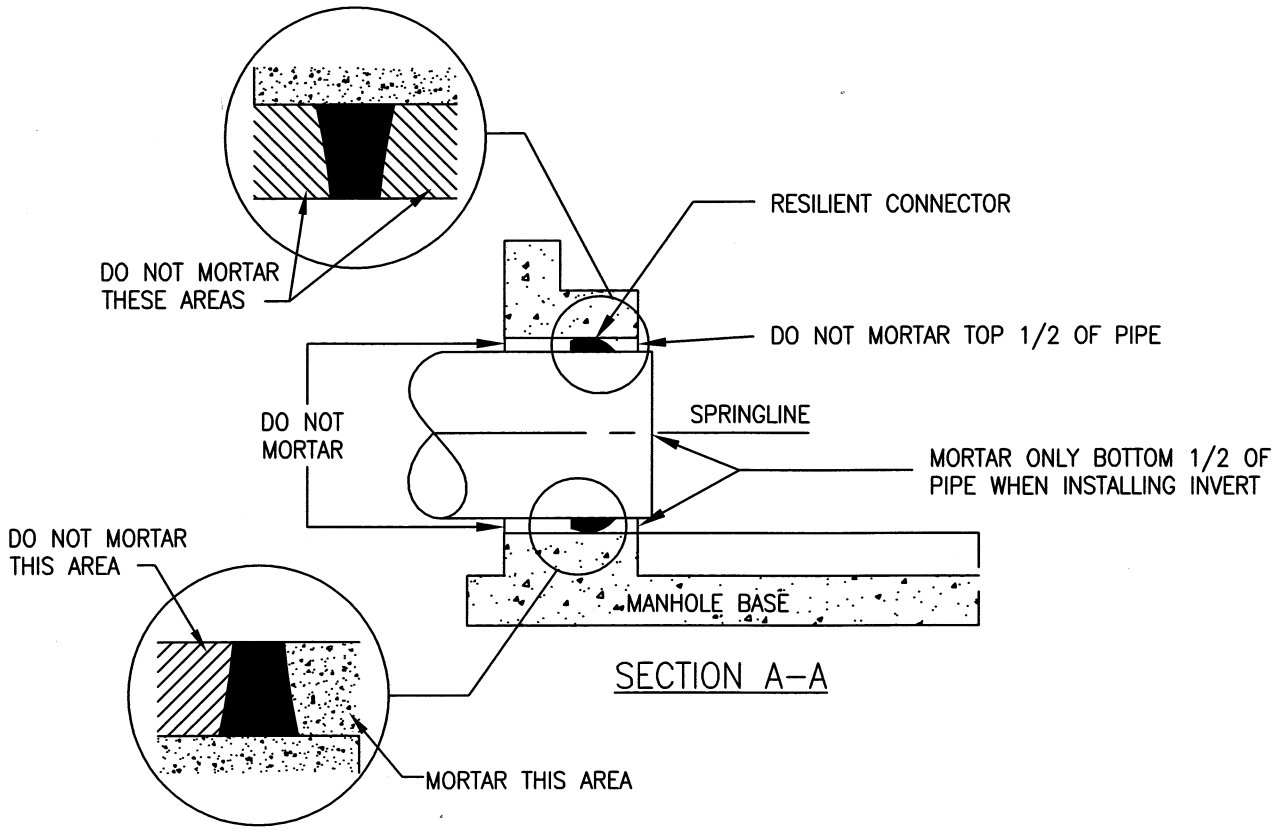
Keith DeVore
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

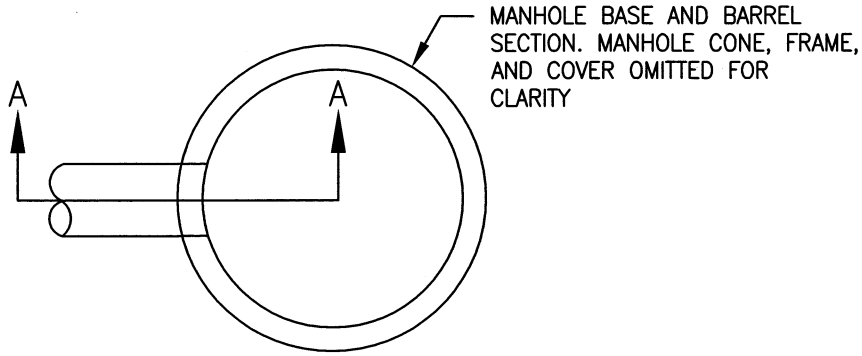
UTILITY STREAM CROSSING

DRAWN BY: M.FIELDS
SCALE: NONE
DATE: 11/98

9-30



SECTION A–A



PLAN

NOTES:

1. TO HELP CREATE A FLEXIBLE, WATERTIGHT JOINT, DO NOT PLACE MORTAR AROUND THE CONNECTOR ON THE OUTSIDE OF THE STRUCTURE OR AROUND THE TOP HALF OF THE CONNECTOR ON THE INSIDE WHEN COMPLETING THE INVERT WORK.
2. RESILIENT CONNECTORS SHALL BE A FLEXIBLE COMPRESSION GASKET OR BOOT CONNECTOR PER SECTION 39 "PRECAST CONCRETE STORM DRAIN MANHOLES" OF THE COUNTY CONSTRUCTION SPECIFICATIONS.
3. BOOT CONNECTORS SHALL NOT BE GROUTED.
4. ALL CONNECTORS SHALL MEET OR EXCEED THE REQUIREMENTS OF A.S.T.M. C–923

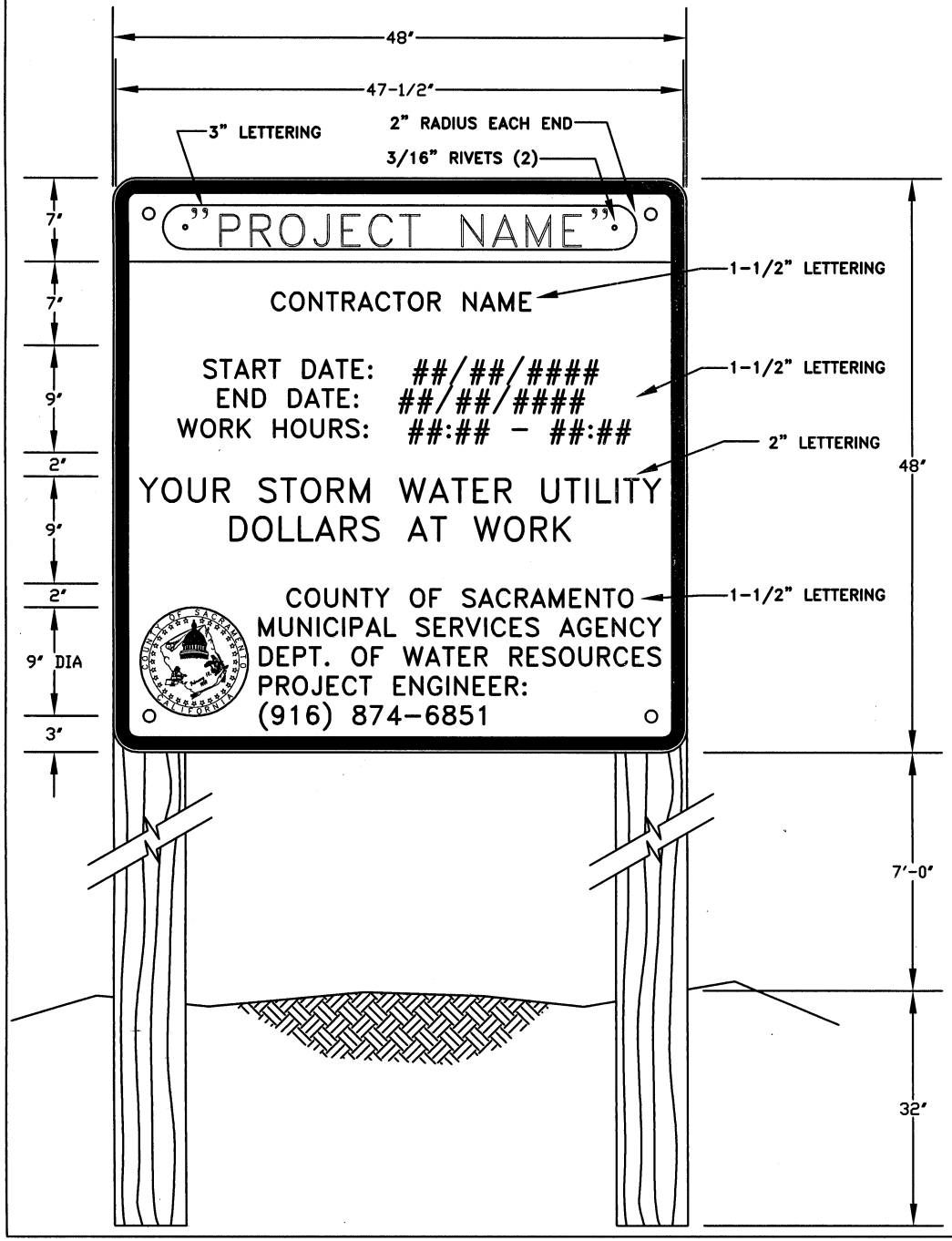
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

FLEXIBLE CONNECTOR PIPE TO MANHOLE

DRAWN BY: S. PIMENTEL
SCALE: NONE
DATE: 5/07

9-31



CONSTRUCTION NOTES

1. Fabricate and install in conformance with Section 12-3.06A of the State Standard Specifications.
2. Sign panel shall conform to Type IIIA minimum reflective sheeting requirements of Section 12-3.06A of the State Standard Specifications.
3. Sign panel colors shall be black letters and border on a white background. Letter height and weight as follows:

Letter Height	Line Weight
1-1/2"	5/16"
2"	1/4"
3"	3/8"

4. The County Seal emblem shall be provided by the County and installed as shown by the Contractor.
5. 4x4 Wood post shall be installed in conformance with Section 12-3.06A of the State Standard Specifications.

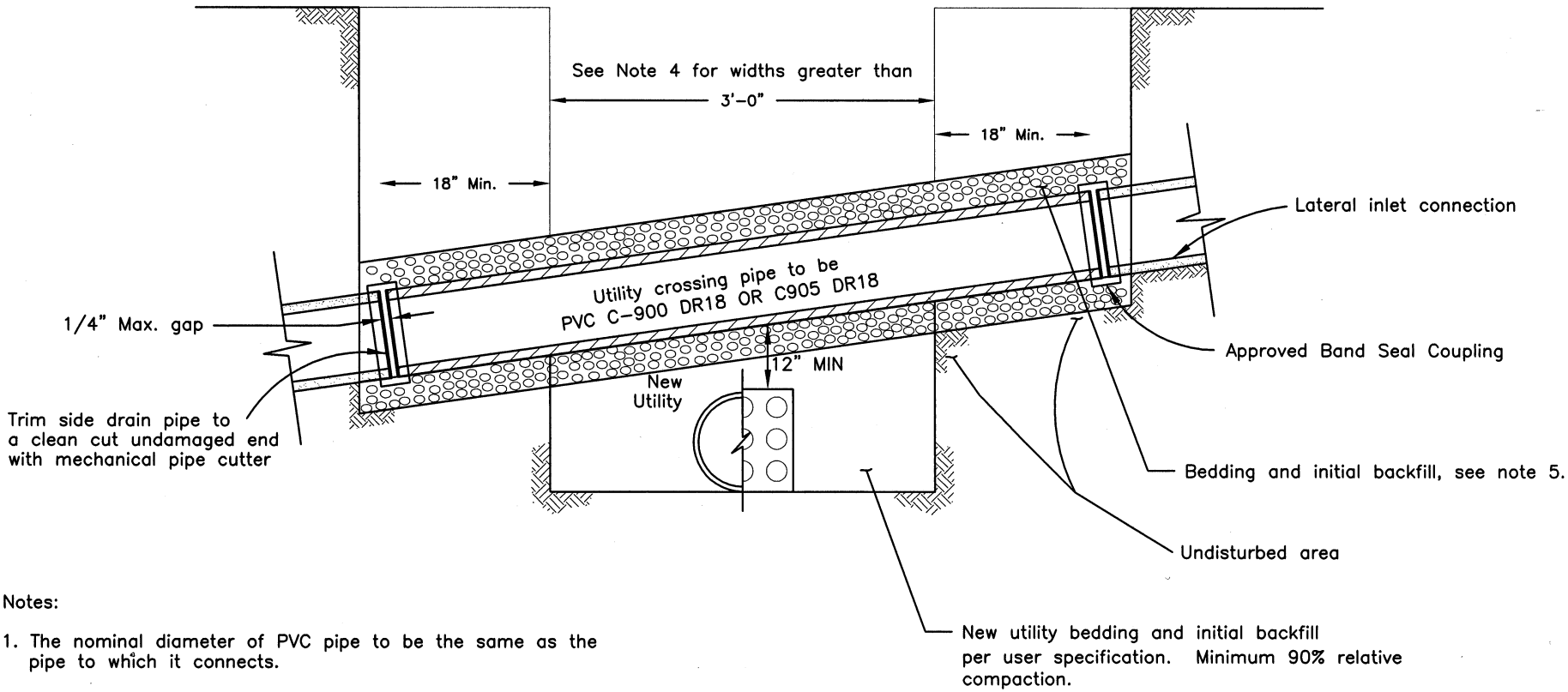
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

CONSTRUCTION SITE SIGN

SCALE: NONE
DATE DRAWN: 04/07
DRAWN BY: S.R.P.

9-32



Notes:

1. The nominal diameter of PVC pipe to be the same as the pipe to which it connects.
2. Use PVC pipe when the lateral connectiion is cut or damaged.
3. Alteration of pipe grades will be permitted only after written permission has been received from the engineer.
4. Whenever the span, whether caused by trench width or crossing angle of the PVC pipe, exceeds 3'-0",. Replacement procedure and material shall be as directed by the engineer.
5. Bedding and initial backfill material shall be imported 3/4-inch crushed rock or gravel conforming to the requirements of Article 50-16, Type "B". For pipe 10" or less in diameter use 1/2-inch crushed rock or gravel conforming to Article 50-16, Type "A". Place per Standard Drawing 9-1A.
6. PVC pipe shall conform to section 50-26.04, "Polyvinyl Chloride Pipe (PVC) For Drainage", of the Standard Specifications.

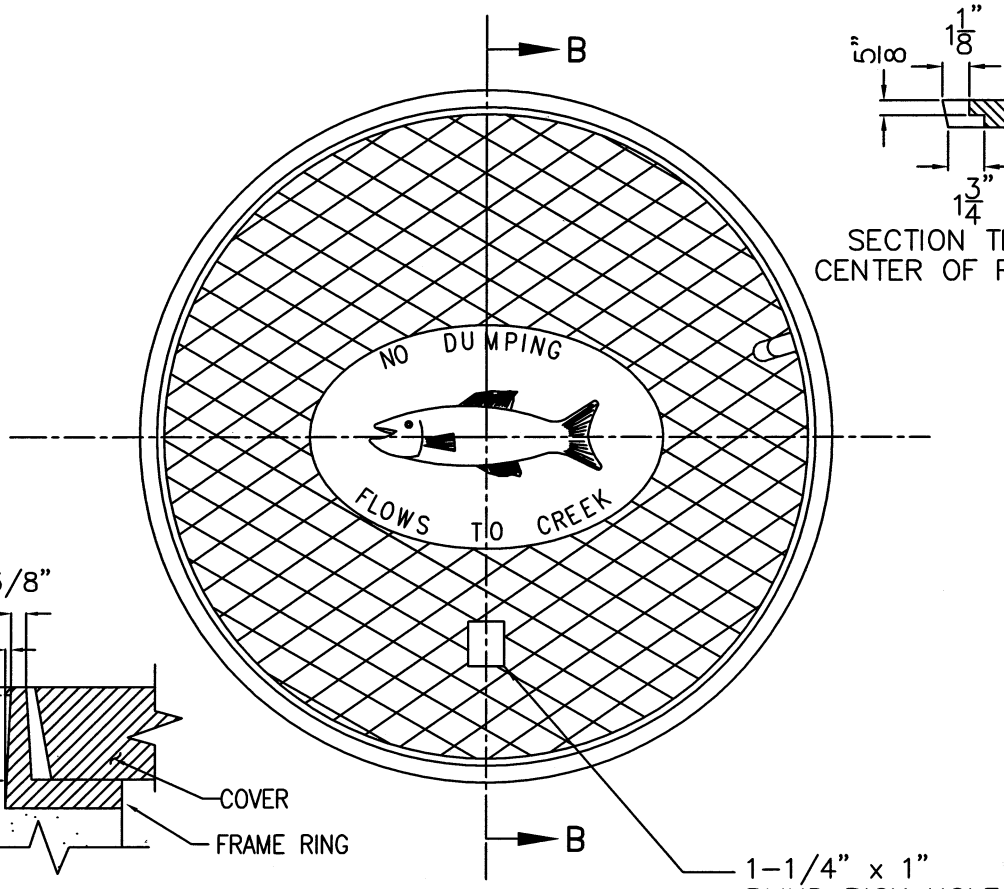
Keith DeVore
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

UTILITY CROSSING

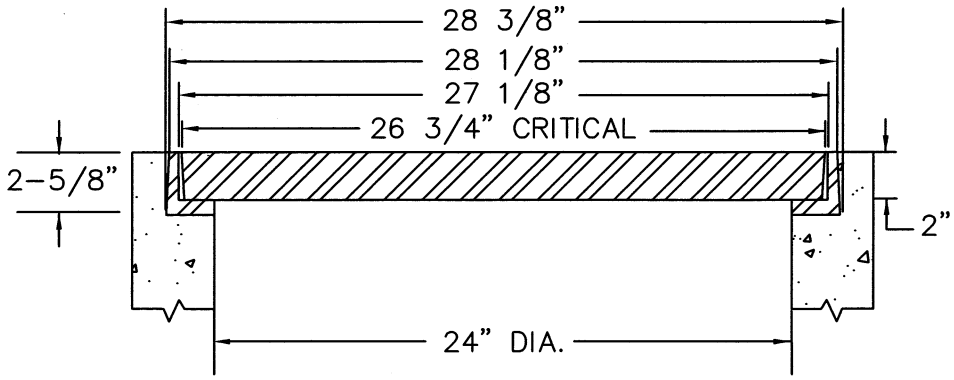
DRAWN BY: STAFF
SCALE: NONE
DATE: 4/97

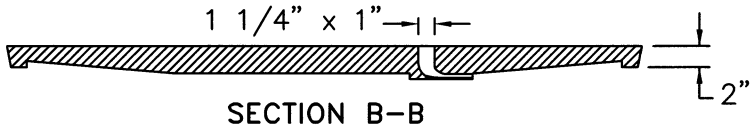
9-33



SECTION THROUGH
CENTER OF PICK HOLE

FRAME RING AND LID DETAIL





SECTION B-B

NOTES:

1. TO BE USED ONLY WITH TYPE G OR 300-1 INLET.
2. ALL CASTINGS TO CONFORM TO ASTM A48, CLASS 35B.
3. FRAME AND COVER TO MEET H-20 LOAD SPECIFICATIONS.
4. BEARING SURFACES ARE MACHINED BEVELED TO ASSURE A CLOSE, NON ROCKING SURFACE.
5. EXPOSED SURFACES OF THE CASTINGS WITH THE PARTS ASSEMBLED AND DISASSEMBLED SHALL BE PAINTED WITH COMMERCIAL QUALITY ASPHALTUM PAINT AFTER TESTING AND ASSEMBLY.
6. SEE ARTICLE 50-34, "SEWER AND STORM DRAIN CASTINGS", OF SECTION 50.

WEIGHT	
CAST IRON COVER	91 LBS.
CAST IRON FRAME RING	52 LBS.

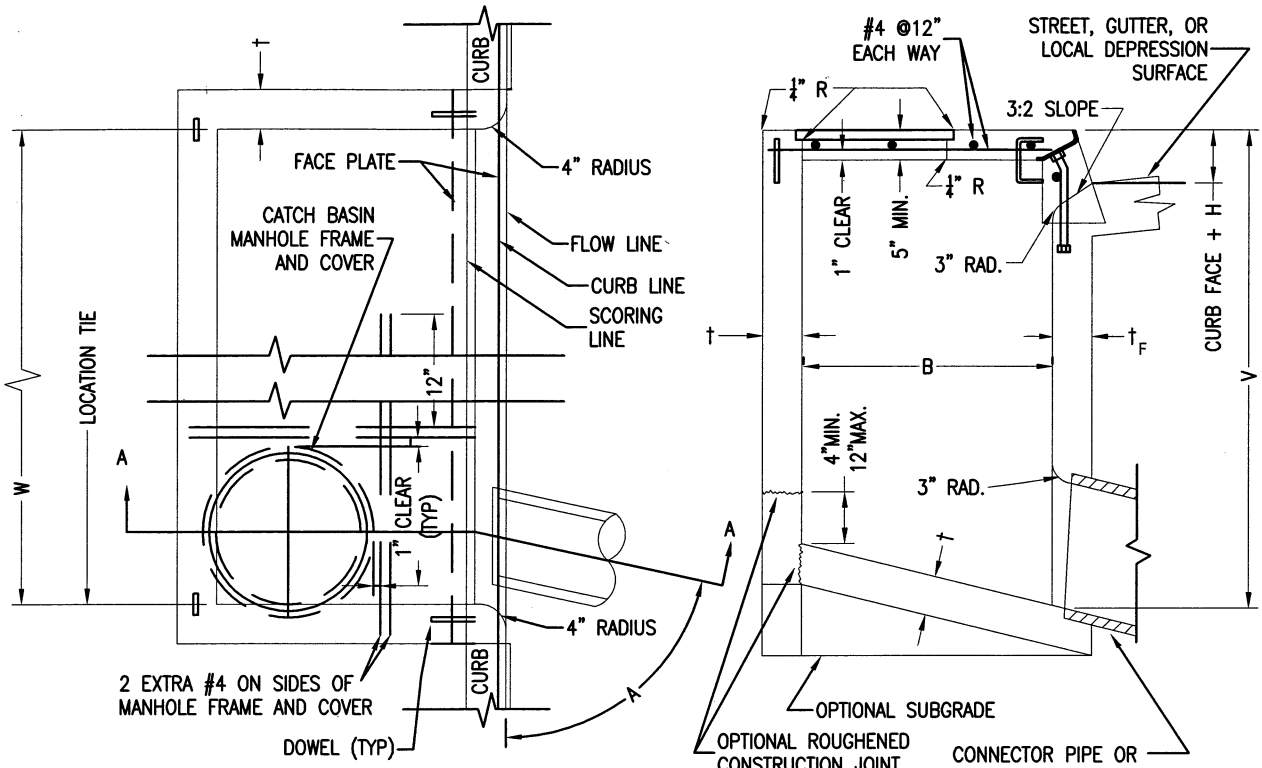
Keith DeWire
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

CAST IRON 24" MANHOLE FRAME & COVER FOR TYPE G AND 300-1 INLET

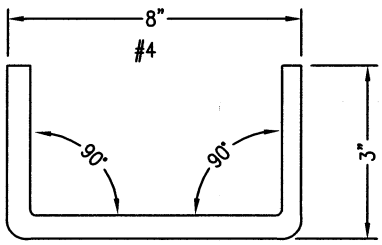
DRAWN BY: S. PIMENTEL
SCALE: NONE
DATE: 4/07

9-34



PLAN

SECTION A-A



DOWEL DETAIL

STRUCTURAL DATA							
WALL AND SLAB DIMENSIONS AND REINFORCEMENT REQUIREMENTS							
MAX W	MAX V	t	t_F	REINFORCEMENT REQUIRED IN			
				FRONT WALL	REAR WALL	BOTTOM SLAB	END WALL
3.5'	8'	6"	6"	NO REINFORCEMENT REQUIRED			
3.5'	12'	6"	8"				
7'	6'	6"	6"				
7'	12'	8"	8"				
14'	4'	6"	6"	REINFORCEMENT REQUIRED			
14'	8'	6"	8"				
14'	12'	8"	10"				
21' AND 28'	4'	6"	6"				
	6'	6"	8"				
	8'	8"	8"				
	10'	8"	10"				
	12'	8"	10"				
FOR W > 28', V >12', OR B> 4' SEE PROJECT PLANS							

Keith DeVore
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

CURB OPENING CATCH BASIN

DRAWN BY: L.PETERS
SCALE: NONE
DATE: 12/02

300-1
SHEET 1 OF 2

NOTES:

1. WHERE THE BASIN IS TO BE CONSTRUCTED WITHIN THE LIMITS OF EXISTING OR PROPOSED SIDEWALK OR IS CONTIGUOUS TO SUCH SIDEWALK, THE TOP SLAB OF THE BASIN MAY BE POURED EITHER MONOLITHIC WITH THE SIDEWALK OR SEPARATELY, USING THE SAME CLASS OF CONCRETE AS IN THE BASIN. WHEN POURED MONOLITHICALLY, THE SIDEWALK SHALL BE PROVIDED WITH A WEAKENED PLANE OR A 1-INCH DEEP SAWCUT CONTINUOUSLY AROUND THE EXTERNAL PERIMETER OF THE CATCH BASIN WALLS, INCLUDING ACROSS THE FULL WIDTH OF THE SIDEWALK. SURFACE OF ALL EXPOSED CONCRETE SHALL CONFORM IN SLOPE, GRADE, COLOR, FINISH, AND SCORING TO EXISTING OR PROPOSED CURB AND WALK ADJACENT TO THE BASIN.
2. ALL CURVED CONCRETE SURFACES SHALL BE FORMED BY CURVED FORMS, AND SHALL NOT BE SHAPED BY PLASTERING.
3. FLOOR OF BASIN SHALL BE GIVEN A STEEL TROWEL FINISH AND SHALL HAVE A LONGITUDINAL AND LATERAL SLOPE OF 1:12 MINIMUM AND 1:3 MAXIMUM, EXCEPT WHERE THE GUTTER GRADE EXCEEDS 8 PERCENT, IN WHICH CASE THE LONGITUDINAL SLOPE OF THE FLOOR SHALL BE THE SAME AS THE GUTTER GRADE. SLOPE FLOOR FROM ALL DIRECTIONS TO THE OUTLET.
4. DIMENSIONS:
   - B = 3 FEET 2 INCHES
   - V = THE DIFFERENCE IN ELEVATION BETWEEN THE TOP OF THE CURB AND THE INVERT OF THE CATCH BASIN AT THE OUTLET. NOTED ON THE PROJECT PLANS.
   - V_u = THE DIFFERENCE IN ELEVATION BETWEEN THE TOP OF THE CURB AND THE INVERT AT THE UPSTREAM END OF THE BASIN, AND SHALL BE DETERMINED BY THE REQUIREMENTS OF NOTE 3, BUT SHALL NOT BE LESS THAN CURB FACE PLUS 12 INCHES.
   - V_t = THE DIFFERENCE IN ELEVATION BETWEEN THE TOP OF THE CURB AND THE INVERT OF THE INLET. NOTED ON THE PROJECT PLANS.
   - H = NOTED ON THE PROJECT PLANS.
   - W = NOTED ON THE PROJECT PLANS.
   - A = THE ANGLE, IN DEGREES, INTERCEPTED BY THE CENTERLINE OF THE CONNECTOR PIPE AND THE CATCH BASIN WALL TO WHICH THE CONNECTOR PIPE IS ATTACHED.
5. PLACE CONNECTOR PIPES AS INDICATED ON THE PROJECT PLANS UNLESS OTHERWISE SPECIFIED. THE CONNECTOR PIPE SHALL BE LOCATED AT THE DOWNSTREAM END OF THE BASIN. WHERE THE CONNECTOR PIPE IS SHOWN AT A CORNER, THE CENTERLINE OF THE PIPE SHALL INTERSECT THE INSIDE CORNER OF THE BASIN. THE PIPE MAY BE CUT AND TRIMMED AT A SKEW NECESSARY TO INSURE MINIMUM 3-INCH PIPE EMBEDMENT ALL AROUND, WITHIN THE CATCH BASIN WALL, AND 3-INCH RADIUS OF ROUNDING OF STRUCTURE CONCRETE, ALL AROUND, ADJACENT TO PIPE ENDS. A MONOLITHIC CATCH BASIN CONNECTION SHALL BE USED TO JOIN THE CONNECTOR PIPE TO THE CATCH BASIN WHENEVER ANGLE "A" IS LESS THAN 70 DEGREES OR GREATER THAN 110 DEGREES, OR WHENEVER THE CONNECTOR PIPE IS LOCATED IN A CORNER. THE OPTIONAL USE OF A MONOLITHIC CATCH BASIN CONNECTION IN ANY CASE IS PERMITTED. MONOLITHIC CATCH BASIN CONNECTIONS MAY BE CONSTRUCTED TO AVOID CUTTING STANDARD LENGTHS OF PIPE.
6. DOWELS ARE REQUIRED AT EACH CORNER AND AT 7 FEET ON CENTER (MAXIMUM) ALONG THE BACKWALL.
7. THE FOLLOWING STANDARD PLANS ARE INCORPORATED HEREIN:
   - 308 MONOLITHIC CATCH BASIN CONNECTION
   - 309 CATCH BASIN REINFORCEMENT
   - 9-17 CATCH BASIN FACE PLATE ASSEMBLY AND PROTECTION BAR
   - 9-34 CATCH BASIN MANHOLE FRAME AND COVER

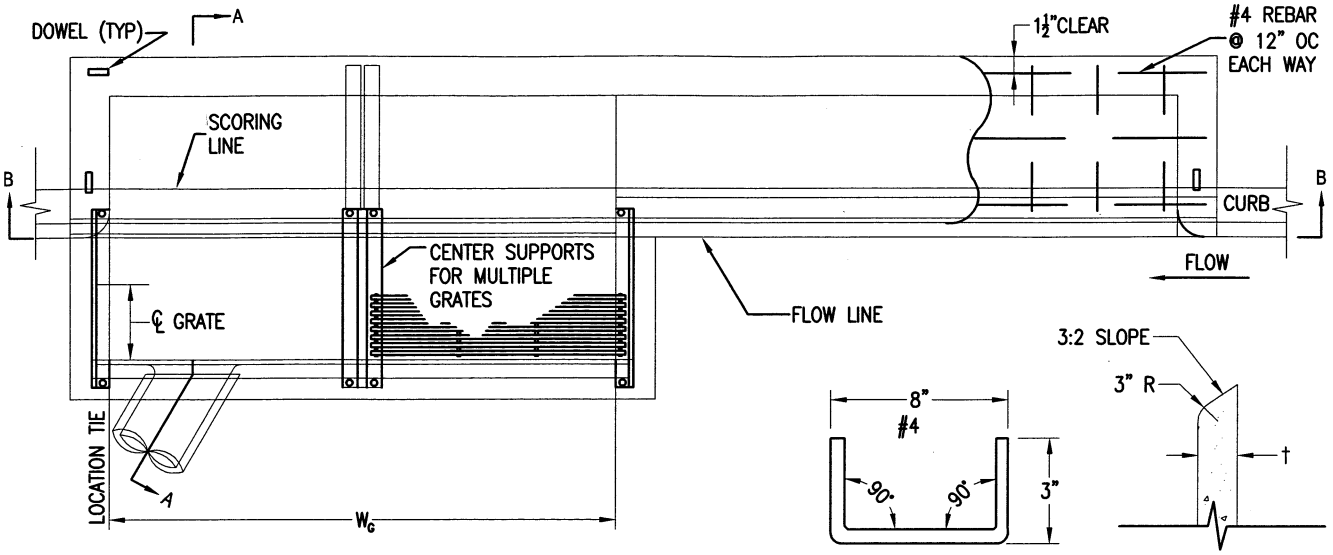
Neil DeVere
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

CURB OPENING CATCH BASIN

DRAWN BY: L.PETERS
SCALE: NONE
DATE: 01/02

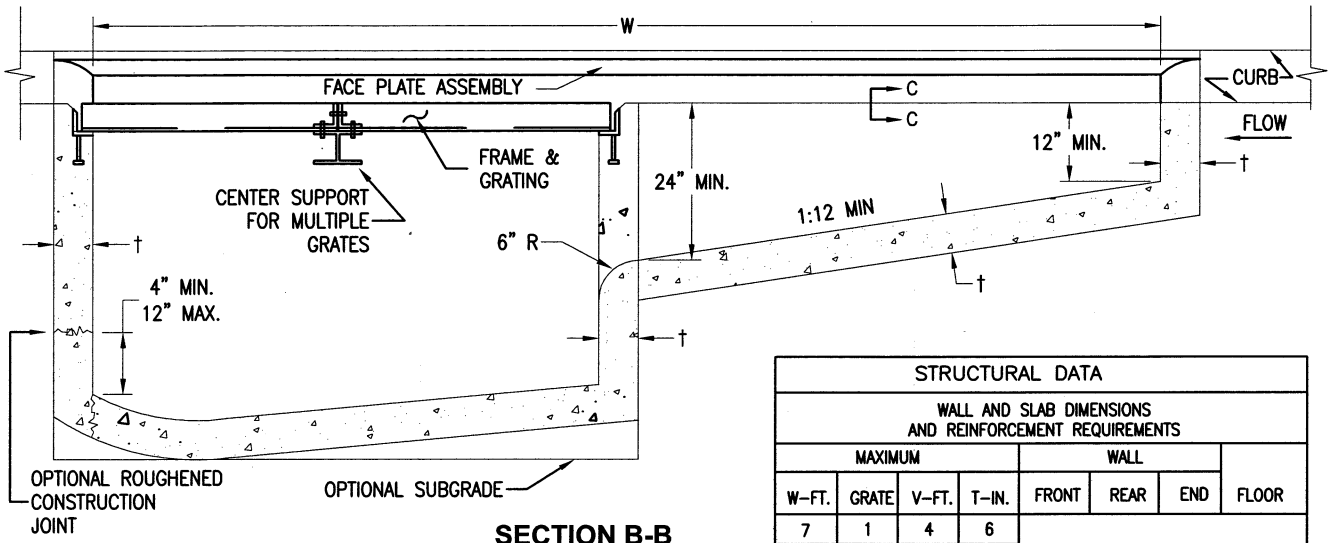
300-1
SHEET 2 OF 2



PLAN

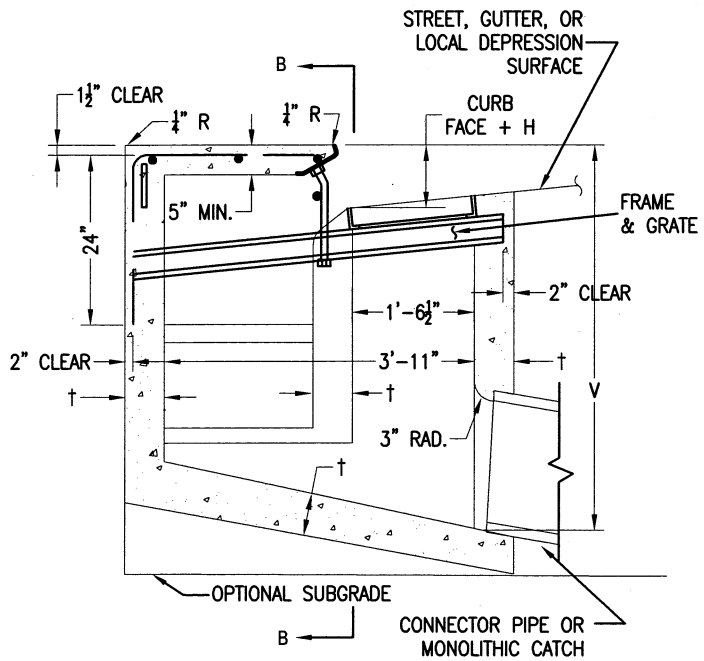
DOWEL DETAIL

SECTION C-C



SECTION B-B

STRUCTURAL DATA							
WALL AND SLAB DIMENSIONS AND REINFORCEMENT REQUIREMENTS							
MAXIMUM				WALL			
W-FT.	GRATE	V-FT.	T-IN.	FRONT	REAR	END	FLOOR
7	1	4	6	NO REINFORCEMENT REQUIRED			
7	1	8	8				
7	1	10	10				
14	3	4	6				
14	2	8	8	REINFORCEMENT REQUIRED			
14	2	10	10				
14	2	12	10				
28	6	4	6				
28	6	6	8				
28	7	4	6				
28	7	8	8				
28	7	10	10				
28	7	12	10				
FOR W > 28', V >12', OR NO. OF GRATES > 7, SEE PROJECT PLANS							



SECTION A-A

Keith DeVore
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

CURB OPENING CATCH BASIN

DRAWN BY: L.PETERS
SCALE: NONE
DATE: 12/02

301-1
SHEET 1 OF 2

NOTES:

1. WHERE THE BASIN IS TO BE CONSTRUCTED WITHIN THE LIMITS OF EXISTING OR PROPOSED SIDEWALK OR IS CONTIGUOUS TO SUCH SIDEWALK, THE TOP SLAB OF THE BASIN MAY BE POURED EITHER MONOLITHIC WITH THE SIDEWALK OR SEPARATELY, USING THE SAME CLASS OF CONCRETE AS IN THE BASIN. WHEN POURED MONOLITHICALLY, THE SIDEWALK SHALL BE PROVIDED WITH A WEAKENED PLANE OR A 1-INCH DEEP SAWCUT CONTINUOUSLY AROUND THE EXTERNAL PERIMETER OF THE CATCH BASIN WALLS, INCLUDING ACROSS THE FULL WIDTH OF THE SIDEWALK. SURFACE OF ALL EXPOSED CONCRETE SHALL CONFORM IN SLOPE, GRADE, COLOR, FINISH, AND SCORING TO EXISTING OR PROPOSED CURB AND WALK ADJACENT TO THE BASIN.
2. ALL CURVED CONCRETE SURFACES SHALL BE FORMED BY CURVED FORMS, AND SHALL NOT BE SHAPED BY PLASTERING.
3. FLOOR OF BASIN SHALL BE GIVEN A STEEL TROWEL FINISH. FLOOR OF GRATING PORTION SHALL HAVE A LONGITUDINAL AND LATERAL SLOPE OF 1:12 MINIMUM AND 1:3 MAXIMUM, EXCEPT WHERE THE GUTTER GRADE EXCEEDS 8 PERCENT, IN WHICH CASE THE LONGITUDINAL SLOPE OF THE FLOOR SHALL BE THE SAME AS THE GUTTER GRADE. SLOPE FLOOR FROM ALL DIRECTIONS TO THE OUTLET.
4. DIMENSIONS:
   V = THE DIFFERENCE IN ELEVATION BETWEEN THE TOP OF THE CURB AND THE INVERT OF THE CATCH BASIN AT THE OUTLET. NOTED ON THE PROJECT PLANS.
   V_t = THE DIFFERENCE IN ELEVATION BETWEEN THE TOP OF THE CURB AND THE INVERT OF THE INLET. NOTED ON THE PROJECT PLANS.
   H = NOTED ON THE PROJECT PLANS.
   W = NOTED ON THE PROJECT PLANS.
   W_G = 2 FEET 11-3/8 INCHES FOR ONE GRATING; ADD 3 FEET 5-3/8 INCHES FOR EACH ADDITIONAL GRATING. ONE GRATING IS REQUIRED UNLESS OTHERWISE SHOWN ON THE PROJECT PLANS.
   A = THE ANGLE, IN DEGREES, INTERCEPTED BY THE CENTERLINE OF THE CONNECTOR PIPE AND THE CATCH BASIN WALL TO WHICH THE CONNECTOR PIPE IS ATTACHED.
5. PLACE CONNECTOR PIPES AS INDICATED ON THE PROJECT PLANS UNLESS OTHERWISE SPECIFIED. THE CONNECTOR PIPE SHALL BE LOCATED AT THE DOWNSTREAM END OF THE BASIN. WHERE THE CONNECTOR PIPE IS SHOWN AT A CORNER, THE CENTERLINE OF THE PIPE SHALL INTERSECT THE INSIDE CORNER OF THE BASIN. THE PIPE MAY BE CUT AND TRIMMED AT A SKEW NECESSARY TO INSURE MINIMUM 3-INCH PIPE EMBEDMENT ALL AROUND, WITHIN THE CATCH BASIN WALL, AND 3-INCH RADIUS OF ROUNDING OF STRUCTURE CONCRETE, ALL AROUND, ADJACENT TO PIPE ENDS. A MONOLITHIC CATCH BASIN CONNECTION SHALL BE USED TO JOIN THE CONNECTOR PIPE TO THE CATCH BASIN WHENEVER ANGLE "A" IS LESS THAN 70 DEGREES OR GREATER THAN 110 DEGREES, OR WHENEVER THE CONNECTOR PIPE IS LOCATED IN A CORNER. THE OPTIONAL USE OF A MONOLITHIC CATCH BASIN CONNECTION IN ANY CASE IS PERMITTED. MONOLITHIC CATCH BASIN CONNECTIONS MAY BE CONSTRUCTED TO AVOID CUTTING STANDARD LENGTHS OF PIPE.
6. DOWELS ARE REQUIRED AT EACH CORNER AND AT 7 FEET ON CENTER (MAXIMUM) ALONG THE BACKWALL.
7. THE FOLLOWING STANDARD PLANS ARE INCORPORATED HEREIN:
   308 MONOLITHIC CATCH BASIN CONNECTION
   309 CATCH BASIN REINFORCEMENT
   9-14,15 FRAME AND GRATING FOR CATCH BASINS
   9-16 CENTER SUPPORT ASSEMBLY FOR MULTIPLE GRATES
   9-17 CATCH BASIN FACE PLATE ASSEMBLY AND PROTECTION BAR
8. THE GRATE SHALL BE PLACED 6" FROM THE BACK OF CURB FOR TYPE 2 CURB AND 8" FROM THE BACK OF CURB FOR TYPE 1 OR 1A CURB.

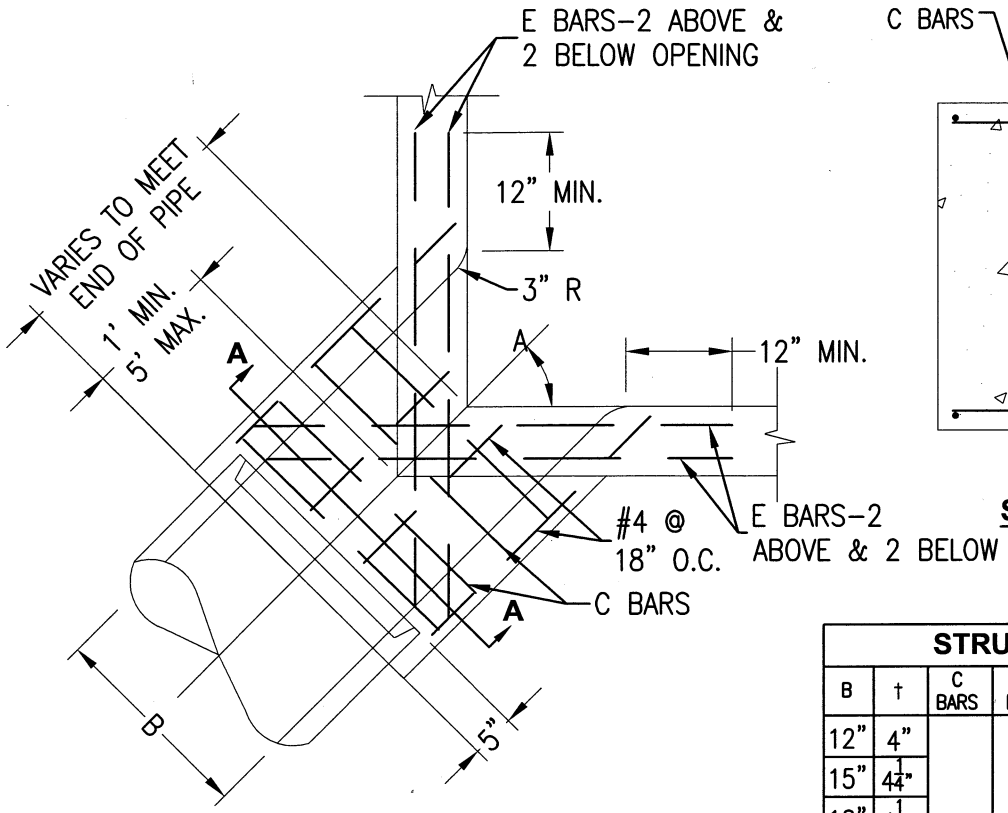
Keith DeVore
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

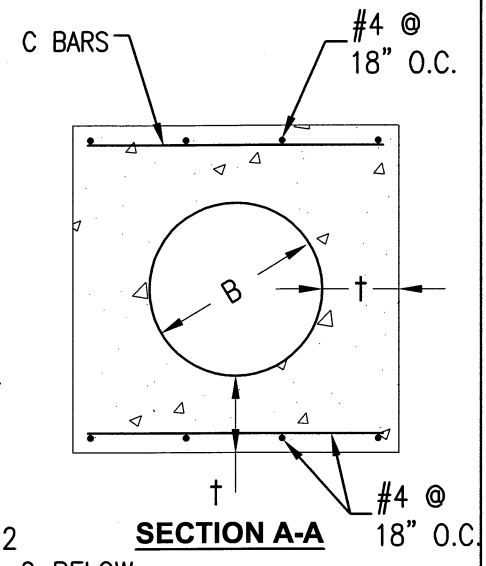
CURB OPENING CATCH BASIN WITH GRATING(S) AND DEBRIS SKIMMER

DRAWN BY: STAFF
SCALE: NONE
DATE: 08/07

301-1
SHEET 2 OF 2

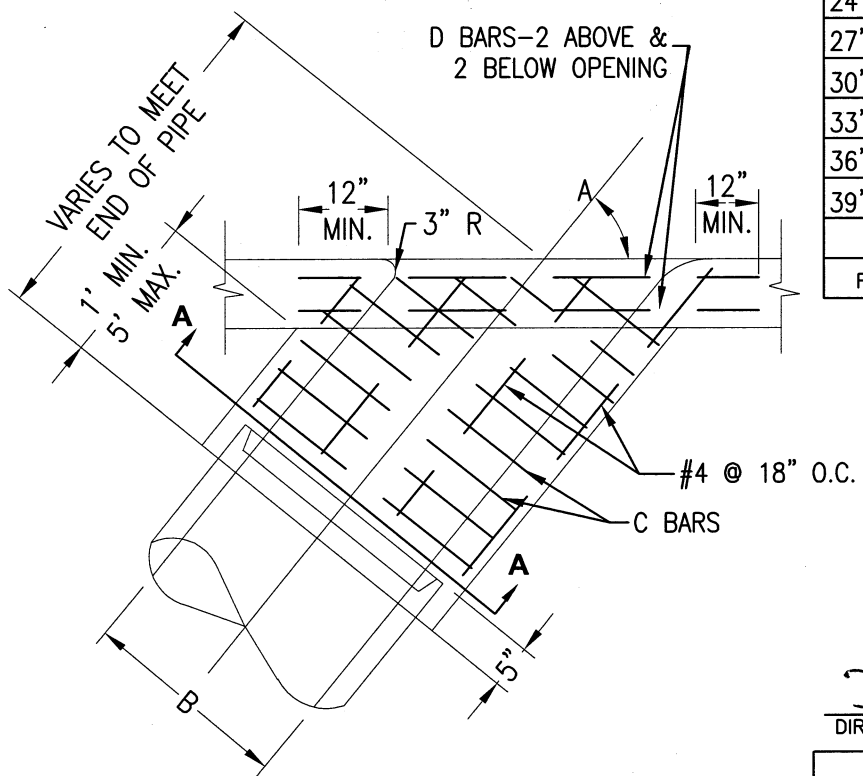


PLAN
CORNER CONNECTION



SECTION A-A

STRUCTURAL DATA							
B	†	C BARS	D&E BARS	B	†	C BARS	D&E BARS
12"	4"	#4 @ 6" O.C.	#5	42"	7 1/2"	#5 @ 6" O.C.	#6
15"	4 1/4"			45"	7 3/4"		
18"	4 1/2"			48"	8"		
21"	5"			51"	8 1/2"		
24"	5 1/4"			54"	9"		
27"	5 1/2"			57"	9 1/4"		
30"	6"			60"	9 1/2"		
33"	6 1/4"			63"	10"		
36"	6 1/2"			66"	10 1/4"		
39"	7"			69"	10 3/4"		
				72"	11"		
FOR B GREATER THAN 72" SEE PROJECT PLAN							



PLAN
SIDE CONNECTION

DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

MONOLITHIC CATCH BASIN CONNECTION

DRAWN BY: D. BOLEN
SCALE: NONE
DATE: 3/07

308-0
SHEET 1 OF 2

NOTES:

1. REINFORCING STEEL SHALL BE 1-1/2 INCHES CLEAR FROM FACE OF CONCRETE UNLESS OTHERWISE SHOWN.
2. REINFORCING STEEL FOR INSIDE FACE OF CATCH BASIN SHALL BE CUT AT CENTER OF OPENING AND BENT INTO WALLS OF MONOLITHIC CATCH BASIN CONNECTION. REINFORCING STEEL FOR OUTSIDE FACE OF CATCH BASIN SHALL BE CUT 2 INCHES CLEAR OF OPENING.
3. CONNECTION SHALL BE PLACED MONOLITHIC WITH CATCH BASIN. THE ROUNDED EDGE OF OUTLET SHALL BE CONSTRUCTED BY PLACING CONCRETE WITH THE SAME CLASS OF CONCRETE AS THE CATCH BASIN AGAINST A CURVED FORM WITH A RADIUS OF 3 INCHES.
4. CONNECTIONS SHALL BE CONSTRUCTED WHEN:
   (A) PIPES INLET OR OUTLET THROUGH CORNER OF CATCH BASIN.
   (B) ANGLE A FOR PIPES THROUGH 30 INCHES IN DIAMETER IS LESS THAN 70 DEGREES OR GREATER THAN 110 DEGREES.

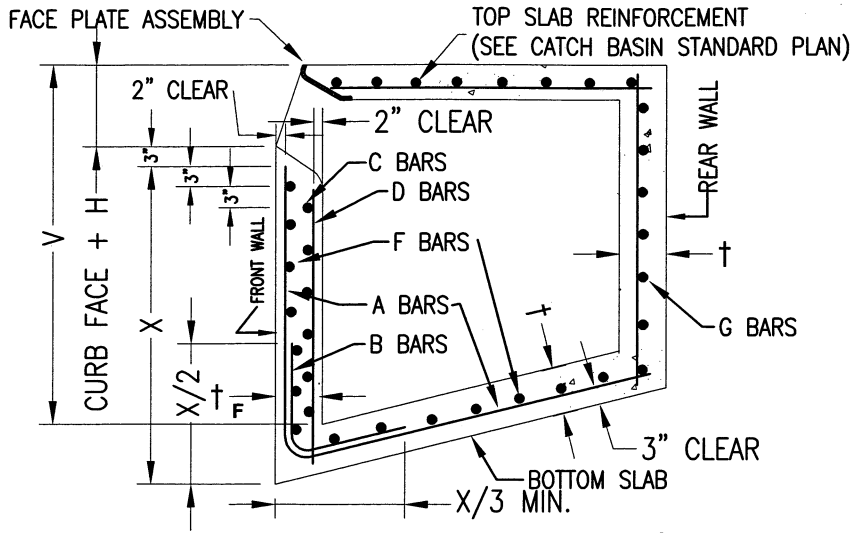
Keith DeVore
DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

MONOLITHIC CATCH BASIN CONNECTION

DRAWN BY: L.PETERS
SCALE: NONE
DATE: 01/02

308-0
SHEET 2 OF 2



TYPICAL REINFORCEMENT DETAILS

MAX. W	MAX. V	†	$†_F$	A&B BARS	C BARS	D BARS	E BARS	F BARS	G BARS
3.5'	8'	6"	–	–	–	–	–	–	–
3.5'	12'	8"	8"	–	–	–	–	–	–
7'	6'	6"	6"	–	–	–	–	–	–
7'	12'	8"	8"	–	–	–	–	–	–
14'	4'	6"	6"	–	#4@12"	#4@18"	–	–	–
14'	8'	6"	8"	–	#4@12"	#4@18"	–	–	–
14'	12'	8"	10"	–	#4@6"	#4@18"	–	–	–
28'	4'	6"	6"	#4@24"	–	–	–	#4@18"	–
28'	5'	6"	8"	#4@24"	–	–	–	#4@18"	–
28'	6'	6"	8"	#4@18"	–	–	–	#4@18"	–
28'	7'	8"	8"	#4@17"	–	–	–	#4@18"	–
28'	8'	8"	8"	#4@13"	–	–	–	#4@18"	–
28'	9'	8"	10"	#4@15"	–	–	–	#4@18"	–
28'	10'	8"	10"	#4@12"	–	–	–	#4@18"	–
28'	11'	8"	10"	#5@15"	–	–	#4@10"	#4@18"	#4@18"
28'	12'	8"	10"	#6@18"	–	–	#4@9"	#4@18"	#4@18"
FOR W>28', V>12' OR B>4' SEE PROJECT PLANS									

CURB OPENING CATCH BASIN REINFORCEMENT

NOTE: UNLESS OTHERWISE SPECIFIED REINFORCEMENT FOR CURB OPENING CATCH BASIN SHALL TERMINATE 2 INCHES FROM FACE OF CONCRETE.

DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY
MUNICIPAL SERVICES AGENCY

CATCH BASIN REINFORCEMENT

DRAWN BY: B.FORRESTER
SCALE: NONE
DATE: 01/06

309-0