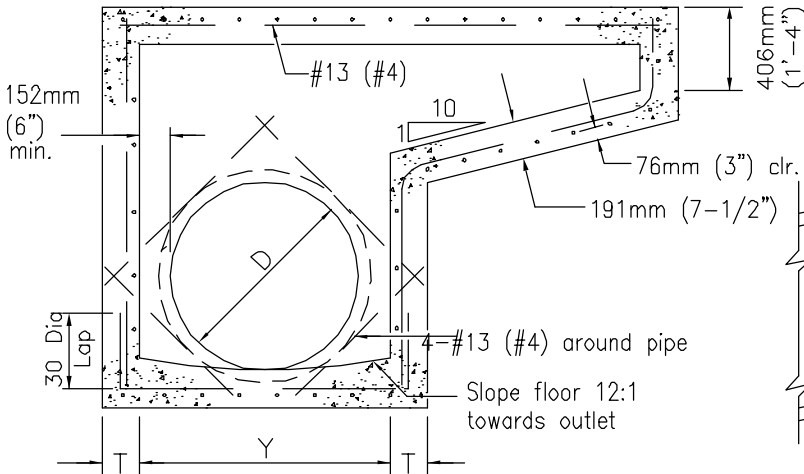
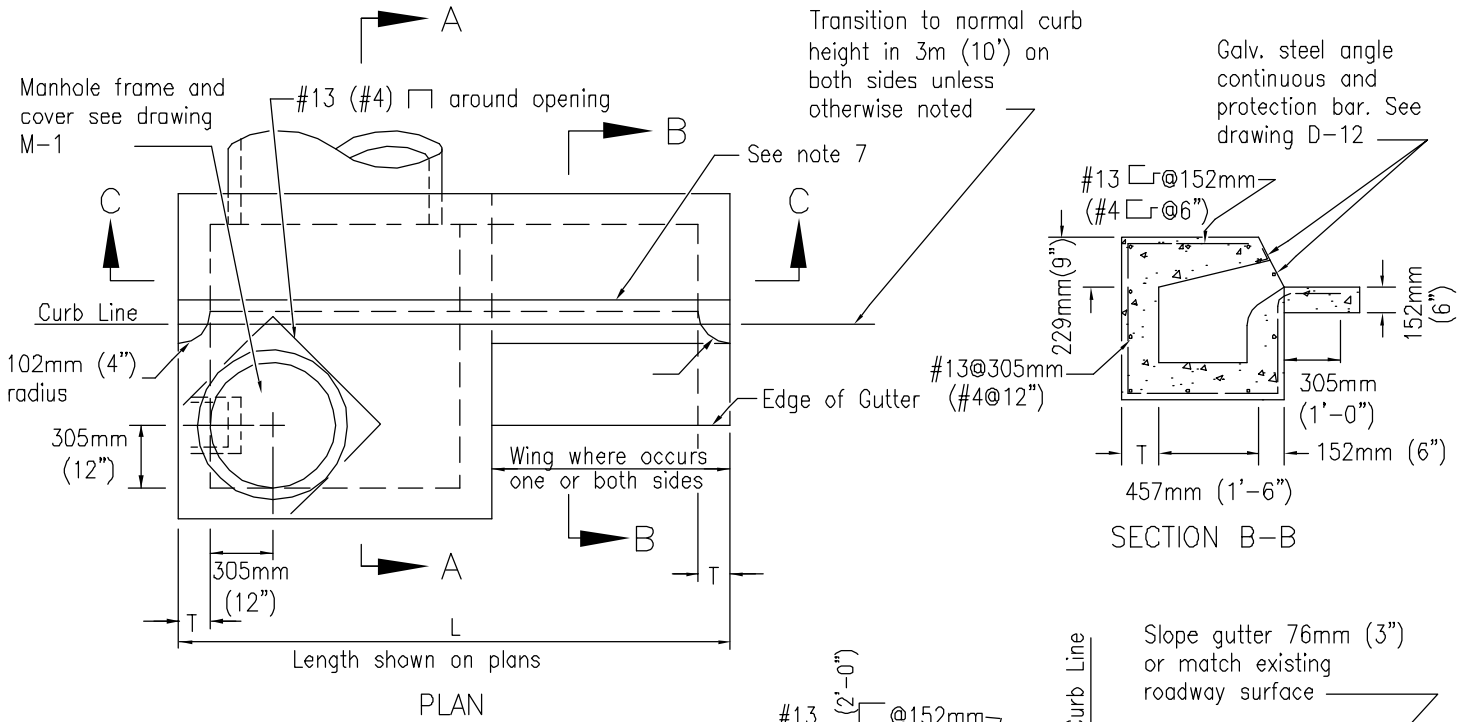
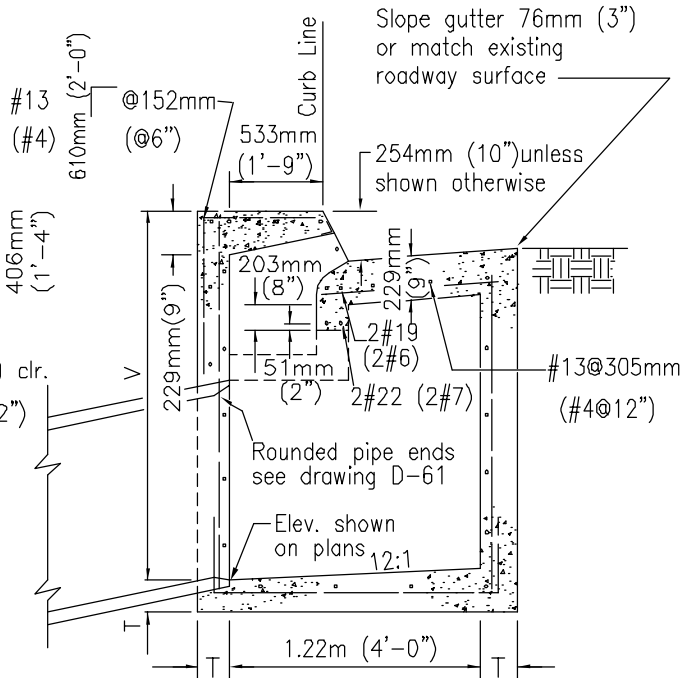


This drawing is **NOT** in conformance with latest UBC and should be used with care and judgment.



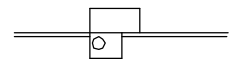
Determined by pipe size—1.22m (4') min., 2.44m (8') max.



NOTES

1. See Standard Drawings D-11 & D-12 for additional notes and details.
2. Types are designated as follows: (no wing)A, (one wing)A-1, (two wings)A-2.
3. Exposed edges of concrete shall be rounded with a radius of 13mm (1/2").
4. When V exceeds 4' steps shall be installed. See Standard Drawing D-11 for details.
5. Concrete gutter to match adjacent gutters.
6. An expansion joint shall be placed at the ends of the inlet where the curb is to adjoin.
7. Provide 6.35mm (1/4") tooled groove in top slab in line with back of adjacent curb.
8. Surface of top slab shall be sidewalk finished to drain toward street at a slope of 6.35mm (1/4") per foot.
9. Maintain 38mm (1-1/2") clear spacing between reinforcing and surface unless otherwise noted.

LEGEND ON PLANS



Revision	By	Approved	Date
ORIGINAL		Kercheval	12/75
Add Metric		T. Stanton	03/03

SAN DIEGO REGIONAL STANDARD DRAWING

CURB INLET - TYPE A

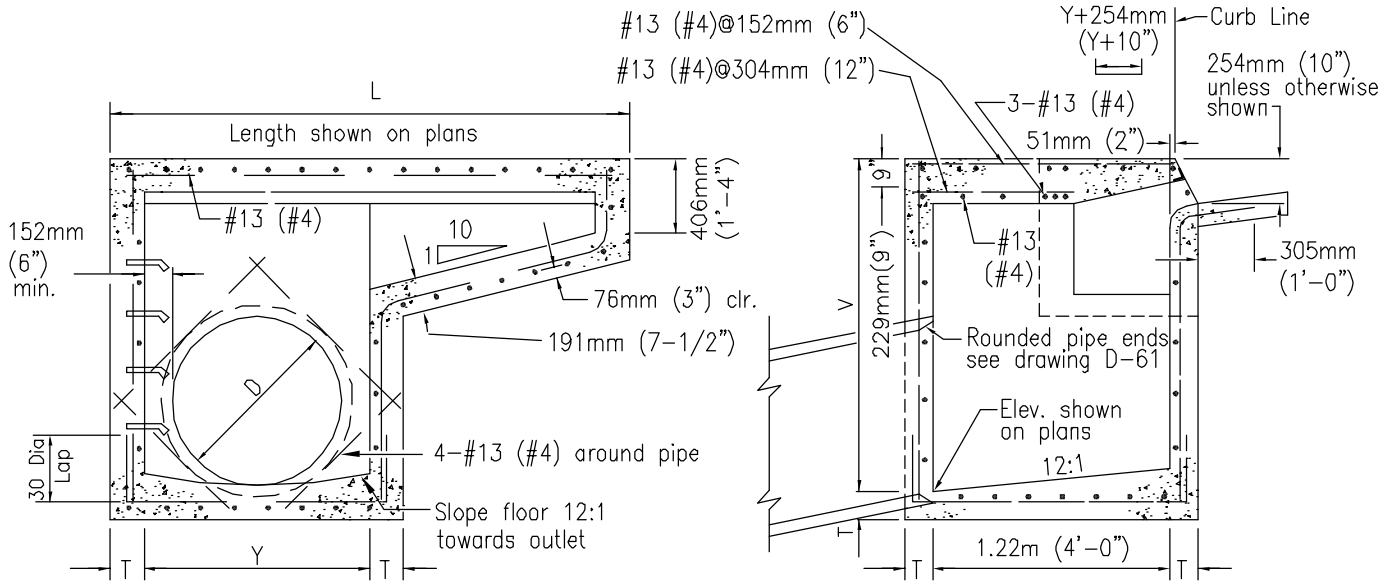
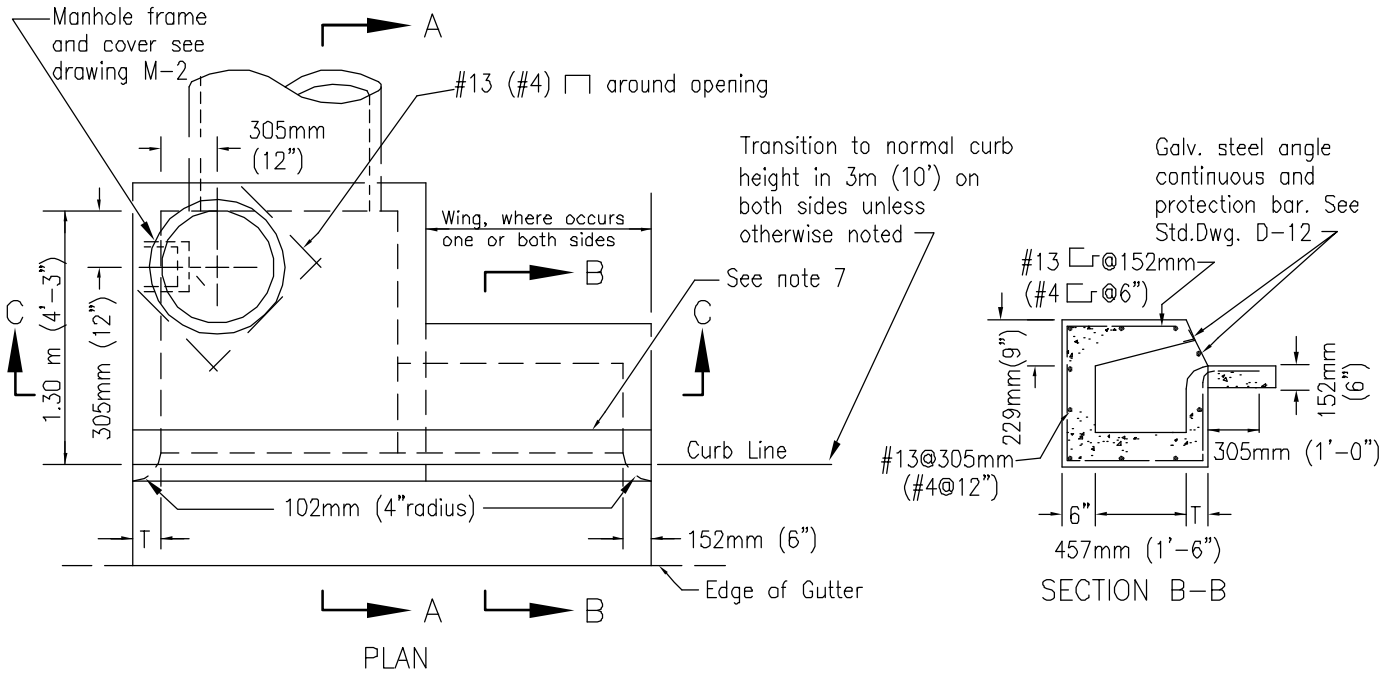
RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE

T. Stanton 3/01/003

Chairperson R.C.E. 19246 Date

DRAWING NUMBER **D-1**

This drawing is **NOT** in conformance with latest UBC and should be used with care and judgment.



Determined by pipe size—1.22m (4') min., 2.44m (8') max.

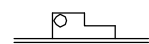
SECTION C-C

SECTION A-A

NOTES

1. See Standard Drawings D-11 & D-12 for additional notes and details.
2. Types are designated as follows: (no wing)B, (one wing)B-1, (two wings)B-2.
3. Maintain 38mm (1-1/2") clear spacing between reinforcing and surface unless otherwise noted.
4. When V exceeds 4' steps shall be installed. See Standard Drawing D-11 for details.
5. Concrete gutter to match adjacent gutters.
6. An expansion joint shall be placed at the ends of the inlet where the curb is to adjoin.
7. Provide 6.35mm (1/4") tooled groove in top slab in line with back of adjacent curb.
8. Surface of top slab shall be sidewalk finished to drain toward street at a slope of 6.35mm (1/4") per foot.
9. Maintain 38mm (1-1/2") clear spacing between reinforcing and surface unless otherwise noted.

LEGEND ON PLANS



Revision	By	Approved	Date
ORIGINAL		Kercheval	12/75
Add Metric		T. Stanton	03/03

SAN DIEGO REGIONAL STANDARD DRAWING

CURB INLET - TYPE B

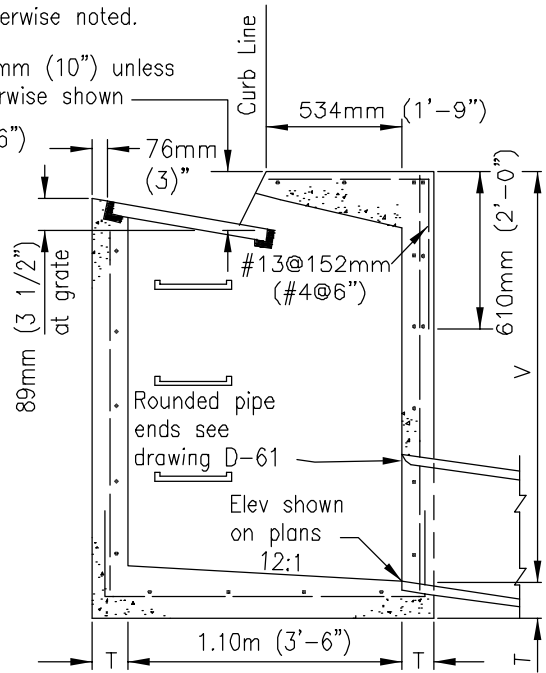
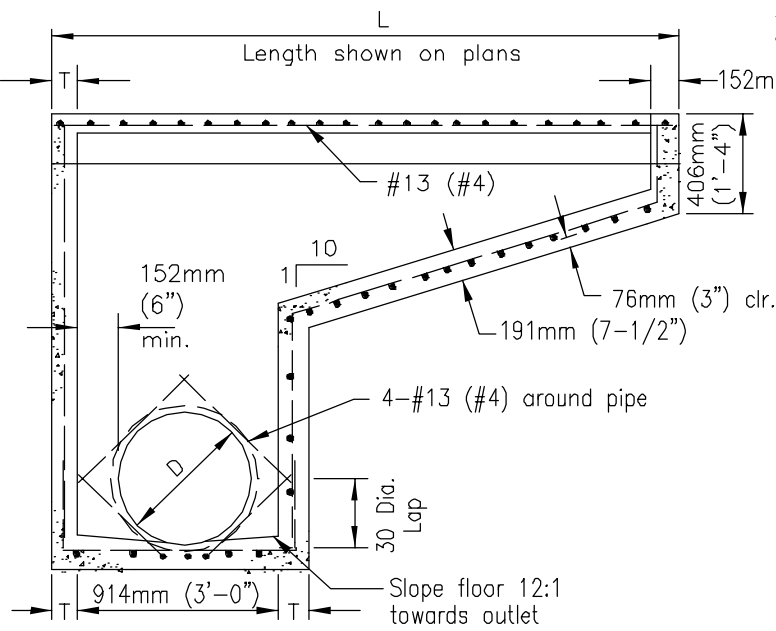
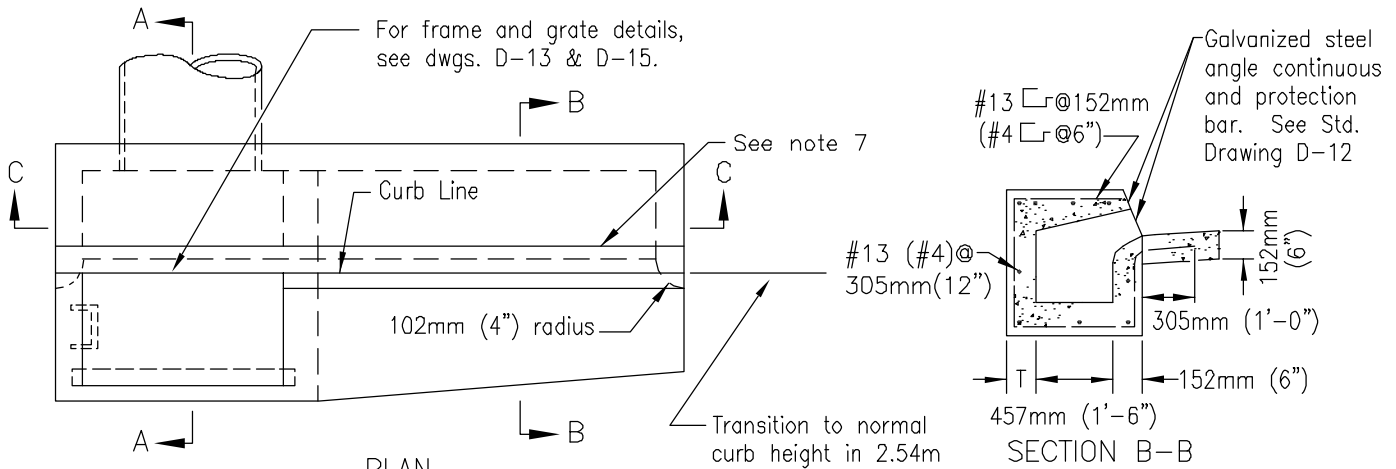
RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE

T. Stanton 3/03/03

Chairperson R.C.E. 19246 Date

DRAWING NUMBER **D-2**

This drawing is **NOT** in conformance with latest UBC and should be used with care and judgment.



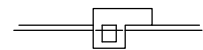
SECTION C-C

SECTION A-A

NOTES

1. See Standard Drawings D-11 through D-15 for additional notes and details.
2. Types are designated as follows: (no wing) C, (one wing) C-1, (two wings) C-2.
3. Exposed edges of concrete shall be rounded with a radius of 13mm (1/2").
4. When V exceeds 1.22m (4') steps shall be installed. See Standard Drawing D-11 for details.
5. Concrete gutter to match adjacent gutters.
6. An expansion joint shall be placed at the ends of the inlet where the curb is to adjoin.
7. Provide 6.35mm (1/4") tooled groove in top slab in line with back of adjacent curb.
8. Surface of top slab shall be sidewalk finished to drain toward street at a slope of 6.35mm (1/4") per foot.
9. Maintain 38mm (1-1/2") clear spacing between reinforcing and surface unless otherwise noted.
10. Where inlet is to be constructed on grade and Standard Drawing D-20 concrete apron is required, lift down-grade end of grate as shown on D-20.

LEGEND ON PLANS



Revision	By	Approved	Date
ORIGINAL		Kercheval	12/75
Add Metric		T. Stanton	03/03

SAN DIEGO REGIONAL STANDARD DRAWING

CURB INLET - TYPE C

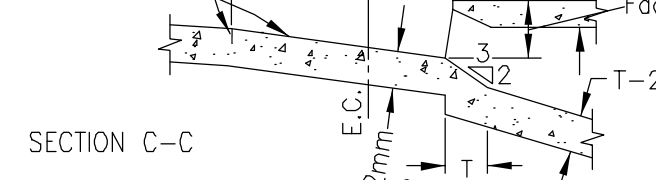
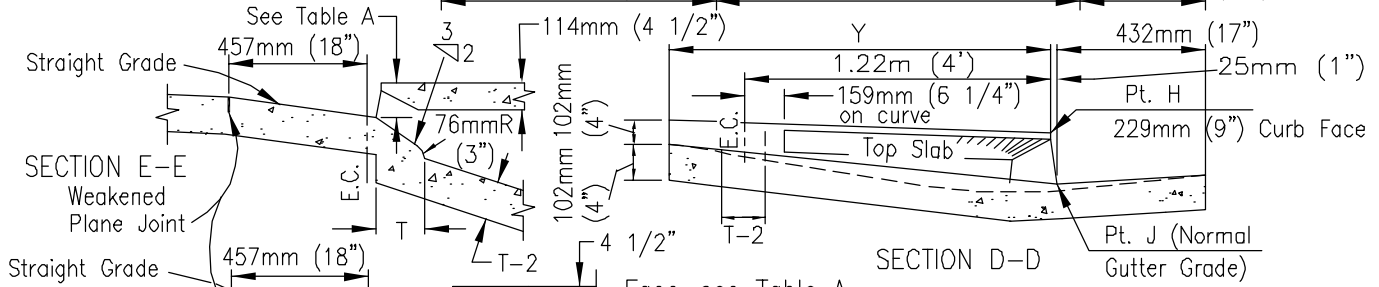
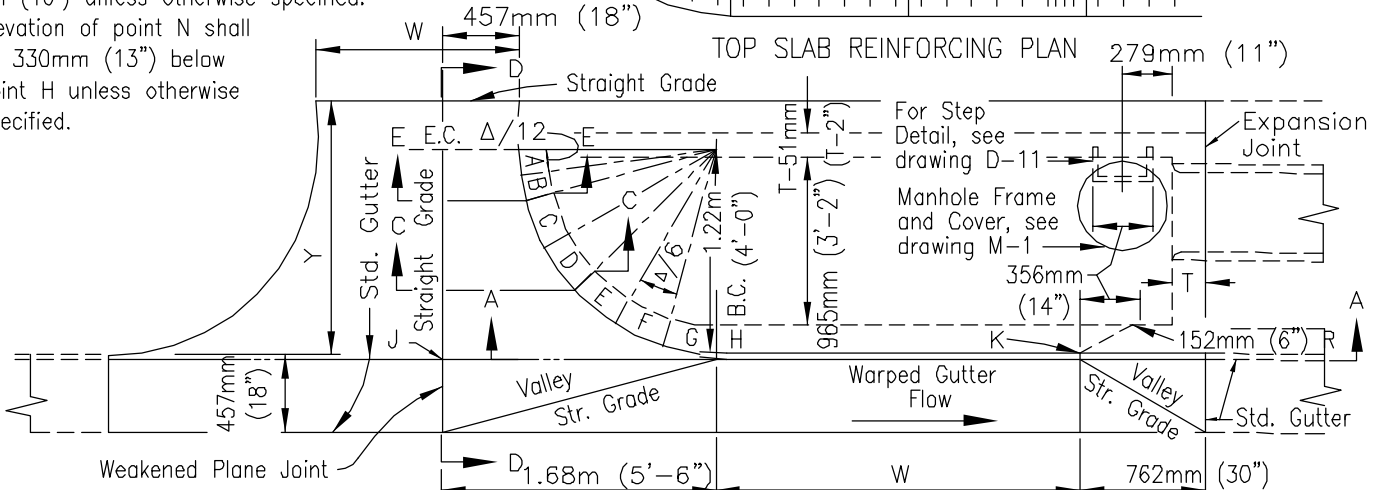
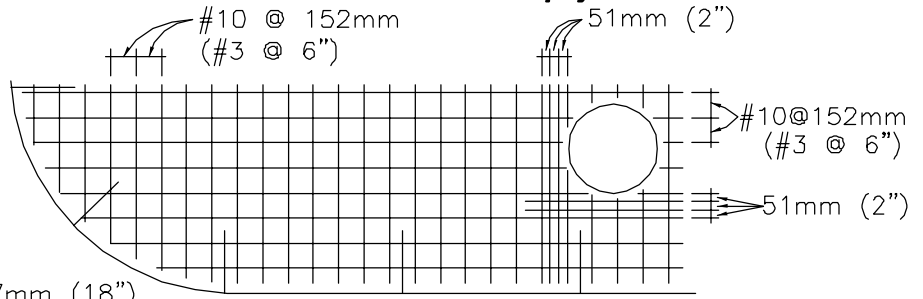
RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE
J. Stanton 31018003
 Chairperson R.C.E. 19246 Date

DRAWING NUMBER **D-3**

This drawing is **NOT** in conformance with latest UBC and should be used with care and judgment.

DIMENSIONS

T=203mm (8") if V is less than 2.44m (8').
 T=254mm (10") if V is 2.44m (8') or more.
 V=1.52m (5') unless otherwise specified.
 V=D + 813mm (32") minimum.
 W=2.13m (7') unless otherwise specified.
 Y=1.52m (5') unless otherwise specified.
 Width of driveway, W, shall be 3m (10') unless otherwise specified.
 Elevation of point N shall be 330mm (13") below point H unless otherwise specified.

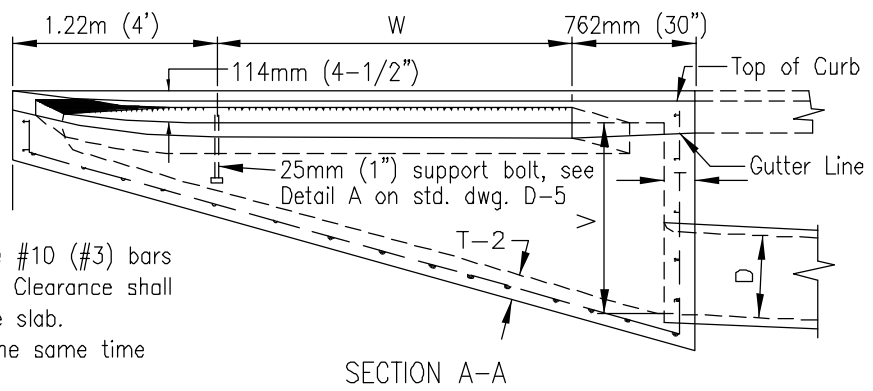


	PT	A	B	C	D	E	F	G	H	K	M
METRIC (mm)	F.C.	114	133	152	191	229	229	229	229	229	203
U.S. (inches)	F.C.	4 1/2	5 1/4	6	7 1/2	9	9	9	9	9	8

TABLE A

NOTES

- Steel Plate should be of one continuous piece with curve portion a circular arc.
Length = Width+457mm (18") + circular arc.
- #13 (#4) rebar 762mm (30") long, 305mm (1") O.C. shall be installed in top of walls for ties to top and gutters.
- The reinforcing steel in the top slab shall be #10 (#3) bars 152mm (6") O.C. unless otherwise specified. Clearance shall be 38mm (1-1/2") from the bottom of the slab.
- Concrete for the inlet top to be placed at the same time as the s/w curb and gutter.
- Concrete shall be 332kg/M3-C-22-Mpa (560-C-3250)
- Exposed edges of concrete shall be rounded with a radius of 13mm (1/2").
- Surface of top slab shall be sidewalk finished to drain toward street at a slope of 6.35mm (1/4" per foot.)



SECTION A-A

Revision	By	Approved	Date
ORIGINAL		Kercheval	12/75
Add Metric		T. Stanton	03/03

SAN DIEGO REGIONAL STANDARD DRAWING

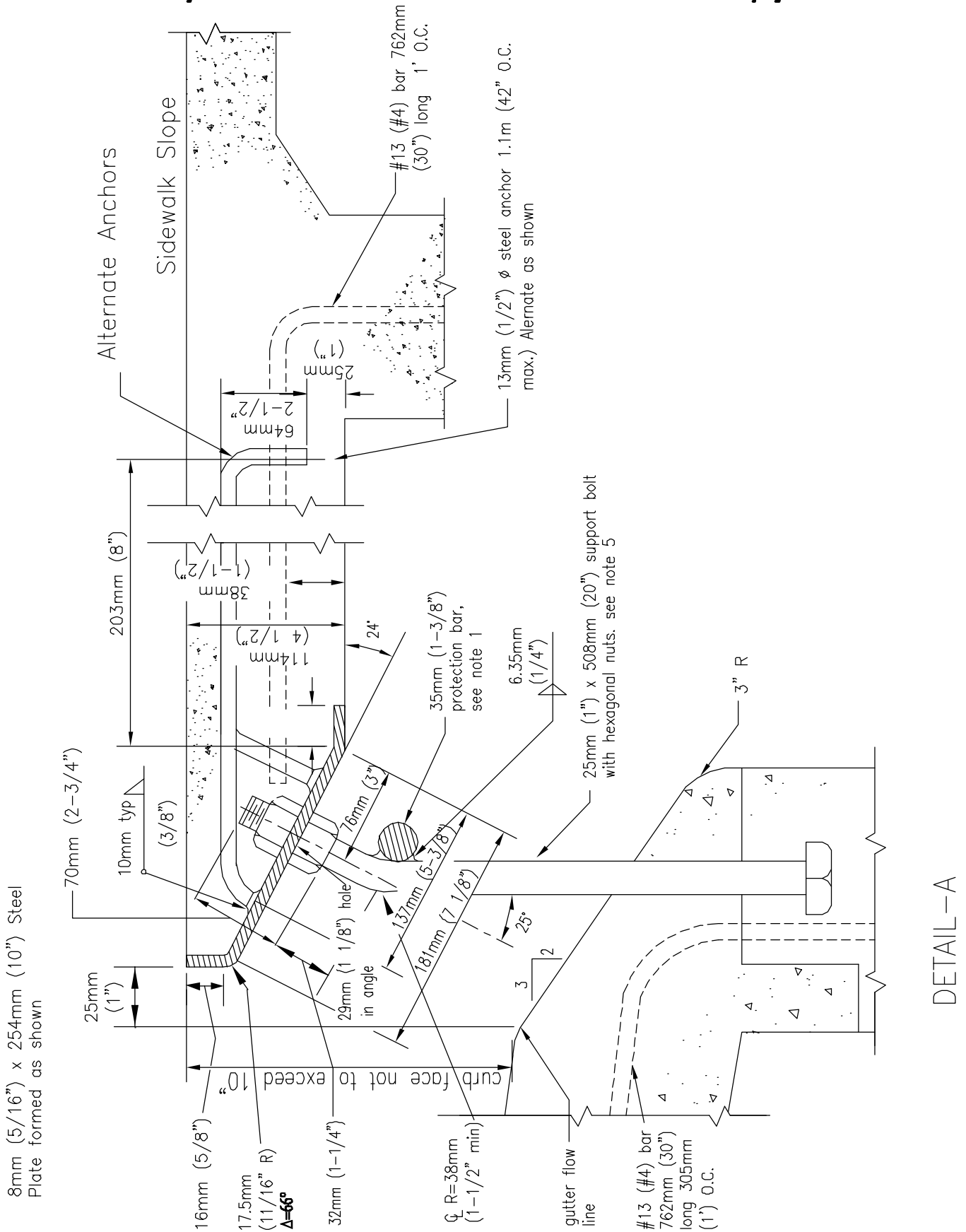
CURB INLET - TYPE D

RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE

T. Stanton 3/03/03
 Chairperson R.C.E. 19246 Date

DRAWING NUMBER **D-4**

This drawing is NOT in conformance with latest UBC and should be used with care and judgment.



DETAIL--A

Revision	By	Approved	Date
ORIGINAL		Kercheval	12/75
Add Metric		T. Stanton	03/03

SAN DIEGO REGIONAL STANDARD DRAWING

CURB INLET - TYPE D (DETAILS)

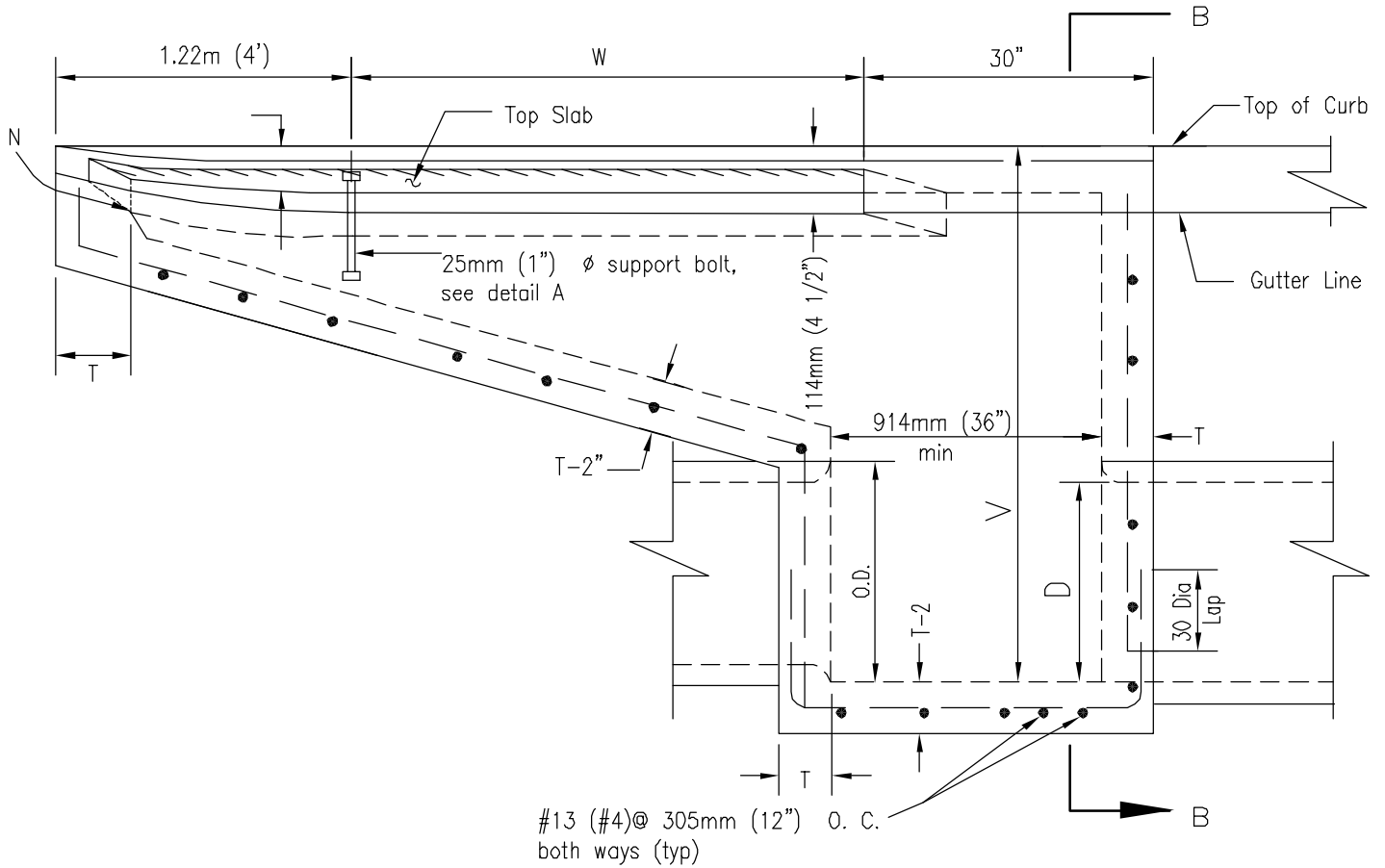
RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE

T. Stanton 5/10/2003

Chairperson R.C.E. 19246 Date

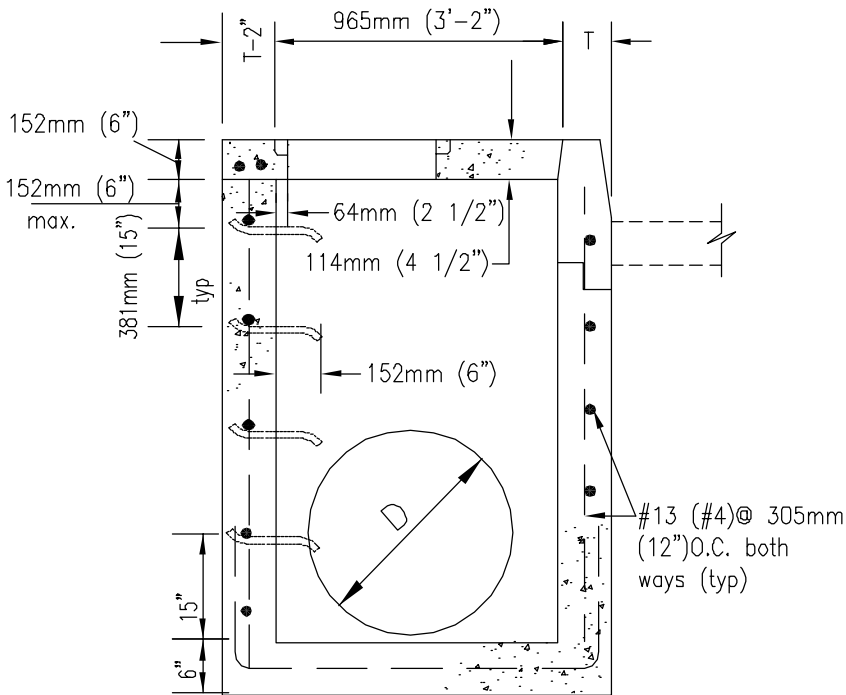
DRAWING NUMBER **D-5A**

This drawing is **NOT** in conformance with latest UBC and should be used with care and judgment.



#13 (#4) @ 305mm (12") O.C. both ways (typ)

SECTION A-A MODIFIED



SECTION B-B

NOTES

1. A plain, round steel protection bar 25mm (1") in dia. shall be installed. Bar shall be embedded 127mm (5") at each end.
2. Leave 203mm (8") hole blocked out in the bottom placing of concrete for bolts placed at the same time as gutter.
3. All exposed metal parts shall be galvanized.
4. All galvanizing damaged by welding shall receive two coats of aluminum paint.
5. Support bolts shall be spaced at not more than 1.52m (5'-0") O.C.
6. Adjusting nuts to be tightened and secured in placed when steel plate is in proper position.

Revision	By	Approved	Date
ORIGINAL		Kercheval	12/75
Add Metric		T. Stanton	03/03

SAN DIEGO REGIONAL STANDARD DRAWING

CURB INLET - TYPE D (DETAILS)

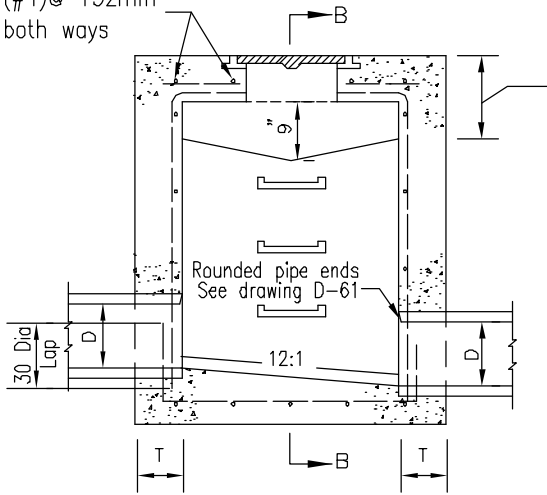
RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE

T. Stanton 51018005
Chairperson R.C.E. 19246 Date

DRAWING NUMBER **D-5B**

This drawing is NOT in conformance with latest UBC and should be used with care and judgment.

#13 (#4)@ 152mm (6") both ways

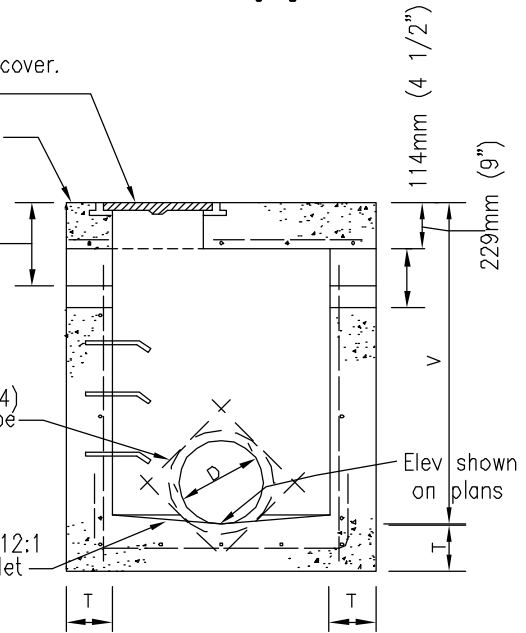


SECTION A-A

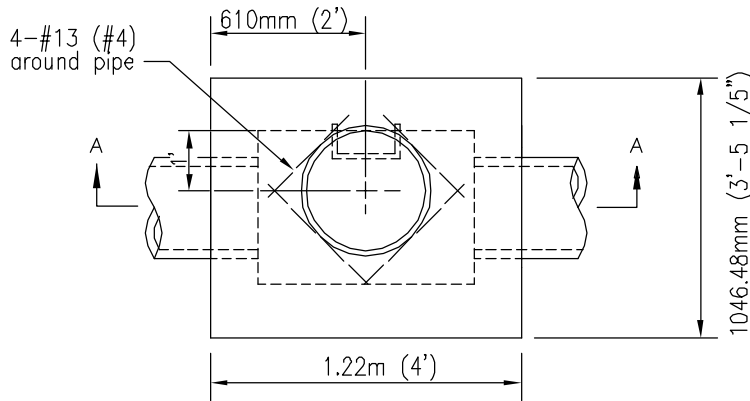
Manhole frame and cover.
See drawing M-2
Elev. shown on plans

279mm (11") unless shown otherwise on plans

4-#13 (#4) around pipe
Slope floor 12:1 towards outlet



SECTION B-B

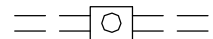


PLAN

NOTE

1. See Standard Drawing D-11 for additional notes and details.
2. When V exceeds 1.22m (4') steps shall be installed. See Standard Drawing D-11 for details.
3. Exposed edges of concrete shall be rounded with a radius of 13mm (1/2").
4. Construct openings on both sides unless otherwise shown on plans.
5. Maintain 38mm (1-1/2") clear spacing between reinforcing and surface.
6. Install 1"Ø steel protection bar

LEGEND ON PLANS



Revision	By	Approved	Date
ORIGINAL		Kercheval	12/75
Add Metric		T. Stanton	03/03

SAN DIEGO REGIONAL STANDARD DRAWING

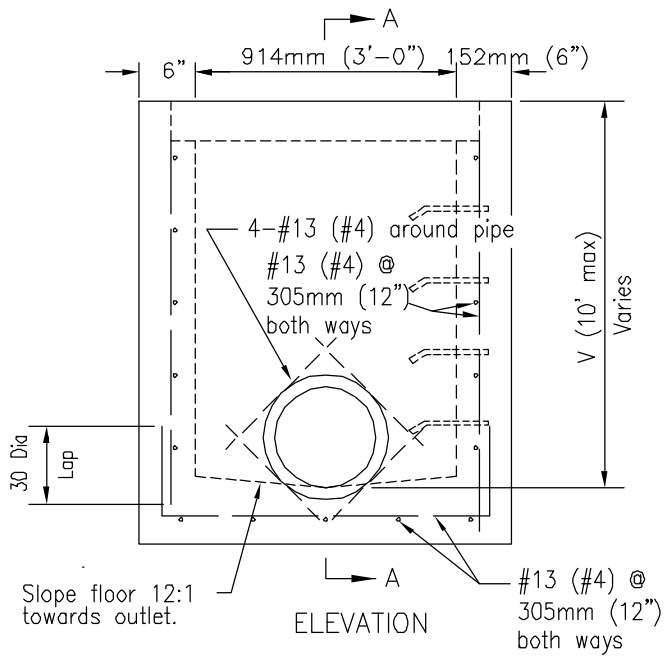
CATCH BASIN - TYPE F

RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE

T. Stanton 31018005
Chairperson R.C.E. 19246 Date

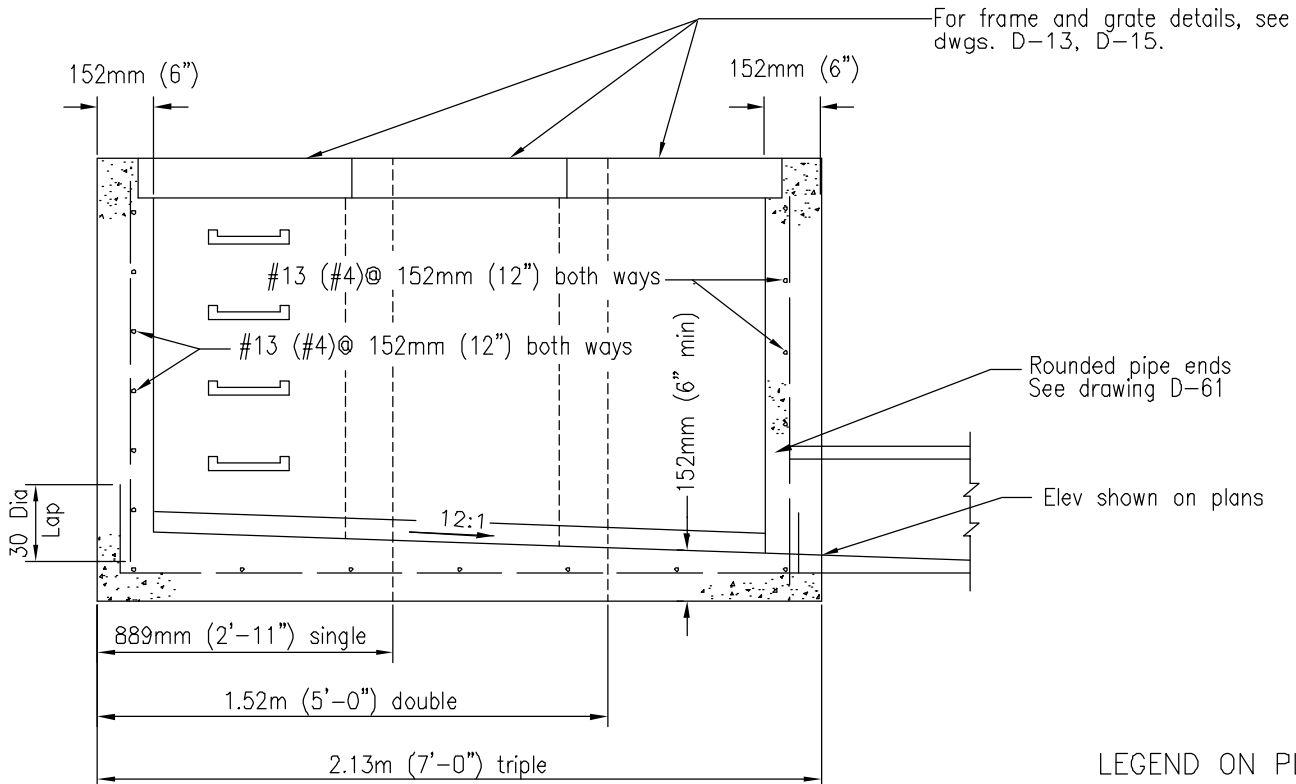
DRAWING NUMBER **D-7**

This drawing is NOT in conformance with latest UBC and should be used with care and judgment.



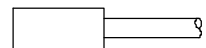
NOTES

1. See Standard Drawing D-11 for additional notes and details.
2. When V exceeds 1.22m (4'), steps shall be installed. See Standard Drawing D-11 for details.
3. Maintain 38mm (1-1/2") clear spacing between reinforcing and surface.
4. Increase in allowable depth subject to approval by Agency.
5. Section A-A shows 3 sizes and shall not imply that an interior wall is to be built for the structures with double or triple frame and grate.
6. Exposed edges of concrete shall be rounded with radius of 13mm (1/2").
7. Designate types as follows: Single G-1, Double G-2 and Triple G-3.
8. Only end bearing grates shall be used. See Std. Drawing D-15.



SECTION A-A

LEGEND ON PLANS



Revision	By	Approved	Date
ORIGINAL		Kercheval	12/75
Add Metric		T. Stanton	03/03

SAN DIEGO REGIONAL STANDARD DRAWING

CATCH BASIN - TYPE G

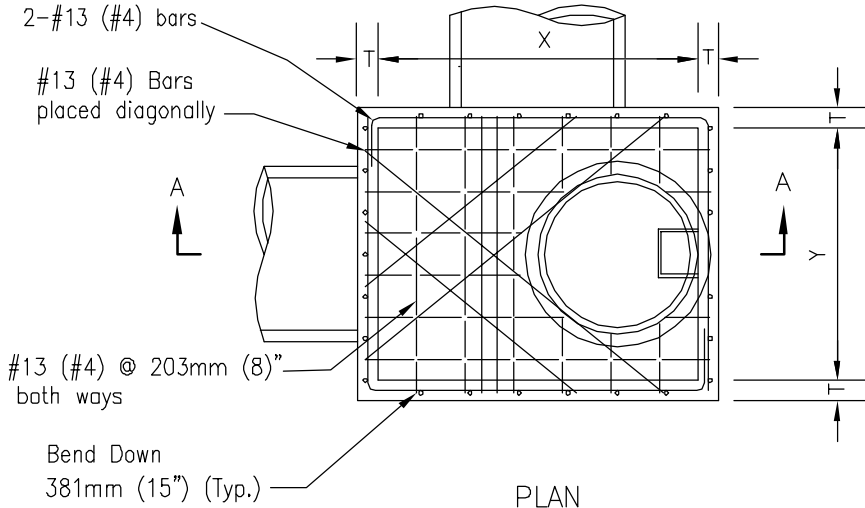
RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE

T. Stanton 3/01/2003

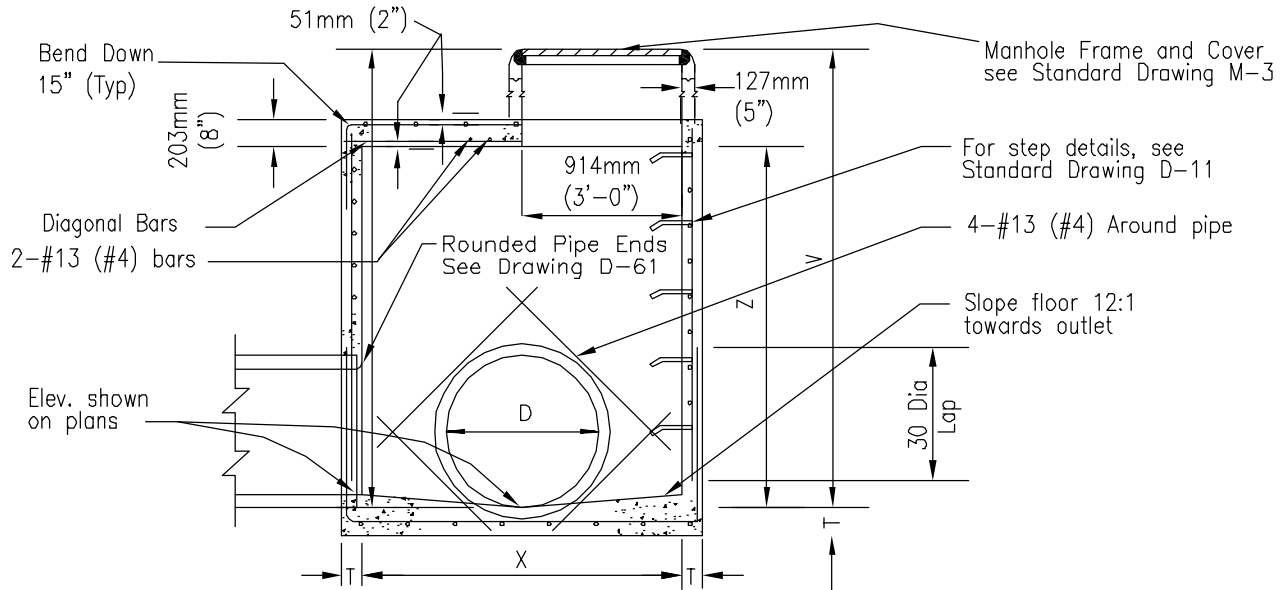
Chairperson R.C.E. 19246 Date

DRAWING NUMBER **D-8**

This drawing is **NOT** in conformance with latest UBC and should be used with care and judgment.



TYPE	PIPE DIA.	X	Y	Z
A 4	up to 991mm (39")	1.22m (4')	1.22m (4')	1.83m (6')
A 5	1.1m (42") to 1.22m (48")	1.52m (5')	1.22m (4')	1.83m (6')
A 6	1.30m (51") to 1.50m (60")	1.83m (6')	1.22m (4')	1.83m (6')
A 7	1.60m (63") to 1.80m (72")	2.13m (7')	1.22m (4')	2.13m (7')
A 8	1.90m (75") to 2.13m (84")	2.44m (8')	1.22m (4')	2.44m (8')

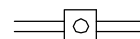


NOTES

SECTION A-A

1. See Standard Drawing D-11 for additional notes and details.
2. Concrete base shall be 332kg/M3-C-22Mpa (560-C-3250)
3. All precast components shall be reinforced with 6.35mm (1/4") diameter steel, wound spirally on 102mm (4") centers.
4. All joints shall be set in Class C mortar.
5. Maintain 38mm (1 1/2") clear spacing between reinforcing and surface unless otherwise noted.
6. Exposed edges of concrete shall be rounded with a radius of 13mm (1/2").

LEGEND ON PLANS



Revision	By	Approved	Date
ORIGINAL		Kercheval	12/75
Add Metric		T. Stanton	03/03

SAN DIEGO REGIONAL STANDARD DRAWING

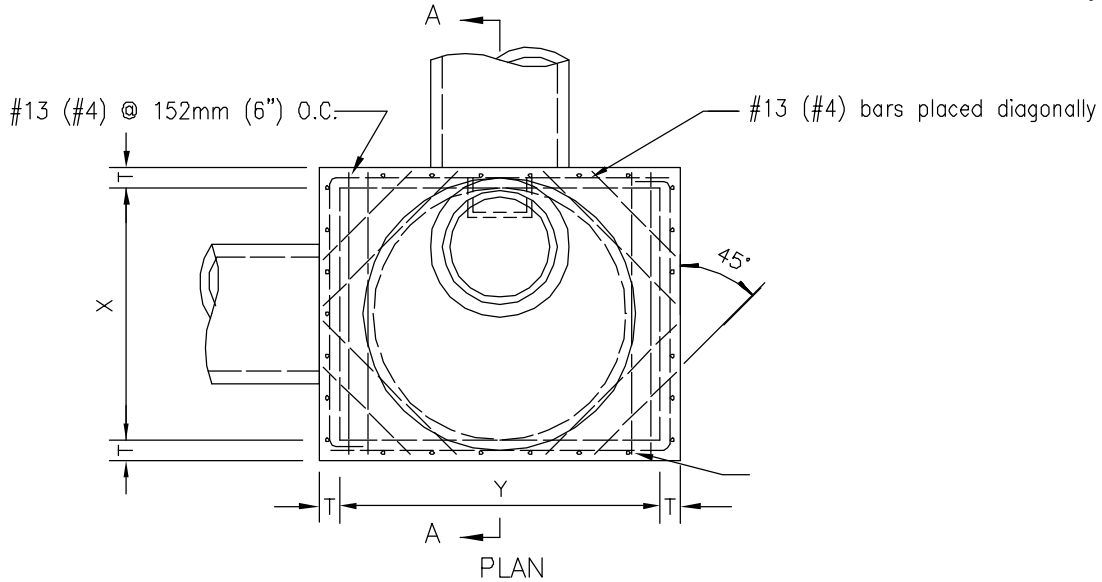
STORM DRAIN CLEANOUT - TYPE A

RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE

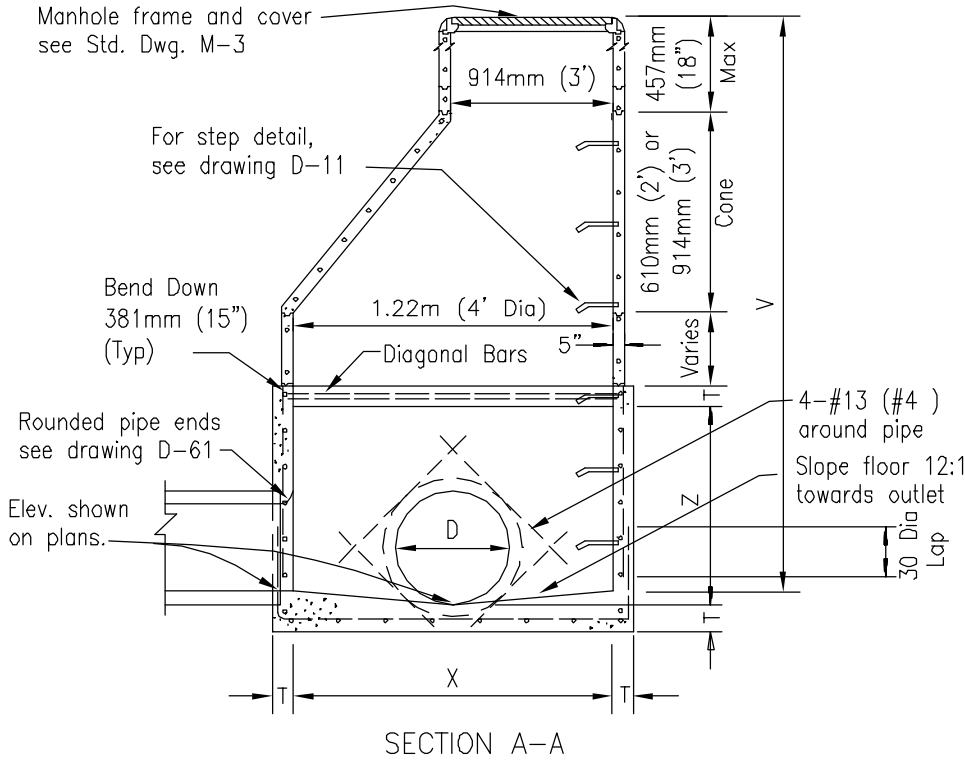
T. Stanton 3/03/03
 Chairperson R.C.E. 19246 Date

DRAWING NUMBER **D-9**

This drawing is NOT in conformance with latest UBC and should be used with care and judgment.



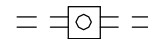
TYPE	PIPE DIA.	X	Y	Z
A 4	up to 1.30m (51")	1.22m (4')	1.53m (5')	1.53m (5')
A 5	1.37m (54") to 1.52m (60")	1.22m (4')	1.83m (6')	1.83m (6')
A 6	1.60m (63") to 1.80m (69")	1.22m (4')	2.13m (7')	2.13m (7')
A 7	1.83m (72") to 2.10m (81")	1.22m (4')	2.44m (8')	2.44m (8')
A 8	2.13m (84") to 2.30m (90")	1.22m (4')	2.74m (9')	2.74m (9')



NOTES

1. See Standard Drawing D-11 for additional notes and details.
2. All joints shall be set in Class C mortar.
3. All precast components shall be reinforced with 6.35mm (1/4") diameter steel wound spirally on 102mm (4") centers.
4. Maintain 38mm (1-1/2") clear spacing between reinforcing and surface.
5. Concrete base shall be 332kg/M3-C-22-Mpa (560-C-3250).
6. Exposed edges of concrete shall be rounded with a radius of 13mm (1/2").
7. Manhole cover to be designated "Storm Drain".

LEGEND ON PLANS



Revision	By	Approved	Date
ORIGINAL		Kercheval	12/75
Add Metric		T. Stanton	03/03

SAN DIEGO REGIONAL STANDARD DRAWING

STORM DRAIN CLEANOUT - TYPE B

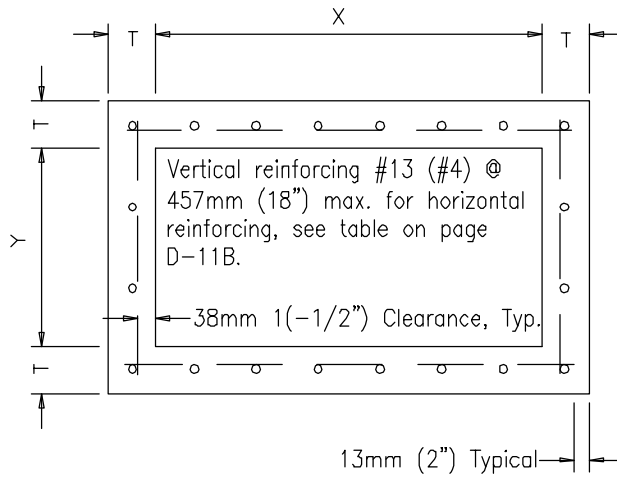
RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE

T. Stanton 31018003

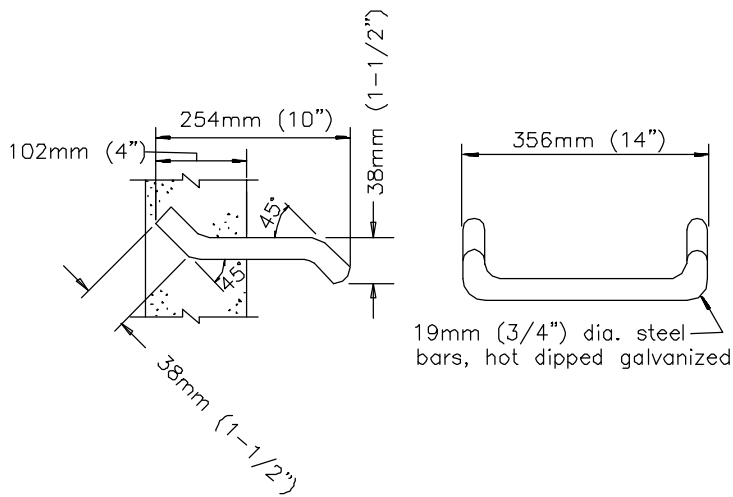
Chairperson R.C.E. 19246 Date

DRAWING NUMBER **D-10**

This drawing is **NOT** in conformance with latest UBC and should be used with care and judgment.



TYPICAL BOX SECTION



STEP DETAIL

NOTES

1. Concrete shall be 332kg/M3-C-22-Mpa (560-C-3250) unless otherwise noted.
2. Reinforcing steel shall comply with this drawing unless otherwise specified.
3. Reinforcing steel shall be intermediate grade deformed bars conforming to latest ASTM specifications.
4. Bends shall be in accordance with latest ACI code.
5. Minimum splice length for reinforcing shall be 30 diameters.
6. Floor shall have a wood trowel finish and, except where used as junction boxes, shall have a minimum slope of 1 inch per foot toward the outlet.
7. Depth V is measured from the top of the structure to the flowline of the box.
8. Wall thickness and reinforcing steel required may be decreased in accordance with table above.
9. Wall thickness shall be stepped on the outside of the box.
10. When the structure depth V exceeds 4 feet, steps shall be cast into the wall at 381mm (15") intervals from 381mm (15") above floor to within 305MM (12) inches of top of structure. Where possible place steps in wall without pipe opening, otherwise over opening of smallest diameter.
11. Alternate step may be an approved steel reinforced polypropylene step.
12. Upon approval of the Agency and the Engineer, as defined by Section 6703 of the Business and Professions Code, the use of precast storm structures is acceptable as an alternate to cast-in-place. Precast units shall conform to ASTM standards and be manufactured in a permanent facility designed for that purpose.

Revision	By	Approved	Date
ORIGINAL		Kercheval	12/75
Add Metric		T. Stanton	03/03

SAN DIEGO REGIONAL STANDARD DRAWING

**INLETS AND CLEANOUTS
NOTES AND DETAILS**

RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE


 Chairperson R.C.E. 19246 Date

DRAWING NUMBER **D-11A**

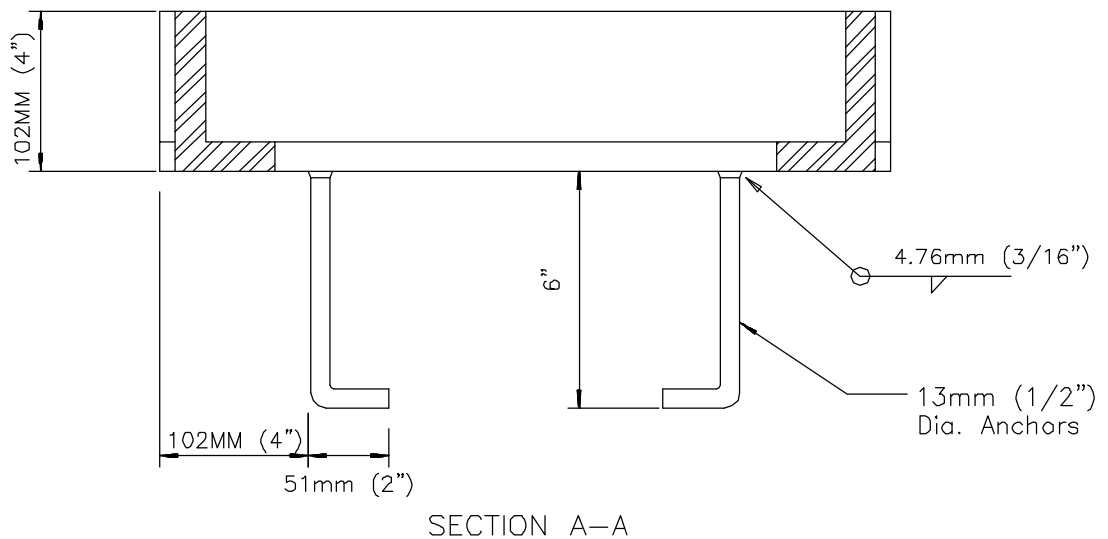
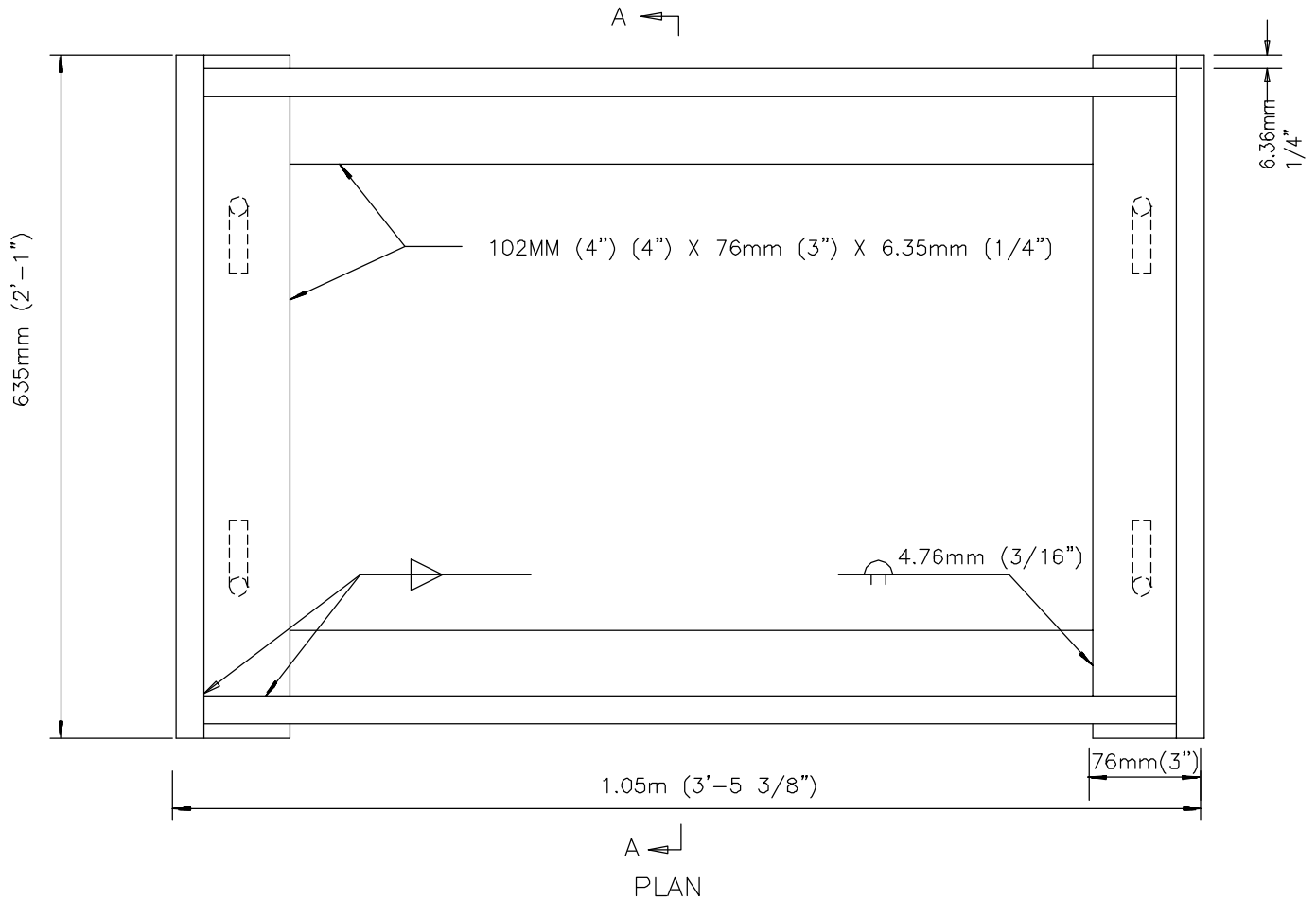
This drawing is NOT in conformance with latest UBC and should be used with care and judgment.

BOX SECTION REINFORCEMENT			
MAXIMUM SPAN X or Y	DEPTH V	THICKNESS T	HOR. & FLR. REINF.
914mm (3'-0") to 1.22m (4'-0")	1.22m (4'-0")	152mm (6")	#13 (#4) @ 457mm (18")
1.24m (4'-1") to 2.13m (7'-0")		152mm (6")	#13 (#4) @ 305mm (12")
2.16m (7'-1") to 2.44m (8'-0")		152mm (6")	#13 (#4) @ 203mm (8")
914mm (3'-0") to 1.22m (4'-0")	1.24m to 2.44m (4'-1" to 8'-0")	152mm (6")	#13 (#4) @ 457mm (18")
1.24m (4'-1") to 1.52m (5'-0")		152mm (6")	#13 (#4) @ 305mm (12")
1.55m (5'-1") to 1.83m (6'-0")		152mm (6")	#13 (#4) @ 203mm (8")
1.85m (6'-1") to 2.44m (8'-0")		152mm (6")	#13 (#4) @ 152mm (6")
914mm (3'-0") to 1.22m (4'-0")	2.46m to 3.66m (8'-1" to 12'-0")	152mm (6")	#13 (#4) @ 381mm (15")
1.24m (4'-1") to 1.52m (5'-0")		203mm (8")	#13 (#4) @ 305mm (12")
1.55m (5'-1") to 1.83m (6'-0")		203mm (8")	#13 (#4) @ 203mm (8")
1.85m (6'-1") to 2.44m (8'-0")		203mm (8")	#13 (#4) @ 152mm (6")
914mm (3'-0") to 1.22m (4'-0")	3.68m to 4.88m 12'-1" to 16'-0"	203mm (8")	#13 (#4) @ 305mm (12")
1.24m (4'-1") to 1.52m (5'-0")		203mm (8")	#13 (#4) @ 305mm (12")
1.55m (5'-1") to 1.83m (6'-0")		203mm (8")	#13 (#4) @ 203mm (8")
1.85m (6'-1") to 2.13m (7'-0")		203mm (8")	#13 (#4) @ 152mm (6")
2.13m (7'-1") to 2.44m (8'-0")		203mm (8")	#13 (#5) @ 203mm (8")
914mm (3'-0") to 1.22m (4'-0")	4.90m to 6.10m 16'-1" to 20'-0"	203mm (8")	#13 (#4) @ 305mm (12")
1.24m (4'-1") to 1.52m (5'-0")		254mm (10")	#13 (#4) @ 305mm (12")
1.55m (5'-1") to 1.83m (6'-0")		254mm (10")	#13 (#4) @ 203mm (8")
1.85m (6'-1") to 2.13m (7'-0")		254mm (10")	#13 (#4) @ 152mm (6")
2.13m (7'-1") to 2.44m (8'-0")		254mm (10")	#13 (#5) @ 203mm (8")
914mm (3'-0") to 1.22m (4'-0")	6.12m to 7.32m 20'-1" to 24'-0"	203mm (8")	#13 (#4) @ 305mm (12")
1.24m (4'-1") to 1.52m (5'-0")		254mm (10")	#13 (#4) @ 305mm (12")
1.55m (5'-1") to 1.83m (6'-0")		254mm (10")	#13 (#4) @ 203mm (8")
1.85m (6'-1") to 2.13m (7'-0")		254mm (10")	#13 (#4) @ 152mm (6")
2.13m (7'-1") to 2.44m (8'-0")		305mm (12")	#13 (#5) @ 203mm (8")

HORIZONTAL REINFORCING

Revision	By	Approved	Date	SAN DIEGO REGIONAL STANDARD DRAWING	RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE	
ORIGINAL		Kercheval	12/75		INLETS AND CLEANOUTS NOTES AND DETAILS	 31018005
Add Metric		T. Stanton	03/03	Chairperson R.C.E. 19246 Date		
				DRAWING NUMBER		D-11B

This drawing is NOT in conformance with latest UBC and should be used with care and judgment.



NOTE
Hot dip galvanize all parts after fabrication.

Revision	By	Approved	Date
ORIGINAL		Kercheval	12/75
Add Metric		T. Stanton	03/03

SAN DIEGO REGIONAL STANDARD DRAWING

WELDED STEEL GRATE FRAME

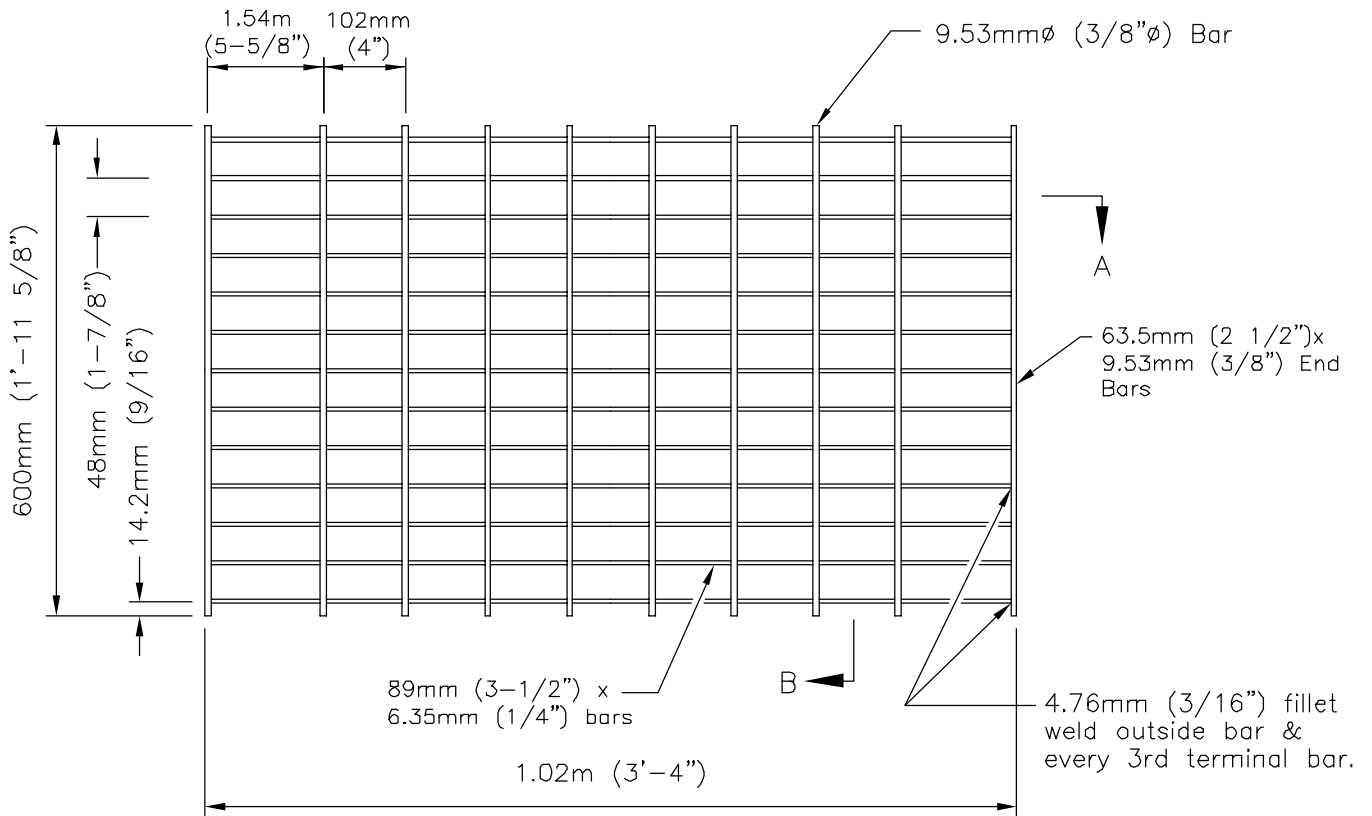
RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE

T. Stanton 5/10/2003

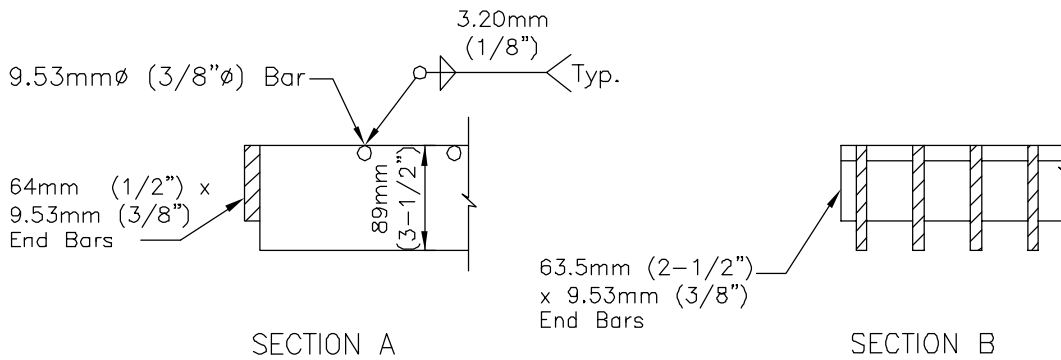
Chairperson R.C.E. 19246 Date

DRAWING NUMBER **D-13**

This drawing is NOT in conformance with latest UBC and should be used with care and judgment.



PLAN



SECTION A

SECTION B

NOTES

1. Hot dip galvanize all parts after fabrication.
2. Dimensions to centerline of bars unless otherwise noted.
3. Weight: 64kg (141) pounds.
4. Not to be used in pedestrian areas.

Revision	By	Approved	Date
ORIGINAL		Kercheval	12/75
Add Metric		T. Stanton	03/03

SAN DIEGO REGIONAL STANDARD DRAWING

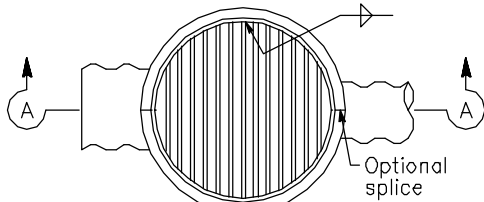
DRAINAGE STRUCTURE GRATE

RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE

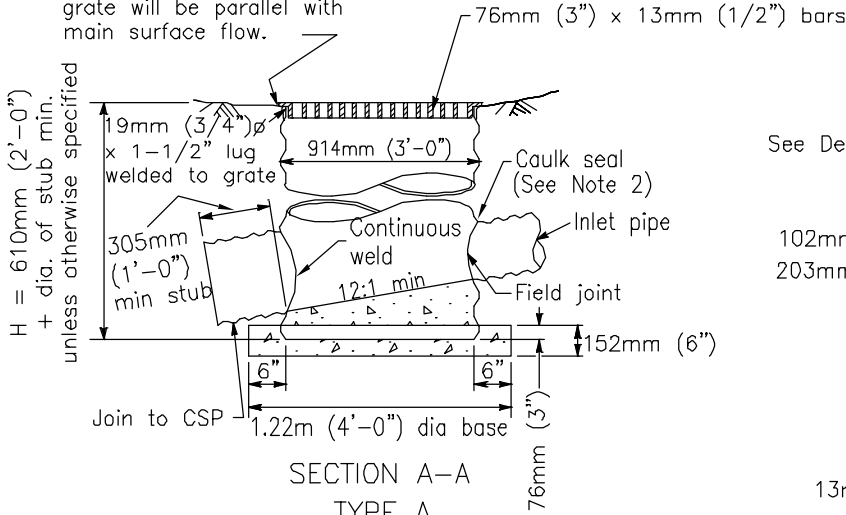
T. Stanton 3/03/03
Chairperson R.C.E. 19246 Date

DRAWING NUMBER **D-15**

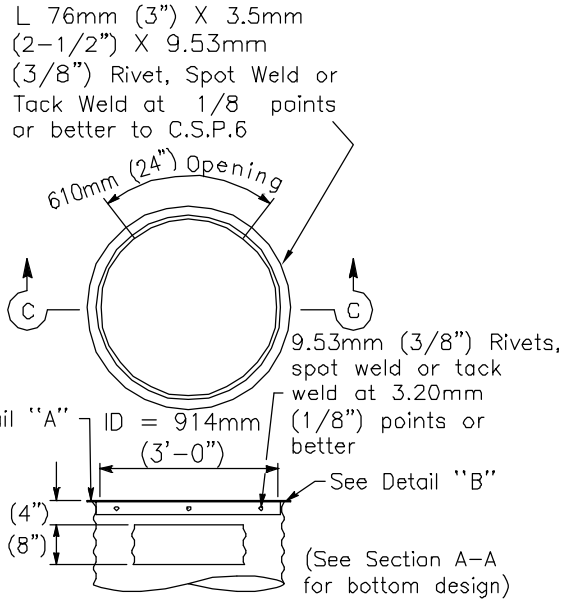
This drawing is **NOT** in conformance with latest UBC and should be used with care and judgment.



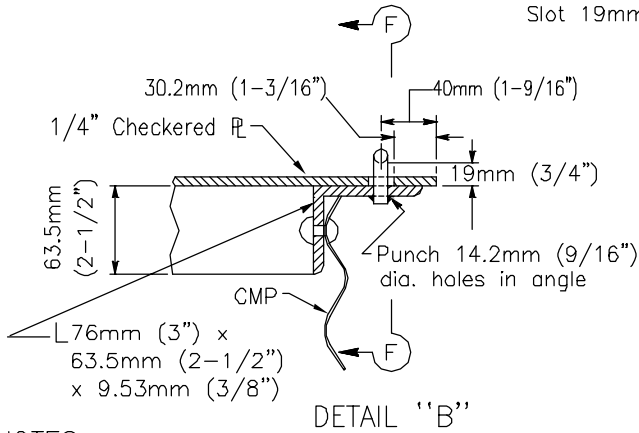
Punch 25mm (1") hole in CSP
Place pipe so bars of grate will be parallel with main surface flow.



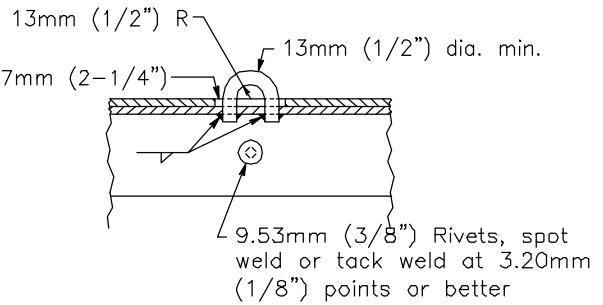
SECTION A-A
TYPE A



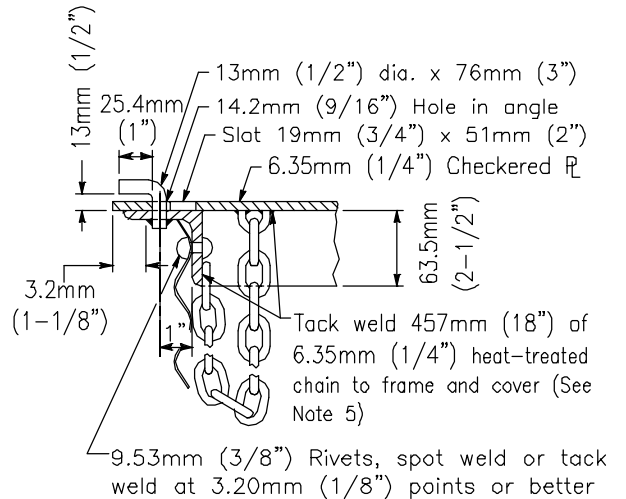
SECTION C-C
TYPE B



DETAIL "B"



SECTION F-F



DETAIL "A"

NOTES

- All components shall be galvanized.
- Inlet and outlet pipes shall be set at factory and positioned as shown on plans
- Ladders and Steps: None required where "H" is 1.10m (3'-6") or less. Where "H" is between 1.10m (3'-6") and 1.50m (4'-11") place one step + 406mm (16") above the floor. If "H" is 1.52m (5') or more install a ladder placing lowest rung 406mm (16") above the floor and the highest rung not more than 356mm (14") below top of inlet. Place single step or ladder in wall with wall opening.
- See Standard Drawing D-17 for additional details.
- Grate to be provided when specified.
- Grate detail shall be as shown on Standard Drawing D-17 unless otherwise approved by Agency.

Revision	By	Approved	Date
ORIGINAL		Kercheval	12/75
Add Metric		T. Stanton	03/03

SAN DIEGO REGIONAL STANDARD DRAWING

**CORRUGATED STEEL PIPE INLETS
TYPES A AND B**

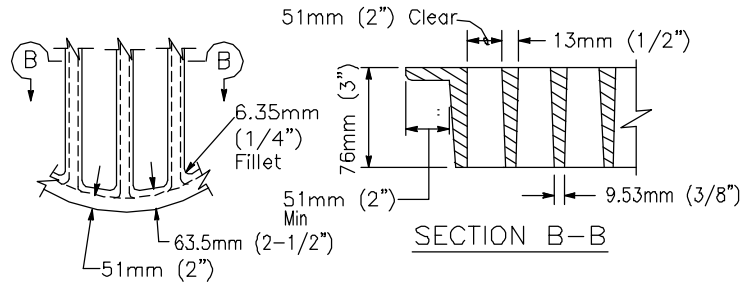
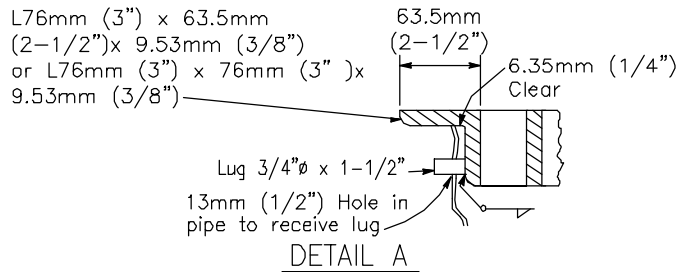
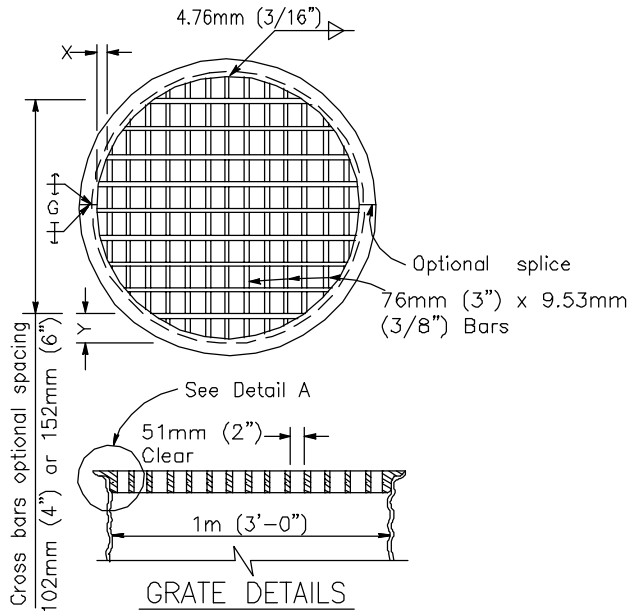
RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE

T. Stanton 5/18/03

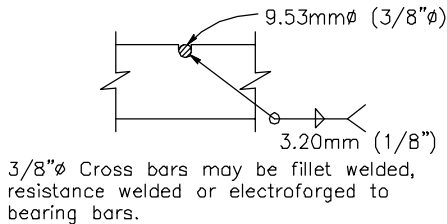
Chairperson R.C.E. 19246 Date

DRAWING NUMBER **D-16**

This drawing is NOI in conformance with latest UBC and should be used with care and judgment.

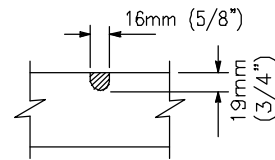


ALTERNATIVE CAST NODULAR IRON GRATE
OR CAST STEEL GRATE



3/8" ϕ Cross bars may be fillet welded, resistance welded or electroforged to bearing bars.

CROSS BAR DETAIL TYPE
WELDED STEEL GRATE



CROSS BAR DETAIL
ALTERNATIVE CAST NODULAR
IRON GRATE OR CAST STEEL GRATE

GRATE BAR SPACING TABLE

TYPE	NO. OF BARS	CLEAR BAR SPACING	X	Y	
				4" SPACING	6" SPACING
Welded Steel	15	51mm (2")	14.2mm (9/16")	95mm (3-3/4")	146mm (5-3/4")
Cast	13	51mm (2")	54mm (2-1/8")	95mm (3-3/4")	146mm (5-3/4")

Revision	By	Approved	Date
ORIGINAL		Kercheval	12/75
Add Metric		T. Stanton	03/03

SAN DIEGO REGIONAL STANDARD DRAWING

CORRUGATED STEEL PIPE INLETS
DETAILS

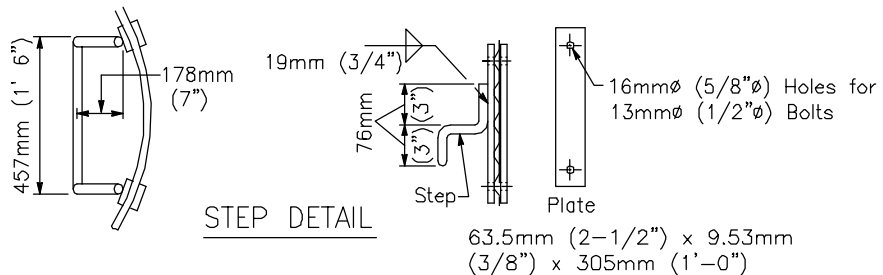
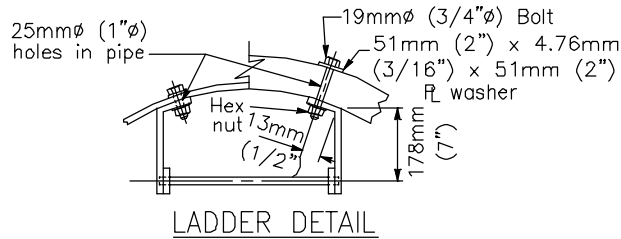
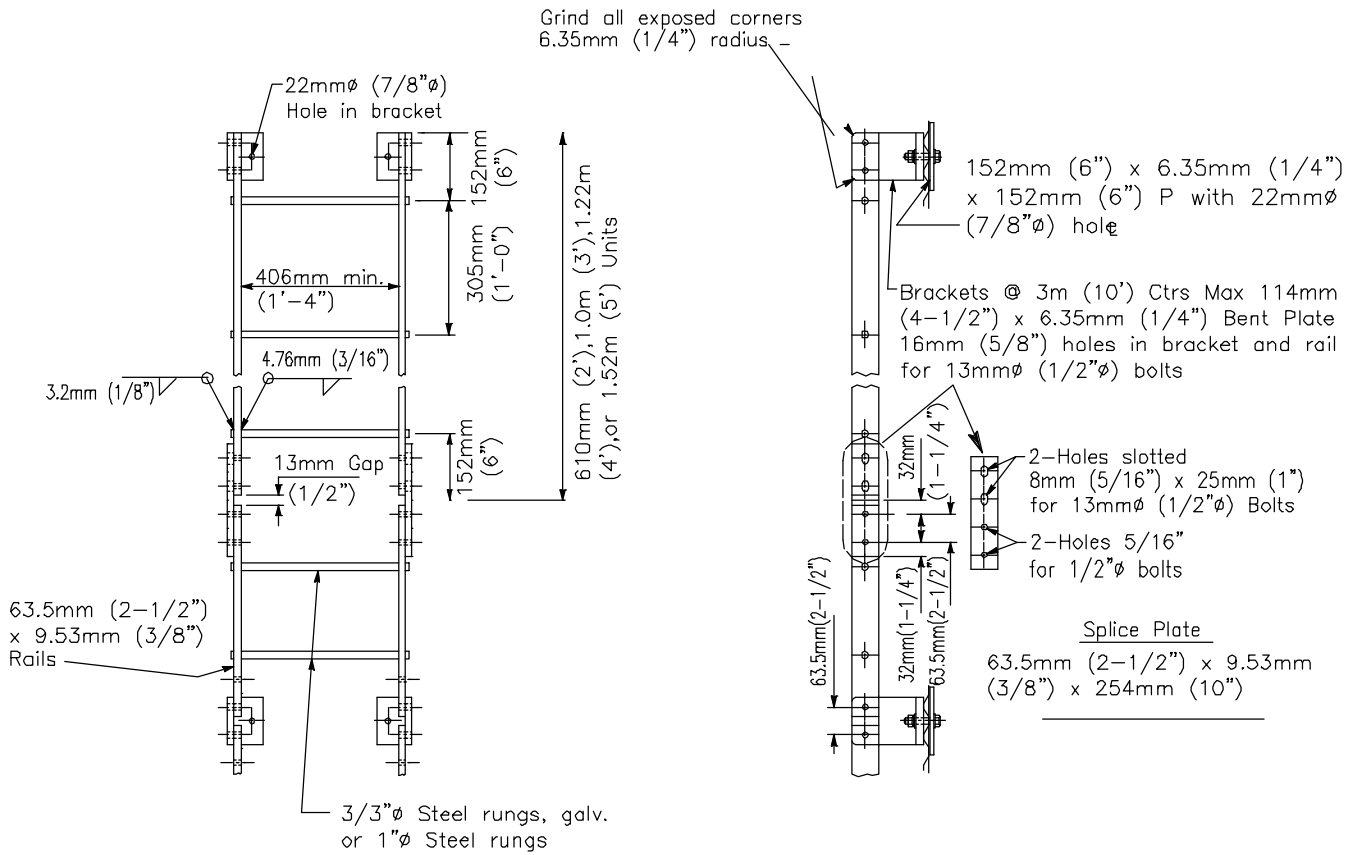
RECOMMENDED BY THE SAN DIEGO
REGIONAL STANDARDS COMMITTEE

T. Stanton 5/10/8003

Chairperson R.C.E. 19246 Date

DRAWING
NUMBER D-17A

This drawing is **NOT** in conformance with latest UBC and should be used with care and judgment.



Revision	By	Approved	Date
ORIGINAL		Kercheval	12/75
Add Metric		T. Stanton	03/03

SAN DIEGO REGIONAL STANDARD DRAWING

**CORRUGATED STEEL PIPE INLETS
DETAILS**

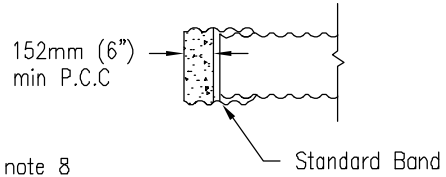
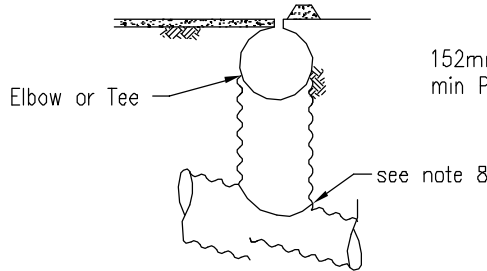
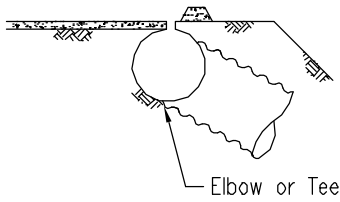
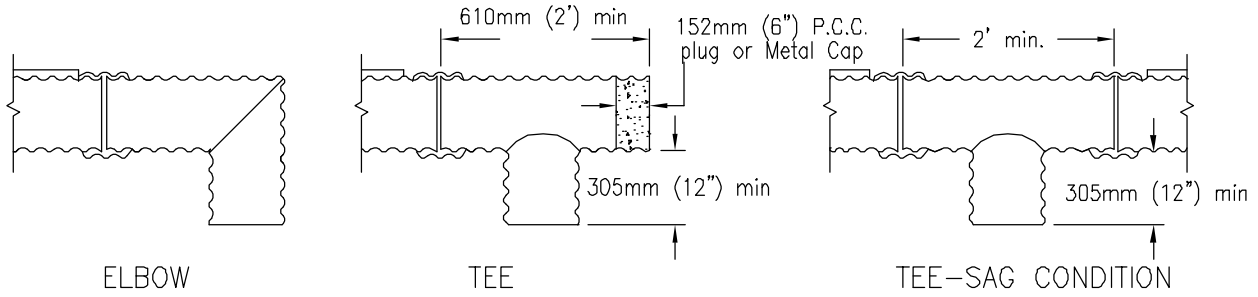
RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE

T. Stanton 31018005

Chairperson R.C.E. 19246 Date

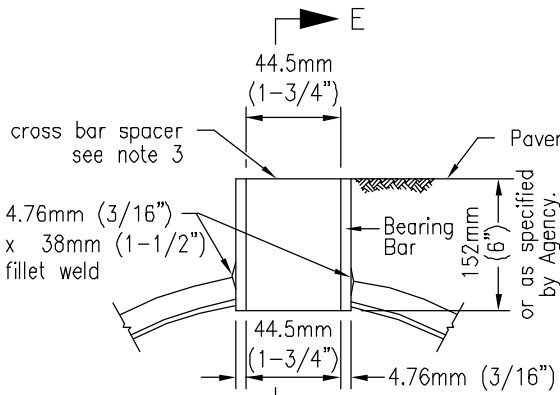
DRAWING NUMBER **D-17B**

This drawing is **NOT** in conformance with latest UBC and should be used with care and judgment.



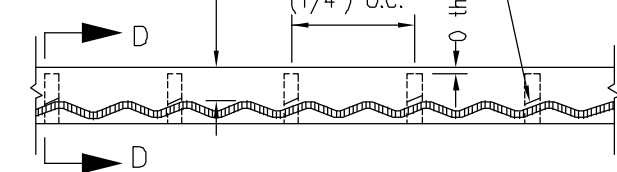
BAND PLUG

OVERSIDE DRAIN

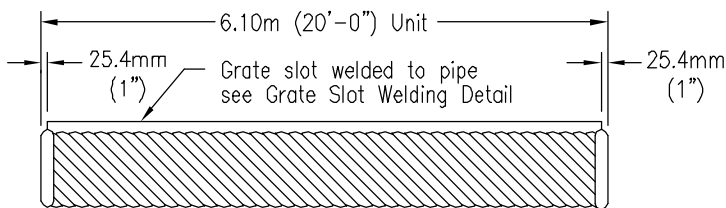


SECTION D-D GRATE SLOT DETAIL

44.5mm (1-3/4") ±3.20mm (1/8")
 152mm (6") ±6.35mm (1/4") O.C.
 0 thru 1.59mm (1/16")
 Min. weld length 38mm (1-1/2"); weld size 4.76mm (3/16") min. @ ea. cross bar

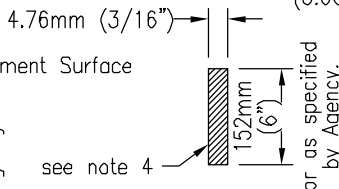


GRATE SLOT WELDING DETAIL

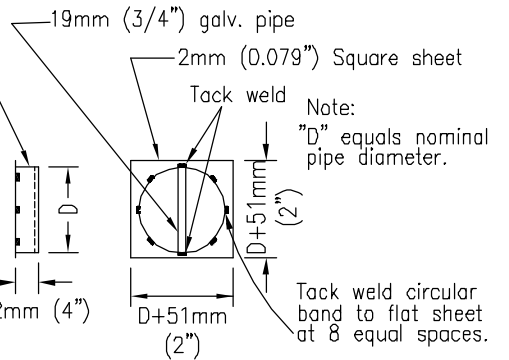


GRATE SLOT DRAIN

RISER



SECTION E-E



METAL CAP DETAIL

NOTES

1. Drain seams may be riveted or resistance spotwelded at equal centers, continuous helical lock seam or helical welded seam.
2. Each drain section shall be assembled with standard coupling bands.
3. Cross bar spacer of grate shall be pressure fusion or plug welded to bearing bars in such a manner as to develop the strength of the cross bar spacer.
4. Cross bar spacer (Section E-E) may differ from that shown provided section area is equal or greater.
5. Grate material shall be a weldable grade of steel complying to the requirements of ASTM A 36.
6. The maximum variance from a straight line from the extreme top corners of the bearing bar shall be 13mm (1/2") in 6.1m (20 feet).
7. Installation lengths shall be 3m (10') or multiples thereof.
8. Either field joint sealed with a pliable mixture of sand, portland cement and emulsified asphalt (Mixture of 1 part portland cement, 3 - 5 parts sand and 1-1/2 parts SSI emulsified asphalt), or continuous weld.

Revision	By	Approved	Date
ORIGINAL		Kercheval	12/75
Add Metric		T. Stanton	03/03

SAN DIEGO REGIONAL STANDARD DRAWING

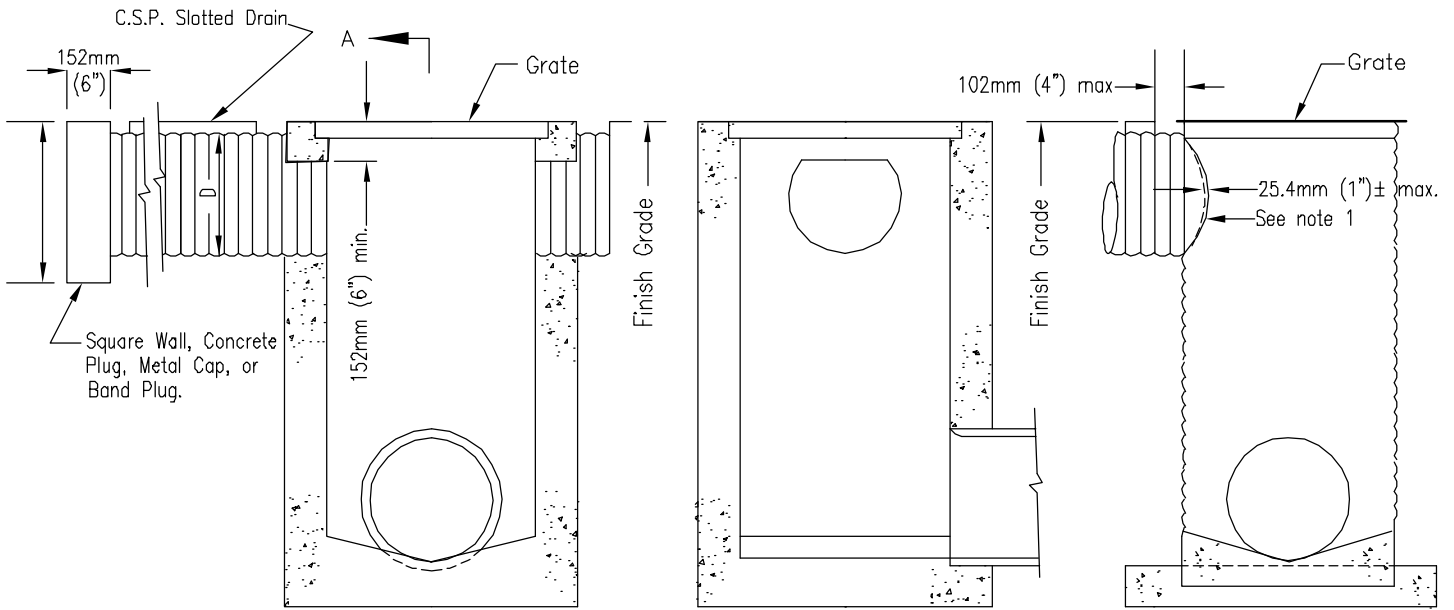
SLOTTED CORRUGATED STEEL
 PIPE DRAIN 12" THROUGH 24"

RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE

 Chairperson R.C.E. 19246 Date

DRAWING NUMBER **D-18**

This drawing is NOT in conformance with latest UBC and should be used with care and judgment.

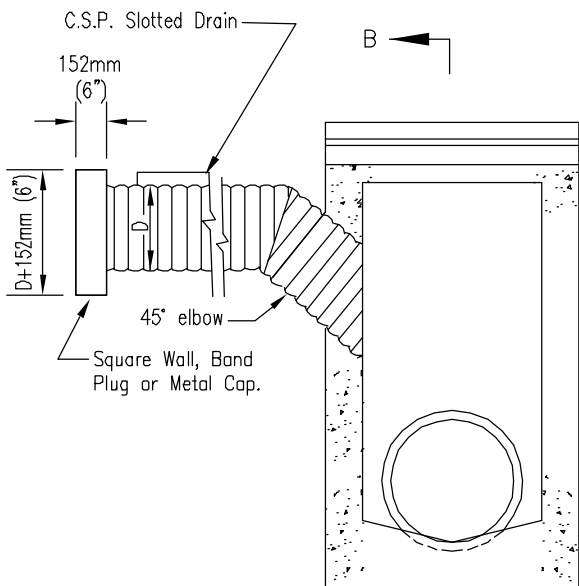


A ←

SECTION A-A

C.S.P. INLET

CATCH BASIN



B ←

SECTION B-B

ALTERNATE SECTION B-B

INLETS

NOTES

1. Either field joint with a pliable mixture of sand, portland cement emulsified asphalt (mixture of 1 part portland cement, 3-5 parts sand, and 1-1/2 parts SSI emulsified asphalt), or continuous weld.
2. See Standard Drawing D-18 for additional notes and details.

Revision	By	Approved	Date
ORIGINAL		Kercheval	12/75
Add Metric		T. Stanton	03/03

SAN DIEGO REGIONAL STANDARD DRAWING

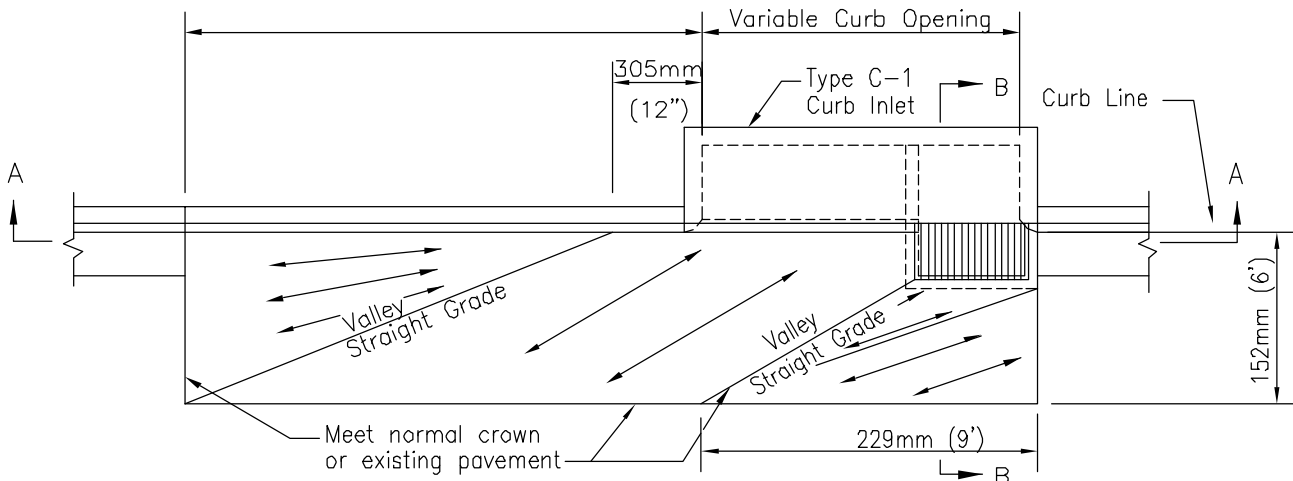
SLOTTED DRAIN CONNECTIONS
TO STANDARD INLETS

RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE

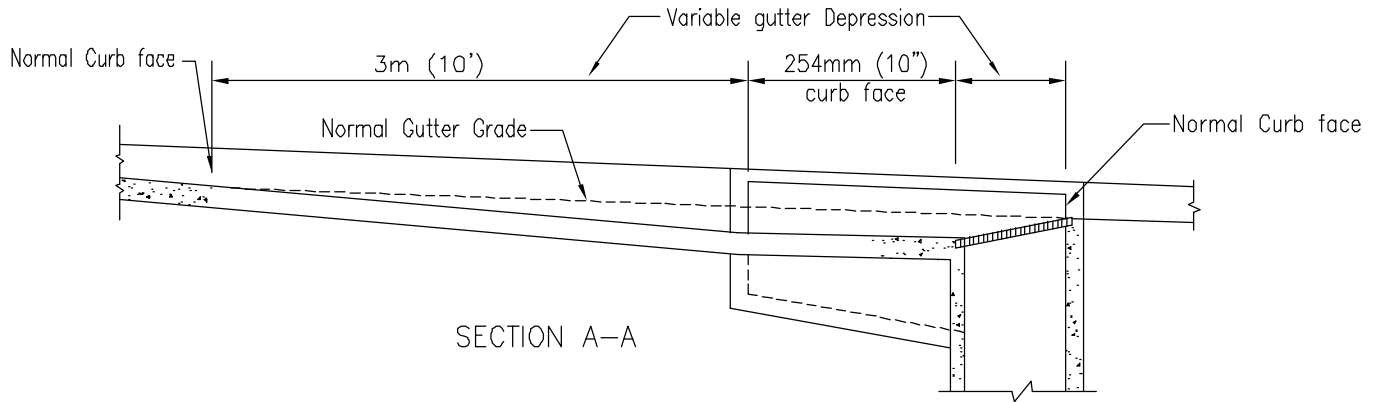
T. Stanton 51018003
Chairperson R.C.E. 19246 Date

DRAWING NUMBER **D-19**

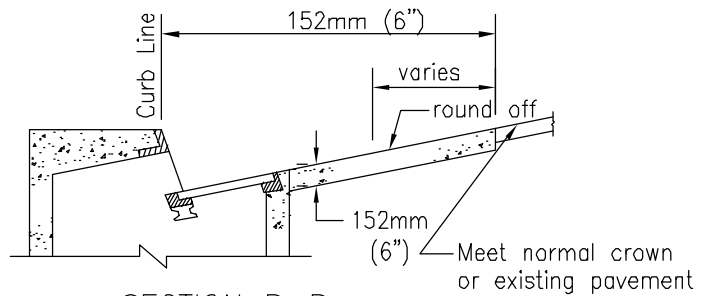
This drawing is NOT in conformance with latest UBC and should be used with care and judgment.



PLAN



SECTION A-A

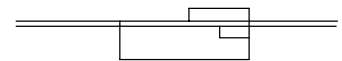


SECTION B-B

NOTES

1. Curb and apron to be placed monolithically.
2. Use of false header at valleys and slope break line is optional.
3. Extend vertical steel from inlet structure into concrete apron as required.
4. Screed Direction \longleftrightarrow
5. Concrete shall be $308\text{kg}/\text{M}^3$ -C-17 Mpa (520-C-2500)

LEGEND ON PLANS



Revision	By	Approved	Date
ORIGINAL		Kercheval	12/75
Add Metric		T. Stanton	03/03

SAN DIEGO REGIONAL STANDARD DRAWING

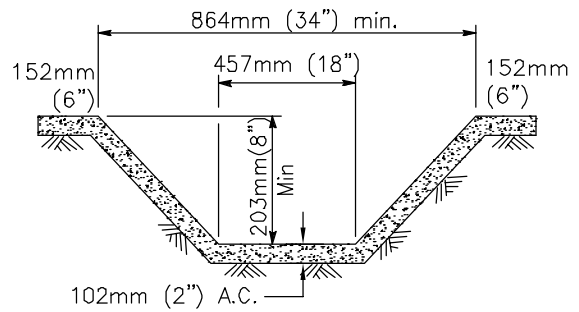
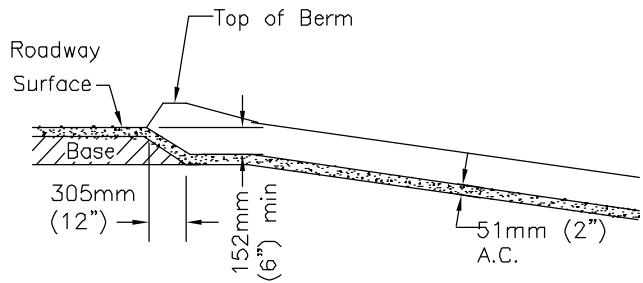
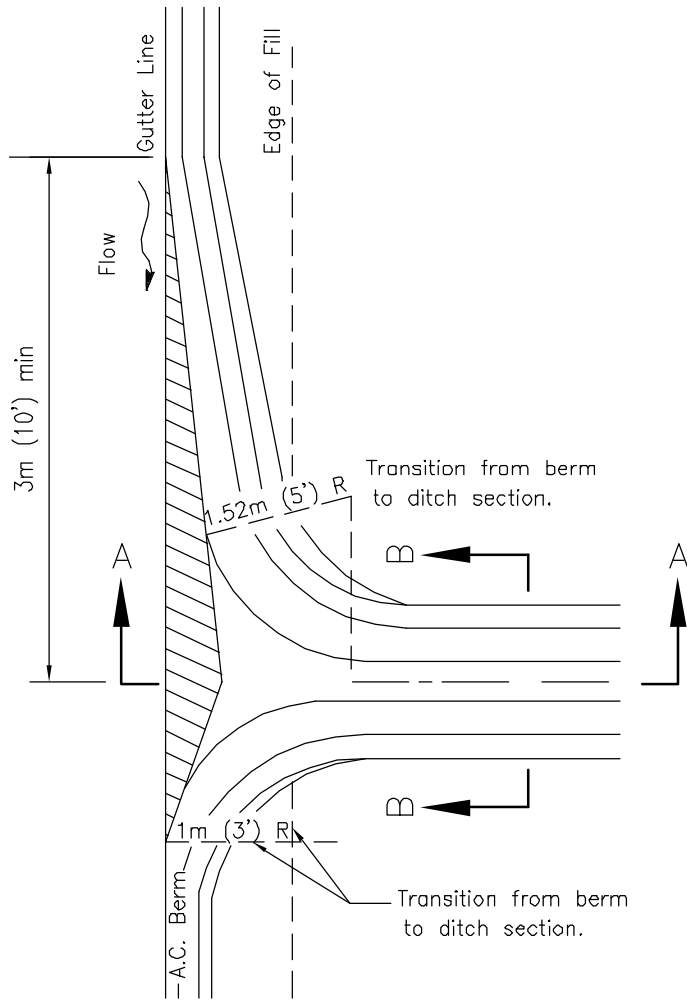
CONCRETE APRON FOR CURB INLET

RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE

T. Stanton 3/03/03
Chairperson R.C.E. 19246 Date

DRAWING NUMBER **D-20**

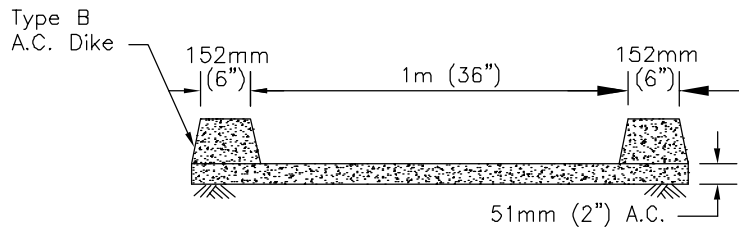
This drawing is NOT in conformance with latest UBC and should be used with care and judgment.



NOTE

1. Cross sectional area of ditch may be round or trapezoidal.

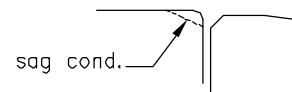
SECTION B-B



NOTE

1. A.C. spillway may be used when fill is 3m (10') or less, and where fill slope 1-1/2:1 or flatter.
2. Use 3m (10') min. length of gutter transition on each side of downdrain in sag condition.

LEGEND ON PLANS



Revision	By	Approved	Date
ORIGINAL		Kercheval	12/75
Add Metric		T. Stanton	03/03

SAN DIEGO REGIONAL STANDARD DRAWING

ASPHALT CONCRETE SPILLWAY

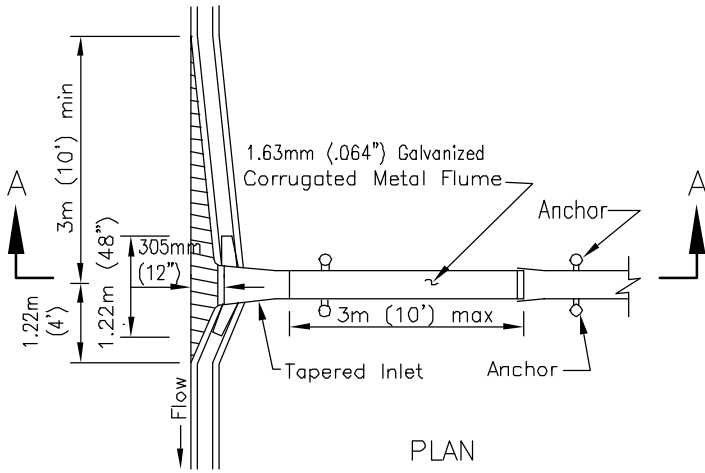
RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE

T. Stanton 51018003

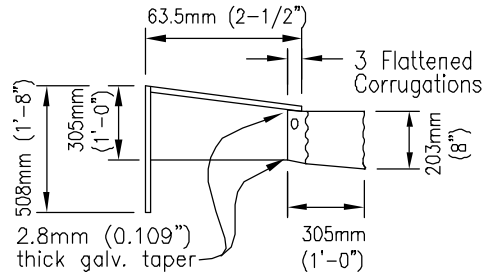
Chairperson R.C.E. 19246 Date

DRAWING NUMBER **D-22**

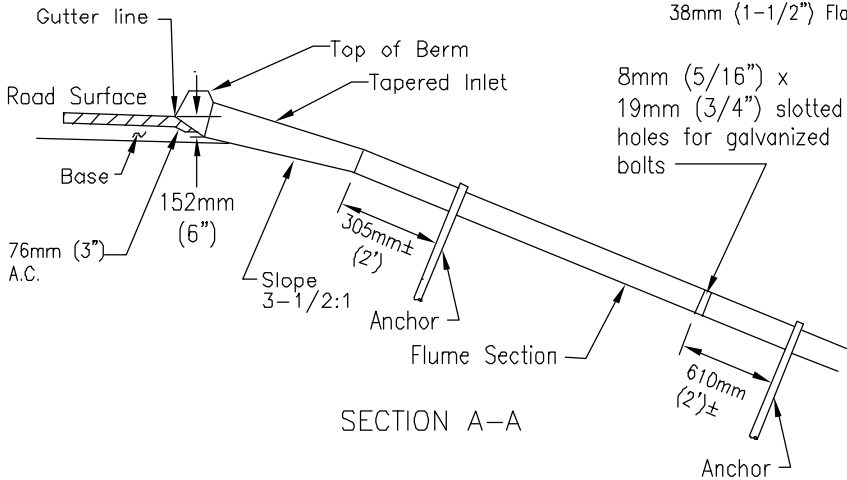
This drawing is NOT in conformance with latest UBC and should be used with care and judgment.



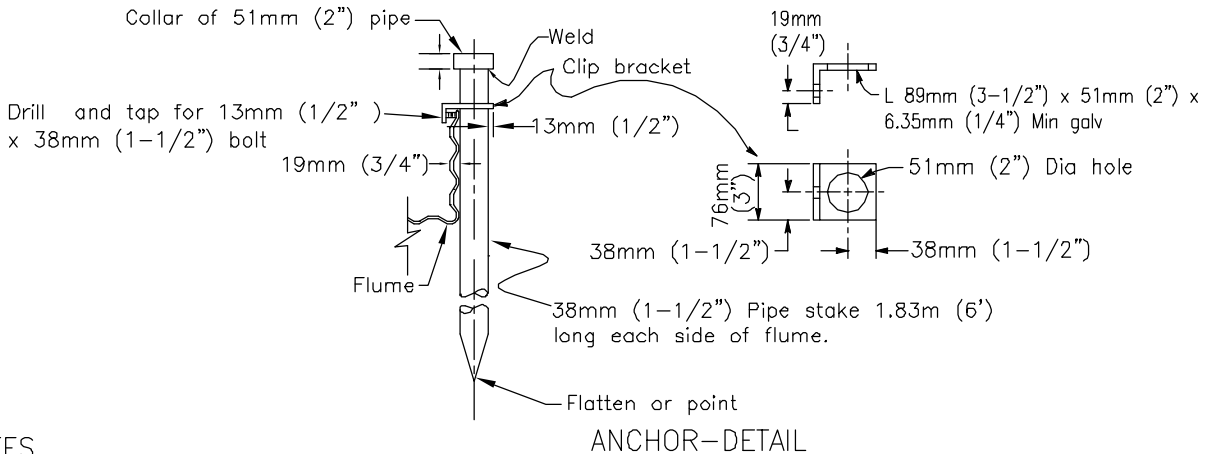
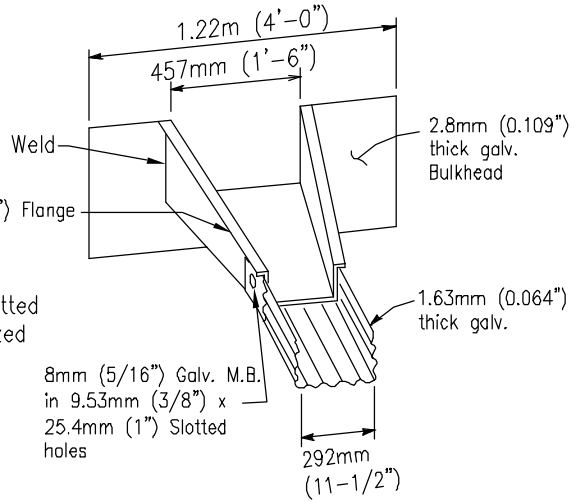
PLAN



TAPERED INLET



SECTION A-A

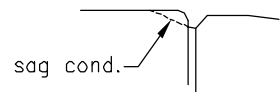


ANCHOR-DETAIL

NOTES

1. Downdrain flume may be used where fill slope is 1 1/2:1 or flatter.
2. Use 3m (10') min. length of gutter transition on each side of downdrain in sag condition.
3. All metal parts to be galvanized after fabrication.

LEGEND ON PLANS



Revision	By	Approved	Date
ORIGINAL		Kercheval	12/75
Add Metric		T. Stanton	03/03

SAN DIEGO REGIONAL STANDARD DRAWING

TAPERED INLET AND DOWNDRAIN FLUME

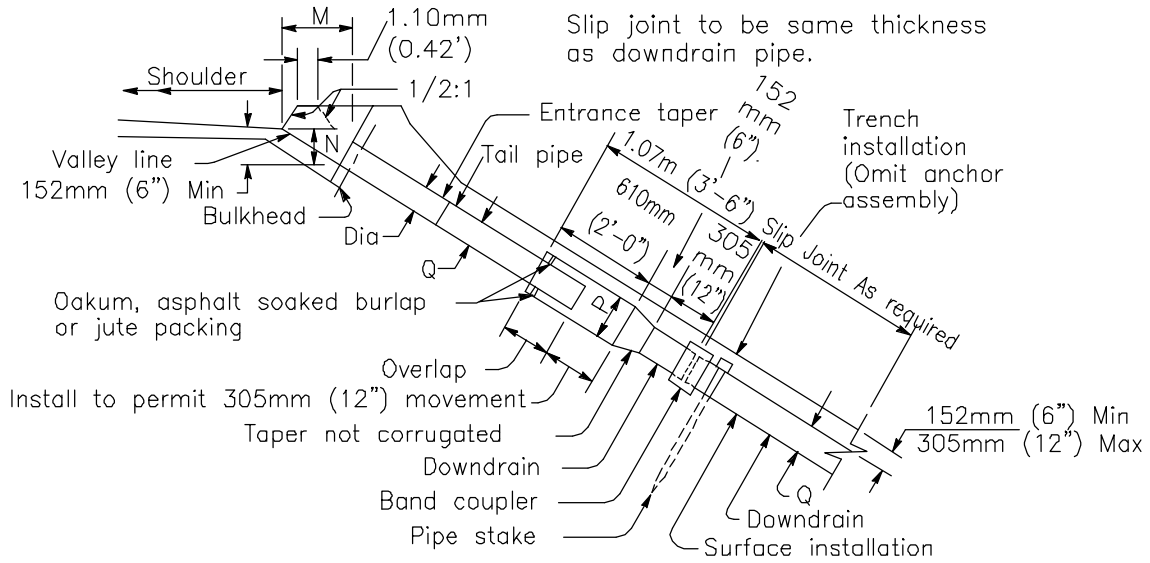
RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE

T. Stanton 3/01/003

Chairperson R.C.E. 19246 Date

DRAWING NUMBER **D-23**

This drawing is NOT in conformance with latest UBC and should be used with care and judgment.

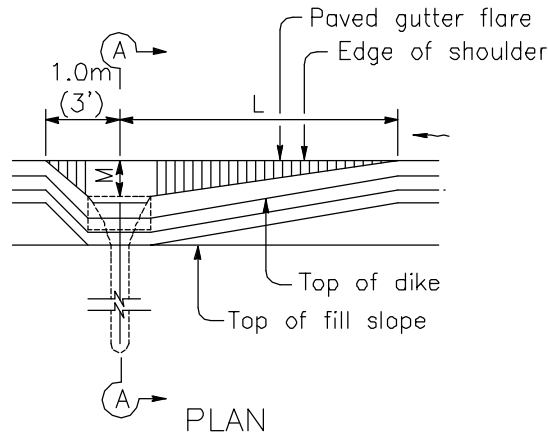


SECTION A-A

CMP dimensions as tabulated below

P	254mm (10")	381mm (15")	457mm (18")	533mm (21")	686mm (27")
Q	203mm (8")	305mm (12")	381mm (15")	457mm (18")	610mm (24")

DIA	MIN L	M	N
203mm (8")	3.0 m (10')	457mm (18")	203mm (8")
305mm (12")	4.57m (15')	508mm (20")	305mm (12")
381mm (15")	7.62m (25')	610mm (24")	381mm (15")
457mm (18")	9.14m (30')	762mm (30")	406mm (16")
610mm (24")	12.2m (40')	914mm (36")	457mm (18")



NOTES

1. Cable, slip joint or anchor assembly to be placed when specified.
2. Slip joint to be omitted when completely buried.

Revision	By	Approved	Date
ORIGINAL		Kercheval	12/75
Add Metric			11/02

SAN DIEGO REGIONAL STANDARD DRAWING

ENTRANCE TAPER AND DOWNDRAIN PIPE

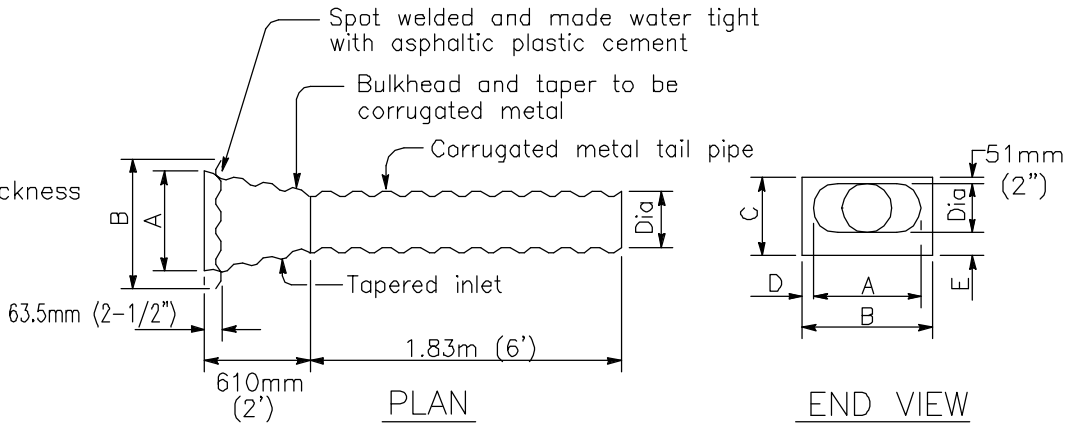
RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE

J. Stanton 31018003
Chairperson R.C.E. 19246 Date

DRAWING NUMBER **D-24A**

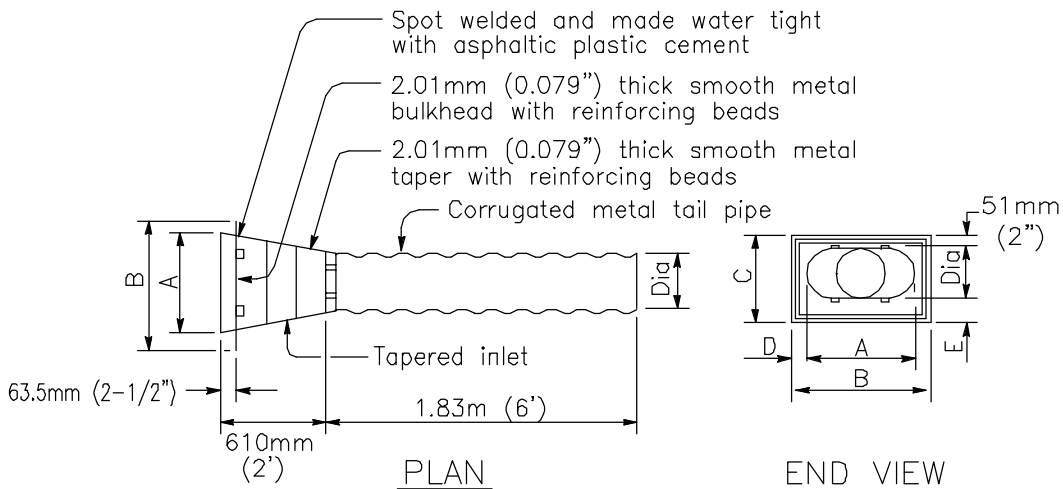
This drawing is NOT in conformance with latest UBC and should be used with care and judgment.

Slip joint to be same thickness as downdrain pipe.



Bulkhead and taper of same thickness as tail pipe with 0.079" max.
Tail pipe of same thickness as downdrain pipe.

ENTRANCE TAPER
ALTERNATIVE A



Tail pipe of same thickness as downdrain pipe.

ENTRANCE TAPER
ALTERNATIVE B

Revision	By	Approved	Date
ORIGINAL		Kercheval	12/75
Add Metric			11/02

SAN DIEGO REGIONAL STANDARD DRAWING

ENTRANCE TAPER AND DOWNDRAIN PIPE

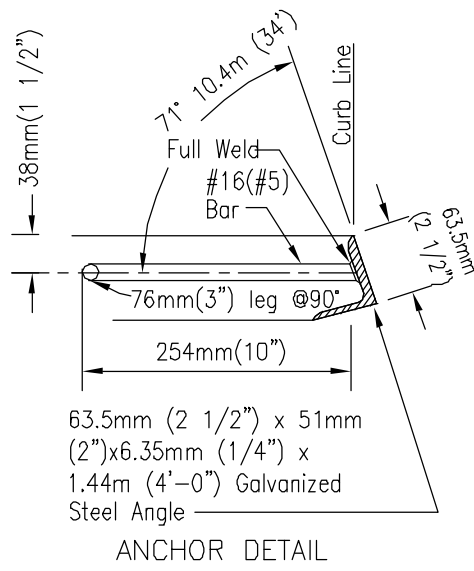
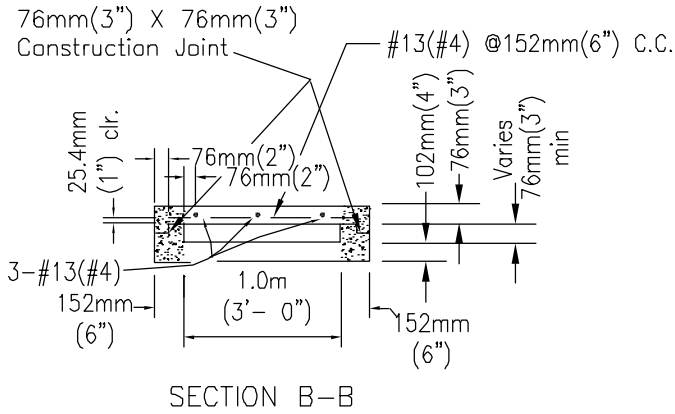
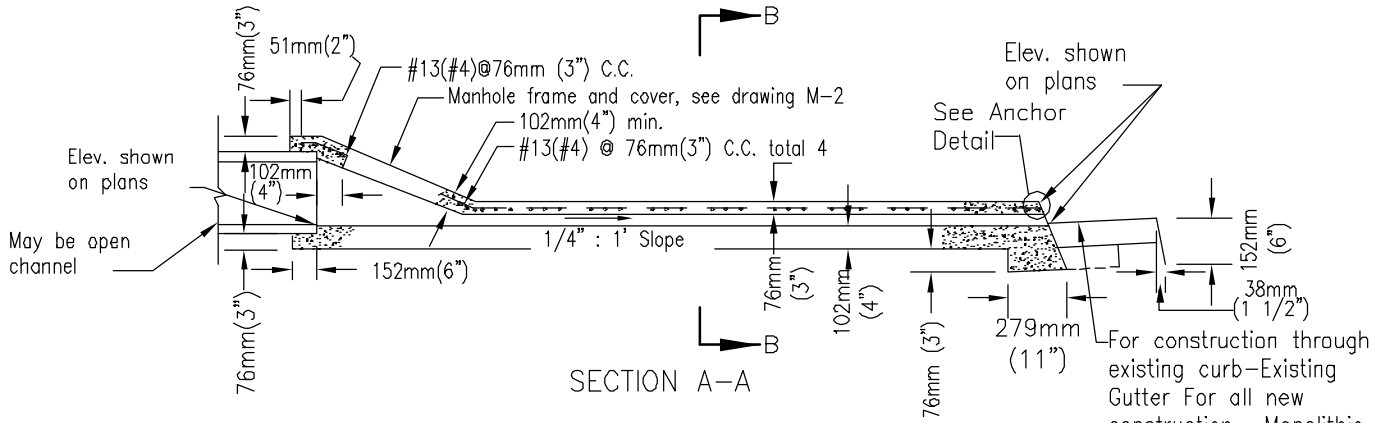
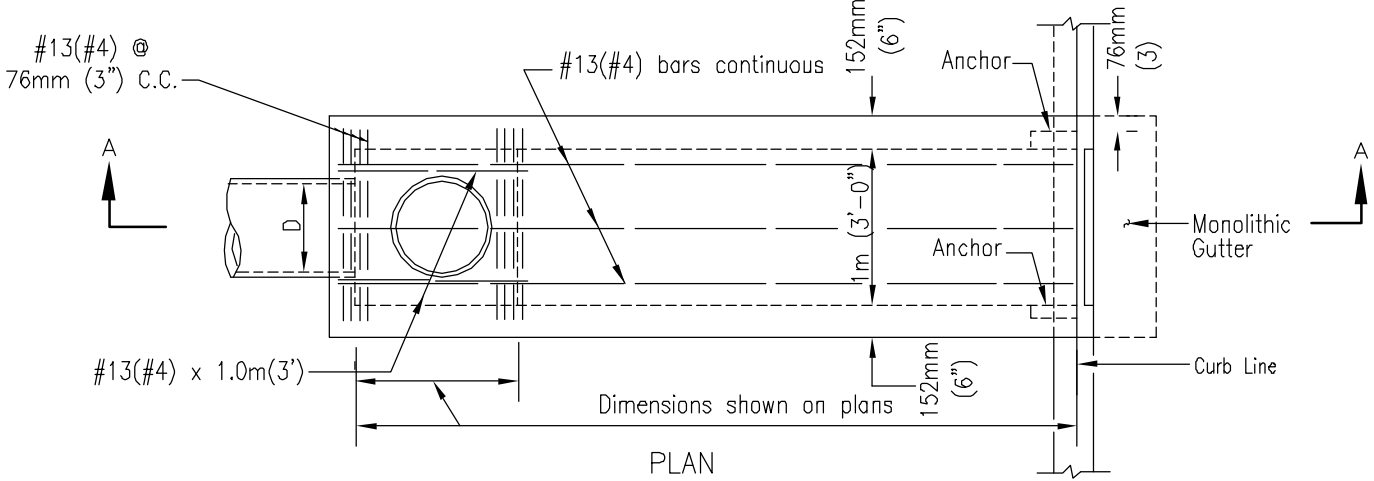
RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE

J. Stanton 51018003

Chairperson R.C.E. 19246 Date

DRAWING NUMBER **D-24B**

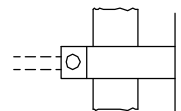
This drawing is NOT in conformance with latest UBC and should be used with care and judgment.



NOTES

- Concrete shall be 332 kg/M³ -C-22Mpa (560-C-3250)
- D=inside diameter of pipe or depth of channel.
- Section to be sloped laterally with top conforming to the grades of the existing sidewalk and curb.
- Manhole frame and cover may be deleted with open channel.
- Trowel finish top surface and reproduce markings of existing sidewalk and curb.
- Trowel finish floor of outlet.

LEGEND ON PLANS



Revision	By	Approved	Date
ORIGINAL		Kercheval	12/75
Add Metric			11/02

SAN DIEGO REGIONAL STANDARD DRAWING

CURB OUTLET - TYPE A

RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE

J. Stanton 31018003

Chairperson R.C.E. 19246 Date

DRAWING NUMBER **D-25**