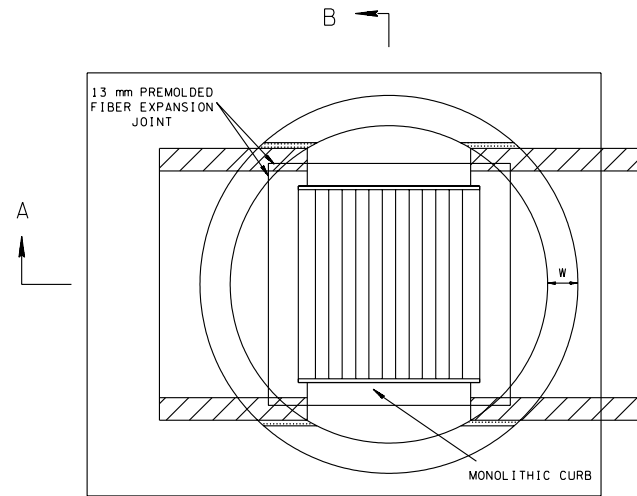
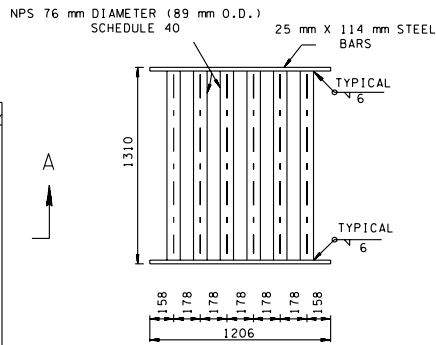




PLAN VIEW



GRATE UNIT NO. 39

GRATE UNIT IS STRUCTURALLY DESIGNED TO CARRY LOW SPEED MAINTENANCE VEHICLES ONLY.

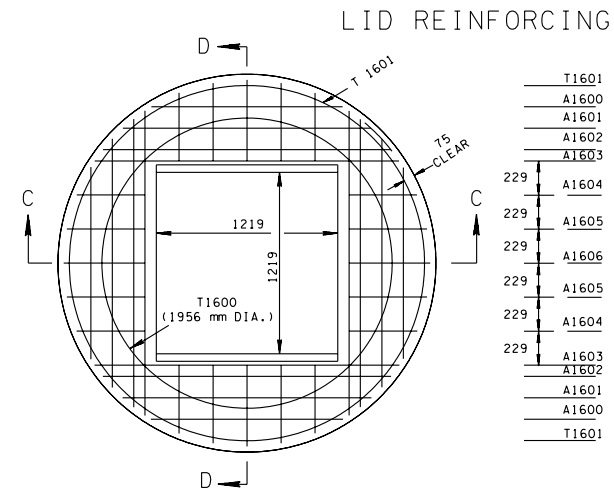
NOTE: MATERIAL FOR GRATE SPECIFICATIONS FOR STEEL BARS SHALL CONFORM TO ASTM A36M. FOR THE PIPE CROSS MEMBERS, ASTM A53 TYPE E OR S GRADE A OR B. THE GRATE UNIT SHALL BE PAINTED BLACK, FEDERAL SPEC. TT-E-489G.

WELDING: AWS SPECIFICATIONS D1.1-72 AS MODIFIED BY THE CURRENT AASHTO STD. SPECIFICATIONS FOR WELDING OF HIGHWAY BRIDGES.

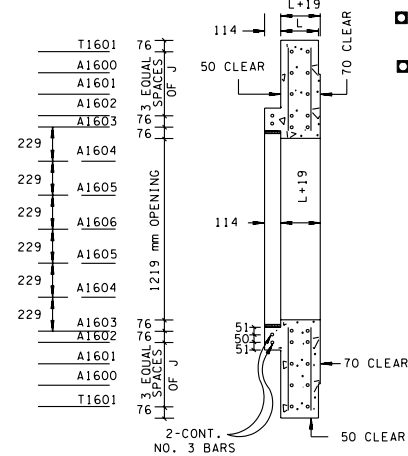
VARIABLE REINFORCING DIMENSIONS IN CONCRETE LID		
INSIDE DIA. OF CATCH BASIN (mm)	OUTSIDE DIA. OF LID (mm)	DIMENSION J (mm)
2134	2540	144.0
2438	2896	203.3

DIAMETER FOR T1600 REINFORCING BARS EQUAL 1321 MILLIMETERS.

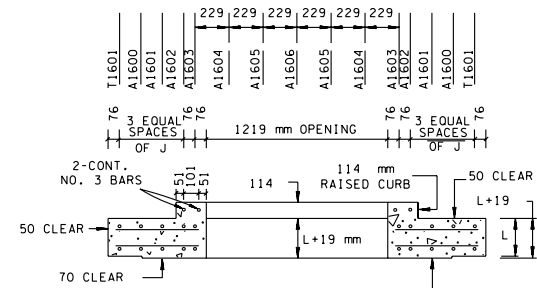
DIAMETER FOR T1601 REINFORCING BARS EQUAL OUTSIDE DIAMETER OF LID MINUS 152 MILLIMETERS.



LID REINFORCING



SECTION D-D
(BAR T1600 NOT INCLUDED)



SECTION C-C
(BAR T1600 NOT INCLUDED)

CATCH BASIN MINIMUM DEPTH TABLE FOR 1524 INSIDE DIAMETER CATCH BASIN			
INSIDE DIAMETER (X) OF PIPE (mm)	MINIMUM DEPTH - (m)		
	CONCRETE PIPE	CORRUGATED METAL PIPE	POLYETHYLENE PIPE
450	1.32	1.26	1.30
600	1.47	1.41	1.46
750	1.65	1.56	1.64
900	1.82	1.73	1.79
1050	1.98	1.88	1.93
1200	2.15	2.03	2.08
1350	2.31	2.19	—
1500	2.48	2.34	—
1650	2.64	2.49	—

- 1 DEPTH MEASUREMENT MADE FROM TOP OF CURB TO OUTLET FLOW ELEVATION BASED ON INLET AND OUTLET PIPES BEING THE SAME DIAMETER, IF OUTLET PIPE IS GREATER ADJUSTMENT IN DEPTHS MUST BE MADE TO ACCOMMODATE THIS SITUATION.
- 2 MINIMUM DEPTH TO BE REDUCED BY DIMENSION "C" WHERE ONLY OUTLET PIPE EXISTS.
- 3 TO DETERMINE FLOOR OF CATCH BASIN ELEVATION, WHEN INLET AND OUTLET PIPES ARE THE SAME SIZE, ADD PIPE WALL THICKNESS PLUS 40 mm TO THE ABOVE MINIMUM DEPTHS.
- 4 IF 1828 mm INSIDE DIAMETER CATCH BASIN IS USED, ADD 0.040 m TO ALL THE ABOVE MINIMUM DEPTHS.

CUT-OUT HOLES FOR INLET & OUTLET PIPES			
INSIDE DIAMETER (X) OF PIPE (mm)	DIAMETER OF CUT-OUT HOLES F & G - (MILLIMETERS)		
	CONCRETE PIPE	CORRUGATED METAL PIPE	POLYETHYLENE PIPE
450	660	535	610
600	815	685	785
750	1015	840	990
900	1195	1015	1145
1050	1370	1170	1270
1200	1550	1320	1420
1350	1725	1475	—
1500	1905	1625	—
1650	2085	1780	—

CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE CORED OR FORMED IN ORDER TO OBTAIN A SMOOTH EGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UNCUT WILL NOT BE PERMITTED.

CATCH BASIN DIMENSIONS						
INSIDE DIA. OF CATCH BASIN D (mm)	WALL THICKNESS W (mm)	LID THICKNESS L (mm)	OUTSIDE DIA. OF CATCH BASIN D + 2W (mm)	MAX. INLET OR OUTLET CONC. PIPE SIZE - STR. (mm)	MAX. INLET OR OUTLET CONC. PIPE SIZE - 90° (mm)	DIMENSION C (mm) H (mm)
2134	203	254	2540	1500	900	90 305
2438	229	279	2896	1650	1050	100 305

CATCH BASIN MAXIMUM DEPTH NOTE	
MAXIMUM DEPTH FOR PRECAST CONCRETE CIRCULAR CATCH BASINS IS 12 m.	

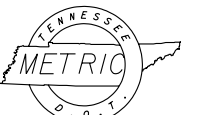
GENERAL NOTES

- ALL PRECAST ELEMENTS TO MEET ASTM C478M (CURRENT EDITION) AND AASHTO M199 (CURRENT EDITION) UNLESS SUPERSEDED BY THIS DRAWING.
CONCRETE: $f'_c = 28$ MPa AT 28 DAYS
REINFORCING STEEL: ASTM A615M, $f_y = 415$ MPa
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.
- CONCRETE JOINT MATERIAL IS TO BE 13 mm PREMOLDED FIBER IN ACCORDANCE WITH SECTION 905 OF THE STANDARD SPECIFICATIONS.
- PRECAST CATCH BASIN UNITS WHICH ARE DAMAGED DURING SHIPMENT OR INSTALLATION WILL BE REJECTED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE DAMAGED CATCH BASIN UNITS AT HIS OWN EXPENSE.
- ADDITIONAL REINFORCING STEEL NECESSARY ABOVE THE CORED OR FORMED CUT-OUT HOLES TO MAINTAIN THE INTEGRITY OF THE STRUCTURE DURING HANDLING AND PLACEMENT SHALL BE THE RESPONSIBILITY OF THE FABRICATOR.
- APPROPRIATE SIZING AND LOCATION OF LIFTING DEVICES SHALL BE THE RESPONSIBILITY OF THE FABRICATOR TO ASSURE BALANCED HANDLING DURING INSTALLATION OF THE PRECAST CATCH BASIN.
- THE CONTRACTOR IS TO PATCH ALL LIFTING DEVICE HOLES AND PLACE A MINIMUM OF 25 mm OF COVER OVER THE HARDWARE OF THESE DEVICES ON BOTH TOP AND BOTTOM SURFACES.
- INVERT ELEVATIONS ARE TO BE ADJUSTED AS DIRECTED BY THE ENGINEER IN ORDER TO ACCOMMODATE INLET AND OUTLET PIPES.
- PAYMENT FOR CATCH BASIN WILL BE MADE UNDER ITEM NUMBERS 611M39.02 CATCH BASINS, TYPE 39, > 1m-2m DEPTH THROUGH 611M39.09, CATCH BASINS, TYPE 39, > 8m-9m DEPTH PER EACH. PAYMENT FOR CATCH BASINS DEEPER THAN 9 m WILL BE MADE UNDER ITEM NUMBER 611M39.10, CATCH BASINS, TYPE 39, ___ m - ___ m DEPTH PER EACH. WHEN CLASS "A" CONCRETE APRON IS USED, IT IS TO BE INCLUDED IN THE PRICE BID PER CATCH BASIN.

REV. 11-25-98: CHANGED LABELING ON PLAN VIEW OF GRATE UNIT AND SIZE OF STEEL BARS IN GRATE UNIT.

REV. 1-19-99: MODIFIED CATCH BASIN MINIMUM DEPTH TABLE.

REV. 5-27-01: CHANGED PAY ITEMS IN GENERAL NOTE (H). ADDED CATCH BASIN MAXIMUM DEPTH NOTE.



ALL UNITS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD PRECAST
CIRCULAR
NO. 39
CATCH BASIN

10-26-98

DM-CB-39RB