TABLE A

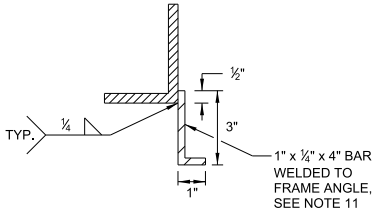
PIPE SIZE					STRUCTURAL STEEL ✱						
CMP ROUND	HDPE ROUND	RCP ROUND	A AND J VALUE	MAX. H	MAIN BARS	FRAME ANGLES	FRAME BAR	GRATE LBS.	FRAME LBS.	PROTECTIVE ANGLE, LBS.	TOTAL LBS.
12" TO 18"			2' - 6"	21'	4½" x ⅜"	5" x 3" x ⅜"	5" x ⅜"	228	91	18	337
24"			3'	21'	4½" x ⅜"	5" x 3" x ⅜"	5" x ⅜"	263	99	22	384
30"			3' - 6"	16'	4½" x ⅜"	5" x 3" x ⅜"	5" x ⅜"	299	107	26	432
36"			4'	9'	5½" x ⅜"	6" x 3½" x ⅜"	6" x ⅜"	407	138	29	574
42"			4'-6"	7'	5½" x ⅜"	6" x 3½" x ⅜"	6" x ⅜"	451	147	33	631
48"			5'	7'	5½" x 7/16"	6" x 3½" x ⅜"	6" x ⅜"	572	157	36	765

THE "A" AND "J" VALUES REPRESENT THE MINIMUM SIDE DIMENSION OF THE DROP INLET, SEE DETAIL DS-35A, WHEN A PIPE PENETRATES THE "A" OR "J" SIDE OF THAT DROP INLET. IF NO PIPE PENETRATES THE "A" SIDE, USE A = 2'-6". IF NO PIPE PENETRATES THE "J" SIDE, USE J = 2'-2". IF PIPES PENETRATE BOTH SIDES, USE THE VALUES ABOVE FOR EACH SIDE OF THE DROP INLET, DEPENDING ON THE SIZE OF THE PENETRATING PIPE.

WHEN INSTALLING AN ARCH OR ELLIPTICAL PIPE, USING THE HORIZONTAL DIMENSION, SPAN, CHOOSE THE EQUIVALENT OR NEXT LARGER ROUND DIAMETER DIMENSION AS DESCRIBED IN THE TABLE ABOVE.

MAXIMUM H IS BASED UPON THE DROP INLET HAVING No. 4 BARS AT 12" ON CENTER.

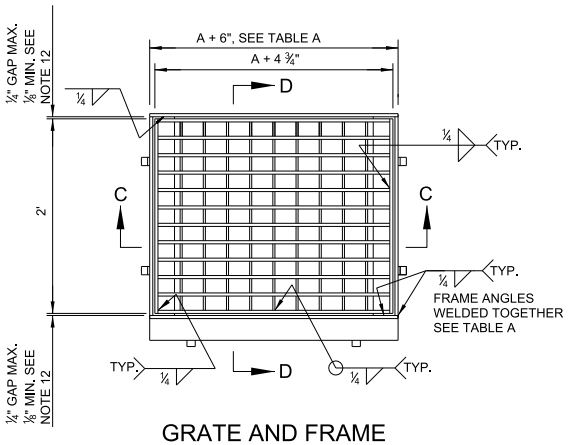
✱ VARIES WITH "A" DIMENSION ONLY.



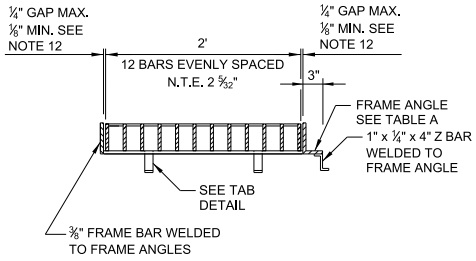
TAB DETAIL

NOTES:

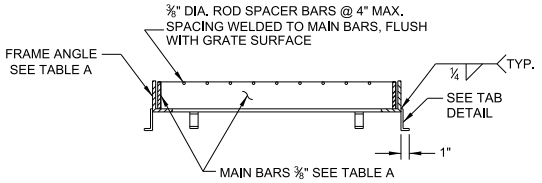
1. All concrete shall be class A or AA.
2. Except as noted, all reinforcing steel shall be ASTM A 615 grade 60 or A 706 grade 60 No. 4 bars with maximum spacing of 9-inches on center in walls and No. 5 bars with maximum spacing of 9-inches on center in base, wired tightly at all intersections and embedded 2-inches clear of inside surfaces. If "H" exceeds maximum shown in Table A the drop inlet shall require special design.
3. Exposed edges of concrete shall be chamfered 1-Inch.
4. Structural steel weight includes the main bars, frame angles, frame bars, rod spacer bars, tabs, Z bars and protective face angle.
5. Where pipe intersects drop inlet on a 12° or larger skew at "J", Increase "J" to: $\frac{J}{\cos \text{ skew } \angle}$, redesign for skews at "A".
6. For drop inlets, configurations with 2 pipes-inflow pipe invert elevation shall be ≥ 0.1-feet above outflow pipe invert elevation.
7. Extreme low cover situations to be reviewed by the hydraulics engineer.
8. See detail DS-27 for details if connecting to HDPE pipe.
9. Slope catch basin floors 10:1 from all directions toward outlet pipe. If basin is used as a junction, shape flow line(s) to outlet pipe, and provide a 10:1 slope to flow line(s).
10. Station/offset distance listed in plans is measured to the face of curb at the gutter flow line.
11. Weld tabs 6-inches from edge of frame, Six tabs per grate, two on each side, excluding the lower side.
12. Grate is to fit in the frame and be easily removed. If the gap between the grate and frame is greater than a ¼-inch on each side of the grate, the grate and frame shall be removed and reconstructed to the tolerances specified or, with approval of the Engineer, a filler strip up to a ¼-inch in thickness may be welded flush to the top of the frame to reduce the gap to a maximum of a ¼-inch.
13. Pipe penetrations may be placed in any wall. Pipe penetrations are to be to the center of the structure wall unless specified otherwise.
14. Grate and inlet are designed for 16 kip HL-93 wheel load per "AASHTO LRFD Bridge Design Specifications 2012". Live load impact and multiple presence factors are not applied.
15. Contractor to verify "H" values as approved by the Engineer.



GRATE AND FRAME



SECTION D-D



SECTION C-C

NEVADA DEPARTMENT OF TRANSPORTATION

CHIEF HYDRAULICS ENGR.
SIGNED ORIGINAL ON FILE

ADOPTED
10/1985

REVISED
7/2024

DROP INLET TYPE 3

SPEC. #
609

DETAIL NUMBER
DS-35B