STATE	PROJECT NO.
MISS.	

HOLE OPENING									
ROUND RCP		OPENING			ARCH RCP		OPENING		
		INCHES		CONCRETE* DEDUCTION PER OPENING (C.Y.)			INCHES		CONCRETE* DEDUCTION PER OPENING (C.Y.)
SIZE	T	HO	OP		SIZE	T	HO	OP	
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
12	2	20	4	0.017	-	-	-	-	-
15	2.25	24	4.5	0.032	18x11	2.25	25.5x18.5	1.5	0.015
18	2.5	26	4	0.045	22x13	2.5	30x21	1.5	0.045
21	2.75	28	3.5	0.060	-	-	-	-	-
24	3	32	4	0.076	29x18	3	38x27	1.5	0.073
27	3.25	40	6.5	0.095	-	-	-	-	-
30	3.5	40	5	0.116	36x23	3.5	46x33	1.5	0.108

* BASED ON 5" WALL THICKNESS; FOR 3 1/2" WALL, MULTIPLY BY 0.694

MINIMUM PIPE DEPTH TOP OF COVER TO PIPE INVERT			
ROUND RCP SIZE	DEPTH INCHES	ARCH RCP SIZE	DEPTH INCHES
-	-	-	-
-	-	-	-
12	27	-	-
15	30.5	18x11	23.5
18	33	22x13	25.5
21	35.5	-	-
24	40	29x18	30.5
27	44.5	-	-
30	46	36x23	35.5

MAXIMUM PIPE SIZE				
INLET OR JUNCTION BOX	ROUND RCP		ARCH RCP	
	IW SIDE	IL SIDE	IW SIDE	IL SIDE
2X2	12	18	NONE	18X11
2X3	12	24	NONE	22x13
3X5	24	30	22x13	36x23

CONCRETE QUANTITIES			
INLET OR JUNCTION BOX	BOTTOM C.Y.	RISER C.Y./FT	COVER C.Y.
2X2	0.074	0.099	0.123
2X3	0.111	0.181	0.201
3X5	0.279	0.275	0.266

NOTE: CONCRETE CUBIC YARDS PER INLET/JUNCTION BOX = BOTTOM + (TOTAL RISER HEIGHT (FT) x C.Y./FT) + (COVER - GRATE OPENING) - ANY HOLE OPENINGS

GENERAL DATA											
INLET OR JUNCTION BOX SIZE	WALL THICKNESS	INSIDE DIMENSION		OUTSIDE DIMENSION		BASE HEIGHT	RISER HEIGHT	WEIGHTS			
	WT	IW	IL	OW	OL	B	R	BOTTOM	BASE/RISER	COVER	
FEET	INCHES	INCHES		INCHES		3" INCREMENTS		LB	LB/FT	LB	
2 X 2	3 1/2	24	24	31	31	24-54	18-48	300	401	500	
2 X 3	5	24	36	34	46	24-54	18-48	450	735	815	
3 X 5	5	36	60	46	70	24-54	18-48	1125	1114	1077	

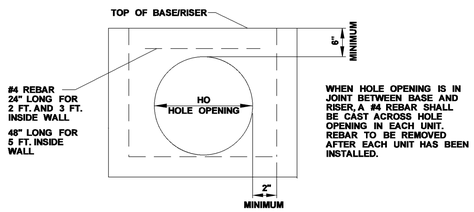
2' x 2' WALL REINFORCEMENT (SQ. IN. PER LIN. FT.)												
DEPTH OF INSTALLATION	BASE		TOP RISER		INTERIOR RISER #1		INTERIOR RISER #2		INTERIOR RISER #3		INTERIOR RISER #4	
FT	AREA	LB/FT	AREA	LB/FT	AREA	LB/FT	AREA	LB/FT	AREA	LB/FT	AREA	LB/FT
0-4	0.07	3.942	-	-	-	-	-	-	-	-	-	-
0-8	0.13	5.862	0.07	3.942	-	-	-	-	-	-	-	-
0-12	0.20	7.786	0.07	3.942	0.13	5.862	-	-	-	-	-	-

2' x 3' WALL REINFORCEMENT (SQ. IN. PER LIN. FT.)												
DEPTH OF INSTALLATION	BASE		TOP RISER		INTERIOR RISER #1		INTERIOR RISER #2		INTERIOR RISER #3		INTERIOR RISER #4	
FT	AREA	LB/FT	AREA	LB/FT	AREA	LB/FT	AREA	LB/FT	AREA	LB/FT	AREA	LB/FT
0-4	0.10	5.840	-	-	-	-	-	-	-	-	-	-
0-8	0.20	9.928	0.10	5.840	-	-	-	-	-	-	-	-
0-12	0.25	5.545	0.10	5.840	0.20	9.928	-	-	-	-	-	-

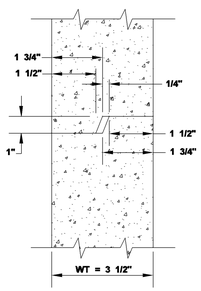
3' x 5' WALL REINFORCEMENT (SQ. IN. PER LIN. FT.)												
DEPTH OF INSTALLATION	BASE		TOP RISER		INTERIOR RISER #1		INTERIOR RISER #2		INTERIOR RISER #3		INTERIOR RISER #4	
FT	AREA	LB/FT	AREA	LB/FT	AREA	LB/FT	AREA	LB/FT	AREA	LB/FT	AREA	LB/FT
0-8	0.30	21.039	0.24	17.3264	-	-	-	-	-	-	-	-
0-12	0.74	53.570	0.24	17.3264	0.60	43.316	-	-	-	-	-	-
0-16	0.88	61.526	0.24	17.3264	0.60	43.316	0.74	53.570	-	-	-	-
0-20	1.14	78.146	0.24	17.3264	0.60	43.316	0.74	53.570	1.02	70.013	-	-
0-24	1.44	98.654	0.24	17.3264	0.60	43.316	0.74	53.570	1.02	70.013	1.20	82.035

COVER/BOTTOM REINFORCEMENT				
INLET OR JUNCTION BOX	COVER	LBS/STEEL	BOTTOM	LBS/STEEL
2X2	#4 @ 9" EW	12.247	WWF-W6.0 X W6.0 - 3 X 3	10.559
2X3	#4 @ 9" EW	17.869	WWF-W6.0 X W6.0 - 3 X 3	16.602
3X5	#4 @ 9" EW	36.741	WWF-W6.0 X W6.0 - 3 X 3	37.208

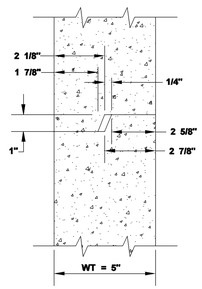
NOTE: REINFORCEMENT STEEL (LBS PER INLET/JUNCTION BOX) = BOTTOM + TOTAL FOR EACH RISER (TOP PLUS ANY INTERIOR RISERS) (BASE HEIGHT + TOTAL HEIGHT OF RISER) + COVER; HOLE AND GRATE OPENINGS NOT DEDUCTED



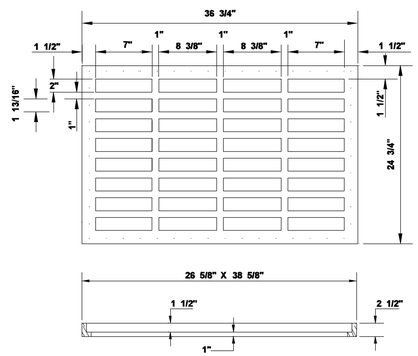
DETAIL FOR HOLE OPENING



2 X 2 JOINT DETAIL

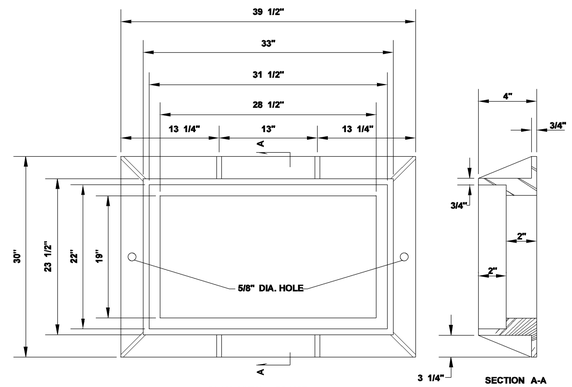


2 X 3 & 3 X 5 JOINT DETAIL



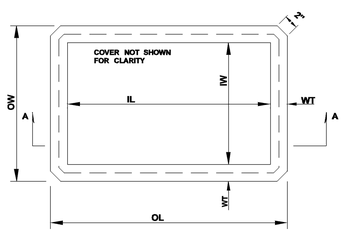
2'X3' FRAME AND GRATE
VULCAN V-4873
HEAVY DUTY LOAD RATING
WEIGHT: 340 LBS
OPEN AREA: 453 SQ. IN.

CONCRETE DEDUCT FOR GRATE OPENING: 1.32 C.Y.

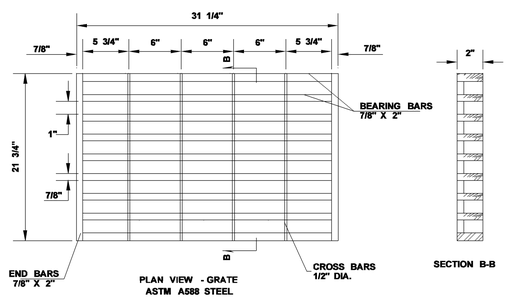


PLAN VIEW - FRAME CAST IRON

SECTION A-A



PLAN FOR BASE/RISER INLET/JUNCTION BOX



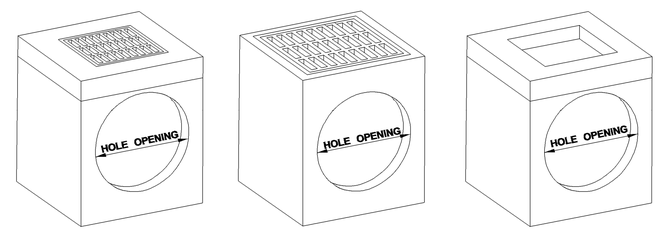
PLAN VIEW - GRATE ASTM A588 STEEL

SECTION B-B

MDOT SS-3 GRATE
HEAVY DUTY LOAD RATING
FRAME WEIGHT: 244 LBS
GRATE WEIGHT: 200 LBS
OPENING: 324.5 SQ. IN.

CONCRETE DEDUCT FOR GRATE OPENING: 0.070 C.Y.

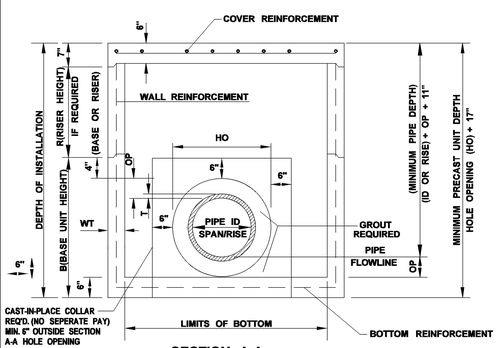
28 1/2" X 19" OPENING IN COVER FOR GRATE



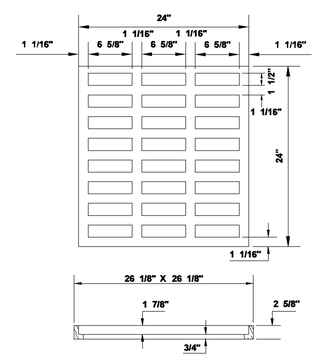
DROP INLET FRAME AND GRATE IN COVER 2 X 2, 2 X 3, 3 X 5

DROP INLET FRAME AND GRATE IN WALL WITHOUT COVER 2 X 2, 2 X 3

TYPE SS-3 INLET 3 X 5



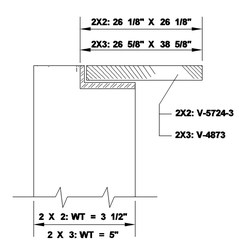
SECTION A-A



2'X2' FRAME AND GRATE
VULCAN V-5724-3
HEAVY DUTY LOAD RATING
WEIGHT: 212 LBS
OPEN AREA: 268 SQ. IN.

CONCRETE DEDUCT FOR GRATE OPENING: 0.088 C.Y.

GRATE DETAILS



2 X 2 & 2 X 3 DROP INLET WALL DETAIL WHEN FRAME AND GRATE IS USED WITHOUT COVER

GENERAL NOTES:

1. CONCRETE SHALL HAVE COMPRESSIVE STRENGTH OF 4000 PSI MINUMUM AT 28 DAYS.
2. REINFORCING FOR BOTTOM AND WALLS SHALL BE WELDED WIRE FABRIC, ASTM A-185, AND OF THE AREA AS SHOWN IN TABLE.
3. REINFORCING FOR COVER SHALL BE ASTM A615/A AND OF THE SIZE AS SHOWN IN TABLE AND DRAWINGS.
4. JOINT TO BE SEALED WITH FLEXIBLE PLASTIC GASKET FOR JOINT CONDUIT, AASHTO SPECIFICATION M-198 OR MDOT SPECIFICATION.
5. 2 1/2" LIFTING HOLES TO BE LOCATED ON EACH SIDE OF BOX SECTIONS FOR HANDLING.
6. GROUT FOR JOINING PIPE TO PRECAST UNITS WILL BE A COMMERCIAL MASONRY GROUT MEETING MDOT SPECIFICATIONS
7. WHEN INTERIOR RISER UNITS ARE REQUIRED, UNITS SHALL BE MARKED TO IDENTIFY EACH UNIT.
8. CONCRETE & REINFORCING STEEL FOR PRE-CAST INLETS AND JUNCTION BOXES SHALL BE PAID FOR AS THE CALCULATED QUANTITY SHOWN ON THE RE-CAP SHEET FOR CAST-IN-PLACE INLETS & JUCTION BOXES

DATE	REVISION	BY

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

PRECAST UNITS JUNCTION BOX, TYPE SS-3, AND DROP PRECAST INLET (30" CONCRETE ROUND PIPE AND UNDER) (36" x 23" CONCRETE ARCH PIPE AND UNDER)

FILENAME: dgns\precastjb1.dgn

DESIGN TEAM _____ CHECKED _____ DATE 12/15/10

WORKING NUMBER PCU-1

SHEET NUMBER

ROADWAY DESIGN DIVISION C.A.D.D. SECTION
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
PLAN