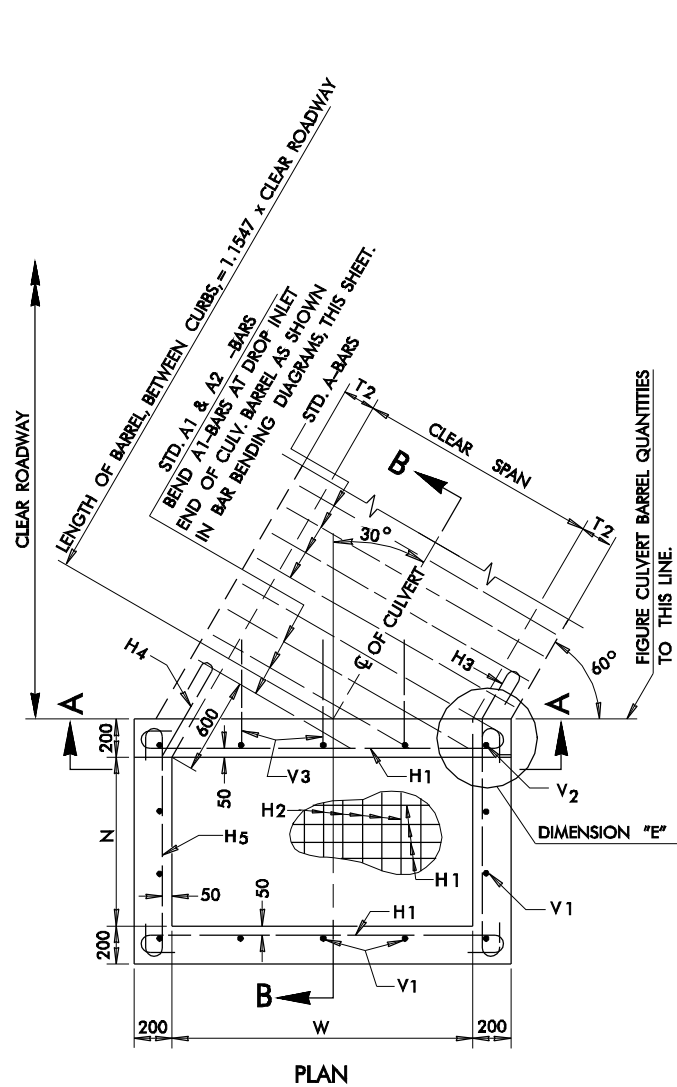
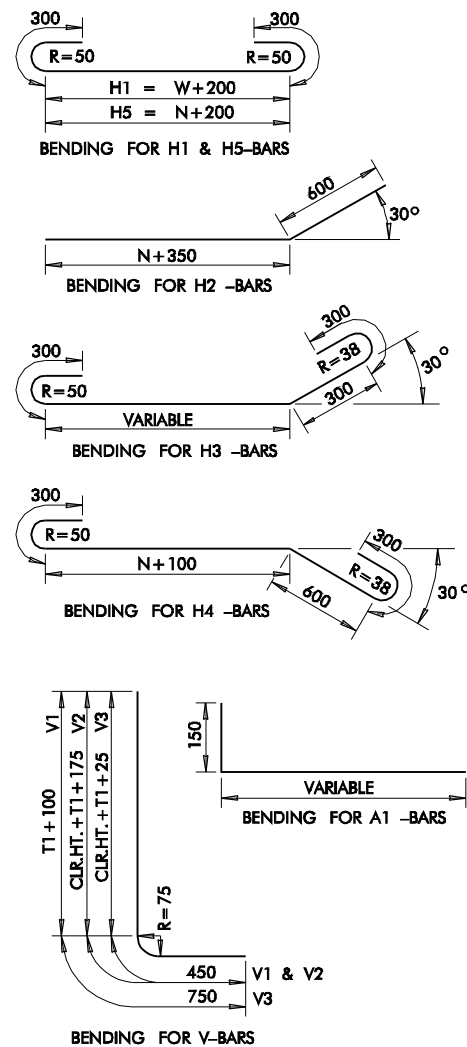


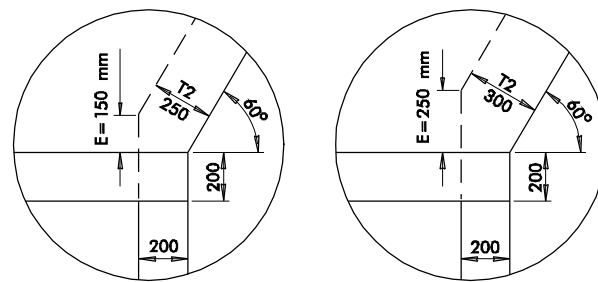


PLAN

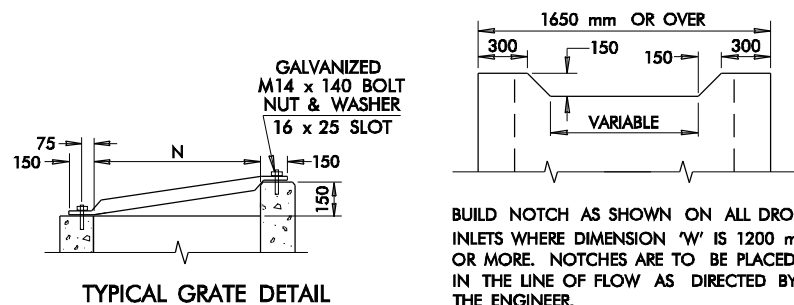


BAR BENDING DIAGRAMS

DIMENSIONS & QUANTITIES																													
DESIGN NO.	DIMENSIONS						REINFORCING STEEL (mm)															CLASS A/AA CONC. ▣ CUBIC METERS		REINFORCING STEEL KILOGRAMS		PIPE GRATES			
	CLEAR SPAN mm	CLEAR HEIGHT mm	AREA OF OPENING m ²	N	W	E	CH-BARS STRAIGHT		H1-BARS BENT		H2-BARS STRAIGHT		H3-BARS BENT		H4-BARS BENT		H5-BARS BENT		V1-BARS BENT		V2-BARS BENT		V3-BARS BENT		STANDARD DROP INLET INCLUDING CURB	PER METER OF ADDITIONAL DEPTH	STANDARD DROP INLET INCLUDING CURB	PER METER OF ADDITIONAL DEPTH	NO. OF PIPE GRATES
							NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.					
1	600	600	0.36	535	780	150	4	1055	12	1580	7	1550	5	1575	5	1810		1335	5	1335	2	1475	1	865	0.76	0.69	63.63	31.13	1
2	900	600	0.54	535	1135	150	4	1410	12	1935	9	1550	5	1575	5	1810		1335	6	1335	2	1475	2	865	0.92	0.83	71.86	45.12	2
3	900	750	0.68	685	1135	150	4	1410	14	1935	9	1700	6	1725	6	1960		1485	6	1485	2	1625	2	865	1.13	0.89	83.39	47.80	2
4	900	900	0.81	760	1135	150	4	1410	16	1935	9	1780	7	1800	7	2035		1560	6	1335	2	1775	2	865	1.29	0.92	92.02	47.95	2
5	1200	600	0.72	535	1485	150	4	1760	16	2285	11	1550	5	1575	5	1810		1335	7	1335	2	1475	3	865	1.09	0.64	91.75	50.78	3
6	1200	750	0.90	685	1485	150	4	1760	19	2285	11	1550	6	1725	6	1960		1485	7	1485	2	1625	3	890	1.31	1.03	106.77	51.04	3
7	1200	900	1.08	760	1485	150	4	1760	22	2285	11	1700	7	1800	7	2035		1560	7	1560	2	1775	3	890	1.49	0.96	119.93	55.256	3
8	1200	1200	1.44	1070	1550	150	4	1825	26	2350	12	2085	9	2210	9	2345		1870	9	1870	2	2075	3	890	2.07	1.21	156.94	65.45	3
9	1500	600	0.90	535	1840	150	4	2115	17	2640	14	1550	5	1575	5	1810		1335	7	1335	2	1475	3	915	1.25	1.11	106.15	54.46	4
10	1500	900	1.35	760	1840	150	4	2115	22	2640	14	1700	7	1800	7	2035		1560	7	1560	2	1775	3	915	1.69	1.20	134.43	58.86	4
11	1500	1200	1.80	1070	1665	150	4	1940	26	2465	14	2085	9	2210	9	2345		1870	10	1870	2	2075	4	915	2.15	1.25	167.33	69.44	4
12	1500	1500	2.25	1370	1955	150	4	2230	30	2755	14	2390	17	2615	17	2645		2170	10	2170	2	2375	4	915	3.02	1.49	242.81	78.88	4
13	1500	1800	2.70	1600	1955	250	4	2465	33	2755	14	2615	19	2845	19	2875		2400	12	2400	2	2675	4	915	3.66	1.58	281.96	88.82	4
14	1800	600	1.08	535	2190	150	4	2465	17	2990	16	1550	6	1575	6	1810		1335	8	1335	2	1475	4	945	1.41	1.25	122.23	60.29	5
15	1800	900	1.62	760	2250	150	4	2525	22	3050	16	1700	8	1905	8	2035		1560	8	1560	2	1775	4	945	1.92	1.36	155.75	65.51	5
16	1800	1200	2.16	1070	2250	150	4	2525	26	3050	16	2085	10	2210	10	2345		1870	10	1870	2	2075	4	945	2.56	1.49	193.53	75.37	5
17	1800	1500	2.70	1370	2310	150	4	2585	30	3110	17	2390	12	2615	17	2645		2170	11	2170	2	2375	5	945	3.31	1.63	265.09	85.63	5
18	1800	1800	3.24	1600	2310	250	4	2585	33	3110	17	2615	19	2845	19	2875		2400	13	2400	2	2675	5	945	4.00	1.72	305.28	95.79	5



DIMENSION "E"



TYPICAL GRATE DETAIL

FLOW NOTCH DETAIL

▲ NUMBER OF H1-BARS @75 mm CENTERS IN FRONT WALL OF DROP INLETS ARE AS FOLLOWS:

SIZE OF CULVERT	1200x600	1200x750	1500x600	1800x600
NO. OF H1@75 mm C/C	9	11	10	10

FOR ALL OTHER SIZES, EXCEPT 600 mm & 900 mm CLEAR SPANS, USE 12 H1-BARS @ 75 mm C/C IN FRONT WALL OF DROP INLET AND SPACE ADDITIONAL H1-BARS @ 150 mm C/C AS REQUIRED.

IN DROP INLETS FOR 600 mm & 900 mm CLEAR SPAN CULVERTS ALL H1-BARS ARE SPACED @ 150 mm C/C

■ USE H5-BARS IN SIDEWALLS OF DROP INLETS ONLY WHEN DEPTH OF DROP INLET EXCEEDS CLEAR HEIGHT +T1. "PER METER OF ADDITIONAL DEPTH" QUANTITIES INCLUDE THE WEIGHT OF 8 H5-BARS PER METER OF ADDITIONAL DEPTH OF DROP INLET.

GENERAL NOTES

- ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 1999 METRIC STANDARD SPECIFICATIONS.
- UNLESS OTHERWISE SPECIFIED, ALL EXPOSED CONCRETE SURFACES SHALL HAVE A FINISH IN ACCORDANCE WITH THE 1999 METRIC STANDARD SPECIFICATIONS.
- ALL EXPOSED CONCRETE EDGES SHALL HAVE 20 mm CHAMFER.
- ALL REINFORCING STEEL SHALL BE #13M EXCEPT CH BARS WHICH ARE #16M. ALL HORIZONTAL BARS SHALL BE SPACED AT 150 mm CENTERS, EXCEPT AS OTHERWISE INDICATED. VERTICAL BARS ARE TIE BARS SPACED @450 mm CENTERS.
- CLASS A OR AA CONCRETE AND REINFORCING STEEL QUANTITIES FOR STANDARD DROP INLETS, AS SHOWN IN TABLE, ARE FIGURED TO TOP OF CULVERT SLAB AND INCLUDE CURB. FOR DROP INLETS OF GREATER DEPTH. MULTIPLY THE FIGURE IN THE PER METER COLUMN BY THE DIFFERENCE IN HEIGHT FROM THE TOP OF CULVERT SLAB TO TOP OF DROP INLET AND ADD THE RESULT TO THE STANDARD DROP INLET QUANTITY.
- MAXIMUM DEPTH OF DROP INLETS FOR 1200 mm x 600 mm TO 1800 mm x 1800 mm REINF. CONCRETE BOXES SHALL BE AS FOLLOWS:

CLEAR SPAN OF CULVERT	1200 mm	1500 mm	1800 mm
MAX. DEPTH OF DROP INLET	6.0 m	4.25 m	3.65 m
- INLET TOP OPENING SHALL HAVE 75 mm x 3.43 kg STD. WEIGHT STEEL, GALVANIZED, SCHEDULE 40, PIPE SAFETY GRATES INSTALLED PERPENDICULAR TO THE DIRECTION OF TRAFFIC AT 300 mm (MAXIMUM) CENTERS. COST OF PIPE SAFETY GRATES ALL HARDWARE NEEDED FOR INSTALLATION SHALL BE INCLUDED IN THE PRICE BID FOR THE INLET.
- PIPE GRATE ENDS SHALL BE HELD DOWN WITH M14 x 140 mm GALV. BOLT, WASHER & NUT MEETING THE REQUIREMENTS OF ASTM-A-325M. BOLT THREADS, 45 mm, SHALL REMAIN EXPOSED FOR INSTALLING GRATE.
- DROP INLET WALLS, FLOOR & CURB CONSTRUCTION SHALL CONSIST OF THE SAME CLASS OF CONCRETE USED FOR THE REINFORCED CONCRETE BOX.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
611.06(E)	INLET	EACH
611.06(F)	ADDITIONAL DEPTH IN INLET	METER

● INLET TYPE & DESIGN NO. SHALL BE SPECIFIED.

APPROVED BY ROADWAY ENGINEER

DATE

OKLAHOMA DEPT. OF TRANSPORTATION
ROADWAY STANDARD (METRIC)
REINFORCED CONCRETE DROP INLETS
FOR REINFORCED CONCRETE BOXES
600 mm x 600 mm TO 1800 mm x 1800 mm