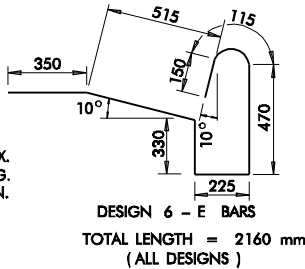


CONCRETE QUANTITIES	
DESIGN NO.	CONC. CU. METER
6-1	1.64
6-2	2.26
6-3	2.97
6-4	3.95
6-5	5.00

DESIGN NO.	DIMENSION (mm)					GRATE SIZE ⌀
	L	HT	W(H)	* GN	GW ☉	
6-1	4950	915	915	4620	765	750 SQ.
6-2	5865	1065	1065	5535	965	900 SQ.
6-3	6755	1220	1220	6450	1065	1050 SQ.
6-4	7975	1370	1420	7670	1215	1200 SQ.
6-5	8890	1525	1575	8585	1365	1350 SQ.

* DIMENSION GN IS A MINIMUM DIMENSION - MAY BE FORMED LONGER.
 ● G.W. DIMENSION=15 mm GREATER THAN "GRATE SIZE" ●.

N BAR	DESIGN NO.	DIMENSION R (mm)	TOTAL LENGTH
	6-1	405	2950
	6-2	495	3500
	6-3	580	4040
	6-4	670	4620
	6-5	760	5180



1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 1999 METRIC STANDARD SPECIFICATIONS.
2. NO EDGE CHAMFER IS REQUIRED.
3. ALL REINFORCING STEEL BARS SHALL BE 50 mm CLEAR FROM NEAREST CONCRETE FACE UNLESS SHOWN OTHERWISE IN THE DRAWING.
4. USE IN CONJUNCTION WITH STANDARD WSG-2, LATEST REVISION.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
509.06(B)	CLASS A CONCRETE	CUBIC METER
509.06(C)	CLASS A CONCRETE, SMALL STRUCTURES	CUBIC METER
511.06(A)	REINFORCING STEEL	KILOGRAM

▲ FOR QUANTITIES OF CLASS A CONCRETE LESS THAN 15.0 CUBIC METERS.

APPROVED BY ROADWAY ENGINEER		DATE	
OKLAHOMA DEPT. OF TRANSPORTATION ROADWAY STANDARD (METRIC) SLOPED AND GRATED WING WALLS (DESIGN SLOPE 1 : 6)			
1999 SPECIFICATIONS		SGWW-2	01M
ALL DIMENSIONS ON THIS SHEET IN MILLIMETERS UNLESS OTHERWISE NOTED.			R-56M

ACCOMMODATES – 600 mm ROUND / 560 x 345 & 660 x 395 ARCH / 600 x 600 R.C. BOX													BAR LIST				REQUIRES 6 EACH –750 mm SQ. GRATES				TOTAL LENGTH IN STR.		136 m	
DESIGN		BAR MARK																TOTAL WEIGHT		135 kg				
6-1		A	AV	A2	BY	B2	C	D	D1	DM	DM1	DB	DB1	E	F	G	H	K	M	* N	R			
SPACING	AS SHOWN	300 c/c	250 c/c	300 c/c	300 c/c	AS SHOWN	AS SHOWN	AS SHOWN	AS SHOWN			AS SHOWN	AS SHOWN	425 c/c	450 c/c	425 c/c	ON C OF FLR.	AS SHOWN	212 c/c	AS SHOWN	AS SHOWN			
NUMBER	2	12	3	24	6	4	2	2				2	2	3	11	3	1	3	6	2	2			
LENGTH EACH BAR	2819	2051 AVG.	1283	467 AVG.	83	4.90 m	2388	1727				4.85 m	4.09 m	2160	864	4.14 m	4.83 m	864	175	2945	864			
TOTAL LENGTH OF BAR	5.64 m	24.61 m	3.85 m	11.20 m	495	19.61 m	4.78 m	3.45 m				9.70 m	8.18 m	6.48 m	9.50 m	12.42 m	4.83 m	2590	1067	5.89 m	1727			

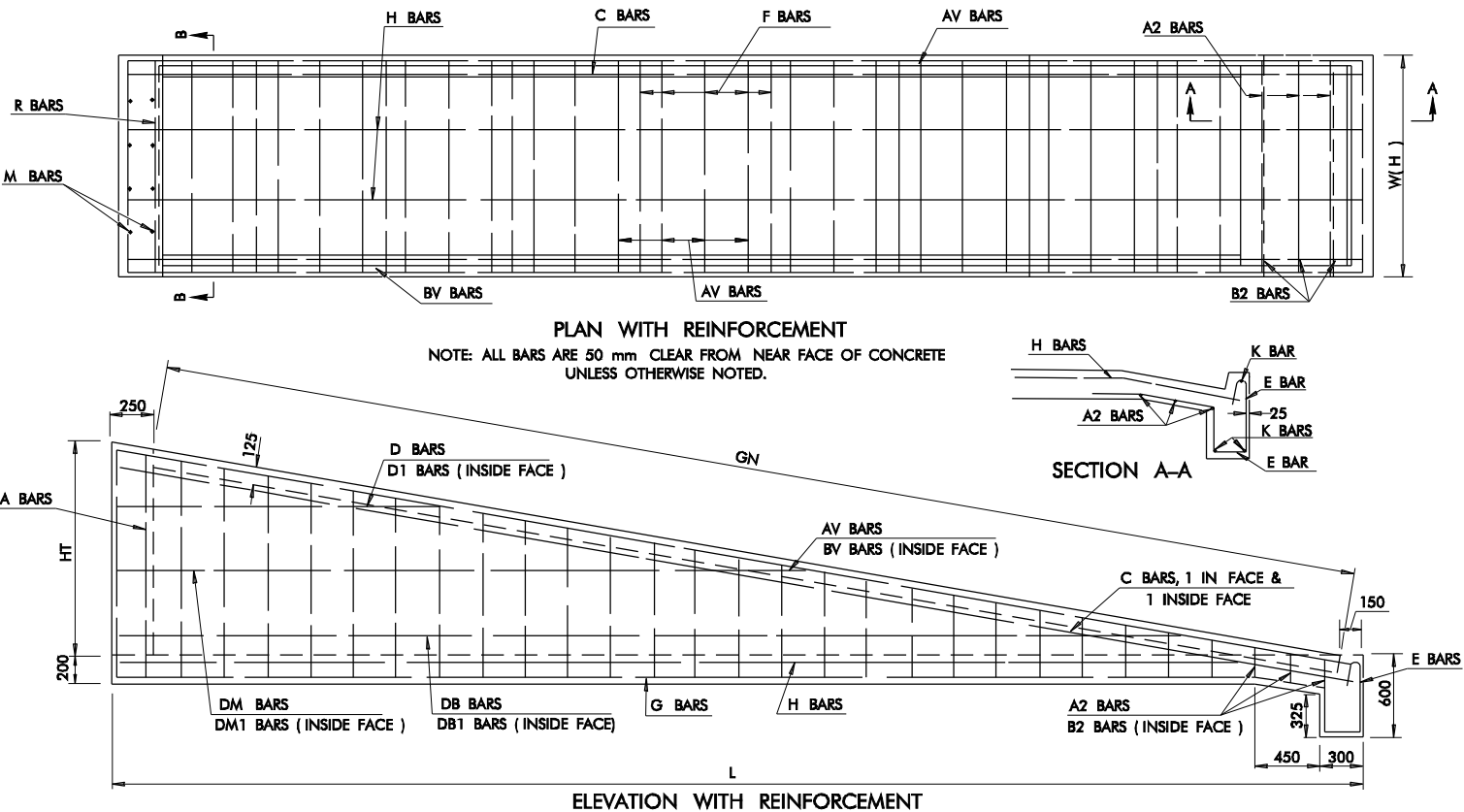
ACCOMMODATES – 750 mm ROUND / 725 x 460 & 680 x 500 ARCHES										BAR LIST										REQUIRES 6 EACH – 900 mm SQ. GRATES										TOTAL LENGTH IN STR.		167 m	
DESIGN		BAR MARK																		TOTAL WEIGHT		166 kg											
6-2		A	AV	A2	BV	B2	C	D	D1	DM	DM1	DB	DB1	E	F	G	H	K	M	*N	R												
SPACING	AS SHOWN	300 c/c	250 c/c	300 c/c	300 c/c	300 c/c	AS SHOWN	AS SHOWN	AS SHOWN			AS SHOWN	AS SHOWN	500 c/c	450 c/c	500 c/c	ON E OF FLR.	AS SHOWN	13 3/4" c/c	AS SHOWN	AS SHOWN												
NUMBER	2	15	3	30	6	4	2	2				2	2	3	13	3	1	3	6	2	2												
LENGTH EACH BAR	3290	2350 AVG.	1435	540 AVG.	83	5.87 m	2440	1778				4.88 m	4.22 m	2160	1016	5.05 m	5.75 m	1016	165	3.44 m	1016												
TOTAL LENGTH OF BAR	6.58 m	35.24 m	4.31 m	16.40 m	495	23.45 m	4.88 m	3.56 m				9.75 m	8.43 m	6.50 m	13.21 m	15.16 m	5.75 m	3.05 m	990	6.87 m	2032												

ACCOMMODATES – 900 mm ROUND / 920 x 570 & 960 x 610 ARCH / 900 x 900 R.C. BOX											BAR LIST		REQUIRES 6 EACH – 1050 mm SQ. GRATES								TOTAL LENGTH IN STR.		200 m	
DESIGN		BAR MARK																			TOTAL WEIGHT		199 kg	
6-3		A	AV	A2	BV	B2	C	D	D1	DM	DM1	AS SHOWN	DB1	E	F	G	H	K	M	*N	R			
SPACING		AS SHOWN	300 c/c	250 c/c	300 c/c	250 c/c	AS SHOWN	AS SHOWN	AS SHOWN			AS SHOWN	AS SHOWN	500 c/c	450 c/c	575 c/c	ON C/F FLR.	AS SHOWN	238 c/c	AS SHOWN	AS SHOWN			
NUMBER		2	18	3	36	6	4	2	2			2	2	3	15	3	1	3	8	2	2			
LENGTH EACH BAR		3.73 m	2648 AVG.	1588	648 AVG.	83	6.77 m	2440	1778			4.88 m	4.22 m	2160	1168	5.94 m	6.60 m	1168	150	4.04 m	1168			
TOTAL LENGTH OF BAR		7.47 m	47.92 m	4763	22.05 m	495	27.08 m	4.88 m	3.55 m			9.75 m	8.43 m	6.50 m	17.53 m	17.83 m	6.60 m	3.51 m	1220	8.08 m	2337			

ACCOMMODATES – 1050 mm ROUND / 1110 x 675 & 1030 x 740 ARCH													BAR LIST					REQUIRES 6 EACH – 1250 mm SQ. GRATES					TOTAL LENGTH IN STR.		295 m	
DESIGN		BAR MARK																		TOTAL WEIGHT		293 kg				
6-4		A	AV	A2	BV	B2	C	D	D1	DM	DM1	DB	DB1	E	F	G	H	K	M	*N	R					
SPACING	AS SHOWN	300 c/c	250 c/c	300 c/c	250 c/c	AS SHOWN	AS SHOWN	AS SHOWN	AS SHOWN	AS SHOWN	AS SHOWN	AS SHOWN	AS SHOWN	500 c/c	450 c/c	450 c/c	450 c/c	AS SHOWN	275 c/c	AS SHOWN	AS SHOWN					
NUMBER		22	3	44	6	4	2	2	2	2	2	2	2	17	4	2	3	8	4	2	2					
LENGTH EACH BAR		4240	3000 AVG.	1790	695 AVG.	80	7950	2590	1880	5180	4470	7823	7112	2159	1372	7162	7823	1372	140	4623	1372					
TOTAL LENGTH OF BAR		8485	66.36 m	5370	30.59 m	495	31.80 m	5180	3760	1035	8940	15.64 m	14.22 m	8636	23.32 m	28.65 m	15.65 m	4115	1118	9246	2743					

ACCOMMODATES - 1200 mm RND. / 1150 x 795 & 1345 x 855 ARCH / 1200 x 1200 R.C. BOX													BAR LIST					REQUIRES 6 EACH - 1400 mm SQ. GRATES					TOTAL LENGTH IN STR.		337.81 m	
DESIGN		BAR MARK													TOTAL WEIGHT		336 kg									
6-5		A	AV	A2	BY	B2	C	D	D1	DM	DM1	DB	DB1	E	F	G	H	K	M	*N	R					
SPACING		AS SHOWN	300 c/c	250 c/c	300 c/c	250 c/c	AS SHOWN	AS SHOWN	AS SHOWN	AS SHOWN	AS SHOWN	AS SHOWN	AS SHOWN	500 c/c	450 c/c	500 c/c	500 c/c	AS SHOWN	300 c/c	AS SHOWN	AS SHOWN					
NUMBER		2	25	3	50	6	4	2	2	2	2	2	2	4	19	4	2	3	8	2	2					
LENGTH EACH BAR		4615	3320 AVG.	1940	770 AVG.	80	8865	2590	1880	5180	4470	7924	7214	2159	1524	8077	8.74 m	1524	140	5182	1524					
TOTAL LENGTH OF BAR		9500	83.03 m	5830	38.57 m	495	35.46 m	5180	3760	1035	8940	15.85 m	14.43 m	8753	28.96 m	32.31 m	17.48 m	4572	1118	10.36 m	3038					

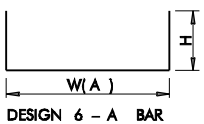
* OPTIONAL BARS - TO BE USED ON ROUND PIPE STUBS ONLY.



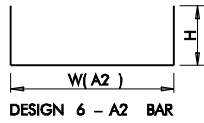
BAR LOCATION SCHEDULE			
BAR MARK	SHAPE	SIZE	LOCATION IN STRUCTURE
A	BENT	#13M	BACK OUTSIDE VERTICAL BARS - U BEND
AV	BENT	#13M	OUTSIDE VERT. BARS IN SLOPING WING - U BEND
A2	BENT	#13M	OUTSIDE VERTICAL BARS AT FRONT - U BEND
BV	STR.	#13M	INSIDE VERTICAL BARS IN SLOPING WINGS
B2	STR.	#13M	INSIDE VERTICAL BARS AT FRONT OF STRUCTURE
C	STR.	#13M	TOP OF SLOPING WING - LONGITUDINAL BAR (INSIDE & OUTSIDE FACES)
D	STR.	#13M	OUTSIDE HORIZONTAL BAR IN WING (TOP)
D1	STR.	#13M	INSIDE HORIZONTAL BAR IN WING (TOP)
DM	STR.	#13M	OUTSIDE HORIZONTAL BAR IN WING (MIDDLE)
DM1	STR.	#13M	INSIDE HORIZONTAL BAR IN WING (MIDDLE)
DB	STR.	#13M	OUTSIDE HORIZONTAL BAR IN WING (BOTTOM)
DB1	STR.	#13M	INSIDE HORIZONTAL BAR IN WING (BOTTOM)
E	BENT	#13M	BAR IN CURTAIN WALL AND FLOOR AT FRONT
F	STR.	#13M	TRANSVERSE HORIZONTAL BAR IN TOP OF FLOOR
G	STR.	#13M	LONGITUDINAL HORIZ. BAR IN BOTTOM OF FLOOR
H	STR.	#13M	LONGITUDINAL HORIZONTAL BAR IN TOP OF FLOOR
K	STR.	#13M	TRANSVERSE HORIZONTAL BAR IN CURTAIN WALL
M	STR.	#13M	VERTICAL BAR IN BACK OF STRUCTURE AT TOP
* N	BENT	#13M	SPECIAL BENT BAR (OPTIONAL) AT BACK OF STRUCTURE
R	STR.	#13M	TRANSVERSE HORIZ. BAR AT BACK TOP OF STRUCTURE

① TO BE FIELD BENT TO MAINTAIN 50 mm CLEAR FROM TOP OF FLOOR AT GRATE NOTCH.
* OPTIONAL BARS - TO BE USED ON ROUND PIPE STUBS ONLY.

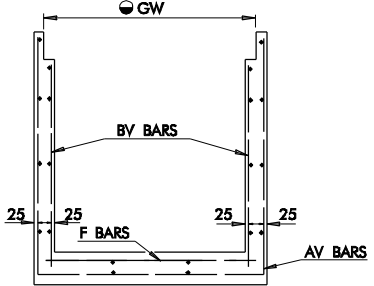
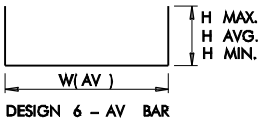
DESIGN NO.	DIMENSIONS (mm)		TOTAL LENGTH
	W (A)	H	
6-1	865	975	2820
6-2	1015	1135	3290
6-3	1165	1280	3730
6-4	1370	1435	4240
6-5	1525	1610	4750



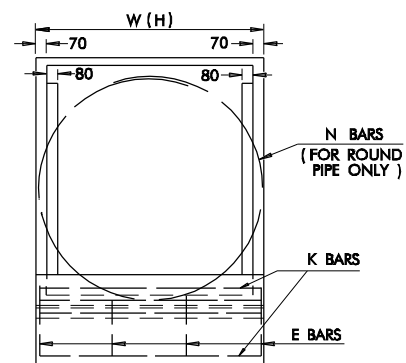
DESIGN NO.	DIMENSIONS (mm)		TOTAL LENGTH	A2 BAR
	W (A ₂)	H		
6-1	865	210	1280	
6-2	1015	210	1435	
6-3	1165	210	1585	
6-4	1370	210	1790	
6-5	1525	210	1945	



DESIGN NO.	AV BAR DIMENSIONS (mm)				TOTAL LENGTH	AV BAR
	W (AV.)	H AVG.	H MIN.	H MAX.		
6-1	865	595	275	910	2050	
6-2	1015	665	265	1065	2350	
6-3	1165	740	260	1220	2650	
6-4	1370	820	260	1370	3015	
6-5	1525	900	260	1535	3320	



SECTION B-B



FRONT VIEW
(REINFORCEMENT SHOWN IN
CURTAIN WALL & BACK)