

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			

SKEWED WINGWALL BAR REINFORCEMENT DETAILS

MARK	LENGTH	TYPE	A	B	MARK	LENGTH	TYPE	A	B
451 D	VARIES	1	4 AT 23-9 ; 5 AT 23-3 TO 4-8		551 V	VARIES	2	12 AT 9-8 TO 4-10	2-1
451 E	VARIES	1	5 AT 26-4 ; 5 AT 23-4 TO 4-4		551 W	VARIES	2	13 AT 9-5 TO 5-4	2-1
451 F	VARIES	1	5 AT 28-10 ; 6 AT 28-1 TO 4-0		551 X	VARIES	2	12 AT 10-6 TO 5-11	2-1
451 G	VARIES	1	4 AT 18-2 ; 5 AT 17-8 TO 3-6		552	6-2	2	3-6	2-1
451 H	VARIES	1	5 AT 20-1 ; 5 AT 18-0 TO 3-8		553 A	4-11	3	2-11	22°-30'
451 J	VARIES	1	5 AT 22-1 ; 6 AT 21-8 TO 3-6		553 B	3-10	3	1-10	30°-00'
451 K	VARIES	1	4 AT 15-0 ; 5 AT 14-8 TO 2-10		553 C	3-5	3	1-5	37°-30'
451 L	VARIES	1	5 AT 16-7 ; 5 AT 14-9 TO 2-11		554 D	VARIES	1	24 AT 6-0 TO 3-8 ; 3 AT 6-1 TO 5-3	
451 M	VARIES	1	5 AT 18-2 ; 6 AT 17-10 TO 2-8		554 E	VARIES	1	25 AT 3-8 TO 5-10	
451 N	VARIES	1	4 AT 9-10 ; 5 AT 8-5 TO 1-10		554 F	VARIES	1	23 AT 3-8 TO 5-6	
451 P	VARIES	1	5 AT 10-11 ; 5 AT 10-0 TO 1-11		554 G	VARIES	1	18 AT 3-8 TO 6-1 ; 2 AT 5-9 TO 3-2	
451 R	VARIES	1	5 AT 12-0 ; 5 AT 11-8 TO 2-4		554 H	VARIES	1	19 AT 3-8 TO 5-10	
451 S	VARIES	1	4 AT 10-7 ; 5 AT 10-5 TO 2-0		554 J	VARIES	1	18 AT 3-8 TO 5-7	
451 T	VARIES	1	5 AT 11-9 ; 5 AT 10-7 TO 2-1		554 K	VARIES	1	16 AT 3-8 TO 6-2 ; 1 AT 5-6	
451 U	VARIES	1	5 AT 12-11 ; 6 AT 12-10 TO 2-1		554 L	VARIES	1	17 AT 3-8 TO 6-1	
451 V	VARIES	1	4 AT 11-7 ; 5 AT 11-6 TO 2-0		554 M	VARIES	1	15 AT 3-8 TO 5-7	
451 W	VARIES	1	5 AT 12-10 ; 5 AT 11-6 TO 2-4		554 N	VARIES	1	10 AT 3-8 TO 6-0	
451 X	VARIES	1	5 AT 14-2 ; 6 AT 13-11 TO 2-3		554 P	VARIES	1	12 AT 3-8 TO 6-0	
452 D	24-3	1	24-3		554 R	VARIES	1	12 AT 3-8 TO 5-11	
452 E	26-11	1	26-11		554 S	VARIES	1	11 AT 3-8 TO 6-0	
452 F	29-6	1	29-6		554 T	VARIES	1	12 AT 3-8 TO 6-0	
452 G	18-10	1	18-10		554 U	VARIES	1	10 AT 3-8 TO 5-5	
452 H	20-11	1	20-11		554 V	VARIES	1	12 AT 3-8 TO 6-0	
452 J	22-11	1	22-11		554 W	VARIES	1	13 AT 3-8 TO 6-0	
452 K	15-10	1	15-10		554 X	VARIES	1	12 AT 3-8 TO 5-6	
452 L	17-5	1	17-5		555 D	32-11	3	30-11	22°-30'
452 M	19-2	1	19-2		555 E	35-0	3	33-0	22°-30'
452 N	11-1	1	11-1		555 F	37-5	3	35-5	22°-30'
452 P	12-2	1	12-2		555 G	25-1	3	23-1	30°-00'
452 R	13-0	1	13-0		555 H	27-1	3	25-1	30°-00'
452 S	11-9	1	11-9		555 J	29-1	3	27-1	30°-00'
452 T	13-0	1	13-0		555 K	20-10	3	18-10	37°-30'
452 U	14-3	1	14-3		555 L	22-6	3	20-6	37°-30'
452 V	12-8	1	12-8		555 M	24-0	3	22-0	37°-30'
452 W	13-11	1	13-11		555 N	13-9	3	11-9	67°-30'
452 X	15-4	1	15-4		555 P	14-11	3	12-11	67°-30'
453 D	27-4	1	27-4		555 R	16-0	3	14-0	67°-30'
453 E	29-10	1	29-10		555 S	14-9	3	12-9	60°-00'
453 F	32-5	1	32-5		555 T	15-10	3	13-10	60°-00'
453 G	20-10	1	20-10		555 U	17-0	3	15-0	60°-00'
453 H	22-10	1	22-10		555 V	16-2	3	14-2	52°-30'
453 J	24-10	1	24-10		555 W	17-3	3	15-3	52°-30'
453 K	17-2	1	17-2		555 X	18-8	3	16-8	52°-30'
453 L	18-9	1	18-9		651 E	VARIES	2	3 AT 10-11 ; 2 AT 10-9 TO 10-7	2-1
453 M	20-4	1	20-4		651 F	VARIES	2	2 AT 12-0 ; 7 AT 11-11 TO 10-8	2-1
453 N	11-3	1	11-3		651 H	VARIES	2	2 AT 11-0 ; 2 AT 10-11 TO 10-8	2-1
453 P	12-5	1	12-5		651 J	VARIES	2	2 AT 12-0 ; 5 AT 11-10 TO 10-9	2-1
453 R	13-5	1	13-5		651 L	13-9	2	11-0	2-1
453 S	12-0	1	12-0		651 M	VARIES	2	1 AT 11-11 ; 4 AT 11-10 TO 10-10	2-1
453 T	13-2	1	13-2		651 R	13-9	2	11-0	2-1
453 U	14-4	1	14-4		651 U	VARIES	2	4 AT 12-0 TO 10-6	2-1
453 V	13-2	1	13-2		651 X	VARIES	2	3 AT 11-10 TO 10-11	2-1
453 W	14-4	1	14-4		652	7-9	2	5-0	2-1
453 X	15-8	1	15-8		653 D	VARIES	1	9 AT 6-1 TO 5-3 ; 3 AT 5-10 TO 5-0	
454 A	8-2	5	0-11		653 E	VARIES	1	12 AT 4-10 TO 5-10	
454 B	8-0	5	0-9		653 F	VARIES	1	12 AT 4-7 TO 5-5	
454 C	7-11	5	0-8		653 G	VARIES	1	7 AT 5-3 TO 6-0 ; 2 AT 6-1 TO 5-5	
455 A	8-2	4	0-5		653 H	VARIES	1	10 AT 4-10 TO 5-11	
455 B	8-2	4	0-5		653 J	VARIES	1	10 AT 4-8 TO 5-8	
455 C	8-1	4	0-4		653 K	VARIES	1	6 AT 5-3 TO 6-1 ; 2 AT 5-10 TO 5-1	
551 D	VARIES	2	3 AT 10-0 ; 24 AT 9-9 TO 4-10	2-1	653 L	VARIES	1	9 AT 5-0 TO 6-2	
551 E	VARIES	2	25 AT 10-5 TO 5-4	2-1	653 M	VARIES	1	8 AT 4-9 TO 5-7	
551 F	VARIES	2	23 AT 10-5 TO 5-10	2-1	653 N	VARIES	1	4 AT 5-3 TO 6-0	
551 G	VARIES	2	2 AT 10-0 ; 19 AT 9-11 TO 4-10	2-1	653 P	VARIES	1	6 AT 4-10 TO 6-0	
551 H	VARIES	2	19 AT 10-4 TO 5-4	2-1	653 R	VARIES	1	7 AT 4-10 TO 6-0	
551 J	VARIES	2	18 AT 10-6 TO 5-11	2-1	653 S	VARIES	1	5 AT 5-2 TO 6-2	
551 K	VARIES	2	1 AT 10-0 ; 16 AT 9-11 TO 4-10	2-1	653 T	VARIES	1	7 AT 4-11 TO 6-1	
551 L	VARIES	2	17 AT 10-9 TO 5-4	2-1	653 U	VARIES	1	5 AT 4-9 TO 5-6	
551 M	VARIES	2	15 AT 10-6 TO 5-11	2-1	653 V	VARIES	1	5 AT 5-3 TO 6-1	
551 N	VARIES	2	10 AT 9-5 TO 4-10	2-1	653 W	VARIES	1	7 AT 4-11 TO 6-1	
551 P	VARIES	2	12 AT 10-11 TO 5-4	2-1	653 X	VARIES	1	7 AT 4-7 TO 5-7	
551 R	VARIES	2	12 AT 10-6 TO 5-10	2-1	751 E	VARIES	1	3 AT 5-11 TO 6-0 ; 5 AT 6-0 TO 5-2	
551 S	VARIES	2	11 AT 9-8 TO 4-10	2-1	751 F	VARIES	1	13 AT 5-7 TO 6-0 ; 5 AT 5-11 TO 5-1	
551 T	VARIES	2	12 AT 10-6 TO 5-4	2-1	751 H	VARIES	1	3 AT 6-0 TO 6-2 ; 4 AT 6-1 TO 5-2	
551 U	VARIES	2	10 AT 10-0 TO 5-11	2-1	751 J	VARIES	1	9 AT 5-8 TO 6-2 ; 4 AT 6-0 TO 5-2	

MARK	LENGTH	TYPE	A	B
751 L	VARIES	1	3 AT 6-0 TO 5-2	
751 M	VARIES	1	7 AT 5-10 TO 6-2 ; 3 AT 5-10 TO 5-2	
751 R	6-1	1	6-1	
751 U	VARIES	1	7 AT 5-7 TO 6-1	
751 X	VARIES	1	5 AT 5-8 TO 6-0	
951 A	34-10	1	34-10	
951 B	28-0	1	28-0	
951 C	24-10	1	24-10	
952 A	31-10	1	31-10	
952 B	26-0	1	26-0	
952 C	23-4	1	23-4	
953 A	24-3	1	24-3	
953 B	19-2	1	19-2	
953 C	17-5	1	17-5	

WINGWALL, PARAPET & TOE WALL REINFORCEMENT, DIMENSION AND QUANTITIES

SKEW	45°			60°			75°		
	DOUBLE 10 X 8	DOUBLE 10 X 9	DOUBLE 10 X 10	DOUBLE 10 X 8	DOUBLE 10 X 9	DOUBLE 10 X 10	DOUBLE 10 X 8	DOUBLE 10 X 9	DOUBLE 10 X 10
BARS WAL	27-551 D AT 12	25-551 E AT 12	23-551 F AT 12	21-551 G AT 12	19-551 H AT 12	18-551 J AT 12	17-551 K AT 12	17-551 L AT 12	15-551 M AT 12
BARS WBL		5-651 E AT 12	9-651 F AT 12		4-651 H AT 12	7-651 J AT 12		2-651 L AT 12	5-651 N AT 12
BARS WCL	12-652 AT 12	12-652 AT 12	12-652 AT 12	9-652 AT 12	10-652 AT 12	10-652 AT 12	8-652 AT 12	9-652 AT 12	8-652 AT 12
BARS WDL		4-652 AT 12	9-652 AT 12		3-652 AT 12	6-652 AT 12		1-652 AT 12	5-652 AT 12
BARS WEL	9-451 D AT 12	10-451 E AT 12	11-451 F AT 12	9-451 G AT 12	10-451 H AT 12	11-451 J AT 12	9-451 K AT 12	10-451 L AT 12	11-451 M AT 12
BARS WFL	9-553 A AT 12	10-553 A AT 12	11-553 A AT 12	9-553 B AT 12	10-553 B AT 12	11-553 B AT 12	9-553 C AT 12	10-553 C AT 12	11-553 C AT 12
BARS WGL	27-554 D AT 12	25-554 E AT 12	23-554 F AT 12	21-554 G AT 12	19-554 H AT 12	18-554 J AT 12	17-554 K AT 12	17-554 L AT 12	15-554 M AT 12
BARS WHL	12-653 D AT 12	12-653 E AT 12	12-653 F AT 12	9-653 G AT 12	10-653 H AT 12	10-653 J AT 12	8-653 K AT 12	9-653 L AT 12	8-653 M AT 12
BARS WJL		9-751 E AT 6	18-751 F AT 6		7-751 H AT 6	13-751 J AT 6		3-751 L AT 6	10-751 M AT 6
BARS WKL	1-452 D	1-452 E		1-452 G	1-452 H		1-452 K	1-452 L	1-452 M
BARS WML	7-453 D	7-453 E	7-453 F	7-453 G	7-453 H	7-453 J	7-453 K	7-453 L	7-453 M
BARS WNL	2-555 D	2-555 E	2-555 F	2-555 G	2-555 H	2-555 J	2-555 K	2-555 L	2-555 M
BARS WAS	10-551 N AT 12	12-551 P AT 12	12-551 R AT 12	11-551 S AT 12	12-551 T AT 12	10-551 U AT 12	12-551 V AT 12	13-551 W AT 12	12-551 X AT 12
BARS WBS			1-651 R AT 12			4-651 U AT 12			3-651 X AT 12
BARS WCS	4-552 AT 12	6-552 AT 12	7-552 AT 12	5-552 AT 12	7-552 AT 12	5-552 AT 12	5-552 AT 12	7-552 AT 12	7-552 AT 12
BARS WDS			1-652 AT 12			3-652 AT 12			2-652 AT 12
BARS WES	9-451 N AT 12	10-451 P AT 12	10-451 R AT 12	9-451 S AT 12	10-451 T AT 12	11-451 U AT 12	9-451 V AT 12	10-451 W AT 12	11-451 X AT 12
BARS WFS									
BARS WGS	10-554 N AT 12	12-554 P AT 12	12-554 R AT 12	11-554 S AT 12	12-554 T AT 12	10-554 U AT 12	12-554 V AT 12	13-554 W AT 12	12-554 X AT 12
BARS WHS	4-653 N AT 12	6-653 P AT 12	7-653 R AT 12	5-653 S AT 12	7-653 T AT 12	5-653 U AT 12	5-653 V AT 12	7-653 W AT 12	7-653 X AT 12
BARS WJS			1-751 R AT 6			7-751 U AT 6			5-751 X AT 6
BARS WLS	1-452 N	1-452 P		1-452 S	1-452 T		1-452 V	1-452 W	1-452 X
BARS WMS	7-453 N	7-453 P	7-453 R	7-453 S	7-453 T	7-453 U	7-453 V	7-453 W	7-453 X
BARS WNS	2-555 N	2-555 P	2-555 R	2-555 S	2-555 T	2-555 U	2-555 V	2-555 W	2-555 X
BARS PA	12-454 A	12-454 A	12-454 A	12-454 B	12-454 B	12-454 B	12-454 C	12-454 C	12-454 C
BARS PB	2-951 A	2-951 A	2-951 A	2-951 B	2-951 B	2-951 B	2-951 C	2-951 C	2-951 C
BARS PC	2-952 A	2-952 A	2-952 A	2-952 B	2-952 B	2-952 B	2-952 C	2-952 C	2-952 C
BARS AA	12-455 A	12-455 A	12-455 A	12-455 B	12-455 B	12-455 B	12-455 C	12-455 C	12-455 C
BARS AB	2-952 A	2-952 A	2-952 A	2-952 B	2-952 B	2-952 B	2-952 C	2-952 C	2-952 C
BARS AC	2-953 A	2-953 A	2-953 A	2-953 B	2-953 B	2-953 B	2-953 C	2-953 C	2-953 C
L	27'-3"	29'-10"	32'-5"	20'-10"	22'-10"	24'-10"	18'-9"	18'-9"	20'-4"
S	11'-3"	12'-4"	13'-5"	12'-0"	13'-2"	14'-4"	13'-2"	14'-4"	15'-8"
R	4'-2 1/2"	4'-8 1/2"	5'-2 1/2"	4'-2 1/2"	4'-8 1/2"	5'-2 1/2"	4'-2 1/2"	4'-8 1/2"	5'-2 1/2"
CU. YDS. CLASS "A" CONCRETE	23.70	26.51	28.49	20.01	24.97	22.45	20.45	22.80	22.80
LB. BAR REINFORCEMENT STEEL	2563	2958	3311	2167	2490	2856	2002	2218	2535