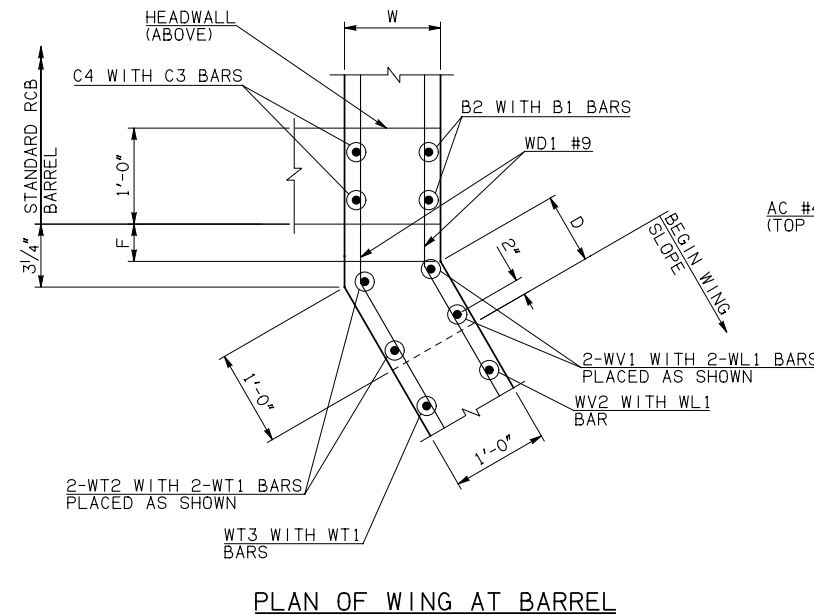


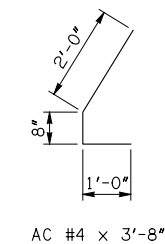
DESCRIPTION	REVISIONS	DATE

WINGWALL DIMENSIONS			
SPAN	W	D	F
12'	12"	8 3/4"	0
14'	12"	8 3/4"	0
16'	13"	6 3/4"	1 3/4"
18'	14"	4 3/4"	3 1/2"
20'	15"	2 3/4"	5 1/4"

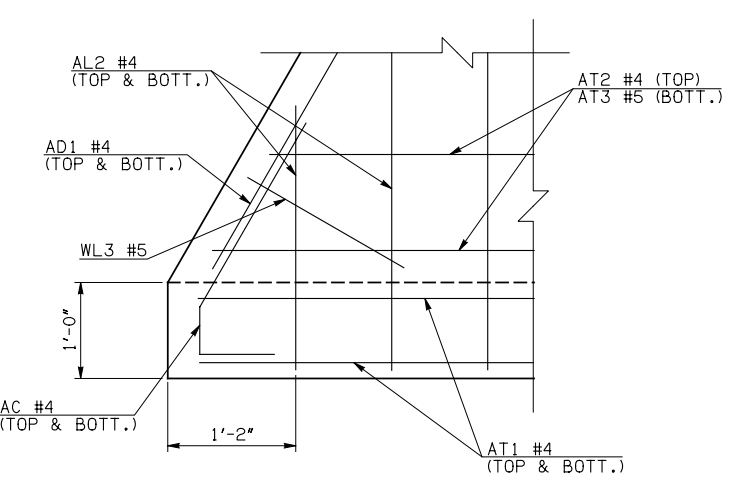


PLAN OF WING AT BARREL

APRON VARIABLES						
SPAN	DIM. R	DIM. Q	QTY. J	QTY. K	QTY. N	
12'	27'-0"	35'-10"	10	29	30	
14'	31'-0"	37'-10"	13	26	34	
16'	35'-2"	39'-10"	17	22	38	
18'	39'-4"	41'-10"	20	19	42	
20'	43'-6"	43'-10"	24	15	46	



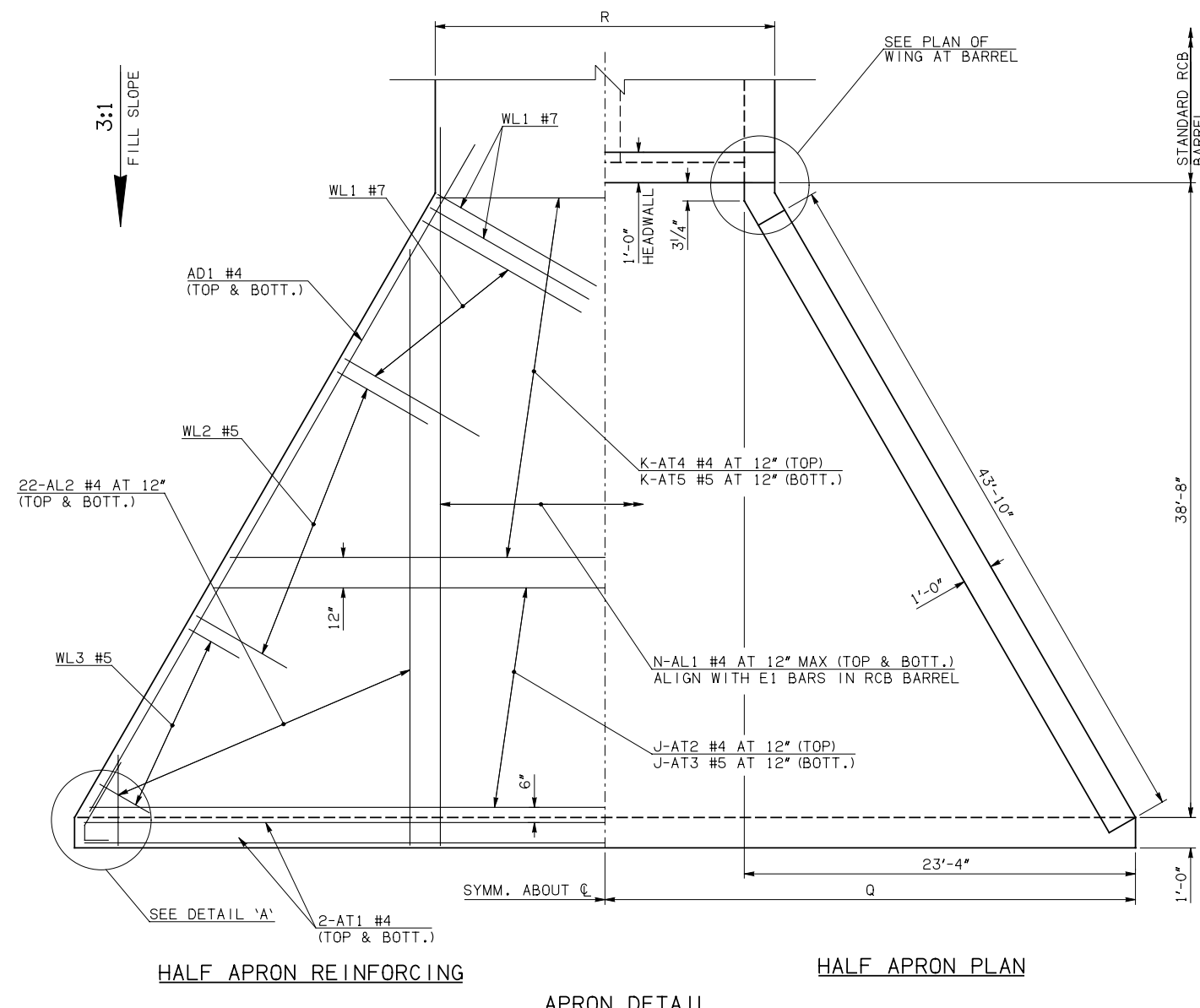
AC #4 x 3'-8"



DETAIL 'A'

WINGWALL BAR LIST				
ONE WINGWALL SHOWN; TWO REQUIRED				
MARK	SIZE	QTY.	FORM	REMARKS
WD1	#9	24	BNT	8'-4"
WH1	#4	2	STR	44'-8"
WH2	#4	24	STR	22'-10 1/2" AVG. 3'-10" TO 41'-11"
WH3	#5	2	STR	45'-5"
WL1	#7	23	BNT	15'-5"
WL2	#5	34	BNT	10'-9"
WL3	#5	11	BNT	4'-9 1/2" AVG. 3'-4" TO 6'-3"
WT1	#4	35	STR	2'-10"
WT2	#4	2	STR	13'-0"
WT3	#4	11	STR	11'-5" AVG. 10'-0" TO 12'-10"
WT4	#4	22	STR	6'-7 1/2" AVG. 3'-7" TO 9'-8"
WT5	#4	11	STR	2'-9 1/2" AVG. 1'-4" TO 4'-3"
WV1	#5	2	STR	13'-0"
WV2	#5	21	STR	11'-5" AVG. 10'-0" TO 12'-10"
WV3	#5	22	STR	6'-7 1/2" AVG. 3'-7" TO 9'-8"
U1	#4	1	BNT	3'-2"

- ① 4-SETS OF 22-AL2 BARS REQUIRED
- ② 2-SETS OF 12-WH2 BARS REQUIRED
- ③ INCLUDES 2'-6" LAP



HALF APRON REINFORCING

HALF APRON PLAN

APRON DETAIL

APRON AND HEADWALL BAR LIST

APRON AND HEADWALL BAR LIST																	
ONE APRON AND ONE HEADWALL SHOWN																	
MARK	SIZE	FORM	12' SPAN			14' SPAN			16' SPAN			18' SPAN			20' SPAN		
			QTY.	LENGTH	REMARKS	QTY.	LENGTH	REMARKS	QTY.	LENGTH	REMARKS	QTY.	LENGTH	REMARKS	QTY.	LENGTH	REMARKS
AC	#4	BNT	4	3'-8"		4	3'-8"		4	3'-8"		4	3'-8"		4	3'-8"	
AD1	#4	STR	4	46'-8"		4	46'-8"		4	46'-8"		4	46'-8"		4	46'-8"	
AL1	#4	STR	60	41'-5"		68	41'-5"		76	41'-5"		84	41'-5"		92	41'-5"	
① AL2	#4	STR	88	20'-8" AVG.	2'-6" TO 38'-10"	88	20'-8" AVG.	2'-6" TO 38'-10"	88	20'-8" AVG.	2'-6" TO 38'-10"	88	20'-8" AVG.	2'-6" TO 38'-10"	88	20'-8" AVG.	2'-6" TO 38'-10"
AT1	#4	STR	4	73'-10" ③		4	77'-10" ③		4	81'-10" ③		4	85'-10" ③		4	89'-10" ③	
AT2	#4	STR	10	68'-1 1/2" AVG.	62'-11" TO 73'-4" ③	13	70'-4 1/2" AVG.	63'-5" TO 77'-4" ③	17	72'-1" AVG.	62'-10" TO 81'-4" ③	20	74'-4" AVG.	63'-4" TO 85'-4" ③	24	76'-0 1/2" AVG.	62'-9" TO 89'-4" ③
AT3	#5	STR	10	68'-1 1/2" AVG.	62'-11" TO 73'-4" ③	13	70'-4 1/2" AVG.	63'-5" TO 77'-4" ③	17	72'-1" AVG.	62'-10" TO 81'-4" ③	20	74'-4" AVG.	63'-4" TO 85'-4" ③	24	76'-0 1/2" AVG.	62'-9" TO 89'-4" ③
AT4	#4	STR	29	43'-1" AVG.	26'-11" TO 59'-3"	26	45'-4" AVG.	30'-11" TO 59'-9"	22	47'-0 1/2" AVG.	34'-11" TO 59'-2"	19	49'-3 1/2" AVG.	38'-11" TO 59'-8"	15	51'-0" AVG.	42'-11" TO 59'-1"
AT5	#5	STR	29	43'-1" AVG.	26'-11" TO 59'-3"	26	45'-4" AVG.	30'-11" TO 59'-9"	22	47'-0 1/2" AVG.	34'-11" TO 59'-2"	19	49'-3 1/2" AVG.	38'-11" TO 59'-8"	15	51'-0" AVG.	42'-11" TO 59'-1"
CH	#4	STR	4	26'-8"		4	30'-8"		4	34'-10"		4	39'-0"		4	43'-2"	
CL1	#4	BNT	30	4'-4"		34	4'-4"		38	4'-4"		42	4'-4"		46	4'-4"	
CL2	#4	BNT	30	4'-3"		34	4'-3"		38	4'-3"		42	4'-3"		46	4'-3"	

QUANTITIES						
ITEM	UNIT	12' SPAN	14' SPAN	16' SPAN	18' SPAN	20' SPAN
CLASS AA CONCRETE	CY	109.40	116.30	123.30	130.20	136.90
REINFORCING STEEL	LB	12940.00	13480.00	14050.00	14600.00	15150.00

NOTE: QUANTITIES ABOVE ARE FOR ONE END SECTION, WHICH IS COMPRISED OF ONE HEADWALL, ONE APRON, AND TWO WINGWALLS. INCLUDED IN REINFORCING STEEL PAY ITEM QUANTITY IS THE WEIGHT OF ADDITIONAL RCB BARREL REINFORCING STEEL REQUIRED AS SHOWN.

APPROVED BY BRIDGE ENGINEER *Robert J. Nisch* DATE 4/09/09

OKLAHOMA DEPT. OF TRANSPORTATION
BRIDGE STANDARD (ENGLISH)
 RCB CULVERTS - END SECTION DETAILS
 DOUBLE CELL - 11'-0" HEIGHT - 0°
 SHEET NO. 1 OF 2

1999 SPECIFICATIONS	RCB-E2-H11-0-1	OOE
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