

APRON AND HEADWALL BAR LIST

MARK	SIZE	FORM	12' SPAN		
			NO.	LENGTH	LENGTH VARIATION
ABD1	#4	STR.	84	4'-3"	
ABD2	#4	BNT.	4	5'-0"	
AD	#4	STR.	4	44'-5"	
AL1	#4	STR.	84	39'-7"	
AL2	#4	STR.	88	20'-4" AVG.	2'-3" TO 38'-5"
AT1	#4	STR.	4	86'-9"	
AT2	#4	STR.	21	74'-7" AVG.	63'-0" TO 86'-2"
AT3	#5	STR.	21	74'-7" AVG.	63'-0" TO 86'-2"
AT4	#4	STR.	18	49'-6" AVG.	39'-8" TO 59'-4"
AT5	#5	STR.	18	49'-6" AVG.	39'-8" TO 59'-4"
CH	#4	STR.	4	39'-8"	
CL1	#4	BNT.	44	4'-4"	
CL2	#4	BNT.	44	4'-4"	

- ①
- ②
- ③

- ① 4 SETS OF 22 BARS
- ② LENGTH INCLUDES 2'-6" LAP

NOTE:
 QUANTITIES ARE FOR ONE END SECTION WHICH INCLUDES ONE HEADWALL, ONE APRON AND TWO WINGWALLS. PIPE RAILING IS BASED ON PLAN DIMENSION AT CENTERLINE OF RAILING.

QUANTITIES

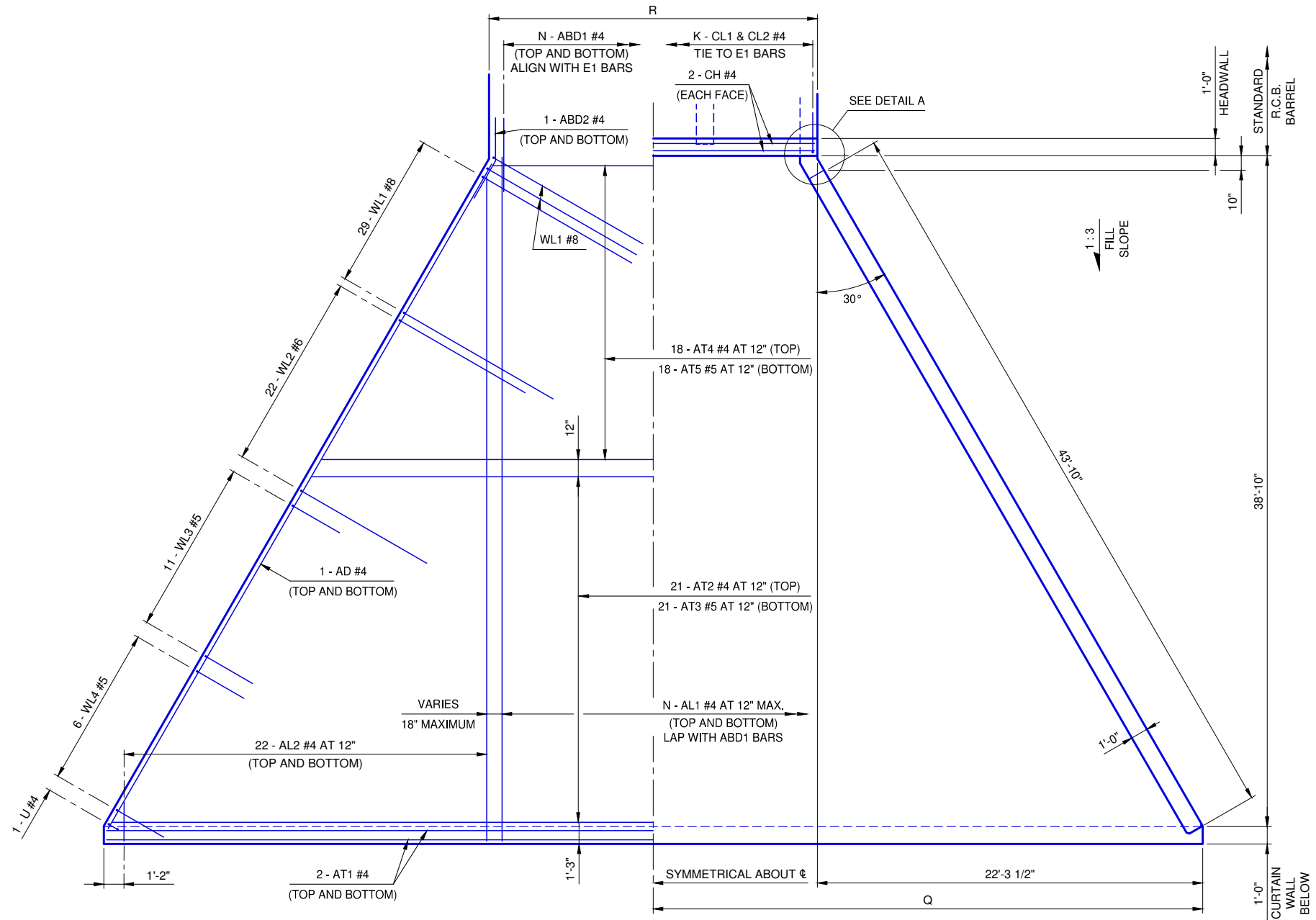
ITEM	UNIT	12' SPAN
CLASS AA CONCRETE	C.Y.	137.0
REINFORCING STEEL	LB.	16,400
PIPE RAILING	L.F.	129

APRON VARIABLES

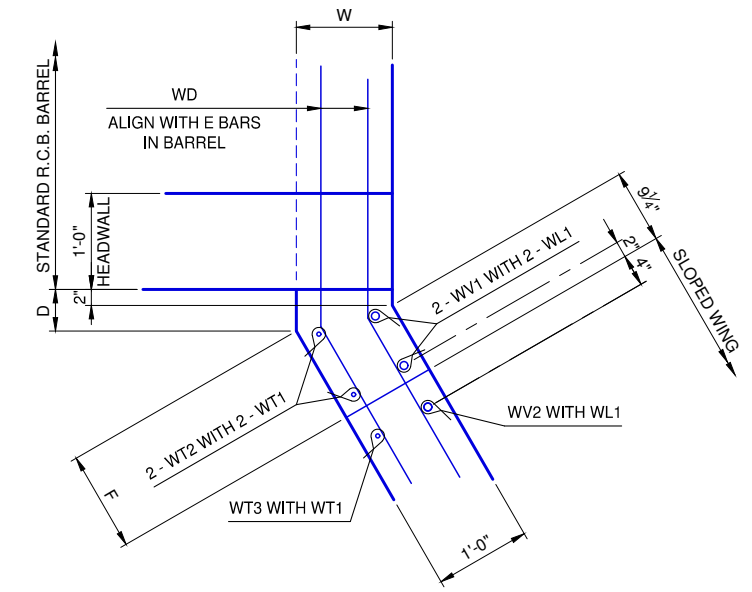
SPAN	DIMENSIONS			NO. OF BARS	
	R	Q	K	N	
12'	40'-0"	42'-3 1/2"	44	42	

WINGWALL DIMENSIONS

SPAN	W	D	F
12'	12"	5 3/16"	1'-0 7/16"



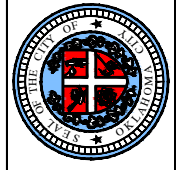
APRON PLAN



DETAIL A

REVISION NO.
DATE

The City of
Oklahoma City
 Public Works Department
 Engineering Division

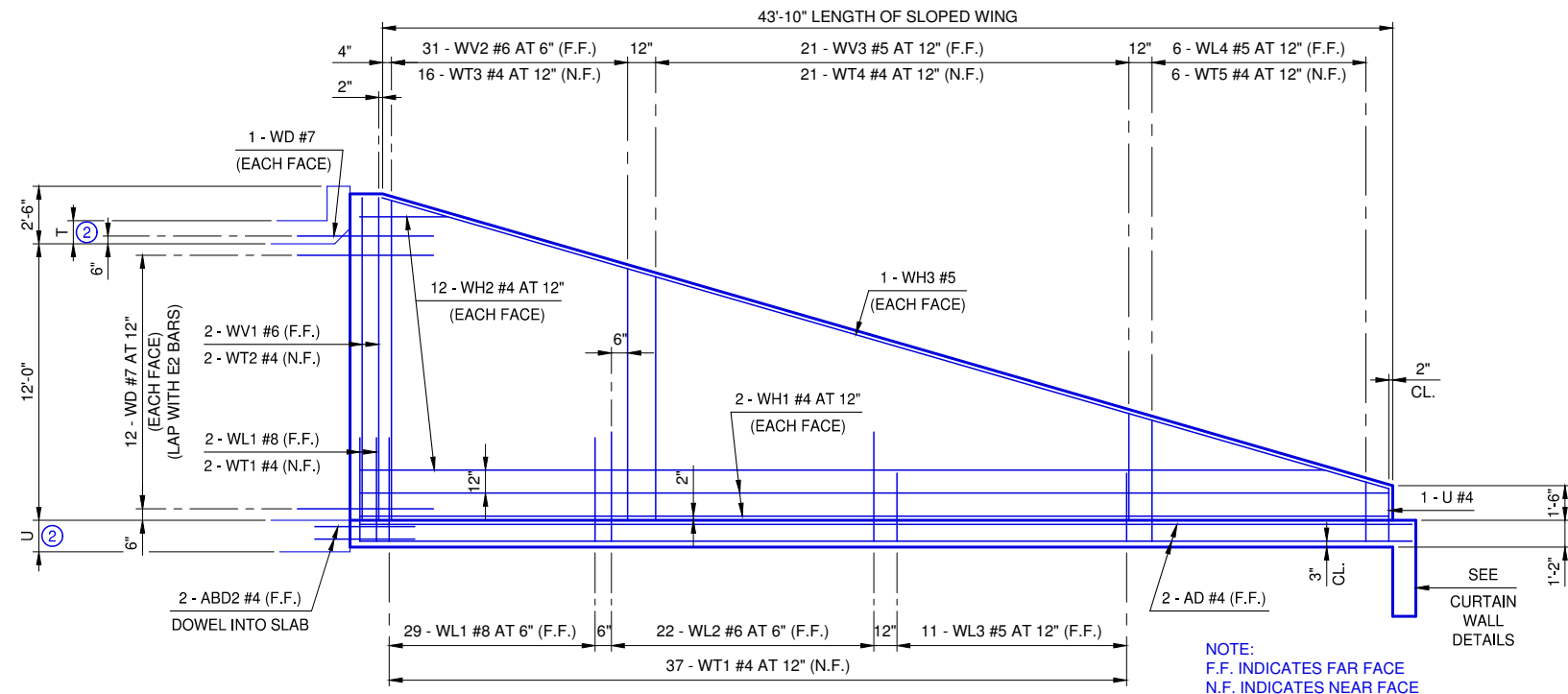


APPROVED BY:  DATE: 6/22/2023
 ERIC J. WENGER, P.E.
 CITY ENGINEER

THESE STANDARD DRAWINGS AND ASSOCIATED CALCULATIONS HAVE BEEN PREPARED BY CEC CORPORATION UNDER CONTRACT WITH THE CITY OF OKLAHOMA CITY

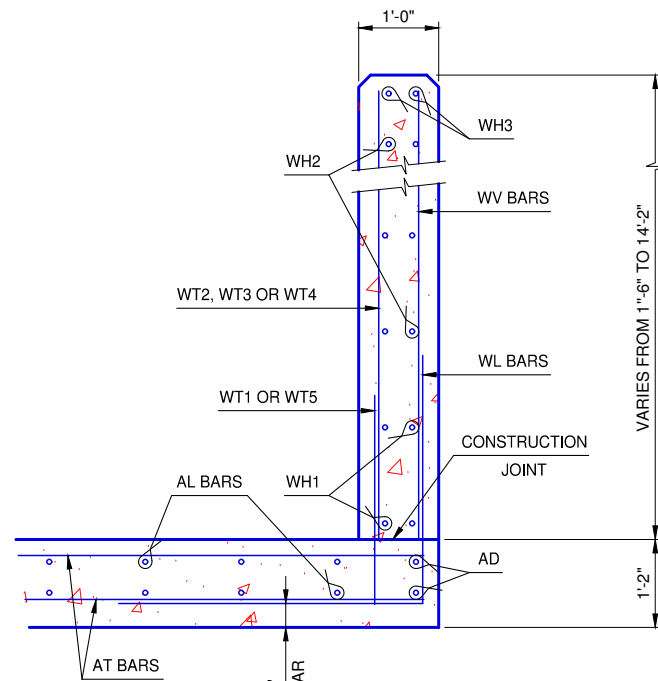
R.C.B. CULVERTS - END SECTION DETAILS
TRIPLE CELL - 12' HEIGHT - 0° SKEW
 SHEET NO. 1 OF 2

Drawing Number
 RCB-082

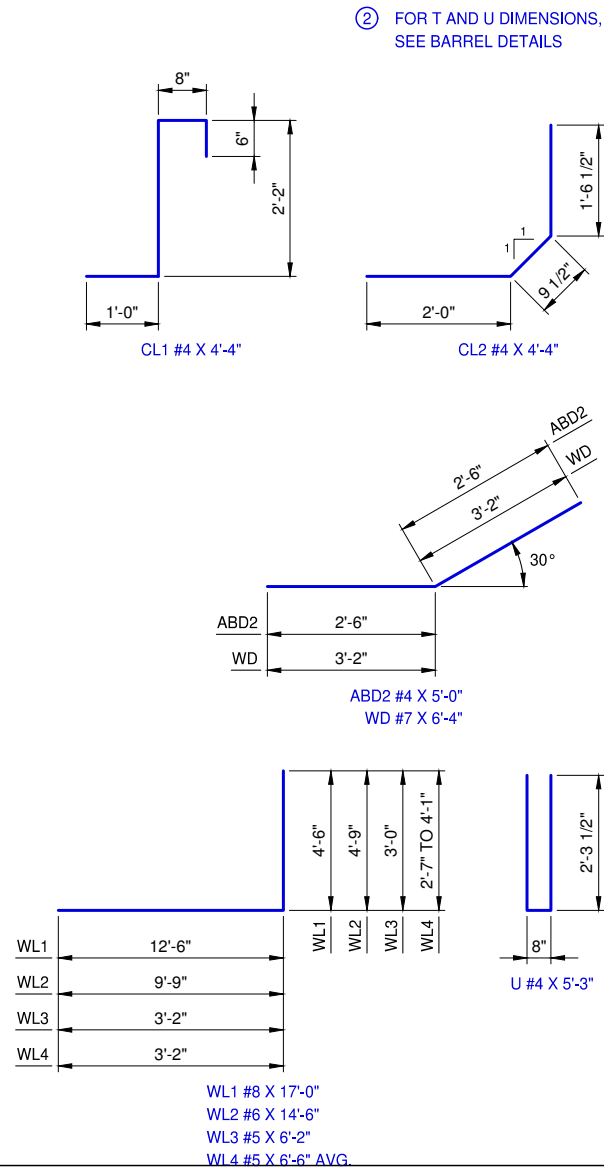


WINGWALL ELEVATION

SEE STD. RCB-015 PipeRailing FOR DETAILS OF RAIL REQUIRED ON TOP OF HEADWALL AND WINGS



TYPICAL SECTION THRU WING



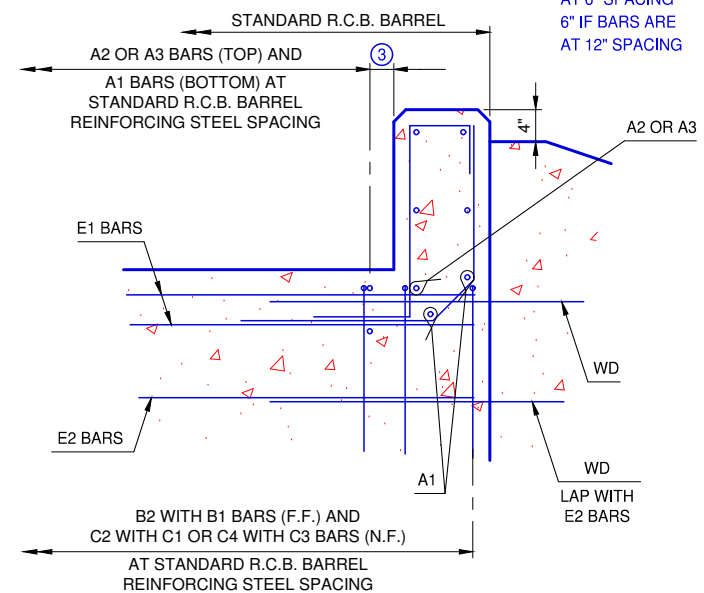
ADJUSTMENT IN NUMBER OF BARREL BARS IN END SECTION

SPAN	BAR MARKS								
	A1	A2	A3	B1	B2	C1	C2	C3	C4
12'		-1	-2			-4	-4		

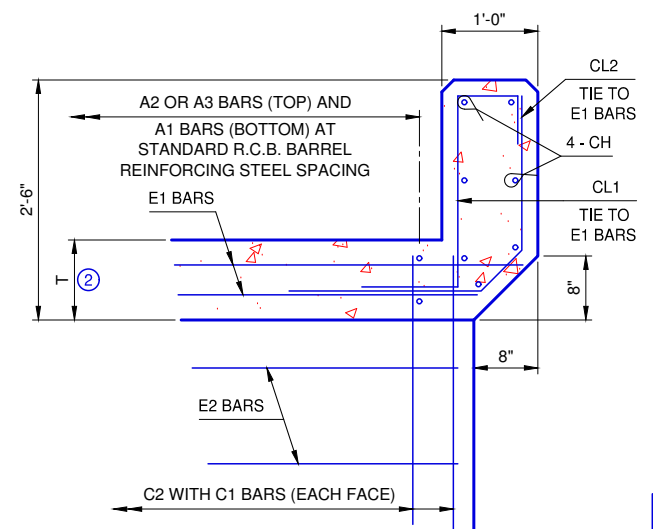
NOTE: TO CONSTRUCT ONE END SECTION AS SHOWN, THE NUMBER OF BARS SHOWN NEED TO BE ADDED TO OR SUBTRACTED FROM THE TOTAL WEIGHT OF REINFORCING FOR THE BARREL. THIS WEIGHT ADJUSTMENT IS INCLUDED IN THE END SECTION QUANTITY. SEE BARREL DETAILS FOR BAR LENGTHS, SIZES AND BENDS.

WINGWALL BAR LIST						
ONE WINGWALL SHOWN, TWO REQUIRED						
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION	
WD	#7	26	BNT.	6'-4"		
WH1	#4	4	STR.	44'-8"		
WH2	#4	24	STR.	22'-9" AVG.	3'-9" TO 41'-9"	
WH3	#5	2	STR.	45'-5"		
WL1	#8	31	BNT.	17'-0"		
WL2	#6	22	BNT.	14'-6"		
WL3	#5	11	BNT.	6'-2"		
WL4	#5	6	BNT.	6'-6" AVG.	5'-9" TO 7'-3"	
WT1	#4	39	STR.	2'-7"		
WT2	#4	2	STR.	14'-0"		
WT3	#4	16	STR.	11'-8" AVG.	9'-6" TO 13'-10"	
WT4	#4	21	STR.	6'-4" AVG.	3'-5" TO 9'-3"	
WT5	#4	6	STR.	3'-4" AVG.	2'-7" TO 4'-1"	
WV1	#6	2	STR.	14'-0"		
WV2	#6	31	STR.	11'-8" AVG.	9'-6" TO 13'-10"	
WV3	#5	21	STR.	6'-4" AVG.	3'-5" TO 9'-3"	
U	#4	1	BNT.	5'-3"		

- ① 2 SETS OF 12 BARS
- ② FOR T AND U DIMENSIONS, SEE BARREL DETAILS
- ③ 3" IF BARS ARE AT 6" SPACING
6" IF BARS ARE AT 12" SPACING



HEADWALL DETAIL AT EXTERIOR WALL



HEADWALL DETAIL AT INTERIOR WALL

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