

**SURVEY CONTROL DATA**

1. HORIZONTAL DATUM IS THE OKLAHOMA STATE PLANE COORDINATE SYSTEM, N.A.D. 83(2011) LAMBERT PROJECTION, SOUTH ZONE ADJUSTED TO N.G.S. STATE PLANE COORDINATES, UTILIZING OPUS.
  - A. ACCURACY - 3RD ORDER OR BETTER
2. BEARINGS:
  - THE BEARINGS SHOWN HEREIN OR HEREON ARE GRID BEARINGS DERIVED FROM THE USC & GS OKLAHOMA PLANE COORDINATE SYSTEM AND ARE NOT ASTRONOMICAL.
3. VERTICAL CONTROLS:
  - A. LEVEL DATUM IS NGS, NAVD 88, TAKEN FROM ADJUSTED PRIMARY CONTROL UTILIZING DIFFERENTIAL LEVELING TECHNIQUES.
  - B. ACCURACY - 3RD ORDER OR BETTER

LATITUDE 36° 11' 17"  
LONGITUDE 97° 07' 09"

**DESIGN DATA**

ADT 2020 - XXX  
ADT 2040 - XXX  
V - 45 M.P.H.

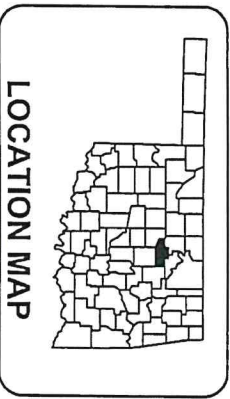
**SCALES**

PLAN 1" = 100'  
PROFILE HOR. 1" = 100'  
PROFILE VER. 1" = 10'  
LAYOUT MAP 1" = 10,560'



**CONVENTIONAL SIGNS**

- PROPOSED ROADS
- SECTION LINES
- QUARTER SECTION LINES
- FENCES
- EXISTING GRADE
- EXISTING ROADS
- BASE LINE
- PROPOSED GRADE
- 146- COMMUNICATION LINES (EXISTING)
- 149- POWER LINES (EXISTING)
- 150- GAS LINE (EXISTING)
- 151- SANITARY SEWER LINES (EXISTING)
- 152- WATER LINES (EXISTING)
- 153- COMMUNICATION LINES (PROPOSED)
- 154- POWER LINES (PROPOSED)
- 155- SANITARY SEWER LINES (PROPOSED)
- 156- GAS LINE (PROPOSED)
- 157- WATER LINES (PROPOSED)
- 158- BUILDINGS
- 159- DRAINAGE STRUCTURES (EXISTING)
- 160- DRAINAGE STRUCTURES (PROPOSED)
- 161- RIGHT-OF-WAY LINES (EXISTING)
- 162- RIGHT-OF-WAY LINES (PROPOSED)
- 163- FLOWLINE (EXISTING)
- 164- FLOWLINE (PROPOSED)
- 165- TOE OF SLOPE (EXISTING)
- 166- TOE OF SLOPE (PROPOSED)
- 167- CITY LIMITS
- 168- LANDSCAPE



**PAYNE COUNTY**

**COMMISSIONER DISTRICT 3**

**PLAN OF PROPOSED**

**COUNTY BRIDGE**

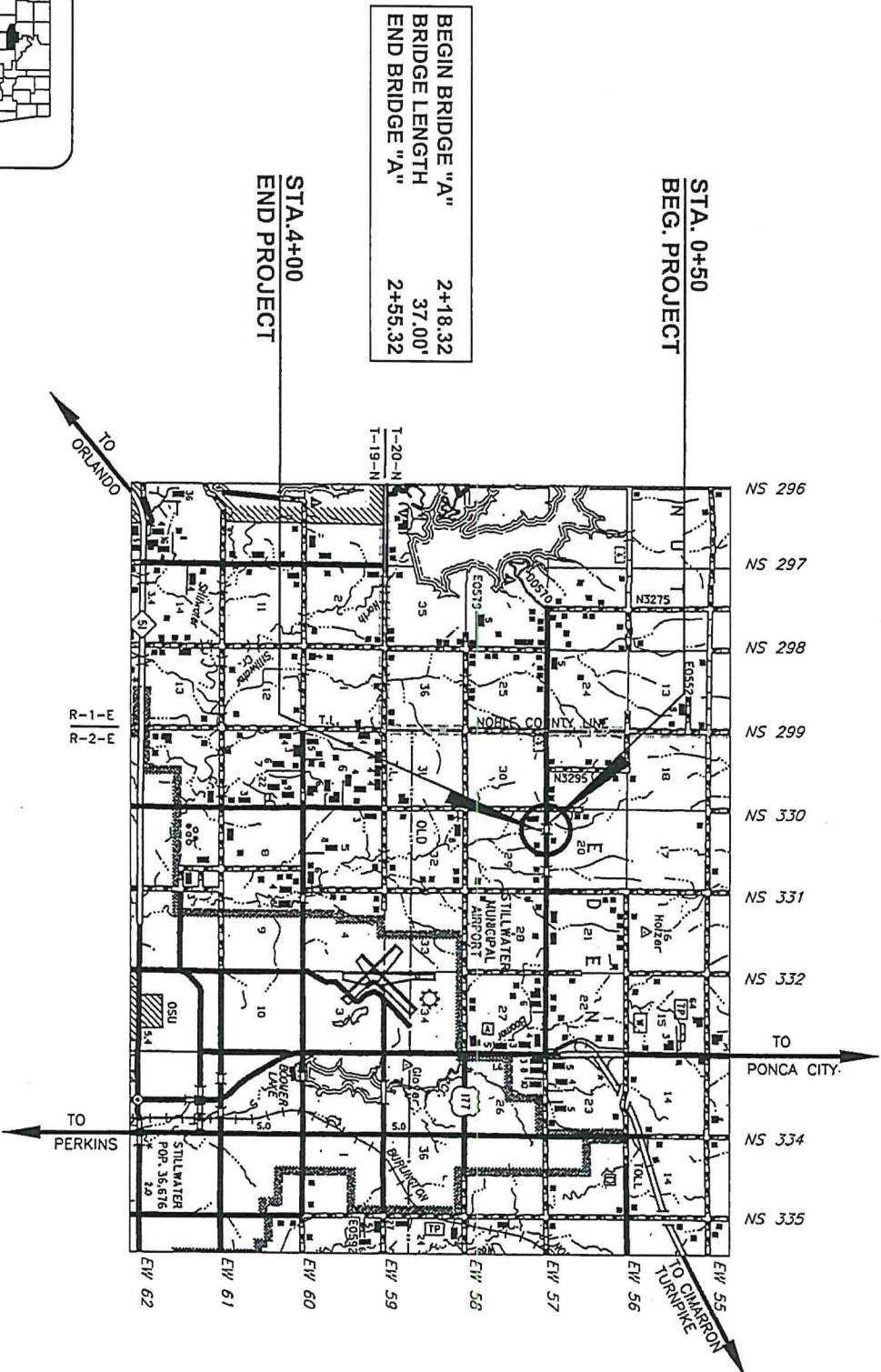
**BRIDGE AND APPROACH PLANS**

**MCURTREY ROAD (EW-57) OVER  
TRIBUTARY TO COW CREEK**

LOCATION: 60E0570N3300004 LOCAL ID: 014A  
REMOVE NBI NO. 07049 CONSTRUCT NBI NO. \_\_\_\_\_

**INDEX OF SHEETS**

SHEET NO.	DESCRIPTION
0001	TITLE SHEET
0001	SUMMARY OF PAY ITEMS AND GENERAL NOTES
B001-B003	DETAILS OF RCB CULVERT
R001	PLAN, PROFILE & SECTION



PAYNE COUNTY COMMISSIONER

DISTRICT NO. 3

ATTEST

COUNTY CLERK

DATE:

DATE:

PROJECT LENGTH BASED ON C.R.L.

ROADWAY LENGTH: ... 313.00 FT. ... 0.059 MILES  
BRIDGE "A" LENGTH: ... 37.00 FT. ... 0.007 MILES (BRIDGE IN PLACE)  
PROJECT LENGTH: ... 0.066 MILES  
EQUATIONS: NONE  
EXCEPTIONS: NONE



PREPARED BY:  
CEC CORPORATION  
CA32 6/30/22  
OKLAHOMA CITY, OKLAHOMA

*Aaron Finley*  
AARON FINLEY  
OKLA. REG. NO. 24264

DATE: 10/7/21



0200 - BRIDGE				
BRIDGE "A" PAY QUANTITIES				
ITEM	DESCRIPTION	UNITS	QUANTITY	
202(A)	UNCLASSIFIED EXCAVATION	CY	256.00	
303(A)	AGGREGATE BASE TYPE A	CY	209.00	
509(A)	CLASS AA CONCRETE	CY	228.00	
511(A)	REINFORCING STEEL	LB	43,180.00	
601(B)	TYPE I-A PLAIN RIPRAP	TON	210.00	

PAY QUANTITY NOTES

- (R-1) PAYMENT FOR THIS ITEM WILL BE BASED ON PLAN QUANTITY ONLY. SEE SECTION 109.01B OF THE STANDARD SPECIFICATIONS.
- (1) AGGREGATE BASE TO BE PLACED UNDER AND AROUND BARRELS OF DOWNSTREAM APRON AS INDICATED ON SHEET B001. AGGREGATE BASE SHALL BE PLACED IN LIFTS NO DEEPER THAN 8" AND EACH LIFT SHALL BE COMPACTED TO 98% OF MAXIMUM DENSITY AS INDICATED IN SECTION 303.04 OF THE STANDARD SPECIFICATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF DENSITY.
- (2) CONTRACTOR SHALL BE RESPONSIBLE FOR CONCRETE STRENGTH TESTING.
- (3) ESTIMATED AT 140 LBS./CU. FT.

GENERAL NOTES

SPECIFICATIONS: COMPLY WITH THE REQUIREMENTS OF THE 2019 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION GOVERN, APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, DECEMBER 28, 2019, EXCEPT AS MODIFIED BY THE PLANS AND SPECIAL PROVISIONS.

IN ADDITION TO THE RESPONSIBILITIES SHOWN IN THE SPECIFICATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND/OR ESTABLISHING NEW BENCH MARKS AS NEEDED TO CONSTRUCT THE PROJECT.

ALL TREES, BRUSH AND OTHER DEBRIS THAT MIGHT INTERFERE WITH THE FLOW OF WATER SHALL BE CLEANED OUT TO THE RIGHT-OF-WAY LINE, AT EACH STRUCTURE AND BRIDGE, IN A MANNER APPROVED BY THE ENGINEER. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

ALL FLOWLINES THAT ARE TO BE FILLED SHALL BE THOROUGHLY TAMPED BEFORE CONSTRUCTION OR EXTENSION OF DRAINAGE STRUCTURES. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

CREEK AND RIVER BANKS SHALL BE KEPT IN THEIR NATURAL STATE AS MUCH AS POSSIBLE. THE CONTRACTOR SHALL NOT UNDULY STRIP EXISTING PROTECTIVE VEGETATION IN THE VICINITY OF THE STREAM BANKS AND SHALL SO CONDUCT HIS OPERATIONS AS NOT TO DAMAGE THE BANKS WITH HIS EQUIPMENT. NO BANK UPSTREAM OR DOWNSTREAM SHALL BE EXCAVATED EXCEPT AS APPROVED FOR AND AS SHOWN ON THE PLANS. NO WORK ROADS SHALL BE CONSTRUCTED UPSTREAM WHERE IT IS NECESSARY TO CUT THE STREAM OR RIVER BANKS EXCEPT BY THE APPROVAL OF THE ENGINEER. BANK CUTS FOR WORK ROADS SHALL BE LOCATED DOWNSTREAM AND REPLACED BY THE CONTRACTOR TO THEIR ORIGINAL SHAPE AND DENSITY. UNNECESSARY STRIPPING OF VEGETATION GROWTH ALONG BANKS IN THE CONSTRUCTION AREA IS NOT PERMITTED.

ROADWAY SHALL BE CLOSED TO THROUGH TRAFFIC DURING THE CONSTRUCTION PERIOD.

(CAUTION) THE LOCATION AND DEPTH OF ALL UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES HE MAY INFLICT TO THE EXISTING UNDERGROUND UTILITIES WITHIN THE PROJECT AREA AS A RESULT OF HIS DIGGING, TRENCHING, BORING, ETC. PRIOR TO DIGGING NEAR UTILITIES. IN ACCORDANCE WITH THE OKLAHOMA UNDERGROUND FACILITIES DAMAGE PREVENTION ACT THE CONTRACTOR SHALL NOTIFY THE OKLAHOMA ONE-CALL SYSTEM, INC. 49 HOURS PRIOR TO BEGINNING EXCAVATION. OKLAHOMA ONE-CALL SYSTEM, INC. "CALL OKE1" 1-800-522-6543 OR 811.

IN ADDITION TO THE RESPONSIBILITIES SHOWN IN THE SPECIFICATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND/OR ESTABLISHING NEW BENCH MARKS AS NEEDED TO CONSTRUCT THE PROJECT.

THE CONTRACTOR SHALL CONSTRUCT THE REINFORCED CONCRETE BOX STRUCTURE AS DETAILED HEREIN, BUT IS ONLY RESPONSIBLE FOR BACKFILLING AGGREGATE BASE AS SHOWN IN THE "PLACEMENT OF TYPE A AGGREGATE BASE" DETAIL ON SHEET B001. ALL OTHER BACKFILL AND ROADWAY RECONSTRUCTION SHALL BE COMPLETED BY THE COUNTY.

NO ADDITIONAL RIGHT-OF-WAY HAS BEEN PURCHASED FOR THIS PROJECT; CONTRACTOR SHALL CONDUCT HIS OPERATIONS WITHIN THE EXISTING STATUTORY RIGHT-OF-WAY.

THE CONTRACTOR SHALL NOTIFY THE PAYNE COUNTY DISTRICT 3 COMMISSIONER, IN WRITING, FOURTEEN CALENDAR DAYS PRIOR TO BEGINNING CONSTRUCTION.

DESCRIPTION	REVISIONS	DATE

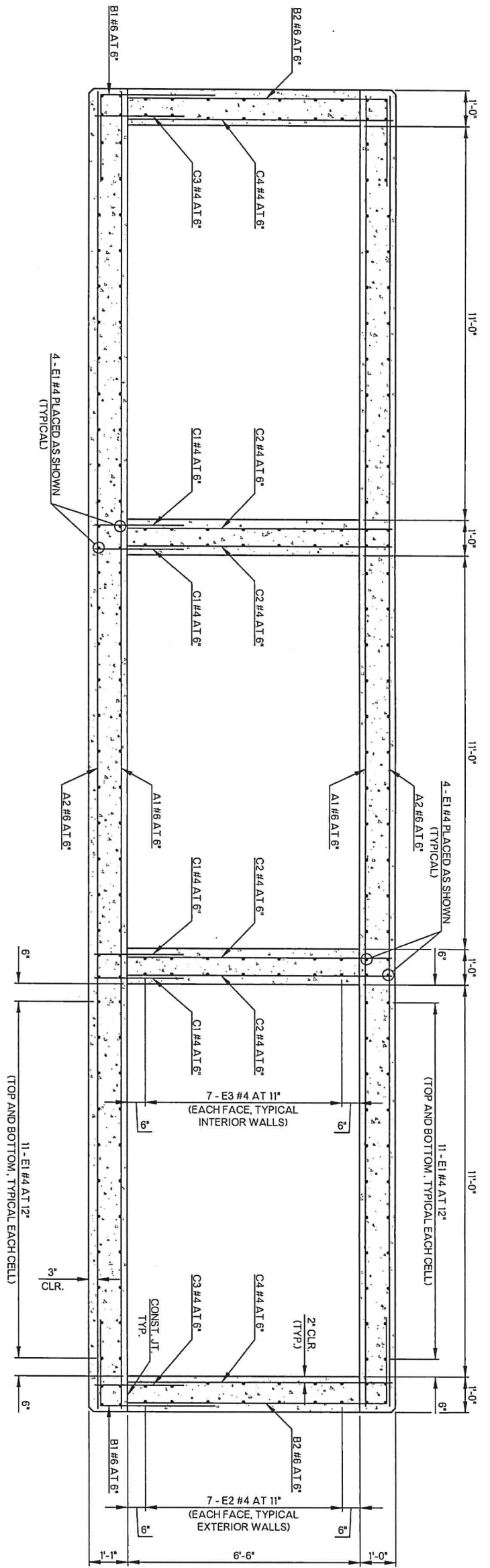
CEC // TRANSPORTATION

**DESIGN DATA:**

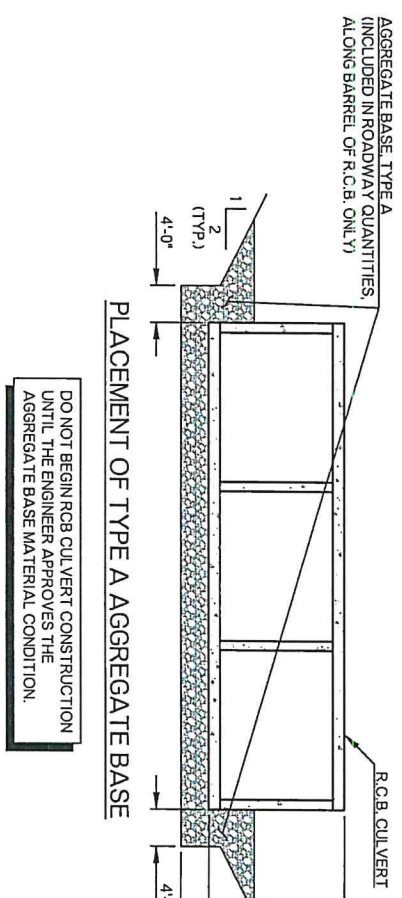
- DESIGNED IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH EDITION.
- DESIGNED FOR HL-93I LOADING AND 2 FT. TO 5 FT. OF FILL.
- MATERIALS:  
CONCRETE (CLASS AA)  $f'_c = 4 \text{ K.S.I.}$   
REINFORCING STEEL  $f_y = 60 \text{ K.S.I.}$

**RCB GENERAL NOTES:**

- ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2019 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
- ALL CONCRETE EDGES SHALL HAVE A 1/2" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. ALL CHAMFER STRIPS SHALL BE SIZED LUMBER.
- ALL REINFORCING STEEL SHALL HAVE A MINIMUM OF 2" CLEAR COVER, UNLESS OTHERWISE NOTED.
- FOR ADDITIONAL INFORMATION ON THE BOX INSTALLATION, SEE ODOT STANDARD SBH-5.

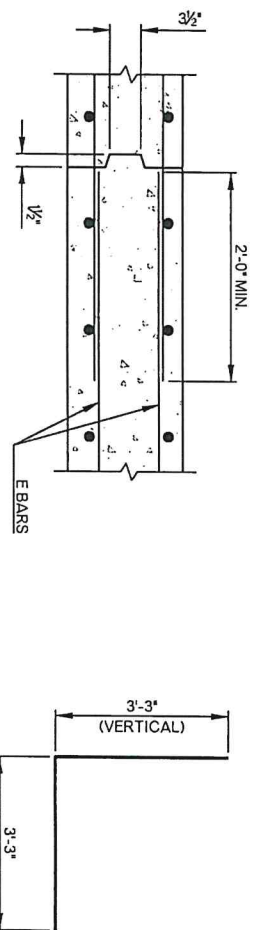


TYPICAL BARREL SECTION



PLACEMENT OF TYPE A AGGREGATE BASE

TRANSVERSE CONSTRUCTION JOINT



NOTE:  
TRANSVERSE CONSTRUCTION JOINTS SHALL BE SPACED AT 60 FT. MAX. REINFORCING STEEL SHALL BE CONTINUOUS THROUGH THE TRANSVERSE CONSTRUCTION JOINT AND EXTEND A MIN. OF 2'-0" INTO THE ADJACENT SECTION. THE NUMBER OF SPLICES USED IS TO BE APPROVED BY THE ENGINEER.

RCB BARREL BAR LIST			
PLAIN REINFORCING			
MARK	SIZE	NO.	LENGTH
A1	#6	160	36'-8"
A2	#6	158	36'-8"
B1	#6	162	BNT. 6'-6"
B2	#6	162	BNT. 10'-4"
C1	#4	312	2'-5"
C2	#4	312	7'-4"
C3	#4	162	2'-5"
C4	#4	162	7'-4"
E1	#4	164	39'-8"
E2	#4	28	39'-8"
E3	#4	28	39'-4"

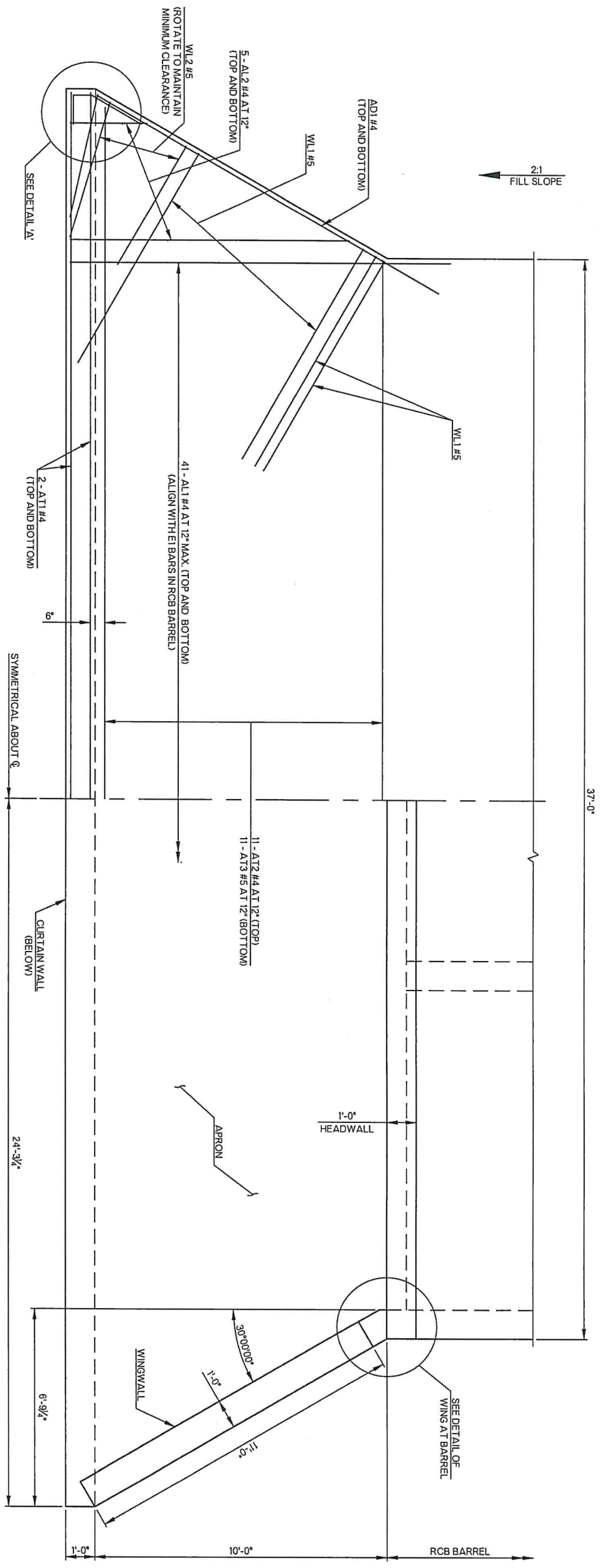
RCB CULVERT QUANTITIES		
ITEM	UNIT	TOTAL
CLASS AA CONCRETE	C.Y.	228.0
REINFORCING STEEL	LB.	43,180

NOTE:  
QUANTITIES ABOVE ARE FOR ONE RCB CULVERT AS SHOWN IN THE PLANS, WHICH IS COMPRISED OF THE BARREL SECTION, TWO HEADWALLS, TWO APRONS, FOUR WINGWALLS AND TWO CURTAIN WALLS.



DESIGN	E.B.R.	09/21	BRIDGE 014A	PAYNE COUNTY
DRAWN	J.F.R.	09/21	DETAILS OF RCB CULVERT	
CHECKED	J.W.H.	10/21	(SHEET 1 OF 3)	
APPROV.	J.W.H.	10/21	JOB PIECE NO. _____	SHEET NO. B001
SQUAD	CEC			





HALF APRON REINFORCING  
 DETAILS OF RCB APRON

HALF APRON PLAN

RCB APRON AND HEADWALL BAR LIST

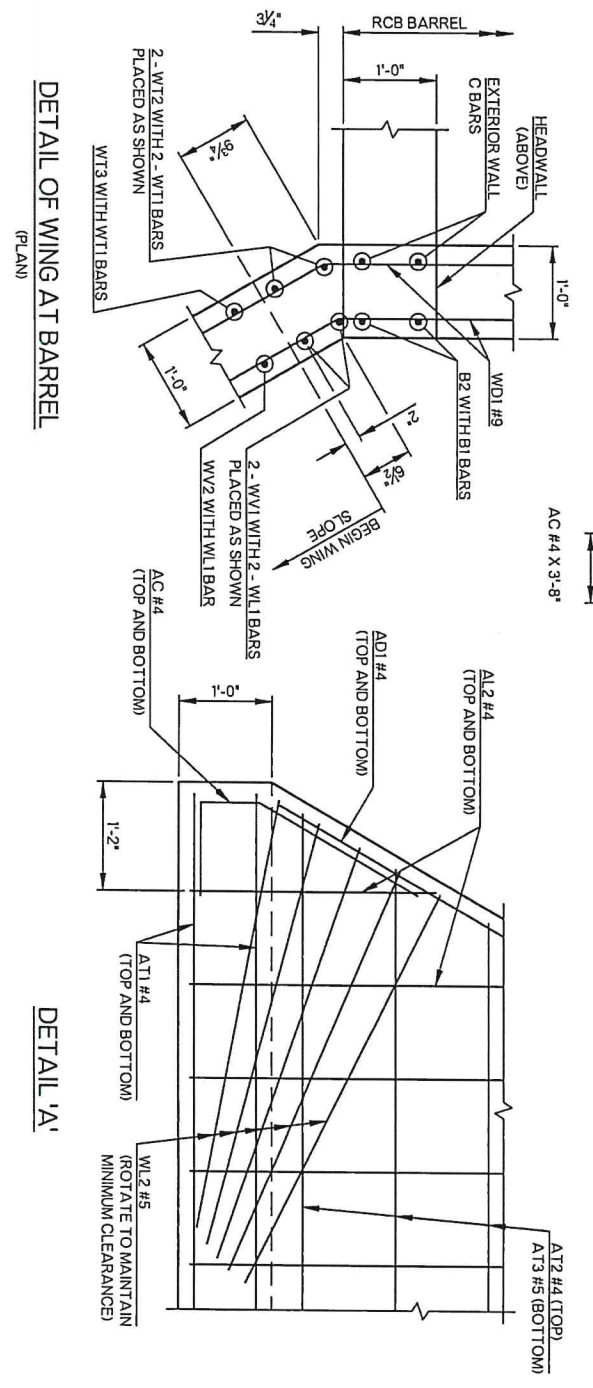
ONE SHOWN; TWO REQUIRED		PLAIN REINFORCING			
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
AC	#4	4	BNT.	3'-8"	
ADI	#4	4	STR.	13'-6"	
ALI	#4	82	STR.	13'-0"	
AL2	#4	20	STR.	5'-1 1/2" AVG.	2'-6" TO 9'-5"
ATI	#4	4	STR.	48'-2"	
AT2	#4	11	STR.	42'-3" AVG.	36'-9" TO 47'-9"
AT3	#5	11	STR.	42'-3" AVG.	36'-9" TO 47'-9"
CH	#4	4	STR.	36'-8"	
CL1	#4	4	BNT.	4'-2"	
CL2	#4	41	BNT.	4'-3"	

① FOUR SETS OF 5 BARS

RCB WINGWALL BAR LIST

ONE SHOWN; FOUR REQUIRED		PLAIN REINFORCING			
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
WD1	#9	16	BNT.	8'-4"	
WH1	#4	8	STR.	11'-3"	
WH2	#4	10	STR.	5'-10 1/2" AVG.	1'-2" TO 10'-7"
WH3	#5	2	STR.	11'-10"	
WL1	#5	16	BNT.	12'-1"	
WL2	#5	8	BNT.	8'-6"	
WT1	#4	14	STR.	3'-0"	
WT2	#4	2	STR.	8'-6"	
WT3	#4	12	STR.	6'-1" AVG.	3'-10" TO 8'-4"
WV1	#5	2	STR.	8'-8"	
WV2	#5	22	STR.	6'-1" AVG.	3'-10" TO 8'-4"

② TWO SETS OF 5 BARS



DETAIL OF WING AT BARREL  
 (PLAN)

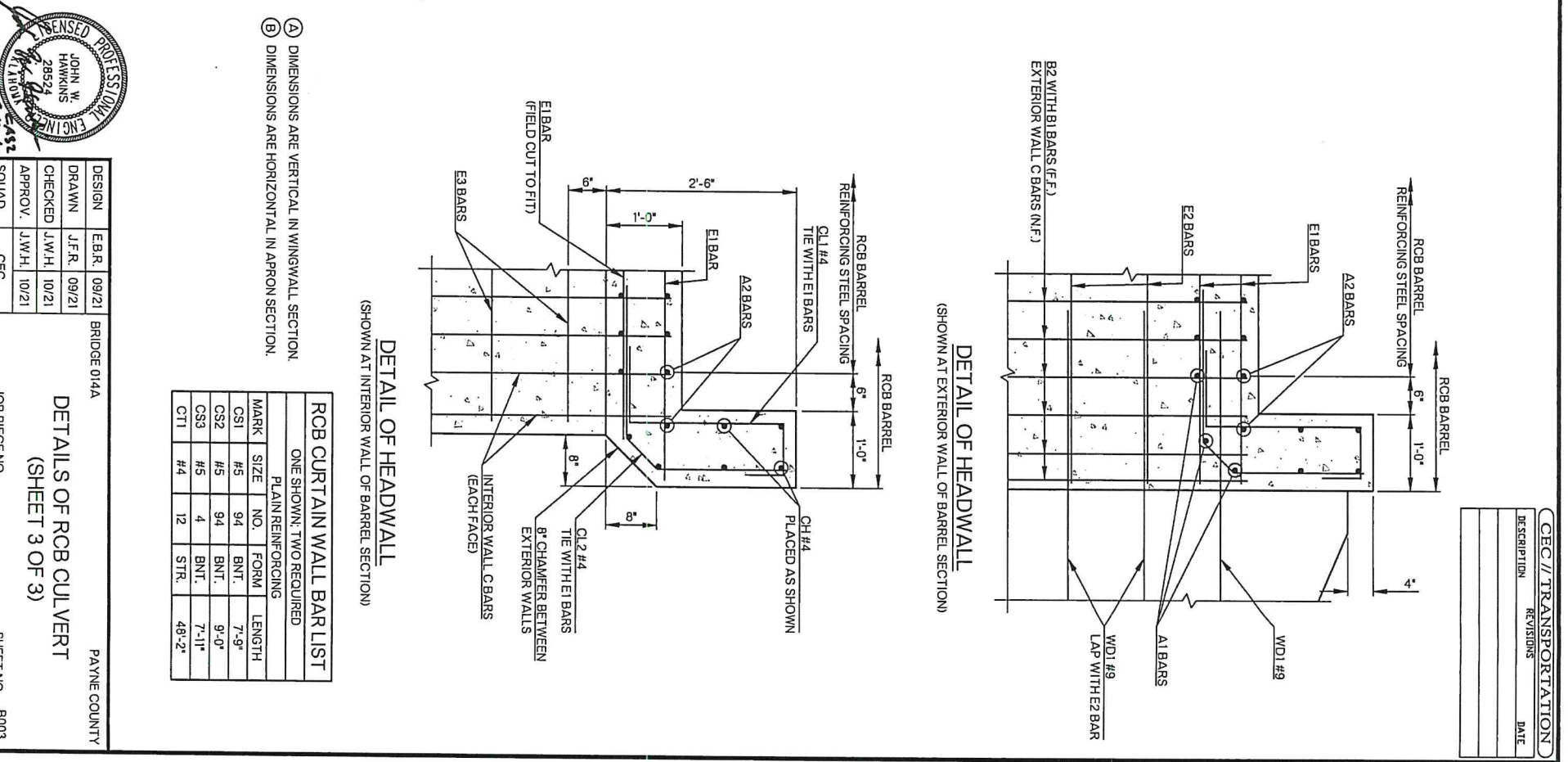
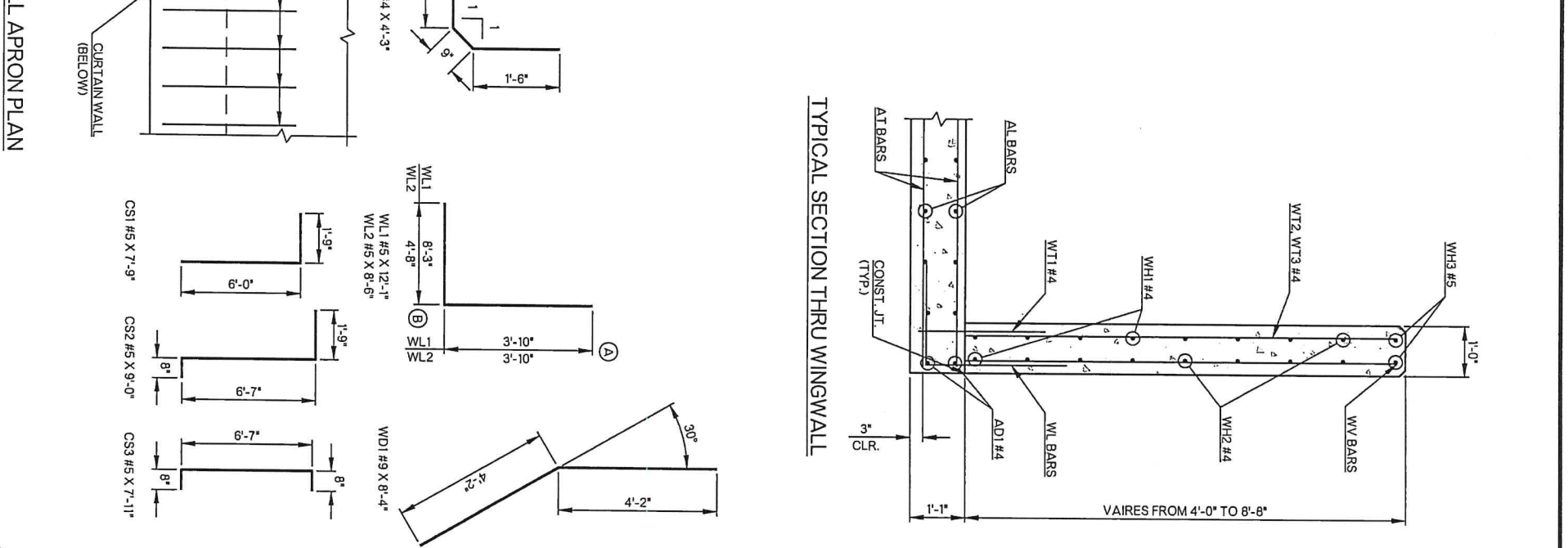
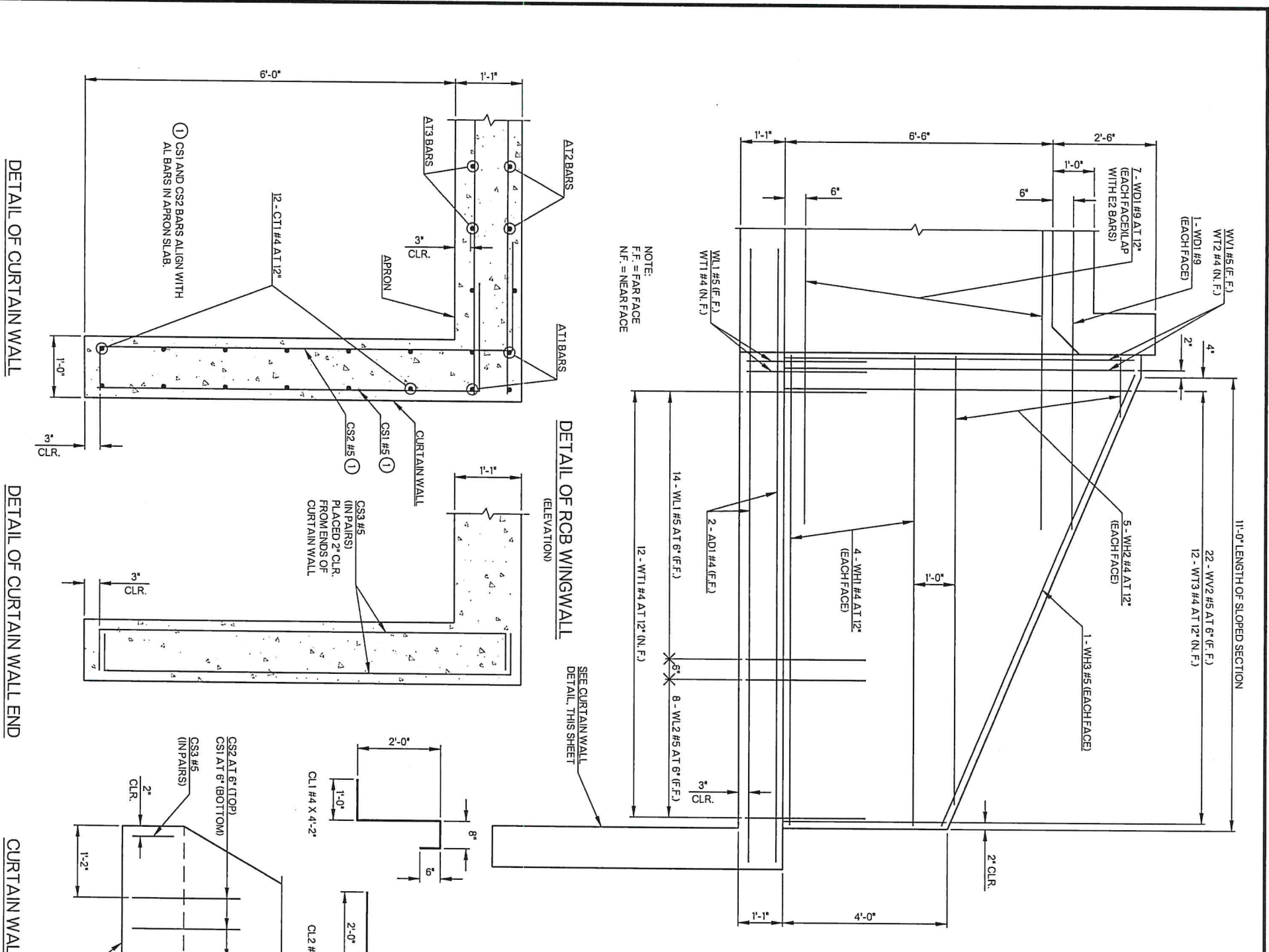
DETAIL 'A'



DESIGN	E.B.R.	09/21	BRIDGE 014A	PAYNE COUNTY
DRAWN	J.F.R.	09/21		
CHECKED	J.W.H.	10/21		
APPROV.	J.W.H.	10/21		
SQUAD	CEC			

DETAILS OF RCB CULVERT  
 (SHEET 2 OF 3)

JOB PIECE NO. \_\_\_\_\_ SHEET NO. B002



RCB CURTAIN WALL BAR LIST

ONE SHOWN, TWO REQUIRED

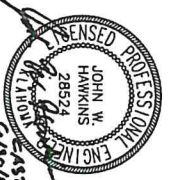
MARK	SIZE	NO.	FORM	LENGTH
CS1	#5	94	BNT.	7'-9"
CS2	#5	94	BNT.	9'-0"
CS3	#5	4	BNT.	7'-11"
CT1	#4	12	STR.	49'-2"

(A) DIMENSIONS ARE VERTICAL IN WINGWALL SECTION.  
(B) DIMENSIONS ARE HORIZONTAL IN APRON SECTION.

DETAIL OF CURTAIN WALL

DETAIL OF CURTAIN WALL END

CURTAIN WALL APRON PLAN



DESIGN	E.B.R.	09/21	BRIDGE 014A	PAYNE COUNTY
DRAWN	J.F.R.	09/21		
CHECKED	J.W.H.	10/21		
APPROV.	J.W.H.	10/21		
	CEC			

DETAILS OF RCB CULVERT (SHEET 3 OF 3)

JOB PIECE NO. \_\_\_\_\_ SHEET NO. B003

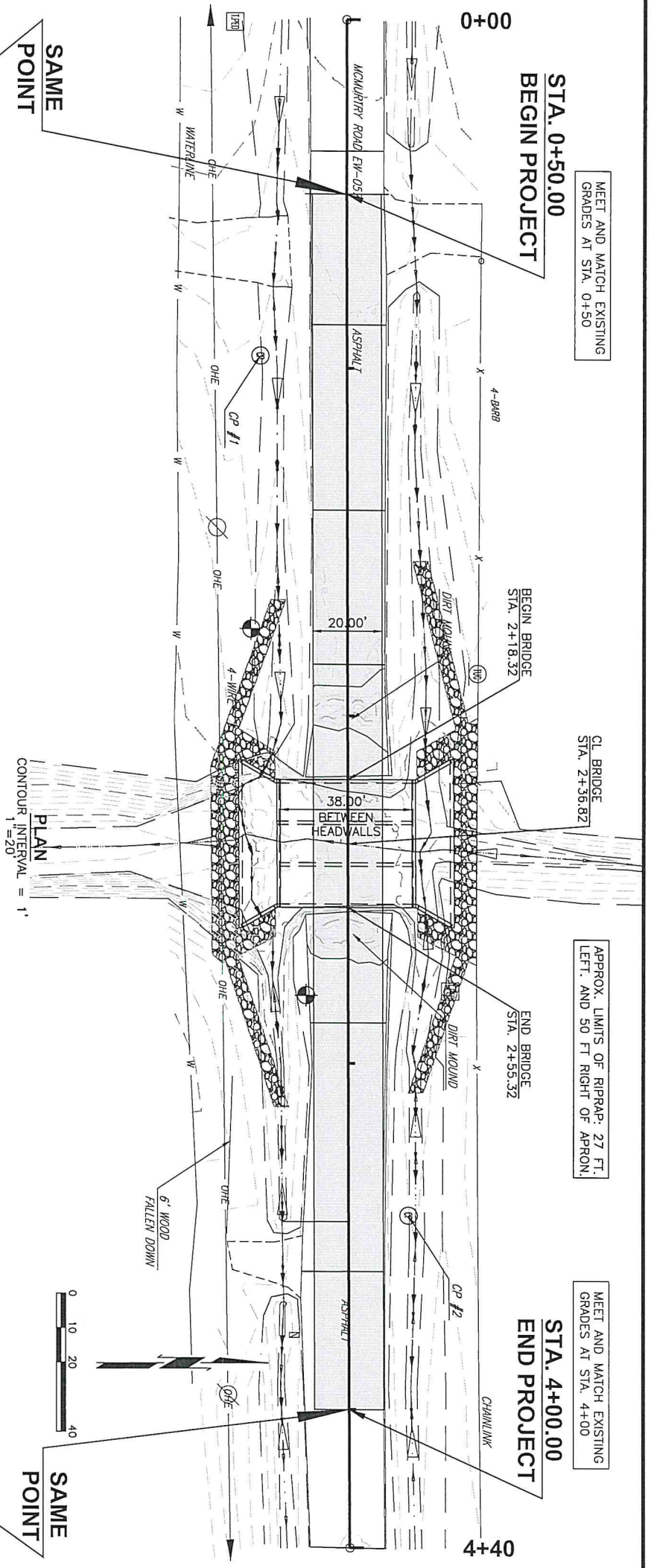
CEC//TRANSPORTATION

REVISIONS	DATE
DESCRIPTION	



MEET AND MATCH EXISTING GRADES AT STA. 0+50

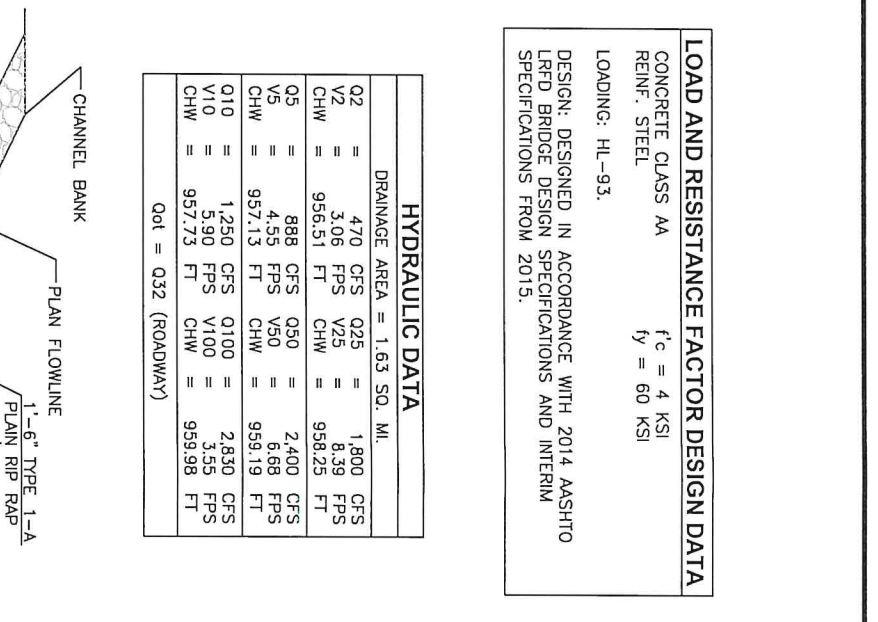
STA. 0+50.00  
BEGIN PROJECT



APPROX. LIMITS OF RIPRAP- 27 FT. LEFT. AND 50 FT RIGHT OF APRON.

MEET AND MATCH EXISTING GRADES AT STA. 4+00

STA. 4+00.00  
END PROJECT



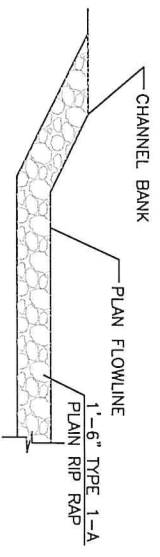
**HYDRAULIC DATA**

DRAINAGE AREA = 1.63 SQ. MI.	
Q2 =	470 CFS Q25 = 1,800 CFS
V2 =	3.06 FPS V25 = 8.39 FPS
CHW =	956.51 FT CHW = 958.25 FT
Q5 =	888 CFS Q50 = 2,400 CFS
V5 =	4.55 FPS V50 = 6.68 FPS
CHW =	957.13 FT CHW = 959.19 FT
Q10 =	1,250 CFS Q100 = 2,830 CFS
V10 =	5.90 FPS V100 = 3.55 FPS
CHW =	957.73 FT CHW = 959.98 FT
Q <sub>01</sub> = Q <sub>32</sub> (ROADWAY)	

**LOAD AND RESISTANCE FACTOR DESIGN DATA**

CONCRETE CLASS AA  $f'_c = 4$  KSI  
 REINF. STEEL  $f_y = 60$  KSI  
 LOADING: HL-93.

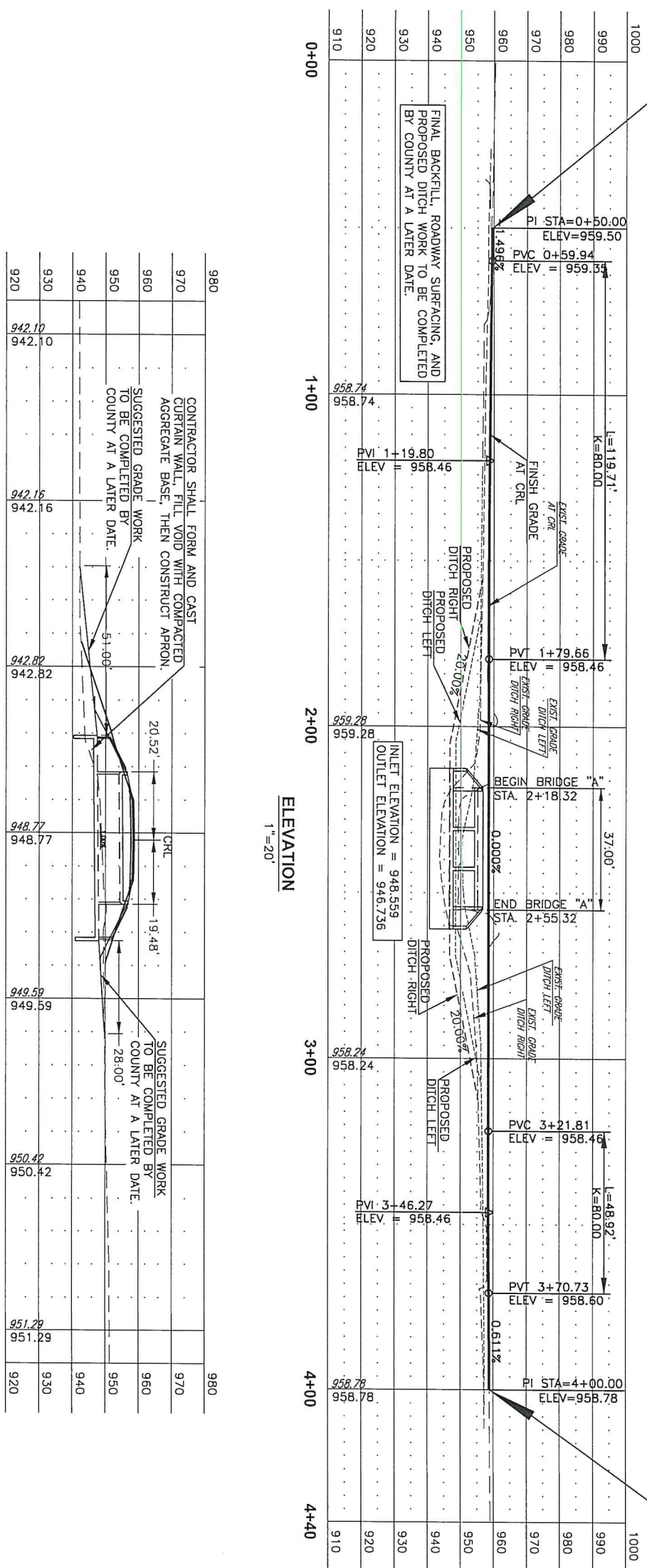
DESIGN: DESIGNED IN ACCORDANCE WITH 2014 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND INTERIM SPECIFICATIONS FROM 2015.



**RIPRAP DETAIL**

NOTE: COST OF EXCAVATING TO PLACE RIP-RAP BELOW PROPOSED FLOWLINE TO BE INCLUDED IN RIP-RAP PAY ITEM.

BRIDGE "A" - 3 CELL 11'X 6.5' X 37' R.C. BOX W/6' CURTAIN WALLS.  
 BEGIN STA. 2+18.32, END STA. 2+55.32, CENTERLINE STATION 2+36.83  
 EXISTING STRUCTURE 3-10' CONCRETE SLAB SPANS. (REMOVED)



SECTION  
1"=20'

980	980	980	980	980	980	980
970	970	970	970	970	970	970
960	960	960	960	960	960	960
950	950	950	950	950	950	950
940	940	940	940	940	940	940
930	930	930	930	930	930	930
920	920	920	920	920	920	920
0+50	1+00	1+50	2+00	2+50	3+00	3+50
942.10	942.10	942.16	942.82	942.82	948.77	948.77
942.10	942.10	942.16	942.82	942.82	949.59	949.59
					950.42	950.42
					951.29	951.29
					920	920

CONTRACTOR SHALL FORM AND CAST CURTAIN WALL, FILL VOID WITH COMPACTED AGGREGATE BASE, THEN CONSTRUCT APRON. SUGGESTED GRADE WORK TO BE COMPLETED BY COUNTY AT A LATER DATE.

SUGGESTED GRADE WORK TO BE COMPLETED BY COUNTY AT A LATER DATE.