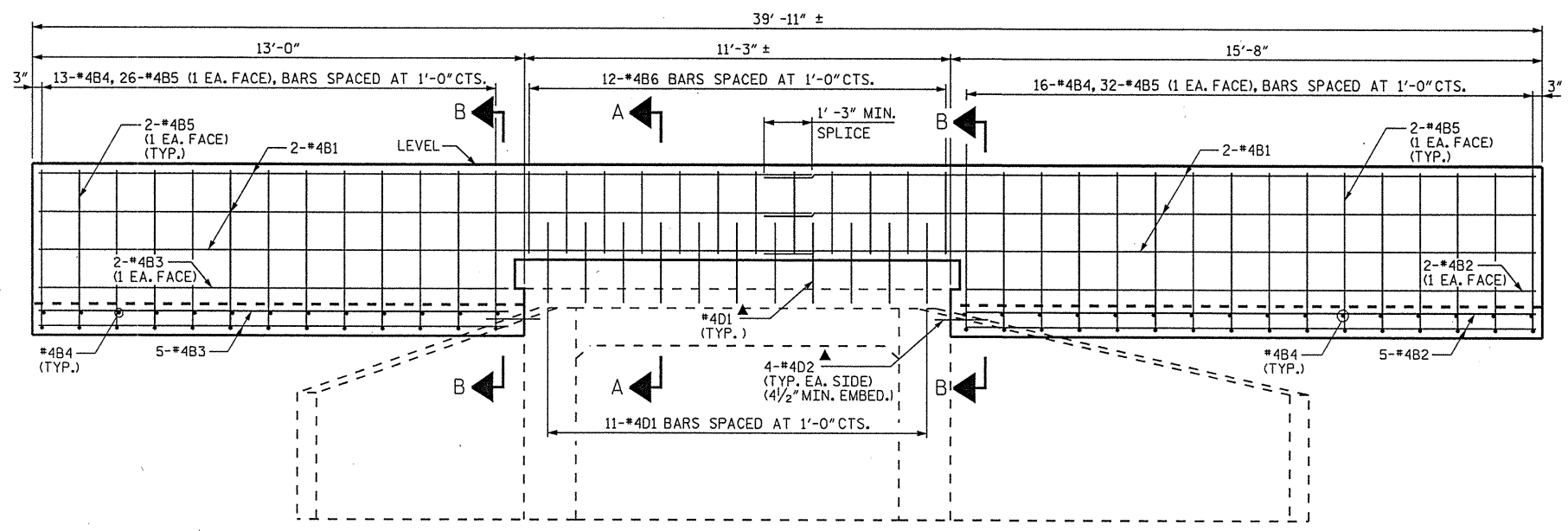


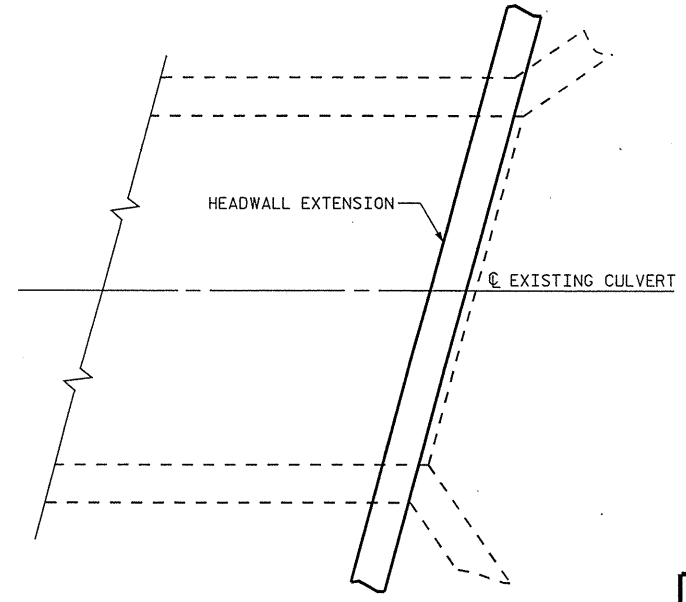
**CULVERT SECTION NORMAL TO ROADWAY**



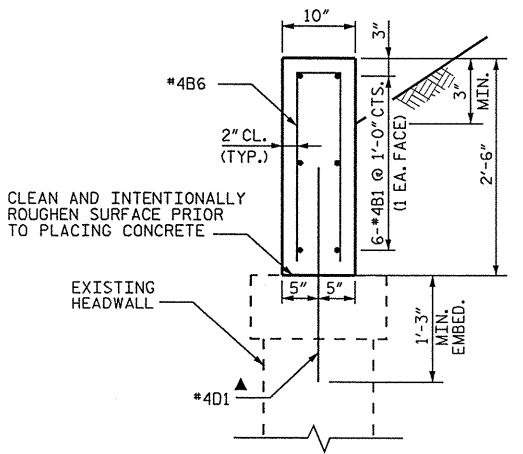
**END ELEVATION NORMAL TO SKEW**

EXISTING CULVERT LOCATED APPROXIMATELY AT STA. 37+00 -L- AT INTERSECTION 10. SEE ROADWAY PLANS FOR LOCATION.

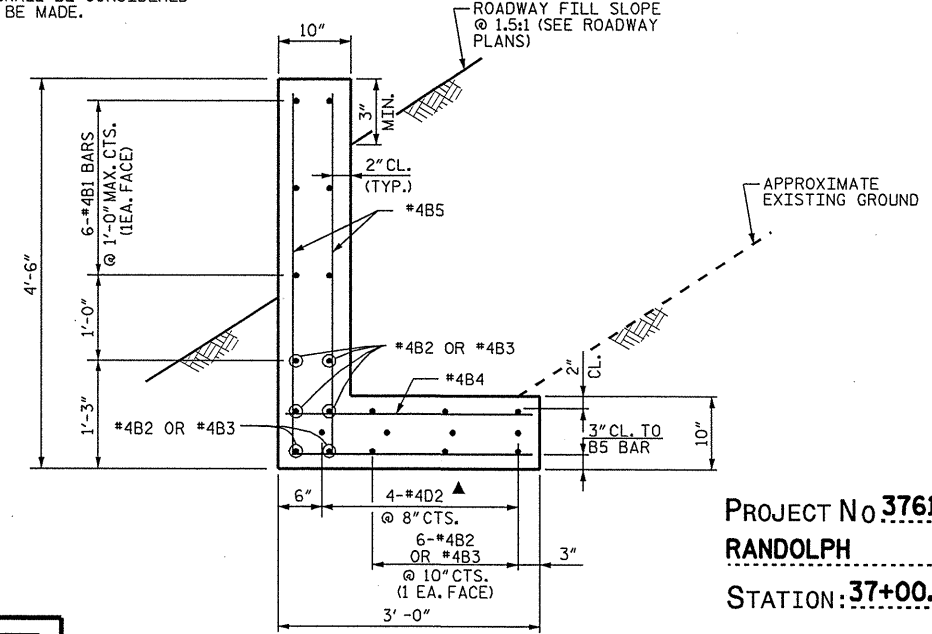
\*4D1 & \*4D2 DOWEL BARS SHALL BE BONDED TO CONCRETE BY HILTI HVA ADHESIVE SYSTEM OR APPROVED EQUAL. THE BARS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.  
 \*4D1 & \*4D2 DOWEL BARS SHALL HAVE AN ULTIMATE LOAD SHEAR CAPACITY OF 5,000 LBS. AND AN ULTIMATE LOAD TENSILE CAPACITY OF 2,500 LBS.  
 THE COST ASSOCIATED WITH ADHESIVE SYSTEM SHALL BE CONSIDERED INCIDENTAL AND NO ADDITIONAL PAYMENT WILL BE MADE.



**PLAN OF HEADWALL EXTENSION**

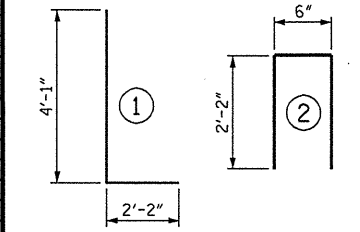


**SECTION A-A**  
 (THE HEADWALL EXTENSION SHALL BE CENTERED ABOUT EXISTING HEADWALL)



**SECTION B-B**

BILL OF MATERIAL					BAR TYPES	
BAR NO.	SIZE	TYPE	LENGTH	WEIGHT		
B1	12	#4	STR.	20'-5"	164	
B2	12	#4	STR.	15'-1"	121	
B3	12	#4	STR.	12'-4"	99	
B4	29	#4	STR.	2'-8"	52	
B5	58	#4	1	6'-3"	242	
B6	12	#4	2	4'-10"	39	
REINFORCING STEEL					LBS.	742
CLASS A CONCRETE :						
TOTAL					CU. YDS.	6.8



ALL BAR DIMENSIONS ARE OUT TO OUT.

PROJECT No. 37613, ETC., MAP #11  
 RANDOLPH COUNTY  
 STATION: 37+00.00 ± -L-

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**MODIFICATION OF EXISTING HEADWALL**

REVISIONS	DATE	BY
1		
2		
3		
4		

SHEET NO. 2-B  
 TOTAL SHEETS

**W** RALPH WHITEHEAD ASSOCIATES, INC.  
 CONSULTING ENGINEERS  
 P.O. BOX 35624 CHARLOTTE, N.C. 28235

DRAWN BY: ARH DATE: 02-05  
 CHECKED BY: TBO DATE: 02-05

\$USERNAME\$ \$DATE\$ \$TIME\$ \$FILE\$