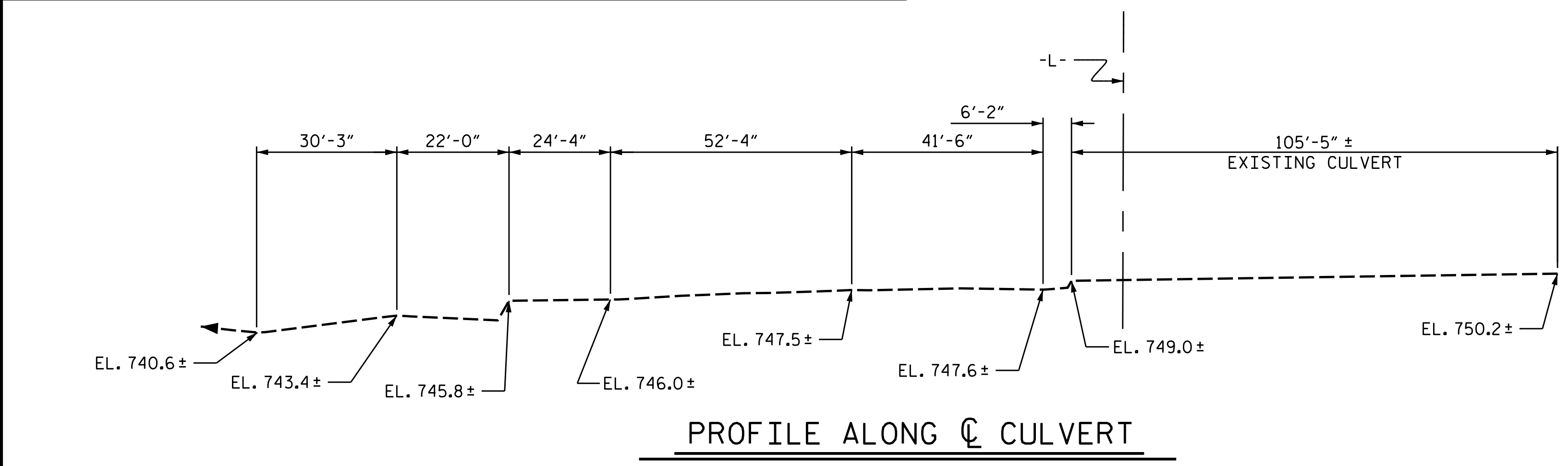


LOCATION SKETCH



PROFILE ALONG CULVERT

DRAWN BY :	ZCS	DATE :	10/19
CHECKED BY :	MGC	DATE :	12/19
DESIGN ENGINEER OF RECORD:	ZCS	DATE :	12/19

2/7/2020
 X:\NCDOT\B-5825\Structures\Str. #2 - 46+80.60 -L-\Final Plans\DGNS\410.001.B-5825.SMU.C101.dgn
 User:zsm1th

LEFT EXTENSION QUANTITIES	
CLASS A CONCRETE	
BARREL @ 1.12 CY/FT	114.3 C.Y.
WINGS, ETC.	13.2 C.Y.
TOTAL	127.5 C.Y.
REINFORCING STEEL	
BARREL	21,899 LBS.
WINGS, ETC.	937 LBS.
TOTAL	22,836 LBS.
CULVERT EXCAVATION	LUMP SUM
FOUNDATION COND. MATERIAL	104 TONS

ROADWAY DATA	
GRADE POINT ELEV. @ STA. 46+80.60-L-	= 771.48'
BED ELEV. @ STA. 46+80.60-L-	= 749.16'
ROADWAY SLOPES	= VARIES
HYDROGRAPHIC DATA	
DESIGN DISCHARGE	= 500 CFS
FREQUENCY OF DESIGN FLOOD	= 50 YRS
DESIGN HIGH WATER ELEVATION	= 757.2'
DRAINAGE AREA	= 0.7 SQ. MI.
BASIC DISCHARGE (Q100)	= 600 CFS
BASIC HIGH WATER ELEVATION	= 758.2'
OVERTOPPING FLOOD DATA	
OVERTOPPING DISCHARGE	= N/A
FREQUENCY OF OVERTOPPING FLOOD	= >500 YRS
OVERTOPPING FLOOD ELEVATION	= 771.5'

NOTES

- ASSUMED LIVE LOAD ----- HL-93 OR ALTERNATE LOADING.
- DESIGN FILL----- 13.45' MAX. 2.00' MIN.
- FOR OTHER DESIGN DATA AND NOTES, SEE STANDARD NOTES SHEET.
- 3" Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.
- CONCRETE IN CULVERTS TO BE POURED IN THE FOLLOWING ORDER:
 1. WING FOOTINGS AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS.
 2. THE REMAINING PORTIONS OF THE WALLS AND WINGS FULL HEIGHT FOLLOWED BY ROOF SLAB AND HEADWALLS.
- THE RESIDENT ENGINEER SHALL CHECK THE LENGTH OF CULVERT BEFORE STAKING IT OUT TO MAKE CERTAIN THAT IT WILL PROPERLY TAKE CARE OF THE FILL.
- DIMENSIONS FOR WING LAYOUT AS WELL AS ADDITIONAL REINFORCING STEEL EMBEDDED IN BARREL ARE SHOWN ON WING SHEET.
- TRANSVERSE CONSTRUCTION JOINTS SHALL BE USED IN THE BARREL, SPACED TO LIMIT THE POURS TO A MAXIMUM OF 70 FT. LOCATION OF JOINTS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.
- DOWELS SHALL BE USED TO CONNECT THE CULVERT EXTENSION TO THE EXISTING CULVERT AS SHOWN. FOR NOTE REGARDING SETTING OF DOWELS, SEE SHEET SN.
- AT THE CONTRACTOR'S OPTION, HE MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACE OF EXTERIOR WALL ABOVE LOWER WALL CONSTRUCTION JOINT. THE SPLICE LENGTH SHALL BE AS PROVIDED IN THE SPLICE LENGTH CHART SHOWN ON THE PLANS. EXTRA WEIGHT OF STEEL DUE TO THE SPLICES SHALL BE PAID FOR BY THE CONTRACTOR.
- FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
- IF APPROVED BY THE ENGINEER, THE CONTRACTOR MAY USE THE EXISTING WINGS AS TEMPORARY SHORING FOR THE CONSTRUCTION OF THE CULVERT EXTENSION. IN THIS CASE, THE BOTTOM SLAB OF THE EXTENSION SHALL BE POURED AT LEAST 72 HOURS PRIOR TO CUTTING THE WINGS. THE WINGS MAY BE CUT EARLIER PROVIDED THE SLAB CONCRETE STRENGTH HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 1500 PSI.
- AT THE CONTRACTOR'S OPTION HE MAY SUBMIT, TO THE ENGINEER FOR APPROVAL, DESIGN AND DETAIL DRAWINGS FOR A PRECAST REINFORCED CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE CULVERT SHOWN ON THE PLANS. THE DESIGN SHALL PROVIDE THE SAME SIZE AND NUMBER OF BARRELS AS USED ON THE CAST-IN-PLACE DESIGN. FOR OPTIONAL PRECAST REINFORCED CONCRETE BOX CULVERT, SEE SPECIAL PROVISIONS.
- THE REINFORCED CONCRETE BOX CULVERT EXTENSION SHALL BE PLACED ON THE STANDARD 1.0 FOOT BLANKET OF FOUNDATION CONDITIONING MATERIAL. FOR FOUNDATION CONDITIONING MATERIAL, SEE SECTION 414 OF THE STANDARD SPECIFICATIONS.
- UNDERCUT SOFT/LOOSE SOILS THAT MAY BE ENCOUNTERED BENEATH THE BOTTOM OF THE FOUNDATION CONDITIONING MATERIAL. IF THE ADDITIONAL UNDERCUT EXCEEDS MORE THAN 1 FT, CONTACT THE GEOTECHNICAL OPERATIONS ENGINEER FOR RECOMMENDATIONS. BACKFILL UNDERCUT AREAS WITH FOUNDATION CONDITIONING MATERIAL AS DIRECTED.
- THE REQUIRED BEARING CAPACITY AT THE BASE OF THE CULVERT IS 1 TSF. THE REQUIRED BEARING CAPACITY SHALL BE VERIFIED.

PROJECT NO. B-5825
YADKIN/FORSYTH COUNTY
 STATION: 46+80.60 -L-

SHEET 1 OF 7

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
 706 HILLSBOROUGH STREET
 SUITE 200
 RALEIGH, NC 27603
 PH (919) 773-8887
 CORP. LICENSE NO.: C-0275

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SINGLE 9 FT. X 9 FT. CONCRETE BOX CULVERT EXTENSION					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO.					C1-1
TOTAL SHEETS					13

STD. NO. CB45.1L