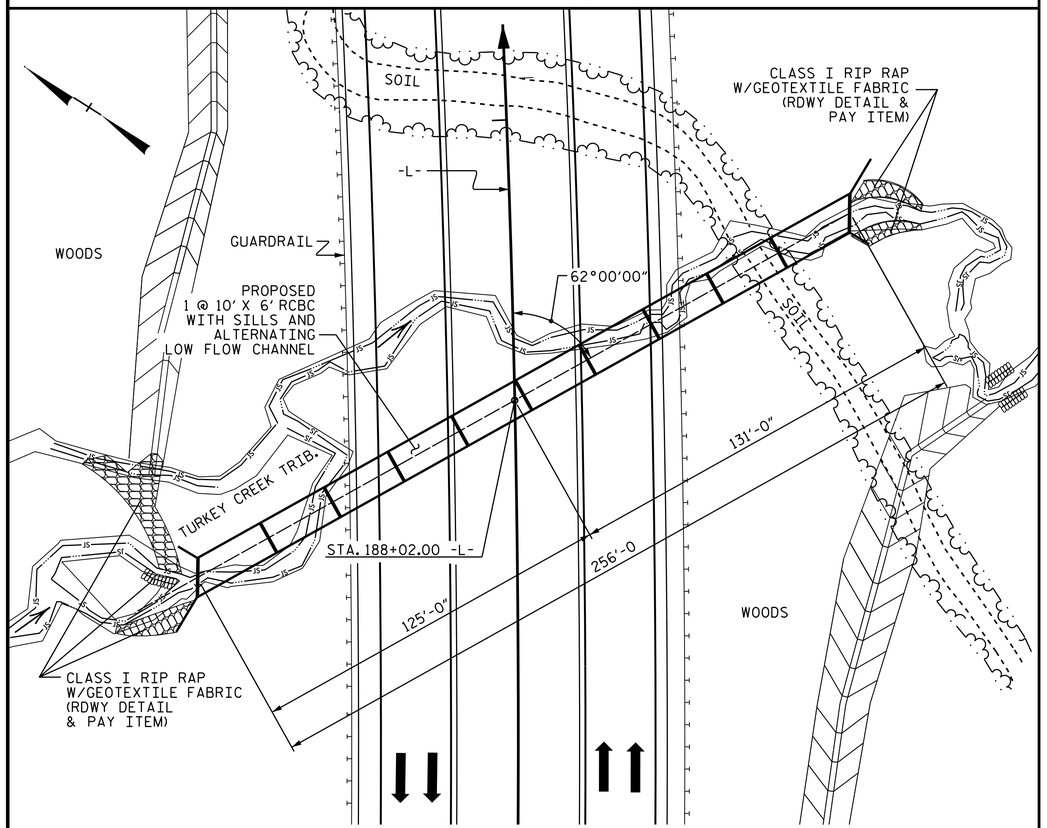
BM: -BL- 539 PINC STA. 147+23.92; O/S 10.9' RT.; REBAR & CAP SET, EL. 508.55'



FOR UTILITY INFORMATION, SEE UTILITY PLAN AND SPECIAL PROVISIONS.

LOCATION SKETCH

ROADWAY DATA

GRADE PT. EL. @ STA. 188+02.00 -L-	= 541.20'
BED ELEV. @ STA. 188+02.00 -L-	= 507.02'
ROADWAY SLOPE (LEFT)	= 2 :1
ROADWAY SLOPE (RIGHT)	= 2 :1

HYDRAULIC DATA

DESIGN DISCHARGE	= 430 CFS
FREQUENCY OF DESIGN FLOOD	= 50 YRS.
DESIGN HIGH WATER ELEVATION	= 516.2'
DRAINAGE AREA	= 0.19 SQ. MI.
BASE DISCHARGE (Q100)	= 490 CFS
BASE HIGH WATER ELEVATION	= 516.79'

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 900+ CFS
FREQUENCY OF OVERTOPPING FLOOD	= 500+ YRS.
OVERTOPPING FLOOD ELEVATION	= 532.0'

TOTAL STRUCTURE QUANTITIES

CLASS A CONCRETE		
BARRELS @ 1.563 CY/FT	400.1	C.Y.
WINGS	16.9	C.Y.
SILLS	3.1	C.Y.
TOTAL	420.1	C.Y.
REINFORCING STEEL		
BARRELS & SILL	45,305	LBS.
WINGS	926	LBS.
TOTAL	46,231	LBS.
CULVERT EXCAVATION	LUMP SUM	
FOUNDATION CONDITIONING MAT'L	277 TONS	

NOTES

ASSUMED LIVE LOAD ----------HL-93 OR ALTERNATE LOADING.

DESIGN FILL----------29.38'

FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTE 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 WALLS AND SILLS WITH NATIVE MATERIAL BACKFILL.

3. FOLLOWED BY THE WING WALLS FULL HEIGHT, 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.

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.

A 3 FOOT STRIP OF FILTER FABRIC SHALL BE ATTACHED TO THE FILL FACE OF THE WING COVERING THE ENTIRE LENGTH OF THE EXPANSION JOINT.

NO WORK SHALL BE DONE ON THE CULVERT AT STA. 188+02 -L- UNTIL THE AREA OF THE CULVERT HAS BEEN EXCAVATED TO COMPETENT MATERIAL AT THE DISCRETION OF THE ENGINEER AND UNSUITABLE MATERIAL REPLACED WITH FOUNDATION CONDITIONING MATERIAL AND PROPERLY COMPACTED TO THE ELEVATION OF THE BOTTOM OF THE PROPOSED CULVERT FLOOR SLAB AND WING FOOTINGS AS REQUIRED TO CONSTRUCT THE PROPOSED CULVERT. PAYMENT FOR EXCAVATION DOWN TO ONE FOOT BELOW THE BOTTOM OF THE CULVERT FLOOR SLAB AND WING FOOTINGS WILL BE FOR ALL WORK INCLUDING FOUNDATION CONDITIONING MATERIAL DOWN TO ONE FOOT BELOW THE CULVERT AND SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR CULVERT EXCAVATION. PAYMENT FOR EXCAVATION BEYOND ONE FOOT BELOW THE BOTTOM OF THE CULVERT FLOOR SLAB AND WING FOOTINGS WILL BE FOR ALL WORK INCLUDING EXCAVATION, ANY TEMPORARY SHEETING, FOUNDATION CONDITIONING MATERIAL, AND ANY OTHER MISCELLANEOUS ITEMS, AND SHALL BE INCLUDED IN THE PRICE PER CUBIC YARD FOR FOUNDATION CONDITIONING MATERIAL.

THE ESTIMATED QUANTITY FOR THE FOUNDATION CONDITIONING MATERIAL THAT IS INCLUDED IN THE LUMP SUM PAYMENT FOR CULVERT EXCAVATION IS 211 TONS. THE ESTIMATED QUANTITY THAT IS FOR THE FOUNDATION CONDITIONING MATERIAL THAT IS PLACED BEYOND ONE FOOT BELOW THE BOTTOM OF THE CULVERT FLOOR SLAB AND WING FOOTINGS IS 323 TONS. THESE QUANTITIES ARE ESTIMATES ONLY.

FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.

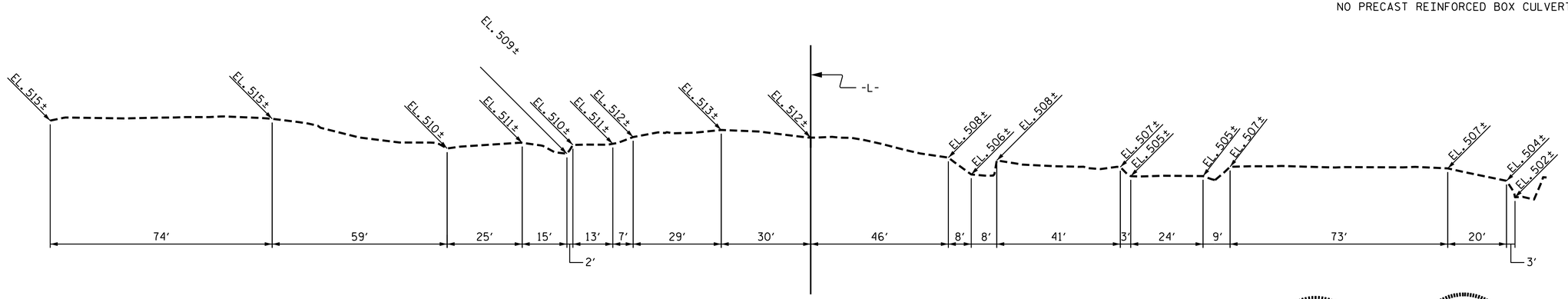
FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

NO PRECAST REINFORCED BOX CULVERT OPTION WILL BE ALLOWED.



PROFILE ALONG ℄ CULVERT

PROJECT NO. R-0623
MONTGOMERY COUNTY
STATION: 188+02.00 -L-

SHEET 1 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BARREL STANDARD

SINGLE 10 FT. X 6 FT.
CONCRETE BOX CULVERT
62° SKEW

NORTH CAROLINA PROFESSIONAL SEAL 022506 ENGINEER JESSE McARTHUR BAILEY
9/29/2014
DocuSigned by: J. M. Bailey 902655 4D952B471...

NORTH CAROLINA PROFESSIONAL SEAL 21545 ENGINEER STEVEN L. WANCE
9/29/2014
DocuSigned by: Steve L. Wance 986CB74EEDF1402...

ASSEMBLED BY : C. L. YOKELEY	DATE : 7-16-14	SPECIAL	
CHECKED BY : S. L. WANCE	DATE : 7-23-14		
DRAWN BY : B.M. MEYERS	DATE : AUG. 1989	STANDARD	
CHECKED BY : A.R. BISSETTE	DATE : AUG. 1989		

ADDED 11-90

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-15
1			3			TOTAL SHEETS
2			4			29

CULVERT #3