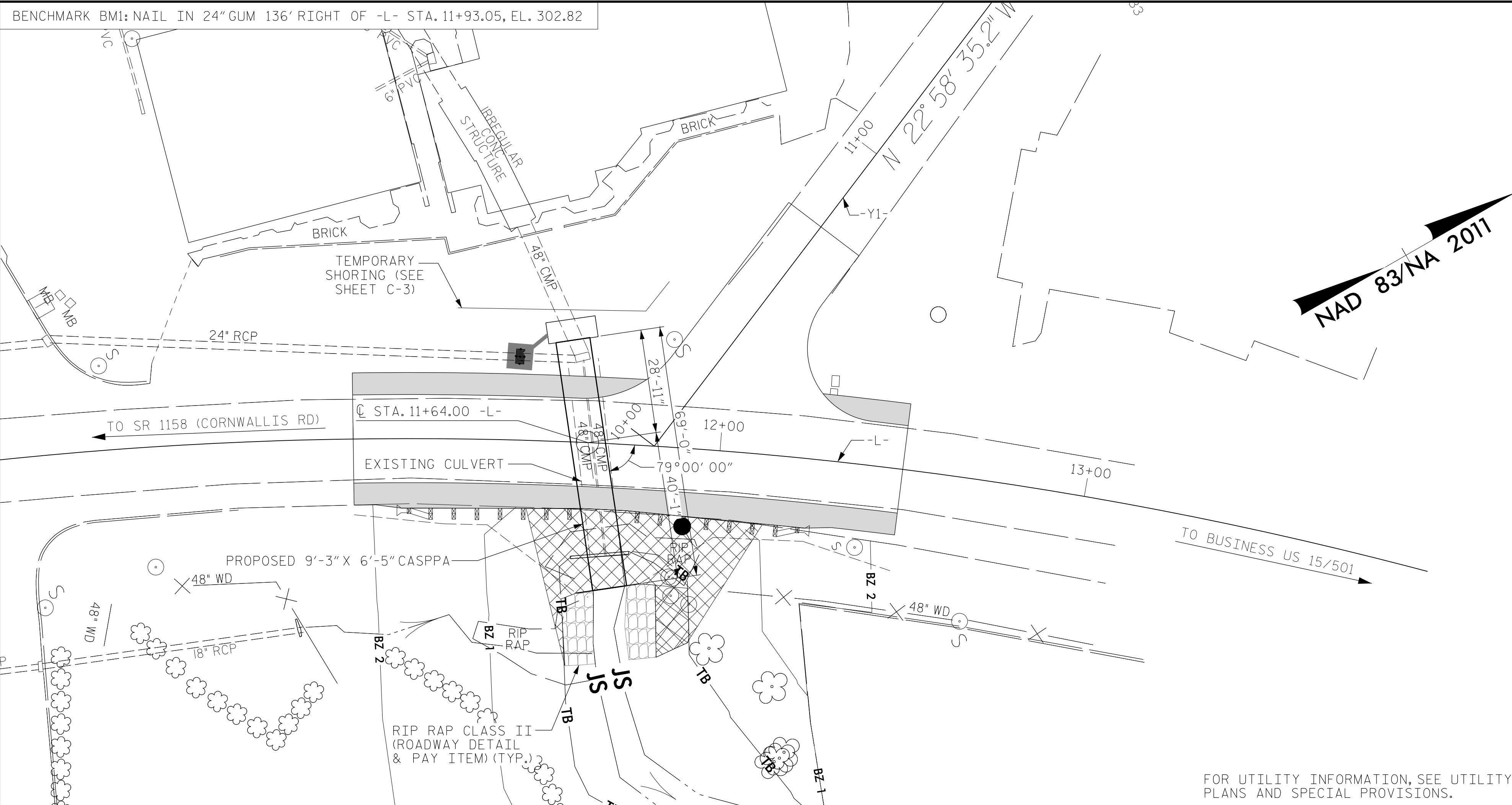


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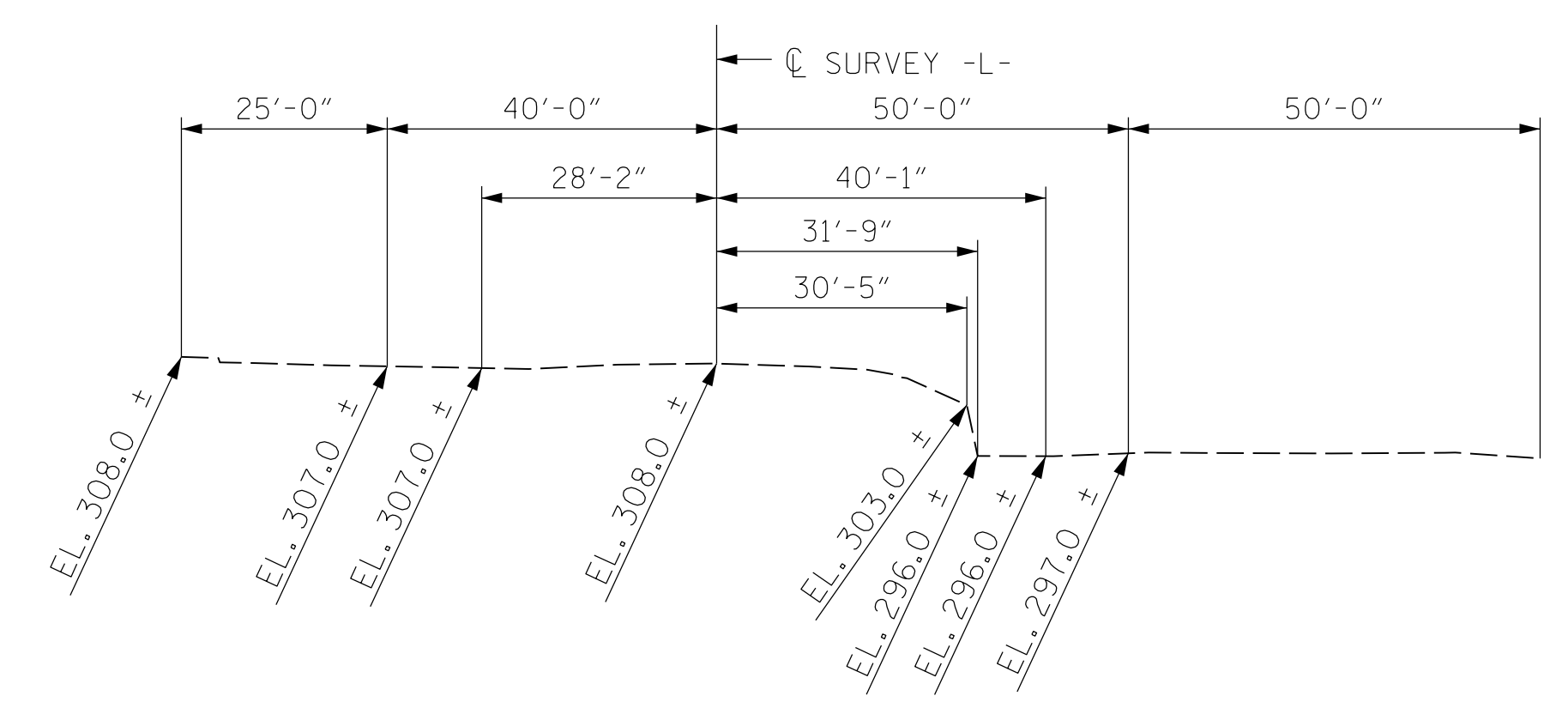
1. ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.
2. DESIGN FILL IS 5.4 FEET.
3. THE EXISTING CULVERT INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING CULVERT SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.
4. FOR OTHER DESIGN DATA AND NOTES, SEE STANDARD NOTES SHEET.
5. FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.
6. FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
7. HEADWALL SHALL BE DESIGNED FOR LIVE LOAD SURCHARGE.
8. FOR CORRUGATED ALUMINUM STRUCTURAL PLATE PIPE ARCH (CASPPA), SEE SPECIAL PROVISIONS.
9. FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
10. FOR SHORING, SEE SPECIAL PROVISIONS.
11. FOR REMOVAL OF EXISTING CULVERT, SEE SPECIAL PROVISIONS.
12. THE PROPOSED CULVERT SHALL BE CONSTRUCTED WITH A MINIMUM 12 INCH BLANKET OF FOUNDATION CONDITIONING MATERIAL BELOW THE BOTTOM OF CULVERT.
13. OVERHEAD POWER LINES RUNNING ALONG THE EAST SIDE OF ROADWAY AND TELEPHONE LINES CROSSING UNIVERSITY DRIVE NORTH OF THE PROJECT WILL REMAIN IN PLACE DURING CONSTRUCTION. CONTRACTOR SHALL PLAN FOR INSTALLATION OF CULVERT THAT WILL ACCOMMODATE THIS CONSTRAINT.
14. FOR SELECT MATERIAL, CLASS IV, SEE SPECIAL PROVISIONS.

FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

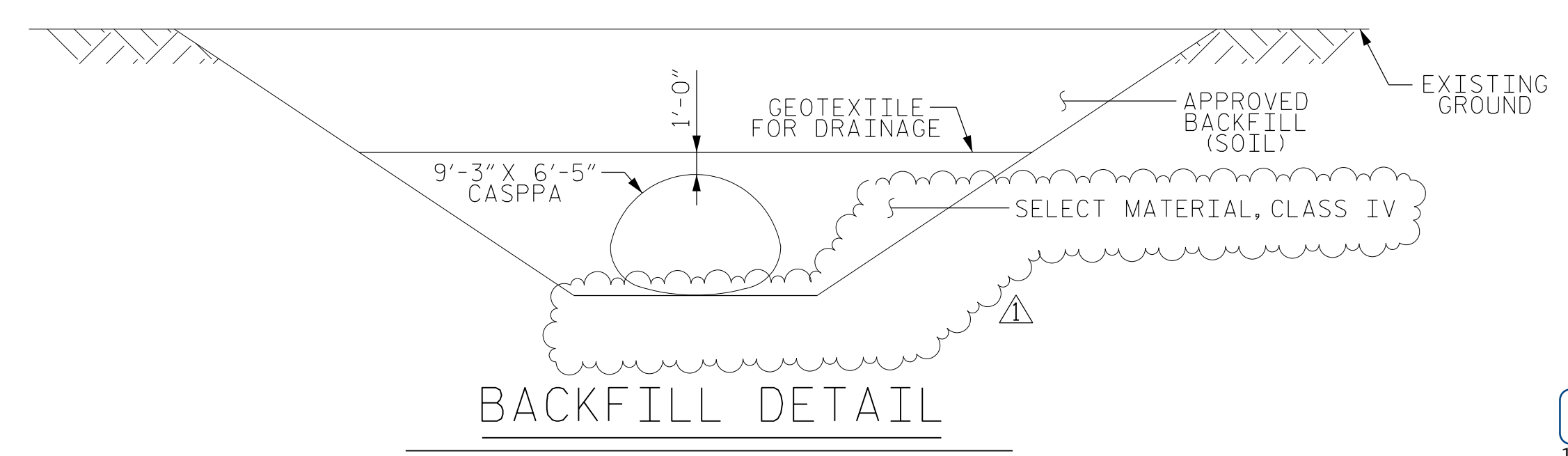
LOCATION SKETCH

ROADWAY DATA

GRADE POINT ELEV. @ STATION 11+64.00 -L- = 307.5
 BED ELEV. @ STATION 11+64.00 -L- = 295.9
 ROADWAY SLOPES = VARIES



PROFILE ALONG C OF CULVERT

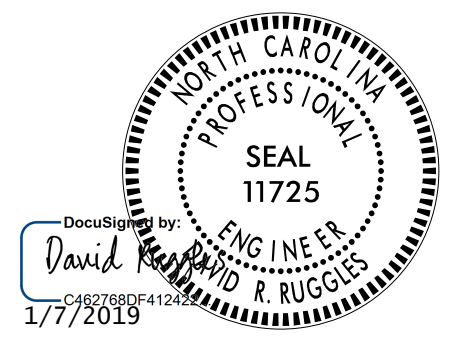


BACKFILL DETAIL

△ REVISE BACKFILL MATERIAL

TOTAL STRUCTURE QUANTITIES	
REMOVAL OF EXISTING CULVERT @ STA. 11+64.00 -L-	LUMP SUM
FOUNDATION CONDITIONING MATERIAL	68 TONS
GEOTEXTILE FOR DRAINAGE	275 SY
CORRUGATED ALUMINUM STRUCTURAL PLATE PIPE ARCH @ STA. 11+64.00 -L-	69'-0" LIN. FT.
SELECT MATERIAL, CLASS IV	550 TONS

PROJECT NO. 17BP.5.C.02
 DURHAM COUNTY
 STATION: 11+64.00 -L-
 SHEET 1 OF 2



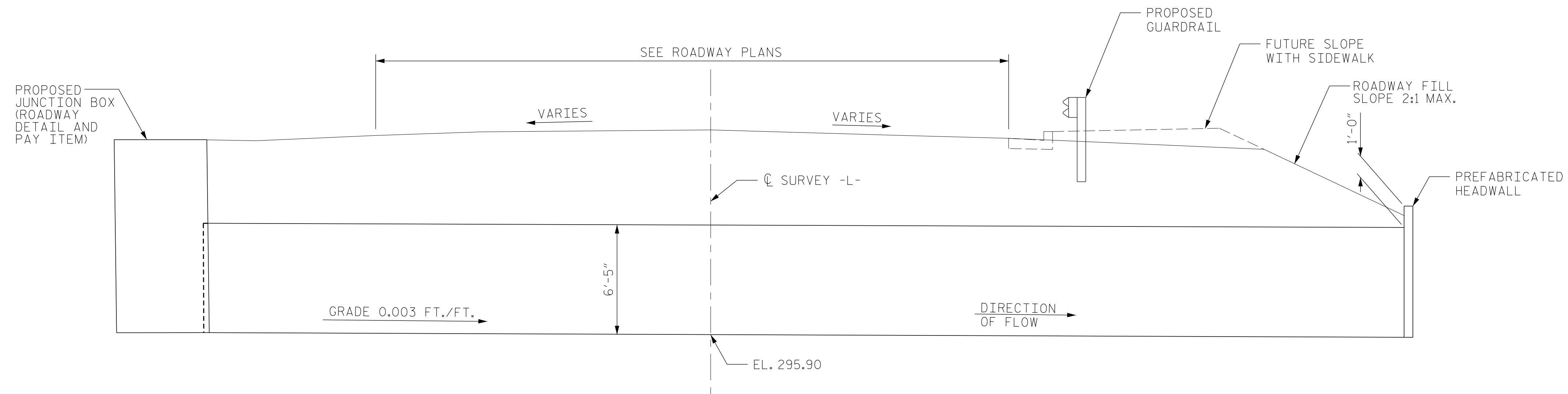
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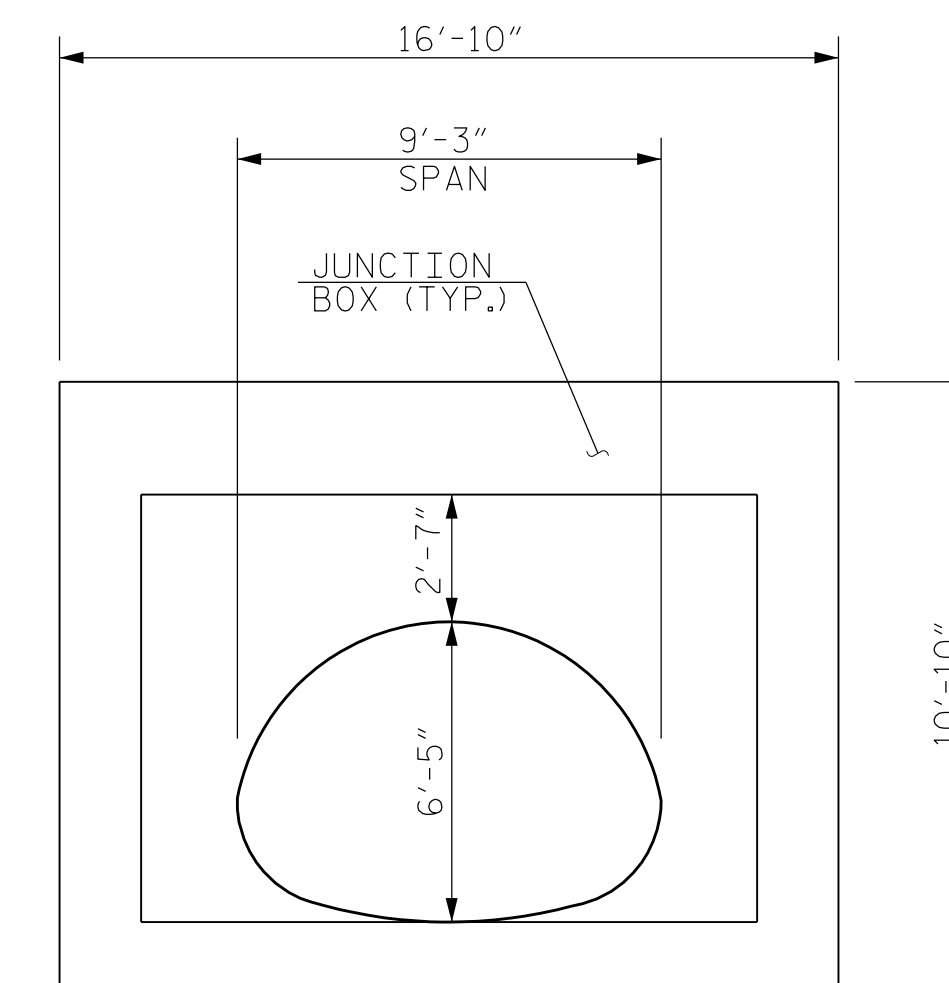
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
9'-3" X 6'-5" CORRUGATED ALUMINUM STRUCTURAL PLATE PIPE ARCH					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1	ECP	1/7/19	3		
2			4		
					C-1
					TOTAL SHEETS 4

DRAWN BY: E. PHELPS DATE: 7/18
 CHECKED BY: D. RUGGLES DATE: 7/18
 DESIGN ENGINEER OF RECORD: D. RUGGLES DATE: 7/18

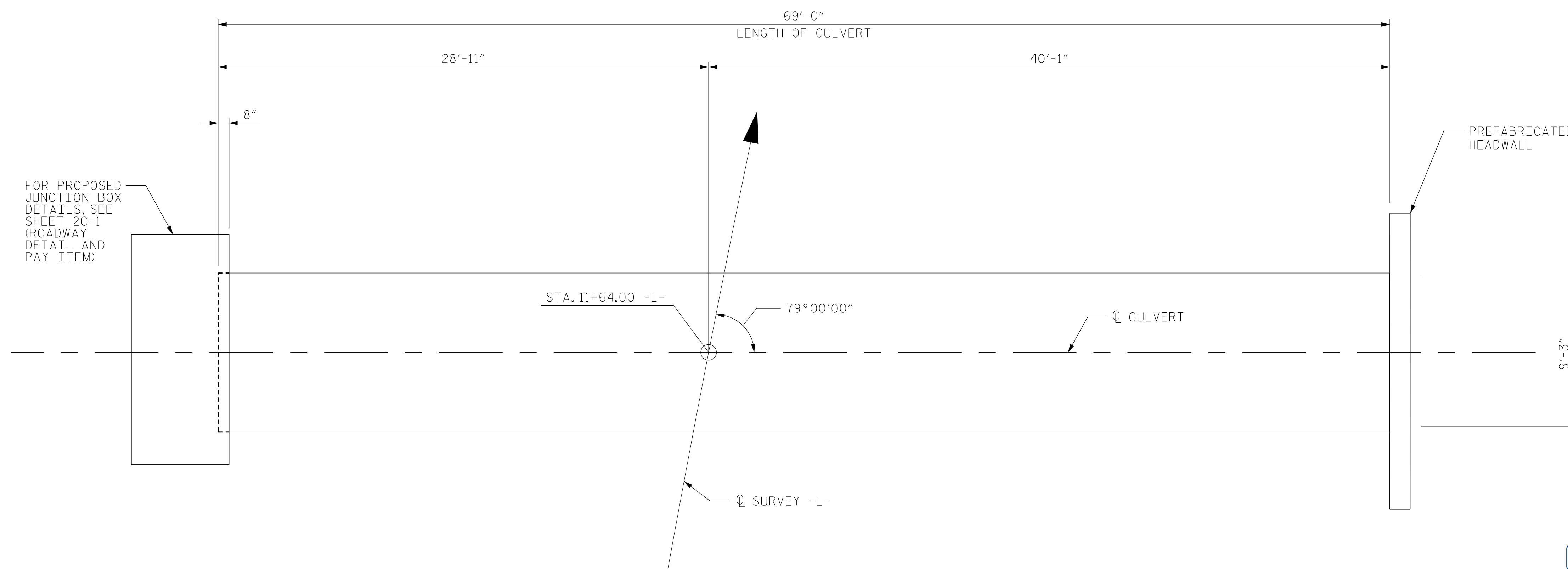
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 1/7/2019
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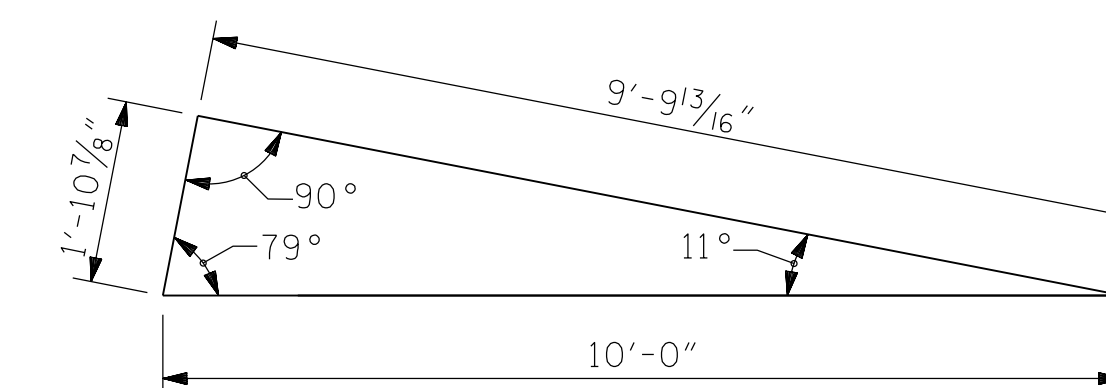
CULVERT SECTION NORMAL TO ROADWAY



INLET END ELEVATION



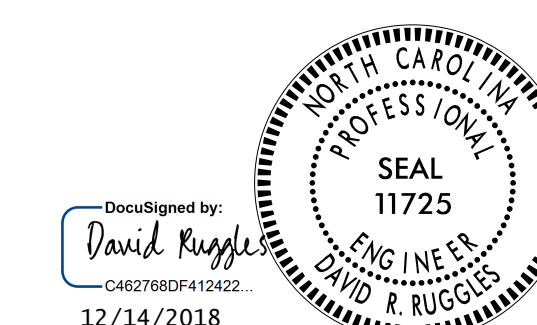
PLAN OF CASPPA CULVERT



SKEW TRIANGLE

PROJECT NO. 17BP.5.C.02
 DURHAM COUNTY
 STATION: 11+64.00 -L-

SHEET 2 OF 2



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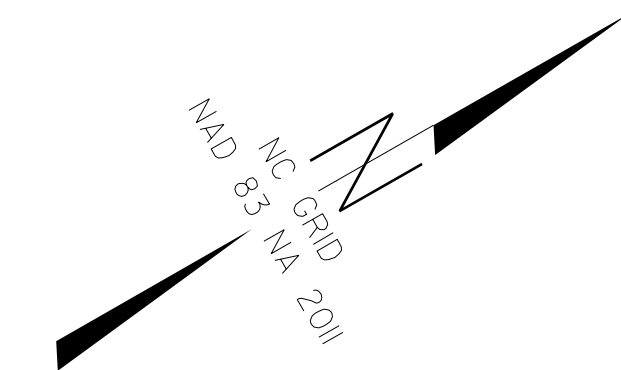
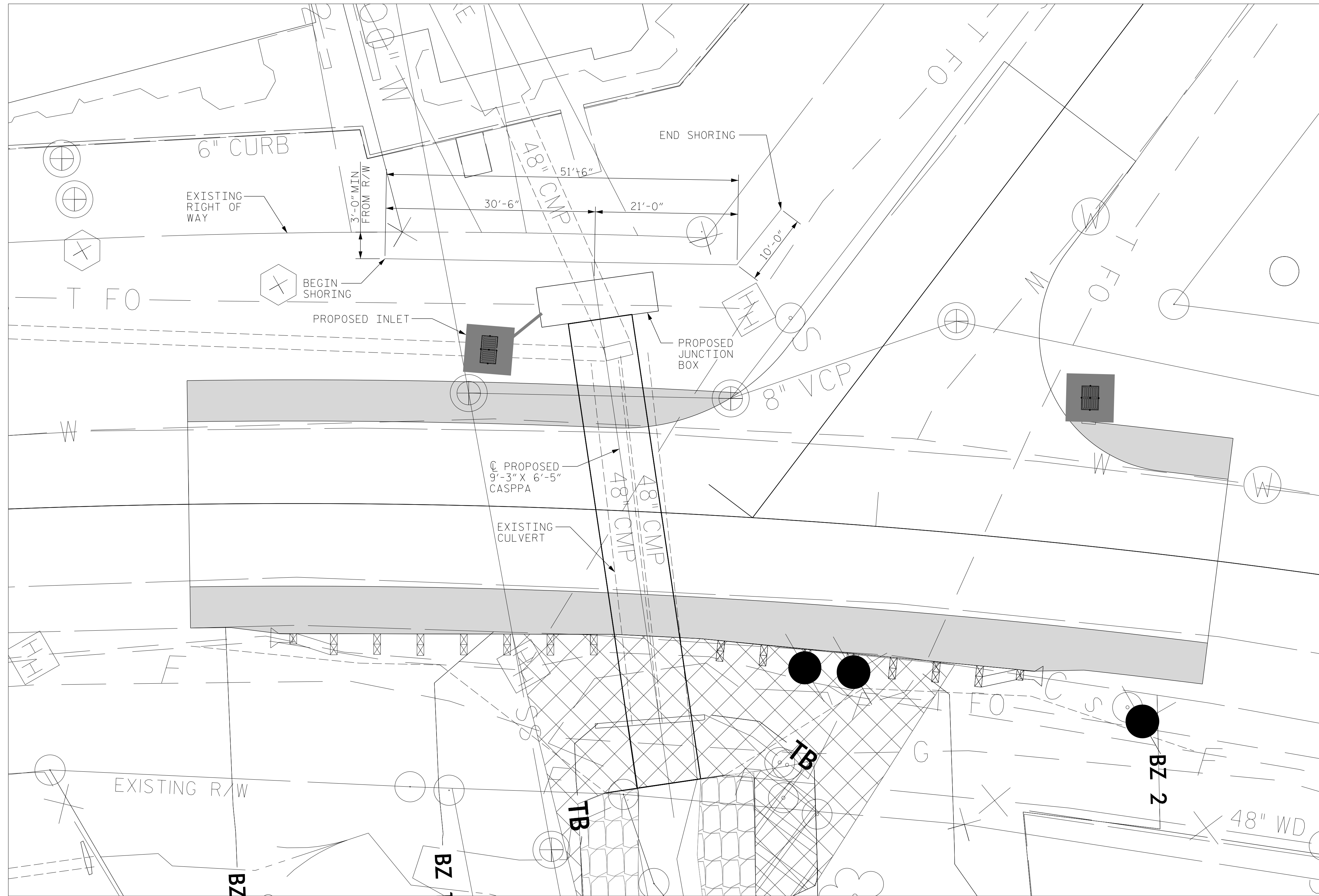
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 9'-3" X 6'-5"
 CORRUGATED ALUMINUM
 STRUCTURAL PLATE
 PIPE ARCH

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

DRAWN BY: E. PHELPS DATE: 7/18
 CHECKED BY: D. RUGGLES DATE: 7/18
 DESIGN ENGINEER OF RECORD: D. RUGGLES DATE: 7/18

11/6/2018
 400_002-Namas-SMUJ_T502_C-2.dgn
 USER: dfrault

17BP.5.C.02



NOTES:

CONTRACTOR SHALL SUBMIT PROPOSED SHORING METHOD AND DETAILS TO ENGINEER FOR APPROVAL.

APPROXIMATE LIMITS OF SHORING ARE SHOWN. ACTUAL SHORING LIMITS WILL BE ESTABLISHED BY CONTRACTOR.

AT&T UNDERGROUND FIBER OPTIC LINE HAS BEEN RELOCATED (TO BE CONFIRMED BY CONTRACTOR).

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

TEMPORARY SHORING IS REQUIRED FOR THE CULVERT INSTALLATION FROM STATION 11+31.81 -L-, 36.07 FT. LEFT, TO STATION 10+34.64 -Y1-, 25.5 FT. LEFT.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING NO.1 FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT (γ) = 120 LB/CF
- FRICTION ANGLE (ϕ) = 30 DEGREES
- COHESION (c) = 0 LB/SF
- GROUNDWATER ELEVATION = 300 FT*

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING NO.1.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION 11+31.81 -L-, 36.07 FT. LEFT, TO STATION 10+34.64 -Y1-, 25.5 FT. LEFT. SEE STANDARD DETAIL NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

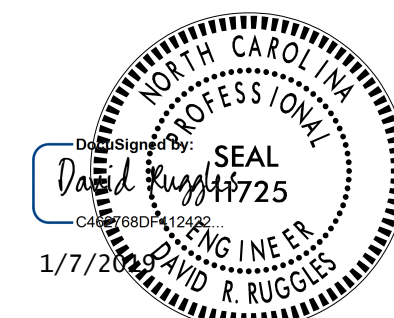


PROJECT NO. 17BP.5.C.02

DURHAM COUNTY

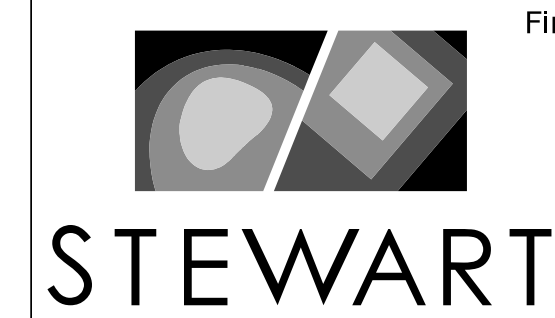
STATION: 11+64.00 -L-

SHEET 3 OF 3



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SHORING DETAIL

NOTE: PLACE SHORING PARALLEL TO PROPERTY LINE

UPDATE SHORING NOTES

DRAWN BY:	E. PHELPS	DATE :	7/18
CHECKED BY:	D. RUGGLES	DATE :	7/18
DESIGN ENGINEER OF RECORD:	D. RUGGLES	DATE :	7/18

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SHORING DETAIL					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1	VC	1/7/19	3		
2			4		
					SHEET NO. C-3
					TOTAL SHEETS 4

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 1/7/2019
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