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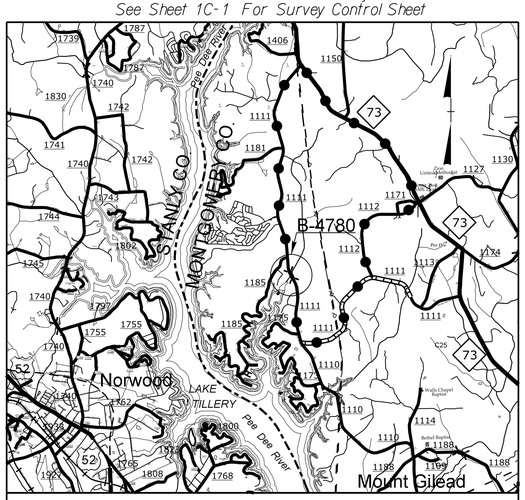
09/08/99

TIP PROJECT: B–4780

CONTRACT: C203616

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols
See Sheet 1C-1 For Survey Control Sheet



VICINITY MAP

OFFSITE DETOUR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MONTGOMERY COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B–4780	1	

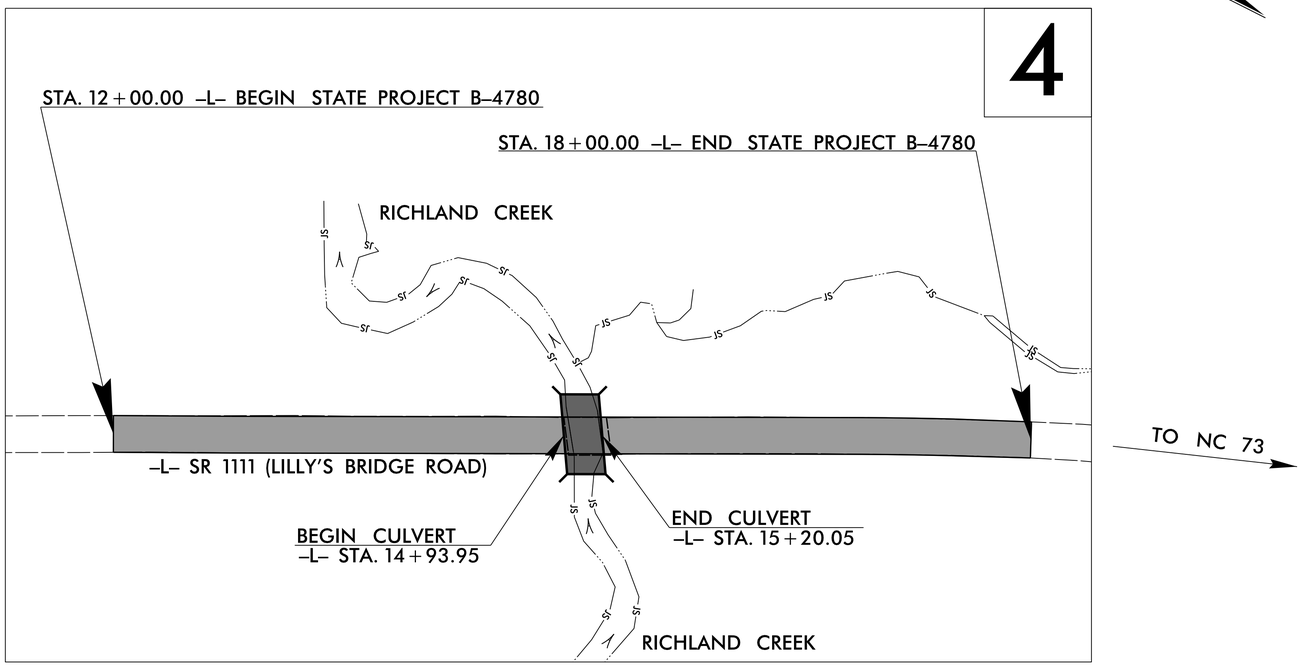
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
38551.1.1	BRZ–1111(8)	PE
38551.2.FD1	BRZ–1111(8)	R/W & UTILITIES
38551.3.FD1	BRZ–1111(8)	CONST.

LOCATION: BRIDGE NO. 22 ON SR 1111 (LILLY'S BRIDGE ROAD) OVER RICHLAND CREEK

TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND CULVERT.

NAD 83/CORS 96

4



GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2015 = 1310
ADT 2035 = 2000
K = 8 %
D = 60 %
T = 11 % *
V = 55 MPH
* TTST = 3% DUAL = 8%

FUNC CLASS = RURAL LOCAL

"SUBREGIONAL TIER"

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B–4780 = 0.109 MILES
LENGTH STRUCTURE TIP PROJECT B–4780 = 0.005 MILES
TOTAL LENGTH OF TIP PROJECT B–4780 = 0.114 MILES

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
FEBRUARY 17, 2014

LETTING DATE:
OCTOBER 20, 2015

JAMES A. SPEER, PE
PROJECT ENGINEER

DANIEL W. GARDNER, JR., PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

6/22/2015
DocuSigned by: D C Duffield
SIGNATURE:
NORTH CAROLINA PROFESSIONAL SEAL 030405 ENGINEER D. C. DUFFIELD P.E.

ROADWAY DESIGN ENGINEER

6/23/2015
DocuSigned by: Daniel W. Gardner, Jr.
SIGNATURE:
NORTH CAROLINA PROFESSIONAL SEAL 033871 ENGINEER DANIEL W. GARDNER JR. P.E.

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

01-JUN-2015 09:25
R:\RoadwayProj\B4780_rdy_tsh.dgn
$$$$USERNAME$$$$

ROADWAY DESIGN ENGINEER

SEAL 033871

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARDS
1B	CONVENTIONAL PLAN SHEET SYMBOLS
1C-1	SURVEY CONTROL SHEET
2A-1	PAVEMENT SCHEDULE, WEDGING DETAIL, AND TYPICAL SECTIONS
3B-1	SUMMARY OF EARTHWORK, GUARDRAIL SUMMARY, REMOVAL OF ASPHALT PAVEMENT SUMMARY
3G-1	SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION
4	PLAN SHEET
5	PROFILE SHEET
TMP-1 THRU TMP-3	TRANSPORTATION MANAGEMENT PLANS
PMP-1	PAVEMENT MARKING PLANS
EC-1 THRU EC-6	EROSION CONTROL PLANS
UC-1 THRU UC-5	UTILITIES CONSTRUCTION PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTION SUMMARY
X-2 THRU X-8	CROSS-SECTIONS
C-1 THRU C-6	CULVERT PLANS

GENERAL NOTES:

2012 SPECIFICATIONS
EFFECTIVE: 01-17-2012
REVISED: 10-31-2014

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE POWER-DUKE ENERGY PROGRESS, TELECOMMUNICATIONS-CENTURYLINK, CATV-TIME WARNER CABLE, WATER-MONTGOMERY COUNTY PUBLIC UTILITIES DEPARTMENT, SEWER-TOWN OF MT. GILEAD PUBLIC WORKS DEPARTMENT

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

2012 ROADWAY ENGLISH STANDARD DRAWINGS

EFF. 01-17-2012
REV. 10-30-2012

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units (See sheet 7 of 7)
876.01	Rip Rap in Channels
876.04	Drainage Ditches with Class 'B' Rip Rap

02/03/15

PROJECT REFERENCE NO.	SHEET NO.
B-4780	1B

Note: Not to Scale

****S.U.E. = Subsurface Utility Engineering***

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Existing Historic Property Boundary — HPB
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H–Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

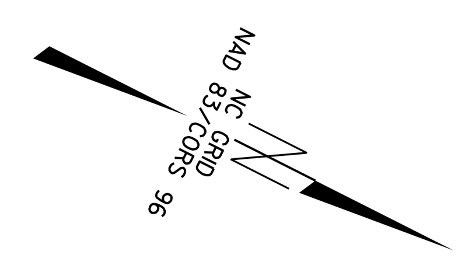
6/2/99

PROJECT REFERENCE NO.	SHEET NO.
B-4780	1C-1
Location and Surveys	

SURVEY CONTROL SHEET B-4780

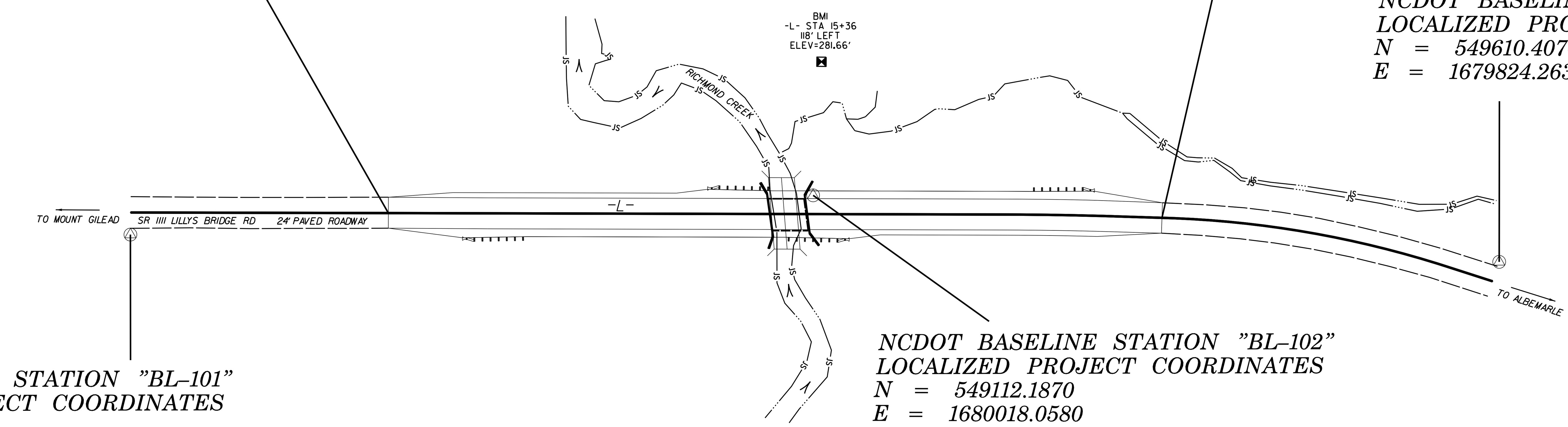
FINAL

LOCALIZED PROJECT COORDINATES
-L- STA. 12+00.00 BEGIN TIP PROJECT B-4780
N = 548824.3120
E = 1680178.8320



LOCALIZED PROJECT COORDINATES
-L- STA. 18+00.00 END TIP PROJECT B-4780
N = 549361.5266
E = 1679911.6738

NCDOT BASELINE STATION "BL-103"
LOCALIZED PROJECT COORDINATES
N = 549610.4070
E = 1679824.2630



NCDOT BASELINE STATION "BL-102"
LOCALIZED PROJECT COORDINATES
N = 549112.1870
E = 1680018.0580

NCDOT BASELINE STATION "BL-101"
LOCALIZED PROJECT COORDINATES
N = 548653.2260
E = 1680283.8900

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
101	BL-101	548653.2260	1680283.8900	301.16	OUTSIDE PROJECT LIMITS	
102	BL-102	549112.1870	1680018.0580	287.86	15+29.41	14.53 LT
103	BL-103	549610.4070	1679824.2630	296.88	OUTSIDE PROJECT LIMITS	

****
BM1 ELEVATION = 281.66
N 549071 E 1679923
L STATION 15+36.00 118 LEFT
RR-SPIKE IN BASE OF 8IN ELM TREE
****

L

TYPE	STATION	NORTH	EAST
POT	10+00.00	548645.5695	1680268.5600
PC	16+80.46	549253.7052	1679963.2782
PT	17+62.90	549327.9010	1679927.3593
PC	18+03.16	549364.3904	1679910.3380
PT	20+24.41	549575.2966	1679845.9080
POT	20+62.22	549612.6485	1679840.0140

PERMANENT EASEMENT REBAR

ALIGN	STATION	OFFSET	NORTH	EAST
L	12+25.00	-30.00	548833.1956	1680140.8046
L	12+50.00	-60.00	548842.0792	1680102.7772
L	14+75.00	-30.00	549056.6237	1680028.6445
L	14+75.00	30.00	549083.5421	1680082.2673
L	14+75.00	-60.00	549043.1645	1680001.8332
L	14+75.00	60.00	549097.0013	1680109.0787
L	15+30.00	-30.00	549105.7779	1680003.9693
L	15+30.00	-50.00	549096.8051	1679986.0951
L	15+30.00	-60.00	549092.3187	1679977.1579
L	15+40.00	30.00	549141.6334	1680053.1057
L	15+40.00	60.00	549155.0926	1680079.9170
L	15+50.00	-50.00	549114.6793	1679977.1223
L	17+50.00	-45.00	549297.0197	1679892.1419
L	18+00.00	-30.00	549348.8444	1679884.4863

NOTE: DRAWING NOT TO SCALE

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4780-1"
WITH NAD 83/CORS96 STATE PLANE GRID COORDINATES OF NORTHING: 546982.4100(ft) EASTING: 1680398.8900(ft)
ELEVATION: 312.070(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998620950
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4780-1" TO -L- STATION 12+00.00 IS
N 6°48'46.9" W 1855.00'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTES:

1. *THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT: HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/*

THE FILES TO BE FOUND ARE AS FOLLOWS: B4780_LS_CONTROL.TXT

SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

◎ *INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.*
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)

06-AUG-2015 15:47
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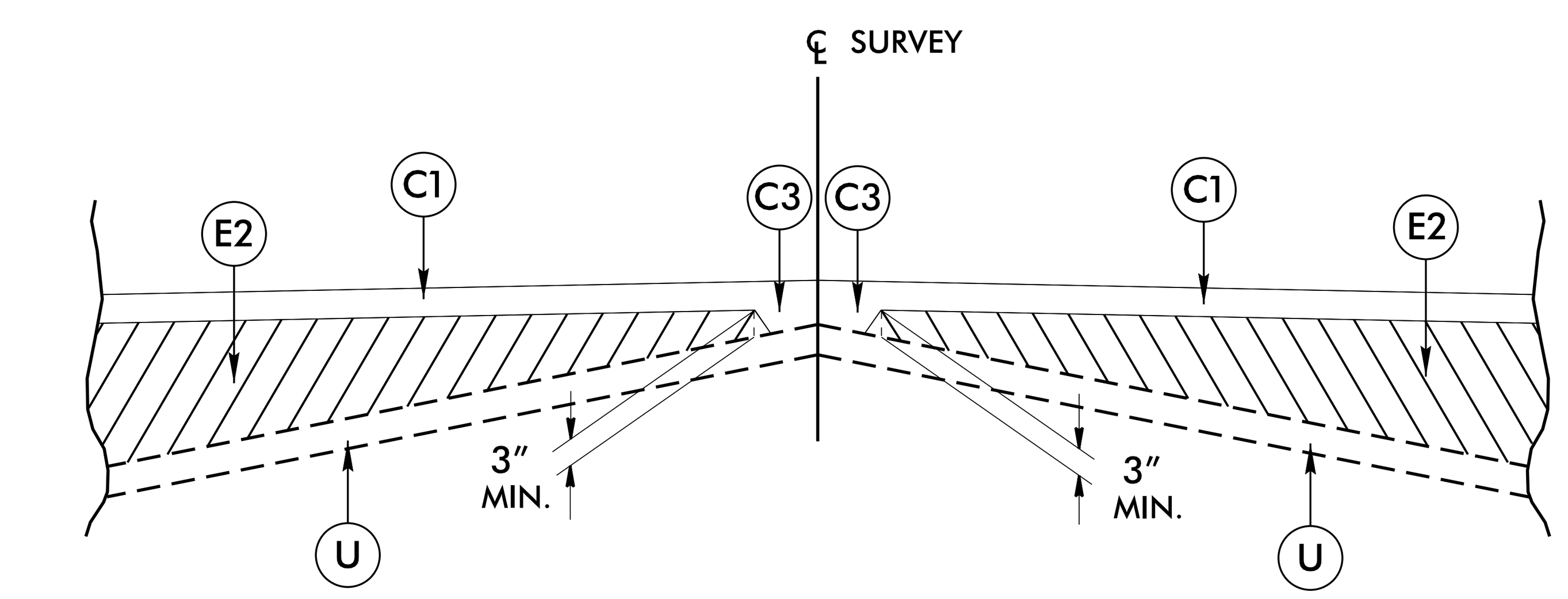
PROJECT REFERENCE NO.	SHEET NO.
B-4780	2A-1

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 033871 DANIEL W. GARDNER, JR. 6/24/… DocuSigned by: Daniel W. Gardner, Jr.

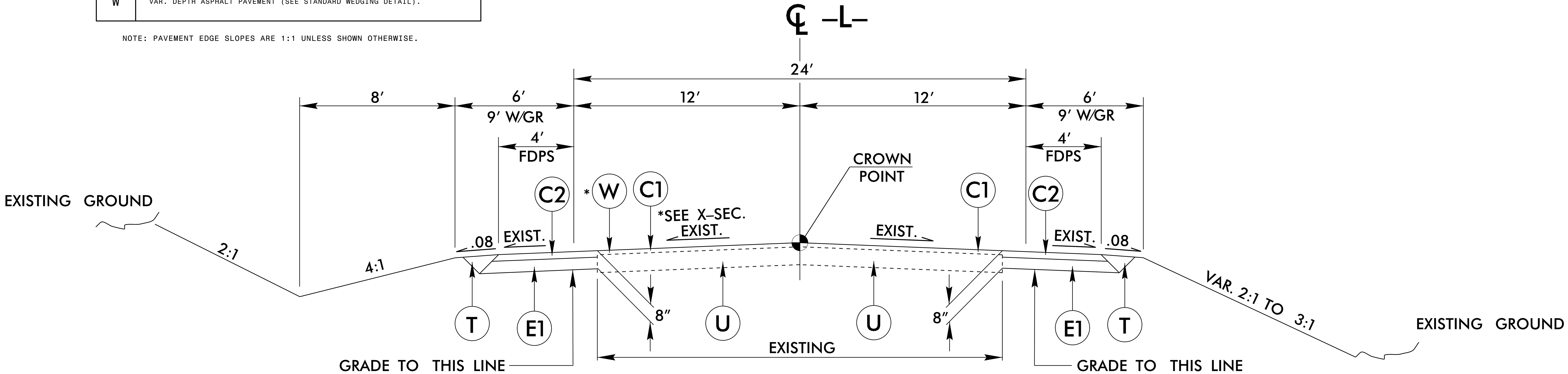
PAVEMENT DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022896 CLARK S. MORRISON 6/23/… DocuSigned by: Clark S Morrison

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1½″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1″ DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 2″ IN DEPTH.
E1	PROP. APPROX. 5″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1″ DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3″ OR GREATER THAN 5½″ IN DEPTH.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VAR. DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL).

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



Detail Showing Method of Wedging

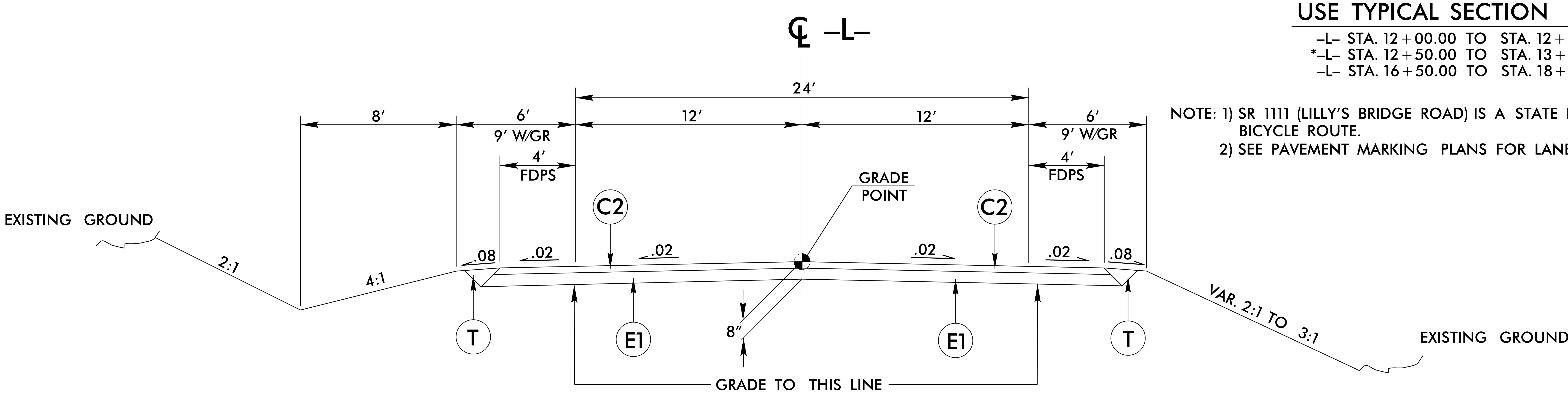


TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

-L- STA. 12+00.00 TO STA. 12+50.00
*-L- STA. 12+50.00 TO STA. 13+75.00
-L- STA. 16+50.00 TO STA. 18+00.00

NOTE: 1) SR 1111 (LILLY'S BRIDGE ROAD) IS A STATE DESIGNATED SANDHILLS BICYCLE ROUTE.
2) SEE PAVEMENT MARKING PLANS FOR LANE WIDTH TRANSITIONS.



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2

-L- STA. 13+75.00 TO STA. 16+50.00

6/2/99

22-APR-2015 09:19
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$$$$USERNAME$$$$

12/06/07

COMPUTED BY: T. A. HARRIS DATE: 09/17/13
CHECKED BY: K. T. BRIDGERS DATE: 12/29/14

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
B-4780	3B-1

SUMMARY OF EARTHWORK

IN CUBIC YARDS

STATION	STATION	UNCL. EXCAV.	EMBANK. +%	BORROW	WASTE
–L– 12+00.00	–L– 18+00.00	730	1767	1037	
SUBTOTAL		730	1767	1037	
LOSS DUE TO CLEARING & GRUBBING		–40		40	
TOTAL		690	1767	1037	
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT				54	
PROJECT GRAND TOTALS		690	1767	1131	
SAY		750		1200	
EST. UNDERCUT CONTINGENCY = 400 CUBIC YARDS					
GEOTEXTILE FOR SOIL STABILIZATION = 300 SQUARE YARDS					
SELECT GRANULAR MATERIAL = 300 CUBIC YARDS					
DDE = 59 CUBIC YARDS					

Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

Note: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD^2
–L–	13+75.00	14+95.68	LT/RT	327.52
–L–	15+24.40	16+50.00	LT/RT	331.52
			TOTAL:	659.05
			SAY:	700

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		W		ANCHORS								IMPACT ATTENUATOR TYPE 350			SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END		GRAU 350							EA	G	NG				
–L–	–L– 12+57.50	–L– 15+57.50	RT.	300			–L– 13+50.00	–L– 15+57.50	6′	9′	50′	50′	1′	1′		2													
–L–	–L– 14+47.50	–L– 17+47.50	LT.	300			–L– 16+00.00	–L– 14+47.50	6′	9′	50′	50′	1′	1′		2													
			TOTALS	600												4													
		LESS DEDUCTION FOR ANCHORS																											
		GRAU–350 4 @ 50′ =		–200																									
			PROJECT TOTALS	400												4													
			SAY	425																									
		ADDITIONAL GUARDRAIL POSTS = 5 EA.																											

12/06/07

COMPUTED BY: T. A. HARRIS DATE: 09/17/13
CHECKED BY: K.T. BRIDGERS DATE: 12/29/14

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
B-4780	3G-1

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	STATION	STATION	AGGREGATE TYPE* ASU/AST	AGGREGATE THICKNESS INCHES	SHALLOW UNDERCUT CY	CLASS IV SUBGRADE STABILIZATION TONS	GEOTEXTILE FOR SOIL STABILIZATION SY	STABILIZER AGGREGATE TONS	CLASS IV AGGREGATE STABILIZATION TONS
	CONTINGENCY (GEOTECHNICAL)						300 SY		
	TOTAL						300 SY *		

ASU = AGGREGATE SUBGRADE, AST = AGGREGATE STABILIZATION

*TOTAL SQUARE YARDS OF GEOTEXTILE FOR SOIL STABILIZATION IS ONLY THE ESTIMATED QUANTITY FOR ASU/AST AND MAY ONLY REPRESENT A PORTION OF THE GEOTEXTILE QUANTITY SHOWN IN THE ITEM SHEETS OF THE PROPOSAL.

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-L-	
PI Sta 17+21.68	PI Sta 19+14.51
△ = 1° 38' 55.4" (RT)	△ = 16° 02' 26.3" (RT)
D = 2° 00' 00.0"	D = 7° 15' 00.0"
L = 82.44'	L = 221.25'
T = 41.22'	T = 111.35'
R = 2,864.79'	R = 790.29'
SE = NC	SE = NC

PROJECT REFERENCE NO.	SHEET NO.
B-4780	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 033871 ENGINEER DANIEL W GARDNER
6/23/2015
DocuSigned by: Daniel W. Gardner, Jr.

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 030405 ENGINEER D C DUFFIELD
6/22/2015
DocuSigned by: D C Duffield

NAD 83/CORS 96

-L- POT Sta. 10+00.00

-L- PC Sta. 16+80.46

-L- PT Sta. 17+62.90

-L- PC Sta. 18+03.16

-L- PT Sta. 20+24.41

-L- POT Sta. 20+62.22

-BL-101

-BL-102

-BL-103

PROGRESS ENERGY
DB 79 PG 149
REMOVE EXISTING BRIDGE
(2)

CLASS I RIPRAP
SEE CULVERT REPORT FOR
INLET AND OUTLET DETAILS

BMI
SEE SHEET IC-1
ELEV=281.66'

RICHLAND CREEK

HIGH WATER MARK
ELEV=285.23'
FROM FIELD OBSERVATION
OCTOBER 1, 2012

BRIDGE NO. 22
WOOD & STEEL BRIDGE
W/ PAVED DECK

CONC MON
"CP&L 209-1 EL247.39' 1959"

CLASS B RIPRAP
EST 1 TONS
EST 5 SY GF

GUS SCHAD
DB 242 PG 99
PC C SLIDE 7-C
PC C SLIDE 68-D

A & C ENTERPRISES, INC.
DB 709 PG 54
PB 5 PG II
PB 7 PG 3
(3)

JORDAN TIMBERLANDS, INC.
DB 723 PG 901
PC E SLIDE 20A
(4)

TODD & JAMES SCHAD
DB 503 PG 331
(1)

PROGRESS ENERGY
DB 79 PG 149
(2)

BEGIN GRADE
-L- STA. 13+75.00

BEGIN CULVERT
-L- STA. 14+93.95

END CULVERT
-L- STA. 15+20.05

END GRADE
-L- STA. 16+50.00

-L- STA. 12+00.00 BEGIN STATE PROJECT B-4780

-L- STA. 18+00.00 END STATE PROJECT B-4780

INLET TYPICAL
NOT TO SCALE
(LEFT TO RIGHT LOOKING DOWNSTREAM)

EST TONS CLASS 'I'= 13 TONS
EST FILTER FABRIC= 27 SY
DDE= 19 CY

OUTLET TYPICAL
NOT TO SCALE
(LEFT TO RIGHT LOOKING DOWNSTREAM)

EST TONS CLASS 'I'= 17.5 TONS
EST FILTER FABRIC= 37 SY
DDE= 40 CY

NOTE 1: WEDGE EXISTING PAVEMENT FROM -L- STA. 12+50 TO STA. 13+75 LT. TO ELIMINATE EXCESSIVE CROSS-SLOPE AND TO MATCH THE 0.02 CROSS-SLOPE AT -L- STA. 13+75 LT. (BEGIN GRADE).

NOTE 2: TRANSITION PAVED SHOULDER TO EXISTING
-L- STA. 12+00 TO STA. 12+50 LT. & RT.
-L- STA. 17+50 TO STA. 18+00 LT. & RT.

SEE SHEET 5 FOR -L- PROFILE.
SEE SHEETS C-1 THRU C-6 FOR CULVERT PLANS

REVISIONS 8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
B-4780	5

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 033871 DANIEL W. GARDNER, JR.
6/23/2015
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HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030405 D.C. DUFFIELD
6/22/2015
DocuSigned by: D C Duffield
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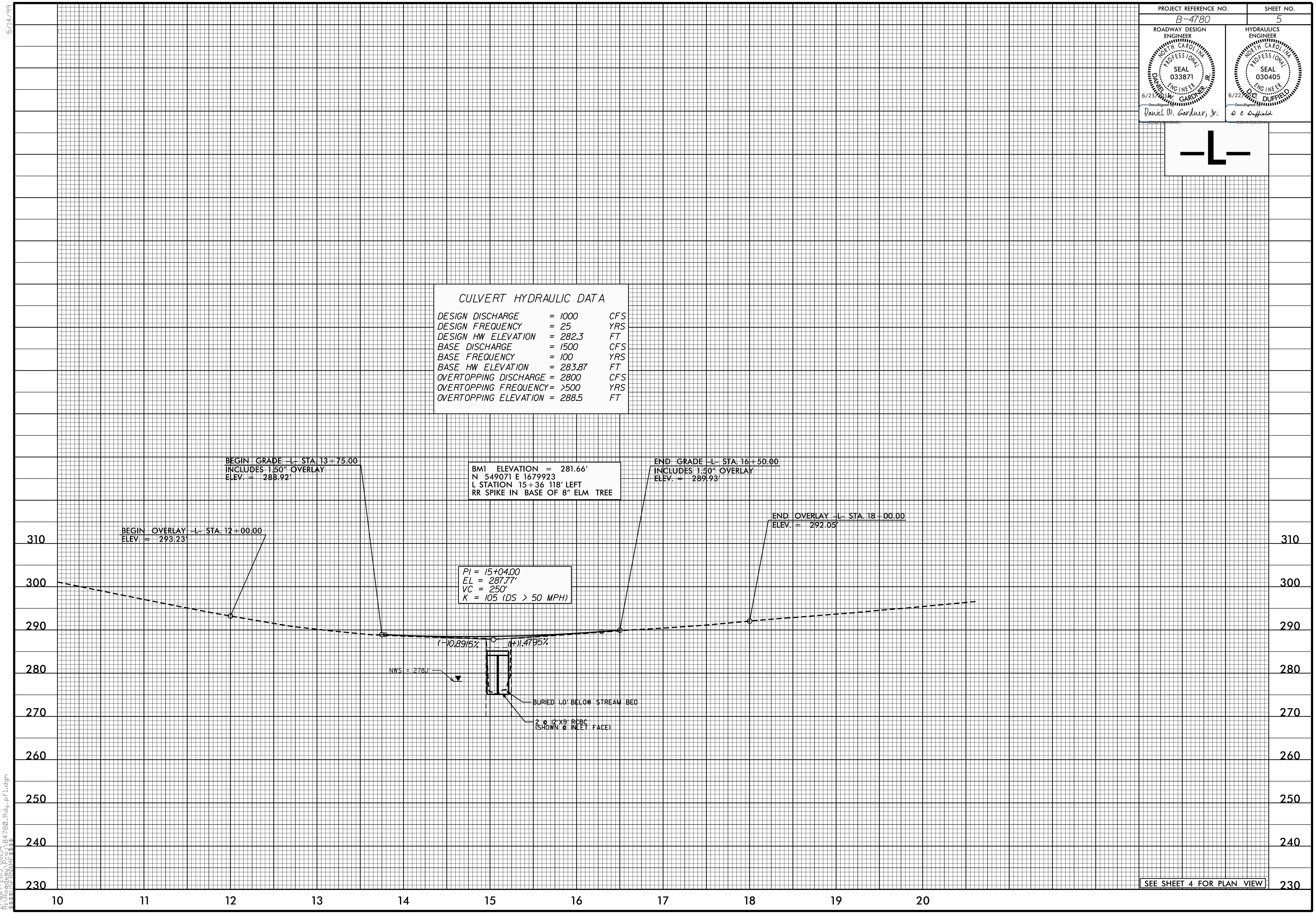
-L-

CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 1000	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 282.3	FT
BASE DISCHARGE	= 1500	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 283.87	FT
OVERTOPPING DISCHARGE	= 2800	CFS
OVERTOPPING FREQUENCY	= >500	YRS
OVERTOPPING ELEVATION	= 288.5	FT



SEE SHEET 4 FOR PLAN VIEW