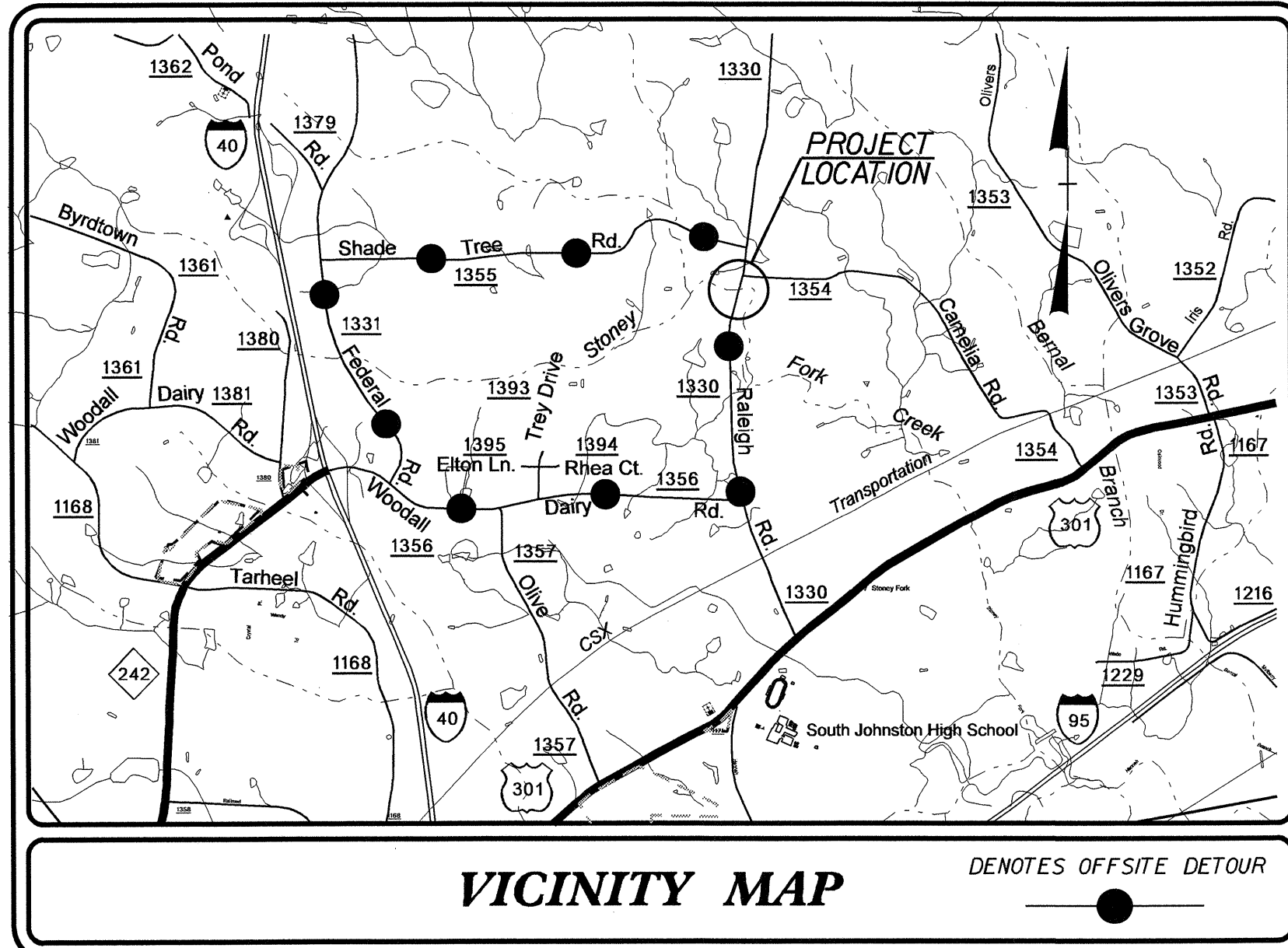


09/08/09

See Sheet 1-A For Index of Sheets



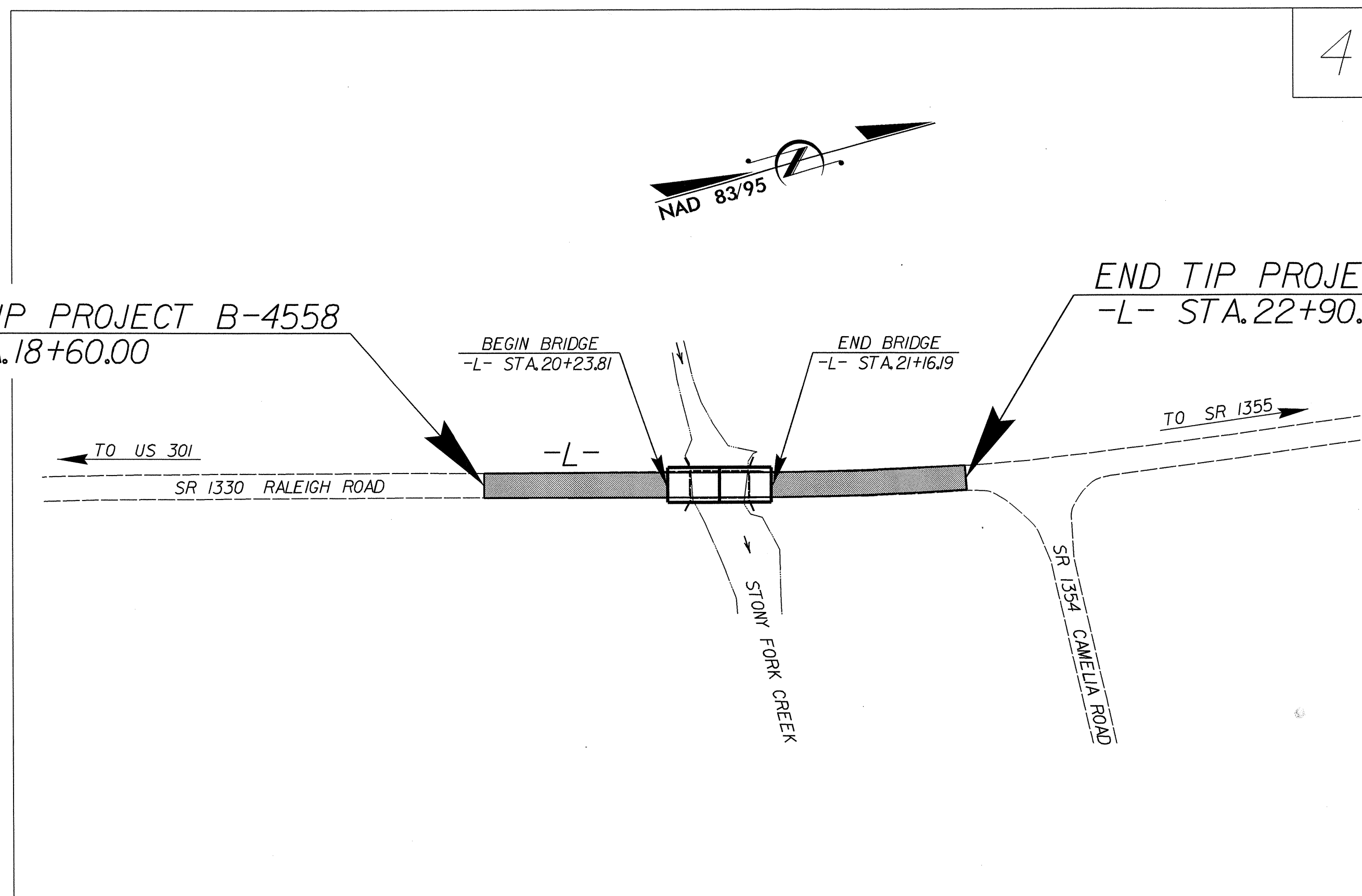
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# JOHNSTON COUNTY

**LOCATION: BRIDGE NO. 86 OVER STONY FORK CREEK AND APPROACHES ON SR 1330 (RALEIGH ROAD)**

**TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURE**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4558	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33769.1.1	BRZ-1330(6)	P.E.	
33769.2.1	BRZ-1330(6)	R/W, UTIL.	
33769.3.1	BRZ-1330(6)	CONSTR.	

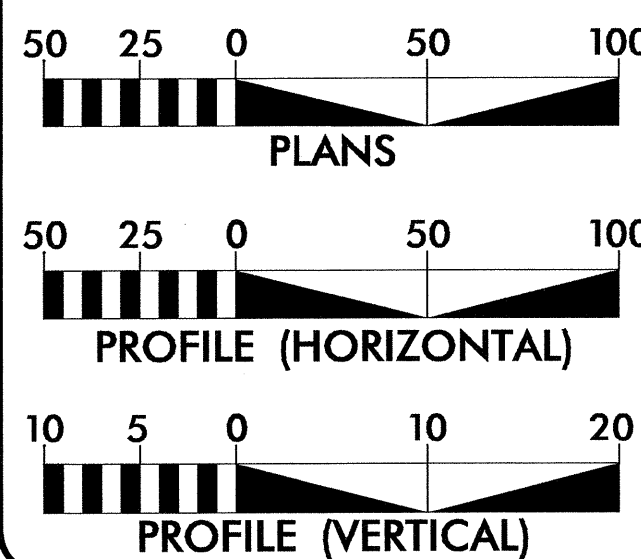


**TIP PROJECT: B-4558**

**CONTRACT: C203082**

05-DEC-2012 16:00  
R:\Roadway\Proj\B-4558\_rdy\_tsh.dgn  
\$\$\$\$USERNAME\$\$\$\$

**GRAPHIC SCALES**



**DESIGN DATA**

ADT 2013 = 1830  
ADT 2033 = 3090  
DHV = 11 %  
D = 60 %  
T = 7 % \*  
V = 60 MPH  
\* (TTST 1% + DUAL 6%)  
FUNC. CLASS. = COLLECTOR  
SUBREGIONAL TIER

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT B-4558 = 0.064 MILE  
LENGTH STRUCTURE TIP PROJECT B-4558 = 0.017 MILE  
TOTAL LENGTH TIP PROJECT B-4558 = 0.081 MILE

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

2012 STANDARD SPECIFICATIONS

**RIGHT OF WAY DATE:**  
JANUARY 17, 2012

**LETTING DATE:**  
MARCH 19, 2013

**REKHA PATEL, PE**  
PROJECT ENGINEER

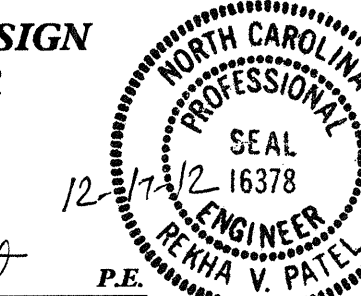
**SAMUEL L. ST. CLAIR**  
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

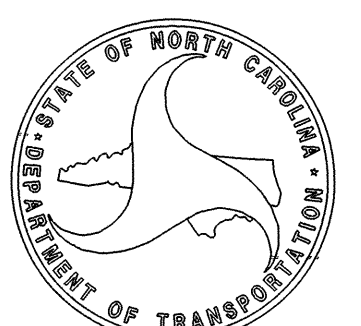


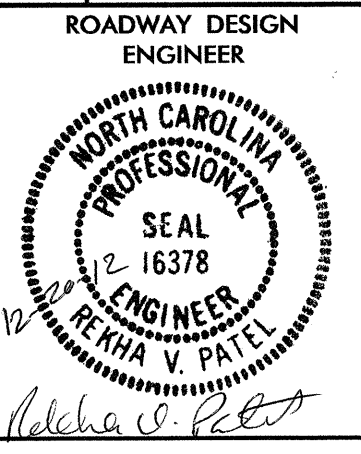
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**ROADWAY DESIGN ENGINEER**



SIGNATURE: *[Signature]*





INDEX OF SHEETS B-4558

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C & 1-D	SURVEY CONTROL SHEETS
2	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND DETAIL FOR PAVEMENT TREATMENT AT BEGIN AND END OF PROJECT
2-A	DETAIL FOR STRUCTURE ANCHOR UNITS
3	SUMMARY OF QUANTITIES
3-A	EARTHWORK SUMMARY; SUMMARIES OF GUARDRAIL, DRAINAGE QUANTITIES, REMOVAL OF PAVEMENT, AND SHOULDER BERM GUTTER
4	PLAN/PROFILE SHEET
TMP-1 THRU TMP-4	TRANSPORTATION MANAGEMENT PLANS
PMP-1	PAVEMENT MARKING PLAN
EC-1 THRU EC-5	EROSION CONTROL PLANS
RF-1	REFORESTATION PLAN
SIGN-1 & SIGN-2	SIGNING PLANS
UC-1 THRU UC-6	UTILITIES CONSTRUCTION PLANS
UD-1 & UD-2	UTILITIES BY OTHERS PLANS
X-0	CROSS-SECTION SUMMARY SHEET
X-1 THRU X-3	CROSS-SECTIONS
S-1 THRU S-17	STRUCTURE PLANS

GENERAL NOTES:

2012 SPECIFICATIONS  
EFFECTIVE: 01-17-12  
REVISED: 07/30/12

2012 ROADWAY ENGLISH STANDARD DRAWINGS

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
<b>DIVISION 2 - EARTHWORK</b>	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Super-elevation - Two Lane Pavement
<b>DIVISION 3 - PIPE CULVERTS</b>	
300.01	Method of Pipe Installation
<b>DIVISION 4 - MAJOR STRUCTURES</b>	
422.11	Reinforced Bridge Approach Fills - Sub Regional Tier
<b>DIVISION 5 - SUBGRADE, BASES AND SHOULDERS</b>	
560.01	Method of Shoulder Construction - High Side of Super-elevated Curve - Method I
<b>DIVISION 8 - INCIDENTALS</b>	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
815.03	Pipe Underdrain and Blind Drain
840.00	Concrete Base Pad for Drainage Structures
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.46	Traffic Bearing Precast Drainage Structure
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
876.02	Guide for Rip Rap at Pipe Outlets

GRADE LINE:  
GRADING AND SURFACING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED 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.

UNDERDRAINS:

UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.03 AT LOCATIONS DIRECTED BY THE ENGINEER.

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.

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

END BENTS:

THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE JOHNSTON COUNTY PUBLIC UTILITIES (WATER), PROGRESS ENERGY CAROLINAS, INC. (POWER), AND CENTURY LINK (TELEPHONE)

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

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT.

Note: Not to Scale

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

# 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	⑩23
Existing Fence Line	-x-x-x-
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-
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	▬
False Sump	▽

## RAILROADS:

Standard Gauge	-----
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	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite Marker	-----
Existing Control of Access	○
Proposed Control of Access	○
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	-----

## EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	-----
Bridge Wing Wall, Head Wall and End Wall	-----
MINOR:	
Head and End Wall	-----
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	□ CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	○ S
Storm Sewer	-----

## UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
Power Line Tower	⊗
Power Transformer	⊗
U/G Power Cable Hand Hole	□
H-Frame Pole	●
Recorded U/G Power Line	-----
Designated U/G Power Line (S.U.E.*)	-----

## TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Booth	□
Telephone Pedestal	⊕
Telephone Cell Tower	⊕
U/G Telephone Cable Hand Hole	□
Recorded U/G Telephone Cable	-----
Designated U/G Telephone Cable (S.U.E.*)	-----
Recorded U/G Telephone Conduit	-----
Designated U/G Telephone Conduit (S.U.E.*)	-----
Recorded U/G Fiber Optics Cable	-----
Designated U/G Fiber Optics Cable (S.U.E.*)	-----

## WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
Recorded U/G Water Line	-----
Designated U/G Water Line (S.U.E.*)	-----
Above Ground Water Line	-----

## TV:

TV Satellite Dish	⊕
TV Pedestal	□
TV Tower	⊗
U/G TV Cable Hand Hole	□
Recorded U/G TV Cable	-----
Designated U/G TV Cable (S.U.E.*)	-----
Recorded U/G Fiber Optic Cable	-----
Designated U/G Fiber Optic Cable (S.U.E.*)	-----

## GAS:

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

## SANITARY SEWER:

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

## MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line	-----
U/G Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	⊕
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.



# SURVEY CONTROL SHEET B-4558

## BENCHMARK DATA

```

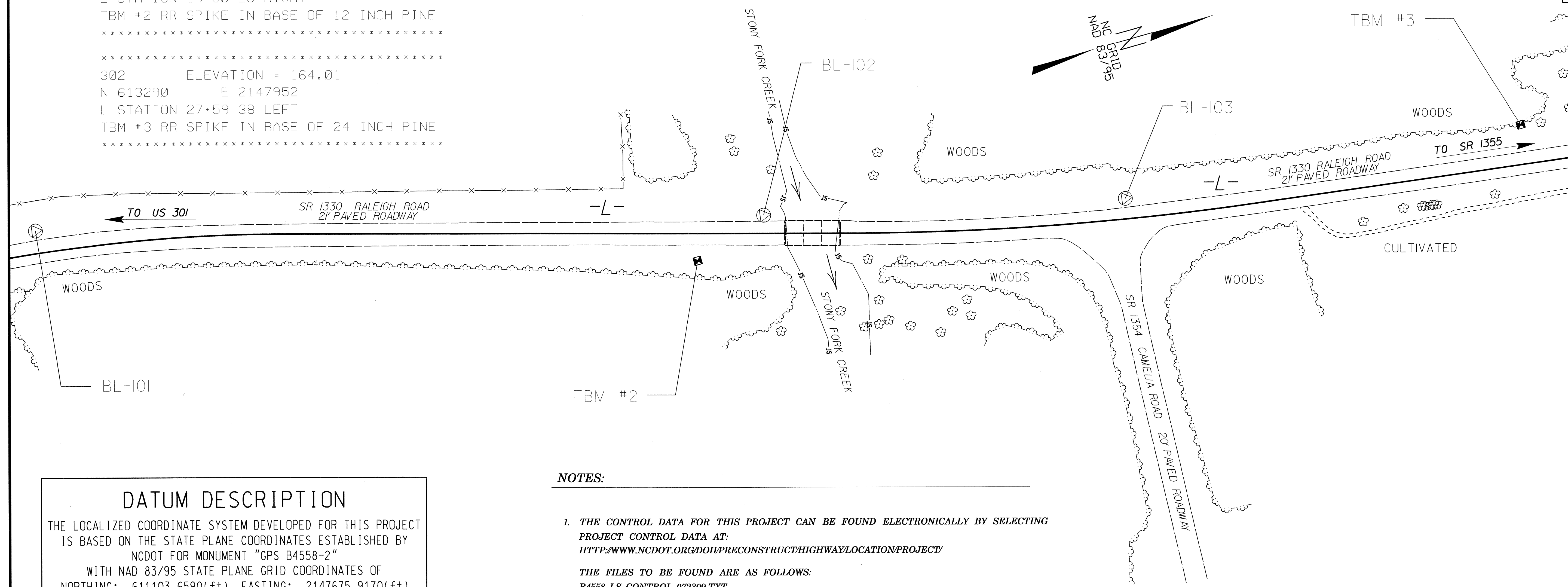
*****
300      ELEVATION = 151.46
N 611857      E 2147645
L STATION 12+91 35 LEFT
TBM #1 RR SPIKE IN BASE OF POWER POLE
*****
301      ELEVATION = 152.12
N 612496      E 2147862
L STATION 19+60 26 RIGHT
TBM #2 RR SPIKE IN BASE OF 12 INCH PINE
*****
302      ELEVATION = 164.01
N 613290      E 2147952
L STATION 27+59 38 LEFT
TBM #3 RR SPIKE IN BASE OF 24 INCH PINE
*****

```

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
2	GPS B4558-2	611103.6590	2147675.9170	153.62	OUTSIDE PROJECT LIMITS	
101	BL-101	611892.5770	2147661.9420	150.55	13+27.65	21.98 LT
102	BL-102	612568.2710	2147837.3640	151.88	20+23.20	17.49 LT
103	BL-103	612906.2750	2147916.7180	152.51	23+72.35	19.62 LT
104	BL-104	613439.4330	2148040.5180	167.91	29+18.09	30.37 RT

## BASELINE DATA



### DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS B4558-2" WITH NAD 83/95 STATE PLANE GRID COORDINATES OF NORTHING: 611103.6590(ft) EASTING: 2147675.9170(ft) ELEVATION: 153.6180(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: .99987494 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS B4558-2" TO -L- STATION 10+00.00 IS S 0° 01' 09" E 459.12 FT ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

### NOTES:

- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT: [HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATIONPROJECT/](http://www.ncdot.org/doh/preconstruct/highway/locationproject/) THE FILES TO BE FOUND ARE AS FOLLOWS: B4558\_LS\_CONTROL\_072309.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)

NOTE: DRAWING NOT TO SCALE

6/2/99

03-DEC-2012 06:53 P:\LocationSurveys\b4558\_ls\_1c\_090723.dgn

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
B-4558	ID
Location and Surveys	

# SURVEY CONTROL SHEET B-4558

## ROW MARKER CONCRETE OR GRANITE-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	19+10.000	-45.00	612466.7052	2147780.3004
L	19+15.000	40.00	612448.5580	2147863.4910
L	21+01.883	-45.00	612651.4543	2147832.1342
L	21+01.883	40.00	612628.4930	2147913.9741
L	22+50.000	-45.00	612792.7683	2147867.8346
L	22+50.000	-30.00	612789.4747	2147882.4685
L	23+00.000	40.00	612823.6669	2147961.4575
L	23+38.063	70.00	612855.8424	2147998.4732

TYPE	STATION	NORTH	EAST
POT	10+00.000	611562.7830	2147675.7645
PC	10+80.000	611642.7335	2147672.9503
PT	15+64.684	612122.0712	2147730.3463
PC	21+01.883	612639.2983	2147875.4612
PT	25+06.978	613035.8034	2147956.7500
POT	33+86.978	613908.2758	2148071.6061

## DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS B4558-2"  
 WITH NAD 83/95 STATE PLANE GRID COORDINATES OF  
 NORTHING: 611103.6590(±) EASTING: 2147675.9170(±)  
 ELEVATION: 153.6180(±)  
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: .99987494  
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS B4558-2" TO -L- STATION 10+00.00 IS  
 S 0°0 01' 09" E 459.12 FT  
 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:  
[HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATIONPROJECT/](http://www.ncdot.org/doh/preconstruct/highway/locationproject/)

THE FILES TO BE FOUND ARE AS FOLLOWS:  
 B4558\_LS\_CONTROL\_090723.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)

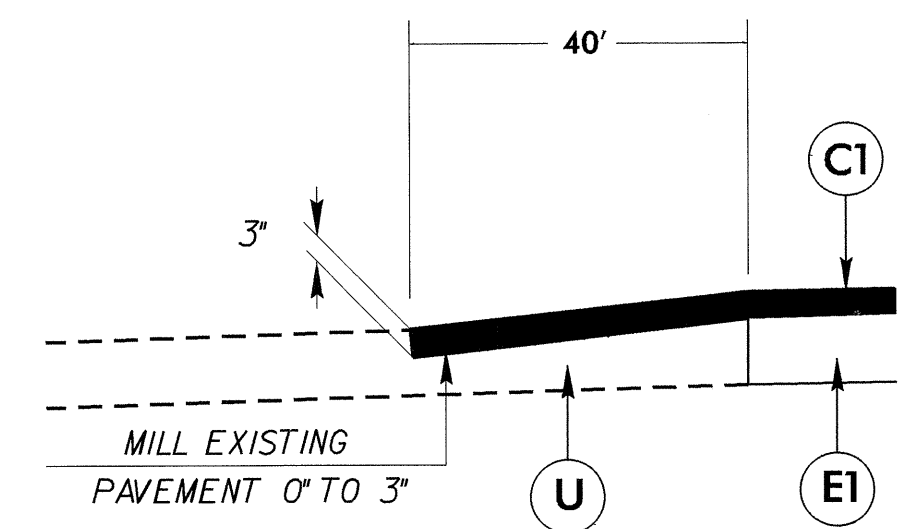
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5/14/99

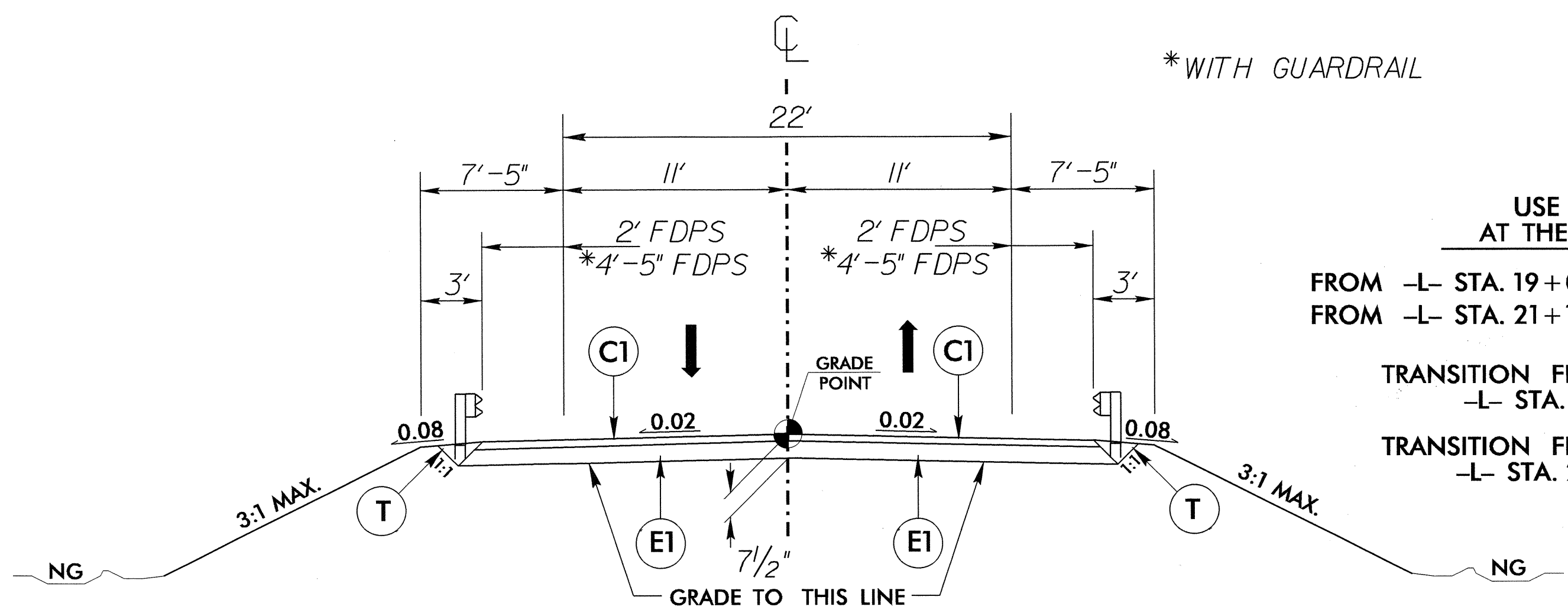
PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
E1	PROP. APPROX. 4 1/2" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.
R	SHOULDER BERM GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT

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

PROJECT REFERENCE NO. B-4558	SHEET NO. 2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 16378 R. KHA V. PATEL	PAVEMENT DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22893 CLARK S. MORRISON

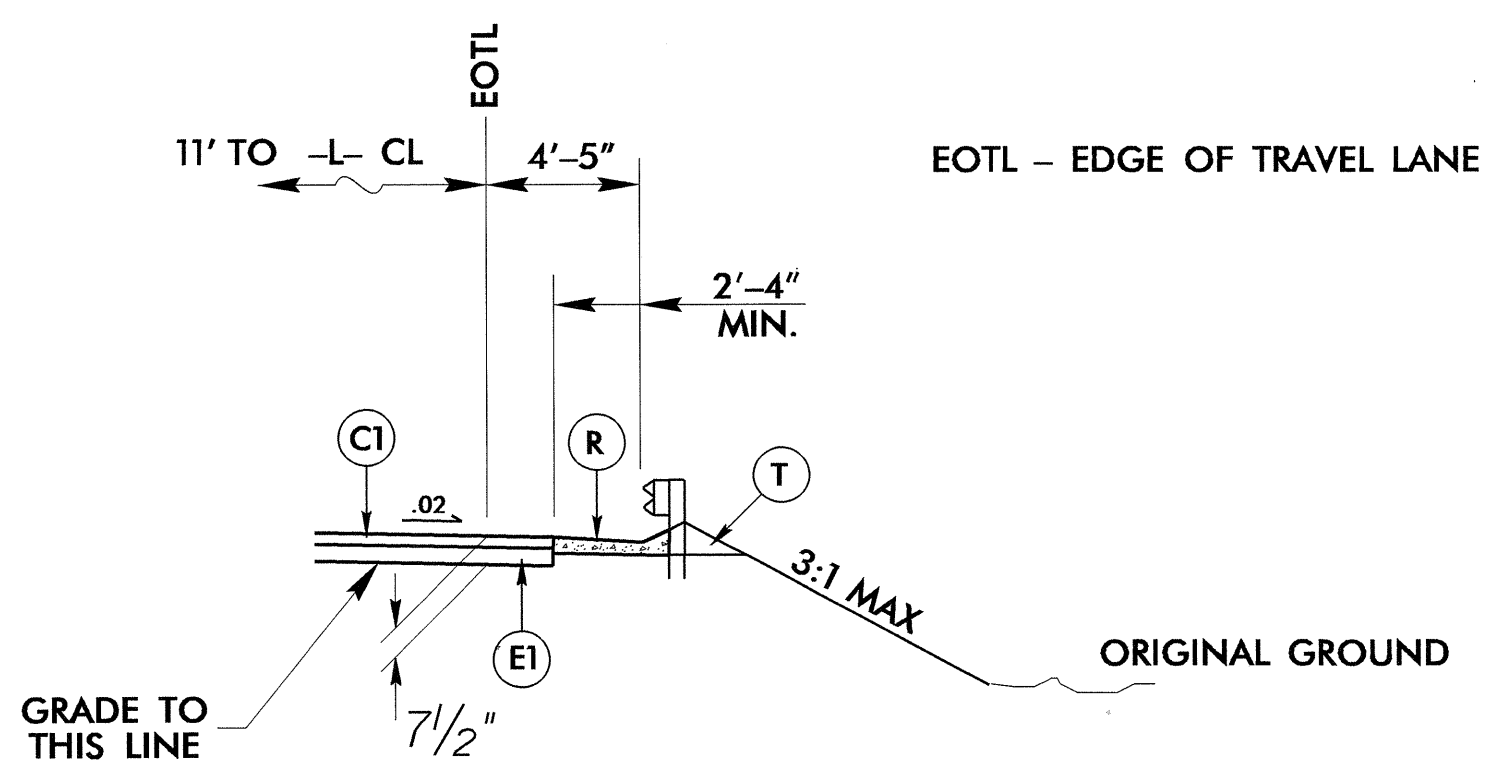


**DETAIL OF PAVEMENT TREATMENT AT BEGIN AND END OF PROJECT**  
 FROM -L- STA. 18+60.00 TO -L- STA. 19+00.00  
 FROM -L- STA. 22+50.00 TO -L- STA. 22+90.00 (REVERSE)

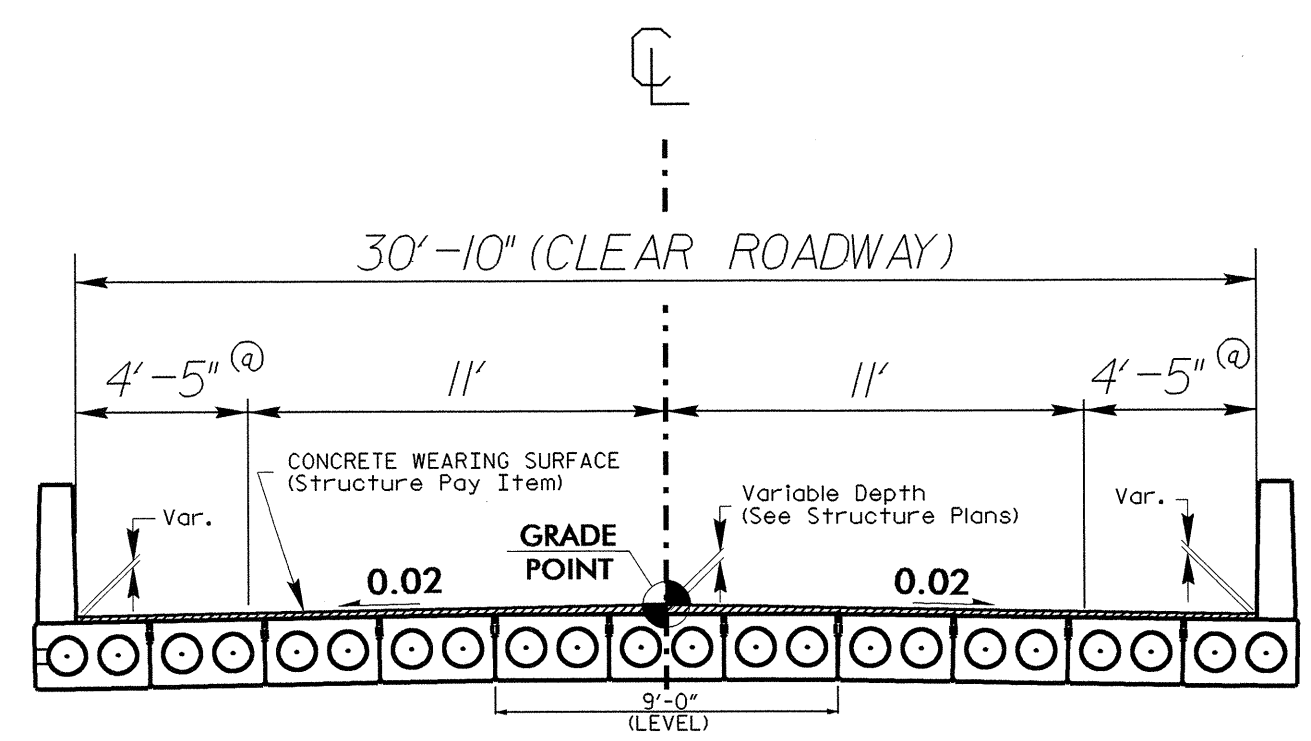


USE TYPICAL SECTION NO. 1 AT THE FOLLOWING LOCATIONS:  
 FROM -L- STA. 19+00.00 TO STA. 20+23.81 (BEGIN BRIDGE)  
 FROM -L- STA. 21+16.19 (END BRIDGE) TO STA. 22+50.00  
 TRANSITION FROM EXISTING TO TYP. SECT. NO. 1  
 -L- STA. 18+60.00 TO STA. 19+00.00  
 TRANSITION FROM TYP. SECT. NO. 1 TO EXISTING  
 -L- STA. 22+50.00 TO STA. 22+90.00

**TYPICAL SECTION NO. 1**



**PARTIAL TYPICAL SECTION NO. 1A**  
 USE PARTIAL TYPICAL SECTION NO. 1A IN CONJUNCTION WITH TYPICAL SECTION NO. 1 AS FOLLOWS:  
 -L- STA. 19+63.00 RT TO -L- STA. 20+12.81 RT  
 -L- STA. 19+63.00 LT TO -L- STA. 20+12.81 LT (REVERSE)  
 -L- STA. 21+27.00 RT TO -L- STA. 21+32.00 RT  
 -L- STA. 21+27.00 LT TO -L- STA. 21+32.00 LT (REVERSE)



Ⓜ ADDITIONAL WIDTH REQUIRED FOR HYDRAULIC SPREAD  
**TYPICAL SECTION ON STRUCTURE**  
 FROM -L- STA. 20+23.81 TO STA. 21+16.19

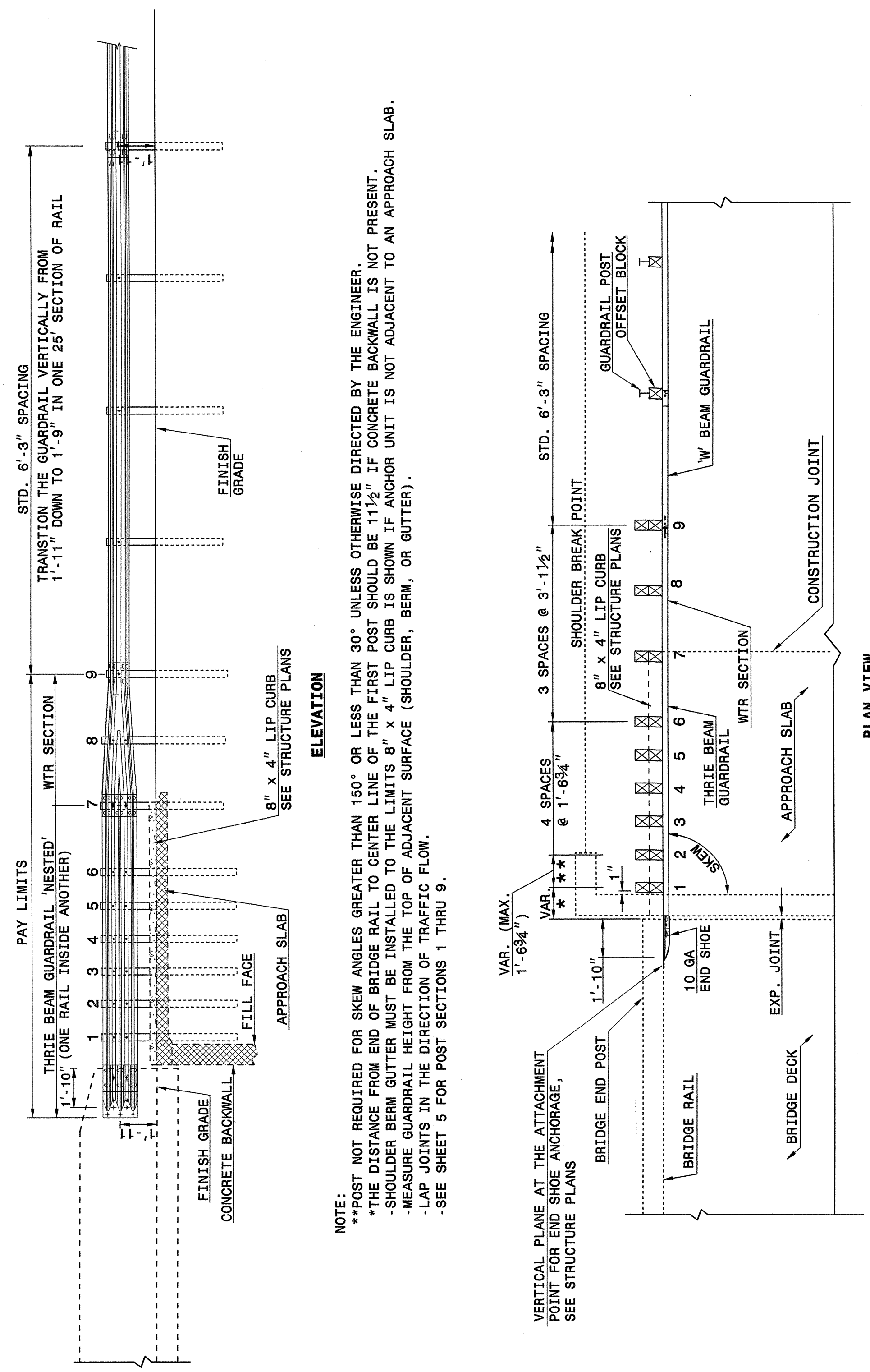
07-DEC-2012 07:16 C:\pcc\4558\_r.dwg tjp.dgn



STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR  
**STRUCTURE ANCHOR UNITS**  
RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7  
**862d03**



**NOTE:**  
 \*\*POST NOT REQUIRED FOR SKEW GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.  
 \*THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11½" IF CONCRETE BACKWALL IS NOT PRESENT.  
 -SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8' x 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.  
 -MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).  
 -LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.  
 -SEE SHEET 5 FOR POST SECTIONS 1 THRU 9.

**GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER**

STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

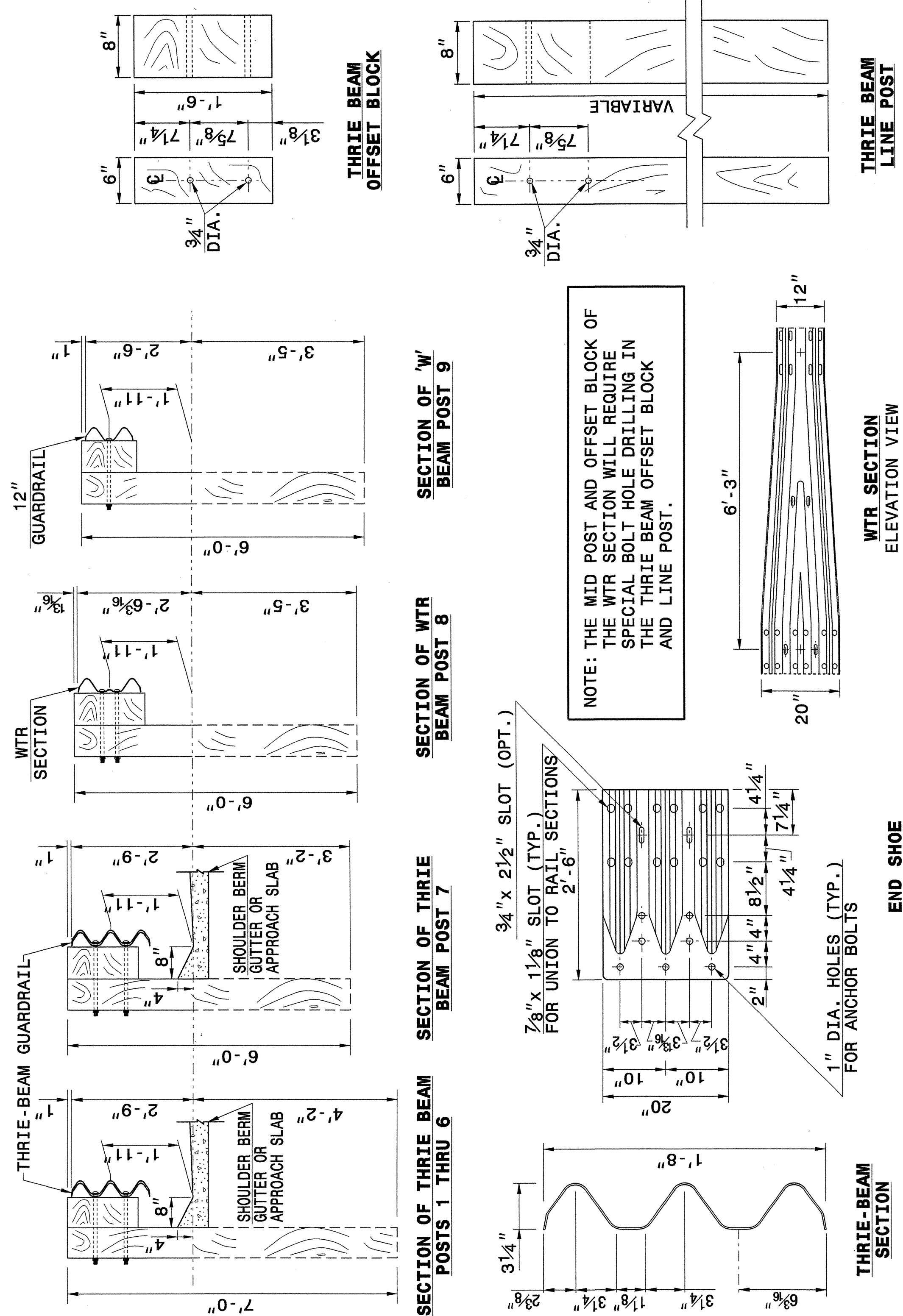
ENGLISH DETAIL DRAWING FOR  
**STRUCTURE ANCHOR UNITS**  
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO  
RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7  
**862d03**

STATE OF NORTH CAROLINA  
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RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR  
**STRUCTURE ANCHOR UNITS**  
GUARDRAIL ANCHOR UNIT, TYPE III

SHEET 3 OF 7  
**862d03**

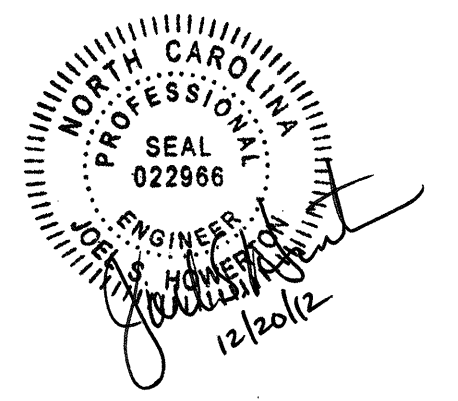


**NOTE:** THE MID POST AND OFFSET BLOCK OF THE WTR SECTION WILL REQUIRE SPECIAL BOLT HOLE DRILLING IN THE THRIVE BEAM OFFSET BLOCK AND LINE POST.

STATE OF NORTH CAROLINA  
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RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR  
**STRUCTURE ANCHOR UNITS**  
GUARDRAIL ANCHOR UNIT, TYPE III

SHEET 3 OF 7  
**862d03**



**CONTRACT STANDARDS AND DEVELOPMENT UNIT**  
Office 919-707-6950 FAX 919-250-4119

**SEE TITLE BLOCK**

ORIGINAL BY: J. HOWERTON DATE: 06-22-12  
 MODIFIED BY: DATE:  
 CHECKED BY: DATE: 11/13/12  
 FILE SPEC.:

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C203082

ItemNumber	Sec #	Quantity	Unit	Description
000010000-N	800	Lump Sum		MOBILIZATION
003000000-N	SP	Lump Sum		BRIDGE APPROACH FILL - SUB REGIONAL TIER, STATION ***** (20+70 -L-)
003600000-E	225	400	CY	UNDERCUT EXCAVATION
004300000-N	226	Lump Sum		GRADING
005000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING
019500000-E	265	400	CY	SELECT GRANULAR MATERIAL
019600000-E	270	400	SY	GEOTEXTILE FOR SOIL STABILIZATION
031800000-E	300	15	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES
032000000-E	300	55	SY	FOUNDATION CONDITIONING GEOTEXTILE
033520000-E	305	16	LF	15" DRAINAGE PIPE
035400000-E	310	28	LF	**** RC PIPE CULVERTS, CLASS ***** (15", V)
133000000-E	607	190	SY	INCIDENTAL MILLING
148900000-E	610	220	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
151900000-E	610	170	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
157500000-E	620	20	TON	ASPHALT BINDER FOR PLANT MIX
200000000-N	806	8	EA	RIGHT OF WAY MARKERS
202200000-E	815	23	CY	SUBDRAIN EXCAVATION
203300000-E	815	17	CY	SUBDRAIN FINE AGGREGATE
204400000-E	815	100	LF	6" PERFORATED SUBDRAIN PIPE
207000000-N	815	1	EA	SUBDRAIN PIPE OUTLET
207700000-E	815	6	LF	6" OUTLET PIPE
228600000-N	840	2	EA	MASONRY DRAINAGE STRUCTURES
236700000-N	840	2	EA	FRAME WITH TWO GRATES, STD 840.29
255600000-E	846	110	LF	SHOULDER BERM GUTTER

ItemNumber	Sec #	Quantity	Unit	Description
303000000-E	862	137.5	LF	STEEL BM GUARDRAIL
315000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
321500000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE III
327000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
364900000-E	876	1	TON	RIP RAP, CLASS B
365600000-E	876	455	SY	GEOTEXTILE FOR DRAINAGE
407200000-E	903	16	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
410200000-N	904	2	EA	SIGN ERECTION, TYPE E
415500000-N	907	4	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
440000000-E	1110	215	SF	WORK ZONE SIGNS (STATIONARY)
441000000-E	1110	114	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
444500000-E	1145	120	LF	BARRICADES (TYPE III)
468500000-E	1205	860	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)
468600000-E	1205	860	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)
532620000-E	1510	420	LF	12" WATER LINE
555800000-E	1515	1	EA	12" VALVE
567200000-N	1515	1	EA	RELOCATE FIRE HYDRANT
580400000-E	1530	420	LF	ABANDON 12" UTILITY PIPE
587170000-E	1550	170	LF	TRENCHLESS INSTALLATION OF 12" IN SOIL
587171000-E	1550	170	LF	TRENCHLESS INSTALLATION OF 12" NOT IN SOIL
600000000-E	1605	965	LF	TEMPORARY SILT FENCE
600600000-E	1610	225	TON	STONE FOR EROSION CONTROL, CLASS A
601200000-E	1610	30	TON	SEDIMENT CONTROL STONE
601500000-E	1615	0.5	ACR	TEMPORARY MULCHING
601800000-E	1620	50	LB	SEED FOR TEMPORARY SEEDING
602100000-E	1620	0.25	TON	FERTILIZER FOR TEMPORARY SEEDING
602400000-E	1622	100	LF	TEMPORARY SLOPE DRAINS
602900000-E	SP	500	LF	SAFETY FENCE
603000000-E	1630	50	CY	SILT EXCAVATION
603600000-E	1631	750	SY	MATTING FOR EROSION CONTROL
603700000-E	SP	375	SY	COIR FIBER MAT
604200000-E	1632	130	LF	1/4" HARDWARE CLOTH
604800000-E	SP	150	SY	FLOATING TURBIDITY CURTAIN
606900000-E	1638	2	CY	STILLING BASINS
607101200-E	SP	330	LF	COIR FIBER WATTLE
608400000-E	1660	0.5	ACR	SEEDING & MULCHING
608700000-E	1660	0.15	ACR	MOWING
609000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
609300000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
609600000-E	1662	50	LB	SEED FOR SUPPLEMENTAL SEEDING
610800000-E	1665	0.25	TON	FERTILIZER TOPDRESSING
611450000-N	1667	10	MHR	SPECIALIZED HAND MOWING
611700000-N	SP	15	EA	RESPONSE FOR EROSION CONTROL
612300000-E	1670	0.1	ACR	REFORESTATION

5/28/99

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