CONTRACT: C201510 T.I.P. PROJECT: B-3922

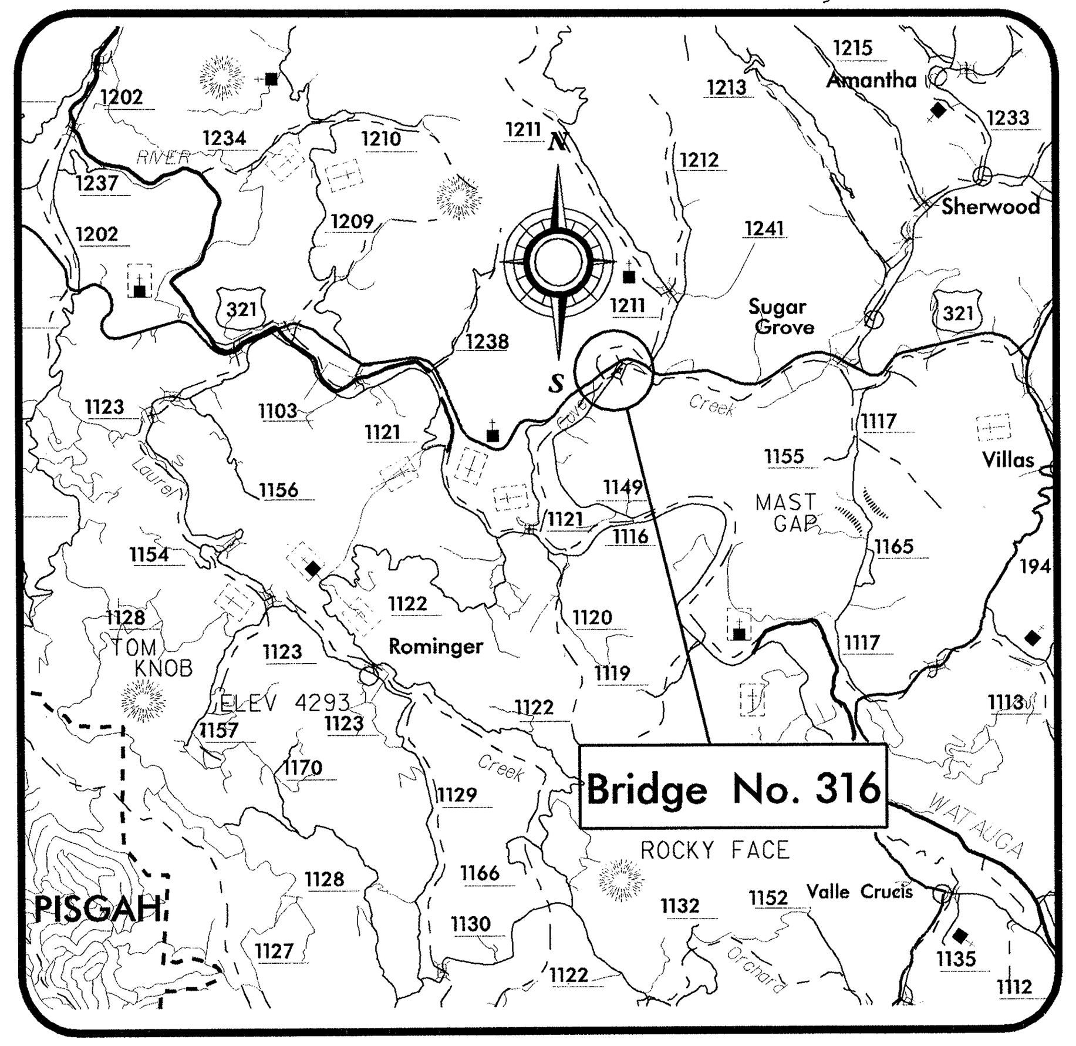
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3922	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
33356.1.1	BRZ-1149(3)	PE
33356.2.2	BRZ-1149(3)	R/W, UTIL.
33356.3.1	BRZ-1149(3)	CONSTRUCTION

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WATAUGA COUNTY

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

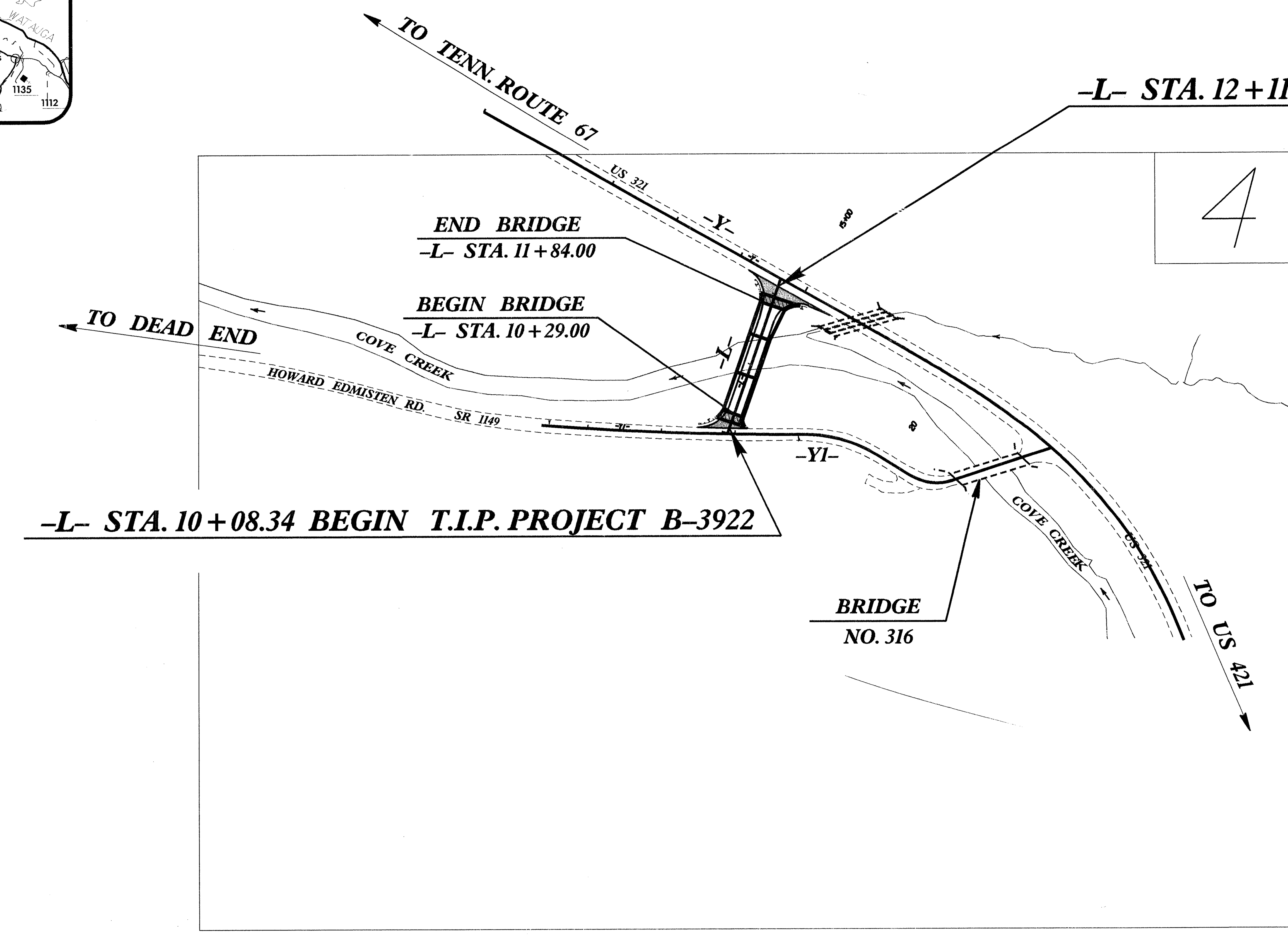


VICINITY MAP

LOCATION: *Bridge No. 316 over Cove Creek on SR 1149 (Howard Edmisten Road)*

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

NAD 83



GRAPHIC SCALES

50 0 50 100 — PLANS

50 0 50 100 — PROFILE (HORIZONTAL)

50 0 10 20 — PROFILE (VERTICAL)

DESIGN DATA

ADT 2005 = 340
ADT 2025 = 600
DHV = 15 %
D = 60 %
* T = 3 %
V = 30 MPH

* (1 % TTST & 2% DUAL)

PROJECT LENGTH

Length Roadway T.I.P. Project B-3922 .... 0.009 mi.

Length Structure T.I.P. Project B-3922 .... 0.029 mi.

TOTAL LENGTH T.I.P. Project B-3922 ...... 0.038 mi.

PLANS PREPARED BY :
RUMMEL, KLEPPER & KAHL, LLP
consulting engineers
5800 FARINGDON PLACE, SUITE 105
RALEIGH, NORTH CAROLINA 27609
(919) 876-9560
FOR
DIVISION OF HIGHWAYS

2002 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: April 27, 2004

LETTING DATE: MAY 16, 2006

Michael T. Merritt, P.E. — PROJECT ENGINEER

Ana M. Passman, P.E. — PROJECT DESIGN ENGINEER

NCDOT CONTACT: Teresa Bruton, P.E. Project Engineer–Roadway Design

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 18181 ENGINEER TINA H. SWIEZY
SIGNATURE: P.E. 1/18/05

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 26306 ENGINEER ANA M. PASSMAN
SIGNATURE: P.E. 1/18/05

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE DESIGN ENGINEER P.E.

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED DIVISION ADMINISTRATOR DATE

12/28/2004 R:\Roadway\Proj\B3922_RDY_TSH.DGN apassman

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
B-3922	1-A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 16306 ENGINEER ANA M. PASSMAN

1/18/05

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

INDEX OF SHEETS

GENERAL NOTES: 2002 SPECIFICATIONS

EFFECTIVE: 01-15-02

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:

SHOULDER CONSTRUCTION ON HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01 THE ALGEBRAIC DIFFERENCE, OF FINISHED GRADE SHOULDER SLOPES AND SUBGRADE SHOULDER SLOPES ON NORMAL CROWN SECTIONS, SHALL BE MAINTAINED THROUGH SUPERELEVATED SECTIONS OF THE ROADWAY (THIS WILL MAKE SUPERELEVATED AND TANGENT PAVED SHOULDER DEPTHS CONSISTENT).

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 :

BREMCO - POWER

SKYLINE - TELEPHONE

RIGHT-OF-WAY MARKERS:

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

ROADWAY ENGLISH STANDARD DRAWINGS

EFF. 01-15-02
REV.04-07-04

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 Janurary 15, 2002 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 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation - Method 'A'
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
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 Structure
840.18	Concrete Median Drop Inlet Type 'B' - 12" thru 36" Pipe
840.27	Brick Median Drop Inlet Type 'B' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.45	Precast Drainage Structure
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
862.01	Guardrail Placement
876.02	Guide for Rip Rap at Pipe Outlets

01/17/2005
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PROJECT REFERENCE NO.	SHEET NO.
B-3922	1-B

5/28/99

*S.U.E = SUBSURFACE UTILITY ENGINEER

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL SYMBOLS

ROADS & RELATED ITEMS

Edge of Pavement
Curb
Prop. Slope Stakes Cut — C
Prop. Slope Stakes Fill — F
Prop. Woven Wire Fence
Prop. Chain Link Fence
Prop. Barbed Wire Fence
Prop. Wheelchair Ramp — WCR
Curb Cut for Future Wheelchair Ramp — CCFR
Exist. Guardrail
Prop. Guardrail
Equality Symbol
Pavement Removal

RIGHT OF WAY

Baseline Control Point
Existing Right of Way Marker
Exist. Right of Way Line w/Marker
Prop. Right of Way Line with Proposed R/W Marker (Iron Pin & Cap)
Prop. Right of Way Line with Proposed (Concrete or Granite) R/W Marker
Exist. Control of Access Line — CA
Prop. Control of Access Line — CA
Exist. Easement Line — E
Prop. Temp. Construction Easement Line — E
Prop. Temp. Drainage Easement Line — TDE
Prop. Perm. Drainage Easement Line — PDE

HYDROLOGY

Stream or Body of Water
River Basin Buffer — BZ
Flow Arrow
Disappearing Stream
Spring
Swamp Marsh
Shoreline
Falls, Rapids
Prop Lateral, Tail, Head Ditches — PLDS

STRUCTURES

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

MINOR
Head & End Wall — CONC HW
Pipe Culvert
Footbridge
Drainage Boxes — CB
Paved Ditch Gutter

UTILITIES

Exist. Pole
Exist. Power Pole
Prop. Power Pole
Exist. Telephone Pole
Prop. Telephone Pole
Exist. Joint Use Pole
Prop. Joint Use Pole
Telephone Pedestal — T
U/G Telephone Cable Hand Hold — HH
Cable TV Pedestal — C
U/G TV Cable Hand Hold — HH
U/G Power Cable Hand Hold — HH
Hydrant
Satellite Dish
Exist. Water Valve
Sewer Clean Out
Power Manhole
Telephone Booth
Cellular Telephone Tower
Water Manhole — W
Light Pole
H-Frame Pole
Power Line Tower
Pole with Base
Gas Valve
Gas Meter
Telephone Manhole — T
Power Transformer
Sanitary Sewer Manhole
Storm Sewer Manhole — S
Tank; Water, Gas, Oil
Water Tank With Legs
Traffic Signal Junction Box — S
Fiber Optic Splice Box — F
Television or Radio Tower
Utility Power Line Connects to Traffic Signal Lines Cut Into the Pavement — TS TS

Recorded Water Line — W W
Designated Water Line (S.U.E.*) — W W
Sanitary Sewer — SS SS
Recorded Sanitary Sewer Force Main — FSS FSS
Designated Sanitary Sewer Force Main(S.U.E.*) — FSS FSS
Recorded Gas Line — G G
Designated Gas Line (S.U.E.*) — G G
Storm Sewer — S S
Recorded Power Line — P P
Designated Power Line (S.U.E.*) — P P
Recorded Telephone Cable — T T
Designated Telephone Cable (S.U.E.*) — T T
Recorded U/G Telephone Conduit — TC TC
Designated U/G Telephone Conduit (S.U.E.*) — TC TC
Unknown Utility (S.U.E.*) — ?UTL ?UTL
Recorded Television Cable — TV TV
Designated Television Cable (S.U.E.*) — TV TV
Recorded Fiber Optics Cable — FO FO
Designated Fiber Optics Cable (S.U.E.*) — FO FO
Exist. Water Meter
U/G Test Hole (S.U.E.*)
Abandoned According to U/G Record — ATTUR
End of Information — E.O.I.

BOUNDARIES & PROPERTIES

State Line
County Line
Township Line
City Line
Reservation Line
Property Line
Property Line Symbol — PL
Exist. Iron Pin — EIP
Property Corner
Property Monument — ECM
Property Number — 123
Parcel Number — 6
Fence Line — WW & ISBW
Existing Wetland Boundaries — WLB
High Quality Wetland Boundary — HQ WLB
Medium Quality Wetland Boundaries — MQ WLB
Low Quality Wetland Boundaries — LQ WLB
Proposed Wetland Boundaries — WLB
Existing Endangered Animal Boundaries — EAB
Existing Endangered Plant Boundaries — EPB

BUILDINGS & OTHER CULTURE

Buildings
Foundations
Area Outline
Gate
Gas Pump Vent or U/G Tank Cap
Church
School
Park
Cemetery
Dam
Sign — S
Well — W
Small Mine
Swimming Pool

TOPOGRAPHY

Loose Surface
Hard Surface
Change in Road Surface
Curb
Right of Way Symbol — R/W
Guard Post — GP
Paved Walk
Bridge
Box Culvert or Tunnel
Ferry
Culvert
Footbridge
Trail, Footpath
Light House

VEGETATION

Single Tree
Single Shrub
Hedge
Woods Line
Orchard
Vineyard — VINEYARD

RAILROADS

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

revised 02/02/00

10/25/2004
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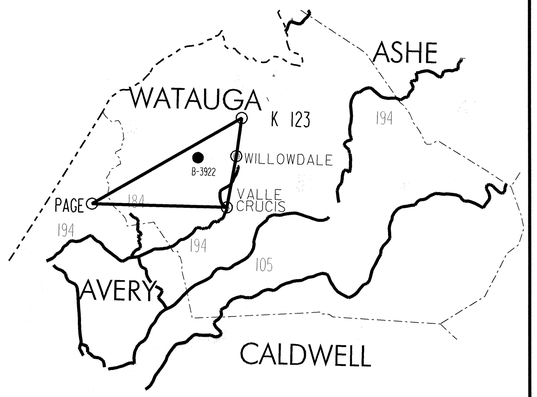
PROJECT REFERENCE NO.	SHEET NO.
B-3922	1C

SURVEY CONTROL SHEET B-3922



GPS CONTROL NETWORK

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	GPS B3922-1	921186.5763	1169362.2971	2641.73	OUTSIDE PROJECT LIMITS	
2	GPS B3922-2	921967.2112	1169871.2856	2649.09	OUTSIDE PROJECT LIMITS	
3	BL-3	922231.3859	1170116.4600	2645.85	OUTSIDE PROJECT LIMITS	
4	BL-4	922605.2010	1170298.9917	2646.32	10+54.74	135.36 RT
5	BL-5	922825.6046	1170355.4508	2648.88	11+73.88	329.19 RT

BY

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
6	BY-6	922316.1622	1169643.8314	2647.76	OUTSIDE PROJECT LIMITS	
14	BL-5	922825.6046	1170355.4508	2648.88	11+73.88	329.19 RT
7	BY-7	922896.4446	1170870.9183	2649.33	OUTSIDE PROJECT LIMITS	
8	BY-8	922623.0997	1171330.1315	2648.26	OUTSIDE PROJECT LIMITS	

BY1

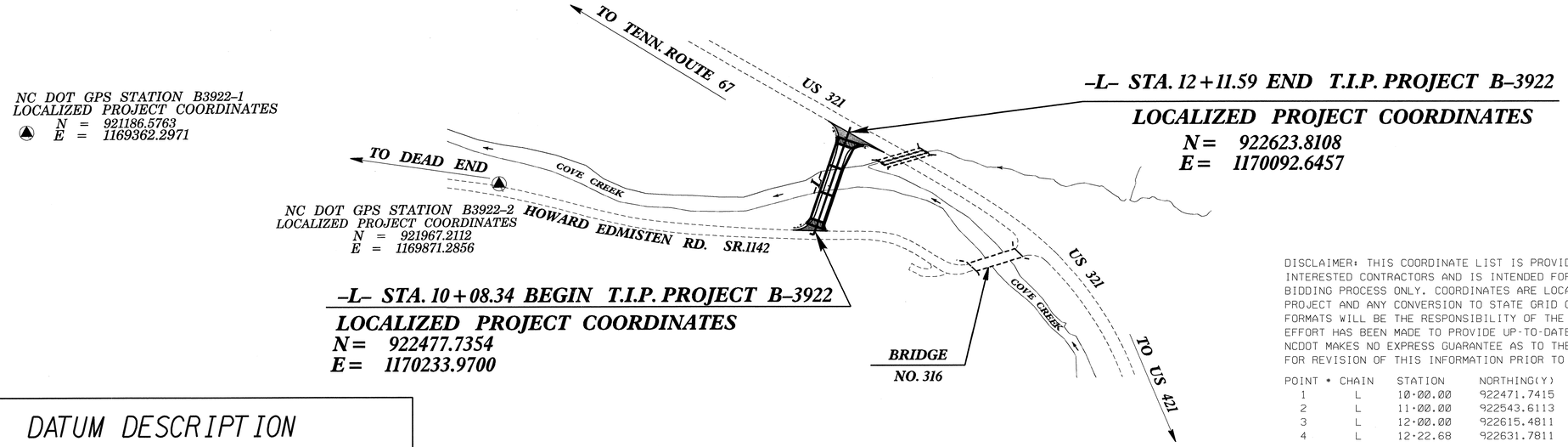
POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
15	BY-8	922623.0997	1171330.1315	2648.26	OUTSIDE PROJECT LIMITS	
9	BY1-9	923019.4838	1171499.5573	2649.94	OUTSIDE PROJECT LIMITS	

****
BM 1 ELEVATION=2667.44'
N 922072 E 1170029
OUTSIDE PROJECT LIMITS
8" SPIKE IN ROOT OF 10" BLACK BIRCH TREE
****

****
BM 2 ELEVATION=2637.62'
N 922663 E 1170190
L STATION 11+72 97 RIGHT
PK NAIL IN SE CORNER OF HEADWALL OF A
3 BARREL BOX CULVERT UNDER US 321
****

****
BM 3 ELEVATION=2649.39'
N 922659 E 1171292
OUTSIDE PROJECT LIMITS
PK NAIL IN CONC. ISLAND AT INTERSECTION OF
PHILLIPS BRANCH RD.(SR 1211) AND US 321
****

NAD 83



NC DOT GPS STATION B3922-1
LOCALIZED PROJECT COORDINATES
N = 921186.5763
E = 1169362.2971

NC DOT GPS STATION B3922-2
LOCALIZED PROJECT COORDINATES
N = 921967.2112
E = 1169871.2856

-L- STA. 10+08.34 BEGIN T.I.P. PROJECT B-3922
LOCALIZED PROJECT COORDINATES
N = 922477.7354
E = 1170233.9700

-L- STA. 12+11.59 END T.I.P. PROJECT B-3922
LOCALIZED PROJECT COORDINATES
N = 922623.8108
E = 1170092.6457

DISCLAIMER: THIS COORDINATE LIST IS PROVIDED FOR THE CONVENIENCE OF INTERESTED CONTRACTORS AND IS INTENDED FOR USE DURING THE PROJECT BIDDING PROCESS ONLY. COORDINATES ARE LOCALIZED TO THIS PARTICULAR PROJECT AND ANY CONVERSION TO STATE GRID COORDINATES OR OTHER FORMATS WILL BE THE RESPONSIBILITY OF THE RECIPIENT. WHILE EVERY EFFORT HAS BEEN MADE TO PROVIDE UP-TO-DATE, ACCURATEINFORMATION, NCDOT MAKES NO EXPRESS GUARANTEE AS TO THE VALIDITY OR POTENTIAL FOR REVISION OF THIS INFORMATION PRIOR TO PROJECT LETTING.

POINT *	CHAIN	STATION	NORTHING(Y)	EASTING(X)
1	L	10+00.00	922471.7415	1170239.7690
2	L	11+00.00	922543.6113	1170170.2367
3	L	12+00.00	922615.4811	1170100.7045
4	L	12+22.68	922631.7811	1170084.9346

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B3922-1" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 921186.5763(ft) EASTING: 1169362.2971(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99990241 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B3922-1" TO -L- STATION 10+08.34 IS N 34° 01' 25" E 1557.85 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NGVD 29

NOTE : DRAWING NOT TO SCALE

NOTES:

THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
HTTP:\WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT
THE FILES TO BE FOUND ARE AS FOLLOWS
B3922_LS_CONTROL_041012.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.

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
B-3922	2
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 28306 ENGINEER ANN M. PASSMAN

1-19-05

PAVEMENT DESIGN ENGINEER

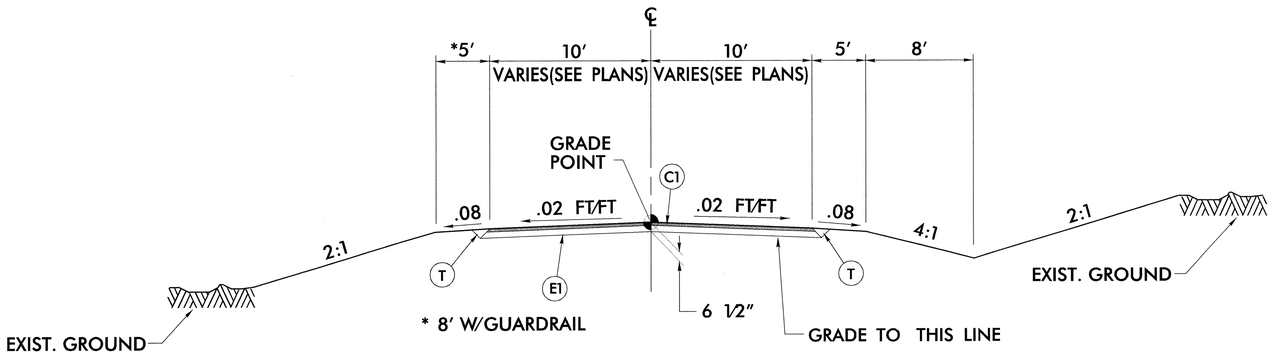
NORTH CAROLINA PROFESSIONAL SEAL 13361 ENGINEER CHI CHEN

1/21/05

PAVEMENT SCHEDULE

ITEM	DESCRIPTION
C1	PROP. APPROX. 2 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
J1	PROP. 8'' CLASS A STONE (SEE DETAIL SHEET 2-A)
T	EARTH MATERIAL

NOTE: All Pavement Edge Slopes Are To Be 1:1.



TYPICAL SECTION NO. 1

USE TYPICAL SECTION No. 1

-L- STA. 10+08.34 TO 10+29.00 (Begin Bridge)
-L- STA. 11+84.00 (End Bridge) TO 12+11.59

PLANS PREPARED BY :
RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
5800 FARINGDON PLACE SUITE• 105
RALEIGH, NORTH CAROLINA 27609-3960
FOR
DIVISION OF HIGHWAYS

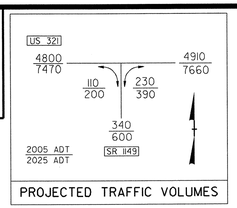
01/19/2005
R:\Roadway\P-o_\B3922_RDY_TYP.DGN

8/17/99

REVISIONS

PLANS PREPARED BY :
RUMMEL KLEPPER & KAHL, LLP
consulting engineers
5800 FARINGDON PLACE SUITE 105
RALEIGH, NORTH CAROLINA 27609-3960
FOR
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SEE SHEETS S- THRU S-
FOR STRUCTURE PLANS

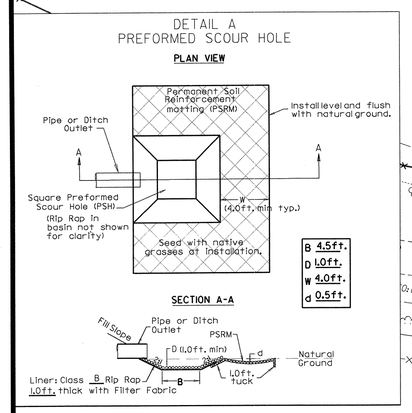


PROJECTED TRAFFIC VOLUMES

PROJECT REFERENCE NO.	SHEET NO.
B-3922	2A
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 26306 ENGINEER ANA M. PASSMAN — 1/18/05

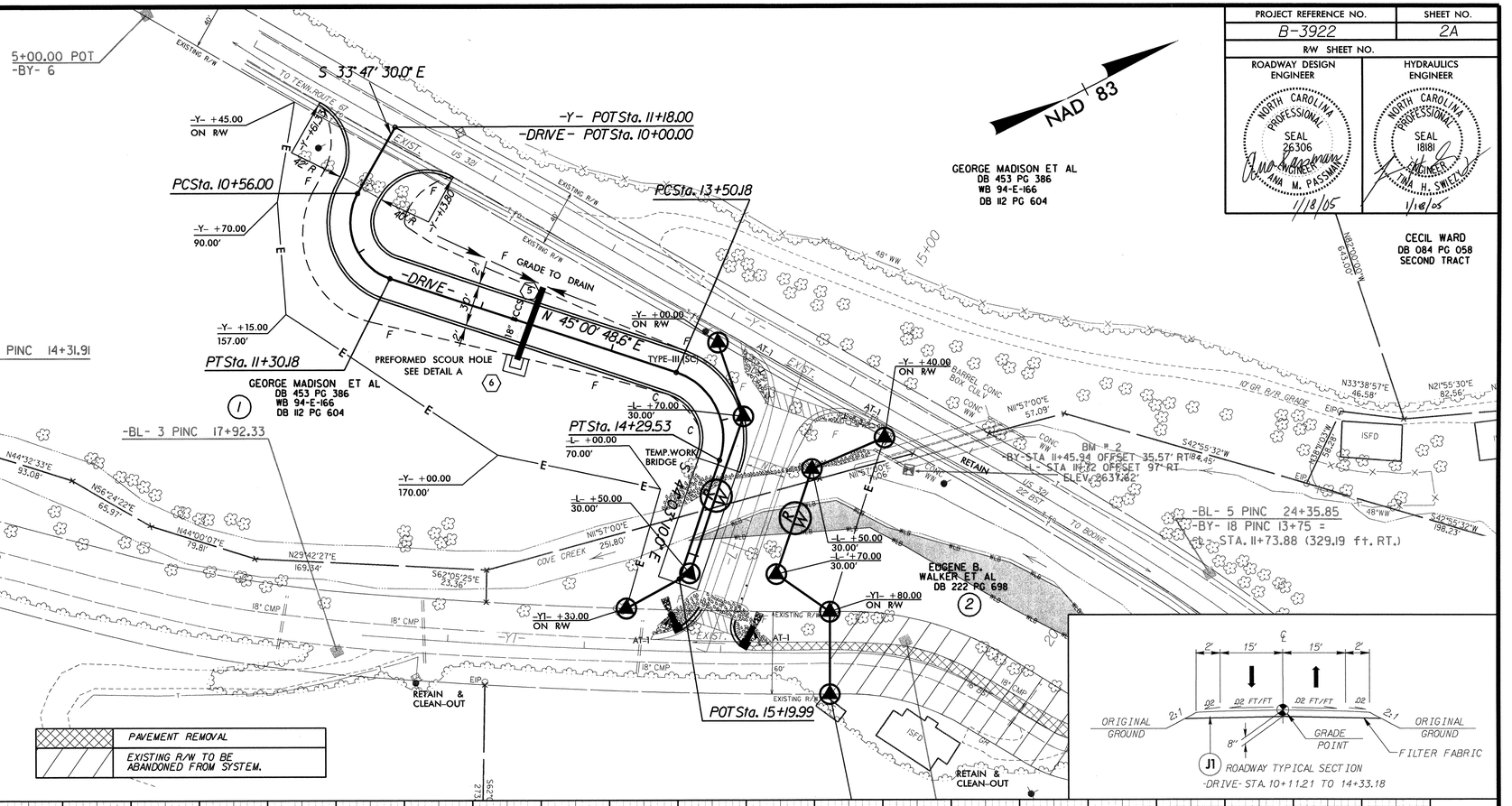
HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 18181 ENGINEER TINA H. SWIZYN — 1/18/05



-DRIVE- STA. 12+37.5 RT

-DRIVE- CURVE DATA

PI Sta 11+07.13	PI Sta 14+01.00
Δ = 101° 11' 41.4" (LT)	Δ = 90° 56' 01.4" (RT)
D = 136° 25' 06.7"	D = 114° 35' 29.6"
L = 74.18'	L = 79.35'
T = 51.13'	T = 50.82'
R = 42.00'	R = 50.00'

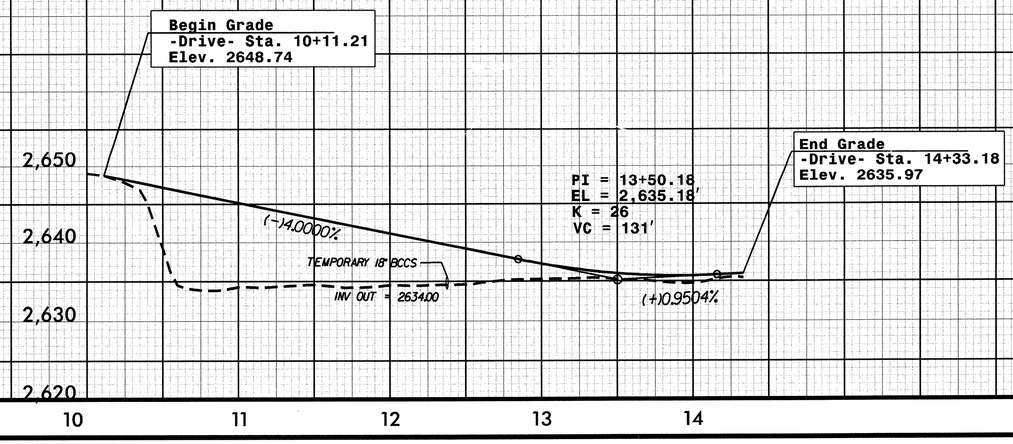


	PAVEMENT REMOVAL
	EXISTING R/W TO BE ABANDONED FROM SYSTEM.

J1 ROADWAY TYPICAL SECTION
-DRIVE- STA. 10+11.21 TO 14+33.18

-DRIVE-

BM #1	8" Spike in Root of 10" Black Birch Tree -BL- Sta. 16+16.13 (44.71' Rt.) Elev. 2,667.44'
BM #2	PK Nail Set in SE Corner of Headwall of 3 Barrel Box Culvert Under US 321 -BY- Sta. 11+45.94 (35.57' Rt.) = -L- Sta. 11+72 (97' Rt.) Elev. 2,637.62'
BM #3	PK Nail Set in Concrete Island at Intersection of Phillips Branch Rd (sr 1211) and US 321 -BY- Sta. 23+78.99 (111.55' Lt.) Elev. 2,649.39'

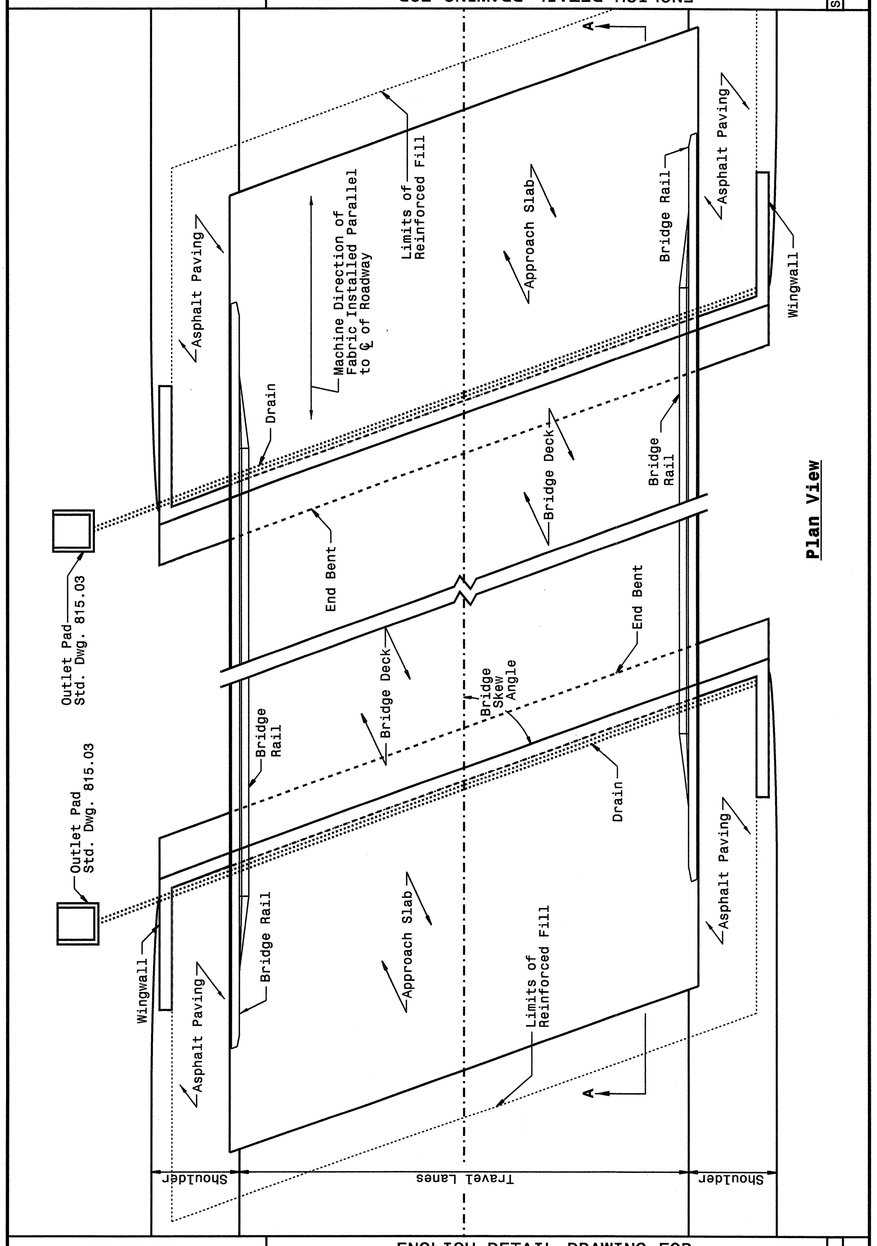


PROJECT REFERENCE NO.	SHEET NO.
B-3922	2B

REINFORCED BRIDGE APPROACH FILLS

ENGLISH DETAIL DRAWING FOR

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



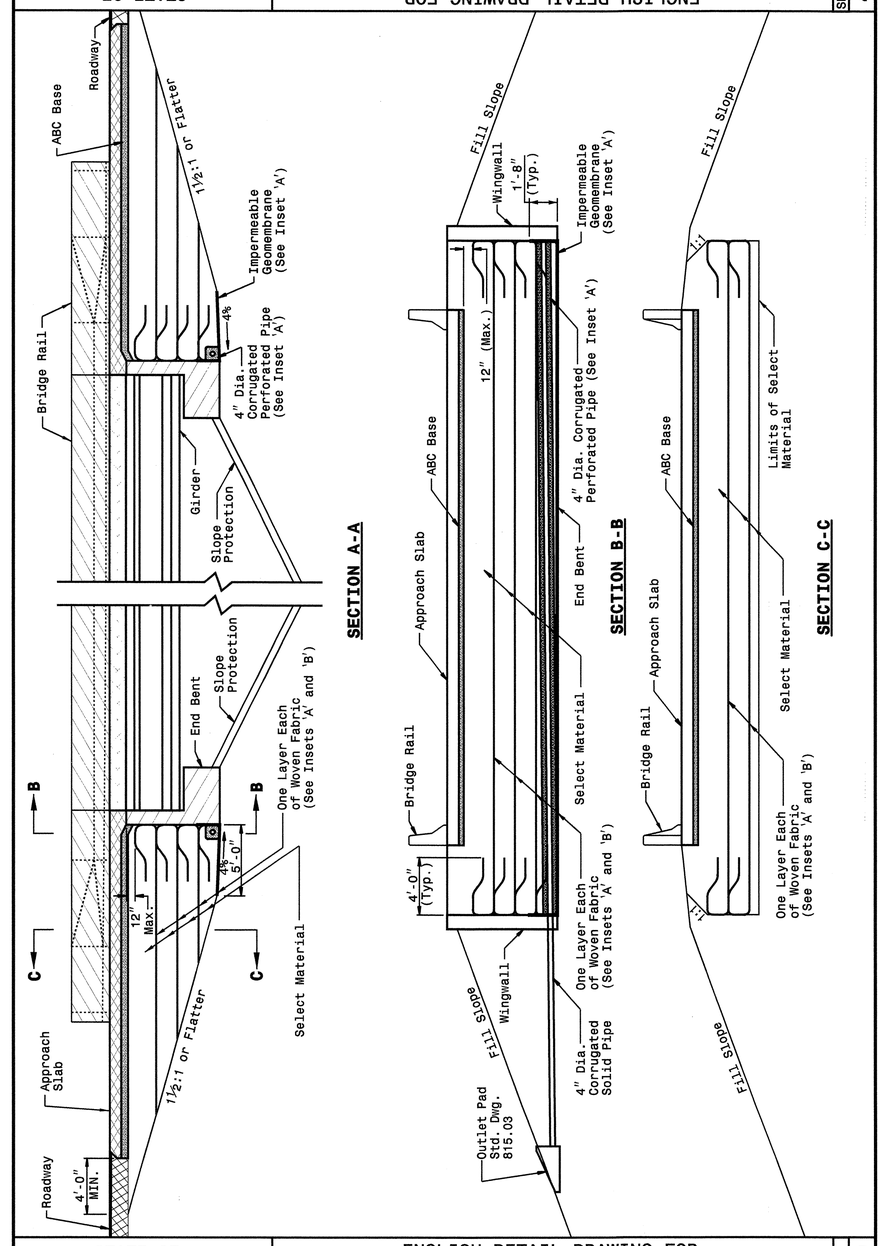
Plan View

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

ENGLISH DETAIL DRAWING FOR

REINFORCED BRIDGE APPROACH FILLS

PRESTRESSED AND PLATE GIRDER BRIDGES



NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER JOEL S. HOWERTON
1/24/05

DESIGN SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: 2002 STANDARDS DATE: 01-15-02
MODIFIED BY: E.E. WARD DATE: 09-15-04
CHECKED BY: DATE: 9/16/04
FILE SPEC.: stds/02stdstodetails/english/422d10.dgn

5/14/99

16-SEP-2004 10:51
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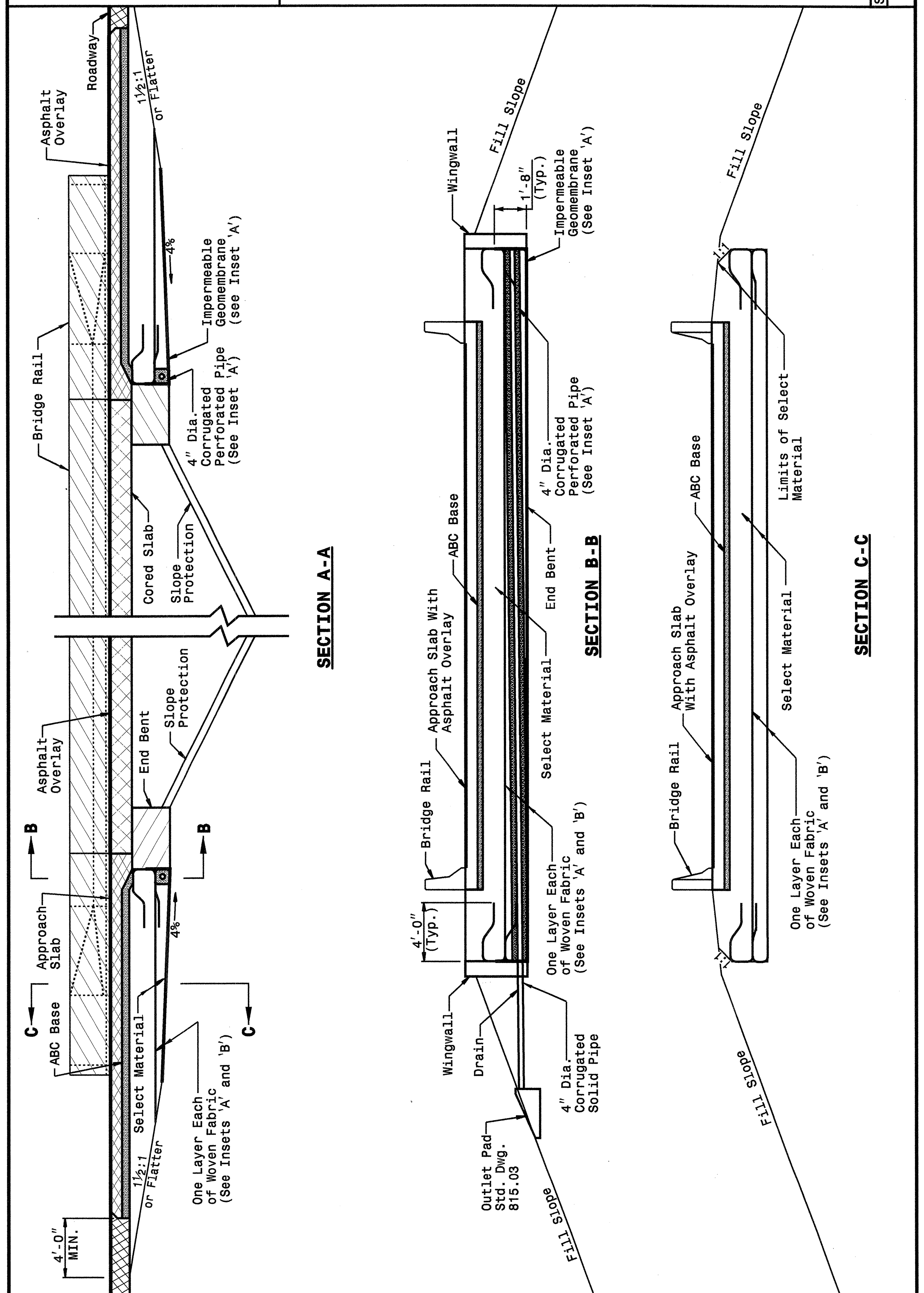
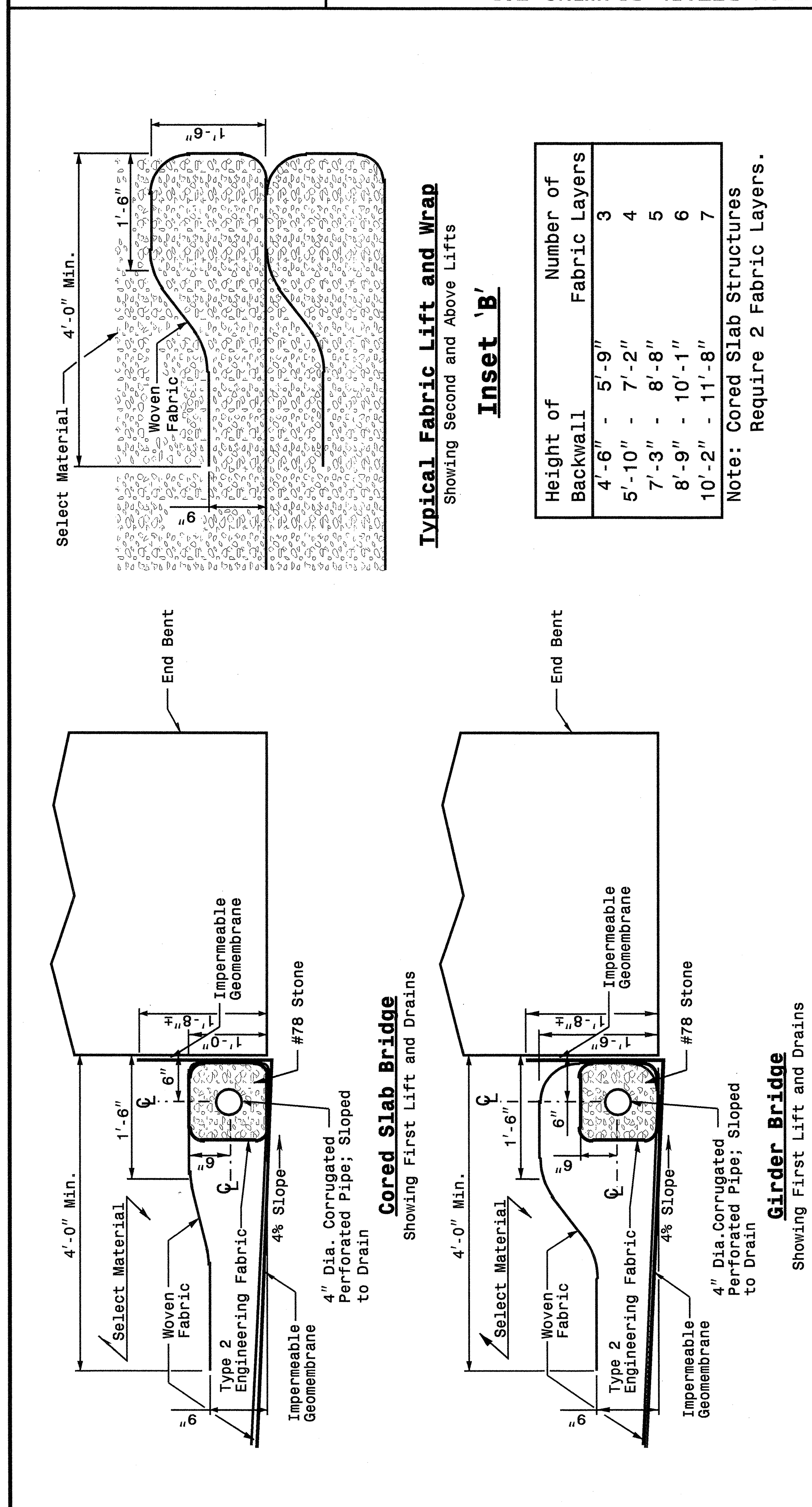
ericward AT 0521260



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

ENGLISH DETAIL DRAWING FOR
REINFORCED BRIDGE APPROACH FILLS
CORED SLAB BRIDGES

SHEET 3 OF 4 422D10



Height of Backwall	Number of Fabric Layers
4'-6" - 5'-9"	3
5'-10" - 7'-2"	4
7'-3" - 8'-8"	5
8'-9" - 10'-1"	6
10'-2" - 11'-8"	7

Note: Cored Slab Structures Require 2 Fabric Layers.

Length of Bridge End Bent Inside Wingwalls

If Bridge Skew is Less Than or Equal to 90°:

$$\frac{(\text{Roadway Width} + 7'\text{-}0")}{\text{Sin (Bridge Skew Angle)}} = \text{Dis. Between Wingwalls}$$

If Bridge Skew is Greater Than 90°:

$$\frac{(\text{Roadway Width} + 7'\text{-}0")}{\text{Cos (Bridge Skew Angle - 90°)}} = \text{Dis. Between Wingwalls}$$

STATE OF NORTH CAROLINA
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RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
REINFORCED BRIDGE APPROACH FILLS
INSETS AND CHARTS

SHEET 4 OF 4 422D10

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022966 JOEL S. HOWERTON 1/24/05

DESIGN SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: 2002 STANDARDS DATE: 01-15-02
MODIFIED BY: E.E. WARD DATE: 09-15-04
CHECKED BY: DATE: 9/16/04
FILE SPEC.: stds/02stdstodetails/english/422d10.dgn

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-3922	2D

STATE OF
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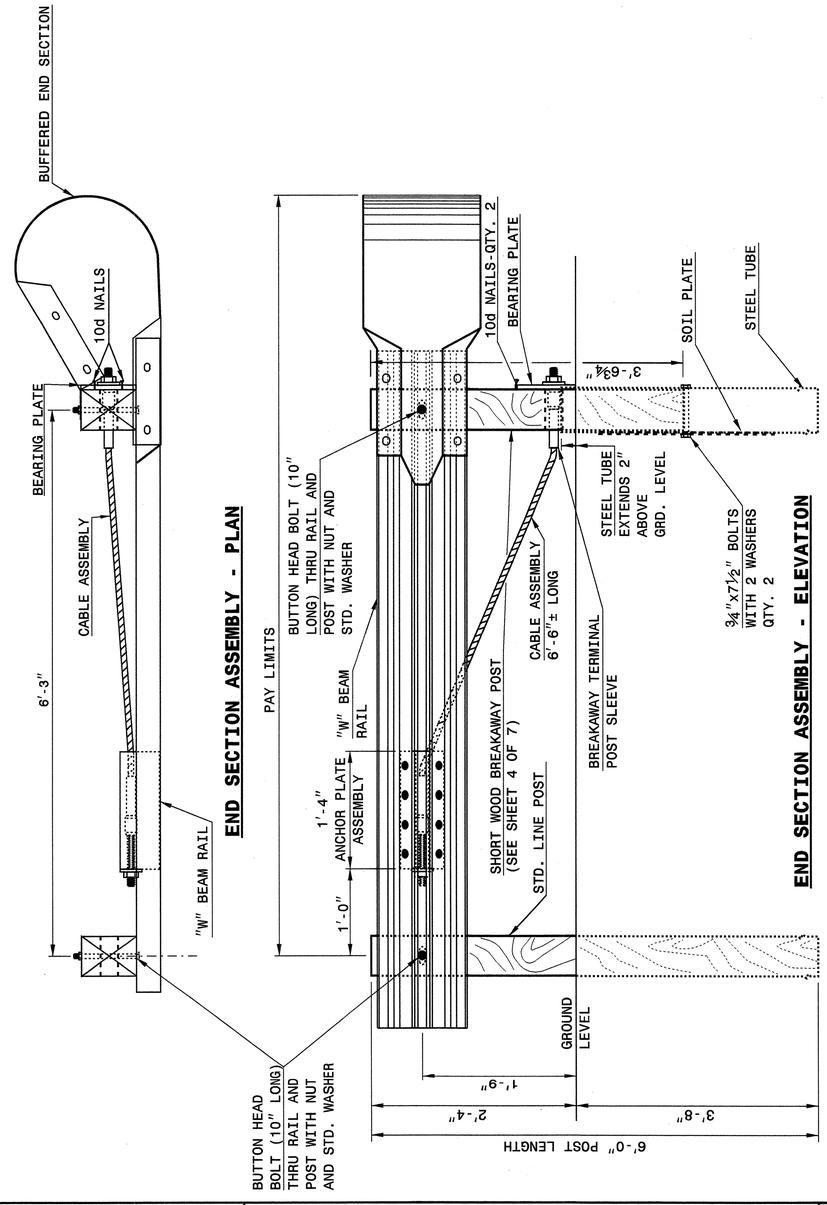
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 1 OF 7
862D02



STATE OF
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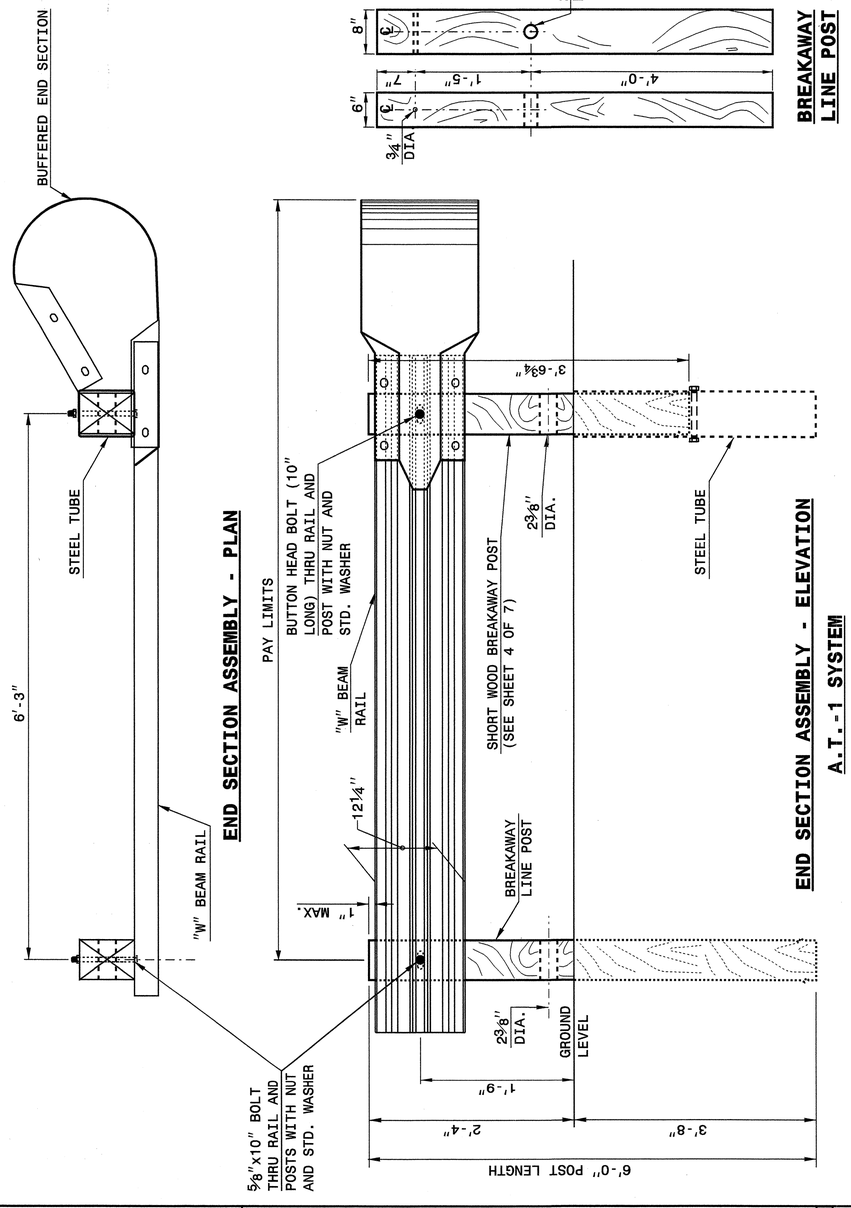
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 2 OF 7
862D02



STATE OF
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RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 1 OF 7
862D02

STATE OF
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ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 2 OF 7
862D02

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ORIGINAL BY: 2002 STD.862.02 DATE:
MODIFIED BY: E.E. WARD DATE: 02-09-03
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FILE SPEC.: /dsf/stds/02todetail/english/86202/862d02.dgn

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PROJECT REFERENCE NO.	SHEET NO.
B-3922	2E

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

GUARDRAIL INSTALLATION

ENGLISH DETAIL DRAWING FOR

SHEET 3 OF 7 — 862D02

ISOMETRIC VIEWS

8" WOOD POST WITH WOOD OFFSET BLOCK

PLAN

'W6' STEEL POST WITH ROUTED OFFSET BLOCK

DOUBLE FACE GUARDRAIL

FRONT

8" WOOD POST WITH WOOD OFFSET BLOCK

SIDE

'W6' STEEL POST WITH ROUTED OFFSET BLOCK

DOUBLE FACE GUARDRAIL

NOTES:
A - ⅝" DIA. BUTTON HEAD SPLICE BOLT 1¼" LONG (8 REQ. PER SPLICE JOINT).
B - ⅝" DIA. BUTTON HEAD BOLT 7½"/9" LONG WITH NUT FOR BOLTING 6"/8" ROUTED OFFSET BLOCK TO STEEL POSTS OR
⅝" DIA. BUTTON HEAD BOLT 18" LONG WITH STD. WASHER UNDER NUT FOR BOLTING TO WOOD POSTS (1 REQ. PER LOCATION)
C - FIELD PUNCHING OF HOLES INTO GUARDRAIL SHALL BE AS DIRECTED BY THE ENGINEER.

TYPICAL GUARDRAIL AND GUARDRAIL POST ALTERNATIVES

STATE OF
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RALEIGH, N.C.

GUARDRAIL INSTALLATION

ENGLISH DETAIL DRAWING FOR

SHEET 4 OF 7 — 862D02

PLAN

FRONT

SIDE

"W6" STEEL POST

SOIL PLATE

¼" THICK PLATE

PLAN

SIDE

FRONT

ROUTED WOOD OFFSET BLOCK

SYSTEM PARTS

STEEL TUBE
TS 6"x8"x0.1875"

BEARING PLATE
⅝" THICK PLATE

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER JOEL E. HOUSTON
1/24/05

STATE OF
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RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 3 OF 7 — 862D02

STATE OF
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DEPT. OF TRANSPORTATION
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ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 4 OF 7 — 862D02

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PROJECT REFERENCE NO.	SHEET NO.
B-3922	2F

STATE OF
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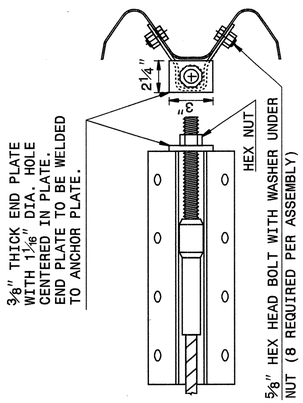
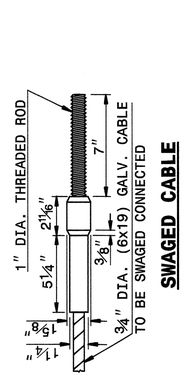
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

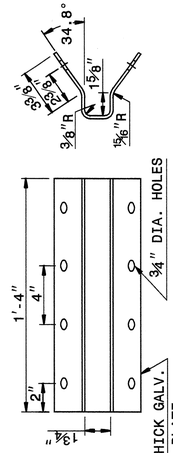
SHEET 5 OF 7
862D02



ANCHOR PLATE ASSEMBLY



SWAGED CABLE

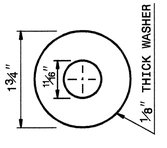


ANCHOR PLATE

CABLE ASSEMBLY

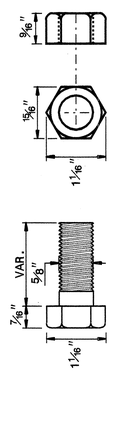
SYSTEM PARTS

BREAKAWAY TERMINAL POST SLEEVE

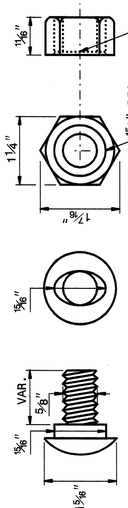


DETAIL OF STANDARD WASHER

STANDARD WASHER: TYPICAL USE UNDER NUT WITH WOOD POST



DETAIL OF STANDARD HEX BOLT AND NUT



DETAIL OF BUTTON HEAD BOLT AND NUT

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RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 5 OF 7
862D02

STATE OF
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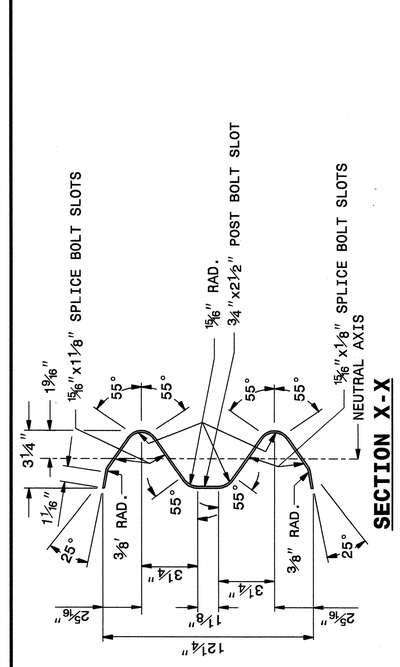
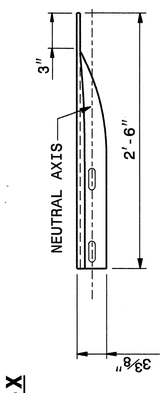
RALEIGH, N.C.

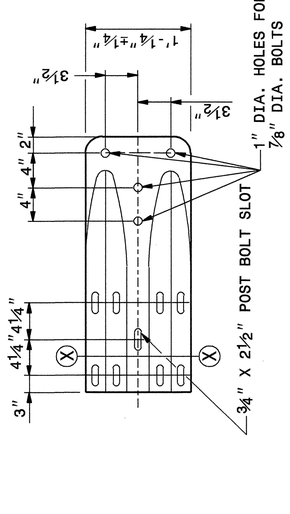
ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 6 OF 7
862D02



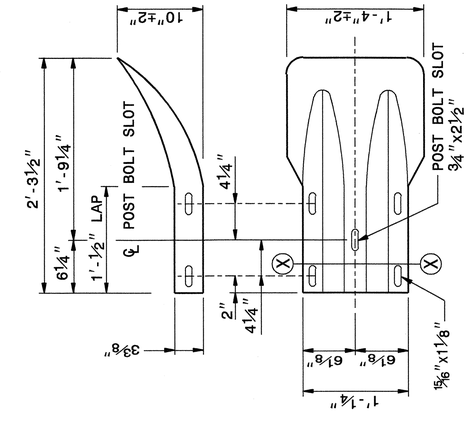
SECTION X-X





TYPICAL END SHOE

SYSTEM PARTS - GENERAL USE



TERMINAL END SECTION

SYSTEM PARTS - GENERAL USE

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RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 6 OF 7
862D02

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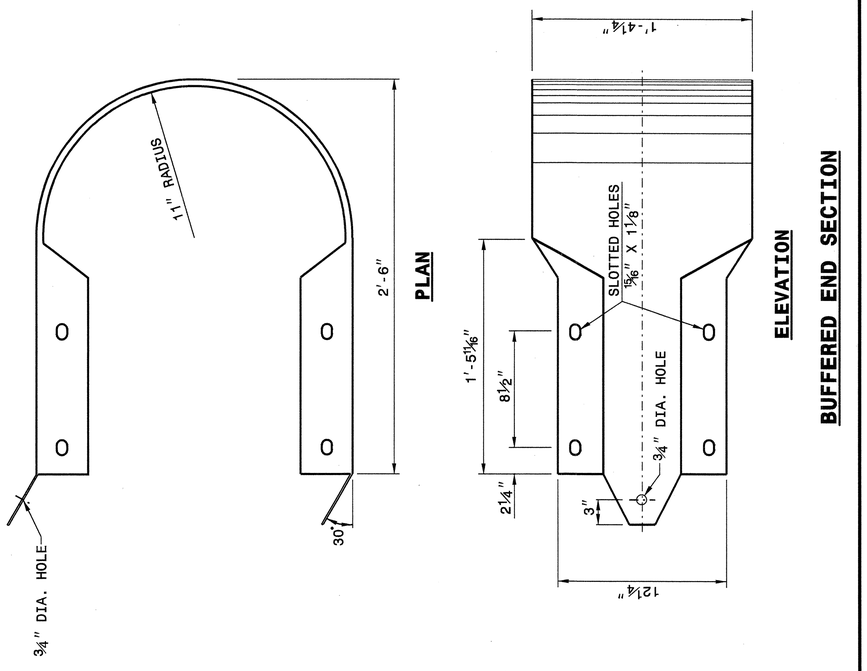
PROJECT REFERENCE NO.	SHEET NO.
B-3922	2G

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

ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 7 OF 7
862D02



BUFFERED END SECTION

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DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 7 OF 7
862D02

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER JOEL S. HOWERTON
1/24/05

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ORIGINAL BY: 2002 STD. 862.02 DATE:
MODIFIED BY: E.E. WARD DATE: 02-09-03
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FILE SPEC.: /usr/stds/02todetail/english/86202/862d02.dgn

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erickward
AT DS212260

PROJECT REFERENCE NO.	SHEET NO.
B-3922	2-H

METRIC

STATE OF
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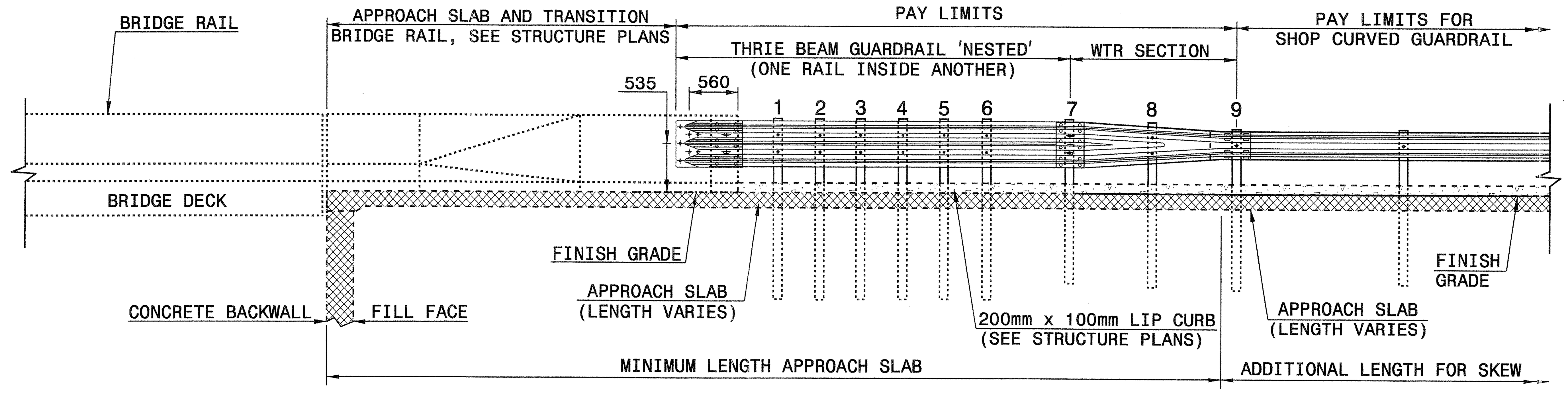
DIVISION OF HIGHWAYS
RALEIGH, N.C.

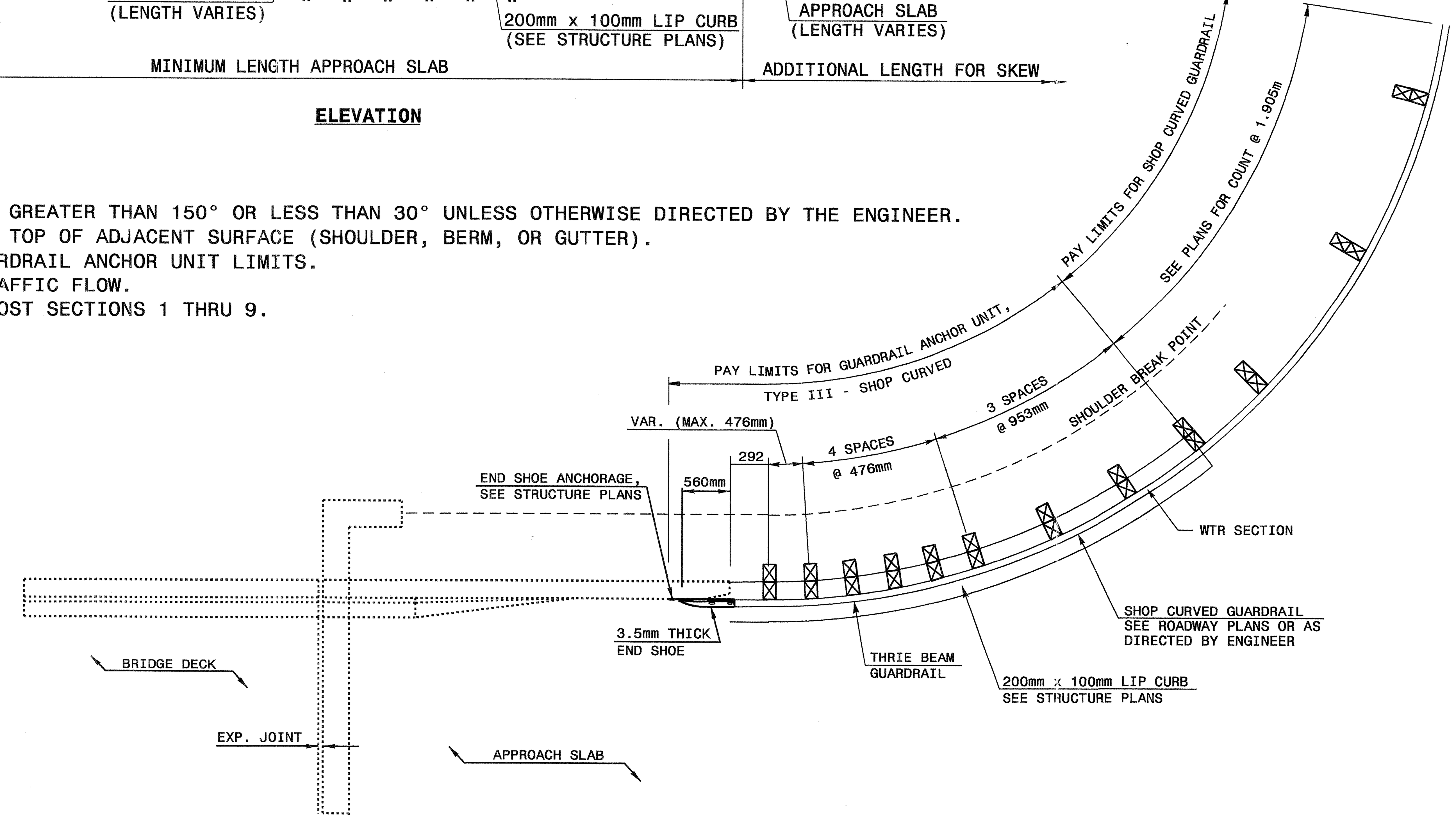
METRIC DETAIL DRAWING FOR
TYPE III - SHOP CURVED STRUCTURE ANCHOR UNIT

SHEET 1 OF 1
TYPE III SC



ELEVATION

NOTE:
**POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
-MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
-USE NO STEEL POSTS WITHIN THE GUARDRAIL ANCHOR UNIT LIMITS.
-LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
-SEE STANDARD 862.03 SHEET 4 FOR POST SECTIONS 1 THRU 9.



PLAN VIEW

Note:
This drawing is dimensioned in millimeters unless otherwise depicted within the drawing.

GUARDRAIL ANCHOR UNIT, TYPE III - SHOP CURVED

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

METRIC DETAIL DRAWING FOR
TYPE III - SHOP CURVED STRUCTURE ANCHOR UNIT

SHEET 1 OF 1
TYPE III SC

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022966 JOEL S. HOWERTON
1/24/05

DESIGN SERVICES UNIT
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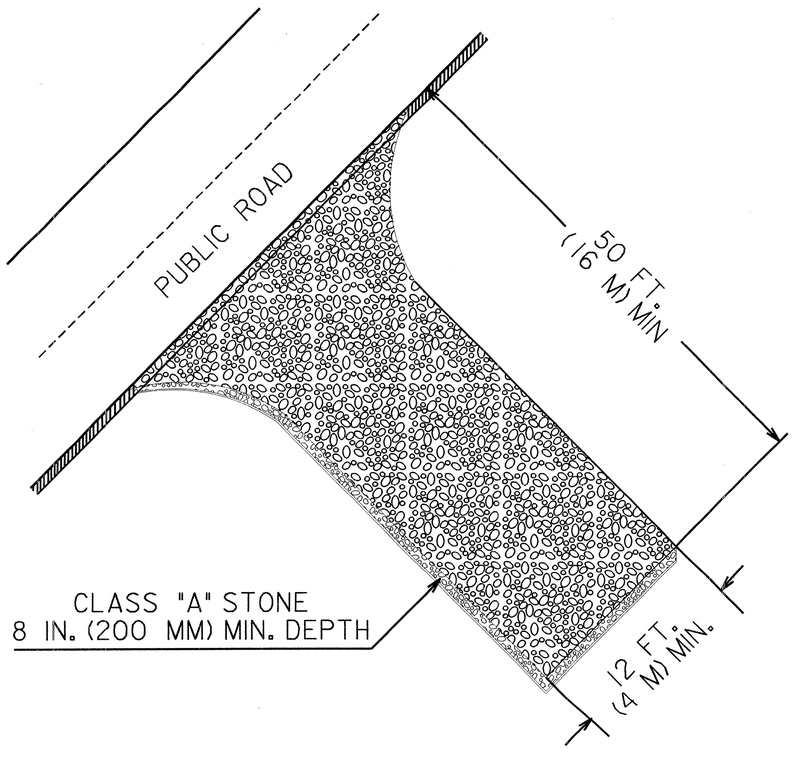
ORIGINAL BY: E.E. WARD DATE: 7-12-04
MODIFIED BY: DATE:
CHECKED BY: DATE: 7/12/04
FILE SPEC.: ward:\usr\details\stand\862stds\typeiiisc.dgn

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
B-3922	2-I	
STATE PROJECT NO.	F.A. PROJ. NO.	DESCRIPTION

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE



NOTES:

1. TURNING RADIUS SUFFICIENT TO ACCOMODATE LARGE TRUCKS SHALL BE PROVIDED.
2. ENTRANCE(S) SHOULD BE LOCATED TO PROVIDE FOR UTILIZATION BY ALL CONSTRUCTION VEHICLES.
3. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOPDRESSING WITH STONE WILL BE NECESSARY.
4. ANY MATERIAL TRACKED ONTO THE ROADWAY MUST BE CLEANED UP IMMEDIATELY.
5. GRAVEL CONSTRUCTION ENTRANCE SHALL BE LOCATED AT ALL POINTS OF INGRESS AND EGRESS UNTIL SITE IS STABILIZED. FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE MUST BE PROVIDED.
6. NUMBER AND LOCATION OF CONSTRUCTION ENTRANCES TO BE DETERMINED BY THE ENGINEER

NOTE: FILTER FABRIC TO BE PLACED BENEATH STONE

5/28/99

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT [redacted] C201510

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING
0029000000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ********** (11+06.50)
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUBBING
0057000000-E	226	200	CY	UNDERCUT EXCAVATION
0063000000-N	SP	Lump Sum		GRADING
0080000000-E	SP	250	TON	CLASS IV SUBGRADE STABILIZATION
0106000000-E	230	4,600	CY	BORROW EXCAVATION
0195000000-E	265	200	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	200	SY	FABRIC FOR SOIL STABILIZATION
0318000000-E	300	9	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRS
0706000000-E	310	24	LF	12" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK
0714000000-E	310	56	LF	18" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK
0805000000-E	310	4	EA	12" BIT COAT CS PIPE ELBOWS, TYPE B 0.064" THICK
0995000000-E	340	56	LF	PIPE REMOVAL
0996000000-N	350	4	EA	PIPE CLEAN-OUT
1220000000-E	545	50	TON	INCIDENTAL STONE BASE
1489000000-E	610	35	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1525000000-E	SP	25	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
1560000000-E	620	4	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
2000000000-N	806	9	EA	RIGHT OF WAY MARKERS
2022000000-E	815	45	CY	SUBDRAIN EXCAVATION
2033000000-E	815	35	CY	SUBDRAIN FINE AGGREGATE
2044000000-E	815	200	LF	6" PERFORATED SUBDRAIN PIPE
2055000000-E	815	6	EA	6" SUBDRAIN PIPE WYES, TEES, & ELBOWS
2066000000-N	815	1	EA	CONCRETE PAD FOR SUBDRAIN PIPE OUTLET
2077000000-E	815	6	LF	6" OUTLET PIPE (SUBDRAINS)
2286000000-N	840	2	EA	MASONRY DRAINAGE STRUCTURES
2367000000-N	840	2	EA	FRAME WITH TWO GRATES, STD 840.29
2556000000-E	846	25	LF	SHOULDER BERM GUTTER
3030000000-E	862	12.5	LF	STEEL BM GUARDRAIL
3045000000-E	862	62.5	LF	STEEL BM GUARDRAIL, SHOP CURVED
3105000000-N	862	1	EA	STEEL BM GUARDRAIL TERMINAL SECTIONS
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
3180000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE ********** (III, SHOP CURVED)
3195000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE AT-1
3621000000-E	876	120	TON	PLAIN RIP RAP, CLASS II
3642000000-E	876	500	TON	PLAIN RIP RAP, CLASS A
3649000000-E	876	2	TON	PLAIN RIP RAP, CLASS B
3656000000-E	876	2,280	SY	FILTER FABRIC FOR DRAINAGE
3659000000-N	SP	1	EA	PREFORMED SCOUR HOLES WITH LEVEL SPREADER APRON
4412000000-E	SP	104	SF	WORK ZONE SIGNS (STATIONARY)
4412100000-E	SP	276	SF	WORK ZONE SIGNS (PORTABLE)
4412200000-E	SP	40	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4430000000-N	1130	30	EA	DRUMS
4435000000-N	1135	20	EA	CONES
4446100000-E	SP	100	LF	BARRICADES (TYPE III)
4460000000-N	1155	4	EA	WARNING LIGHTS (TYPE B)
4480000000-N	1165	1	EA	TRUCK MOUNTED IMPACT ATTENUATOR (60 MPH)
4810000000-E	1205	20,000	LF	PAINT PAVEMENT MARKING LINES (4")
4835000000-E	1205	100	LF	PAINT PAVEMENT MARKING LINES (24")
4915000000-E	1264	3	EA	7' U-CHANNEL POSTS
4955000000-N	1264	3	EA	OBJECT MARKERS (END OF ROAD)
6000000000-E	1605	500	LF	TEMPORARY SILT FENCE
6006000000-E	1610	75	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	65	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	120	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	0.5	ACR	TEMPORARY MULCHING
6018000000-E	1620	50	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	0.25	TON	FERTILIZER FOR TEMPORARY SEEDING
6024000000-E	1622	20	LF	TEMPORARY SLOPE DRAINS
6027000000-N	1622	1	EA	INLET PROTECTION AT TEMPORARY SLOPE DRAINS
6029000000-E	SP	100	LF	SAFETY FENCE
6030000000-E	1630	145	CY	SILT EXCAVATION
6036000000-E	1631	200	SY	MATTING FOR EROSION CONTROL
6042000000-E	1632	40	LF	1/4" HARDWARE CLOTH
6070000000-N	SP	4	EA	SPECIAL STILLING BASINS
6084000000-E	1660	1	ACR	SEEDING & MULCHING
6087000000-E	1660	0.5	ACR	MOWING
6090000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	50	LB	SEED FOR SUPPLEMENTAL SEEDING
6108000000-E	1665	0.75	TON	FERTILIZER TOPDRESSING
6114000000-N	SP	1	HR	SPECIALIZED HAND MOWING
6117000000-N	1675	8	EA	RESPONSE FOR EROSION CONTROL
8748000000-E	SP	325	TON	SELECT BACKFILL MATERIAL, CLASS ** (VI)

10/25/2004
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COMPUTED BY:	AMP	DATE:	10.10.04
CHECKED BY:	MTM	DATE:	10.10.04

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
B-3922	3-A

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION / SIZE / THICKNESS OR GAUGE	LOCATION (LT, RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 12"	15"	18"	24"	30"	36"	42"	48"	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE) 12" .064	15" .064	18" .064	24" .064	30" .079	36" .079	42" .109	48" .109	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') PER EACH (0' THRU 5.0')	LIN. *FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	M.D.I. TYPE "B" STD. 840.18 OR 840.27	M.D.I. TYPE "D" STD. 840.19 OR 840.28	T.B.D.I. STD. 840.35	M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29	M.D.I. FRAME WITH TWO GRATES STD. 840.24	PRE-FORMED SCOUR HOLE	ROD & LUG W/SLEEVE GASKET CONNECTORS	PIPE CLEAN-OUT	CORR. STEEL ELBOWS NO. & SIZE	PIPE REMOVAL LIN.FT.	REMARKS
-L- 10+10	LT	1		2644.82																									1							1			1							
-L- 10+10	LT	1	2		2642.32	2635.5										12																										2		2@12		
-L- 11+20	RT	2		2644.92																									1							1			1							
-L- 11+20	RT	2	4		2642.42	2641.0										12																										2		2@12		
TEMPORARY DRAINAGE																																														
-DRIVE- 12+37.5	RT	5																																												
-DRIVE- 12+37.5	RT	5	6		2634.2	2634.0												56																							1				56	
																																											4			CLEAN OUT EXIST. 18" CMP ON SR 1149
SHEET TOTAL:																24		56											2							2			2		1	4	4	4@12	56	
GRAND TOTAL:																24		56											2							2			2		1	4	4	4@12	56	

ABBREVIATIONS

- C.B. CATCH BASIN
- N.D.I. NARROW DROP INLET
- D.I. DROP INLET
- M.D.I. MEDIAN DROP INLET
- M.D.I. (N.S.) MEDIAN DROP INLET (NARROW SLOT)
- J.B. JUNCTION BOX
- M.H. MANHOLE
- T.B.D.I. TRAFFIC BEARING DROP INLET
- T.B.J.B. TRAFFIC BEARING JUCTION BOX

"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.

GUARDRAIL SUMMARY

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

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH STRAIGHT	LENGTH SHOP CURVED	LENGTH DOUBLE FACED	WARRANT POINT APPROACH END	WARRANT POINT TRAILING END	"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH APPROACH END	FLARE LENGTH TRAILING END	W APPROACH END	W TRAILING END	ANCHORS III SC	III	GRAU 350	M-350	XIII	CAT-1	VI MOD	BIC	AT-1	IMPACT ATTENUATOR TYPE 350 EA	G	NG	TERMINAL END SECTION	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS SC - SHOP CURVED
-L-	10+00.00	10+29.00	LT	6.25	31.25			10+29.00	5	8					1								1							BRIDGE WARRANT, TYPE III (SC)
-L-	10+20.75	10+29.00	RT	6.25	31.25		10+29.00		5	8					1								1							BRIDGE WARRANT, TYPE III (SC)
-L-	11+84.00	12+14.00	LT	6.25	31.25			11+84.00	5	8					1								1							BRIDGE WARRANT, TYPE III (SC)
-L-	11+84.00	11+95.00	RT	6.25	31.25		11+84.00		5	8					1								1							BRIDGE WARRANT, TYPE III (SC)
-Y1-	20+72.00		CL																								1			
			SUB-TOTALS:	25.00	125.00										4								4							
LESS ANCHOR DEDUCTIONS:		AT-1 4 @ 6.25		-25.00																										
		TYPE III SHOP CURVED 4 @ 18.75			-75.00																									
			ANCHOR TOTAL DEDUCTION:	-25.00	-75.00																									
			GRAND TOTALS:	0.00	50.00																									
			SAY:	12.5 LF	62.5 LF		ADDITIONAL GUARDRAIL POSTS: 5								4								4				1			

01/17/2005 R:\Roadway\Proj\B3922_RDY_SUM.dgn

6/21/00

COMPUTED BY: AMP DATE: 03.30.04
CHECKED BY: MTM DATE: 10.25.04

PROJECT REFERENCE NO.	SHEET NO.
B-3922	3-B

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SUMMARY OF EARTHWORK

IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT + %	BORROW	WASTE
SUMMARY #1					
–L– Sta. 10+08.34 (Beg. Const.) TO 10+39.00 (Beg. Bridge)	0		550	550	
–L– Sta. 11+64.00 (End Bridge) TO 12+11.59 (End Const.)	1		286	285	
SUMMARY NO. 1 SUBTOTAL	1		836	835	
SUMMARY #2					
–DRIVE– Sta. 10+11.21 TO 14+33.18	7		3,518	3,511	
SUMMARY NO. 2 SUBTOTAL	7		3,518	3,511	
DRIVE REMOVAL	3,518				3,518
PROJECT SUBTOTAL	3,526		4,354	4,346	3,518
LOSS DUE TO CLEARING AND GRUBBING	–20			20	
EST. 5% FOR REPLACING TOPSOIL ON BORROW PIT				217	
PROJECT TOTAL	3,506		4,354	4,583	3,518
GRAND TOTAL	3,506			4,583	
SAY	3,550			4,600	

APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, FINE GRADING, CLEARING AND GRUBBING, AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING"

CONTINGENCY UNDERCUT = 200 CY
CONTINGENCY SELECT MATERIAL CLASS II OR III = 200 CY
CONTINGENCY CLASS IV SUBGRADE STABILIZATION = 250 TONS

PAVEMENT REMOVAL

IN SQUARE YARDS

LINE	LT/RT	STATION TO STATION	SQ. YDS
–Y1–	LT/RT	REMOVE 4' +/– ALONG EXIST. RD.	155.3
–Y1–	LT/RT	REMOVE PAVEMENT @ BEG. EXIST. BRIDGE	87.7
–Y1–	LT/RT	REMOVE PAVEMENT AT END EXIST. BRIDGE	86.3
		PROJECT TOTAL	329.3
		SAY	335 SY

RIGHT OF WAY AREA DATA

PARCEL NO.	PROPERTY OWNERS NAMES	TOTAL ACREAGE	AREA TAKEN	AREA REMAINING RT.	AREA REMAINING LT.	CONST. EASE.	PERM. DRAIN. EASE.	TEMP. DRAIN. EASE.
1	GEORGE MADISON. ET AL	42.59 (AC)	0.15 (AC)	7.18 (AC)	35.26 (AC)	1.17 (AC)		
2	EUGENE B. WALKER. ET AL		0.15 (AC)			0.14 (AC)		

3/30/04

REVISIONS

PLANS PREPARED BY :
RUMMEL KLEPPER & KAHL, LLP
consulting engineers
3800 FARINGDON PLACE SUITE 105
RALEIGH, NORTH CAROLINA 27609-3960

FOR
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
B-3922	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 26306 ENGINEER ANA M. PASSMAN
1/18/05

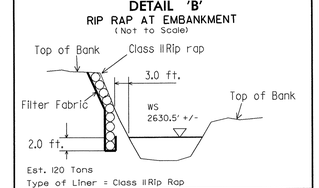
HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 18181 ENGINEER TINA H. SWEET
1/18/05

ENVIRONMENTAL COMMITMENTS

The North Carolina Wildlife Resources Commission (WRC) has prohibited any instream work and land disturbance activities within 25 feet (7.6 meters) of Cove Creek associated with this project during brown trout spawning season of October 15 through April 15.

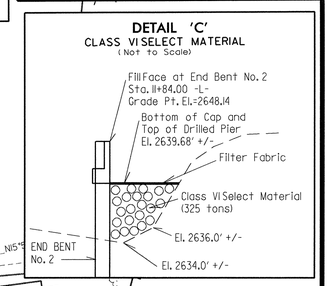
NAD 83

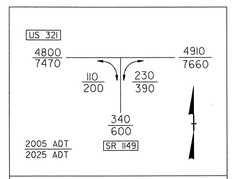
DETAIL 'B'
RIP RAP AT EMBANKMENT
(Not to Scale)



PLACE 120 TONS CLASS II RIPRAP ALONG CREEK BANK, FROM CULVERT OUTLET TO APPROX. 160' DOWNSTREAM, W/150 S.Y. FIL. FAB.

DETAIL 'C'
CLASS VI SELECT MATERIAL
(Not to Scale)





PROJECTED TRAFFIC VOLUMES

5+00.00 POT
-BY- 6

-Y- POT Sta.10+00.00

-Y- +45.00 ON R/W

-Y- +70.00 90.00'

-Y- +15.00 157.00'

SEE DETAIL SHEET 2-A FOR CONSTRUCTION DRIVE

PLACE EST. 325 TONS CLASS VI SELECT MATERIAL W/ 40 SY FIL. FABRIC BEHIND END BENT 2 UP TO ELEV. 2639.68 +/-

PLACE CLASS II RIP RAP ON BENT SPILL THRU SLOPES AS SHOWN ON PLANS (STRUCTURE PAY ITEM)

-L- Sta.12+22.68 =
-Y- Sta.14+62.50

GEORGE MADISON ET AL
DB 453 PG 386
WB 94-E-166
DB 112 PG 604

END PROJECT B-3922
-L- POT Sta. 12+11.59

CECIL WARD
DB 084 PG 058
SECOND TRACT

-Y- POT Sta. 16+07.31

-BL- GPS B3922-2 PINC 14+31.91

-BL- 3 PINC 17+92.33

-Y1- POT Sta. 15+37.16

-Y1- PC Sta. 15+56.85

BRUCE R. DISHMAN
DB 163 PG 660
DB 82 PG 529

BRUCE R. DISHMAN
DB 164 PG 85

GEORGE MADISON ET AL
DB 453 PG 386
WB 94-E-166
DB 112 PG 604

FOR BCCSP (2) & (4) ROD AND LUG WITH SLEEVE GASKET CONNECTORS

TYPE-III (SC)

40' R w/ 2' OFFSET

-L- +70.00 30.00'

120 TONS CLASS II RIP RAP W/ 150 S.Y. FIL. FAB. SEE DETAIL 'B'

-L- +00.00 70.00'

-Y- +00.00 170.00'

-L- +50.00 30.00'

-Y1- +30.00 ON R/W

-Y- +00.00 ON R/W

-Y- +40.00 ON R/W

-Y1- +80.00 ON R/W

BM # 2
-BY-STA 11+45.94 OFFSET 35.57' RT
-L- STA 11+72 OFFSET 97' RT
ELEV. 2637.62'

6" SCUPPERS ON 10' CENTERS STA. -L- 10+35 TO 10+55 RT

EUGENE B. WALKER ET AL
DB 222 PG 698

C. RICHARD DOLBIER
DB 311 PG 864

-BL- 5 PINC 24+35.85
-BY- 18 PINC 13+75 =
-L- STA. 11+73.88 (329.19 ft. RT.)

-L- Sta.22+52.23 =
-Y- Sta.18+97.40

GLADYS C. DENNEY
DB 102 PG 611

REGRADE AS DIRECTED BY ENGINEER

BM # 1
-BL-STA 16+16.13
44.71' RIGHT
ELEV. 2667.44'

RETAIN & CLEAN-OUT

BEGIN PROJECT B-3922
-L- POT Sta. 10+08.34

1 2GI

2 12" BCCSP W/2 ELBOWS
1 TON CL B RIPRAP W/4 S.Y. FIL. FAB.

3 2GI

4 12" BCCSP W/2 ELBOWS
1 TON CL B RIPRAP W/4 S.Y. FIL. FAB.

-L- Sta.10+00.00 =
-Y1- Sta.17+89.64

-Y1- PT Sta. 18+77.13

-Y1- PC Sta. 18+94.64

-BL- 4 PINC 22+08.33 =
-L- STA. 10+54.74 (135.36 ft. RT.)

JAMES A. CHRISTENBURY
DB 514 PG 632

EXISTING BRIDGE TO BE REMOVED

TERMINAL END SECTION

SEE SHEETS S-1 THRU S-41 FOR STRUCTURE PLANS

-Y1- CURVE DATA

PI Sta 17+17.06	PI Sta 19+47.21	PI Sta 20+83.04
Δ = 4° 19' 25.6" (LT)	Δ = 31° 21' 05.0" (RT)	Δ = 49° 12' 54.8" (LT)
D = 1° 21' 00.0"	D = 30° 35' 00.0"	D = 82° 00' 00.0"
L = 320.28'	L = 102.51'	L = 60.02'
T = 160.22'	T = 52.57'	T = 32.00'
R = 4,244.13'	R = 187.34'	R = 69.87'

BRIDGE TABLE		SHOULDER BERM GUTTER
BEGIN APP. SLAB	-L- STA. 10+18.00	-L- STA. 9+99.9 TO 10+18.0 LT
BEGIN BRIDGE	-L- Sta. 10+29.00	-L- STA. 10+14.6 TO 10+18.0 RT
END BRIDGE	-L- Sta. 11+84.00	
END APP. SLAB	-L- STA. 11+95.00	

PAVEMENT REMOVAL

EXISTING R/W TO BE ABANDONED FROM SYSTEM.

BM #1 8" Spike In Root of 10" Black Birch Tree
-BL- Sta.16+16.13 (44.71' Rt.)
Elev. 2,667.44'

BM #2 PK Nail Set In SE Corner of Headwall of 3 Barrel Box Culvert Under US 321
-BY- Sta.11+45.94 (35.57' Rt.) =
-L- Sta.11+72 (97' Rt.)
Elev. 2,637.62'

BM #3 PK Nail Set In Concrete Island at Intersection of Phillips Branch Rd (sr 1211) and US 321
-BY- Sta.23+78.99 (111.55' Lt.)
Elev. 2,649.39'

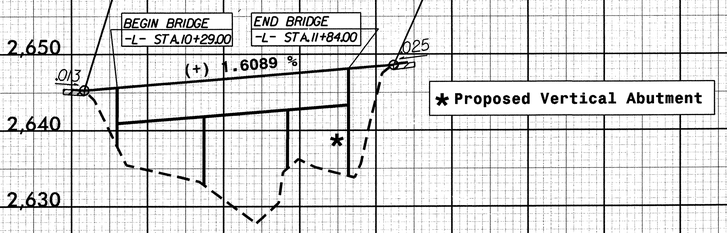
BRIDGE DATA
BRIDGE #316
OVER COVE CREEK

DESIGN Q =	4,600 cfs
DESIGN FREQ =	25 yr
DESIGN EL =	2639.8 ft
BASE FLOOD Q =	6,900 cfs
BASE FLOOD FREQ =	100 yr
BASE FLOOD EL =	2641.3 ft
OT Q =	13,300 cfs
OT FREQ =	> 500 yr
OT EL =	2645.3 ft

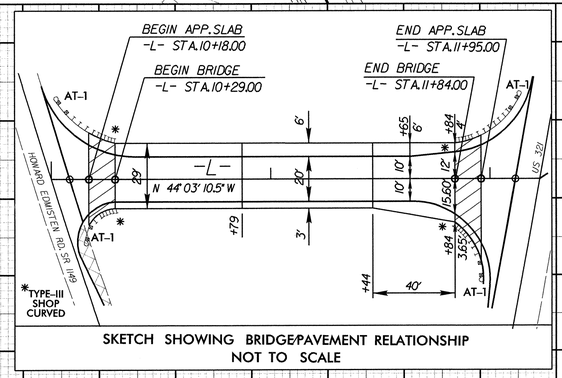
-L-

Begin Grade
-L- Sta. 10+08.34
Elev. 2645.31

End Grade
-L- Sta. 12+11.59
Elev. 2648.58



* Proposed Vertical Abutment



SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP
NOT TO SCALE