

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3621	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33169.1.1	BRZ-1547(3)	PE	
33169.2.1	BRZ-1547(3)	RW & UTILITY	
33169.3.2	BRZ-1547(5)	CONST.	

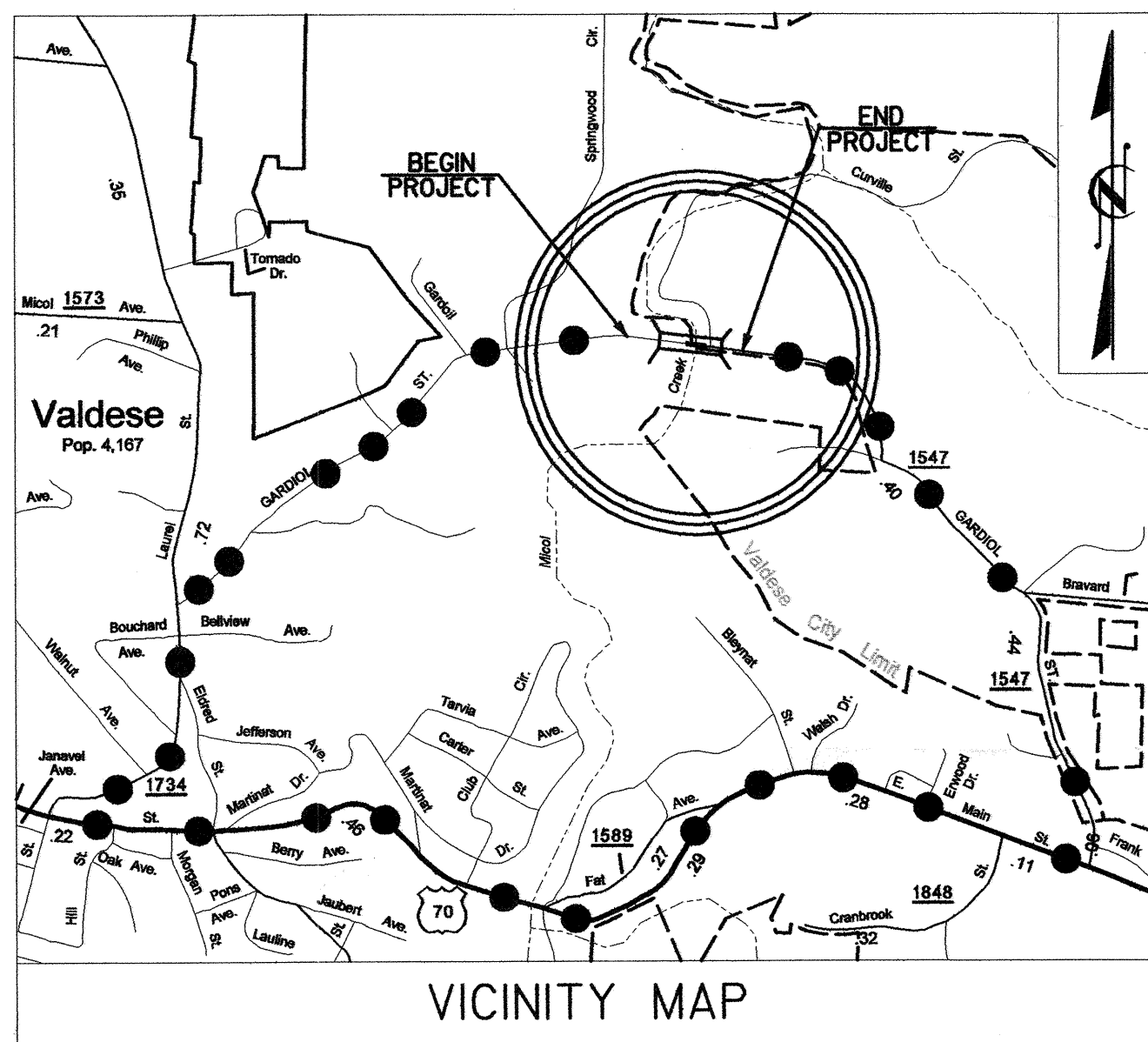
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# BURKE COUNTY

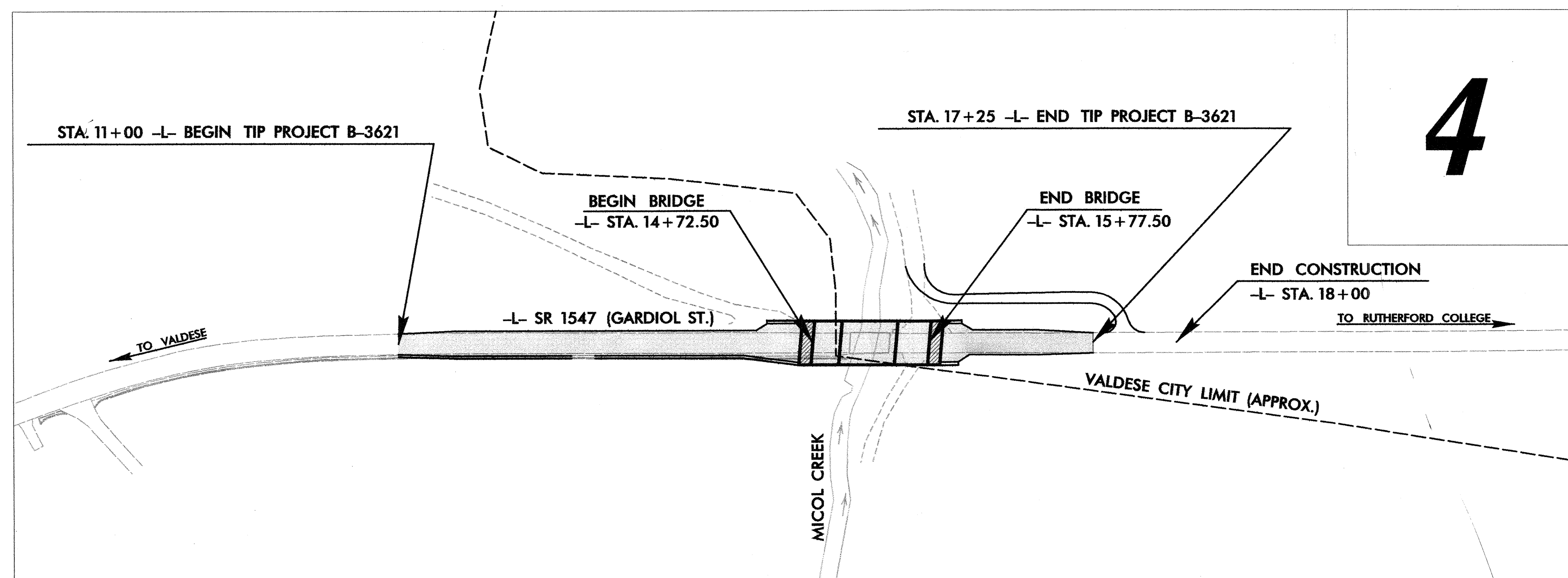
LOCATION: Bridge No. 148 over Micol Creek on SR 1547

TYPE OF WORK: Grading, Paving, Drainage, and Structure

See Sheet 1-A For Index of Sheets



●●●●● DETOUR ROUTE



CONTRACT: C200807 TIP PROJECT: B-3621

NCDOT Contact: Doug Taylor, PE - Project Engineer - Roadway Design Unit

Prepared By:

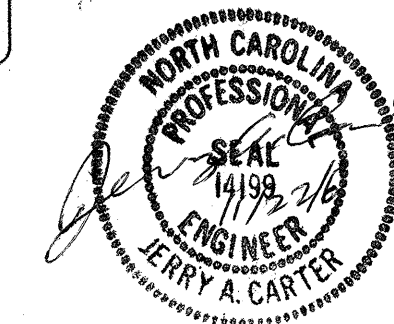
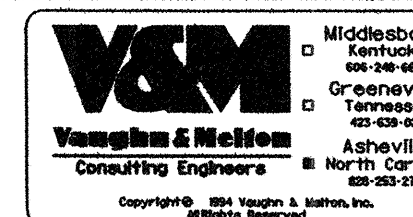
**V&M**  
Vaughn & Melton  
Consulting Engineers

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 Greeneville, Tennessee  
423-639-0271  
 Asheville, North Carolina  
828-252-2786

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<p><b>GRAPHIC SCALES</b></p> <p>50 25 0 50 100 PLANS</p> <p>50 25 0 50 100 PROFILE (HORIZONTAL)</p> <p>10 5 0 10 20 PROFILE (VERTICAL)</p>	<p><b>DESIGN DATA</b></p> <p>ADT 2003 = 2250 ADT 2025 = 3600 DHV = 10 % D = 60 % T = 3 % * V = 40 MPH ** * TTST 1% DUAL 2% ** DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVES</p>	<p><b>PROJECT LENGTH</b></p> <p>LENGTH ROADWAY TIP PROJECT B-3621 = 0.098 MI LENGTH STRUCTURE TIP PROJECT B-3621 = 0.020 MI TOTAL LENGTH OF TIP PROJECT B-3621 = 0.118 MI</p>	<p>Prepared For: <b>DIVISION OF HIGHWAYS</b> 1000 Birch Ridge Dr., NC, 27610</p> <p>2006 STANDARD SPECIFICATIONS</p> <p>RIGHT OF WAY DATE: February 26, 2003</p> <p>LETTING DATE: February 20, 2007</p> <p>Jerry Carter, PE PROJECT ENGINEER</p> <p>Reece Schuler, PE PROJECT DESIGN ENGINEER</p>	<p><b>HYDRAULICS ENGINEER</b></p> <p>SEAL 9334</p> <p>JERRY WELLS, P.E.</p> <p>11/03/06</p> <p>Jerry Carter, PE 10/31/06</p>	<p><b>DIVISION OF HIGHWAYS</b> STATE OF NORTH CAROLINA</p> <p>Ant McMillan, P.E.</p> <p>STATE DESIGN ENGINEER</p> <p>DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION</p> <p>APPROVED DIVISION ADMINISTRATOR DATE</p>
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STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
**INDEX OF SHEETS**



SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, LIST OF STANDARDS
1-B	CONVENTIONAL SYMBOLS
1-C THRU 1-D	SURVEY CONTROL SHEET
2	PAVEMENT SCHEDULE, TYPICAL SECTIONS
2-A	DETAIL OF PERFORMED SCOUR HOLE
2-B	DETAIL OF REINFORCED SLOPE
3	SUMMARY OF QUANTITIES
3-A	SUMMARY OF EARTHWORK
3-B	ROW AREA DATA, LIST OF PIPES, GUARDRAIL SUMMARY AND PAVEMENT REMOVAL SUMMARY
4	PLAN AND PROFILE SHEET
5	DRIVEWAY PROFILE SHEET
TCP-1 THRU TCP-3	TRAFFIC CONTROL PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
UC-1 THRU UC-5	UTILITY CONSTRUCTION PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS
X-1A	CROSS SECTION SUMMARY
X-1 THRU X-7	CROSS SECTIONS
S-1 THRU S-17	STRUCTURE PLANS

**GENERAL NOTES:**

**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 II.

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

**SIDE ROADS:**  
THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

**DRIVEWAYS:**  
DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3' RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS 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 DUKE POWER, CENTEL/SPRINT TELEPHONE, AND THE TOWN OF VALDESE WATER AND SEWER. ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS EXCEPT AS NOTED ON THE PLANS.

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

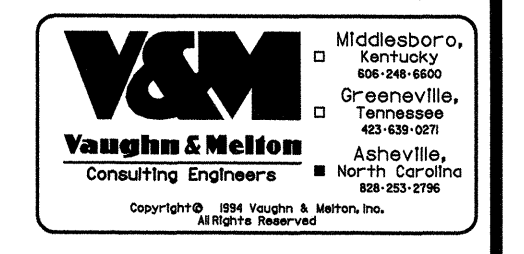
**ROADWAY ENGLISH STANDARD DRAWINGS**

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated July 16, 2006 are applicable to this project and by reference hereby are considered a part of these plans:

STD. NO.	TITLE
<b>DIVISION 2 - EARTHWORK</b>	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superlevation - Two Lane Pavement
<b>DIVISION 3 - PIPE CULVERTS</b>	
300.01	Method of Pipe Installation - Method 'A'
310.10	Driveway Pipe Construction
<b>DIVISION 5 - SUBGRADE, BASES AND SHOULDERS</b>	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
<b>DIVISION 8 - INCIDENTALS</b>	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right of Way Marker
840.00	Concrete Base Pad for Drainage Structures
840.01	Brick Catch Basin - 12" thru 54" Pipe
840.02	Concrete Catch Basin - 12" thru 54" Pipe
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
840.18	Concrete Median Drop Inlet Type 'B' - 12" thru 36" Pipe
840.24	Frames and Narrow Slot Sag Grates
840.25	Anchorage for Frames - Brick or Concrete
840.27	Brick Median Drop Inlet Type 'B' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.45	Precast Drainage Structure
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
848.02	Driveway Turnout - Radius Type
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
866.03	Woven Wire Fence - with Steel Post
422.10	REINFORCED BRIDGE APPROACH FILLS
876.02	Guide for Rip Rap at Pipe Outlets
866.02	Woven Wire Fence - with Wood Post

10/26/08





STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

CONVENTIONAL SYMBOLS

\*S.U.E = SUBSURFACE UTILITY ENGINEER

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	—T—T—
Prop. Guardrail	—T—T—
Equality Symbol	⊕
Pavement Removal	⊗
<b>RIGHT OF WAY</b>	
Baseline Control Point	◆
Existing Right of Way Marker	△
Exist. Right of Way Line w/Marker	---△---
Prop. Right of Way Line with Proposed	---
RW Marker (Iron Pin & Cap)	▲
Prop. Right of Way Line with Proposed	---
(Concrete or Granite) RW Marker	⊙
Exist. Control of Access Line	⊙
Prop. Control of Access Line	⊙
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	---RBB---
Flow Arrow	→
Disappearing Stream	---
Spring	○
Swamp Marsh	⊕
Shoreline	---
Falls, Rapids	+
Prop Lateral, Tail, Head Ditches	---

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

Recorded Water Line	---W---
Designated Water Line (S.U.E.*)	---W---
Sanitary Sewer	---SS---
Recorded Sanitary Sewer Force Main	---FSS---
Designated Sanitary Sewer Force Main(S.U.E.*)	---FSS---
Recorded Gas Line	---G---
Designated Gas Line (S.U.E.*)	---G---
Storm Sewer	---S---
Recorded Power Line	---P---
Designated Power Line (S.U.E.*)	---P---
Recorded Telephone Cable	---T---
Designated Telephone Cable (S.U.E.*)	---T---
Recorded U/G Telephone Conduit	---TC---
Designated U/G Telephone Conduit (S.U.E.*)	---TC---
Unknown Utility (S.U.E.*)	---?UTL---
Recorded Television Cable	---TV---
Designated Television Cable (S.U.E.*)	---TV---
Recorded Fiber Optics Cable	---FO---
Designated Fiber Optics Cable (S.U.E.*)	---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	⊕
Exist. Iron Pin	⊕
Property Corner	⊕
Property Monument	⊕
Property Number	⊕
Parcel Number	⊕
Fence Line	---X---
Existing Wetland Boundaries	---WW & ISBW---
High Quality Wetland Boundary	---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	---
Well	---
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	---

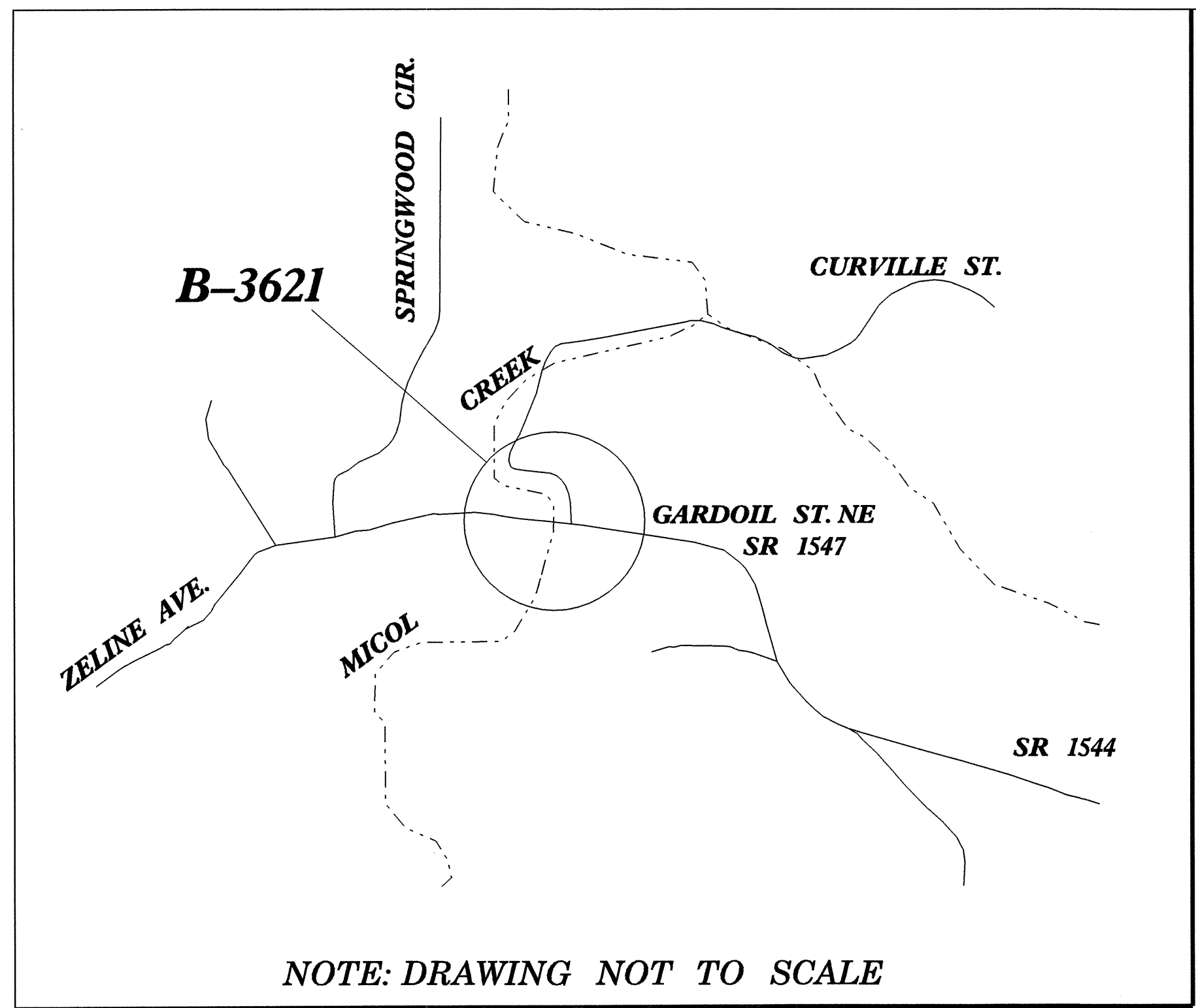
RAILROADS

Standard Gauge	---
RR Signal Milepost	---
Switch	---

5/28/99

5/28/99

# SURVEY CONTROL SHEET B-3621



**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B3621-1" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 738013.504(ft) EASTING: 1244761.628(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999866592 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B3621-1" TO -L- STATION 10+00.00 IS S 33°45'30" E 23.68' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NGVD 29

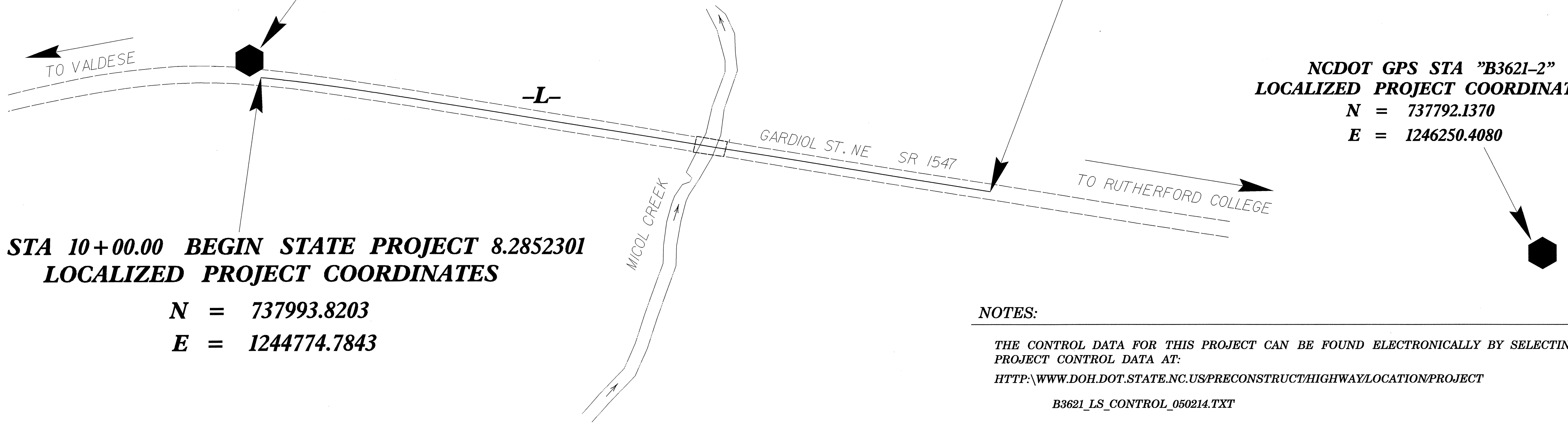


**NCDOT GPS STA "B3621-1"**  
**LOCALIZED PROJECT COORDINATES**  
 N = 738013.5040  
 E = 1244761.6280

**-L- STA 18+50.00 END STATE PROJECT 8.2852301**  
**LOCALIZED PROJECT COORDINATES**  
 N = 737861.9541  
 E = 1245614.4298

**NCDOT GPS STA "B3621-2"**  
**LOCALIZED PROJECT COORDINATES**  
 N = 737792.1370  
 E = 1246250.4080

**-L- STA 10+00.00 BEGIN STATE PROJECT 8.2852301**  
**LOCALIZED PROJECT COORDINATES**  
 N = 737993.8203  
 E = 1244774.7843



**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/B3621\\_LS\\_CONTROL\\_050214.TXT](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project/B3621_LS_CONTROL_050214.TXT)

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

NOTE: DRAWING NOT TO SCALE



# SURVEY CONTROL SHEET B-3621

PROJECT REFERENCE NO.	SHEET NO.
B-3621	1 D
Location and Surveys	

**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B3621-1" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 738013.5040(E) EASTING: 124476.16280(E) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999866592 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B3621-1" TO -L- STATION 10+00.00 IS S 33°45'30" E 23.68'

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES  
VERTICAL DATUM USED IS NGVD 29

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1		BL-1	737972.0300	1244452.6910	1152.54	OUTSIDE PROJECT LIMITS	
2		NCDOT GPS B3621	738013.5040	1244761.6280	1130.09	OUTSIDE PROJECT LIMITS	
3		BL-3	737920.9830	1245333.1540	1086.42	15+62.91	13.39 LT
4		BL-4	737839.4320	1245831.4350	1133.80	OUTSIDE PROJECT LIMITS	
5		BL-5	737736.6460	1246245.2580	1161.12	OUTSIDE PROJECT LIMITS	
6		BL-6	737472.3610	1246380.7680	1178.48	OUTSIDE PROJECT LIMITS	

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.....
BM1      ELEVATION = 1146.68
N 738007      E 1244383
L STATION 10+00
N 88° 07' 04.8" W DIST 391.76
SPIKE IN BASE OF 17" SYCAMORE
.....
BM2      ELEVATION = 1084.12
N 737860      E 1245281
L STATION 15+21 55 RIGHT
SPIKE IN BASE OF 22" OAK
.....
BM3      ELEVATION = 1178.25
N 737860      E 1246275
L STATION 18+50
S 89° 48' 45.4" E DIST 660.17
SPIKE IN BASE OF 35" MAPLE
.....
    
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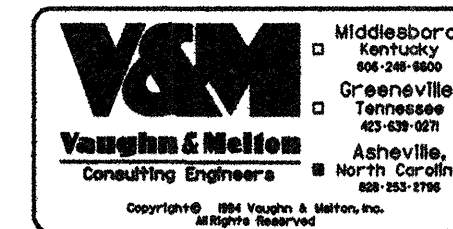
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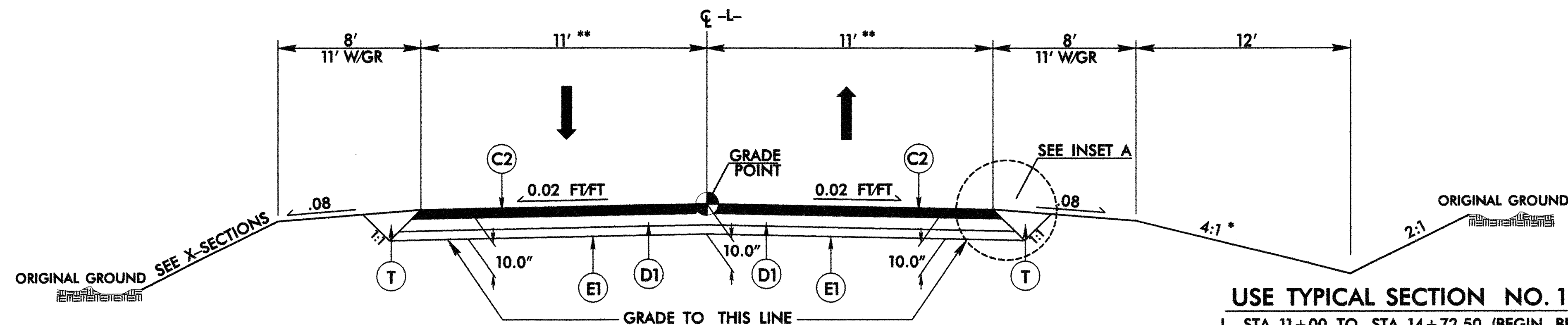
[HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project)

B3621\_LS\_CONTROL\_050214.TXT

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



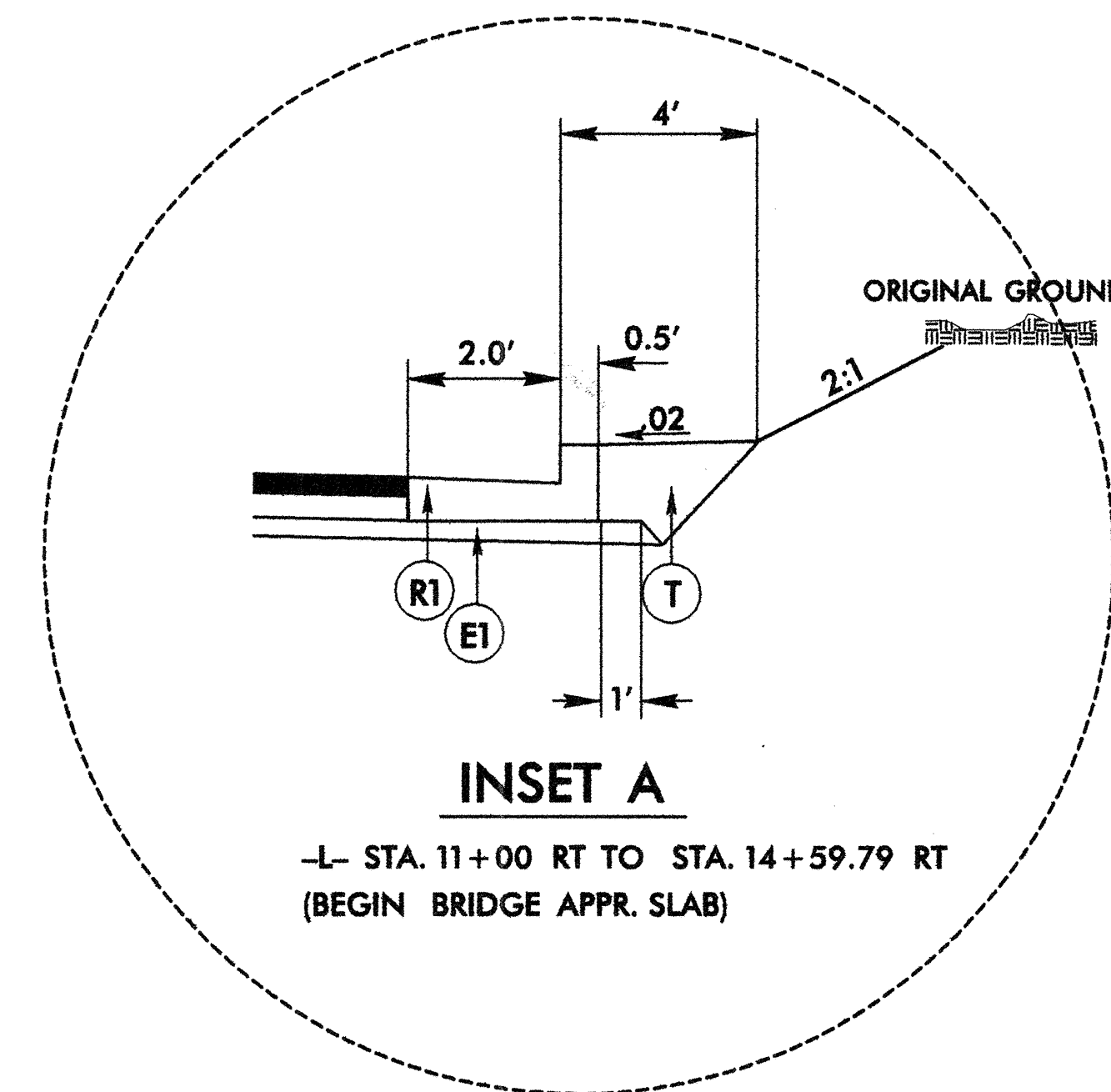
PROJECT REFERENCE NO. B-362/	SHEET NO. 2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
	12/5/06



**TYPICAL SECTION NO. 1**

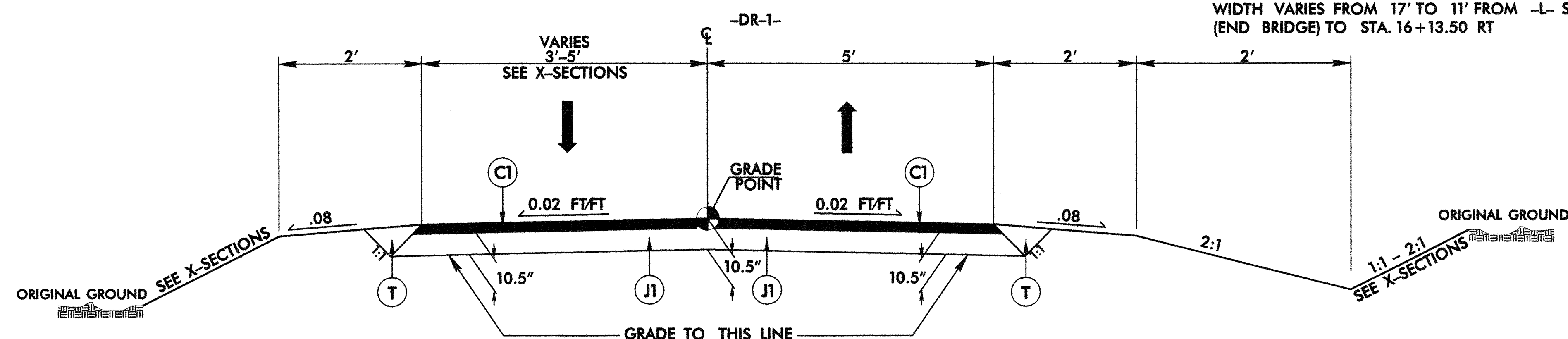
**USE TYPICAL SECTION NO. 1**

- L- STA. 11+00 TO STA. 14+72.50 (BEGIN BRIDGE)
- L- STA. 15+77.50 (END BRIDGE) TO STA. 17+25
- \* SLOPE VARIES FROM FROM -L- STA. 15+77.50 (END BRIDGE) LT TO STA. 16+50 LT (SEE X-SECTIONS)
- \*\* WIDTH VARIES FROM 11' TO 17' FROM -L- STA. 14+21 LT TO STA. 14+72.50 LT (BEGIN BRIDGE)
- WIDTH VARIES FROM 11' TO 17.5' FROM -L- STA. 14+09.79 RT TO STA. 14+72.50 RT (BEGIN BRIDGE)
- WIDTH VARIES FROM 17' TO 11' FROM -L- STA. 15+77.50 LT (END BRIDGE) TO STA. 16+17 LT
- WIDTH VARIES FROM 17' TO 11' FROM -L- STA. 15+77.50 RT (END BRIDGE) TO STA. 16+13.50 RT



**INSET A**

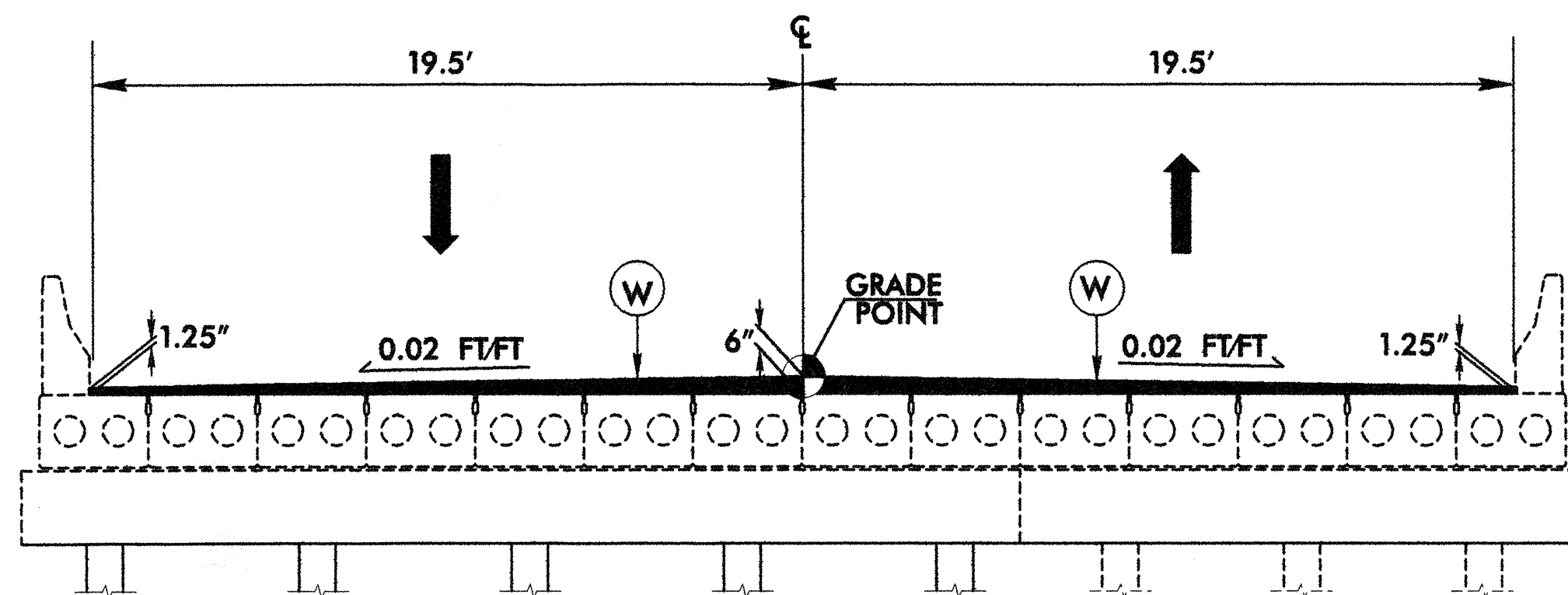
-L- STA. 11+00 RT TO STA. 14+59.79 RT (BEGIN BRIDGE APPR. SLAB)



**TYPICAL SECTION NO. 2**

**USE TYPICAL SECTION NO. 2**

-DR-1- STA. 10+00 TO STA. 12+19.81

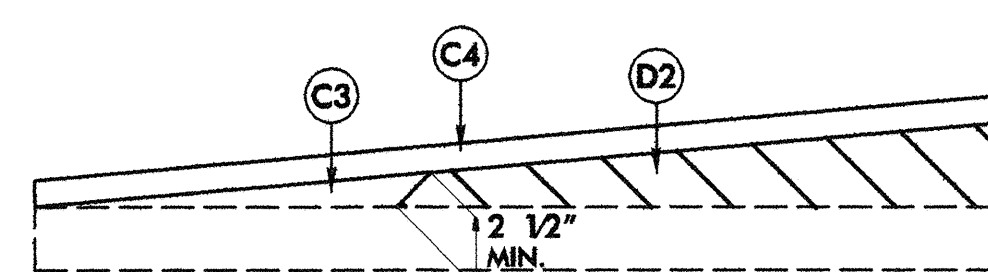


**Detail of Asphalt Wearing Surface on Cored Slab Bridge**

**TYPICAL SECTION NO. 3**

**USE TYPICAL SECTION NO. 3**

-L- 14+72.50 (BEGIN BRIDGE) TO 15+77.50 (END BRIDGE)



**Wedging Detail**

**PAVEMENT SCHEDULE**

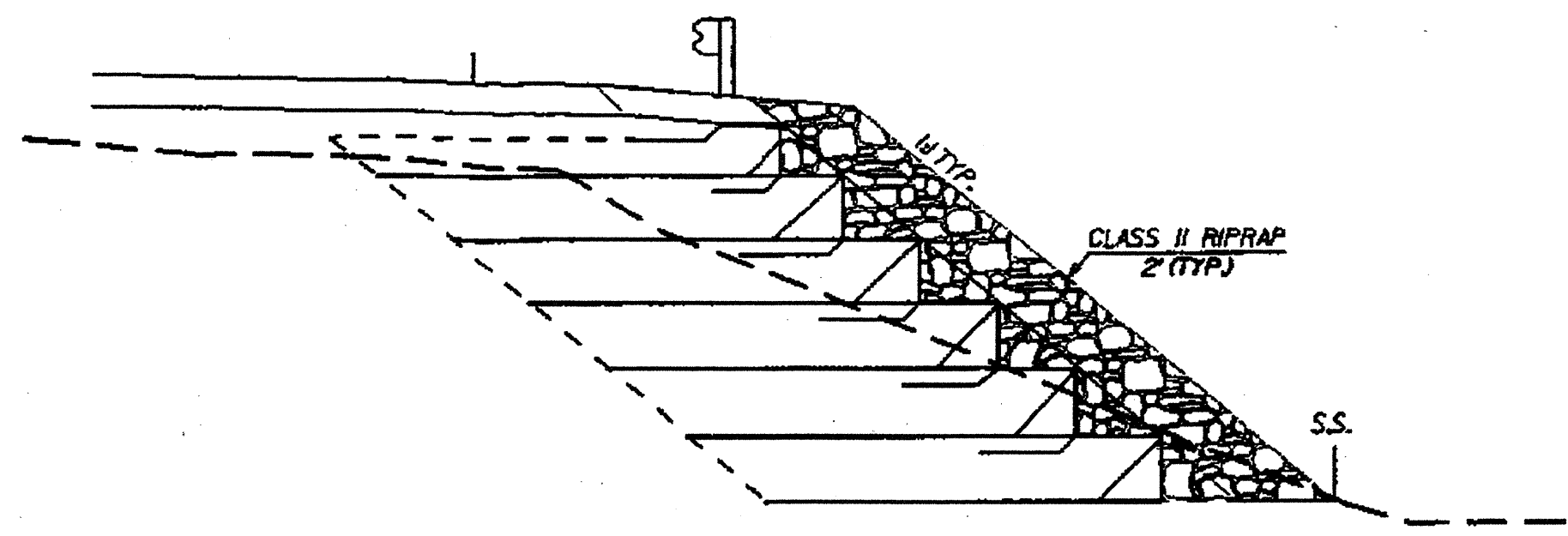
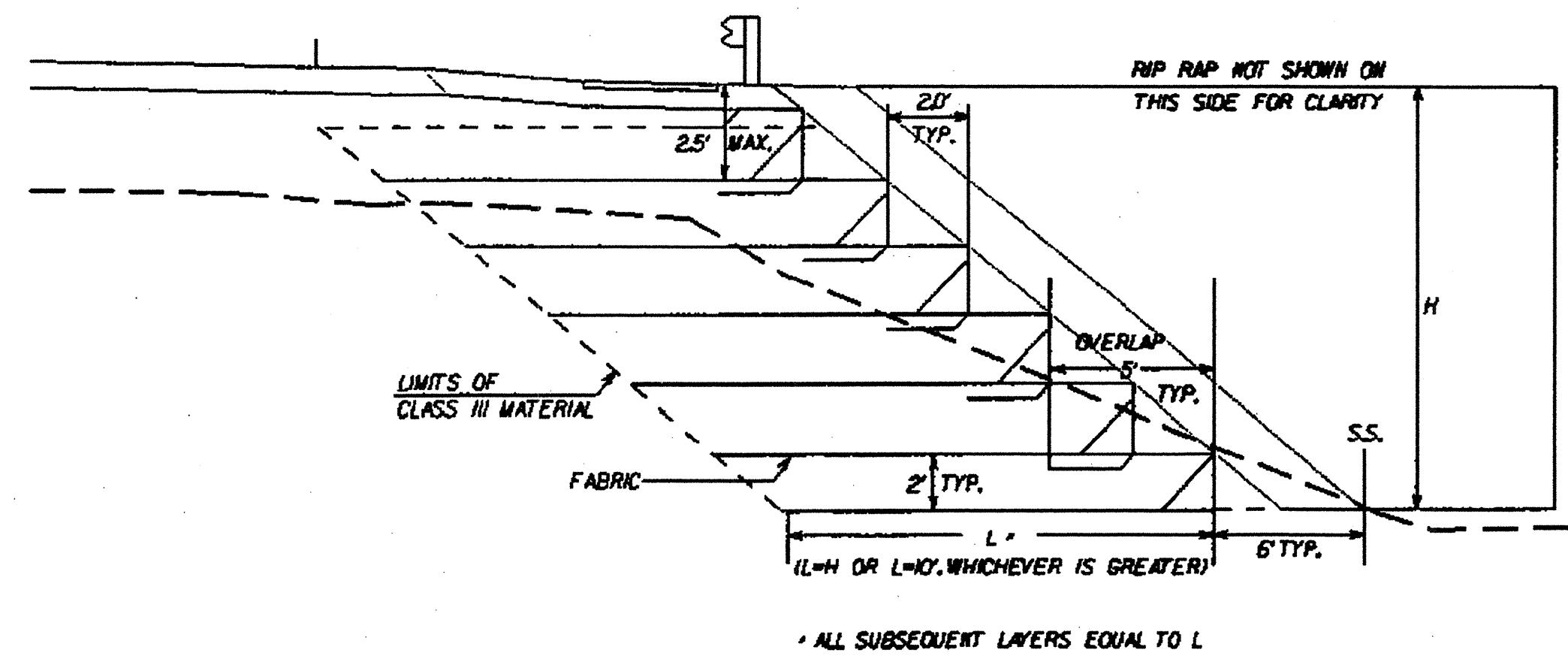
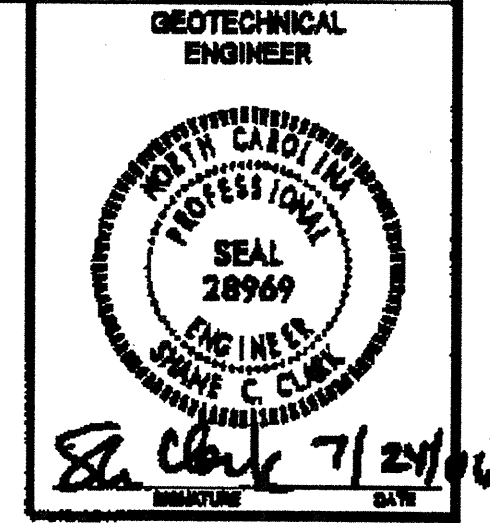
C1	PROP. APPROX. 2 1/2" ASPHALT CONCRETE SURFACE COURSE TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1 1/2" IN DEPTH.
C4	PROP. APPROX. 1 1/4" ASPHALT CONCRETE SURFACE COURSE TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2 1/2" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 3" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
J1	8" AGGREGATE BASE COURSE.
R1	2'-6" CONCRETE CURB AND GUTTER.
T	EARTH MATERIAL.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL FOR RESURFACING).

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

6/2/99

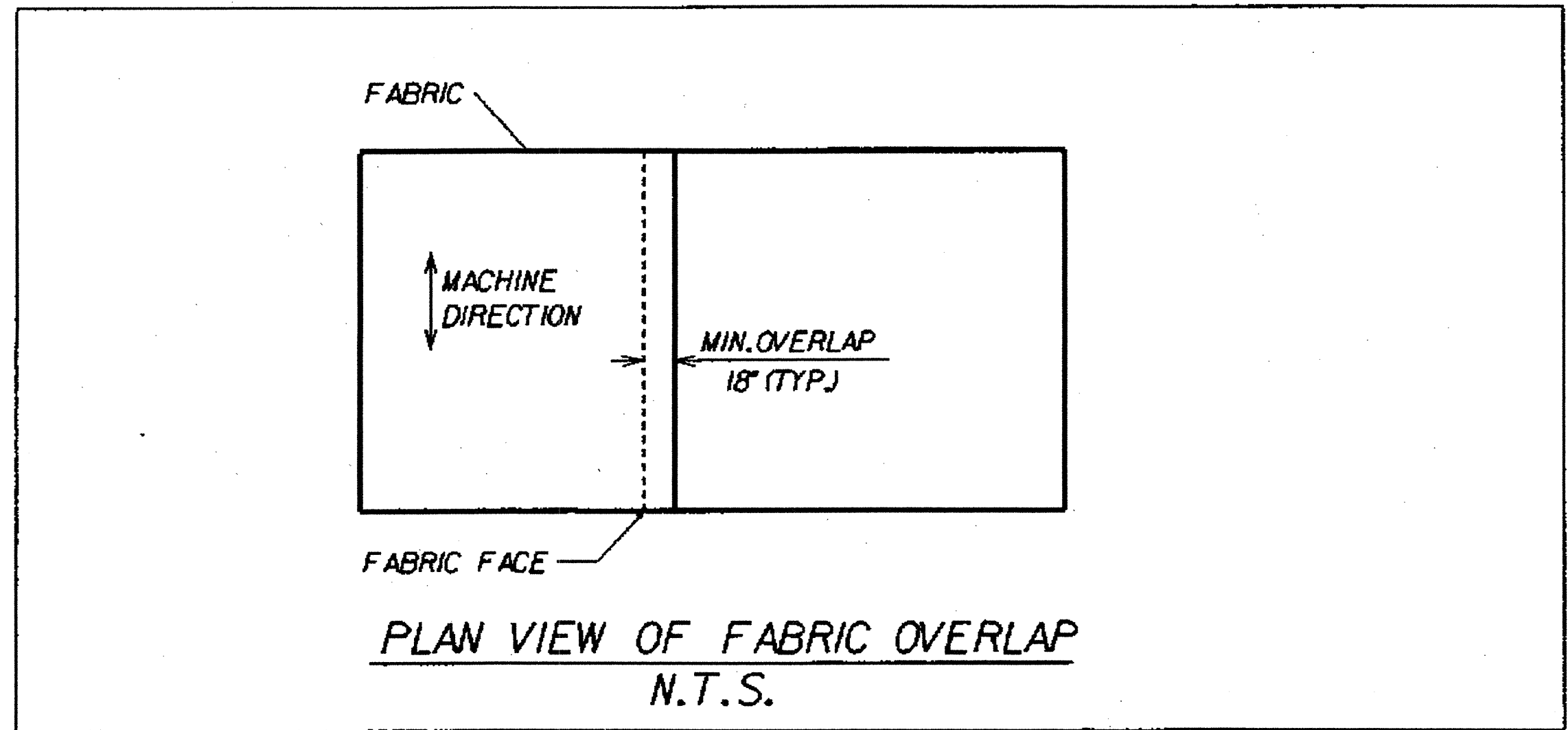
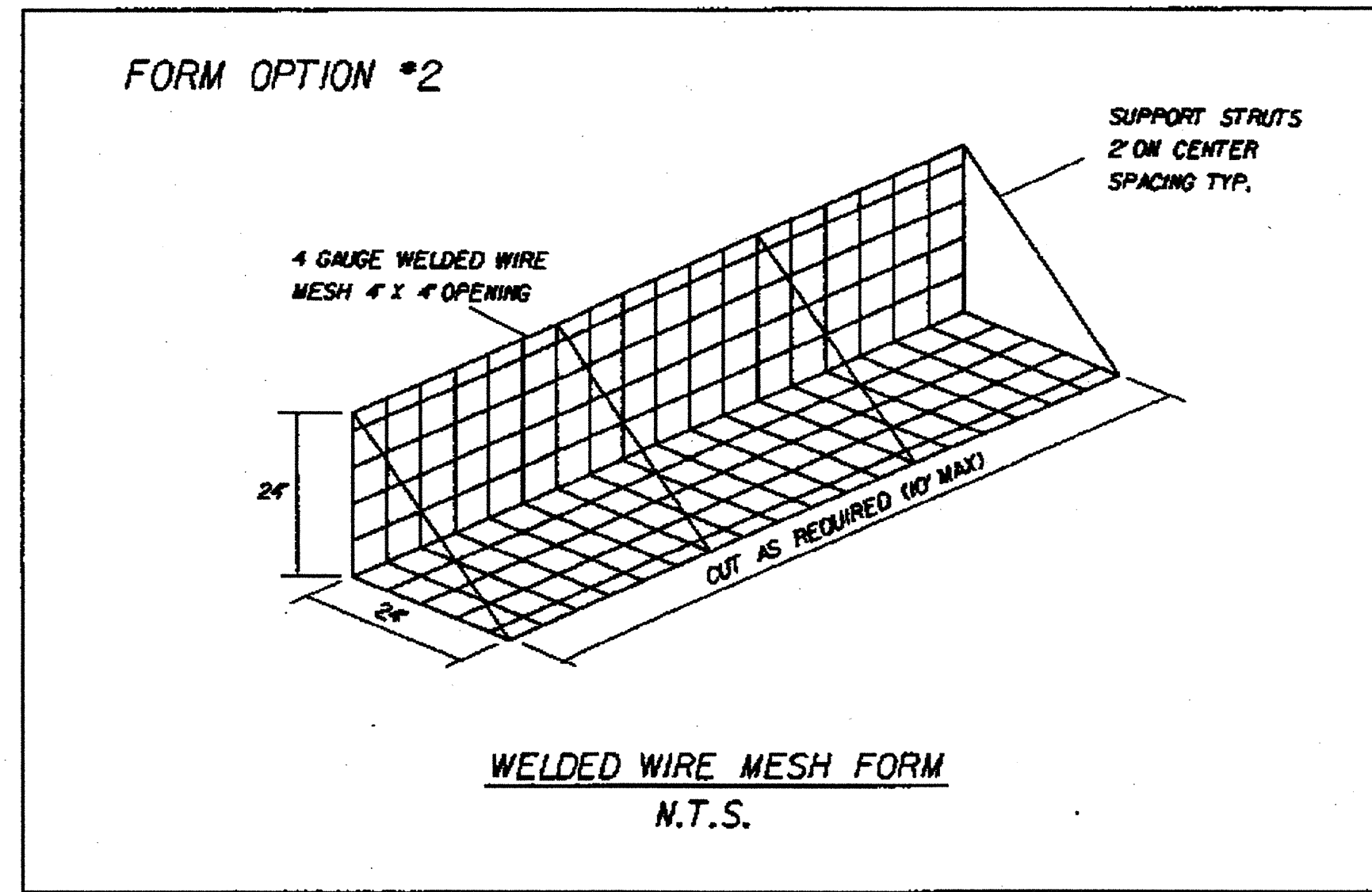
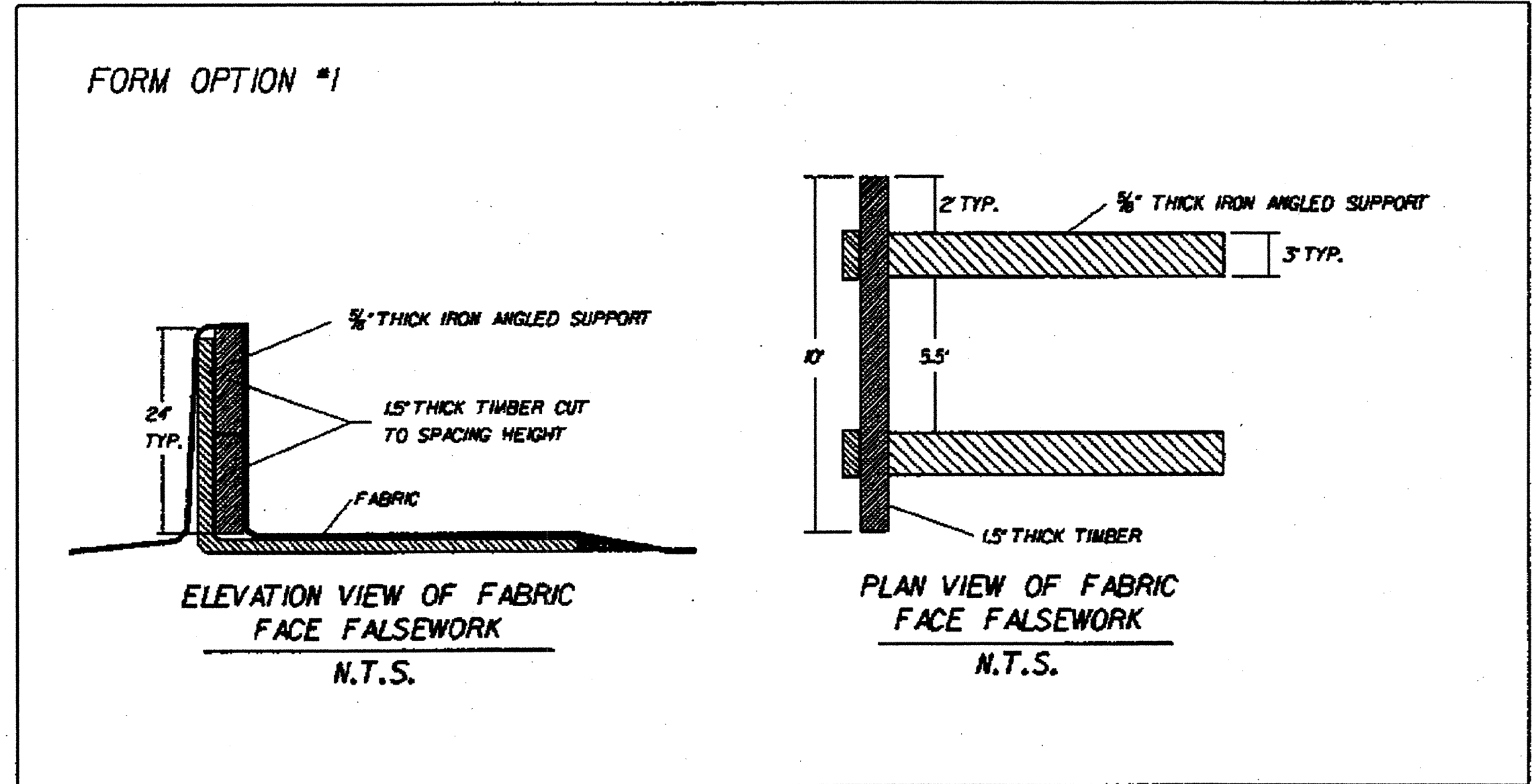






TYPICAL SECTION  
15+70 -L- TO 17+00 -L-  
N.T.S.

- NOTES:
1. THE FABRIC SHALL HAVE A MINIMUM WIDE WIDTH TENSILE STRENGTH OF 1000 LB/FT IN THE MACHINE DIRECTION (BASED ON ASTM-D4595) AT 5% ELONGATION AND A MINIMUM ULTIMATE WIDE WIDTH TENSILE STRENGTH OF 2200 LB/FT. IN THE MACHINE DIRECTION.
  2. FOR REINFORCED SLOPE, SEE SPECIAL PROVISIONS.
  3. LOCATIONS AND QUANTITIES PROVIDED ARE ONLY APPROXIMATE. EXACT LOCATIONS AND QUANTITIES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
  4. THE REINFORCED SLOPE SHALL BE BENCHED INTO THE SIDE OF THE EXCAVATION WHERE APPLICABLE AND AS DIRECTED BY THE ENGINEER.
  5. SELECT MATERIAL SHALL BE CLASS III IN ACCORDANCE WITH SECTION 106 OF THE NCDOT STANDARD SPECIFICATIONS.
  6. THE CONTRACTOR MAY ELECT TO USE A FORMING SYSTEM TO CONSTRUCT THE FABRIC FACE OTHER THAN THE FALSEWORK OR WIRE MESH FORM OPTIONS SHOWN IN THESE PLANS, HOWEVER, THE ALTERNATE METHOD MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.
  7. LAYERS OF FABRIC MAY NEED TO BE ADDED OR SUBTRACTED AT THE TOP OF THE SLOPE AS THE EMBANKMENT HEIGHT VARIES THROUGH THE REINFORCED SECTION.
  8. UNCLASSIFIED EXCAVATION TO BE PAID FOR WILL BE THE ACTUAL NUMBER OF CUBIC YARDS OF EXCAVATED MATERIAL TO THE LIMITS OF THE REINFORCEMENT SHOWN AND ACCORDING TO SECTION 225-3 OF THE NCDOT STANDARDS SPECIFICATIONS.



ESTIMATED QUANTITIES

PLAIN RIP RAP, CLASS II	150 TONS
FABRIC FOR REINFORCED SLOPE	1000 SQ.YDS.
SELECT MATERIAL CLASS III	375 CU.YDS.

GEOTECHNICAL ENGINEERING UNIT  
 EASTERN REGIONAL OFFICE  
 WESTERN REGIONAL OFFICE

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

REINFORCED SLOPE

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		



5/28/99

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C200807

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# SUMMARY OF QUANTITIES

ItemNumber	Sec #	Quantity	Unit	Description
000010000-N	800	Lump Sum		MOBILIZATION
002200000-E	225	3,800	CY	UNCLASSIFIED EXCAVATION
002900000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (15+25.00)
005000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING
006300000-N	SP	Lump Sum		GRADING
013400000-E	240	20	CY	DRAINAGE DITCH EXCAVATION
023400000-E	SP	375	CY	GENERIC GRADING ITEM SELECT MATERIAL, CLASS III
024100000-E	SP	1,000	SY	GENERIC GRADING ITEM FABRIC FOR REINFORCED SLOPE
025500000-E	SP	150	TON	GENERIC GRADING ITEM PLAIN RIP RAP, CLASS II
031800000-E	300	120	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRS
034300000-E	310	28	LF	15" SIDE DRAIN PIPE
037200000-E	310	40	LF	18" RC PIPE CULVERTS, CLASS III
070800000-E	310	60	LF	15" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK
071400000-E	310	24	LF	18" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK
080600000-E	310	2	EA	15" BIT COAT CS PIPE ELBOWS, TYPE B 0.064" THICK
080700000-E	310	2	EA	18" BIT COAT CS PIPE ELBOWS, TYPE B 0.064" THICK
099500000-E	340	24	LF	PIPE REMOVAL
112100000-E	520	180	TON	AGGREGATE BASE COURSE
122000000-E	545	200	TON	INCIDENTAL STONE BASE
148900000-E	610	270	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
149800000-E	610	320	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B
152500000-E	610	275	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
156000000-E	620	45	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
200000000-N	806	14	EA	RIGHT OF WAY MARKERS
228600000-N	840	9	EA	MASONRY DRAINAGE STRUCTURES
236600000-N	840	2	EA	FRAME WITH TWO GRATES, STD 840.24
236700000-N	840	2	EA	FRAME WITH TWO GRATES, STD 840.29
237400000-N	840	1	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (E)
237400000-N	840	3	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)
239600000-N	840	1	EA	FRAME WITH COVER, STD 840.54
254900000-E	846	345	LF	2'-6" CONCRETE CURB & GUTTER
255600000-E	846	70	LF	SHOULDER BERM GUTTER
261200000-E	848	10	SY	6" CONCRETE DRIVEWAY
303000000-E	862	237.5	LF	STEEL BM GUARDRAIL
315000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
327000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
331700000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE B-77
350300000-E	866	220	LF	WOVEN WIRE FENCE, 47" FABRIC
350900000-E	866	14	EA	4" TIMBER FENCE POSTS, 7'-6" LONG
351500000-E	866	3	EA	5" TIMBER FENCE POSTS, 8'-0" LONG
364900000-E	876	5	TON	RIP RAP, CLASS B
365600000-E	876	20	SY	FILTER FABRIC FOR DRAINAGE
365900000-N	SP	1	EA	PREFORMED SCOUR HOLES WITH LEVEL SPREADER APRON
440000000-E	1110	274	SF	WORK ZONE SIGNS (STATIONARY)
441000000-E	1110	70	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
444500000-E	1145	56	LF	BARRICADES (TYPE III)
481000000-E	1205	5,000	LF	PAINT PAVEMENT MARKING LINES (4")

ItemNumber	Sec #	Quantity	Unit	Description
532560000-E	1510	709	LF	6" WATER LINE
532660000-E	1510	459	LF	16" WATER LINE
554000000-E	1515	1	EA	6" VALVE
555860000-E	1515	2	EA	16" VALVE
567200000-N	1515	1	EA	RELOCATE FIRE HYDRANT
580200000-E	1530	229	LF	ABANDON 10" UTILITY PIPE
581000000-E	1530	453	LF	ABANDON 16" UTILITY PIPE
581600000-N	1530	2	EA	ABANDON UTILITY MANHOLE
587140000-E	1550	198	LF	TRENCHLESS INSTALLATION OF 6" IN SOIL
587141000-E	1550	198	LF	TRENCHLESS INSTALLATION OF 6" NOT IN SOIL
587190000-E	1550	151	LF	TRENCHLESS INSTALLATION OF 16" IN SOIL
587191000-E	1550	152	LF	TRENCHLESS INSTALLATION OF 16" NOT IN SOIL
600000000-E	1605	710	LF	TEMPORARY SILT FENCE
600600000-E	1610	75	TON	STONE FOR EROSION CONTROL, CLASS A
600900000-E	1610	125	TON	STONE FOR EROSION CONTROL, CLASS B
601200000-E	1610	350	TON	SEDIMENT CONTROL STONE
601500000-E	1615	4	ACR	TEMPORARY MULCHING
601800000-E	1620	150	LB	SEED FOR TEMPORARY SEEDING
602100000-E	1620	0.75	TON	FERTILIZER FOR TEMPORARY SEEDING
602900000-E	SP	200	LF	SAFETY FENCE
603000000-E	1630	305	CY	SILT EXCAVATION
603600000-E	1631	355	SY	MATTING FOR EROSION CONTROL
603800000-E	SP	125	SY	PERMANENT SOIL REINFORCEMENT MAT
604200000-E	1632	160	LF	1/4" HARDWARE CLOTH
607000000-N	SP	12	EA	SPECIAL STILLING BASINS
607103000-E	SP	125	LF	COIR FIBER BAFFLES

ItemNumber	Sec #	Quantity	Unit	Description
608400000-E	1660	2.5	ACR	SEEDING & MULCHING
608700000-E	1660	2.5	ACR	MOWING
609000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
609300000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
609600000-E	1662	100	LB	SEED FOR SUPPLEMENTAL SEEDING
610800000-E	1665	3	TON	FERTILIZER TOPDRESSING
611400000-N	SP	2	HR	SPECIALIZED HAND MOWING
611700000-N	SP	8	EA	RESPONSE FOR EROSION CONTROL
***** BEGIN SCHEDULE AA ***** ***** (3 ALTERNATES) *****				
036600000-E AA1	310	504	LF	15" RC PIPE CULVERTS, CLASS III
*** OR ***				
036600000-E AA2	310	392	LF	15" RC PIPE CULVERTS, CLASS III
053600000-E AA2	SP	112	LF	**** HDPE PIPE CULVERTS (15")
*** OR ***				
036600000-E AA3	310	392	LF	15" RC PIPE CULVERTS, CLASS III
054000000-E AA3	SP	112	LF	**** ALUMINIZED CORRUGATED STEEL PIPE CULVERTS, **** THICK (15", 0.064")
***** END SCHEDULE AA *****				

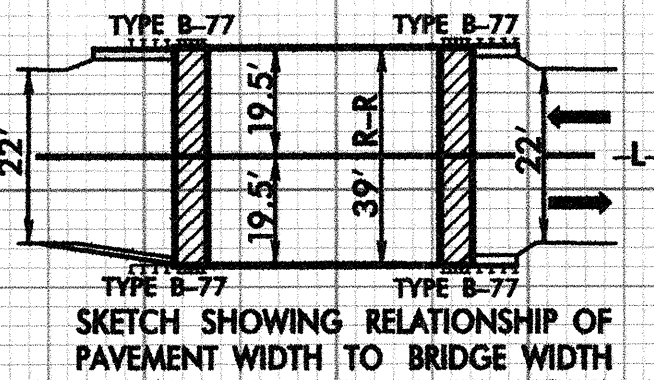
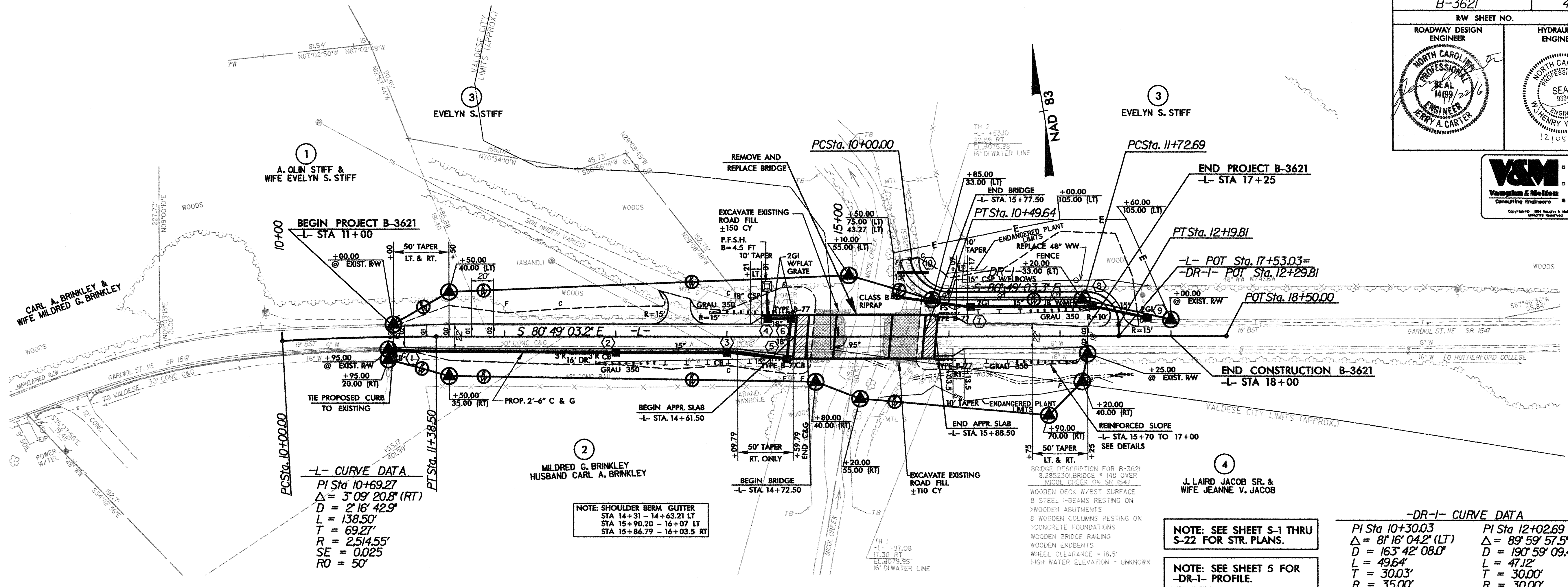
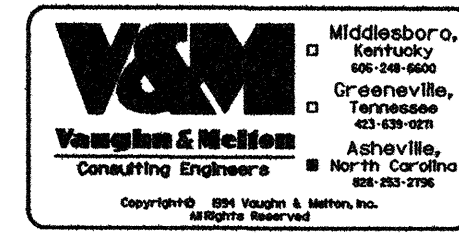
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 PROJECT NO. B-3621  
 SHEET NO. 3  
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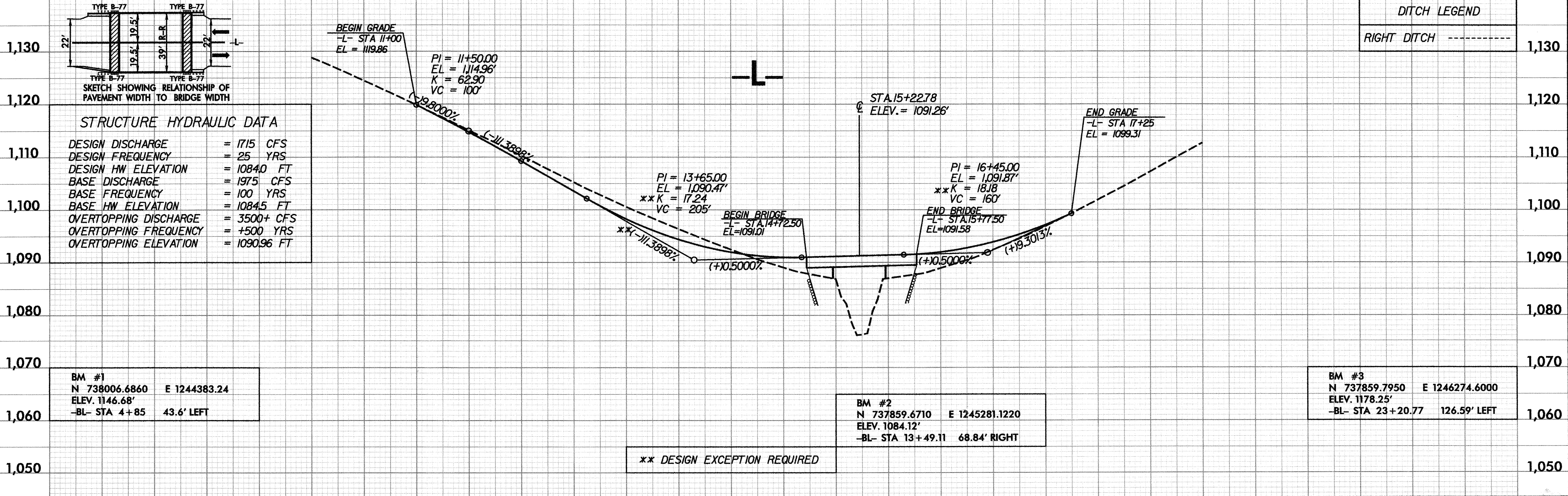






STRUCTURE HYDRAULIC DATA	
DESIGN DISCHARGE	= 1715 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 1084.0 FT
BASE DISCHARGE	= 1975 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 1084.5 FT
OVERTOPPING DISCHARGE	= 3500+ CFS
OVERTOPPING FREQUENCY	= +500 YRS
OVERTOPPING ELEVATION	= 1090.96 FT

DITCH LEGEND	
RIGHT DITCH	-----



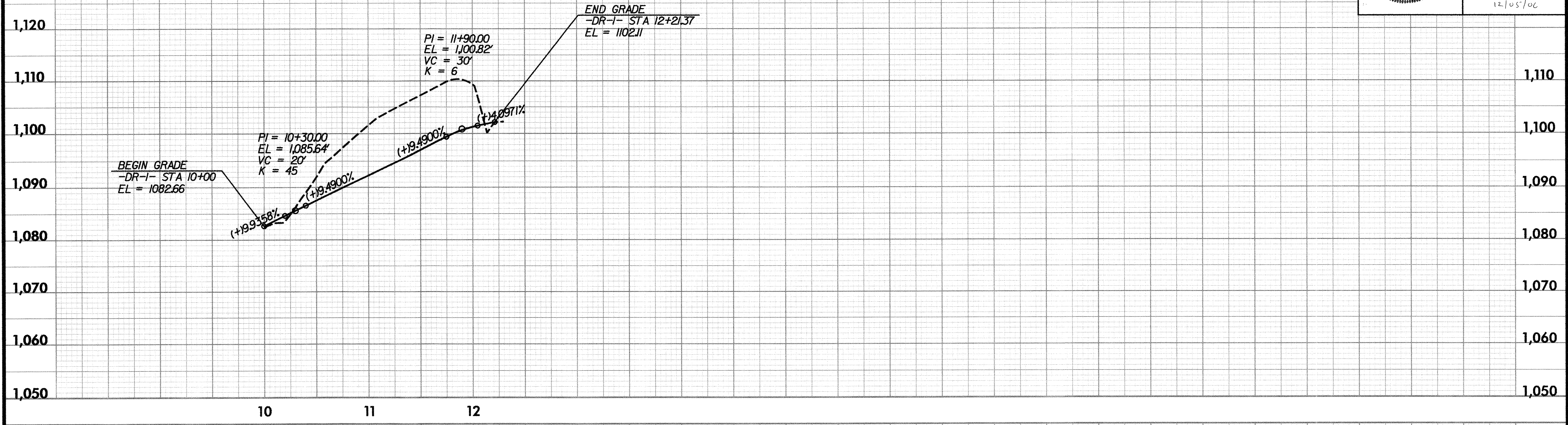
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5/28/99

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PROJECT REFERENCE NO. B-3621	SHEET NO. 5
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 

5/28/99