

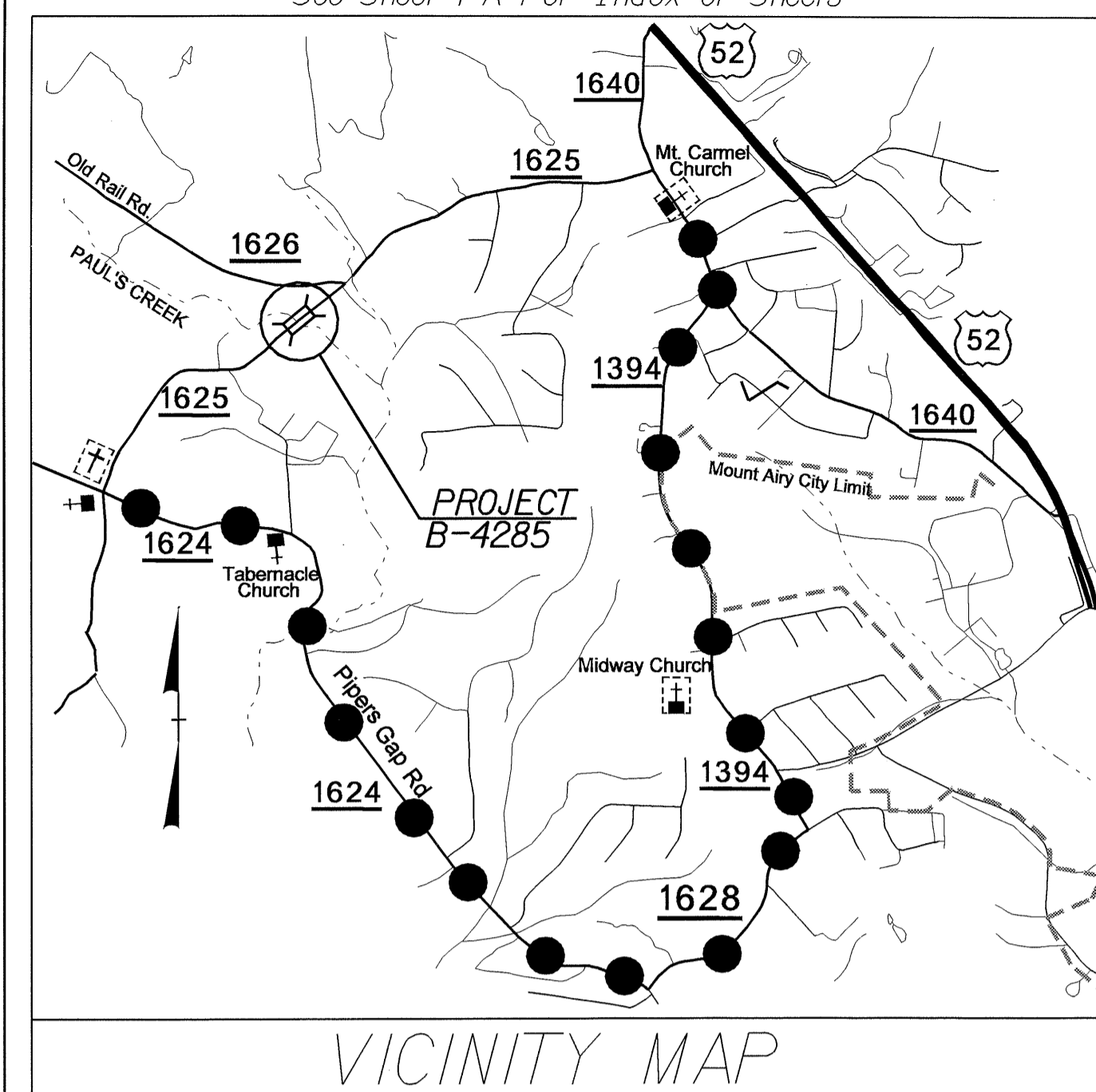
09/08/09

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\$\$\$\$\$USERNAME\$\$\$\$\$

TIP PROJECT: B-4285

CONTRACT: C201816

See Sheet 1-A For Index of Sheets



VICINITY MAP

THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.  
OFFSITE DETOUR

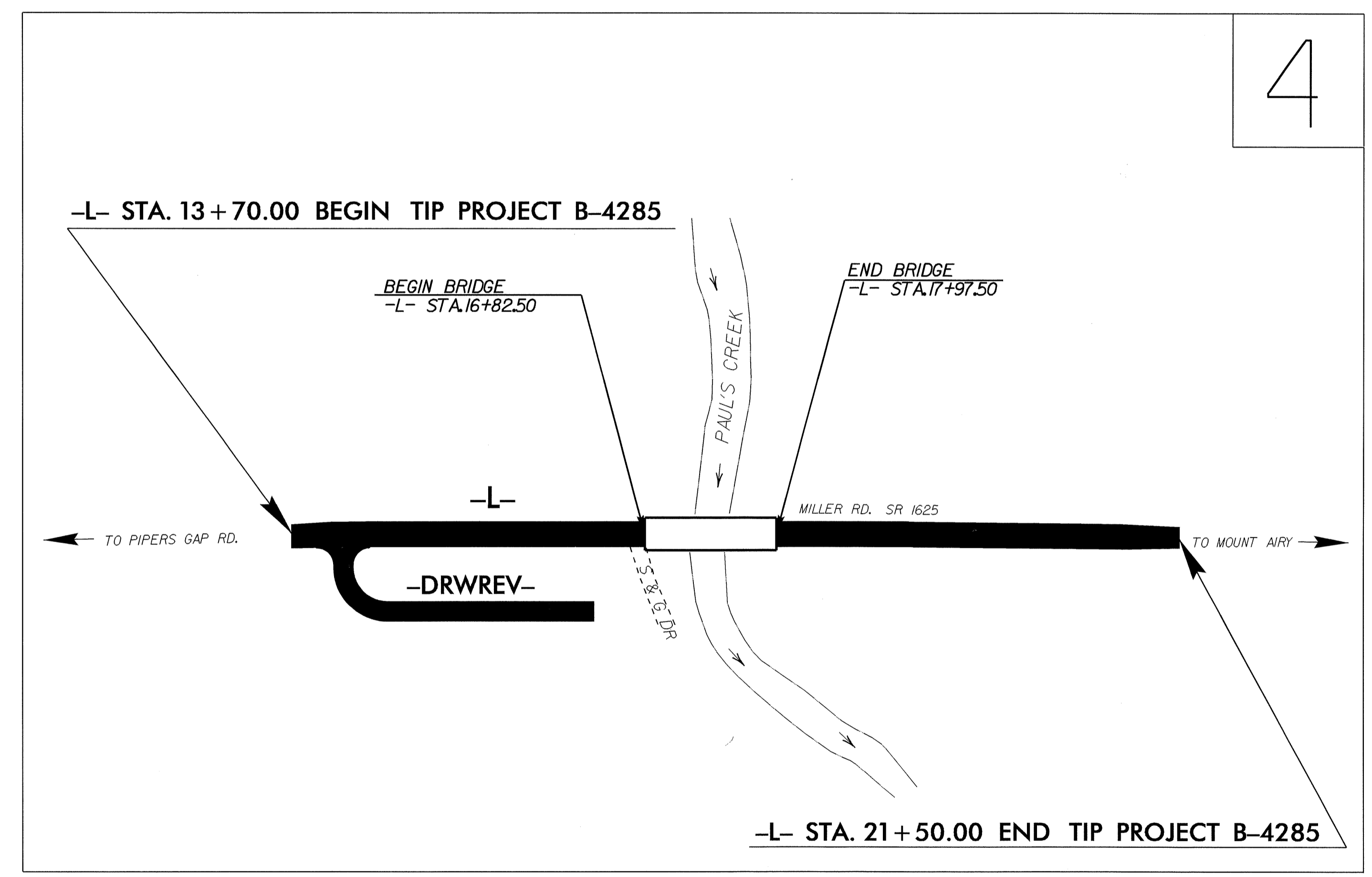
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# SURRY COUNTY

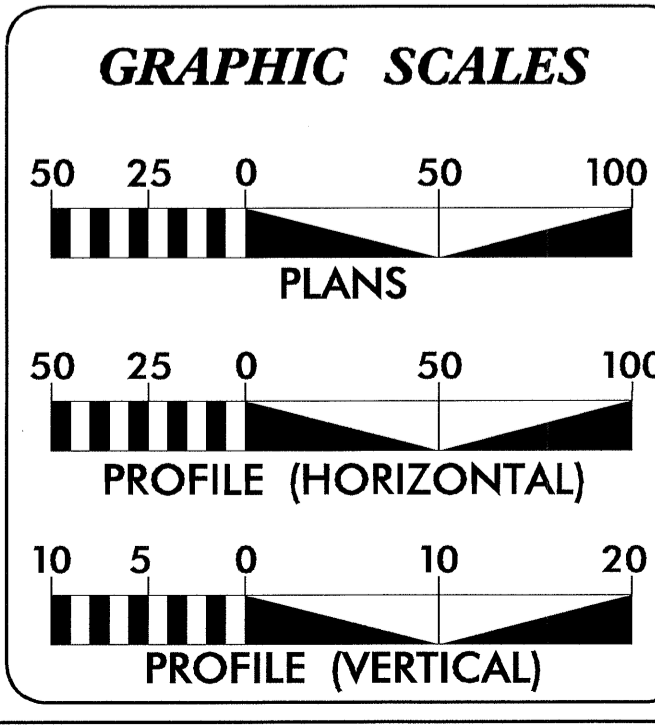
LOCATION: BRIDGE NO. 221 OVER PAUL'S CREEK ON  
SR 1625

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4285	1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
33624.1.1	BRZ-1625(2)	P.E.	
33624.2.1	BRZ-1625(2)	RW, UTIL.	
33624.3.1	BRZ-1625(2)	CONST.	



\*\* DESIGN EXCEPTION REQUIRED FOR SAG VERTICLE CURVES.



DESIGN DATA

ADT 2008 =	1,046
ADT 2025 =	1,400
DHV =	12 %
D =	60 %
T =	4 %*
V =	60 MPH**
* TTST 1% DUAL 3%	
FUNCTIONAL CLASS =	RURAL LOCAL

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4285	=	0.126 MILES
LENGTH OF STRUCTURE TIP PROJECT B-4285	=	0.022 MILES
TOTAL LENGTH OF TIP PROJECT B-4285	=	0.148 MILES

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

2006 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: APRIL 25, 2007	<b>G.E. BREW, PE</b> PROJECT ENGINEER
LETTING DATE: December 16, 2008	<b>D. WILLIAMS</b> PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER  
 SEAL 12575  
 SIGNATURE: [Signature]  
 ROADWAY DESIGN ENGINEER  
 SEAL 18903  
 SIGNATURE: [Signature]  
 1-15-08

DIVISION OF HIGHWAYS  
 STATE OF NORTH CAROLINA

STATE DESIGN ENGINEER  
 DEPARTMENT OF TRANSPORTATION  
 FEDERAL HIGHWAY ADMINISTRATION

APPROVED  
 DIVISION ADMINISTRATOR  
 DATE

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# INDEX OF SHEETS



GENERAL NOTES: 2006 SPECIFICATIONS  
EFFECTIVE: 07-18-06  
REVISED: 07-18-06

EFF. 07-18-06  
REV. 01-02-07

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.

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.

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 Embarq

Surry-Yadkin EMC

**Embarq**

Cable TV

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

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

2006 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 18, 2006 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 Superlevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation - Method 'A'
DIVISION 4 - MAJOR STRUCTURES	
422.10	Reinforced Bridge Approach Fills
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
816.04	Markers for Drainage Structure and Concrete Pad
840.00	Concrete Base Pad for Drainage Structures
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
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drainage Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
862.04	Anchoring End of Guardrail - B-77 and B-83 Anchor Units

Index Of Sheets

1	Title Sheet
1A	Index Of Sheets, General Notes, and List Of Standards
1B	Conventional Symbols
1C	Survey Control Sheet
2 And 2A	Typical Sections
3	Summary of Quantities
3A	Summary of Drainage Quantities
3B	Summary of Guardrail Quantities
3C	Summary of Earthwork
	Summary of Asphalt Pavement Removal
	Summary of Class B Stone and Filter Fabric For Drainage
	Summary of Shoulder Berm Gutter
3D	Parcel Index Sheet
4	Plan Sheet
5	Profile Sheet
TCP-1 Thru TCP-4	Traffic Control Plans
EC-1 Thru EC-5	Erosion Control Plans
RF-1	Reforestation Plans
UO-1 Thru UO-2	Utilities Conflict Plans By Others
X-1A	Cross Section Summary Sheet
X-1 Thru X-3	Cross Section Sheets
S-1 Thru S-20	Structure Plan Sheets

**Note: Not to Scale**

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

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# CONVENTIONAL PLAN SHEET SYMBOLS

**BOUNDARIES AND PROPERTY:**

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○
Property Corner	⊗
Property Monument	⊞
Parcel/Sequence Number	Ⓜ
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 High Quality Wetland Boundary	-----HQ WLB
Existing Endangered Animal Boundary	-----EAB
Existing Endangered Plant Boundary	-----EPB

**BUILDINGS AND OTHER CULTURE:**

Gas Pump Vent or U/G Tank Cap	○
Sign	⊙
Well	⊖
Small Mine	⊗
Foundation	▭
Area Outline	▭
Cemetery	⊕
Building	▭
School	▭
Church	▭
Dam	▭

**HYDROLOGY:**

Stream or Body of Water	-----
Hydro, Pool or Reservoir	▭
River Basin Buffer	-----RBB
Flow Arrow	←
Disappearing Stream	-----
Spring	○
Swamp Marsh	⋈
Proposed Lateral, Tail, Head Ditch	-----
False Sump	▭

**RAILROADS:**

Standard Gauge	-----
RR Signal Milepost	⊙
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 Utility Easement	-----PUE

**ROADS AND RELATED FEATURES:**

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-----C
Proposed Slope Stakes Fill	-----F
Proposed Wheel Chair Ramp	-----WCR
Curb Cut for Future Wheel Chair Ramp	-----CCFR
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	-----CONC
Bridge Wing Wall, Head Wall and End Wall	-----CONC WW
MINOR:	
Head and End Wall	-----CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	-----CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	⊙
Storm Sewer	-----S

**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	-----P
Designated U/G Power Line (S.U.E.*)	-----P

**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	-----T
Designated U/G Telephone Cable (S.U.E.*)	-----T
Recorded U/G Telephone Conduit	-----TC
Designated U/G Telephone Conduit (S.U.E.*)	-----TC
Recorded U/G Fiber Optics Cable	-----T FO
Designated U/G Fiber Optics Cable (S.U.E.*)	-----T FO

**WATER:**

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

**TV:**

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

**GAS:**

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

**SANITARY SEWER:**

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

**MISCELLANEOUS:**

Utility Pole	●
Utility Pole with Base	⊞
Utility Located Object	○
Utility Traffic Signal Box	⊞
Utility Unknown U/G Line	-----TUTL
U/G Tank; Water, Gas, Oil	▭
AG Tank; Water, Gas, Oil	▭
U/G Test Hole (S.U.E.*)	⊙
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

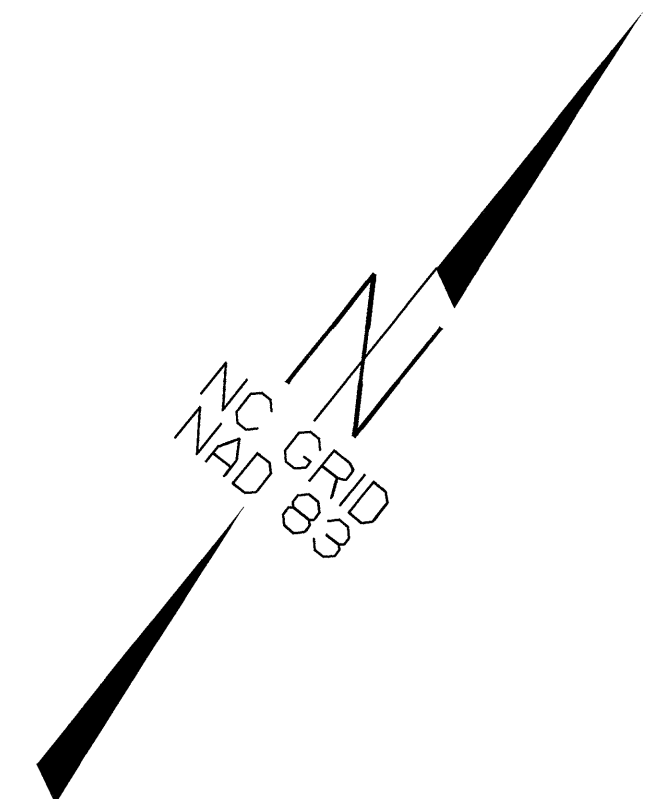
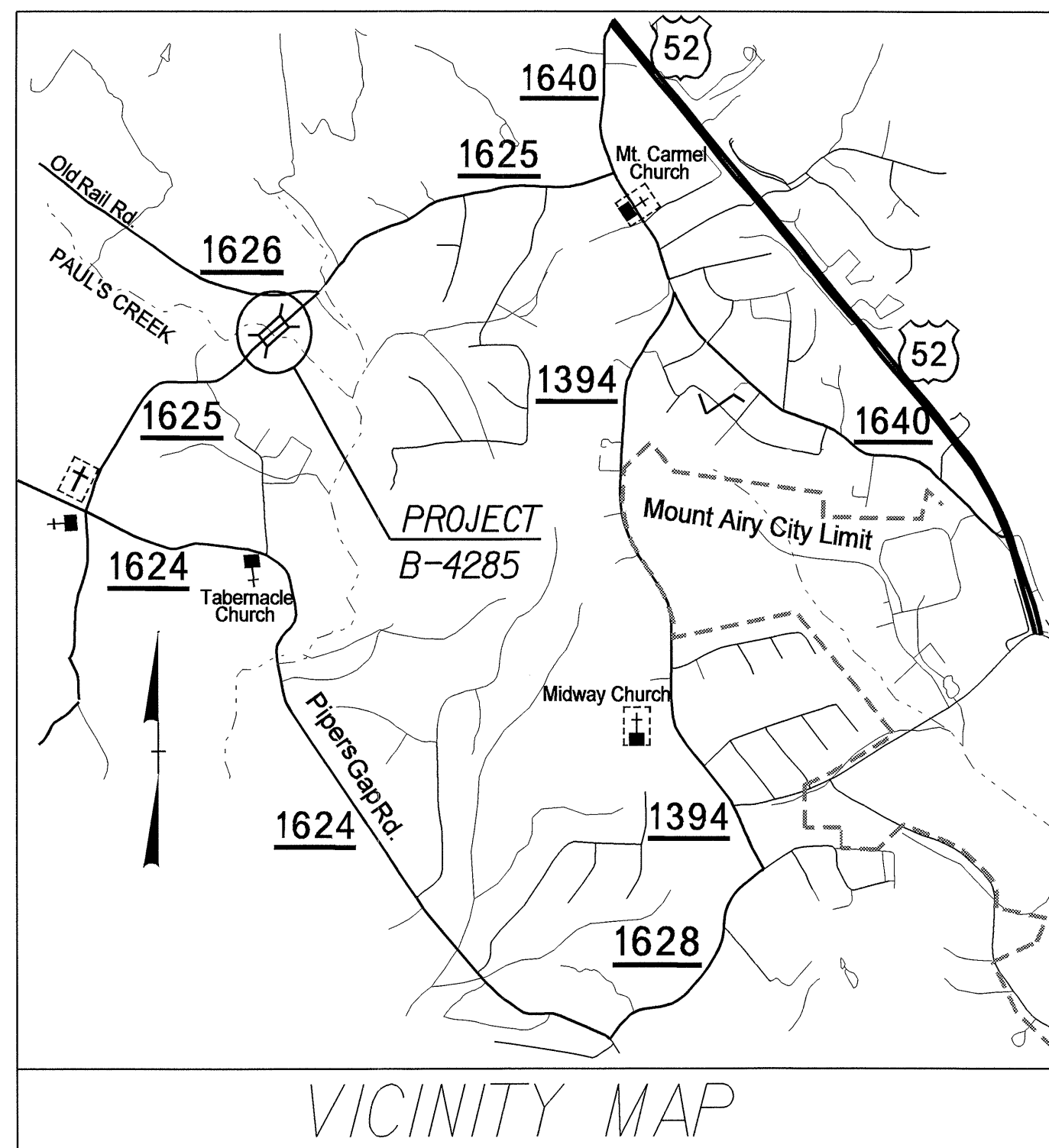


# SURVEY CONTROL SHEET B-4285

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
101	BL-101	1018494.8780	1510561.2713	1187.96'	10+03.51	13.60' LT
1	GPS B4285-1	1018831.3160	1511005.2490	1127.48'	15+60.11	12.81' RT
2	GPS B4285-2	1019365.2220	1511625.7340	1130.89'	23+78.08	18.71' LT
102	BL-102	1019587.5272	1511902.4117	1124.64'	27+32.99	14.26' RT

\*\*\*\*\*  
 BM #1 ELEVATION - 1210.34'  
 N 1018368. E 1510460.  
 OUTSIDE PROJECT LIMITS  
 R/R SPIKE IN BASE OF POWER POLE  
 RIGHT OF EXISTING CL OF MILLER RD.  
 \*\*\*\*\*

\*\*\*\*\*  
 BM #2 ELEVATION - 1127.13'  
 N 1019508. E 1511776.  
 L STATION 25+89 29' LEFT  
 R/R SPIKE IN BASE OF  
 DUKE POWER POLE \*(3D14)  
 LEFT OF CL OF MILLER RD.  
 \*\*\*\*\*

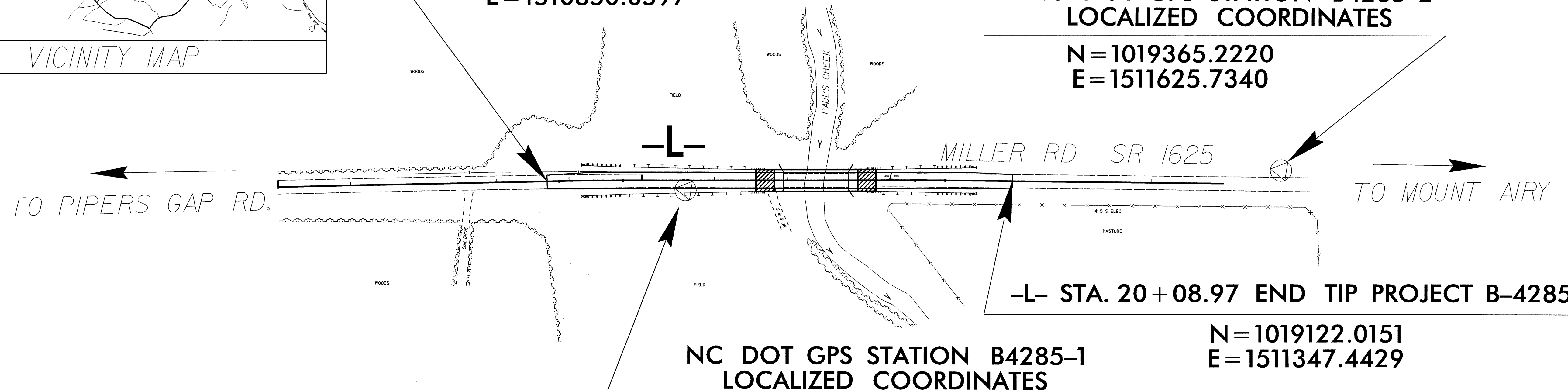


**-L- STA. 13+70.00 BEGIN TIP PROJECT B-4285**

**N = 1018720.9297  
 E = 1510850.0597**

**NC DOT GPS STATION B4285-2  
 LOCALIZED COORDINATES**

**N = 1019365.2220  
 E = 1511625.7340**



**-L- STA. 20+08.97 END TIP PROJECT B-4285**

**NC DOT GPS STATION B4285-1  
 LOCALIZED COORDINATES**

**N = 1018831.3160  
 E = 1511005.2490**

**N = 1019122.0151  
 E = 1511347.4429**

## DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4285-1" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 1018831.3160(ft) EASTING: 1511005.2490(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.000068370 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4285-1" TO -L- STATION 13+70.00 IS S 54°34'34.33" W DISTANCE 190.44'. 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.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project/)  
 THE FILES TO BE FOUND ARE AS FOLLOWS:  
**b4285\_LS\_CONTROL\_060214.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)

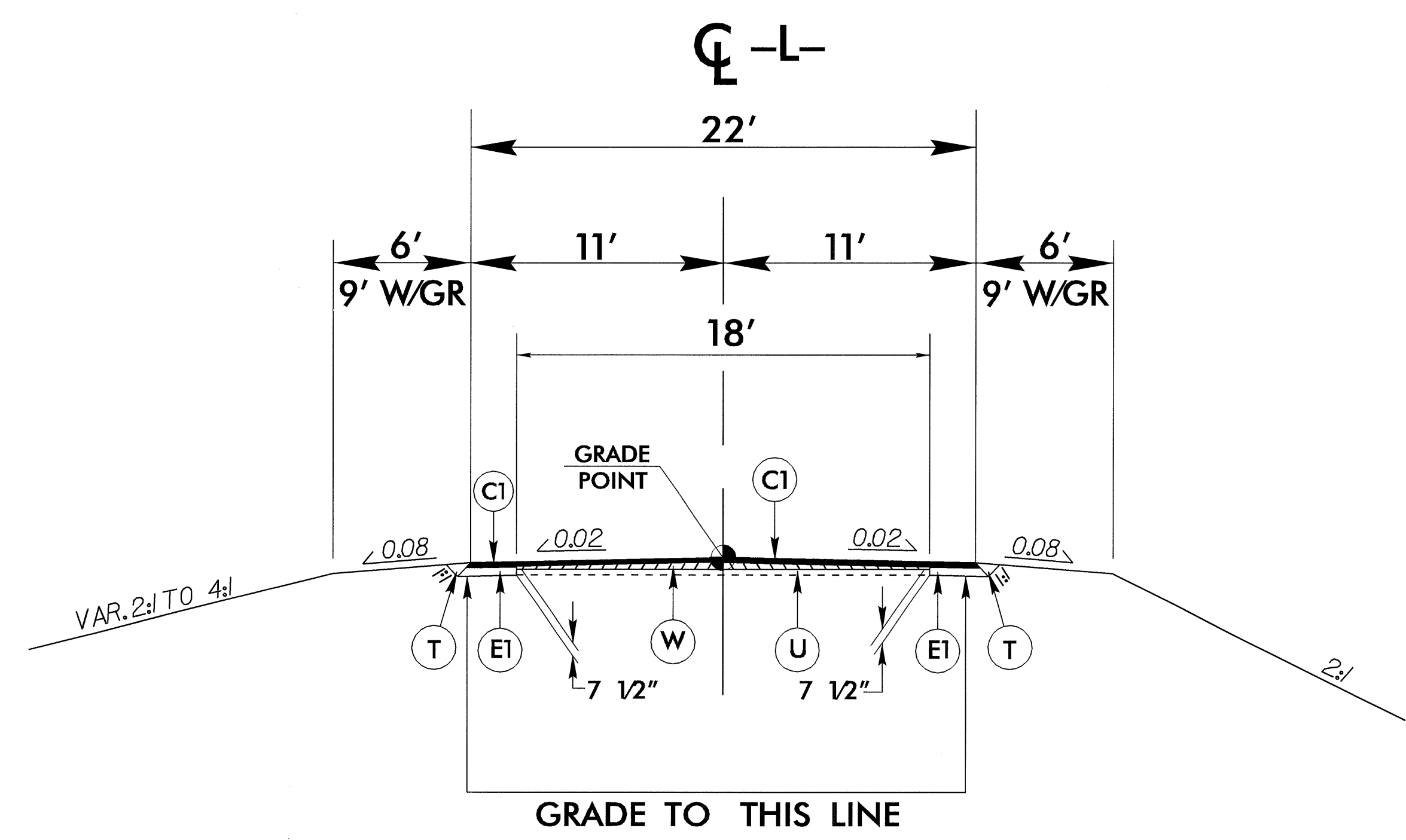
NOTE: DRAWING NOT TO SCALE

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FINAL PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2.5" 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. 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.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
J1	PROP. 6" AGGREGATE BASE COURSE
R1	SHOULDER BERM GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VARIABLE DEPTH ASPHALT PAVEMENT

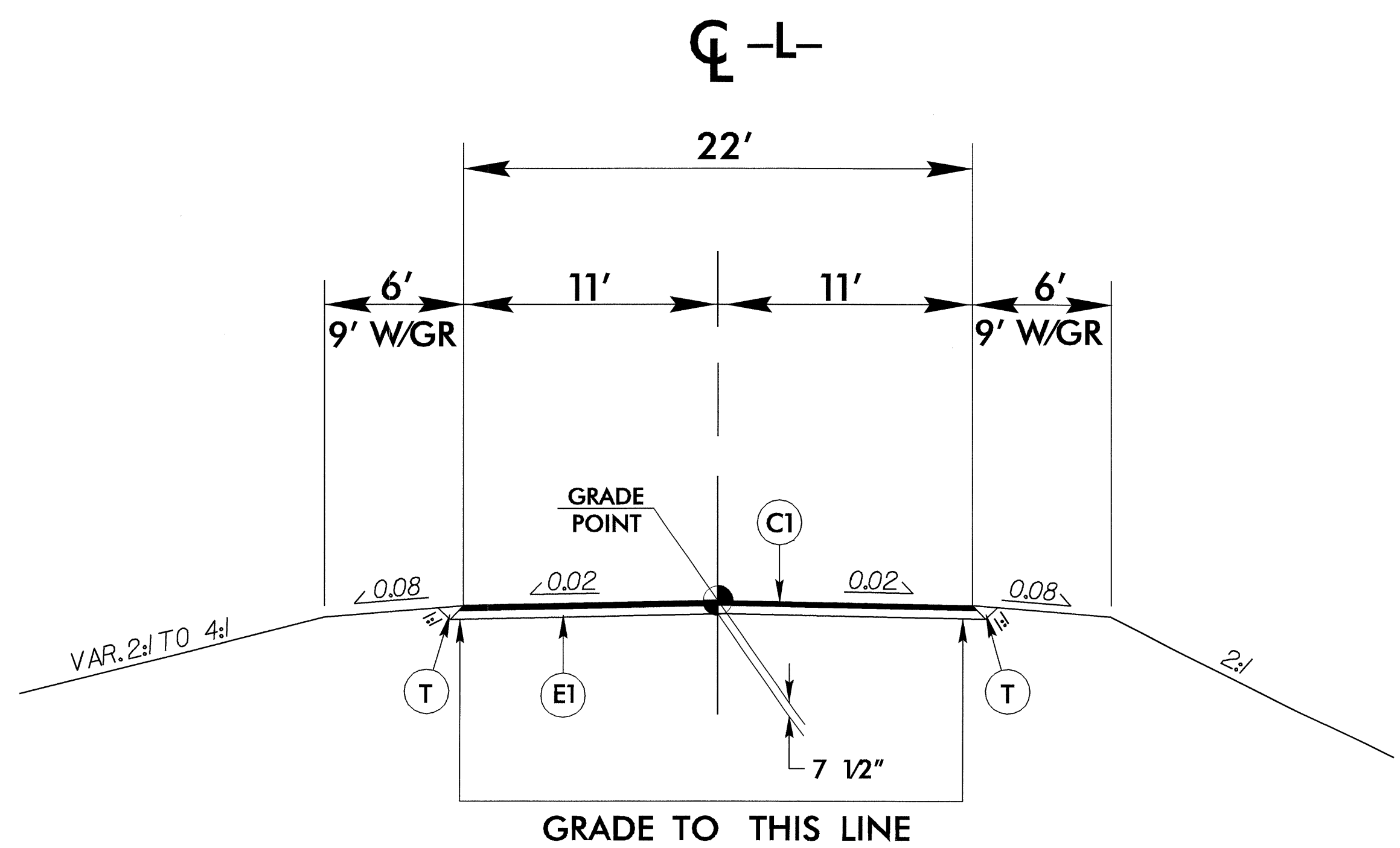
NOTE: ALL PAVEMENT SLOPES ARE 1:1 UNLESS OTHERWISE SHOWN.

### TYPICAL SECTION NO. 1

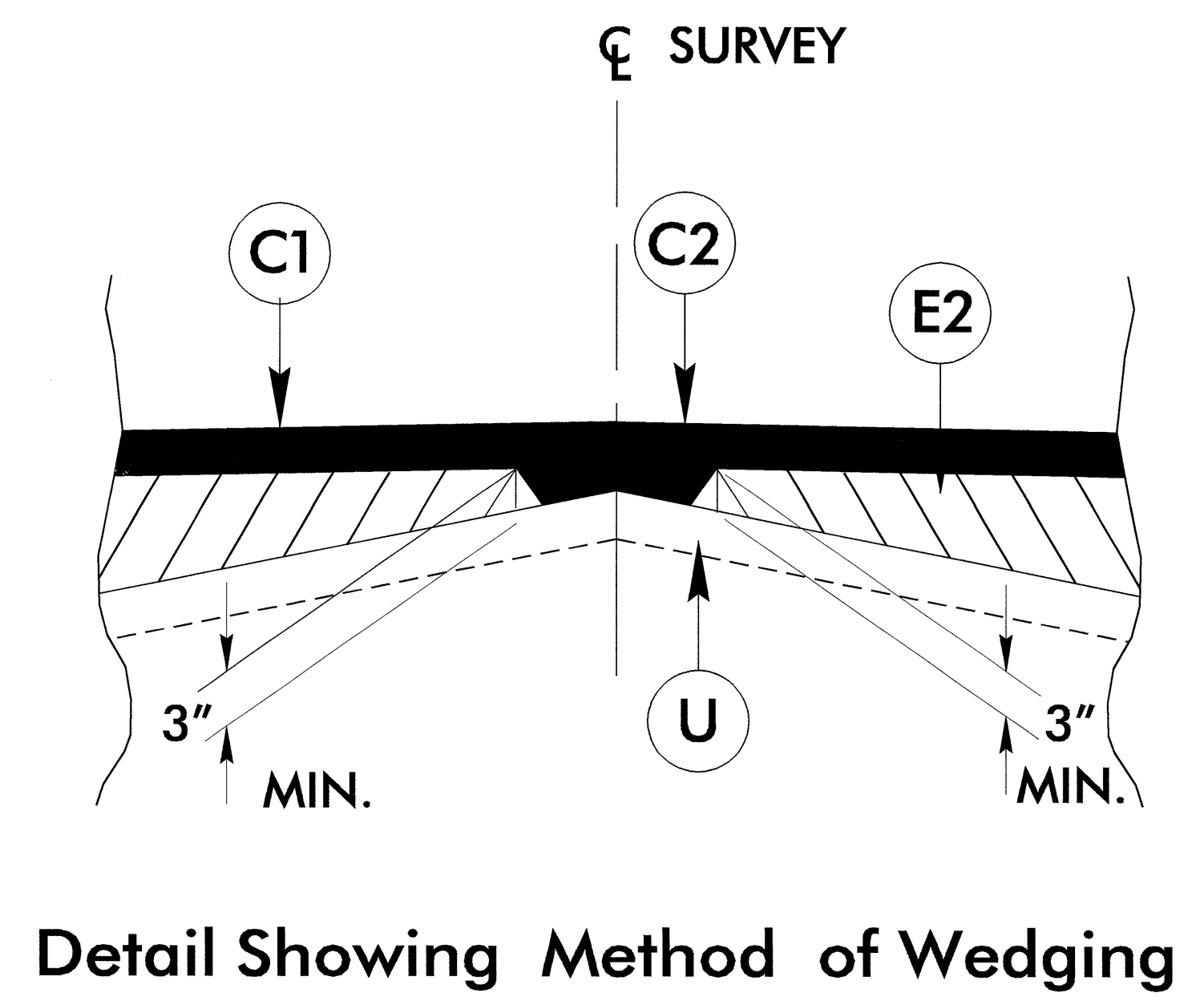


USE TYPICAL SECTION NO. 1  
 -L- STA. 13+70.00 TO 15+00.00  
 -L- STA. 18+47.50 TO 21+50.00

### TYPICAL SECTION NO. 2



USE TYPICAL SECTION NO. 2  
 -L- STA. 15+00.00 TO 16+82.50 (BEGIN BRIDGE)  
 -L- STA. 17+97.50 (END BRIDGE) TO 18+47.50

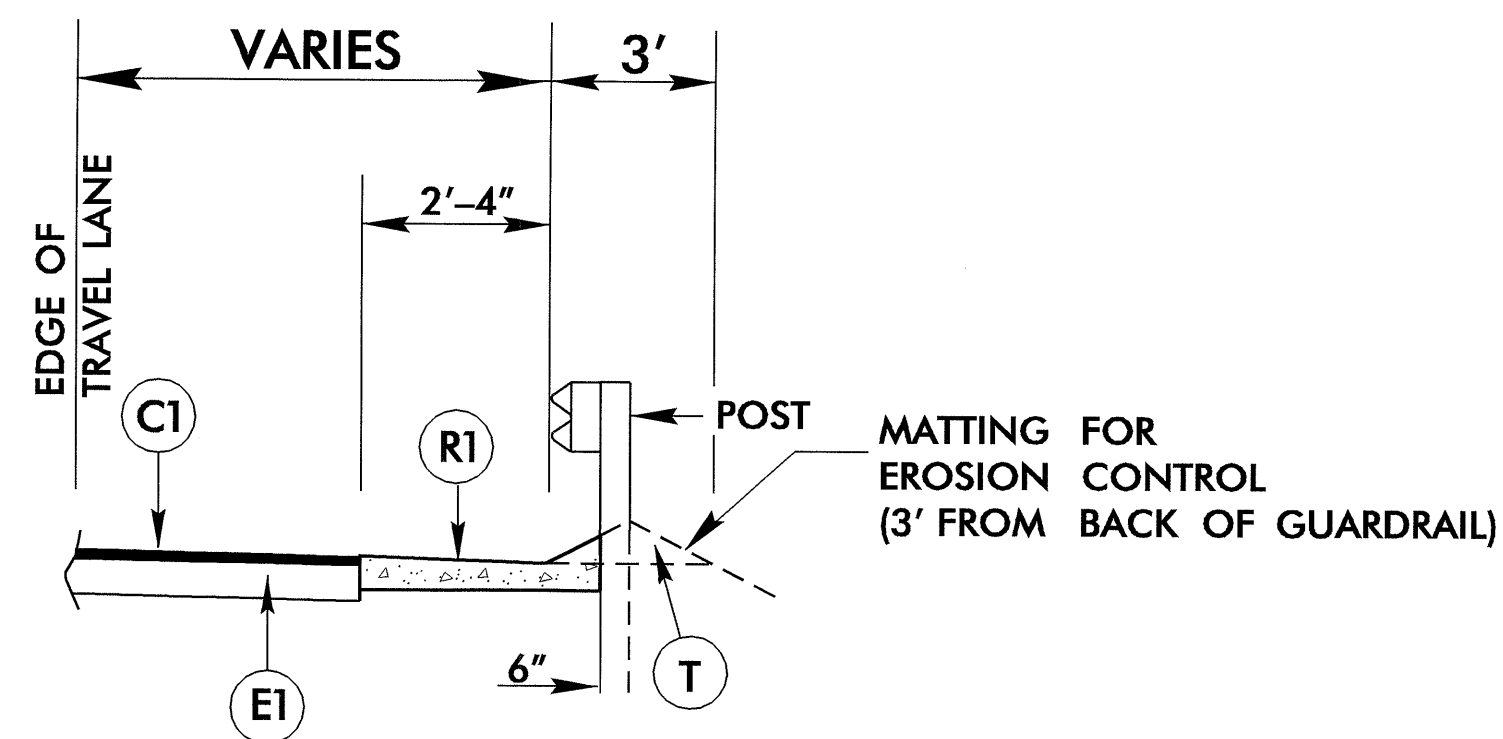


Detail Showing Method of Wedging

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**FINAL PAVEMENT SCHEDULE**

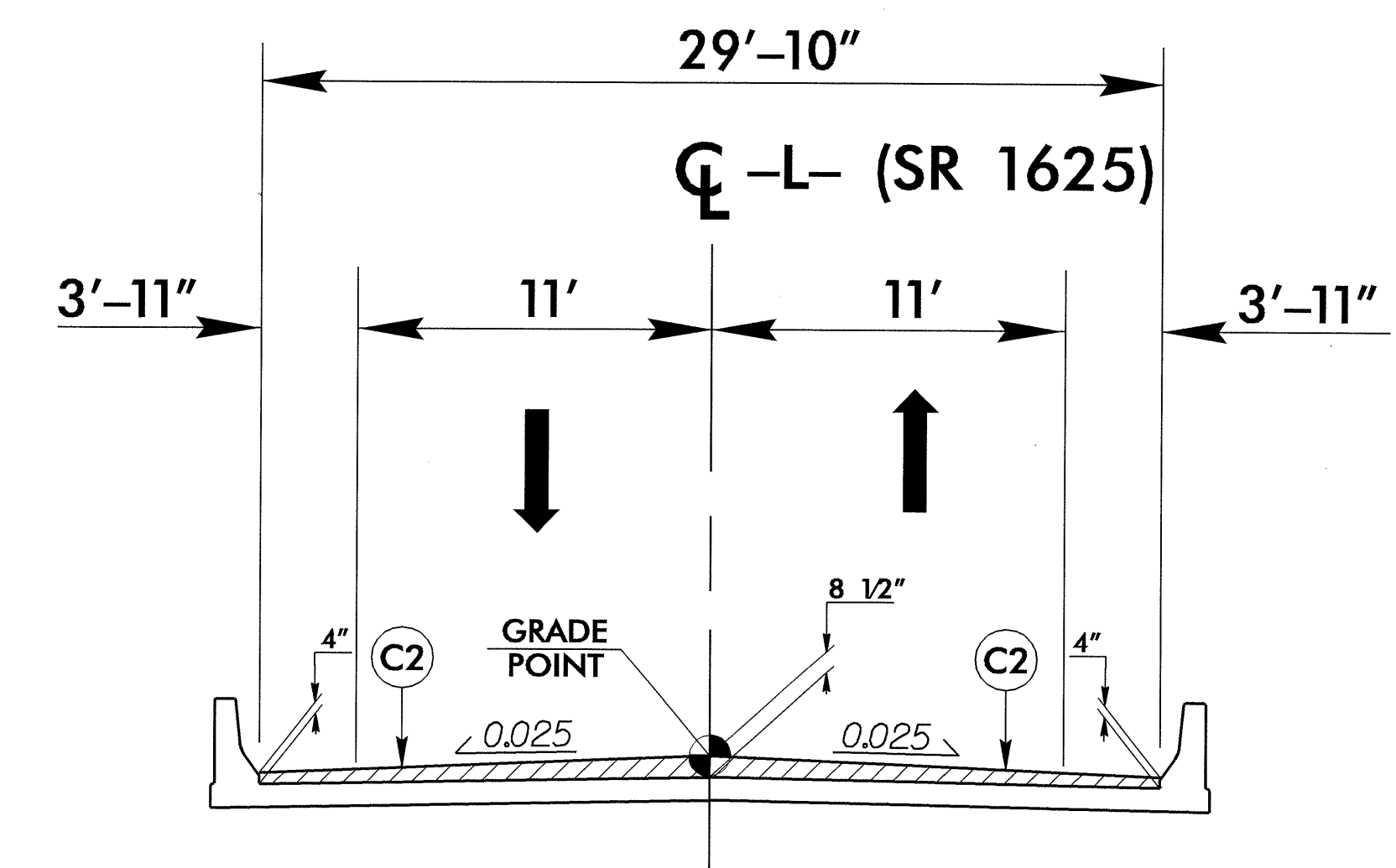
C1	2.5" SF9.5A
C2	VAR. DEPTH SF9.5A
E1	5" B25.0B
E2	VAR. DEPTH B25.0B
J1	6" AGGREGATE BASE COURSE
R1	SHOULDER BERM GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VAR. DEPTH ASPHALT PAVEMENT



**DETAIL SHOWING SHOULDER BERM GUTTER**

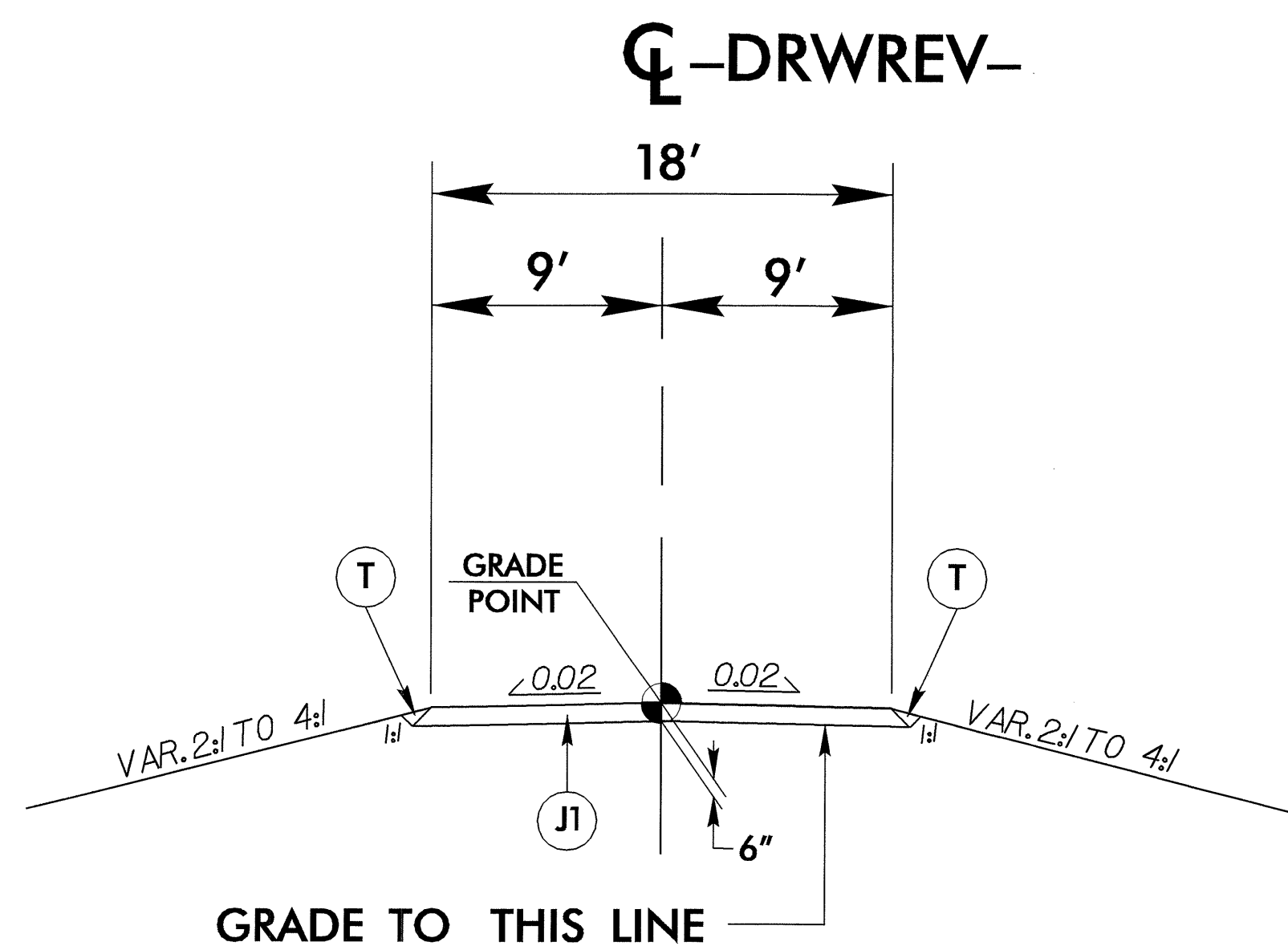
- L- STA. 14+92.00 TO 16+68.50 RIGHT
- L- STA. 15+85.00 TO 16+68.50 LEFT
- L- STA. 18+11.50 TO 18+90.00 LEFT
- L- STA. 18+11.50 TO 18+90.00 RIGHT

PROJECT REFERENCE NO. B-4285	SHEET NO. 2A
ROADWAY DESIGN ENGINEER GREGORY E. BREW SEAL 18903 1-15-08	PAVEMENT DESIGN ENGINEER CLARK S. MORRISON SEAL 22898 1-15-08



**TYPICAL SECTION ON BRIDGE**

- L- STA. 16+82.50 (BEGIN BRIDGE) TO
- L- STA. 17+97.50 (END BRIDGE)



**TYPICAL SECTION NO. 3**

**USE TYPICAL SECTION NO. 3**

-DRWREV- STA. 10+11.00 TO 12+75.00

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STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C201816

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 ***** (17+40.00)
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB- BING
0057000000-E	226	350	CY	UNDERCUT EXCAVATION
0134000000-E	240	20	CY	DRAINAGE DITCH EXCAVATION
0195000000-E	265	250	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	250	SY	FABRIC FOR SOIL STABILIZATION
0318000000-E	300	10	TON	FOUNDATION CONDITIONING MATE- RIAL, MINOR STRS
0366000000-E	310	32	LF	15" RC PIPE CULVERTS, CLASS III
0708000000-E	310	48	LF	15" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK
0806000000-E	310	4	EA	15" BIT COAT CS PIPE ELBOWS, TYPE B 0.064" THICK
1121000000-E	520	200	TON	AGGREGATE BASE COURSE
1220000000-E	545	50	TON	INCIDENTAL STONE BASE
1489000000-E	610	290	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1525000000-E	610	430	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
1560000000-E	620	41	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
2000000000-N	806	8	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

ItemNumber	Sec #	Quantity	Unit	Description
2077000000-E	815	6	LF	6" OUTLET PIPE (SUBDRAINS)
2286000000-N	840	3	EA	MASONRY DRAINAGE STRUCTURES
2367000000-N	840	3	EA	FRAME WITH TWO GRATES, STD 840.29
2556000000-E	846	240	LF	SHOULDER BERM GUTTER
3030000000-E	862	250	LF	STEEL BM GUARDRAIL
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
3270000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3317000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE B-77
3649000000-E	876	15	TON	RIP RAP, CLASS B
3656000000-E	876	375	SY	FILTER FABRIC FOR DRAINAGE
3659000000-N	SP	2	EA	PREFORMED SCOUR HOLES WITH LEVEL SPREADER APRON
4400000000-E	1110	452	SF	WORK ZONE SIGNS (STATIONARY)
4430000000-N	1130	10	EA	DRUMS
4435000000-N	1135	10	EA	CONES
4445000000-E	1145	80	LF	BARRICADES (TYPE III)
4810000000-E	1205	7,000	LF	PAINT PAVEMENT MARKING LINES (4")
6000000000-E	1605	260	LF	TEMPORARY SILT FENCE
6006000000-E	1610	75	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	115	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	145	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	1.5	ACR	TEMPORARY MULCHING
6018000000-E	1620	50	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	0.25	TON	FERTILIZER FOR TEMPORARY SEED- ING
6024000000-E	1622	230	LF	TEMPORARY SLOPE DRAINS
6027000000-N	1622	4	EA	INLET PROTECTION AT TEMPORARY SLOPE DRAINS

ItemNumber	Sec #	Quantity	Unit	Description
6029000000-E	SP	240	LF	SAFETY FENCE
6030000000-E	1630	520	CY	SILT EXCAVATION
6036000000-E	1631	740	SY	MATTING FOR EROSION CONTROL
6037000000-E	SP	25	SY	COIR FIBER MAT
6042000000-E	1632	100	LF	1/4" HARDWARE CLOTH
6070000000-N	SP	4	EA	SPECIAL STILLING BASINS
6071030000-E	SP	165	LF	COIR FIBER BAFFLES
6071050000-E	SP	4	EA	*** SKIMMER (1-1/2")
6084000000-E	1660	2	ACR	SEEDING & MULCHING
6087000000-E	1660	1	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	1.5	TON	FERTILIZER TOPDRESSING
6114000000-N	SP	2	HR	SPECIALIZED HAND MOWING
6117000000-N	SP	12	EA	RESPONSE FOR EROSION CONTROL
6123000000-E	1670	0.1	ACR	REFORESTATION

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STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# GUARDRAIL SUMMARY

COMPUTED BY: DYP DATE: 1-24-08  
CHECKED BY: JW DATE: 1-25-08

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

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH		W		ANCHORS										IMPACT ATTENUATOR TYPE 350			REMARKS										
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	B-77	TYPE 350											PERMITTED		NO.	G	NG							
-L-	16+07.50	16+82.50	LT	75.00'			STRUCTURE	STRUCTURE	3.92'	9'																										BRIDGE WARRANT		
-L-	15+32.50	16+82.50	RT	150.00'			STRUCTURE	STRUCTURE	3.92'	9'	131.25'	56.25'		2.65'																						BRIDGE WARRANT		
-L-	17+97.50	19+47.50	LT	150.00'			STRUCTURE	STRUCTURE	3.92'	9'	131.25'			2.65'																						BRIDGE WARRANT		
-L-	17+97.50	19+47.50	RT	150.00'			STRUCTURE	STRUCTURE	3.92'	9'		56.25'				1.88'																				BRIDGE WARRANT		
			<b>SUBTOTAL</b>	525.00'																																		
			<b>DEDUCTIONS FOR ANCHOR UNITS</b>																																			
				4 GRAU-350 @ 50'	-200.00'																																	
				4 GRAU-TYPE B-77 @ 18.75'	-75.00'																																	
				<b>TOTAL</b>	250.00'																																	
				<b>SAY</b>	250.00'																																	
				<b>ADDITIONAL GUARDRAIL POST = 5 EA</b>																																		

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REVISIONS

PROJECT REFERENCE NO. B-4285		SHEET NO. 3-C	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

## SUMMARY OF EARTHWORK IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBANKMENT +%	BORROW	WASTE
-L- STA.13+70 TO 16+82.5 (BEG. BRIDGE)	0		1,915	1,915	
-DRWREV- STA.10+11 TO 12+80.00	0		2,838	2,838	
-L- STA.17+97.50 (END BRIDGE) TO 21+50	5		1,037	1,033	
TOPSOIL ON BORROW PIT				289	
<b>TOTAL</b>	<b>5</b>		<b>5,790</b>	<b>6,075</b>	
<b>SAY</b>	<b>10</b>			<b>6,000</b>	
<b>EST. UNDERCUT</b>	<b>350</b>				

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

NOTE: EARTHWORK QUANTITIES ARE CALCULATED BY THE ROADWAY DESIGN UNIT. THESE EARTHWORK QUANTITIES ARE BASED IN PART ON SUBSURFACE DATA PROVIDED BY THE GEOTECHNICAL ENGINEERING UNIT.

## SUMMARY OF ASPHALT PAVEMENT REMOVAL

STATION - STATION	LOCATION	AREA SQ. YDS.
15+00.00 TO 16+82.50	CL	446.11
17+97.00 TO 18+47.00	CL	122.22
<b>TOTAL</b>		<b>568.33</b>
<b>SAY</b>		<b>570</b>

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

## SUMMARY OF CLASS B STONE AND FILTER FABRIC FOR DRAINAGE

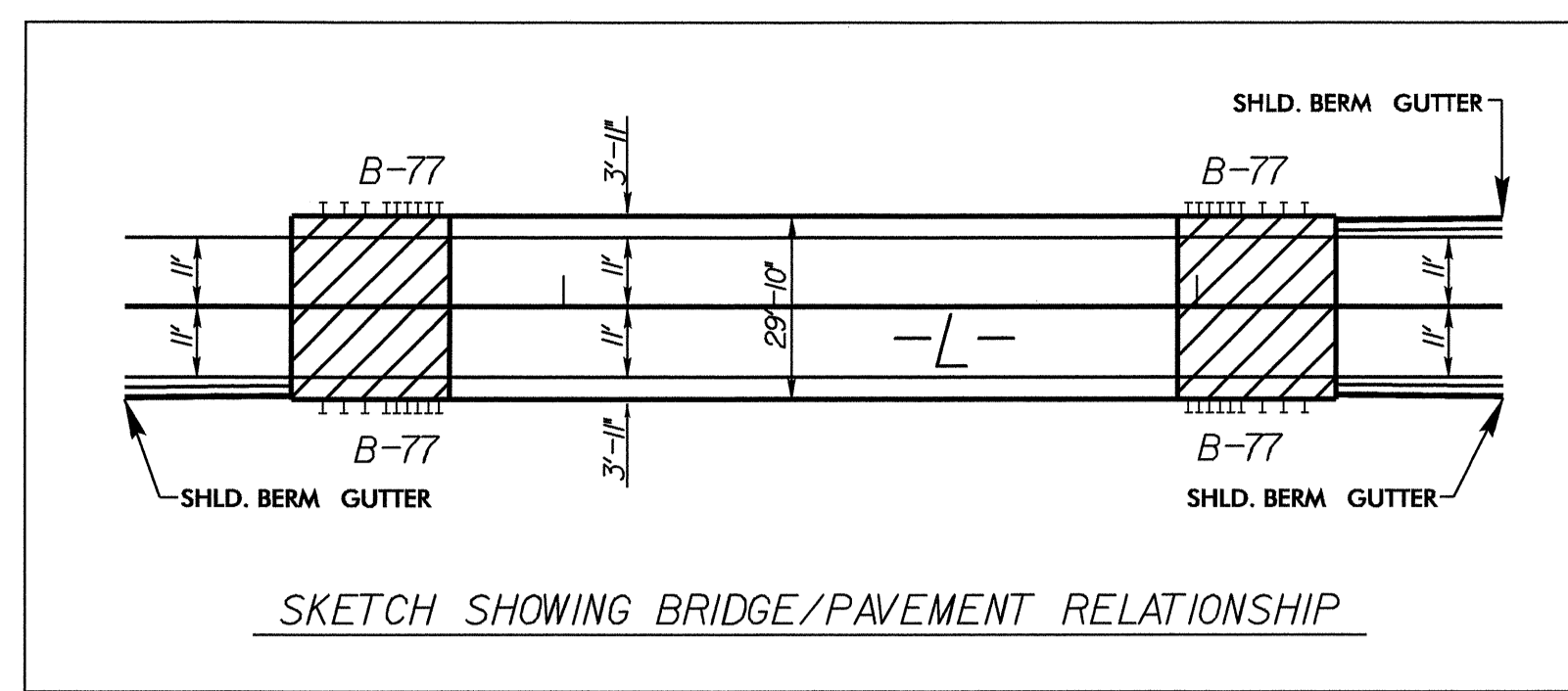
STATION	LOCATION	CLASS B TONS	FABRIC (SY)
20+00.00	LT	5.5	6
20+95.00	RT	5.5	6
	<b>TOTAL</b>	<b>11.0</b>	<b>12</b>
	<b>SAY</b>	<b>15</b>	<b>15</b>

## SUMMARY OF SHOULDER BERM GUTTER

STATION - STATION	LOCATION	LENGTH (LF)
15+90.00 TO 16+68.50	RT	78.5
18+11.50 TO 18+90.00	RT	78.5
18+11.50 TO 18+90.00	LT	78.5
	<b>TOTAL</b>	<b>235.5</b>
	<b>SAY</b>	<b>240</b>

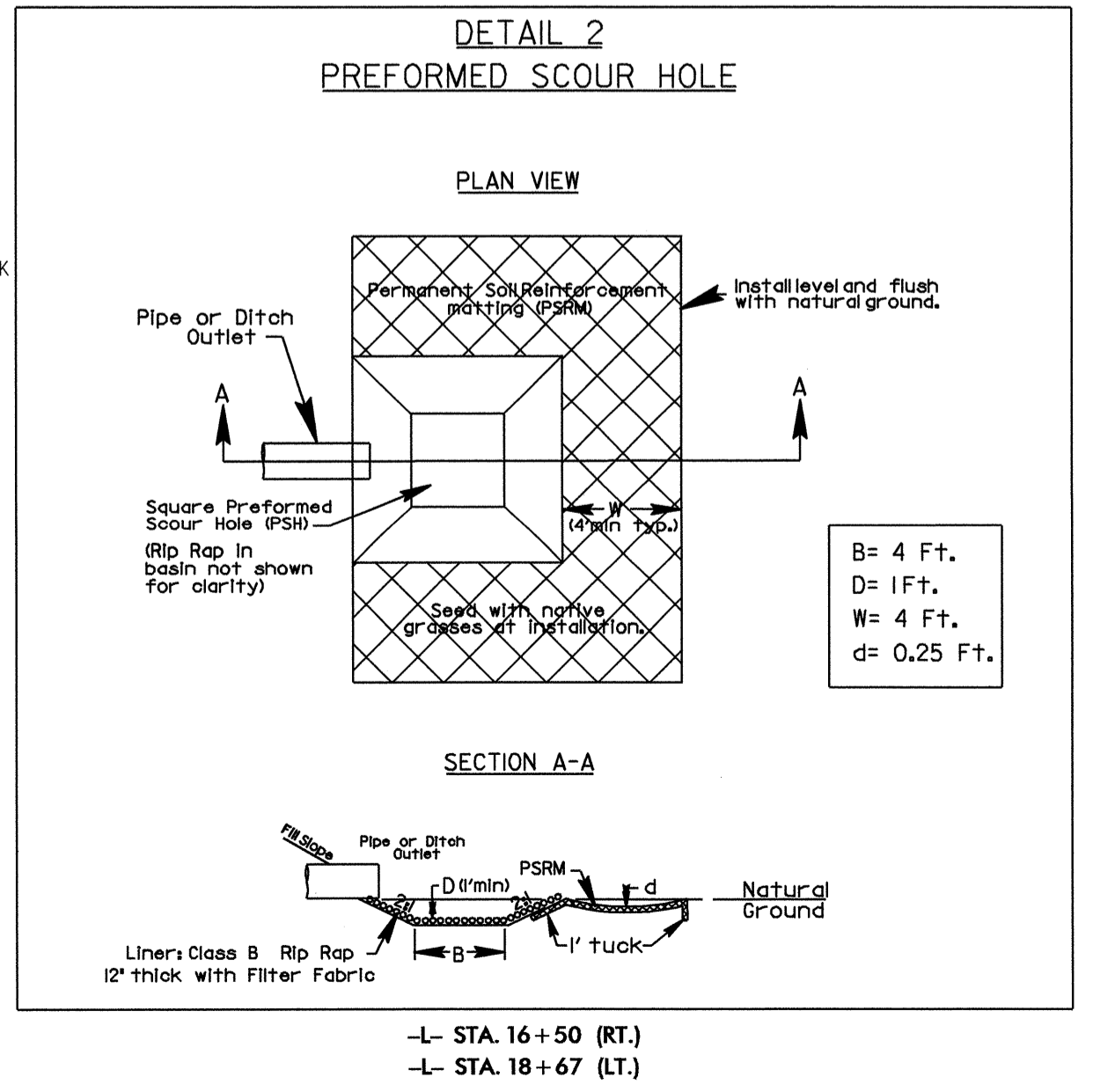
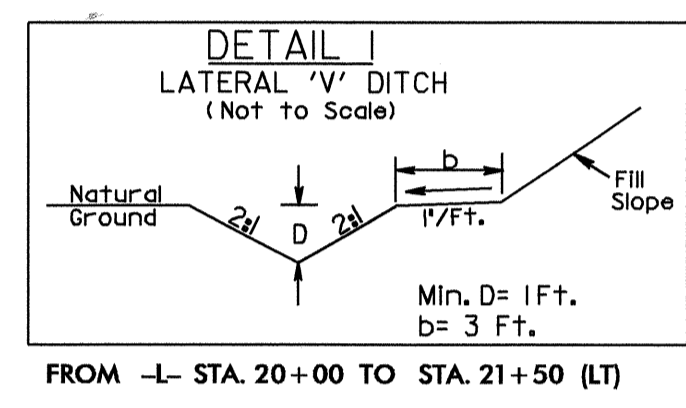
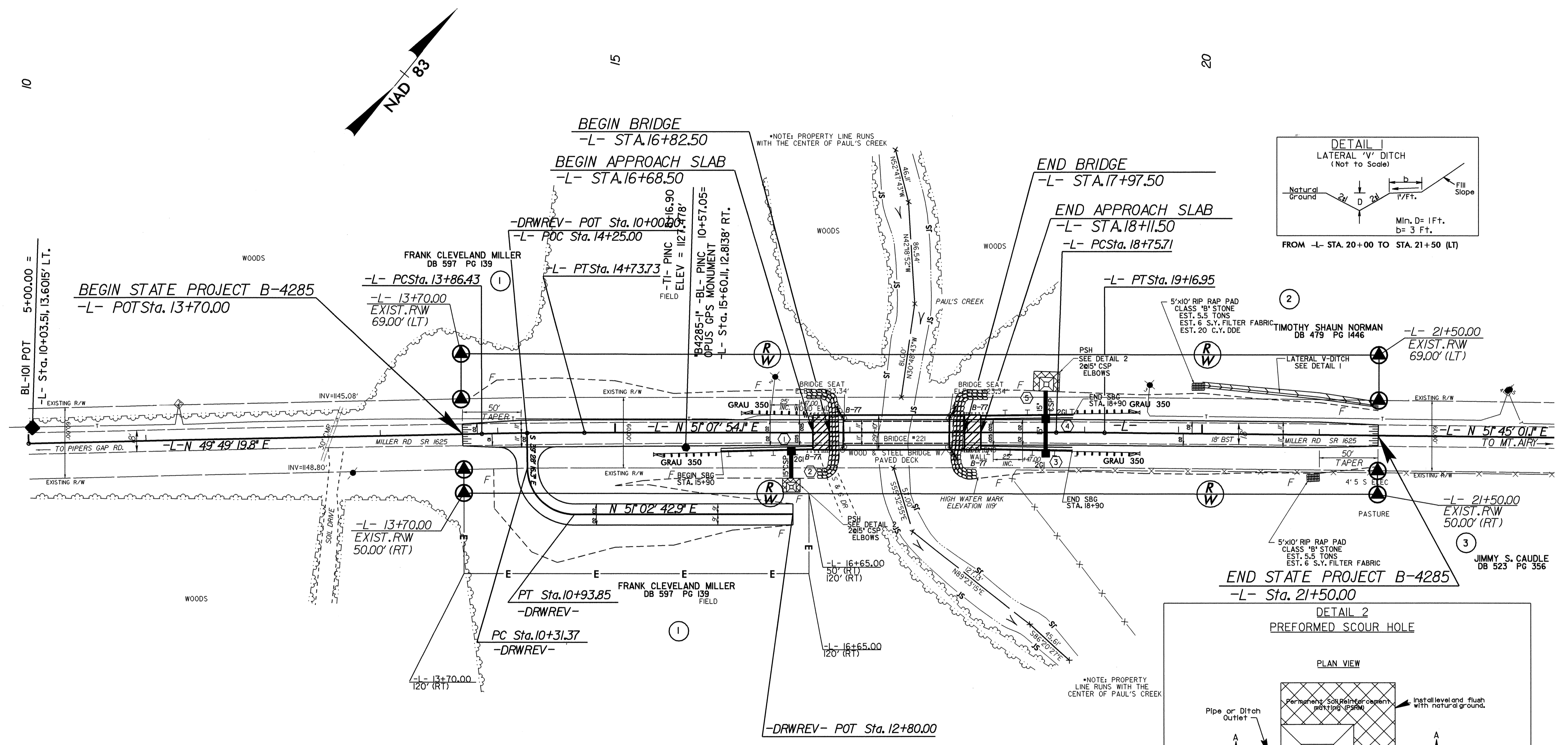






SEE SHEET NO.5 FOR PROFILE

REVISIONS



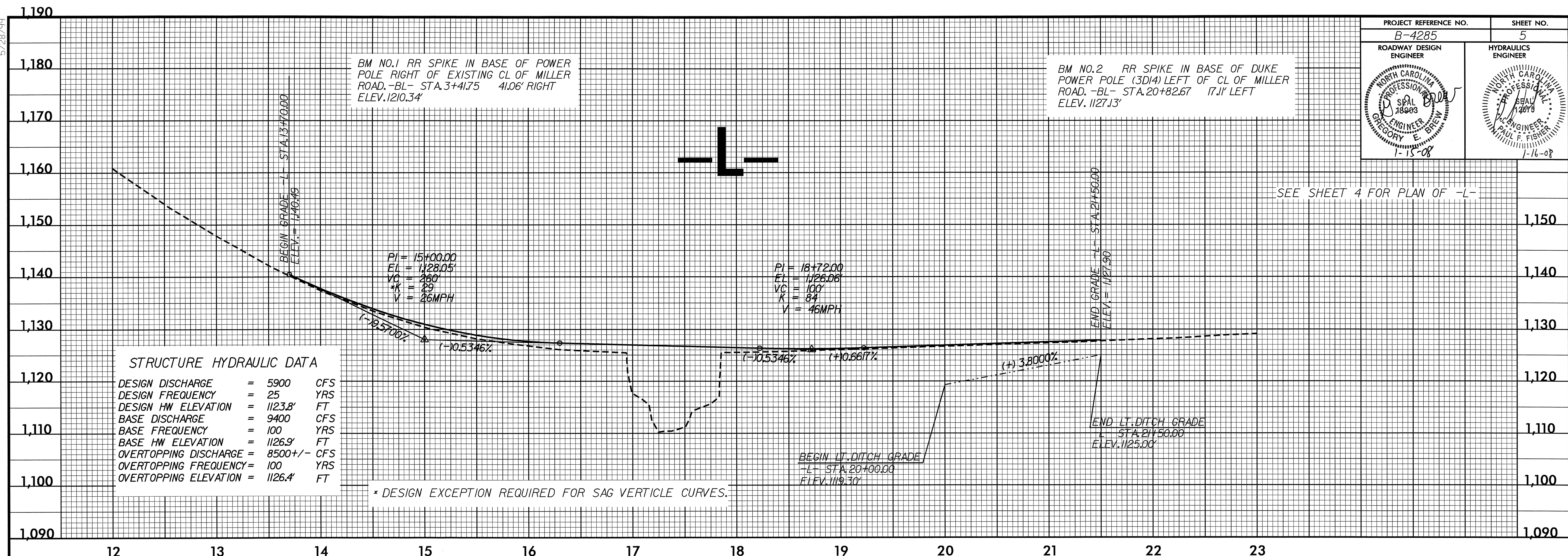
-DRWREV-	-L-	-L-
PI Sta 10+71.02	PI Sta 14+30.08	PI Sta 18+96.33
$\Delta = 89^\circ 29' 00.8''$ (LT)	$\Delta = 1^\circ 18' 34.3''$ (RT)	$\Delta = 0^\circ 37' 07.0''$ (RT)
D = 143' 14' 22.0"	D = 1' 30' 00.0"	D = 1' 30' 00.0"
L = 62.47'	L = 87.30'	L = 41.24'
T = 39.64'	T = 43.65'	T = 20.62'
R = 40.00'	R = 3,819.72'	R = 3,819.72'
SE = NC	SE = NC	SE = NC

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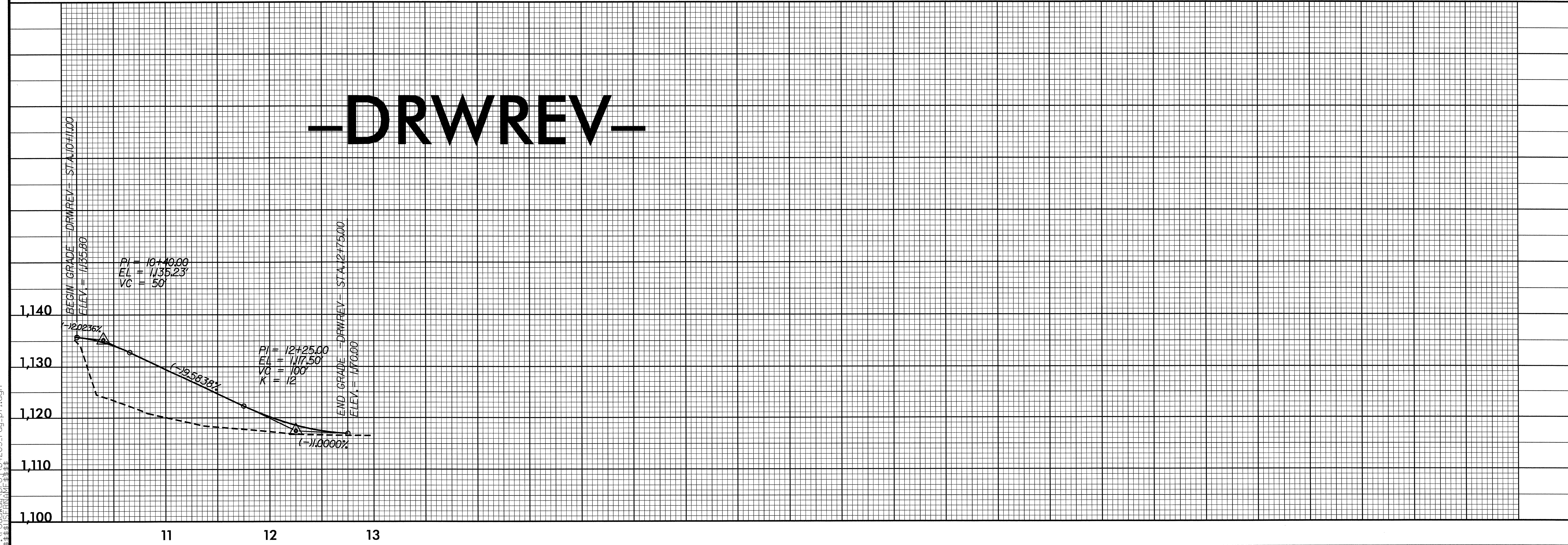


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PROJECT REFERENCE NO. B-4285	SHEET NO. 5
ROADWAY DESIGN ENGINEER GREGORY E. BREW	HYDRAULICS ENGINEER PAUL E. FISHER



**-DRWREV-**



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