

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**RUTHERFORD COUNTY**

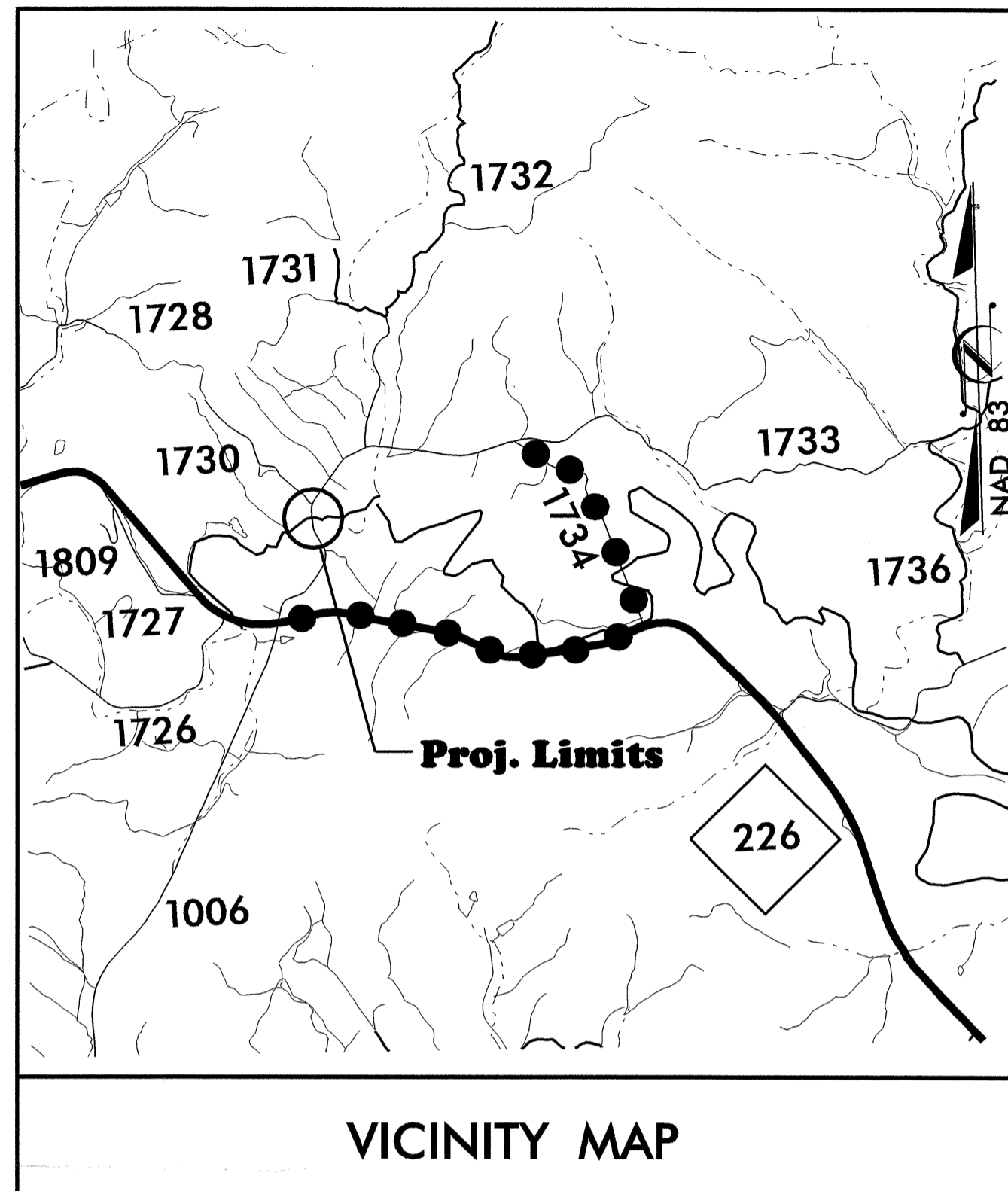
**LOCATION: REPLACEMENT OF BRIDGE NO. 202 ON SR 1733  
(JONES TOWN ROAD) OVER FIRST BROAD RIVER**

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

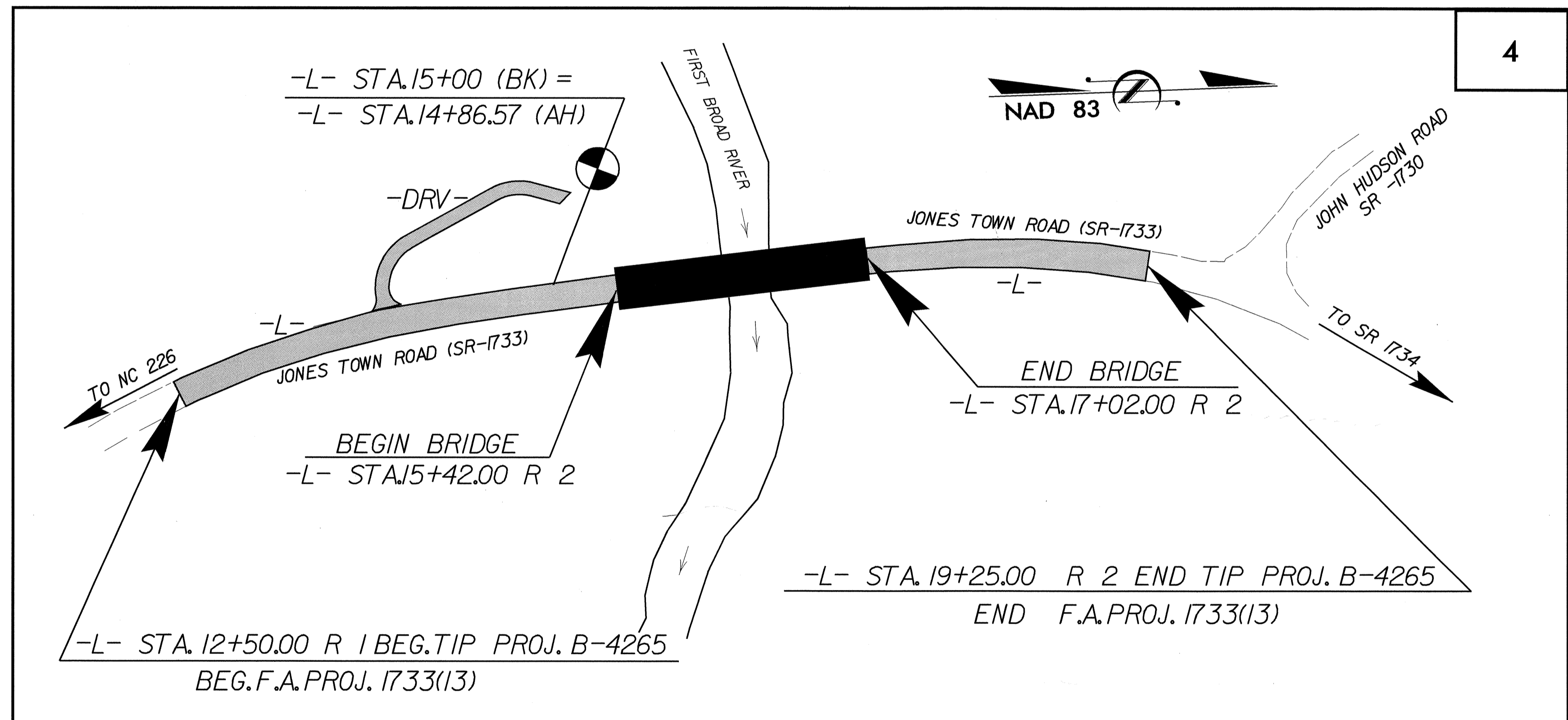
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4265	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33607.1.1	BRZ-1733(13)	PE	
33607.2.1	BRZ-1733(13)	ROW, UTIL	
33607.3.1	BRZ-1733(13)	CONST.	

TIP PROJECT: B-4265

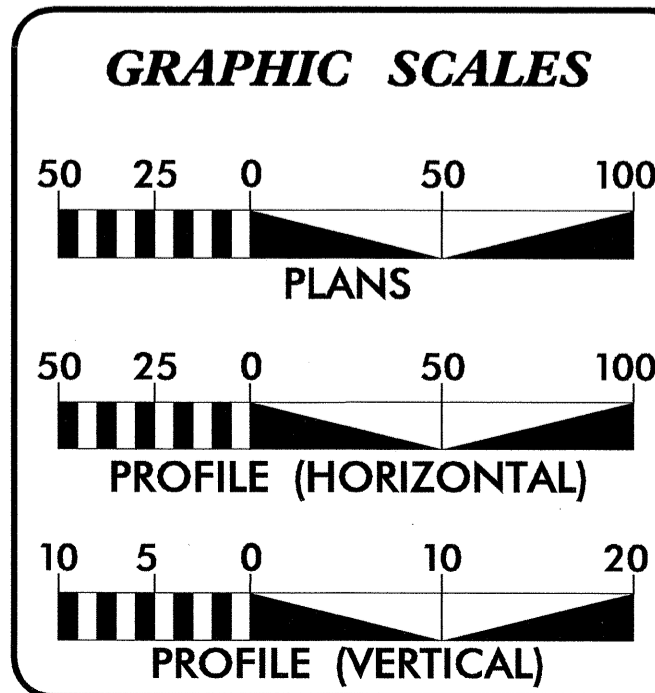
CONTRACT: C.202033



● ● ● OFF-SITE DETOUR



THIS PROJECT IS NOT A CONTROLLED ACCESS PROJECT



**DESIGN DATA**

ADT 804 = 2008 VPD  
ADT 1100 = 2025 VPD  
DHV = 10 %  
D = 60 %  
T = 1 % \*  
V = 40 MPH  
\* TTST 1 DUAL 2  
FUNC. CLASS = LOCAL

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT B-4265 = 0.095 MI.  
LENGTH STRUCTURE TIP PROJECT B-4265 = 0.030 MI.  
TOTAL LENGTH OF TIP PROJECT B-4265 = 0.125 MI.

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

2002 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: DECEMBER 21, 2007  
LETTING DATE: DECEMBER 16, 2008

JIMMY GOODNIGHT, PE  
PROJECT ENGINEER

TIM GOINS  
PROJECT DESIGN ENGINEER

**HYDRAULICS ENGINEER**

SEAL 20870  
9-24-08  
P.E.

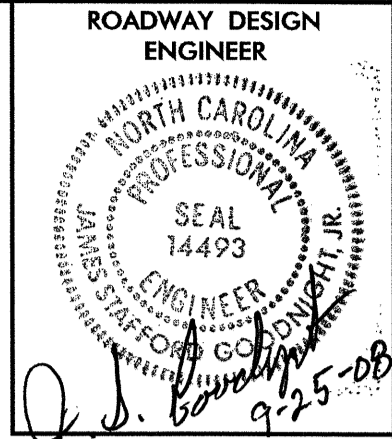
**ROADWAY DESIGN ENGINEER**

SEAL 14493  
9-25-08  
P.E.

**DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA**

STATE HIGHWAY DESIGN ENGINEER

17-SEP-2008 12:41  
r:\roadway\proj\4265\_rdy\_tsh.dgn  
\$\$\$\$\$USERNAME\$\$\$\$\$



SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL SHEET
2	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2-A	DETAIL FOR ANCHORAGE OF FRAMES
2-B	DETAIL FOR REINFORCED BRDG. APPR. FILLS (SUB-REGIONAL TIER)
3	SUMMARY OF QUANTITIES
3A	SUMMARY OF DRAINAGE QUANTITIES SUMMARY OF GUARDRAIL, EARTHWORK SUMMARY, AND ASPHALT PAVEMENT REMOVAL SUMMARY
4	PLAN SHEET
5	PROFILE SHEET
TCP-1 THRU TCP-3	TRAFFIC CONTROL PLANS
SD-1	SPECIAL SIGN DESIGN
EC-1 THRU EC-5	EROSION CONTROL PLANS
RF-1	REFORESTATION PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTION SUMMARY
X-2 THRU X-7	CROSS-SECTIONS
S-1 THRU S-28	STRUCTURE PLANS

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

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

CLEARING:  
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD 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, 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 Rutherford EMC - Power  
AT&T - Telephone  
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	
200.02	Method of Clearing - Method II
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'
310.10	Driveway Pipe Construction
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
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
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets

Note: Not to Scale

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

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# CONVENTIONAL PLAN SHEET SYMBOLS

### BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EIP
Property Corner	-----
Property Monument	□ ECM
Parcel/Sequence Number	Ⓣ
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	○ S
Well	○ W
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	⊕
Building	□
School	□
Church	□
Dam	□

### HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	□
River Basin Buffer	-----
Flow Arrow	→
Disappearing Stream	-----
Spring	○
Swamp Marsh	-----
Proposed Lateral, Tail, Head Ditch	-----
False Sump	▽

### RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ MILEPOST 35
Switch	□ SWITCH
RR Abandoned	-----
RR Dismantled	-----

### RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite Marker	-----
Existing Control of Access	○
Proposed Control of Access	○
Existing Easement Line	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Utility Easement	-----

### ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-----
Proposed Slope Stakes Fill	-----
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	-----

### UTILITIES:

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

### TELEPHONE:

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

### WATER:

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

### TV:

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

### GAS:

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

### SANITARY SEWER:

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

### MISCELLANEOUS:

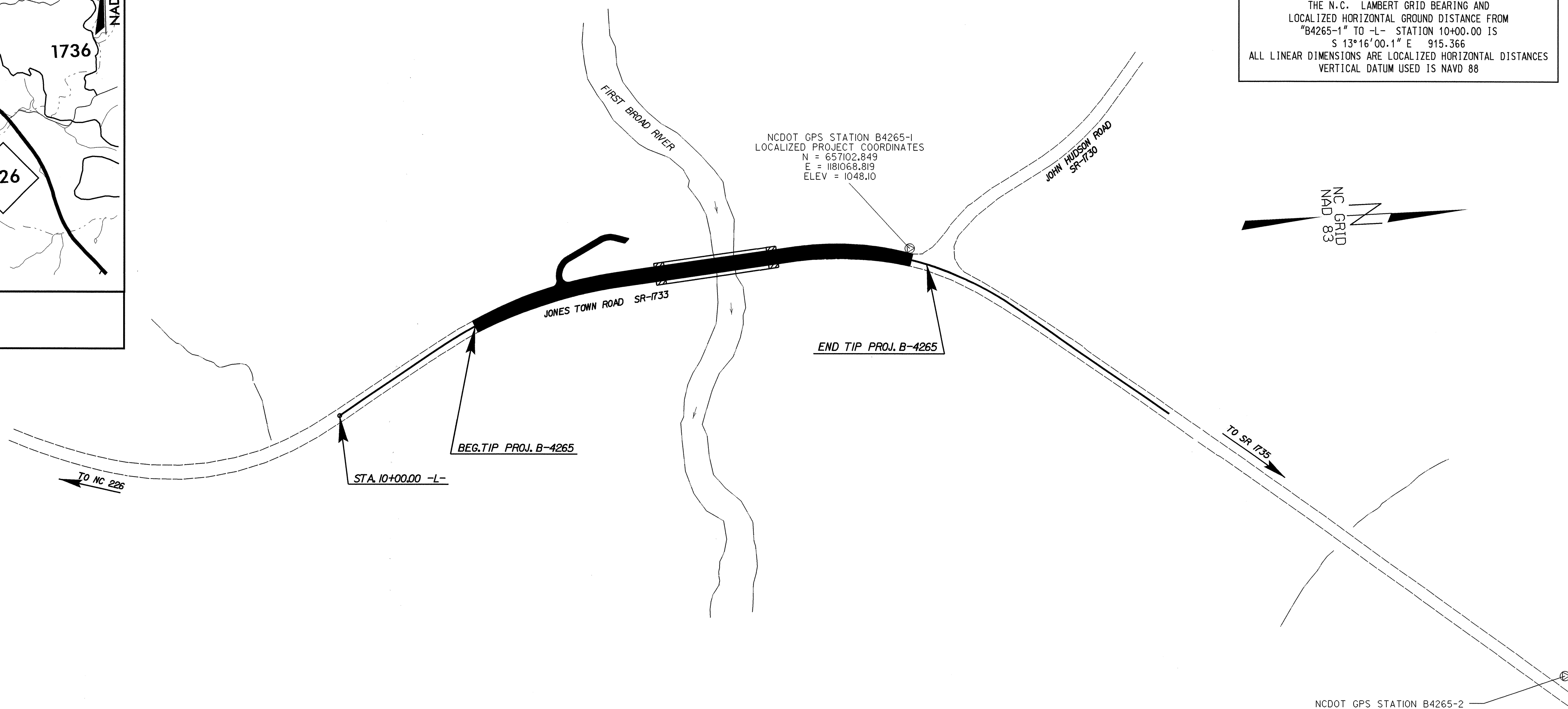
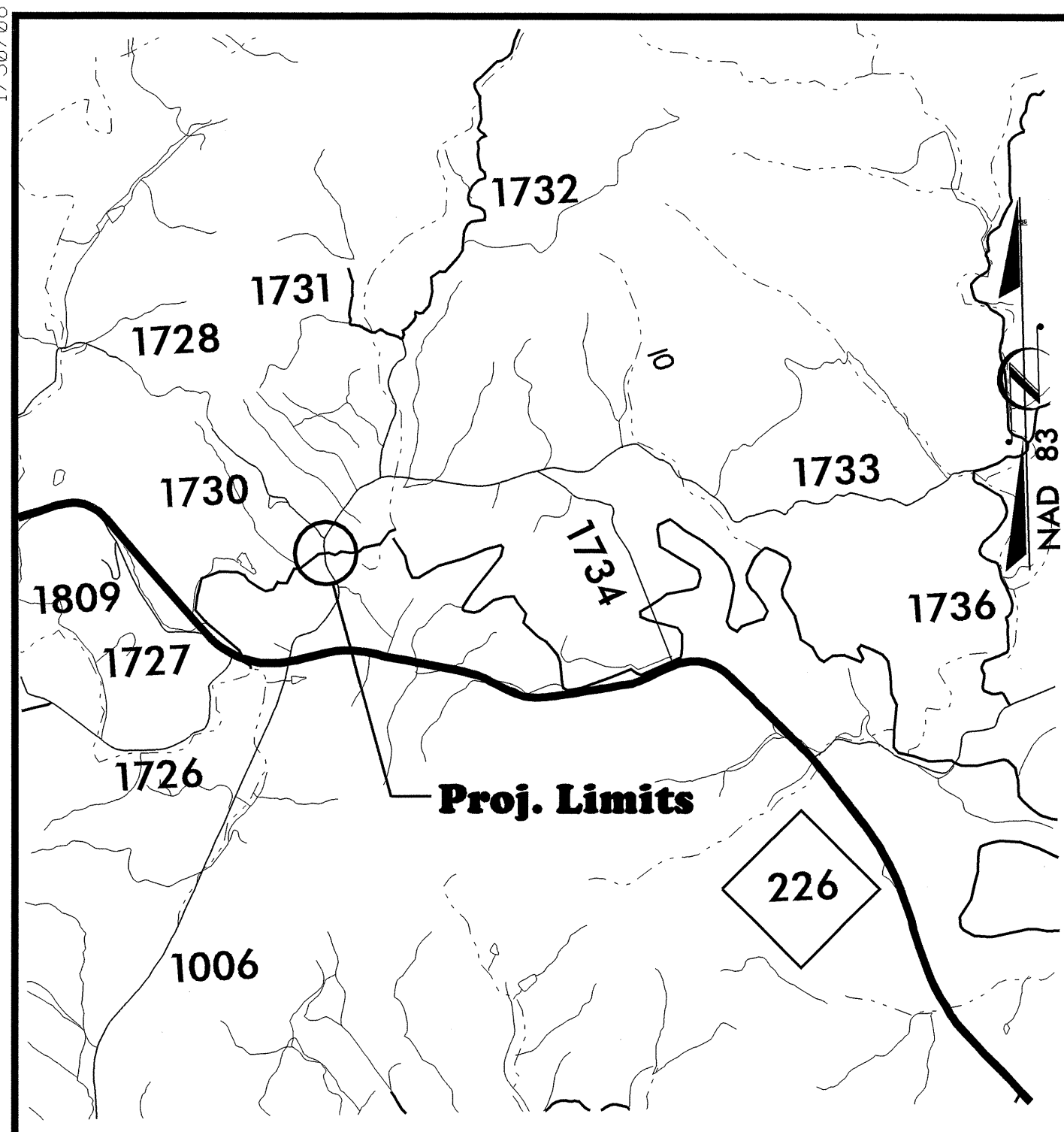
Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line	-----
U/G Tank; Water, Gas, Oil	□
A/G Tank; Water, Gas, Oil	□
U/G Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

# SURVEY CONTROL SHEET B-4265

**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4265-1"

WITH NAD 83 STATE PLANE GRID COORDINATES OF  
 NORTHING: 657102.849(±) EASTING: 1181068.819(±)  
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999864511  
 THE N. C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4265-1" TO -L- STATION 10+00.00 IS  
 S 13°16'00.1" E 915.366  
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES  
 VERTICAL DATUM USED IS NAVD 88



**NOTES:**

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:  
[HTTP://WWW.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:

**B4265\_LS\_CONTROL\_080130.TXT**

**B4265\_LS\_LOCAL\_080130.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) [NAD83(CORS96)].

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
	1	BL-1	656671.6320	1181280.9640	1049.96		OUTSIDE PROJECT LIMITS
	2	BL-2	656026.9400	1181367.3550	1043.19		OUTSIDE PROJECT LIMITS
	3	BL-3	656545.1640	1181097.5520	1042.13	13+78.05	13.48 LT
	GPS1	B4265-1	657102.8490	1181068.8190	1048.10	19+18.76	17.26 LT
	5	BL-5	657547.9960	1181441.9050	1050.47		OUTSIDE PROJECT LIMITS
	GPS2	B4265-2	658076.7900	1181778.8190	1069.64		OUTSIDE PROJECT LIMITS

BY1	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
	4	BY1-4	657414.5210	1180882.6250	1063.41	20+69.76	321.69 LT
	100	B4265-1	657102.8490	1181068.8190	1048.10	19+18.76	17.26 LT

T0	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
	6	T-6	656625.0750	1180811.8560	1032.68	14+82.50	282.42 LT
	7	T-7	656751.9560	1180974.9700	1039.15	15+79.92	108.58 LT
	8	T-8	656785.7680	1181038.4440	1034.45	16+07.90	42.32 LT
	E03	BL-3	656545.1640	1181097.5520	1042.13	13+78.05	13.48 LT
	9	T-9	656793.8720	1181159.9070	1030.86	16+05.07	79.38 RT
	10	T-10	656742.6230	1181441.3540	1034.59	15+28.78	355.09 RT

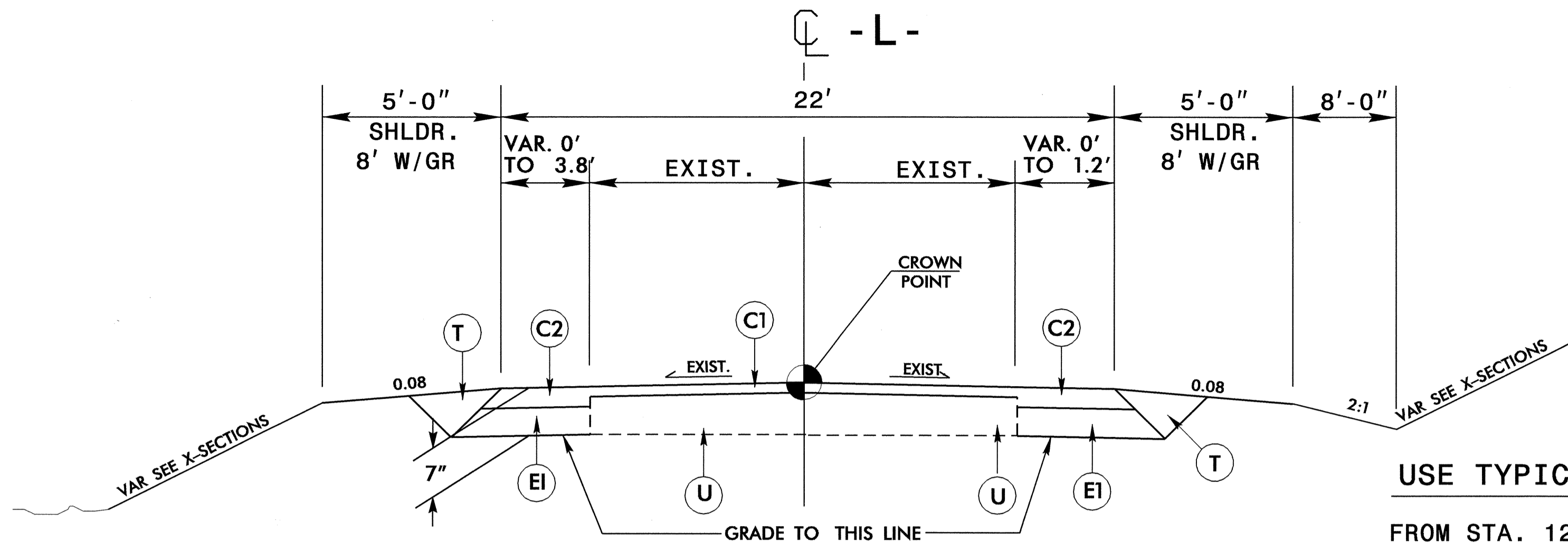
.....  
 BM1 ELEVATION = 1045.26  
 N 655895 E 1181397  
 L STATION 8+63  
 S 15° 12' 11.9" E DIST 1252.13  
 RR SPIKE IN 24" SWEETGUM  
 .....  
 BM2 ELEVATION = 1054.57  
 N 657248 E 1180952  
 L STATION 6+78 26 RIGHT  
 RR SPIKE IN POWER POLE  
 .....  
 BM3 ELEVATION = 1050.04  
 N 657562 E 1181462  
 L STATION 6+71 573 LEFT  
 RR SPIKE IN LIGHT POLE  
 .....

NOTE: DRAWING NOT TO SCALE

6/2/99

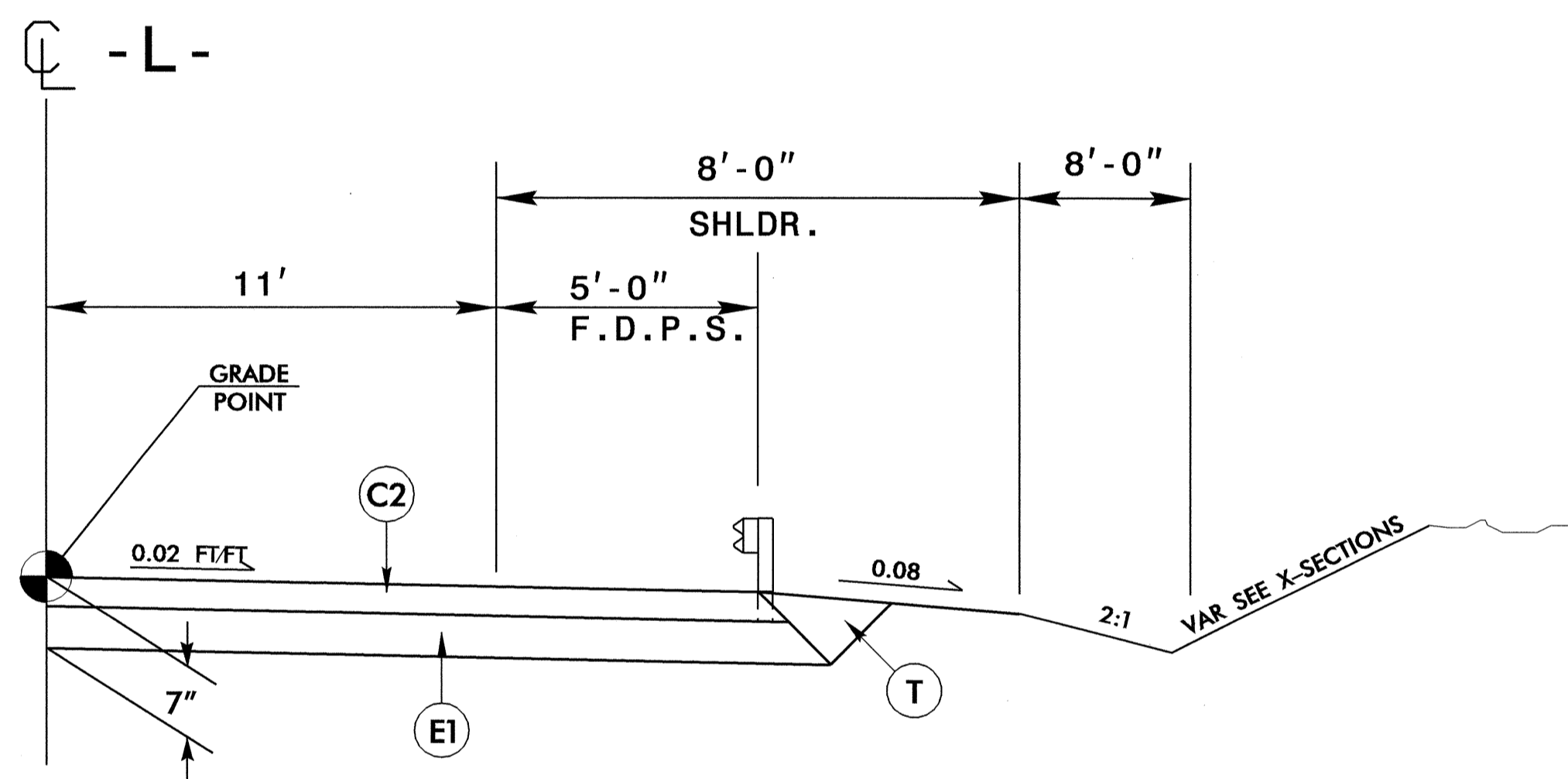
PROJECT REFERENCE NO. B-4265	SHEET NO. 2
ROADWAY DESIGN ENGINEER 	PAVEMENT DESIGN ENGINEER 

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	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.
E1	PROP. APPROX. 4.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT

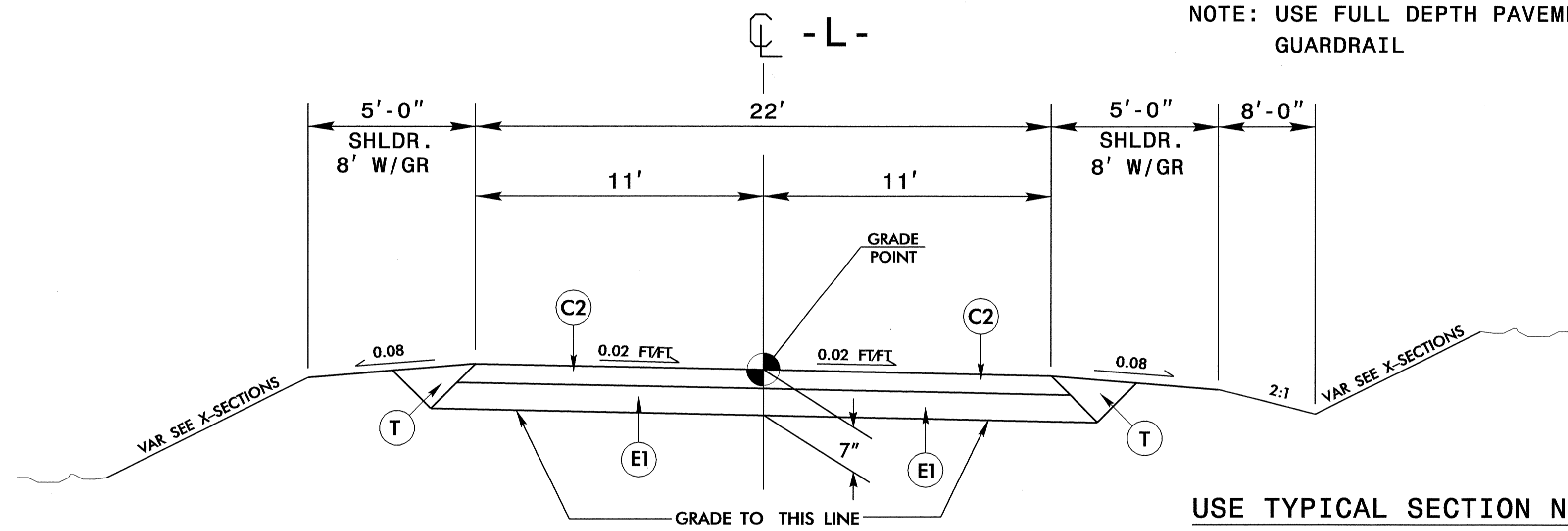


**TYPICAL SECTION NO. 1**

USE TYPICAL SECTION NO. 1  
FROM STA. 12+50 R1 TO 14+50 R1 AND FROM STA. 17+40 R2 TO 19+25.00 R2 OVERLAY EXIST.PAV'MT WITH 1 1/4" (SF9.5A)  
NOTE: USE FULL DEPTH PAVEMENT OUT TO GUARDRAIL

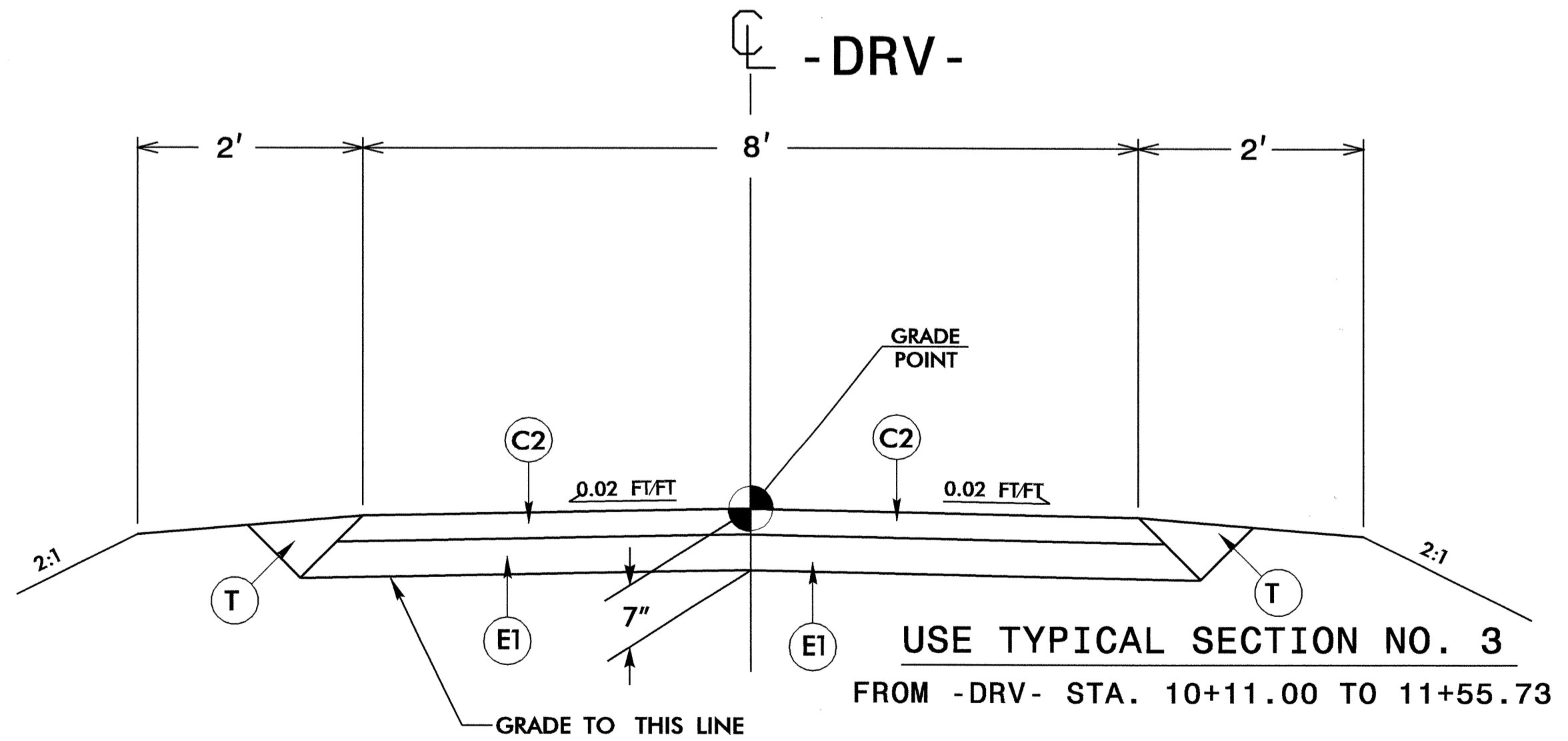


**DETAIL SHOWING FDPS IN GUARDRAIL LOCATIONS**

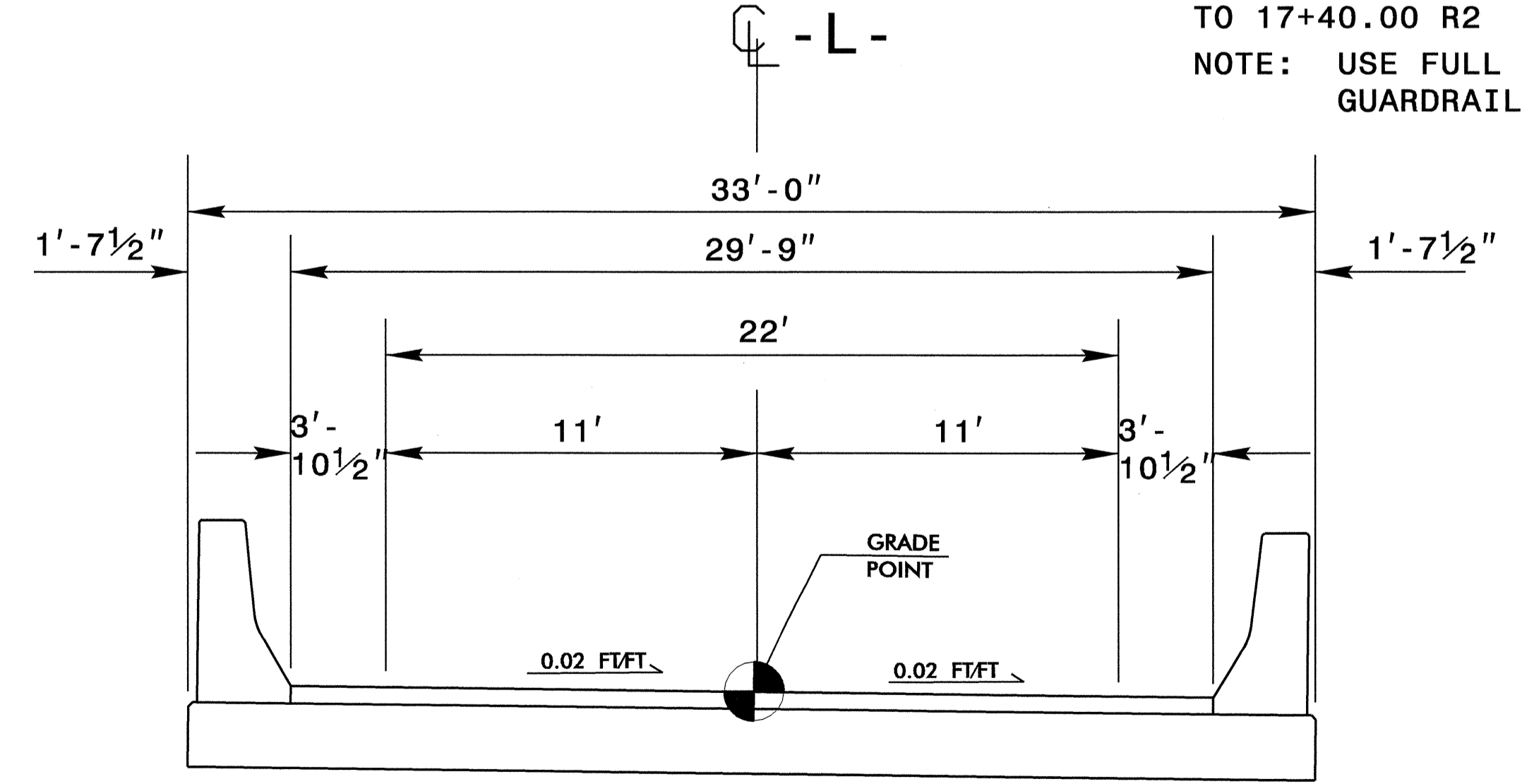


**TYPICAL SECTION NO. 2**

USE TYPICAL SECTION NO. 2  
FROM -L- STA. 14+50 R1 TO 15+42.00 R2 (BEGIN BRIDGE)  
FROM -L- STA 17+02.00 R2 (END BRIDGE) TO 17+40.00 R2  
NOTE: USE FULL DEPTH PAVEMENT OUT TO GUARDRAIL



**TYPICAL SECTION NO. 3**  
FROM -DRV- STA. 10+11.00 TO 11+55.73



**TYPICAL SECTION ON STRUCTURE**  
-L- STA. 15+42.00 R2 TO 17+02.00 R2

23-SEP-2008 11:57 AM B:\4265-rdy-typ.dgn

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

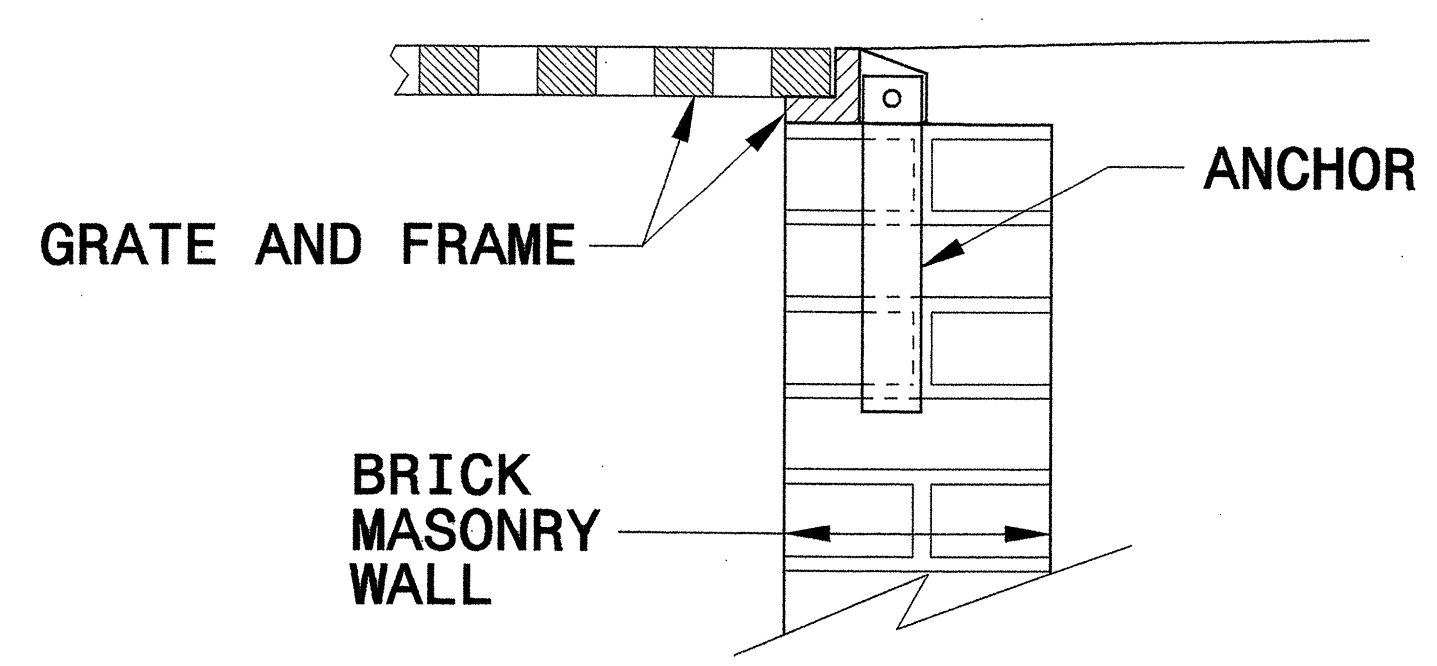
ENGLISH DETAIL DRAWING FOR  
**ANCHORAGE FOR FRAMES**  
BRICK/CONCRETE/PRECAST CONCRETE

SHEET 1 OF 1  
**840D25**

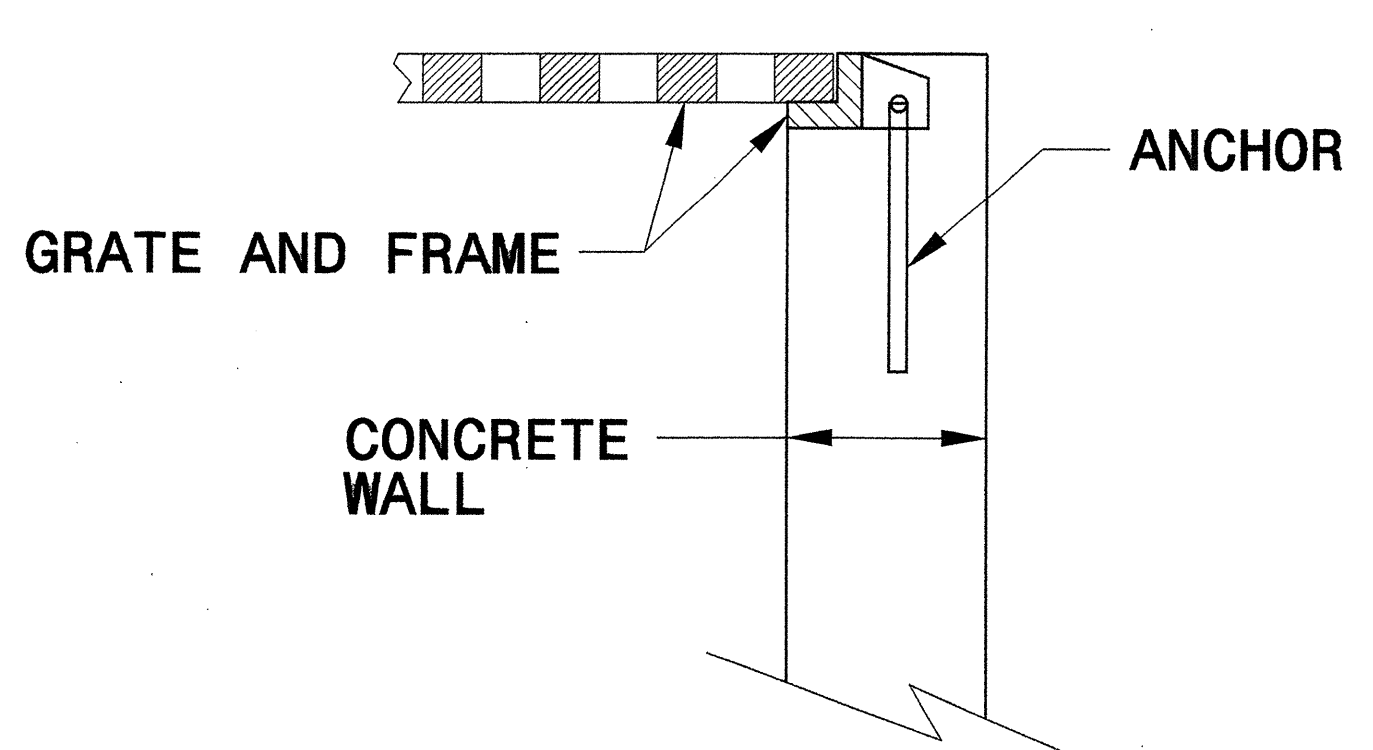
STATE OF  
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DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR  
**ANCHORAGE FOR FRAMES**  
BRICK/CONCRETE/PRECAST CONCRETE

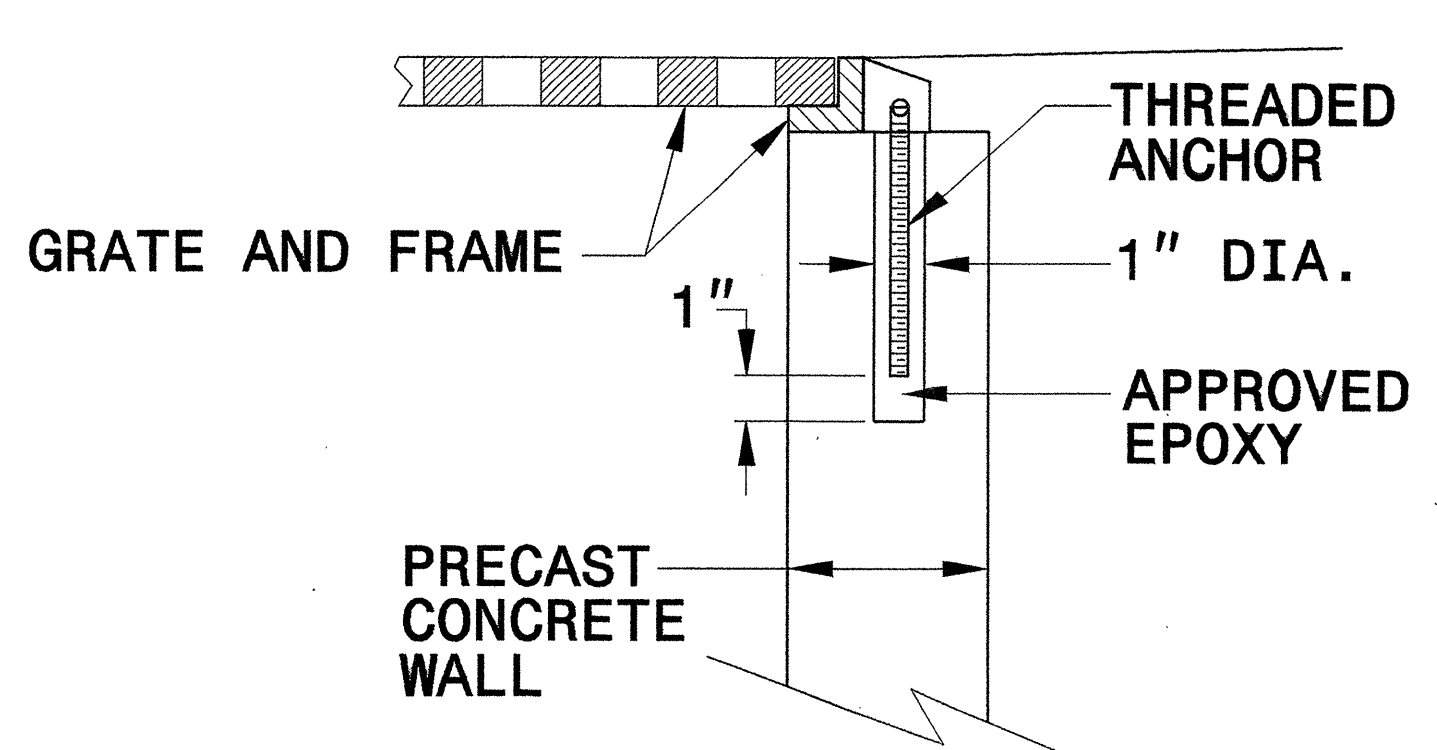
SHEET 1 OF 1  
**840D25**



**BRICK MASONRY  
CONSTRUCTION**



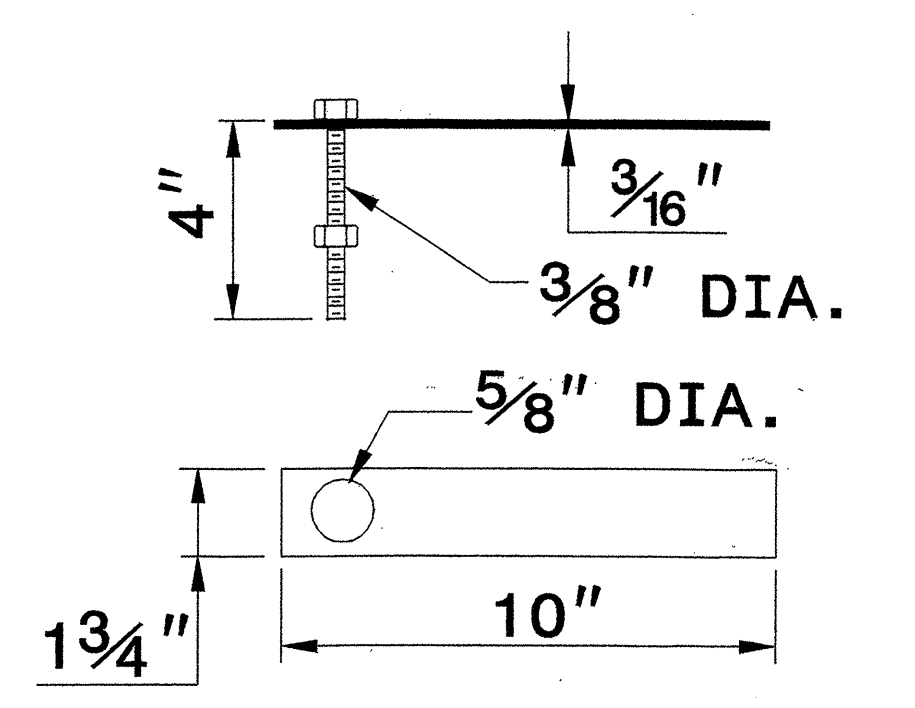
**CONCRETE  
CONSTRUCTION**



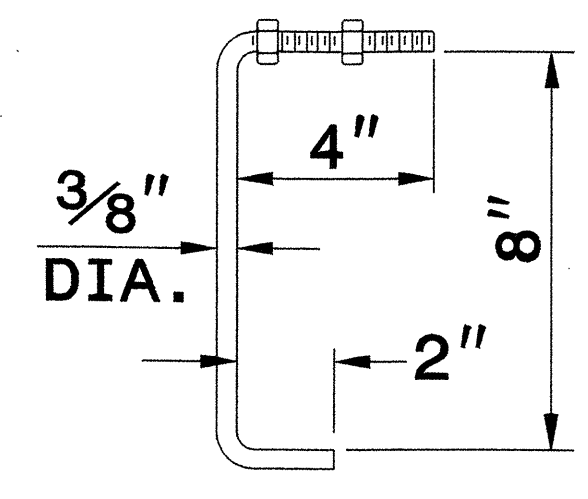
**PRECAST CONCRETE  
CONSTRUCTION**

**DETAIL SHOWING ANCHORAGE OF  
FRAME FOR GRATED DROP INLET**

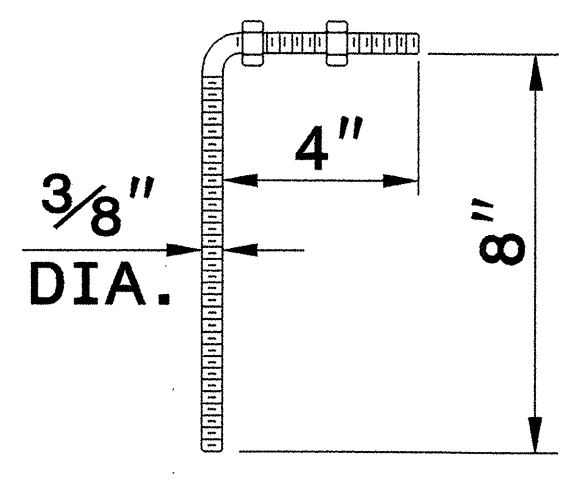
NOTE:  
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL  
OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



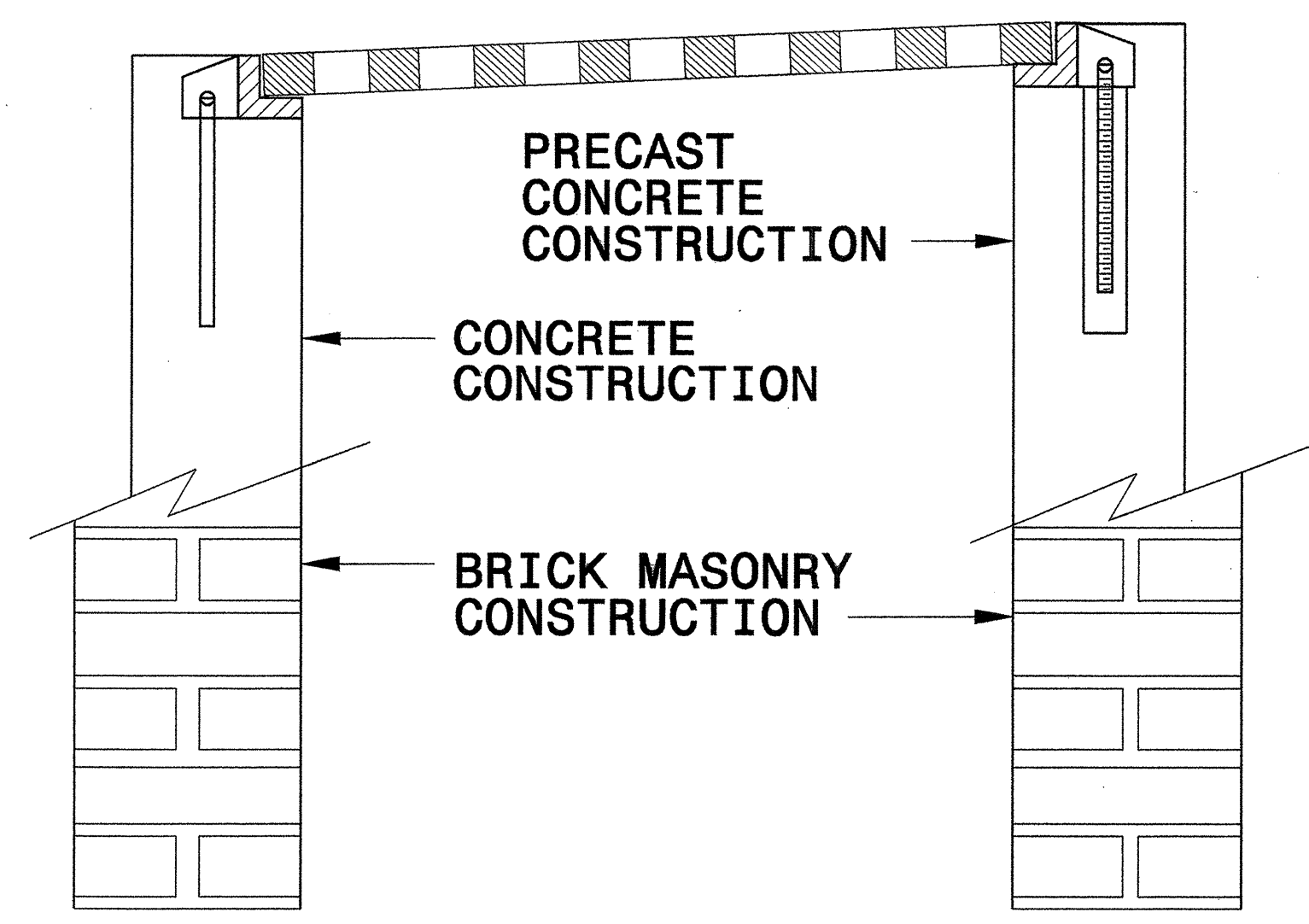
**MASONRY ANCHOR**  
3/8" DIA. BOLT WITH PLATE



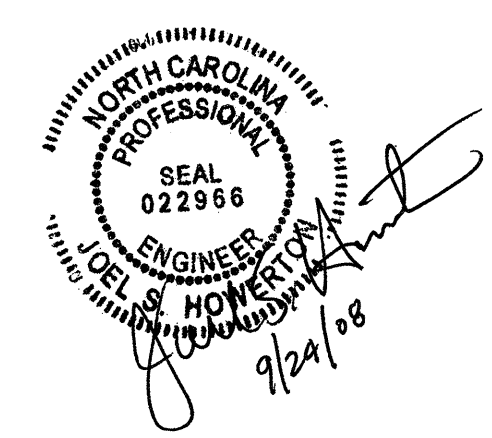
**CONCRETE ANCHOR**  
3/8" DIA. BENT BAR



**PRECAST  
CONCRETE ANCHOR**  
3/8" DIA. BENT BAR



**FRAME AND GRATE INSTALLATION  
FOR NORMAL CROWN AND  
SUPERELEVATED SECTIONS**

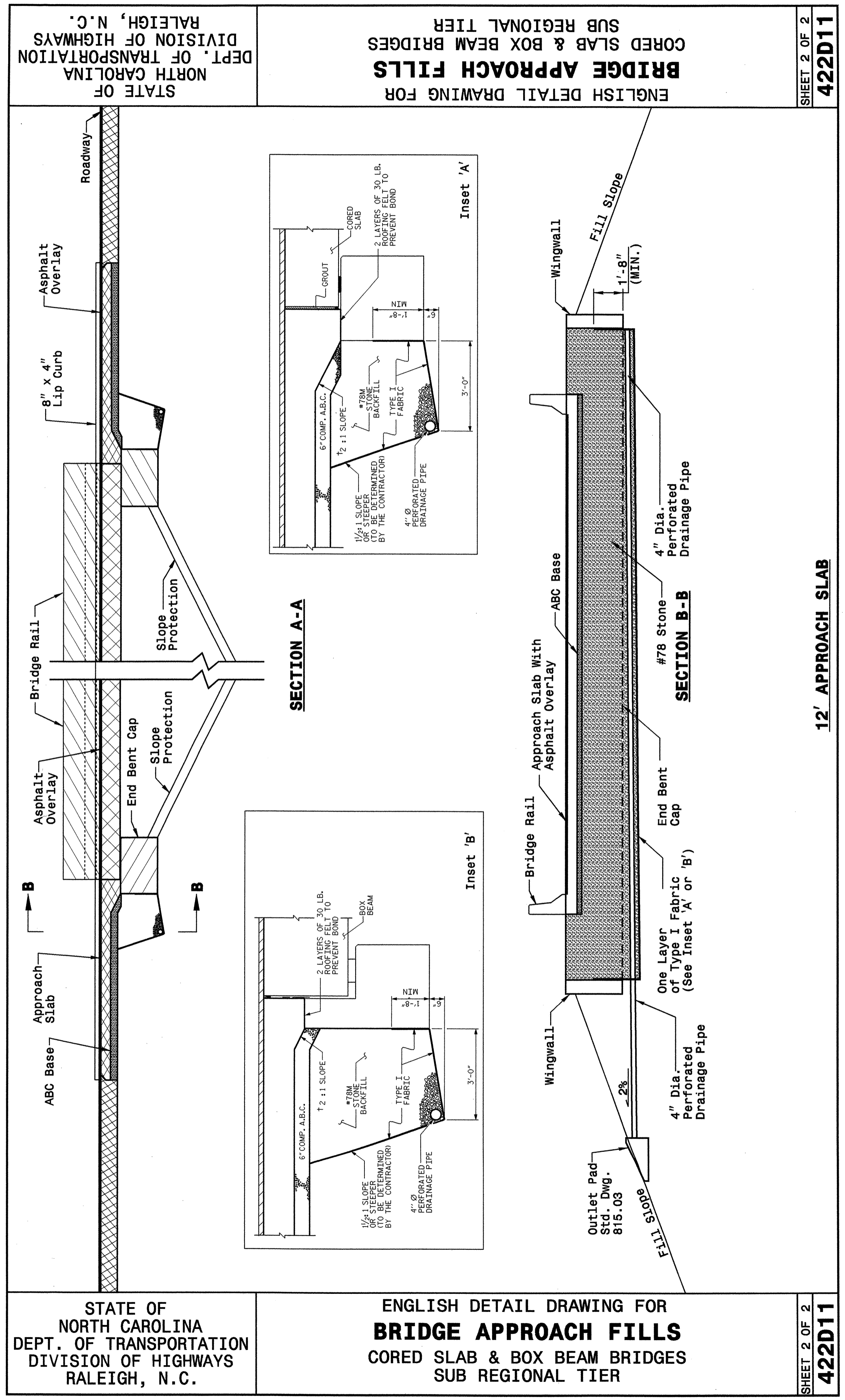
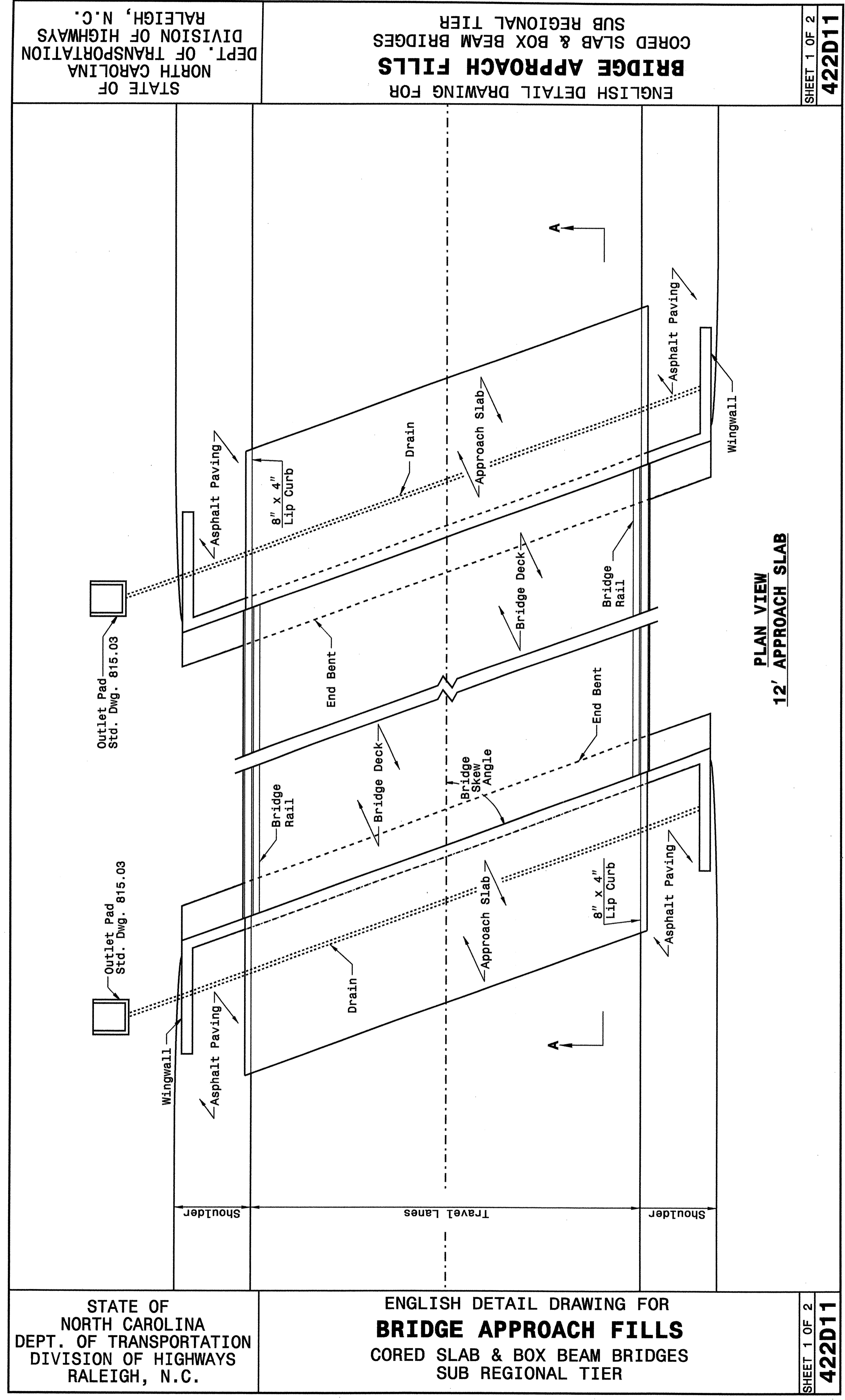


PROJECT SERVICES UNIT  
STANDARDS AND SPECIAL DESIGN  
Office 919-250-4128 FAX 919-250-4119

**SEE PLATE FOR TITLE**

ORIGINAL BY: 2006 STD 840.25 DATE: 07/18/06  
MODIFIED BY: E.E. WARD DATE: 9/25/06  
CHECKED BY: DATE:  
FILE SPEC.:

2006 STANDARD DRAWING  
 840.25  
 9/25/06  
 E.E. WARD  
 9/25/06



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

**BRIDGE APPROACH FILLS**  
CORED SLAB & BOX BEAM BRIDGES  
SUB REGIONAL TIER

ORIGINAL BY: K. A. Kempf DATE: 6-10-08  
MODIFIED BY: *[Signature]* DATE: *[Date]*  
CHECKED BY: *[Signature]* DATE: *[Date]*  
FILE SPEC.: *[Signature]* *[Date]*

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kempf

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C202033

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0030000000-N	SP	Lump Sum		BRIDGE APPROACH FILL - SUB REGIONAL TIER, STATION ***** (16+22.00)
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUBBING
0057000000-E	226	625	CY	UNDERCUT EXCAVATION
0080000000-E	SP	600	TON	CLASS IV SUBGRADE STABILIZATION
0134000000-E	240	105	CY	DRAINAGE DITCH EXCAVATION
0195000000-E	265	300	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	500	SY	FABRIC FOR SOIL STABILIZATION
0318000000-E	300	10	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STKS
0343000000-E	310	56	LF	15" SIDE DRAIN PIPE
0708000000-E	310	24	LF	15" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK
0806000000-E	310	2	EA	15" BIT COAT CS PIPE ELBOWS, TYPE B 0.064" THICK
1220000000-E	545	25	TON	INCIDENTAL STONE BASE
1489000000-E	610	250	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1525000000-E	610	170	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
1560000000-E	620	25	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
2000000000-N	806	11	EA	RIGHT OF WAY MARKERS
2022000000-E	815	117.6	CY	SUBDRAIN EXCAVATION
2033000000-E	815	88.2	CY	SUBDRAIN FINE AGGREGATE
2044000000-E	815	525	LF	6" PERFORATED SUBDRAIN PIPE
2055000000-E	815	16	EA	6" SUBDRAIN PIPE WYES, TEES, & ELBOWS
2066000000-N	815	2	EA	CONCRETE PAD FOR SUBDRAIN PIPE OUTLET
2077000000-E	815	12	LF	6" OUTLET PIPE (SUBDRAINS)

ItemNumber	Sec #	Quantity	Unit	Description
2286000000-N	840	1	EA	MASONRY DRAINAGE STRUCTURES
2367000000-N	840	1	EA	FRAME WITH TWO GRATES, STD 840.29
3030000000-E	862	312.5	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
3628000000-E	876	145	TON	RIP RAP, CLASS I
3635000000-E	876	200	TON	RIP RAP, CLASS II
3649000000-E	876	1	TON	RIP RAP, CLASS B
3656000000-E	876	606	SY	FILTER FABRIC FOR DRAINAGE
4400000000-E	1110	388	SF	WORK ZONE SIGNS (STATIONARY)
4410000000-E	1110	132	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4430000000-N	1130	8	EA	DRUMS
4445000000-E	1145	102	LF	BARRICADES (TYPE III)
4810000000-E	1205	5,512	LF	PAINT PAVEMENT MARKING LINES (4")
6000000000-E	1605	1,500	LF	TEMPORARY SILT FENCE
6006000000-E	1610	120	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	180	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	140	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	1.5	ACR	TEMPORARY MULCHING
6018000000-E	1620	50	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	1.25	TON	FERTILIZER FOR TEMPORARY SEEDING
6029000000-E	SP	350	LF	SAFETY FENCE
6030000000-E	1630	450	CY	SILT EXCAVATION
6036000000-E	1631	1,500	SY	MATTING FOR EROSION CONTROL
6037000000-E	SP	30	SY	COIR FIBER MAT

ItemNumber	Sec #	Quantity	Unit	Description
6038000000-E	SP	200	SY	PERMANENT SOIL REINFORCEMENT MAT
6042000000-E	1632	20	LF	1/4" HARDWARE CLOTH
6070000000-N	SP	4	EA	SPECIAL STILLING BASINS
6071030000-E	SP	200	LF	COIR FIBER BAFFLES
6071050000-E	SP	5	EA	*** SKIMMER (1-1/2")
6084000000-E	1660	8	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	5	HR	SPECIALIZED HAND MOWING
6117000000-N	SP	12	EA	RESPONSE FOR EROSION CONTROL
6123000000-E	1670	0.25	ACR	REFORESTATION

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12/06/07

COMPUTED BY: JBW DATE: September 04, 2008  
CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

PROJECT REFERENCE NO. B-4265 SHEET NO. 3-A

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

Table with columns: STATION, LOCATION (L, RT, OR CL), STRUCTURE NO., TOP ELEVATION, INVERT ELEVATION, SLOPE CRITICAL, CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE), BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHERWISE), CLASS III R.C. PIPE OR ALUMINIZED C.S. PIPE, TYPE IR OR HDPE PIPE, TYPE S OR D, ENDWALLS, TYPE OF GRATE, and REMARKS.

PAVEMENT REMOVAL SUMMARY

Table with columns: SURVEY LINE, STATION, STATION, LOCATION L/R/CL, and YD³.

SUMMARY OF EARTHWORK IN CUBIC YARDS

Table with columns: STATION, STATION, UNCL. EXCAV., EMBANK. +%, BORROW, WASTE, and PROJECT TOTALS.

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.

Approximate quantities only. Unclassified excavation, fine grading, clearing and grubbing and removal of existing pavement will be paid for at the lump sum price of "Grading".

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

GUARDRAIL SUMMARY

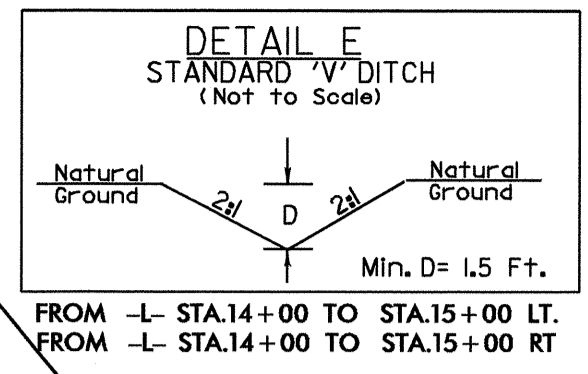
Table with columns: SURVEY LINE, BEG. STA., END STA., LOCATION, LENGTH (STRAIGHT, SHOP CURVED, DOUBLE FACED), WARRANT POINT (APPROACH END, TRAILING END), "N" DIST. FROM E.O.L., TOTAL SHOUL. WIDTH, FLARE LENGTH (APPROACH END, TRAILING END), W (APPROACH END, TRAILING END), ANCHORS (XI MOD, XI, GRAU 350, M-350, B-77, CAT-1, VI MOD, BIC, AT-1), IMPACT ATTENUATOR TYPE 350 (EA, G, NG), SINGLE FACED GUARDRAIL, REMOVE EXISTING GUARDRAIL, REMOVE AND STOCKPILE EXISTING GUARDRAIL, and REMARKS.

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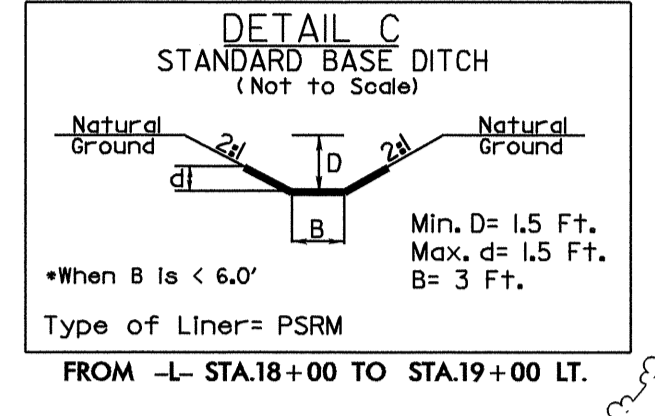
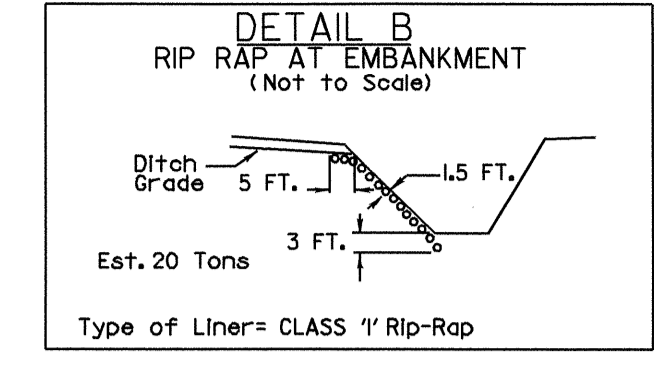
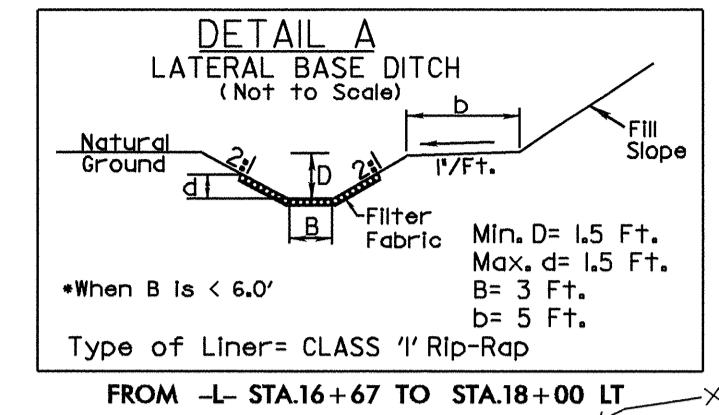
PROJECT REFERENCE NO.	SHEET NO.
B-4265	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



**L**

PI Sta 13+31.69 Δ = 26°02'56.2" (RT) D = 8'21'51.7" L = 311.43' T = 158.45' R = 685.00'	PI Sta 19+28.71 Δ = 42°40'26.6" (RT) D = 11'56'11.8" L = 357.51' T = 187.50' R = 480.00'
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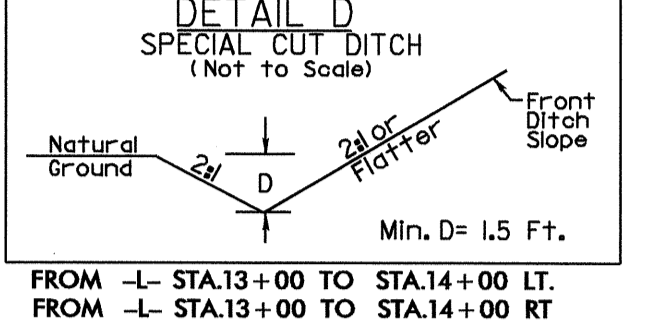
SE = SEE PLANS  
RO = SEE PLANS



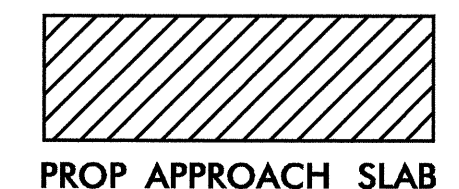
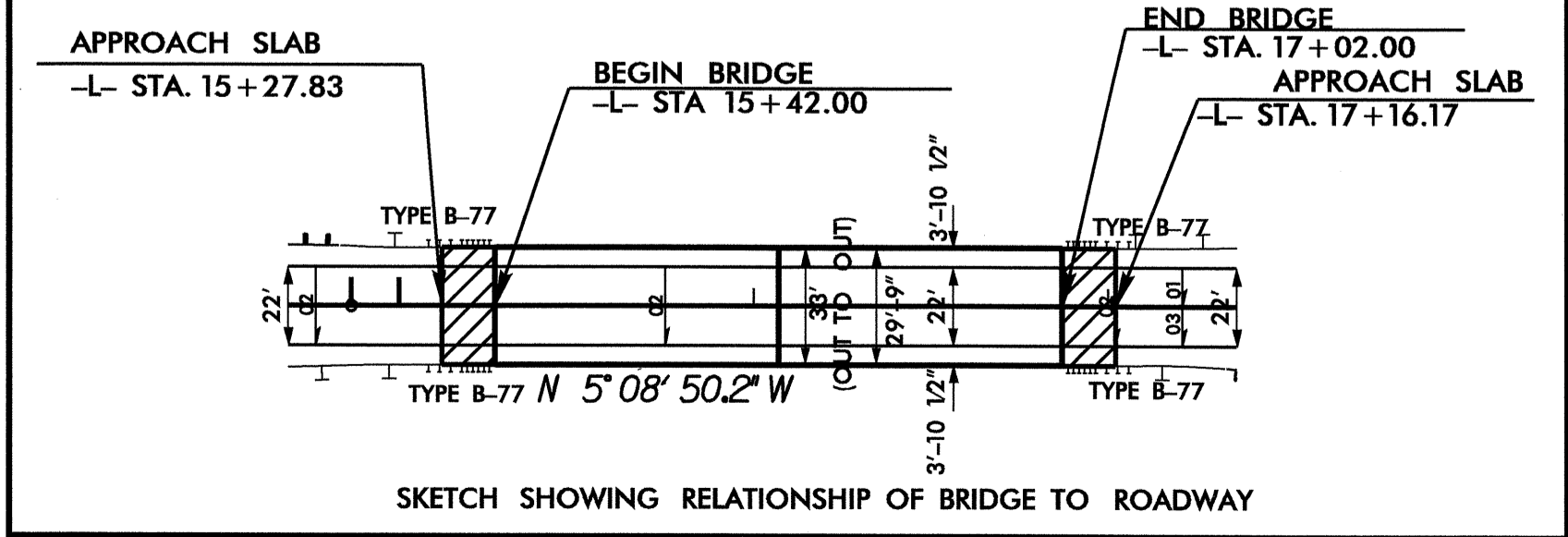
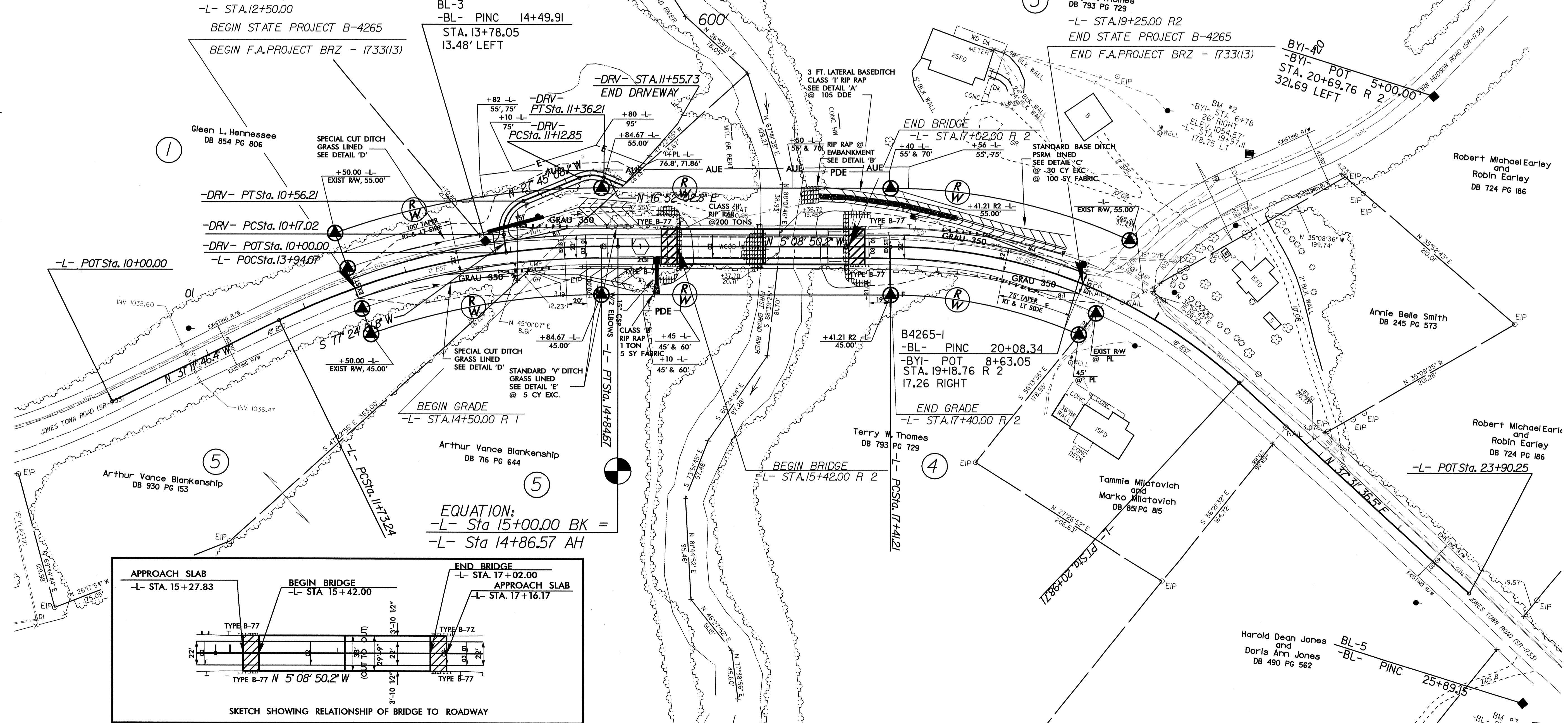
**DRV**

PI Sta 10+39.98 Δ = 74°50'50.1" (RT) D = 190°59'09.4" L = 39.19' T = 22.96' R = 30.00'	PI Sta 11+25.16 Δ = 44°37'10.8" (RT) D = 190°59'09.4" L = 23.36' T = 12.31' R = 30.00'
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SE = NC  
RO = SEE PLANS



Glenn Hennessee  
Tony Hennessee  
DB 286 PG 377



SEE SHEET 5 FOR -L- PROFILE  
SEE SHEET 5 FOR -DRV- PROFILE

5/28/99

PROJECT REFERENCE NO. B-4265	SHEET NO. 5
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 14493	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 26870

BM1 ELEVATION = 1045.25  
N 655895 E 1181397  
BL STATION 7+44 60' RIGHT  
RR SPIKE IN 24 SWEETGUM

BEGIN GRADE  
-L- STA. 14+49.50 R 1  
ELEV. = 1042.555'

**-L-**

Equation: Sta 15+00.00 (BK) = Sta 14+86.57 (AH)  
ELEV. 1,042.915

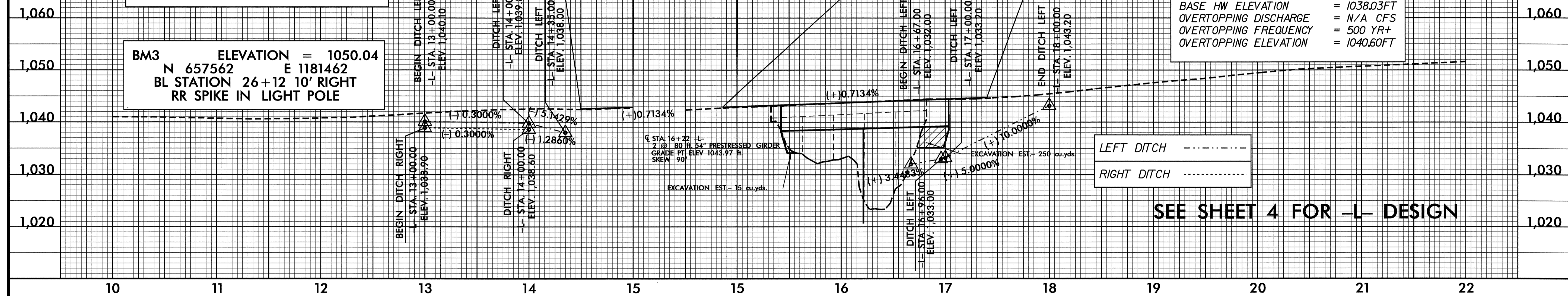
END GRADE  
-L- STA. 17+40.00 R 2  
ELEV. = 1044.72

STRUCTURE HYDRAULIC DATA

DESIGN DISCHARGE	= 4900 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 1036.33FT
BASE DISCHARGE	= 7100 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 1038.03FT
OVERTOPPING DISCHARGE	= N/A CFS
OVERTOPPING FREQUENCY	= 500 YR+
OVERTOPPING ELEVATION	= 1040.60FT

BM2 ELEVATION = 1054.57  
N 657248 E 1180952  
BY1 STATION 6+78 26' RIGHT  
L STATION 19+97.11' LEFT  
RR SPIKE IN PP

BM3 ELEVATION = 1050.04  
N 657562 E 1181462  
BL STATION 26+12 10' RIGHT  
RR SPIKE IN LIGHT POLE



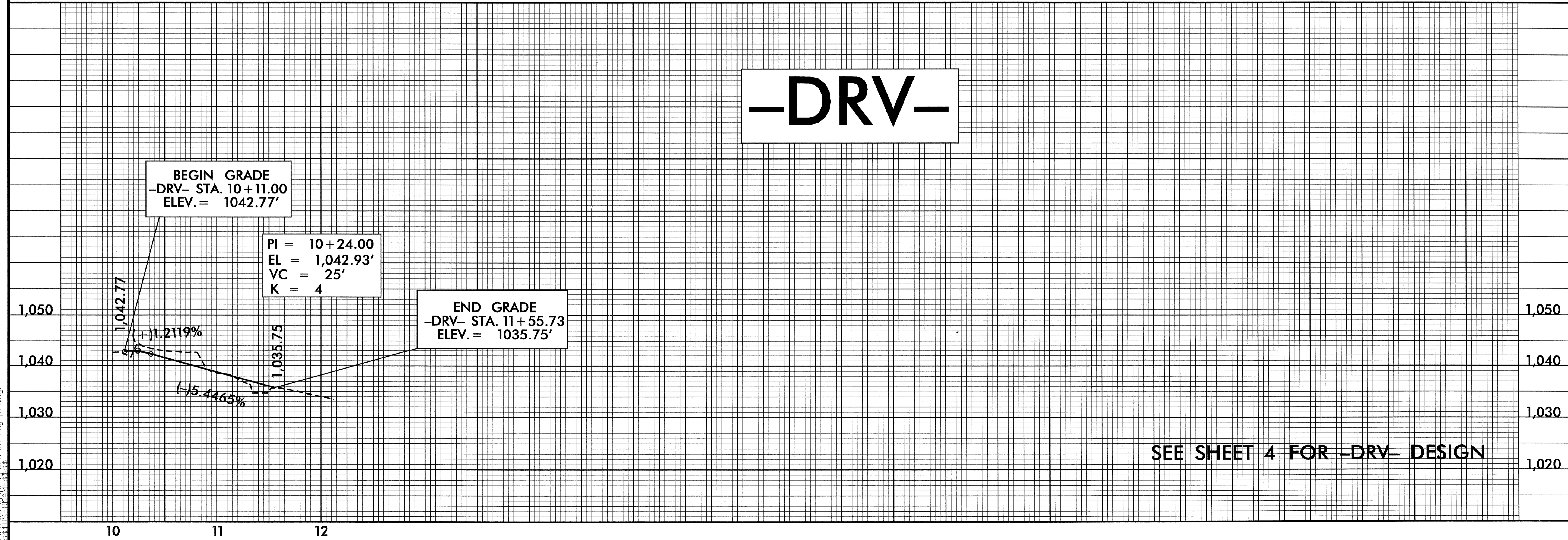
SEE SHEET 4 FOR -L- DESIGN

**-DRV-**

BEGIN GRADE  
-DRV- STA. 10+11.00  
ELEV. = 1042.77'

PI = 10+24.00  
EL = 1,042.93'  
VC = 25'  
K = 4

END GRADE  
-DRV- STA. 11+55.73  
ELEV. = 1035.75'



SEE SHEET 4 FOR -DRV- DESIGN

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