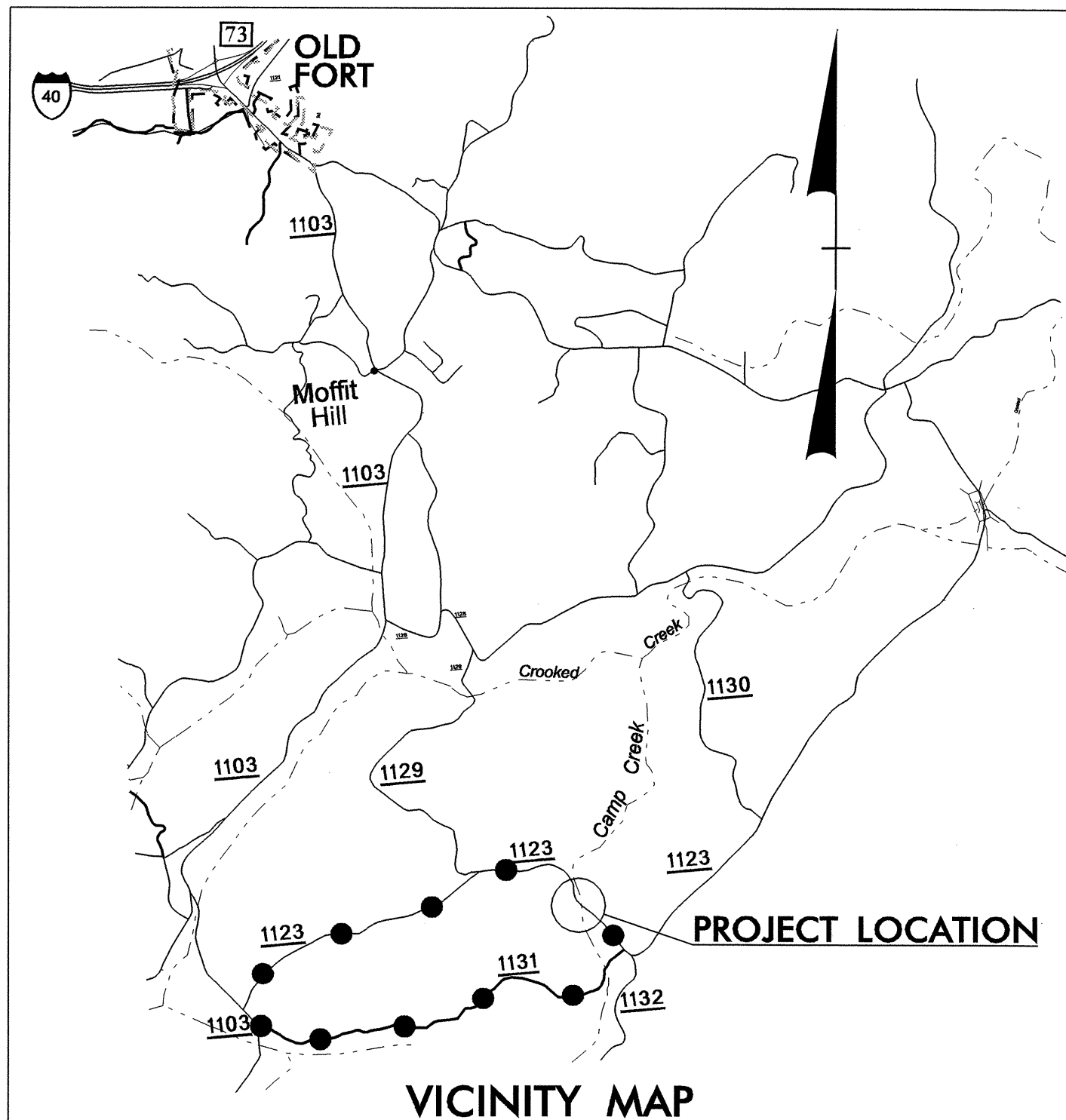


09/08/09

See Sheet 1-A For Index of Sheets



VICINITY MAP

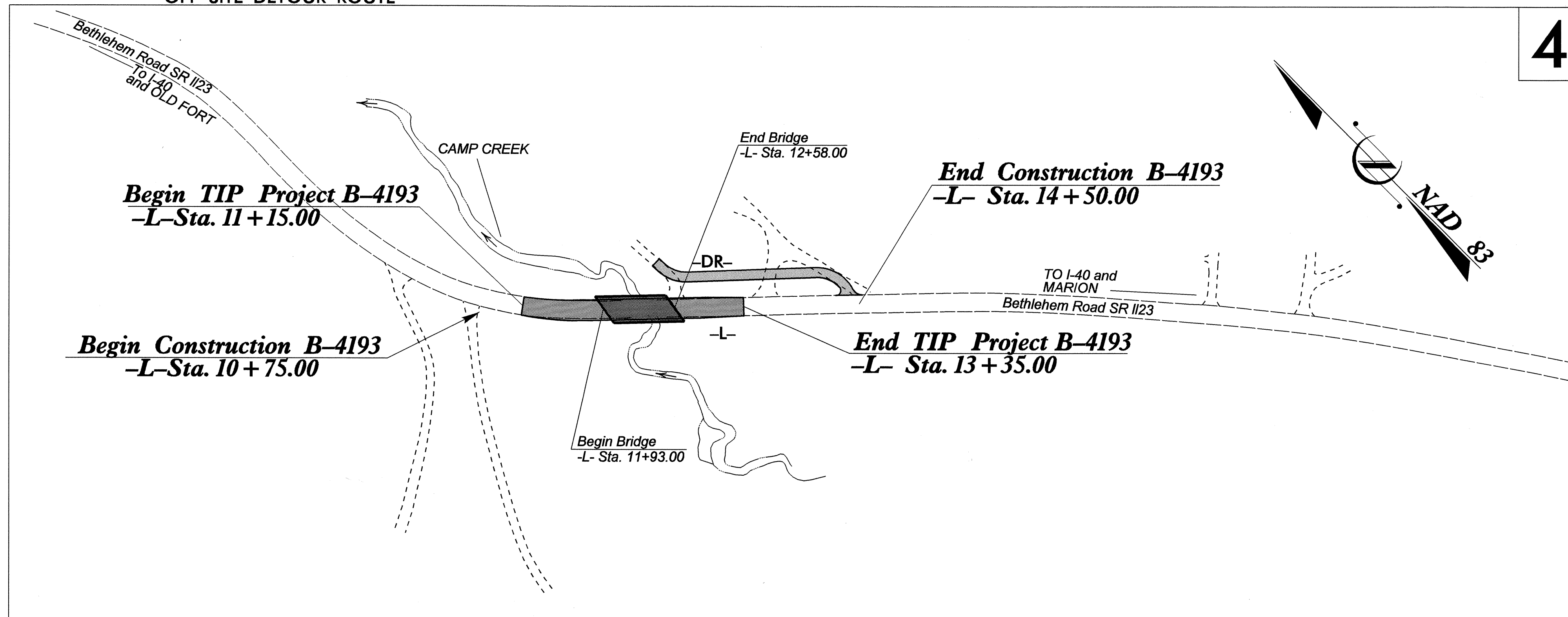
●●●● OFF SITE DETOUR ROUTE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
MCDOWELL COUNTY

LOCATION: Bridge #51 over Camp Creek and Approaches on SR 1123, Bethlehem Road

TYPE OF WORK: Grading, Paving, Drainage and Structure

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4193	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33540.1.1	BRZ-1123(10)	PE	
33540.2.1	BRZ-1123(10)	R/W & UTILITIES	
33540.3.1	BRZ-1123(10)	CONSTRUCTION	

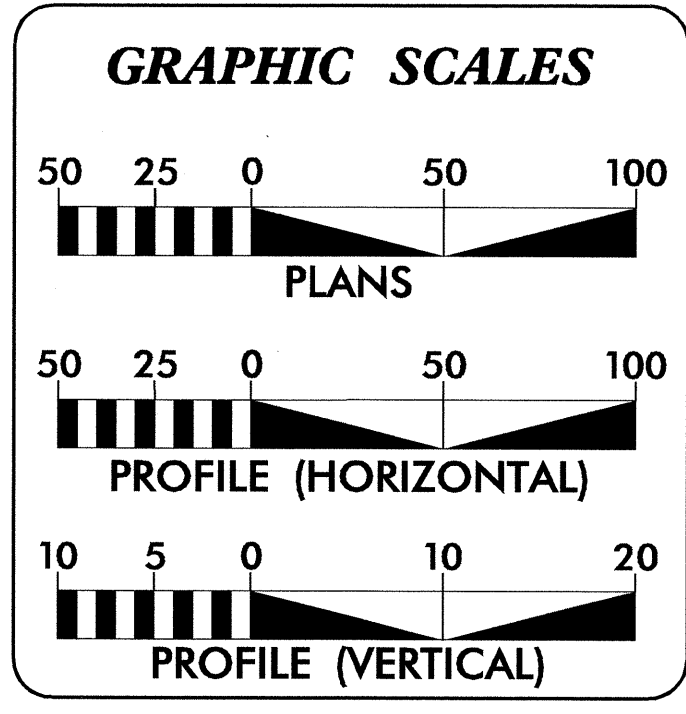


4

**Design Exception required for Design Speed 30 mph, Sag Vertical Curve K Factor, and Stopping Sight Distance

TIP PROJECT: B-4193

CONTRACT: C201870



DESIGN DATA

ADT 2006 =	400 vpd
ADT 2025 =	700 vpd
DHV =	10 %
D =	60 %
T =	5 % *
**V =	30 MPH
* TTST 2%	* DUAL 3%

PROJECT LENGTH

Length Roadway TIP Project B-4193 =	0.030 Miles
Length Structures TIP Project B-4193 =	0.012 Miles
Total Length TIP Project B-4193 =	0.042 Miles

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

2006 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: February 5, 2007	James Speer, PE PROJECT ENGINEER
LETTING DATE: July 15, 2008	John Lansford, PE PROJECT DESIGN ENGINEER

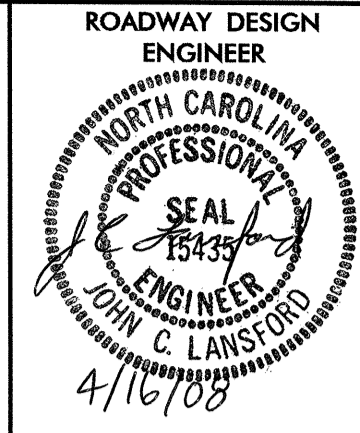
HYDRAULICS ENGINEER

ROADWAY DESIGN ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER

07-APR-2008 09:19
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\$\$\$\$\$USERNAME\$\$\$\$\$



SHEET NUMBER	INDEX OF SHEETS 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, TYPICAL SECTIONS, AND DETAIL FOR EXTRA LENGTH GUARDRAIL POSTS
2-A	DETAIL OF ANCHORAGE FOR FRAMES
3	SUMMARY OF QUANTITIES
3-A	SUMMARY OF EARTHWORK, PAVEMENT REMOVAL SUMMARY
3-B	SUMMARY OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER), GUARDRAIL SUMMARY
4	PLAN SHEET
5	PROFILE SHEET
TCP-1 THRU TCP-4	TRAFFIC CONTROL PLANS
SD-1	SPECIAL SIGN DESIGN DETAIL
EC-1 THRU EC-5	EROSION CONTROL PLANS
UD-1 THRU UD-2	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTION SUMMARY SHEET
X-2 THRU X-12	CROSS-SECTIONS
S-1 THRU S-17	STRUCTURE PLANS

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

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

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 Superlevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation - Method 'A'
310.10	Driveway Pipe Construction
DIVISION 4 - MAJOR STRUCTURES	
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
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
862.04	Anchoring End of Guardrail - B-77 and B-83 Anchor Units
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	①23
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	-WLB-
Proposed Wetland Boundary	-WLB-
Existing Endangered Animal Boundary	-EAB-
Existing Endangered Plant Boundary	-EPB-

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○ S
Well	○ W
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	□ †
Building	□
School	□
Church	□
Dam	□

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	□
Jurisdictional Stream	-JS-
Buffer Zone 1	-BZ 1-
Buffer Zone 2	-BZ 2-
Flow Arrow	←
Disappearing Stream	→
Spring	○
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	-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
Proposed Wheel Chair Ramp Curb Cut	○ WCC
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	□ Vineyard

EXISTING STRUCTURES:

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

UTILITIES:

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

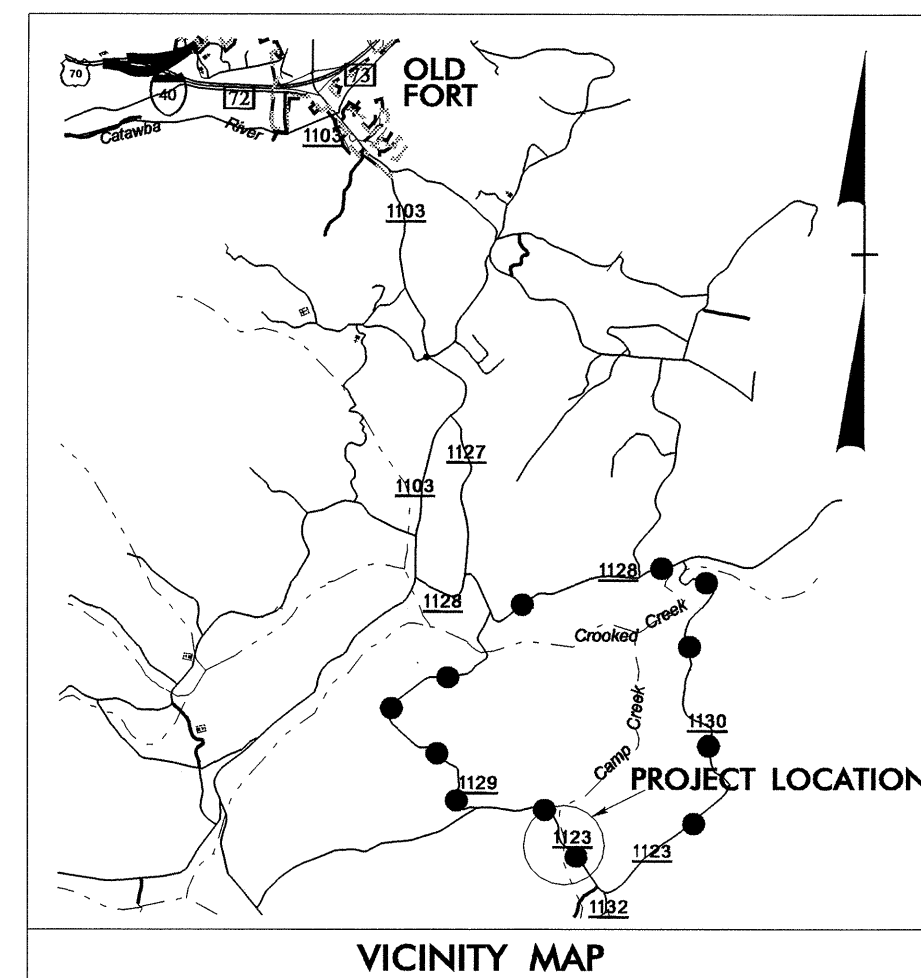
SANITARY SEWER:

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

MISCELLANEOUS:

Utility Pole	○
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	□
Utility Unknown U/G Line	-----
U/G Tank; Water, Gas, Oil	□
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-4193



BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	BL-1		678407.2532	1060546.3332	1485.77	OUTSIDE PROJECT LIMITS	
2	BL-2		678308.2113	1061003.0342	1474.30	OUTSIDE PROJECT LIMITS	
3	BL-3		678017.5019	1061210.5037	1490.36	OUTSIDE PROJECT LIMITS	
4	BL-4		677629.0283	1061235.2297	1486.47	10+34.54	15.11 RT
GPS1	GPS STA B4193-1		677195.8110	1061683.7170	1497.32	OUTSIDE PROJECT LIMITS	
GPS2	GPS STA B4193-2		676219.7530	1061991.4230	1493.18	OUTSIDE PROJECT LIMITS	

.....
 BM1 ELEVATION = 1486.56
 N 677931 E 1061253
 L STATION 10+00
 N 3° 15' 27.5" E DIST 263.81
 RR SPIKE IN TREE

.....
 BM2 ELEVATION = 1484.61
 N 677549 E 1061239
 L STATION 11+01.49 RIGHT
 RR SPIKE IN TREE

.....
 BM3 ELEVATION = 1494.93
 N 677190 E 1061639
 L STATION 15+17
 S 33° 15' 16.6" E DIST 113.36
 RR SPIKE IN TREE

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4193-1" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 677195.8110(±) EASTING: 1061683.7170(±) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9999990383 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4193-1" TO -L- STATION 10+00.00 IS N 43°25'02" W 649.18'

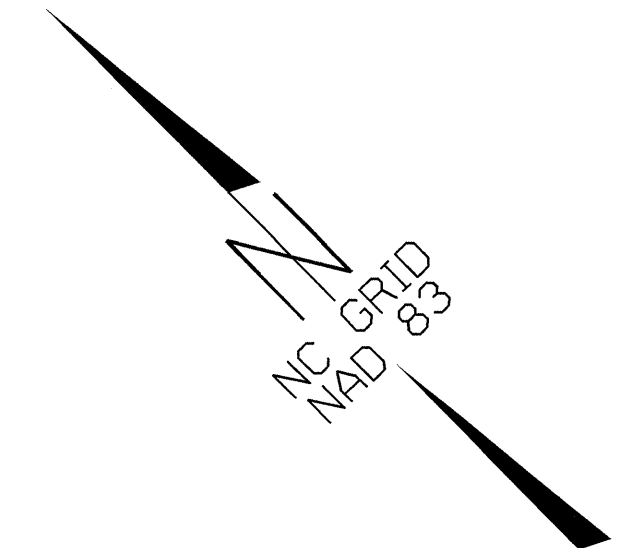
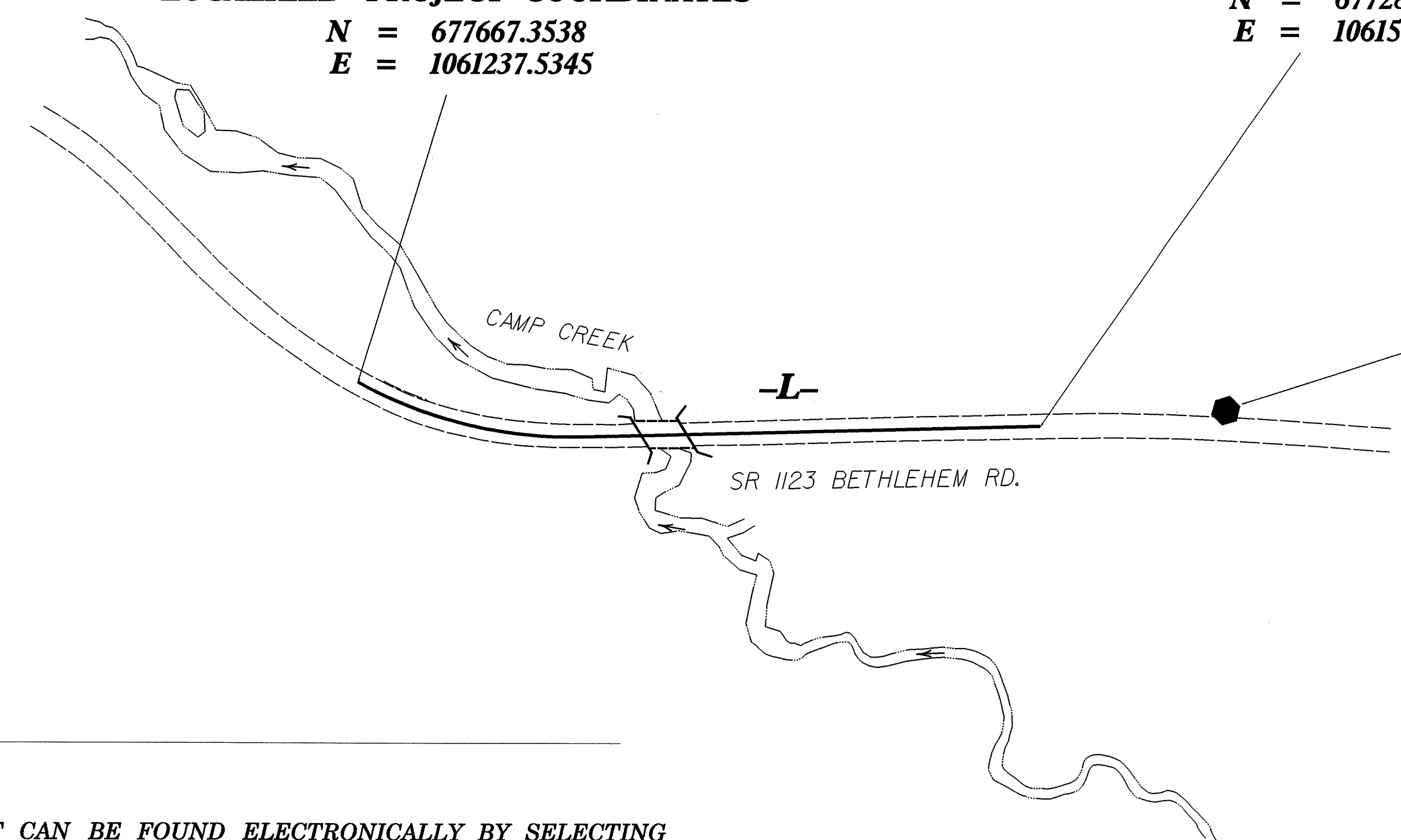
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

**-L- STA.10+00.00 BEGIN STATE PROJECT 33540.1.1
 LOCALIZED PROJECT COORDINATES**
 N = 677667.3538
 E = 1061237.5345

**-L- STA.15+17.06 END STATE PROJECT 33540.1.1
 LOCALIZED PROJECT COORDINATES**
 N = 677285.0897
 E = 1061576.9630

**NCDOT GPS STA B4193-1
 LOCALIZED PROJECT COORDINATES**
 N = 677195.8110
 E = 1061683.7170

**NCDOT GPS STA B4193-2
 LOCALIZED PROJECT COORDINATES**
 N = 676219.7530
 E = 1061991.4230



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:
 B4193_LS_CONTROL_060321.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)

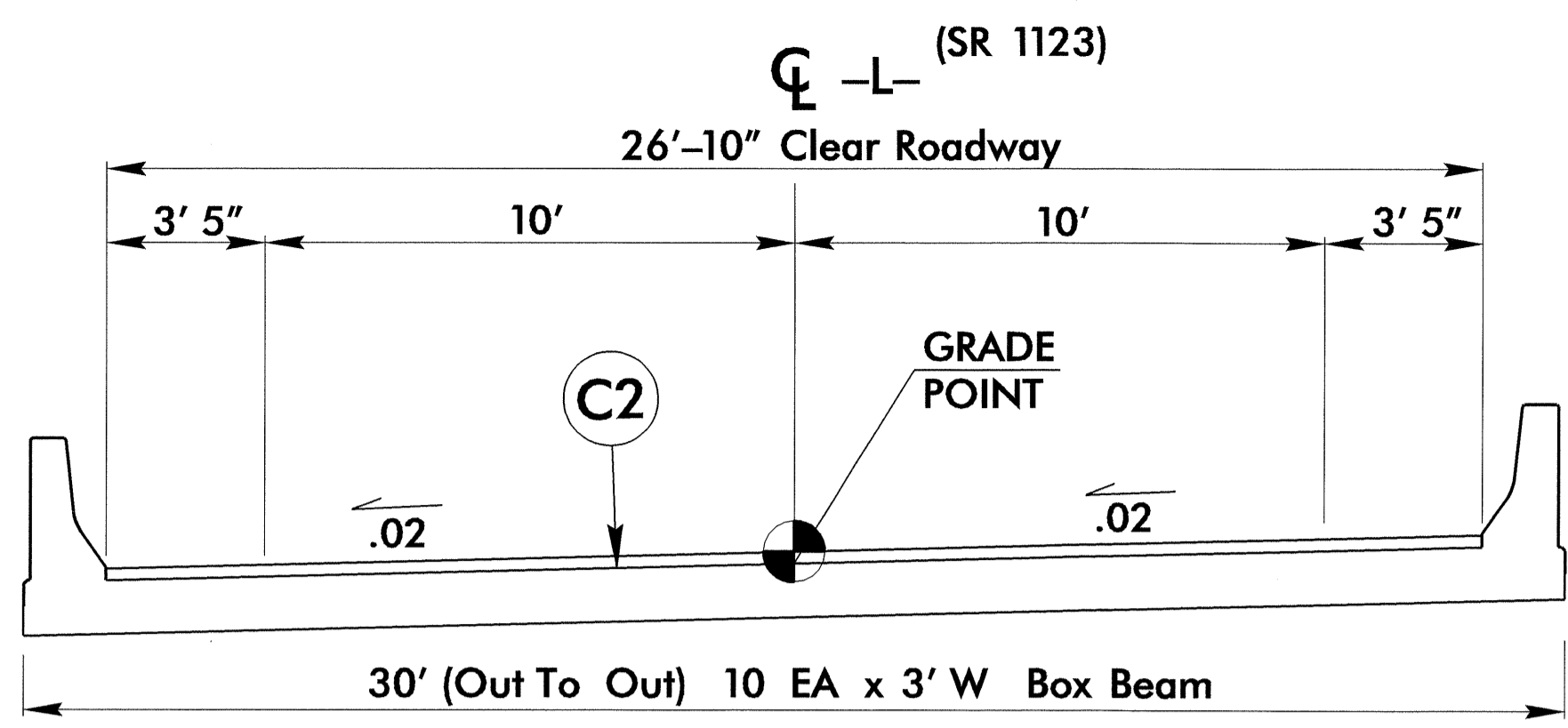
NOTE: DRAWING NOT TO SCALE

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5/14/99

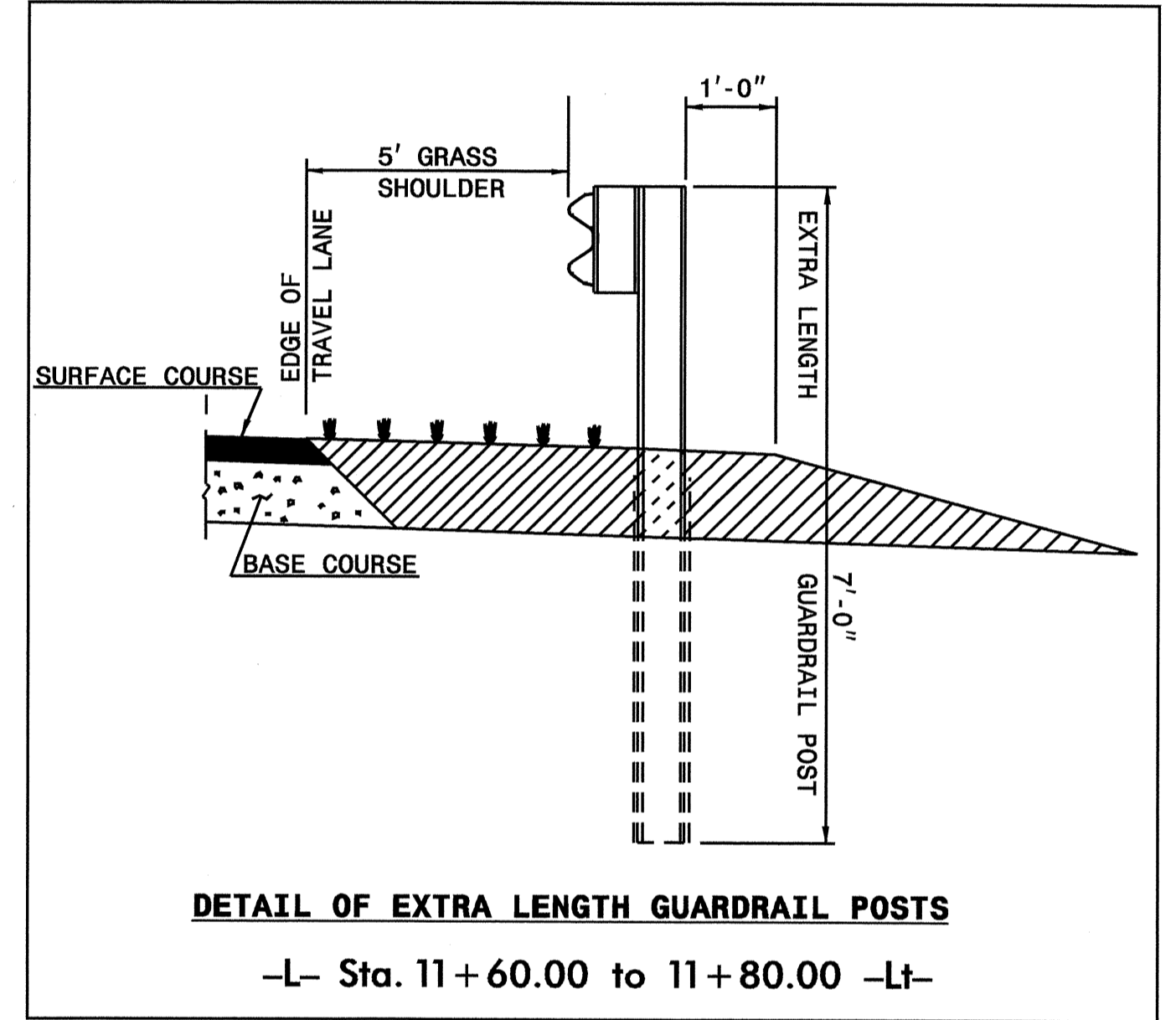
PROJECT REFERENCE NO. B-4193	SHEET NO. 2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 	PAVEMENT DESIGN ENGINEER

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
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
E	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
T	EARTH MATERIAL.

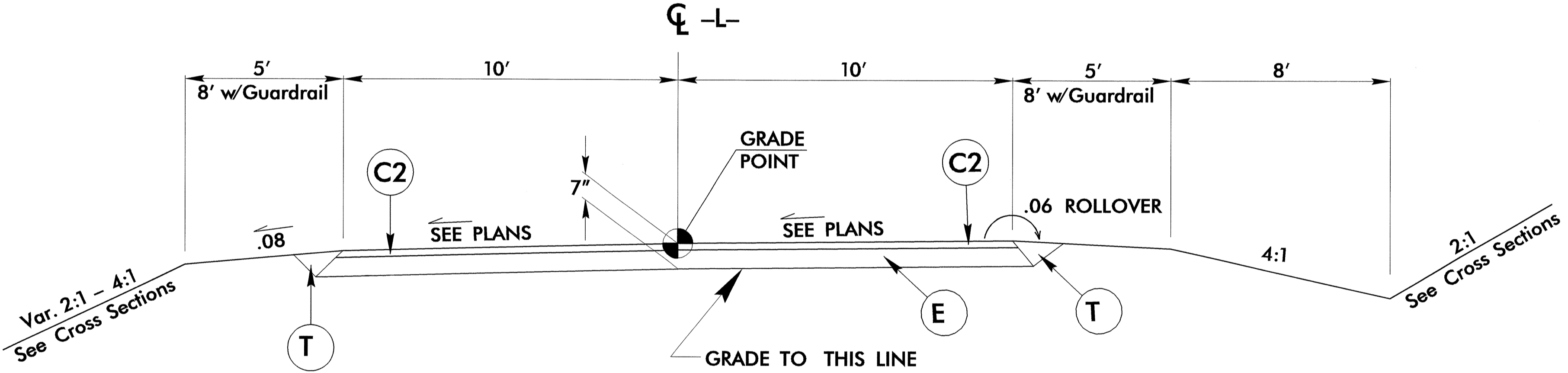


TYPICAL SECTION ON BRIDGE
-L- Sta. 11+93.00 to -L- Sta. 12+58.00

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

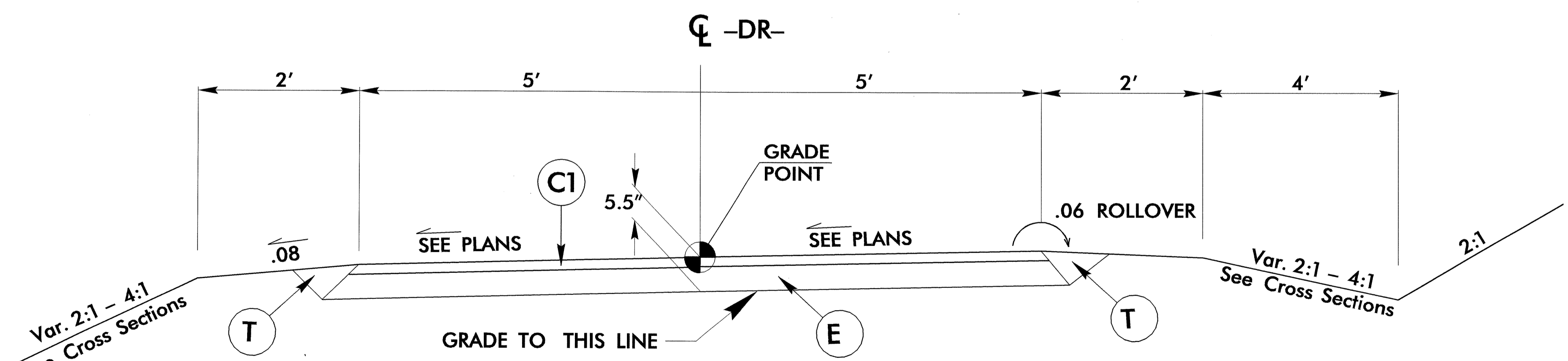


DETAIL OF EXTRA LENGTH GUARDRAIL POSTS
-L- Sta. 11+60.00 to 11+80.00 -Lt-



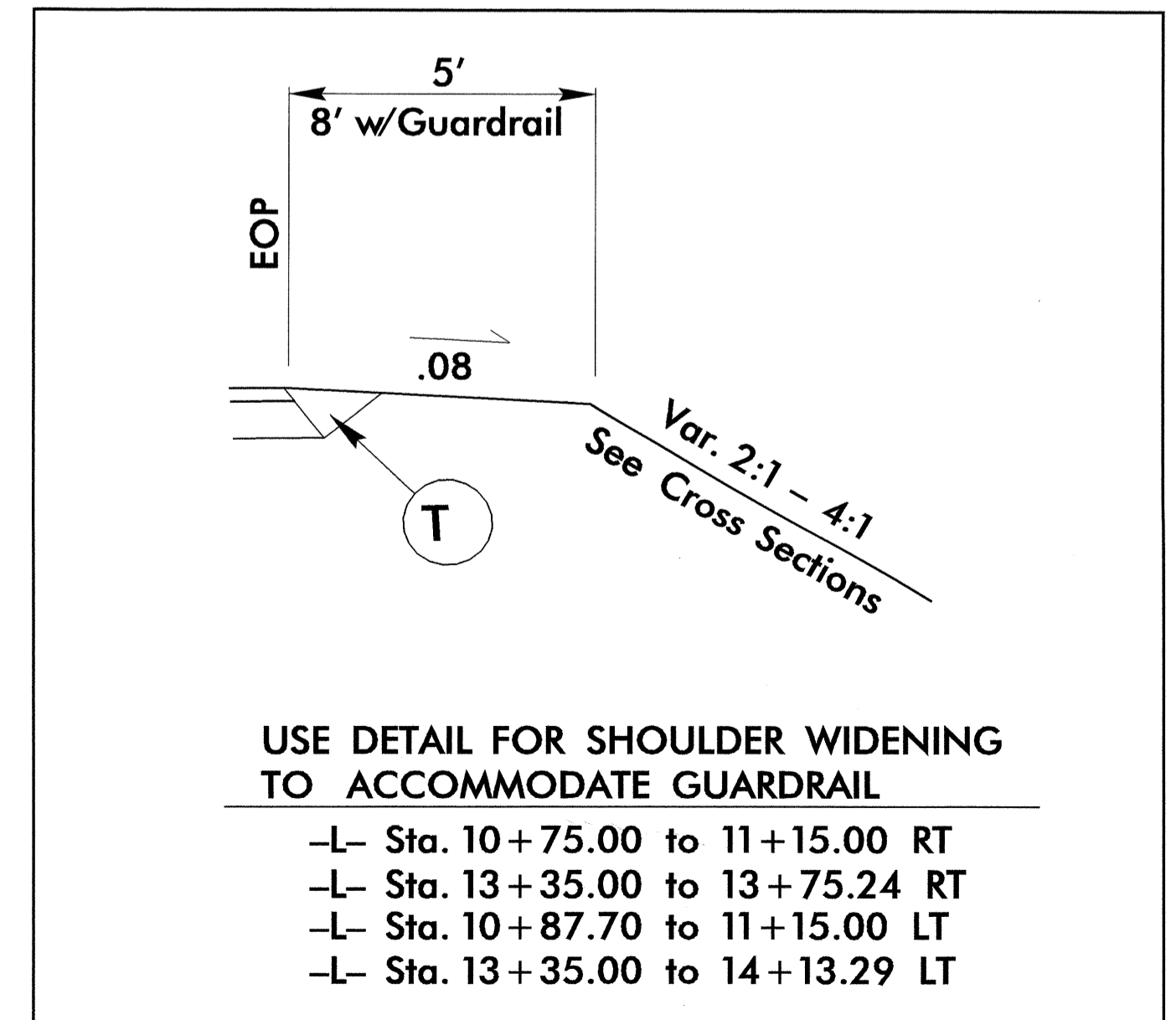
TYPICAL SECTION NO. 1.

USE TYPICAL SECTION NO. 1
-L- Sta. 11+15.00 to 11+93.00
-L- Sta. 12+58.00 to 13+35.00



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2
-DR- Sta. 10+09.34 to 12+16.00



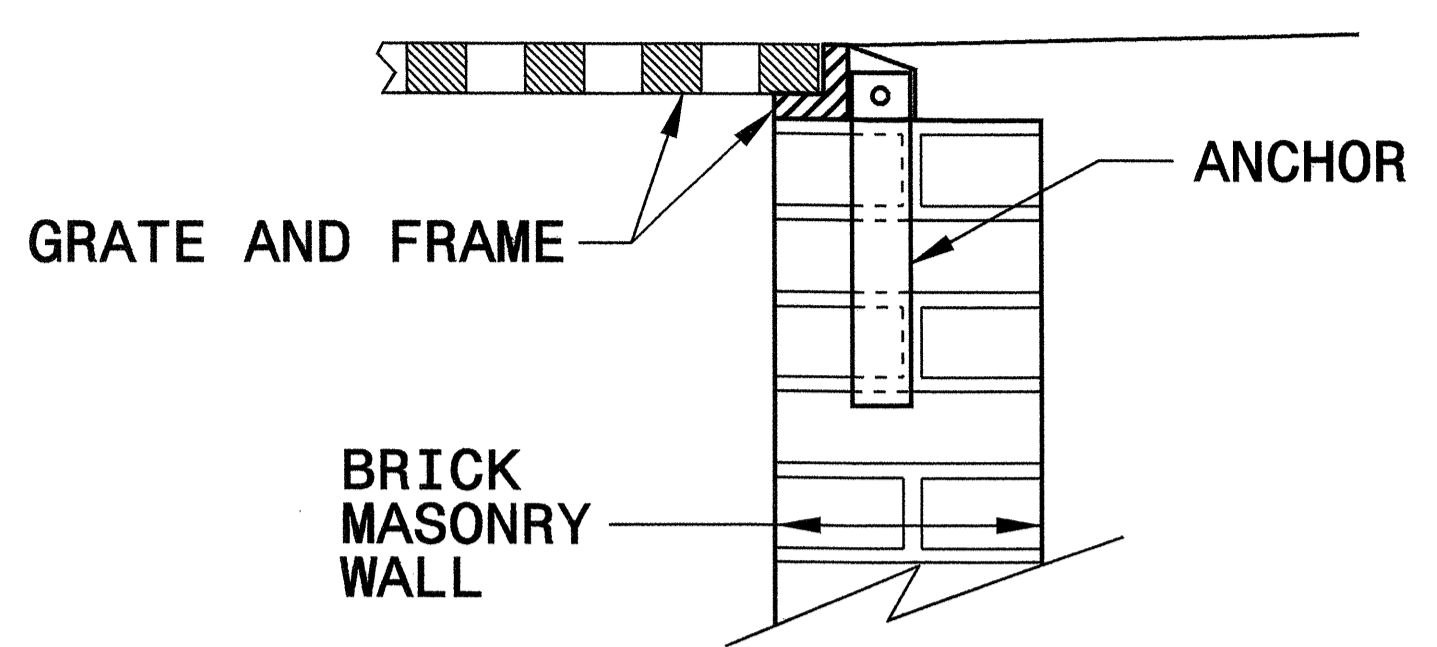
USE DETAIL FOR SHOULDER WIDENING TO ACCOMMODATE GUARDRAIL
-L- Sta. 10+75.00 to 11+15.00 RT
-L- Sta. 13+35.00 to 13+75.24 RT
-L- Sta. 10+87.70 to 11+15.00 LT
-L- Sta. 13+35.00 to 14+13.29 LT

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\$\$\$\$\$SERVING\$\$\$\$\$

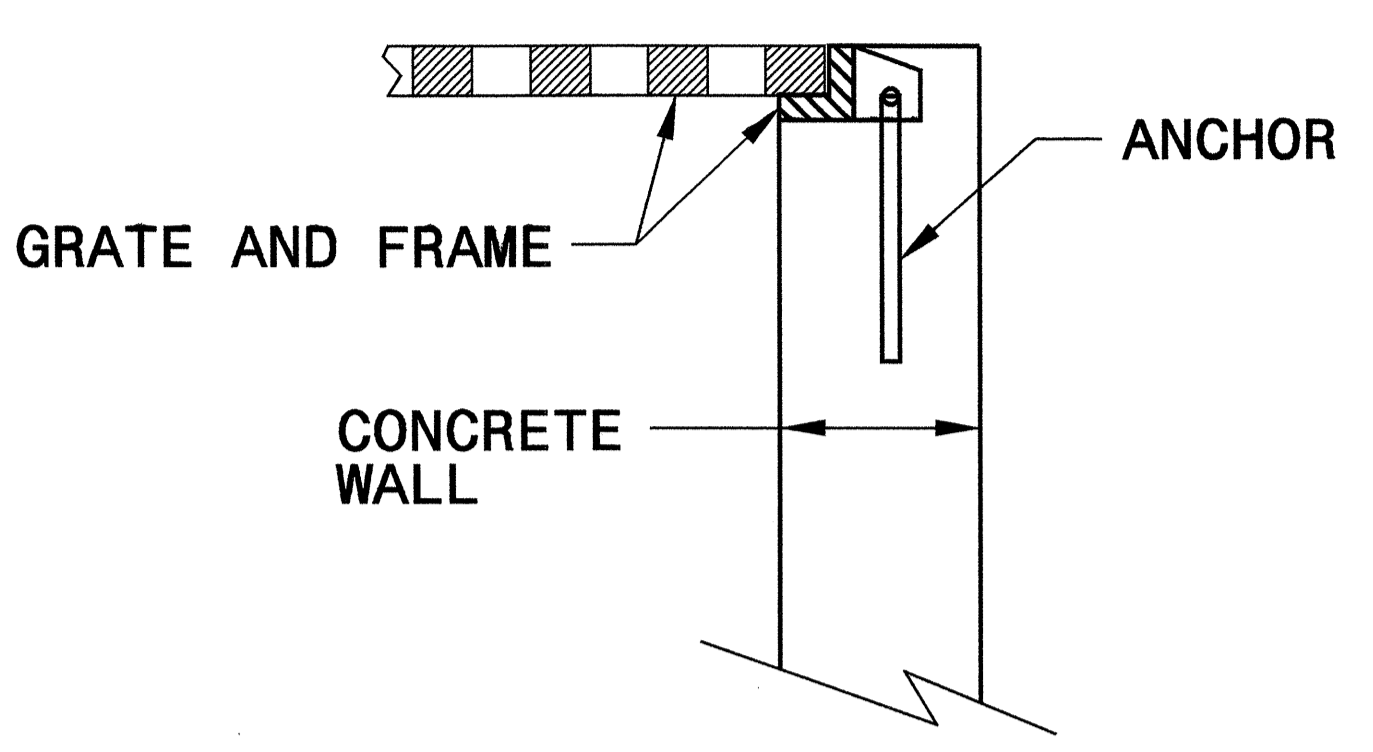
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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

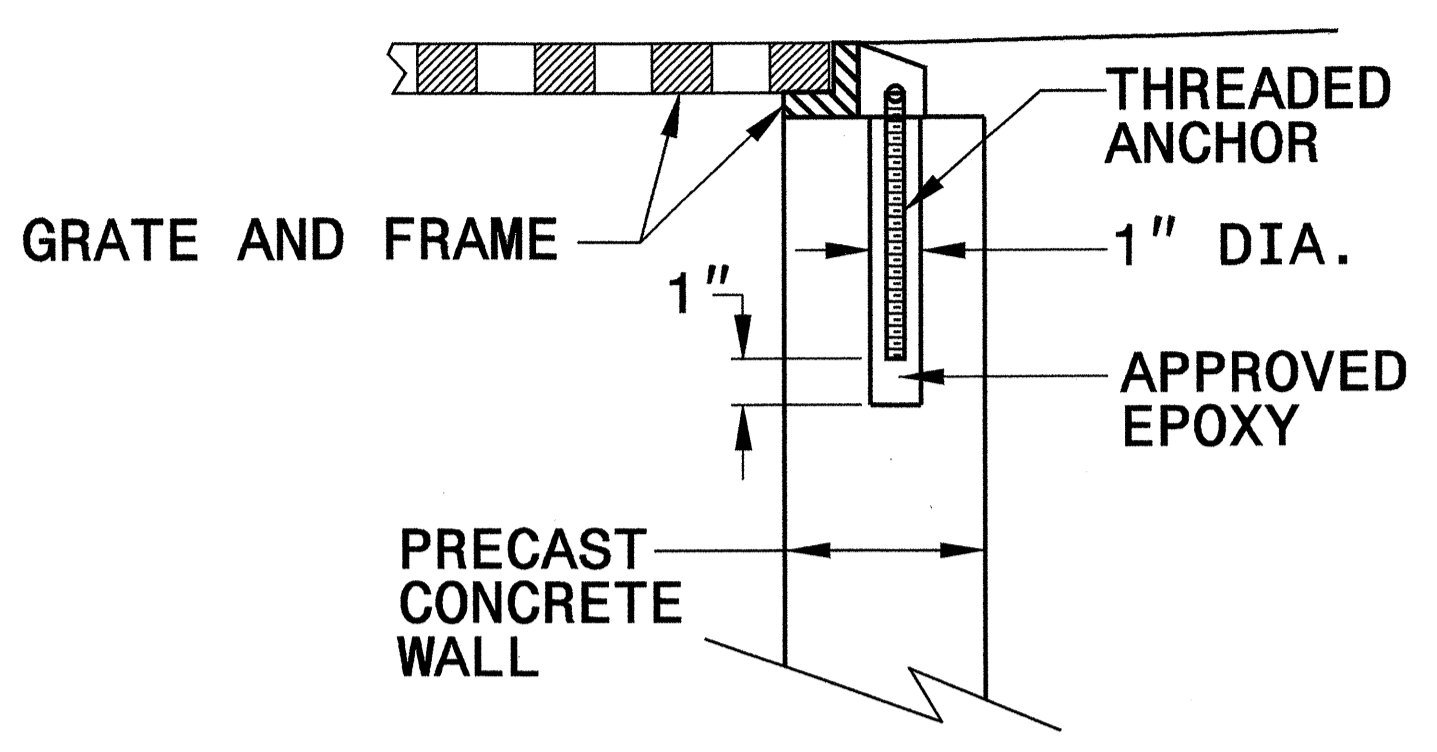
SHEET 1 OF 1
840D25



BRICK MASONRY CONSTRUCTION



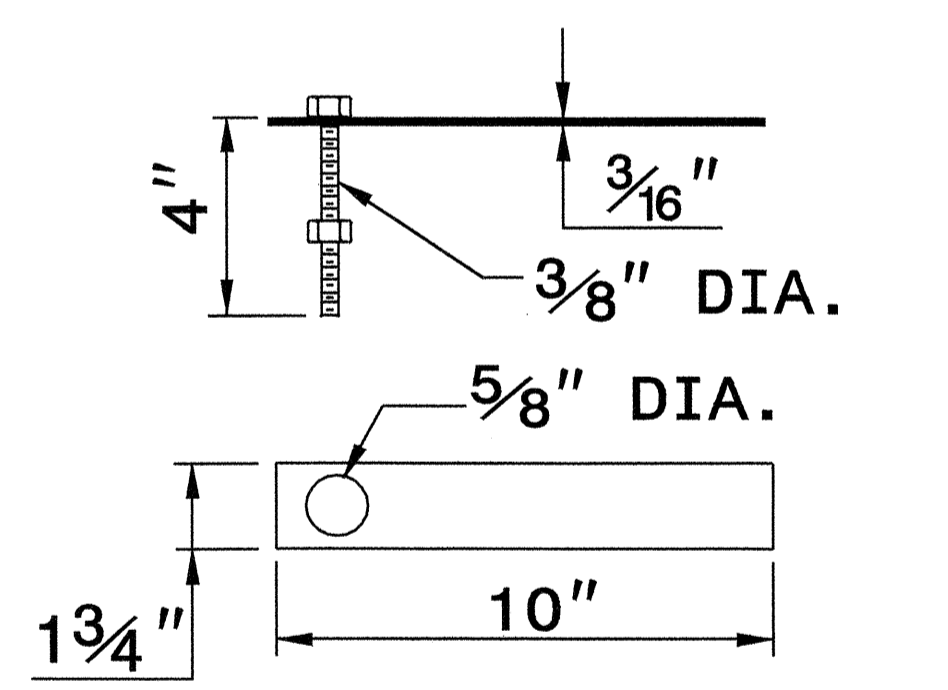
CONCRETE CONSTRUCTION



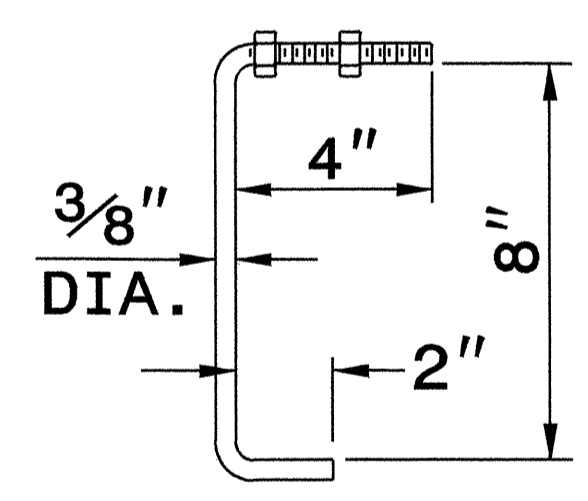
PRECAST CONCRETE CONSTRUCTION

DETAIL SHOWING ANCHORAGE OF FRAME FOR GRATED DROP INLET

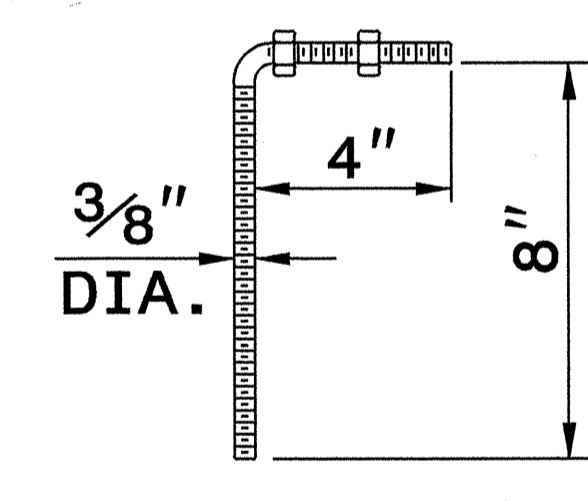
NOTE:
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



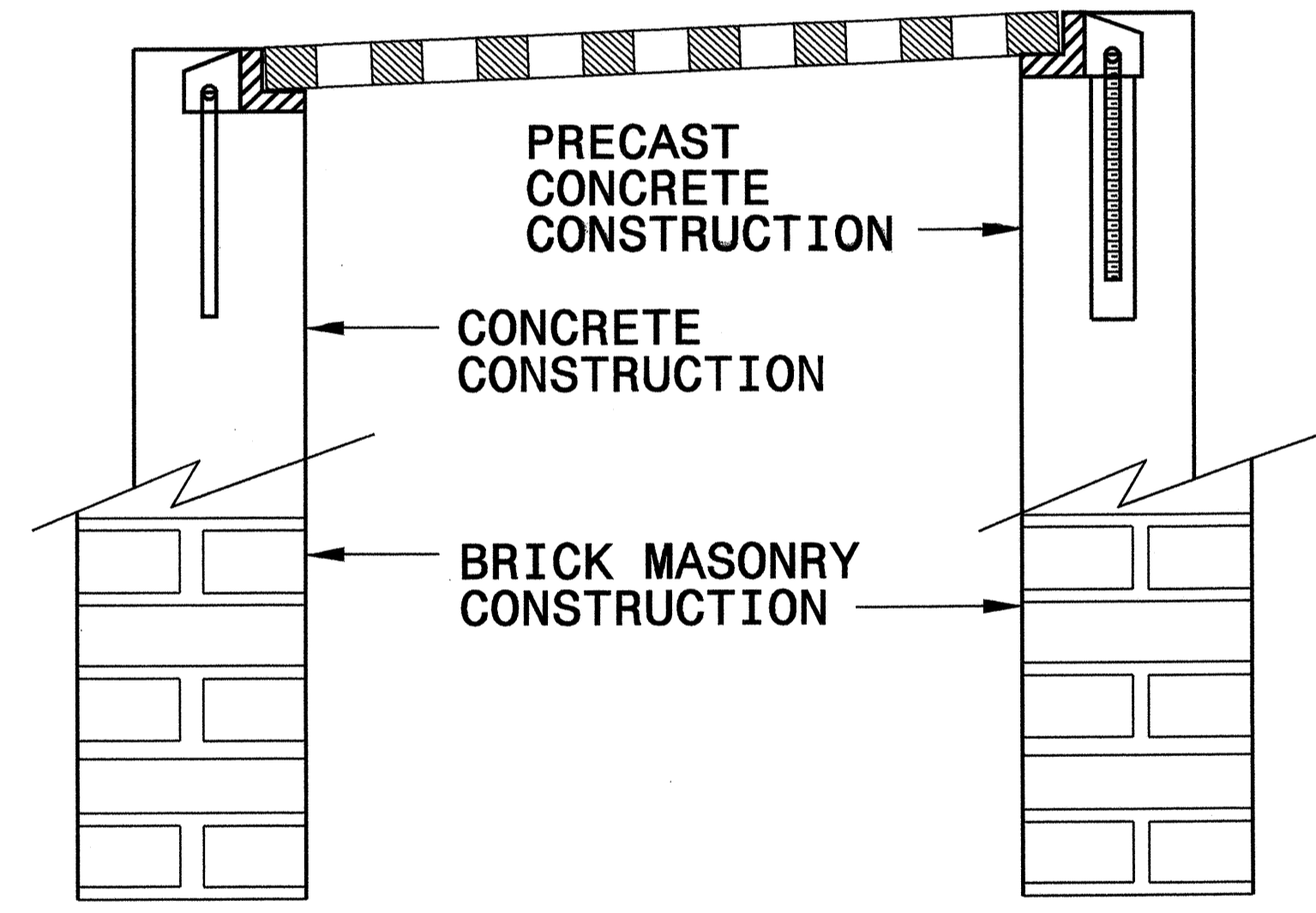
MASONRY ANCHOR
3/8" DIA. BOLT WITH PLATE



CONCRETE ANCHOR
3/8" DIA. BENT BAR



PRECAST CONCRETE ANCHOR
3/8" DIA. BENT BAR



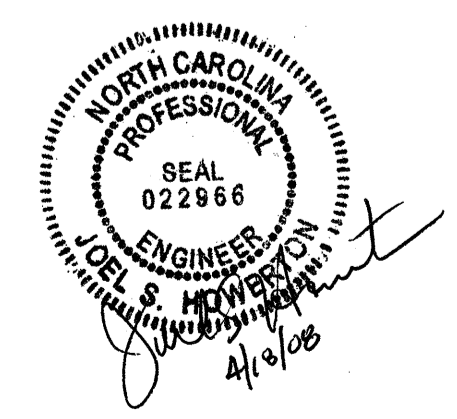
FRAME AND GRATE INSTALLATION FOR NORMAL CROWN AND SUPERELEVATED SECTIONS

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

01-MAR-2007 09:04 s:\contracts\spec\special_details\erica\d\stds\06\stds to special_details\840D25 anchorage for frames\0840d25.dgn jhewitt



**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.:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C201870

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING
0057000000-E	226	600	CY	UNDERCUT EXCAVATION
0080000000-E	SP	600	TON	CLASS IV SUBGRADE STABILIZATION
0134000000-E	240	9	CY	DRAINAGE DITCH EXCAVATION
0195000000-E	265	500	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	500	SY	FABRIC FOR SOIL STABILIZATION
0318000000-E	300	12	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRS
0343000000-E	310	64	LF	15" SIDE DRAIN PIPE
0366000000-E	310	40	LF	15" RC PIPE CULVERTS, CLASS III
0378000000-E	310	8	LF	24" RC PIPE CULVERTS, CLASS III
1220000000-E	545	25	TON	INCIDENTAL STONE BASE
1489000000-E	610	125	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1525000000-E	610	115	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
1560000000-E	620	13	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
1693000000-E	654	25	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
2000000000-N	806	13	EA	RIGHT OF WAY MARKERS
2022000000-E	815	115	CY	SUBDRAIN EXCAVATION
2033000000-E	815	85	CY	SUBDRAIN FINE AGGREGATE
2044000000-E	815	500	LF	6" PERFORATED SUBDRAIN PIPE
2055000000-E	815	15	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)
2253000000-E	840	1	CY	PIPE COLLARS

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
2556000000-E	846	32	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	1	TON	RIP RAP, CLASS B
3656000000-E	876	305	SY	FILTER FABRIC FOR DRAINAGE
4400000000-E	1110	258	SF	WORK ZONE SIGNS (STATIONARY)
4405000000-E	1110	96	SF	WORK ZONE SIGNS (PORTABLE)
4410000000-E	1110	57	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4430000000-N	1130	25	EA	DRUMS
4445000000-E	1145	112	LF	BARRICADES (TYPE III)
4450000000-N	1150	32	HR	FLAGGER
4810000000-E	1205	3,000	LF	PAINT PAVEMENT MARKING LINES (4")
6000000000-E	1605	425	LF	TEMPORARY SILT FENCE
6006000000-E	1610	200	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	40	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	60	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 SEEDING
6029000000-E	SP	175	LF	SAFETY FENCE
6030000000-E	1630	135	CY	SILT EXCAVATION
6036000000-E	1631	210	SY	MATTING FOR EROSION CONTROL

ItemNumber	Sec #	Quantity	Unit	Description
6038000000-E	SP	125	SY	PERMANENT SOIL REINFORCEMENT MAT
6042000000-E	1632	100	LF	1/4" HARDWARE CLOTH
6071030000-E	SP	40	LF	COIR FIBER BAFFLES
6084000000-E	1660	1.5	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	1.25	TON	FERTILIZER TOPDRESSING
6114000000-N	SP	2	HR	SPECIALIZED HAND MOWING
6117000000-N	SP	12	EA	RESPONSE FOR EROSION CONTROL

B-4193

SUMMARY OF EARTHWORK IN CUBIC YARDS

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.

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT + %	BORROW	WASTE
-L- STA 10+75.00 TO 11+93.00	31		106	75	
SUBTOTAL	31		106	75	
-L- STA 12+58.00 TO 14+50.00	40		51	11	
-DR- STA 10+10.00 TO 12+16.00	112		63		49
SUBTOTAL	152		114	11	49
TOTAL	183		220	86	49
LOSS DUE TO CLEARING AND GRUBBING	-50			50	
WASTE IN LIEU OF BORROW				-49	-49
PROJECT TOTAL	133		220	87	
5% FOR BORROW PIT				5	
GRAND TOTAL	133			92	
SAY	140			100	
CONTINGENCY UNDERCUT		600			
DDE = 9 CY					

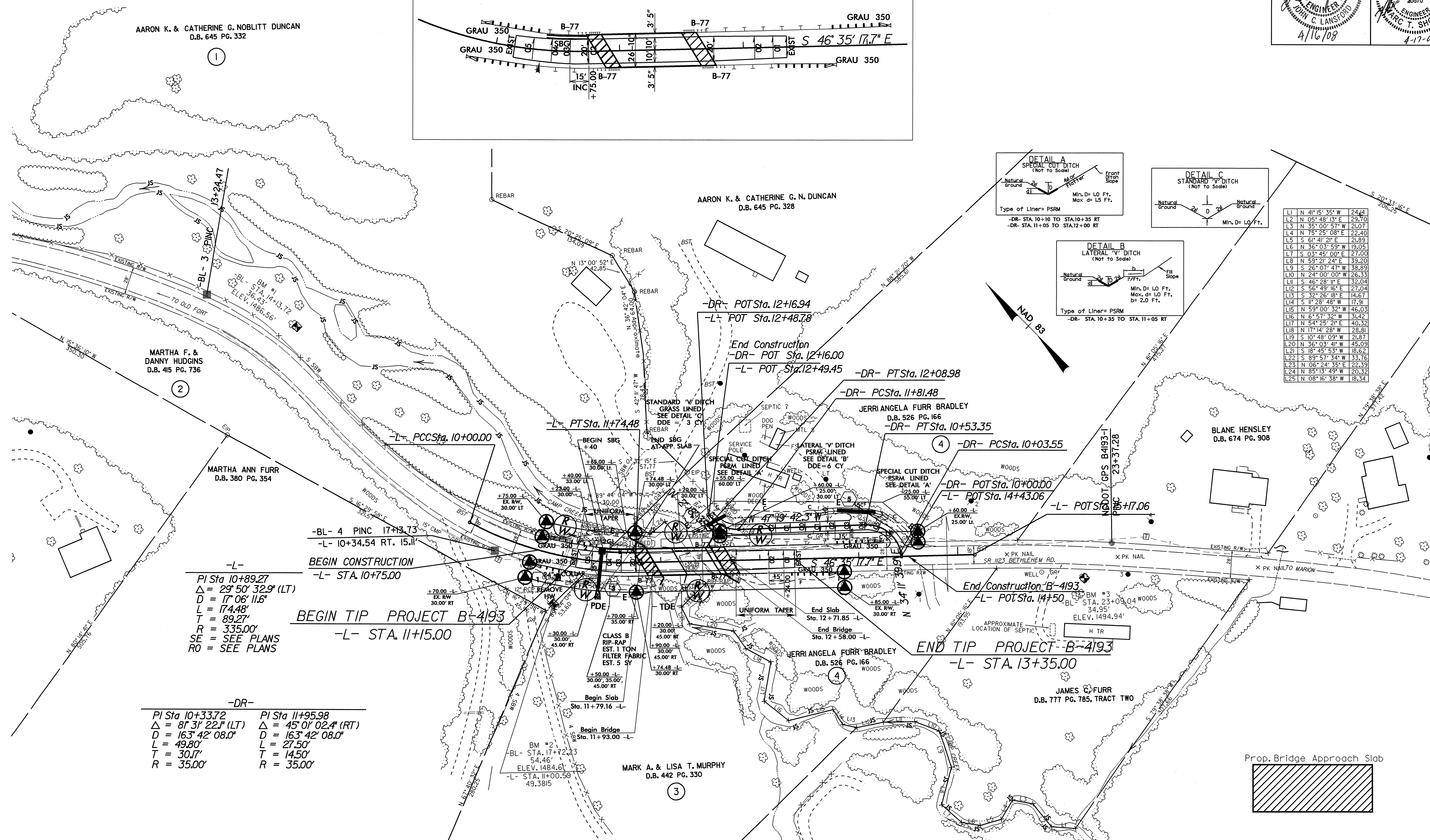
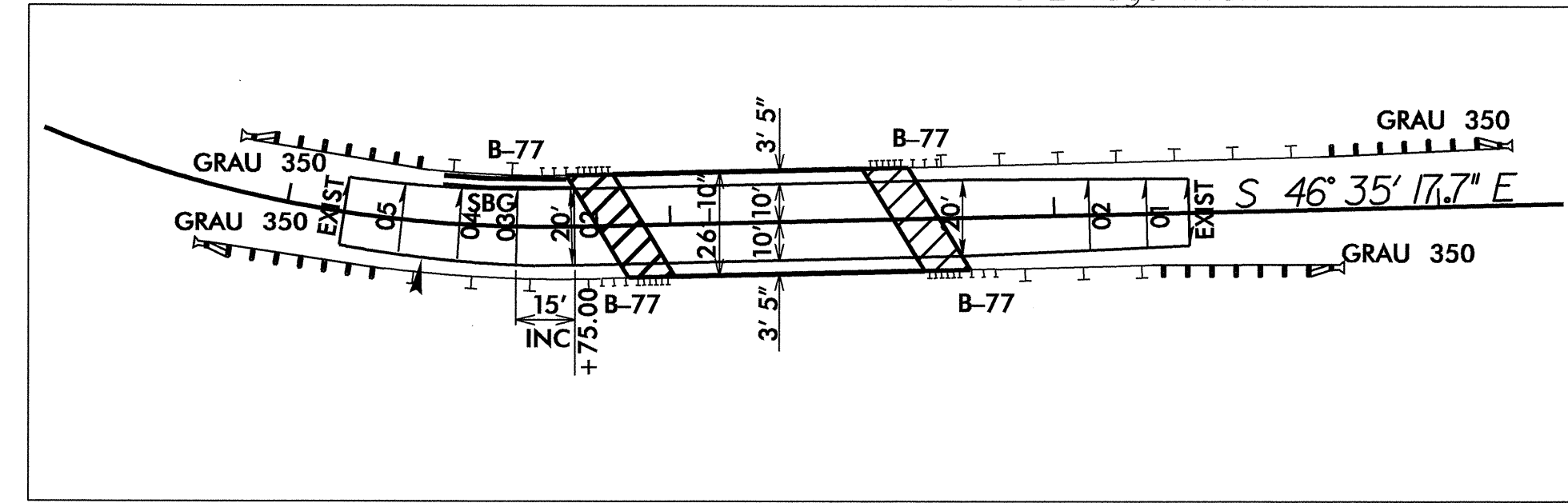
Note: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Clearing & Grubbing, Fine Grading and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

PAVEMENT REMOVAL SUMMARY IN SQUARE YARDS

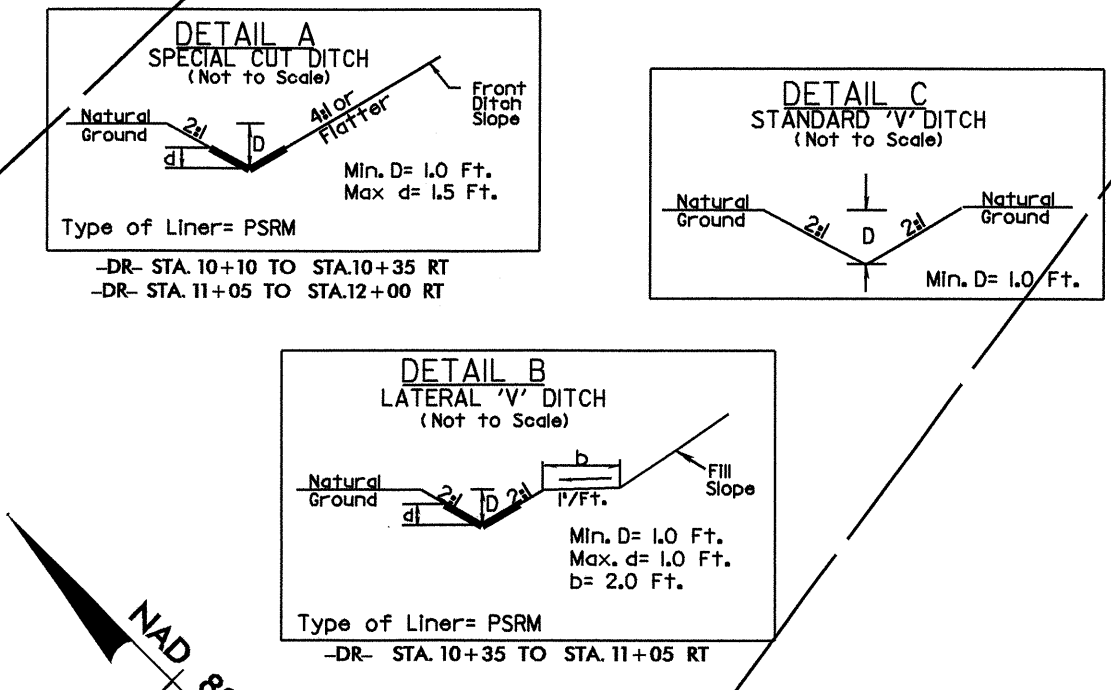
LOCATION	ASPHALT REMOVAL	ASPHALT BREAKUP	CONCRETE REMOVAL	CONCRETE BREAKUP
-L- STA. 11+15 TO 12+18.50	196			
-L- STA. 12+52.5 TO 13+35	156			
TOTAL	352			
SAY	355			

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Sketch of Pavement in Relation to Bridge Width



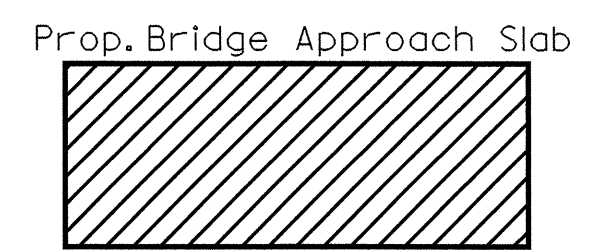
L1	N 41°15'35" W	24.44
L2	N 05°48'13" E	23.70
L3	N 35°00'57" W	23.07
L4	N 75°25'08" E	22.40
L5	S 61°41'21" E	21.89
L6	N 36°03'59" W	19.05
L7	S 03°45'00" E	27.00
L8	N 59°21'24" E	19.20
L9	S 26°07'47" W	38.89
L10	N 24°00'00" W	26.33
L11	S 46°28'11" E	32.04
L12	S 56°49'16" E	27.04
L13	S 32°28'18" E	14.67
L14	S 11°28'48" W	17.91
L15	N 59°00'32" W	46.03
L16	N 6°57'32" W	31.42
L17	N 54°25'21" E	40.32
L18	N 17°14'28" W	28.81
L19	S 10°48'09" W	21.87
L20	N 36°03'41" W	45.09
L21	S 18°45'53" W	18.62
L22	S 59°57'34" W	33.76
L23	N 06°24'35" E	22.39
L24	N 85°13'49" W	20.32
L25	N 08°16'38" W	18.34



BEGIN CONSTRUCTION
 -L- STA. 10+75.00
 PI Sta 10+89.27
 $\Delta = 29^\circ 50' 32.9"$ (LT)
 $D = 17^\circ 06' 11.6"$
 $L = 174.48'$
 $T = 89.27'$
 $R = 335.00'$
 SE = SEE PLANS
 RO = SEE PLANS

BEGIN TIP PROJECT B-4193
 -L- STA. 11+15.00

-DR-
 PI Sta 10+33.72 PI Sta 11+95.98
 $\Delta = 8^\circ 31' 22.1"$ (LT) $\Delta = 45^\circ 01' 02.4"$ (RT)
 $D = 163^\circ 42' 08.0"$ $D = 163^\circ 42' 08.0"$
 $L = 49.80'$ $L = 27.50'$
 $T = 30.17'$ $T = 14.50'$
 $R = 35.00'$ $R = 35.00'$



SBG = SHOULDER BERM GUTTER
 NOTE: FOR -L- PROFILE SEE SHEET 5
 NOTE: FOR -DR- PROFILE SEE SHEET 5
 NOTE: FOR STRUCTURE PLANS SEE SHEET S-1 THRU S-17

REVISIONS

8/17/99

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