

09/208/99

See Sheet 1-A For Index of Sheets

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

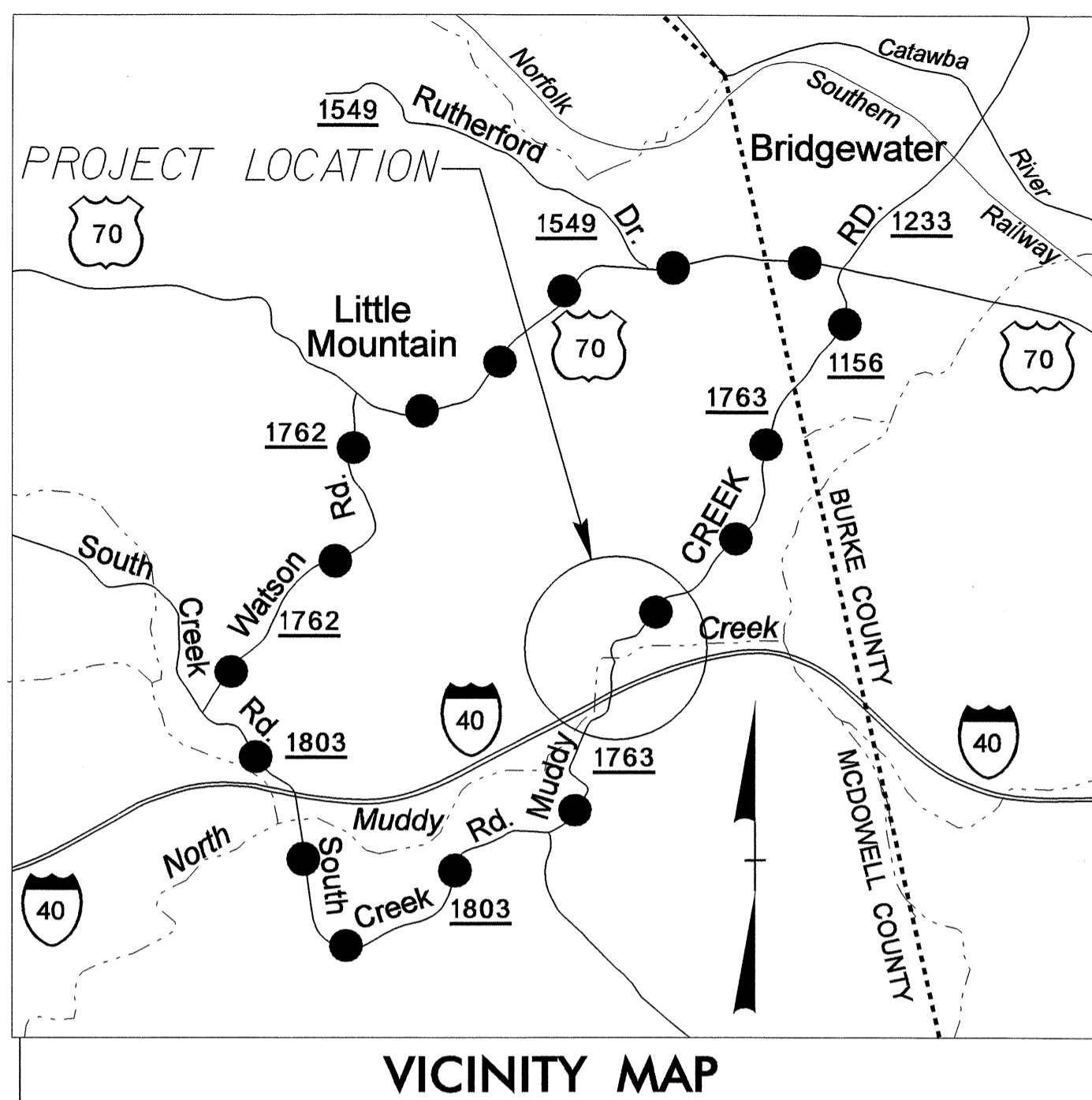
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3492	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33108.1.1	BRZ-1763(1)	PE	
33108.3.1	BRZ-1763(1)	R/W & UTILITIES	
33108.2.2	BRZ-1763(1)	Construction	

MCDOWELL COUNTY

LOCATION: BRIDGE NO. 56 ON SR 1763 OVER NORTH MUDDY CREEK

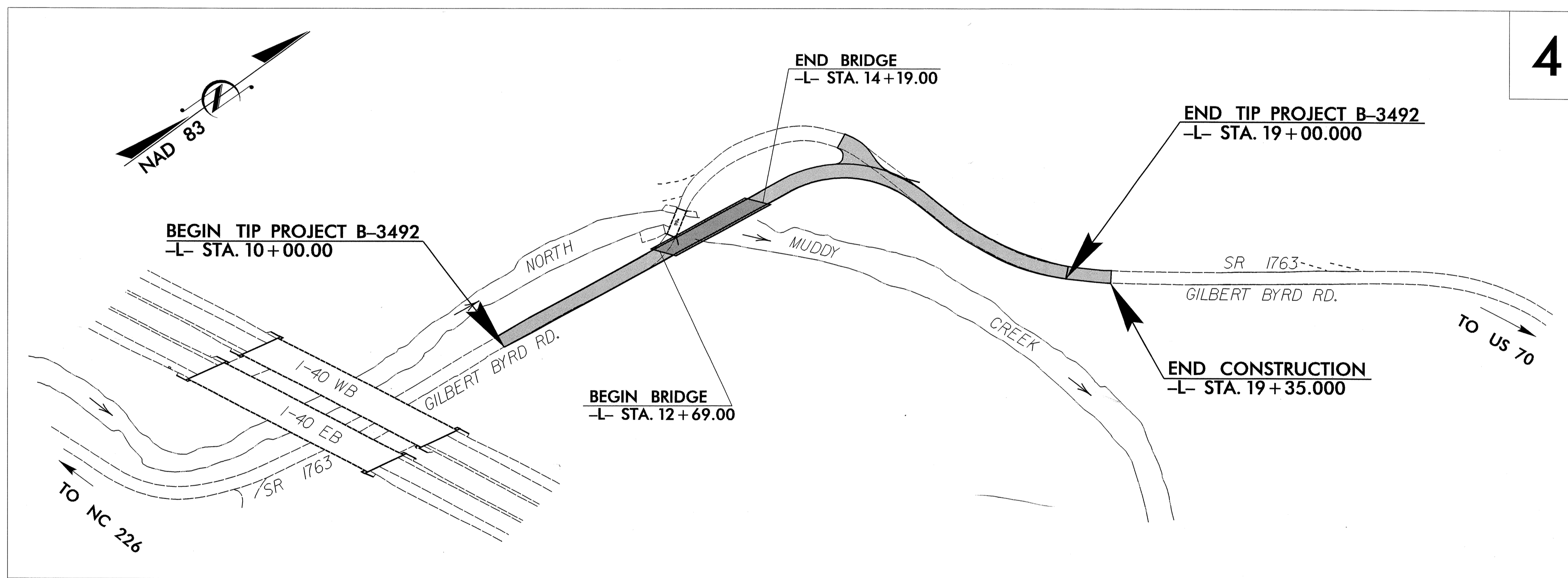
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURE

TIP PROJECT: B-3492



VICINITY MAP

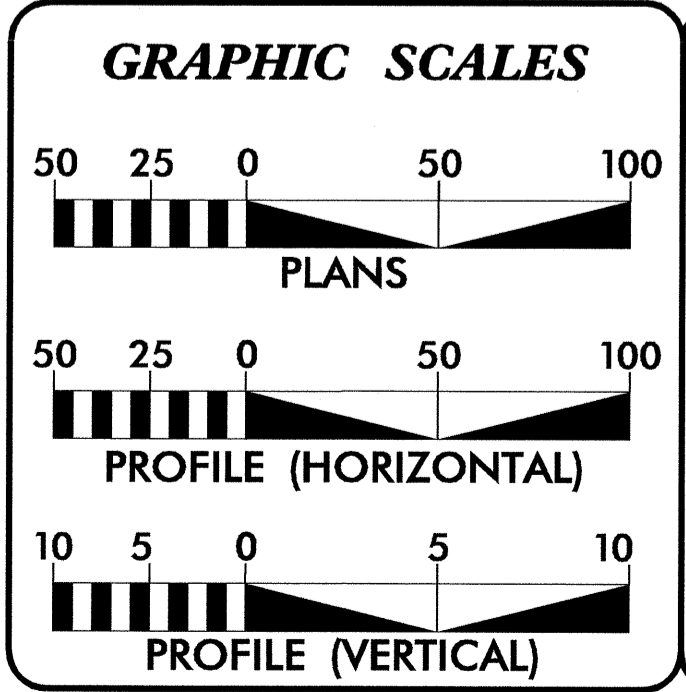
●●●●● OFF SITE DETOUR



4

** DESIGN EXCEPTION REQUIRED FOR DESIGN SPEED

CONTRACT: C201867



DESIGN DATA

ADT 2006 =	650 VPD
ADT 2030 =	1200 VPD
DHV =	10 %
D =	60 %
T =	10 % *
* * V =	25 MPH
* TTST	5%
* DUAL	5%

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-3492 =	0.142 mi.
LENGTH STRUCTURE TIP PROJECT B-3492 =	0.028 mi.
TOTAL LENGTH TIP PROJECT B-3492 =	0.170 mi

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

A.T. [Signature]
SIGNATURE: 4/22/08

ROADWAY DESIGN ENGINEER

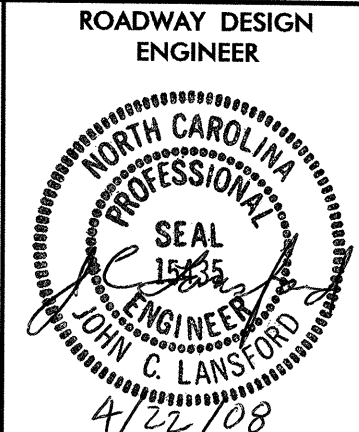
J.C. [Signature]
SIGNATURE: 4/22/08

Professional Engineer Seals for James Speer and John C. Lansford.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

John C. Lansford
STATE HIGHWAY DESIGN ENGINEER P.E.

21-APR-2008 13:50
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\$\$\$\$\$SERVNAME\$\$\$\$\$



PROJECT: 33108.2.2 (B-3492)

MCDOWELL COUNTY

INDEX OF SHEETS

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, TYPICAL SECTIONS, AND WEDGING DETAIL
2-A	DETAIL FOR ANCHORAGE FOR FRAMES BRICK/CONCRETE/PRECAST CONCRETE
3	SUMMARY OF QUANTITIES
3-A	LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)
3-B	SUMMARY OF GUARDRAIL, SUMMARY OF EARTHWORK, SUMMARY OF PAVEMENT REMOVAL AND SUMMARY OF SHOULDER BERM GUTTER
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
SIGN-1 THRU SIGN-3	SIGNING PLANS
X	CROSS SECTION SUMMARY SHEET
X-1 THRU X-21	CROSS-SECTIONS
S-1 THRU S-30	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 Duke Power
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 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 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
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
840.19	Concrete Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.28	Brick Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
846.02	Drop Inlet Installation in Expressway 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

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

8/17/99

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Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

Table listing symbols for 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, Proposed Woven Wire Fence, Proposed Chain Link Fence, Proposed Barbed Wire Fence, Existing Wetland Boundary, Proposed Wetland Boundary, Existing Endangered Animal Boundary, Existing Endangered Plant Boundary.

BUILDINGS AND OTHER CULTURE:

Table listing symbols for 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:

Table listing symbols for hydrology: Stream or Body of Water, Hydro, Pool or Reservoir, Jurisdictional Stream, Buffer Zone 1, Buffer Zone 2, Flow Arrow, Disappearing Stream, Spring, Swamp Marsh, Proposed Lateral, Tail, Head Ditch, False Sump.

RAILROADS:

Table listing symbols for railroads: Standard Gauge, RR Signal Milepost, Switch, RR Abandoned, RR Dismantled.

RIGHT OF WAY:

Table listing symbols for 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:

Table listing symbols for roads and related features: Existing Edge of Pavement, Existing Curb, Proposed Slope Stakes Cut, Proposed Slope Stakes Fill, Proposed Wheel Chair Ramp, Proposed Wheel Chair Ramp Curb Cut, Curb Cut for Future Wheel Chair Ramp, Existing Metal Guardrail, Proposed Guardrail, Existing Cable Guiderail, Proposed Cable Guiderail, Equality Symbol, Pavement Removal.

VEGETATION:

Table listing symbols for vegetation: Single Tree, Single Shrub, Hedge, Woods Line, Orchard, Vineyard.

EXISTING STRUCTURES:

Table listing symbols for 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, Paved Ditch Gutter, Storm Sewer Manhole, Storm Sewer.

UTILITIES:

Table listing symbols for 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:

Table listing symbols for 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:

Table listing symbols for 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:

Table listing symbols for gas: Gas Valve, Gas Meter, Recorded U/G Gas Line, Designated U/G Gas Line (S.U.E.*), Above Ground Gas Line.

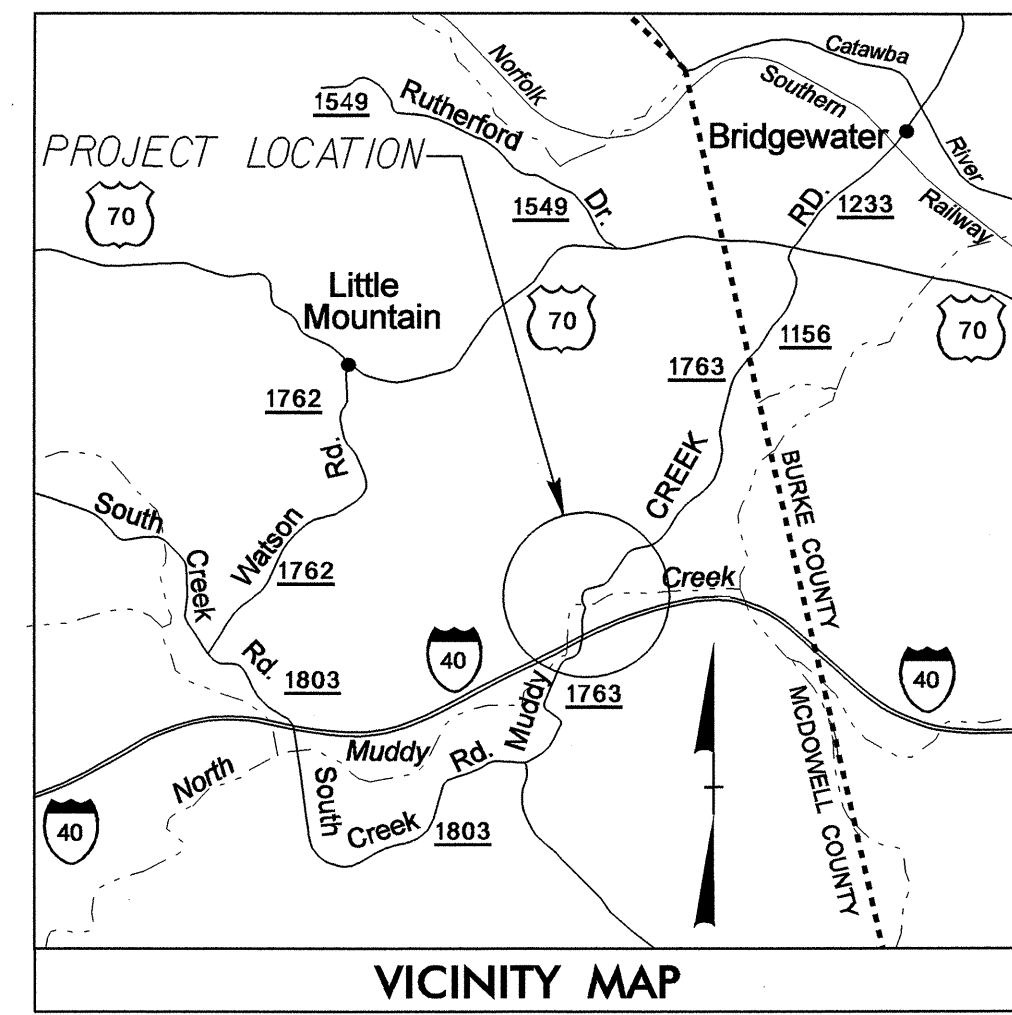
SANITARY SEWER:

Table listing symbols for 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:

Table listing symbols for 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, End of Information.

SURVEY CONTROL SHEET B-3492

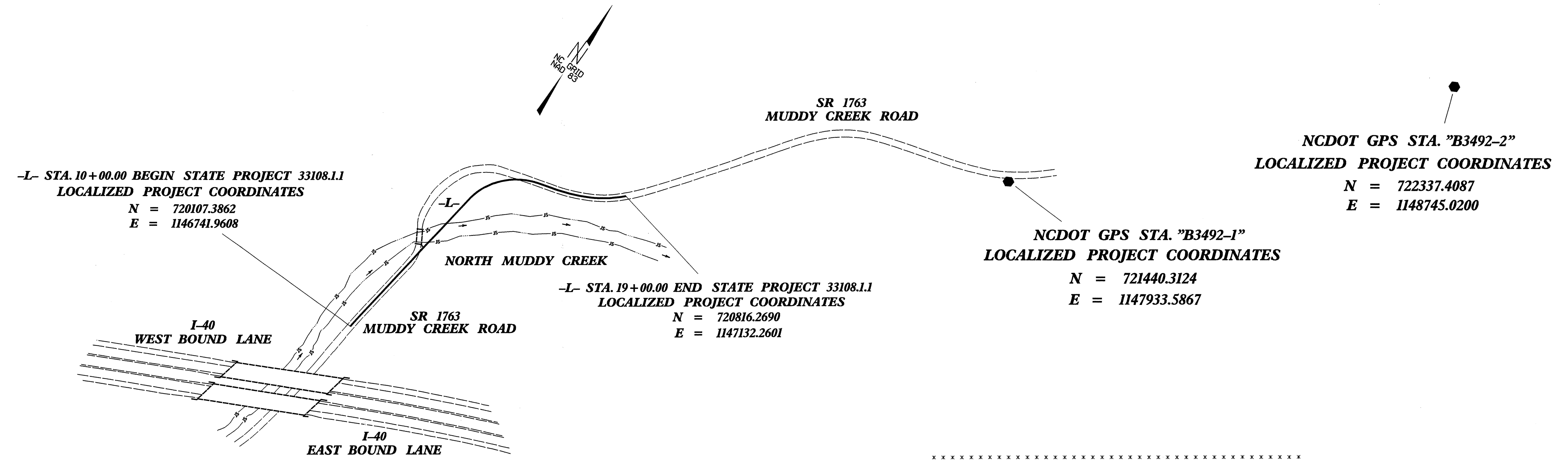


BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	BL-1		719424.8075	1146351.0070	1087.21	OUTSIDE PROJECT LIMITS	
2	BL-2		719638.3915	1146647.6298	1084.21	OUTSIDE PROJECT LIMITS	
3	BL-3		720048.1825	1146780.6712	1086.07	OUTSIDE PROJECT LIMITS	
4	BL-4		720614.9402	1146724.8405	1087.80	14+87.59	83.69 LT
5	BL-5		720809.7285	1147150.3778	1087.84	OUTSIDE PROJECT LIMITS	
6	BL-6		721174.3400	1147417.9138	1089.67	OUTSIDE PROJECT LIMITS	

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B3492-1"

WITH NAD 83 STATE PLANE GRID COORDINATES OF
 NORTHING: 721440.3124(±) EASTING: 1147933.5867(±)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999850604
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B3492-1" TO -L- STATION 10+00.00 IS
 S 41°47'47" W 1787.92'
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NGVD 29



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*****
BM1      ELEVATION = 1086.05
N 720146      E 1146699
L STATION 10+33 47 LEFT
R/R SPIKE IN BASE OF 14" SYCAMORE
*****
BM2      ELEVATION = 1093.87
N 720728      E 1146568
L STATION 15+12 271 LEFT
R/R SPIKE IN BASE OF 22" WHITE OAK
*****
BM3      ELEVATION = 1100.01
N 721320      E 1147437
L STATION 19+00
N 31° 09' 28.4" E DIST 588.40
R/R SPIKE IN BASE OF 18" PINE
*****

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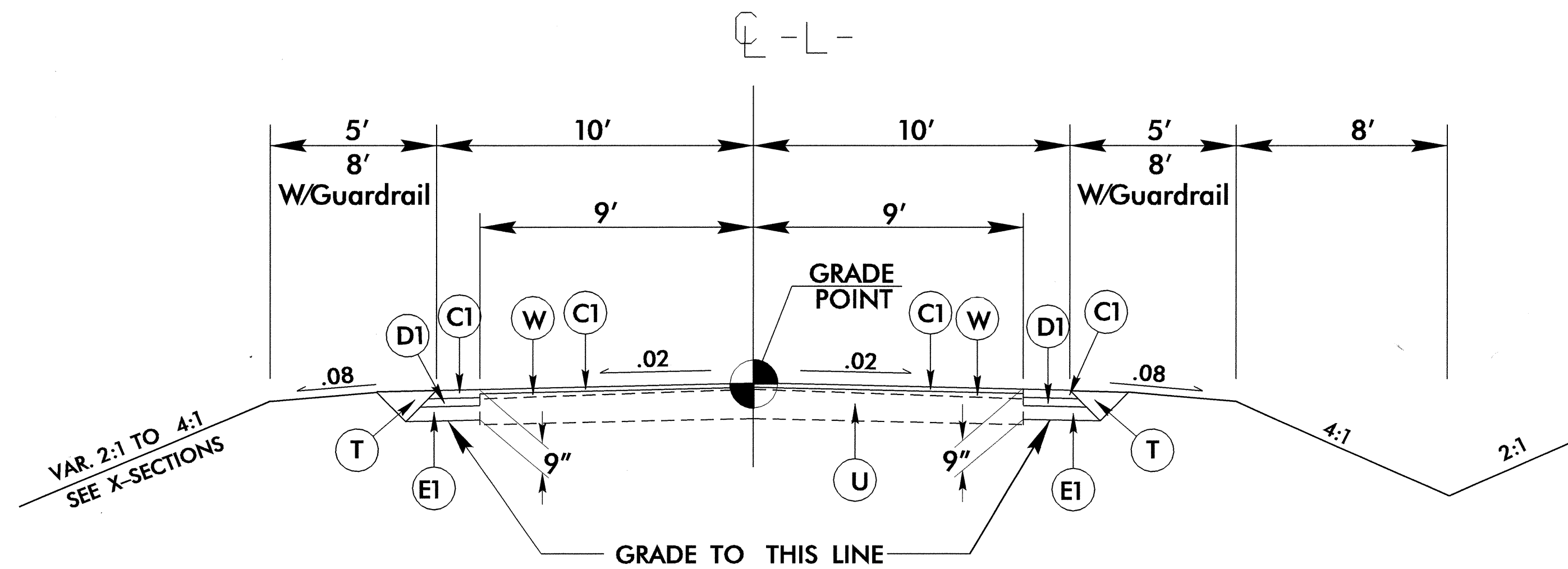
NOTES:

- 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:
 B3492_LS_CONTROL_061108.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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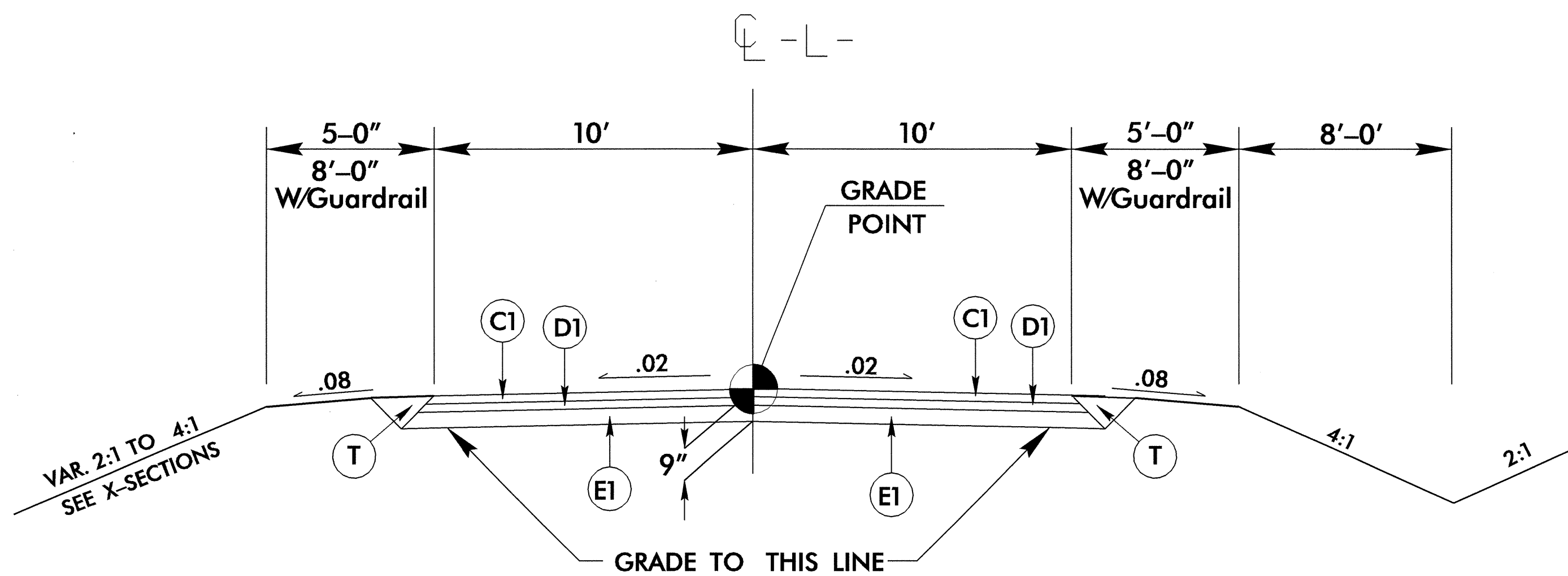
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT TO EXCEED 1.5" IN DEPTH
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 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 2½" OR GREATER THAN 4.0" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 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 3.0" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
R	PROP. CONC. EXPRESSWAY GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING (SEE DETAIL)



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1 AT THE FOLLOWING LOCATIONS:

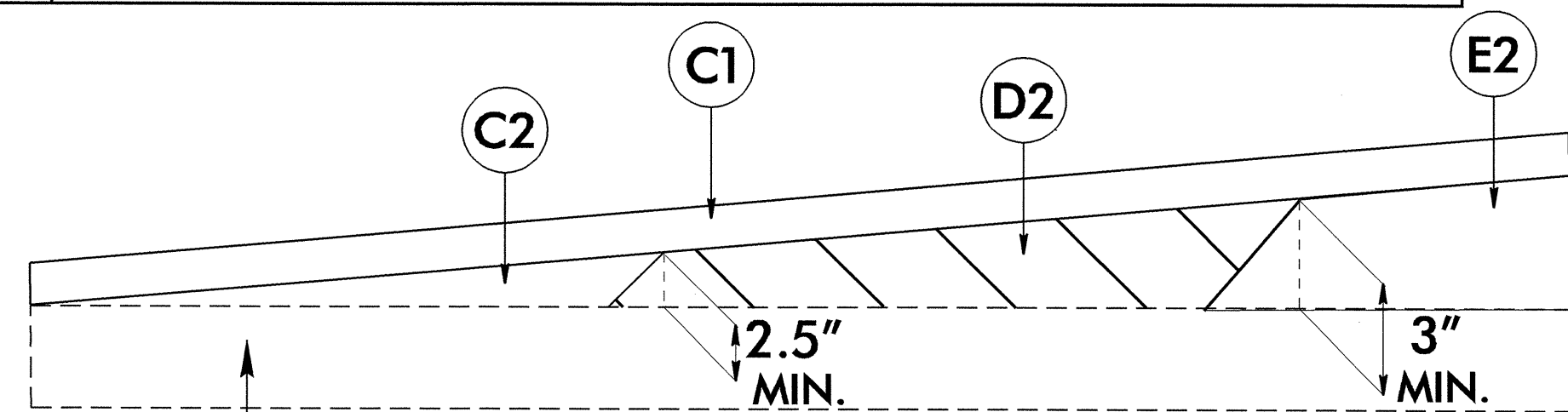
-L- Sta. 10+00.00 TO 11+00.00



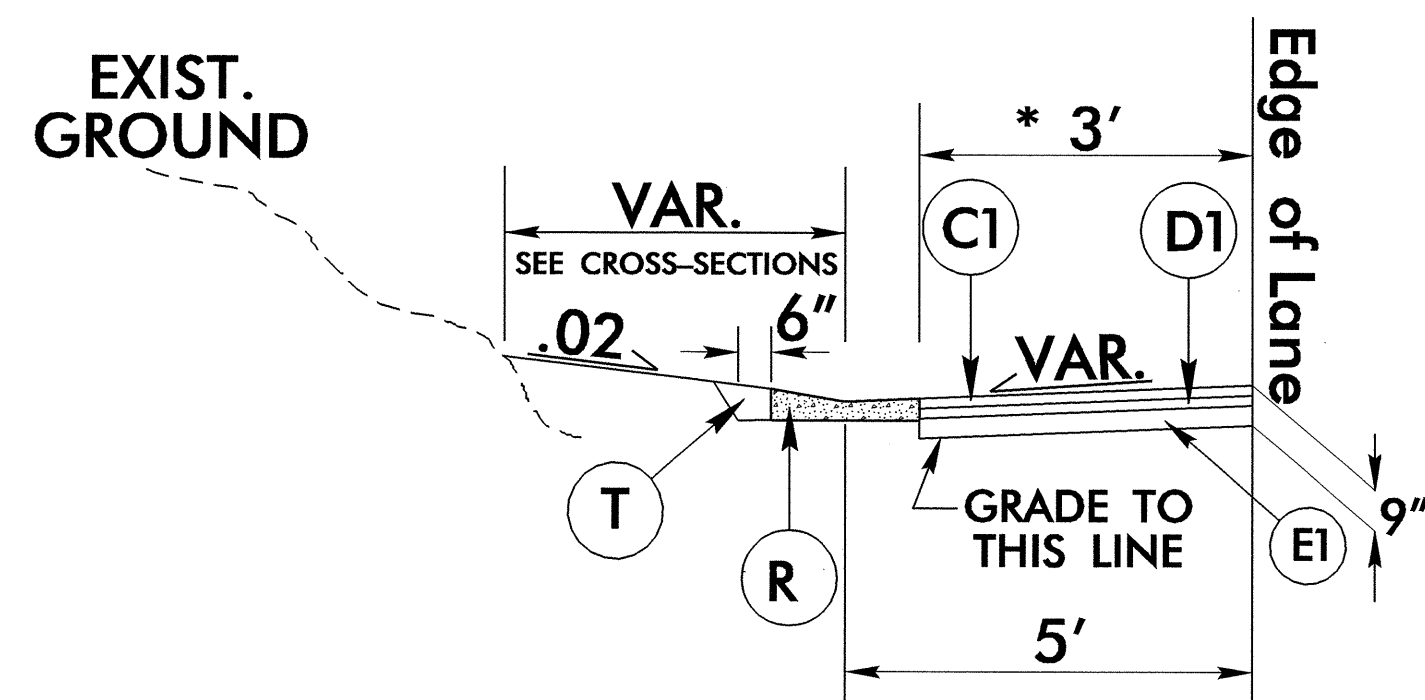
TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2 AT THE FOLLOWING LOCATIONS:

-L- Sta. 11+00.00 TO 12+69.00 (BEGIN BRIDGE)
-L- Sta. 14+19.00 (END BRIDGE) TO 19+00.00



Wedging Detail For Resurfacing



* DENOTES 3' PAVED SHOULDER
TYPICAL SECTION FOR EXPRESSWAY GUTTER
-L- STA 16+50.00 TO 18+80.00
(USE IN CONJUNCTION WITH TYPICAL NO. 2)

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

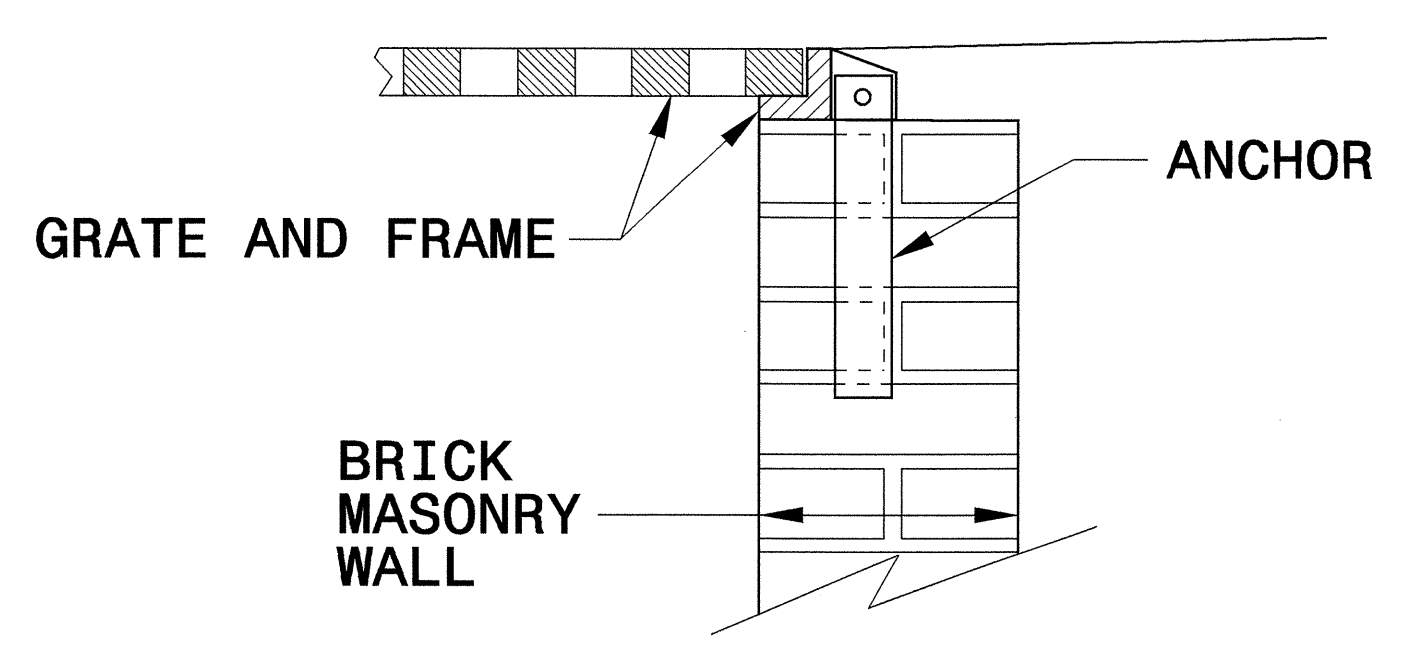
ENGLISH DETAIL DRAWING FOR
ANCHORAGE FOR FRAMES
BRICK/CONCRETE/PRECAST CONCRETE

SHEET 1 OF 1
840D25

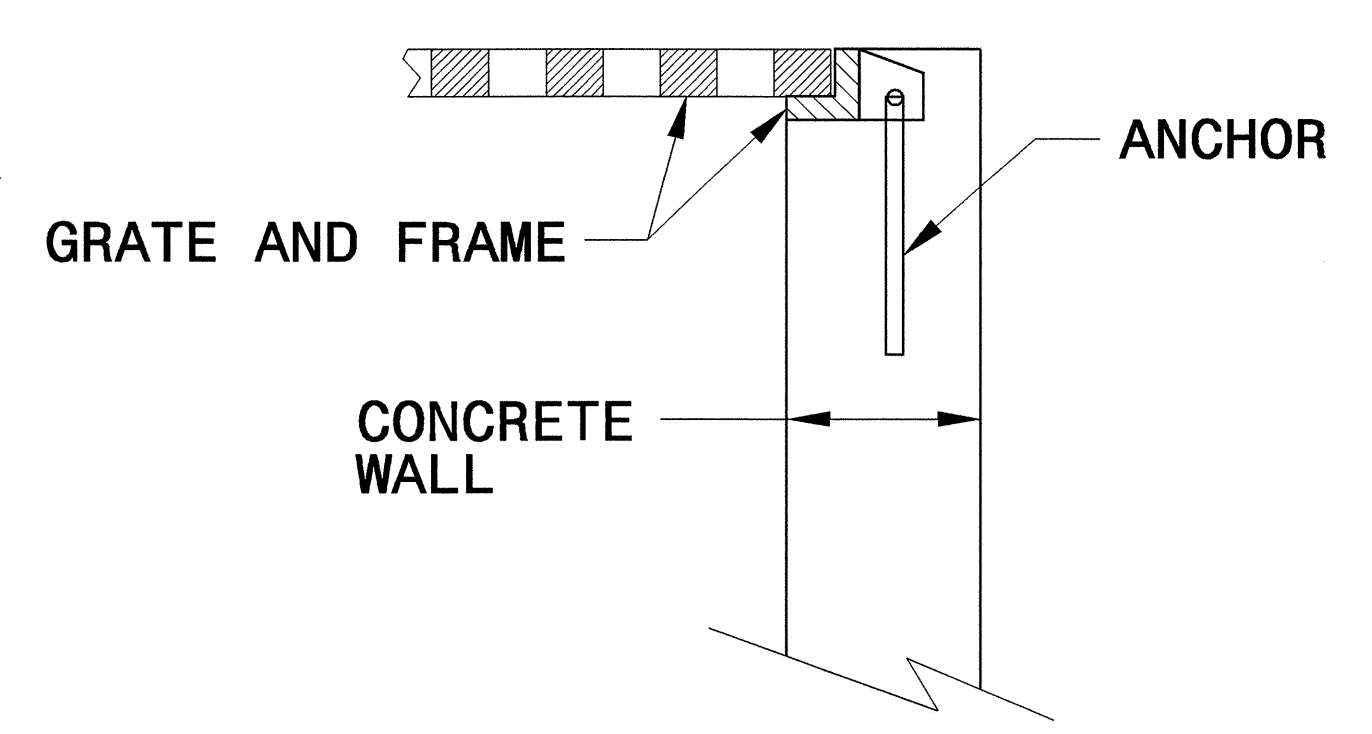
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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

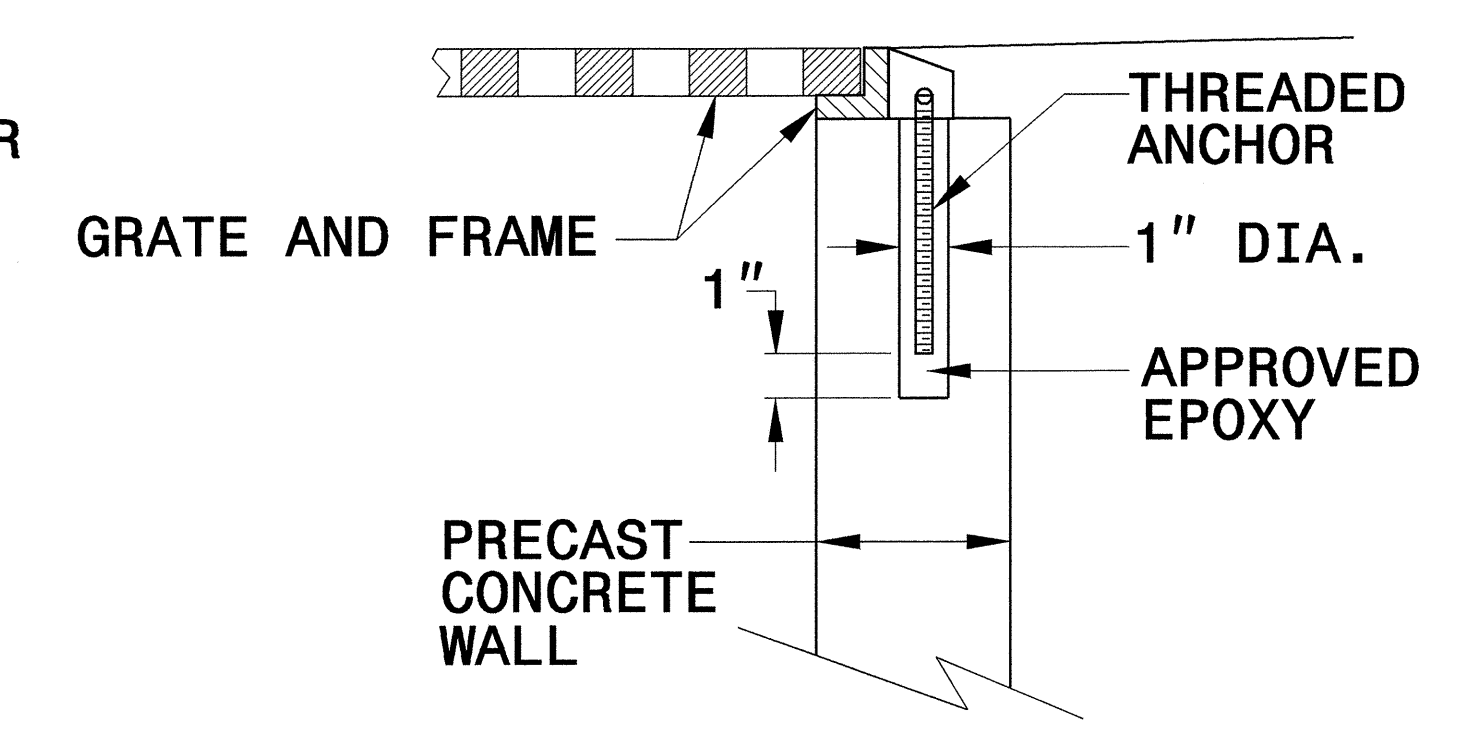
SHEET 1 OF 1
840D25



BRICK MASONRY CONSTRUCTION



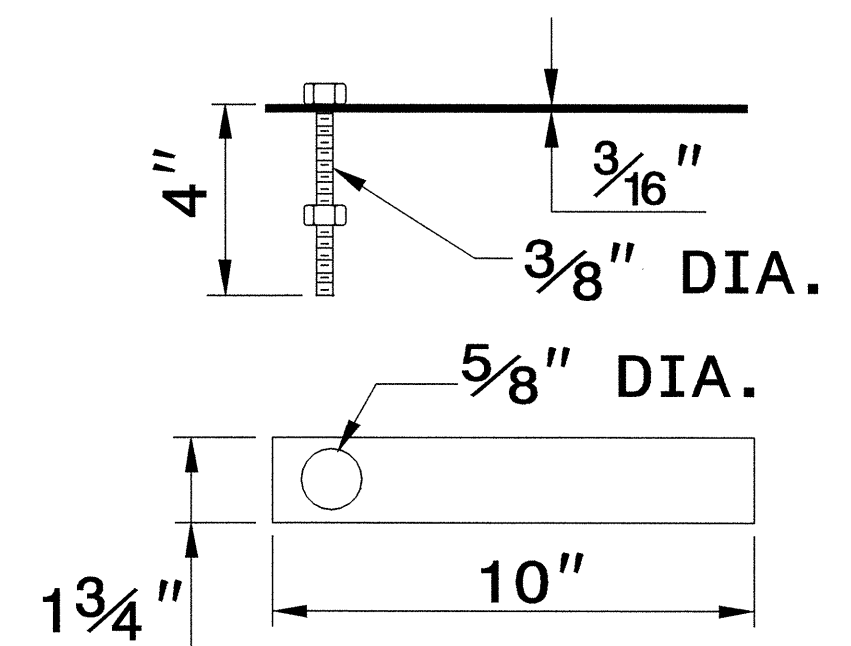
CONCRETE CONSTRUCTION



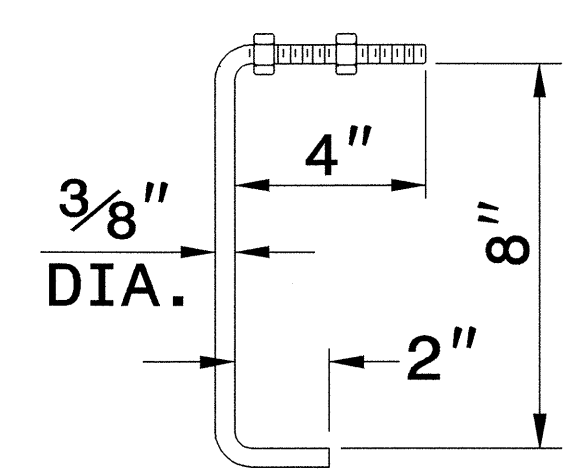
PRECAST CONCRETE CONSTRUCTION

DETAIL SHOWING ANCHORAGE OF FRAME FOR GRATED DROP INLET

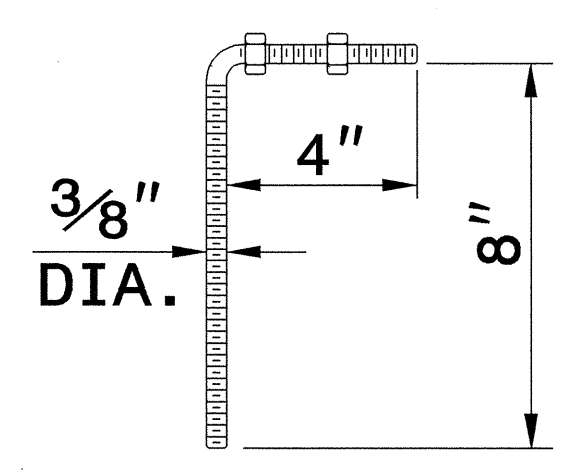
NOTE:
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



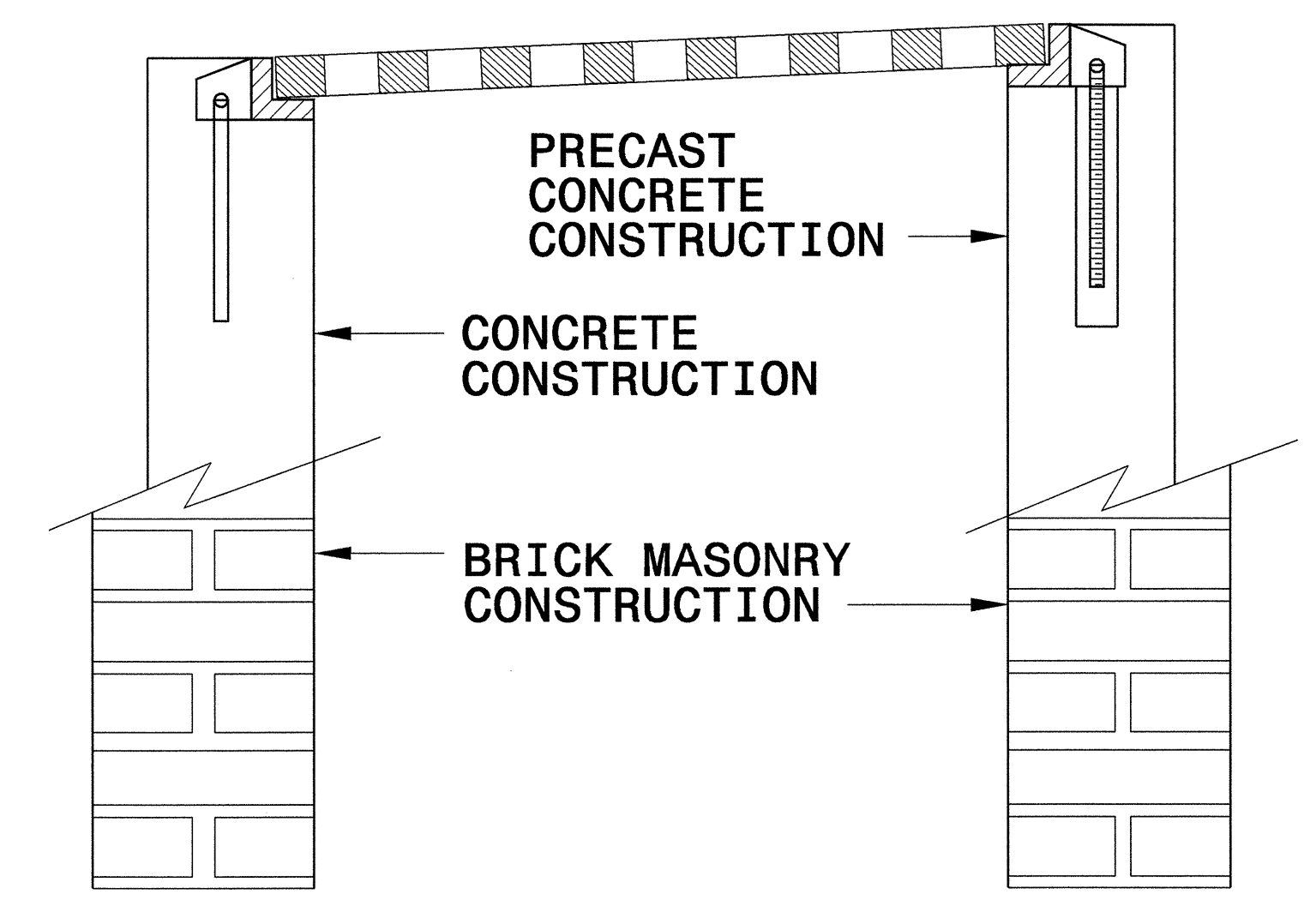
MASONRY ANCHOR
3/8" DIA. BOLT WITH PLATE



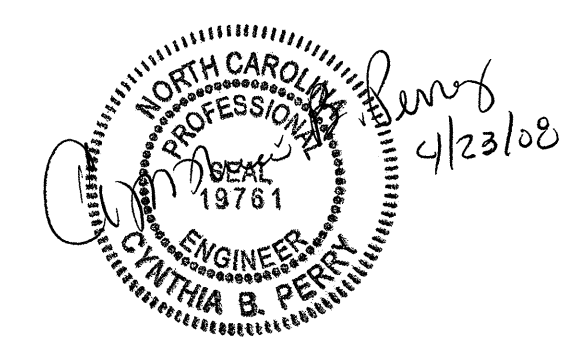
CONCRETE ANCHOR
3/8" DIA. BENT BAR



PRECAST CONCRETE ANCHOR
3/8" DIA. BENT BAR



FRAME AND GRATE INSTALLATION FOR NORMAL CROWN AND SUPERELEVATED SECTIONS



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.: DATE:

SYSTEMS DESIGN CONSULTANTS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C201867

ItemNumber	Sec #	Quantity	Unit	Description
000100000-N	800	Lump Sum		MOBILIZATION
002900000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (13+44)
004300000-N	226	Lump Sum		GRADING
005000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING
005700000-E	226	10	CY	UNDERCUT EXCAVATION
008000000-E	SP	250	TON	CLASS IV SUBGRADE STABILIZATION
013400000-E	240	30	CY	DRAINAGE DITCH EXCAVATION
019500000-E	265	250	CY	SELECT GRANULAR MATERIAL
019600000-E	270	500	SY	FABRIC FOR SOIL STABILIZATION
031800000-E	300	40	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRS
037200000-E	310	44	LF	18" RC PIPE CULVERTS, CLASS III
058200000-E	310	20	LF	15" CS PIPE CULVERTS, 0.064" THICK
099500000-E	340	20	LF	PIPE REMOVAL
122000000-E	545	25	TON	INCIDENTAL STONE BASE
148900000-E	610	360	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
149800000-E	610	220	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE 119.0B
152500000-E	610	240	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
156000000-E	620	42	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
169300000-E	654	20	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
200000000-N	806	30	EA	RIGHT OF WAY MARKERS
202200000-E	815	25	CY	SUBDRAIN EXCAVATION
203300000-E	815	20	CY	SUBDRAIN FINE AGGREGATE
204400000-E	815	100	LF	6" PERFORATED SUBDRAIN PIPE
205500000-E	815	3	EA	6" SUBDRAIN PIPE WYES, TEES, & ELBOWS

ItemNumber	Sec #	Quantity	Unit	Description
206600000-N	815	1	EA	CONCRETE PAD FOR SUBDRAIN PIPE OUTLET
207700000-E	815	6	LF	6" OUTLET PIPE (SUBDRAINS)
228600000-N	840	5	EA	MASONRY DRAINAGE STRUCTURES
236700000-N	840	5	EA	FRAME WITH TWO GRATES, STD 840.29
255600000-E	846	40	LF	SHOULDER BERM GUTTER
257700000-E	846	230	LF	CONCRETE EXPRESSWAY GUTTER
303000000-E	862	100	LF	STEEL BM GUARDRAIL
310500000-N	862	2	EA	STEEL BM GUARDRAIL TERMINAL SECTIONS
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
363500000-E	876	55	TON	RIP RAP, CLASS II
364900000-E	876	8	TON	RIP RAP, CLASS B
365600000-E	876	560	SY	FILTER FABRIC FOR DRAINAGE
407200000-E	903	58	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
407800000-E	903	3	EA	SUPPORTS, 2-LB STEEL U-CHANNEL
410200000-N	904	9	EA	SIGN ERECTION, TYPE E
415500000-N	907	8	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
440000000-E	1110	407	SF	WORK ZONE SIGNS (STATIONARY)
441000000-E	1110	94	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
444500000-E	1145	96	LF	BARRICADES (TYPE III)
481000000-E	1205	7,480	LF	PAINT PAVEMENT MARKING LINES (4")
600000000-E	1605	1,170	LF	TEMPORARY SILT FENCE
600600000-E	1610	135	TON	STONE FOR EROSION CONTROL, CLASS A
600900000-E	1610	165	TON	STONE FOR EROSION CONTROL, CLASS B

ItemNumber	Sec #	Quantity	Unit	Description
601200000-E	1610	290	TON	SEDIMENT CONTROL STONE
601500000-E	1615	1.5	ACR	TEMPORARY MULCHING
601800000-E	1620	50	LB	SEED FOR TEMPORARY SEEDING
602100000-E	1620	0.25	TON	FERTILIZER FOR TEMPORARY SEEDING
602900000-E	SP	250	LF	SAFETY FENCE
603000000-E	1630	660	CY	SILT EXCAVATION
603600000-E	1631	720	SY	MATting FOR EROSION CONTROL
604200000-E	1632	100	LF	1/4" HARDWARE CLOTH
607000000-N	SP	8	EA	SPECIAL STILLING BASINS
607103000-E	SP	260	LF	COIR FIBER BAFFLES
608400000-E	1660	1.5	ACR	SEEDING & MULCHING
608700000-E	1660	1	ACR	MOWING
609000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
609300000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
609600000-E	1662	50	LB	SEED FOR SUPPLEMENTAL SEEDING
610800000-E	1665	1.25	TON	FERTILIZER TOPDRESSING
611400000-N	SP	2	HR	SPECIALIZED HAND MOWING
611700000-N	SP	12	EA	RESPONSE FOR EROSION CONTROL
***** BEGIN SCHEDULE AA ***** ***** (3 ALTERNATES) *****				
036600000-E	310	320	LF	15" RC PIPE CULVERTS, CLASS III
AA1				
*** OR ***				
036600000-E	310	248	LF	15" RC PIPE CULVERTS, CLASS III
AA2				
054000000-E	SP	72	LF	*** ALUMINIZED CORRUGATED STEEL PIPE CULVERTS, **** THICK (15", 0.064")
AA2				
*** OR ***				
036600000-E	310	248	LF	15" RC PIPE CULVERTS, CLASS III
AA3				
053600000-E	SP	72	LF	*** HDPE PIPE CULVERTS (15", 0.064")
AA3				
***** END SCHEDULE AA *****				

12/06/07

COMPUTED BY: JGP DATE: 4/21/08
 CHECKED BY: JCL DATE: 4/22/08

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

PROJECT REFERENCE NO. B-3492	SHEET NO. 3-B
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SUMMARY OF EARTHWORK
 IN CUBIC YARDS

STATION	STATION	UNCL. EXCAV.	UNDERCUT	EMBANK. +%	BORROW
-L- 10+00.00	-L- 12+69.00	194		260	66
SUBTOTAL:		194		260	66
-L- 14+19.00	-L- 19+00.00	76		1178	1102
SUBTOTAL:		76		1178	1102
PROJECT TOTAL:		270		1438	1168
LOSS DUE TO CLEARING & GRUBBING		-10			10
PROJECT TOTAL:		260		1438	1178
5% TO REPLACE BORROW PIT					59
GRAND TOTAL:		260		1438	1237
SAY		260			1250
GRADE POINT UNDERCUT			10		
DRAINAGE DITCH EXCAVATION (30 CY)					

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.

PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD ²
-L-	11+00.00	12+69.00	CL	347
-L-	12+69.00	12+87.37	LT	26
-L-	13+13.40	13+32.53	LT	22
-L-	15+82.88	16+47.94	LT	40
-L-	15+80.60	19+00.00	CL	577
TOTAL:				1012
SAY:				1015

NOTE: 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".

SHOULDER BERM GUTTER SUMMARY

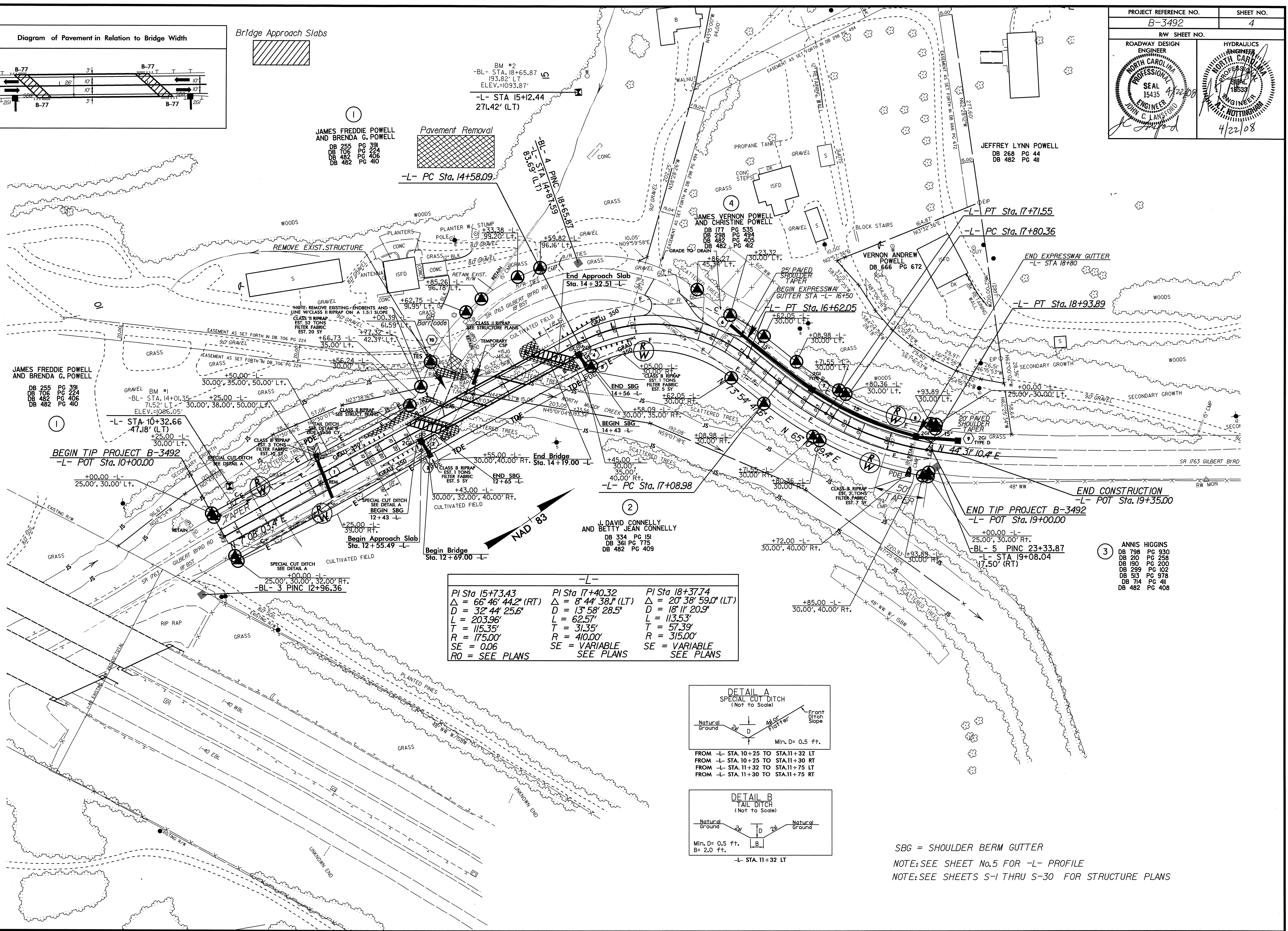
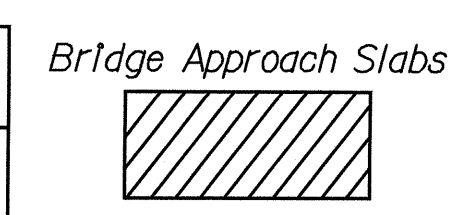
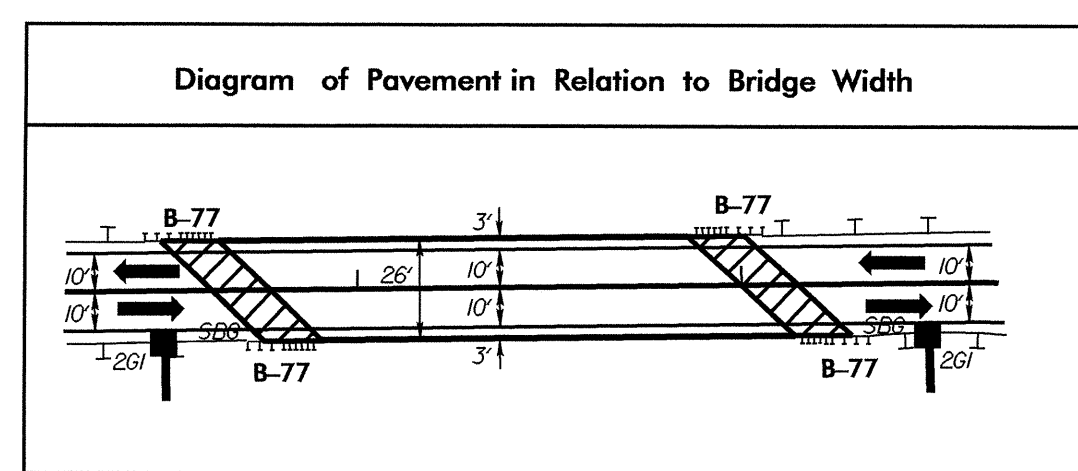
SURVEY LINE	STATION	STATION	LENGTH (ft)
-L-	12+43.00	12+65.00	22.00'
-L-	14+43.00	14+56.00	13.00'
TOTAL:			35.00'
SAY:			40'

"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

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		W		ANCHORS						IMPACT ATTENUATOR TYPE 350	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS												
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	GRAU 350	B-77	TERM END SEC. (TES)																				
																		EA	G	NG																	
-L-	11+94.47	12+79.15	RT	87.5'			12+68.85		5'	8'	50'		1		1	1																					
-L-	11+67.63	12+52.34	LT	87.5'			12+42.13		5'	8'	50'		1		1	1																					
-L-	14+36.96	15+23.54	RT	87.5'			14+46.55		5'	8'	50'		1		1	1																					
-L-	14+08.33	14+90.04	LT	75.0'			14+18.47		5'	8'	50'		1		1	1																					
-L-	13+12.60	13+22.16	LT	25.0'																																	
TOTAL				362.50'												4	4	2																			
DEDUCTION FOR ANCHORS																																					
4 TYPE GAU 350 @ 50'				-200'																																	
4 TYPE B-77 @ 18.75'				-75'																																	
GRAND TOTAL				87.50'																																	
SAY				100'																																	

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JAMES FREDDIE POWELL
AND BRENDA G. POWELL
DB 255 PG 391
DB 706 PG 224
DB 482 PG 406
DB 482 PG 410

JAMES FREDDIE POWELL
AND BRENDA G. POWELL
DB 255 PG 391
DB 706 PG 224
DB 482 PG 406
DB 482 PG 410

JAMES VERNON POWELL
AND CHRISTINE POWELL
DB 177 PG 535
DB 298 PG 494
DB 482 PG 405
DB 482 PG 412

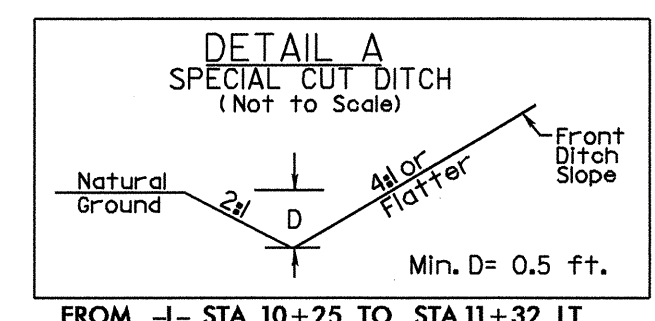
JEFFREY LYNN POWELL
DB 268 PG 44
DB 482 PG 411

VERNON ANDREW
POWELL
DB 666 PG 672

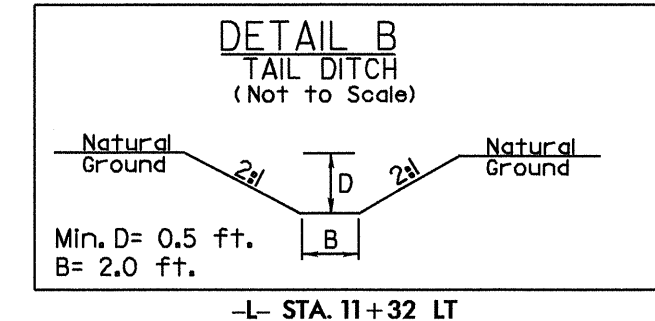
J. DAVID CONNELLY
AND BETTY JEAN CONNELLY
DB 334 PG 151
DB 361 PG 775
DB 482 PG 409

ANNIS HIGGINS
DB 798 PG 930
DB 210 PG 258
DB 190 PG 200
DB 299 PG 102
DB 513 PG 978
DB 714 PG 411
DB 482 PG 408

-L-		
PI Sta 15+73.43	PI Sta 17+40.32	PI Sta 18+37.74
$\Delta = 66^{\circ} 46' 44.2''$ (RT)	$\Delta = 8^{\circ} 44' 38.1''$ (LT)	$\Delta = 20^{\circ} 38' 59.0''$ (LT)
$D = 32^{\circ} 44' 25.6''$	$D = 13^{\circ} 58' 28.5''$	$D = 18^{\circ} 11' 20.9''$
$L = 203.96'$	$L = 62.57'$	$L = 113.53'$
$T = 115.35'$	$T = 31.35'$	$T = 57.39'$
$R = 175.00'$	$R = 410.00'$	$R = 315.00'$
SE = 0.06	SE = VARIABLE	SE = VARIABLE
RO = SEE PLANS	SEE PLANS	SEE PLANS



FROM -L- STA. 10+25 TO STA. 11+32 LT
FROM -L- STA. 10+25 TO STA. 11+30 RT
FROM -L- STA. 11+32 TO STA. 11+75 LT
FROM -L- STA. 11+30 TO STA. 11+75 RT



-L- STA. 11+32 LT

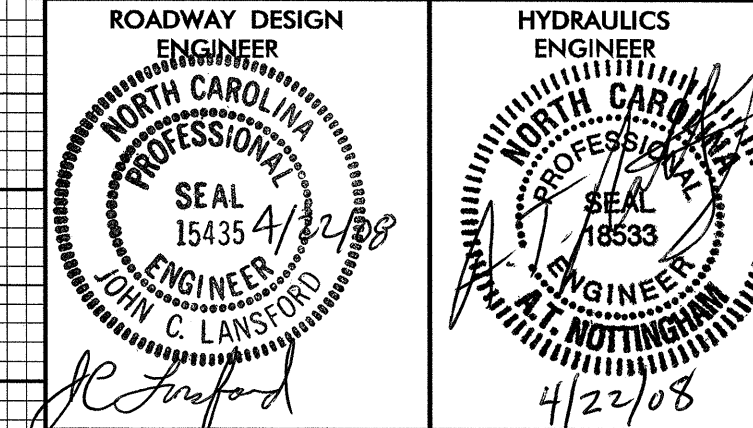
SBG = SHOULDER BERM GUTTER
NOTE: SEE SHEET No. 5 FOR -L- PROFILE
NOTE: SEE SHEETS S-1 THRU S-30 FOR STRUCTURE PLANS

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5/14/09

PROJECT REFERENCE NO. SHEET NO.

B-3492 5



-L-

BEGIN GRADE
-L- STA 10+00.00
EL = 1085.41'

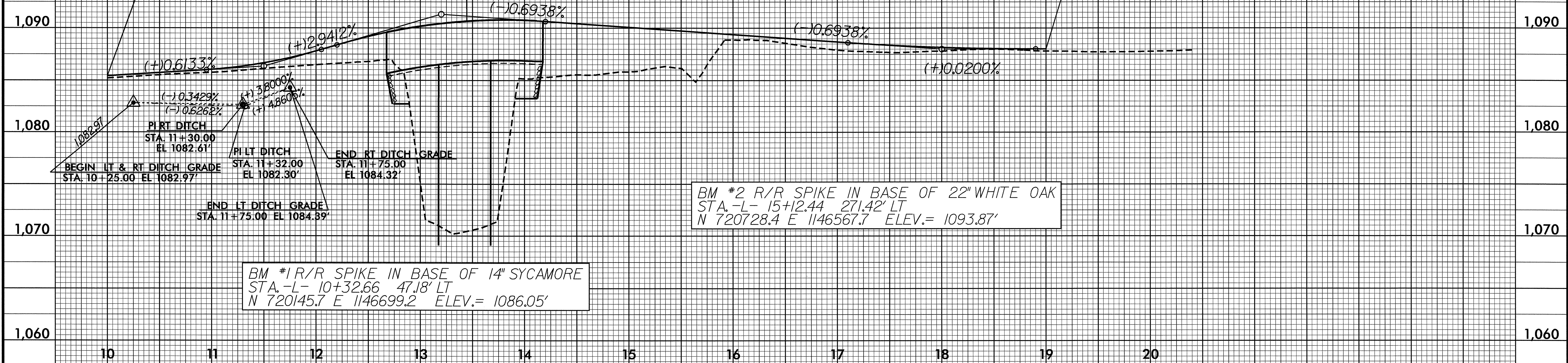
-L- STA.13+44.00
3 SPANS @ 50'
OVERALL LENGTH = 150'
36" PRESTRESSED CONCRETE GIRDERS
C ELEV. = 1090.64'
42° SKEW

PI = 11+50.00
EL = 1,086.33'
VC = 110'
K = 47

PI = 13+20.00
EL = 1,091.33'
VC = 200'
K = 55

PI = 18+00.00
EL = 1,088.00'
VC = 180'
K = 252

END GRADE
-L- STA 19+00.00
EL = 1088.02'



BEGIN LT & RT DITCH GRADE
STA. 10+25.00 EL 1082.97'

PI RT DITCH
STA. 11+30.00
EL 1082.61'

PI LT DITCH
STA. 11+32.00
EL 1082.30'

END RT DITCH GRADE
STA. 11+75.00
EL 1084.32'

END LT DITCH GRADE
STA. 11+75.00
EL 1084.39'

BM #2 R/R SPIKE IN BASE OF 22" WHITE OAK
STA -L- 15+12.44 271.42' LT
N 720728.4 E 1146567.7 ELEV. = 1093.87'

BM #1 R/R SPIKE IN BASE OF 14" SYCAMORE
STA -L- 10+32.66 47.18' LT
N 720145.7 E 1146699.2 ELEV. = 1086.05'

LEFT DITCH -----

RIGHT DITCH -----

STRUCTURE HYDRAULIC DATA

DESIGN DISCHARGE	= 2300	CFS
DESIGN FREQUENCY	= 2	YRS
DESIGN HW ELEVATION	= 1082.97	FT
BASE DISCHARGE	= 9300	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 1090.06	FT
OVERTOPPING DISCHARGE	= 3700	CFS
OVERTOPPING FREQUENCY	= 5	YRS
OVERTOPPING ELEVATION	= 1086.09	FT

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