

09/08/99

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols

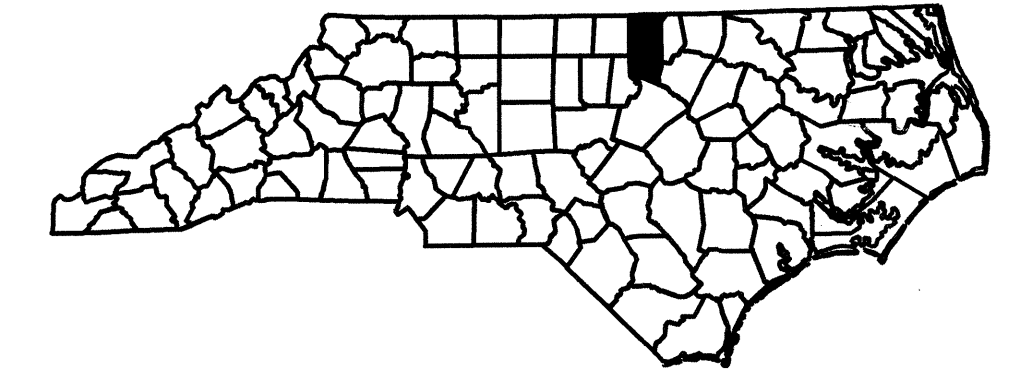
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GRANVILLE COUNTY

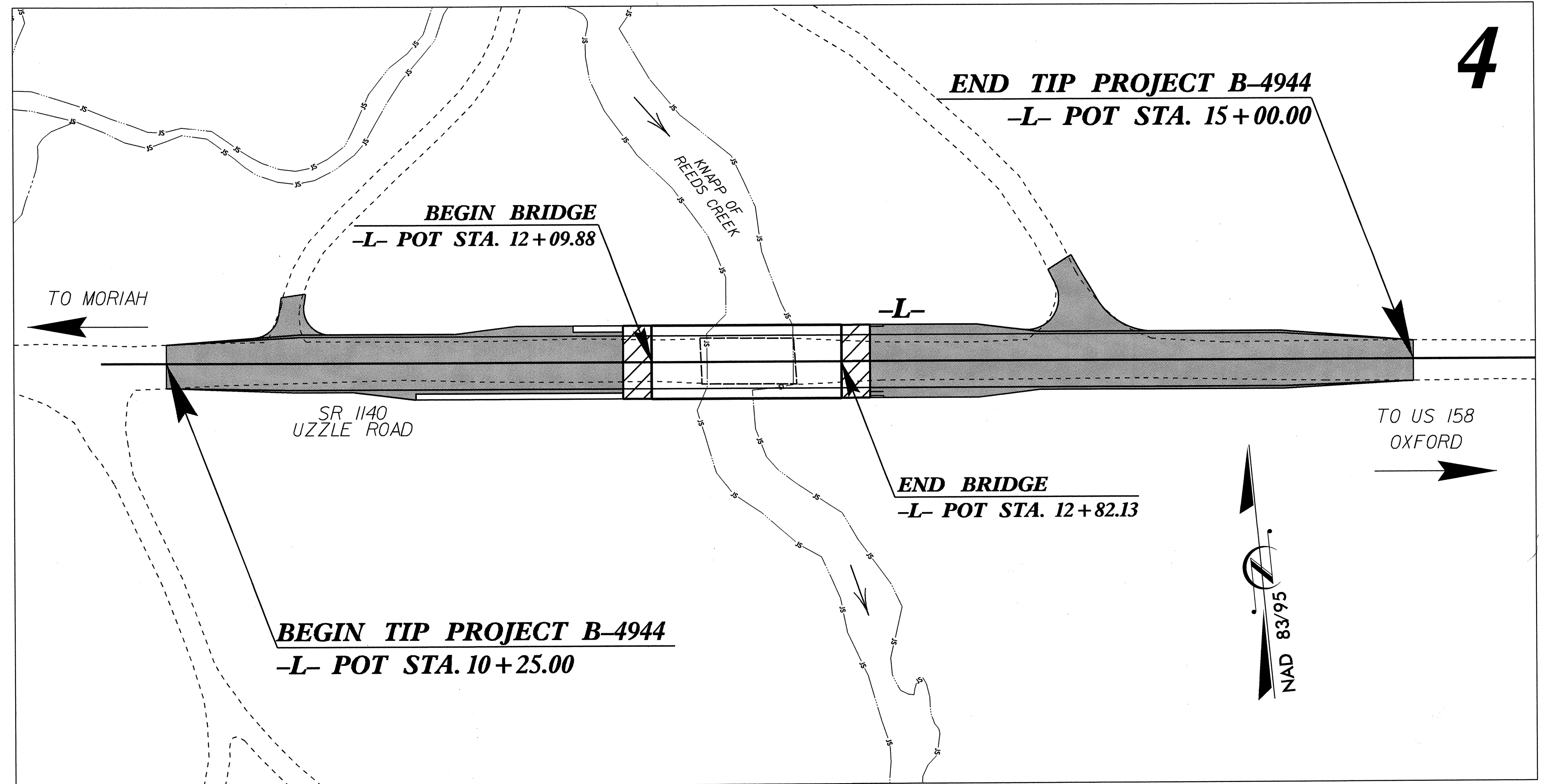
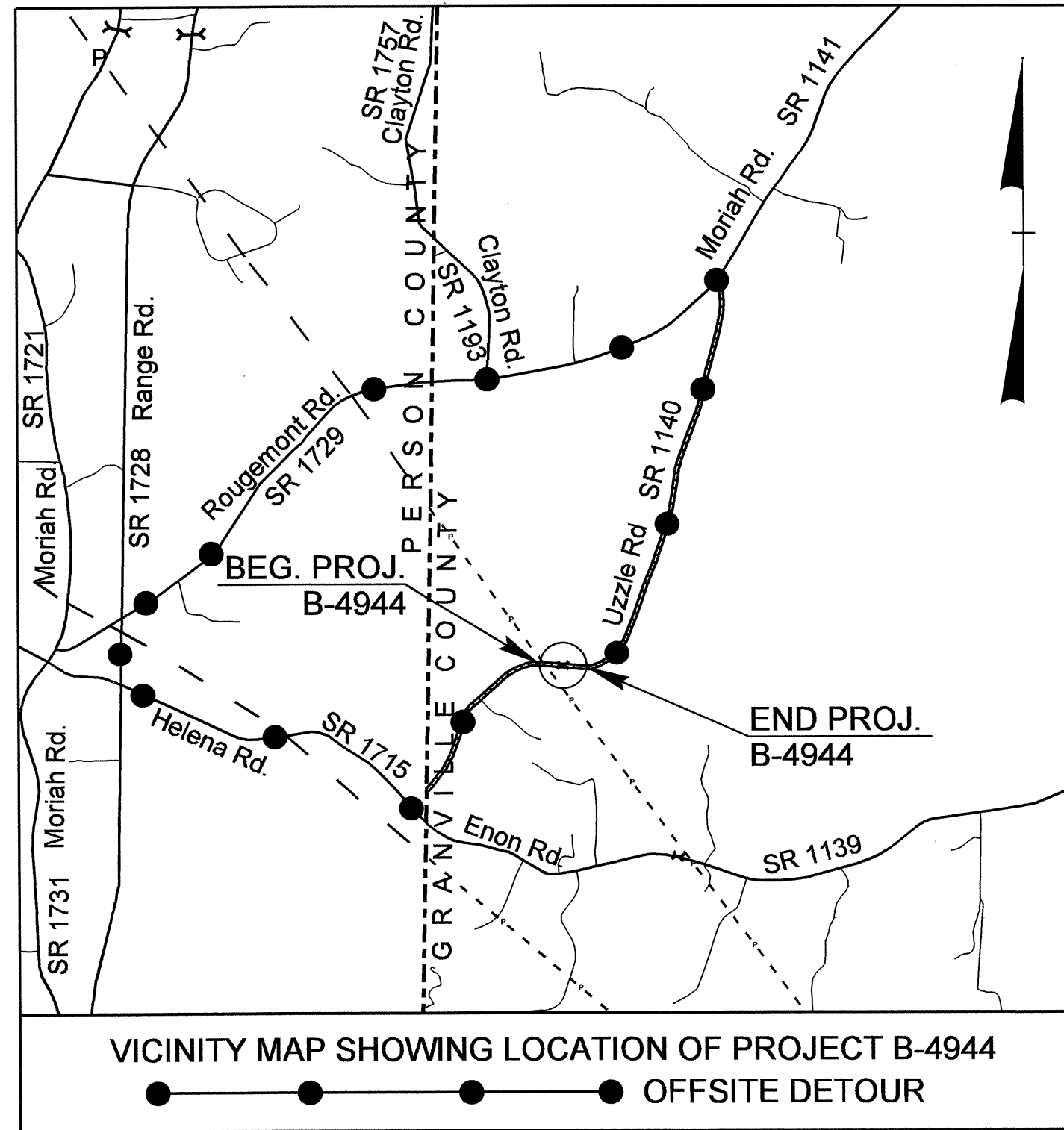
**LOCATION: BRIDGE NO. 225 OVER KNAPP REEDS CREEK
ON SR 1140 (UZZLE ROAD)**

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4944	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
40146.1.1	BRZ-1140(9)	PE	
40146.2.1	BRZ-1140(9)	ROW & UTIL	
40146.3.FD1	BRZ-1140(9)	CONSTRUCTION	



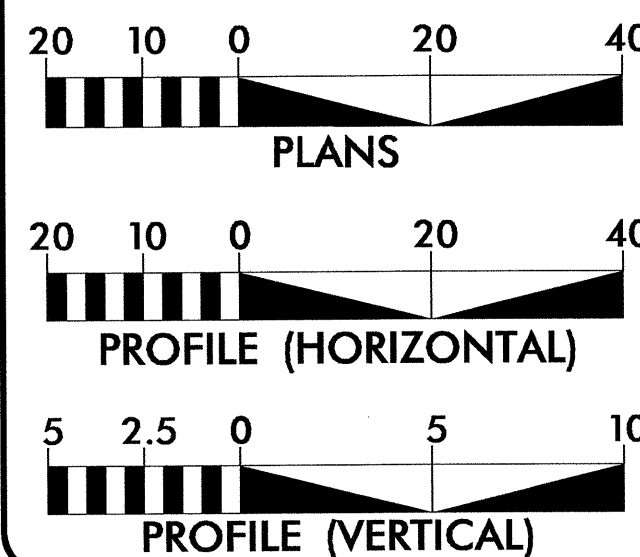
TIP PROJECT: B-4944



4

CONTRACT: C203289

GRAPHIC SCALES



DESIGN DATA

ADT 2013 = 250
 ADT 2033 = 750
 DHV = 15 %
 D = 55 %
 T = 6 % *
 V = 30 MPH
 * TTST = 1% DUAL 5%
 FUNC CLASS = RURAL LOCAL
 SUB REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4944 = 0.076 MILES
 LENGTH OF STRUCTURE TIP PROJECT B-4944 = 0.014 MILES
 TOTAL LENGTH OF TIP PROJECT B-4944 = 0.090 MILES

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

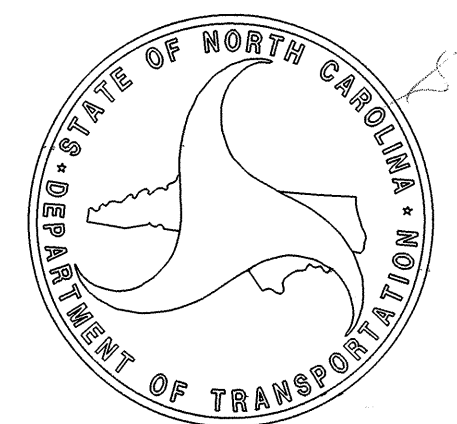
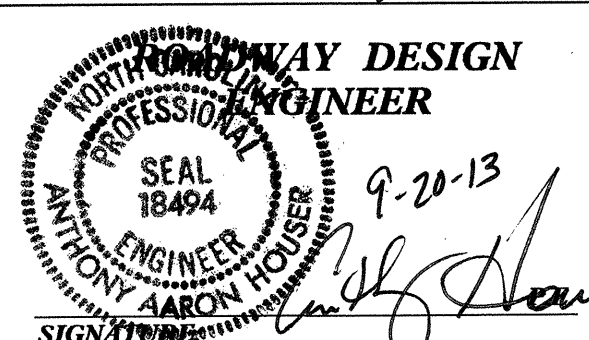
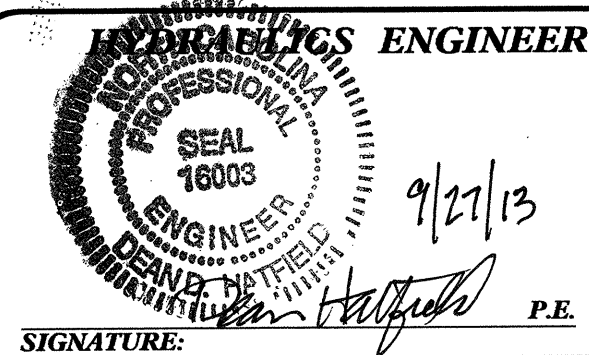
2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
 DECEMBER 18, 2012

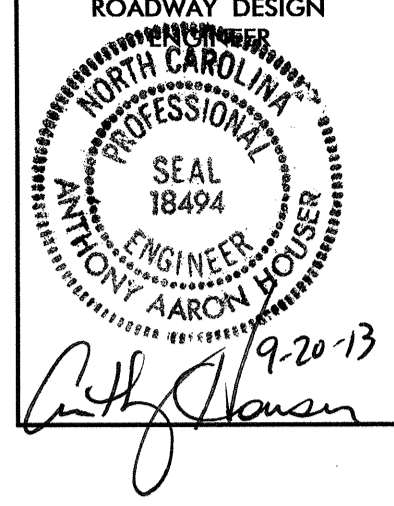
LETTING DATE:
 DECEMBER 17, 2013

TONY HOUSER, P.E.
 PROJECT ENGINEER

LEE ANN MOORE
 PROJECT DESIGN ENGINEER



19-SEP-2013 15:15
R:\Roadway\Projects\B4944_rdy_tsh.dgn
\$\$\$\$\$USER\$NAME\$\$\$\$\$



8/17/99

EFF. 01-17-2012
REV. 10-30-2012

2012 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 January, 2012 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
DIVISION 4 - MAJOR STRUCTURES	
422.11	Reinforced Bridge Approach Fills - Sub Regional Tier
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
840.00	Concrete Base Pad for Drainage Structures
840.25	Anchorage for Frames - Brick or Concrete or Precast
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
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
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class "B" Rip Rap

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1C	SURVEY CONTROL SHEETS
2	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING, SBC, AND SBC DETAILS
2A	STRUCTURE ANCHOR UNITS, TYPE III
3	SUMMARY OF QUANTITIES
3A	SUMMARY OF DRAINAGE
3B	SUMMARY OF SPECIAL SHOULDER BERM CURB SUMMARY OF SHOULDER BERM GUTTER SUMMARY OF GUARDRAIL SUMMARY OF EARTHWORK
4	PLAN SHEET
5	PROFILE SHEET
TMP-1 THRU TMP-3	TRANSPORTATION MANAGEMENT PLANS
PMP-1	PAVEMENT MARKING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
RF-1	REFORESTATION DETAIL SHEET
UO-1 THRU UO-2	UTILITIES BY OTHER PLANS
X-A THRU X-5	CROSS-SECTIONS
S-1 THRU S-13	STRUCTURE PLANS

GENERAL NOTES: 2012 SPECIFICATIONS
EFFECTIVE: 01-17-2012
REVISED: 07-30-2012

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.

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.

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
PIEDMONT EMC - POWER (DISTRIBUTION),
PROGRESS ENERGY CAROLINAS, INC. - POWER (TRANSMISSION)
ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

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	ECM
Parcel/Sequence Number	(23)
Existing Fence Line	-----
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
Known Soil Contamination: Area or Site	☠
Potential Soil Contamination: Area or Site	?

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○
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	○
Wetland	▭
Proposed Lateral, Tail, Head Ditch	-----
False Sump	▭

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	CSX TRANSPORTATION 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 Drainage / Utility Easement	DUE
Proposed Permanent Utility Easement	PUE
Proposed Temporary Utility Easement	TUE
Proposed Aerial Utility Easement	AUE
Proposed Permanent Easement with Iron Pin and Cap Marker	◆

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	C
Proposed Slope Stakes Fill	F
Proposed Curb Ramp	CR
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	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

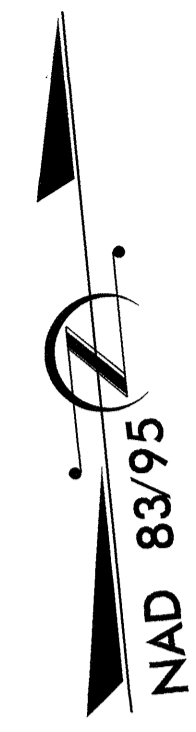
MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	⊠
Utility Located Object	○
Utility Traffic Signal Box	⊠
Utility Unknown U/G Line	UTL
U/G Tank; Water, Gas, Oil	▭
Underground Storage Tank, Approx. Loc.	UST
A/G Tank; Water, Gas, Oil	▭
Geoenvironmental Boring	⊕
U/G Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

SURVEY CONTROL SHEET B-4944

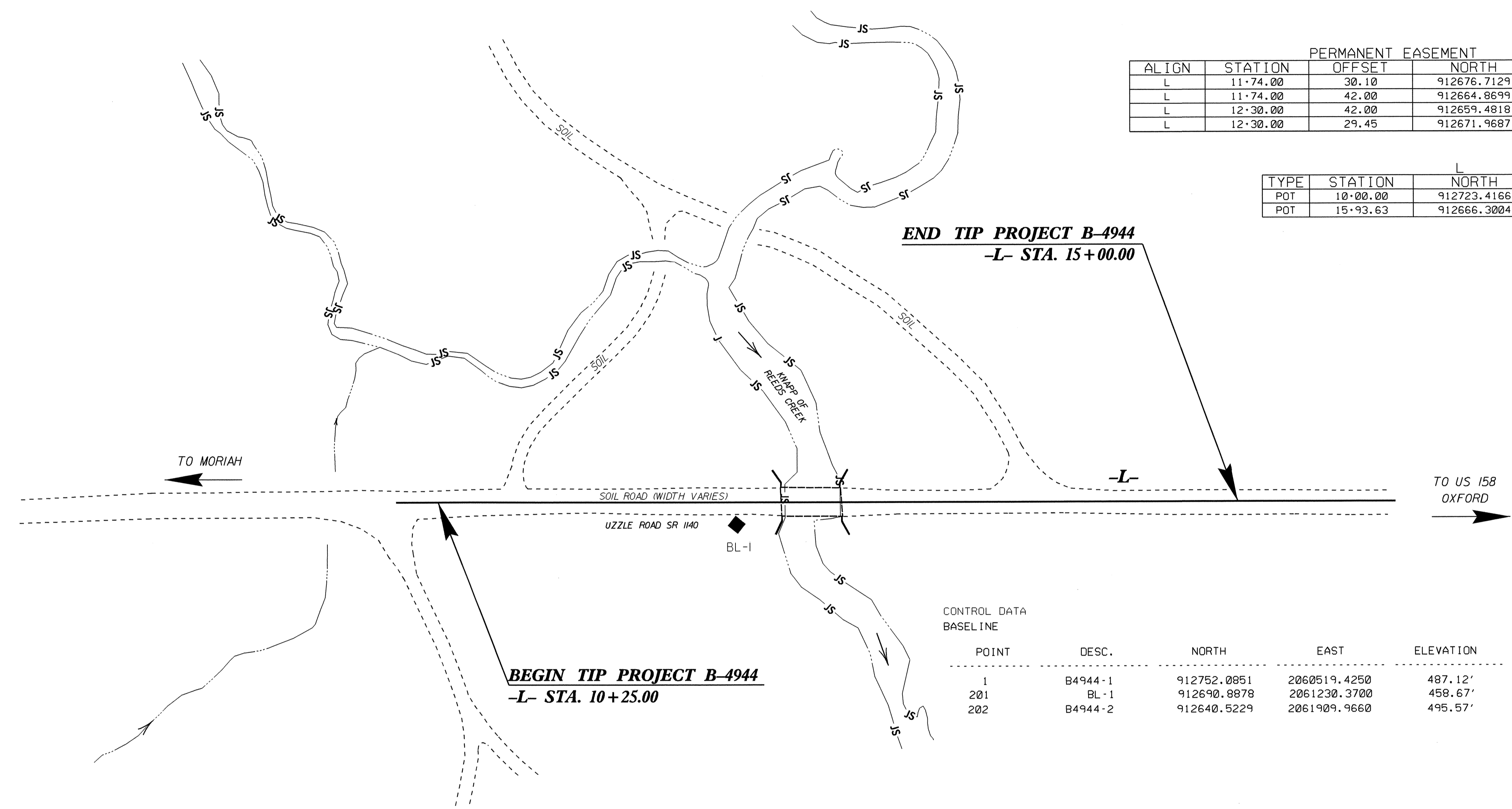
GRANVILLE COUNTY

BRIDGE No. 225 OVER KNAPP REEDS CREEK ON SR 1140 (UZZLE ROAD)



PERMANENT EASEMENT				
ALIGN	STATION	OFFSET	NORTH	EAST
L	11+74.00	30.10	912676.7129	2061200.6279
L	11+74.00	42.00	912664.8699	2061199.4831
L	12+30.00	42.00	912659.4818	2061255.2233
L	12+30.00	29.45	912671.9687	2061256.4303

L			
TYPE	STATION	NORTH	EAST
POT	10+00.00	912723.4166	2061030.3314
POT	15+93.63	912666.3004	2061621.2032



B4944-1
N 912752.09
E 2060519.43

BM1
RR SPIKE IN
BASE OF POLE #1

B4944-2
N 912640.52
E 2061909.97

BM2
RR SPIKE IN
BASE OF POLE #4

CONTROL DATA BASELINE						
POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	B4944-1	912752.0851	2060519.4250	487.12'	OUTSIDE PROJECT LIMITS	
201	BL-1	912690.8878	2061230.3700	458.67'	12+02.24	13.13' RT
202	B4944-2	912640.5229	2061909.9660	495.57'	OUTSIDE PROJECT LIMITS	

NOTES:

- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/PAGES/DEFAULT.ASPX](https://connect.ncdot.gov/resources/location/pages/default.aspx)
THE FILES TO BE FOUND ARE AS FOLLOWS:
B4944_LS_CONTROL.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 EXISTING HARN MONUMENTATION
SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4944-1" WITH NAD 83/95 STATE PLANE GRID COORDINATES OF
NORTHING: 912752.0852(±ft) EASTING: 2060519.4255(±ft)
ELEVATION: 487.12'(±ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.00000858
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4944-1" TO -L- 10+25.00 IS
S 86° 40' 51" E 536.69'

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

BENCHMARK DATA

.....
BM1 ELEVATION = 478.51'
N 912698 E 2060760
FROM L STATION 10+25.00
S 85° 32' 35" W DIST 296'
SPIKE IN BASE OF POLE #1
.....

.....
BM2 ELEVATION = 496.26'
N 912645 E 2061898
FROM L STATION 15+00.00
S 85° 19' 01" E DIST 371'
SPIKE IN BASE OF POLE #4
.....

NOTE: DRAWING NOT TO SCALE

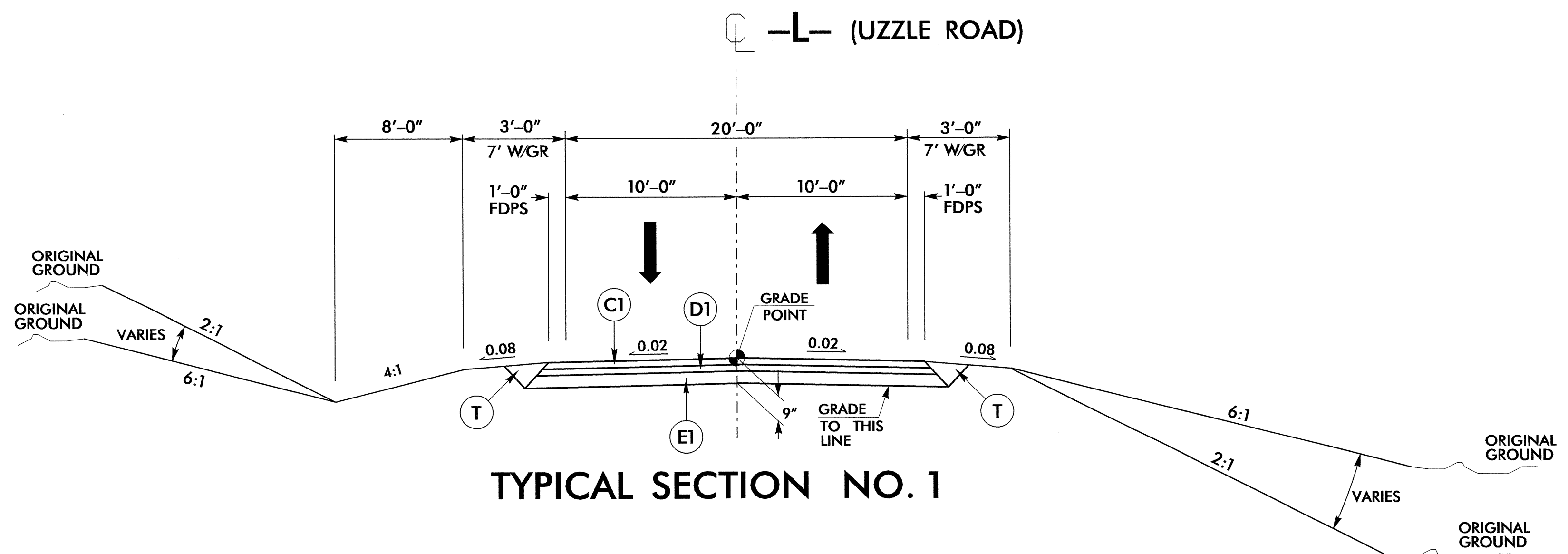
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6/2/99

PAVEMENT SCHEDULE

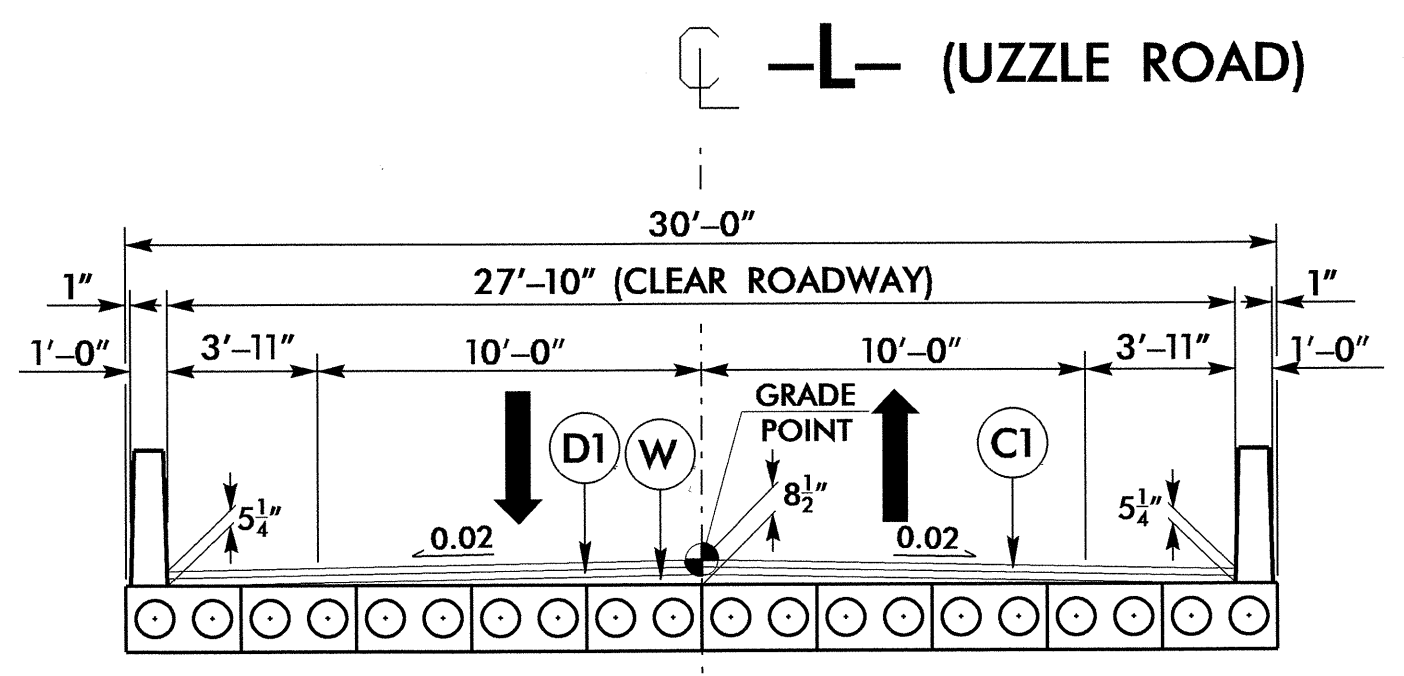
C1	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN 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" IN DEPTH OR GREATER THAN 4" 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" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
J1	PROP. 8" AGGREGATE BASE COURSE.
R1	SHOULDER BERM GUTTER.
R2	SPECIAL SHOULDER BERM CURB.
W	WEDGING.
T	EARTH MATERIAL.

PROJECT REFERENCE NO. B-4944	SHEET NO. 2
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 18494 ANTHONY AARON HOUSE	PAVEMENT DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22898 CLARK S. MORRISON



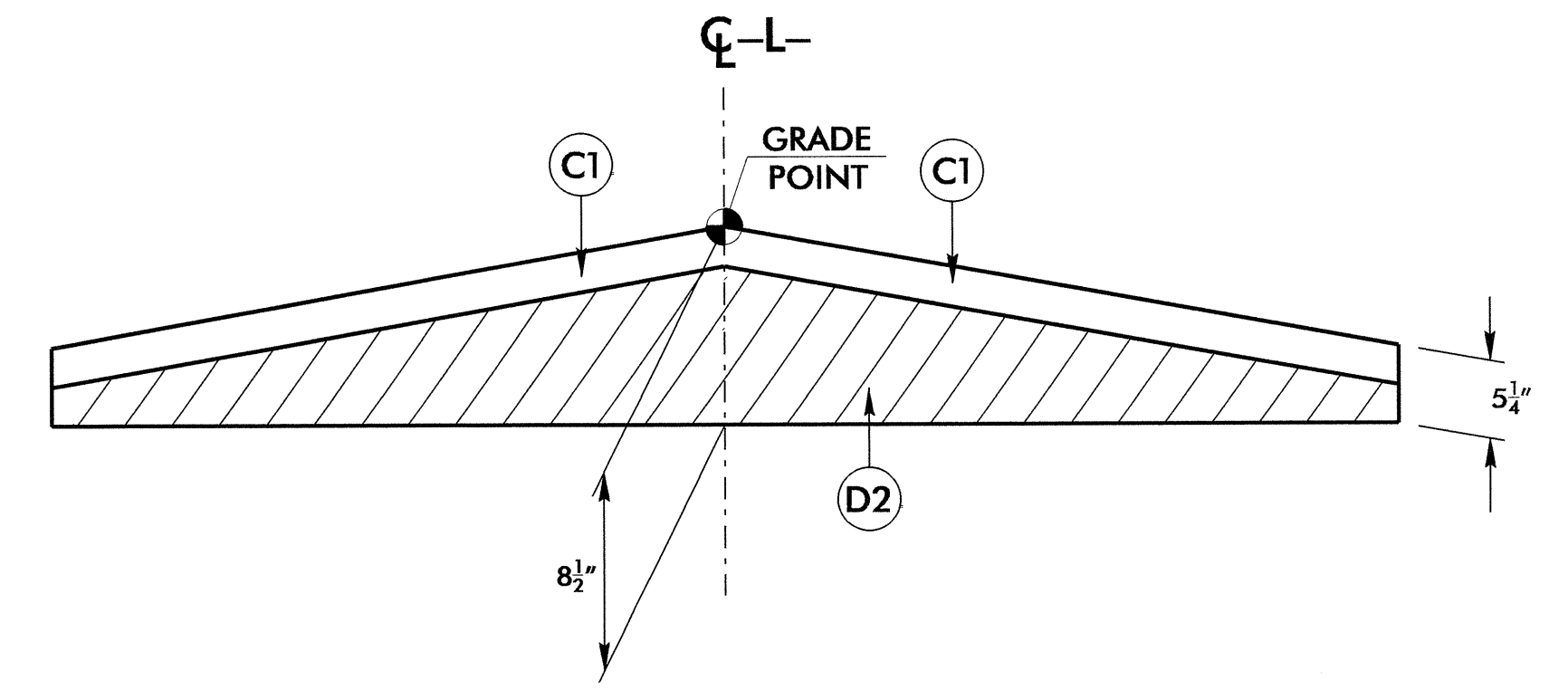
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1:
 -L- STA. 10+25.00 TO STA. 12+09.88 (BEG. BRIDGE)
 -L- STA. 12+82.13 (END BRIDGE) TO STA. 15+00.00

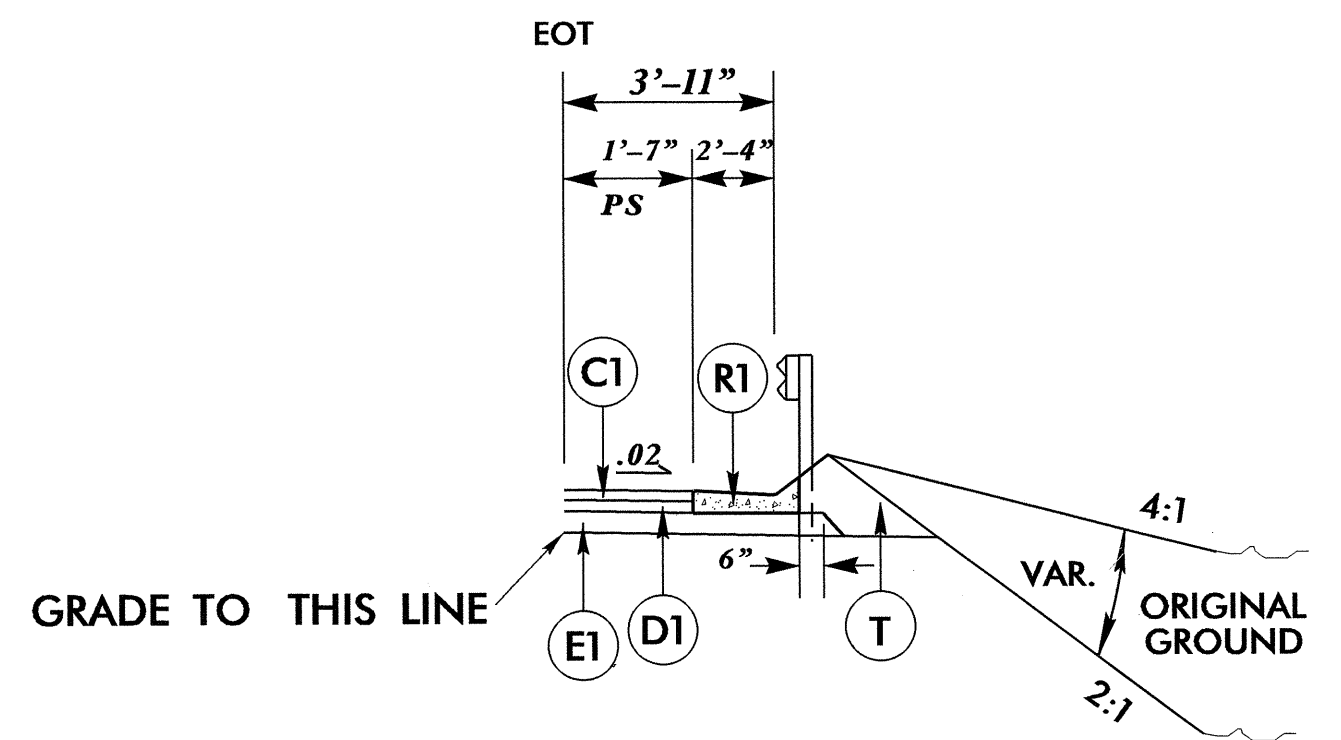


TYPICAL SECTION NO. 2 (ON BRIDGE)

USE TYPICAL SECTION NO. 2:
 -L- STA. 12+09.88 (BEG. BRIDGE) TO STA. 12+82.13 (END BRIDGE)

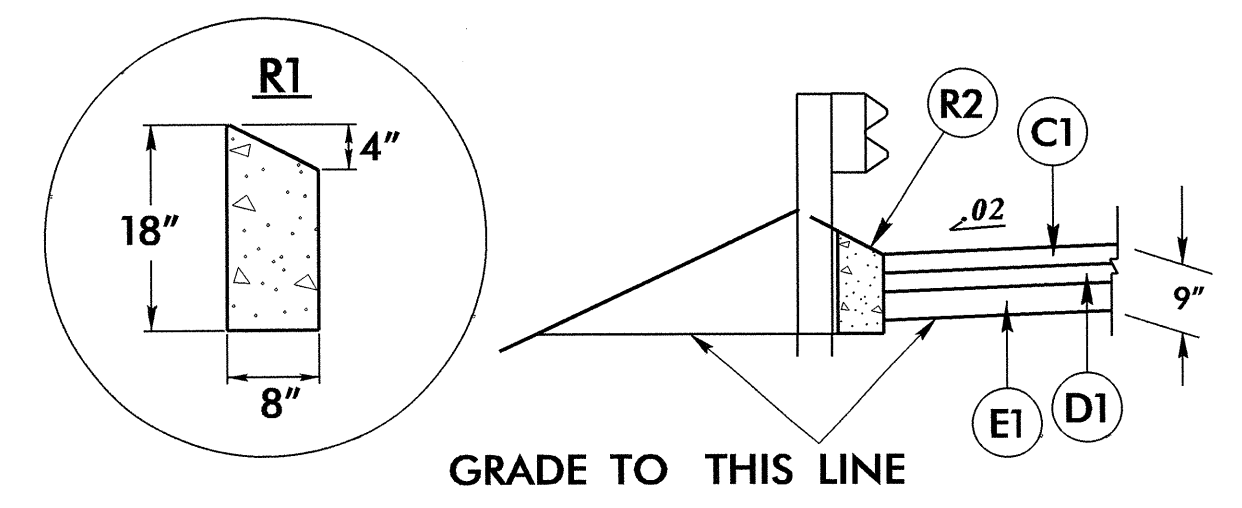


DETAIL SHOWING METHOD OF WEDGING ON BRIDGE
 USE IN CONJUNCTION WITH TYPICAL SECTION NO. 2

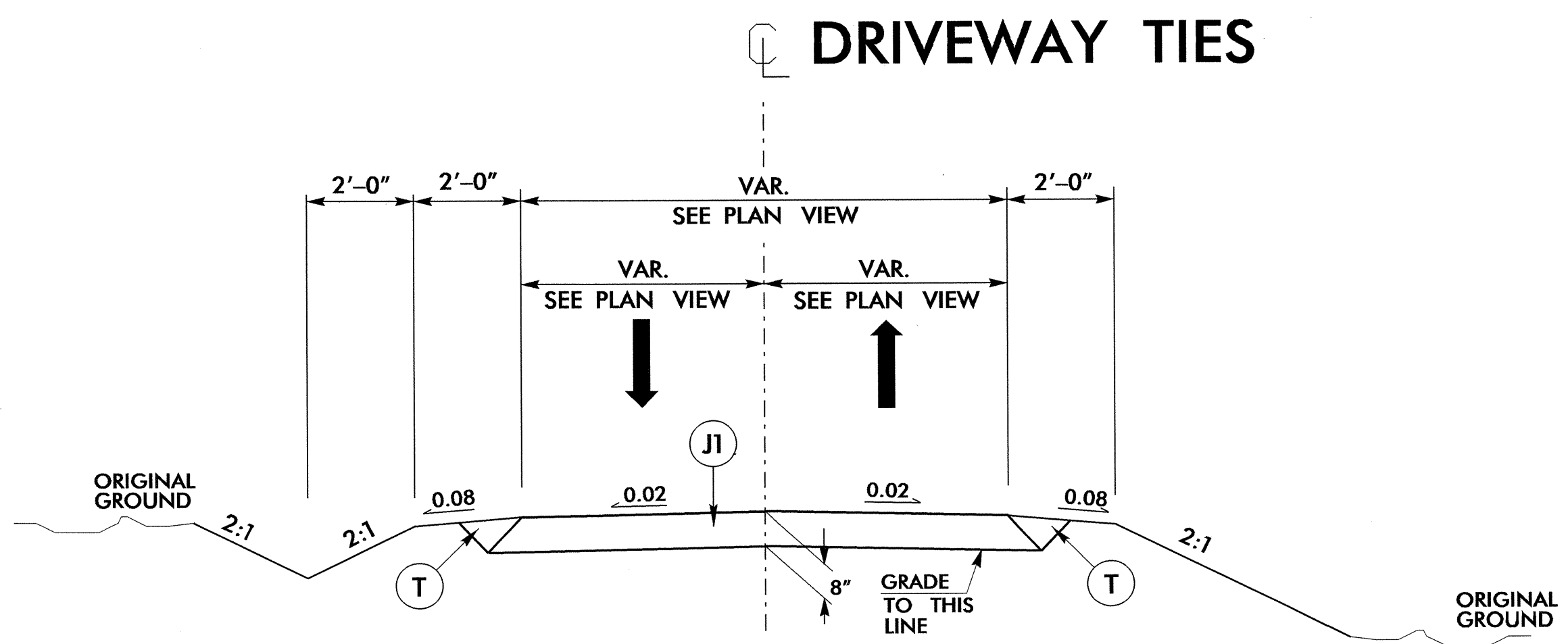


DETAIL SHOWING PAVED SHOULDER IN RELATION TO GUARDRAIL

SHOULDER BERM GUTTER LOCATIONS
 -L- STA. 11+80.00 TO 11+98.88 (BEG. APPROACH SLAB) LT.
 -L- STA. 11+20.00 TO 11+98.88 (BEG. APPROACH SLAB) RT.



DETAIL SHOWING SPECIAL SHOULDER BERM CURB (SBC) ON TOP OF SUBGRADE
 -L- STA. 12+93.13 (END APPROACH SLAB) TO 12+98.13 RT. & LT.



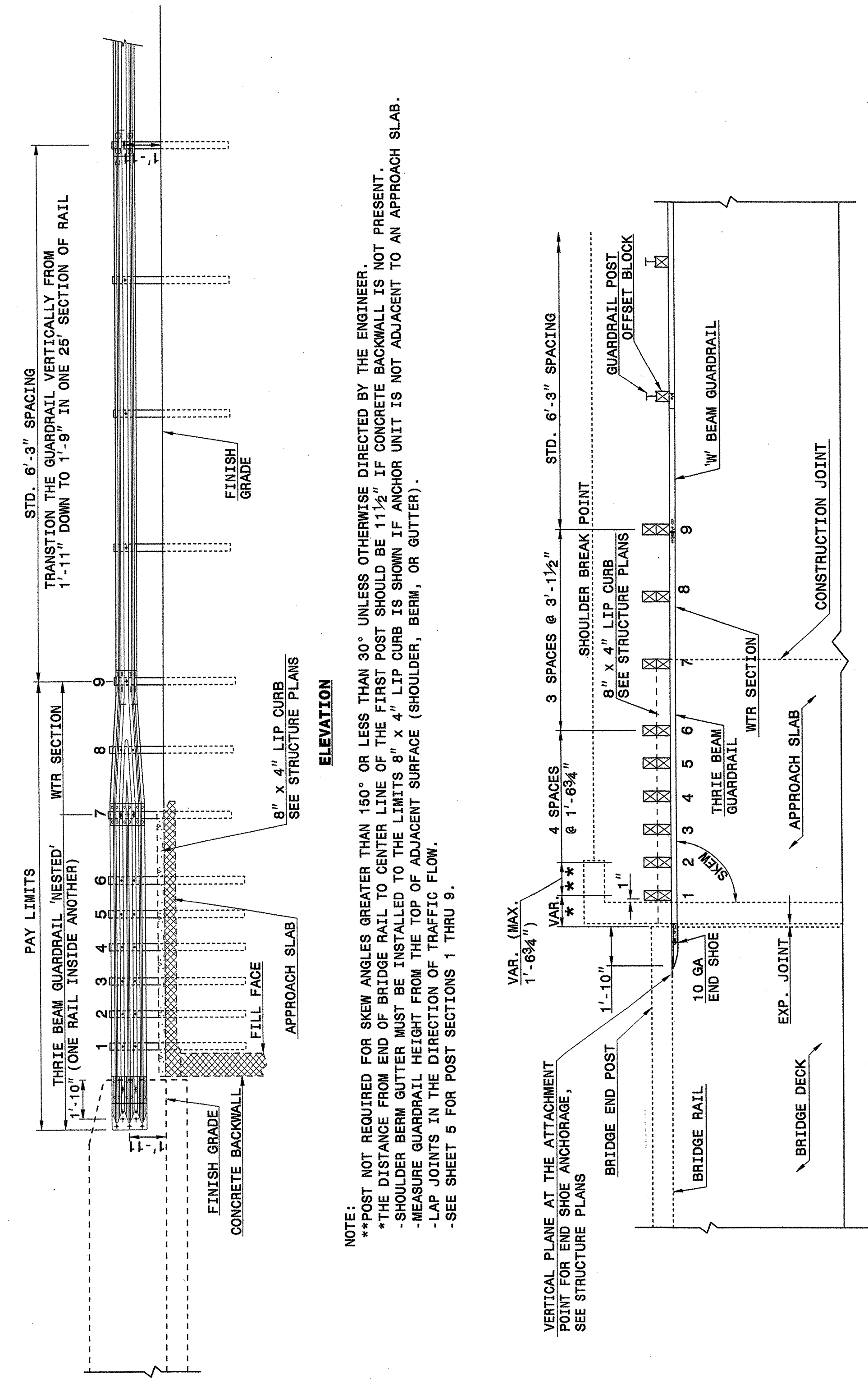
DRIVEWAY TYPICAL

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

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7
862d03



NOTE:
 **POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
 *THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11½" IF CONCRETE BACKWALL IS NOT PRESENT.
 -SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" X 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.
 -MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
 -LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
 -SEE SHEET 5 FOR POST SECTIONS 1 THRU 9.

GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

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

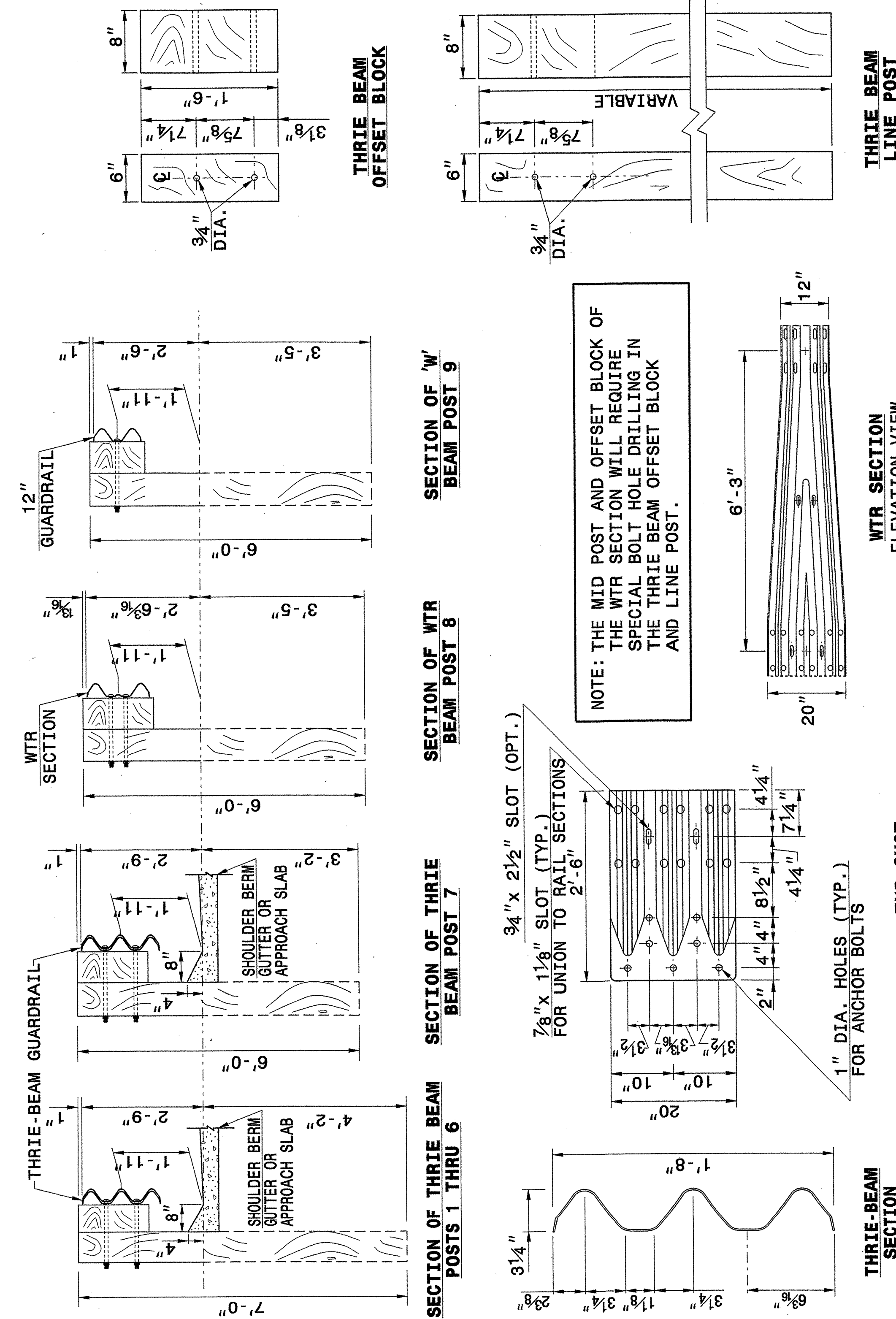
ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7
862d03

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

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 3 OF 7
862d03



NOTE: THE MID POST AND OFFSET BLOCK OF THE WTR SECTION WILL REQUIRE SPECIAL BOLT HOLE DRILLING IN THE THRIE BEAM OFFSET BLOCK AND LINE POST.

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

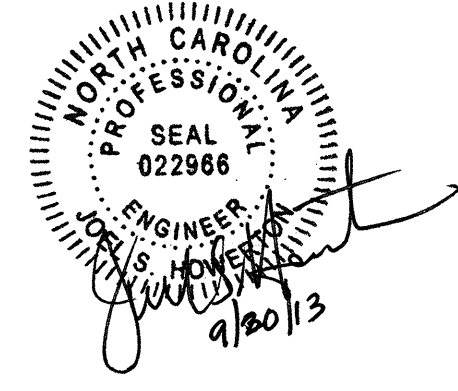
ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III

SHEET 3 OF 7
862d03

CONTRACT STANDARDS
AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: J. HOWERTON DATE: 06-22-12
 MODIFIED BY: *J. Howerton* DATE:
 CHECKED BY: *J. Howerton* DATE: 11/13/12
 FILE SPEC.:



SYSTEMS

USER NAME

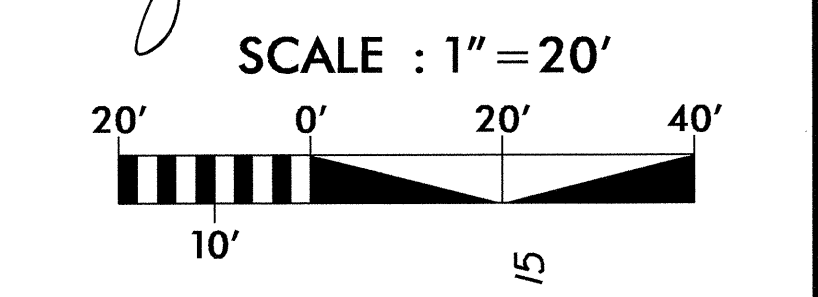
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C203289

ItemNumber	Sec #	Quantity	Unit	Description
000100000-N	800	Lump Sum		MOBILIZATION
000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING
003000000-N	SP	Lump Sum		BRIDGE APPROACH FILL - SUB REGIONAL TIER, STATION ***** (12+46.00)
004300000-N	226	Lump Sum		GRADING
005000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING
005700000-E	226	200	CY	UNDERCUT EXCAVATION
019500000-E	265	200	CY	SELECT GRANULAR MATERIAL
019600000-E	270	200	SY	GEOTEXTILE FOR SOIL STABILIZATION
031800000-E	300	20	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES
032000000-E	300	40	SY	FOUNDATION CONDITIONING GEOTEXTILE
033520000-E	305	12	LF	15" DRAINAGE PIPE
036600000-E	310	56	LF	15" RC PIPE CULVERTS, CLASS III
044820000-E	310	28	LF	15" RC PIPE CULVERTS, CLASS IV
112100000-E	520	36	TON	AGGREGATE BASE COURSE
122000000-E	545	80	TON	INCIDENTAL STONE BASE
148900000-E	610	240	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
149800000-E	610	190	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE II.9.0B
152500000-E	610	180	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
157500000-E	620	35	TON	ASPHALT BINDER FOR PLANT MIX
228600000-N	840	3	EA	MASONRY DRAINAGE STRUCTURES
236700000-N	840	3	EA	FRAME WITH TWO GRATES, SID 840.29
255600000-E	846	98	LF	SHOULDER BERM GUTTER
275200000-E	SP	10	LF	GENERIC PAVING ITEM SPECIAL SHOULDER BERM CURB
303000000-E	862	100	LF	STEEL BM GUARDRAIL

SUMMARY OF QUANTITIES - B-4944

ItemNumber	Sec #	Quantity	Unit	Description
315000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
316500000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE ***** (350 TL-2)
321500000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE III
364900000-E	876	35	TON	RIP RAP, CLASS B
365600000-E	876	755	SY	GEOTEXTILE FOR DRAINAGE
440000000-E	1110	339	SF	WORK ZONE SIGNS (STATIONARY)
441000000-E	1110	144	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
442200000-N	1120	28	DAY	PORTABLE CHANGEABLE MESSAGE SIGN (SHORT TERM)
443000000-N	1130	6	EA	DRUMS
444500000-E	1145	96	LF	BARRICADES (TYPE III)
481000000-E	1205	3,800	LF	PAINT PAVEMENT MARKING LINES (4")
600000000-E	1605	915	LF	TEMPORARY SILT FENCE
600600000-E	1610	150	TON	STONE FOR EROSION CONTROL, CLASS A
600900000-E	1610	60	TON	STONE FOR EROSION CONTROL, CLASS B
601200000-E	1610	150	TON	SEDIMENT CONTROL STONE
601500000-E	1615	1.25	ACR	TEMPORARY MULCHING
601800000-E	1620	50	LB	SEED FOR TEMPORARY SEEDING
602100000-E	1620	0.25	TON	FERTILIZER FOR TEMPORARY SEEDING
602400000-E	1622	100	LF	TEMPORARY SLOPE DRAINS
602900000-E	SP	400	LF	SAFETY FENCE
603000000-E	1630	90	CY	SILT EXCAVATION
603600000-E	1631	2,500	SY	MATTING FOR EROSION CONTROL
603700000-E	SP	100	SY	COIR FIBER MAT
603800000-E	SP	20	SY	PERMANENT SOIL REINFORCEMENT MAT
604200000-E	1632	315	LF	1/4" HARDWARE CLOTH

ItemNumber	Sec #	Quantity	Unit	Description
607000000-N	1639	2	EA	SPECIAL STILLING BASINS
6071012000-E	SP	105	LF	COIR FIBER WATTLE
6071020000-E	SP	35	LB	POLYACRYLAMIDE (PAM)
608400000-E	1660	1.25	ACR	SEEDING & MULCHING
608700000-E	1660	0.6	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	TON	FERTILIZER TOPDRESSING
611450000-N	1667	10	MHR	SPECIALIZED HAND MOWING
611700000-N	SP	18	EA	RESPONSE FOR EROSION CONTROL
612300000-E	1670	0.1	ACR	REFORESTATION



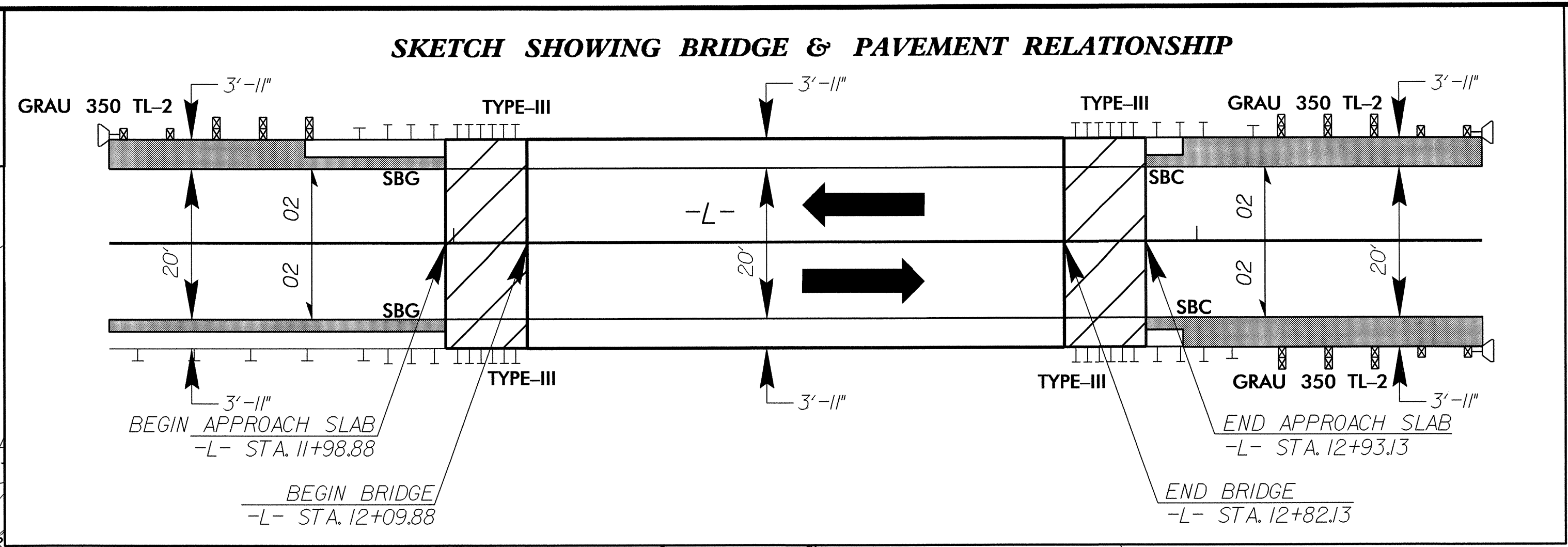
NAD 83/95

3

WNA, LLC
DB 1290 PG 128
DB 181 PG 267
DB 131 PG 446
WOODS

SHOULDER BERM GUTTER LOCATIONS
 -L- FROM STA. 11+80.00 TO STA. 11+98.88 (BEG. APPROACH SLAB) LT
 -L- FROM STA. 11+20.00 TO STA. 11+98.88 (BEG. APPROACH SLAB) RT

SPECIAL SHOULDER BERM CURB LOCATIONS
 -L- FROM STA. 12+93.13 (END APPROACH SLAB) TO STA. 12+98.13 LT & RT



BEGIN TIP PROJ. B-4944
 -L- POT STA. 10+25.00

1
 DANIEL GLOSSON & CHRISTY SWAIN
 DB 798 PG 743
 PB 22 PG 12

2

AMY C. BLALOCK & WYATT C. BLALOCK
 DB 888 PG 840
 PB 25 PG 150

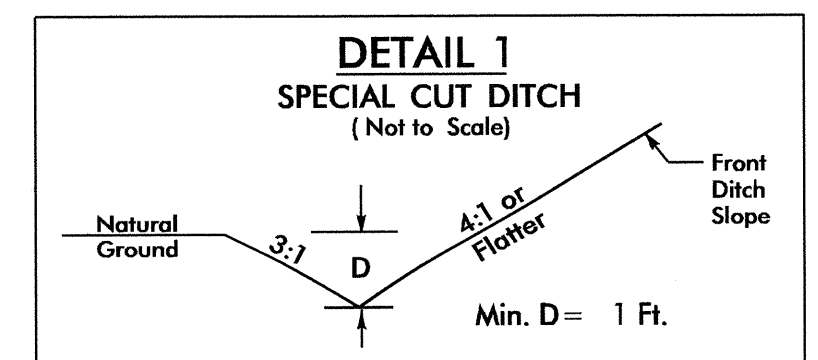
SPECIAL LATERAL V DITCH
 W/ CL "B" RIP RAP
 SEE DETAIL 2
 EST. 28 TONS STONE
 EST. 84 SY. FABRIC

NO RIGHT-OF-WAY AGREEMENTS OR PLATS WERE FOUND FOR THIS PARCEL.

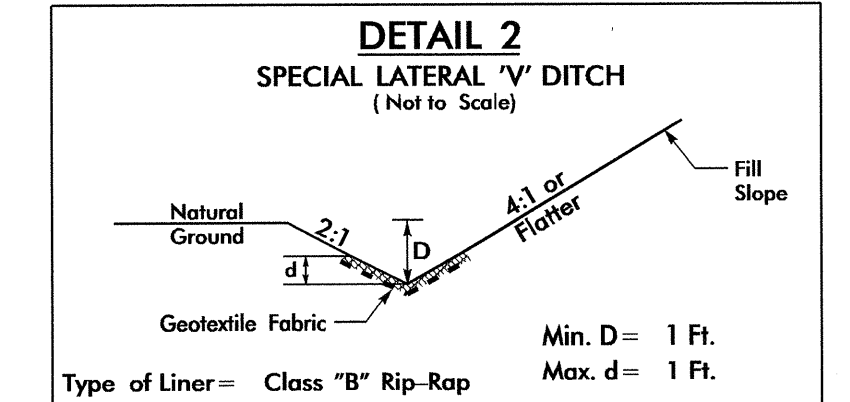
NO RIGHT-OF-WAY AGREEMENTS OR PLATS WERE FOUND FOR THIS PARCEL.

END TIP PROJ. B-4944
 -L- POT STA. 15+00.00

3
 WNA, LLC
 DB 1290 PG 128
 DB 181 PG 267
 DB 131 PG 446



FROM STA. 11+00 TO STA. 11+25 (PSRM)
 FROM STA. 11+25 TO STA. 11+80 RT



FROM STA. 13+70 TO STA. 14+50 LT

SEE STRUCTURE PLANS, S-1 TO S-13
 FOR -L- PROFILE, SEE SHEET NO. 5

REVISIONS

06-SEP-2013 12:30 L:\4944_rdy-psh4.dgn
 8/17/99

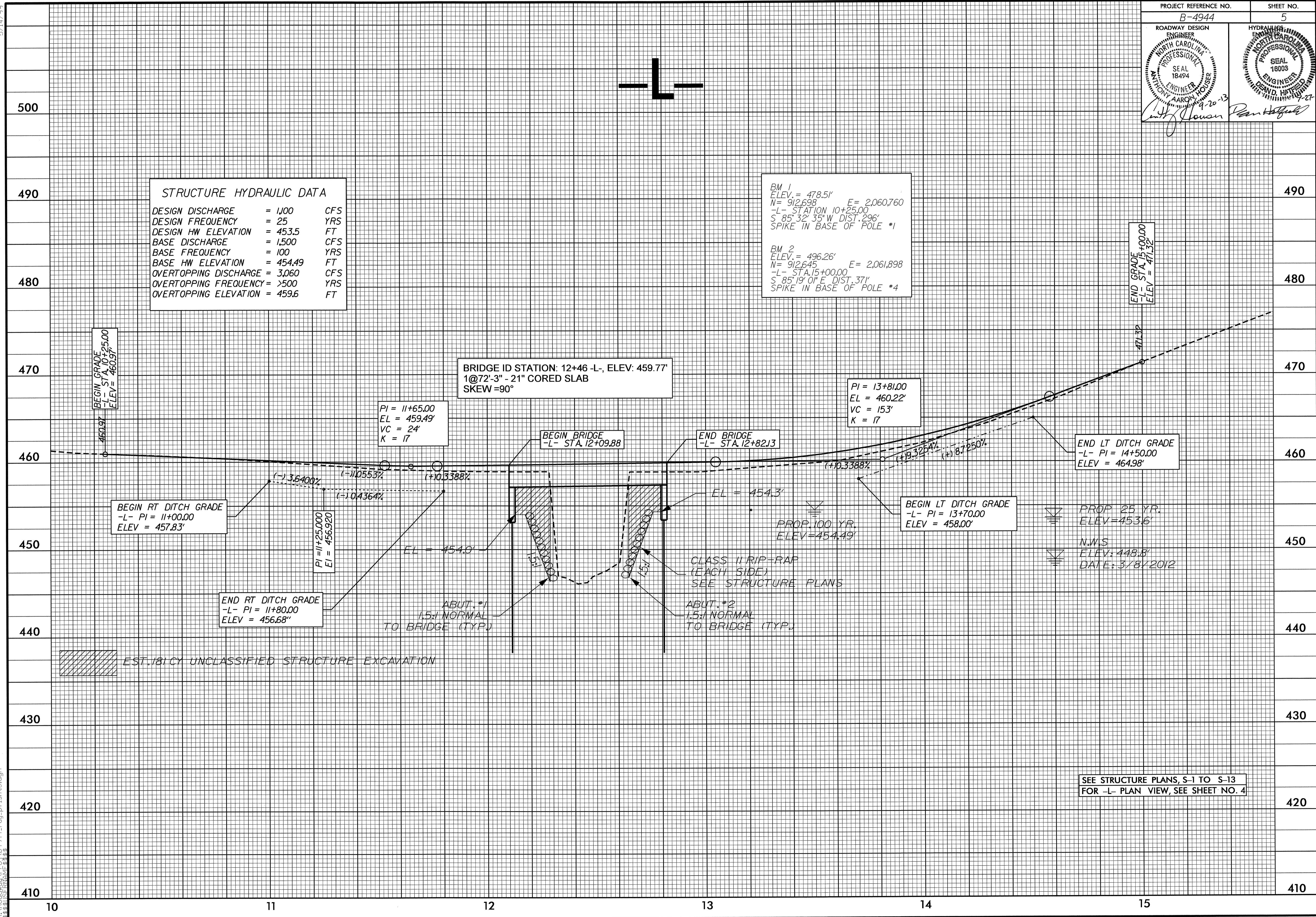
5/14/99

PROJECT REFERENCE NO. B-4944	SHEET NO. 5
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 18494 THOMAS AARON HOUSER 9-20-13	HYDRAULIC DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 16003 DANIEL HATFIELD 9-27-13

STRUCTURE HYDRAULIC DATA		
DESIGN DISCHARGE	= 1,100	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 453.5	FT
BASE DISCHARGE	= 1,500	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 454.49	FT
OVERTOPPING DISCHARGE	= 3,060	CFS
OVERTOPPING FREQUENCY	= >500	YRS
OVERTOPPING ELEVATION	= 459.6	FT

BM 1
ELEV. = 478.51'
N = 912,698 E = 2,060,760
-L- STATION 10+25.00
S 85°32'35" W DIST. 296'
SPIKE IN BASE OF POLE #1

BM 2
ELEV. = 496.26'
N = 912,645 E = 2,061,898
-L- STA. 15+00.00
S 85°19'00" E DIST. 371'
SPIKE IN BASE OF POLE #4

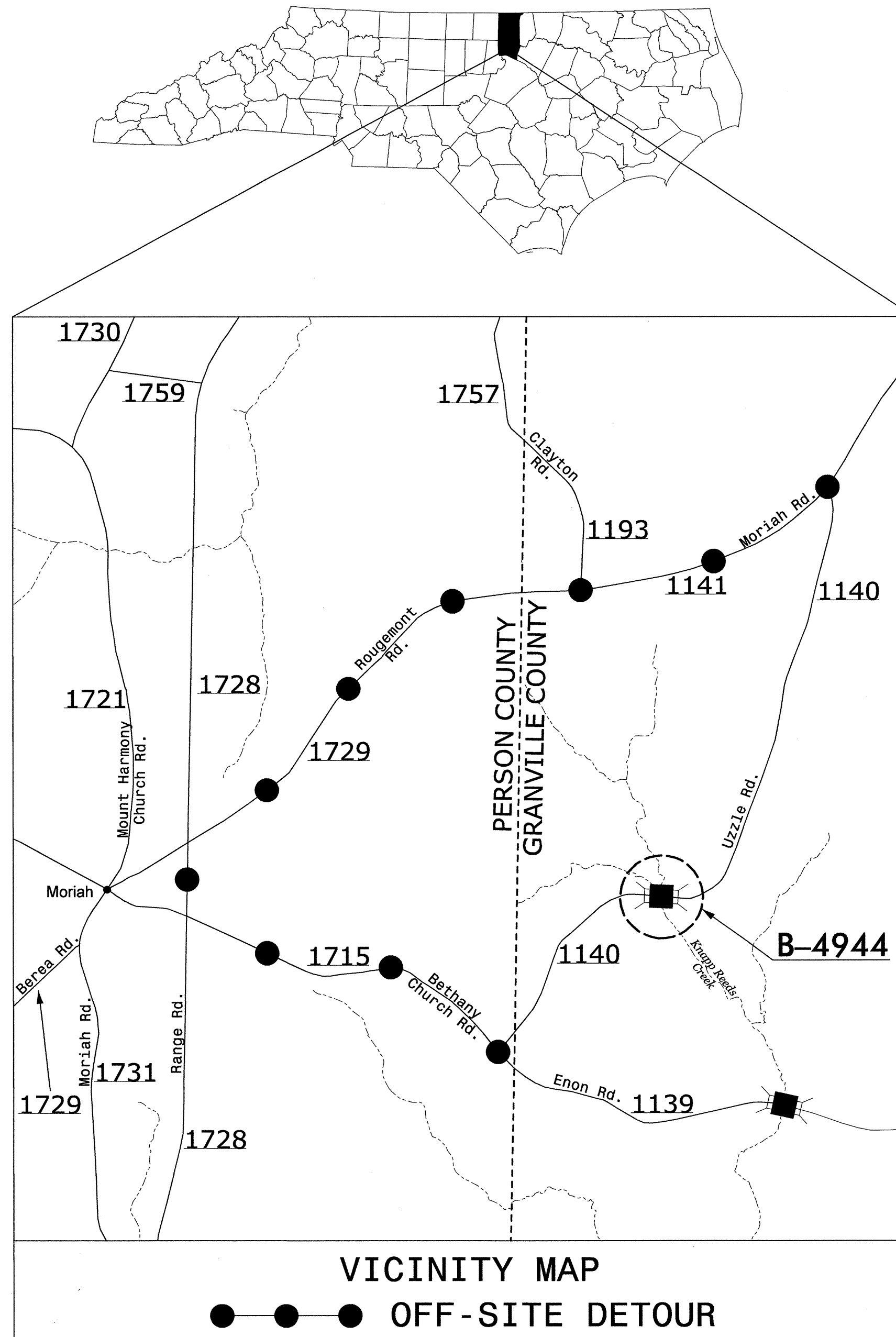


19-AUG-2013 15:09
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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

GRANVILLE COUNTY



INDEX OF SHEETS

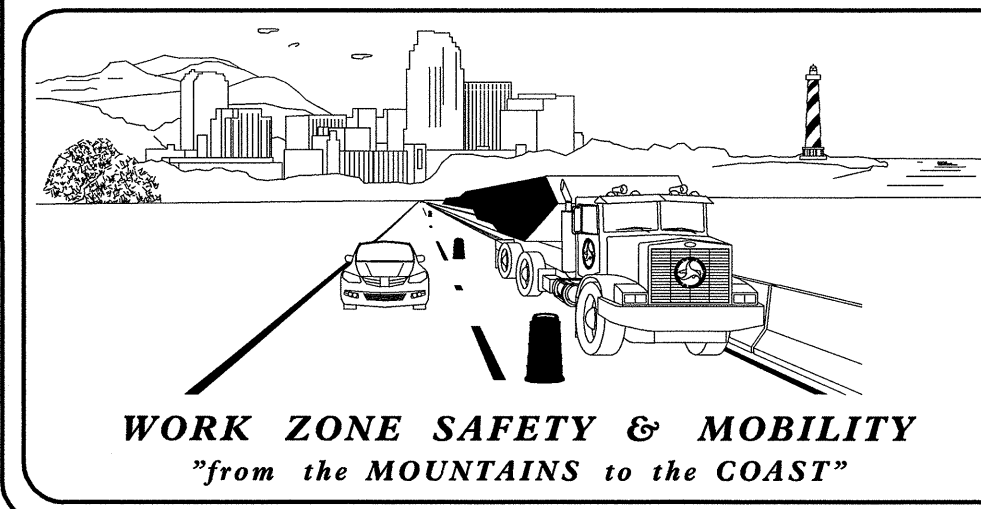
SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES AND PHASING)
TMP-2	OFF-SITE DETOUR ROUTE AND BARRICADE PLACEMENT
TMP-3	SPECIAL SIGN DESIGN

SHEET NO.
TMP-1

B-4944

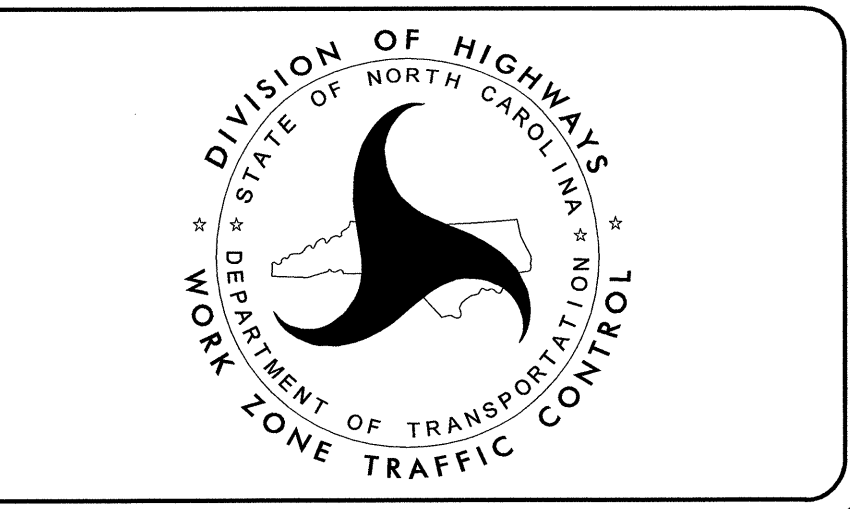
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8/1/2013
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 User:drkennedy



N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
 1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561
 750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
 PHONE: (919) 773-2800 FAX: (919) 771-2745

J. S. BOURNE, P.E. STATE TRAFFIC MANAGEMENT ENGINEER
 JOSEPH ISHAK, P.E. TRAFFIC CONTROL PROJECT ENGINEER
 MICHAEL STEELMAN TRAFFIC CONTROL PROJECT DESIGN ENGINEER
 DURWOOD KENNEDY, P.E. TRAFFIC CONTROL DESIGN ENGINEER



APPROVED: _____
 DATE: _____

SEAL

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.03	TEMPORARY ROAD CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1130.01	DRUM
1145.01	BARRICADES

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- WORK AREA

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM SKINNY DRUM TUBULAR MARKER
- FLASHING ARROW PANEL (TYPE C)
- FLAGGER
- TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

8/1/2013 R:\TIP\Projects-B\B4944\Traffic\TrafficControl\TCP\B-4944_TC_TMP.dgn User:tdrKennedy

APPROVED: _____ DATE: _____ 		<h3>ROADWAY STANDARD DRAWINGS & LEGEND</h3>
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MANAGEMENT STRATEGIES

DURING REPLACEMENT OF THE EXISTING BRIDGE No.225 OVER KNAPP REEDS CREEK, SR-1140 (UZZLE ROAD) WILL BE CLOSED TO THROUGH TRAFFIC. THE UZZLE ROAD TRAFFIC WILL BE DETOURED OFF-SITE.

PHASING

STEP 1:

PROVIDE AND MAINTAIN CHANGEABLE MESSAGE SIGNS AT EACH END OF SR-1140 (UZZLE RD.) OR AS DIRECTED BY THE ENGINEER FOR FOURTEEN (14) CALENDAR DAYS PRIOR TO ROAD CLOSURE, AS SHOWN ON SHEET TMP-2.

USING RSD 1101.03, SHEET 1 OF 9, SHEETS TMP-2 AND TMP-3, MAY BEGIN INSTALLATION OF ROAD CLOSURE AND DETOUR SIGNS. COVER SIGNS UNTIL READY TO CLOSE THE ROAD.

STEP 2:

USING RSD 1101.03, SHEET 1 OF 9, SHEETS TMP-2 AND TMP-3, INSTALL / UNCOVER ROAD CLOSURE AND DETOUR SIGNS. PLACE TYPE III BARRICADES TO CLOSE SR-1140 TO THROUGH TRAFFIC, AND DETOUR TRAFFIC OFF-SITE. CHANGEABLE MESSAGE SIGNS MAY BE REMOVED.

ACCESS TO ALL DRIVEWAYS MUST BE PROVIDED AT ALL TIMES WITHIN THE PROJECT LIMITS.

STEP 3:

AWAY FROM TRAFFIC, COMPLETE THE FOLLOWING:

SEE ROADWAY AND STRUCTURE PLANS.

- REMOVE EXISTING STRUCTURE No.225, AND CONSTRUCT THE PROPOSED STRUCTURE.
- CONSTRUCT PROPOSED ROADWAY UP THROUGH THE FINAL LAYER OF SURFACE COURSE FROM -L- STA.10+25+/- TO -L- STA.15+00+/-.

STEP 4:

REMOVE ALL ROAD CLOSURE SIGNING/DEVICES AND DETOUR SIGNING. OPEN SR-1140 (UZZLE ROAD) TO PROPOSED TRAFFIC PATTERN.

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS, OR RESULT IN DUPLICATE, OR UNDESIRE OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES, AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

TRAFFIC PATTERN ALTERATIONS

- A) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

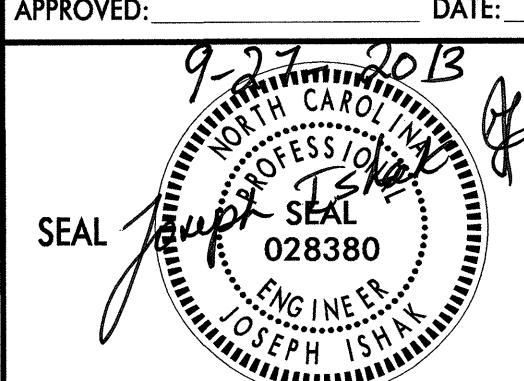
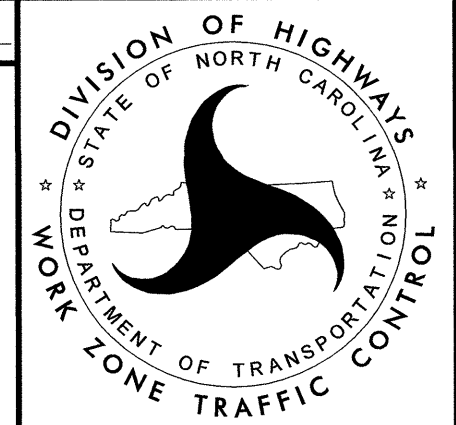
THE NCDOT RESIDENT ENGINEER WILL NOTIFY THE GRANVILLE COUNTY SCHOOLS TRANSPORTATION DIRECTOR AT (919) 693-6412 AND THE DIRECTOR OF THE GRANVILLE COUNTY EMERGENCY SERVICES AT (919) 603-1310 OF THE ROAD CLOSURE THIRTY (30) CALENDAR DAYS PRIOR TO THE CLOSURE.

SIGNING

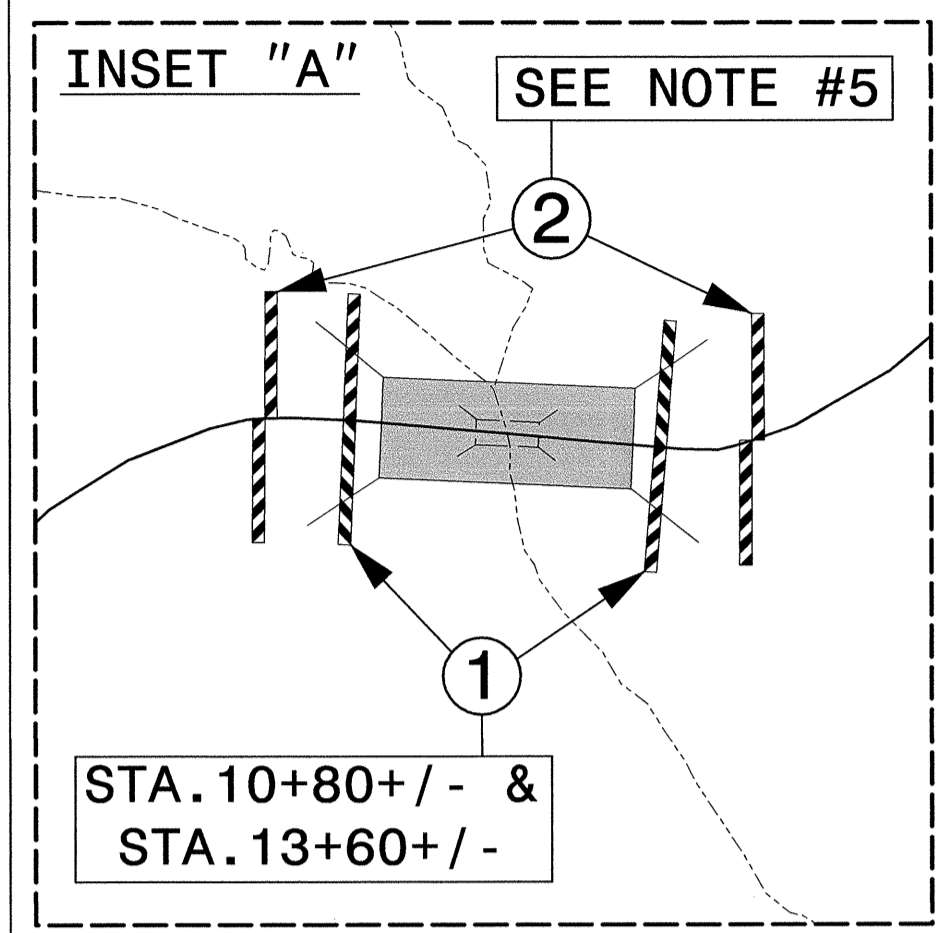
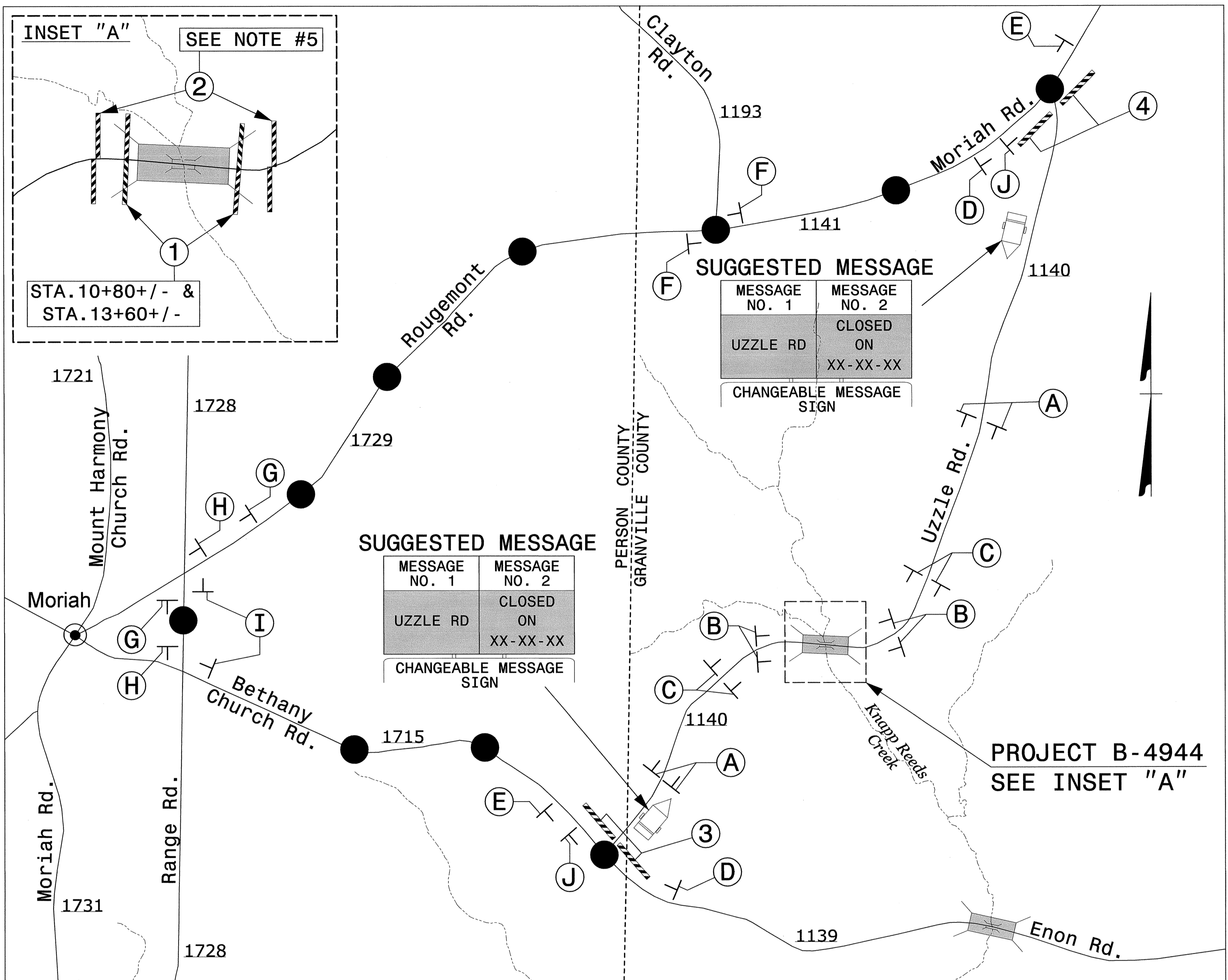
- B) PROVIDE PERMANENT SIGNING.
- C) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRANSPORTATION MANAGEMENT PLAN.
- PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRANSPORTATION MANAGEMENT PLAN.
- D) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.
- COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.
- E) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

- F) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

APPROVED: _____ DATE: _____ 		<h1 style="margin: 0;">TRANSPORTATION OPERATIONS PLAN</h1>
--	---	--

VICINITY MAP: GRANVILLE COUNTY



SUGGESTED MESSAGE

MESSAGE NO. 1 UZZLE RD	MESSAGE NO. 2 CLOSED ON XX-XX-XX
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CHANGEABLE MESSAGE SIGN

SUGGESTED MESSAGE

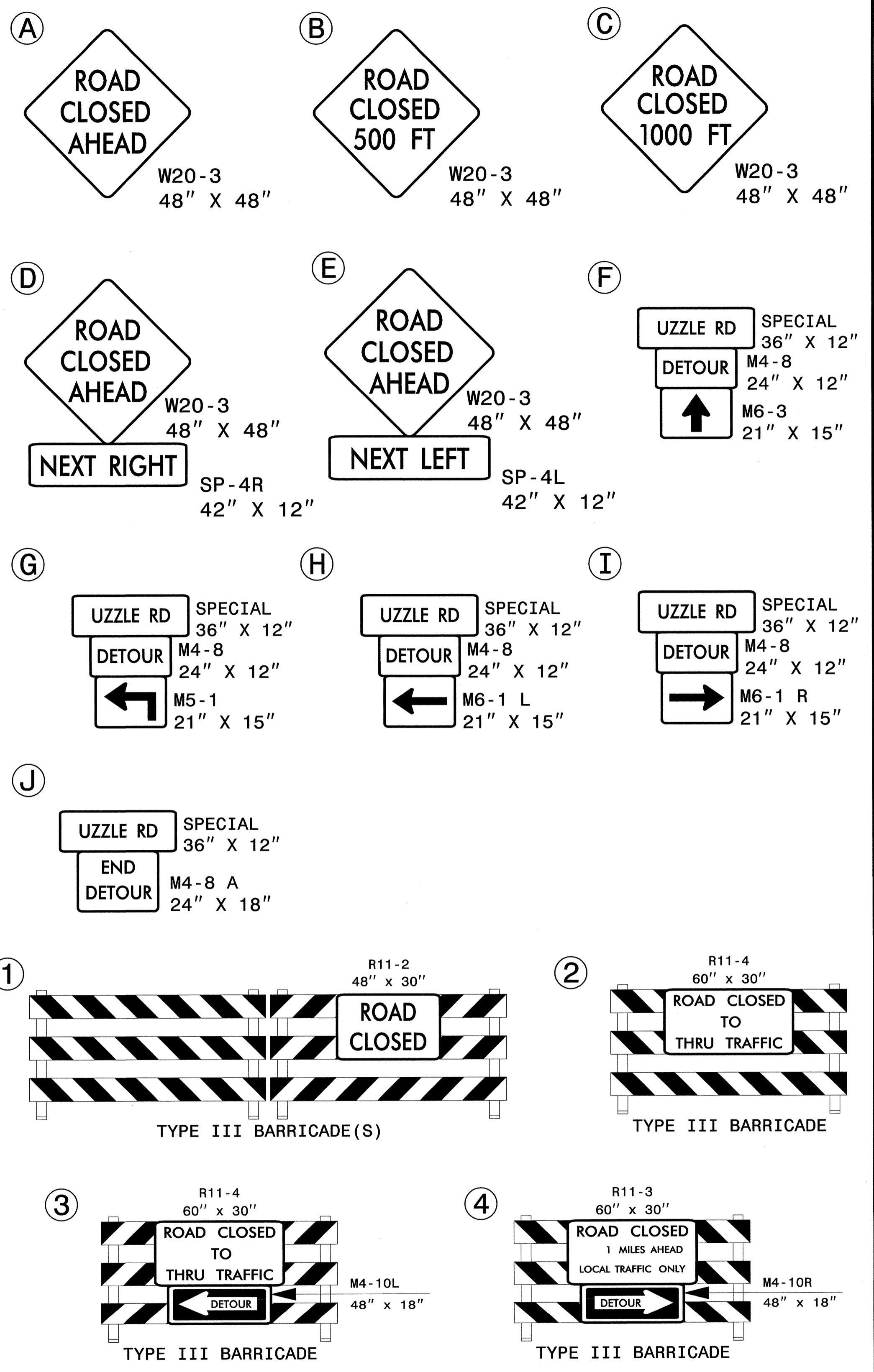
MESSAGE NO. 1 UZZLE RD	MESSAGE NO. 2 CLOSED ON XX-XX-XX
---------------------------	--

CHANGEABLE MESSAGE SIGN

OFF-SITE DETOUR = ● — ● — ●

OFF-SITE DETOUR ROUTE:
FROM SR-1140 TO SR-1715 TO SR-1728 TO SR-1729 (WHICH BECOMES SR-1141) BACK TO SR-1140

- NOTE(S):**
- 1) REFER TO SHEET TMP-3 FOR SPECIAL SIGN DESIGN.
 - 2) REFER TO STANDARD RSD 1101.03, SHEET 1 OF 9, FOR ROAD CLOSURE SIGN DISTANCES AND APPLICABLE NOTES.
 - 3) INSTALL DETOUR SIGNS AS DIRECTED BY THE ENGINEER.
 - 4) LOCATE AND INSTALL CMS TO BE LEVEL AS DIRECTED BY THE ENGINEER.
 - 5) AT STA.10+15+/- AND STA.15+50+/-, STAGGER BARRICADES IN ROAD TO ALLOW ACCESS TO EXISTING DRIVEWAYS DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER.



APPROVED: _____ DATE: _____		
OFF-SITE DETOUR AND BARRICADE PLACEMENT		

8/1/2013 R:\TIP\Projects-B\B4944\TrafficControl\TCP\B-4944_TC-TMP-2.dgn User:rdkennedy

SIGN NUMBER: TC 1
TYPE: STATIONARY
QUANTITY: SEE PLANS

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

DESIGN BY: A. GRADY
PROJECT ID: B-4944

CHECKED BY: S. KUNZ
DIV: 5

DATE: Jun 17, 2013

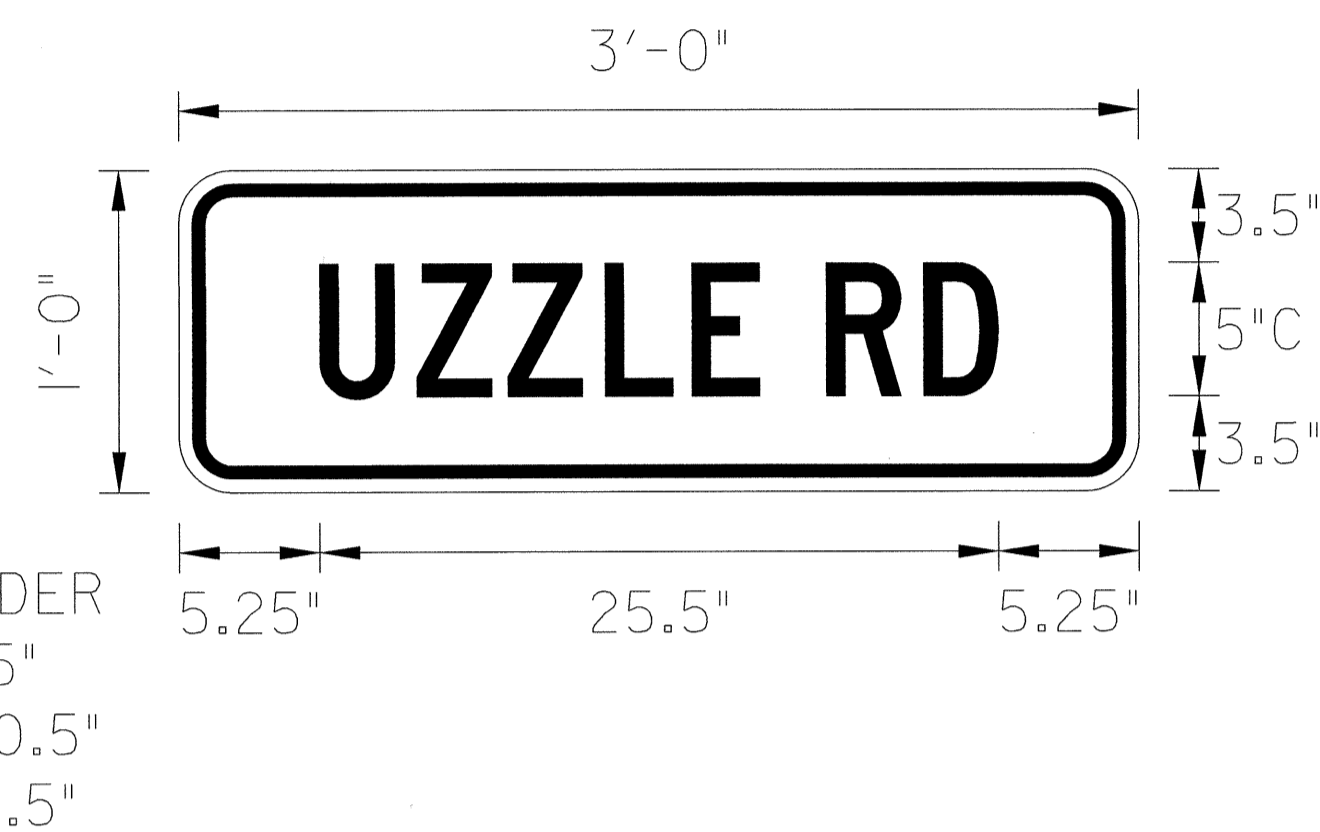
SYMBOL	X	Y	WID	HT

SIGN WIDTH: 3'-0"
HEIGHT: 1'-0"
TOTAL AREA: 3.0 Sq.Ft.

BORDER TYPE: INSET
RECESS: 0.5"
WIDTH: 0.5"
RADII: 1.5"

MAT'L: 0.080" (2.0 mm) ALUMINIUM

NO. Z BARS:
LENGTH:



USE NOTES: 1,2

- Legend and border shall be direct applied black non-reflective sheeting.
- Background shall be NC GRADE B fluorescent orange retroreflective sheeting.

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter										Series/Size Text Length	
	U	Z	Z	L	E		R	D			C 2000
	5.3	3.6	3.4	3.7	3.3	2.6	2.5	3.7	2.8	5.3	25.5


FILENAME: B-4944_Sgn_SGN_TRAFFIC CONTROL

NORTH CAROLINA D.O.T. SIGN DETAIL

7/30/2013
R:\Projects\B\4944\TrafficControl\TCP\B-4944_TC_TMP_3.dgn
User:rdkennedy

APPROVED: <i>[Signature]</i> DATE: 7/30/13			SPECIAL SIGN DESIGN
--	--	--	------------------------

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

TIP NO. B-4944	SHEET NO. PMP-1
APPROVED: <i>[Signature]</i>	
DATE: 8/29/17	
SEAL	
	

PAVEMENT MARKING PLAN
GRANVILLE COUNTY

LOCATION: BRIDGE No. 225 OVER KNAPP OF REEDS CREEK ON SR 1140 (UZZLE ROAD)

T.I.P.: B-4944

CONTRACT: C203289

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
	PAINT (4")
PI	YELLOW DOUBLE CENTER
PA	WHITE EDGELINE

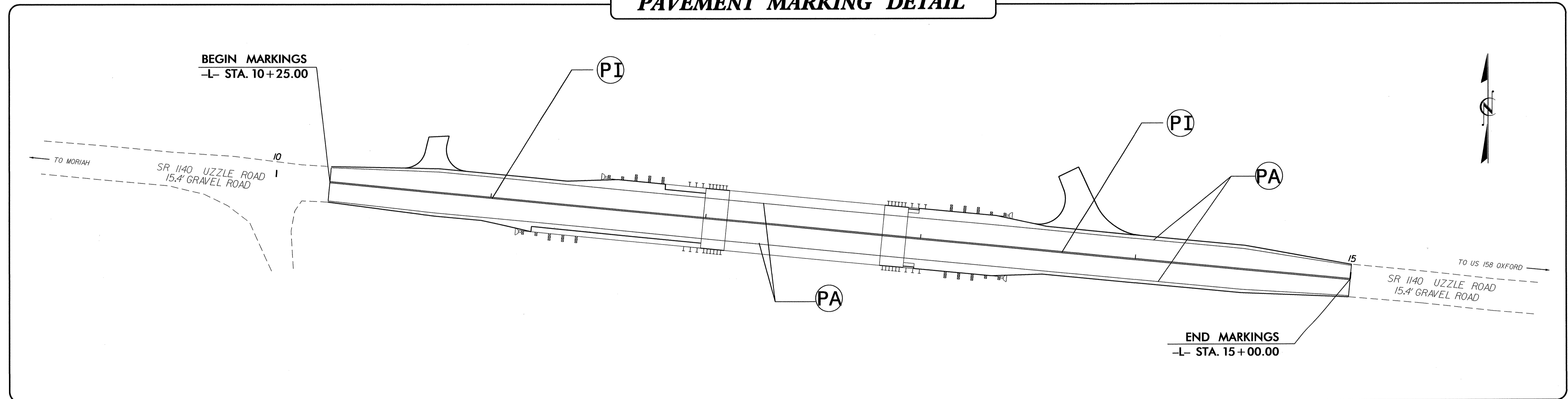
GENERAL NOTES

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

- A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

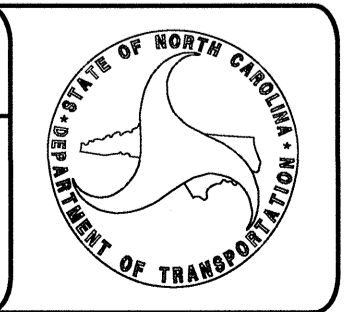
ROAD NAME	MARKING	MARKER
ALL	PAINT	NONE
- B) PLACE TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE. PLACE THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST.
- C) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.
- D) MARKINGS ARE TO BE PLACED ACCORDING TO THE ROADWAY STANDARD DRAWINGS.
- H) REMOVE ALL RESIDUE AND SURFACE LAITANCE BY ACCEPTABLE METHODS ON CONCRETE BRIDGE DECKS PRIOR TO PLACING PAINT PAVEMENT MARKING.

PAVEMENT MARKING DETAIL



PLAN PREPARED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

SUSAN B. KUNZ SIGNING & DELINEATION REGIONAL ENGINEER
ADAM GRADY SIGNING & DELINEATION PROJECT DESIGN ENGINEER/TECHNICIAN



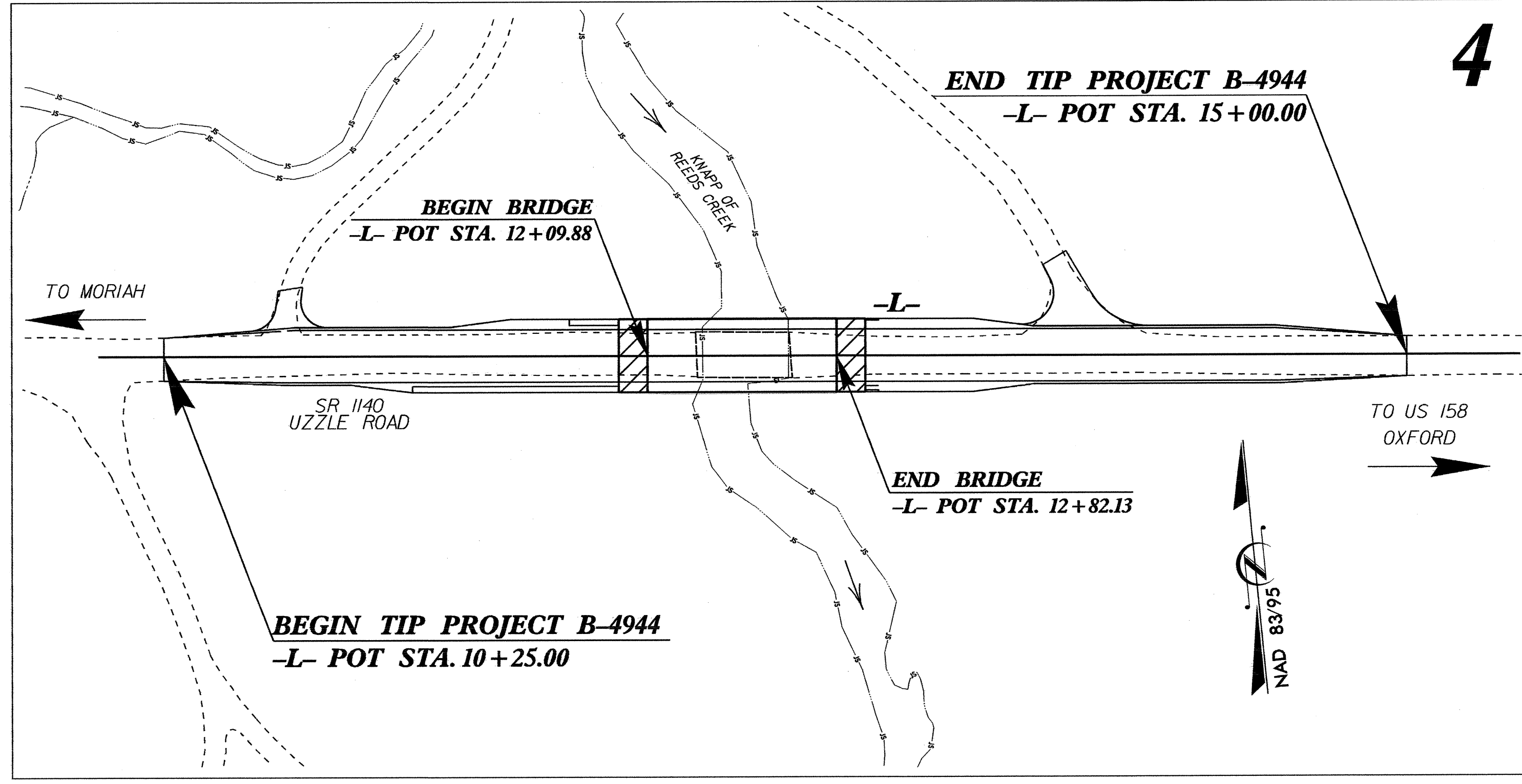
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STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4944	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

TIP PROJECT: B-4944

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
 PLAN FOR PROPOSED
 HIGHWAY EROSION CONTROL
GRANVILLE COUNTY

**LOCATION: BRIDGE NO. 225 OVER KNAPP REEDS CREEK
 ON SR 1140 (UZZLE ROAD)
 TYPE OF WORK: GRADING, PAVING, DRAINAGE
 AND STRUCTURE**



EROSION AND SEDIMENT CONTROL MEASURES

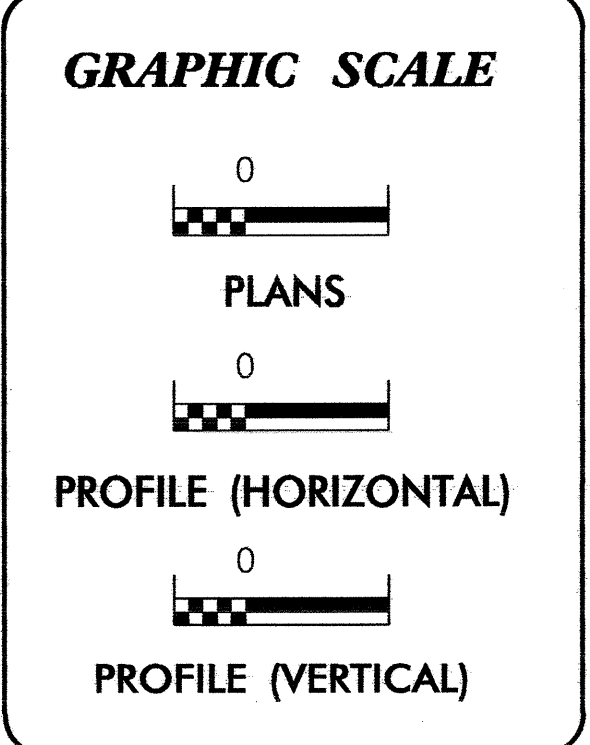
Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	III III III
1606.01	Special Sediment Control Fence	III III III
1622.01	Temporary Berms and Slope Drains	III III III
1630.02	Silt Basin Type B	III III III
1633.01	Temporary Rock Silt Check Type-A	III III III
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	III III III
1633.02	Temporary Rock Silt Check Type-B	III III III
	Wattle / Coir Fiber Wattle	III III III
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	III III III
1634.01	Temporary Rock Sediment Dam Type-A	III III III
1634.02	Temporary Rock Sediment Dam Type-B	III III III
1635.01	Rock Pipe Inlet Sediment Trap Type-A	III III III
1635.02	Rock Pipe Inlet Sediment Trap Type-B	III III III
1630.04	Stilling Basin	III III III
1630.06	Special Stilling Basin	III III III
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	III III III
	Tiered Skimmer Basin	III III III
	Infiltration Basin	III III III

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT
 Refer To E. C. Special Provisions for Special Considerations.

THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

HIGH QUALITY WATER(S) EXIST ON THIS PROJECT
 High Quality Water Zone(s) Exist From Begin Project to End Project
 Refer To E. C. Special Provisions for Special Considerations.

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.



ROADSIDE ENVIRONMENTAL UNIT
 DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared In the Office of:
ROADSIDE ENVIRONMENTAL UNIT
 1 South Wilmington St.
 Raleigh, NC 27611
2012 STANDARD SPECIFICATIONS

Roadway Standard Drawings

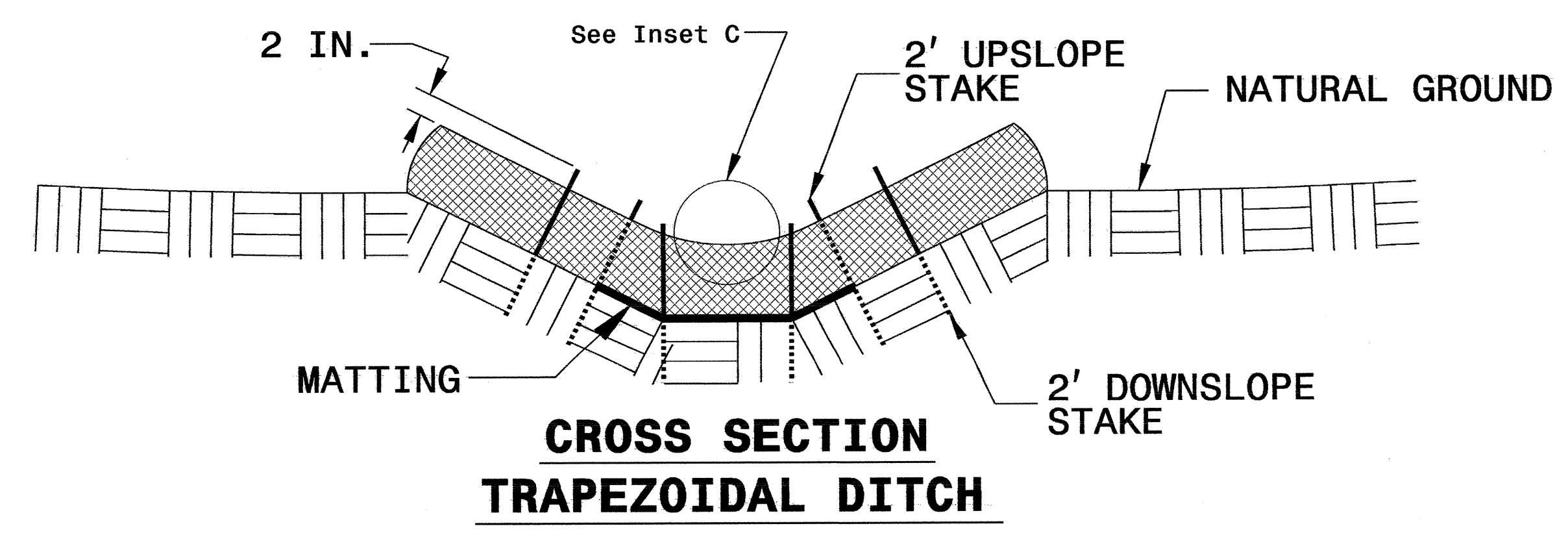
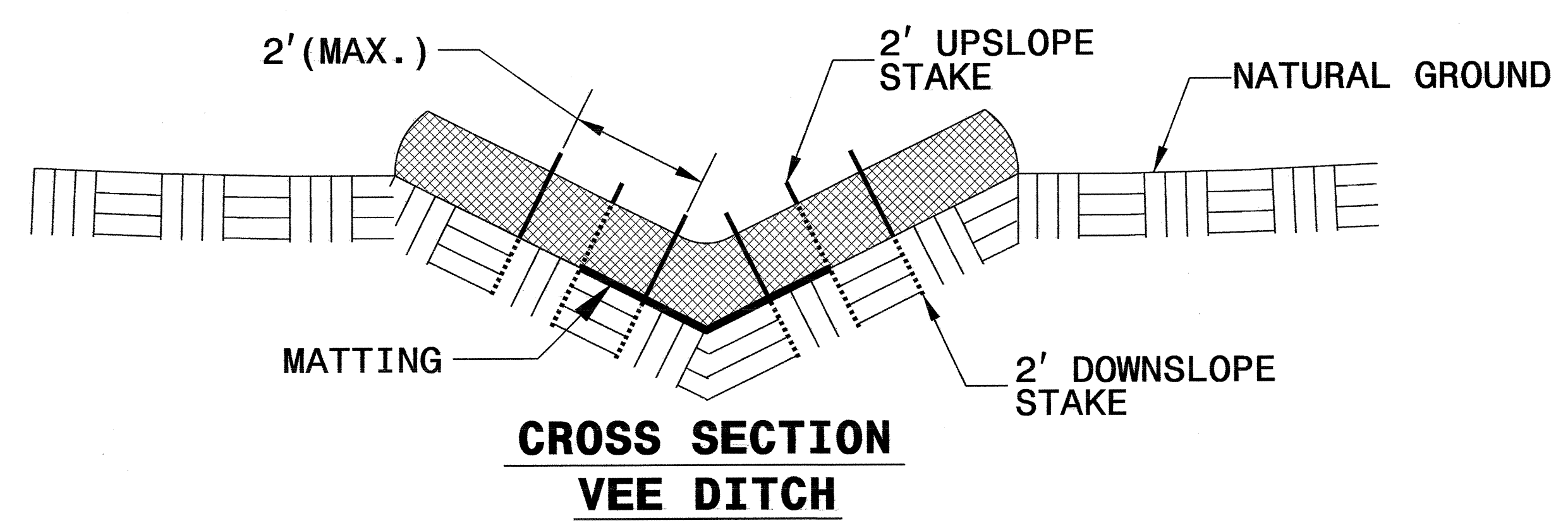
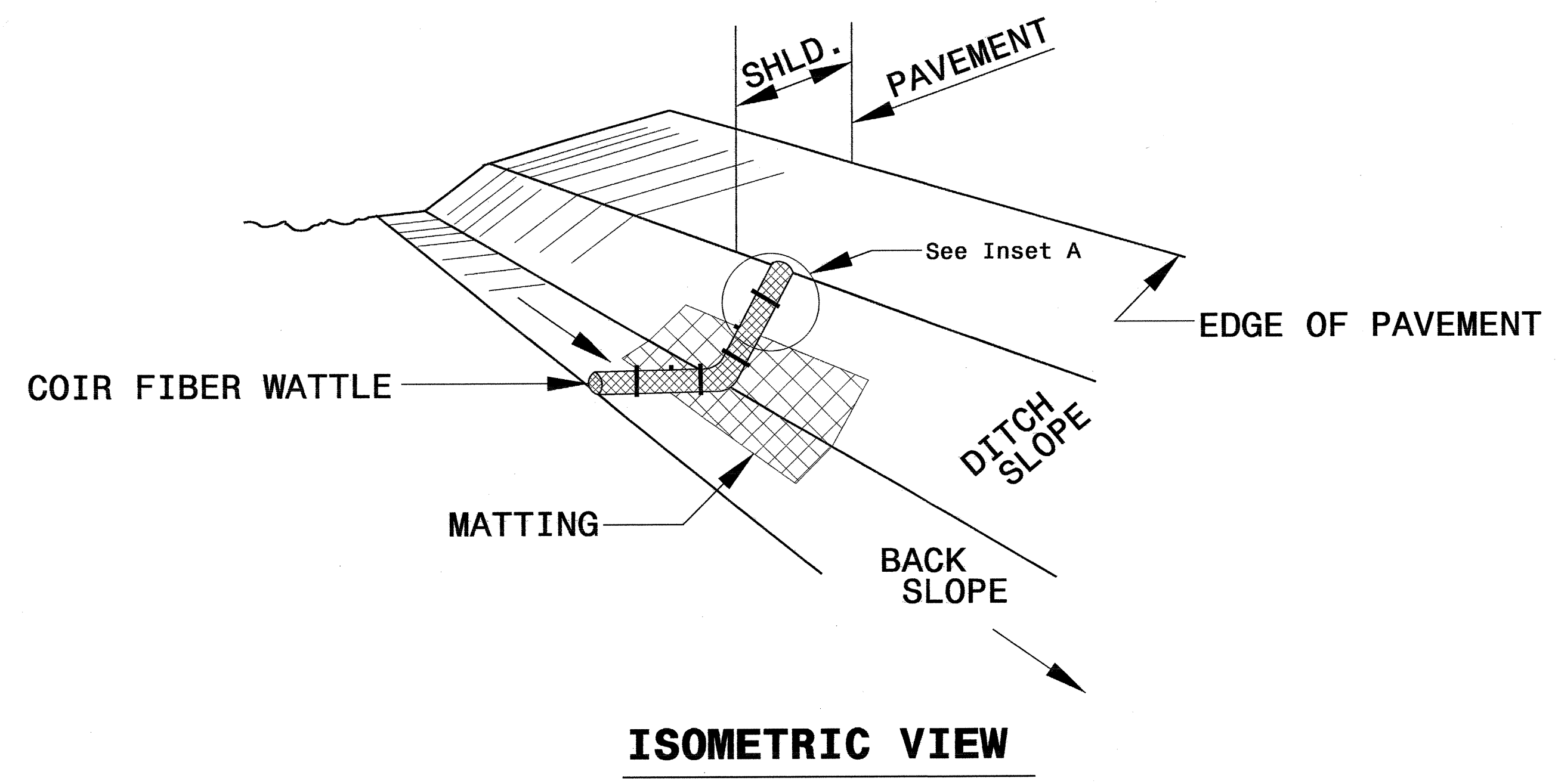
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type A
1622.01 Temporary Berms and Slope Drains	1633.02 Temporary Rock Silt Check Type B
1630.01 Riser Basin	1634.01 Temporary Rock Sediment Dam Type A
1630.02 Silt Basin Type B	1634.02 Temporary Rock Sediment Dam Type B
1630.03 Temporary Silt Ditch	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.04 Stilling Basin	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.05 Temporary Diversion	1640.01 Coir Fiber Baffle
1630.06 Special Stilling Basin	1645.01 Temporary Stream Crossing
1631.01 Matting Installation	

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PROJECT REFERENCE NO. B-4944	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

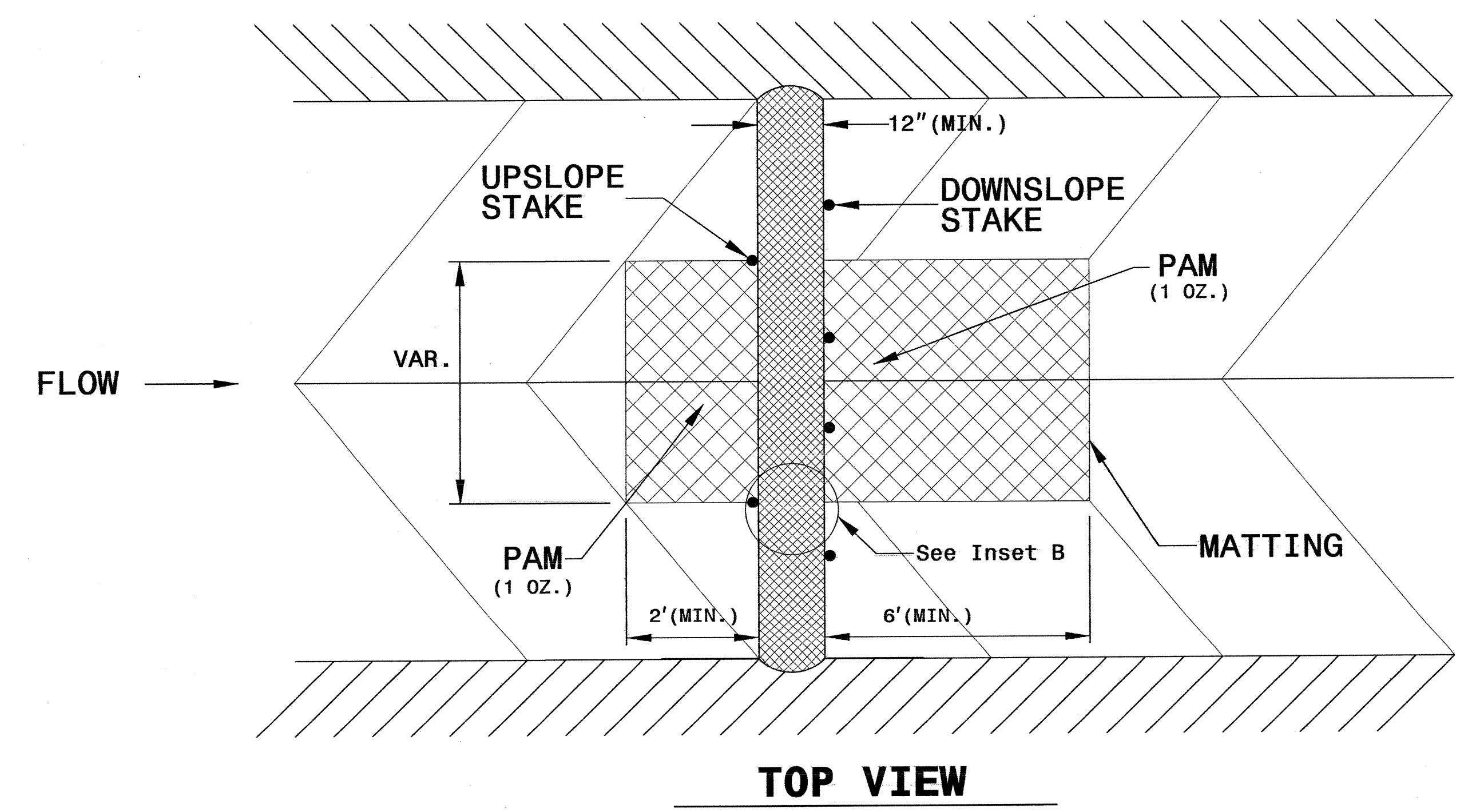
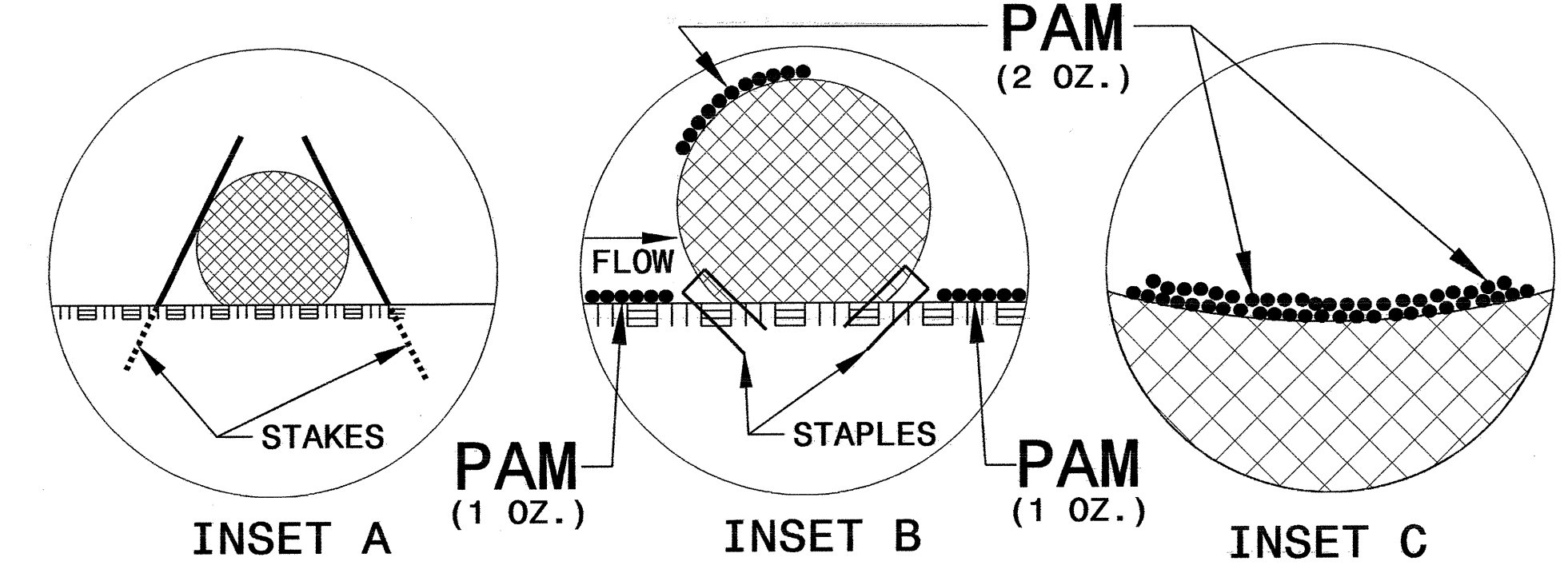
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>B-4944</i>	SHEET NO. <i>EC-3</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

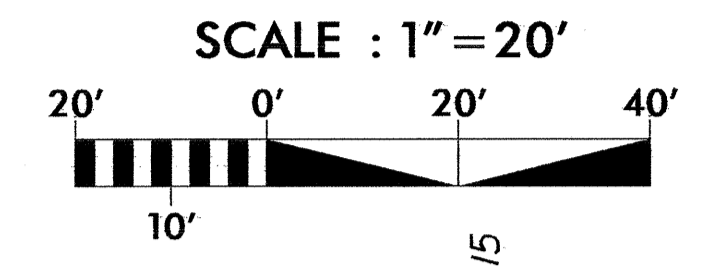
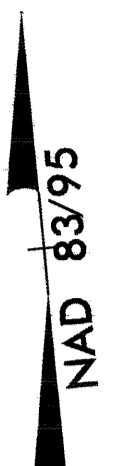
SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

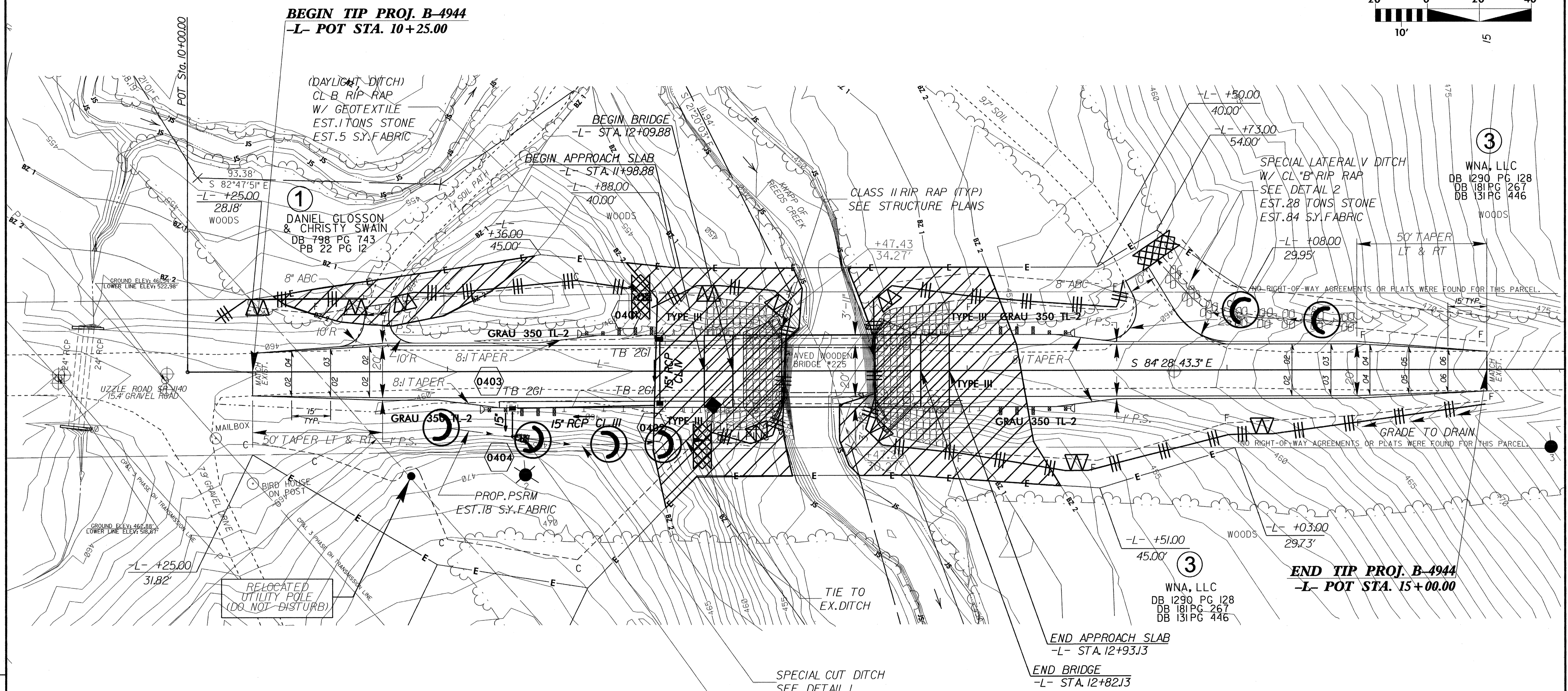
PROJECT REFERENCE NO. B-4944	SHEET NO. EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

**CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4**

NOTE:
AS NEEDED UTILIZE SPECIAL STILLING BASIN(S)
WHERE APPLICABLE.

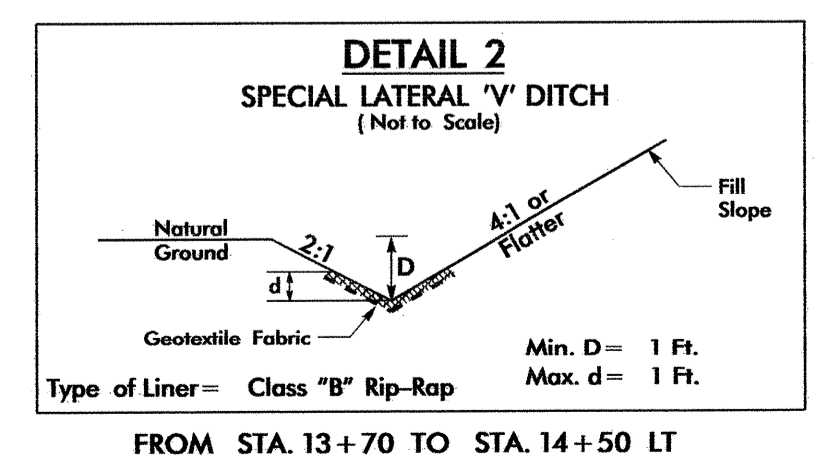
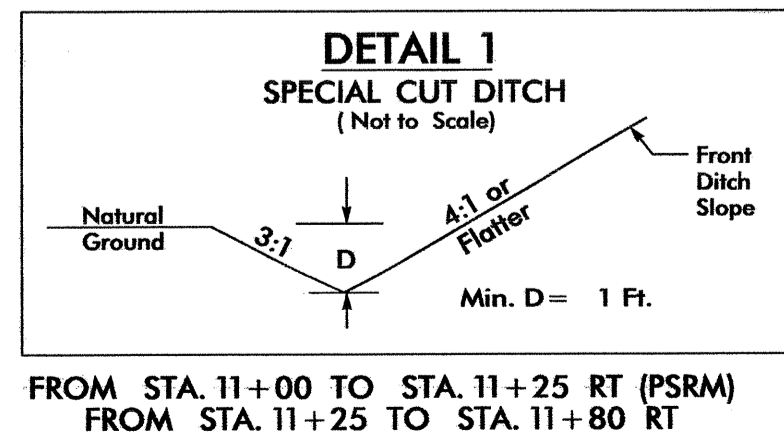


8/17/99
 REVISIONS
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 A:_E\CON\CON\B-4944_EC.psh4.dgn



**ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS**

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.



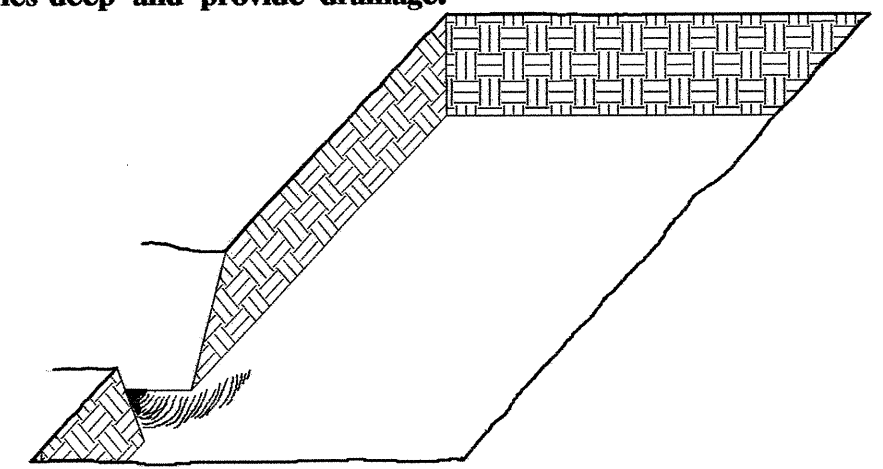
SEE STRUCTURE PLANS, S-1 TO S-13
FOR -L- PROFILE, SEE SHEET NO. 5

PLANTING DETAILS

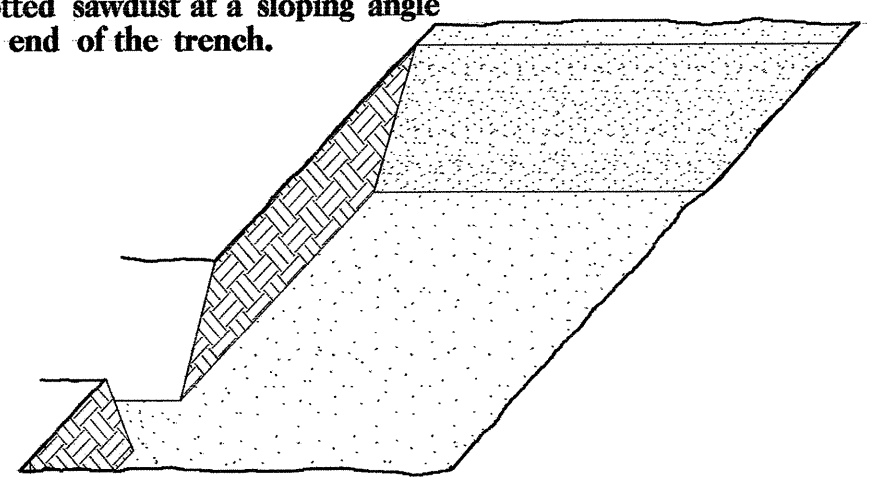
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

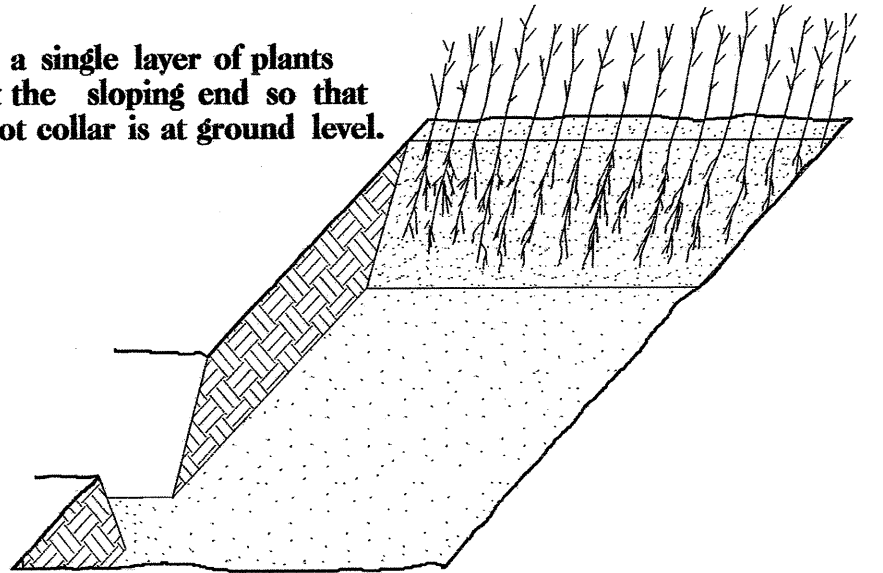
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



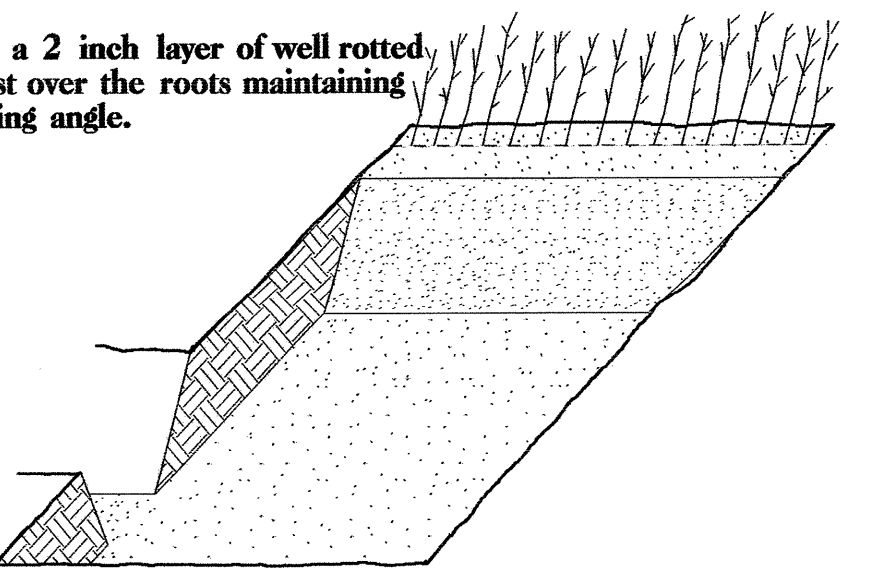
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



4. Place a single layer of plants against the sloping end so that the root collar is at ground level.

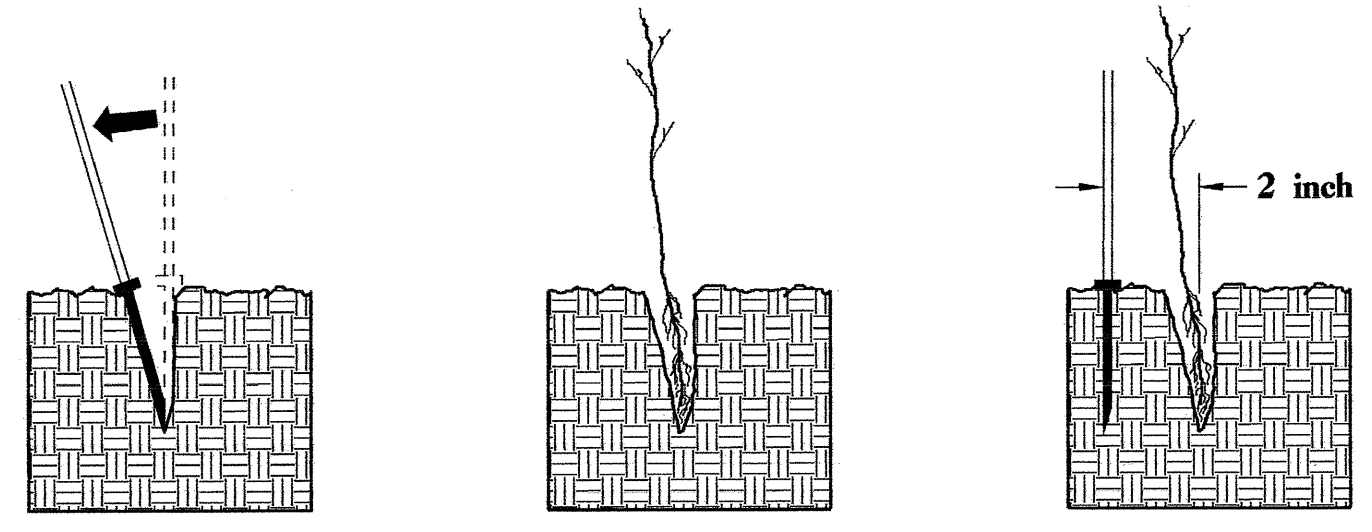


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

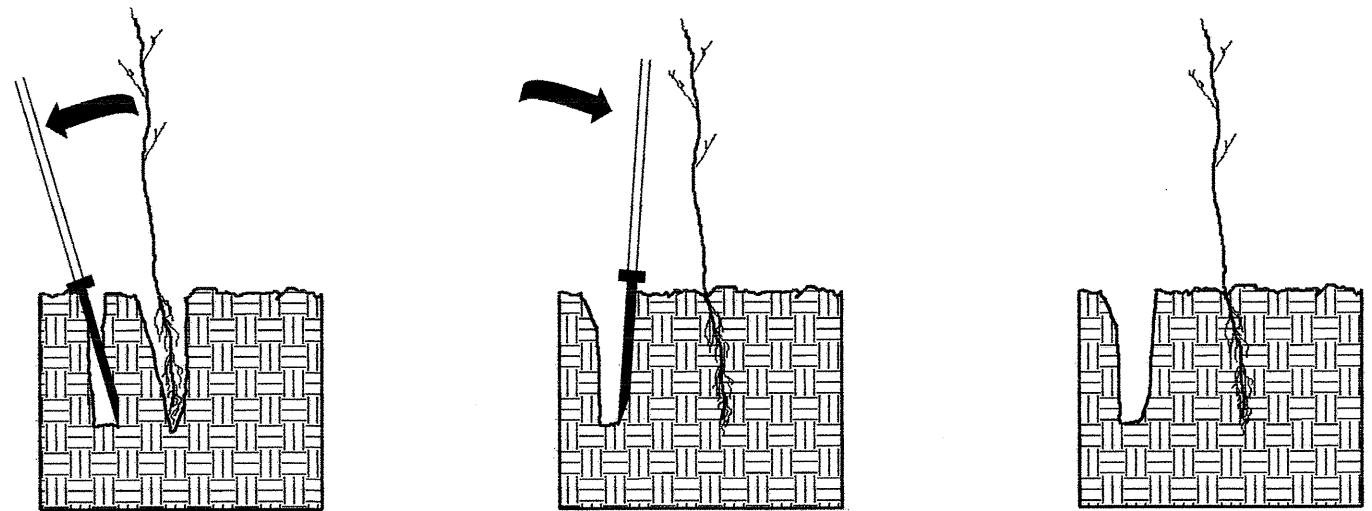


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

DIBBLE PLANTING METHOD USING THE KBC PLANTING BAR



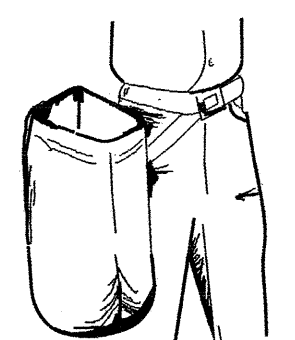
1. Insert planting bar as shown and pull handle toward planter.
2. Remove planting bar and place seedling at correct depth.
3. Insert planting bar 2 inches toward planter from seedling.



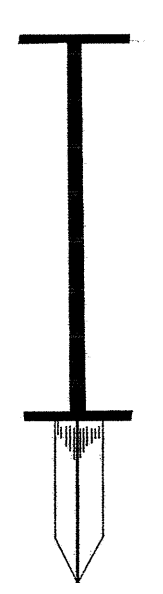
4. Pull handle of bar toward planter, firming soil at bottom.
5. Push handle forward firming soil at top.
6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

PLANTING BAG
During planting, seedlings shall be kept in a moist canvas bag or similar container to prevent the root systems from drying.



KBC PLANTING BAR
Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.



ROOT PRUNING
All seedlings shall be root pruned, if necessary, so that no roots extend more than 10 inches below the root collar.

REFORESTATION

- TREE REFORESTATION SHALL BE PLANTED 6 FT. TO 10 FT. ON CENTER, RANDOM SPACING, AVERAGING 8 FT. ON CENTER, APPROXIMATELY 680 PLANTS PER ACRE.

REFORESTATION

MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

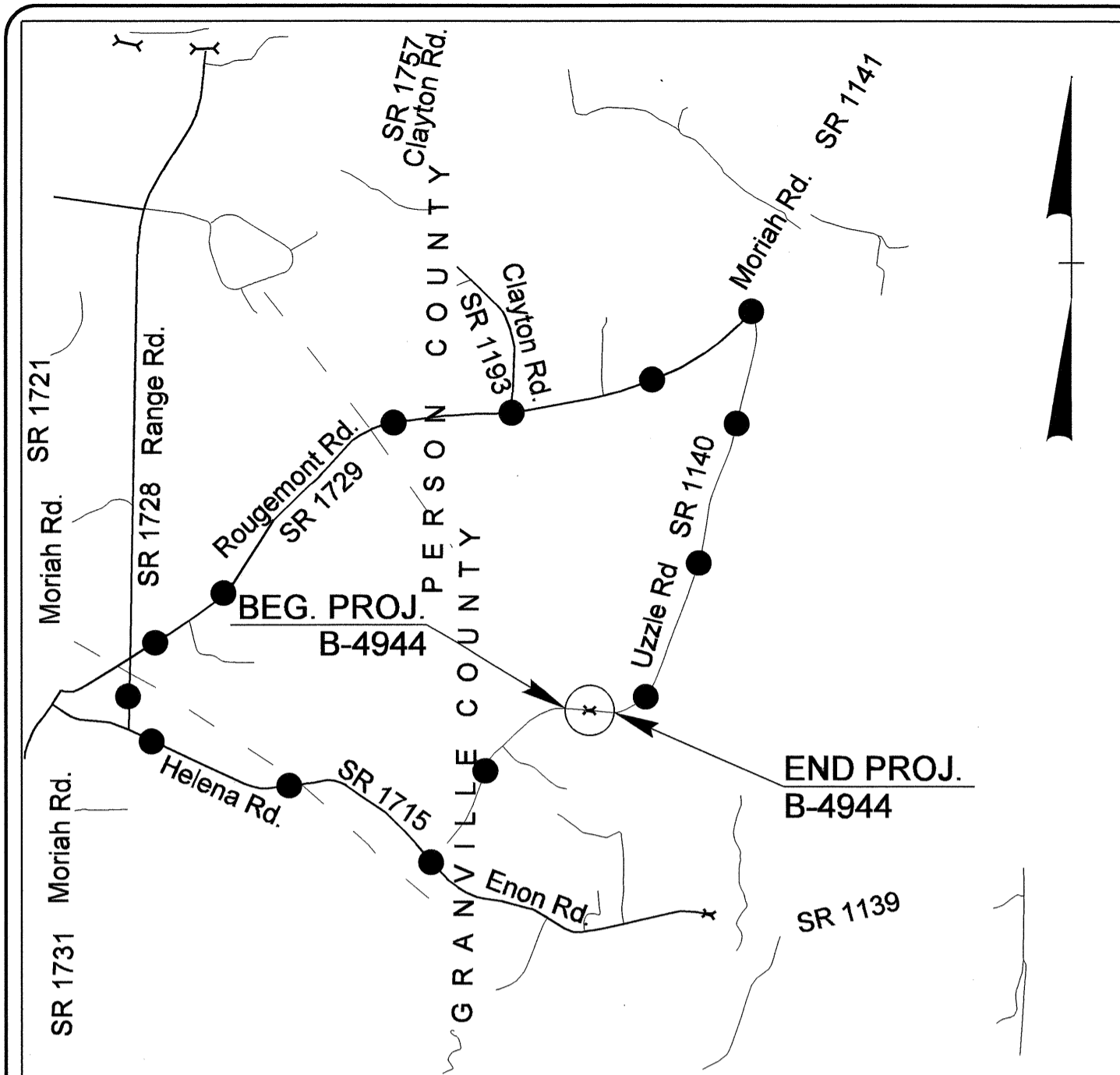
35% QUERCUS RUBRA	NORTHERN RED OAK	12 in - 18 in BR
35% QUERCUS FALCATA	SOUTHERN RED OAK	12 in - 18 in BR
30% LIRIODENDRON TULIPITERA	TULIP POPLAR	12 in - 18 in BR

REFORESTATION DETAIL SHEET

N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

09/08/99

TIP PROJECT: B-4944



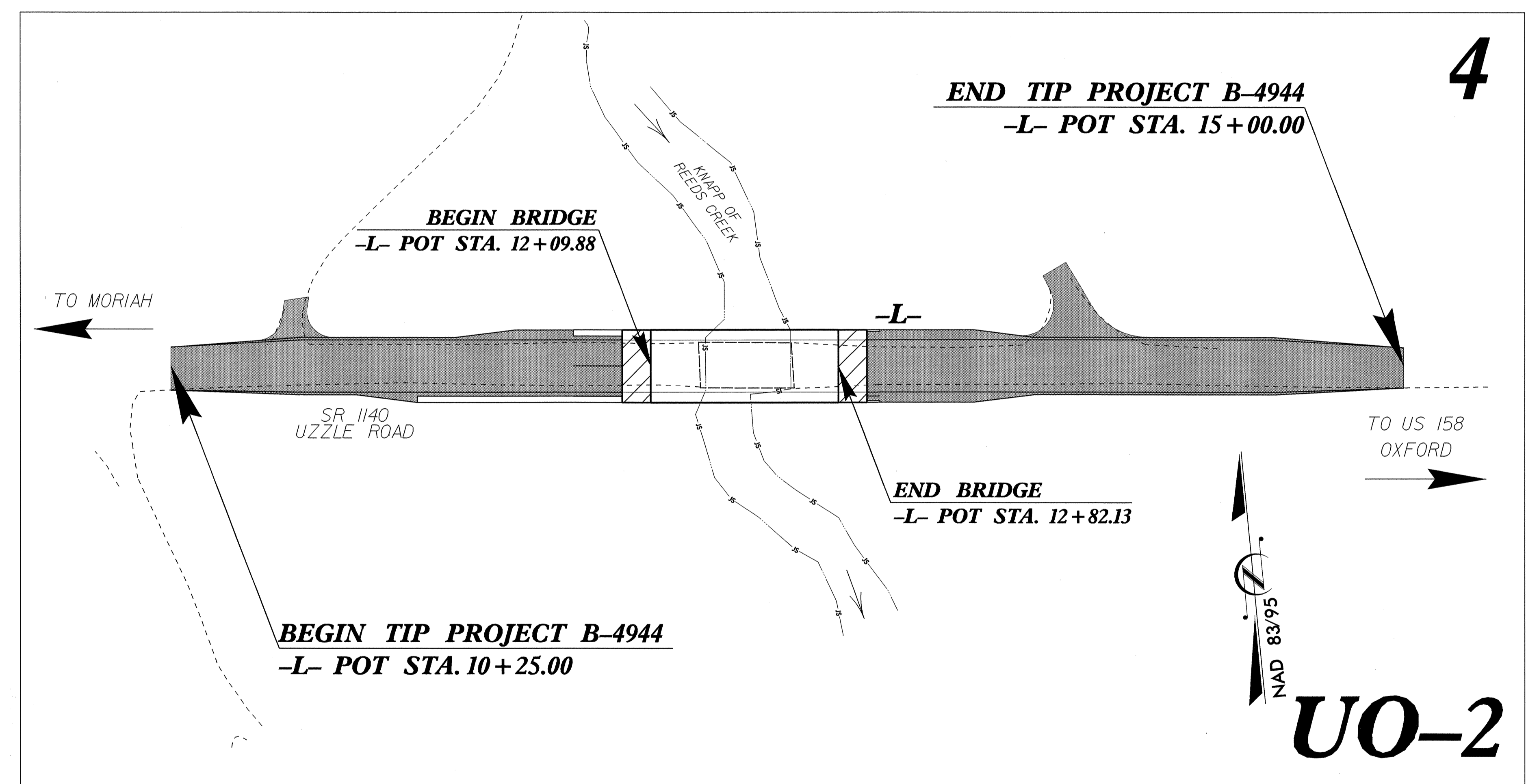
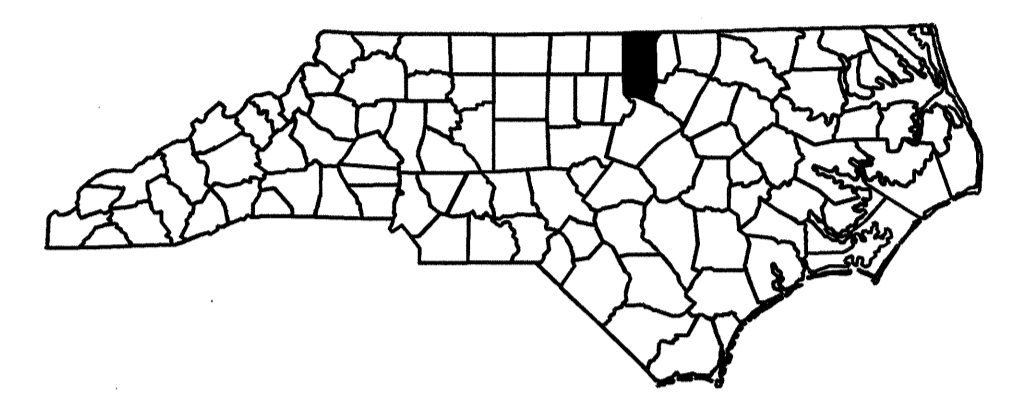
VICINITY MAP SHOWING LOCATION OF PROJECT B-4944
● OFFSITE DETOUR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

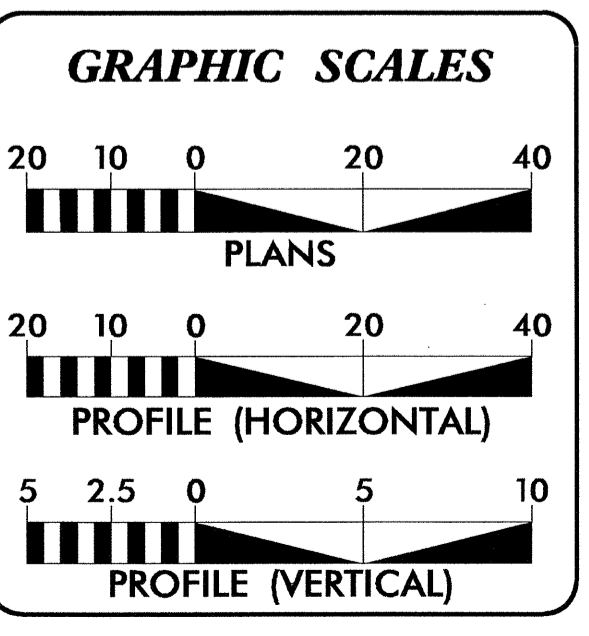
**UTILITIES BY OTHERS PLANS
GRANVILLE COUNTY**

**LOCATION: BRIDGE NO. 225 OVER KNAPP REEDS CREEK
ON SR 1140 (UZZLE ROAD)**

TYPE OF WORK: UTILITIES BY OTHERS



UO-2



INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2	UTILITY BY OTHERS PLAN SHEET

UTILITY OWNERS ON PROJECT	
(A) PIEDMONT EMC - POWER (DISTRIBUTION)	

PREPARED IN THE OFFICE OF:
**DIVISION OF HIGHWAYS
 UTILITIES UNIT
 UTILITIES ENGINEERING SECTION**

1591 MAIL SERVICES CENTER
 RALEIGH, NC 27699-1591
 PHONE (919) 707-6600
 FAX (919) 250-4151

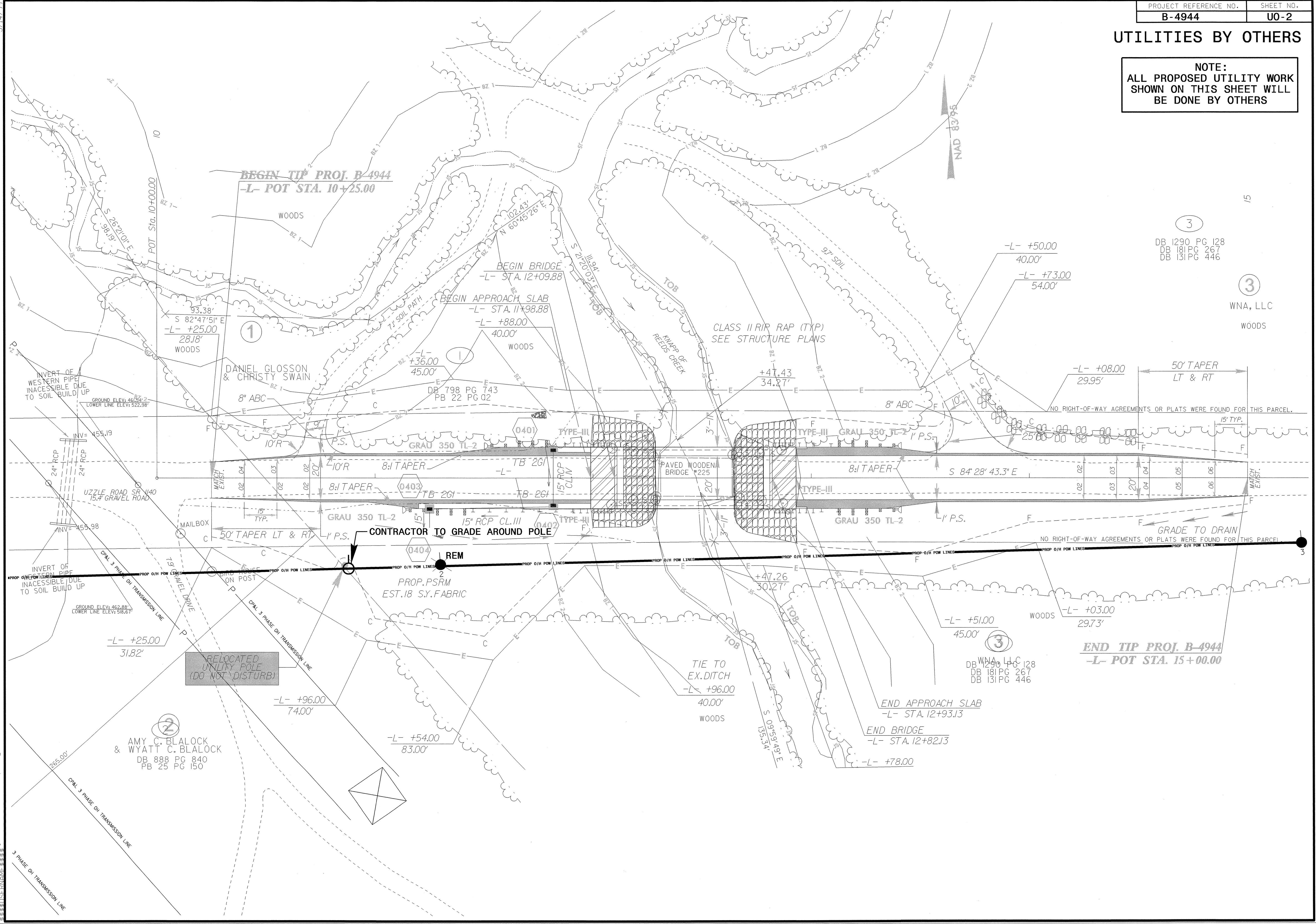
Roger Worthington, P.E. UTILITIES SECTION ENGINEER
Steve McKee, P.E. UTILITIES SQUAD LEADER PROJECT ENGINEER
John A. Nigro, P.E. UTILITIES PROJECT DESIGNER

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UTILITIES BY OTHERS

NOTE:
 ALL PROPOSED UTILITY WORK
 SHOWN ON THIS SHEET WILL
 BE DONE BY OTHERS

15
 3
 DB 1290 PG 128
 DB 181 PG 267
 DB 131 PG 446
 3
 WNA, LLC
 WOODS



BEGIN TIP PROJ. B-4944
 -L- POT STA. 10+25.00

BEGIN BRIDGE
 -L- STA. 12+09.88

BEGIN APPROACH SLAB
 -L- STA. 11+98.88

-L- +50.00
 40.00'
 -L- +73.00
 54.00'

INVERT OF WESTERN PIPE
 INACCESSIBLE DUE
 TO SOIL BUILD UP
 GROUND ELEV. 463.22
 LOWER LINE ELEV. 522.38'

INVERT OF
 WESTERN PIPE
 INACCESSIBLE DUE
 TO SOIL BUILD UP

CONTRACTOR TO GRADE AROUND POLE

50' TAPER
 LT & RT

GRADE TO DRAIN

END TIP PROJ. B-4944
 -L- POT STA. 15+00.00

END APPROACH SLAB
 -L- STA. 12+93.13

END BRIDGE
 -L- STA. 12+82.13

AMY C. BLALOCK
 &
 WYATT C. BLALOCK
 DB 888 PG 840
 PB 25 PG 150

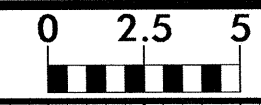
DB 1290 PG 128
 DB 181 PG 267
 DB 131 PG 446

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 3 PHASE OF TRANSMISSION LINE

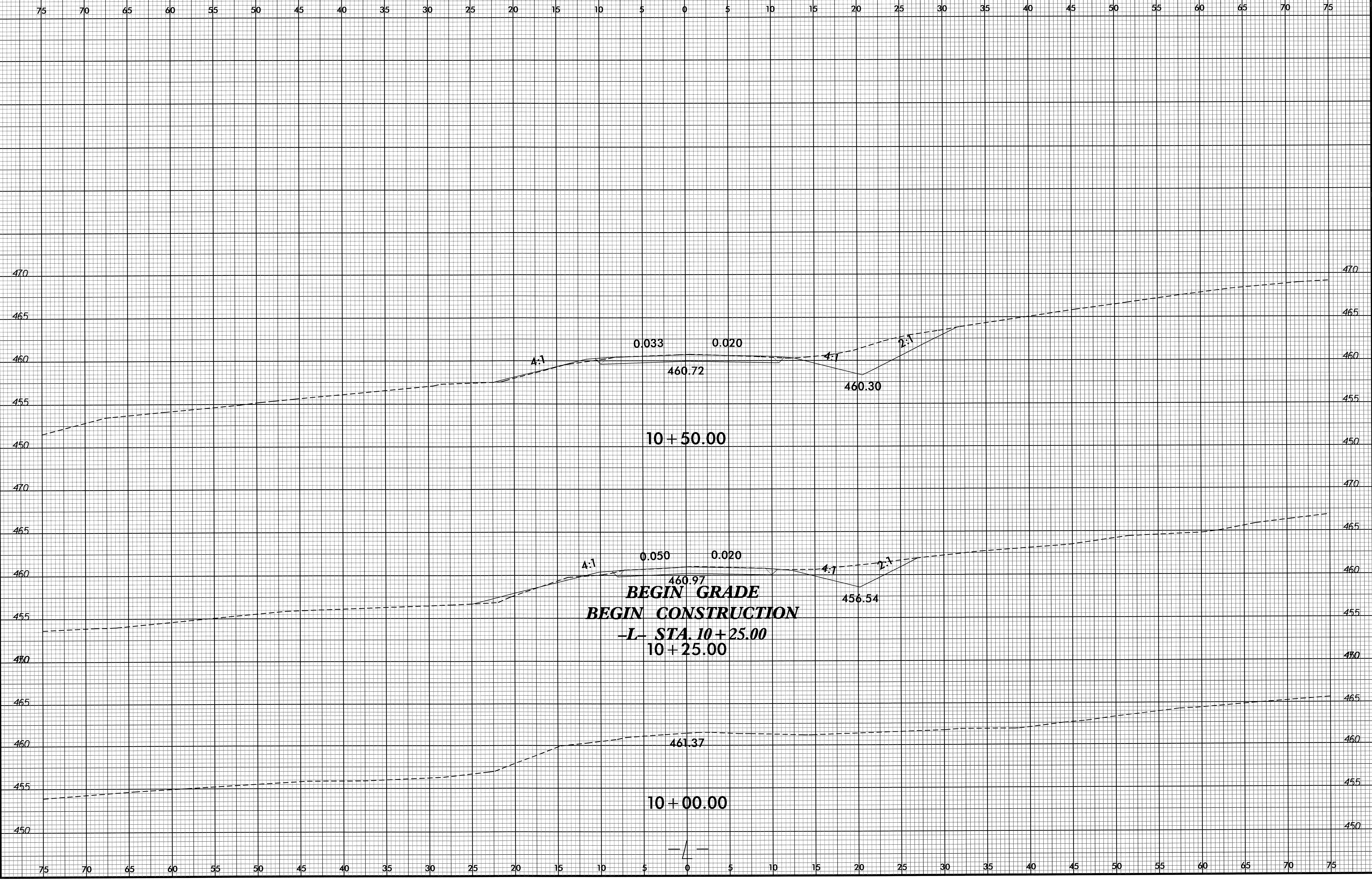
CROSS SECTION INDEX

	<i>X-SECTION EARTHWORK SUMMARY</i>	<i>X-B</i>
<i>-L-</i>	<i>10 + 00.00 TO 15 + 50.00</i>	<i>X-1 - X-5</i>

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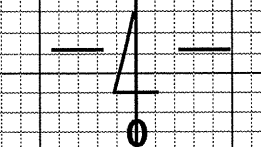
PROJ. REFERENCE NO.	SHEET NO.
B-4944	X-1



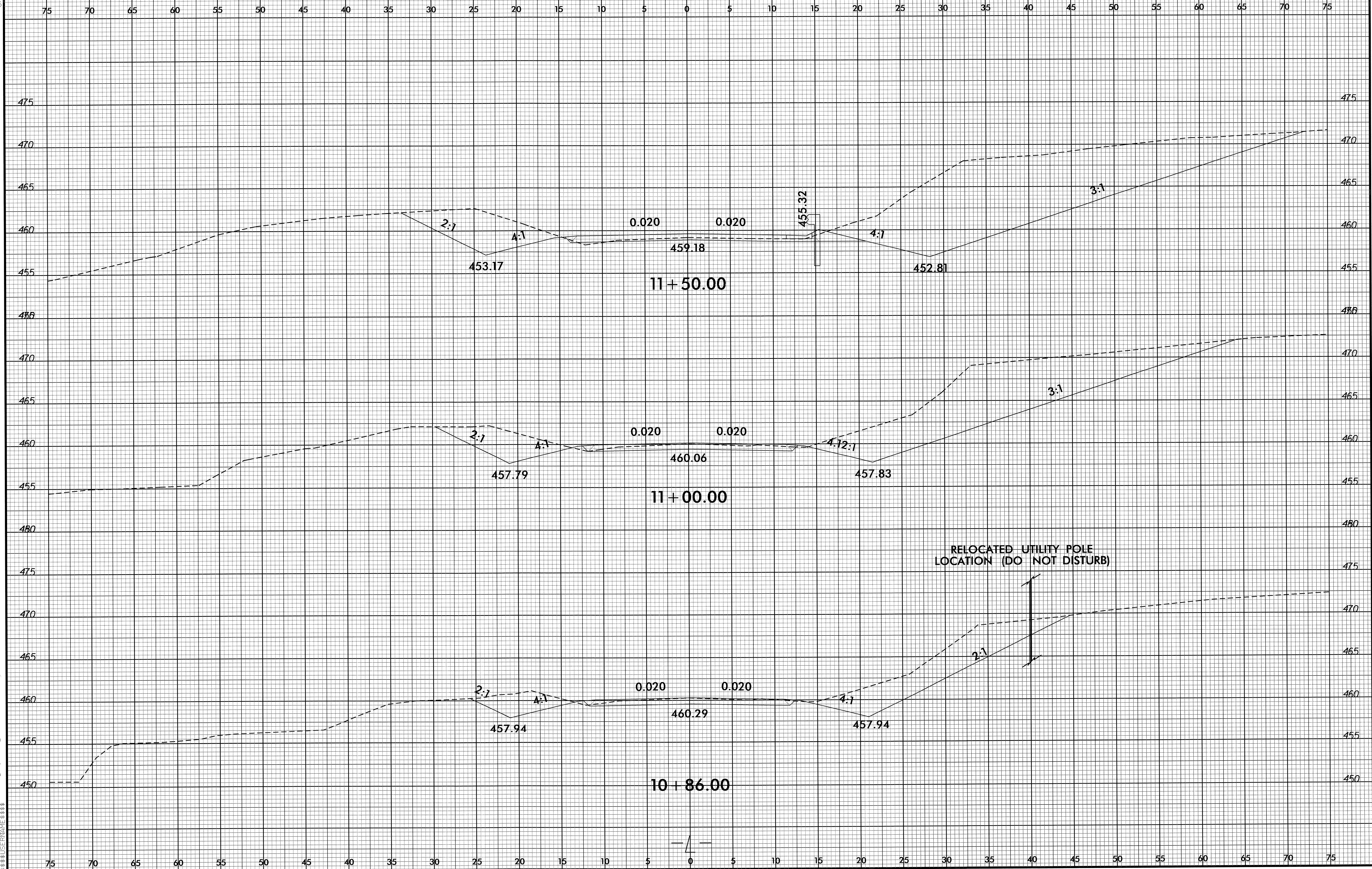
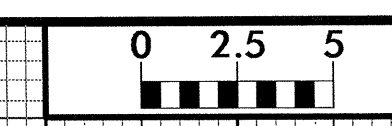
10 + 50.00

460.97
BEGIN GRADE
BEGIN CONSTRUCTION
 -L- STA. 10 + 25.00
 10 + 25.00

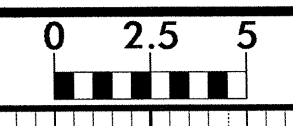
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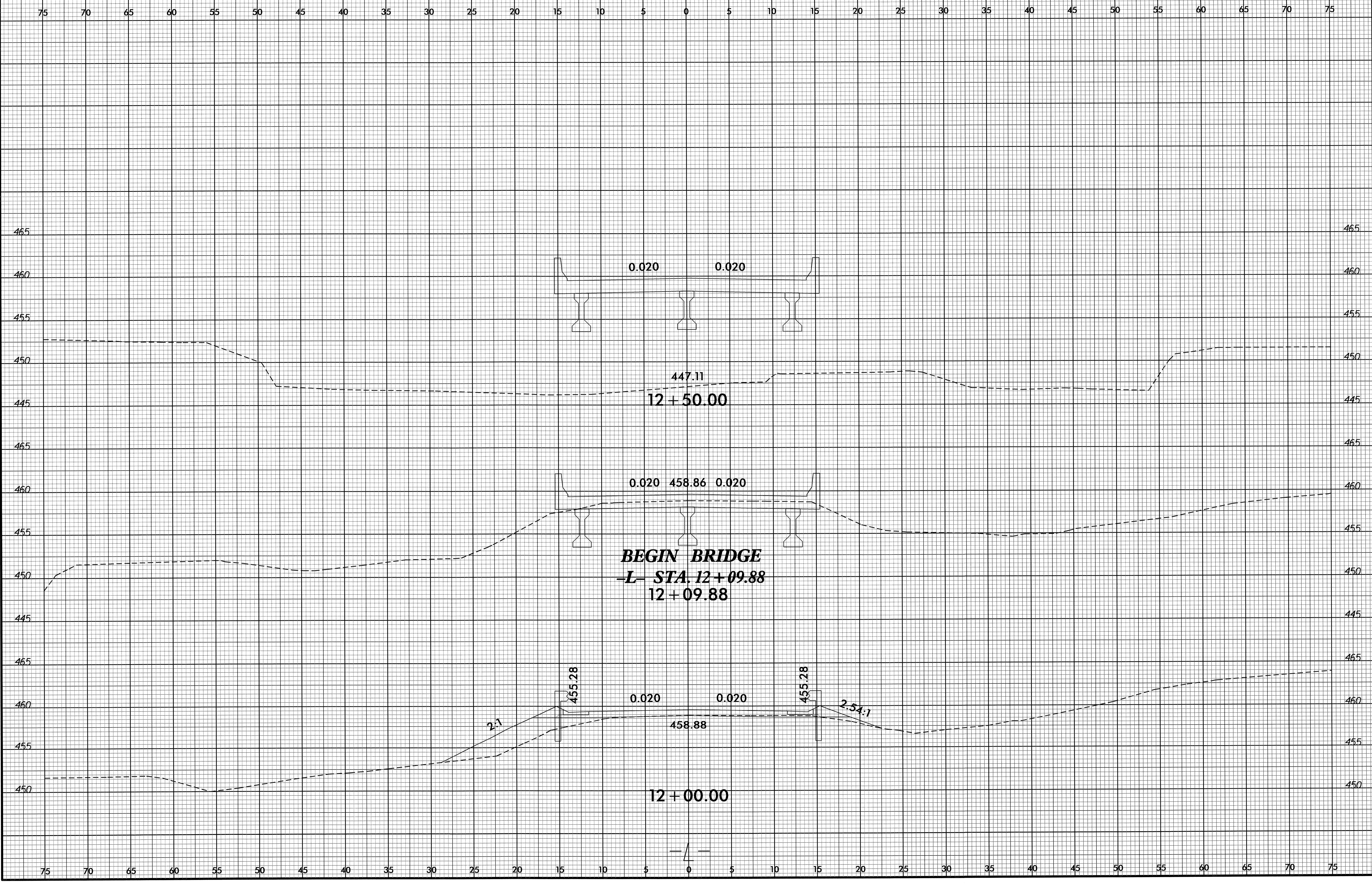
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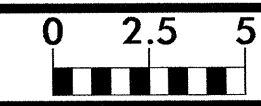


PROJ. REFERENCE NO. B-4944	SHEET NO. X-3
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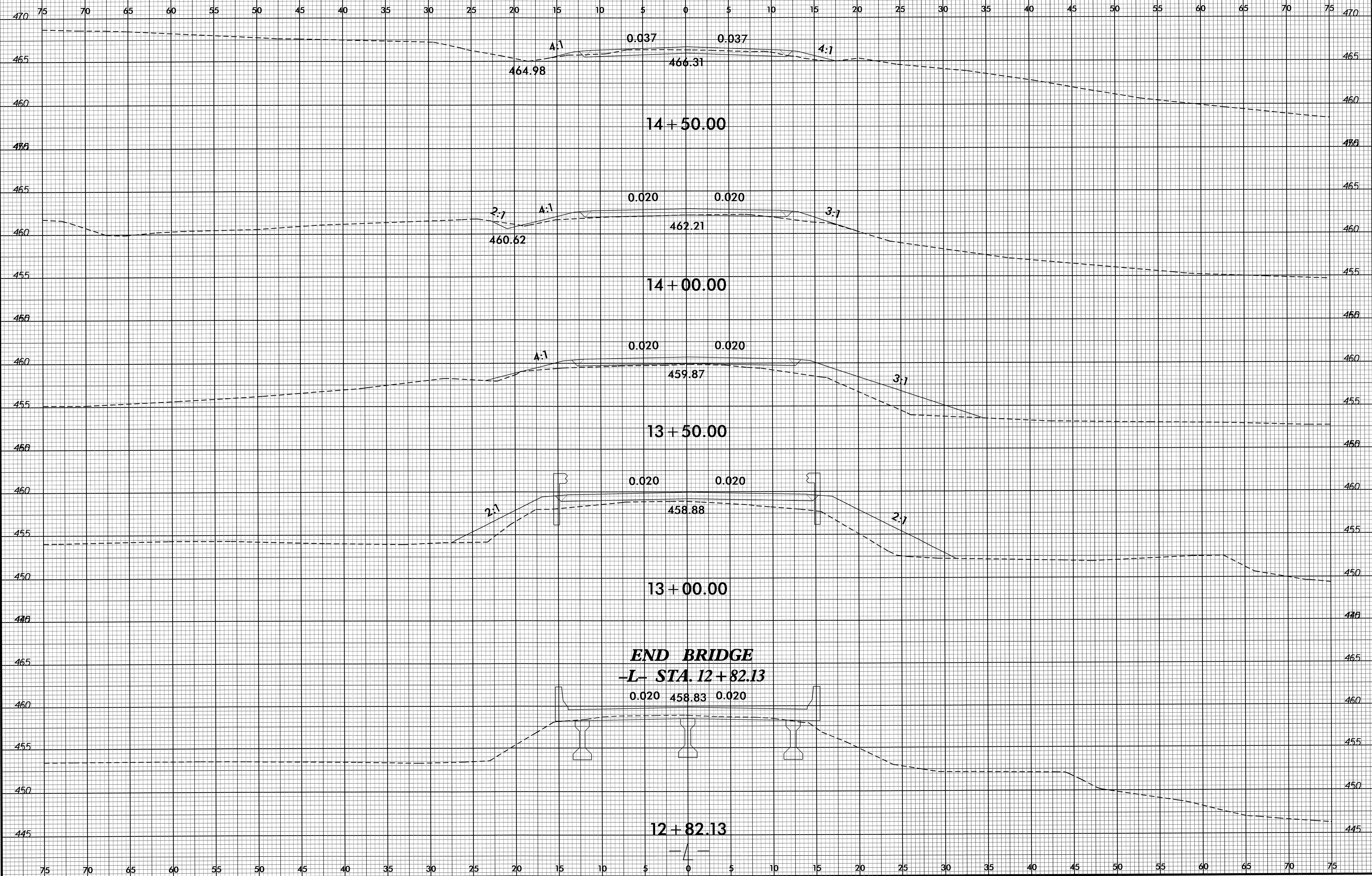


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8/23/99

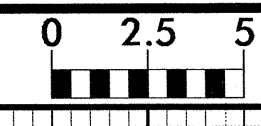


PROJ. REFERENCE NO.	SHEET NO.
B-4944	X-4



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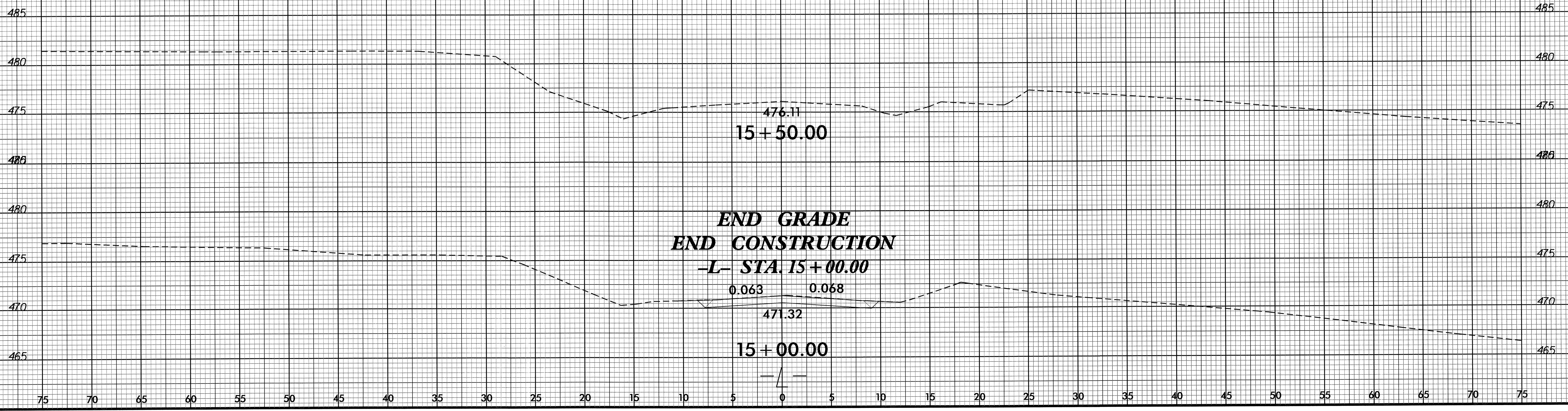
8/23/99



PROJ. REFERENCE NO.
B-4944

SHEET NO.
X-5

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07-AUG-2013 10:55
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