

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

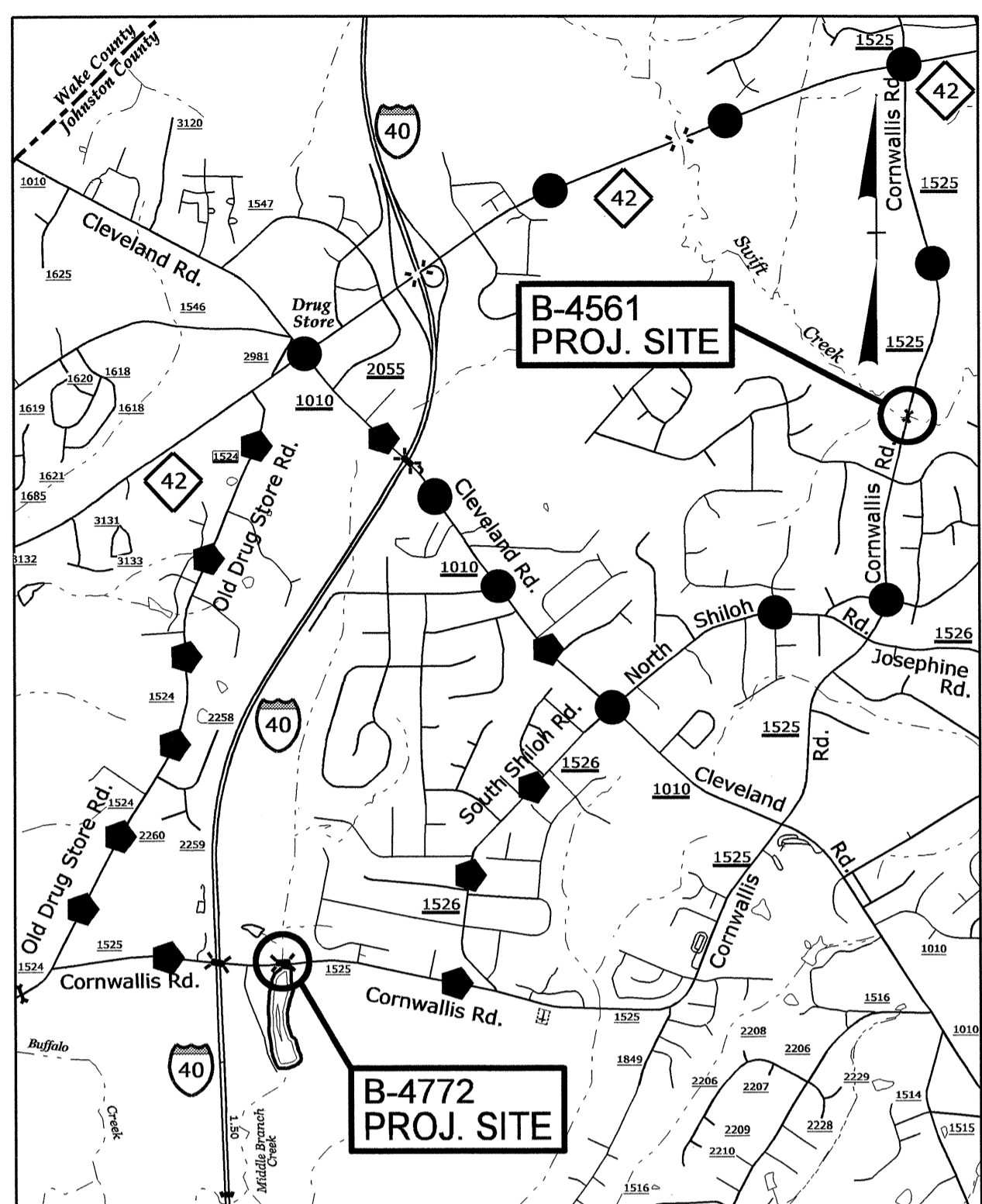
**JOHNSTON COUNTY**

**LOCATION: BRIDGE NO. 147 OVER SWIFT CREEK & BRIDGE NO. 326  
OVER MILL BRANCH CREEK ON SR 1525 (CORNWALLIS ROAD)**  
**TYPE OF WORK: GRADING, PAVING, DRAINAGE, & STRUCTURE**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4561 / B-4772	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33772.1.1	BRZ-1525(5)	P.E. (B-4561)	
33772.2.1	BRZ-1525(5)	R.W. (B-4561)	
33772.3.1	BRZ-1525(5)	CONST. (B-4561)	
38544.1.1	BRZ-1525(9)	P.E. (B-4772)	
38544.2.1	BRZ-1525(9)	R.W. (B-4772)	
33772.3.1	BRZ-1525(5)	CONST. (B-4772)	

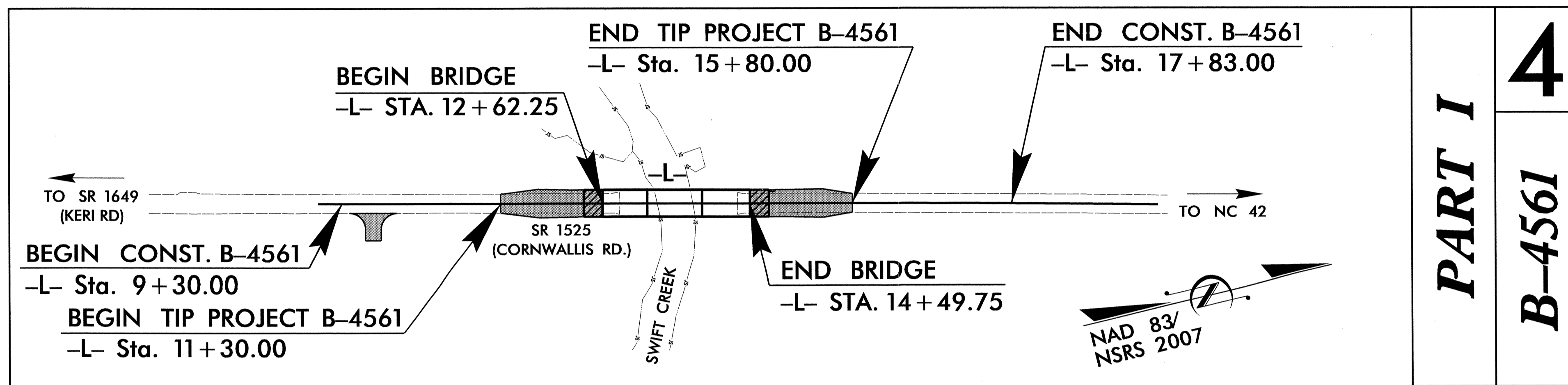
**TIP PROJECT: B-4561 / B-4772**

**CONTRACT: C203088**



**VICINITY MAP**

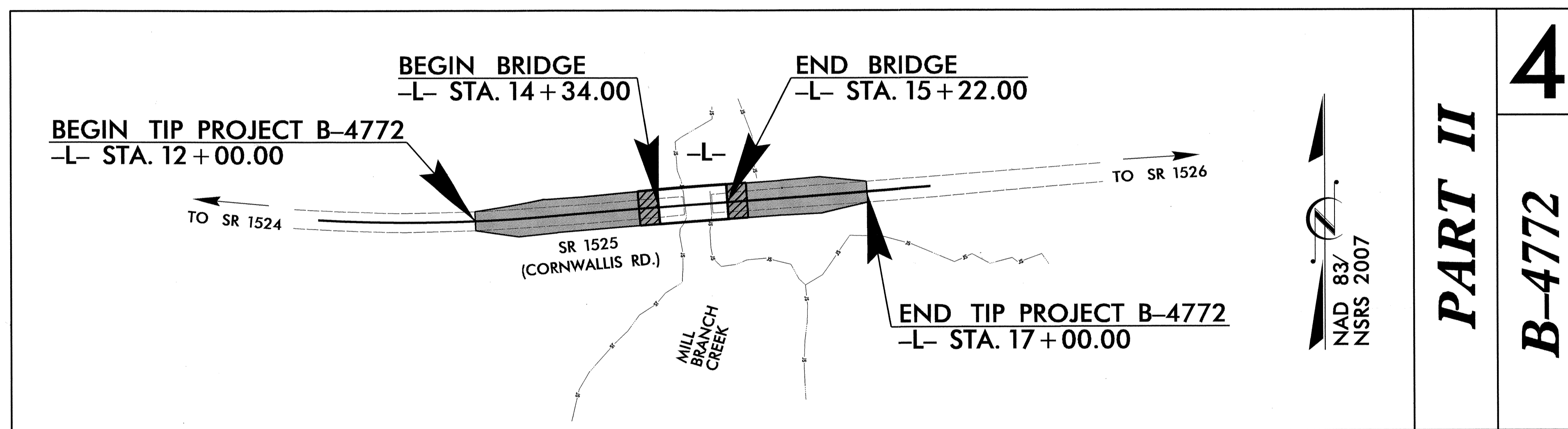
- B-4561 OFFSITE DETOUR
- ◆◆◆◆ B-4772 OFFSITE DETOUR



**PART I**

**B-4561**

**4**

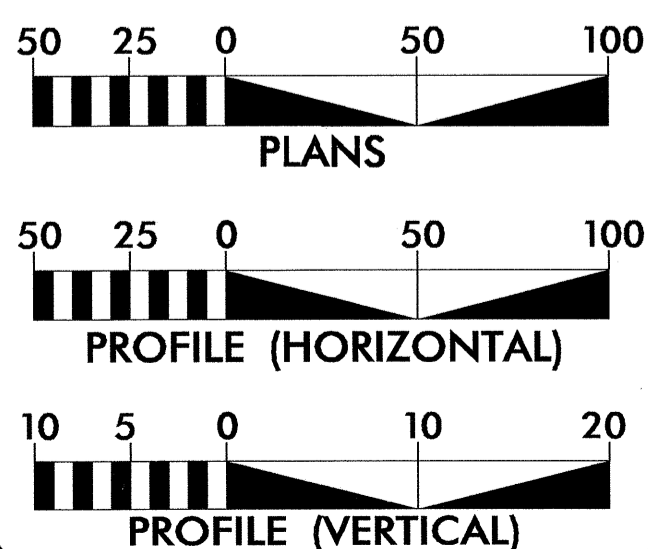


**PART II**

**B-4772**

**4**

**GRAPHIC SCALES**



**PROJECT LENGTH**

LENGTH OF ROADWAY TIP PROJECT B-4561 = 0.049 MI  
LENGTH OF STRUCTURE TIP PROJECT B-4561 = 0.036 MI  
TOTAL LENGTH OF TIP PROJECT B-4561 = 0.085 MI

LENGTH OF ROADWAY TIP PROJECT B-4772 = 0.078 MI  
LENGTH OF STRUCTURE TIP PROJECT B-4772 = 0.017 MI  
TOTAL LENGTH OF TIP PROJECT B-4772 = 0.095 MI

LENGTH OF ROADWAY TIP PROJECTS B-4561/B-4772 = 0.127 MI  
LENGTH OF STRUCTURE TIP PROJECTS B-4561/B-4772 = 0.053 MI  
TOTAL LENGTH OF TIP PROJECTS B-4561/B-4772 = 0.180 MI

Prepared In the Office of:  
**DIVISION OF HIGHWAYS**

1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

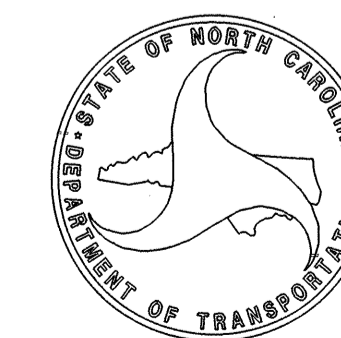
**RIGHT OF WAY DATE (B-4561):**  
APRIL 26, 2012

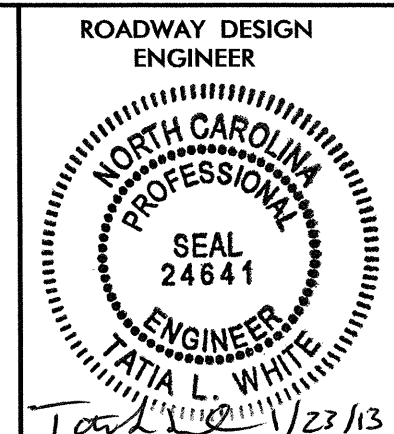
**RIGHT OF WAY DATE (B-4772):**  
MAY 7, 2012

**LETTING DATE:**  
APRIL 16, 2013

**BRENDA MOORE, PE**  
PROJECT ENGINEER

**TATIA L. WHITE, PE**  
PROJECT DESIGN ENGINEER





## INDEX OF SHEETS

## STANDARD DRAWINGS

## GENERAL NOTES

B-4561 / B-4772	
SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, & LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
3	SUMMARY OF QUANTITIES

PART I, B-4561	
SHEET NUMBER	SHEET
1	TITLE SHEET
1-C THROUGH 1-D	SURVEY CONTROL SHEETS
2 THROUGH 2-A	PAVEMENT SCHEDULE & TYPICAL SECTIONS
2-B	STRUCTURE ANCHOR UNIT DETAIL
3-A	DRAINAGE SUMMARY
3-B	EARTHWORK SUMMARY, GUARDRAIL SUMMARY, PAVEMENT REMOVAL SUMMARY & SHOULDER BERM GUTTER SUMMARY
4	PLAN SHEET
5	PROFILE SHEET
TMP-1 THROUGH TMP-4	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THROUGH PMP-2	PAVEMENT MARKING PLANS
EC-1 THROUGH EC-5	EROSION CONTROL PLANS
RF-1	REFORESTATION DETAIL SHEET
SIGN-1 THROUGH SIGN-2	SIGNING PLANS
UC-1 THROUGH UC-13	UTILITY CONSTRUCTION PLANS
UO-1 THROUGH UO-2	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTIONS INDEX SHEET
X-1A	CROSS-SECTIONS VOLUME SUMMARY
X-2 THROUGH X-5	CROSS-SECTIONS
S-1 THROUGH S-22	STRUCTURE PLANS

PART II, B-4772	
SHEET NUMBER	SHEET
1	TITLE SHEET
1-C THROUGH 1-D	SURVEY CONTROL SHEETS
2	PAVEMENT SCHEDULE & TYPICAL SECTIONS
2-A	STRUCTURE ANCHOR UNIT DETAIL
3-A	DRAINAGE SUMMARY
3-B	EARTHWORK SUMMARY, GUARDRAIL SUMMARY, PAVEMENT REMOVAL SUMMARY & SHOULDER BERM GUTTER SUMMARY
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RF-1	REFORESTATION DETAIL SHEET
UO-1 THROUGH UO-2	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTIONS INDEX SHEET
X-1A	CROSS-SECTIONS VOLUME SUMMARY
X-2 THROUGH X-3	CROSS-SECTIONS
S-1 THROUGH S-20	STRUCTURE PLANS

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

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 SUPERELEVATION - TWO LANE PAVEMENT
DIVISION 3 - PIPE CULVERTS	
300.01	METHOD OF PIPE INSTALLATION
310.10	DRIVEWAY PIPE CONSTRUCTION
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	
806.01	CONCRETE RIGHT-OF-WAY MARKER
806.02	GRANITE RIGHT-OF-WAY MARKER
815.03	PIPE UNDERDRAIN AND BLIND DRAIN
840.00	CONCRETE BASE PAD FOR DRAINAGE STRUCTURES
840.19	CONCRETE GRATED DROP INLET TYPE 'D' - 12" THRU 36" PIPE
840.25	ANCHORAGE FOR FRAMES - BRICK OR CONCRETE OR PRECAST
840.28	BRICK GRATED DROP INLET TYPE 'D' - 12" THRU 36" PIPE
840.29	FRAMES AND NARROW SLOT FLAT GRATES
840.31	CONCRETE JUNCTION BOX - 12" THRU 66" PIPE
840.32	BRICK JUNCTION BOX - 12" THRU 66" PIPE
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
840.54	MANHOLE FRAME AND COVER
840.66	DRAINAGE STRUCTURE STEPS
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
876.01	RIP RAP IN CHANNELS
876.02	GUIDE FOR RIP RAP AT PIPE OUTLETS
876.04	DRAINAGE DITCHES WITH CLASS 'B' RIP RAP

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

- 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 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.
- 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 PROGRESS ENERGY, CENTURYLINK, & JOHNSTON COUNTY PUBLIC UTILITIES.  
 ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.
- RIGHT-OF-WAY MARKERS:**  
 ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT.

5/14/09

18 JAN 2013 16:58  
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04/16/11

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	○ EP
Property Corner	-----
Property Monument	□ ECM
Parcel/Sequence Number	⑩ 23
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	-w.l.b.-
Proposed Wetland Boundary	-w.l.b.-
Existing Endangered Animal Boundary	-e.a.b.-
Existing Endangered Plant Boundary	-e.p.b.-
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	-j.s.-
Buffer Zone 1	-b.z. 1-
Buffer Zone 2	-b.z. 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 RW Marker	▲
Proposed Control of Access Line with Concrete C/A 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	▨
Single Tree	○
Single Shrub	○
Hedge	-----
Woods Line	-----

### VEGETATION:

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	-----

### 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	▭
Underground Storage Tank, Approx. Loc.	⊕
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.

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C203088

ItemNumber	Sec #	Quantity	Unit	Description
000100000-N	800	Lump Sum		MOBILIZATION
003000000-N	SP	Lump Sum		BRIDGE APPROACH FILL - SUB REGIONAL TIER, STATION ***** (13+56.00)
003000000-N	SP	Lump Sum		BRIDGE APPROACH FILL - SUB REGIONAL TIER, STATION ***** (14+78.00)
004300000-N	226	Lump Sum		GRADING
005000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUBBING
005700000-E	226	450	CY	UNDERCUT EXCAVATION
019500000-E	265	450	CY	SELECT GRANULAR MATERIAL
019600000-E	270	450	SY	GEOTEXTILE FOR SOIL STABILIZATION
031800000-E	300	78.33	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES
032000000-E	300	154.82	SY	FOUNDATION CONDITIONING GEOTEXTILE
033520000-E	305	108	LF	15" DRAINAGE PIPE
033530000-E	305	28	LF	18" DRAINAGE PIPE
033540000-E	305	60	LF	24" DRAINAGE PIPE
099500000-E	340	60	LF	PIPE REMOVAL
122000000-E	545	100	TON	INCIDENTAL STONE BASE
133000000-E	607	300	SY	INCIDENTAL MILLING
148900000-E	610	550	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
149800000-E	610	85	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE 119.0B
151900000-E	610	605	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
157500000-E	620	65	TON	ASPHALT BINDER FOR PLANT MIX
200000000-N	806	21	EA	RIGHT OF WAY MARKERS
202200000-E	815	22.4	CY	SUBDRAIN EXCAVATION
203300000-E	815	16.8	CY	SUBDRAIN FINE AGGREGATE
204400000-E	815	100	LF	6" PERFORATED SUBDRAIN PIPE

SUMMARY OF QUANTITIES - B-4561 / B-4772

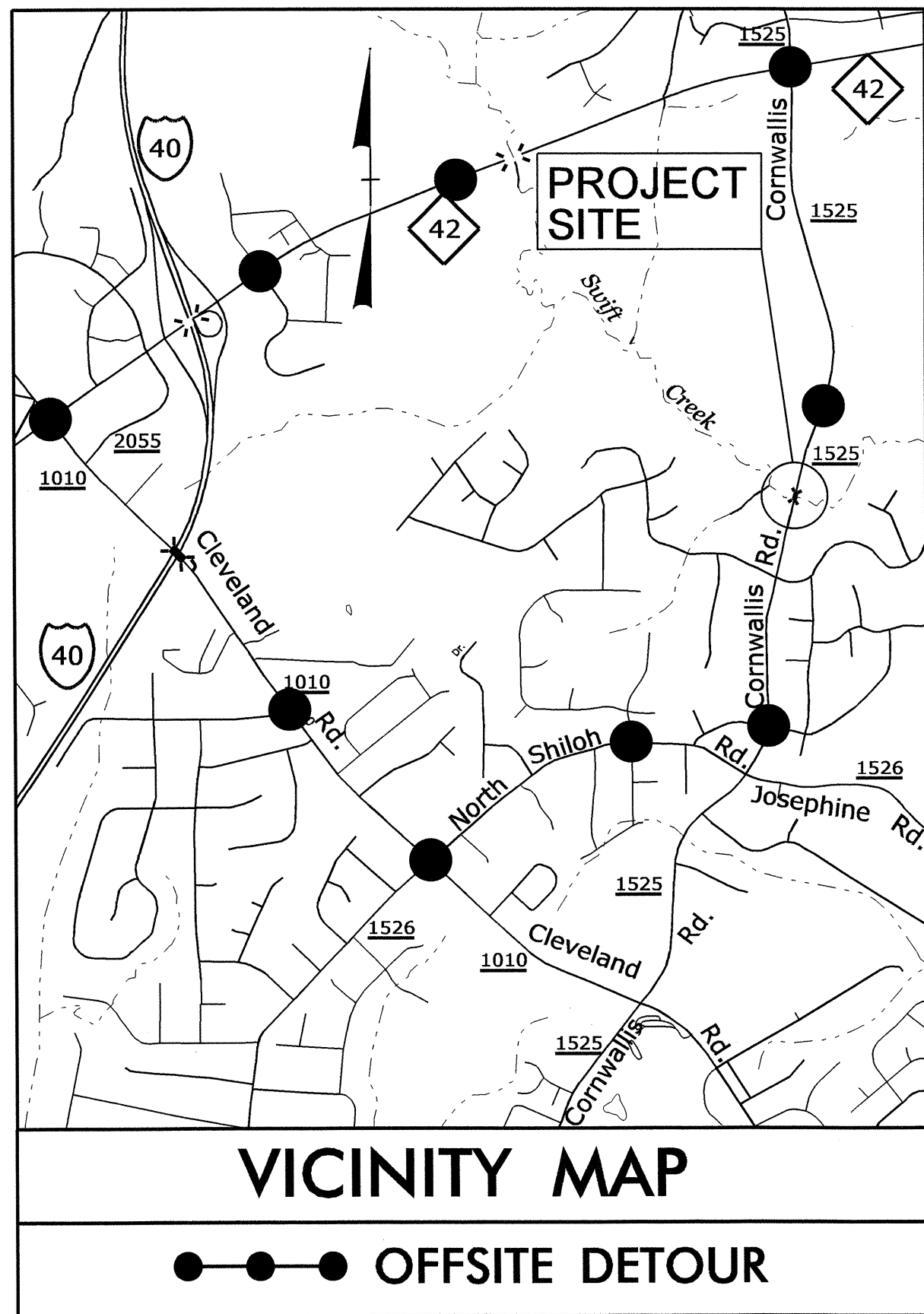
ItemNumber	Sec #	Quantity	Unit	Description
207000000-N	815	1	EA	SUBDRAIN PIPE OUTLET
207700000-E	815	6	LF	6" OUTLET PIPE
228600000-N	840	4	EA	MASONRY DRAINAGE STRUCTURES
230800000-E	840	3	LF	MASONRY DRAINAGE STRUCTURES
236700000-N	840	3	EA	FRAME WITH TWO GRATES, STD 840.29
239600000-N	840	1	EA	FRAME WITH COVER, STD 840.54
255600000-E	846	60	LF	SHOULDER BERM GUTTER
303000000-E	862	387.5	LF	STEEL BM GUARDRAIL
315000000-N	862	10	EA	ADDITIONAL GUARDRAIL POSTS
321500000-N	862	8	EA	GUARDRAIL ANCHOR UNITS, TYPE III
327000000-N	SP	8	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
362800000-E	876	5	TON	RIP RAP, CLASS I
364900000-E	876	140	TON	RIP RAP, CLASS B
365600000-E	876	1,710	SY	GEOTEXTILE FOR DRAINAGE
365900000-N	SP	3	EA	PREFORMED SCOUR HOLES WITH LEVEL SPREADER APRON
407200000-E	903	26	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
410200000-N	904	2	EA	SIGN ERECTION, TYPE E
415500000-N	907	8	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
440000000-E	1110	1,108	SF	WORK ZONE SIGNS (STATIONARY)
440500000-E	1110	96	SF	WORK ZONE SIGNS (PORTABLE)
441000000-E	1110	295	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
443500000-N	1135	100	EA	CONES
444500000-E	1145	208	LF	BARRICADES (TYPE III)
445000000-N	1150	400	HR	FLAGGER
468500000-E	1205	1,000	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)
468600000-E	1205	1,000	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)

ItemNumber	Sec #	Quantity	Unit	Description
477000000-E	1205	1,800	LF	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (I)
532580000-E	1510	10	LF	8" WATER LINE
532620000-E	1510	600	LF	12" WATER LINE
554000000-E	1515	2	EA	6" VALVE
554600000-E	1515	2	EA	8" VALVE
555800000-E	1515	2	EA	12" VALVE
570930000-E	1520	721	LF	6" FORCE MAIN SEWER
570960000-E	1520	726	LF	12" FORCE MAIN SEWER
580000000-E	1530	708	LF	ABANDON 6" UTILITY PIPE
580100000-E	1530	572	LF	ABANDON 8" UTILITY PIPE
580400000-E	1530	713	LF	ABANDON 12" UTILITY PIPE
587140000-E	1550	290	LF	TRENCHLESS INSTALLATION OF 6" IN SOIL
587141000-E	1550	290	LF	TRENCHLESS INSTALLATION OF 6" NOT IN SOIL
587170000-E	1550	487	LF	TRENCHLESS INSTALLATION OF 12" IN SOIL
587171000-E	1550	487	LF	TRENCHLESS INSTALLATION OF 12" NOT IN SOIL
600000000-E	1605	2,675	LF	TEMPORARY SILT FENCE
600600000-E	1610	450	TON	STONE FOR EROSION CONTROL, CLASS A
600900000-E	1610	85	TON	STONE FOR EROSION CONTROL, CLASS B
601200000-E	1610	260	TON	SEDIMENT CONTROL STONE
601500000-E	1615	2	ACR	TEMPORARY MULCHING
601800000-E	1620	100	LB	SEED FOR TEMPORARY SEEDING
602100000-E	1620	0.5	TON	FERTILIZER FOR TEMPORARY SEEDING
602400000-E	1622	400	LF	TEMPORARY SLOPE DRAINS
602900000-E	SP	900	LF	SAFETY FENCE
603000000-E	1630	220	CY	SILT EXCAVATION

ItemNumber	Sec #	Quantity	Unit	Description
603600000-E	1631	5,300	SY	MATting FOR EROSION CONTROL
603700000-E	SP	1,365	SY	COIR FIBER MAT
603800000-E	SP	250	SY	PERMANENT SOIL REINFORCEMENT MAT
604200000-E	1632	435	LF	1/4" HARDWARE CLOTH
604800000-E	SP	60	SY	FLOATING TURBIDITY CURTAIN
607000000-N	1639	6	EA	SPECIAL STILLING BASINS
6071012000-E	SP	200	LF	COIR FIBER WATTLE
607102000-E	SP	65	LB	POLYACRYLAMIDE (PAM)
608400000-E	1660	2	ACR	SEEDING & MULCHING
608700000-E	1660	1	ACR	MOWING
609000000-E	1661	100	LB	SEED FOR REPAIR SEEDING
609300000-E	1661	0.5	TON	FERTILIZER FOR REPAIR SEEDING
609600000-E	1662	100	LB	SEED FOR SUPPLEMENTAL SEEDING
610800000-E	1665	1.5	TON	FERTILIZER TOPDRESSING
611450000-N	1667	20	MHR	SPECIALIZED HAND MOWING
611700000-N	SP	36	EA	RESPONSE FOR EROSION CONTROL
612300000-E	1670	0.2	ACR	REFORESTATION

09/08/99

See Combined Sheet 1-A for Index of Sheets  
See Combined Sheet 1-B for Conventional Symbols  
See Sheets 1-C thru 1-D for Survey Control Sheets



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**JOHNSTON COUNTY**

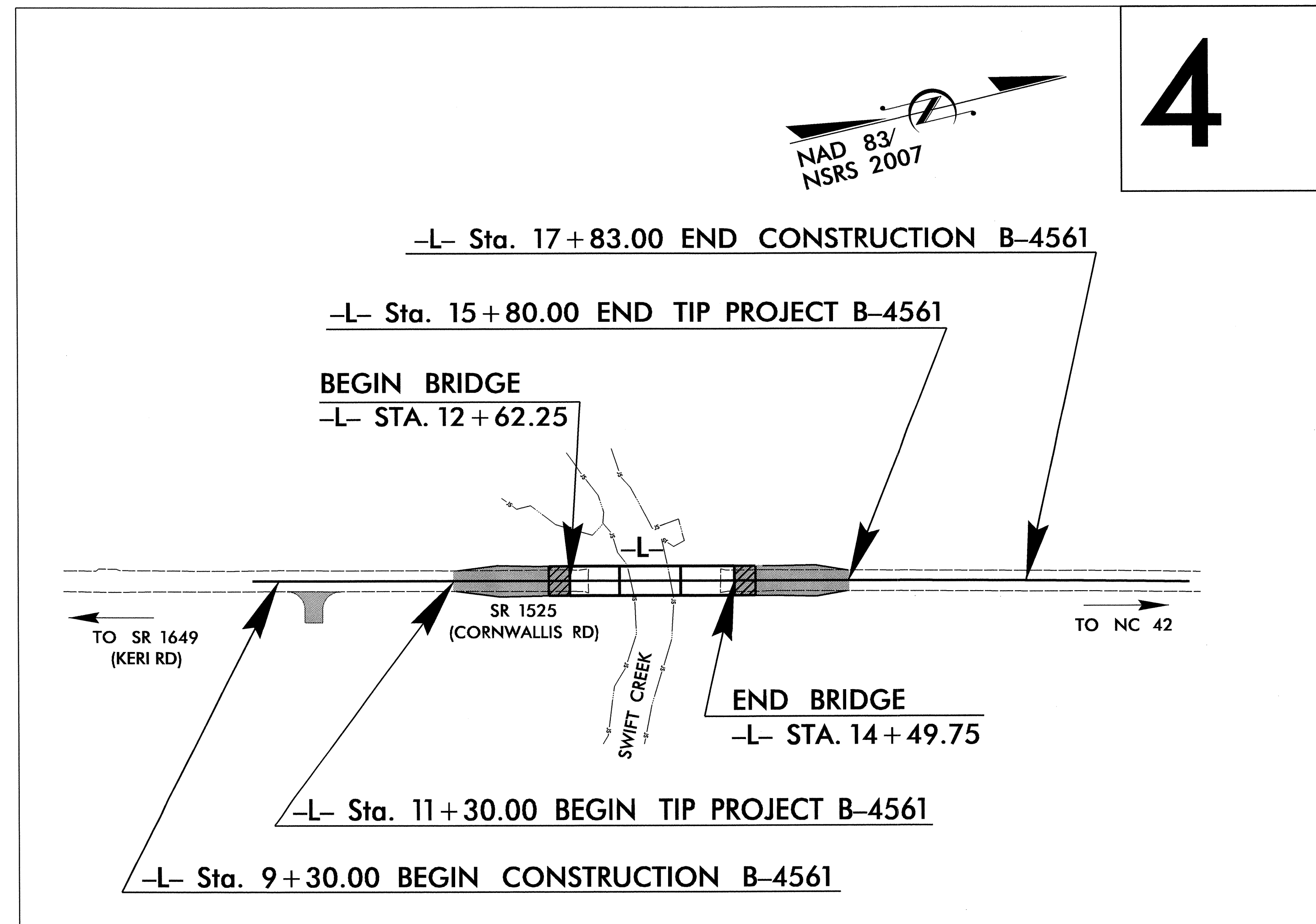
**LOCATION: BRIDGE NO.147 OVER SWIFT CREEK ON SR 1525**

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

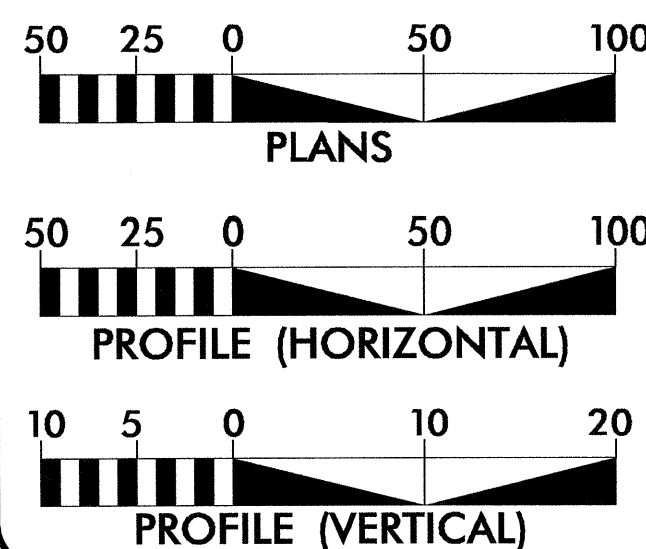
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	<b>B-4561</b>	<b>1</b>	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33772.1.1	BRZ-1525(5)	P.E.	
33772.2.1	BRZ-1525(5)	R.W.	
33772.3.1	BRZ-1525(5)	CONST.	

**TIP PROJECT: B-4561**

**CONTRACT: C203088**



**GRAPHIC SCALES**



**DESIGN DATA**

ADT 2013 = 10,495  
ADT 2033 = 16,410  
DHV = 13 %  
D = 55 %  
T = 11 % \*  
V = 50 MPH  
\* (TTST = 4% + DUAL = 7%)  
FUNC CLASS = LOCAL RURAL  
TIER = SUBREGIONAL

**PROJECT LENGTH**

LENGTH OF ROADWAY TIP PROJECT B-4561 = 0.049 MI  
LENGTH OF STRUCTURE TIP PROJECT B-4561 = 0.036 MI  
TOTAL LENGTH OF TIP PROJECT B-4561 = 0.085 MI

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:  
APRIL 26, 2012

LETTING DATE:  
APRIL 16, 2013

**BRENDA MOORE, PE**  
PROJECT ENGINEER

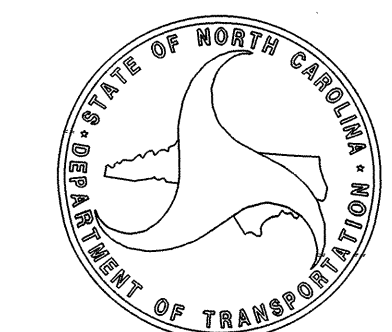
**TATIA L. WHITE, PE**  
PROJECT DESIGN ENGINEER

**HYDRAULICS ENGINEER**

*Joseph W. Dunne* 1/24/13  
SIGNATURE: **JOSEPH W. DUNNE**  
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 14482

**ROADWAY DESIGN ENGINEER**

*Tatia L. White* 1/16/13  
SIGNATURE: **TATIA L. WHITE**  
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 24641

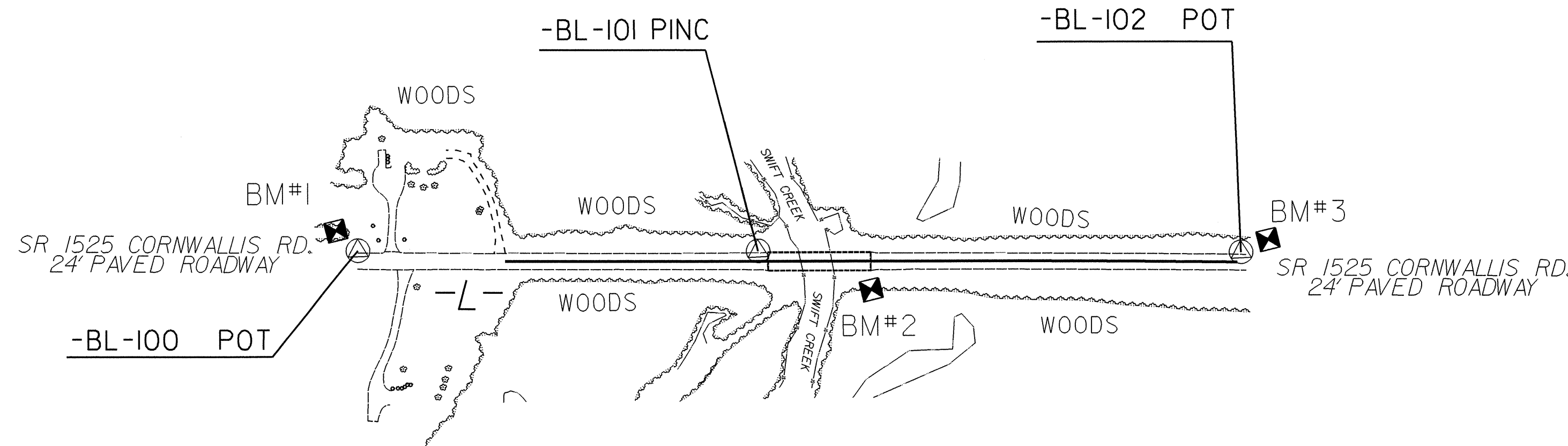
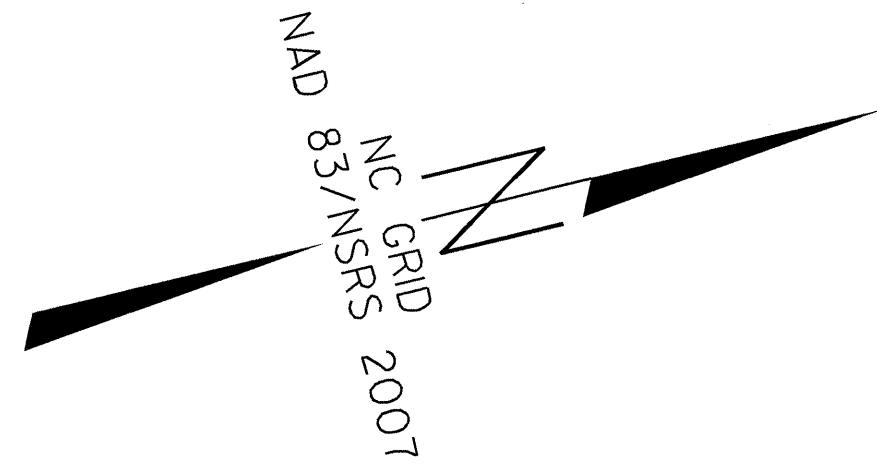


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\$\$\$\$\$USERNAME\$\$\$\$\$

6/2/09

# SURVEY CONTROL SHEET B-4561

PROJECT REFERENCE NO.	SHEET NO.
B-4561	IC
Location and Surveys	



### BENCHMARK DATA

\*\*\*\*\*  
 1134 ELEVATION = 215.76  
 N 672953 E 2137853  
 BL STATION 5+00.00  
 S 55°48'42.75" W DIST 43.30  
 BM#1 RR SPIKE IN BASE OF 10" PINE  
 \*\*\*\*\*

\*\*\*\*\*  
 1084 ELEVATION = 180.46  
 N 673692 E 2138119  
 L STATION 14+34.16 41.83 RIGHT  
 BM#2 RR SPIKE IN BASE OF 20" OAK  
 \*\*\*\*\*

### BASELINE DATA

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
100	-BL-100		672976.8410	2137889.0630	205.57	OUTSIDE PROJECT LIMITS	
101	-BL-101		673545.0260	2138024.9380	186.72	12+69.51	15.55 LT
102	-BL-102		674229.9300	2138191.6820	186.69	OUTSIDE PROJECT LIMITS	

\*\*\*\*\*  
 1133 ELEVATION = 184.84  
 N 674273 E 2138183  
 BL STATION 5+00.00  
 N 12°47'40.74" E DIST 1328.78  
 BM#3 RR SPIKE IN BASE OF 18" PINE  
 \*\*\*\*\*

### DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B-4561 GPS-2" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 675150.675(ft) EASTING: 2138568.214(ft) ELEVATION: 208.27 (ft)  
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99988675  
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B-4561 GPS-2" TO -L- STATION 19+69.20 IS S 21°19'57.5" W 997.72 (ft.)  
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES  
 VERTICAL DATUM USED IS NAVD 88

### NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:  
[HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.ncdot.org/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/)

THE FILES TO BE FOUND ARE AS FOLLOWS:  
 B4561\_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 NGS ONLINE POSITIONING USER SERVICE (OPUS)

NOTE: DRAWING NOT TO SCALE

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# SURVEY CONTROL SHEET B-4561

PROJECT REFERENCE NO.	SHEET NO.
B-4561	I-D
Location and Surveys	

ROW MARKER CONCRETE OR GRANITE-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	11+30.00	60.00	673391.7499	2138065.9403
L	11+30.00	-60.00	673419.7157	2137949.2444
L	11+30.00	30.00	673398.7414	2138036.7663
L	11+30.00	-30.00	673412.7243	2137978.4184
L	11+60.75	60.00	673421.6781	2138073.1070
L	11+60.75	-60.00	673449.6040	2137956.4017
L	15+80.00	-60.00	673857.3397	2138053.9669
L	15+80.00	60.00	673829.4138	2138170.6723
L	15+80.00	-30.00	673850.3582	2138083.1433
L	15+80.00	30.00	673836.3953	2138141.4959

PERMANENT EASEMENT - E

ALIGN	STATION	OFFSET	NORTH	EAST
L	9+90.00	30.00	673262.5965	2138004.1256
L	10+50.00	-30.00	673334.9318	2137959.7678
L	10+50.00	-75.00	673345.4233	2137916.0080
L	11+10.00	80.00	673367.6322	2138080.7252
L	11+30.00	-75.00	673423.2090	2137934.6569
L	11+60.75	80.00	673417.0205	2138092.5571
L	11+60.75	-75.00	673453.0948	2137941.8135
L	14+57.00	-60.00	673737.7167	2138025.3429
L	14+57.00	-75.00	673741.2074	2138010.7547
L	14+97.00	-60.00	673776.6185	2138034.6515
L	14+97.00	-75.00	673780.1092	2138020.0633
L	15+80.00	-75.00	673860.8304	2138039.3787
L	15+86.72	80.00	673831.2939	2138191.6867
L	16+56.50	80.00	673898.9602	2138207.9615
L	16+60.00	-75.00	673938.7913	2138058.1259
L	16+60.00	-30.00	673928.2122	2138101.8647
L	17+83.00	30.00	674033.4812	2138189.3153
L	17+83.00	60.00	674026.3090	2138218.4453

ALIGNMENTS

L			
TYPE	STATION	NORTH	EAST
POT	9+00.00	673182.0711	2137953.9692
PC	11+20.97	673396.9508	2138005.4873
PT	11+60.75	673435.6393	2138014.7539
PC	15+86.72	673849.9111	2138113.8831
PT	19+69.20	674221.3176	2138205.2624

LYC			
TYPE	STATION	NORTH	EAST
PC	5+00.00	673218.2120	2137974.7695
PT	5+31.41	673232.9997	2137998.8741

Y			
TYPE	STATION	NORTH	EAST
POT	10+00.00	673250.1252	2137970.2854
POT	10+46.79	673239.2320	2138015.7948

### DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B-4561 GPS-2"  
 WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF  
 NORTHING: 675150.675(ft) EASTING: 2138568.214(ft)  
 ELEVATION: 208.27 (ft)  
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99988675  
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B-4561 GPS-2" TO -L- STATION 19+69.20 IS  
 S 21°19'57.5" W 997.72 (ft.)  
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES  
 VERTICAL DATUM USED IS NAVD 88

**NOTES:**

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:  
[HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.ncdot.org/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/)

THE FILES TO BE FOUND ARE AS FOLLOWS:  
**B4561\_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.

**NOTE: DRAWING NOT TO SCALE**

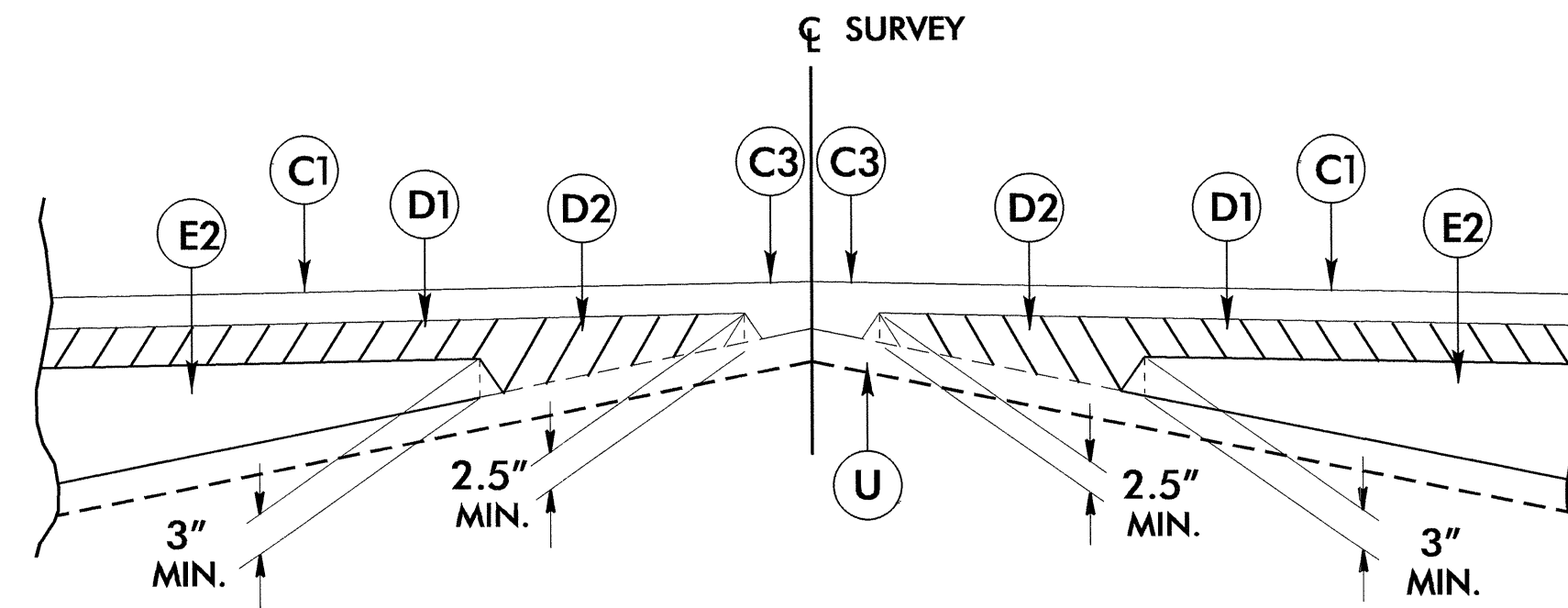
6/2/09

**FINAL PAVEMENT SCHEDULE**

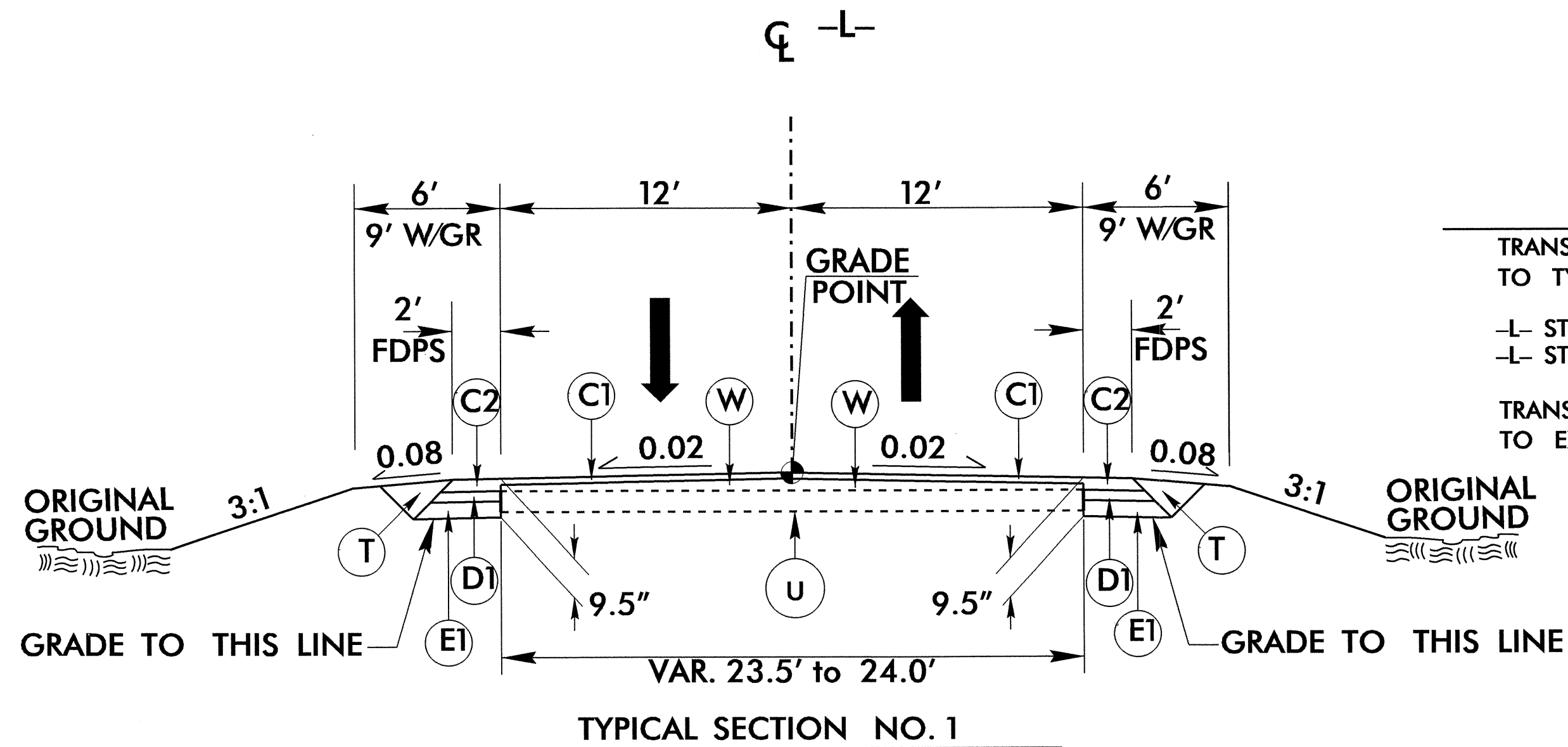
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" 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.
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

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

PROJECT REFERENCE NO. <b>B-4561</b>	SHEET NO. <b>2</b>
ROADWAY DESIGN ENGINEER <b>FATA L. WHITE</b> SEAL 24641 1/21/13	PAVEMENT DESIGN ENGINEER <b>CLARK S. MORRISON</b> SEAL 22898 1/18/13



**Detail Showing Method of Wedging**

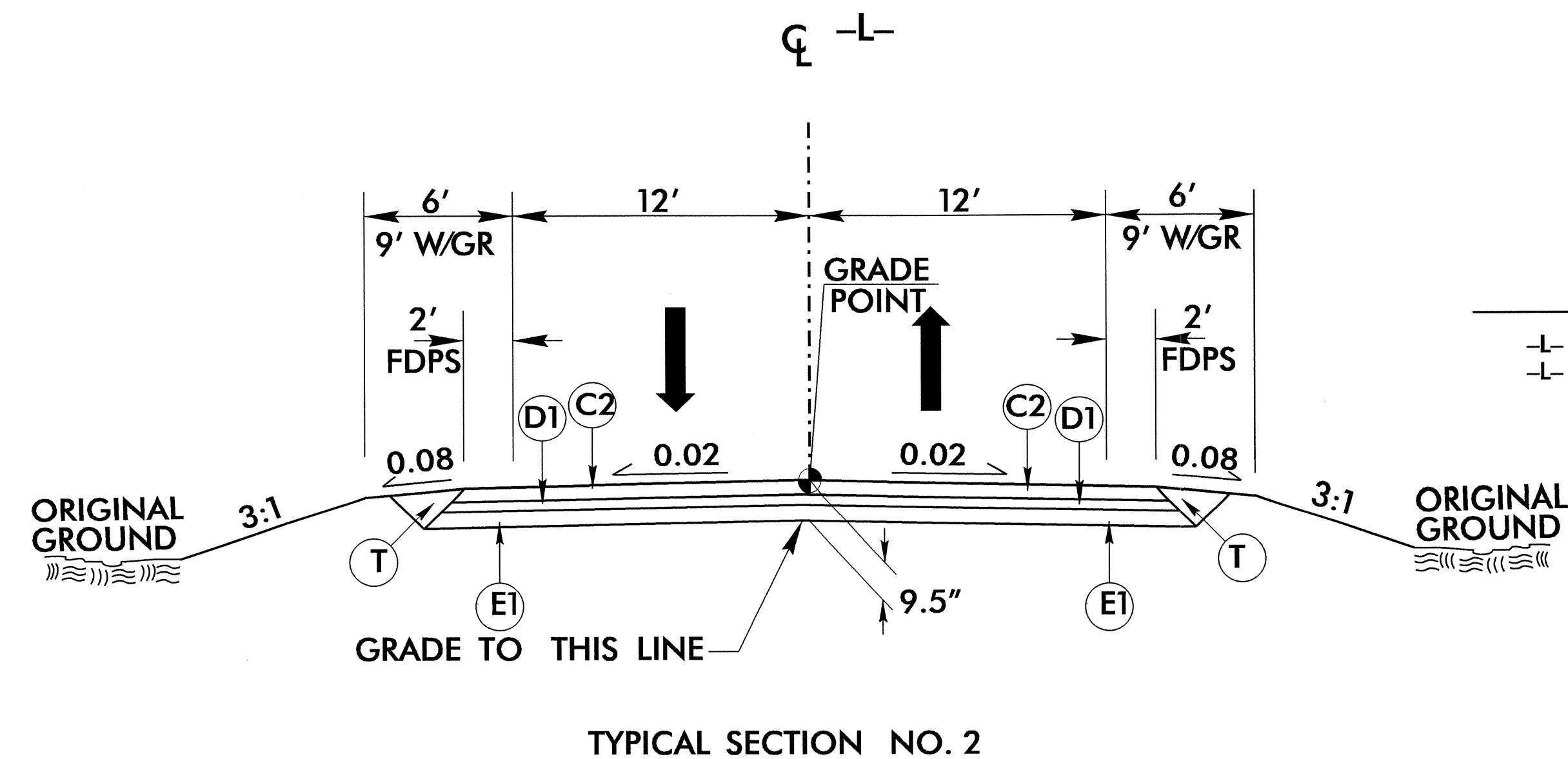


USE TYPICAL SECTION NO. 1  
AT THE FOLLOWING LOCATIONS:

TRANSITION FROM EXISTING AT -L- STA. 11+30.00  
TO TYPICAL SECTION NO. 1 AT -L- STA. 11+80.00

-L- STA. 11+80.00 TO -L- STA. 12+50.00  
-L- STA. 14+80.00 TO 15+30.00

TRANSITION FROM TYPICAL SECTION NO. 1 AT -L- STA. 15+30.00  
TO EXISTING AT -L- STA. 15+80.00



USE TYPICAL SECTION NO. 2  
AT THE FOLLOWING LOCATIONS:

-L- STA. 12+50.00 TO -L- STA. 12+62.25 (BEGIN BRIDGE)  
-L- STA. 14+49.75 (END BRIDGE) TO 14+80.00

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\$\$\$\$\$

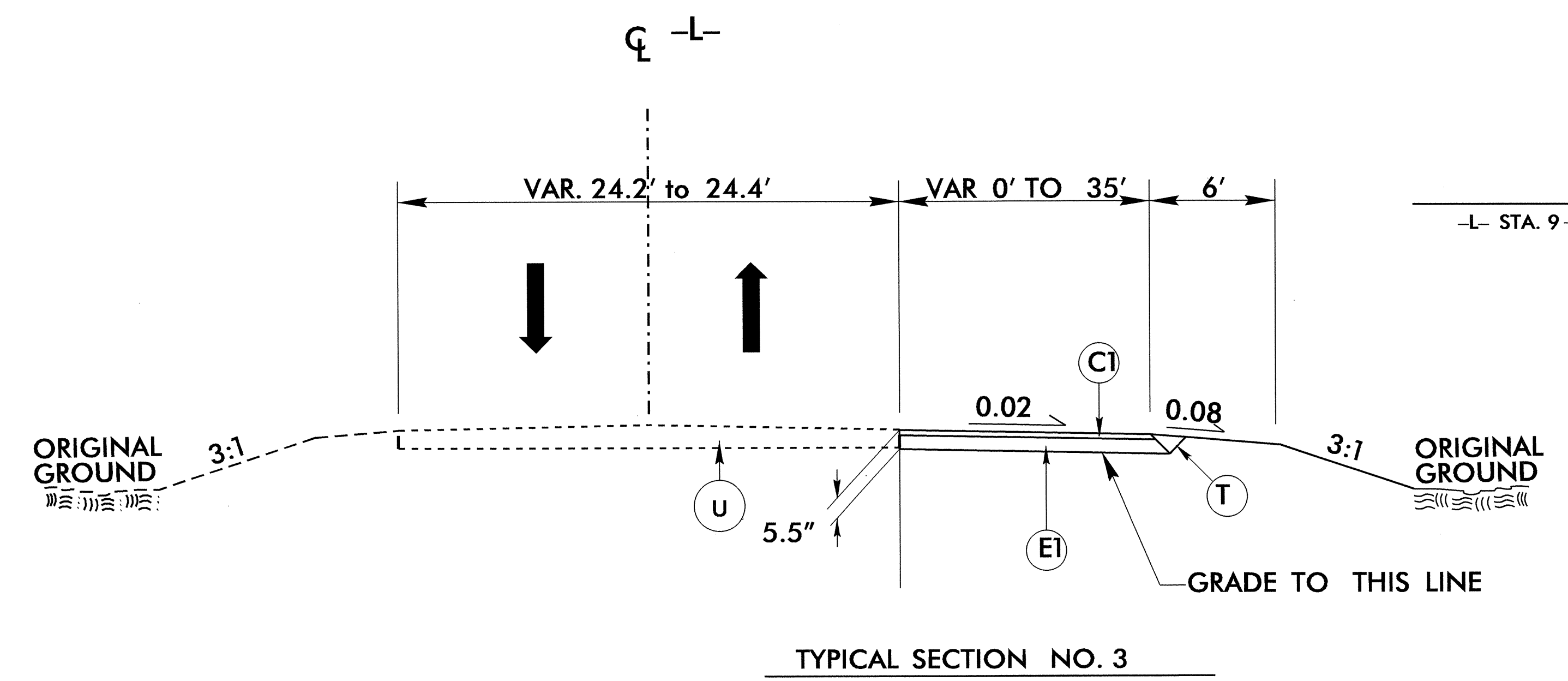


6/2/09

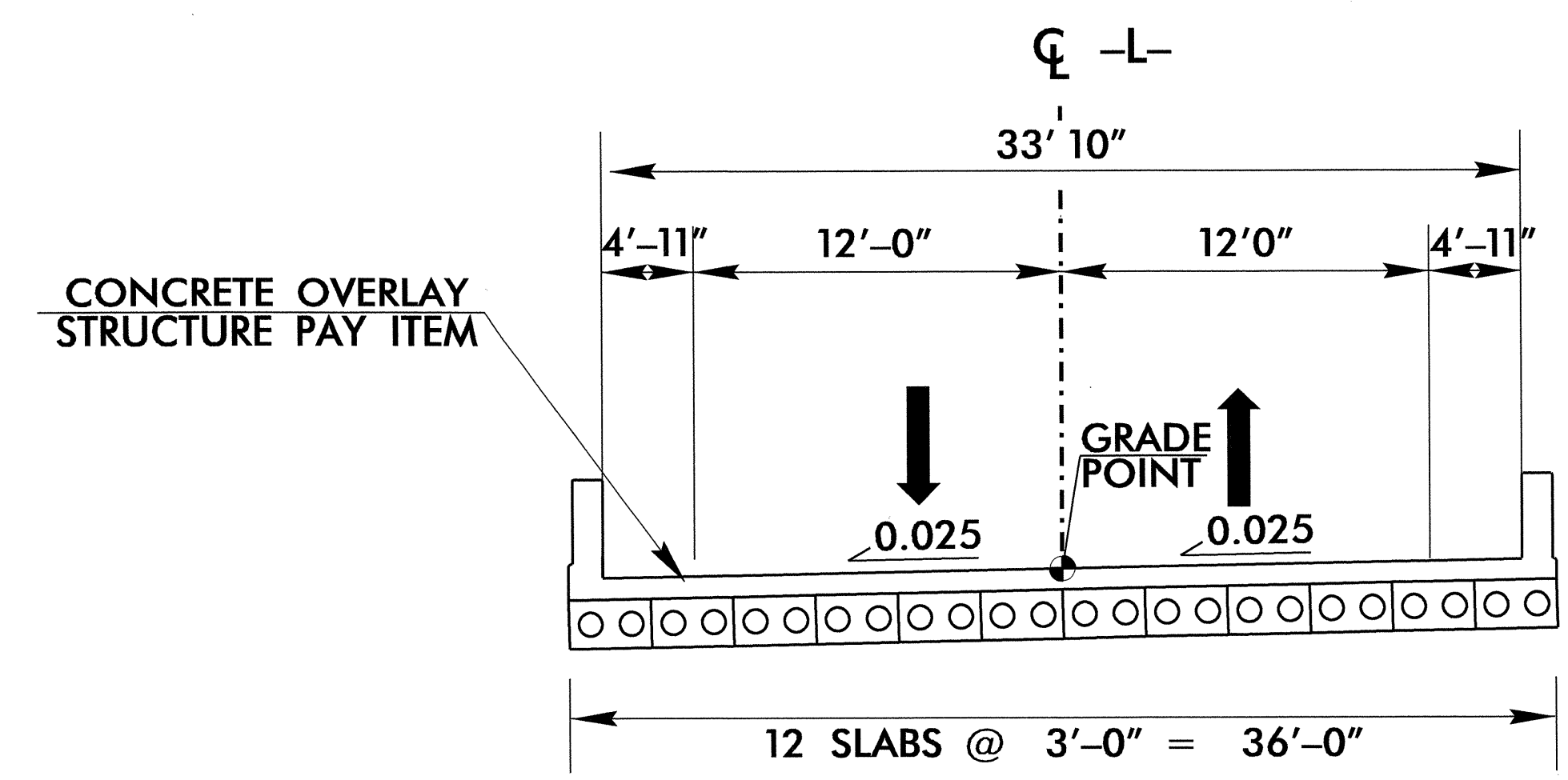
FINAL PAVEMENT SCHEDULE	
C1	1½" TYPE S9.5B
C2	3" TYPE S9.5B
C3	VAR. DEPTH TYPE S9.5B
D1	2½" TYPE I19.0B
D2	VAR. DEPTH TYPE I19.0B
E1	4" TYPE B25.0B
E2	VAR. DEPTH TYPE B25.0B
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

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

PROJECT REFERENCE NO. <b>B-4561</b>	SHEET NO. <b>2-A</b>
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 24541 TATIA L. WHITE 1/8/13	PAVEMENT DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22896 CLARK S. MORRISON 1/8/13



USE TYPICAL SECTION NO. 3  
AT THE FOLLOWING LOCATIONS:  
-L- STA. 9+40.00 TO 10+00.00



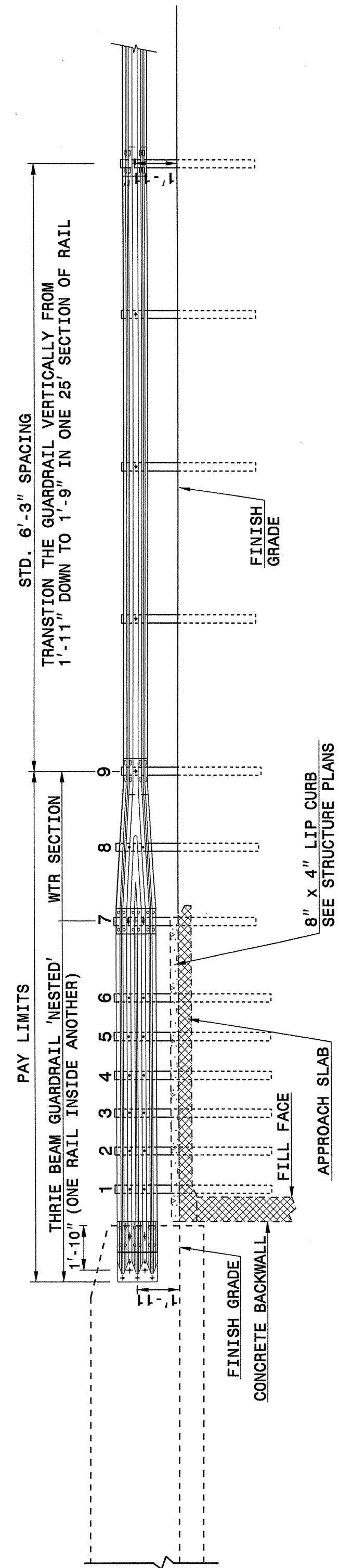
USE TYPICAL SECTION ON STRUCTURE  
AT THE FOLLOWING LOCATIONS:  
-L- STA. 12+62.25 (BEGIN BRIDGE) TO -L- STA. 14+49.75 (END BRIDGE)

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 \$\$\$SYTIME\$\$\$

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

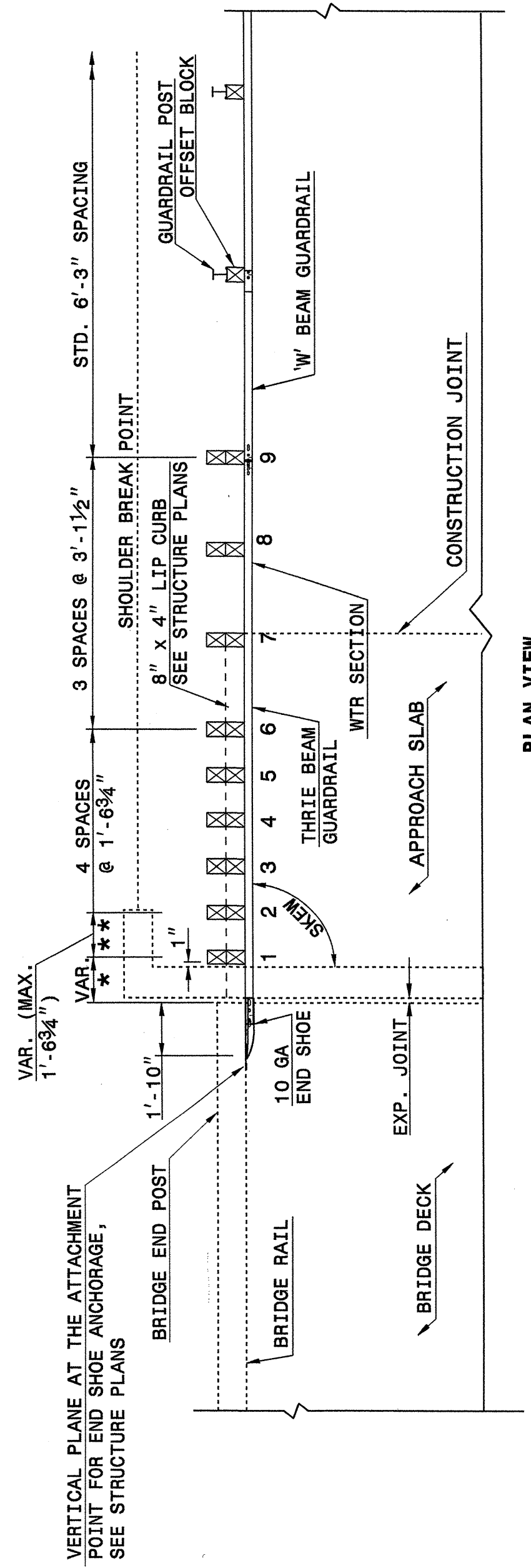
ENGLISH DETAIL DRAWING FOR  
**STRUCTURE ANCHOR UNITS**  
RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7  
**862d03**



**ELEVATION**

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 11 1/2" 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.



**PLAN VIEW**

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

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

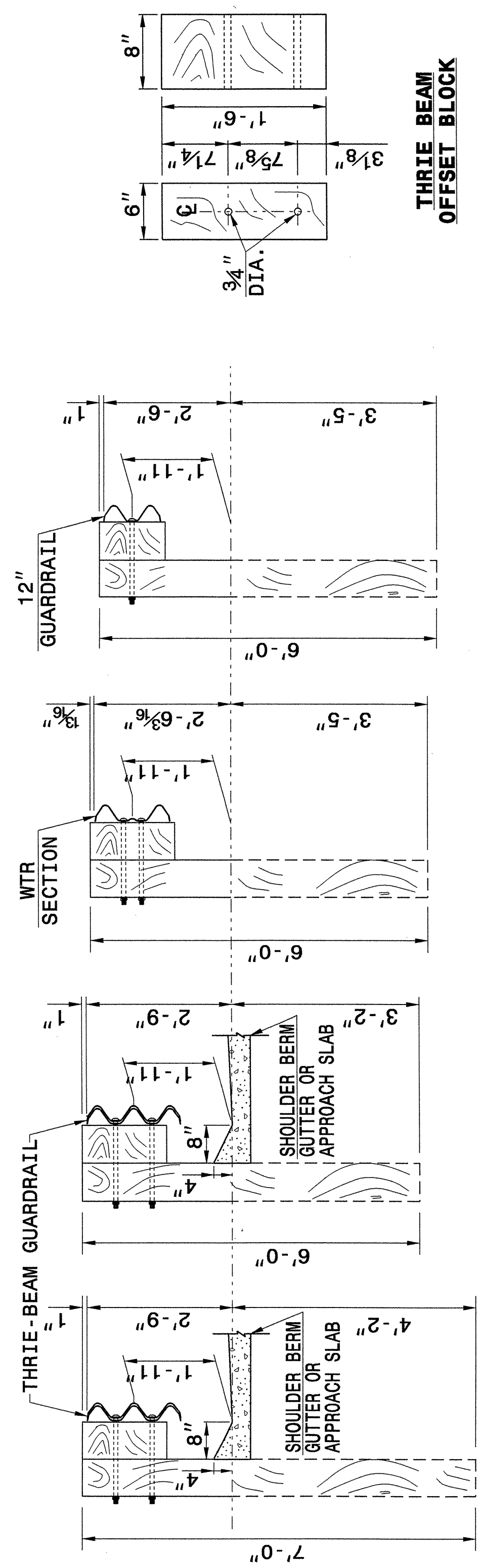
ENGLISH DETAIL DRAWING FOR  
**STRUCTURE ANCHOR UNITS**  
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7  
**862d03**

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

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

SHEET 3 OF 7  
**862d03**



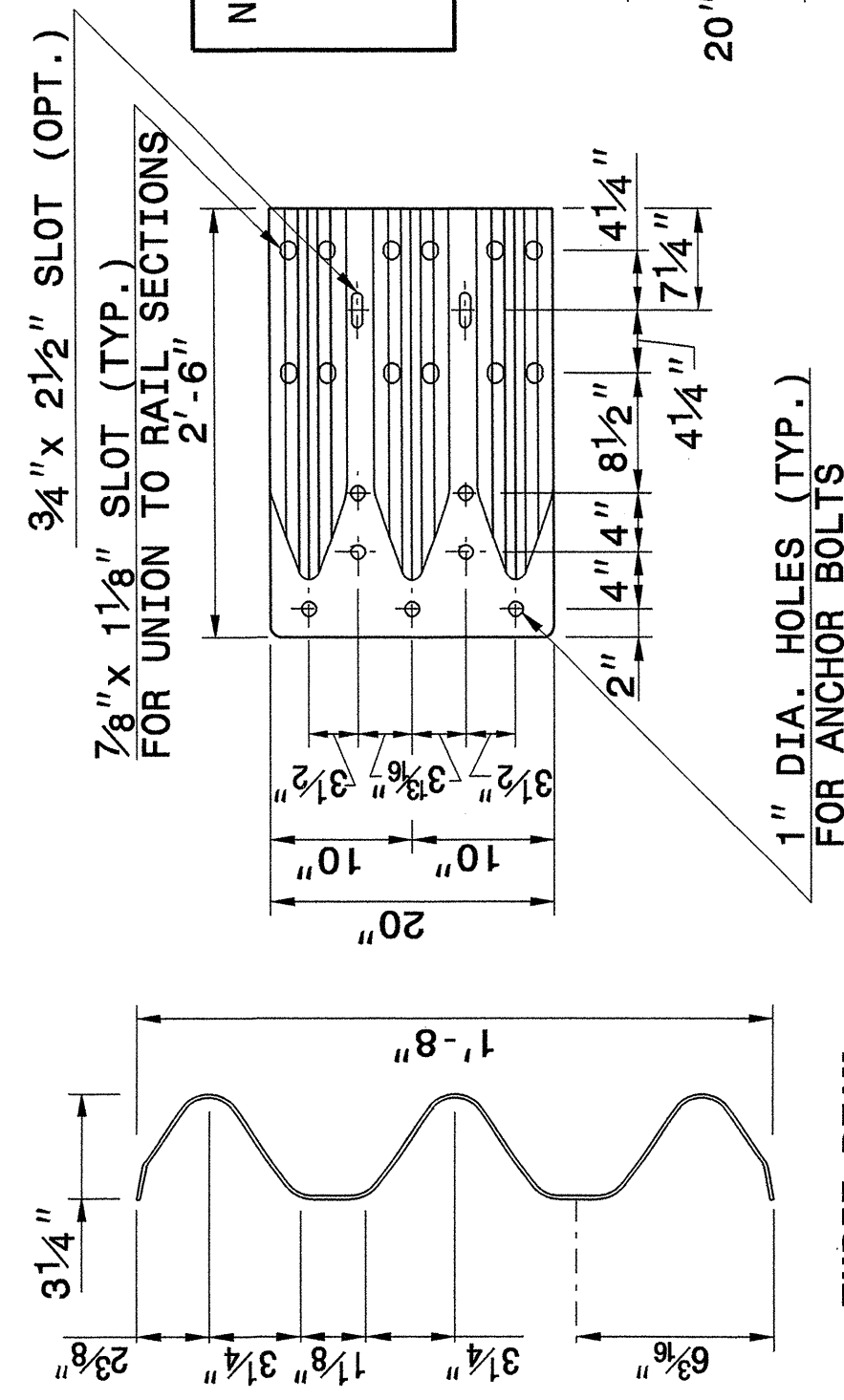
**SECTION OF THRIE BEAM POSTS 1 THRU 6**

**SECTION OF THRIE BEAM POST 7**

**SECTION OF WTR BEAM POST 8**

**SECTION OF 'W' BEAM POST 9**

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.



**THRIE-BEAM SECTION**

**END SHOE**

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

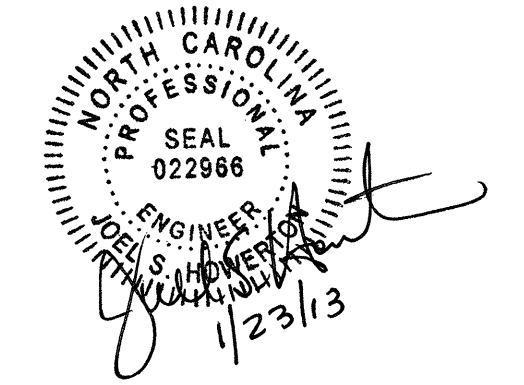
ENGLISH DETAIL DRAWING FOR  
**STRUCTURE ANCHOR UNITS**  
GUARDRAIL ANCHOR UNIT, TYPE III

SHEET 3 OF 7  
**862d03**

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

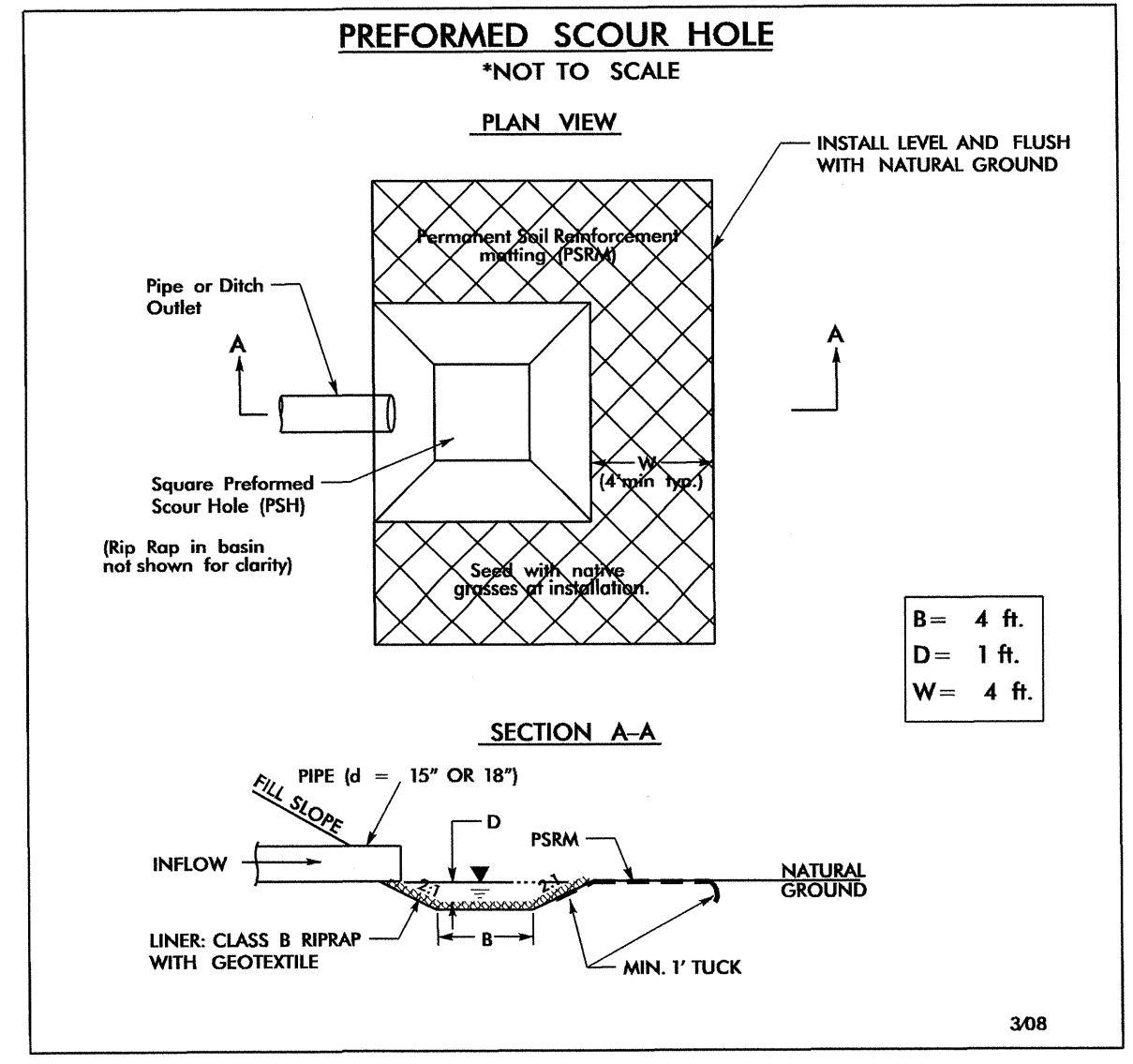
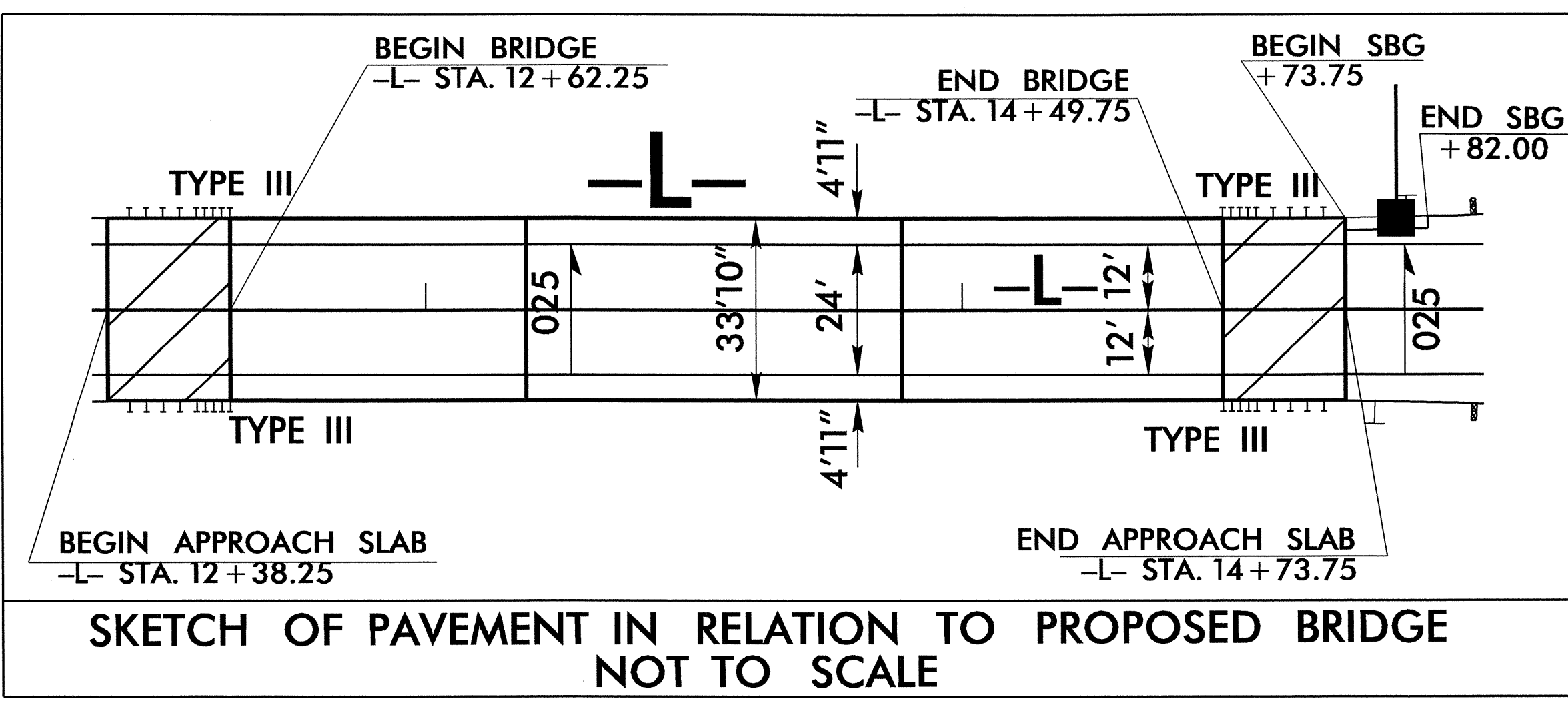
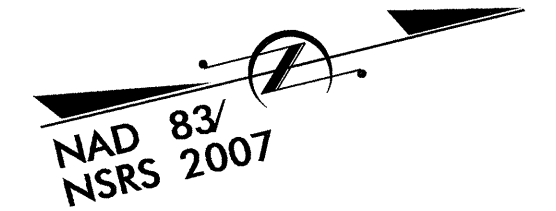
**SEE TITLE BLOCK**

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



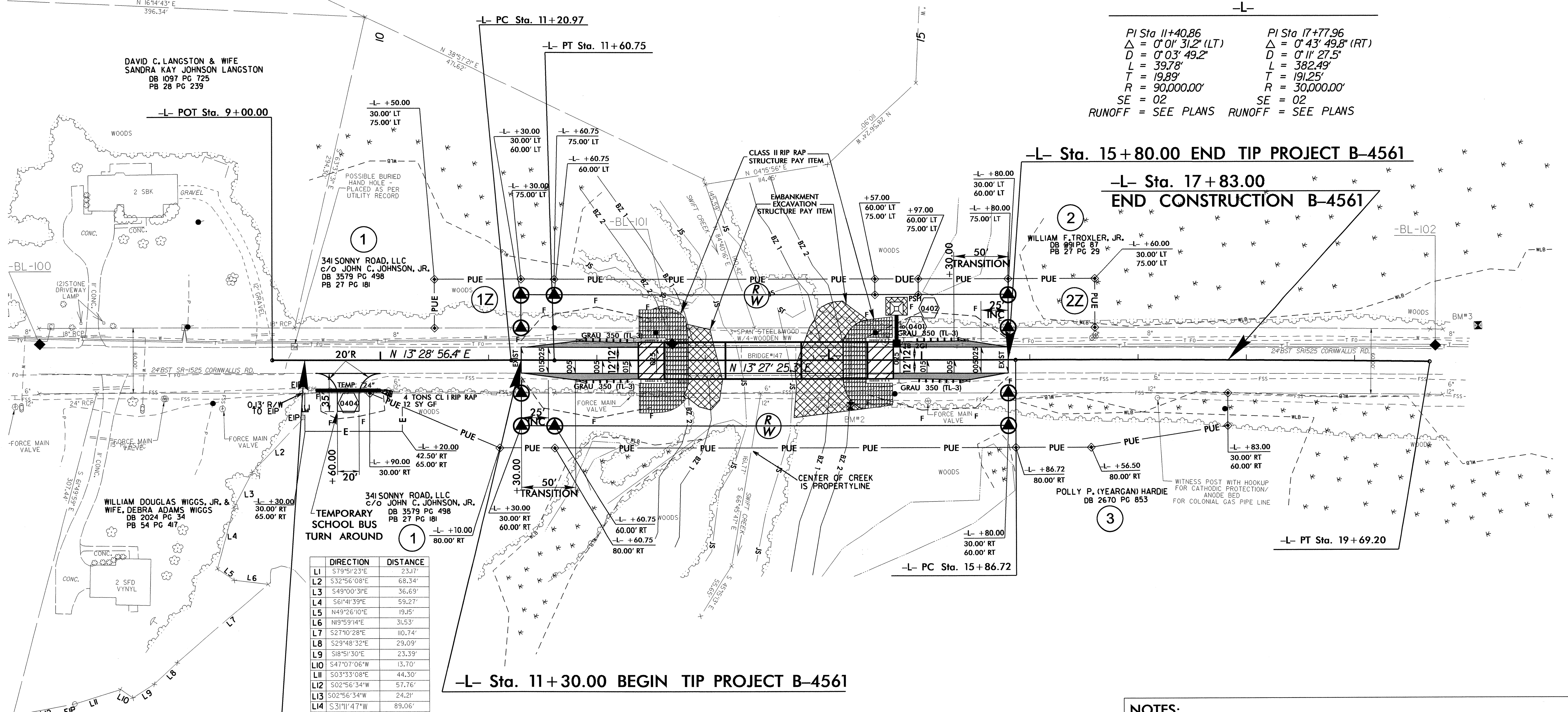






PI Sta 11+40.86  
 $\Delta = 0' 01' 31.2''$  (LT)  
 $D = 0' 03' 49.2''$   
 $L = 39.78'$   
 $T = 19.89'$   
 $R = 90,000.00'$   
 $SE = 02$   
 RUNOFF = SEE PLANS

PI Sta 17+77.96  
 $\Delta = 0' 43' 49.8''$  (RT)  
 $D = 0' 11' 27.5''$   
 $L = 382.49'$   
 $T = 191.25'$   
 $R = 30,000.00'$   
 $SE = 02$   
 RUNOFF = SEE PLANS



DIRECTION	DISTANCE
L1	S79°51'23"E 23.17'
L2	S32°56'08"E 68.34'
L3	S49°00'31"E 36.63'
L4	S61°41'39"E 59.27'
L5	N49°26'10"E 19.5'
L6	N19°59'14"E 31.53'
L7	S27°40'28"E 110.74'
L8	S29°48'32"E 29.09'
L9	S18°51'30"E 23.39'
L10	S47°07'06"W 13.70'
L11	S03°33'08"E 44.30'
L12	S02°56'34"W 57.76'
L13	S02°56'34"W 24.21'
L14	S31°11'47"W 89.06'

NOTES:  
 1. SEE SHEET 5 FOR -L- PROFILE.  
 2. SEE SHEETS S-1 THROUGH S-22 FOR STRUCTURE PLANS.

REVISIONS

08-JAN-2013 13:08 R:\PROJECTS\B-4561-Rdy-ps-h.dgn

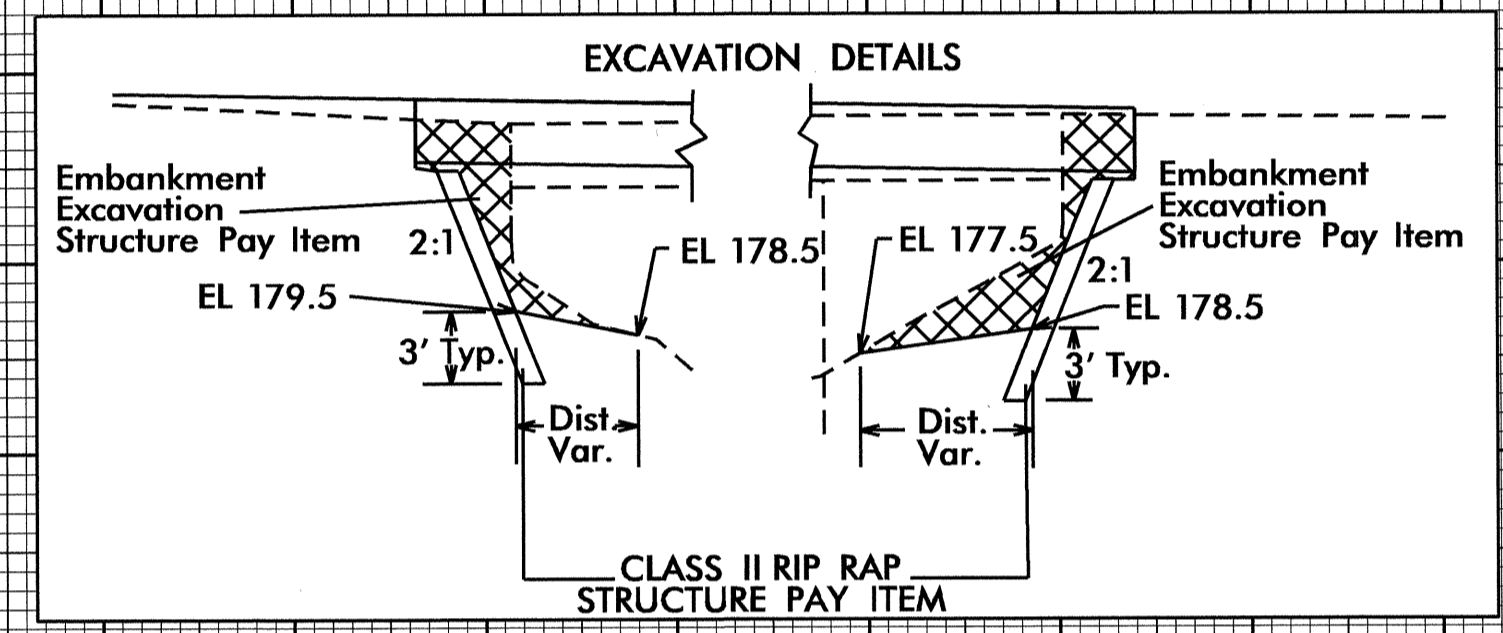
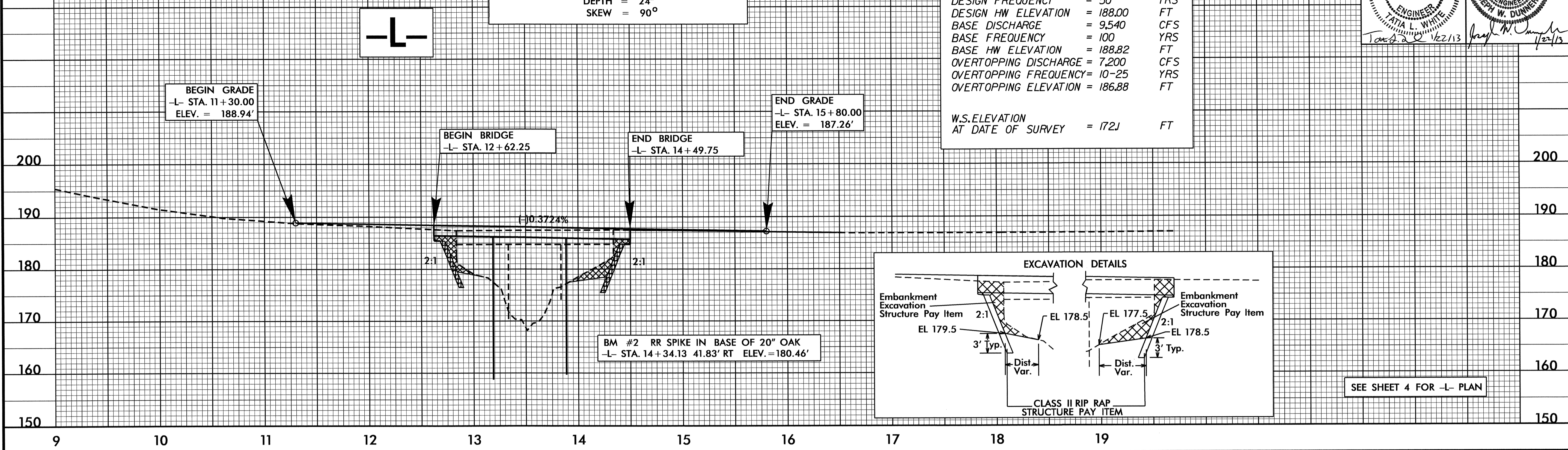
5/28/99

PROJECT REFERENCE NO. <b>B-4561</b>	SHEET NO. <b>5</b>
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 24641 TATIA L. WHITE 10/26/12	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 14482 JOSEPH W. DUNN 1/22/13

**PROPOSED 3 SPAN CORED SLAB BRIDGE**  
 1@55', 1@70', 1@60'  
 CL STA. 13+56.15  
 DEPTH = 24"  
 SKEW = 90°

**BRIDGE HYDRAULIC DATA**

DESIGN DISCHARGE	= 8,430	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 188.00	FT
BASE DISCHARGE	= 9,540	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 188.82	FT
OVERTOPPING DISCHARGE	= 7,200	CFS
OVERTOPPING FREQUENCY	= 10-25	YRS
OVERTOPPING ELEVATION	= 186.88	FT
W.S. ELEVATION AT DATE OF SURVEY	= 172.1	FT



SEE SHEET 4 FOR -L- PLAN

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